Full wwPDB EM Validation Report ⓘ

May 12, 2025 – 04:16 AM JST

PDB ID	:	8ZHC / pdb_00008zhc
EMDB ID	:	EMD-60098
Title	:	pre-frameshift complex of yeast 80S ribosome with eRF1 and mRNA of WNV
Authors	:	Wu, M.; Yuan, S.
Deposited on	:	2024-05-10
Resolution	:	2.30 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:

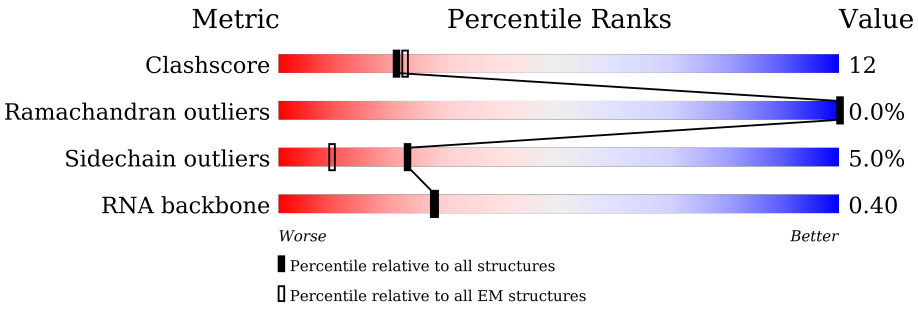
EMDB validation analysis	:	0.0.1.dev118
MolProbity	:	4-5-2 with Phenix2.0rc1
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.43.1

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 2.30 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)
Clashscore	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415
RNA backbone	6643	2191

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

Mol	Chain	Length	Quality of chain
1	LA	3393	7% 43% 42% 9% 6%
2	LB	121	50% 40% 9%
3	LC	158	37% 50% 13%
4	LD	251	72% 27%
5	LE	386	63% 36%
6	LF	361	68% 30%
7	LG	294	15% 69% 30%

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Mol	Chain	Length	Quality of chain
8	LH	175	7% 59% 34% 5%
9	LI	222	71% 27%
10	LJ	233	8% 65% 33%
11	LK	191	5% 63% 33%
12	LL	218	66% 33%
13	LM	169	62% 34%
14	LN	193	64% 32%
15	LO	136	58% 38%
16	LP	203	68% 31%
17	LQ	197	73% 26%
18	LR	183	6% 75% 25%
19	LS	185	72% 28%
20	LT	188	7% 72% 27%
21	LU	171	65% 33%
22	LV	159	66% 33%
23	LW	100	8% 62% 34%
24	LX	136	75% 25%
25	LY	65	74% 23%
26	LZ	121	66% 32%
27	La	125	17% 57% 38% 5%
28	Lb	135	69% 27%
29	Lc	148	66% 33%
30	Ld	58	71% 28%
31	Le	96	73% 23%
32	Lf	109	8% 66% 32%

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Mol	Chain	Length	Quality of chain
33	Lg	127	6% 79% 20%
34	Lh	106	69% 31%
35	Li	112	70% 30%
36	Lj	119	66% 33%
37	Lk	99	69% 27%
38	Ll	81	67% 33%
39	Lm	77	19% 68% 29%
40	Ln	50	68% 30%
41	Lo	52	73% 25%
42	Lp	25	80% 20%
43	Lq	103	68% 32%
44	Lr	91	79% 21%
45	S2	1799	18% 33% 48% 18%
46	SA	223	28% 60% 37%
47	SB	206	24% 59% 38%
48	SC	92	55% 66% 33%
49	SD	124	95% 84% 12%
50	SE	117	47% 74% 25%
51	SF	141	21% 55% 42%
52	SG	125	8% 63% 32%
53	SH	145	29% 66% 34%
54	SI	143	33% 69% 31%
55	SJ	101	43% 55% 40%
56	SK	82	46% 57% 43%
57	SL	63	13% 54% 41% 5%

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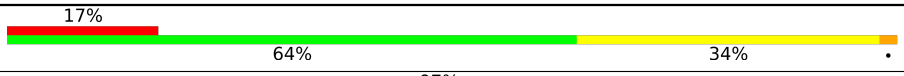
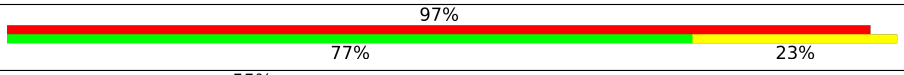
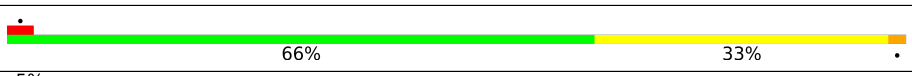
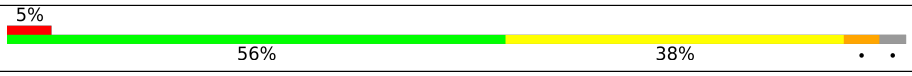
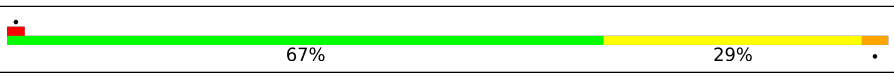
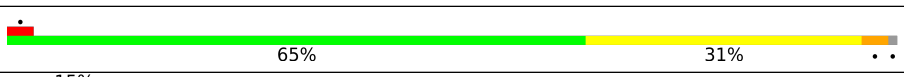
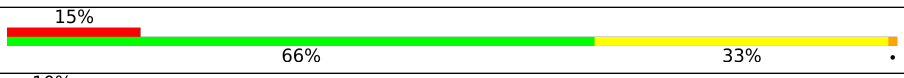
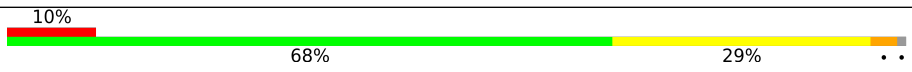
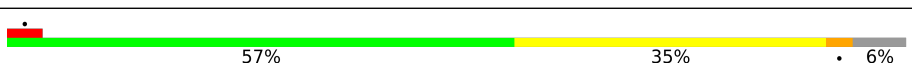
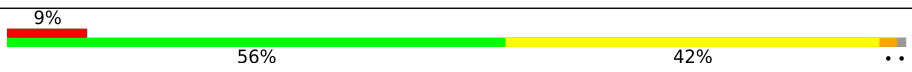
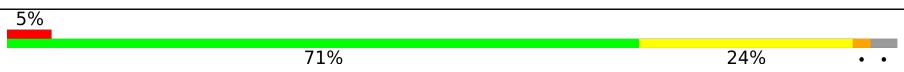
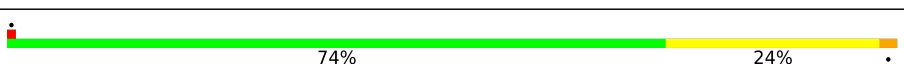
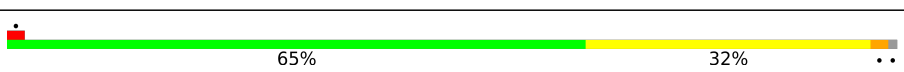
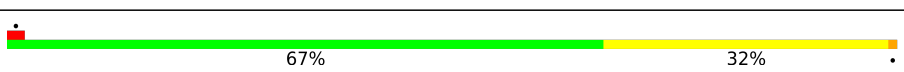
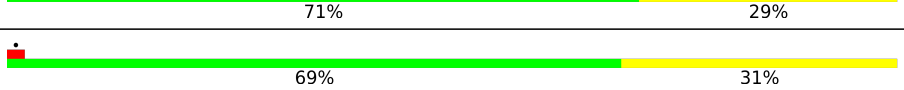
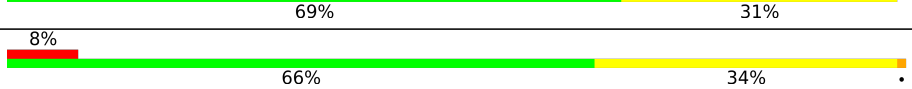
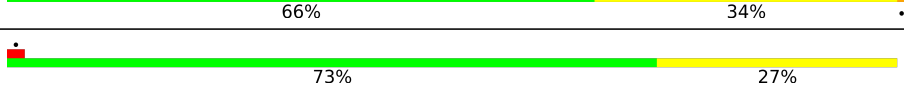
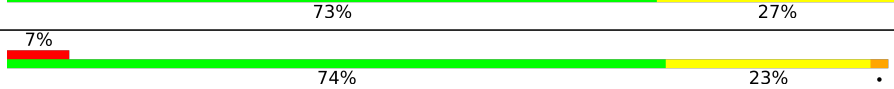
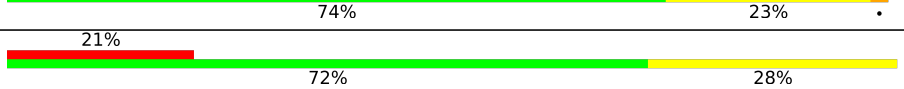
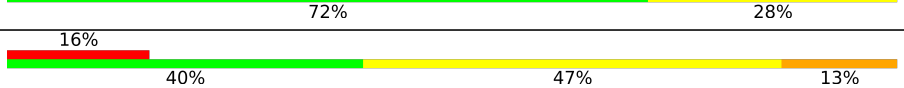
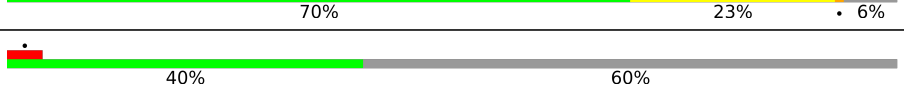
Mol	Chain	Length	Quality of chain
58	SM	53	
59	SN	73	
60	SO	312	
61	SP	206	
62	SQ	232	
63	SR	217	
64	SS	260	
65	ST	228	
66	SU	185	
67	SV	199	
68	SW	185	
69	SX	146	
70	SY	150	
71	SZ	128	
72	Sa	87	
73	Sb	129	
74	Sc	144	
75	Sd	134	
76	Se	97	
77	Sf	81	
78	Sg	57	
79	Ta	77	
80	eR	446	
81	mR	25	
82	pp	32	

2 Entry composition

There are 82 unique types of molecules in this entry. The entry contains 204434 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a RNA chain called 25S rRNA (3393-MER).

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

There is a discrepancy between the modelled and reference sequences:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- Molecule 45 is a RNA chain called chain 2 18S rRNA (1799-MER).

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- Molecule 80 is a protein called Eukaryotic peptide chain release factor subunit 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
80	eR	419	Total	C	N	O	S	0	0
			3309	2106	562	629	12		

There are 11 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
eR	-8	MET	-	initiating methionine	UNP P62495
eR	-7	HIS	-	expression tag	UNP P62495
eR	-6	HIS	-	expression tag	UNP P62495
eR	-5	HIS	-	expression tag	UNP P62495
eR	-4	HIS	-	expression tag	UNP P62495
eR	-3	HIS	-	expression tag	UNP P62495
eR	-2	HIS	-	expression tag	UNP P62495
eR	-1	GLY	-	expression tag	UNP P62495
eR	0	SER	-	expression tag	UNP P62495
eR	183	ALA	GLY	conflict	UNP P62495
eR	184	ALA	GLY	conflict	UNP P62495

- Molecule 81 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
81	mR	10	Total	C	N	O	P	0	0
			209	94	36	69	10		

- Molecule 82 is a protein called Peptide 2k.

Mol	Chain	Residues	Atoms					AltConf	Trace
82	pp	28	Total	C	N	O	S	0	0
			229	139	42	46	2		

There are 2 discrepancies between the modelled and reference sequences:

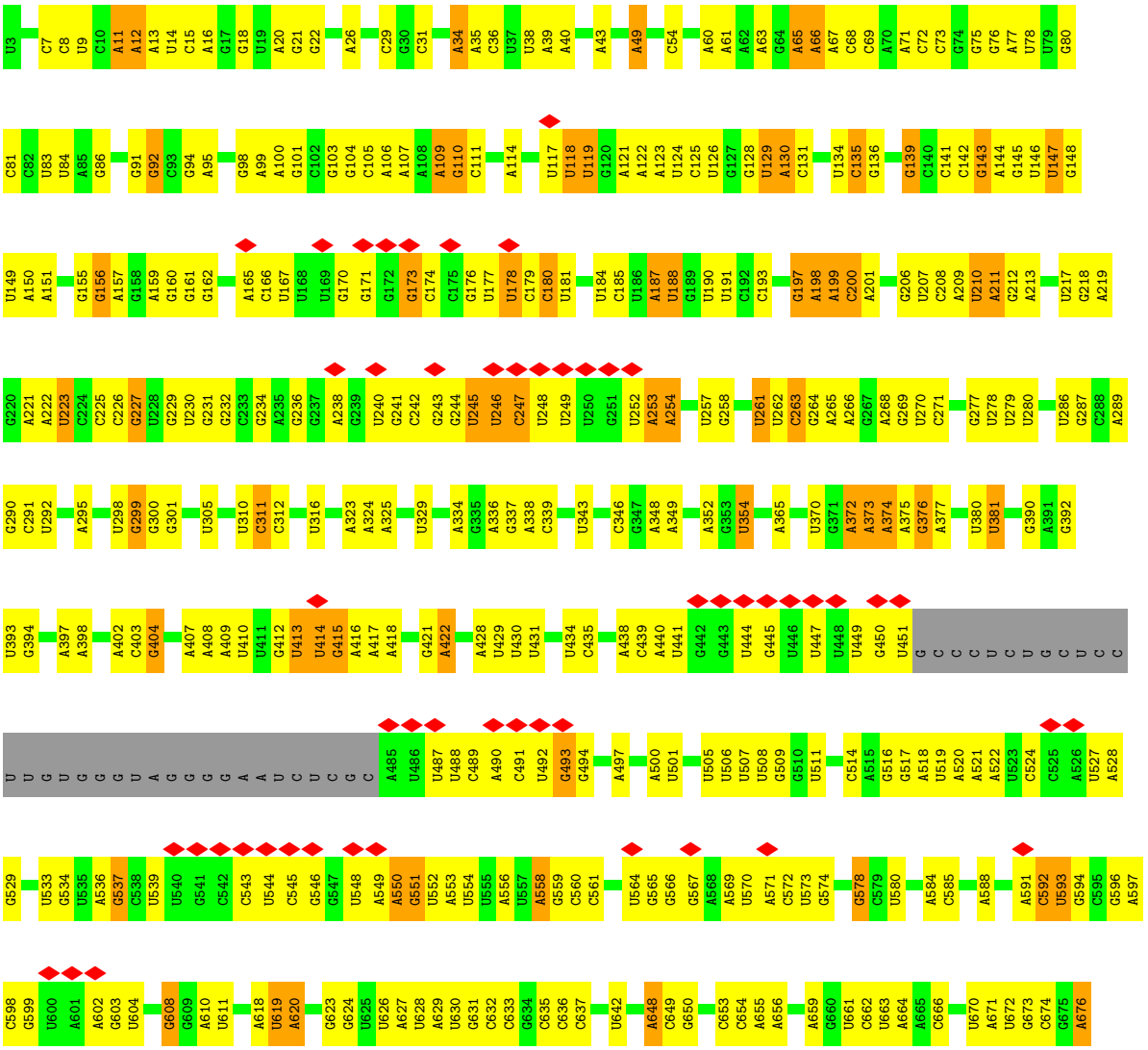
Chain	Residue	Modelled	Actual	Comment	Reference
pp	4362	GLN	THR	conflict	UNP P06935
pp	4373	GLN	ARG	conflict	UNP P06935

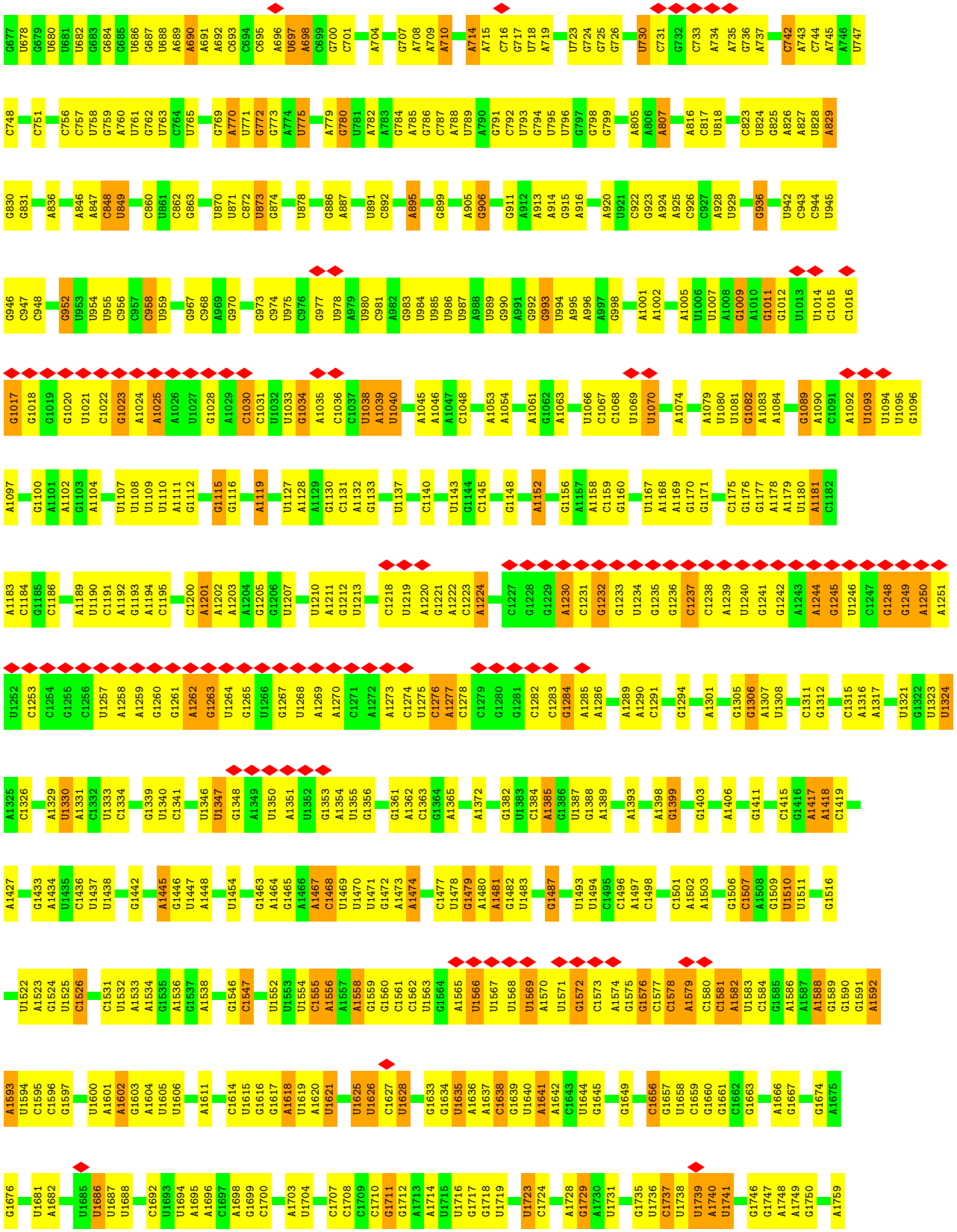
3 Residue-property plots (i)

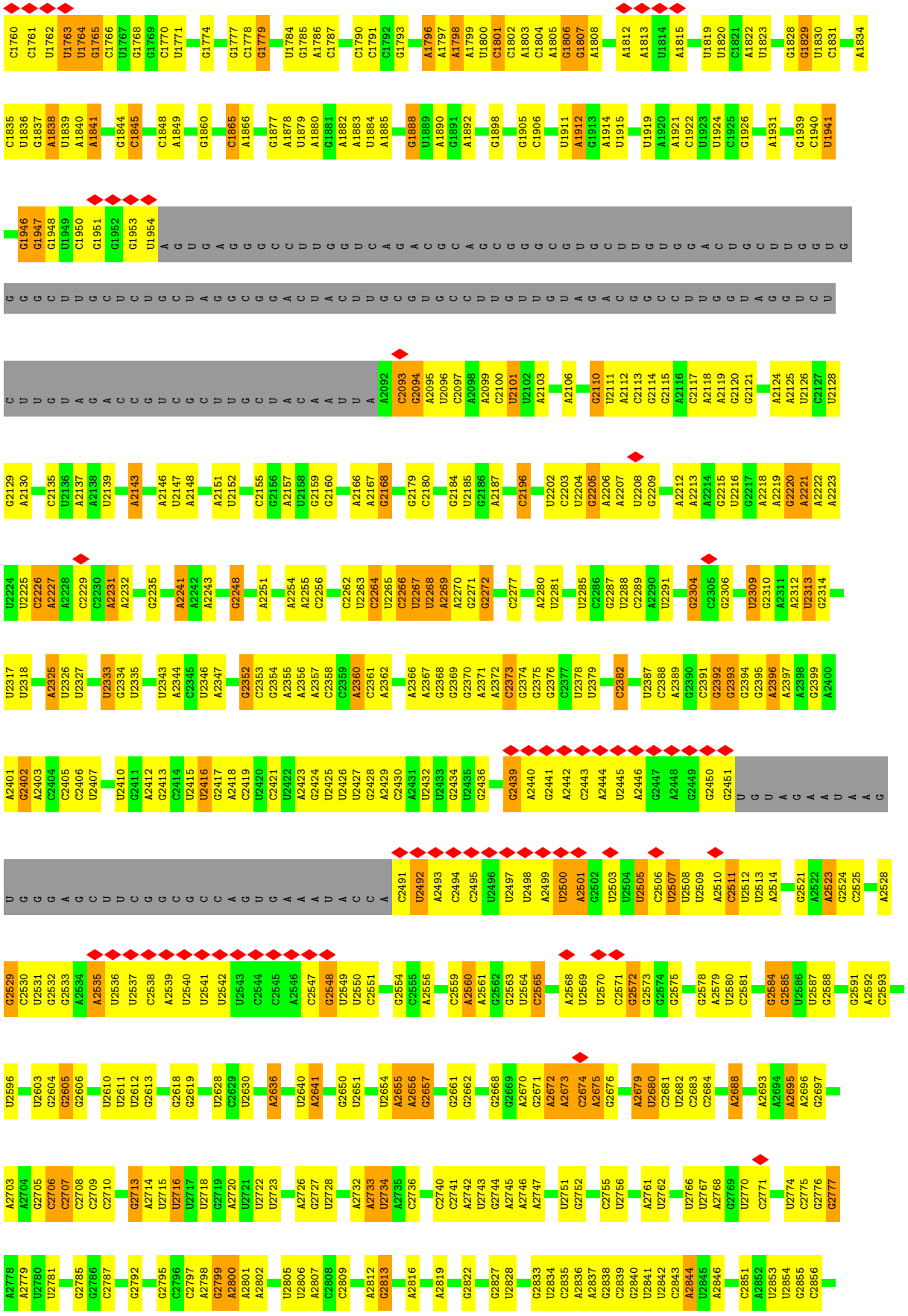
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion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

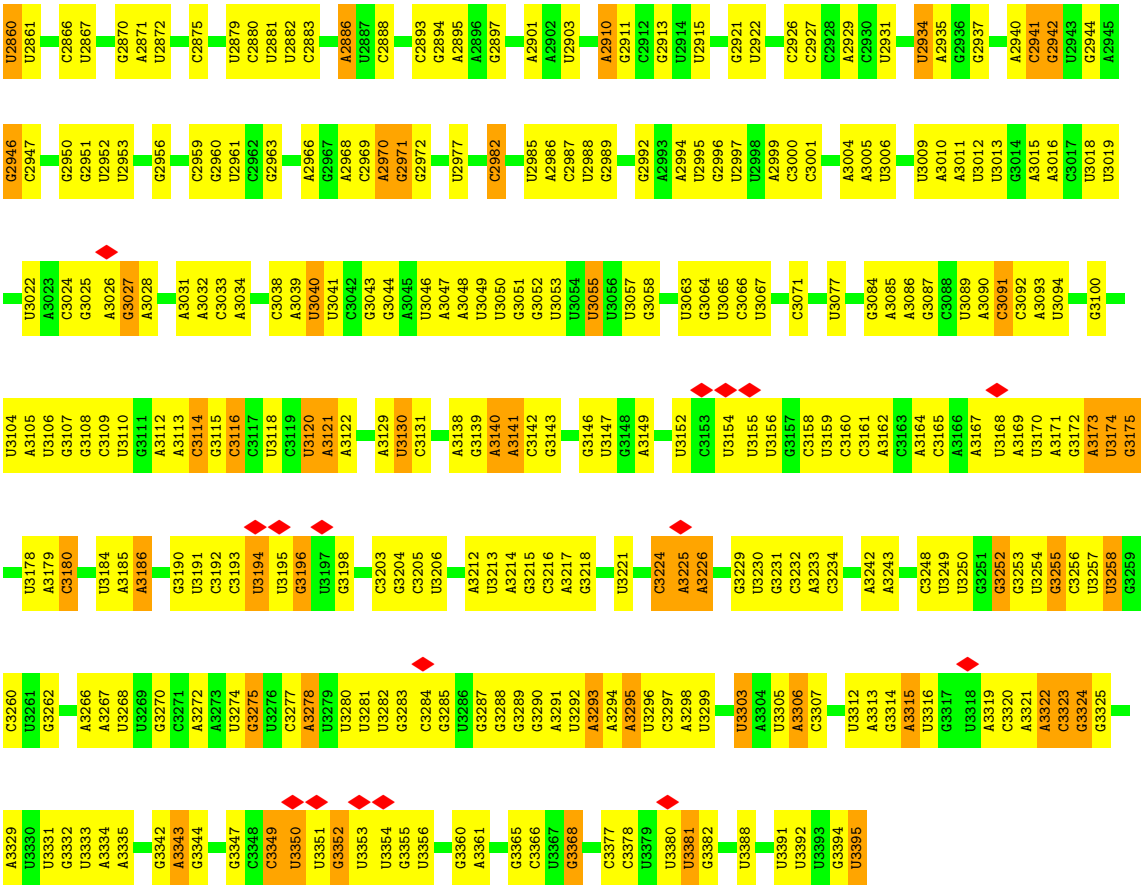
- Molecule 1: 25S rRNA (3393-MER)

Chain LA:



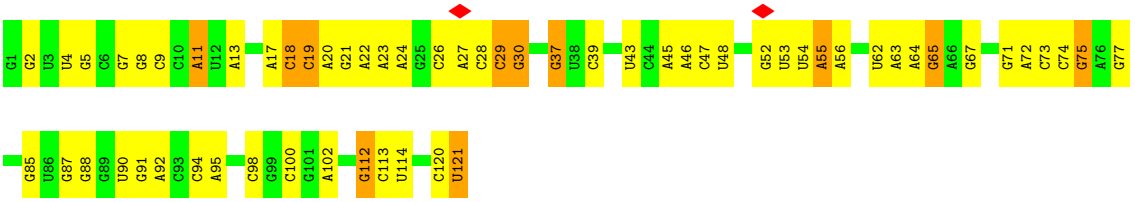

G677 U678 G679 U680 U681 U682 G683 G684 G685 U686 G687 U688 A689 A690 A691 A692 C693 C694 C695 A696 U697 A698 C699 G700 C701 A704 G707 A708 A709 A710 A714 A715 C716 G717 U718 A719 U723 G724 G725 G726 U730 C731 G732 C733 A734 A735 G736 A737 C742 A743 C744 A745 A746 U747
C748 C751 C756 C757 U758 G759 A760 U761 G762 U763 C764 U765 G769 A770 U771 G772 G773 A774 U775 A779 G780 U781 A782 A783 G784 A785 G786 C787 A788 U789 A790 G791 C792 U793 G794 U795 U796 G797 G798 G799 A805 A806 A807 A816 C817 U818 C823 U824 G825 A826 A827 U828 A829
G830 G831 A836 A846 A847 C848 U849 C860 U861 C862 G863 U870 U871 C872 U873 G874 U878 G886 A887 U891 C892 A895 G899 A905 G906 G911 A912 A913 A914 G915 A916 A920 U921 C922 G923 A924 A925 C926 C927 A928 U929 G936 U942 C943 C944 U945
G946 C947 C948 G952 U953 U954 U955 C956 C957 C958 U959 G967 C968 A969 G970 G973 C974 U975 C976 G977 U978 A979 U980 C981 A982 G983 U984 U985 U986 U987 A988 U989 G990 A991 G992 G993 U994 A995 A996 A997 G998 A1001 A1002 A1005 U1006 U1007 A1008 G1009 A1010 G1011 G1012 U1013 U1014 C1015 C1016
G1017 G1018 G1019 G1020 U1021 C1022 G1023 A1024 A1025 A1026 U1027 G1028 A1029 C1030 C1031 U1032 U1033 G1034 A1035 C1036 C1037 U1038 A1039 U1040 A1045 A1046 A1047 C1048 A1053 A1054 A1061 G1062 A1063 U1066 C1067 C1068 U1069 U1070 A1074 A1079 U1080 U1081 G1082 A1083 A1084 G1089 A1090 C1091 A1092 U1093 U1094 U1095 G1096
A1097 G1100 A1101 A1102 G1103 A1104 U1107 U1108 U1109 U1110 A1111 G1112 G1115 G1116 A1119 U1127 A1128 A1129 G1130 C1131 A1132 G1133 U1137 C1140 U1143 G1144 C1145 G1148 A1152 G1156 A1157 A1158 C1159 G1160 U1167 A1168 A1169 G1170 G1171 C1175 G1176 G1177 A1178 A1179 U1180 A1181 C1182
A1183 C1184 G1185 C1186 A1189 U1190 C1191 A1192 G1193 A1194 C1195 C1200 A1201 A1202 A1203 A1204 G1205 G1206 U1207 U1210 A1211 G1212 U1213 C1218 U1219 A1220 G1221 A1222 C1223 A1224 C1227 G1228 G1229 A1230 C1231 G1232 G1233 U1234 G1235 G1236 C1237 C1238 A1239 U1240 G1241 G1242 A1243 A1244 G1245 U1246 C1247 G1248 G1249 A1250 A1251
U1252 C1253 C1254 G1255 C1256 U1257 A1258 A1259 G1260 G1261 A1262 G1263 U1264 G1265 U1266 G1267 U1268 A1269 A1270 C1271 A1272 A1273 C1274 U1275 C1276 A1277 C1278 C1279 G1280 G1281 C1282 C1283 G1284 A1285 A1286 A1289 A1290 C1291 G1294 A1301 G1305 G1306 A1307 U1308 C1311 G1312 C1315 A1316 A1317 U1321 G1322 U1323 U1324
A1325 C1326 A1329 U1330 A1331 C1332 U1333 C1334 G1339 U1340 C1341 U1346 U1347 G1348 A1349 U1350 A1351 U1352 G1353 A1354 U1355 G1356 G1361 A1362 C1363 G1364 A1365 A1372 G1382 U1383 C1384 A1385 G1386 U1387 G1388 A1389 A1393 A1398 G1399 G1403 A1406 G1411 C1415 G1416 A1417 A1418 C1419
A1427 G1433 A1434 U1435 C1436 U1437 U1438 G1442 A1445 G1446 U1447 A1448 U1454 G1463 A1464 G1465 A1466 A1467 C1468 U1469 U1470 U1471 G1472 A1473 A1474 C1477 U1478 G1479 A1480 A1481 G1482 U1483 G1487 U1493 U1494 C1495 C1496 A1497 C1498 C1501 A1502 A1503 G1506 C1507 A1508 G1509 U1510 U1511 G1516
U1522 A1523 G1524 U1525 C1526 C1531 U1532 A1533 A1534 G1535 A1536 G1537 A1538 G1546 C1547 U1552 U1553 U1554 C1555 A1556 A1557 A1558 G1559 G1560 C1561 C1562 U1563 G1564 A1565 U1566 U1567 U1568 U1569 A1570 U1571 G1572 C1573 A1574 G1575 G1576 C1577 C1578 A1579 C1580 C1581 A1582 U1583 C1584 G1585 A1586 A1587 A1588 G1589 G1590 G1591 A1592
A1593 U1594 C1595 C1596 G1597 U1600 A1601 A1602 G1603 A1604 U1605 U1606 A1611 C1614 U1615 G1616 U1617 A1618 U1619 A1620 U1621 U1625 U1626 C1627 U1628 G1633 G1634 U1635 A1636 A1637 C1638 G1639 U1640 A1641 A1642 C1643 U1644 G1645 G1649 C1656 G1657 U1658 C1659 G1660 G1661 C1662 G1663 A1666 G1667 G1674 A1675
G1676 U1681 A1682 U1685 U1686 U1687 U1688 C1692 U1693 U1694 A1695 A1696 C1697 A1698 G1699 C1700 A1703 U1704 C1707 C1708 C1709 C1710 G1711 G1712 A1713 A1714 U1715 U1716 G1717 G1718 U1719 U1723 C1724 A1728 G1729 A1730 U1731 G1735 U1736 C1737 U1738 U1739 A1740 U1741 G1746 G1747 A1748 A1749 G1750 A1759





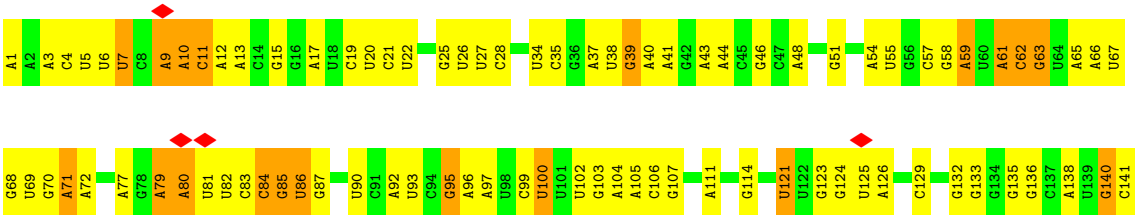
• Molecule 2: 5S rRNA (121-MER)

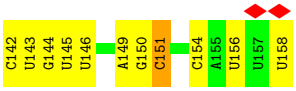
Chain LB:



• Molecule 3: 5.8S rRNA (158-MER)

Chain LC:



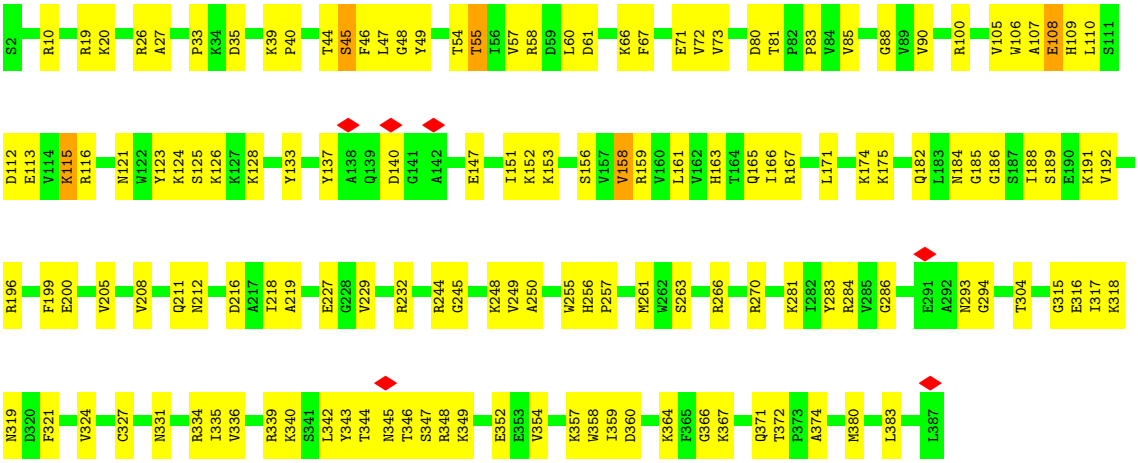


• Molecule 4: Large ribosomal subunit protein uL2A

Chain LD:

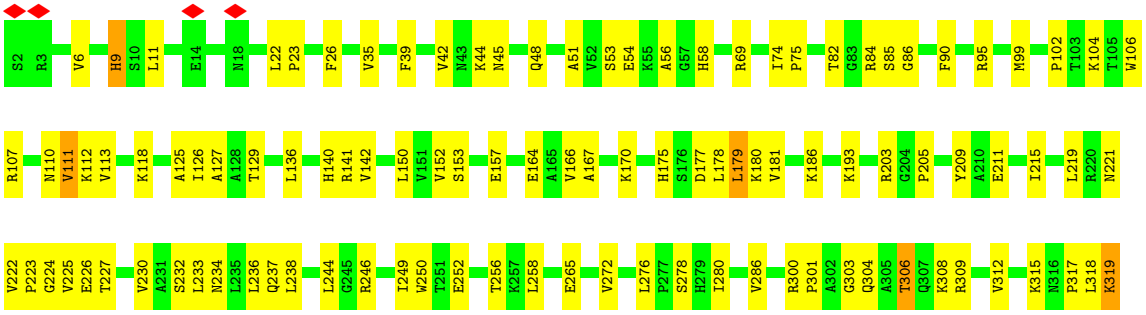
• Molecule 5: Large ribosomal subunit protein uL3

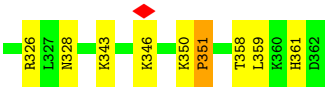
Chain LE:



• Molecule 6: Large ribosomal subunit protein uL4A

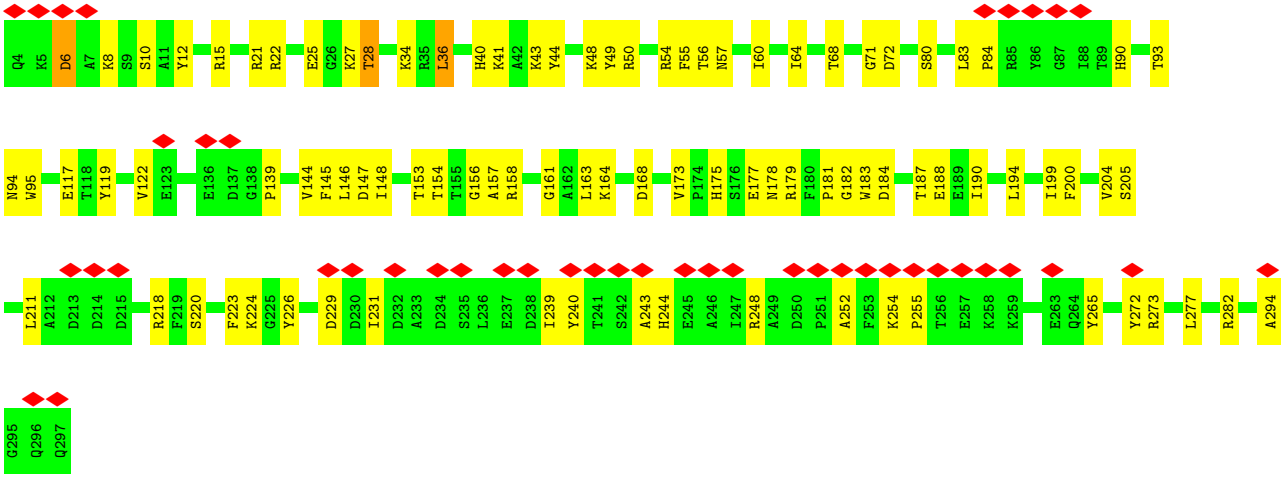
Chain LF:





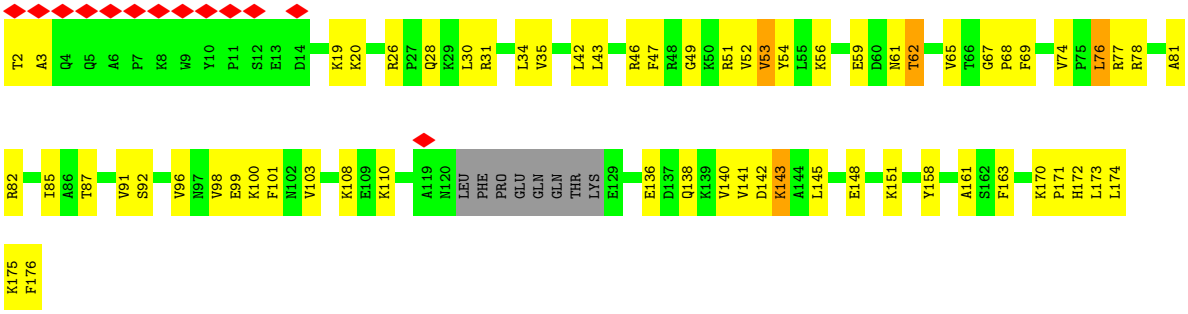
• Molecule 7: Large ribosomal subunit protein uL18

Chain LG:



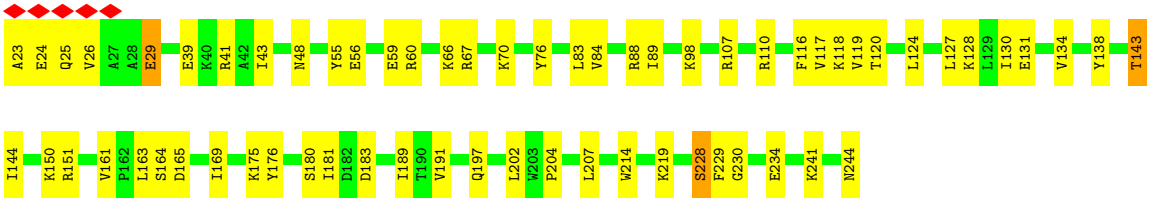
• Molecule 8: Large ribosomal subunit protein eL6B

Chain LH:



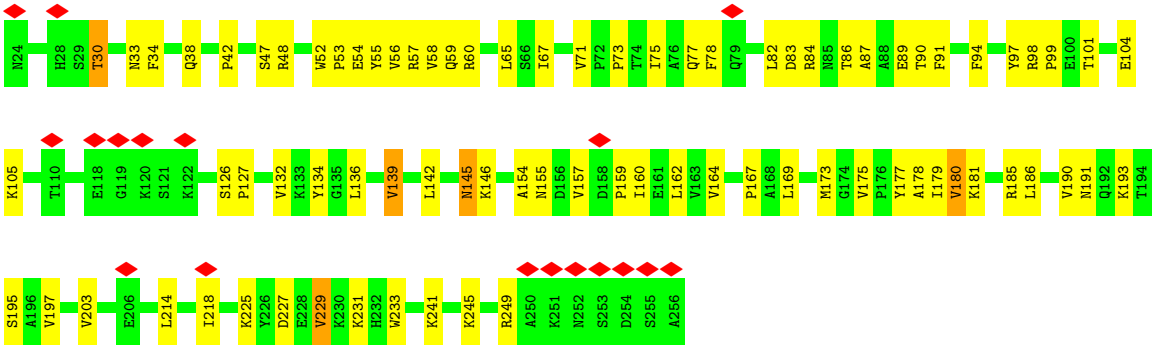
• Molecule 9: Large ribosomal subunit protein uL30A

Chain LI:

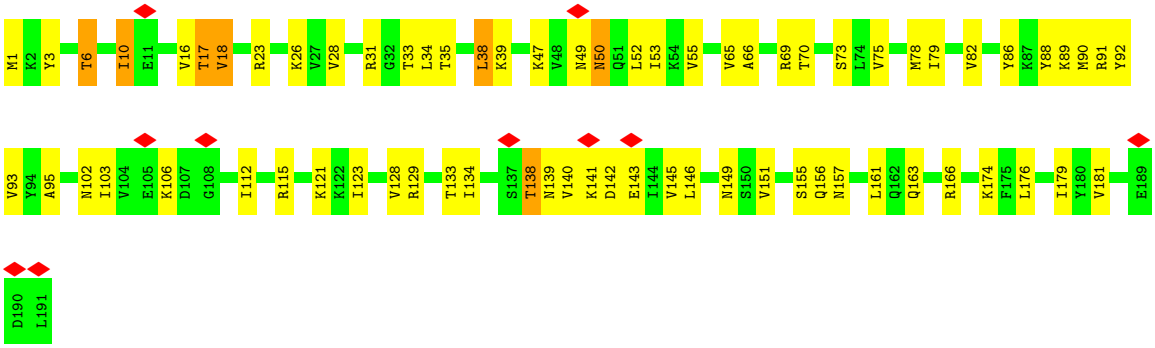


• Molecule 10: Large ribosomal subunit protein eL8A

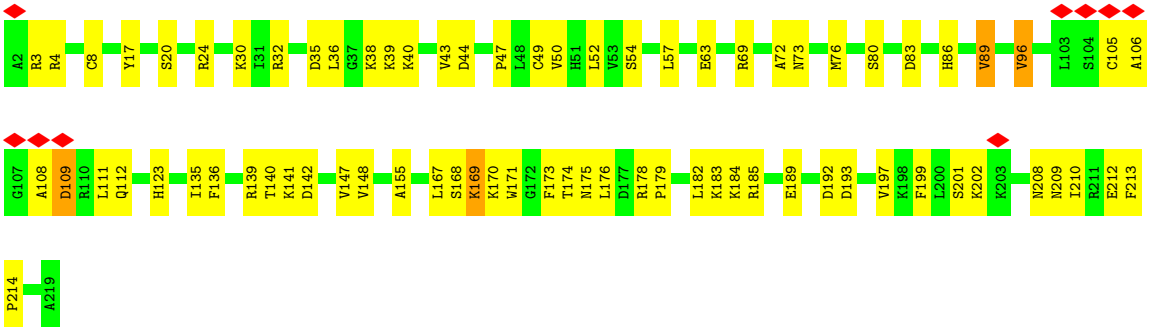
Chain LJ:



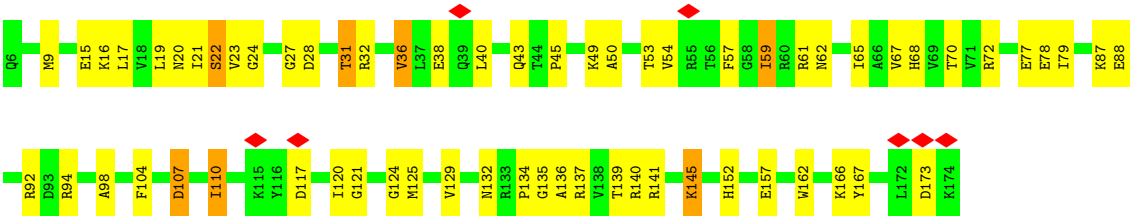
• Molecule 11: Large ribosomal subunit protein uL6A



• Molecule 12: Large ribosomal subunit protein uL16

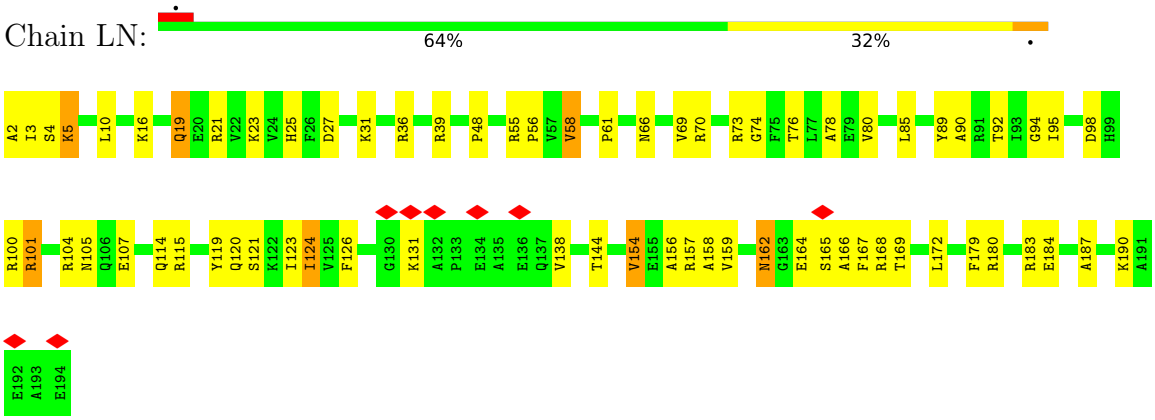


• Molecule 13: Large ribosomal subunit protein uL5B



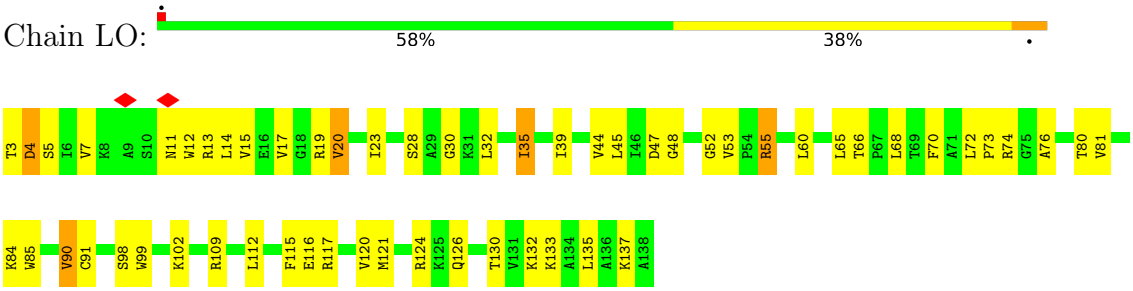
• Molecule 14: Large ribosomal subunit protein eL13A

Chain LN:



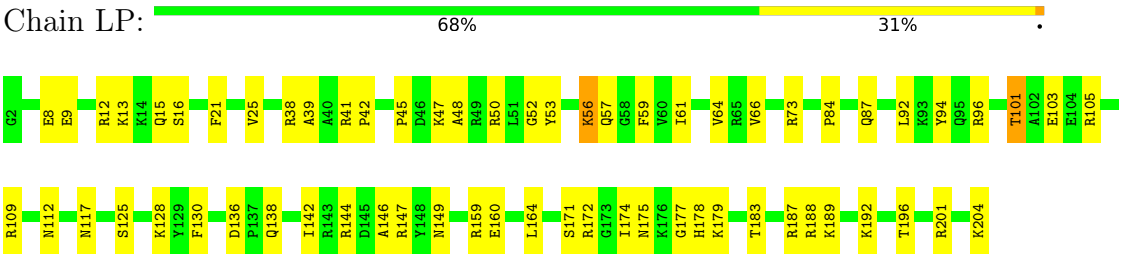
• Molecule 15: Large ribosomal subunit protein eL14A

Chain LO:



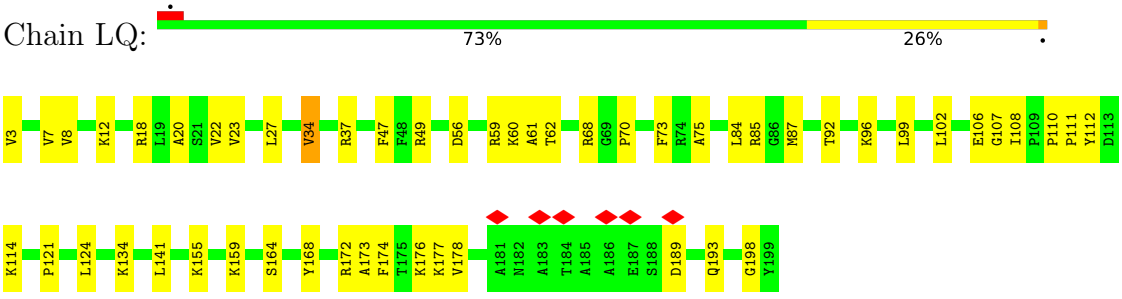
• Molecule 16: Large ribosomal subunit protein eL15A

Chain LP:



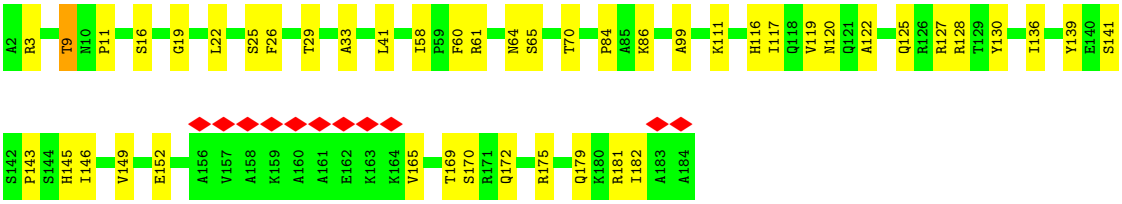
• Molecule 17: Large ribosomal subunit protein uL13A

Chain LQ:

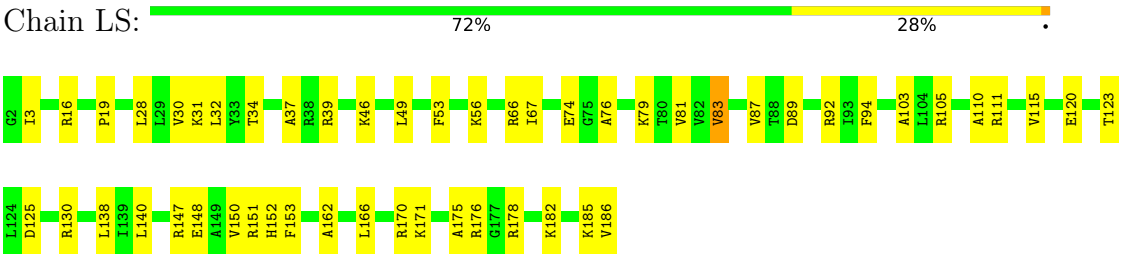


• Molecule 18: Large ribosomal subunit protein uL22A

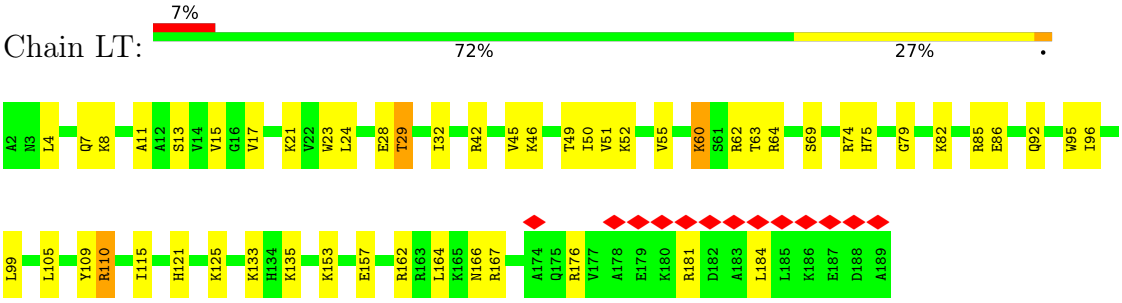
Chain LR:



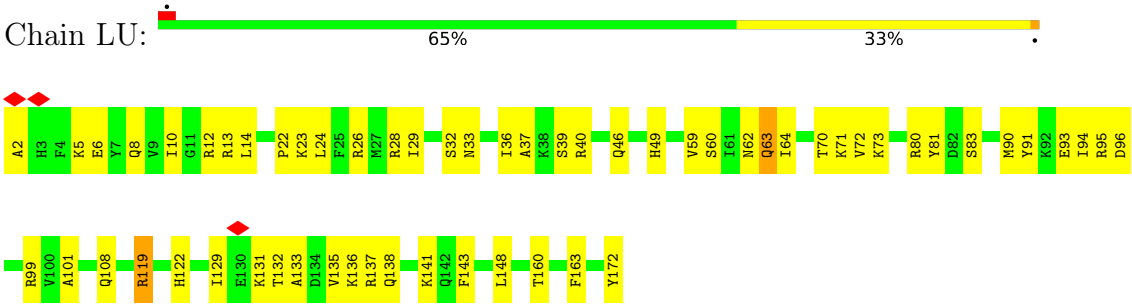
• Molecule 19: Large ribosomal subunit protein eL18A



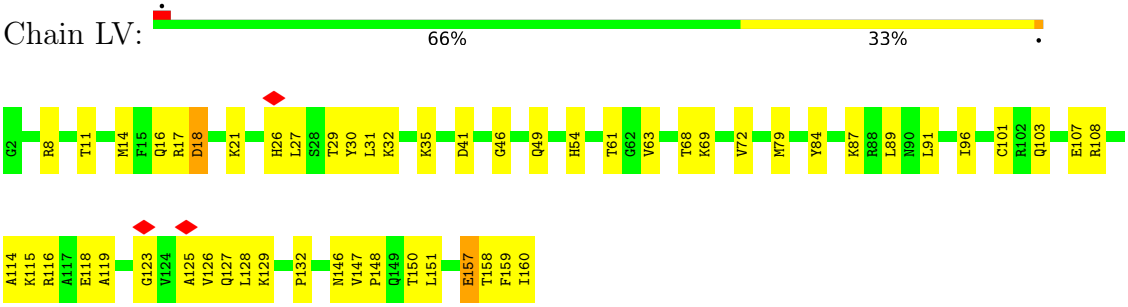
• Molecule 20: Large ribosomal subunit protein eL19A



• Molecule 21: Large ribosomal subunit protein eL20A

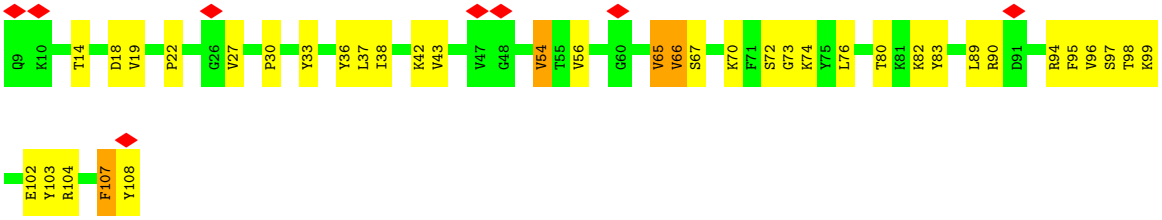


• Molecule 22: Large ribosomal subunit protein eL21A



• Molecule 23: Large ribosomal subunit protein eL22A

Chain LW:

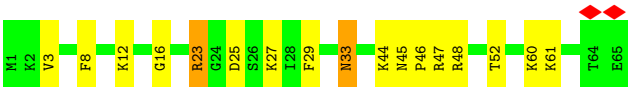


• Molecule 24: Large ribosomal subunit protein uL14A

Chain LX:

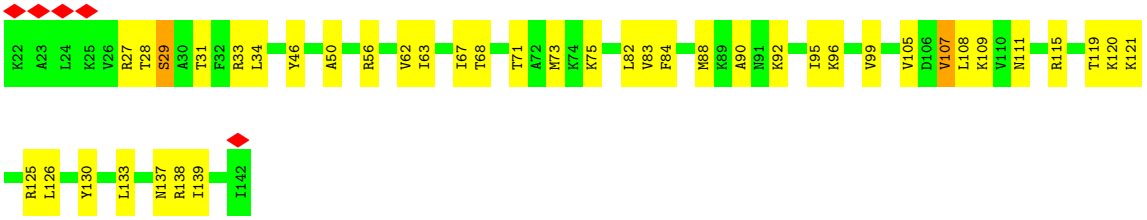
• Molecule 25: Large ribosomal subunit protein eL24A

Chain LY:



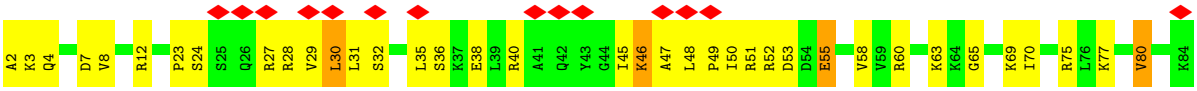
• Molecule 26: Large ribosomal subunit protein uL23

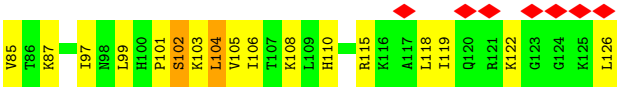
Chain LZ:



• Molecule 27: Large ribosomal subunit protein uL24A

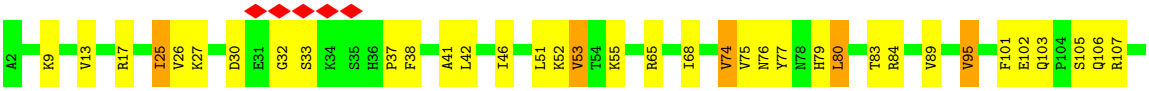
Chain La:





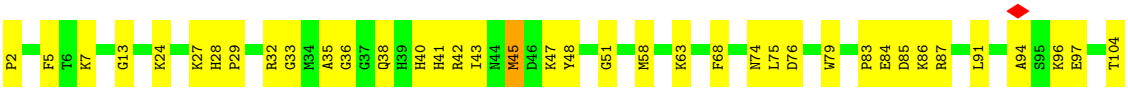
• Molecule 28: Large ribosomal subunit protein eL27A

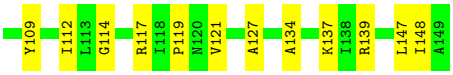
Chain Lb:



• Molecule 29: Large ribosomal subunit protein uL15

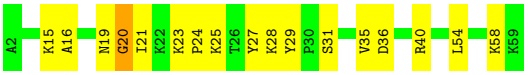
Chain Lc:





• Molecule 30: Large ribosomal subunit protein eL29

Chain Ld:

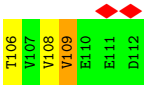


• Molecule 31: Large ribosomal subunit protein eL30

Chain Le:

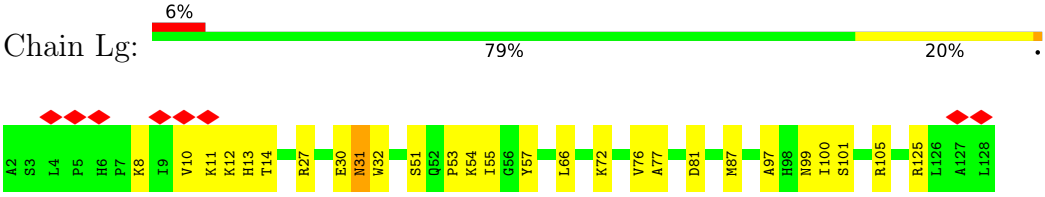
• Molecule 32: Large ribosomal subunit protein eL31A

Chain Lf:



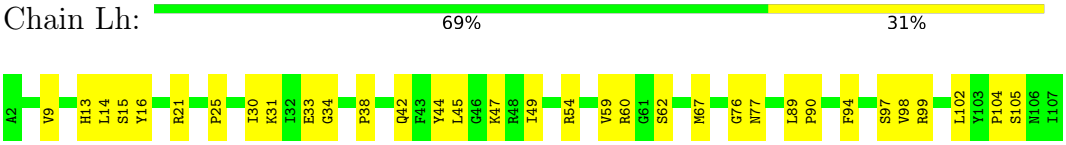
• Molecule 33: Large ribosomal subunit protein eL32

Chain Lg:



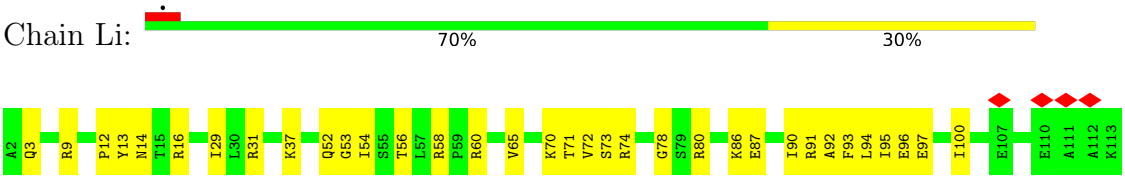
• Molecule 34: Large ribosomal subunit protein eL33A

Chain Lh:



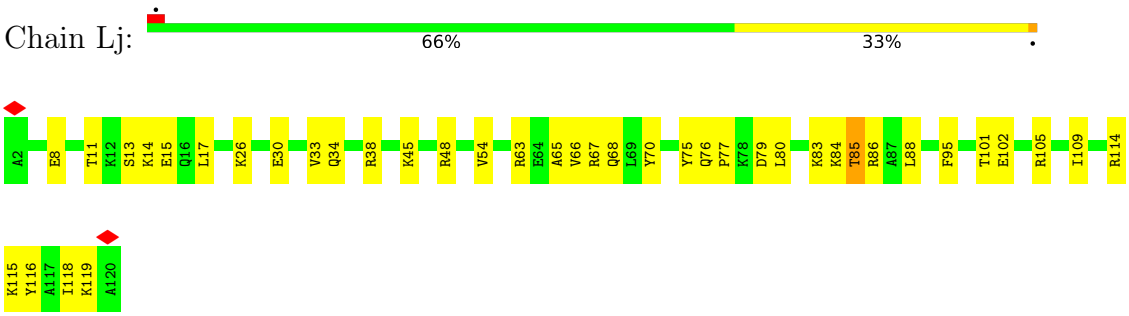
• Molecule 35: Large ribosomal subunit protein eL34A

Chain Li:



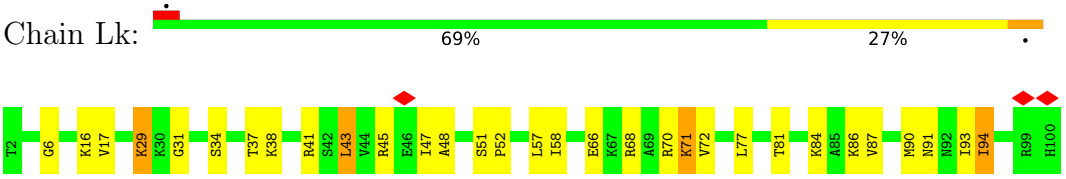
• Molecule 36: Large ribosomal subunit protein uL29A

Chain Lj:



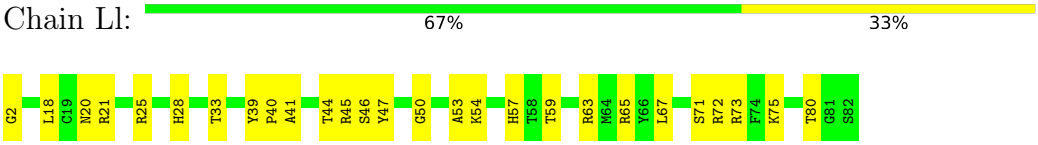
• Molecule 37: Large ribosomal subunit protein eL36A

Chain Lk:



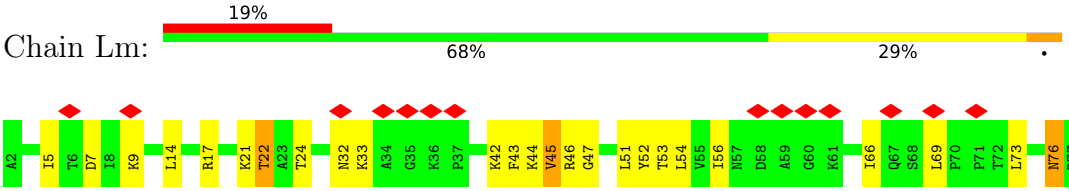
• Molecule 38: Large ribosomal subunit protein eL37A

Chain Ll:



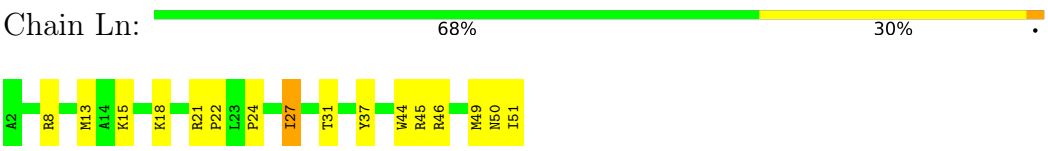
• Molecule 39: Large ribosomal subunit protein eL38

Chain Lm:



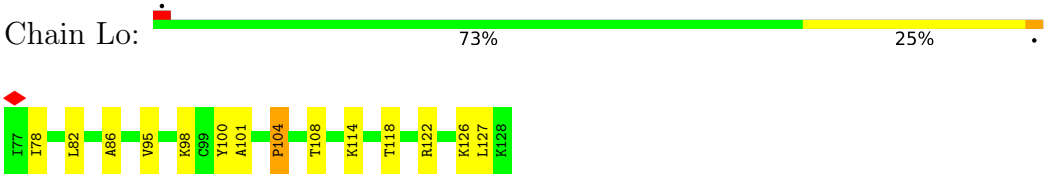
• Molecule 40: Large ribosomal subunit protein eL39

Chain Ln:



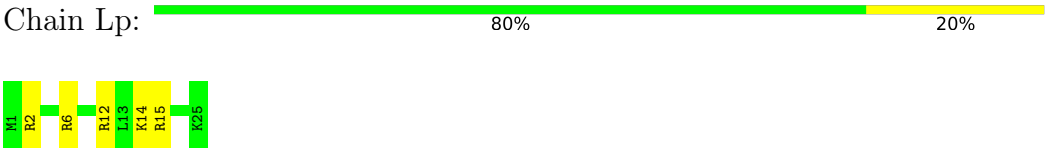
• Molecule 41: Large ribosomal subunit protein eL40A

Chain Lo:



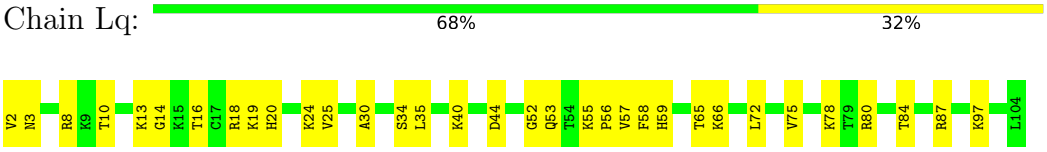
• Molecule 42: Large ribosomal subunit protein eL41A

Chain Lp:



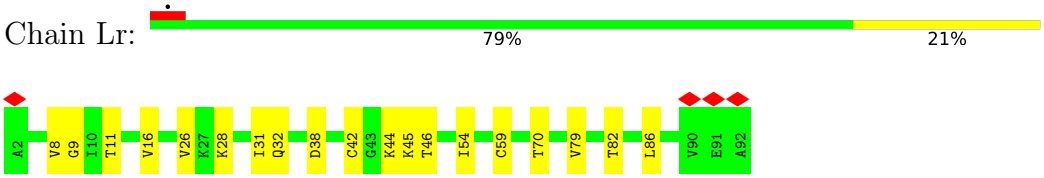
• Molecule 43: Large ribosomal subunit protein eL42A

Chain Lq:



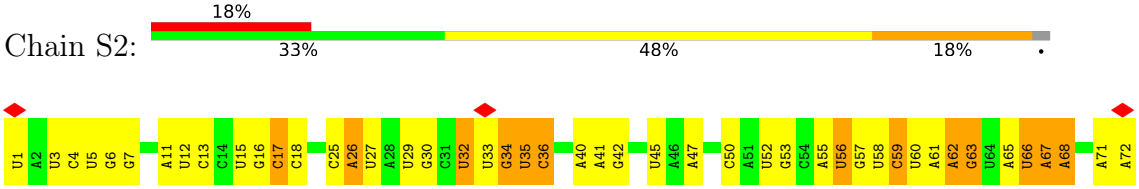
• Molecule 44: Large ribosomal subunit protein eL43A

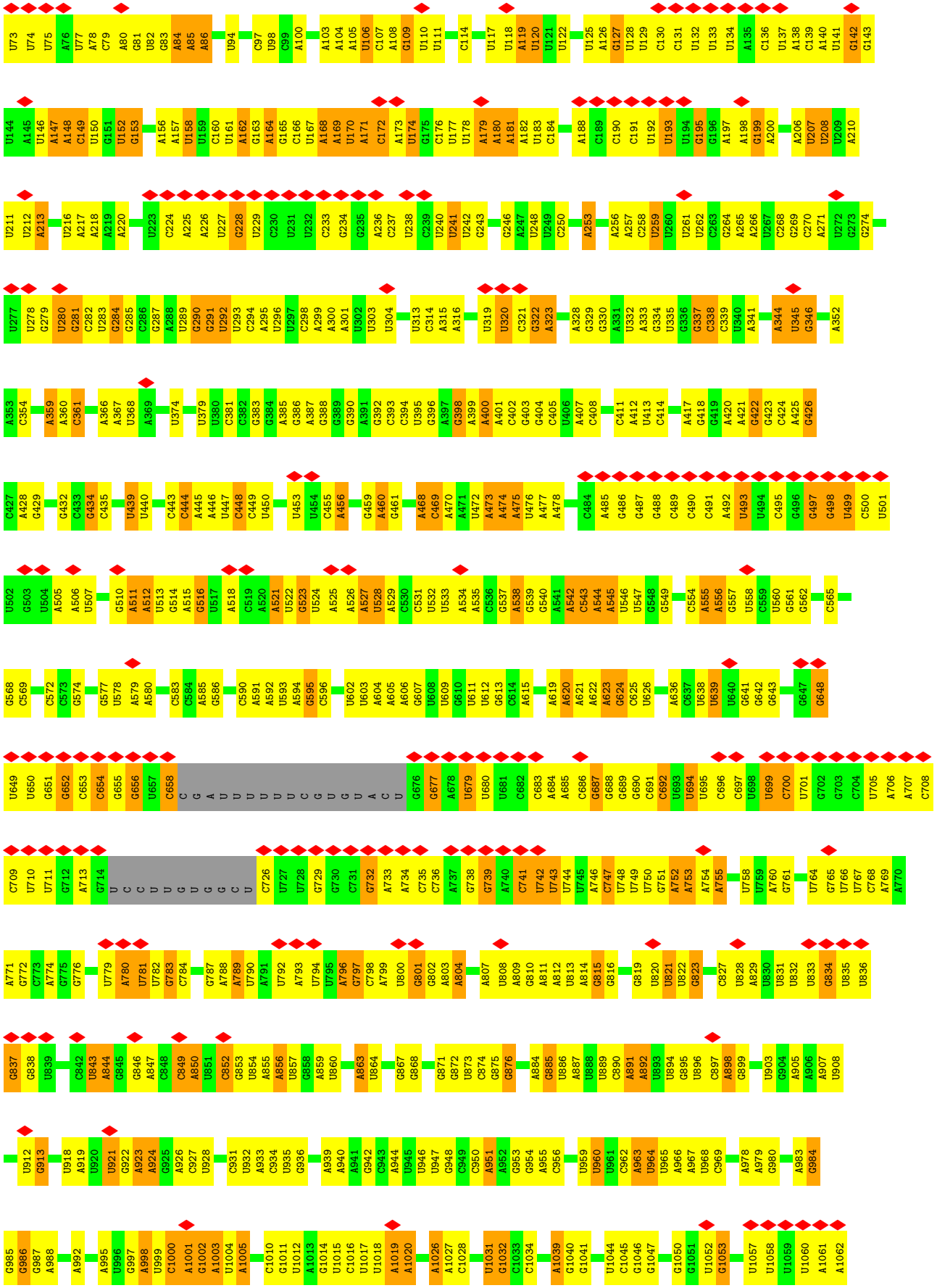
Chain Lr:

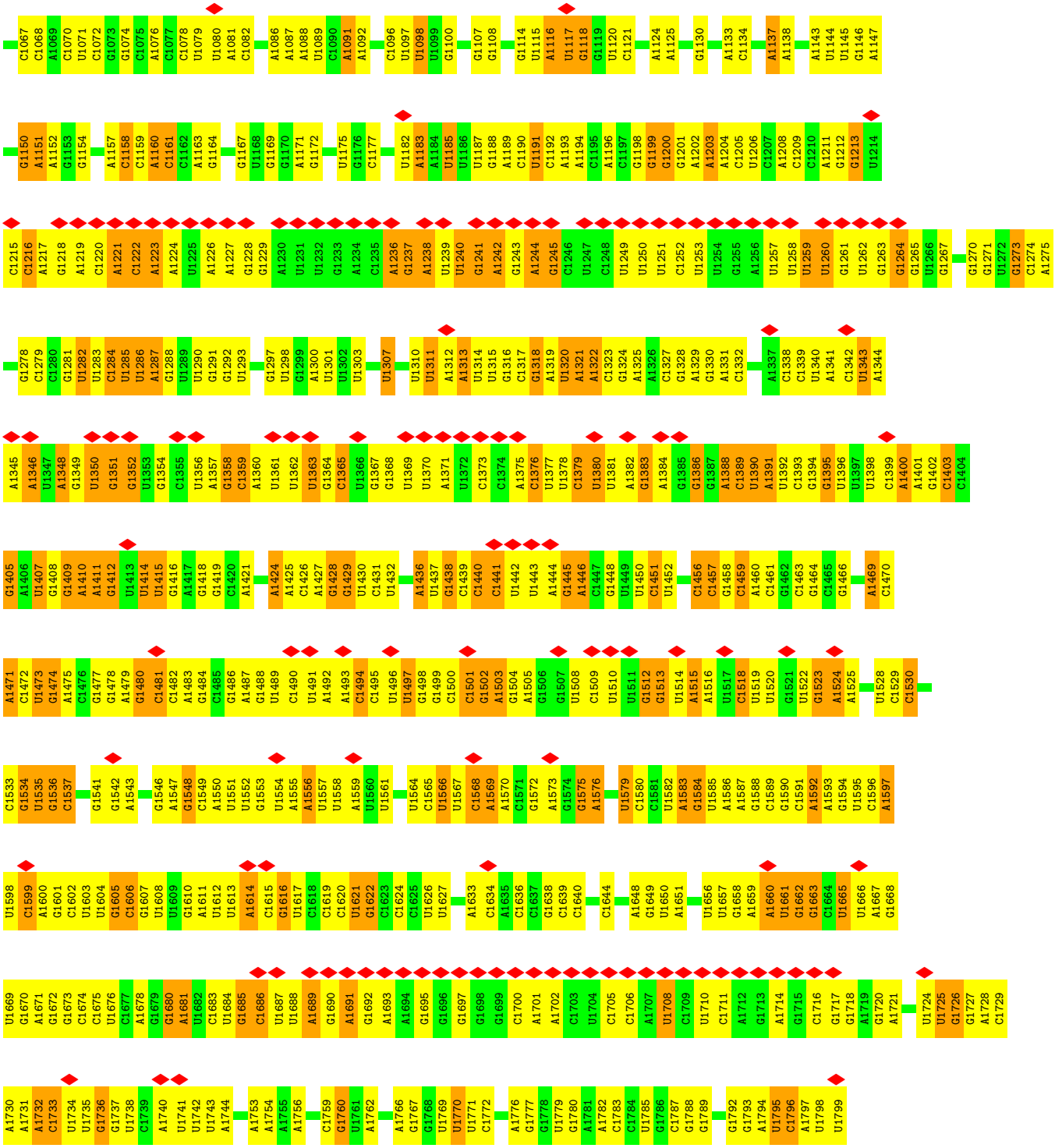


• Molecule 45: chain 2 18S rRNA (1799-MER)

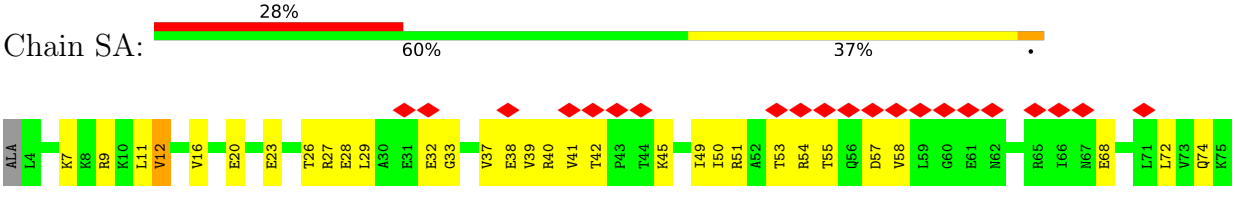
Chain S2:

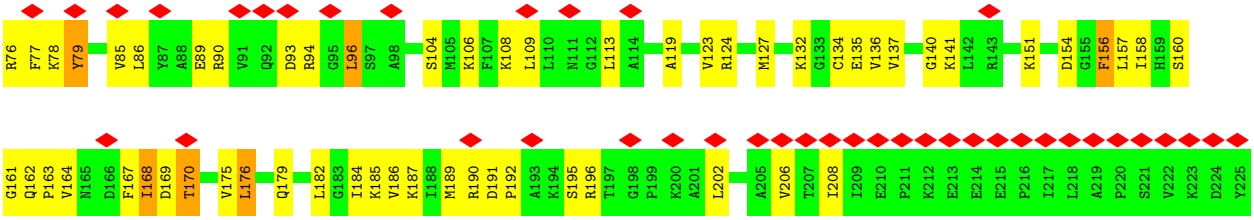




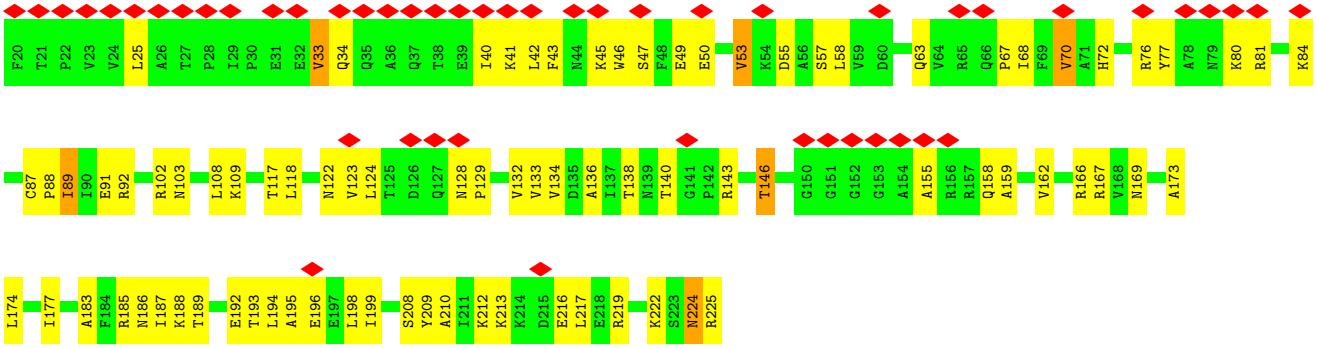


• Molecule 46: Small ribosomal subunit protein uS3

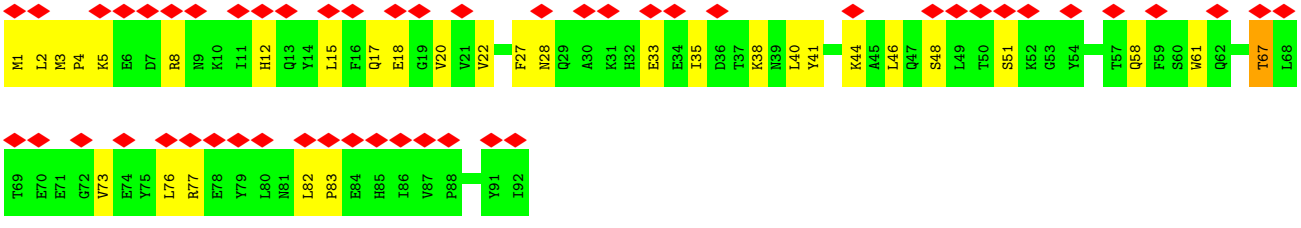




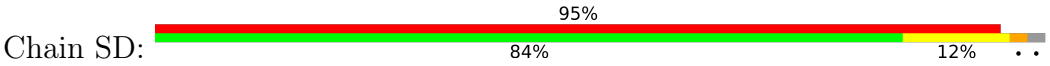
• Molecule 47: Small ribosomal subunit protein uS7

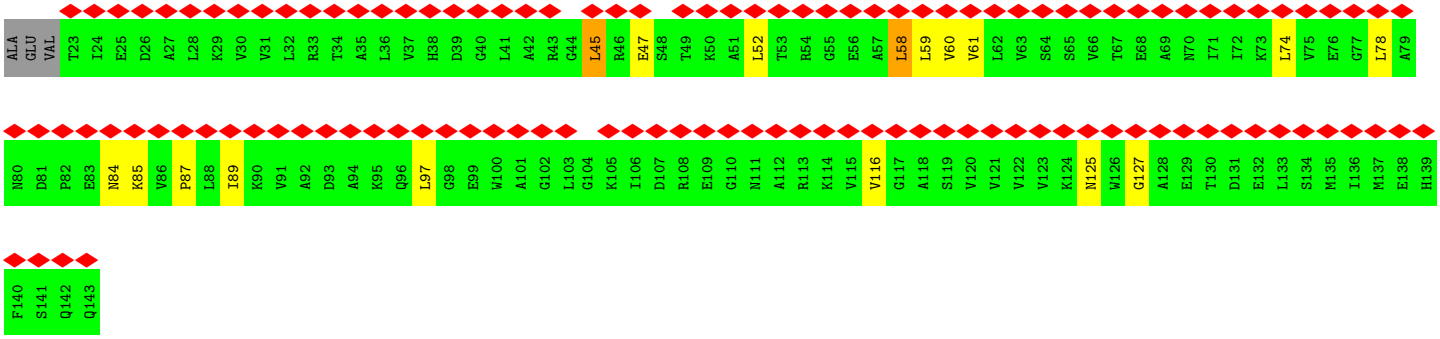


• Molecule 48: Small ribosomal subunit protein eS10A



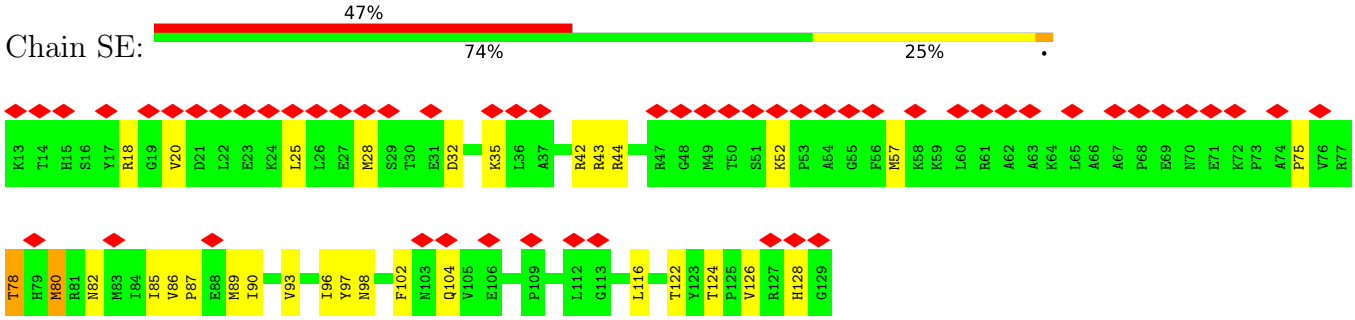
• Molecule 49: Small ribosomal subunit protein eS12





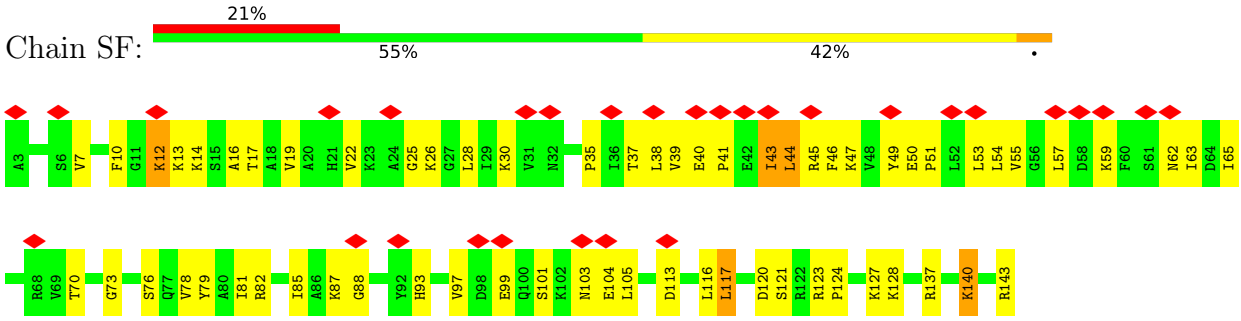
• Molecule 50: Small ribosomal subunit protein uS19

Chain SE:



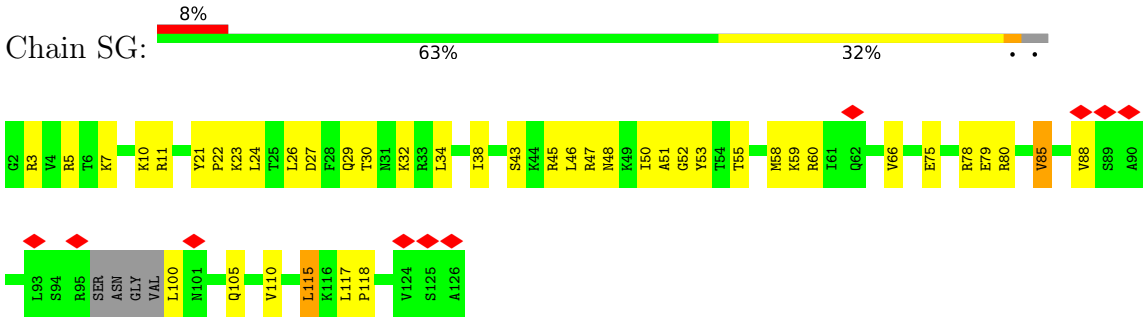
• Molecule 51: Small ribosomal subunit protein uS9A

Chain SF:



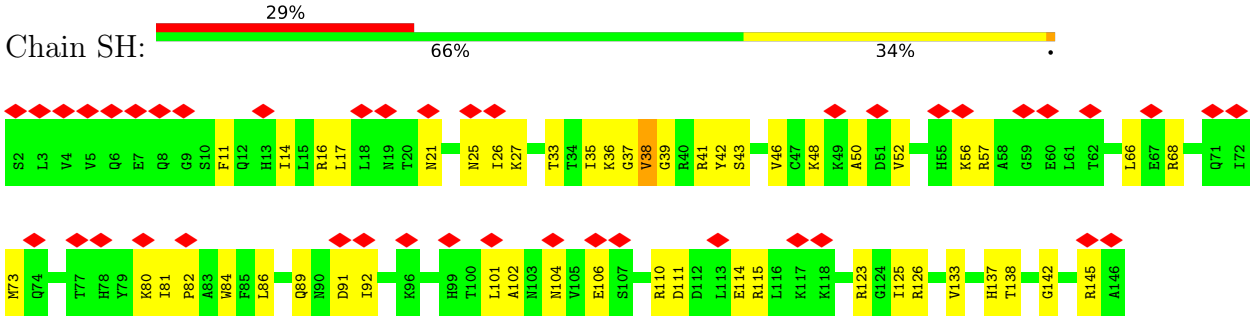
• Molecule 52: Small ribosomal subunit protein eS17A

Chain SG:



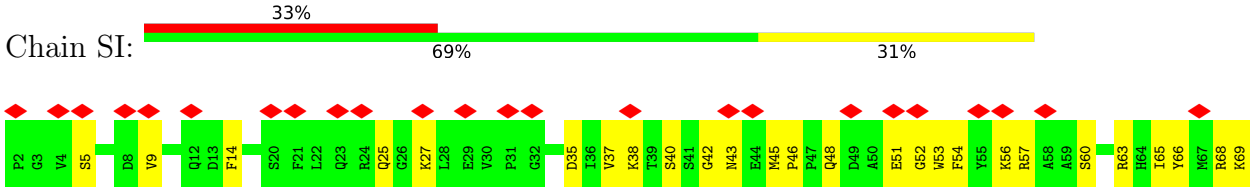
• Molecule 53: Small ribosomal subunit protein uS13A

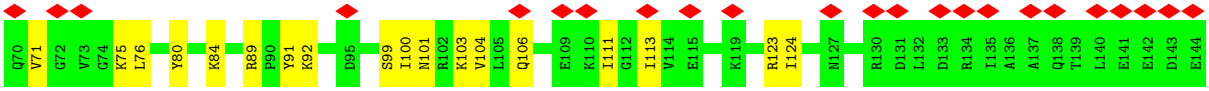
Chain SH:



• Molecule 54: Small ribosomal subunit protein eS19A

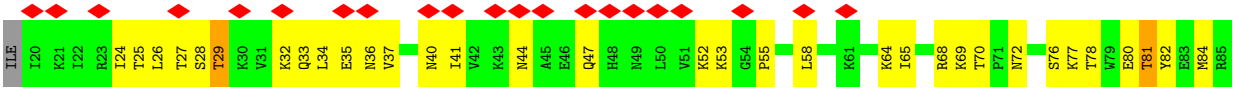
Chain SI:

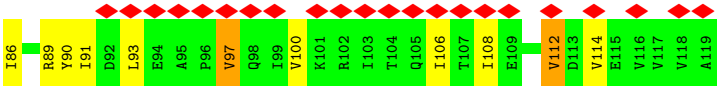




• Molecule 55: Small ribosomal subunit protein uS10

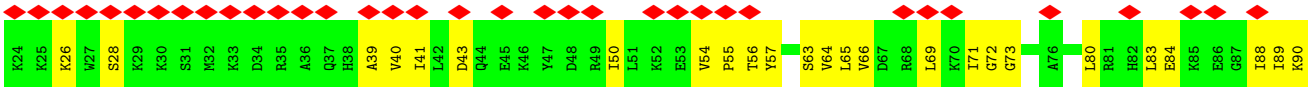
Chain SJ:

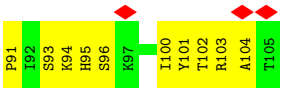




• Molecule 56: Small ribosomal subunit protein eS25A

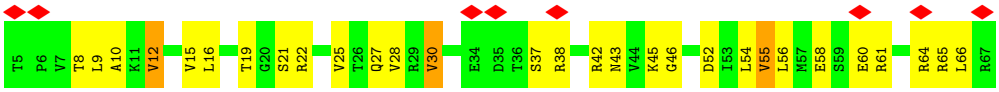
Chain SK:





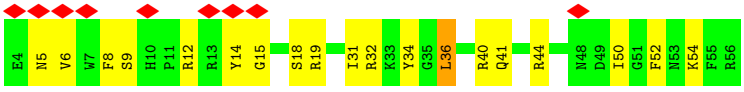
• Molecule 57: Small ribosomal subunit protein eS28A

Chain SL:



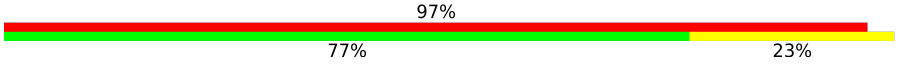
• Molecule 58: Small ribosomal subunit protein uS14A

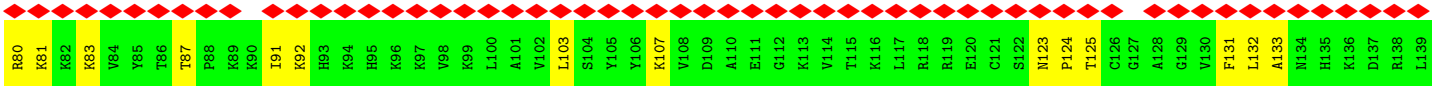
Chain SM:

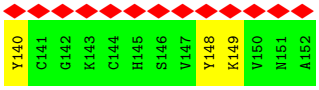


• Molecule 59: Small ribosomal subunit protein eS31

Chain SN:

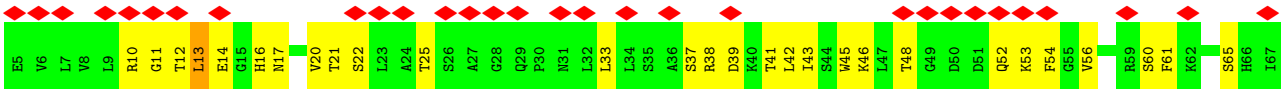


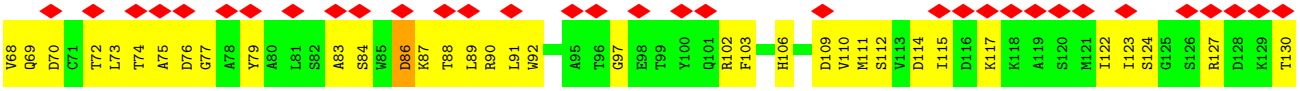


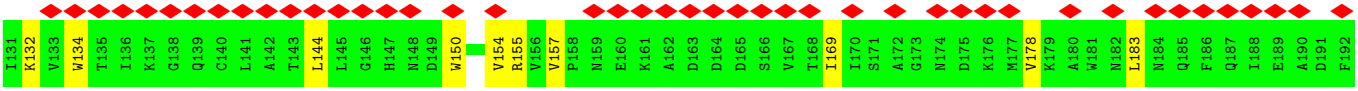


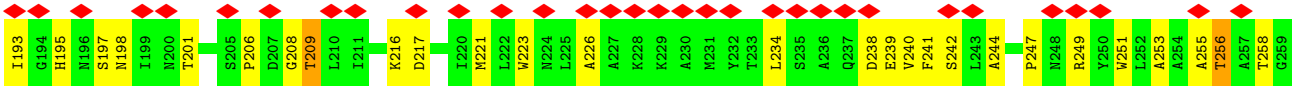
• Molecule 60: Small ribosomal subunit protein RACK1

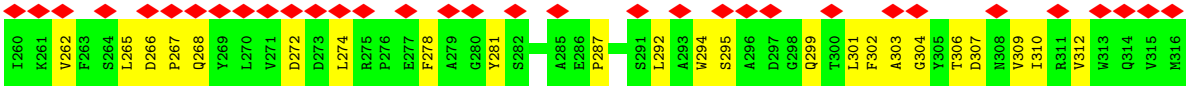
Chain SO:





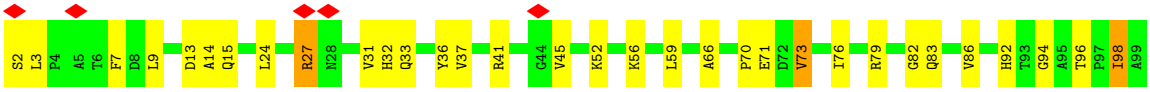


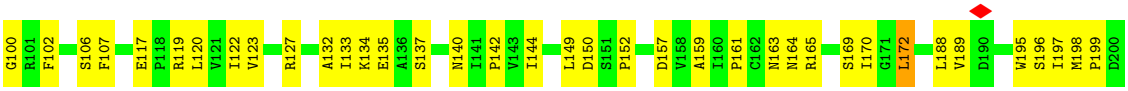




• Molecule 61: Small ribosomal subunit protein uS2A

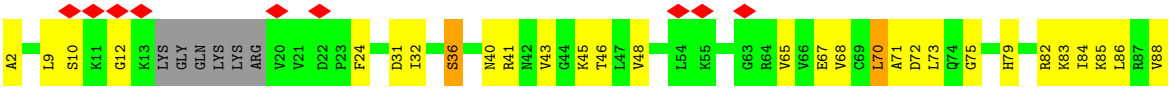
Chain SP:

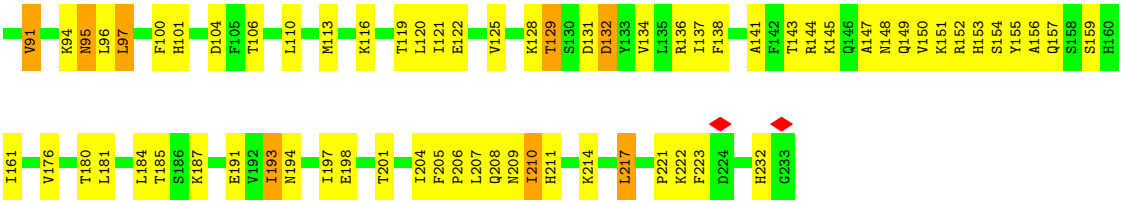




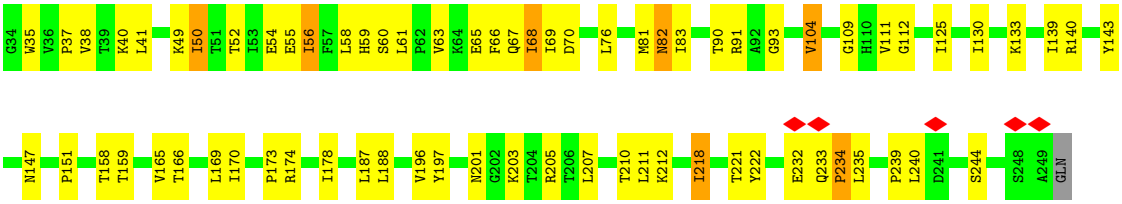
• Molecule 62: Small ribosomal subunit protein eS1A

Chain SQ:

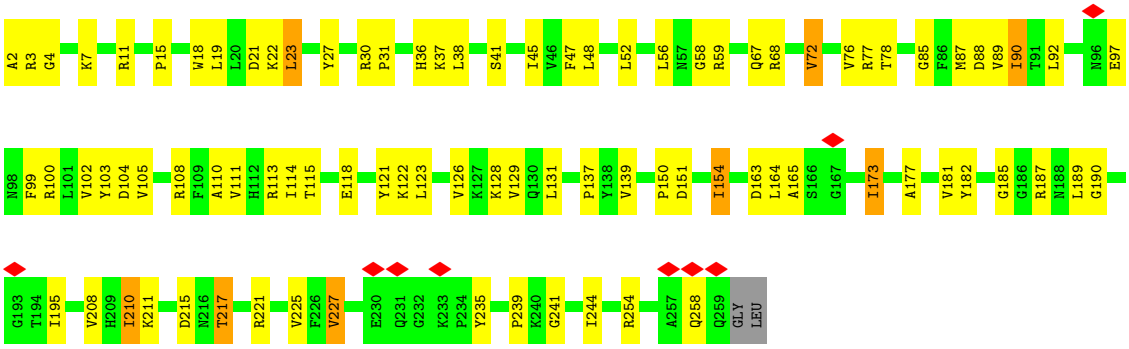




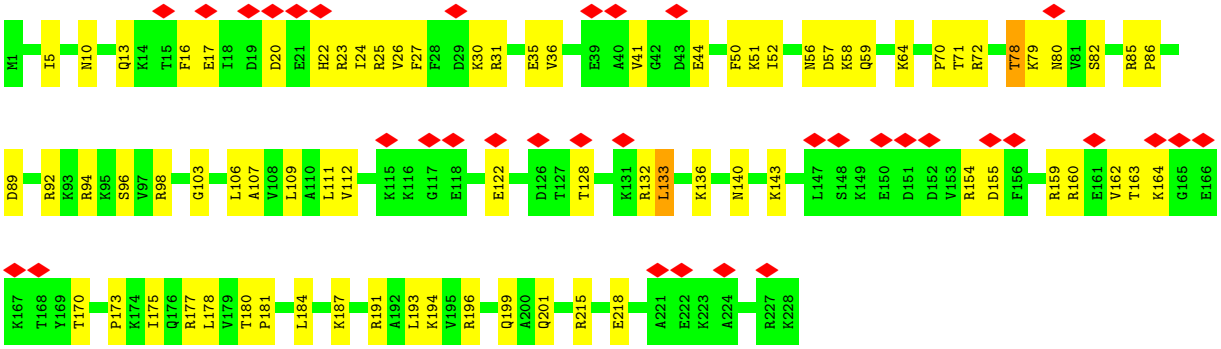
• Molecule 63: Small ribosomal subunit protein uS5



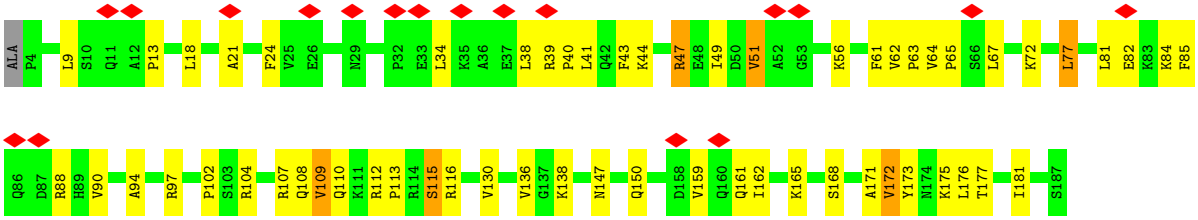
• Molecule 64: Small ribosomal subunit protein eS4A



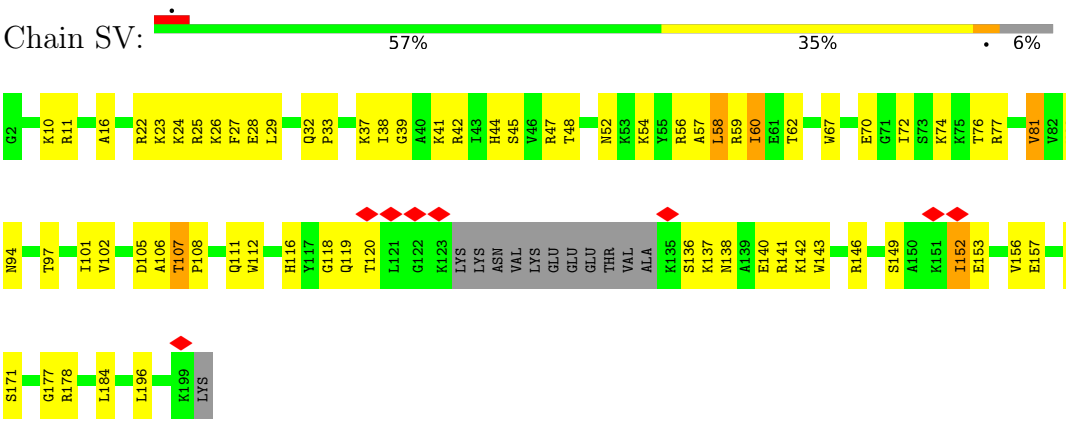
• Molecule 65: Small ribosomal subunit protein eS6A



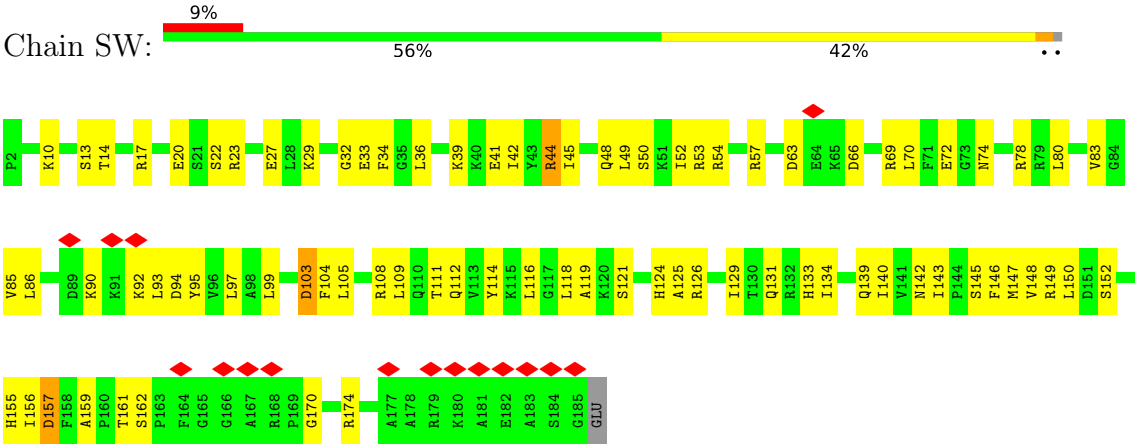
• Molecule 66: Small ribosomal subunit protein eS7A



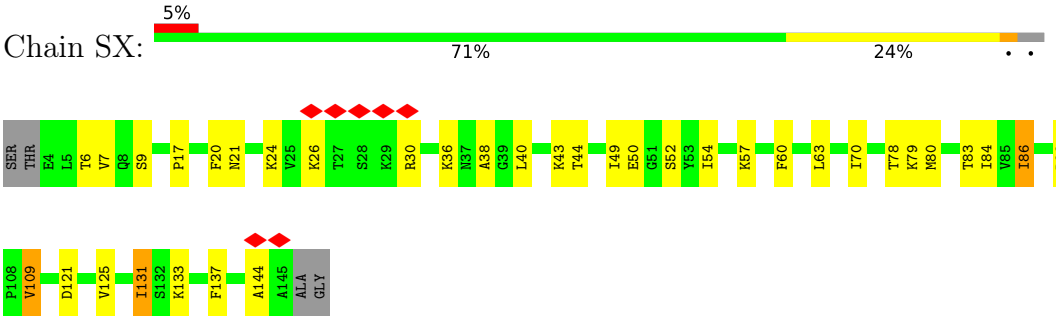
• Molecule 67: Small ribosomal subunit protein eS8A



• Molecule 68: Small ribosomal subunit protein uS4A

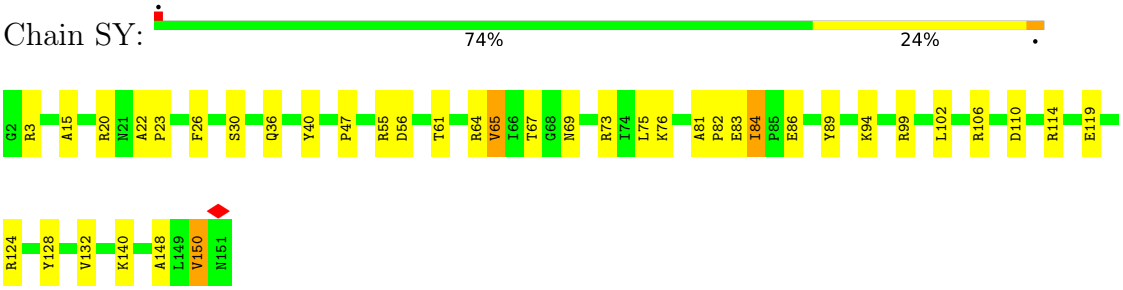


• Molecule 69: Small ribosomal subunit protein uS17A



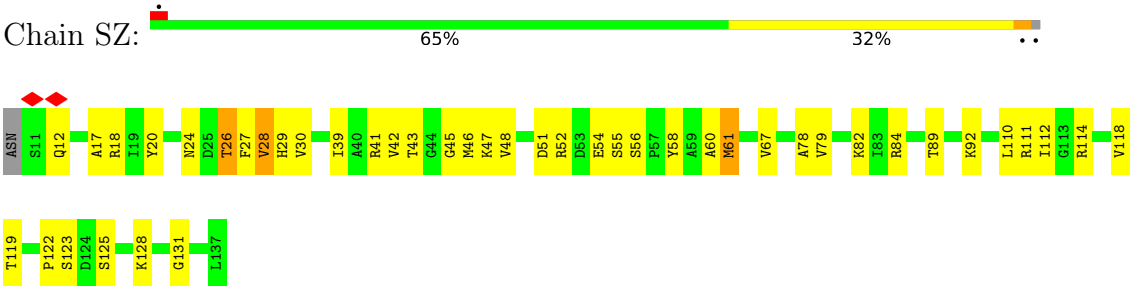
• Molecule 70: Small ribosomal subunit protein uS15

Chain SY:



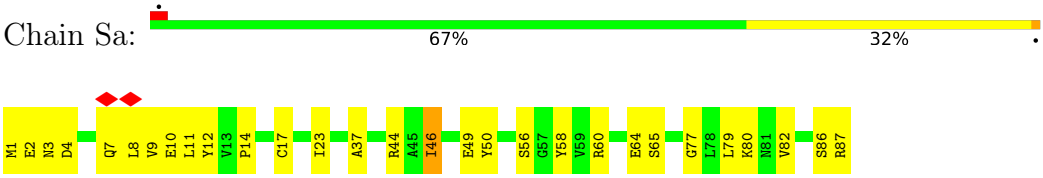
• Molecule 71: Small ribosomal subunit protein uS11B

Chain SZ:



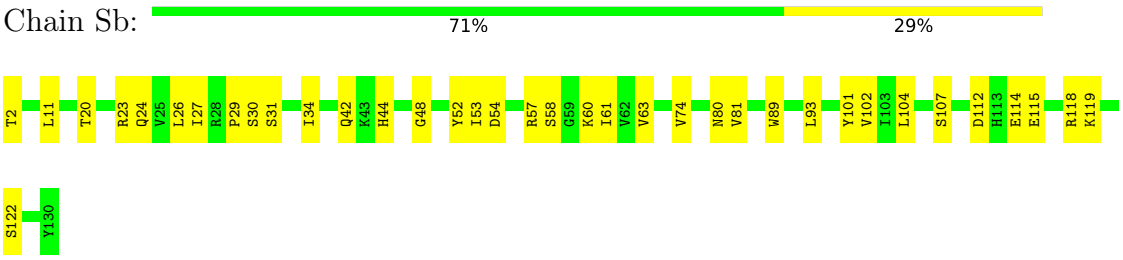
• Molecule 72: Small ribosomal subunit protein eS21A

Chain Sa:



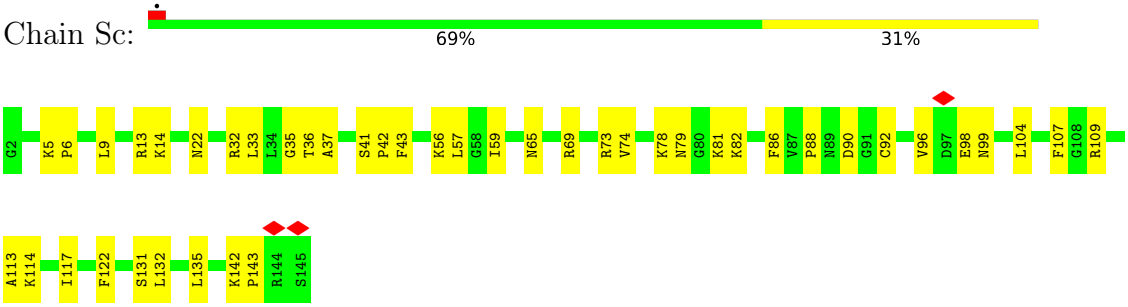
• Molecule 73: Small ribosomal subunit protein uS8A

Chain Sb:

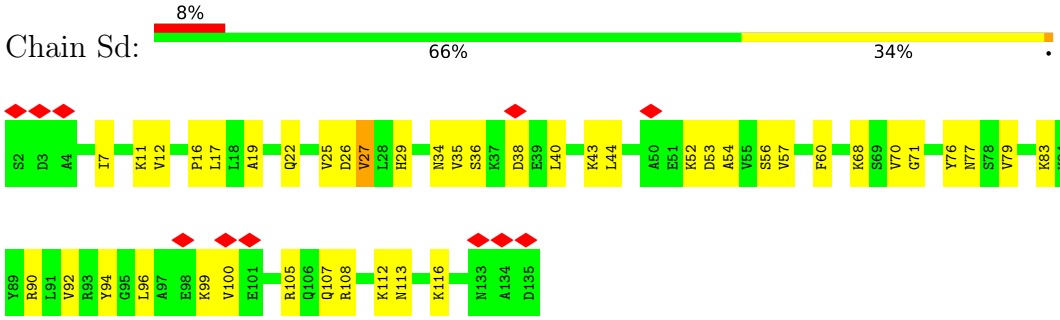


• Molecule 74: Small ribosomal subunit protein uS12A

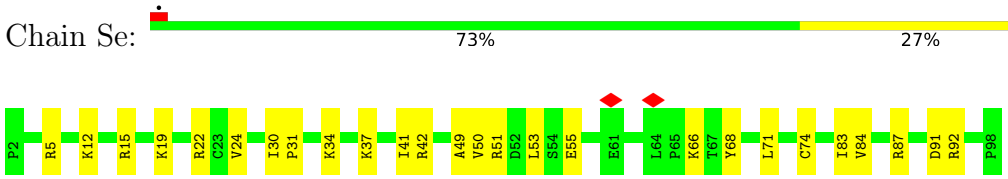
Chain Sc:



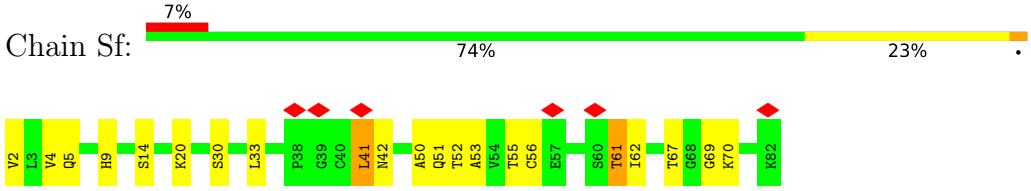
• Molecule 75: Small ribosomal subunit protein eS24A



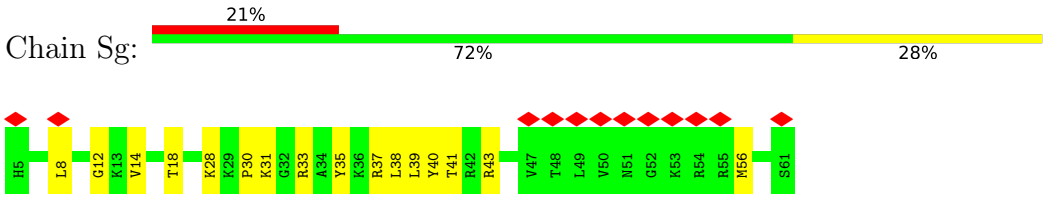
• Molecule 76: Small ribosomal subunit protein eS26B



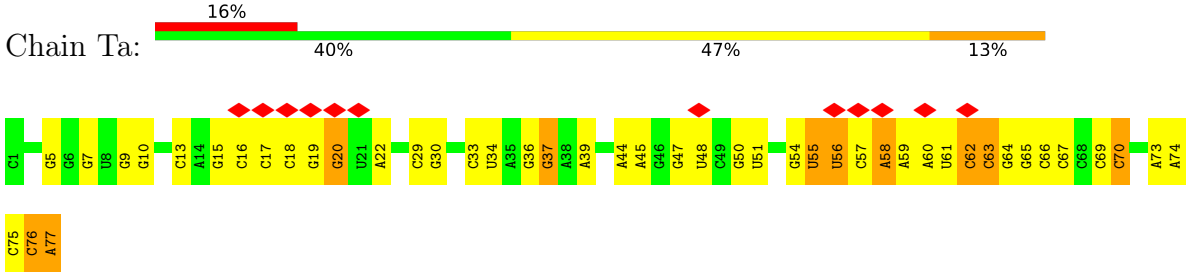
• Molecule 77: Small ribosomal subunit protein eS27A



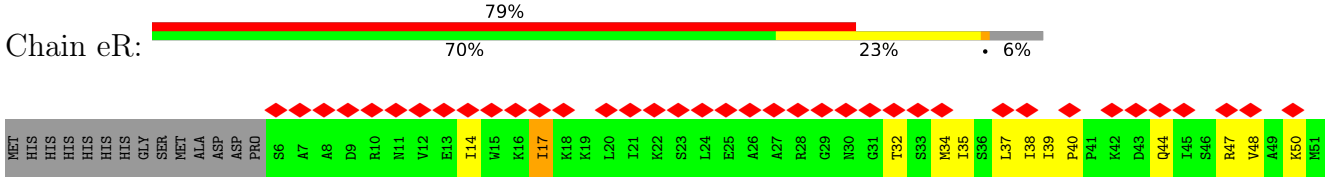
• Molecule 78: Small ribosomal subunit protein eS30A

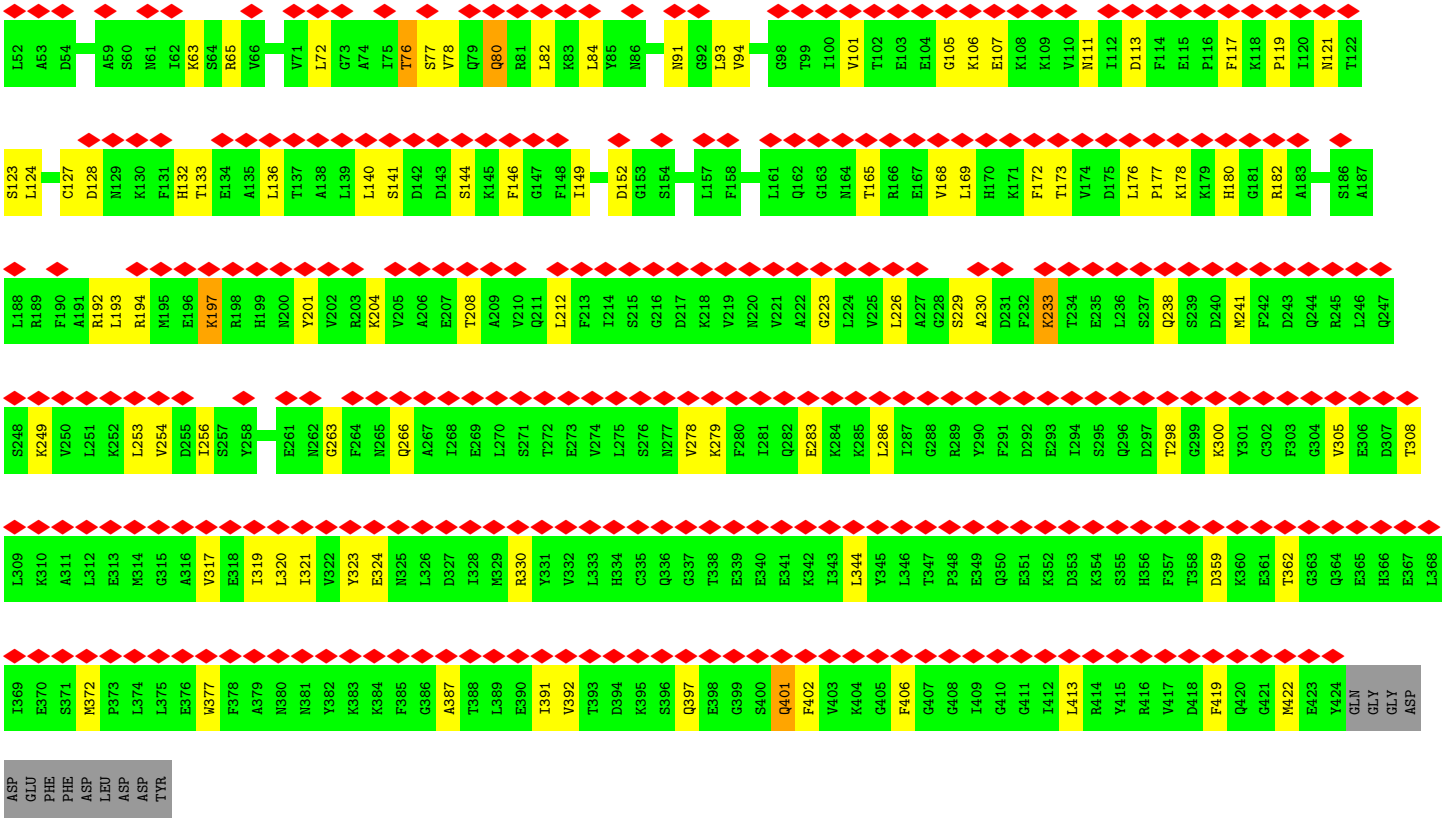


• Molecule 79: tRNA (77-MER)

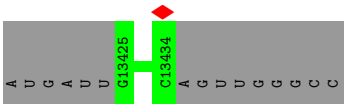


• Molecule 80: Eukaryotic peptide chain release factor subunit 1

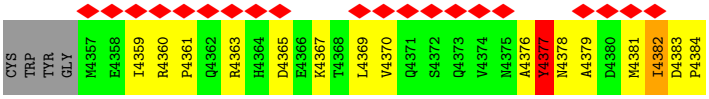




• Molecule 81: RNA (5'-R(P*GP*AP*CP*CP*CP*UP*UP*AP*AP*C)-3')



• Molecule 82: Peptide 2k



4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	460403	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	5.439	Depositor
Minimum map value	-2.709	Depositor
Average map value	-0.002	Depositor
Map value standard deviation	0.110	Depositor
Recommended contour level	0.26	Depositor
Map size (Å)	570.0, 570.0, 570.0	wwPDB
Map dimensions	600, 600, 600	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.95, 0.95, 0.95	Depositor

5 Model quality

5.1 Standard geometry

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|$ >5	RMSZ	#$\|Z\|$ >5
1	LA	0.41	0/76214	0.38	0/118821
2	LB	0.32	0/2883	0.33	0/4491
3	LC	0.36	0/3746	0.39	0/5832
4	LD	0.34	0/1933	0.42	0/2598
5	LE	0.31	0/3146	0.38	0/4228
6	LF	0.38	1/2800 (0.0%)	0.52	4/3790 (0.1%)
7	LG	0.24	0/2400	0.37	0/3239
8	LH	0.24	0/1329	0.36	0/1794
9	LI	0.33	0/1821	0.43	0/2451
10	LJ	0.24	0/1836	0.41	0/2481
11	LK	0.27	0/1529	0.41	0/2060
12	LL	0.28	0/1801	0.37	0/2416
13	LM	0.21	0/1367	0.38	0/1834
14	LN	0.27	0/1568	0.40	0/2106
15	LO	0.25	0/1068	0.38	0/1438
16	LP	0.34	0/1757	0.40	0/2354
17	LQ	0.31	0/1585	0.44	0/2128
18	LR	0.32	0/1439	0.38	0/1938
19	LS	0.32	0/1465	0.41	0/1965
20	LT	0.28	0/1532	0.36	0/2043
21	LU	0.30	0/1473	0.42	0/1980
22	LV	0.38	0/1296	0.40	1/1739 (0.1%)
23	LW	0.20	0/812	0.38	0/1099
24	LX	0.31	0/1018	0.36	0/1369
25	LY	0.29	0/540	0.35	0/717
26	LZ	0.25	0/979	0.37	0/1321
27	La	0.30	0/995	0.53	0/1329
28	Lb	0.24	0/1106	0.40	0/1485
29	Lc	0.35	0/1200	0.45	0/1607
30	Ld	0.30	0/473	0.44	0/629
31	Le	0.28	0/745	0.33	0/1001
32	Lf	0.27	0/890	0.37	0/1196
33	Lg	0.30	0/1038	0.41	0/1390
34	Lh	0.32	0/868	0.38	0/1168

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
35	Li	0.31	0/890	0.41	0/1189
36	Lj	0.24	0/978	0.37	0/1301
37	Lk	0.27	0/772	0.42	0/1026
38	Ll	0.38	0/660	0.44	0/875
39	Lm	0.20	0/618	0.38	0/826
40	Ln	0.31	0/443	0.44	0/588
41	Lo	0.37	1/416 (0.2%)	0.37	0/553
42	Lp	0.27	0/230	0.30	0/296
43	Lq	0.79	5/836 (0.6%)	0.57	3/1104 (0.3%)
44	Lr	0.30	0/701	0.41	0/934
45	S2	0.30	0/42211	0.35	0/65773
46	SA	0.27	0/1754	0.40	0/2361
47	SB	0.19	0/1625	0.39	0/2197
48	SC	0.15	0/769	0.40	0/1039
49	SD	0.14	0/883	0.39	0/1199
50	SE	0.16	0/936	0.34	0/1259
51	SF	0.19	0/1125	0.42	0/1510
52	SG	0.17	0/957	0.34	0/1283
53	SH	0.14	0/1207	0.32	0/1623
54	SI	0.17	0/1130	0.35	0/1517
55	SJ	0.16	0/807	0.33	0/1091
56	SK	0.16	0/661	0.34	0/888
57	SL	0.21	0/493	0.33	0/663
58	SM	0.18	0/452	0.33	0/600
59	SN	0.12	0/567	0.31	0/764
60	SO	0.15	0/2436	0.37	0/3318
61	SP	0.22	0/1644	0.38	0/2249
62	SQ	0.26	0/1823	0.47	0/2447
63	SR	0.27	0/1656	0.46	1/2251 (0.0%)
64	SS	0.24	0/2097	0.41	0/2823
65	ST	0.18	0/1839	0.34	0/2460
66	SU	0.21	0/1498	0.38	0/2019
67	SV	0.27	0/1501	0.38	0/2006
68	SW	0.25	0/1504	0.36	0/2016
69	SX	0.29	0/1168	0.35	0/1575
70	SY	0.28	0/1215	0.43	0/1638
71	SZ	0.29	0/934	0.43	0/1257
72	Sa	0.23	0/682	0.34	0/921
73	Sb	0.32	0/1038	0.42	0/1395
74	Sc	0.27	0/1139	0.37	0/1518
75	Sd	0.19	0/1046	0.35	0/1401
76	Se	0.30	0/778	0.45	0/1042
77	Sf	0.23	0/620	0.38	0/838

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
78	Sg	0.19	0/459	0.38	0/611
79	Ta	0.19	0/1844	0.27	0/2873
80	eR	0.13	0/3363	0.30	0/4523
82	pp	0.27	0/232	0.65	1/313 (0.3%)
All	All	0.33	7/219289 (0.0%)	0.38	10/321990 (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
7	LG	0	1
10	LJ	0	1
27	La	0	2
30	Ld	0	2
36	Lj	0	1
63	SR	0	1
All	All	0	8

All (7) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	LF	351	PRO	CG-CD	-10.47	1.15	1.50
43	Lq	56	PRO	CA-C	-8.07	1.42	1.52
43	Lq	52	GLY	CA-C	-6.21	1.43	1.51
43	Lq	57	VAL	C-O	-5.70	1.17	1.24
41	Lo	104	PRO	CA-C	5.25	1.54	1.51
43	Lq	53	GLN	N-CA	-5.24	1.39	1.46
43	Lq	55	LYS	C-O	-5.16	1.18	1.24

All (10) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
6	LF	351	PRO	N-CD-CG	-12.26	84.82	103.20
6	LF	351	PRO	CA-CB-CG	-11.07	83.46	104.50
82	pp	4377	TYR	CB-CA-C	-6.17	109.44	116.54
43	Lq	59	HIS	CB-CA-C	-5.61	101.92	109.16
63	SR	234	PRO	CA-N-CD	-5.57	104.21	112.00
43	Lq	58	PHE	N-CA-C	5.53	118.47	110.28
22	LV	157	GLU	CA-CB-CG	-5.36	103.39	114.10
6	LF	351	PRO	CA-N-CD	-5.35	104.52	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
43	Lq	53	GLN	N-CA-C	-5.05	102.22	110.20
6	LF	351	PRO	N-CA-CB	-5.03	98.97	103.35

There are no chirality outliers.

All (8) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
7	LG	252	ALA	Peptide
10	LJ	30	THR	Peptide
27	La	30	LEU	Peptide
27	La	46	LYS	Peptide
30	Ld	19	ASN	Peptide
30	Ld	20	GLY	Peptide
36	Lj	83	LYS	Peptide
63	SR	233	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	LA	68091	0	34217	1057	0
2	LB	2579	0	1304	49	0
3	LC	3353	0	1695	81	0
4	LD	1899	0	1957	48	0
5	LE	3075	0	3142	100	0
6	LF	2748	0	2859	90	0
7	LG	2351	0	2294	72	0
8	LH	1307	0	1377	45	0
9	LI	1784	0	1862	45	0
10	LJ	1804	0	1877	66	0
11	LK	1508	0	1572	58	0
12	LL	1764	0	1804	51	0
13	LM	1346	0	1370	54	0
14	LN	1543	0	1608	61	0
15	LO	1053	0	1149	47	0
16	LP	1720	0	1779	56	0
17	LQ	1555	0	1659	40	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
18	LR	1416	0	1433	35	0
19	LS	1441	0	1543	41	0
20	LT	1515	0	1606	45	0
21	LU	1437	0	1475	54	0
22	LV	1272	0	1312	46	0
23	LW	796	0	812	25	0
24	LX	1003	0	1048	26	0
25	LY	528	0	546	12	0
26	LZ	964	0	1025	32	0
27	La	984	0	1075	50	0
28	Lb	1080	0	1122	32	0
29	Lc	1169	0	1211	44	0
30	Ld	462	0	491	14	0
31	Le	737	0	792	21	0
32	Lf	876	0	912	22	0
33	Lg	1017	0	1081	18	0
34	Lh	850	0	880	21	0
35	Li	880	0	945	33	0
36	Lj	969	0	1078	39	0
37	Lk	766	0	844	28	0
38	Ll	645	0	649	21	0
39	Lm	612	0	682	20	0
40	Ln	436	0	475	20	0
41	Lo	410	0	446	11	0
42	Lp	229	0	273	5	0
43	Lq	824	0	892	18	0
44	Lr	694	0	738	14	0
45	S2	37739	0	18988	749	0
46	SA	1729	0	1812	66	0
47	SB	1605	0	1669	65	0
48	SC	752	0	719	22	0
49	SD	875	0	878	11	0
50	SE	916	0	941	23	0
51	SF	1105	0	1166	52	0
52	SG	948	0	990	42	0
53	SH	1188	0	1218	40	0
54	SI	1112	0	1124	32	0
55	SJ	797	0	863	36	0
56	SK	651	0	682	26	0
57	SL	491	0	524	22	0
58	SM	442	0	432	25	0
59	SN	556	0	549	15	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
60	SO	2383	0	2332	74	0
61	SP	1603	0	1610	51	0
62	SQ	1798	0	1890	72	0
63	SR	1626	0	1715	52	0
64	SS	2056	0	2140	62	0
65	ST	1815	0	1894	62	0
66	SU	1473	0	1555	35	0
67	SV	1476	0	1501	58	0
68	SW	1479	0	1556	68	0
69	SX	1142	0	1209	27	0
70	SY	1192	0	1255	31	0
71	SZ	923	0	948	39	0
72	Sa	673	0	662	25	0
73	Sb	1021	0	1060	27	0
74	Sc	1121	0	1196	33	0
75	Sd	1032	0	1044	35	0
76	Se	765	0	814	22	0
77	Sf	610	0	633	15	0
78	Sg	451	0	494	15	0
79	Ta	1650	0	838	32	0
80	eR	3309	0	3350	74	0
81	mR	209	0	0	0	0
82	pp	229	0	219	17	0
All	All	204434	0	151381	4107	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 12.

All (4107) 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:LA:2215:G:H1	1:LA:2227:A:N6	1.55	1.03
1:LA:1532:U:HO2'	1:LA:1797:A:H8	1.05	1.01
1:LA:3233:A:H61	1:LA:3252:G:H1	1.01	1.00
74:Sc:57:LEU:HD21	74:Sc:73:ARG:HG2	1.44	1.00
45:S2:1039:A:N6	45:S2:1091:A:N7	2.10	0.99
45:S2:1673:G:N1	45:S2:1728:A:H2	1.61	0.97
1:LA:726:G:H1	1:LA:742:C:H41	1.04	0.96
45:S2:1588:G:H1	45:S2:1608:U:H3	1.01	0.95
45:S2:473:A:H4'	68:SW:44:ARG:NH2	1.81	0.94
24:LX:10:LYS:HD2	24:LX:125:LEU:HD11	1.50	0.93

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:354:U:O4	1:LA:365:A:N6	2.02	0.93
3:LC:48:A:H61	3:LC:54:A:H61	1.13	0.92
1:LA:2137:A:HO2'	38:Ll:2:GLY:N	1.66	0.91
45:S2:1662:G:H1	45:S2:1738:U:H3	1.18	0.90
1:LA:3159:U:H3	1:LA:3289:G:H1	0.92	0.90
1:LA:1656:C:H42	1:LA:1797:A:H2	1.20	0.90
45:S2:1350:U:H3	45:S2:1376:C:H42	1.18	0.89
45:S2:1673:G:O6	45:S2:1728:A:N1	2.05	0.89
1:LA:3233:A:N6	1:LA:3252:G:H1	1.71	0.88
45:S2:1271:G:N1	45:S2:1438:G:O6	2.08	0.87
79:Ta:51:U:H3	79:Ta:65:G:H1	1.20	0.86
68:SW:90:LYS:HZ2	68:SW:93:LEU:H	1.24	0.86
45:S2:473:A:H5"	45:S2:474:A:H2	1.39	0.86
45:S2:1673:G:N1	45:S2:1728:A:C2	2.37	0.85
1:LA:592:C:H5"	8:LH:19:LYS:HE2	1.58	0.85
63:SR:63:VAL:HG11	63:SR:69:ILE:HD11	1.56	0.85
1:LA:415:G:H1	3:LC:7:U:H3	1.22	0.85
39:Lm:5:ILE:HD11	39:Lm:52:TYR:HB3	1.56	0.85
1:LA:226:C:H3'	1:LA:227:G:H8	1.39	0.85
45:S2:984:G:O6	45:S2:1017:U:C2	2.30	0.85
73:Sb:115:GLU:OE1	73:Sb:119:LYS:NZ	2.09	0.85
24:LX:81:GLN:O	24:LX:98:ASN:ND2	2.10	0.84
1:LA:2216:U:H3	1:LA:2226:C:H41	1.25	0.84
10:LJ:77:GLN:HG3	10:LJ:229:VAL:HG11	1.59	0.84
45:S2:984:G:O6	45:S2:1017:U:O2	1.95	0.84
27:La:49:PRO:HD2	27:La:115:ARG:HG3	1.60	0.83
1:LA:2994:A:O2'	3:LC:1:A:N6	2.09	0.83
57:SL:37:SER:O	76:Se:51:ARG:NH1	2.12	0.82
2:LB:27:A:OP2	7:LG:57:ASN:ND2	2.13	0.82
45:S2:1019:A:H3'	45:S2:1020:A:H4'	1.59	0.82
62:SQ:95:ASN:ND2	62:SQ:95:ASN:O	2.12	0.82
1:LA:2215:G:H1	1:LA:2227:A:H61	0.83	0.82
46:SA:29:LEU:HD23	46:SA:32:GLU:HG3	1.61	0.82
32:Lf:5:LYS:O	32:Lf:79:ARG:NH2	2.13	0.81
36:Lj:85:THR:HG22	36:Lj:88:LEU:H	1.43	0.81
1:LA:1663:G:H1	1:LA:1784:U:H3	1.29	0.81
55:SJ:24:ILE:HD11	55:SJ:91:ILE:HB	1.63	0.81
1:LA:3229:G:H4'	15:LO:132:LYS:HD3	1.63	0.80
68:SW:49:LEU:HG	68:SW:53:ARG:HE	1.45	0.80
1:LA:1385:A:H5"	6:LF:141:ARG:HH22	1.46	0.80
45:S2:868:G:H1	45:S2:960:U:H3	1.28	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:LJ:139:VAL:HG11	10:LJ:197:VAL:HG11	1.63	0.80
47:SB:92:ARG:NH2	47:SB:169:ASN:OD1	2.15	0.80
1:LA:2671:G:N1	1:LA:2680:U:O4	2.11	0.79
45:S2:280:U:H3	45:S2:284:G:H22	1.30	0.79
45:S2:984:G:O6	45:S2:985:G:N1	2.16	0.79
1:LA:1888:G:H5'	5:LE:245:GLY:HA2	1.63	0.79
62:SQ:70:LEU:HB3	62:SQ:79:HIS:HB3	1.65	0.79
1:LA:2715:U:H2'	1:LA:2716:U:H5"	1.64	0.79
45:S2:1670:G:H1'	45:S2:1732:A:H62	1.47	0.78
54:SI:45:MET:HE3	54:SI:46:PRO:HD2	1.66	0.78
29:Lc:84:GLU:OE1	29:Lc:84:GLU:N	2.16	0.78
26:LZ:82:LEU:HG	26:LZ:126:LEU:HD11	1.65	0.78
1:LA:1939:G:H21	1:LA:3361:A:H8	1.32	0.78
16:LP:15:GLN:HG2	37:Lk:52:PRO:HD2	1.64	0.78
27:La:40:ARG:HG3	27:La:46:LYS:HD3	1.65	0.78
1:LA:687:G:N2	1:LA:691:A:C2	2.50	0.78
45:S2:959:U:H6	70:SY:61:THR:HG23	1.46	0.78
28:Lb:26:VAL:HG23	28:Lb:89:VAL:HG11	1.66	0.78
45:S2:208:U:O4	45:S2:256:A:N6	2.15	0.78
55:SJ:34:LEU:HD21	55:SJ:89:ARG:HG3	1.67	0.77
56:SK:84:GLU:OE1	56:SK:94:LYS:NZ	2.16	0.77
10:LJ:155:ASN:HD21	10:LJ:181:LYS:HA	1.49	0.77
33:Lg:77:ALA:HA	33:Lg:100:ILE:HD11	1.67	0.77
45:S2:1408:G:N2	45:S2:1412:G:O6	2.18	0.77
1:LA:1100:G:H5"	9:LI:107:ARG:HD2	1.66	0.77
45:S2:643:G:N2	45:S2:691:C:O2	2.14	0.77
37:Lk:66:GLU:OE2	37:Lk:91:ASN:ND2	2.16	0.77
45:S2:195:G:O6	67:SV:137:LYS:NZ	2.18	0.77
1:LA:1119:A:H62	1:LA:1137:U:H3	1.33	0.77
48:SC:20:VAL:HG12	48:SC:67:THR:HG23	1.67	0.77
1:LA:3108:G:N2	11:LK:156:GLN:OE1	2.17	0.76
1:LA:394:G:N1	1:LA:397:A:OP2	2.19	0.76
1:LA:1148:G:OP2	34:Lh:21:ARG:NH2	2.18	0.76
27:La:24:SER:HA	27:La:27:ARG:HB2	1.65	0.76
1:LA:1579:A:N3	26:LZ:33:ARG:NH2	2.32	0.76
1:LA:1323:U:H5"	21:LU:2:ALA:HA	1.66	0.76
1:LA:2619:G:H1	79:Ta:75:C:H5	1.34	0.76
20:LT:162:ARG:HH12	45:S2:815:G:H1'	1.50	0.76
64:SS:68:ARG:HG2	64:SS:76:VAL:HG11	1.68	0.76
71:SZ:43:THR:H	71:SZ:46:MET:HE2	1.50	0.76
1:LA:3293:A:OP1	5:LE:128:LYS:NZ	2.19	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:LZ:50:ALA:HB1	36:Lj:66:VAL:HG11	1.68	0.76
68:SW:27:GLU:HB3	68:SW:39:LYS:HE2	1.68	0.76
79:Ta:34:U:O2	79:Ta:37:G:N2	2.18	0.76
8:LH:56:LYS:NZ	8:LH:101:PHE:O	2.20	0.75
1:LA:2355:A:H61	1:LA:2982:C:H5	1.35	0.75
65:ST:52:ILE:HG23	65:ST:109:LEU:HD21	1.68	0.75
9:LI:107:ARG:NH2	9:LI:202:LEU:O	2.18	0.75
11:LK:28:VAL:HG12	11:LK:33:THR:HG22	1.68	0.75
21:LU:29:ILE:HD11	21:LU:37:ALA:HA	1.66	0.75
29:Lc:83:PRO:HG2	29:Lc:86:LYS:HD3	1.67	0.75
71:SZ:20:TYR:HB3	71:SZ:27:PHE:HB2	1.69	0.75
1:LA:3067:U:OP2	20:LT:62:ARG:NH2	2.19	0.75
27:La:110:HIS:O	27:La:115:ARG:NH1	2.20	0.75
69:SX:102:LYS:O	74:Sc:13:ARG:NH2	2.20	0.75
50:SE:57:MET:HA	50:SE:57:MET:HE3	1.67	0.74
1:LA:2521:G:O6	4:LD:72:ARG:NH2	2.21	0.74
45:S2:1680:G:H1'	45:S2:1721:A:H61	1.52	0.74
62:SQ:67:GLU:HG3	62:SQ:85:LYS:HG3	1.69	0.74
1:LA:687:G:H21	1:LA:691:A:H2	1.29	0.74
1:LA:2674:C:N4	1:LA:2675:A:N7	2.36	0.74
45:S2:7:G:N7	63:SR:205:ARG:NH2	2.36	0.74
1:LA:3194:U:H2'	1:LA:3196:G:H21	1.50	0.74
7:LG:211:LEU:HD21	7:LG:218:ARG:HG2	1.70	0.74
64:SS:185:GLY:H	64:SS:189:LEU:HD13	1.52	0.74
33:Lg:87:MET:HA	33:Lg:87:MET:HE3	1.70	0.74
35:Li:16:ARG:HE	35:Li:16:ARG:H	1.35	0.74
6:LF:35:VAL:HG21	6:LF:244:LEU:HD21	1.69	0.73
45:S2:1175:U:H3	45:S2:1464:G:H1	1.34	0.73
57:SL:38:ARG:NH2	76:Se:55:GLU:OE2	2.21	0.73
80:eR:94:VAL:HG11	80:eR:136:LEU:HD11	1.70	0.73
75:Sd:54:ALA:HB1	75:Sd:76:TYR:HB2	1.70	0.73
80:eR:372:MET:HE3	80:eR:377:TRP:HB2	1.68	0.73
60:SO:20:VAL:HG11	60:SO:310:ILE:HD11	1.69	0.73
1:LA:2968:A:N7	4:LD:215:ASN:ND2	2.36	0.73
45:S2:1386:G:H1	45:S2:1410:A:H61	1.36	0.73
1:LA:160:G:H1	1:LA:261:U:H3	0.82	0.73
1:LA:3274:U:O2'	34:Lh:99:ARG:NH1	2.21	0.73
1:LA:1070:U:O4	1:LA:1083:A:N6	2.22	0.73
22:LV:116:ARG:HG3	22:LV:128:LEU:HD21	1.69	0.73
32:Lf:80:ASN:OD1	32:Lf:80:ASN:N	2.22	0.73
45:S2:992:A:O2'	45:S2:1785:U:O2	2.06	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:1681:A:H2	45:S2:1720:G:H21	1.34	0.73
69:SX:78:THR:HA	69:SX:84:ILE:HG22	1.71	0.73
61:SP:52:LYS:HG2	72:Sa:82:VAL:HG13	1.71	0.73
5:LE:380:MET:HE2	5:LE:383:LEU:HD21	1.70	0.73
18:LR:122:ALA:HB3	18:LR:143:PRO:HB2	1.70	0.73
45:S2:473:A:H5"	45:S2:474:A:C2	2.23	0.73
1:LA:1571:U:O2	1:LA:1573:C:N4	2.22	0.72
1:LA:2819:A:H1'	79:Ta:77:A:H2'	1.71	0.72
14:LN:123:ILE:HG22	36:Lj:118:ILE:HG12	1.71	0.72
18:LR:22:LEU:HD12	18:LR:146:ILE:HD12	1.71	0.72
47:SB:222:LYS:HG2	47:SB:225:ARG:HH12	1.53	0.72
1:LA:2184:G:O2'	1:LA:2313:U:OP2	2.06	0.72
45:S2:1534:G:H5"	56:SK:73:GLY:H	1.54	0.72
5:LE:211:GLN:NE2	5:LE:283:TYR:O	2.22	0.72
27:La:32:SER:HA	27:La:50:ILE:HG22	1.71	0.72
45:S2:1350:U:H3	45:S2:1376:C:N4	1.87	0.72
1:LA:726:G:H1	1:LA:742:C:N4	1.85	0.72
45:S2:1018:U:O2	45:S2:1019:A:N6	2.23	0.72
45:S2:1584:G:N2	45:S2:1611:A:OP2	2.18	0.72
1:LA:63:A:H5"	16:LP:174:ILE:HG21	1.70	0.72
3:LC:48:A:H61	3:LC:54:A:N6	1.88	0.72
67:SV:62:THR:HA	67:SV:77:ARG:HA	1.70	0.72
11:LK:18:VAL:HG22	15:LO:5:SER:HB3	1.72	0.72
13:LM:110:ILE:HB	53:SH:16:ARG:HD2	1.71	0.72
25:LY:27:LYS:HD3	25:LY:29:PHE:CZ	2.24	0.72
47:SB:158:GLN:NE2	47:SB:159:ALA:O	2.21	0.72
13:LM:17:LEU:HD12	13:LM:129:VAL:HG22	1.72	0.72
22:LV:84:TYR:HB2	30:Ld:24:PRO:HD3	1.71	0.72
45:S2:1297:G:N2	45:S2:1300:A:OP2	2.22	0.72
40:Ln:13:MET:HE1	40:Ln:51:ILE:HD11	1.70	0.71
1:LA:3112:A:H4'	11:LK:69:ARG:HD2	1.72	0.71
14:LN:76:THR:HG22	14:LN:78:ALA:H	1.56	0.71
38:Ll:46:SER:HA	38:Ll:54:LYS:HZ3	1.53	0.71
46:SA:12:VAL:HG21	58:SM:34:TYR:HB3	1.71	0.71
46:SA:74:GLN:NE2	46:SA:79:TYR:O	2.22	0.71
47:SB:70:VAL:HG13	47:SB:72:HIS:H	1.56	0.71
1:LA:3041:U:OP2	1:LA:3091:C:N4	2.24	0.71
45:S2:761:G:H21	45:S2:789:A:H2	1.39	0.71
45:S2:780:A:H5'	45:S2:781:U:H2'	1.72	0.71
45:S2:1315:U:OP1	45:S2:1328:G:N2	2.20	0.71
50:SE:98:ASN:HB2	50:SE:122:THR:HA	1.72	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
69:SX:49:ILE:HG22	69:SX:50:GLU:HG3	1.72	0.71
1:LA:1676:G:N7	23:LW:74:LYS:NZ	2.37	0.71
3:LC:150:G:N2	10:LJ:59:GLN:OE1	2.17	0.71
45:S2:1553:G:N7	50:SE:43:ARG:NH2	2.39	0.71
1:LA:2835:C:H5	1:LA:2851:C:H42	1.38	0.71
1:LA:707:G:N2	1:LA:710:A:OP2	2.24	0.71
1:LA:2248:G:H1	1:LA:2266:C:H5	1.35	0.71
7:LG:244:HIS:HA	7:LG:248:ARG:HB2	1.73	0.71
35:Li:16:ARG:H	35:Li:16:ARG:NE	1.89	0.71
36:Lj:65:ALA:HA	36:Lj:68:GLN:HE22	1.56	0.71
61:SP:107:PHE:HB2	61:SP:135:GLU:HG2	1.71	0.71
68:SW:34:PHE:HD2	68:SW:111:THR:HG21	1.56	0.70
1:LA:226:C:H3'	1:LA:227:G:C8	2.25	0.70
5:LE:284:ARG:NH1	5:LE:293:ASN:O	2.24	0.70
45:S2:1436:A:OP2	46:SA:27:ARG:NH2	2.24	0.70
3:LC:154:C:H5"	10:LJ:181:LYS:HG2	1.72	0.70
12:LL:105:CYS:SG	12:LL:106:ALA:N	2.65	0.70
45:S2:212:U:H3'	45:S2:213:A:H5"	1.73	0.70
45:S2:1145:U:H5	45:S2:1633:A:N1	1.88	0.70
45:S2:1442:U:O2'	45:S2:1446:A:N1	2.23	0.70
45:S2:1034:C:HO2'	73:Sb:2:THR:N	1.88	0.70
15:LO:72:LEU:HD12	15:LO:73:PRO:HD2	1.72	0.70
46:SA:106:LYS:HD2	46:SA:175:VAL:HG12	1.73	0.70
68:SW:80:LEU:HB3	68:SW:86:LEU:HD22	1.73	0.70
5:LE:216:ASP:OD2	5:LE:339:ARG:NH2	2.24	0.70
8:LH:31:ARG:NH2	8:LH:81:ALA:O	2.24	0.70
1:LA:511:U:H3	1:LA:578:G:H1	1.39	0.70
1:LA:2155:C:OP2	4:LD:241:ARG:NH2	2.22	0.70
12:LL:171:TRP:O	12:LL:174:THR:OG1	2.08	0.70
1:LA:1231:C:H2'	1:LA:1232:G:H8	1.57	0.70
67:SV:107:THR:HG23	67:SV:108:PRO:HD3	1.73	0.70
1:LA:1681:U:O4	23:LW:90:ARG:NH1	2.25	0.70
9:LI:118:LYS:HG3	9:LI:191:VAL:HG11	1.73	0.70
45:S2:473:A:H4'	68:SW:44:ARG:HH22	1.55	0.70
63:SR:234:PRO:HD2	63:SR:235:LEU:H	1.57	0.70
80:eR:324:GLU:HB3	80:eR:391:ILE:HG23	1.73	0.70
36:Lj:66:VAL:HG12	36:Lj:80:LEU:HD11	1.74	0.69
45:S2:1478:G:H1	45:S2:1529:C:H41	1.40	0.69
51:SF:44:LEU:HD13	51:SF:78:VAL:HG21	1.74	0.69
60:SO:157:VAL:HB	60:SO:208:GLY:HA2	1.73	0.69
12:LL:106:ALA:HA	80:eR:193:LEU:HG	1.74	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:1388:A:OP1	52:SG:29:GLN:NE2	2.25	0.69
10:LJ:164:VAL:HG22	37:Lk:47:ILE:HD11	1.74	0.69
45:S2:167:U:H3	45:S2:168:A:H62	1.39	0.69
45:S2:1680:G:H1'	45:S2:1721:A:N6	2.07	0.69
1:LA:1387:U:O2'	33:Lg:99:ASN:O	2.11	0.69
1:LA:1719:U:O4	20:LT:125:LYS:NZ	2.25	0.69
5:LE:10:ARG:NH2	5:LE:263:SER:O	2.26	0.69
15:LO:85:TRP:HE1	15:LO:91:CYS:HB3	1.57	0.69
60:SO:244:ALA:HB3	60:SO:253:ALA:HB3	1.74	0.69
1:LA:1038:U:HO2'	1:LA:1039:A:H8	1.41	0.69
1:LA:1660:G:H2'	1:LA:1661:G:C8	2.27	0.69
13:LM:20:ASN:HD22	13:LM:21:ILE:N	1.90	0.69
1:LA:1471:U:H5"	20:LT:24:LEU:HD12	1.73	0.69
45:S2:959:U:C6	70:SY:61:THR:HG23	2.27	0.69
45:S2:1556:A:OP1	50:SE:44:ARG:NH1	2.26	0.69
1:LA:2839:C:N4	1:LA:2844:A:O2'	2.23	0.68
36:Lj:77:PRO:HD2	36:Lj:80:LEU:HD12	1.74	0.68
1:LA:1793:G:H4'	4:LD:191:LEU:HD23	1.74	0.68
11:LK:17:THR:HG21	15:LO:3:THR:HB	1.75	0.68
45:S2:1358:G:N7	45:S2:1359:C:N4	2.41	0.68
45:S2:1365:C:H5"	51:SF:30:LYS:HE3	1.75	0.68
56:SK:90:LYS:HG3	56:SK:104:ALA:HB2	1.75	0.68
14:LN:144:THR:HG21	36:Lj:118:ILE:HG21	1.75	0.68
22:LV:18:ASP:HB3	22:LV:21:LYS:HB2	1.74	0.68
45:S2:590:C:H2'	45:S2:591:A:H8	1.58	0.68
1:LA:1768:G:O2'	23:LW:99:LYS:NZ	2.26	0.68
1:LA:1168:A:H4'	9:LI:219:LYS:HE2	1.74	0.68
16:LP:136:ASP:OD1	16:LP:138:GLN:NE2	2.27	0.68
45:S2:323:A:H5"	67:SV:11:ARG:HD2	1.75	0.68
45:S2:885:G:N2	71:SZ:123:SER:O	2.25	0.68
60:SO:255:ALA:HB2	60:SO:292:LEU:HD22	1.75	0.68
62:SQ:110:LEU:HA	62:SQ:113:MET:HE2	1.74	0.68
3:LC:121:U:H3	3:LC:132:G:H1	0.80	0.68
7:LG:22:ARG:HB3	7:LG:28:THR:HG23	1.76	0.68
21:LU:93:GLU:OE1	21:LU:135:VAL:HG13	1.94	0.68
45:S2:125:U:OP1	65:ST:201:GLN:NE2	2.23	0.68
45:S2:1222:C:N3	45:S2:1224:A:N6	2.40	0.68
60:SO:216:LYS:HA	60:SO:239:GLU:HG2	1.74	0.68
1:LA:2672:A:OP1	13:LM:94:ARG:NH1	2.27	0.68
60:SO:74:THR:HB	60:SO:115:ILE:HD11	1.75	0.68
1:LA:1446:G:N7	18:LR:25:SER:OG	2.23	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:3267:A:OP1	8:LH:46:ARG:NH2	2.27	0.68
36:Lj:34:GLN:HB3	36:Lj:38:ARG:CZ	2.24	0.68
49:SD:45:LEU:HD12	49:SD:74:LEU:HD23	1.76	0.68
1:LA:3122:A:OP1	17:LQ:134[A]:LYS:NZ	2.26	0.68
21:LU:81:TYR:CE1	21:LU:90:MET:HE3	2.29	0.68
71:SZ:29:HIS:HB2	71:SZ:41:ARG:HA	1.74	0.68
1:LA:2587:U:OP1	10:LJ:48:ARG:NH2	2.23	0.67
27:La:119:ILE:HD13	27:La:126:LEU:HD11	1.74	0.67
62:SQ:82:ARG:NH1	62:SQ:191:GLU:OE2	2.27	0.67
15:LO:20:VAL:O	15:LO:66:THR:OG1	2.13	0.67
46:SA:141:LYS:HD2	46:SA:179:GLN:HB2	1.76	0.67
77:Sf:67:THR:HG22	77:Sf:69:GLY:H	1.58	0.67
5:LE:66:LYS:HE2	24:LX:9:THR:HG23	1.77	0.67
62:SQ:32:ILE:HG22	62:SQ:96:LEU:HD11	1.76	0.67
65:ST:23:ARG:NH2	65:ST:44:GLU:OE2	2.24	0.67
76:Se:30:ILE:HD13	76:Se:74:CYS:HA	1.76	0.67
7:LG:25:GLU:HB3	7:LG:27:LYS:HD2	1.77	0.67
11:LK:151:VAL:O	11:LK:155:SER:OG	2.12	0.67
19:LS:30:VAL:O	19:LS:34:THR:HG23	1.95	0.67
45:S2:258:C:O2	67:SV:178:ARG:NH2	2.28	0.67
61:SP:79:ARG:NH2	61:SP:164:ASN:O	2.23	0.67
26:LZ:88:MET:HE1	26:LZ:119:THR:HA	1.76	0.67
68:SW:129:ILE:HD13	68:SW:134:ILE:HD13	1.77	0.67
1:LA:63:A:OP1	16:LP:172:ARG:NH2	2.26	0.67
26:LZ:105:VAL:HG21	26:LZ:126:LEU:HD23	1.76	0.67
45:S2:177:U:O2	65:ST:191:ARG:NH2	2.28	0.67
45:S2:1158:C:H41	45:S2:1163:A:H61	1.41	0.67
52:SG:26:LEU:O	52:SG:55:THR:OG1	2.12	0.67
45:S2:158:U:O2'	45:S2:160:C:OP2	2.13	0.67
1:LA:412:G:C5	1:LA:413:U:H1'	2.30	0.67
1:LA:2564:U:H3	1:LA:2575:G:H1	1.43	0.67
45:S2:434:G:H5'	74:Sc:78:LYS:HB3	1.77	0.67
45:S2:772:G:OP1	64:SS:22:LYS:NZ	2.26	0.67
46:SA:77:PHE:HE2	46:SA:79:TYR:CZ	2.12	0.67
1:LA:2571:C:H3'	1:LA:2572:G:H4'	1.77	0.67
7:LG:277:LEU:CD2	7:LG:282:ARG:HG3	2.25	0.67
35:Li:54:ILE:HD11	35:Li:78:GLY:HA2	1.77	0.67
45:S2:1597:A:OP1	58:SM:19:ARG:NH2	2.28	0.67
50:SE:96:ILE:HG12	50:SE:116:LEU:HG	1.76	0.67
1:LA:973:G:H5'	19:LS:16:ARG:HG3	1.77	0.67
12:LL:192:ASP:HA	12:LL:197:VAL:HG12	1.77	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:SQ:198:GLU:HG2	62:SQ:210:ILE:HD13	1.77	0.67
4:LD:92:LYS:HG3	4:LD:93:LYS:HG2	1.77	0.66
13:LM:43:GLN:NE2	13:LM:70:THR:O	2.27	0.66
19:LS:92:ARG:HG2	29:Lc:76:ASP:HB2	1.77	0.66
22:LV:157:GLU:OE2	22:LV:159:PHE:HD1	1.79	0.66
28:Lb:121:ARG:HG2	28:Lb:126:LYS:HD2	1.76	0.66
36:Lj:85:THR:HB	36:Lj:88:LEU:HD12	1.77	0.66
46:SA:132:LYS:HD3	46:SA:191:ASP:HA	1.76	0.66
3:LC:58:G:O2'	3:LC:100:U:O2	2.13	0.66
28:Lb:25:ILE:HD13	28:Lb:41:ALA:HB1	1.78	0.66
45:S2:889:U:H3	45:S2:922:G:H1	1.43	0.66
49:SD:84:ASN:OD1	49:SD:85:LYS:N	2.26	0.66
57:SL:16:LEU:HB2	57:SL:27:GLN:HB2	1.77	0.66
67:SV:84:HIS:HE2	67:SV:97:THR:HG1	1.43	0.66
68:SW:108:ARG:HE	68:SW:145:SER:HB3	1.60	0.66
1:LA:107:A:OP1	14:LN:39:ARG:NE	2.28	0.66
45:S2:407:A:H2'	45:S2:408:C:C6	2.29	0.66
45:S2:918:U:H4'	71:SZ:18:ARG:HD3	1.77	0.66
47:SB:88:PRO:HG2	47:SB:91:GLU:HB2	1.75	0.66
61:SP:31:VAL:HG12	61:SP:33:GLN:H	1.61	0.66
62:SQ:143:THR:HG21	62:SQ:156:ALA:HB2	1.77	0.66
45:S2:399:A:H4'	64:SS:3:ARG:HG2	1.77	0.66
6:LF:219:LEU:HD22	6:LF:225:VAL:HG11	1.78	0.66
8:LH:30:LEU:HD13	8:LH:34:LEU:HD11	1.78	0.66
11:LK:93:VAL:HG22	41:Lo:82:LEU:HB3	1.76	0.66
45:S2:1275:A:N3	46:SA:141:LYS:NZ	2.42	0.66
66:SU:115:SER:OG	66:SU:116:ARG:NH1	2.28	0.66
1:LA:68:C:OP2	1:LA:301:G:N2	2.29	0.66
1:LA:592:C:O2'	1:LA:593:U:OP1	2.14	0.66
1:LA:3179:A:C6	17:LQ:114[A]:LYS:HE3	2.31	0.66
5:LE:166:ILE:HD11	5:LE:171:LEU:HD12	1.78	0.66
10:LJ:145:ASN:O	10:LJ:145:ASN:ND2	2.19	0.66
37:Lk:45:ARG:HD2	37:Lk:45:ARG:O	1.96	0.66
45:S2:1572:G:O2'	47:SB:185:ARG:NH2	2.29	0.66
60:SO:83:ALA:HB1	60:SO:110:VAL:HG23	1.78	0.66
75:Sd:36:SER:OG	75:Sd:38:ASP:OD1	2.14	0.66
80:eR:38:ILE:HG12	80:eR:94:VAL:HG22	1.77	0.66
1:LA:1346:U:H5"	6:LF:303:GLY:H	1.61	0.66
45:S2:283:U:O4	45:S2:284:G:N2	2.29	0.66
45:S2:1213:G:H21	45:S2:1240:U:H1'	1.59	0.66
45:S2:1405:G:OP1	47:SB:81:ARG:NH1	2.29	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:682:U:OP1	16:LP:204:LYS:NZ	2.29	0.65
40:Ln:46:ARG:NH2	82:pp:4365:ASP:OD1	2.28	0.65
45:S2:168:A:H2'	45:S2:169:A:C8	2.31	0.65
45:S2:1591:C:H2'	45:S2:1592:A:H8	1.61	0.65
45:S2:1691:A:N6	45:S2:1708:U:OP2	2.29	0.65
80:eR:330:ARG:NH2	80:eR:344:LEU:O	2.29	0.65
1:LA:1638:C:OP2	35:Li:74:ARG:NH1	2.25	0.65
14:LN:126:PHE:O	36:Lj:114:ARG:NH1	2.26	0.65
45:S2:871:G:H2'	45:S2:872:G:C8	2.31	0.65
1:LA:1633:G:N7	28:Lb:17:ARG:NH2	2.44	0.65
1:LA:1645:G:O2'	1:LA:1807:G:N2	2.29	0.65
1:LA:3001:C:OP1	5:LE:26:ARG:NH2	2.29	0.65
1:LA:3232:C:H2'	1:LA:3233:A:C8	2.32	0.65
29:Lc:76:ASP:OD1	29:Lc:76:ASP:N	2.29	0.65
1:LA:3190:G:OP1	17:LQ:172[A]:ARG:NH1	2.29	0.65
26:LZ:126:LEU:H	26:LZ:126:LEU:HD12	1.59	0.65
45:S2:207:U:O2	67:SV:178:ARG:NH2	2.30	0.65
45:S2:837:G:H2'	45:S2:838:G:C8	2.32	0.65
7:LG:40:HIS:HB3	7:LG:43:LYS:HG3	1.78	0.65
8:LH:68:PRO:HG3	8:LH:145:LEU:HD23	1.77	0.65
19:LS:152:HIS:ND1	19:LS:162:ALA:O	2.26	0.65
2:LB:26:C:H5'	7:LG:56:THR:HB	1.77	0.65
12:LL:176:LEU:HD11	12:LL:199:PHE:HE2	1.62	0.65
54:SI:40:SER:HB3	54:SI:43:ASN:HB2	1.78	0.65
62:SQ:88:VAL:HG13	62:SQ:96:LEU:HD13	1.78	0.65
70:SY:36:GLN:NE2	70:SY:40:TYR:CE2	2.65	0.65
71:SZ:24:ASN:H	71:SZ:55:SER:HB3	1.62	0.65
1:LA:2894:G:O2'	41:Lo:100:TYR:O	2.14	0.65
45:S2:1390:U:H1'	52:SG:3:ARG:HE	1.62	0.65
45:S2:1591:C:H2'	45:S2:1592:A:C8	2.31	0.65
51:SF:12:LYS:NZ	51:SF:17:THR:OG1	2.30	0.65
45:S2:1503:A:OP1	45:S2:1505:A:N6	2.29	0.65
73:Sb:93:LEU:HD11	73:Sb:102:VAL:HG22	1.77	0.65
1:LA:674:C:O2'	1:LA:678:U:OP1	2.13	0.65
1:LA:2525:C:OP1	4:LD:37:ARG:NH1	2.29	0.65
10:LJ:145:ASN:HD22	10:LJ:145:ASN:C	2.04	0.65
26:LZ:68:THR:HA	26:LZ:73:MET:HE3	1.78	0.65
37:Lk:45:ARG:HH21	37:Lk:93:ILE:HD11	1.60	0.65
45:S2:1146:G:H2'	45:S2:1147:A:C8	2.32	0.65
70:SY:55:ARG:NH1	70:SY:56:ASP:OD1	2.30	0.65
1:LA:114:A:N1	1:LA:266:A:O2'	2.30	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:1808:A:OP2	28:Lb:65:ARG:NH1	2.26	0.65
1:LA:1711:G:O6	1:LA:1731:U:N3	2.18	0.64
17:LQ:18[A]:ARG:O	17:LQ:22[A]:VAL:HG23	1.96	0.64
19:LS:74:GLU:OE2	19:LS:74:GLU:N	2.20	0.64
45:S2:1667:A:H61	45:S2:1733:C:H42	1.43	0.64
1:LA:20:A:H2'	1:LA:21:G:C8	2.32	0.64
1:LA:72:C:O2'	14:LN:66:ASN:OD1	2.15	0.64
1:LA:1692:C:O2'	1:LA:1771:U:O2'	2.15	0.64
1:LA:2596:U:O2	16:LP:125:SER:OG	2.16	0.64
45:S2:472:U:O2'	45:S2:769:A:N3	2.26	0.64
45:S2:1171:A:O2'	45:S2:1570:A:N3	2.28	0.64
45:S2:1483:A:N1	45:S2:1524:A:N6	2.33	0.64
1:LA:2124:A:N1	1:LA:2327:U:H5	1.94	0.64
2:LB:26:C:C4	2:LB:27:A:H1'	2.31	0.64
45:S2:1244:A:H8	58:SM:6:VAL:HG21	1.62	0.64
1:LA:414:U:H5'	1:LA:415:G:C8	2.33	0.64
2:LB:45:A:H4'	7:LG:154:THR:HG21	1.80	0.64
13:LM:53:THR:HG21	79:Ta:58:A:H5"	1.80	0.64
61:SP:37:VAL:HG22	61:SP:149:LEU:HD13	1.80	0.64
1:LA:684:G:OP1	14:LN:39:ARG:NH2	2.28	0.64
15:LO:39:ILE:HG12	21:LU:72:VAL:HG11	1.77	0.64
45:S2:1188:G:O2'	45:S2:1430:U:OP1	2.16	0.64
46:SA:77:PHE:HE2	46:SA:79:TYR:CE1	2.16	0.64
68:SW:139:GLN:NE2	68:SW:140:ILE:O	2.29	0.64
1:LA:2587:U:OP1	10:LJ:241:LYS:NZ	2.30	0.64
28:Lb:52:LYS:NZ	28:Lb:53:VAL:O	2.28	0.64
45:S2:776:G:O6	75:Sd:11:LYS:NZ	2.31	0.64
45:S2:1594:G:OP2	45:S2:1596:C:N4	2.30	0.64
46:SA:136:VAL:HG22	46:SA:186:VAL:HG22	1.80	0.64
64:SS:88:ASP:OD1	64:SS:122:LYS:NZ	2.28	0.64
64:SS:129:VAL:HG22	64:SS:139:VAL:HG12	1.80	0.64
6:LF:326:ARG:O	9:LI:41:ARG:NH2	2.30	0.64
19:LS:185:LYS:HD3	19:LS:186:VAL:HG22	1.80	0.64
64:SS:11:ARG:NH1	64:SS:21:ASP:O	2.31	0.64
1:LA:537:G:O6	1:LA:552:U:O2	2.15	0.64
45:S2:109:G:H21	45:S2:796:A:H62	1.44	0.64
52:SG:85:VAL:HG22	61:SP:198:MET:HE3	1.79	0.64
53:SH:14:ILE:HD11	53:SH:21:ASN:HB3	1.79	0.64
71:SZ:82:LYS:HE2	71:SZ:118:VAL:HG21	1.80	0.64
47:SB:47:SER:HB3	47:SB:128:ASN:HD21	1.63	0.64
62:SQ:97:LEU:HB2	62:SQ:232:HIS:HE1	1.62	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:LF:351:PRO:HB3	9:LI:70:LYS:HB3	1.80	0.64
12:LL:44:ASP:OD2	12:LL:185:ARG:NH1	2.31	0.64
16:LP:9:GLU:OE2	37:Lk:41:ARG:NE	2.31	0.64
45:S2:918:U:H2'	45:S2:919:A:C8	2.32	0.64
45:S2:1474:G:H2'	45:S2:1475:A:H8	1.62	0.64
45:S2:1681:A:N6	45:S2:1720:G:O2'	2.30	0.64
47:SB:77:TYR:HB3	47:SB:84:LYS:HB3	1.79	0.64
55:SJ:69:LYS:HG2	55:SJ:80:GLU:HG2	1.78	0.64
14:LN:61:PRO:HD3	14:LN:70:ARG:HH21	1.62	0.63
46:SA:29:LEU:HD21	46:SA:58:VAL:HG23	1.80	0.63
57:SL:12:VAL:HG22	57:SL:52:ASP:H	1.63	0.63
65:ST:132:ARG:HG3	65:ST:133:LEU:HD22	1.79	0.63
1:LA:653:C:OP1	33:Lg:27:ARG:NH2	2.31	0.63
11:LK:92:TYR:HD1	11:LK:179:ILE:HG12	1.64	0.63
16:LP:112:ASN:HD22	16:LP:138:GLN:HE22	1.45	0.63
20:LT:162:ARG:HH12	45:S2:815:G:C1'	2.11	0.63
45:S2:1386:G:H1	45:S2:1410:A:N6	1.96	0.63
45:S2:1503:A:H1'	54:SI:99:SER:OG	1.99	0.63
47:SB:155:ALA:O	71:SZ:52:ARG:NE	2.30	0.63
54:SI:42:GLY:HA2	54:SI:84:LYS:HD2	1.80	0.63
1:LA:2535:A:H2	62:SQ:132:ASP:HB2	1.62	0.63
1:LA:2673:A:OP2	13:LM:92:ARG:NH2	2.31	0.63
1:LA:3214:A:C8	15:LO:121:MET:HE1	2.33	0.63
14:LN:187:ALA:HA	14:LN:190:LYS:HE3	1.80	0.63
19:LS:148:GLU:OE2	19:LS:151:ARG:NH1	2.31	0.63
45:S2:1041:G:OP1	61:SP:32:HIS:ND1	2.31	0.63
73:Sb:44:HIS:NE2	73:Sb:112:ASP:OD2	2.29	0.63
1:LA:63:A:N3	1:LA:78:U:O2'	2.30	0.63
3:LC:83:C:O2	27:La:51:ARG:NH2	2.31	0.63
45:S2:473:A:H4'	68:SW:44:ARG:HH21	1.60	0.63
45:S2:1351:G:O2'	45:S2:1352:G:OP1	2.15	0.63
60:SO:25:THR:HG21	60:SO:295:SER:HA	1.80	0.63
1:LA:123:A:OP1	10:LJ:105:LYS:NZ	2.25	0.63
5:LE:358:TRP:HZ2	5:LE:371:GLN:HE22	1.45	0.63
21:LU:8:GLN:HG2	21:LU:62:ASN:HB2	1.80	0.63
61:SP:127:ARG:HD3	61:SP:152:PRO:HG3	1.81	0.63
68:SW:36:LEU:HD11	68:SW:105:LEU:HD12	1.81	0.63
1:LA:771:U:H3'	1:LA:772:G:H5'	1.79	0.63
1:LA:1323:U:OP1	21:LU:2:ALA:N	2.32	0.63
21:LU:95:ARG:HG3	21:LU:95:ARG:HH11	1.64	0.63
29:Lc:91:LEU:HA	29:Lc:121:VAL:HG21	1.79	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:SS:90:ILE:HG12	64:SS:99:PHE:HB2	1.79	0.63
1:LA:1289:A:H2'	1:LA:1290:A:C8	2.33	0.63
1:LA:1740:A:H5'	1:LA:1741:U:H5	1.64	0.63
8:LH:42:LEU:HD12	8:LH:47:PHE:HB2	1.81	0.63
45:S2:1303:U:O2'	45:S2:1322:A:OP2	2.15	0.63
4:LD:20:THR:HA	4:LD:23:ARG:HD2	1.81	0.63
20:LT:167:ARG:NH1	45:S2:815:G:OP2	2.24	0.63
45:S2:1546:G:OP1	53:SH:123:ARG:NE	2.25	0.63
80:eR:204:LYS:O	80:eR:208:THR:OG1	2.14	0.63
14:LN:21:ARG:HB3	16:LP:196:THR:HG22	1.78	0.63
28:Lb:95:VAL:HG11	28:Lb:113:VAL:HG11	1.80	0.63
46:SA:109:LEU:HD22	46:SA:184:ILE:HD11	1.81	0.63
53:SH:126:ARG:HB3	53:SH:133:VAL:HG12	1.81	0.63
1:LA:1638:C:H5'	35:Li:52:GLN:HG2	1.81	0.62
1:LA:2853:U:OP2	12:LL:3:ARG:NH2	2.32	0.62
5:LE:367:LYS:HG2	25:LY:33:ASN:HB2	1.81	0.62
8:LH:76:LEU:N	8:LH:138:GLN:OE1	2.30	0.62
13:LM:135:GLY:HA2	13:LM:137:ARG:HH11	1.63	0.62
45:S2:1547:A:OP2	53:SH:123:ARG:NH2	2.30	0.62
50:SE:78:THR:OG1	50:SE:80:MET:SD	2.56	0.62
1:LA:2959:C:H2'	1:LA:2960:G:C8	2.35	0.62
65:ST:140:ASN:OD1	65:ST:143:LYS:NZ	2.32	0.62
1:LA:1347:U:OP1	19:LS:39:ARG:NH1	2.31	0.62
18:LR:125:GLN:HB2	18:LR:141:SER:HB2	1.80	0.62
45:S2:1673:G:OP1	65:ST:94:ARG:NH2	2.24	0.62
52:SG:22:PRO:HG2	52:SG:23:LYS:HZ2	1.64	0.62
65:ST:22:HIS:HB2	65:ST:25:ARG:HH12	1.62	0.62
1:LA:687:G:N2	1:LA:691:A:H2	1.94	0.62
3:LC:142:C:O2'	16:LP:136:ASP:OD2	2.17	0.62
13:LM:117:ASP:HB3	13:LM:120:ILE:HG12	1.81	0.62
24:LX:23:MET:HE3	24:LX:100:GLY:HA3	1.80	0.62
32:Lf:37:LYS:HG2	32:Lf:49:VAL:HB	1.81	0.62
45:S2:1596:C:O2'	45:S2:1598:U:OP2	2.14	0.62
51:SF:113:ASP:HB3	51:SF:116:LEU:HG	1.79	0.62
67:SV:48:THR:HG21	67:SV:54:LYS:HE3	1.80	0.62
1:LA:1160:G:O2'	33:Lg:54:LYS:HD2	2.00	0.62
2:LB:8:G:O6	7:LG:21:ARG:NH1	2.33	0.62
45:S2:1474:G:H2'	45:S2:1475:A:C8	2.34	0.62
70:SY:56:ASP:OD2	77:Sf:52:THR:OG1	2.12	0.62
1:LA:12:A:H2'	1:LA:13:A:C8	2.35	0.62
1:LA:257:U:H2'	1:LA:258:G:H8	1.65	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:2618:G:H1	79:Ta:76:C:H5	1.47	0.62
1:LA:3049:U:O2'	25:LY:16:GLY:O	2.16	0.62
11:LK:10:ILE:HG22	11:LK:53:ILE:HB	1.81	0.62
45:S2:26:A:H2'	45:S2:27:U:C6	2.34	0.62
45:S2:1143:A:H8	45:S2:1300:A:H2	1.45	0.62
1:LA:2766:U:O2'	43:Lq:30:ALA:O	2.12	0.62
1:LA:3313:A:H5"	5:LE:174:LYS:HG2	1.82	0.62
8:LH:51:ARG:NH1	8:LH:161:ALA:O	2.32	0.62
45:S2:1530:C:OP2	56:SK:96:SER:N	2.32	0.62
57:SL:58:GLU:OE1	57:SL:61:ARG:HG3	2.00	0.62
1:LA:126:U:OP1	16:LP:144:ARG:NH1	2.31	0.62
23:LW:14:THR:HG22	23:LW:66:VAL:HG23	1.82	0.62
45:S2:289:U:H2'	45:S2:290:G:H4'	1.81	0.62
52:SG:24:LEU:HD21	52:SG:58:MET:HE3	1.82	0.62
65:ST:193:LEU:HD13	65:ST:196:ARG:HH21	1.64	0.62
80:eR:286:LEU:HD11	80:eR:319:ILE:HG21	1.80	0.62
1:LA:7:C:H5"	10:LJ:193:LYS:HB3	1.82	0.62
15:LO:23:ILE:HD13	15:LO:53:VAL:HG21	1.80	0.62
17:LQ:172[A]:ARG:NH1	17:LQ:172[A]:ARG:HB3	2.14	0.62
45:S2:1202:A:O2'	45:S2:1204:A:OP2	2.12	0.62
1:LA:1363:C:H5"	19:LS:3:ILE:HD13	1.80	0.62
1:LA:2630:U:OP1	1:LA:2756:U:O2'	2.18	0.62
1:LA:3324:G:O3'	32:Lf:105:GLN:NE2	2.33	0.62
9:LI:163:LEU:HD13	9:LI:169:ILE:HD11	1.81	0.62
45:S2:1388:A:H62	45:S2:1409:G:H2'	1.64	0.62
68:SW:94:ASP:OD1	68:SW:95:TYR:N	2.33	0.62
77:Sf:50:ALA:O	77:Sf:51:GLN:HG2	2.00	0.62
1:LA:3091:C:O2'	1:LA:3093:A:OP2	2.16	0.61
3:LC:143:U:OP1	16:LP:38:ARG:NH2	2.33	0.61
45:S2:368:U:O2'	45:S2:603:U:O2'	2.17	0.61
45:S2:967:A:OP2	70:SY:124:ARG:NH2	2.30	0.61
61:SP:189:VAL:HG13	72:Sa:44:ARG:HH21	1.64	0.61
3:LC:69:U:H2'	3:LC:70:G:O4'	2.00	0.61
15:LO:72:LEU:HD21	15:LO:81:VAL:HG22	1.82	0.61
24:LX:32:ARG:NH2	45:S2:1734:U:OP1	2.33	0.61
46:SA:170:THR:HG23	46:SA:187:LYS:HB2	1.80	0.61
47:SB:57:SER:HB2	57:SL:9:LEU:HD11	1.82	0.61
63:SR:90:THR:OG1	63:SR:93:GLY:O	2.15	0.61
1:LA:1666:A:H2'	1:LA:1667:G:C8	2.35	0.61
28:Lb:42:LEU:HD23	28:Lb:74:VAL:HB	1.82	0.61
45:S2:67:A:N6	45:S2:83:G:O2'	2.31	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:SW:17:ARG:O	68:SW:23:ARG:NH1	2.33	0.61
73:Sb:30:SER:HB2	73:Sb:61:ILE:HG12	1.82	0.61
1:LA:1403:G:N2	1:LA:1406:A:OP2	2.25	0.61
9:LI:24:GLU:OE1	9:LI:26:VAL:N	2.33	0.61
22:LV:8:ARG:O	22:LV:11:THR:OG1	2.17	0.61
45:S2:560:U:H2'	45:S2:561:G:H8	1.65	0.61
45:S2:1171:A:H2'	45:S2:1172:G:C8	2.35	0.61
64:SS:254:ARG:NH2	64:SS:258:GLN:OE1	2.34	0.61
70:SY:83:GLU:HG2	70:SY:84:ILE:HG23	1.83	0.61
1:LA:786:G:H2'	1:LA:787:C:C6	2.35	0.61
64:SS:100:ARG:NH2	64:SS:121:TYR:O	2.33	0.61
65:ST:22:HIS:HB2	65:ST:25:ARG:HH22	1.65	0.61
67:SV:152:ILE:HG23	69:SX:24:LYS:HD3	1.82	0.61
1:LA:3272:A:OP1	8:LH:77:ARG:NH2	2.34	0.61
6:LF:82:THR:HG22	6:LF:84:ARG:H	1.65	0.61
11:LK:91:ARG:NH2	11:LK:142:ASP:OD1	2.22	0.61
15:LO:135:LEU:HD21	17:LQ:178[A]:VAL:HG22	1.82	0.61
45:S2:32:U:O2	45:S2:468:A:N7	2.33	0.61
45:S2:320:U:H3'	45:S2:321:C:H2'	1.83	0.61
45:S2:516:G:O6	45:S2:537:G:N2	2.34	0.61
45:S2:1379:C:H4'	51:SF:17:THR:HG21	1.82	0.61
48:SC:5:LYS:HA	48:SC:8:ARG:HG2	1.82	0.61
15:LO:68:LEU:H	15:LO:68:LEU:HD23	1.65	0.61
20:LT:17:VAL:HG11	20:LT:52:LYS:HE2	1.82	0.61
43:Lq:8:ARG:HH11	43:Lq:10:THR:HG21	1.65	0.61
46:SA:55:THR:HG23	46:SA:90:ARG:HD3	1.83	0.61
80:eR:17:ILE:HG21	80:eR:117:PHE:HE2	1.66	0.61
1:LA:2110:G:H1'	25:LY:44:LYS:HD2	1.83	0.61
11:LK:49:ASN:HD21	11:LK:52:LEU:HD12	1.66	0.61
36:Lj:34:GLN:OE1	36:Lj:38:ARG:NH1	2.34	0.61
45:S2:764:U:OP2	68:SW:78:ARG:NH2	2.34	0.61
47:SB:188:LYS:HD3	47:SB:192:GLU:HG3	1.82	0.61
65:ST:178:LEU:HD23	65:ST:180:THR:HG22	1.81	0.61
1:LA:958:C:H41	1:LA:2800:A:H2'	1.64	0.61
1:LA:1591:G:OP1	35:Li:58:ARG:NH2	2.30	0.61
1:LA:1595:C:H2'	1:LA:1596:C:C6	2.36	0.61
9:LI:110:ARG:HG2	9:LI:110:ARG:HH11	1.66	0.61
10:LJ:52:TRP:O	10:LJ:57:ARG:NH2	2.26	0.61
13:LM:59:ILE:HD11	13:LM:65:ILE:HG13	1.83	0.61
36:Lj:15:GLU:CD	36:Lj:15:GLU:H	2.08	0.61
39:Lm:54:LEU:HD21	39:Lm:56:ILE:HG23	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:SL:42:ARG:HE	57:SL:56:LEU:HD22	1.65	0.61
68:SW:34:PHE:CD2	68:SW:111:THR:HG21	2.35	0.61
80:eR:256:ILE:HG22	80:eR:266:GLN:HG2	1.83	0.61
24:LX:79:VAL:HB	24:LX:118:VAL:HG22	1.83	0.61
31:Le:43:ILE:HB	31:Le:90:VAL:HG13	1.83	0.61
45:S2:1177:C:H4'	45:S2:1189:A:H61	1.65	0.61
80:eR:320:LEU:H	80:eR:387:ALA:HB1	1.65	0.61
1:LA:2126:U:H3	1:LA:2325:A:H62	1.48	0.60
1:LA:2746:A:H2'	1:LA:2747:A:C8	2.36	0.60
50:SE:87:PRO:HA	50:SE:90:ILE:HG12	1.83	0.60
67:SV:101:ILE:HD12	67:SV:184:LEU:HD11	1.82	0.60
11:LK:106:LYS:HD2	11:LK:106:LYS:N	2.15	0.60
13:LM:49:LYS:HB3	13:LM:62:ASN:HA	1.83	0.60
45:S2:36:C:N4	45:S2:474:A:H62	1.99	0.60
45:S2:1579:U:H2'	45:S2:1580:C:C6	2.36	0.60
62:SQ:31:ASP:HA	62:SQ:45:LYS:HD3	1.82	0.60
1:LA:3114:C:O2'	1:LA:3116:C:N4	2.34	0.60
38:Ll:25:ARG:HH12	40:Ln:50:ASN:HB3	1.66	0.60
1:LA:1778:C:N4	1:LA:2101:U:OP1	2.26	0.60
45:S2:1686:C:H2'	45:S2:1711:C:H42	1.67	0.60
47:SB:53:VAL:HG22	47:SB:55:ASP:H	1.67	0.60
48:SC:12:HIS:HA	48:SC:15:LEU:HD12	1.84	0.60
1:LA:77:A:H5'	14:LN:100:ARG:CZ	2.32	0.60
16:LP:47:LYS:HD3	16:LP:50:ARG:HH11	1.67	0.60
28:Lb:41:ALA:HB2	28:Lb:77:TYR:CE1	2.37	0.60
45:S2:368:U:HO2'	45:S2:603:U:HO2'	1.47	0.60
61:SP:140:ASN:ND2	63:SR:60:SER:O	2.35	0.60
65:ST:20:ASP:O	65:ST:23:ARG:HG2	2.02	0.60
70:SY:99:ARG:NH2	70:SY:119:GLU:OE1	2.32	0.60
15:LO:48:GLY:HA3	15:LO:53:VAL:HB	1.84	0.60
45:S2:337:G:O2'	67:SV:10:LYS:NZ	2.34	0.60
45:S2:545:A:H4'	45:S2:546:U:H5'	1.84	0.60
45:S2:562:G:H21	78:Sg:14:VAL:HG21	1.66	0.60
45:S2:761:G:H4'	68:SW:72:GLU:OE1	2.01	0.60
45:S2:1477:G:H2'	45:S2:1478:G:O4'	2.02	0.60
64:SS:151:ASP:OD1	65:ST:215:ARG:NH1	2.34	0.60
68:SW:70:LEU:O	68:SW:74:ASN:ND2	2.33	0.60
80:eR:169:LEU:HB3	80:eR:212:LEU:HD22	1.82	0.60
1:LA:352:A:H5'	1:LA:354:U:H1'	1.84	0.60
1:LA:663:U:H2'	1:LA:664:A:C8	2.36	0.60
1:LA:2732:A:N6	1:LA:2733:A:N6	2.50	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:LJ:227:ASP:O	10:LJ:231:LYS:NZ	2.33	0.60
29:Lc:63:LYS:HE3	29:Lc:68:PHE:CZ	2.35	0.60
58:SM:6:VAL:HA	58:SM:9:SER:HB3	1.84	0.60
69:SX:99:ARG:HB2	74:Sc:9:LEU:O	2.01	0.60
1:LA:69:C:OP1	16:LP:178:HIS:ND1	2.33	0.60
1:LA:3161:C:H2'	1:LA:3162:A:H8	1.67	0.60
14:LN:158:ALA:HA	29:Lc:97:GLU:HA	1.83	0.60
21:LU:129:ILE:HG13	21:LU:131:LYS:H	1.67	0.60
45:S2:1321:A:H4'	45:S2:1322:A:H5'	1.84	0.60
45:S2:1673:G:C6	45:S2:1728:A:N1	2.70	0.60
1:LA:1716:U:H2'	1:LA:1717:G:C8	2.36	0.60
1:LA:2767:U:H2'	1:LA:2768:A:C8	2.37	0.60
22:LV:29:THR:HA	22:LV:32:LYS:HD3	1.84	0.60
45:S2:444:C:OP1	45:S2:525:A:N6	2.35	0.60
45:S2:639:U:OP1	66:SU:112:ARG:NH2	2.34	0.60
46:SA:140:GLY:HA3	46:SA:182:LEU:HD22	1.82	0.60
59:SN:80:ARG:HD3	80:eR:105:GLY:HA2	1.83	0.60
67:SV:57:ALA:HB2	67:SV:177:GLY:HA2	1.83	0.60
68:SW:109:LEU:HB2	68:SW:146:PHE:HB3	1.84	0.60
1:LA:1614:C:H2'	1:LA:1615:U:C6	2.37	0.60
1:LA:1941:U:OP2	20:LT:74:ARG:NE	2.27	0.60
1:LA:2221:A:H2'	1:LA:2222:A:C8	2.36	0.60
3:LC:150:G:H5"	10:LJ:52:TRP:HZ3	1.67	0.60
7:LG:50:ARG:NH2	7:LG:72:ASP:OD2	2.34	0.60
45:S2:337:G:H3'	69:SX:133:LYS:HB2	1.83	0.60
45:S2:1596:C:O2'	45:S2:1599:C:N4	2.35	0.60
68:SW:159:ALA:O	68:SW:162:SER:OG	2.18	0.60
75:Sd:113:ASN:HA	75:Sd:116:LYS:HD2	1.84	0.60
1:LA:956:C:H1'	29:Lc:43:ILE:HD11	1.83	0.59
1:LA:2733:A:H1'	1:LA:2734:U:O2	2.02	0.59
4:LD:19:HIS:O	4:LD:23:ARG:NH1	2.35	0.59
11:LK:174:LYS:HB2	41:Lo:127:LEU:HD11	1.84	0.59
33:Lg:10:VAL:HG12	33:Lg:11:LYS:HG3	1.84	0.59
45:S2:1388:A:OP2	52:SG:32:LYS:NZ	2.34	0.59
67:SV:48:THR:OG1	67:SV:52:ASN:O	2.15	0.59
1:LA:72:C:H1'	14:LN:61:PRO:O	2.00	0.59
3:LC:121:U:O2	3:LC:132:G:N2	2.20	0.59
10:LJ:91:PHE:HA	10:LJ:94:PHE:HB2	1.85	0.59
15:LO:17:VAL:HG21	15:LO:74:ARG:HG3	1.84	0.59
27:La:30:LEU:O	27:La:32:SER:N	2.34	0.59
45:S2:1284:C:H4'	45:S2:1285:U:H5'	1.85	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:1316:G:H5'	52:SG:7:LYS:HG2	1.83	0.59
45:S2:1665:U:O4	45:S2:1736:G:N2	2.35	0.59
66:SU:109:VAL:HG12	66:SU:110:GLN:H	1.66	0.59
3:LC:46:G:OP2	40:Ln:15:LYS:NZ	2.33	0.59
3:LC:57:C:H4'	3:LC:63:G:N7	2.17	0.59
45:S2:1160:A:H2'	45:S2:1161:C:C6	2.36	0.59
60:SO:272:ASP:HB3	60:SO:274:LEU:HD13	1.85	0.59
62:SQ:132:ASP:HB3	62:SQ:221:PRO:HB3	1.82	0.59
68:SW:149:ARG:H	68:SW:149:ARG:HD2	1.65	0.59
1:LA:686:U:OP2	14:LN:36:ARG:NH2	2.35	0.59
1:LA:989:U:H1'	22:LV:101:CYS:HB3	1.84	0.59
10:LJ:54:GLU:O	10:LJ:58:VAL:HG23	2.02	0.59
18:LR:136:ILE:HB	82:pp:4367:LYS:HE3	1.84	0.59
55:SJ:32:LYS:O	55:SJ:36:ASN:ND2	2.35	0.59
1:LA:688:U:O4	6:LF:209:TYR:OH	2.14	0.59
1:LA:2352:G:H5'	18:LR:86:LYS:HB2	1.84	0.59
3:LC:41:A:HO2'	38:Ll:59:THR:HG1	1.49	0.59
5:LE:105:VAL:HG22	5:LE:147:GLU:HB3	1.85	0.59
5:LE:196:ARG:HH21	5:LE:199:PHE:HD2	1.48	0.59
6:LF:106:TRP:CZ2	14:LN:19:GLN:HG2	2.37	0.59
11:LK:138:THR:O	11:LK:139:ASN:ND2	2.35	0.59
17:LQ:47[A]:PHE:HE1	17:LQ:141[A]:LEU:HA	1.66	0.59
48:SC:1:MET:SD	48:SC:2:LEU:N	2.76	0.59
71:SZ:26:THR:HG21	71:SZ:60:ALA:HB2	1.85	0.59
80:eR:39:ILE:HD13	80:eR:48:VAL:HG21	1.82	0.59
1:LA:337:G:H1	3:LC:26:U:H5	1.49	0.59
1:LA:1703:A:O2'	1:LA:1704:U:O2	2.20	0.59
1:LA:3024:C:O3'	11:LK:174:LYS:NZ	2.34	0.59
6:LF:99:MET:HE2	6:LF:102:PRO:HA	1.85	0.59
45:S2:1392:U:OP1	52:SG:59:LYS:NZ	2.29	0.59
49:SD:52:LEU:HB2	49:SD:78:LEU:HD11	1.84	0.59
62:SQ:119:THR:HG21	62:SQ:161:ILE:HD11	1.85	0.59
63:SR:56:ILE:HA	63:SR:61:LEU:HD12	1.83	0.59
75:Sd:40:LEU:HD13	75:Sd:60:PHE:CE2	2.38	0.59
1:LA:1777:G:O2'	1:LA:1779:G:OP2	2.20	0.59
1:LA:2110:G:O2'	25:LY:44:LYS:NZ	2.30	0.59
11:LK:129:ARG:NH1	11:LK:157:ASN:OD1	2.33	0.59
14:LN:85:LEU:HD21	14:LN:120:GLN:HE22	1.68	0.59
29:Lc:96:LYS:O	29:Lc:97:GLU:HG3	2.01	0.59
41:Lo:98:LYS:HG3	41:Lo:118:THR:HG21	1.84	0.59
45:S2:344:A:H2'	45:S2:345:U:H4'	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:SK:88:ILE:HG23	56:SK:89:ILE:HG12	1.84	0.59
1:LA:2251:A:N1	1:LA:2263:U:H5	2.00	0.59
9:LI:143:THR:HG22	9:LI:241:LYS:HE3	1.85	0.59
45:S2:29:U:H2'	45:S2:30:G:H8	1.66	0.59
3:LC:38:U:H3'	3:LC:39:G:H5'	1.85	0.59
45:S2:706:A:N6	45:S2:732:G:N3	2.51	0.59
45:S2:898:A:H2'	62:SQ:9:LEU:HD22	1.85	0.59
45:S2:1273:G:OP2	80:eR:65:ARG:NH1	2.30	0.59
52:SG:21:TYR:CD1	52:SG:58:MET:HE1	2.38	0.59
1:LA:94:G:H2'	1:LA:95:A:C8	2.38	0.59
1:LA:1522:U:OP2	1:LA:1603:G:O2'	2.19	0.59
5:LE:48:GLY:HA3	5:LE:81:THR:HG22	1.84	0.59
45:S2:12:U:H2'	45:S2:13:C:C6	2.37	0.59
45:S2:1466:G:O2'	45:S2:1602:C:OP1	2.20	0.59
47:SB:173:ALA:O	47:SB:177:ILE:HG13	2.02	0.59
1:LA:61:A:N1	16:LP:189:LYS:NZ	2.50	0.58
1:LA:661:U:H2'	1:LA:662:C:C6	2.38	0.58
1:LA:936:G:H5"	29:Lc:29:PRO:HA	1.84	0.58
1:LA:1012:G:O6	1:LA:1034:G:C2	2.56	0.58
2:LB:2:G:H5'	7:LG:273:ARG:HD2	1.85	0.58
9:LI:23:ALA:C	9:LI:25:GLN:HG2	2.27	0.58
9:LI:124:LEU:O	9:LI:128:LYS:HE2	2.03	0.58
13:LM:9:MET:HE3	13:LM:134:PRO:HB2	1.85	0.58
45:S2:1523:G:C6	54:SI:75:LYS:HG2	2.38	0.58
46:SA:135:GLU:OE1	46:SA:137:VAL:HG23	2.03	0.58
1:LA:1723:U:H1'	1:LA:1724:C:C6	2.38	0.58
1:LA:2125:A:N1	1:LA:2326:U:H5	2.01	0.58
1:LA:3349:C:O2'	1:LA:3350:U:OP1	2.18	0.58
2:LB:62:U:O4	2:LB:63:A:N6	2.36	0.58
7:LG:178:ASN:HA	7:LG:183:TRP:CD2	2.38	0.58
10:LJ:78:PHE:CD2	10:LJ:179:ILE:HD11	2.37	0.58
12:LL:17:TYR:O	12:LL:96:VAL:HG13	2.03	0.58
23:LW:19:VAL:HG21	23:LW:30:PRO:HG3	1.84	0.58
26:LZ:67:ILE:HD12	26:LZ:121:LYS:HG3	1.85	0.58
45:S2:460:A:O2'	64:SS:27:TYR:OH	2.17	0.58
45:S2:591:A:H2'	45:S2:592:A:C8	2.38	0.58
45:S2:1244:A:C8	58:SM:6:VAL:HG21	2.38	0.58
57:SL:25:VAL:HG21	57:SL:66:LEU:HD23	1.83	0.58
73:Sb:53:ILE:HB	73:Sb:60:LYS:HB2	1.83	0.58
73:Sb:101:TYR:HB3	73:Sb:112:ASP:HB2	1.84	0.58
1:LA:770:A:O2'	1:LA:771:U:O4'	2.17	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:LE:19:ARG:HB2	5:LE:232:ARG:NH2	2.19	0.58
7:LG:144:VAL:HG23	7:LG:173:VAL:HG22	1.84	0.58
14:LN:164:GLU:N	14:LN:164:GLU:OE1	2.36	0.58
35:Li:92:ALA:O	35:Li:96:GLU:HG2	2.03	0.58
45:S2:1389:C:O2'	52:SG:52:GLY:HA3	2.03	0.58
48:SC:28:ASN:OD1	48:SC:38:LYS:NZ	2.36	0.58
73:Sb:81:VAL:O	73:Sb:122:SER:OG	2.19	0.58
1:LA:118:U:H3	1:LA:121:A:H5"	1.67	0.58
1:LA:1658:U:H2'	1:LA:1659:C:C6	2.38	0.58
44:Lr:38:ASP:HB2	44:Lr:45:LYS:NZ	2.18	0.58
45:S2:142:G:O6	45:S2:174:U:O2'	2.14	0.58
45:S2:182:A:H2'	45:S2:183:U:C6	2.39	0.58
45:S2:895:G:N2	45:S2:896:U:O4	2.36	0.58
52:SG:46:LEU:O	52:SG:50:ILE:HG13	2.03	0.58
71:SZ:131:GLY:O	76:Se:22:ARG:NH2	2.36	0.58
18:LR:111:LYS:HB2	18:LR:152:GLU:HB2	1.84	0.58
20:LT:92:GLN:O	20:LT:96:ILE:HG12	2.04	0.58
23:LW:56:VAL:HG13	23:LW:65:VAL:HG12	1.85	0.58
26:LZ:115:ARG:HD2	26:LZ:121:LYS:HB2	1.86	0.58
45:S2:625:C:H2'	45:S2:626:U:C6	2.38	0.58
45:S2:1071:U:H2'	45:S2:1072:C:C6	2.38	0.58
45:S2:1473:U:O2	47:SB:103:ASN:ND2	2.36	0.58
62:SQ:83:LYS:HD3	62:SQ:106:THR:HG22	1.84	0.58
62:SQ:97:LEU:HB2	62:SQ:232:HIS:CE1	2.39	0.58
63:SR:67:GLN:OE1	63:SR:67:GLN:N	2.33	0.58
1:LA:680:U:O4	6:LF:118:LYS:NZ	2.33	0.58
1:LA:1579:A:H1'	26:LZ:33:ARG:HH22	1.69	0.58
3:LC:150:G:OP1	26:LZ:27:ARG:NH2	2.37	0.58
12:LL:30:LYS:HG3	12:LL:63:GLU:HG3	1.86	0.58
45:S2:428:A:N3	45:S2:440:U:O2'	2.28	0.58
45:S2:1359:C:H2'	45:S2:1360:A:C8	2.38	0.58
45:S2:554:C:H1'	45:S2:555:A:C2	2.38	0.58
45:S2:1561:U:HO2'	45:S2:1599:C:HO2'	1.51	0.58
53:SH:57:ARG:HE	56:SK:40:VAL:HG11	1.67	0.58
54:SI:65:ILE:HD13	54:SI:71:VAL:HG22	1.86	0.58
57:SL:38:ARG:HH22	76:Se:55:GLU:CD	2.11	0.58
60:SO:68:VAL:HA	60:SO:84:SER:HA	1.84	0.58
65:ST:159:ARG:HE	65:ST:170:THR:HB	1.68	0.58
1:LA:655:A:H2'	1:LA:656:A:C8	2.39	0.58
13:LM:40:LEU:HD11	13:LM:79:ILE:HD13	1.86	0.58
14:LN:180:ARG:O	14:LN:184:GLU:HG2	2.04	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:LS:19:PRO:HB3	19:LS:53:PHE:HA	1.85	0.58
45:S2:921:U:H3'	45:S2:922:G:H5'	1.86	0.58
45:S2:1185:U:O2'	45:S2:1456:C:OP1	2.13	0.58
45:S2:1264:G:N7	45:S2:1265:G:N2	2.52	0.58
61:SP:123:VAL:HG21	61:SP:133:ILE:HD11	1.86	0.58
1:LA:1231:C:H2'	1:LA:1232:G:C8	2.38	0.58
45:S2:658:C:N4	45:S2:677:G:N7	2.52	0.58
45:S2:1566:U:H5'	53:SH:39:GLY:N	2.19	0.58
1:LA:519:U:O2	6:LF:346:LYS:NZ	2.36	0.58
7:LG:34:LYS:HE2	22:LV:30:TYR:CZ	2.39	0.58
45:S2:246:G:N2	69:SX:38:ALA:O	2.34	0.58
80:eR:283:GLU:OE1	80:eR:392:VAL:HA	2.04	0.58
1:LA:429:U:H2'	1:LA:430:U:C6	2.39	0.57
16:LP:103:GLU:HG3	16:LP:160:GLU:HB2	1.86	0.57
45:S2:170:U:OP2	45:S2:172:C:N4	2.25	0.57
47:SB:136:ALA:O	47:SB:140:THR:HG23	2.04	0.57
71:SZ:24:ASN:ND2	71:SZ:51:ASP:O	2.36	0.57
1:LA:129:U:O2	1:LA:139:G:O6	2.22	0.57
1:LA:2166:A:H2'	1:LA:2167:A:C8	2.40	0.57
1:LA:2696:A:H2'	1:LA:2697:G:C8	2.39	0.57
3:LC:149:A:N3	10:LJ:55:TYR:OH	2.31	0.57
6:LF:180:LYS:NZ	6:LF:203:ARG:O	2.36	0.57
10:LJ:173:MET:HE2	10:LJ:173:MET:HA	1.87	0.57
11:LK:134:ILE:H	11:LK:134:ILE:HD12	1.67	0.57
45:S2:32:U:C2	45:S2:468:A:N7	2.72	0.57
54:SI:25:GLN:HB3	54:SI:27:LYS:HG2	1.84	0.57
1:LA:3046:U:O2'	1:LA:3047:A:H5'	2.04	0.57
5:LE:281:LYS:NZ	5:LE:352:GLU:O	2.34	0.57
6:LF:106:TRP:HZ2	14:LN:19:GLN:HG2	1.68	0.57
8:LH:175:LYS:O	15:LO:117:ARG:NH2	2.34	0.57
14:LN:165:SER:HB3	29:Lc:139:ARG:HH12	1.69	0.57
16:LP:41:ARG:HG2	16:LP:42:PRO:HD2	1.87	0.57
45:S2:161:U:OP1	65:ST:85:ARG:N	2.32	0.57
45:S2:1650:U:H2'	45:S2:1651:A:C8	2.39	0.57
51:SF:22:VAL:HG21	51:SF:88:GLY:HA3	1.86	0.57
72:Sa:9:VAL:HG22	72:Sa:10:GLU:H	1.69	0.57
1:LA:352:A:H61	1:LA:365:A:H5"	1.68	0.57
1:LA:1510:U:H5"	1:LA:1511:U:H5	1.68	0.57
1:LA:3282:U:H2'	1:LA:3283:G:C8	2.39	0.57
3:LC:71:A:H5"	27:La:51:ARG:HG3	1.86	0.57
3:LC:103:G:OP2	3:LC:105:A:O2'	2.18	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:LD:33:ASP:O	4:LD:37:ARG:NH2	2.36	0.57
29:Lc:94:ALA:HB2	29:Lc:121:VAL:HG22	1.85	0.57
45:S2:122:U:H5"	64:SS:77:ARG:NH1	2.20	0.57
45:S2:521:A:H2	75:Sd:34:ASN:HB3	1.70	0.57
45:S2:590:C:H2'	45:S2:591:A:C8	2.39	0.57
45:S2:652:G:O6	45:S2:654:C:O2'	2.21	0.57
45:S2:1331:A:OP1	52:SG:45:ARG:NH1	2.37	0.57
51:SF:43:ILE:HG23	51:SF:44:LEU:HD23	1.87	0.57
56:SK:90:LYS:N	56:SK:102:THR:O	2.37	0.57
8:LH:108:LYS:HG2	8:LH:110:LYS:HD2	1.86	0.57
45:S2:1486:G:H2'	45:S2:1487:A:C8	2.40	0.57
1:LA:993:G:N2	1:LA:994:U:O4	2.33	0.57
1:LA:1190:U:OP2	17:LQ:49[A]:ARG:NH1	2.32	0.57
1:LA:2767:U:H2'	1:LA:2768:A:H8	1.69	0.57
28:Lb:27:LYS:HB3	28:Lb:42:LEU:HD12	1.86	0.57
31:Le:92:ILE:HD12	31:Le:100:ILE:HG21	1.86	0.57
33:Lg:31:ASN:OD1	33:Lg:31:ASN:N	2.38	0.57
45:S2:984:G:C6	45:S2:1017:U:O2	2.57	0.57
45:S2:1585:U:OP2	45:S2:1610:G:N1	2.21	0.57
63:SR:50:ILE:HD12	63:SR:55:GLU:HG2	1.86	0.57
1:LA:212:G:C8	6:LF:223:PRO:HG3	2.40	0.57
1:LA:1109:U:H2'	1:LA:1110:U:C6	2.39	0.57
1:LA:3321:A:H2'	1:LA:3322:A:C8	2.39	0.57
51:SF:143:ARG:NH1	79:Ta:34:U:OP2	2.36	0.57
64:SS:19:LEU:HD21	64:SS:108:ARG:HD3	1.87	0.57
64:SS:131:LEU:HA	64:SS:137:PRO:HA	1.85	0.57
74:Sc:98:GLU:HG3	74:Sc:99:ASN:HB2	1.87	0.57
1:LA:76:G:O2'	14:LN:100:ARG:NH1	2.36	0.57
1:LA:1717:G:H2'	1:LA:1718:G:C8	2.39	0.57
1:LA:1785:G:H2'	1:LA:1786:A:C8	2.39	0.57
1:LA:2114:G:H22	1:LA:2119:A:H1'	1.70	0.57
1:LA:3066:C:OP2	20:LT:62:ARG:NH1	2.37	0.57
45:S2:803:A:N6	66:SU:102:PRO:O	2.37	0.57
55:SJ:26:LEU:HD11	55:SJ:112:VAL:HG22	1.85	0.57
80:eR:44:GLN:HB2	80:eR:47:ARG:HG3	1.86	0.57
17:LQ:107[A]:GLY:C	17:LQ:108[A]:ILE:HD12	2.30	0.57
50:SE:18:ARG:NH1	53:SH:92:ILE:O	2.38	0.57
52:SG:27:ASP:HB3	52:SG:30:THR:HG22	1.87	0.57
73:Sb:115:GLU:HG3	73:Sb:118:ARG:HH21	1.69	0.57
74:Sc:73:ARG:HH21	74:Sc:82:LYS:HE2	1.70	0.57
1:LA:155:G:H5"	1:LA:156:G:H2'	1.87	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:1082:G:H2'	1:LA:1083:A:C8	2.40	0.57
19:LS:147:ARG:HG3	19:LS:150:VAL:HG13	1.87	0.57
38:Ll:28:HIS:N	38:Ll:33:THR:O	2.36	0.57
45:S2:418:G:H1'	65:ST:59:GLN:HE21	1.70	0.57
45:S2:962:C:H2'	45:S2:963:A:O4'	2.05	0.57
49:SD:61:VAL:HG22	49:SD:89:ILE:HG13	1.86	0.57
55:SJ:80:GLU:OE2	58:SM:44:ARG:NH2	2.37	0.57
66:SU:21:ALA:HB2	66:SU:43:PHE:HZ	1.70	0.57
74:Sc:73:ARG:NH2	74:Sc:82:LYS:HE2	2.20	0.57
1:LA:1156:G:O2'	1:LA:1168:A:N3	2.37	0.56
1:LA:1465:G:N2	1:LA:1509:G:H5"	2.19	0.56
6:LF:11:LEU:H	6:LF:11:LEU:HD12	1.69	0.56
12:LL:43:VAL:O	12:LL:171:TRP:NE1	2.36	0.56
12:LL:109:ASP:N	12:LL:109:ASP:OD1	2.29	0.56
14:LN:165:SER:HB3	29:Lc:139:ARG:NH1	2.20	0.56
20:LT:109:TYR:HB3	20:LT:115:ILE:HG12	1.86	0.56
45:S2:386:G:H5"	67:SV:23:LYS:HE2	1.86	0.56
45:S2:1160:A:H2'	45:S2:1161:C:H6	1.70	0.56
1:LA:2926:C:H2'	1:LA:2927:C:C6	2.40	0.56
2:LB:64:A:H5'	2:LB:65:G:H5"	1.86	0.56
4:LD:61:VAL:HG11	4:LD:88:ILE:HD11	1.87	0.56
45:S2:768:C:H1'	68:SW:143:ILE:HG21	1.87	0.56
45:S2:1216:C:N4	45:S2:1445:G:OP1	2.38	0.56
53:SH:38:VAL:HG12	53:SH:73:MET:HE3	1.87	0.56
68:SW:119:ALA:O	68:SW:124:HIS:ND1	2.38	0.56
1:LA:181:U:H4'	38:Ll:75:LYS:HG3	1.86	0.56
1:LA:632:C:O2'	34:Lh:21:ARG:O	2.22	0.56
1:LA:692:A:OP1	6:LF:45:ASN:ND2	2.31	0.56
1:LA:1305:G:C6	17:LQ:62[A]:THR:HA	2.41	0.56
19:LS:123:THR:OG1	19:LS:125:ASP:OD1	2.16	0.56
27:La:87:LYS:HB2	27:La:97:ILE:HD11	1.87	0.56
29:Lc:36:GLY:HA3	29:Lc:40:HIS:CE1	2.41	0.56
36:Lj:30:GLU:HG3	36:Lj:34:GLN:HE21	1.71	0.56
44:Lr:28:LYS:HE2	45:S2:1019:A:C8	2.40	0.56
45:S2:82:U:H2'	45:S2:83:G:O4'	2.04	0.56
45:S2:167:U:OP1	65:ST:140:ASN:ND2	2.37	0.56
45:S2:1670:G:O2'	45:S2:1732:A:N7	2.31	0.56
45:S2:1672:G:H2'	45:S2:1673:G:C8	2.40	0.56
45:S2:1672:G:H2'	45:S2:1673:G:H8	1.70	0.56
56:SK:26:LYS:NZ	56:SK:28:SER:OG	2.35	0.56
60:SO:217:ASP:OD1	60:SO:217:ASP:N	2.37	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:ST:187:LYS:HE3	65:ST:191:ARG:HH21	1.71	0.56
1:LA:1276:C:H2'	1:LA:1277:A:C8	2.40	0.56
1:LA:2128:U:H2'	1:LA:2129:G:C8	2.41	0.56
8:LH:87:THR:HG22	8:LH:176:PHE:HB3	1.88	0.56
20:LT:8:LYS:HG2	20:LT:24:LEU:HD11	1.88	0.56
26:LZ:90:ALA:O	26:LZ:120:LYS:NZ	2.39	0.56
45:S2:61:A:O2'	45:S2:62:A:O4'	2.22	0.56
45:S2:1401:A:H4'	52:SG:10:LYS:HZ1	1.70	0.56
60:SO:238:ASP:OD2	60:SO:256:THR:OG1	2.19	0.56
73:Sb:115:GLU:HA	73:Sb:118:ARG:HE	1.70	0.56
1:LA:1387:U:O4	6:LF:186:LYS:NZ	2.25	0.56
5:LE:152:LYS:HZ2	5:LE:192:VAL:HB	1.71	0.56
5:LE:158:VAL:HG21	5:LE:191:LYS:HB3	1.88	0.56
19:LS:87:VAL:HG12	19:LS:110:ALA:HB1	1.88	0.56
35:Li:80:ARG:HH11	35:Li:80:ARG:HG3	1.69	0.56
45:S2:742:U:O3'	66:SU:107:ARG:NH1	2.39	0.56
48:SC:73:VAL:HG13	48:SC:77:ARG:HH21	1.70	0.56
1:LA:8:C:H2'	1:LA:9:U:C6	2.40	0.56
1:LA:1946:G:O2'	1:LA:1947:G:OP1	2.21	0.56
1:LA:3224:C:O2'	1:LA:3225:A:OP1	2.18	0.56
4:LD:227:ARG:O	4:LD:234:LYS:NZ	2.38	0.56
12:LL:178:ARG:O	12:LL:182:LEU:HD12	2.06	0.56
45:S2:1580:C:H4'	51:SF:137:ARG:HB2	1.88	0.56
47:SB:187:ILE:HG12	56:SK:66:VAL:HG21	1.86	0.56
63:SR:104:VAL:O	63:SR:112:GLY:N	2.36	0.56
64:SS:47:PHE:CE2	64:SS:52:LEU:HD11	2.40	0.56
66:SU:56:LYS:HB2	66:SU:88:ARG:HD2	1.88	0.56
1:LA:1089:G:O6	1:LA:1090:A:N6	2.38	0.56
1:LA:3294:A:H2'	1:LA:3295:A:C8	2.41	0.56
7:LG:90:HIS:HB3	7:LG:226:TYR:CZ	2.41	0.56
19:LS:176:ARG:HA	19:LS:182:LYS:O	2.06	0.56
45:S2:590:C:H5"	78:Sg:56:MET:HE2	1.88	0.56
45:S2:856:A:N6	66:SU:116:ARG:HD3	2.21	0.56
58:SM:40:ARG:HG3	58:SM:41:GLN:OE1	2.06	0.56
68:SW:53:ARG:HB3	68:SW:57:ARG:HH21	1.71	0.56
33:Lg:66:LEU:HD23	33:Lg:72:LYS:HG2	1.88	0.56
45:S2:15:U:H2'	45:S2:16:G:O4'	2.06	0.56
55:SJ:35:GLU:OE2	55:SJ:89:ARG:NH1	2.27	0.56
1:LA:2304:G:N3	1:LA:2304:G:H2'	2.20	0.56
1:LA:2828:U:O2	1:LA:2860:U:H5	1.88	0.56
1:LA:3038:C:O2'	24:LX:9:THR:OG1	2.22	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:LJ:73:PRO:HD3	10:LJ:233:TRP:CE2	2.41	0.56
24:LX:15:LEU:HD23	24:LX:53:SER:HB3	1.87	0.56
46:SA:77:PHE:CE2	46:SA:79:TYR:CZ	2.93	0.56
61:SP:157:ASP:OD1	72:Sa:60:ARG:NH1	2.31	0.56
1:LA:2881:U:H2'	1:LA:2882:U:C6	2.40	0.56
1:LA:3315:A:H5'	5:LE:123:TYR:HD2	1.70	0.56
10:LJ:139:VAL:HA	10:LJ:142:LEU:HD12	1.88	0.56
36:Lj:34:GLN:HB3	36:Lj:38:ARG:NH2	2.20	0.56
45:S2:444:C:OP2	75:Sd:108:ARG:NH2	2.38	0.56
45:S2:1356:U:N3	45:S2:1367:G:N1	2.54	0.56
62:SQ:222:LYS:HD3	62:SQ:223:PHE:H	1.71	0.56
64:SS:92:LEU:HD22	75:Sd:17:LEU:HD21	1.87	0.56
1:LA:584:A:H2'	1:LA:585:C:C6	2.41	0.55
1:LA:826:A:H5"	35:Li:14:ASN:O	2.06	0.55
1:LA:1202:A:H2'	1:LA:1203:A:C8	2.40	0.55
5:LE:61:ASP:HB3	5:LE:352:GLU:OE1	2.05	0.55
11:LK:26:LYS:HG2	11:LK:35:THR:HG22	1.88	0.55
12:LL:54:SER:HB3	12:LL:135:ILE:HD11	1.88	0.55
23:LW:76:LEU:O	23:LW:80:THR:OG1	2.21	0.55
45:S2:71:A:N7	65:ST:164:LYS:NZ	2.54	0.55
52:SG:105:GLN:OE1	52:SG:105:GLN:N	2.38	0.55
59:SN:133:ALA:HB3	59:SN:140:TYR:HB3	1.87	0.55
67:SV:84:HIS:NE2	67:SV:97:THR:OG1	2.32	0.55
1:LA:422:A:C2	1:LA:2362:A:H4'	2.42	0.55
1:LA:1496:C:H2'	1:LA:1497:A:C8	2.41	0.55
1:LA:1800:U:H2'	1:LA:1801:C:C6	2.41	0.55
1:LA:2971:G:H5'	80:eR:180:HIS:NE2	2.21	0.55
6:LF:361:HIS:O	21:LU:28:ARG:NH1	2.34	0.55
12:LL:36:LEU:HD21	12:LL:69:ARG:HH11	1.71	0.55
28:Lb:75:VAL:HG13	28:Lb:80:LEU:HD11	1.88	0.55
31:Le:13:LYS:NZ	31:Le:99:ASP:OD2	2.39	0.55
35:Li:96:GLU:O	35:Li:100:ILE:HG13	2.06	0.55
42:Lp:6:ARG:HH11	42:Lp:6:ARG:HG3	1.71	0.55
68:SW:152:SER:HA	68:SW:155:HIS:HB2	1.86	0.55
1:LA:226:C:H2'	1:LA:227:G:O4'	2.06	0.55
1:LA:493:G:O2'	1:LA:494:G:N7	2.32	0.55
1:LA:1565:A:C5	1:LA:1566:U:H1'	2.40	0.55
45:S2:1307:U:H3	45:S2:1318:G:H21	1.52	0.55
53:SH:27:LYS:NZ	53:SH:56:LYS:O	2.39	0.55
64:SS:104:ASP:HB3	64:SS:110:ALA:HB2	1.88	0.55
67:SV:171:SER:OG	67:SV:178:ARG:O	2.23	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:SW:114:TYR:HA	68:SW:119:ALA:HB3	1.87	0.55
1:LA:2893:C:H2'	1:LA:2894:G:H8	1.70	0.55
1:LA:3274:U:O4	34:Lh:62:SER:OG	2.23	0.55
8:LH:49:GLY:O	8:LH:163:PHE:N	2.33	0.55
45:S2:107:C:OP1	45:S2:383:G:O2'	2.22	0.55
45:S2:180:A:H3'	45:S2:181:A:H8	1.70	0.55
45:S2:521:A:C2	75:Sd:34:ASN:HB3	2.41	0.55
45:S2:699:U:O2'	45:S2:700:C:O5'	2.25	0.55
46:SA:20:GLU:HG2	48:SC:61:TRP:CE3	2.41	0.55
53:SH:11:PHE:HZ	53:SH:25:ASN:HB3	1.71	0.55
60:SO:112:SER:OG	60:SO:155:ARG:NH1	2.40	0.55
67:SV:116:HIS:CE1	67:SV:146:ARG:HD3	2.42	0.55
1:LA:2196:C:H5'	1:LA:2241:A:H61	1.71	0.55
15:LO:112:LEU:HD22	15:LO:116:GLU:HB3	1.87	0.55
45:S2:148:A:H5"	45:S2:149:C:C5	2.41	0.55
45:S2:322:G:H4'	45:S2:323:A:H5'	1.87	0.55
59:SN:81:LYS:N	80:eR:106:LYS:O	2.38	0.55
71:SZ:17:ALA:HA	71:SZ:30:VAL:HG22	1.89	0.55
80:eR:178:LYS:HB3	80:eR:180:HIS:CE1	2.42	0.55
1:LA:1695:A:H2'	1:LA:1696:A:C8	2.42	0.55
1:LA:2106:A:H2	1:LA:3343:A:H8	1.54	0.55
1:LA:2220:G:H2'	1:LA:2221:A:H5'	1.87	0.55
3:LC:10:A:H2'	3:LC:11:C:C6	2.41	0.55
6:LF:157:GLU:HG3	6:LF:209:TYR:HB2	1.87	0.55
9:LI:107:ARG:HB3	9:LI:204:PRO:HG3	1.89	0.55
10:LJ:225:LYS:HD2	10:LJ:225:LYS:N	2.22	0.55
11:LK:31:ARG:HG2	11:LK:149:ASN:HD21	1.72	0.55
18:LR:169:THR:HG23	18:LR:172:GLN:H	1.72	0.55
45:S2:623:A:O2'	45:S2:624:G:OP1	2.21	0.55
45:S2:1120:U:H2'	45:S2:1121:C:C6	2.41	0.55
47:SB:186:ASN:HD21	47:SB:188:LYS:HB2	1.72	0.55
47:SB:222:LYS:HG2	47:SB:225:ARG:NH1	2.21	0.55
60:SO:37:SER:OG	60:SO:39:ASP:OD1	2.23	0.55
1:LA:791:G:H5"	29:Lc:2:PRO:HD3	1.88	0.55
1:LA:2661:G:H2'	1:LA:2662:G:C8	2.42	0.55
2:LB:22:A:H2'	2:LB:23:A:C8	2.42	0.55
45:S2:1240:U:H3	45:S2:1245:G:H4'	1.72	0.55
45:S2:1345:A:H8	45:S2:1346:A:H4'	1.72	0.55
64:SS:45:ILE:HD11	64:SS:58:GLY:HA2	1.87	0.55
16:LP:159:ARG:HB3	16:LP:164:LEU:HB2	1.88	0.55
21:LU:81:TYR:HE1	21:LU:90:MET:HE3	1.71	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:Lq:40:LYS:NZ	43:Lq:44:ASP:OD1	2.33	0.55
62:SQ:193:ILE:O	62:SQ:197:ILE:HG13	2.07	0.55
1:LA:1473:A:O2'	32:Lf:57:GLN:OE1	2.19	0.55
1:LA:2944:G:O2'	1:LA:2947:C:OP2	2.22	0.55
4:LD:46:LYS:N	4:LD:46:LYS:HD2	2.21	0.55
8:LH:28:GLN:OE1	8:LH:61:ASN:HB3	2.06	0.55
10:LJ:162:LEU:HD21	16:LP:45:PRO:HG2	1.87	0.55
14:LN:105:ASN:ND2	37:Lk:17:VAL:HG21	2.22	0.55
18:LR:60:PHE:HB3	18:LR:64:ASN:HB3	1.89	0.55
39:Lm:24:THR:HB	39:Lm:44:LYS:HB2	1.89	0.55
45:S2:62:A:HO2'	45:S2:268:C:HO2'	1.51	0.55
45:S2:367:A:N1	45:S2:374:U:H5	2.05	0.55
80:eR:34:MET:HE2	80:eR:34:MET:N	2.22	0.55
1:LA:1576:G:H2'	1:LA:1577:C:H6	1.72	0.55
1:LA:2785:G:H21	29:Lc:58:MET:CE	2.19	0.55
2:LB:74:C:H2'	2:LB:75:G:C8	2.41	0.55
11:LK:89:LYS:HG2	11:LK:145:VAL:HG13	1.89	0.55
15:LO:76:ALA:HB1	15:LO:80:THR:HB	1.89	0.55
19:LS:67:ILE:HG23	19:LS:81:VAL:HG21	1.89	0.55
22:LV:41:ASP:OD1	22:LV:61:THR:OG1	2.25	0.55
27:La:3:LYS:HD2	27:La:8:VAL:HG13	1.88	0.55
45:S2:1204:A:H61	58:SM:15:GLY:HA3	1.71	0.55
45:S2:1501:C:H5"	45:S2:1502:G:C8	2.42	0.55
45:S2:1512:G:N3	45:S2:1513:G:N2	2.55	0.55
62:SQ:201:THR:HA	62:SQ:204:ILE:HD12	1.89	0.55
65:ST:10:ASN:OD1	65:ST:128:THR:OG1	2.22	0.55
68:SW:170:GLY:O	68:SW:174:ARG:HG3	2.07	0.55
77:Sf:56:CYS:SG	77:Sf:61:THR:OG1	2.46	0.55
1:LA:648:A:OP2	1:LA:2867:U:O2'	2.25	0.54
1:LA:2732:A:H2'	1:LA:2733:A:H5'	1.89	0.54
7:LG:294:ALA:HB1	12:LL:210:ILE:HG21	1.89	0.54
18:LR:25:SER:O	18:LR:29:THR:OG1	2.22	0.54
45:S2:11:A:H61	45:S2:1143:A:H62	1.54	0.54
45:S2:1583:A:H2'	45:S2:1584:G:H4'	1.88	0.54
47:SB:143:ARG:HG2	57:SL:55:VAL:HG11	1.90	0.54
68:SW:83:VAL:HG13	68:SW:85:VAL:HG23	1.89	0.54
1:LA:895:A:H61	1:LA:2146:A:H8	1.54	0.54
1:LA:895:A:N6	1:LA:2146:A:H8	2.05	0.54
1:LA:1600:U:OP1	20:LT:42:ARG:NH2	2.40	0.54
1:LA:3015:A:H2'	1:LA:3016:A:C8	2.42	0.54
64:SS:177:ALA:HA	64:SS:195:ILE:HG22	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:SW:116:LEU:HD13	68:SW:156:ILE:HG12	1.90	0.54
70:SY:64:ARG:O	70:SY:64:ARG:NH1	2.37	0.54
73:Sb:27:ILE:HB	73:Sb:61:ILE:HB	1.88	0.54
80:eR:422:MET:HA	80:eR:422:MET:HE3	1.89	0.54
1:LA:1038:U:O2'	1:LA:1039:A:H8	1.90	0.54
1:LA:2354:G:OP1	18:LR:141:SER:OG	2.19	0.54
12:LL:47:PRO:HD2	12:LL:141:LYS:HA	1.89	0.54
12:LL:49:CYS:HB3	12:LL:168:SER:HB3	1.88	0.54
14:LN:89:TYR:O	14:LN:92:THR:OG1	2.23	0.54
45:S2:555:A:H8	45:S2:590:C:O2'	1.90	0.54
45:S2:743:U:H4'	66:SU:108:GLN:HE21	1.73	0.54
45:S2:753:A:OP1	64:SS:187:ARG:HD2	2.06	0.54
45:S2:1356:U:O4	45:S2:1367:G:O6	2.25	0.54
50:SE:85:ILE:HA	50:SE:89:MET:HE1	1.89	0.54
66:SU:64:VAL:HB	66:SU:94:ALA:HB1	1.89	0.54
75:Sd:56:SER:OG	75:Sd:90:ARG:NH1	2.40	0.54
1:LA:11:A:H2'	1:LA:12:A:C8	2.43	0.54
1:LA:372:A:O2'	1:LA:373:A:OP1	2.23	0.54
1:LA:1107:U:H2'	1:LA:1108:U:C6	2.42	0.54
1:LA:1202:A:N3	1:LA:2854:U:O2'	2.40	0.54
1:LA:1468:C:N3	1:LA:1507:C:H5	2.04	0.54
2:LB:27:A:H8	7:LG:57:ASN:HD22	1.55	0.54
5:LE:85:VAL:HB	5:LE:163:HIS:CE1	2.43	0.54
7:LG:93:THR:HG22	7:LG:158:ARG:NH2	2.22	0.54
8:LH:52:VAL:HG11	8:LH:74:VAL:HG11	1.89	0.54
14:LN:105:ASN:HD22	37:Lk:17:VAL:HG21	1.73	0.54
15:LO:109:ARG:NH2	17:LQ:198[A]:GLY:O	2.36	0.54
47:SB:34:GLN:HG2	51:SF:57:LEU:HD11	1.90	0.54
61:SP:71:GLU:HB2	61:SP:96:THR:HG23	1.90	0.54
1:LA:1740:A:H5'	1:LA:1741:U:C5	2.42	0.54
45:S2:513:U:H2'	45:S2:514:G:C8	2.43	0.54
45:S2:1221:A:H3'	45:S2:1222:C:H4'	1.89	0.54
45:S2:1330:G:H2'	45:S2:1331:A:O4'	2.07	0.54
53:SH:41:ARG:HH21	54:SI:38:LYS:HA	1.71	0.54
71:SZ:79:VAL:HG22	71:SZ:110:LEU:HD22	1.89	0.54
1:LA:159:A:H2'	1:LA:160:G:H8	1.73	0.54
1:LA:594:G:H1	1:LA:608:G:H5"	1.73	0.54
1:LA:1347:U:H4'	1:LA:1348:G:H5'	1.88	0.54
6:LF:86:GLY:HA3	82:pp:4369:LEU:HD12	1.89	0.54
7:LG:41:LYS:HB2	22:LV:68:THR:O	2.08	0.54
10:LJ:77:GLN:HE22	10:LJ:167:PRO:HB3	1.72	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:LQ:121[A]:PRO:HA	17:LQ:124[A]:LEU:HD12	1.89	0.54
23:LW:33:TYR:HE1	23:LW:80:THR:HG23	1.72	0.54
23:LW:97:SER:HA	23:LW:103:TYR:HA	1.90	0.54
45:S2:17:C:O2'	45:S2:1137:A:N1	2.38	0.54
45:S2:986:G:H3'	45:S2:987:G:H21	1.72	0.54
45:S2:1402:G:H5'	52:SG:3:ARG:HG2	1.90	0.54
57:SL:64:ARG:O	57:SL:65:ARG:NH1	2.34	0.54
60:SO:68:VAL:HG12	60:SO:84:SER:HB2	1.90	0.54
62:SQ:32:ILE:HG12	62:SQ:46:THR:HG23	1.90	0.54
74:Sc:142:LYS:HG2	74:Sc:143:PRO:HD2	1.88	0.54
1:LA:998:G:N3	1:LA:1001:A:N6	2.55	0.54
1:LA:2426:U:H2'	1:LA:2427:U:C6	2.43	0.54
1:LA:2736:C:O2'	30:Ld:36:ASP:OD1	2.23	0.54
1:LA:2766:U:H2'	1:LA:2767:U:C6	2.43	0.54
1:LA:3161:C:H2'	1:LA:3162:A:C8	2.43	0.54
7:LG:64:ILE:HD12	7:LG:144:VAL:HG11	1.90	0.54
9:LI:83:LEU:HD11	9:LI:116:PHE:HB3	1.90	0.54
23:LW:94:ARG:HB2	23:LW:108:TYR:HE2	1.72	0.54
24:LX:84:SER:HA	24:LX:94:TYR:HB3	1.90	0.54
35:Li:16:ARG:HE	35:Li:16:ARG:N	2.04	0.54
45:S2:1565:C:OP1	53:SH:41:ARG:HD2	2.07	0.54
64:SS:72:VAL:HA	64:SS:90:ILE:HA	1.90	0.54
1:LA:130:A:H2'	1:LA:131:C:C6	2.43	0.54
1:LA:3121:A:N1	11:LK:70:THR:HG21	2.23	0.54
4:LD:112:ILE:HG13	44:Lr:79:VAL:HG22	1.90	0.54
45:S2:1203:A:O2'	45:S2:1556:A:N3	2.36	0.54
53:SH:82:PRO:HB2	53:SH:84:TRP:CD1	2.43	0.54
79:Ta:75:C:OP1	80:eR:178:LYS:NZ	2.31	0.54
1:LA:795:U:H2'	1:LA:796:U:C6	2.43	0.54
1:LA:1023:G:O2'	1:LA:1025:A:OP2	2.26	0.54
1:LA:1628:U:H6	28:Lb:112:LYS:HD3	1.73	0.54
2:LB:98:C:OP1	21:LU:39:SER:OG	2.21	0.54
9:LI:29:GLU:CD	9:LI:29:GLU:H	2.16	0.54
18:LR:33:ALA:HB1	18:LR:117:ILE:HG12	1.90	0.54
45:S2:16:G:H2'	45:S2:17:C:C6	2.42	0.54
45:S2:127:G:N2	45:S2:178:U:O2'	2.41	0.54
45:S2:281:G:H2'	45:S2:281:G:N3	2.23	0.54
45:S2:1400:A:O2'	45:S2:1401:A:O4'	2.12	0.54
61:SP:31:VAL:HG23	61:SP:150:ASP:HA	1.89	0.54
62:SQ:144:ARG:HG2	62:SQ:206:PRO:HB2	1.88	0.54
68:SW:36:LEU:HD22	68:SW:41:GLU:HB3	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:785:A:H4'	1:LA:786:G:H5'	1.90	0.54
1:LA:1746:G:H5"	39:Lm:42:LYS:HE3	1.90	0.54
1:LA:2405:C:H2'	1:LA:2406:C:C6	2.43	0.54
1:LA:3173:A:N1	34:Lh:54:ARG:NH2	2.50	0.54
1:LA:3343:A:C2	1:LA:3360:G:N2	2.68	0.54
3:LC:95:G:OP2	38:Ll:72:ARG:NH1	2.41	0.54
11:LK:90:MET:N	11:LK:90:MET:SD	2.82	0.54
15:LO:23:ILE:O	15:LO:30:GLY:N	2.40	0.54
17:LQ:189[A]:ASP:OD2	17:LQ:193[A]:GLN:NE2	2.41	0.54
32:Lf:77:ARG:HD2	32:Lf:89:LEU:HD13	1.88	0.54
33:Lg:76:VAL:HG22	33:Lg:81:ASP:HB3	1.90	0.54
45:S2:1400:A:H2'	45:S2:1401:A:C8	2.42	0.54
45:S2:1613:U:N3	45:S2:1614:A:O2'	2.34	0.54
53:SH:50:ALA:O	53:SH:68:ARG:NH1	2.41	0.54
56:SK:95:HIS:ND1	56:SK:96:SER:O	2.33	0.54
57:SL:21:SER:OG	57:SL:22:ARG:NH1	2.41	0.54
62:SQ:91:VAL:HG13	62:SQ:96:LEU:HB3	1.89	0.54
1:LA:208:C:H2'	1:LA:209:A:O4'	2.08	0.53
1:LA:690:A:N1	3:LC:28:C:O2'	2.40	0.53
2:LB:94:C:H2'	2:LB:95:A:C8	2.43	0.53
21:LU:22:PRO:O	22:LV:146:ASN:ND2	2.33	0.53
29:Lc:112:ILE:HD12	29:Lc:127:ALA:HB2	1.89	0.53
45:S2:998:A:N1	45:S2:1003:A:O2'	2.41	0.53
45:S2:1487:A:OP1	58:SM:34:TYR:OH	2.24	0.53
51:SF:37:THR:HG23	51:SF:38:LEU:HG	1.89	0.53
63:SR:170:ILE:HB	63:SR:197:TYR:HB2	1.90	0.53
71:SZ:112:ILE:HD11	76:Se:53:LEU:O	2.08	0.53
1:LA:1611:A:H5"	39:Lm:51:LEU:HD22	1.89	0.53
1:LA:1615:U:H2'	1:LA:1616:G:C8	2.43	0.53
1:LA:2412:A:H2'	1:LA:2413:G:H8	1.73	0.53
1:LA:3191:U:H2'	1:LA:3192:C:C6	2.43	0.53
27:La:52:ARG:O	27:La:70:ILE:HB	2.08	0.53
43:Lq:65:THR:O	43:Lq:87:ARG:NH2	2.36	0.53
47:SB:225:ARG:HE	57:SL:58:GLU:HG2	1.73	0.53
63:SR:58:LEU:HA	72:Sa:12:TYR:CE1	2.43	0.53
74:Sc:6:PRO:HG3	74:Sc:14:LYS:HG2	1.89	0.53
1:LA:3024:C:H2'	1:LA:3025:G:O4'	2.08	0.53
8:LH:171:PRO:HA	8:LH:174:LEU:HB2	1.91	0.53
14:LN:164:GLU:O	14:LN:165:SER:OG	2.20	0.53
20:LT:162:ARG:NH1	45:S2:815:G:H1'	2.23	0.53
70:SY:69:ASN:HB3	70:SY:73:ARG:HG2	1.89	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:2799:G:O6	29:Lc:42:ARG:NH2	2.42	0.53
5:LE:140:ASP:OD1	5:LE:140:ASP:N	2.41	0.53
10:LJ:98:ARG:HD3	10:LJ:99:PRO:O	2.07	0.53
13:LM:38:GLU:HB3	13:LM:45:PRO:HD3	1.90	0.53
45:S2:354:C:H5"	67:SV:16:ALA:HB2	1.89	0.53
45:S2:822:U:H3	45:S2:850:A:H2	1.55	0.53
60:SO:111:MET:HE3	60:SO:127:ARG:NH2	2.23	0.53
63:SR:139:ILE:HD12	63:SR:218:ILE:HG23	1.91	0.53
1:LA:68:C:O3'	16:LP:177:GLY:HA2	2.08	0.53
1:LA:1212:G:H4'	21:LU:90:MET:HB2	1.89	0.53
1:LA:2548:G:H5"	10:LJ:33:ASN:HD21	1.73	0.53
1:LA:3015:A:H2'	1:LA:3016:A:H8	1.73	0.53
14:LN:27:ASP:HB2	14:LN:31:LYS:HD3	1.90	0.53
21:LU:80:ARG:HG2	21:LU:122:HIS:HB2	1.90	0.53
45:S2:607:G:H5'	45:S2:613:G:N2	2.22	0.53
45:S2:1001:A:H2'	45:S2:1002:G:O4'	2.09	0.53
45:S2:1390:U:H1'	52:SG:3:ARG:NE	2.23	0.53
45:S2:1463:C:H2'	45:S2:1464:G:H8	1.73	0.53
45:S2:1592:A:H2'	45:S2:1593:A:H8	1.72	0.53
60:SO:281:TYR:HD2	60:SO:287:PRO:HG3	1.74	0.53
67:SV:153:GLU:O	67:SV:157:GLU:HG2	2.09	0.53
68:SW:86:LEU:HD12	68:SW:95:TYR:HB2	1.91	0.53
1:LA:12:A:H4'	26:LZ:34:LEU:HD21	1.90	0.53
1:LA:1496:C:H2'	1:LA:1497:A:H8	1.74	0.53
4:LD:39:GLY:HA2	4:LD:93:LYS:HG3	1.91	0.53
45:S2:527:A:H2'	45:S2:528:U:O4'	2.09	0.53
45:S2:1213:G:N2	45:S2:1240:U:O2	2.42	0.53
46:SA:195:SER:O	46:SA:196:ARG:HG2	2.08	0.53
51:SF:44:LEU:CD1	51:SF:78:VAL:HG21	2.37	0.53
56:SK:54:VAL:HG23	56:SK:55:PRO:HD3	1.91	0.53
60:SO:53:LYS:HD2	60:SO:54:PHE:N	2.24	0.53
64:SS:208:VAL:HG11	64:SS:225:VAL:HG21	1.91	0.53
65:ST:35:GLU:HG2	65:ST:51:LYS:HG3	1.91	0.53
1:LA:336:A:N3	6:LF:48:GLN:NE2	2.55	0.53
1:LA:2402:G:N2	82:pp:4384:PRO:HD2	2.23	0.53
6:LF:150:LEU:HD23	6:LF:249:ILE:HG12	1.89	0.53
10:LJ:169:LEU:HA	37:Lk:43:LEU:HD21	1.90	0.53
21:LU:60:SER:OG	21:LU:62:ASN:OD1	2.27	0.53
45:S2:127:G:H4'	65:ST:194:LYS:HE2	1.90	0.53
45:S2:156:A:H2'	45:S2:157:A:O4'	2.08	0.53
47:SB:208:SER:O	47:SB:212:LYS:HG3	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:SQ:65:VAL:HG11	62:SQ:85:LYS:HZ3	1.74	0.53
78:Sg:37:ARG:O	78:Sg:41:THR:HG23	2.09	0.53
1:LA:372:A:H2'	1:LA:373:A:C8	2.43	0.53
1:LA:2277:C:H42	1:LA:2304:G:H22	1.54	0.53
2:LB:21:G:H4'	7:LG:272:TYR:HE2	1.73	0.53
9:LI:219:LYS:HA	9:LI:228:SER:HB3	1.91	0.53
16:LP:192:LYS:O	16:LP:196:THR:HG23	2.09	0.53
52:SG:47:ARG:NH1	52:SG:48:ASN:OD1	2.41	0.53
65:ST:58:LYS:HD2	65:ST:107:ALA:HB2	1.91	0.53
74:Sc:69:ARG:HG3	74:Sc:117:ILE:HG12	1.90	0.53
1:LA:1301:A:N7	1:LA:2856:C:O2'	2.41	0.53
1:LA:1523:A:OP1	26:LZ:92:LYS:NZ	2.28	0.53
1:LA:1620:A:H2'	1:LA:1621:U:C6	2.44	0.53
1:LA:1710:C:H2'	1:LA:1711:G:H5"	1.91	0.53
1:LA:2202:U:H2'	1:LA:2203:C:C6	2.43	0.53
1:LA:2356:A:H2'	1:LA:2357:A:C8	2.44	0.53
45:S2:264:G:H5"	45:S2:265:A:H5"	1.90	0.53
46:SA:108:LYS:HB3	46:SA:113:LEU:HD23	1.90	0.53
53:SH:43:SER:HA	53:SH:46:VAL:HG22	1.91	0.53
63:SR:173:PRO:HG3	68:SW:57:ARG:HD3	1.91	0.53
72:Sa:58:TYR:OH	73:Sb:20:THR:HA	2.08	0.53
1:LA:1083:A:H5"	22:LV:35:LYS:HE3	1.90	0.53
1:LA:1419:C:OP2	6:LF:193:LYS:NZ	2.40	0.53
1:LA:1798:A:H2'	1:LA:1799:A:C8	2.44	0.53
3:LC:58:G:O6	38:Ll:63:ARG:NH1	2.41	0.53
3:LC:142:C:H2'	3:LC:143:U:C6	2.44	0.53
8:LH:62:THR:CG2	8:LH:78:ARG:HB2	2.39	0.53
10:LJ:71:VAL:HG12	16:LP:21:PHE:CZ	2.44	0.53
27:La:49:PRO:O	27:La:115:ARG:NH2	2.42	0.53
46:SA:168:ILE:HG23	46:SA:187:LYS:HG3	1.90	0.53
47:SB:63:GLN:HG2	47:SB:88:PRO:HA	1.90	0.53
51:SF:99:GLU:HG3	60:SO:60:SER:HB2	1.91	0.53
69:SX:109:VAL:HG11	69:SX:125:VAL:HG11	1.91	0.53
80:eR:359:ASP:OD2	80:eR:362:THR:OG1	2.21	0.53
1:LA:592:C:H5"	8:LH:19:LYS:CE	2.35	0.52
1:LA:2368:G:H2'	1:LA:2369:G:C8	2.43	0.52
3:LC:26:U:O2'	6:LF:51:ALA:O	2.25	0.52
5:LE:219:ALA:HB2	5:LE:336:VAL:HG12	1.91	0.52
18:LR:136:ILE:HD12	82:pp:4367:LYS:HG2	1.91	0.52
22:LV:158:THR:HG22	22:LV:160:ILE:H	1.73	0.52
27:La:80:VAL:HG22	27:La:101:PRO:HD3	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:849:C:O2'	45:S2:850:A:N7	2.42	0.52
45:S2:980:G:H4'	45:S2:1776:A:H4'	1.91	0.52
45:S2:1097:U:H4'	45:S2:1098:U:H5"	1.91	0.52
45:S2:1187:U:H3	45:S2:1198:G:H1	1.56	0.52
45:S2:1252:C:H4'	59:SN:131:PHE:HB2	1.90	0.52
45:S2:1287:A:C6	45:S2:1329:A:H4'	2.43	0.52
45:S2:1459:C:OP2	53:SH:138:THR:OG1	2.27	0.52
1:LA:1503:A:H5"	18:LR:125:GLN:HE22	1.75	0.52
1:LA:1615:U:H2'	1:LA:1616:G:H8	1.73	0.52
1:LA:1806:G:H5"	28:Lb:135:ARG:HH22	1.74	0.52
1:LA:2879:U:H1'	5:LE:250:ALA:HB3	1.90	0.52
1:LA:2999:A:H2'	1:LA:3000:C:C6	2.44	0.52
11:LK:103:ILE:CD1	11:LK:134:ILE:HG21	2.40	0.52
38:Ll:72:ARG:HA	38:Ll:75:LYS:HE2	1.91	0.52
45:S2:1575:G:H2'	45:S2:1576:A:C8	2.44	0.52
45:S2:1590:G:H2'	45:S2:1591:C:C6	2.44	0.52
55:SJ:70:THR:O	58:SM:40:ARG:NH1	2.41	0.52
60:SO:16:HIS:CE1	60:SO:43:ILE:HD12	2.45	0.52
80:eR:91:ASN:HA	80:eR:119:PRO:HA	1.91	0.52
1:LA:654:C:H2'	1:LA:655:A:H8	1.75	0.52
1:LA:994:U:H1'	1:LA:2636:A:H5'	1.92	0.52
1:LA:2521:G:H22	4:LD:68:LYS:HE2	1.74	0.52
14:LN:3:ILE:HG21	29:Lc:45:MET:HE1	1.91	0.52
21:LU:6:GLU:CD	21:LU:99:ARG:HE	2.17	0.52
26:LZ:29:SER:HG	26:LZ:31:THR:HG1	1.53	0.52
35:Li:29:ILE:HD11	35:Li:31:ARG:HH11	1.74	0.52
36:Lj:8:GLU:O	36:Lj:11:THR:OG1	2.26	0.52
45:S2:5:U:H2'	45:S2:6:G:H8	1.73	0.52
45:S2:182:A:H2'	45:S2:183:U:H6	1.72	0.52
45:S2:545:A:O2'	78:Sg:31:LYS:HE2	2.09	0.52
61:SP:2:SER:N	72:Sa:77:GLY:O	2.42	0.52
1:LA:1625:U:O2'	1:LA:1626:U:OP1	2.23	0.52
1:LA:1837:G:H5"	1:LA:1838:A:H5'	1.91	0.52
1:LA:2971:G:H5'	80:eR:180:HIS:CD2	2.44	0.52
1:LA:3293:A:H2'	1:LA:3294:A:O4'	2.09	0.52
6:LF:177:ASP:HB3	6:LF:205:PRO:HD3	1.91	0.52
15:LO:35:ILE:HD13	15:LO:44:VAL:HG21	1.91	0.52
42:Lp:6:ARG:HG3	42:Lp:6:ARG:NH1	2.25	0.52
45:S2:58:U:OP1	45:S2:456:A:O2'	2.27	0.52
45:S2:139:C:O2'	65:ST:187:LYS:NZ	2.41	0.52
45:S2:1648:A:H2'	45:S2:1649:G:C8	2.45	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:SA:157:LEU:HD23	46:SA:189:MET:HB2	1.90	0.52
60:SO:124:SER:HB3	60:SO:132:LYS:HG2	1.90	0.52
60:SO:206:PRO:HG2	60:SO:247:PRO:HA	1.92	0.52
67:SV:81:VAL:HG13	67:SV:94:ASN:HA	1.90	0.52
76:Se:51:ARG:O	76:Se:55:GLU:HG2	2.09	0.52
1:LA:160:G:N2	1:LA:261:U:O2	2.33	0.52
1:LA:380:U:H2'	1:LA:381:U:C6	2.45	0.52
1:LA:654:C:H2'	1:LA:655:A:C8	2.45	0.52
1:LA:3378:C:H4'	5:LE:315:GLY:HA2	1.91	0.52
2:LB:90:U:H2'	2:LB:91:G:O4'	2.09	0.52
14:LN:90:ALA:HB1	14:LN:95:ILE:HB	1.92	0.52
22:LV:119:ALA:O	22:LV:123:GLY:N	2.29	0.52
45:S2:68:A:N7	65:ST:132:ARG:NH1	2.57	0.52
45:S2:615:A:O2'	45:S2:621:A:N1	2.41	0.52
45:S2:811:A:N6	66:SU:113:PRO:HD3	2.24	0.52
45:S2:1598:U:OP2	45:S2:1599:C:N4	2.43	0.52
60:SO:79:TYR:HB3	60:SO:91:LEU:HD23	1.92	0.52
1:LA:207:U:H2'	1:LA:208:C:C6	2.44	0.52
1:LA:735:A:O2'	1:LA:1093:U:OP2	2.26	0.52
1:LA:1737:C:H42	35:Li:52:GLN:HG3	1.74	0.52
5:LE:372:THR:HG22	5:LE:374:ALA:H	1.75	0.52
45:S2:1389:C:N4	45:S2:1391:A:O4'	2.42	0.52
45:S2:1429:G:H2'	45:S2:1430:U:C6	2.45	0.52
45:S2:1731:A:N7	45:S2:1732:A:N6	2.57	0.52
53:SH:38:VAL:HG23	53:SH:42:TYR:HB3	1.92	0.52
62:SQ:36:SER:HB3	62:SQ:41:ARG:NH2	2.24	0.52
64:SS:139:VAL:HG11	64:SS:154:ILE:HD11	1.92	0.52
67:SV:138:ASN:O	67:SV:142:LYS:HG3	2.09	0.52
70:SY:106:ARG:HH11	70:SY:106:ARG:HG3	1.74	0.52
1:LA:1717:G:H2'	1:LA:1718:G:H8	1.75	0.52
1:LA:2960:G:H2'	1:LA:2961:U:C6	2.45	0.52
2:LB:112:G:H2'	2:LB:113:C:C6	2.45	0.52
5:LE:358:TRP:HZ2	5:LE:371:GLN:NE2	2.06	0.52
13:LM:9:MET:HE2	13:LM:9:MET:O	2.10	0.52
28:Lb:33:SER:H	28:Lb:37:PRO:HA	1.75	0.52
31:Le:25:LEU:HD21	31:Le:81:VAL:HG21	1.92	0.52
33:Lg:32:TRP:CZ2	33:Lg:53:PRO:HD2	2.44	0.52
38:Ll:25:ARG:NH1	40:Ln:50:ASN:HB3	2.25	0.52
45:S2:1691:A:H61	45:S2:1708:U:H5"	1.73	0.52
61:SP:82:GLY:O	61:SP:86:VAL:HG22	2.09	0.52
64:SS:181:VAL:HG12	64:SS:227:VAL:HA	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:SV:77:ARG:HG2	67:SV:105:ASP:OD2	2.10	0.52
68:SW:148:VAL:HG13	68:SW:152:SER:HB2	1.92	0.52
82:pp:4377:TYR:N	82:pp:4377:TYR:CD1	2.78	0.52
1:LA:253:A:O2'	1:LA:254:A:H8	1.92	0.52
1:LA:626:U:H2'	1:LA:627:A:C8	2.45	0.52
1:LA:1555:C:H2'	1:LA:2168:G:H22	1.73	0.52
1:LA:1914:A:H2'	1:LA:1915:U:C6	2.44	0.52
1:LA:2215:G:N2	1:LA:2227:A:N1	2.47	0.52
1:LA:3090:A:N3	1:LA:3092:C:O2'	2.38	0.52
1:LA:3226:A:O3'	15:LO:133:LYS:NZ	2.40	0.52
2:LB:121:U:OP2	7:LG:265:TYR:OH	2.16	0.52
4:LD:66:PRO:HG2	4:LD:67:TYR:CE2	2.44	0.52
21:LU:10:ILE:HG12	21:LU:26:ARG:HB2	1.92	0.52
22:LV:84:TYR:CD1	30:Ld:23:LYS:HD3	2.45	0.52
22:LV:157:GLU:CD	22:LV:159:PHE:HD1	2.17	0.52
45:S2:803:A:C8	66:SU:104:ARG:HG3	2.44	0.52
45:S2:1331:A:H61	46:SA:161:GLY:HA3	1.75	0.52
45:S2:1673:G:H1	45:S2:1728:A:H2	0.77	0.52
68:SW:86:LEU:HB3	68:SW:99:LEU:HD21	1.91	0.52
1:LA:124:U:H2'	1:LA:125:C:C6	2.44	0.52
1:LA:747:U:H2'	1:LA:748:C:C6	2.45	0.52
1:LA:2710:C:O2'	1:LA:2743:U:OP1	2.24	0.52
19:LS:111:ARG:O	19:LS:115:VAL:HG22	2.10	0.52
42:Lp:12:ARG:NH1	45:S2:1779:U:O4	2.38	0.52
45:S2:147:A:H2'	45:S2:148:A:O4'	2.10	0.52
45:S2:497:G:H2'	45:S2:498:G:C8	2.44	0.52
45:S2:1592:A:H2'	45:S2:1593:A:C8	2.45	0.52
46:SA:157:LEU:HD13	46:SA:187:LYS:HD3	1.90	0.52
55:SJ:81:THR:O	55:SJ:81:THR:OG1	2.27	0.52
60:SO:109:ASP:OD1	60:SO:110:VAL:N	2.43	0.52
1:LA:2366:A:H2'	1:LA:2367:A:C8	2.45	0.52
1:LA:2428:G:H2'	1:LA:2429:A:C8	2.45	0.52
1:LA:2695:A:H2'	1:LA:2696:A:C8	2.45	0.52
1:LA:2715:U:C2'	1:LA:2716:U:H5"	2.36	0.52
1:LA:2744:G:N2	1:LA:2747:A:OP2	2.31	0.52
1:LA:3118:U:H4'	41:Lo:104:PRO:HG2	1.91	0.52
5:LE:44:THR:HG21	5:LE:184:ASN:HD22	1.75	0.52
6:LF:317:PRO:C	6:LF:319:LYS:H	2.17	0.52
20:LT:105:LEU:HD22	20:LT:135:LYS:HG3	1.92	0.52
23:LW:33:TYR:CE1	23:LW:80:THR:HG23	2.45	0.52
28:Lb:101:PHE:O	28:Lb:102:GLU:HG2	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:497:G:H2'	45:S2:498:G:H8	1.75	0.52
45:S2:547:U:O2'	45:S2:596:C:O2	2.28	0.52
52:SG:118:PRO:HD2	61:SP:15:GLN:NE2	2.25	0.52
61:SP:76:ILE:HD13	61:SP:132:ALA:HB1	1.92	0.52
63:SR:222:TYR:OH	72:Sa:11:LEU:O	2.26	0.52
1:LA:374:A:N3	1:LA:376:G:H5"	2.24	0.51
1:LA:430:U:H2'	1:LA:431:U:C6	2.45	0.51
1:LA:596:G:H5'	9:LI:41:ARG:HD2	1.92	0.51
1:LA:1389:A:N6	1:LA:1417:A:O2'	2.42	0.51
2:LB:95:A:N3	21:LU:119:ARG:HD3	2.24	0.51
5:LE:343:TYR:CE2	5:LE:345:ASN:HB2	2.45	0.51
6:LF:113:VAL:HB	6:LF:118:LYS:HE3	1.92	0.51
45:S2:56:U:H5"	45:S2:403:G:H22	1.76	0.51
45:S2:418:G:H1'	65:ST:59:GLN:NE2	2.25	0.51
45:S2:1241:G:H21	50:SE:52:LYS:HD3	1.75	0.51
45:S2:1497:U:H4'	54:SI:75:LYS:HZ2	1.75	0.51
45:S2:1767:G:OP2	45:S2:1770:U:O2'	2.25	0.51
1:LA:212:G:N3	6:LF:221:ASN:ND2	2.58	0.51
1:LA:509:G:H1	1:LA:580:U:H3	1.58	0.51
1:LA:1181:A:N1	1:LA:1323:U:H5	2.07	0.51
1:LA:1385:A:H5"	6:LF:141:ARG:NH2	2.22	0.51
1:LA:2800:A:O2'	1:LA:2801:A:H3'	2.11	0.51
19:LS:151:ARG:O	19:LS:162:ALA:HB3	2.11	0.51
27:La:77:LYS:HE3	40:Ln:31:THR:HG21	1.92	0.51
51:SF:10:PHE:HE2	51:SF:12:LYS:HB2	1.76	0.51
52:SG:22:PRO:HG2	52:SG:23:LYS:NZ	2.25	0.51
56:SK:54:VAL:HB	56:SK:89:ILE:HD11	1.93	0.51
60:SO:65:SER:OG	60:SO:86:ASP:OD1	2.28	0.51
1:LA:1592:A:H2'	1:LA:1593:A:C8	2.44	0.51
1:LA:2291:U:O2'	45:S2:1656:U:O2'	2.24	0.51
3:LC:121:U:O4	3:LC:132:G:O6	2.28	0.51
3:LC:141:C:OP1	16:LP:109:ARG:NH2	2.36	0.51
8:LH:20:LYS:HD2	8:LH:20:LYS:N	2.25	0.51
13:LM:15:GLU:HB2	13:LM:132:ASN:CG	2.35	0.51
30:Ld:54:LEU:O	30:Ld:58:LYS:HG2	2.11	0.51
34:Lh:67:MET:HE1	34:Lh:90:PRO:HD3	1.92	0.51
46:SA:42:THR:HB	46:SA:45:LYS:HB3	1.90	0.51
1:LA:944:C:H2'	1:LA:945:U:C6	2.46	0.51
1:LA:1601:A:C4	1:LA:1602:A:C8	2.98	0.51
1:LA:1802:C:H2'	1:LA:1803:A:H8	1.74	0.51
1:LA:2155:C:P	4:LD:241:ARG:HH22	2.32	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:2391:C:O2'	5:LE:266:ARG:NH2	2.31	0.51
1:LA:2682:U:H2'	1:LA:2683:C:C6	2.46	0.51
1:LA:2682:U:H2'	1:LA:2683:C:H6	1.76	0.51
1:LA:2761:A:H2'	1:LA:2762:U:H6	1.74	0.51
4:LD:190:ARG:HG3	4:LD:191:LEU:HD22	1.92	0.51
4:LD:201:GLY:HA2	4:LD:204:MET:HG3	1.92	0.51
16:LP:16:SER:OG	37:Lk:48:ALA:O	2.19	0.51
45:S2:210:A:H5"	69:SX:20:PHE:HB2	1.92	0.51
45:S2:395:U:H2'	45:S2:396:G:O4'	2.10	0.51
45:S2:894:U:O2'	45:S2:895:G:O4'	2.20	0.51
46:SA:77:PHE:HE2	46:SA:79:TYR:CD1	2.29	0.51
47:SB:33:VAL:HG23	51:SF:53:LEU:HD21	1.92	0.51
47:SB:183:ALA:HB2	47:SB:193:THR:HG21	1.92	0.51
62:SQ:100:PHE:HD2	62:SQ:181:LEU:HD11	1.74	0.51
68:SW:44:ARG:O	68:SW:48:GLN:HG3	2.11	0.51
74:Sc:32:ARG:HG2	74:Sc:33:LEU:HD12	1.93	0.51
76:Se:30:ILE:HD11	76:Se:34:LYS:HD3	1.92	0.51
80:eR:40:PRO:HD3	80:eR:123:SER:HB2	1.91	0.51
80:eR:254:VAL:HG12	80:eR:256:ILE:HG23	1.92	0.51
1:LA:1245:G:OP1	1:LA:1250:A:N6	2.44	0.51
1:LA:1797:A:H2'	1:LA:1798:A:C8	2.46	0.51
1:LA:3270:G:C5	8:LH:108:LYS:HE3	2.46	0.51
27:La:102:SER:OG	27:La:103:LYS:NZ	2.43	0.51
38:Ll:20:ASN:HA	40:Ln:8:ARG:HH22	1.74	0.51
45:S2:34:G:H2'	45:S2:35:U:H5"	1.91	0.51
45:S2:555:A:H8	45:S2:590:C:HO2'	1.59	0.51
45:S2:1281:G:H5'	55:SJ:78:THR:HG21	1.93	0.51
45:S2:1534:G:H5"	56:SK:73:GLY:N	2.25	0.51
1:LA:985:U:OP1	9:LI:98:LYS:NZ	2.40	0.51
4:LD:206:PRO:HD3	4:LD:213:GLY:CA	2.40	0.51
13:LM:22:SER:O	13:LM:22:SER:OG	2.28	0.51
25:LY:27:LYS:HD3	25:LY:29:PHE:CE1	2.45	0.51
50:SE:126:VAL:HB	50:SE:128:HIS:CE1	2.45	0.51
61:SP:56:LYS:NZ	61:SP:159:ALA:O	2.42	0.51
64:SS:15:PRO:HG2	64:SS:18:TRP:CE2	2.45	0.51
74:Sc:57:LEU:HB3	74:Sc:59:ILE:HD13	1.91	0.51
79:Ta:22:A:H61	79:Ta:47:G:H2'	1.76	0.51
1:LA:1061:A:O2'	22:LV:108:ARG:NH2	2.41	0.51
1:LA:2179:G:H2'	1:LA:2180:C:C6	2.46	0.51
1:LA:2418:A:H2'	1:LA:2419:C:C6	2.46	0.51
1:LA:2959:C:H2'	1:LA:2960:G:H8	1.74	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:LB:4:U:H2'	2:LB:5:G:C8	2.46	0.51
5:LE:27:ALA:HB1	5:LE:218:ILE:HG22	1.92	0.51
5:LE:58:ARG:HA	5:LE:357:LYS:HG3	1.93	0.51
6:LF:280:ILE:HD11	19:LS:105:ARG:NE	2.26	0.51
10:LJ:90:THR:HG22	10:LJ:214:LEU:HD11	1.93	0.51
29:Lc:38:GLN:O	29:Lc:42:ARG:NH1	2.43	0.51
30:Ld:16:ALA:O	30:Ld:20:GLY:HA3	2.10	0.51
59:SN:123:ASN:OD1	59:SN:125:THR:OG1	2.25	0.51
60:SO:307:ASP:OD1	60:SO:309:VAL:HG12	2.11	0.51
69:SX:80:MET:HE3	69:SX:83:THR:HB	1.93	0.51
69:SX:109:VAL:HG12	69:SX:137:PHE:HB2	1.93	0.51
1:LA:171:G:O6	1:LA:245:U:N3	2.44	0.51
1:LA:628:U:H2'	1:LA:629:A:C8	2.46	0.51
1:LA:1533:A:H2'	1:LA:1534:A:C8	2.46	0.51
1:LA:1589:G:H5"	35:Li:16:ARG:NH2	2.26	0.51
1:LA:2231:A:N3	1:LA:2427:U:O2'	2.39	0.51
1:LA:3203:C:H2'	1:LA:3204:G:C8	2.46	0.51
2:LB:4:U:H2'	2:LB:5:G:H8	1.75	0.51
6:LF:23:PRO:HD2	6:LF:26:PHE:CD2	2.46	0.51
7:LG:254:LYS:HD3	7:LG:255:PRO:HD2	1.91	0.51
23:LW:54:VAL:HG13	23:LW:67:SER:HB2	1.93	0.51
27:La:47:ALA:HB3	27:La:122:LYS:NZ	2.25	0.51
45:S2:1753:A:H2'	45:S2:1754:A:C8	2.46	0.51
56:SK:80:LEU:O	56:SK:84:GLU:HG2	2.10	0.51
68:SW:126:ARG:HG2	78:Sg:33:ARG:HE	1.75	0.51
73:Sb:26:LEU:HD11	73:Sb:60:LYS:HD3	1.93	0.51
1:LA:417:A:H2'	1:LA:418:A:C8	2.46	0.51
1:LA:2205:G:O2'	1:LA:2207:A:N6	2.42	0.51
1:LA:3032:A:H2'	1:LA:3033:C:H6	1.76	0.51
45:S2:211:U:H3	45:S2:253:A:N6	2.09	0.51
45:S2:212:U:H3'	45:S2:213:A:C5'	2.39	0.51
45:S2:984:G:C6	45:S2:985:G:N1	2.79	0.51
45:S2:1317:C:H2'	45:S2:1318:G:O4'	2.11	0.51
45:S2:1400:A:H5"	52:SG:60:ARG:NH1	2.26	0.51
45:S2:1481:C:H5'	54:SI:68:ARG:HH12	1.75	0.51
45:S2:1663:G:N2	45:S2:1738:U:O2	2.44	0.51
60:SO:33:LEU:HB3	60:SO:45:TRP:HB2	1.92	0.51
1:LA:103:G:OP1	14:LN:70:ARG:NE	2.44	0.51
1:LA:1666:A:H2'	1:LA:1667:G:H8	1.76	0.51
6:LF:166:VAL:HG12	6:LF:170:LYS:HE3	1.93	0.51
7:LG:146:LEU:HD13	7:LG:163:LEU:HD23	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:LG:154:THR:HG22	7:LG:157:ALA:HB2	1.92	0.51
21:LU:138:GLN:OE1	21:LU:141:LYS:HB2	2.11	0.51
27:La:99:LEU:HD21	27:La:104:LEU:HD11	1.93	0.51
45:S2:103:A:H4'	45:S2:105:A:C8	2.46	0.51
45:S2:592:A:O2'	45:S2:596:C:OP1	2.29	0.51
45:S2:1787:C:H2'	45:S2:1788:G:C8	2.46	0.51
47:SB:117:THR:HG21	47:SB:194:LEU:CD1	2.41	0.51
64:SS:56:LEU:HD21	75:Sd:22:GLN:HE22	1.76	0.51
71:SZ:122:PRO:HG2	71:SZ:125:SER:HB3	1.92	0.51
80:eR:146:PHE:HE2	80:eR:278:VAL:HG21	1.75	0.51
1:LA:130:A:H2'	1:LA:131:C:H6	1.75	0.50
1:LA:1596:C:H2'	1:LA:1597:G:C8	2.46	0.50
1:LA:3258:U:H5"	1:LA:3260:C:H5	1.75	0.50
1:LA:3380:U:H4'	1:LA:3381:U:C5	2.46	0.50
4:LD:149:ARG:HH21	4:LD:155:LYS:HG3	1.76	0.50
6:LF:358:THR:HG21	22:LV:148:PRO:HG2	1.93	0.50
20:LT:11:ALA:O	20:LT:15:VAL:HG12	2.10	0.50
27:La:35:LEU:HD22	27:La:106:ILE:HD12	1.92	0.50
45:S2:256:A:O2'	67:SV:72:ILE:HA	2.11	0.50
45:S2:473:A:C6	45:S2:474:A:H1'	2.46	0.50
45:S2:899:G:O5'	71:SZ:46:MET:HB3	2.11	0.50
45:S2:939:A:H2'	45:S2:940:A:C8	2.46	0.50
45:S2:1418:G:H2'	45:S2:1419:G:H8	1.76	0.50
48:SC:27:PHE:HD1	48:SC:28:ASN:HD22	1.58	0.50
54:SI:89:ARG:HH22	54:SI:92:LYS:HB2	1.76	0.50
71:SZ:84:ARG:HG3	71:SZ:119:THR:HA	1.93	0.50
3:LC:140:G:H2'	3:LC:141:C:O4'	2.12	0.50
5:LE:33:PRO:O	5:LE:184:ASN:ND2	2.43	0.50
7:LG:182:GLY:HA2	7:LG:194:LEU:HD23	1.93	0.50
7:LG:200:PHE:CD2	7:LG:240:TYR:HE1	2.29	0.50
8:LH:76:LEU:HD11	8:LH:141:VAL:HG21	1.93	0.50
21:LU:143:PHE:HA	21:LU:148:LEU:HD22	1.92	0.50
37:Lk:29:LYS:HG3	37:Lk:29:LYS:O	2.10	0.50
45:S2:15:U:H5	63:SR:203:LYS:NZ	2.09	0.50
45:S2:612:U:OP2	74:Sc:5:LYS:NZ	2.44	0.50
45:S2:752:A:H3'	45:S2:752:A:N3	2.26	0.50
45:S2:1595:U:OP1	58:SM:32:ARG:HB2	2.11	0.50
47:SB:162:VAL:HG13	47:SB:166:ARG:HG2	1.92	0.50
51:SF:14:LYS:HD2	51:SF:124:PRO:HG3	1.92	0.50
67:SV:106:ALA:HB2	67:SV:165:LEU:HG	1.92	0.50
74:Sc:42:PRO:HG2	74:Sc:122:PHE:HZ	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:Sd:7:ILE:HD12	75:Sd:43:LYS:HD3	1.93	0.50
79:Ta:76:C:OP2	80:eR:182:ARG:NH2	2.45	0.50
1:LA:377:A:H1'	1:LA:392:G:N2	2.26	0.50
1:LA:1248:G:O2'	1:LA:1249:G:O5'	2.29	0.50
1:LA:3191:U:H2'	1:LA:3192:C:H6	1.76	0.50
5:LE:256:HIS:HA	5:LE:257:PRO:C	2.36	0.50
7:LG:122:VAL:HB	7:LG:168:ASP:HB3	1.93	0.50
13:LM:20:ASN:HD22	13:LM:20:ASN:C	2.19	0.50
43:Lq:78:LYS:O	43:Lq:80:ARG:NH1	2.44	0.50
61:SP:98:ILE:HD13	61:SP:102:PHE:HD1	1.75	0.50
67:SV:105:ASP:HB3	67:SV:107:THR:HG22	1.94	0.50
73:Sb:29:PRO:HB2	73:Sb:58:SER:OG	2.12	0.50
1:LA:80:G:H2'	1:LA:81:C:H6	1.75	0.50
1:LA:110:G:OP2	14:LN:73:ARG:NH2	2.43	0.50
1:LA:791:G:H2'	1:LA:792:C:C6	2.47	0.50
1:LA:1127:U:H2'	1:LA:1128:A:O4'	2.12	0.50
1:LA:1388:G:N2	1:LA:1389:A:N1	2.59	0.50
1:LA:1437:U:H2'	1:LA:1438:U:C6	2.45	0.50
1:LA:2325:A:H2'	1:LA:2326:U:O4'	2.12	0.50
9:LI:214:TRP:CE2	9:LI:219:LYS:HD3	2.47	0.50
14:LN:23:LYS:HE2	14:LN:25:HIS:ND1	2.26	0.50
18:LR:128:ARG:NH2	18:LR:130:TYR:OH	2.44	0.50
45:S2:1067:C:H5"	62:SQ:150:VAL:HG23	1.92	0.50
45:S2:1192:C:O2'	51:SF:140:LYS:NZ	2.37	0.50
51:SF:14:LYS:O	51:SF:123:ARG:NH1	2.44	0.50
60:SO:265:LEU:O	60:SO:268:GLN:NE2	2.43	0.50
1:LA:597:A:H2'	1:LA:598:C:C6	2.46	0.50
1:LA:1802:C:H2'	1:LA:1803:A:C8	2.47	0.50
1:LA:1844:G:H5"	1:LA:1845:C:H5'	1.93	0.50
1:LA:2425:U:H2'	1:LA:2426:U:C6	2.45	0.50
1:LA:3120:U:H1'	1:LA:3121:A:H5"	1.94	0.50
1:LA:3173:A:N3	1:LA:3278:A:N6	2.60	0.50
7:LG:93:THR:HG22	7:LG:158:ARG:HH21	1.77	0.50
9:LI:180:SER:H	9:LI:183:ASP:HB2	1.76	0.50
10:LJ:83:ASP:OD1	10:LJ:86:THR:OG1	2.24	0.50
14:LN:10:LEU:HD23	19:LS:166:LEU:HD11	1.92	0.50
31:Le:9:SER:HB3	31:Le:12:GLN:HG3	1.93	0.50
44:Lr:38:ASP:HB2	44:Lr:45:LYS:HZ2	1.77	0.50
45:S2:656:G:C8	45:S2:679:U:H1'	2.47	0.50
45:S2:1590:G:H2'	45:S2:1591:C:H6	1.77	0.50
61:SP:79:ARG:NH2	61:SP:164:ASN:HB3	2.26	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:SW:118:LEU:HD23	68:SW:118:LEU:H	1.74	0.50
1:LA:209:A:H61	6:LF:166:VAL:HG21	1.76	0.50
1:LA:709:A:H2'	1:LA:710:A:C8	2.47	0.50
1:LA:914:A:H8	1:LA:2135:C:O2'	1.95	0.50
1:LA:2584:G:N3	1:LA:2584:G:H2'	2.26	0.50
9:LI:150:LYS:NZ	9:LI:244:ASN:O	2.44	0.50
17:LQ:61[A]:ALA:HA	17:LQ:70[A]:PRO:HD2	1.94	0.50
17:LQ:168[A]:TYR:CZ	17:LQ:172[A]:ARG:HD3	2.47	0.50
38:Ll:39:TYR:CD1	38:Ll:40:PRO:HA	2.47	0.50
45:S2:86:A:N3	45:S2:147:A:H2	2.10	0.50
45:S2:333:A:N6	67:SV:27:PHE:HB2	2.27	0.50
45:S2:361:C:N4	45:S2:379:U:OP1	2.42	0.50
45:S2:445:A:H1'	45:S2:524:U:H5'	1.92	0.50
45:S2:1546:G:N1	45:S2:1566:U:O4	2.45	0.50
66:SU:62:VAL:HG23	66:SU:64:VAL:H	1.77	0.50
67:SV:25:ARG:HB2	67:SV:28:GLU:HG2	1.93	0.50
70:SY:20:ARG:HH11	70:SY:20:ARG:HG3	1.76	0.50
82:pp:4379:ALA:C	82:pp:4381:MET:H	2.20	0.50
1:LA:1119:A:N6	1:LA:1137:U:H3	2.07	0.50
1:LA:2285:U:H5'	80:eR:230:ALA:HB1	1.94	0.50
1:LA:2412:A:H2'	1:LA:2413:G:C8	2.47	0.50
3:LC:40:A:H2'	3:LC:41:A:C8	2.46	0.50
6:LF:126:ILE:O	6:LF:129:THR:HB	2.12	0.50
7:LG:6:ASP:OD1	7:LG:6:ASP:N	2.43	0.50
8:LH:92:SER:HB3	8:LH:148:GLU:OE2	2.11	0.50
12:LL:38:LYS:HE3	12:LL:83:ASP:HB3	1.94	0.50
20:LT:15:VAL:HG21	20:LT:52:LYS:HG3	1.92	0.50
22:LV:103:GLN:O	22:LV:107:GLU:HG2	2.11	0.50
27:La:51:ARG:HG2	27:La:52:ARG:H	1.75	0.50
35:Li:86:LYS:O	35:Li:90:ILE:HG12	2.12	0.50
35:Li:91:ARG:O	35:Li:95:ILE:HD13	2.11	0.50
45:S2:1:U:O4	68:SW:54:ARG:NH1	2.41	0.50
45:S2:374:U:O2'	45:S2:603:U:OP1	2.25	0.50
45:S2:963:A:H1'	45:S2:965:U:O4	2.12	0.50
46:SA:11:LEU:HD12	55:SJ:86:ILE:HG12	1.92	0.50
47:SB:117:THR:HG21	47:SB:194:LEU:HD12	1.92	0.50
60:SO:130:THR:HA	60:SO:144:LEU:O	2.11	0.50
65:ST:64:LYS:NZ	65:ST:82:SER:OG	2.41	0.50
80:eR:321:ILE:HG23	80:eR:392:VAL:HG11	1.94	0.50
1:LA:516:G:OP1	9:LI:67:ARG:NH2	2.45	0.50
1:LA:1045:A:H2'	1:LA:1048:C:C5	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:1592:A:OP1	35:Li:60:ARG:NH1	2.44	0.50
1:LA:1836:U:H2'	1:LA:1837:G:O4'	2.11	0.50
1:LA:3089:U:OP1	5:LE:270:ARG:NH2	2.40	0.50
1:LA:3266:A:H4'	18:LR:181:ARG:HH22	1.77	0.50
4:LD:48:ILE:HD11	4:LD:82:VAL:HG12	1.94	0.50
14:LN:124:ILE:HG23	36:Lj:119:LYS:HD3	1.94	0.50
15:LO:55:ARG:HG2	21:LU:70:THR:HB	1.93	0.50
17:LQ:84[A]:LEU:HD22	17:LQ:102[A]:LEU:HD22	1.93	0.50
17:LQ:92[A]:THR:O	17:LQ:96[A]:LYS:HG2	2.11	0.50
19:LS:120:GLU:OE1	19:LS:130:ARG:NH2	2.40	0.50
27:La:47:ALA:HB3	27:La:122:LYS:HZ3	1.77	0.50
27:La:53:ASP:HA	27:La:69:LYS:HD2	1.93	0.50
28:Lb:32:GLY:HA2	28:Lb:38:PHE:N	2.27	0.50
29:Lc:75:LEU:HD11	29:Lc:134:ALA:HA	1.93	0.50
45:S2:797:G:H8	45:S2:797:G:OP2	1.95	0.50
45:S2:867:G:OP1	70:SY:3:ARG:HA	2.11	0.50
45:S2:903:U:O2'	45:S2:905:A:N7	2.33	0.50
1:LA:1634:G:N2	1:LA:1637:A:OP2	2.33	0.50
1:LA:1686:U:H5	23:LW:42:LYS:HG3	1.76	0.50
1:LA:1718:G:N7	20:LT:121:HIS:HE1	2.09	0.50
1:LA:2969:C:H5"	79:Ta:76:C:OP1	2.11	0.50
1:LA:2994:A:HO2'	3:LC:1:A:H62	1.55	0.50
4:LD:77:ILE:HG21	4:LD:169:ILE:HD12	1.94	0.50
8:LH:54:TYR:HA	8:LH:65:VAL:HG12	1.93	0.50
9:LI:120:THR:HB	22:LV:132:PRO:HB2	1.94	0.50
10:LJ:98:ARG:NH2	10:LJ:101:THR:HG22	2.27	0.50
15:LO:47:ASP:OD2	15:LO:55:ARG:HD3	2.12	0.50
24:LX:86:ARG:HG3	24:LX:92:PHE:CE1	2.47	0.50
45:S2:85:A:O2'	45:S2:86:A:OP1	2.28	0.50
45:S2:329:G:H2'	45:S2:330:G:H8	1.77	0.50
45:S2:648:G:N1	45:S2:687:G:O6	2.45	0.50
45:S2:1026:A:N7	45:S2:1772:C:O2'	2.42	0.50
51:SF:37:THR:O	51:SF:45:ARG:NH2	2.38	0.50
60:SO:14:GLU:HG2	60:SO:309:VAL:HG23	1.94	0.50
63:SR:140:ARG:H	63:SR:221:THR:HG21	1.77	0.50
71:SZ:48:VAL:HG21	71:SZ:54:GLU:HA	1.94	0.50
72:Sa:14:PRO:HG2	72:Sa:23:ILE:HD12	1.93	0.50
1:LA:2272:G:N2	1:LA:2310:G:H2'	2.27	0.49
1:LA:2720:A:N1	1:LA:2734:U:H5	2.09	0.49
3:LC:123:G:H2'	3:LC:124:G:C8	2.47	0.49
6:LF:54:GLU:OE2	6:LF:54:GLU:N	2.43	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:LG:119:TYR:OH	7:LG:139:PRO:O	2.25	0.49
21:LU:91:TYR:CE2	21:LU:136:LYS:HD2	2.46	0.49
24:LX:104:ASN:ND2	24:LX:108:GLU:OE1	2.29	0.49
27:La:36:SER:OG	27:La:106:ILE:O	2.30	0.49
38:Ll:45:ARG:CZ	38:Ll:47:TYR:HE2	2.25	0.49
38:Ll:63:ARG:CZ	38:Ll:65:ARG:HD3	2.41	0.49
45:S2:926:A:H1'	45:S2:988:A:C2	2.47	0.49
63:SR:174:ARG:HB2	68:SW:97:LEU:HB3	1.94	0.49
75:Sd:60:PHE:HD1	75:Sd:71:GLY:HA3	1.77	0.49
1:LA:2952:U:H4'	80:eR:182:ARG:HA	1.95	0.49
1:LA:3368:G:OP2	25:LY:61:LYS:NZ	2.37	0.49
14:LN:85:LEU:HD21	14:LN:120:GLN:NE2	2.26	0.49
16:LP:8:GLU:HG3	16:LP:50:ARG:NH2	2.27	0.49
17:LQ:172[A]:ARG:HB3	17:LQ:172[A]:ARG:HH11	1.76	0.49
45:S2:512:A:H2'	45:S2:513:U:C6	2.47	0.49
45:S2:1236:A:H2'	45:S2:1237:G:C8	2.48	0.49
45:S2:1421:A:O2'	46:SA:160:SER:OG	2.22	0.49
62:SQ:70:LEU:HG	62:SQ:84:ILE:CD1	2.42	0.49
64:SS:36:HIS:CG	64:SS:85:GLY:HA3	2.46	0.49
64:SS:97:GLU:OE2	64:SS:113:ARG:NH1	2.44	0.49
71:SZ:54:GLU:O	71:SZ:56:SER:N	2.45	0.49
1:LA:1603:G:H4'	1:LA:1834:A:H4'	1.94	0.49
5:LE:54:THR:OG1	5:LE:55:THR:N	2.42	0.49
6:LF:53:SER:HB2	6:LF:56:ALA:HB2	1.94	0.49
9:LI:131:GLU:HG3	9:LI:230:GLY:HA2	1.93	0.49
12:LL:201:SER:O	12:LL:209:ASN:ND2	2.45	0.49
17:LQ:173[A]:ALA:HA	17:LQ:176[A]:LYS:HE2	1.95	0.49
23:LW:18:ASP:HB3	23:LW:104:ARG:HB2	1.94	0.49
31:Le:14:LEU:HD21	31:Le:81:VAL:HG23	1.93	0.49
31:Le:66:LYS:HE2	31:Le:104:LEU:HA	1.95	0.49
47:SB:194:LEU:O	47:SB:198:LEU:HD12	2.12	0.49
48:SC:82:LEU:HD13	48:SC:83:PRO:HD2	1.93	0.49
49:SD:58:LEU:HD12	49:SD:59:LEU:HG	1.94	0.49
55:SJ:36:ASN:O	55:SJ:40:ASN:ND2	2.45	0.49
68:SW:52:ILE:HD13	68:SW:80:LEU:HD21	1.94	0.49
1:LA:759:G:H1'	1:LA:769:G:N2	2.27	0.49
1:LA:1830:U:H2'	1:LA:1831:C:C6	2.47	0.49
1:LA:2732:A:N6	1:LA:2733:A:C6	2.81	0.49
1:LA:3052:G:H2'	1:LA:3053:U:H6	1.78	0.49
2:LB:113:C:H2'	2:LB:114:U:O4'	2.12	0.49
5:LE:47:LEU:HD23	5:LE:335:ILE:HD11	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:LG:83:LEU:N	7:LG:84:PRO:HD3	2.27	0.49
9:LI:84:VAL:HG23	9:LI:117:VAL:HB	1.95	0.49
45:S2:346:G:H5'	69:SX:79:LYS:HB3	1.94	0.49
45:S2:872:G:H2'	45:S2:873:U:O4'	2.13	0.49
45:S2:959:U:OP1	77:Sf:30:SER:OG	2.24	0.49
46:SA:51:ARG:NH1	46:SA:89:GLU:OE1	2.44	0.49
60:SO:249:ARG:HB3	60:SO:251:TRP:CD1	2.47	0.49
64:SS:89:VAL:HG22	64:SS:100:ARG:HG3	1.95	0.49
1:LA:49:A:N7	16:LP:187:ARG:HD2	2.27	0.49
1:LA:1083:A:H2'	1:LA:1084:A:C8	2.47	0.49
1:LA:2564:U:H2'	1:LA:2565:C:C6	2.48	0.49
2:LB:71:G:H2'	2:LB:72:A:C8	2.48	0.49
3:LC:22:U:OP1	27:La:12:ARG:NH2	2.33	0.49
39:Lm:7:ASP:OD2	39:Lm:9:LYS:HG2	2.13	0.49
39:Lm:46:ARG:NH2	39:Lm:51:LEU:HB2	2.27	0.49
45:S2:36:C:H41	45:S2:474:A:H62	1.61	0.49
47:SB:63:GLN:HB3	47:SB:89:ILE:H	1.78	0.49
1:LA:2265:U:H2'	1:LA:2266:C:O2	2.13	0.49
1:LA:2511:C:H2'	1:LA:2512:U:C6	2.48	0.49
13:LM:87:LYS:O	13:LM:88:GLU:HG3	2.13	0.49
24:LX:37:ILE:HD11	24:LX:73:VAL:HG13	1.94	0.49
30:Ld:25:LYS:HD3	30:Ld:27:TYR:CZ	2.48	0.49
35:Li:3:GLN:HE22	35:Li:29:ILE:HB	1.77	0.49
36:Lj:13:SER:OG	36:Lj:15:GLU:OE2	2.24	0.49
51:SF:79:TYR:HA	51:SF:82:ARG:HD3	1.94	0.49
62:SQ:149:GLN:HE21	62:SQ:151:LYS:HB3	1.78	0.49
77:Sf:41:LEU:HG	77:Sf:42:ASN:H	1.77	0.49
1:LA:895:A:H5"	4:LD:183:GLY:HA2	1.93	0.49
1:LA:3004:A:O2'	1:LA:3139:G:N2	2.44	0.49
2:LB:28:C:OP2	2:LB:29:C:H6	1.96	0.49
12:LL:140:THR:OG1	12:LL:141:LYS:N	2.44	0.49
19:LS:83:VAL:O	19:LS:103:ALA:HA	2.12	0.49
22:LV:46:GLY:O	22:LV:49:GLN:NE2	2.46	0.49
37:Lk:70:ARG:HD3	37:Lk:84:LYS:HG2	1.93	0.49
45:S2:269:G:H2'	45:S2:270:C:C6	2.48	0.49
45:S2:366:A:H2'	45:S2:367:A:C8	2.48	0.49
45:S2:1000:C:O3'	45:S2:1001:A:H8	1.95	0.49
51:SF:41:PRO:HG2	51:SF:44:LEU:HD21	1.95	0.49
61:SP:9:LEU:HD21	61:SP:14:ALA:HB2	1.95	0.49
71:SZ:78:ALA:HB2	71:SZ:111:ARG:HB2	1.95	0.49
1:LA:80:G:H2'	1:LA:81:C:C6	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:291:C:H2'	1:LA:292:U:C6	2.47	0.49
1:LA:942:U:H3'	29:Lc:13:GLY:HA2	1.95	0.49
1:LA:1497:A:H2'	1:LA:1498:C:C6	2.48	0.49
1:LA:2147:U:H2'	1:LA:2148:A:C5	2.47	0.49
1:LA:2723:U:H4'	22:LV:54:HIS:CE1	2.47	0.49
20:LT:153:LYS:O	20:LT:157:GLU:HG2	2.13	0.49
47:SB:187:ILE:HG23	56:SK:63:SER:HB2	1.95	0.49
1:LA:1009:G:H5'	12:LL:40:LYS:HE3	1.94	0.49
1:LA:2428:G:H2'	1:LA:2429:A:H8	1.78	0.49
1:LA:2509:U:O2	1:LA:2510:A:N6	2.35	0.49
1:LA:3112:A:O2'	11:LK:66:ALA:O	2.29	0.49
1:LA:3212:A:H62	15:LO:124:ARG:HH22	1.60	0.49
3:LC:72:A:OP1	27:La:52:ARG:HB2	2.13	0.49
4:LD:32:LEU:HG	4:LD:163:ARG:HD3	1.95	0.49
7:LG:60:ILE:H	7:LG:80:SER:HB2	1.77	0.49
10:LJ:195:SER:OG	10:LJ:197:VAL:O	2.27	0.49
12:LL:80:SER:HB2	12:LL:147:VAL:HG11	1.95	0.49
29:Lc:2:PRO:HD2	29:Lc:5:PHE:HD2	1.76	0.49
38:Ll:50:GLY:O	38:Ll:54:LYS:HE3	2.12	0.49
43:Lq:34:SER:OG	43:Lq:35:LEU:O	2.31	0.49
45:S2:34:G:HO2'	45:S2:515:A:HO2'	1.60	0.49
45:S2:329:G:H2'	45:S2:330:G:C8	2.48	0.49
45:S2:332:U:P	67:SV:56:ARG:HH22	2.35	0.49
45:S2:443:C:H5"	75:Sd:105:ARG:HG3	1.94	0.49
45:S2:549:G:O2'	45:S2:556:A:N1	2.41	0.49
45:S2:1393:C:H2'	45:S2:1394:G:H8	1.76	0.49
50:SE:28:MET:N	50:SE:28:MET:HE3	2.27	0.49
51:SF:22:VAL:HG13	51:SF:65:ILE:HG12	1.95	0.49
55:SJ:80:GLU:HB2	58:SM:54:LYS:HD3	1.95	0.49
56:SK:57:TYR:C	56:SK:103:ARG:HE	2.20	0.49
66:SU:47:ARG:HH12	66:SU:175:LYS:HG2	1.76	0.49
67:SV:119:GLN:OE1	67:SV:120:THR:N	2.46	0.49
68:SW:90:LYS:HG2	68:SW:95:TYR:HD2	1.78	0.49
1:LA:206:G:H1	1:LA:223:U:H3	1.61	0.49
1:LA:2670:A:O2'	13:LM:98:ALA:N	2.32	0.49
6:LF:58:HIS:HA	6:LF:90:PHE:HE1	1.77	0.49
12:LL:52:LEU:HB3	12:LL:136:PHE:HB2	1.95	0.49
14:LN:2:ALA:HB3	29:Lc:41:HIS:CE1	2.48	0.49
45:S2:152:U:C4	65:ST:13:GLN:HG3	2.48	0.49
45:S2:592:A:H2'	45:S2:593:U:O4'	2.12	0.49
45:S2:604:A:H2'	45:S2:605:A:O4'	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:984:G:C6	45:S2:985:G:C2	3.00	0.49
45:S2:1244:A:OP2	58:SM:5:ASN:ND2	2.46	0.49
45:S2:1668:G:C6	45:S2:1669:U:C5	3.01	0.49
45:S2:1776:A:H2'	45:S2:1777:G:C8	2.47	0.49
50:SE:97:TYR:HB2	50:SE:102:PHE:CE2	2.48	0.49
1:LA:200:C:H5'	1:LA:221:A:C2	2.47	0.48
1:LA:277:G:H2'	1:LA:278:U:C6	2.48	0.48
1:LA:1306:G:C4	17:LQ:60[A]:LYS:HD3	2.47	0.48
1:LA:1595:C:O2'	1:LA:1695:A:N3	2.46	0.48
1:LA:2507:U:H2'	1:LA:2508:U:C6	2.48	0.48
6:LF:157:GLU:HG2	6:LF:211:GLU:O	2.13	0.48
21:LU:95:ARG:HG3	21:LU:95:ARG:NH1	2.25	0.48
35:Li:29:ILE:HD11	35:Li:31:ARG:NH1	2.28	0.48
45:S2:1756:A:N6	80:eR:128:ASP:OD1	2.46	0.48
63:SR:81:MET:HG2	63:SR:211:LEU:HD11	1.93	0.48
1:LA:514:C:H5"	6:LF:343:LYS:HG2	1.94	0.48
1:LA:1294:G:OP1	21:LU:83:SER:HB2	2.13	0.48
1:LA:1454:U:H1'	32:Lf:26:LYS:HE3	1.94	0.48
1:LA:2281:U:OP1	1:LA:2972:G:O2'	2.24	0.48
5:LE:293:ASN:HB2	5:LE:304:THR:HA	1.95	0.48
7:LG:188:GLU:OE1	7:LG:188:GLU:N	2.46	0.48
24:LX:114:ILE:HB	24:LX:133:SER:HA	1.95	0.48
45:S2:29:U:H2'	45:S2:30:G:C8	2.47	0.48
45:S2:1107:G:O2'	45:S2:1108:G:H5'	2.13	0.48
45:S2:1676:U:OP1	67:SV:44:HIS:ND1	2.35	0.48
45:S2:1770:U:H2'	45:S2:1771:U:C6	2.48	0.48
58:SM:8:PHE:CE1	58:SM:12:ARG:HD2	2.48	0.48
63:SR:111:VAL:HG12	63:SR:139:ILE:HD11	1.95	0.48
68:SW:157:ASP:N	68:SW:157:ASP:OD1	2.43	0.48
75:Sd:7:ILE:HD13	75:Sd:40:LEU:HD23	1.94	0.48
1:LA:144:A:H2'	1:LA:145:G:O4'	2.13	0.48
1:LA:246:U:H5'	1:LA:247:C:C5	2.48	0.48
1:LA:1212:G:H2'	1:LA:1213:U:O2	2.13	0.48
1:LA:2343:U:H2'	1:LA:2344:A:C8	2.48	0.48
1:LA:2745:A:C8	7:LG:153:THR:HG21	2.47	0.48
1:LA:3159:U:O2	1:LA:3289:G:N2	2.31	0.48
1:LA:3333:U:H4'	1:LA:3334:A:H5'	1.95	0.48
1:LA:3394:G:H1'	1:LA:3395:U:H5	1.78	0.48
7:LG:36:LEU:HD13	7:LG:147:ASP:OD1	2.13	0.48
7:LG:156:GLY:HA2	7:LG:181:PRO:HD3	1.95	0.48
11:LK:47:LYS:HA	11:LK:53:ILE:HD13	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:LS:19:PRO:HD3	19:LS:53:PHE:CD1	2.48	0.48
26:LZ:108:LEU:HD23	26:LZ:125:ARG:HD3	1.95	0.48
35:Li:16:ARG:NE	35:Li:16:ARG:N	2.60	0.48
37:Lk:6:GLY:HA3	37:Lk:16:LYS:HE3	1.94	0.48
37:Lk:37:THR:O	37:Lk:41:ARG:HG3	2.13	0.48
45:S2:590:C:OP1	78:Sg:43:ARG:NH1	2.37	0.48
45:S2:1478:G:H1	45:S2:1529:C:N4	2.09	0.48
51:SF:54:LEU:HD12	51:SF:55:VAL:HG13	1.94	0.48
54:SI:45:MET:HE3	54:SI:45:MET:HA	1.95	0.48
61:SP:102:PHE:CZ	61:SP:106:SER:HB2	2.48	0.48
74:Sc:86:PHE:CE2	74:Sc:88:PRO:HA	2.47	0.48
1:LA:54:C:H4'	1:LA:1547:C:H1'	1.96	0.48
1:LA:184:U:H3	1:LA:232:G:H1	1.61	0.48
1:LA:409:A:H3'	1:LA:410:U:H6	1.79	0.48
1:LA:1261:G:H2'	1:LA:1262:A:H3'	1.94	0.48
1:LA:1583:U:H2'	1:LA:1584:C:H6	1.79	0.48
1:LA:1737:C:O2	35:Li:53:GLY:HA2	2.13	0.48
1:LA:2151:A:H2'	1:LA:2152:U:H6	1.77	0.48
1:LA:2212:A:H2'	1:LA:2213:A:N3	2.28	0.48
1:LA:2277:C:H42	1:LA:2304:G:N2	2.10	0.48
1:LA:3039:A:H2'	1:LA:3040:U:H5"	1.95	0.48
1:LA:3173:A:OP1	1:LA:3173:A:H4'	2.12	0.48
1:LA:3296:U:H2'	1:LA:3297:C:H6	1.78	0.48
7:LG:117:GLU:OE1	7:LG:117:GLU:N	2.46	0.48
13:LM:94:ARG:HG2	13:LM:94:ARG:O	2.12	0.48
30:Ld:28:LYS:HG2	30:Ld:29:TYR:CD2	2.48	0.48
32:Lf:31:ARG:HD2	32:Lf:35:GLU:HG2	1.96	0.48
45:S2:183:U:H2'	45:S2:184:C:H6	1.78	0.48
45:S2:211:U:H3	45:S2:253:A:H62	1.62	0.48
45:S2:912:U:O4	62:SQ:12:GLY:N	2.47	0.48
45:S2:1332:C:OP1	52:SG:43:SER:OG	2.22	0.48
45:S2:1386:G:OP1	52:SG:47:ARG:NH2	2.47	0.48
51:SF:51:PRO:HG3	51:SF:85:ILE:HD13	1.94	0.48
56:SK:65:LEU:HB3	56:SK:71:ILE:HD11	1.94	0.48
61:SP:24:LEU:O	61:SP:163:ASN:HB3	2.12	0.48
61:SP:70:PRO:HB2	61:SP:94:GLY:HA3	1.94	0.48
69:SX:43:LYS:HD3	69:SX:44:THR:O	2.13	0.48
70:SY:84:ILE:HD11	70:SY:89:TYR:HA	1.95	0.48
71:SZ:112:ILE:HD13	76:Se:53:LEU:HD13	1.94	0.48
73:Sb:23:ARG:HG3	77:Sf:4:VAL:HG22	1.96	0.48
77:Sf:41:LEU:HD23	77:Sf:41:LEU:H	1.79	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:118:U:H2'	1:LA:119:U:H5'	1.95	0.48
1:LA:848:C:H2'	1:LA:849:U:H6	1.78	0.48
1:LA:1030:C:H2'	1:LA:1031:C:C6	2.48	0.48
1:LA:1565:A:N6	1:LA:1566:U:O2	2.46	0.48
1:LA:1694:U:O2'	1:LA:1748:A:N1	2.38	0.48
9:LI:169:ILE:HD12	9:LI:181:ILE:HD12	1.95	0.48
19:LS:170:ARG:O	19:LS:171:LYS:HG2	2.13	0.48
24:LX:80:ARG:NH1	24:LX:117:PRO:O	2.38	0.48
26:LZ:50:ALA:HB2	36:Lj:77:PRO:HG2	1.94	0.48
45:S2:97:C:H2'	45:S2:98:U:C6	2.49	0.48
52:SG:60:ARG:CZ	52:SG:66:VAL:HG23	2.43	0.48
63:SR:35:TRP:CE2	63:SR:67:GLN:HB2	2.48	0.48
64:SS:67:GLN:HE22	75:Sd:85:PHE:HE1	1.60	0.48
67:SV:72:ILE:HG21	67:SV:112:TRP:CE2	2.49	0.48
79:Ta:63:C:H2'	79:Ta:64:G:C8	2.49	0.48
1:LA:39:A:H5"	29:Lc:35:ALA:HB2	1.95	0.48
1:LA:75:G:H5'	14:LN:58:VAL:HG13	1.96	0.48
1:LA:429:U:H2'	1:LA:430:U:H6	1.76	0.48
1:LA:1210:U:H2'	1:LA:1211:A:C8	2.47	0.48
1:LA:1636:A:H2'	1:LA:1637:A:C8	2.49	0.48
1:LA:2880:C:H2'	1:LA:2881:U:C6	2.48	0.48
7:LG:277:LEU:HD22	7:LG:282:ARG:HG3	1.95	0.48
9:LI:151:ARG:HD2	9:LI:207:LEU:HD23	1.96	0.48
36:Lj:84:LYS:O	38:Ll:73:ARG:NH2	2.47	0.48
45:S2:298:C:O3'	64:SS:30:ARG:NH2	2.46	0.48
45:S2:447:U:H2'	45:S2:448:C:O4'	2.13	0.48
45:S2:1016:C:H2'	45:S2:1017:U:C6	2.48	0.48
45:S2:1415:U:H2'	45:S2:1416:G:H8	1.79	0.48
46:SA:96:LEU:HD12	46:SA:190:ARG:HD3	1.95	0.48
51:SF:10:PHE:CE2	51:SF:12:LYS:HD2	2.49	0.48
51:SF:62:ASN:OD1	51:SF:62:ASN:N	2.46	0.48
54:SI:53:TRP:HH2	54:SI:100:ILE:HD12	1.78	0.48
61:SP:83:GLN:HE21	61:SP:100:GLY:HA2	1.78	0.48
63:SR:104:VAL:HG11	63:SR:133:LYS:HG2	1.96	0.48
69:SX:86:ILE:HG12	69:SX:107:VAL:HG22	1.96	0.48
74:Sc:57:LEU:CD2	74:Sc:73:ARG:HG2	2.32	0.48
1:LA:759:G:H1'	1:LA:769:G:H22	1.79	0.48
1:LA:3026:A:H3'	1:LA:3026:A:N3	2.29	0.48
1:LA:3032:A:H2'	1:LA:3033:C:C6	2.47	0.48
1:LA:3275:G:O6	18:LR:169:THR:HG21	2.14	0.48
3:LC:59:A:N1	3:LC:100:U:H1'	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:LK:31:ARG:HG2	11:LK:149:ASN:ND2	2.28	0.48
14:LN:154:VAL:HG23	14:LN:156:ALA:H	1.79	0.48
14:LN:162:ASN:N	14:LN:162:ASN:OD1	2.46	0.48
14:LN:165:SER:C	14:LN:167:PHE:H	2.22	0.48
17:LQ:168[A]:TYR:CE2	17:LQ:172[A]:ARG:HD3	2.48	0.48
21:LU:8:GLN:HB3	21:LU:64:ILE:HD11	1.94	0.48
26:LZ:73:MET:HE2	26:LZ:73:MET:HA	1.96	0.48
34:Lh:42:GLN:HA	34:Lh:45:LEU:HG	1.96	0.48
45:S2:34:G:O2'	45:S2:515:A:O2'	2.31	0.48
45:S2:62:A:O2'	45:S2:268:C:O2'	2.25	0.48
45:S2:968:U:H2'	45:S2:969:C:O4'	2.14	0.48
45:S2:1147:A:O2'	45:S2:1636:C:OP2	2.28	0.48
45:S2:1346:A:H3'	45:S2:1346:A:N3	2.28	0.48
47:SB:216:GLU:OE1	47:SB:219:ARG:NH1	2.47	0.48
58:SM:14:TYR:N	58:SM:18:SER:OG	2.47	0.48
64:SS:18:TRP:HH2	64:SS:31:PRO:HD3	1.79	0.48
65:ST:50:PHE:HB3	65:ST:111:LEU:HD22	1.95	0.48
68:SW:103:ASP:N	68:SW:103:ASP:OD1	2.47	0.48
1:LA:695:C:OP1	6:LF:272:VAL:HG22	2.14	0.48
1:LA:886:G:H2'	1:LA:887:A:C8	2.49	0.48
2:LB:20:A:H2'	2:LB:21:G:C8	2.49	0.48
2:LB:91:G:H2'	2:LB:92:A:C8	2.49	0.48
3:LC:51:G:H4'	40:Ln:21:ARG:NH2	2.29	0.48
7:LG:54:ARG:NH2	7:LG:147:ASP:OD2	2.41	0.48
21:LU:29:ILE:HD13	21:LU:40:ARG:HB2	1.94	0.48
27:La:36:SER:HB3	27:La:105:VAL:HB	1.95	0.48
37:Lk:58:ILE:HD12	37:Lk:94:ILE:HG13	1.95	0.48
38:Ll:21:ARG:NH1	38:Ll:41:ALA:O	2.34	0.48
44:Lr:46:THR:HG21	44:Lr:59:CYS:SG	2.54	0.48
45:S2:694:U:H5"	45:S2:695:U:H5	1.78	0.48
45:S2:1395:G:N2	45:S2:1403:C:H41	2.11	0.48
45:S2:1457:C:H5"	53:SH:137:HIS:CE1	2.47	0.48
53:SH:17:LEU:HD11	53:SH:66:LEU:HD23	1.96	0.48
57:SL:12:VAL:HG13	57:SL:52:ASP:O	2.13	0.48
59:SN:148:TYR:O	59:SN:149:LYS:NZ	2.39	0.48
67:SV:70:GLU:OE1	67:SV:152:ILE:HG12	2.14	0.48
67:SV:141:ARG:HG2	67:SV:141:ARG:HH11	1.78	0.48
68:SW:131:GLN:HG3	68:SW:133:HIS:CD2	2.48	0.48
74:Sc:109:ARG:NH1	74:Sc:113:ALA:O	2.46	0.48
1:LA:34:A:H2'	1:LA:35:A:C8	2.48	0.48
1:LA:760:A:H2'	1:LA:761:U:H6	1.79	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:2946:G:C2	5:LE:250:ALA:HB1	2.49	0.48
1:LA:3305:U:O2'	1:LA:3307:C:OP2	2.28	0.48
2:LB:37:G:H22	2:LB:43:U:H3	1.62	0.48
5:LE:331:ASN:OD1	5:LE:331:ASN:N	2.47	0.48
9:LI:163:LEU:O	9:LI:165:ASP:N	2.47	0.48
10:LJ:154:ALA:HB2	10:LJ:186:LEU:HD12	1.95	0.48
10:LJ:245:LYS:O	10:LJ:249:ARG:HG2	2.14	0.48
12:LL:139:ARG:HG3	12:LL:173:PHE:CE1	2.49	0.48
14:LN:98:ASP:OD2	14:LN:101:ARG:HB2	2.14	0.48
19:LS:79:LYS:HD2	19:LS:138:LEU:HD12	1.96	0.48
31:Le:24:THR:HG22	31:Le:91:SER:HB3	1.95	0.48
38:Ll:53:ALA:HB3	38:Ll:54:LYS:HE2	1.95	0.48
45:S2:560:U:H2'	45:S2:561:G:C8	2.45	0.48
45:S2:749:U:H2'	45:S2:750:U:O4'	2.14	0.48
45:S2:1393:C:C2	45:S2:1394:G:C8	3.02	0.48
45:S2:1567:U:H2'	45:S2:1568:C:C2	2.49	0.48
45:S2:1797:A:N6	76:Se:84:VAL:HB	2.29	0.48
51:SF:35:PRO:HG2	51:SF:38:LEU:HD12	1.96	0.48
53:SH:101:LEU:HG	53:SH:102:ALA:H	1.79	0.48
1:LA:2953:U:OP1	80:eR:182:ARG:HD2	2.13	0.48
1:LA:3027:G:H2'	1:LA:3028:A:C8	2.48	0.48
5:LE:212:ASN:OD1	5:LE:354:VAL:N	2.39	0.48
10:LJ:65:LEU:HD23	16:LP:25:VAL:HG23	1.95	0.48
18:LR:181:ARG:HD3	18:LR:182:ILE:N	2.28	0.48
34:Lh:14:LEU:HD11	34:Lh:31:LYS:HB2	1.95	0.48
45:S2:172:C:H3'	45:S2:174:U:H5"	1.96	0.48
45:S2:475:A:OP2	68:SW:126:ARG:NH2	2.32	0.48
45:S2:1259:U:N3	45:S2:1260:U:O4	2.47	0.48
45:S2:1736:G:N7	45:S2:1737:G:C6	2.82	0.48
52:SG:7:LYS:HD2	52:SG:11:ARG:NH1	2.28	0.48
54:SI:76:LEU:HD12	54:SI:80:TYR:CE2	2.49	0.48
63:SR:109:GLY:HA2	63:SR:139:ILE:HB	1.96	0.48
65:ST:57:ASP:HA	65:ST:106:LEU:HA	1.95	0.48
65:ST:136:LYS:HG3	65:ST:173:PRO:HB2	1.96	0.48
1:LA:899:G:H1'	1:LA:1588:A:N6	2.29	0.47
1:LA:948:C:O2'	1:LA:970:G:OP1	2.28	0.47
1:LA:2766:U:H2'	1:LA:2767:U:H6	1.78	0.47
4:LD:102:LEU:HD13	4:LD:166:ILE:HD11	1.95	0.47
5:LE:60:LEU:HD22	24:LX:88:ARG:NH2	2.28	0.47
6:LF:164:GLU:HA	6:LF:167:ALA:HB3	1.96	0.47
8:LH:46:ARG:HD3	8:LH:47:PHE:CZ	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:LL:89:VAL:HB	12:LL:136:PHE:CE1	2.49	0.47
18:LR:19:GLY:HA3	18:LR:22:LEU:HD11	1.96	0.47
19:LS:67:ILE:HG12	19:LS:81:VAL:HG11	1.95	0.47
45:S2:747:C:H4'	73:Sb:80:ASN:OD1	2.13	0.47
45:S2:753:A:H2'	45:S2:754:A:H5'	1.95	0.47
45:S2:926:A:H2'	45:S2:927:C:C6	2.49	0.47
45:S2:1086:A:H2'	45:S2:1087:A:C8	2.49	0.47
47:SB:133:VAL:HG22	47:SB:198:LEU:HD22	1.96	0.47
51:SF:51:PRO:HG3	51:SF:85:ILE:CD1	2.44	0.47
52:SG:51:ALA:O	52:SG:55:THR:HG22	2.13	0.47
66:SU:49:ILE:HD12	66:SU:172:VAL:HB	1.95	0.47
67:SV:67:TRP:HE3	67:SV:72:ILE:HD11	1.79	0.47
68:SW:29:LYS:HG2	68:SW:33:GLU:OE1	2.14	0.47
78:Sg:8:LEU:HD23	78:Sg:8:LEU:H	1.78	0.47
80:eR:298:THR:HG23	80:eR:300:LYS:H	1.79	0.47
1:LA:642:U:OP1	1:LA:1115:G:O2'	2.30	0.47
2:LB:29:C:P	13:LM:134:PRO:HB3	2.54	0.47
3:LC:9:A:H3'	3:LC:10:A:H5"	1.96	0.47
5:LE:40:PRO:O	5:LE:185:GLY:HA3	2.13	0.47
6:LF:234:ASN:HD21	6:LF:236:LEU:HD12	1.79	0.47
7:LG:243:ALA:HB1	7:LG:248:ARG:HG3	1.96	0.47
13:LM:40:LEU:HD11	13:LM:79:ILE:CD1	2.44	0.47
28:Lb:76:ASN:HB3	28:Lb:79:HIS:ND1	2.29	0.47
30:Ld:21:ILE:O	30:Ld:21:ILE:HG22	2.14	0.47
39:Lm:22:THR:HB	39:Lm:46:ARG:HB3	1.94	0.47
45:S2:885:G:N3	71:SZ:123:SER:OG	2.47	0.47
45:S2:1124:A:H2'	45:S2:1125:A:C8	2.50	0.47
45:S2:1151:A:H2'	45:S2:1152:A:C8	2.49	0.47
45:S2:1400:A:H5"	52:SG:60:ARG:HH12	1.79	0.47
62:SQ:72:ASP:HB3	71:SZ:114:ARG:HH21	1.78	0.47
63:SR:165:VAL:HG11	63:SR:210:THR:HA	1.96	0.47
70:SY:22:ALA:HB3	70:SY:65:VAL:HG11	1.96	0.47
79:Ta:9:G:O2'	79:Ta:10:G:N7	2.47	0.47
1:LA:38:U:H4'	29:Lc:32:ARG:HD2	1.96	0.47
1:LA:1556:A:N7	1:LA:1558:A:N6	2.63	0.47
1:LA:2528:A:H62	1:LA:2529:G:H21	1.61	0.47
1:LA:2563:G:OP2	28:Lb:55:LYS:HD3	2.14	0.47
1:LA:3022:U:H5	1:LA:3031:A:N7	2.13	0.47
3:LC:3:A:H4'	18:LR:61:ARG:HD3	1.96	0.47
5:LE:67:PHE:CZ	24:LX:88:ARG:HB2	2.49	0.47
32:Lf:10:ARG:HG2	32:Lf:108:VAL:HA	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:26:A:H2'	45:S2:27:U:H6	1.79	0.47
45:S2:392:G:OP1	67:SV:24:LYS:NZ	2.38	0.47
45:S2:396:G:N2	45:S2:398:G:H3'	2.29	0.47
45:S2:1087:A:H2'	45:S2:1088:A:C8	2.50	0.47
46:SA:76:ARG:HA	48:SC:22:VAL:HG11	1.95	0.47
62:SQ:94:LYS:HB3	62:SQ:94:LYS:HE2	1.63	0.47
64:SS:47:PHE:CE2	64:SS:90:ILE:HD11	2.48	0.47
66:SU:81:LEU:HD23	66:SU:90:VAL:HG11	1.97	0.47
68:SW:17:ARG:HG3	68:SW:20:GLU:HG3	1.96	0.47
79:Ta:69:C:H2'	79:Ta:70:C:O4'	2.14	0.47
80:eR:223:GLY:HA2	80:eR:249:LYS:HG2	1.96	0.47
1:LA:992:G:N3	1:LA:2636:A:H2'	2.29	0.47
1:LA:1171:G:O2'	1:LA:1178:A:N1	2.41	0.47
1:LA:1230:A:N3	1:LA:1230:A:H2'	2.29	0.47
1:LA:2254:A:N1	45:S2:1644:C:O2'	2.41	0.47
1:LA:2382:C:OP2	17:LQ:85[A]:ARG:NH2	2.46	0.47
1:LA:2399:G:N2	82:pp:4376:ALA:HB2	2.29	0.47
3:LC:65:A:H2'	3:LC:66:A:H8	1.80	0.47
6:LF:203:ARG:NH2	6:LF:226:GLU:OE2	2.45	0.47
6:LF:317:PRO:O	6:LF:318:LEU:HB2	2.14	0.47
18:LR:9:THR:O	18:LR:11:PRO:HD3	2.14	0.47
20:LT:176:ARG:NH1	45:S2:852:C:O2'	2.46	0.47
22:LV:157:GLU:OE1	22:LV:159:PHE:CD1	2.68	0.47
33:Lg:8:LYS:NZ	33:Lg:12:LYS:H	2.12	0.47
45:S2:1211:A:H2'	45:S2:1212:G:O4'	2.14	0.47
45:S2:1648:A:H2'	45:S2:1649:G:H8	1.78	0.47
45:S2:1667:A:N6	45:S2:1733:C:H42	2.12	0.47
60:SO:304:GLY:HA2	60:SO:310:ILE:HD13	1.95	0.47
68:SW:44:ARG:HG3	68:SW:45:ILE:N	2.28	0.47
80:eR:177:PRO:HG2	80:eR:197:LYS:HG2	1.96	0.47
80:eR:233:LYS:HG3	80:eR:253:LEU:HG	1.96	0.47
82:pp:4359:ILE:HG23	82:pp:4361:PRO:HD3	1.95	0.47
1:LA:187:A:N1	1:LA:211:A:O2'	2.29	0.47
1:LA:407:A:C2	3:LC:17:A:H1'	2.50	0.47
1:LA:1477:C:H2'	1:LA:1478:U:C6	2.49	0.47
1:LA:1790:C:H2'	1:LA:1791:C:C6	2.49	0.47
1:LA:1914:A:H2'	1:LA:1915:U:H6	1.80	0.47
6:LF:309:ARG:HG2	6:LF:312:VAL:HG12	1.96	0.47
13:LM:15:GLU:HG2	13:LM:16:LYS:HG2	1.96	0.47
14:LN:48:PRO:HG2	36:Lj:115:LYS:HG2	1.96	0.47
21:LU:96:ASP:OD2	21:LU:101:ALA:HB3	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
23:LW:27:VAL:HG11	23:LW:107:PHE:HZ	1.79	0.47
45:S2:171:A:O2'	45:S2:172:C:OP1	2.29	0.47
45:S2:395:U:O2'	65:ST:89:ASP:OD2	2.32	0.47
45:S2:538:A:O4'	45:S2:543:C:N4	2.48	0.47
45:S2:689:G:H2'	45:S2:690:G:C8	2.50	0.47
45:S2:1169:G:N1	45:S2:1575:G:OP2	2.34	0.47
45:S2:1588:G:O6	45:S2:1608:U:O4	2.32	0.47
45:S2:1667:A:H61	45:S2:1733:C:N4	2.10	0.47
45:S2:1730:A:C2	45:S2:1731:A:C8	3.02	0.47
62:SQ:128:LYS:HD3	62:SQ:134:VAL:HG22	1.97	0.47
64:SS:173:ILE:HD12	64:SS:227:VAL:HG23	1.96	0.47
68:SW:90:LYS:NZ	68:SW:93:LEU:H	2.05	0.47
69:SX:44:THR:HG23	69:SX:60:PHE:CD1	2.50	0.47
75:Sd:53:ASP:HB2	75:Sd:79:VAL:CG2	2.44	0.47
1:LA:2812:A:H2'	1:LA:2813:G:O4'	2.14	0.47
1:LA:2882:U:H2'	1:LA:2883:C:C6	2.49	0.47
2:LB:11:A:H4'	2:LB:13:A:C4	2.49	0.47
2:LB:53:U:O2'	2:LB:55:A:N7	2.44	0.47
2:LB:94:C:H2'	2:LB:95:A:H8	1.79	0.47
5:LE:88:GLY:HA2	5:LE:106:TRP:HA	1.97	0.47
6:LF:250:TRP:CH2	6:LF:258:LEU:HD11	2.50	0.47
6:LF:252:GLU:O	6:LF:256:THR:HG23	2.14	0.47
8:LH:52:VAL:HG12	8:LH:67:GLY:HA2	1.95	0.47
17:LQ:174[A]:PHE:HA	17:LQ:177[A]:LYS:HZ2	1.80	0.47
18:LR:58:ILE:HG13	18:LR:84:PRO:HD2	1.95	0.47
20:LT:21:LYS:HE3	20:LT:55:VAL:HA	1.96	0.47
32:Lf:84:ASP:OD1	32:Lf:84:ASP:N	2.47	0.47
39:Lm:21:LYS:HA	39:Lm:21:LYS:HD3	1.69	0.47
45:S2:97:C:O2'	45:S2:426:G:H5'	2.14	0.47
53:SH:35:ILE:HB	53:SH:38:VAL:HG13	1.97	0.47
79:Ta:63:C:H2'	79:Ta:64:G:H8	1.79	0.47
1:LA:66:A:N1	1:LA:77:A:H5"	2.29	0.47
1:LA:147:U:C4	10:LJ:157:VAL:HG13	2.50	0.47
1:LA:262:U:H2'	1:LA:263:C:O4'	2.15	0.47
1:LA:348:A:N3	1:LA:352:A:O2'	2.47	0.47
1:LA:817:C:H2'	1:LA:818:U:O4'	2.15	0.47
1:LA:975:U:H3	1:LA:1104:A:H62	1.61	0.47
1:LA:1145:C:H4'	1:LA:1330:U:C4	2.50	0.47
1:LA:1569:U:O2'	1:LA:1572:G:N2	2.47	0.47
1:LA:1614:C:H2'	1:LA:1615:U:H6	1.77	0.47
1:LA:1676:G:OP2	23:LW:103:TYR:OH	2.30	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:2740:C:H4'	43:Lq:19:LYS:HA	1.96	0.47
1:LA:2886:A:N3	1:LA:2886:A:H2'	2.30	0.47
1:LA:2963:G:N2	1:LA:2966:A:OP2	2.41	0.47
1:LA:3303:U:O2'	5:LE:334:ARG:NH2	2.42	0.47
2:LB:11:A:N1	2:LB:67:G:O2'	2.40	0.47
3:LC:40:A:H2'	3:LC:41:A:H8	1.80	0.47
10:LJ:34:PHE:CE1	10:LJ:42:PRO:HD3	2.50	0.47
10:LJ:75:ILE:HD12	10:LJ:160:ILE:HG12	1.97	0.47
10:LJ:159:PRO:HG2	10:LJ:162:LEU:HD12	1.97	0.47
11:LK:163:GLN:OE1	11:LK:166:ARG:NH1	2.48	0.47
13:LM:136:ALA:O	13:LM:139:THR:HG22	2.14	0.47
26:LZ:50:ALA:O	36:Lj:66:VAL:HG21	2.15	0.47
28:Lb:102:GLU:H	28:Lb:107:ARG:HH21	1.63	0.47
30:Ld:23:LYS:HD2	30:Ld:24:PRO:HD2	1.96	0.47
31:Le:41:LEU:HD13	31:Le:66:LYS:HG2	1.95	0.47
32:Lf:9:THR:OG1	32:Lf:109:VAL:O	2.32	0.47
34:Lh:15:SER:HA	34:Lh:94:PHE:CE1	2.50	0.47
37:Lk:38:LYS:O	37:Lk:38:LYS:HD3	2.15	0.47
45:S2:59:C:O2'	45:S2:60:U:O4'	2.33	0.47
45:S2:359:A:H62	74:Sc:35:GLY:HA3	1.80	0.47
45:S2:366:A:OP1	45:S2:758:U:O2'	2.27	0.47
45:S2:393:C:H2'	45:S2:394:C:C6	2.50	0.47
45:S2:400:A:H5"	67:SV:25:ARG:HA	1.96	0.47
45:S2:446:A:N6	45:S2:461:G:H21	2.13	0.47
45:S2:691:C:H2'	45:S2:692:C:H6	1.80	0.47
45:S2:1200:G:N2	45:S2:1456:C:N3	2.54	0.47
45:S2:1638:G:H2'	45:S2:1639:C:O4'	2.14	0.47
52:SG:117:LEU:HD13	61:SP:15:GLN:HG3	1.96	0.47
55:SJ:82:TYR:HB3	58:SM:52:PHE:HB3	1.96	0.47
57:SL:25:VAL:HG12	57:SL:45:LYS:HA	1.97	0.47
71:SZ:92:LYS:HB2	71:SZ:92:LYS:HE3	1.76	0.47
74:Sc:37:ALA:HA	74:Sc:41:SER:HB3	1.97	0.47
74:Sc:42:PRO:HG2	74:Sc:122:PHE:CZ	2.49	0.47
75:Sd:53:ASP:HB2	75:Sd:79:VAL:HG23	1.96	0.47
1:LA:500:A:OP1	8:LH:82:ARG:HD3	2.15	0.47
1:LA:693:C:H4'	6:LF:232:SER:O	2.15	0.47
1:LA:760:A:H2'	1:LA:761:U:C6	2.49	0.47
1:LA:775:U:H5	1:LA:2718:U:O2	1.96	0.47
1:LA:848:C:H2'	1:LA:849:U:C6	2.50	0.47
1:LA:967:G:H2'	1:LA:968:C:C6	2.49	0.47
1:LA:1133:G:O2'	1:LA:2641:A:N3	2.38	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:2439:G:N2	1:LA:2505:U:H3	2.12	0.47
3:LC:71:A:OP2	27:La:51:ARG:HG3	2.15	0.47
9:LI:89:ILE:HD11	9:LI:229:PHE:HB3	1.97	0.47
11:LK:35:THR:C	11:LK:78:MET:HE1	2.40	0.47
11:LK:176:LEU:HB3	41:Lo:86:ALA:HB1	1.97	0.47
16:LP:138:GLN:H	16:LP:138:GLN:CD	2.23	0.47
19:LS:94:PHE:CZ	29:Lc:119:PRO:HD3	2.50	0.47
27:La:58:VAL:O	27:La:65:GLY:N	2.38	0.47
36:Lj:105:ARG:O	36:Lj:109:ILE:HG13	2.14	0.47
45:S2:867:G:OP2	70:SY:3:ARG:NH1	2.48	0.47
45:S2:953:G:H2'	45:S2:954:G:C8	2.50	0.47
45:S2:1649:G:H2'	45:S2:1650:U:C6	2.49	0.47
48:SC:76:LEU:HD12	48:SC:76:LEU:HA	1.81	0.47
64:SS:195:ILE:HA	64:SS:210:ILE:HG22	1.97	0.47
70:SY:36:GLN:NE2	70:SY:40:TYR:CZ	2.82	0.47
74:Sc:73:ARG:NH2	74:Sc:82:LYS:HB3	2.30	0.47
79:Ta:54:G:H2'	79:Ta:54:G:N3	2.30	0.47
79:Ta:66:C:H2'	79:Ta:67:C:H6	1.78	0.47
1:LA:619:U:O2'	1:LA:620:A:O5'	2.32	0.47
1:LA:1507:C:OP1	18:LR:127:ARG:NH2	2.37	0.47
1:LA:1924:U:O2'	1:LA:1926:G:N7	2.45	0.47
1:LA:2655:A:OP2	43:Lq:97:LYS:HG3	2.15	0.47
21:LU:23:LYS:HA	21:LU:23:LYS:HE3	1.97	0.47
39:Lm:46:ARG:HD3	39:Lm:47:GLY:O	2.14	0.47
45:S2:767:U:C5	68:SW:143:ILE:HD11	2.50	0.47
58:SM:19:ARG:HG2	58:SM:32:ARG:HD2	1.96	0.47
62:SQ:184:LEU:HA	62:SQ:187:LYS:HG2	1.97	0.47
63:SR:41:LEU:HD13	63:SR:61:LEU:HD13	1.96	0.47
64:SS:102:VAL:HG11	64:SS:239:PRO:HG3	1.97	0.47
1:LA:769:G:O2'	1:LA:770:A:O5'	2.32	0.47
1:LA:874:G:O2'	1:LA:1890:A:OP1	2.30	0.47
1:LA:2264:C:OP1	45:S2:1001:A:O2'	2.26	0.47
1:LA:2353:C:H2'	1:LA:2354:G:O4'	2.15	0.47
23:LW:98:THR:OG1	23:LW:99:LYS:N	2.47	0.47
24:LX:71:LYS:HB3	24:LX:71:LYS:HE3	1.76	0.47
62:SQ:147:ALA:O	62:SQ:148:ASN:OD1	2.33	0.47
80:eR:72:LEU:O	80:eR:76:THR:OG1	2.30	0.47
1:LA:1237:C:H41	1:LA:1244:A:H5"	1.79	0.46
1:LA:1311:C:H2'	1:LA:1312:G:O4'	2.15	0.46
1:LA:2375:G:H2'	1:LA:2376:G:C8	2.49	0.46
1:LA:2603:U:H2'	1:LA:2604:G:O4'	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:LC:150:G:H5”	10:LJ:52:TRP:CZ3	2.49	0.46
5:LE:360:ASP:OD2	5:LE:371:GLN:NE2	2.49	0.46
6:LF:152:VAL:O	6:LF:252:GLU:N	2.47	0.46
27:La:55:GLU:OE1	27:La:69:LYS:HE3	2.16	0.46
31:Le:86:ARG:CZ	44:Lr:44:LYS:HG2	2.45	0.46
45:S2:330:G:O2’	67:SV:33:PRO:HB3	2.15	0.46
45:S2:947:U:H2’	45:S2:948:G:H8	1.80	0.46
45:S2:1116:A:C2	45:S2:1117:U:H5	2.33	0.46
45:S2:1241:G:O2’	45:S2:1242:A:H5’	2.15	0.46
45:S2:1564:U:H2’	45:S2:1565:C:C6	2.50	0.46
45:S2:1688:U:O2’	45:S2:1689:A:H5’	2.14	0.46
57:SL:15:VAL:HG13	57:SL:28:VAL:HG12	1.97	0.46
63:SR:35:TRP:CZ2	63:SR:68:ILE:HG22	2.50	0.46
68:SW:63:ASP:O	68:SW:69:ARG:HD3	2.16	0.46
79:Ta:55:U:H2’	79:Ta:56:U:H4’	1.98	0.46
80:eR:80:GLN:HA	80:eR:80:GLN:HE21	1.80	0.46
1:LA:1823:U:H4’	39:Lm:17:ARG:NH1	2.30	0.46
1:LA:2216:U:H3	1:LA:2226:C:N4	2.04	0.46
1:LA:2584:G:C8	10:LJ:48:ARG:HA	2.50	0.46
1:LA:2713:G:OP2	43:Lq:10:THR:HG22	2.15	0.46
1:LA:3184:U:OP1	11:LK:23:ARG:NH2	2.44	0.46
9:LI:144:ILE:HD12	9:LI:189:ILE:HD13	1.97	0.46
16:LP:15:GLN:HB3	37:Lk:51:SER:HB2	1.96	0.46
19:LS:76:ALA:HA	19:LS:79:LYS:HG3	1.96	0.46
45:S2:511:A:O2’	45:S2:512:A:OP1	2.29	0.46
45:S2:602:U:H2’	45:S2:603:U:C6	2.50	0.46
45:S2:892:A:N1	45:S2:919:A:N1	2.63	0.46
45:S2:992:A:O4’	45:S2:992:A:N3	2.48	0.46
45:S2:1143:A:C8	45:S2:1300:A:H2	2.30	0.46
49:SD:60:VAL:HB	49:SD:87:PRO:HB2	1.98	0.46
56:SK:50:ILE:O	56:SK:54:VAL:HG13	2.14	0.46
76:Se:30:ILE:HG13	76:Se:31:PRO:HD2	1.96	0.46
77:Sf:55:THR:HG1	77:Sf:61:THR:H	1.60	0.46
1:LA:18:G:OP2	26:LZ:46:TYR:OH	2.32	0.46
1:LA:129:U:C2	1:LA:139:G:O6	2.68	0.46
1:LA:141:C:H2’	1:LA:142:C:C6	2.51	0.46
1:LA:370:U:H4’	1:LA:404:G:H5’	1.96	0.46
1:LA:414:U:H3’	1:LA:415:G:O4’	2.15	0.46
1:LA:571:A:N3	1:LA:571:A:H2’	2.30	0.46
1:LA:1016:C:OP2	1:LA:1017:G:N1	2.49	0.46
1:LA:1596:C:H2’	1:LA:1597:G:H8	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:1605:U:O4	35:Li:9:ARG:NE	2.28	0.46
1:LA:1635:U:H6	1:LA:1635:U:H2'	1.52	0.46
1:LA:1659:C:H2'	1:LA:1660:G:C8	2.50	0.46
1:LA:3321:A:H2'	1:LA:3322:A:H8	1.79	0.46
2:LB:28:C:OP1	13:LM:137:ARG:NH1	2.48	0.46
5:LE:317:ILE:O	5:LE:317:ILE:HG22	2.15	0.46
11:LK:157:ASN:O	11:LK:161:LEU:HD12	2.15	0.46
14:LN:154:VAL:HG22	14:LN:157:ARG:HG2	1.97	0.46
17:LQ:3[A]:VAL:HG22	34:Lh:33:GLU:OE1	2.15	0.46
20:LT:45:VAL:HA	20:LT:50:ILE:O	2.16	0.46
45:S2:936:G:N7	76:Se:15:ARG:NH1	2.63	0.46
45:S2:1407:U:H3'	45:S2:1408:G:H8	1.80	0.46
45:S2:1603:U:H2'	45:S2:1604:U:C6	2.51	0.46
51:SF:37:THR:HG1	51:SF:49:TYR:HH	1.61	0.46
63:SR:232:GLU:HG2	63:SR:234:PRO:HG3	1.97	0.46
64:SS:103:TYR:O	64:SS:182:TYR:OH	2.32	0.46
80:eR:93:LEU:HD11	80:eR:113:ASP:HB2	1.98	0.46
1:LA:517:G:OP2	1:LA:517:G:N2	2.35	0.46
1:LA:1175:C:H2'	1:LA:1176:G:N2	2.31	0.46
1:LA:1472:G:H5"	20:LT:23:TRP:CD1	2.49	0.46
1:LA:1898:G:O2'	1:LA:2333:U:O4	2.30	0.46
1:LA:2755:C:O4'	22:LV:49:GLN:HG2	2.16	0.46
1:LA:3365:G:H2'	1:LA:3366:C:C6	2.50	0.46
2:LB:26:C:C5	2:LB:27:A:H1'	2.51	0.46
7:LG:164:LYS:HG2	7:LG:199:ILE:HD11	1.97	0.46
13:LM:50:ALA:HB2	13:LM:65:ILE:HG12	1.96	0.46
15:LO:66:THR:HB	15:LO:68:LEU:HD23	1.97	0.46
28:Lb:51:LEU:HB2	28:Lb:65:ARG:HB3	1.96	0.46
32:Lf:11:GLU:OE2	32:Lf:74:ARG:NH2	2.35	0.46
45:S2:228:G:N7	45:S2:834:G:H1'	2.30	0.46
45:S2:522:U:O2'	75:Sd:60:PHE:O	2.33	0.46
45:S2:1345:A:C3'	45:S2:1346:A:H5'	2.45	0.46
51:SF:10:PHE:HE2	51:SF:12:LYS:HD2	1.81	0.46
58:SM:19:ARG:HE	58:SM:32:ARG:HD2	1.79	0.46
63:SR:66:PHE:HB3	63:SR:130:ILE:HG23	1.98	0.46
64:SS:185:GLY:N	64:SS:189:LEU:HD13	2.27	0.46
75:Sd:34:ASN:OD1	75:Sd:35:VAL:N	2.48	0.46
78:Sg:30:PRO:HD2	78:Sg:38:LEU:HD22	1.97	0.46
1:LA:3329:A:H4'	5:LE:366:GLY:HA3	1.98	0.46
2:LB:45:A:H2'	2:LB:46:A:C8	2.51	0.46
2:LB:48:U:H5'	7:LG:223:PHE:CE1	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:LC:149:A:H2'	3:LC:150:G:C8	2.50	0.46
6:LF:308:LYS:HB3	6:LF:308:LYS:HE2	1.63	0.46
8:LH:43:LEU:HD21	8:LH:85:ILE:HD12	1.97	0.46
13:LM:54:VAL:HG21	13:LM:57:PHE:CD2	2.51	0.46
17:LQ:12[A]:LYS:HD3	17:LQ:37[A]:ARG:NH2	2.30	0.46
27:La:48:LEU:HD21	27:La:119:ILE:HG13	1.98	0.46
34:Lh:13:HIS:HA	34:Lh:30:ILE:HD13	1.97	0.46
39:Lm:32:ASN:OD1	39:Lm:33:LYS:N	2.47	0.46
45:S2:68:A:H5'	65:ST:162:VAL:HG11	1.98	0.46
45:S2:248:U:H4'	69:SX:36:LYS:HD2	1.96	0.46
45:S2:760:A:H2'	45:S2:761:G:O4'	2.15	0.46
45:S2:1203:A:C4	45:S2:1204:A:C8	3.04	0.46
45:S2:1528:U:OP1	47:SB:109:LYS:HB3	2.16	0.46
56:SK:50:ILE:HG22	56:SK:69:LEU:HD22	1.98	0.46
64:SS:36:HIS:CD2	64:SS:85:GLY:HA3	2.51	0.46
66:SU:84:LYS:HE3	66:SU:84:LYS:HB3	1.81	0.46
73:Sb:89:TRP:O	73:Sb:93:LEU:HG	2.15	0.46
1:LA:72:C:H4'	14:LN:66:ASN:HD21	1.80	0.46
1:LA:77:A:H5'	14:LN:100:ARG:NH1	2.30	0.46
1:LA:756:C:C4	1:LA:757:C:C5	3.04	0.46
1:LA:954:U:H2'	1:LA:955:U:C6	2.51	0.46
1:LA:1635:U:O2'	28:Lb:79:HIS:ND1	2.48	0.46
1:LA:1770:C:H2'	1:LA:1771:U:O4'	2.16	0.46
1:LA:2288:U:H2'	1:LA:2289:C:C6	2.51	0.46
1:LA:2915:U:H5	1:LA:2934:U:HO2'	1.63	0.46
1:LA:3034:A:C4	11:LK:121:LYS:HB2	2.50	0.46
2:LB:17:A:H2'	2:LB:18:C:H6	1.81	0.46
3:LC:37:A:H5"	3:LC:39:G:O4'	2.15	0.46
6:LF:233:LEU:HD23	6:LF:233:LEU:HA	1.70	0.46
7:LG:34:LYS:HE2	22:LV:30:TYR:CE1	2.50	0.46
21:LU:132:THR:HG22	21:LU:133:ALA:H	1.80	0.46
32:Lf:55:LEU:HB2	32:Lf:95:PRO:HD3	1.98	0.46
43:Lq:13:LYS:HB3	43:Lq:18:ARG:HH21	1.79	0.46
44:Lr:82:THR:O	44:Lr:86:LEU:HG	2.15	0.46
45:S2:691:C:H2'	45:S2:692:C:C6	2.50	0.46
45:S2:891:A:H2'	45:S2:892:A:C8	2.51	0.46
45:S2:923:A:O2'	45:S2:924:A:N3	2.43	0.46
45:S2:1345:A:N6	45:S2:1348:A:N7	2.62	0.46
45:S2:1451:C:H2'	45:S2:1452:U:C6	2.51	0.46
47:SB:42:LEU:HG	47:SB:43:PHE:O	2.16	0.46
51:SF:44:LEU:HA	51:SF:47:LYS:HG2	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:SF:46:PHE:HA	51:SF:49:TYR:HB2	1.97	0.46
51:SF:59:LYS:HZ2	51:SF:105:LEU:HB3	1.80	0.46
55:SJ:97:VAL:HA	55:SJ:100:VAL:HB	1.97	0.46
59:SN:80:ARG:HB2	80:eR:101:VAL:HA	1.97	0.46
60:SO:61:PHE:HE1	60:SO:97:GLY:HA2	1.79	0.46
61:SP:150:ASP:OD2	61:SP:165:ARG:NH2	2.49	0.46
64:SS:59:ARG:HH22	75:Sd:87:PRO:HA	1.80	0.46
65:ST:30:LYS:HE2	65:ST:36:VAL:HG12	1.98	0.46
65:ST:31:ARG:NH1	65:ST:31:ARG:HB3	2.29	0.46
73:Sb:114:GLU:O	73:Sb:118:ARG:HG2	2.14	0.46
80:eR:256:ILE:HD12	80:eR:263:GLY:HA3	1.98	0.46
1:LA:86:G:O2'	1:LA:98:G:O6	2.25	0.46
1:LA:123:A:C6	1:LA:150:A:C5	3.03	0.46
1:LA:346:C:OP1	6:LF:53:SER:N	2.35	0.46
1:LA:697:U:H2'	1:LA:698:A:O4'	2.15	0.46
1:LA:1531:C:H2'	1:LA:1532:U:C6	2.51	0.46
1:LA:1747:G:OP2	39:Lm:42:LYS:NZ	2.37	0.46
1:LA:2970:A:O3'	80:eR:180:HIS:NE2	2.49	0.46
2:LB:18:C:O2'	2:LB:19:C:OP1	2.31	0.46
13:LM:77:GLU:OE2	13:LM:167:TYR:OH	2.22	0.46
16:LP:39:ALA:HB3	16:LP:61:ILE:HG22	1.98	0.46
21:LU:13:ARG:O	21:LU:22:PRO:HG2	2.16	0.46
45:S2:84:A:H3'	45:S2:85:A:H5"	1.97	0.46
45:S2:126:A:OP1	65:ST:201:GLN:HG3	2.16	0.46
45:S2:473:A:H3'	45:S2:474:A:N3	2.29	0.46
45:S2:498:G:O2'	45:S2:499:U:OP1	2.30	0.46
45:S2:1117:U:H2'	45:S2:1118:G:H5'	1.97	0.46
45:S2:1414:U:H3'	45:S2:1415:U:H5'	1.98	0.46
45:S2:1585:U:H3	45:S2:1611:A:H2	1.61	0.46
45:S2:1725:U:H5"	45:S2:1726:G:OP1	2.15	0.46
46:SA:104:SER:OG	46:SA:108:LYS:NZ	2.41	0.46
47:SB:77:TYR:CZ	47:SB:87:CYS:HB2	2.51	0.46
53:SH:48:LYS:HE2	54:SI:35:ASP:HB3	1.98	0.46
55:SJ:28:SER:HB2	55:SJ:112:VAL:HA	1.98	0.46
55:SJ:55:PRO:HA	55:SJ:91:ILE:HG13	1.97	0.46
59:SN:80:ARG:N	80:eR:107:GLU:HA	2.30	0.46
62:SQ:129:THR:HG22	62:SQ:131:ASP:H	1.80	0.46
63:SR:68:ILE:HG12	63:SR:69:ILE:HD13	1.96	0.46
1:LA:730:U:H2'	1:LA:731:C:O4'	2.16	0.46
1:LA:786:G:H2'	1:LA:787:C:H6	1.81	0.46
1:LA:1583:U:H2'	1:LA:1584:C:C6	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:2429:A:H2'	1:LA:2430:C:C6	2.51	0.46
1:LA:2722:U:H2'	1:LA:2723:U:C6	2.50	0.46
1:LA:3242:A:OP1	17:LQ:159[A]:LYS:NZ	2.44	0.46
8:LH:59:GLU:H	8:LH:59:GLU:CD	2.24	0.46
11:LK:50:ASN:HD22	11:LK:50:ASN:C	2.22	0.46
11:LK:115:ARG:HD3	11:LK:123:ILE:HD12	1.97	0.46
14:LN:94:GLY:HA3	36:Lj:116:TYR:OH	2.16	0.46
20:LT:162:ARG:NH1	45:S2:815:G:C1'	2.79	0.46
27:La:53:ASP:CA	27:La:69:LYS:HD2	2.46	0.46
43:Lq:24:LYS:HE3	43:Lq:75:VAL:HG22	1.97	0.46
45:S2:94:U:H1'	64:SS:7:LYS:HE3	1.97	0.46
45:S2:420:A:OP1	65:ST:96:SER:OG	2.29	0.46
47:SB:46:TRP:HE1	47:SB:118:LEU:HG	1.79	0.46
48:SC:3:MET:HE1	48:SC:41:TYR:CG	2.51	0.46
60:SO:240:VAL:HG22	60:SO:256:THR:HG22	1.97	0.46
62:SQ:32:ILE:HD12	62:SQ:43:VAL:HG23	1.97	0.46
63:SR:52:THR:HG22	63:SR:54:GLU:H	1.80	0.46
72:Sa:17:CYS:HB2	72:Sa:56:SER:HB3	1.96	0.46
72:Sa:64:GLU:OE2	77:Sf:2:VAL:HG12	2.15	0.46
76:Se:19:LYS:HD3	76:Se:19:LYS:HA	1.75	0.46
1:LA:20:A:C6	1:LA:21:G:C6	3.04	0.46
1:LA:76:G:N7	14:LN:101:ARG:HG3	2.31	0.46
1:LA:197:G:O2'	1:LA:198:A:OP1	2.29	0.46
1:LA:725:G:N2	1:LA:743:A:C2	2.75	0.46
1:LA:829:A:H2'	1:LA:830:G:O4'	2.16	0.46
1:LA:873:U:OP2	1:LA:1906:C:O2'	2.34	0.46
1:LA:984:U:H2'	1:LA:985:U:H6	1.80	0.46
1:LA:1617:G:H21	1:LA:1618:A:H62	1.64	0.46
1:LA:2610:U:H2'	1:LA:2611:U:C6	2.50	0.46
1:LA:3064:G:H2'	1:LA:3065:U:C6	2.51	0.46
1:LA:3109:C:H2'	1:LA:3110:U:C6	2.51	0.46
1:LA:3298:A:H61	1:LA:3314:G:H1	1.63	0.46
6:LF:125:ALA:HB1	6:LF:238:LEU:HB3	1.98	0.46
7:LG:40:HIS:CE1	22:LV:69:LYS:HA	2.51	0.46
12:LL:213:PHE:N	12:LL:214:PRO:HD3	2.31	0.46
15:LO:4:ASP:N	15:LO:4:ASP:OD1	2.49	0.46
16:LP:73:ARG:HB2	16:LP:92:LEU:HD12	1.98	0.46
22:LV:84:TYR:CE1	30:Ld:21:ILE:HG22	2.51	0.46
26:LZ:109:LYS:HE2	26:LZ:111:ASN:OD1	2.16	0.46
34:Lh:38:PRO:HD3	34:Lh:77:ASN:O	2.15	0.46
45:S2:183:U:H2'	45:S2:184:C:C6	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:947:U:H2'	45:S2:948:G:C8	2.51	0.46
45:S2:1208:A:O2'	45:S2:1270:G:OP2	2.22	0.46
46:SA:68:GLU:OE1	46:SA:68:GLU:N	2.48	0.46
47:SB:80:LYS:HG3	47:SB:81:ARG:N	2.30	0.46
51:SF:39:VAL:HG12	51:SF:41:PRO:HD3	1.98	0.46
51:SF:78:VAL:HA	51:SF:81:ILE:HD12	1.98	0.46
56:SK:43:ASP:OD1	56:SK:43:ASP:N	2.38	0.46
60:SO:111:MET:HE3	60:SO:127:ARG:HH21	1.81	0.46
65:ST:78:THR:HG23	65:ST:92:ARG:HG3	1.98	0.46
66:SU:150:GLN:HB3	66:SU:181:ILE:HG22	1.96	0.46
68:SW:104:PHE:O	68:SW:147:MET:HE1	2.16	0.46
74:Sc:107:PHE:CG	74:Sc:114:LYS:HB2	2.51	0.46
1:LA:104:G:H2'	1:LA:105:C:O4'	2.16	0.46
1:LA:124:U:H1'	1:LA:149:U:O2	2.16	0.46
1:LA:593:U:H2'	1:LA:608:G:O6	2.16	0.46
1:LA:708:A:H2'	1:LA:709:A:O4'	2.16	0.46
1:LA:952:G:N2	1:LA:1115:G:H2'	2.30	0.46
1:LA:2439:G:N3	1:LA:2439:G:H2'	2.31	0.46
1:LA:2661:G:H2'	1:LA:2662:G:H8	1.81	0.46
1:LA:2839:C:H2'	1:LA:2840:G:O4'	2.16	0.46
7:LG:163:LEU:HD21	7:LG:173:VAL:HG11	1.97	0.46
10:LJ:97:TYR:HE2	10:LJ:203:VAL:HG23	1.81	0.46
12:LL:106:ALA:HB2	80:eR:194:ARG:HA	1.98	0.46
13:LM:65:ILE:HD13	13:LM:65:ILE:HA	1.81	0.46
15:LO:12:TRP:HB2	21:LU:172:TYR:O	2.16	0.46
18:LR:29:THR:HG21	18:LR:146:ILE:HD11	1.98	0.46
25:LY:8:PHE:CD1	25:LY:46:PRO:HG3	2.50	0.46
29:Lc:27:LYS:HD2	29:Lc:27:LYS:HA	1.81	0.46
29:Lc:79:TRP:HE3	29:Lc:87:ARG:HD3	1.81	0.46
34:Lh:9:VAL:HG21	34:Lh:44:TYR:HE1	1.81	0.46
36:Lj:17:LEU:HD22	36:Lj:54:VAL:HG13	1.98	0.46
45:S2:411:C:H2'	45:S2:412:A:O4'	2.16	0.46
45:S2:620:A:N3	45:S2:1107:G:O2'	2.48	0.46
45:S2:1469:A:H2'	45:S2:1470:C:C6	2.51	0.46
45:S2:1503:A:H5"	45:S2:1505:A:N6	2.31	0.46
45:S2:1535:U:C5	47:SB:187:ILE:HD12	2.51	0.46
53:SH:110:ARG:HA	53:SH:110:ARG:HD2	1.70	0.46
62:SQ:232:HIS:N	62:SQ:232:HIS:CD2	2.82	0.46
67:SV:26:LYS:HE2	67:SV:29:LEU:HD21	1.98	0.46
1:LA:672:U:H2'	1:LA:673:G:C8	2.51	0.45
1:LA:836:A:H5'	44:Lr:9:GLY:C	2.41	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:1079:A:H5'	7:LG:139:PRO:HB3	1.98	0.45
1:LA:1382:G:OP1	6:LF:203:ARG:HD3	2.16	0.45
1:LA:1555:C:H2'	1:LA:2168:G:N2	2.31	0.45
1:LA:1728:A:N6	44:Lr:42:CYS:HA	2.32	0.45
1:LA:2146:A:H2'	1:LA:2147:U:O4'	2.16	0.45
1:LA:2708:C:H2'	1:LA:2709:C:C6	2.51	0.45
1:LA:2854:U:H2'	1:LA:2855:G:O4'	2.16	0.45
5:LE:229:VAL:HG21	5:LE:249:VAL:HG23	1.98	0.45
5:LE:286:GLY:HA3	5:LE:321:PHE:CZ	2.51	0.45
18:LR:169:THR:OG1	18:LR:170:SER:N	2.48	0.45
19:LS:37:ALA:HB1	19:LS:46:LYS:HD3	1.97	0.45
22:LV:84:TYR:HE1	30:Ld:21:ILE:HG22	1.80	0.45
22:LV:115:LYS:HB3	22:LV:126:VAL:HG21	1.97	0.45
22:LV:128:LEU:H	22:LV:128:LEU:HD22	1.82	0.45
45:S2:40:A:H2'	45:S2:41:A:O4'	2.17	0.45
45:S2:713:A:H5'	45:S2:726:C:H5'	1.97	0.45
45:S2:1290:U:H2'	45:S2:1291:G:N3	2.31	0.45
45:S2:1479:A:P	54:SI:57:ARG:HH21	2.39	0.45
45:S2:1674:C:H2'	45:S2:1675:C:C6	2.51	0.45
56:SK:80:LEU:HA	56:SK:83:LEU:HD12	1.96	0.45
58:SM:54:LYS:HB3	58:SM:54:LYS:HE3	1.73	0.45
62:SQ:120:LEU:HD21	62:SQ:122:GLU:HG3	1.98	0.45
66:SU:38:LEU:HB2	66:SU:41:LEU:HD21	1.98	0.45
70:SY:140:LYS:HE3	70:SY:140:LYS:HB2	1.75	0.45
71:SZ:82:LYS:HE3	71:SZ:118:VAL:HG11	1.97	0.45
79:Ta:44:A:H2'	79:Ta:45:A:C8	2.52	0.45
1:LA:200:C:OP1	27:La:60:ARG:HD3	2.15	0.45
1:LA:290:G:H2'	1:LA:291:C:C6	2.52	0.45
1:LA:500:A:H2'	1:LA:501:U:C6	2.50	0.45
1:LA:1830:U:O2'	3:LC:114:G:OP1	2.20	0.45
1:LA:3319:A:H2'	1:LA:3320:C:C6	2.51	0.45
4:LD:147:ARG:HB3	4:LD:157:VAL:HG22	1.96	0.45
11:LK:38:LEU:HD12	11:LK:38:LEU:HA	1.77	0.45
11:LK:95:ALA:HA	41:Lo:78:ILE:HG21	1.97	0.45
21:LU:129:ILE:HD11	21:LU:131:LYS:HB3	1.97	0.45
27:La:122:LYS:HE3	27:La:122:LYS:HB2	1.61	0.45
31:Le:41:LEU:O	31:Le:42:ILE:HD13	2.16	0.45
33:Lg:76:VAL:HG13	33:Lg:81:ASP:HB3	1.97	0.45
36:Lj:70:TYR:O	36:Lj:76:GLN:NE2	2.49	0.45
37:Lk:86:LYS:O	37:Lk:90:MET:HG2	2.15	0.45
45:S2:446:A:H62	45:S2:461:G:H21	1.63	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:1010:C:H2'	45:S2:1011:G:O4'	2.15	0.45
45:S2:1144:U:H2'	45:S2:1145:U:O2	2.16	0.45
45:S2:1287:A:C8	45:S2:1313:A:H1'	2.52	0.45
46:SA:202:LEU:HA	46:SA:202:LEU:HD12	1.85	0.45
60:SO:209:THR:HG21	60:SO:226:ALA:HB2	1.97	0.45
62:SQ:136:ARG:HG2	62:SQ:138:PHE:CZ	2.51	0.45
62:SQ:137:ILE:HD13	62:SQ:176:VAL:HG21	1.98	0.45
64:SS:123:LEU:HD21	64:SS:235:TYR:HB2	1.98	0.45
70:SY:23:PRO:HD2	70:SY:26:PHE:HB2	1.98	0.45
72:Sa:4:ASP:OD1	72:Sa:4:ASP:N	2.49	0.45
72:Sa:46:ILE:HG12	72:Sa:49:GLU:HG3	1.98	0.45
80:eR:413:LEU:HD21	80:eR:419:PHE:HZ	1.80	0.45
1:LA:550:A:H1'	1:LA:551:G:C8	2.50	0.45
1:LA:1323:U:H2'	1:LA:1324:U:O4'	2.17	0.45
1:LA:1840:A:H1'	40:Ln:45:ARG:HH22	1.81	0.45
1:LA:2688:A:N3	1:LA:2688:A:H2'	2.31	0.45
12:LL:39:LYS:HA	12:LL:86:HIS:CD2	2.51	0.45
12:LL:108:ALA:O	12:LL:112:GLN:HB2	2.16	0.45
28:Lb:84:ARG:HH11	28:Lb:84:ARG:HG3	1.81	0.45
29:Lc:47:LYS:HD3	29:Lc:48:TYR:CZ	2.51	0.45
34:Lh:47:LYS:HA	34:Lh:104:PRO:HD2	1.97	0.45
43:Lq:14:GLY:C	43:Lq:16:THR:H	2.23	0.45
45:S2:428:A:O2'	45:S2:439:U:O2'	2.28	0.45
45:S2:821:U:H2'	45:S2:822:U:C6	2.51	0.45
45:S2:1480:G:OP1	54:SI:60:SER:OG	2.34	0.45
45:S2:1796:C:OP2	76:Se:92:ARG:HG2	2.15	0.45
46:SA:77:PHE:HE2	46:SA:79:TYR:CE2	2.34	0.45
55:SJ:24:ILE:HD12	55:SJ:24:ILE:O	2.16	0.45
61:SP:36:TYR:CD1	61:SP:161:PRO:HG3	2.51	0.45
63:SR:59:HIS:CD2	63:SR:239:PRO:HD3	2.52	0.45
63:SR:151:PRO:HG2	72:Sa:9:VAL:HG21	1.97	0.45
1:LA:213:A:N6	1:LA:227:G:O2'	2.47	0.45
1:LA:872:C:H5"	1:LA:873:U:OP2	2.17	0.45
1:LA:2151:A:H2'	1:LA:2152:U:C6	2.51	0.45
1:LA:2202:U:H2'	1:LA:2203:C:H6	1.81	0.45
1:LA:2423:A:H2'	1:LA:2424:G:O4'	2.16	0.45
1:LA:3130:U:H2'	1:LA:3131:C:C6	2.52	0.45
1:LA:3205:C:H2'	15:LO:99:TRP:CZ2	2.52	0.45
1:LA:3243:A:OP2	5:LE:100:ARG:NE	2.48	0.45
3:LC:143:U:H2'	3:LC:144:G:C8	2.51	0.45
5:LE:46:PHE:CE1	5:LE:205:VAL:HG22	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:LI:88:ARG:HA	9:LI:134:VAL:HG12	1.98	0.45
17:LQ:8[A]:VAL:HG13	17:LQ:34[A]:VAL:HG22	1.98	0.45
27:La:45:ILE:HD11	27:La:126:LEU:HG	1.97	0.45
28:Lb:83:THR:HG22	35:Li:93:PHE:CZ	2.51	0.45
39:Lm:66:ILE:HD12	39:Lm:69:LEU:HD13	1.98	0.45
45:S2:1259:U:H2'	45:S2:1260:U:C5	2.51	0.45
45:S2:1363:U:O2'	51:SF:26:LYS:HE3	2.16	0.45
45:S2:1549:C:OP1	50:SE:42:ARG:NH2	2.49	0.45
45:S2:1624:C:OP1	63:SR:91:ARG:NH2	2.44	0.45
46:SA:28:GLU:H	46:SA:28:GLU:CD	2.24	0.45
60:SO:10:ARG:HA	60:SO:10:ARG:HD3	1.73	0.45
60:SO:150:TRP:CD1	60:SO:150:TRP:H	2.34	0.45
61:SP:117:GLU:HB3	63:SR:40:LYS:HE3	1.97	0.45
63:SR:240:LEU:O	63:SR:244:SER:OG	2.26	0.45
65:ST:24:ILE:HG23	65:ST:27:PHE:HD2	1.80	0.45
68:SW:85:VAL:HG12	68:SW:99:LEU:HD22	1.97	0.45
70:SY:76:LYS:HA	70:SY:81:ALA:HB2	1.98	0.45
70:SY:89:TYR:HE1	70:SY:150:VAL:HG13	1.80	0.45
72:Sa:2:GLU:OE2	72:Sa:9:VAL:N	2.41	0.45
1:LA:226:C:C1'	27:La:29:VAL:HG13	2.46	0.45
1:LA:1801:C:H2'	1:LA:1802:C:C6	2.51	0.45
1:LA:2835:C:H5	1:LA:2851:C:N4	2.12	0.45
7:LG:95:TRP:HZ3	7:LG:199:ILE:HG12	1.81	0.45
12:LL:76:MET:SD	12:LL:148:VAL:HA	2.56	0.45
13:LM:162:TRP:CZ2	13:LM:166:LYS:HD2	2.51	0.45
14:LN:119:TYR:O	14:LN:123:ILE:HG23	2.16	0.45
15:LO:68:LEU:HD12	15:LO:90:VAL:HG23	1.99	0.45
20:LT:166:ASN:OD1	45:S2:849:C:N4	2.43	0.45
21:LU:141:LYS:HB3	21:LU:141:LYS:HE2	1.67	0.45
28:Lb:103:GLN:HE22	28:Lb:106:GLN:HB3	1.82	0.45
45:S2:162:A:H61	65:ST:56:ASN:CG	2.22	0.45
45:S2:407:A:H2'	45:S2:408:C:H6	1.77	0.45
45:S2:856:A:C6	66:SU:116:ARG:HD3	2.52	0.45
45:S2:986:G:H8	45:S2:987:G:C2	2.35	0.45
45:S2:1003:A:O2'	45:S2:1005:A:N7	2.47	0.45
45:S2:1282:U:H2'	45:S2:1283:U:O4'	2.17	0.45
45:S2:1488:G:H3'	45:S2:1515:A:H61	1.82	0.45
51:SF:40:GLU:HB3	51:SF:45:ARG:HH22	1.81	0.45
60:SO:76:ASP:OD1	60:SO:77:GLY:N	2.50	0.45
62:SQ:70:LEU:HG	62:SQ:84:ILE:HD11	1.99	0.45
64:SS:139:VAL:HG13	64:SS:150:PRO:HG2	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:SU:64:VAL:HG23	66:SU:67:LEU:HB2	1.99	0.45
69:SX:17:PRO:HG3	69:SX:63:LEU:HD11	1.97	0.45
1:LA:126:U:H1'	16:LP:57:GLN:HE22	1.82	0.45
1:LA:187:A:H2'	1:LA:188:U:C6	2.51	0.45
1:LA:289:A:H2'	1:LA:290:G:H8	1.81	0.45
1:LA:3159:U:H2'	1:LA:3160:C:H6	1.82	0.45
6:LF:181:VAL:HG21	6:LF:224:GLY:HA3	1.98	0.45
11:LK:102:ASN:C	11:LK:103:ILE:HD13	2.42	0.45
16:LP:146:ALA:HA	16:LP:149:ASN:ND2	2.32	0.45
20:LT:181:ARG:NH1	20:LT:184:LEU:HD22	2.32	0.45
45:S2:12:U:H2'	45:S2:13:C:H6	1.81	0.45
45:S2:1027:A:OP1	45:S2:1789:G:O2'	2.25	0.45
45:S2:1401:A:H4'	52:SG:10:LYS:NZ	2.31	0.45
45:S2:1589:C:H2'	45:S2:1590:G:C8	2.51	0.45
46:SA:167:PHE:CZ	46:SA:192:PRO:HB3	2.52	0.45
51:SF:73:GLY:N	51:SF:76:SER:OG	2.46	0.45
52:SG:5:ARG:HD2	52:SG:53:TYR:CD1	2.51	0.45
52:SG:100:LEU:HD11	61:SP:15:GLN:HG2	1.99	0.45
53:SH:26:ILE:HA	53:SH:57:ARG:CZ	2.47	0.45
53:SH:111:ASP:O	53:SH:115:ARG:HG2	2.17	0.45
58:SM:41:GLN:OE1	58:SM:41:GLN:N	2.50	0.45
60:SO:22:SER:HB2	60:SO:70:ASP:HA	1.99	0.45
62:SQ:153:HIS:CD2	62:SQ:154:SER:N	2.84	0.45
79:Ta:15:G:O2'	79:Ta:20:G:OP2	2.35	0.45
1:LA:8:C:C4	1:LA:9:U:C4	3.05	0.45
1:LA:310:U:H2'	1:LA:311:C:O4'	2.16	0.45
1:LA:518:A:OP2	21:LU:62:ASN:ND2	2.49	0.45
1:LA:787:C:H2'	1:LA:788:A:C8	2.52	0.45
1:LA:1687:U:H2'	1:LA:1688:U:C6	2.52	0.45
1:LA:2263:U:H2'	1:LA:2264:C:C6	2.52	0.45
1:LA:2921:G:C2	1:LA:2951:G:H1'	2.51	0.45
1:LA:3159:U:H2'	1:LA:3160:C:C6	2.52	0.45
1:LA:3334:A:H2'	1:LA:3335:A:C8	2.51	0.45
3:LC:43:A:H2'	3:LC:44:A:C8	2.52	0.45
12:LL:169:LYS:H	12:LL:169:LYS:HG2	1.58	0.45
13:LM:61:ARG:HH21	79:Ta:56:U:H2'	1.82	0.45
20:LT:95:TRP:CZ2	20:LT:99:LEU:HD22	2.52	0.45
23:LW:73:GLY:HA3	23:LW:103:TYR:OH	2.17	0.45
24:LX:15:LEU:HD13	24:LX:51:ALA:HB3	1.97	0.45
39:Lm:54:LEU:CD2	39:Lm:56:ILE:HG23	2.46	0.45
45:S2:1183:A:H62	50:SE:124:THR:HG21	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:1674:C:H2'	45:S2:1675:C:H6	1.82	0.45
47:SB:45:LYS:HG2	47:SB:46:TRP:CE3	2.52	0.45
52:SG:10:LYS:HG2	52:SG:53:TYR:CE2	2.52	0.45
53:SH:36:LYS:HE2	53:SH:36:LYS:HB3	1.78	0.45
55:SJ:28:SER:OG	55:SJ:29:THR:N	2.48	0.45
55:SJ:58:LEU:HD21	55:SJ:90:TYR:HD1	1.82	0.45
55:SJ:58:LEU:HD21	55:SJ:90:TYR:CD1	2.51	0.45
62:SQ:31:ASP:O	62:SQ:96:LEU:HG	2.16	0.45
70:SY:22:ALA:HB1	70:SY:23:PRO:HA	1.99	0.45
74:Sc:43:PHE:O	74:Sc:78:LYS:NZ	2.36	0.45
75:Sd:26:ASP:HB2	75:Sd:70:VAL:HG22	1.99	0.45
80:eR:37:LEU:HD21	80:eR:39:ILE:HD11	1.99	0.45
1:LA:207:U:H2'	1:LA:208:C:H6	1.82	0.45
1:LA:299:G:C5	37:Lk:31:GLY:HA3	2.52	0.45
1:LA:337:G:N1	3:LC:26:U:H5	2.14	0.45
1:LA:343:U:H1'	6:LF:95:ARG:HG3	1.99	0.45
1:LA:1554:U:H5'	1:LA:1555:C:OP2	2.17	0.45
1:LA:1639:G:H5'	1:LA:1736:U:O2'	2.16	0.45
1:LA:1657:G:H2'	1:LA:1658:U:C6	2.51	0.45
1:LA:1829:G:H5'	26:LZ:92:LYS:HB2	1.98	0.45
1:LA:2696:A:H2'	1:LA:2697:G:H8	1.79	0.45
1:LA:3185:A:H4'	1:LA:3186:A:OP2	2.15	0.45
3:LC:61:A:OP2	36:Lj:48:ARG:NH1	2.50	0.45
10:LJ:155:ASN:ND2	10:LJ:181:LYS:HA	2.27	0.45
13:LM:32:ARG:O	13:LM:36:VAL:HG12	2.16	0.45
24:LX:72:LYS:HE2	24:LX:72:LYS:HB3	1.66	0.45
35:Li:97:GLU:OE1	35:Li:97:GLU:HA	2.17	0.45
37:Lk:68:ARG:NH1	37:Lk:72:VAL:HG23	2.32	0.45
45:S2:300:A:H2'	45:S2:301:A:C8	2.52	0.45
45:S2:328:A:H2'	45:S2:329:G:C8	2.52	0.45
45:S2:767:U:H5	68:SW:142:ASN:OD1	1.99	0.45
45:S2:804:A:C8	73:Sb:107:SER:HA	2.52	0.45
45:S2:1478:G:OP2	54:SI:43:ASN:ND2	2.50	0.45
45:S2:1626:U:H2'	45:S2:1627:U:C6	2.52	0.45
53:SH:101:LEU:HB3	53:SH:104:ASN:HB2	1.98	0.45
65:ST:5:ILE:HD13	65:ST:16:PHE:CZ	2.51	0.45
65:ST:59:GLN:OE1	65:ST:72:ARG:NH1	2.47	0.45
75:Sd:57:VAL:O	75:Sd:94:TYR:OH	2.34	0.45
1:LA:497:A:O2'	1:LA:3272:A:N1	2.48	0.45
1:LA:558:A:O2'	15:LO:84:LYS:NZ	2.33	0.45
1:LA:1223:C:H2'	1:LA:1224:A:C8	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:1418:A:OP1	3:LC:21:C:H5'	2.17	0.45
1:LA:2180:C:H5"	4:LD:193:ARG:NH1	2.32	0.45
1:LA:2266:C:H2'	1:LA:2267:U:O4'	2.17	0.45
1:LA:2523:A:H1'	1:LA:2524:G:C8	2.51	0.45
1:LA:3173:A:OP2	34:Lh:97:SER:OG	2.25	0.45
3:LC:151:C:OP1	10:LJ:60:ARG:NH2	2.50	0.45
4:LD:33:ASP:OD1	4:LD:33:ASP:N	2.37	0.45
5:LE:72:VAL:HG11	24:LX:88:ARG:HH21	1.82	0.45
5:LE:208:VAL:O	5:LE:340:LYS:NZ	2.43	0.45
6:LF:140:HIS:NE2	6:LF:246:ARG:HD2	2.32	0.45
6:LF:175:HIS:O	6:LF:179:LEU:HD22	2.17	0.45
10:LJ:97:TYR:CE2	10:LJ:203:VAL:HG23	2.52	0.45
45:S2:1000:C:H5'	79:Ta:39:A:O3'	2.17	0.45
45:S2:1018:U:O2'	45:S2:1019:A:N7	2.48	0.45
45:S2:1237:G:O2'	45:S2:1238:A:H5'	2.17	0.45
45:S2:1484:G:O6	45:S2:1524:A:N6	2.49	0.45
54:SI:38:LYS:HD3	54:SI:38:LYS:H	1.82	0.45
55:SJ:32:LYS:HE3	55:SJ:33:GLN:CD	2.42	0.45
58:SM:31:ILE:HB	58:SM:36:LEU:HD11	1.99	0.45
59:SN:103:LEU:HD12	59:SN:103:LEU:HA	1.88	0.45
67:SV:140:GLU:HA	67:SV:143:TRP:HB2	1.99	0.45
68:SW:90:LYS:HD2	68:SW:92:LYS:H	1.81	0.45
75:Sd:90:ARG:HG2	75:Sd:90:ARG:HH11	1.82	0.45
82:pp:4377:TYR:HB2	82:pp:4378:ASN:H	1.59	0.45
1:LA:210:U:C2	1:LA:230:U:H4'	2.52	0.45
1:LA:1487:G:H5"	1:LA:1837:G:O6	2.17	0.45
1:LA:1912:A:N3	1:LA:2119:A:H2'	2.32	0.45
1:LA:3005:A:H2'	1:LA:3006:U:O4'	2.16	0.45
1:LA:3347:G:O6	1:LA:3356:U:H5	1.99	0.45
3:LC:123:G:H2'	3:LC:124:G:H8	1.81	0.45
10:LJ:99:PRO:HD3	10:LJ:132:VAL:HG22	1.99	0.45
14:LN:55:ARG:O	14:LN:115:ARG:NH2	2.48	0.45
15:LO:98:SER:O	15:LO:102:LYS:HE2	2.16	0.45
18:LR:120:ASN:OD1	18:LR:145:HIS:HB2	2.17	0.45
18:LR:175:ARG:O	18:LR:179:GLN:HG2	2.17	0.45
26:LZ:133:LEU:O	26:LZ:137:ASN:ND2	2.50	0.45
27:La:55:GLU:HB2	27:La:108:LYS:HB3	1.97	0.45
31:Le:99:ASP:N	31:Le:99:ASP:OD1	2.50	0.45
44:Lr:32:GLN:HE21	44:Lr:70:THR:HG23	1.81	0.45
45:S2:473:A:C4'	68:SW:44:ARG:NH2	2.69	0.45
45:S2:688:G:OP1	73:Sb:119:LYS:HG2	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:1756:A:N6	80:eR:127:CYS:O	2.49	0.45
46:SA:141:LYS:HB2	46:SA:179:GLN:HG3	1.99	0.45
47:SB:43:PHE:CD2	47:SB:46:TRP:HB2	2.52	0.45
56:SK:91:PRO:HA	56:SK:101:TYR:HA	1.99	0.45
61:SP:134:LYS:O	61:SP:137:SER:OG	2.31	0.45
63:SR:35:TRP:CE2	63:SR:37:PRO:HB3	2.52	0.45
80:eR:14:ILE:H	80:eR:14:ILE:HD12	1.82	0.45
1:LA:199:A:C4	1:LA:201:A:C8	3.05	0.44
1:LA:312:C:H1'	1:LA:2777:G:N2	2.32	0.44
1:LA:633:C:H5'	34:Lh:21:ARG:HB3	2.00	0.44
1:LA:1625:U:HO2'	1:LA:1626:U:P	2.38	0.44
1:LA:1728:A:H3'	1:LA:1729:G:H5'	1.99	0.44
1:LA:2106:A:H2	1:LA:3343:A:C8	2.34	0.44
1:LA:2317:U:H2'	1:LA:2318:U:O4'	2.17	0.44
1:LA:2373:C:OP1	1:LA:2822:G:O2'	2.25	0.44
1:LA:2388:C:H2'	1:LA:2389:A:C8	2.52	0.44
1:LA:2655:A:C5	1:LA:2657:G:C8	3.06	0.44
1:LA:2746:A:H5'	7:LG:175:HIS:HA	1.99	0.44
3:LC:84:C:H5"	3:LC:85:G:C6	2.52	0.44
16:LP:42:PRO:HB3	16:LP:61:ILE:HD13	1.98	0.44
22:LV:27:LEU:O	22:LV:31:LEU:HD12	2.17	0.44
28:Lb:68:ILE:HB	28:Lb:119:GLU:HG2	1.98	0.44
37:Lk:45:ARG:HH21	37:Lk:93:ILE:CD1	2.29	0.44
45:S2:296:U:OP1	64:SS:128:LYS:NZ	2.49	0.44
45:S2:421:A:H2'	45:S2:422:G:H5"	1.98	0.44
45:S2:1187:U:H2'	45:S2:1188:G:C8	2.52	0.44
45:S2:1229:G:H1	49:SD:47:GLU:HG3	1.81	0.44
46:SA:77:PHE:C	46:SA:78:LYS:HG2	2.41	0.44
54:SI:14:PHE:HE2	54:SI:63:ARG:HB2	1.82	0.44
54:SI:66:TYR:HA	54:SI:124:ILE:HB	1.98	0.44
55:SJ:106:ILE:HD12	55:SJ:106:ILE:HA	1.86	0.44
60:SO:123:ILE:HD11	60:SO:154:VAL:HG11	1.99	0.44
65:ST:79:LYS:HB2	65:ST:86:PRO:HG3	1.99	0.44
66:SU:44:LYS:N	66:SU:61:PHE:O	2.49	0.44
1:LA:29:C:OP1	16:LP:189:LYS:HB2	2.18	0.44
1:LA:38:U:H2'	1:LA:39:A:O4'	2.17	0.44
1:LA:66:A:N6	1:LA:76:G:H1'	2.32	0.44
1:LA:123:A:H5'	1:LA:124:U:OP2	2.17	0.44
1:LA:986:U:H2'	1:LA:987:U:C6	2.52	0.44
1:LA:1282:C:H2'	1:LA:1284:G:N1	2.32	0.44
1:LA:2196:C:H41	1:LA:2241:A:H5'	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:2498:U:H2'	1:LA:2499:A:C8	2.52	0.44
1:LA:2673:A:H2	13:LM:124:GLY:HA3	1.83	0.44
1:LA:2713:G:H4'	1:LA:2714:A:H5"	1.99	0.44
1:LA:3331:U:H2'	1:LA:3332:G:O4'	2.17	0.44
3:LC:37:A:OP2	36:Lj:86:ARG:NH1	2.50	0.44
9:LI:130:ILE:HD12	9:LI:134:VAL:HG11	1.97	0.44
14:LN:187:ALA:HA	14:LN:190:LYS:HG2	1.99	0.44
15:LO:48:GLY:O	15:LO:52:GLY:N	2.33	0.44
25:LY:45:ASN:HB3	25:LY:48:ARG:HG3	1.99	0.44
28:Lb:84:ARG:HG3	28:Lb:84:ARG:NH1	2.32	0.44
35:Li:12:PRO:HD2	35:Li:13:TYR:CD2	2.52	0.44
40:Ln:21:ARG:NH2	40:Ln:24:PRO:HG3	2.31	0.44
45:S2:874:C:H2'	45:S2:875:G:C8	2.52	0.44
45:S2:1501:C:H3'	45:S2:1502:G:O4'	2.16	0.44
45:S2:1552:U:H3	45:S2:1556:A:H62	1.66	0.44
47:SB:58:LEU:HD11	47:SB:167:ARG:HE	1.81	0.44
53:SH:36:LYS:NZ	53:SH:106:GLU:OE2	2.45	0.44
59:SN:92:LYS:HA	59:SN:92:LYS:HD2	1.72	0.44
62:SQ:153:HIS:HD2	62:SQ:154:SER:N	2.14	0.44
63:SR:83:ILE:HD11	63:SR:125:ILE:HD11	1.98	0.44
64:SS:181:VAL:HA	64:SS:227:VAL:HA	1.98	0.44
65:ST:70:PRO:HA	65:ST:98:ARG:HH12	1.82	0.44
70:SY:3:ARG:HD2	70:SY:3:ARG:N	2.32	0.44
1:LA:648:A:H2'	1:LA:649:C:C6	2.51	0.44
1:LA:1638:C:N4	35:Li:73:SER:HB2	2.31	0.44
1:LA:2231:A:H2'	1:LA:2232:A:C8	2.52	0.44
1:LA:2281:U:O2	1:LA:2309:U:H4'	2.18	0.44
1:LA:2360:A:H2'	1:LA:2361:C:H6	1.83	0.44
1:LA:2392:G:O2'	1:LA:2393:G:OP2	2.33	0.44
1:LA:2405:C:H2'	1:LA:2406:C:H6	1.81	0.44
3:LC:72:A:H5'	27:La:75:ARG:HD2	1.98	0.44
5:LE:107:ALA:HB1	5:LE:200:GLU:HG3	1.99	0.44
6:LF:44:LYS:HD2	6:LF:111:VAL:HG11	1.99	0.44
8:LH:53:VAL:HG11	8:LH:145:LEU:HD21	1.99	0.44
13:LM:107:ASP:OD1	13:LM:107:ASP:N	2.48	0.44
13:LM:173:ASP:OD1	13:LM:173:ASP:N	2.50	0.44
22:LV:157:GLU:OE2	22:LV:159:PHE:CD1	2.65	0.44
44:Lr:8:VAL:O	44:Lr:11:THR:OG1	2.35	0.44
45:S2:381:C:O2'	45:S2:755:A:N1	2.49	0.44
45:S2:569:C:H41	74:Sc:69:ARG:NH2	2.16	0.44
45:S2:574:G:O6	74:Sc:65:ASN:ND2	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:978:A:H2'	45:S2:979:A:O4'	2.17	0.44
45:S2:1429:G:O2'	55:SJ:72:ASN:ND2	2.50	0.44
63:SR:82:ASN:HB3	63:SR:207:LEU:HD23	1.99	0.44
63:SR:178:ILE:HA	63:SR:196:VAL:HG12	1.99	0.44
64:SS:87:MET:HE3	64:SS:123:LEU:HB2	1.99	0.44
66:SU:24:PHE:CE1	66:SU:77:LEU:HD11	2.52	0.44
70:SY:47:PRO:HG3	70:SY:75:LEU:HD12	2.00	0.44
1:LA:105:C:H2'	1:LA:106:A:H8	1.82	0.44
1:LA:160:G:O6	1:LA:261:U:O4	2.36	0.44
1:LA:742:C:H5"	1:LA:743:A:OP2	2.18	0.44
1:LA:2681:C:H5"	13:LM:68:HIS:ND1	2.32	0.44
1:LA:3233:A:N1	1:LA:3252:G:N2	2.54	0.44
6:LF:286:VAL:HG13	19:LS:32:LEU:HB2	2.00	0.44
6:LF:328:ASN:OD1	9:LI:48:ASN:ND2	2.50	0.44
7:LG:177:GLU:OE2	7:LG:190:ILE:HB	2.16	0.44
8:LH:59:GLU:OE2	8:LH:103:VAL:HG23	2.18	0.44
12:LL:86:HIS:HB3	12:LL:139:ARG:HB2	2.00	0.44
22:LV:114:ALA:O	22:LV:118:GLU:HG2	2.17	0.44
45:S2:52:U:H2'	45:S2:53:G:C8	2.53	0.44
45:S2:1488:G:O2'	45:S2:1494:C:O2	2.34	0.44
45:S2:1604:U:H2'	45:S2:1605:G:O4'	2.17	0.44
46:SA:28:GLU:HG3	48:SC:58:GLN:NE2	2.32	0.44
47:SB:189:THR:H	47:SB:192:GLU:CD	2.26	0.44
55:SJ:68:ARG:HH21	55:SJ:70:THR:HG21	1.82	0.44
57:SL:60:GLU:H	57:SL:60:GLU:CD	2.25	0.44
59:SN:123:ASN:ND2	59:SN:124:PRO:HD2	2.32	0.44
61:SP:188:LEU:HD11	61:SP:195:TRP:CD1	2.53	0.44
62:SQ:157:GLN:C	62:SQ:159:SER:H	2.24	0.44
66:SU:82:GLU:HG3	66:SU:90:VAL:HG22	1.99	0.44
71:SZ:47:LYS:HE3	71:SZ:47:LYS:HB3	1.79	0.44
80:eR:35:ILE:HG21	80:eR:78:VAL:HG21	1.99	0.44
1:LA:626:U:H2'	1:LA:627:A:H8	1.80	0.44
1:LA:1339:G:H2'	1:LA:1340:U:C6	2.52	0.44
1:LA:1463:G:H1'	1:LA:1510:U:O2	2.18	0.44
1:LA:2835:C:H2'	1:LA:2836:A:O4'	2.18	0.44
1:LA:3112:A:OP1	11:LK:73:SER:OG	2.33	0.44
1:LA:3138:A:H4'	5:LE:20:LYS:HD3	1.98	0.44
1:LA:3313:A:OP1	5:LE:175:LYS:HB2	2.17	0.44
2:LB:77:G:H5"	21:LU:46:GLN:O	2.17	0.44
3:LC:12:A:OP1	18:LR:3:ARG:NH2	2.44	0.44
3:LC:39:G:H8	3:LC:39:G:OP2	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:LC:48:A:H4'	36:Lj:45:LYS:NZ	2.33	0.44
3:LC:55:U:O4	3:LC:62:C:N3	2.50	0.44
12:LL:179:PRO:O	12:LL:183:LYS:HG2	2.17	0.44
15:LO:12:TRP:CD1	15:LO:12:TRP:O	2.71	0.44
17:LQ:20[A]:ALA:HB3	17:LQ:87[A]:MET:HE3	1.99	0.44
20:LT:15:VAL:HG13	20:LT:17:VAL:HG22	1.99	0.44
27:La:23:PRO:O	27:La:27:ARG:N	2.51	0.44
42:Lp:14:LYS:HE2	42:Lp:14:LYS:HB3	1.82	0.44
45:S2:85:A:HO2'	45:S2:86:A:P	2.40	0.44
45:S2:169:A:OP1	65:ST:177:ARG:NH2	2.43	0.44
45:S2:180:A:H2'	45:S2:180:A:N3	2.32	0.44
45:S2:809:A:H2'	45:S2:810:G:C8	2.52	0.44
45:S2:1307:U:H3	45:S2:1318:G:N2	2.15	0.44
46:SA:23:GLU:O	46:SA:26:THR:HG22	2.18	0.44
54:SI:111:ILE:HG23	54:SI:113:ILE:HG12	1.99	0.44
60:SO:42:LEU:HD22	60:SO:92:TRP:CZ3	2.53	0.44
60:SO:90:ARG:CZ	60:SO:102:ARG:HE	2.30	0.44
66:SU:9:LEU:HD11	66:SU:13:PRO:HA	2.00	0.44
71:SZ:29:HIS:CB	71:SZ:41:ARG:HA	2.44	0.44
73:Sb:52:TYR:HA	73:Sb:61:ILE:HD13	1.99	0.44
1:LA:1522:U:OP1	1:LA:1606:U:N3	2.46	0.44
1:LA:1603:G:H3'	1:LA:1603:G:N3	2.33	0.44
1:LA:1888:G:H5'	5:LE:245:GLY:CA	2.42	0.44
1:LA:2893:C:H2'	1:LA:2894:G:C8	2.51	0.44
1:LA:3012:U:H2'	1:LA:3013:U:C6	2.52	0.44
1:LA:3232:C:H2'	1:LA:3233:A:H8	1.79	0.44
2:LB:17:A:H2'	2:LB:18:C:C6	2.52	0.44
5:LE:261:MET:HE3	5:LE:261:MET:HB3	1.93	0.44
7:LG:95:TRP:CH2	7:LG:161:GLY:HA2	2.52	0.44
11:LK:128:VAL:HA	11:LK:157:ASN:HD21	1.83	0.44
11:LK:141:LYS:HE2	11:LK:142:ASP:OD2	2.17	0.44
46:SA:93:ASP:HB3	46:SA:96:LEU:HB2	1.99	0.44
47:SB:49:GLU:C	47:SB:50:GLU:HG3	2.43	0.44
52:SG:32:LYS:HG3	52:SG:47:ARG:HD3	2.00	0.44
55:SJ:84:MET:HE3	55:SJ:84:MET:HB2	1.86	0.44
57:SL:27:GLN:NE2	57:SL:43:ASN:OD1	2.51	0.44
60:SO:89:LEU:HB2	60:SO:103:PHE:HB2	1.99	0.44
61:SP:197:ILE:HG23	61:SP:201:LEU:HD13	1.98	0.44
1:LA:408:A:N6	3:LC:15:G:H1'	2.33	0.44
1:LA:723:U:H2'	1:LA:724:G:O4'	2.17	0.44
1:LA:1081:U:H2'	1:LA:1082:G:O4'	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:1213:U:H5	1:LA:1290:A:N1	2.14	0.44
1:LA:1306:G:OP2	17:LQ:59[A]:ARG:NH2	2.50	0.44
1:LA:1472:G:H5'	20:LT:24:LEU:O	2.17	0.44
1:LA:1481:A:C2	1:LA:1865:C:H2'	2.51	0.44
1:LA:3192:C:H2'	1:LA:3193:C:H6	1.82	0.44
1:LA:3290:G:H21	1:LA:3291:A:N6	2.14	0.44
4:LD:2:GLY:HA2	4:LD:207:VAL:HG23	1.99	0.44
9:LI:39:GLU:O	9:LI:43:ILE:HG22	2.17	0.44
13:LM:141:ARG:O	13:LM:145:LYS:HG2	2.17	0.44
14:LN:114:GLN:OE1	14:LN:114:GLN:HA	2.17	0.44
16:LP:84:PRO:O	16:LP:87:GLN:HB2	2.18	0.44
19:LS:150:VAL:HA	19:LS:153:PHE:CD2	2.52	0.44
29:Lc:74:ASN:HB3	29:Lc:76:ASP:OD1	2.17	0.44
45:S2:1159:C:O2'	51:SF:140:LYS:HE3	2.17	0.44
48:SC:3:MET:HE1	48:SC:41:TYR:CD2	2.53	0.44
52:SG:79:GLU:OE1	52:SG:80:ARG:N	2.50	0.44
54:SI:123:ARG:HG2	54:SI:124:ILE:N	2.32	0.44
61:SP:92:HIS:ND1	61:SP:202:TYR:OH	2.49	0.44
65:ST:22:HIS:HB2	65:ST:25:ARG:NH1	2.32	0.44
67:SV:37:LYS:C	67:SV:59:ARG:HA	2.42	0.44
67:SV:76:THR:OG1	67:SV:108:PRO:HG2	2.18	0.44
69:SX:57:LYS:HE2	69:SX:131:ILE:HG23	2.00	0.44
79:Ta:36:G:H3'	79:Ta:37:G:H5"	2.00	0.44
79:Ta:55:U:N3	79:Ta:56:U:O2'	2.51	0.44
79:Ta:73:A:H2'	79:Ta:74:A:O4'	2.17	0.44
80:eR:119:PRO:HB2	80:eR:165:THR:HG21	1.99	0.44
1:LA:155:G:H5"	1:LA:156:G:C8	2.53	0.44
1:LA:560:C:H2'	1:LA:561:C:H6	1.83	0.44
1:LA:799:G:O6	6:LF:104:LYS:NZ	2.36	0.44
1:LA:1340:U:H2'	1:LA:1341:C:C6	2.53	0.44
1:LA:1635:U:H1'	28:Lb:76:ASN:H	1.82	0.44
1:LA:2706:C:O2'	1:LA:2707:C:OP1	2.31	0.44
1:LA:2999:A:H2'	1:LA:3000:C:H6	1.83	0.44
1:LA:3180:C:HO2'	17:LQ:164[A]:SER:HG	1.64	0.44
3:LC:51:G:H4'	40:Ln:21:ARG:HH21	1.82	0.44
7:LG:68:THR:OG1	7:LG:71:GLY:O	2.26	0.44
45:S2:55:A:OP1	75:Sd:112:LYS:NZ	2.42	0.44
45:S2:404:G:H2'	45:S2:405:C:H6	1.82	0.44
45:S2:985:G:N7	45:S2:986:G:C6	2.85	0.44
45:S2:1031:U:H4'	45:S2:1032:G:OP2	2.17	0.44
45:S2:1528:U:OP1	47:SB:109:LYS:HE2	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:1550:A:H2'	45:S2:1551:U:C6	2.52	0.44
47:SB:41:LYS:HE3	47:SB:67:PRO:HG2	1.98	0.44
51:SF:59:LYS:HD3	51:SF:93:HIS:CE1	2.52	0.44
53:SH:91:ASP:N	53:SH:91:ASP:OD1	2.50	0.44
55:SJ:64:LYS:O	55:SJ:65:ILE:HD13	2.18	0.44
55:SJ:76:SER:O	55:SJ:78:THR:HG23	2.17	0.44
60:SO:249:ARG:HE	60:SO:299:GLN:HE22	1.66	0.44
61:SP:197:ILE:H	61:SP:197:ILE:HD12	1.82	0.44
62:SQ:86:LEU:HD23	62:SQ:86:LEU:HA	1.84	0.44
71:SZ:12:GLN:HA	71:SZ:111:ARG:HH22	1.83	0.44
72:Sa:86:SER:OG	77:Sf:9:HIS:O	2.25	0.44
79:Ta:29:C:H2'	79:Ta:30:G:H8	1.83	0.44
1:LA:179:C:O2	1:LA:179:C:H2'	2.17	0.44
1:LA:217:U:O2'	27:La:103:LYS:HE2	2.18	0.44
1:LA:650:G:O2'	1:LA:1434:A:OP1	2.36	0.44
1:LA:714:A:HO2'	1:LA:751:C:HO2'	1.62	0.44
1:LA:747:U:H5"	30:Ld:31:SER:HA	1.99	0.44
1:LA:862:C:H2'	1:LA:863:G:O4'	2.18	0.44
1:LA:1739:U:OP1	1:LA:1739:U:H3'	2.18	0.44
1:LA:1765:G:O6	20:LT:46:LYS:NZ	2.43	0.44
1:LA:2248:G:N1	1:LA:2266:C:H5	2.10	0.44
1:LA:3213:U:C5	15:LO:121:MET:HG3	2.53	0.44
5:LE:35:ASP:OD2	5:LE:191:LYS:NZ	2.42	0.44
5:LE:153:LYS:HE3	5:LE:153:LYS:HB2	1.81	0.44
8:LH:100:LYS:HE3	8:LH:100:LYS:HB2	1.68	0.44
14:LN:2:ALA:HB1	29:Lc:33:GLY:O	2.18	0.44
17:LQ:75[A]:ALA:HB1	17:LQ:106[A]:GLU:OE2	2.18	0.44
19:LS:89:ASP:HB2	19:LS:110:ALA:N	2.33	0.44
21:LU:24:LEU:O	22:LV:148:PRO:HA	2.17	0.44
24:LX:86:ARG:HB2	24:LX:92:PHE:CE2	2.52	0.44
32:Lf:10:ARG:HD2	32:Lf:12:TYR:OH	2.18	0.44
45:S2:169:A:O2'	45:S2:171:A:N7	2.34	0.44
45:S2:181:A:H2'	45:S2:182:A:C8	2.53	0.44
45:S2:206:A:H62	45:S2:259:U:H3	1.66	0.44
45:S2:511:A:HO2'	45:S2:512:A:P	2.40	0.44
45:S2:648:G:H2'	45:S2:648:G:N3	2.33	0.44
45:S2:1251:U:H1'	45:S2:1252:C:H5	1.82	0.44
62:SQ:2:ALA:N	71:SZ:45:GLY:O	2.50	0.44
64:SS:100:ARG:NH2	64:SS:122:LYS:HA	2.33	0.44
71:SZ:28:VAL:HG22	71:SZ:67:VAL:HG21	1.99	0.44
76:Se:87:ARG:HB3	76:Se:91:ASP:OD1	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:1276:C:H2'	1:LA:1277:A:H8	1.80	0.43
1:LA:1388:G:H5"	33:Lg:101:SER:HB3	2.00	0.43
1:LA:1619:U:H2'	1:LA:1620:A:H5'	2.00	0.43
1:LA:1803:A:H2'	1:LA:1804:C:H6	1.82	0.43
1:LA:1948:G:OP2	20:LT:135:LYS:NZ	2.34	0.43
1:LA:2564:U:H2'	1:LA:2565:C:H6	1.83	0.43
1:LA:3114:C:HO2'	1:LA:3116:C:H41	1.64	0.43
3:LC:135:G:P	26:LZ:56:ARG:HH22	2.41	0.43
5:LE:125:SER:OG	5:LE:126:LYS:N	2.50	0.43
5:LE:360:ASP:OD1	5:LE:364:LYS:NZ	2.51	0.43
10:LJ:33:ASN:ND2	10:LJ:38:GLN:HE21	2.16	0.43
12:LL:50:VAL:HG22	12:LL:167:LEU:HD13	1.99	0.43
17:LQ:23[A]:VAL:O	17:LQ:27[A]:LEU:HG	2.18	0.43
17:LQ:37[A]:ARG:HG2	17:LQ:108[A]:ILE:HD11	2.00	0.43
21:LU:33:ASN:ND2	21:LU:36:ILE:HD13	2.33	0.43
28:Lb:9:LYS:O	28:Lb:25:ILE:HG22	2.18	0.43
31:Le:13:LYS:HD3	31:Le:100:ILE:HA	1.98	0.43
31:Le:34:LEU:HD13	31:Le:59:TYR:HB3	2.00	0.43
43:Lq:25:VAL:HG22	43:Lq:72:LEU:HD22	2.00	0.43
45:S2:30:G:H4'	74:Sc:131:SER:HB3	2.00	0.43
45:S2:963:A:O2'	45:S2:964:U:O5'	2.35	0.43
45:S2:985:G:H22	45:S2:1017:U:H1'	1.83	0.43
45:S2:1133:A:H2'	45:S2:1134:C:O4'	2.17	0.43
45:S2:1292:G:H2'	45:S2:1293:U:C6	2.52	0.43
45:S2:1327:C:H5"	46:SA:157:LEU:O	2.18	0.43
45:S2:1536:G:H2'	45:S2:1536:G:N3	2.33	0.43
45:S2:1673:G:C6	45:S2:1728:A:C2	3.05	0.43
47:SB:76:ARG:NH1	51:SF:120:ASP:OD1	2.51	0.43
60:SO:21:THR:OG1	60:SO:69:GLN:O	2.31	0.43
61:SP:172:LEU:HD23	61:SP:199:PRO:HB3	2.00	0.43
62:SQ:24:PHE:HE1	71:SZ:39:ILE:HG22	1.82	0.43
62:SQ:181:LEU:O	62:SQ:185:THR:HG23	2.18	0.43
66:SU:61:PHE:HZ	66:SU:176:LEU:HD21	1.82	0.43
69:SX:109:VAL:HG21	69:SX:125:VAL:HG11	2.00	0.43
69:SX:125:VAL:HB	69:SX:137:PHE:HB3	1.99	0.43
70:SY:15:ALA:HB2	77:Sf:20:LYS:HE3	2.00	0.43
70:SY:23:PRO:HG3	70:SY:61:THR:OG1	2.18	0.43
74:Sc:90:ASP:OD1	78:Sg:12:GLY:HA2	2.18	0.43
75:Sd:68:LYS:HE3	75:Sd:68:LYS:HB2	1.90	0.43
79:Ta:61:U:H5'	79:Ta:62:C:H2'	1.98	0.43
1:LA:779:A:O4'	19:LS:162:ALA:HA	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:1011:G:H2'	1:LA:1012:G:O4'	2.18	0.43
1:LA:1290:A:H2'	1:LA:1291:C:O4'	2.19	0.43
1:LA:1502:A:N3	82:pp:4360:ARG:HD3	2.33	0.43
1:LA:1687:U:C2	1:LA:1688:U:C5	3.06	0.43
1:LA:1804:C:H2'	1:LA:1805:A:H8	1.83	0.43
1:LA:2560:A:O2'	1:LA:2561:A:H8	2.01	0.43
1:LA:2591:G:H4'	1:LA:2593:C:C2	2.53	0.43
1:LA:2941:C:H5"	1:LA:2942:G:H5"	1.99	0.43
6:LF:9:HIS:O	6:LF:153:SER:N	2.46	0.43
6:LF:280:ILE:HD11	19:LS:105:ARG:CZ	2.48	0.43
12:LL:32:ARG:HA	12:LL:32:ARG:HD2	1.84	0.43
16:LP:94:TYR:CE2	16:LP:96:ARG:HB2	2.54	0.43
20:LT:110:ARG:HE	20:LT:110:ARG:HB3	1.68	0.43
26:LZ:105:VAL:HG23	26:LZ:130:TYR:CE2	2.52	0.43
34:Lh:59:VAL:HG13	34:Lh:60:ARG:N	2.33	0.43
35:Li:72:VAL:HG22	35:Li:73:SER:H	1.83	0.43
39:Lm:14:LEU:HD23	39:Lm:14:LEU:HA	1.78	0.43
45:S2:66:U:H3	65:ST:160:ARG:HD2	1.82	0.43
45:S2:68:A:N7	65:ST:160:ARG:NH1	2.50	0.43
45:S2:622:A:H4'	45:S2:623:A:O5'	2.18	0.43
46:SA:38:GLU:HG3	46:SA:49:ILE:HB	2.00	0.43
51:SF:99:GLU:OE1	51:SF:103:ASN:ND2	2.35	0.43
55:SJ:36:ASN:OD1	55:SJ:37:VAL:N	2.52	0.43
57:SL:10:ALA:HB1	57:SL:30:VAL:CG1	2.48	0.43
57:SL:19:THR:HG21	57:SL:27:GLN:HE21	1.83	0.43
60:SO:13:LEU:HG	60:SO:310:ILE:HB	1.99	0.43
60:SO:197:SER:OG	60:SO:198:ASN:N	2.51	0.43
61:SP:13:ASP:N	61:SP:13:ASP:OD1	2.51	0.43
64:SS:37:LYS:O	64:SS:41:SER:HB3	2.18	0.43
67:SV:38:ILE:HA	67:SV:60:ILE:O	2.18	0.43
68:SW:32:GLY:HA3	78:Sg:40:TYR:CG	2.53	0.43
1:LA:66:A:C2	1:LA:77:A:H5"	2.53	0.43
1:LA:673:G:O6	19:LS:56:LYS:NZ	2.51	0.43
1:LA:762:G:H2'	1:LA:763:U:O4'	2.18	0.43
1:LA:1002:A:H1'	7:LG:15:ARG:CZ	2.48	0.43
1:LA:1183:A:H2'	1:LA:1184:C:C6	2.53	0.43
1:LA:1576:G:C4	1:LA:1577:C:H5	2.36	0.43
1:LA:1590:G:OP1	35:Li:37:LYS:HE2	2.18	0.43
1:LA:1681:U:O2	23:LW:82:LYS:HG2	2.18	0.43
1:LA:2093:C:H5'	1:LA:2094:G:OP1	2.17	0.43
1:LA:2269:A:H2'	1:LA:2270:A:C8	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:2706:C:H2'	1:LA:2707:C:C6	2.54	0.43
1:LA:3272:A:P	8:LH:77:ARG:HH22	2.42	0.43
3:LC:107:G:H4'	3:LC:138:A:H5'	2.00	0.43
3:LC:132:G:H2'	3:LC:133:G:H8	1.84	0.43
5:LE:372:THR:HG22	5:LE:374:ALA:N	2.32	0.43
7:LG:239:ILE:HA	7:LG:243:ALA:HB3	2.00	0.43
16:LP:183:THR:HG22	16:LP:187:ARG:HB2	1.99	0.43
25:LY:3:VAL:HG11	25:LY:12:LYS:HB3	2.00	0.43
31:Le:66:LYS:HG3	31:Le:67:VAL:N	2.32	0.43
45:S2:392:G:OP1	45:S2:1729:C:O2'	2.34	0.43
45:S2:1199:G:C5	58:SM:40:ARG:HD3	2.52	0.43
45:S2:1727:G:H2'	45:S2:1728:A:C8	2.52	0.43
49:SD:59:LEU:HD23	49:SD:59:LEU:HA	1.84	0.43
51:SF:87:LYS:N	51:SF:87:LYS:HD3	2.33	0.43
53:SH:80:LYS:HA	53:SH:80:LYS:HD3	1.74	0.43
54:SI:101:ASN:O	54:SI:104:VAL:HG12	2.18	0.43
61:SP:119:ARG:O	61:SP:142:PRO:HD2	2.17	0.43
66:SU:51:VAL:HG13	66:SU:171:ALA:HB2	2.00	0.43
72:Sa:3:ASN:ND2	72:Sa:7:GLN:OE1	2.51	0.43
73:Sb:42:GLN:NE2	73:Sb:48:GLY:O	2.45	0.43
75:Sd:16:PRO:C	75:Sd:19:ALA:H	2.27	0.43
79:Ta:19:G:N1	79:Ta:58:A:OP1	2.44	0.43
1:LA:229:G:H5"	27:La:4:GLN:HG2	1.98	0.43
1:LA:663:U:H2'	1:LA:664:A:H8	1.83	0.43
1:LA:676:A:OP1	19:LS:89:ASP:HB3	2.18	0.43
1:LA:1506:G:H1'	18:LR:139:TYR:CE2	2.54	0.43
1:LA:2992:G:H2'	1:LA:3141:A:N6	2.33	0.43
2:LB:24:A:H4'	2:LB:120:C:H4'	2.00	0.43
10:LJ:134:TYR:HB3	10:LJ:190:VAL:HG11	1.99	0.43
12:LL:169:LYS:HE2	12:LL:169:LYS:HB3	1.66	0.43
14:LN:166:ALA:HB1	29:Lc:147:LEU:HG	2.01	0.43
20:LT:4:LEU:HD11	20:LT:29:THR:HG23	2.01	0.43
36:Lj:30:GLU:O	36:Lj:34:GLN:HG3	2.19	0.43
45:S2:950:C:H2'	45:S2:951:A:C8	2.54	0.43
45:S2:1590:G:OP1	54:SI:91:TYR:HB2	2.19	0.43
45:S2:1616:G:H2'	45:S2:1617:U:C6	2.54	0.43
46:SA:124:ARG:HA	46:SA:127:MET:SD	2.58	0.43
46:SA:162:GLN:N	46:SA:163:PRO:HD2	2.33	0.43
47:SB:40:ILE:HD12	47:SB:42:LEU:HD22	2.00	0.43
62:SQ:2:ALA:N	71:SZ:48:VAL:O	2.51	0.43
62:SQ:31:ASP:C	62:SQ:31:ASP:OD1	2.61	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:SQ:40:ASN:HB2	62:SQ:73:LEU:O	2.18	0.43
62:SQ:65:VAL:HG11	62:SQ:85:LYS:NZ	2.33	0.43
67:SV:97:THR:O	67:SV:169:ILE:HD11	2.18	0.43
68:SW:66:ASP:HB3	68:SW:69:ARG:HG2	2.00	0.43
68:SW:129:ILE:HA	68:SW:134:ILE:HD13	2.00	0.43
73:Sb:24:GLN:HA	73:Sb:63:VAL:O	2.17	0.43
75:Sd:27:VAL:HG11	75:Sd:40:LEU:HD21	1.99	0.43
80:eR:77:SER:HB2	80:eR:111:ASN:ND2	2.33	0.43
80:eR:172:PHE:HE2	80:eR:201:TYR:HE1	1.67	0.43
1:LA:346:C:C2	3:LC:25:G:H4'	2.54	0.43
1:LA:1333:U:H2'	1:LA:1334:C:C6	2.53	0.43
1:LA:1525:U:OP1	1:LA:1526:C:N4	2.42	0.43
1:LA:1707:C:H2'	1:LA:1708:C:H6	1.82	0.43
1:LA:2159:G:H2'	1:LA:2160:G:H8	1.84	0.43
1:LA:3112:A:H5'	11:LK:69:ARG:HE	1.83	0.43
5:LE:347:SER:C	5:LE:349:LYS:H	2.26	0.43
11:LK:103:ILE:HD12	11:LK:134:ILE:HG21	2.00	0.43
14:LN:131:LYS:HB3	14:LN:131:LYS:HE3	1.82	0.43
31:Le:14:LEU:CD2	31:Le:81:VAL:HG23	2.48	0.43
45:S2:5:U:H2'	45:S2:6:G:C8	2.51	0.43
45:S2:241:U:H2'	45:S2:242:U:C6	2.52	0.43
45:S2:932:U:OP2	62:SQ:155:TYR:OH	2.22	0.43
45:S2:1213:G:OP1	59:SN:87:THR:HG21	2.18	0.43
45:S2:1437:U:H4'	46:SA:176:LEU:HD11	1.99	0.43
52:SG:21:TYR:HD1	52:SG:58:MET:HE1	1.81	0.43
60:SO:150:TRP:H	60:SO:150:TRP:HD1	1.66	0.43
72:Sa:87:ARG:O	77:Sf:5:GLN:NE2	2.27	0.43
80:eR:121:ASN:HB2	80:eR:165:THR:HA	2.00	0.43
1:LA:2180:C:H5"	4:LD:193:ARG:CZ	2.49	0.43
1:LA:2655:A:O2'	1:LA:2656:A:H3'	2.18	0.43
1:LA:2774:U:H2'	1:LA:2775:C:C6	2.53	0.43
3:LC:67:U:H2'	3:LC:68:G:H8	1.84	0.43
4:LD:117:GLU:HB2	4:LD:162:ALA:HB1	2.00	0.43
8:LH:46:ARG:HD3	8:LH:47:PHE:CE1	2.53	0.43
8:LH:148:GLU:OE1	8:LH:151:LYS:HE2	2.19	0.43
10:LJ:86:THR:O	10:LJ:90:THR:HG23	2.18	0.43
10:LJ:178:ALA:HB2	10:LJ:218:ILE:HD13	2.00	0.43
11:LK:53:ILE:HD12	15:LO:7:VAL:HG21	1.99	0.43
11:LK:86:TYR:CD1	11:LK:151:VAL:HB	2.53	0.43
13:LM:9:MET:HE2	13:LM:9:MET:C	2.42	0.43
13:LM:120:ILE:HG13	13:LM:121:GLY:N	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:LT:7:GLN:O	20:LT:11:ALA:N	2.45	0.43
20:LT:23:TRP:HB3	20:LT:51:VAL:HG12	1.99	0.43
21:LU:138:GLN:OE1	21:LU:138:GLN:HA	2.18	0.43
22:LV:129:LYS:HE3	22:LV:129:LYS:HB2	1.72	0.43
25:LY:60:LYS:HD3	25:LY:60:LYS:HA	1.77	0.43
32:Lf:20:LEU:HD13	32:Lf:28:ARG:HG3	2.01	0.43
36:Lj:63:ARG:HH12	36:Lj:80:LEU:HD23	1.83	0.43
45:S2:119:A:H3'	45:S2:120:U:O4'	2.19	0.43
45:S2:472:U:O4	45:S2:474:A:N6	2.51	0.43
45:S2:547:U:H1'	45:S2:596:C:H1'	2.01	0.43
47:SB:123:VAL:HG13	47:SB:124:LEU:HD12	2.00	0.43
53:SH:125:ILE:HD12	53:SH:125:ILE:HA	1.94	0.43
60:SO:238:ASP:OD2	60:SO:258:THR:OG1	2.28	0.43
65:ST:79:LYS:HG3	65:ST:80:ASN:N	2.32	0.43
67:SV:196:LEU:HD23	67:SV:196:LEU:HA	1.83	0.43
80:eR:101:VAL:O	80:eR:101:VAL:HG13	2.18	0.43
80:eR:397:GLN:O	80:eR:401:GLN:HG2	2.18	0.43
1:LA:324:A:H2'	1:LA:325:A:C8	2.53	0.43
1:LA:1393:A:H61	1:LA:1415:C:H1'	1.82	0.43
1:LA:1522:U:H3'	1:LA:1606:U:O2	2.19	0.43
5:LE:316:GLU:HG2	5:LE:318:LYS:HG3	2.01	0.43
6:LF:304:GLN:C	6:LF:306:THR:H	2.27	0.43
13:LM:54:VAL:H	13:LM:59:ILE:HG22	1.83	0.43
19:LS:175:ALA:C	29:Lc:51:GLY:HA2	2.44	0.43
33:Lg:54:LYS:HD3	33:Lg:55:ILE:N	2.33	0.43
36:Lj:26:LYS:NZ	36:Lj:26:LYS:HB3	2.33	0.43
45:S2:17:C:H2'	45:S2:18:C:C6	2.54	0.43
45:S2:83:G:H5"	45:S2:84:A:OP1	2.18	0.43
45:S2:321:C:H4'	45:S2:322:G:H5'	2.00	0.43
45:S2:1114:G:O2'	45:S2:1130:G:O6	2.29	0.43
46:SA:119:ALA:O	46:SA:123:VAL:HG22	2.18	0.43
54:SI:56:LYS:O	54:SI:60:SER:N	2.45	0.43
62:SQ:145:LYS:NZ	62:SQ:152:ARG:O	2.33	0.43
63:SR:166:THR:HG22	63:SR:201:ASN:OD1	2.18	0.43
67:SV:72:ILE:HD13	67:SV:112:TRP:CE3	2.53	0.43
68:SW:50:SER:HA	68:SW:53:ARG:NH2	2.34	0.43
75:Sd:52:LYS:HG3	75:Sd:53:ASP:OD1	2.17	0.43
80:eR:84:LEU:HA	80:eR:84:LEU:HD12	1.80	0.43
1:LA:594:G:N1	1:LA:608:G:H5"	2.33	0.43
1:LA:1765:G:H2'	1:LA:1766:C:H6	1.84	0.43
1:LA:2406:C:H2'	1:LA:2407:U:C6	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:3093:A:H2'	1:LA:3094:U:C6	2.54	0.43
2:LB:56:A:H4'	13:LM:152:HIS:HB2	2.00	0.43
5:LE:112:ASP:N	5:LE:112:ASP:OD1	2.50	0.43
5:LE:116:ARG:HB3	5:LE:175:LYS:HG3	2.01	0.43
5:LE:123:TYR:CE1	5:LE:124:LYS:HD3	2.54	0.43
7:LG:184:ASP:OD2	7:LG:187:THR:HG22	2.18	0.43
9:LI:176:TYR:CZ	9:LI:197:GLN:HG2	2.54	0.43
12:LL:20:SER:O	12:LL:24:ARG:N	2.51	0.43
15:LO:13:ARG:HE	21:LU:172:TYR:C	2.27	0.43
15:LO:32:LEU:HB3	15:LO:85:TRP:HH2	1.83	0.43
24:LX:35:TYR:HE1	24:LX:37:ILE:HG22	1.83	0.43
31:Le:79:THR:HG23	70:SY:148:ALA:HA	2.00	0.43
32:Lf:25:PHE:CD1	32:Lf:65:LYS:HG3	2.54	0.43
45:S2:334:G:H2'	45:S2:335:U:H6	1.84	0.43
45:S2:1313:A:H8	45:S2:1315:U:O4'	2.02	0.43
45:S2:1424:A:OP2	46:SA:151:LYS:NZ	2.50	0.43
45:S2:1566:U:H4'	53:SH:37:GLY:C	2.43	0.43
45:S2:1796:C:C2	76:Se:5:ARG:HB3	2.53	0.43
46:SA:77:PHE:CE2	46:SA:79:TYR:CE1	3.02	0.43
47:SB:109:LYS:HB3	47:SB:109:LYS:HE2	1.80	0.43
48:SC:15:LEU:HD11	48:SC:46:LEU:HD11	2.01	0.43
50:SE:28:MET:HE3	50:SE:28:MET:H	1.82	0.43
56:SK:55:PRO:O	56:SK:56:THR:HG22	2.19	0.43
59:SN:132:LEU:HD23	59:SN:132:LEU:HA	1.92	0.43
61:SP:79:ARG:HH21	61:SP:164:ASN:HB3	1.83	0.43
62:SQ:101:HIS:O	62:SQ:217:LEU:HB2	2.18	0.43
69:SX:6:THR:OG1	69:SX:9:SER:HB3	2.19	0.43
69:SX:40:LEU:HD13	69:SX:70:ILE:HD11	2.00	0.43
74:Sc:131:SER:O	74:Sc:135:LEU:HD22	2.18	0.43
80:eR:402:PHE:HA	80:eR:406:PHE:HD1	1.83	0.43
1:LA:393:U:H2'	1:LA:394:G:O4'	2.18	0.43
1:LA:619:U:HO2'	1:LA:620:A:P	2.42	0.43
1:LA:700:G:H2'	1:LA:701:C:C6	2.54	0.43
1:LA:846:A:H2'	1:LA:847:A:C8	2.54	0.43
1:LA:2761:A:H2'	1:LA:2762:U:C6	2.52	0.43
6:LF:140:HIS:O	6:LF:142:VAL:HG13	2.19	0.43
14:LN:105:ASN:HD21	14:LN:107:GLU:CD	2.26	0.43
45:S2:523:G:C8	45:S2:524:U:H5	2.36	0.43
45:S2:544:A:O2'	78:Sg:31:LYS:NZ	2.51	0.43
45:S2:863:A:O5'	73:Sb:57:ARG:HG2	2.19	0.43
48:SC:3:MET:HE3	48:SC:4:PRO:HD2	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:SG:27:ASP:OD1	60:SO:38:ARG:NH1	2.38	0.43
60:SO:114:ASP:OD1	60:SO:114:ASP:C	2.62	0.43
60:SO:197:SER:OG	60:SO:198:ASN:OD1	2.36	0.43
62:SQ:214:LYS:HB3	62:SQ:214:LYS:HE2	1.72	0.43
63:SR:58:LEU:HA	72:Sa:12:TYR:HE1	1.84	0.43
64:SS:241:GLY:O	64:SS:244:ILE:HG12	2.18	0.43
65:ST:154:ARG:NH2	65:ST:155:ASP:HB3	2.34	0.43
69:SX:7:VAL:HG21	69:SX:52:SER:HB2	2.00	0.43
72:Sa:79:LEU:HD22	72:Sa:82:VAL:HG21	2.01	0.43
1:LA:142:C:H2'	1:LA:143:G:O4'	2.19	0.43
1:LA:147:U:H5'	10:LJ:136:LEU:HB3	2.01	0.43
1:LA:1053:A:H5"	1:LA:2636:A:H61	1.84	0.43
1:LA:1361:G:H2'	1:LA:1362:A:C8	2.54	0.43
1:LA:1446:G:O2'	1:LA:2354:G:O6	2.35	0.43
1:LA:1640:U:O2'	1:LA:1641:A:H3'	2.19	0.43
1:LA:3050:U:C2	1:LA:3051:G:C8	3.07	0.43
1:LA:3352:G:H8	67:SV:77:ARG:NH2	2.16	0.43
4:LD:10:LYS:HA	4:LD:16:PHE:CD2	2.53	0.43
7:LG:48:LYS:HG2	7:LG:145:PHE:HE2	1.83	0.43
7:LG:49:TYR:HB3	7:LG:144:VAL:HG12	2.01	0.43
11:LK:88:TYR:O	11:LK:146:LEU:HD23	2.18	0.43
12:LL:36:LEU:O	12:LL:86:HIS:HD2	2.01	0.43
31:Le:13:LYS:HE2	31:Le:13:LYS:HB2	1.51	0.43
32:Lf:48:ASP:OD2	32:Lf:50:ARG:NH2	2.48	0.43
40:Ln:37:TYR:HB3	82:pp:4359:ILE:HG21	2.01	0.43
45:S2:1039:A:N6	45:S2:1091:A:C5	2.86	0.43
45:S2:1639:C:H2'	45:S2:1640:C:O4'	2.19	0.43
46:SA:185:LYS:HE3	46:SA:185:LYS:HB2	1.75	0.43
47:SB:46:TRP:CD1	47:SB:129:PRO:HG2	2.53	0.43
50:SE:32:ASP:HA	50:SE:35:LYS:HG2	2.01	0.43
50:SE:80:MET:HE3	50:SE:80:MET:HB3	1.84	0.43
55:SJ:53:LYS:HA	55:SJ:53:LYS:HD2	1.78	0.43
62:SQ:120:LEU:CD2	62:SQ:122:GLU:HG3	2.49	0.43
72:Sa:80:LYS:HD3	72:Sa:80:LYS:HA	1.89	0.43
1:LA:967:G:H2'	1:LA:968:C:H6	1.84	0.42
1:LA:1189:A:H2'	1:LA:1189:A:N3	2.34	0.42
1:LA:1803:A:H2'	1:LA:1804:C:C6	2.54	0.42
1:LA:2861:U:H4'	80:eR:193:LEU:HD13	2.01	0.42
1:LA:3055:U:O2	32:Lf:28:ARG:NH1	2.47	0.42
2:LB:29:C:H3'	2:LB:30:G:H8	1.84	0.42
3:LC:85:G:H4'	3:LC:86:U:OP1	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:LE:113:GLU:OE2	5:LE:167:ARG:NH1	2.52	0.42
6:LF:69:ARG:HH21	82:pp:4370:VAL:HA	1.83	0.42
9:LI:55:TYR:O	9:LI:59:GLU:HG2	2.19	0.42
9:LI:119:VAL:HG13	9:LI:124:LEU:HD21	2.00	0.42
11:LK:75:VAL:HG12	11:LK:79:ILE:HD12	2.00	0.42
13:LM:157:GLU:H	13:LM:157:GLU:HG2	1.58	0.42
14:LN:168:ARG:NH2	14:LN:172:LEU:HD21	2.33	0.42
15:LO:19:ARG:HG2	15:LO:65:LEU:HD22	2.00	0.42
23:LW:22:PRO:HA	23:LW:107:PHE:HE1	1.84	0.42
23:LW:80:THR:HG21	23:LW:95:PHE:CD2	2.54	0.42
27:La:63:LYS:HZ3	27:La:85:VAL:HG23	1.84	0.42
37:Lk:45:ARG:HD2	37:Lk:45:ARG:C	2.44	0.42
39:Lm:42:LYS:HE2	39:Lm:53:THR:HG21	2.00	0.42
45:S2:475:A:C6	45:S2:476:U:H1’	2.53	0.42
45:S2:602:U:H2’	45:S2:603:U:H6	1.83	0.42
45:S2:912:U:O2’	45:S2:913:G:H5’	2.19	0.42
45:S2:955:A:H2’	45:S2:956:C:O4’	2.19	0.42
45:S2:1157:A:H2’	45:S2:1160:A:N7	2.34	0.42
45:S2:1278:G:H2’	45:S2:1279:C:C6	2.54	0.42
45:S2:1379:C:H2’	45:S2:1380:U:C5	2.53	0.42
45:S2:1621:U:C4	45:S2:1622:G:N7	2.87	0.42
45:S2:1736:G:N7	45:S2:1737:G:N1	2.67	0.42
60:SO:221:MET:HE2	60:SO:221:MET:HB3	1.65	0.42
60:SO:266:ASP:HB2	60:SO:267:PRO:HD3	2.00	0.42
60:SO:294:TRP:CZ2	60:SO:301:LEU:HD22	2.54	0.42
64:SS:182:TYR:HE1	64:SS:190:GLY:HA2	1.84	0.42
68:SW:119:ALA:HB1	68:SW:125:ALA:HB2	2.01	0.42
70:SY:110:ASP:O	70:SY:114:ARG:HG2	2.19	0.42
71:SZ:89:THR:CG2	71:SZ:128:LYS:HA	2.49	0.42
76:Se:37:LYS:HA	76:Se:71:LEU:O	2.19	0.42
80:eR:14:ILE:HG23	80:eR:140:LEU:HD11	2.00	0.42
1:LA:92:G:H5’	1:LA:94:G:N7	2.34	0.42
1:LA:121:A:N6	10:LJ:127:PRO:O	2.53	0.42
1:LA:505:U:H2’	1:LA:506:U:O4’	2.18	0.42
1:LA:630:U:H2’	1:LA:631:G:C8	2.54	0.42
1:LA:974:C:H2’	1:LA:975:U:C6	2.54	0.42
1:LA:1594:U:C2	1:LA:1595:C:C5	3.07	0.42
1:LA:1649:G:H5”	4:LD:70:ARG:HG3	2.01	0.42
1:LA:2356:A:H2’	1:LA:2357:A:H8	1.83	0.42
1:LA:3173:A:H5”	1:LA:3174:U:C5	2.54	0.42
4:LD:47:GLN:HG2	4:LD:60:LYS:HB2	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:LJ:195:SER:C	10:LJ:197:VAL:H	2.27	0.42
11:LK:90:MET:HE1	11:LK:146:LEU:CD2	2.49	0.42
12:LL:47:PRO:HG2	12:LL:142:ASP:OD1	2.19	0.42
15:LO:15:VAL:HG23	15:LO:35:ILE:HD12	2.01	0.42
15:LO:126:GLN:O	15:LO:130:THR:HG23	2.19	0.42
15:LO:133:LYS:HG2	15:LO:137:LYS:HE2	2.02	0.42
20:LT:60:LYS:O	20:LT:64:ARG:HG3	2.20	0.42
21:LU:5:LYS:HD2	21:LU:63:GLN:OE1	2.19	0.42
39:Lm:45:VAL:N	39:Lm:52:TYR:O	2.52	0.42
45:S2:366:A:H2'	45:S2:367:A:H8	1.84	0.42
45:S2:405:C:O2'	65:ST:92:ARG:O	2.33	0.42
45:S2:953:G:H2'	45:S2:954:G:H8	1.84	0.42
45:S2:1146:G:H2'	45:S2:1147:A:H8	1.81	0.42
45:S2:1442:U:H4'	45:S2:1446:A:H2	1.84	0.42
46:SA:132:LYS:HZ2	46:SA:156:PHE:HE2	1.67	0.42
62:SQ:71:ALA:O	62:SQ:75:GLY:N	2.52	0.42
62:SQ:205:PHE:CD2	62:SQ:206:PRO:HD2	2.54	0.42
68:SW:133:HIS:O	68:SW:134:ILE:HG13	2.17	0.42
74:Sc:74:VAL:HG11	74:Sc:104:LEU:HD11	2.00	0.42
75:Sd:88:THR:O	75:Sd:92:VAL:HG23	2.19	0.42
76:Se:24:VAL:HG21	76:Se:71:LEU:HD22	2.01	0.42
79:Ta:7:G:O2'	79:Ta:50:G:OP2	2.31	0.42
80:eR:323:TYR:HD1	80:eR:392:VAL:HG23	1.84	0.42
1:LA:124:U:H2'	1:LA:125:C:H6	1.84	0.42
1:LA:184:U:H2'	1:LA:185:C:C6	2.55	0.42
1:LA:209:A:H4'	1:LA:211:A:N7	2.34	0.42
1:LA:789:U:H4'	6:LF:112:LYS:O	2.19	0.42
1:LA:3006:U:OP1	17:LQ:73[A]:PHE:HA	2.19	0.42
1:LA:3158:C:H2'	1:LA:3159:U:H6	1.84	0.42
5:LE:48:GLY:O	5:LE:335:ILE:HD12	2.20	0.42
5:LE:147:GLU:O	5:LE:151:ILE:HG13	2.19	0.42
5:LE:244:ARG:O	5:LE:248:LYS:NZ	2.52	0.42
6:LF:74:ILE:HG13	6:LF:75:PRO:HD2	2.01	0.42
11:LK:34:LEU:HD23	11:LK:34:LEU:HA	1.82	0.42
16:LP:56:LYS:HB2	16:LP:56:LYS:HE3	1.92	0.42
21:LU:71:LYS:HG3	21:LU:73:LYS:HZ3	1.84	0.42
26:LZ:82:LEU:HB3	26:LZ:84:PHE:CZ	2.54	0.42
27:La:46:LYS:HA	27:La:46:LYS:HD2	1.89	0.42
28:Lb:105:SER:OG	28:Lb:106:GLN:N	2.52	0.42
32:Lf:75:ILE:HG12	32:Lf:93:VAL:HG22	2.01	0.42
41:Lo:126:LYS:HE2	41:Lo:126:LYS:HB3	1.72	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:149:C:N4	45:S2:150:U:O4	2.52	0.42
45:S2:164:A:H8	45:S2:164:A:OP2	2.02	0.42
45:S2:585:A:H2'	45:S2:586:G:C8	2.54	0.42
45:S2:788:A:C6	64:SS:19:LEU:HD13	2.54	0.42
45:S2:1053:G:H8	45:S2:1053:G:OP2	2.02	0.42
45:S2:1660:A:O2'	45:S2:1661:U:O5'	2.29	0.42
49:SD:97:LEU:HD12	49:SD:97:LEU:HA	1.82	0.42
63:SR:234:PRO:HD2	63:SR:235:LEU:N	2.31	0.42
64:SS:211:LYS:O	64:SS:211:LYS:HG3	2.18	0.42
71:SZ:58:TYR:CD1	71:SZ:61:MET:HE2	2.54	0.42
1:LA:100:A:H2'	1:LA:101:G:N3	2.35	0.42
1:LA:925:A:H2'	1:LA:926:C:C6	2.54	0.42
1:LA:2357:A:H2'	1:LA:2358:C:O4'	2.19	0.42
1:LA:2654:U:H2'	43:Lq:3:ASN:O	2.19	0.42
1:LA:2706:C:H2'	1:LA:2707:C:H6	1.85	0.42
3:LC:79:A:H2'	3:LC:79:A:N3	2.34	0.42
5:LE:39:LYS:O	5:LE:186:GLY:N	2.48	0.42
5:LE:108:GLU:HG2	5:LE:137:TYR:CD1	2.55	0.42
6:LF:22:LEU:HD23	6:LF:22:LEU:HA	1.94	0.42
6:LF:234:ASN:ND2	6:LF:236:LEU:HB2	2.34	0.42
7:LG:211:LEU:HD12	7:LG:211:LEU:HA	1.88	0.42
10:LJ:101:THR:HG23	10:LJ:104:GLU:OE2	2.19	0.42
12:LL:72:ALA:HB2	12:LL:155:ALA:HB2	2.01	0.42
13:LM:16:LYS:HB3	13:LM:72:ARG:HG2	2.02	0.42
16:LP:47:LYS:HD3	16:LP:50:ARG:NH1	2.30	0.42
16:LP:101:THR:O	16:LP:105:ARG:HG3	2.19	0.42
17:LQ:7[A]:VAL:HG11	21:LU:163:PHE:CZ	2.54	0.42
17:LQ:85[A]:ARG:HG3	17:LQ:99[A]:LEU:HD11	2.01	0.42
22:LV:11:THR:HG22	22:LV:14:MET:HE3	2.02	0.42
22:LV:87:LYS:HE3	22:LV:87:LYS:HB3	1.69	0.42
24:LX:74:MET:HB3	24:LX:74:MET:HE2	1.79	0.42
29:Lc:28:HIS:CD2	29:Lc:32:ARG:HG2	2.55	0.42
45:S2:428:A:H2'	45:S2:429:G:O4'	2.19	0.42
45:S2:963:A:H4'	70:SY:128:TYR:OH	2.19	0.42
45:S2:1345:A:H2'	45:S2:1346:A:H5'	2.02	0.42
45:S2:1727:G:H21	67:SV:32:GLN:HE22	1.66	0.42
46:SA:77:PHE:CE2	46:SA:79:TYR:CE2	3.07	0.42
50:SE:20:VAL:HG13	50:SE:25:LEU:HD23	2.01	0.42
53:SH:142:GLY:HA2	53:SH:145:ARG:NH1	2.35	0.42
60:SO:11:GLY:HA3	60:SO:52:GLN:O	2.19	0.42
60:SO:117:LYS:HD2	60:SO:117:LYS:HA	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:Sd:99:LYS:HD3	75:Sd:100:VAL:N	2.33	0.42
76:Se:42:ARG:HA	76:Se:42:ARG:HD3	1.80	0.42
80:eR:149:ILE:HB	80:eR:226:LEU:HD22	2.02	0.42
1:LA:83:U:H2'	1:LA:84:U:O4'	2.20	0.42
1:LA:270:U:H2'	1:LA:271:C:H6	1.83	0.42
1:LA:825:G:H4'	35:Li:16:ARG:NH2	2.35	0.42
1:LA:1007:U:O2'	12:LL:35:ASP:OD2	2.31	0.42
1:LA:1321:U:O2	21:LU:108:GLN:NE2	2.49	0.42
1:LA:1445:A:H5"	18:LR:65:SER:HB3	2.01	0.42
1:LA:1494:U:H5	1:LA:1834:A:N1	2.18	0.42
1:LA:1835:C:O2'	1:LA:1841:A:N1	2.46	0.42
1:LA:2395:G:OP1	1:LA:2396:A:O2'	2.30	0.42
1:LA:2679:A:C2	13:LM:24:GLY:HA2	2.54	0.42
1:LA:2745:A:N7	7:LG:153:THR:HG21	2.35	0.42
1:LA:2860:U:H2'	1:LA:2861:U:O4'	2.20	0.42
1:LA:3104:U:H2'	1:LA:3105:A:O4'	2.20	0.42
4:LD:57:PRO:HB3	44:Lr:54:ILE:HD11	2.02	0.42
4:LD:113:VAL:O	4:LD:134:VAL:N	2.37	0.42
5:LE:49:TYR:O	5:LE:80:ASP:N	2.50	0.42
6:LF:22:LEU:HA	6:LF:23:PRO:HD3	1.88	0.42
13:LM:120:ILE:HG13	13:LM:121:GLY:H	1.85	0.42
20:LT:133:LYS:NZ	20:LT:133:LYS:HB2	2.33	0.42
27:La:51:ARG:NH1	27:La:53:ASP:H	2.17	0.42
33:Lg:11:LYS:HD3	33:Lg:14:THR:HG22	2.02	0.42
37:Lk:38:LYS:HE2	37:Lk:38:LYS:HA	2.02	0.42
42:Lp:2:ARG:HD2	45:S2:1772:C:OP1	2.19	0.42
45:S2:843:U:H3	45:S2:844:A:H62	1.67	0.42
45:S2:1323:C:H2'	45:S2:1324:G:O4'	2.20	0.42
45:S2:1391:A:C8	45:S2:1408:G:N2	2.87	0.42
45:S2:1392:U:H2'	45:S2:1393:C:O4'	2.19	0.42
45:S2:1536:G:O2'	45:S2:1537:C:H4'	2.19	0.42
45:S2:1668:G:C6	45:S2:1669:U:H5	2.38	0.42
55:SJ:33:GLN:HA	55:SJ:36:ASN:HD21	1.83	0.42
56:SK:39:ALA:O	56:SK:72:GLY:N	2.52	0.42
63:SR:158:THR:HG23	63:SR:169:LEU:HB2	2.02	0.42
65:ST:17:GLU:N	65:ST:17:GLU:OE2	2.50	0.42
1:LA:150:A:OP2	16:LP:147:ARG:NH2	2.52	0.42
1:LA:173:G:H2'	1:LA:173:G:N3	2.35	0.42
1:LA:212:G:H8	6:LF:223:PRO:HG3	1.81	0.42
1:LA:246:U:H5'	1:LA:247:C:C6	2.55	0.42
1:LA:287:G:H5'	16:LP:179:LYS:O	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:1473:A:H2'	1:LA:1474:A:O4'	2.20	0.42
1:LA:1558:A:O2'	1:LA:1581:C:O2	2.33	0.42
1:LA:2106:A:C2	1:LA:3343:A:H8	2.37	0.42
1:LA:2114:G:O2'	20:LT:82:LYS:HD3	2.20	0.42
1:LA:2159:G:H2'	1:LA:2160:G:C8	2.55	0.42
1:LA:2827:G:H5'	12:LL:8:CYS:SG	2.60	0.42
1:LA:3084:G:H5'	1:LA:3331:U:OP1	2.19	0.42
1:LA:3146:G:H2'	1:LA:3147:U:O4'	2.20	0.42
3:LC:145:U:H2'	3:LC:146:U:C6	2.54	0.42
5:LE:343:TYR:HE2	5:LE:345:ASN:HB2	1.83	0.42
13:LM:87:LYS:HD2	13:LM:104:PHE:HB2	2.01	0.42
21:LU:14:LEU:HD23	21:LU:14:LEU:HA	1.93	0.42
23:LW:36:TYR:CG	23:LW:83:TYR:HD2	2.37	0.42
34:Lh:16:TYR:CG	34:Lh:25:PRO:HA	2.55	0.42
46:SA:40:ARG:NH1	46:SA:41:VAL:O	2.53	0.42
46:SA:53:THR:HG23	46:SA:94:ARG:NH1	2.35	0.42
47:SB:146:THR:HA	47:SB:159:ALA:HA	2.01	0.42
51:SF:101:SER:O	51:SF:104:GLU:HG3	2.20	0.42
52:SG:105:GLN:NE2	61:SP:41:ARG:HA	2.35	0.42
57:SL:10:ALA:O	57:SL:54:LEU:N	2.29	0.42
64:SS:122:LYS:HB3	64:SS:164:LEU:HD11	2.01	0.42
67:SV:42:ARG:HG2	67:SV:58:LEU:HD12	2.01	0.42
72:Sa:37:ALA:HA	72:Sa:50:TYR:HB3	2.01	0.42
75:Sd:29:HIS:CD2	75:Sd:29:HIS:O	2.73	0.42
80:eR:279:LYS:O	80:eR:283:GLU:HB2	2.20	0.42
82:pp:4382:ILE:HG12	82:pp:4383:ASP:CG	2.43	0.42
1:LA:128:G:H2'	1:LA:129:U:C6	2.55	0.42
1:LA:409:A:H3'	1:LA:410:U:C6	2.55	0.42
1:LA:428:A:H2'	1:LA:429:U:C6	2.54	0.42
1:LA:744:C:H2'	1:LA:745:A:C8	2.55	0.42
1:LA:793:U:H2'	1:LA:794:G:H8	1.85	0.42
1:LA:1699:G:H2'	1:LA:1700:C:C6	2.54	0.42
1:LA:1763:U:H5"	1:LA:1764:U:C5	2.55	0.42
1:LA:2561:A:H4'	28:Lb:52:LYS:HE3	2.01	0.42
1:LA:3391:U:H2'	1:LA:3392:U:C6	2.55	0.42
4:LD:37:ARG:O	4:LD:92:LYS:HE3	2.20	0.42
4:LD:180:LEU:HD22	44:Lr:26:VAL:HG21	2.01	0.42
5:LE:110:LEU:HB2	5:LE:115:LYS:HD2	2.01	0.42
8:LH:2:THR:OG1	8:LH:3:ALA:N	2.53	0.42
9:LI:66:LYS:HG3	9:LI:76:TYR:CD2	2.54	0.42
10:LJ:75:ILE:C	10:LJ:77:GLN:H	2.28	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:LK:1:MET:HG2	11:LK:3:TYR:CZ	2.54	0.42
11:LK:26:LYS:CG	11:LK:35:THR:HG22	2.49	0.42
13:LM:125:MET:HB2	13:LM:125:MET:HE3	1.60	0.42
15:LO:116:GLU:O	15:LO:120:VAL:HG23	2.19	0.42
18:LR:181:ARG:HD3	18:LR:181:ARG:C	2.44	0.42
19:LS:66:ARG:HG2	19:LS:140:LEU:HD12	2.02	0.42
43:Lq:13:LYS:CB	43:Lq:18:ARG:HH21	2.32	0.42
45:S2:892:A:H61	45:S2:919:A:H61	1.66	0.42
45:S2:1332:C:O2'	46:SA:162:GLN:HB3	2.20	0.42
45:S2:1503:A:P	45:S2:1505:A:H61	2.40	0.42
45:S2:1552:U:OP2	50:SE:43:ARG:NH1	2.40	0.42
54:SI:111:ILE:HD12	54:SI:111:ILE:HA	1.91	0.42
62:SQ:116:LYS:H	62:SQ:116:LYS:HG2	1.69	0.42
64:SS:2:ALA:C	64:SS:4:GLY:H	2.26	0.42
69:SX:21:ASN:OD1	69:SX:30:ARG:O	2.37	0.42
1:LA:66:A:H5"	1:LA:316:U:OP1	2.20	0.42
1:LA:1497:A:H2'	1:LA:1498:C:H6	1.85	0.42
1:LA:1524:G:C5	1:LA:1828:G:C6	3.08	0.42
1:LA:1659:C:H2'	1:LA:1660:G:H8	1.85	0.42
1:LA:2100:C:HO2'	1:LA:2101:U:H6	1.65	0.42
1:LA:2406:C:H2'	1:LA:2407:U:H6	1.84	0.42
1:LA:2805:U:H2'	1:LA:2806:U:C6	2.55	0.42
1:LA:3231:G:C6	1:LA:3255:G:C6	3.08	0.42
1:LA:3298:A:C5	1:LA:3299:U:C5	3.08	0.42
3:LC:156:U:H5	10:LJ:84:ARG:HH22	1.68	0.42
6:LF:234:ASN:HB3	6:LF:237:GLN:HG2	2.01	0.42
7:LG:146:LEU:HD22	7:LG:163:LEU:HD23	2.01	0.42
8:LH:158:TYR:CZ	15:LO:115:PHE:HA	2.54	0.42
13:LM:107:ASP:HA	13:LM:124:GLY:HA2	2.02	0.42
22:LV:125:ALA:O	22:LV:127:GLN:HG2	2.19	0.42
26:LZ:75:LYS:HB2	26:LZ:75:LYS:HE2	1.57	0.42
26:LZ:96:LYS:HG3	26:LZ:107:VAL:HG22	2.02	0.42
45:S2:118:U:OP1	67:SV:52:ASN:ND2	2.29	0.42
45:S2:924:A:O2'	45:S2:987:G:OP1	2.38	0.42
45:S2:1284:C:H5"	45:S2:1286:U:O2'	2.20	0.42
45:S2:1330:G:C2	45:S2:1331:A:H1'	2.55	0.42
45:S2:1349:G:H3'	45:S2:1350:U:C5'	2.49	0.42
45:S2:1497:U:O2	45:S2:1512:G:N2	2.52	0.42
47:SB:25:LEU:HD23	47:SB:25:LEU:HA	1.90	0.42
47:SB:185:ARG:HG3	47:SB:185:ARG:O	2.20	0.42
47:SB:212:LYS:HE3	47:SB:212:LYS:HB3	1.73	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:SE:75:PRO:HA	50:SE:93:VAL:HG12	2.02	0.42
52:SG:110:VAL:HG12	52:SG:115:LEU:HB2	2.02	0.42
55:SJ:44:ASN:OD1	55:SJ:47:GLN:NE2	2.53	0.42
55:SJ:52:LYS:HB2	55:SJ:93:LEU:HG	2.02	0.42
60:SO:115:ILE:HG22	60:SO:122:ILE:HD13	2.01	0.42
63:SR:76:LEU:HD22	63:SR:104:VAL:HG13	2.01	0.42
63:SR:234:PRO:O	63:SR:235:LEU:HD23	2.19	0.42
66:SU:168:SER:O	66:SU:172:VAL:HG13	2.19	0.42
67:SV:107:THR:CG2	67:SV:108:PRO:HD3	2.44	0.42
76:Se:12:LYS:HE3	76:Se:12:LYS:HB3	1.87	0.42
76:Se:41:ILE:HD12	76:Se:68:TYR:CD2	2.55	0.42
1:LA:279:U:H2'	1:LA:280:U:C6	2.55	0.42
1:LA:871:U:H2'	1:LA:872:C:C6	2.54	0.42
1:LA:1316:A:O2'	1:LA:1317:A:H3'	2.19	0.42
1:LA:1939:G:OP1	20:LT:75:HIS:ND1	2.40	0.42
1:LA:3018:U:H2'	1:LA:3019:U:O4'	2.20	0.42
6:LF:110:ASN:ND2	16:LP:201:ARG:HB3	2.35	0.42
10:LJ:87:ALA:HB1	10:LJ:185:ARG:HH12	1.84	0.42
16:LP:142:ILE:O	16:LP:149:ASN:HB3	2.20	0.42
18:LR:29:THR:HB	18:LR:119:VAL:HG11	2.02	0.42
26:LZ:137:ASN:OD1	26:LZ:138:ARG:N	2.53	0.42
34:Lh:16:TYR:OH	34:Lh:89:LEU:O	2.35	0.42
39:Lm:76:ASN:OD1	39:Lm:76:ASN:N	2.53	0.42
45:S2:65:A:H2	45:S2:84:A:N7	2.18	0.42
45:S2:476:U:N3	78:Sg:31:LYS:HB3	2.35	0.42
45:S2:894:U:C2	45:S2:895:G:C6	3.08	0.42
45:S2:1298:U:O3'	63:SR:212:LYS:NZ	2.52	0.42
45:S2:1311:U:O2'	45:S2:1313:A:H5"	2.19	0.42
45:S2:1586:A:H3'	45:S2:1587:A:H8	1.84	0.42
50:SE:44:ARG:NH1	50:SE:82:ASN:O	2.36	0.42
60:SO:201:THR:HG21	60:SO:241:PHE:O	2.20	0.42
61:SP:27:ARG:HH22	61:SP:45:VAL:HG22	1.85	0.42
66:SU:173:TYR:O	66:SU:177:THR:OG1	2.37	0.42
67:SV:67:TRP:HB3	67:SV:72:ILE:HG13	2.02	0.42
1:LA:211:A:H5"	27:La:2:ALA:HB1	2.02	0.42
1:LA:415:G:H2'	1:LA:416:A:C8	2.54	0.42
1:LA:1919:U:O2'	1:LA:1931:A:N7	2.49	0.42
1:LA:2491:C:P	1:LA:2492:U:H5"	2.60	0.42
1:LA:2792:G:H5"	43:Lq:66:LYS:HG2	2.01	0.42
1:LA:3025:G:P	11:LK:174:LYS:HZ1	2.43	0.42
2:LB:11:A:H5"	2:LB:13:A:C6	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:LC:43:A:H2'	3:LC:44:A:H8	1.84	0.42
5:LE:44:THR:HG21	5:LE:184:ASN:ND2	2.34	0.42
5:LE:346:THR:C	5:LE:348:ARG:H	2.27	0.42
9:LI:138:TYR:HB2	9:LI:234:GLU:OE2	2.19	0.42
10:LJ:53:PRO:HD2	10:LJ:56:VAL:HG21	2.02	0.42
10:LJ:77:GLN:NE2	10:LJ:177:TYR:OH	2.53	0.42
11:LK:23:ARG:HE	11:LK:39:LYS:HA	1.85	0.42
12:LL:17:TYR:CD2	12:LL:96:VAL:HG22	2.55	0.42
13:LM:135:GLY:HA2	13:LM:137:ARG:NH1	2.33	0.42
16:LP:128:LYS:HB3	16:LP:130:PHE:CE2	2.55	0.42
21:LU:135:VAL:HG12	21:LU:141:LYS:HG2	2.01	0.42
27:La:49:PRO:HD3	27:La:118:LEU:HD23	2.02	0.42
29:Lc:104:THR:OG1	29:Lc:112:ILE:HD11	2.19	0.42
45:S2:636:A:H5"	73:Sb:31:SER:HB3	2.02	0.42
45:S2:907:A:H2'	45:S2:908:U:H6	1.83	0.42
45:S2:946:U:H2'	45:S2:947:U:C6	2.54	0.42
45:S2:1145:U:C5	45:S2:1633:A:N1	2.79	0.42
46:SA:169:ASP:O	46:SA:187:LYS:HA	2.19	0.42
51:SF:25:GLY:H	51:SF:63:ILE:HA	1.84	0.42
53:SH:33:THR:HA	53:SH:38:VAL:O	2.20	0.42
60:SO:16:HIS:ND1	60:SO:37:SER:OG	2.53	0.42
61:SP:73:VAL:HG13	61:SP:120:LEU:HB3	2.01	0.42
62:SQ:144:ARG:HD3	62:SQ:208:GLN:HB3	2.02	0.42
65:ST:22:HIS:HB2	65:ST:25:ARG:NH2	2.34	0.42
66:SU:63:PRO:C	66:SU:65:PRO:HD3	2.45	0.42
72:Sa:1:MET:H3	72:Sa:1:MET:HG2	1.71	0.42
79:Ta:75:C:O2'	79:Ta:76:C:O2	2.37	0.42
1:LA:151:A:H5"	36:Lj:102:GLU:HG3	2.02	0.41
1:LA:180:C:H2'	1:LA:181:U:H6	1.85	0.41
1:LA:268:A:C5	16:LP:12:ARG:HD3	2.55	0.41
1:LA:291:C:OP2	16:LP:128:LYS:NZ	2.53	0.41
1:LA:434:U:H2'	1:LA:435:C:C6	2.55	0.41
1:LA:1039:A:H2'	1:LA:1040:U:O4'	2.20	0.41
1:LA:1131:C:H2'	1:LA:1132:A:H8	1.85	0.41
1:LA:1940:C:H2'	1:LA:1941:U:C6	2.55	0.41
1:LA:2360:A:H2'	1:LA:2361:C:C6	2.54	0.41
1:LA:2726:A:C2	29:Lc:43:ILE:HG23	2.55	0.41
1:LA:2910:A:H4'	1:LA:2911:G:C8	2.55	0.41
1:LA:3266:A:H2'	8:LH:69:PHE:CZ	2.54	0.41
6:LF:39:PHE:HA	6:LF:42:VAL:HG22	2.02	0.41
9:LI:229:PHE:CD1	9:LI:229:PHE:C	2.97	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:LJ:98:ARG:NH2	10:LJ:191:ASN:OD1	2.53	0.41
12:LL:73:ASN:OD1	12:LL:73:ASN:C	2.63	0.41
16:LP:48:ALA:C	16:LP:53:TYR:HB3	2.45	0.41
17:LQ:110[A]:PRO:N	17:LQ:111[A]:PRO:HD2	2.35	0.41
40:Ln:13:MET:CE	40:Ln:49:MET:HE2	2.49	0.41
45:S2:163:G:H5"	45:S2:164:A:P	2.60	0.41
45:S2:936:G:OP1	45:S2:1074:G:N2	2.40	0.41
45:S2:1569:A:H2'	45:S2:1570:A:C8	2.55	0.41
46:SA:12:VAL:O	46:SA:16:VAL:HG23	2.19	0.41
47:SB:196:GLU:HA	47:SB:199:ILE:HD12	2.02	0.41
48:SC:33:GLU:O	48:SC:35:ILE:HD12	2.19	0.41
51:SF:87:LYS:HE3	51:SF:117:LEU:HA	2.01	0.41
54:SI:69:LYS:HA	54:SI:69:LYS:HD3	1.94	0.41
64:SS:47:PHE:O	64:SS:52:LEU:HD12	2.20	0.41
65:ST:31:ARG:HB3	65:ST:31:ARG:HH11	1.85	0.41
68:SW:109:LEU:HA	68:SW:112:GLN:HB3	2.02	0.41
69:SX:121:ASP:OD1	69:SX:144:ALA:HB2	2.20	0.41
1:LA:300:G:H2'	1:LA:301:G:H8	1.85	0.41
1:LA:628:U:H2'	1:LA:629:A:H8	1.84	0.41
1:LA:719:A:C5	1:LA:782:A:H4'	2.55	0.41
1:LA:891:U:H2'	1:LA:892:C:O4'	2.21	0.41
1:LA:906:G:H2'	1:LA:925:A:H62	1.86	0.41
1:LA:1111:A:H2'	1:LA:1112:G:C8	2.56	0.41
1:LA:1193:G:H2'	1:LA:1194:A:C8	2.55	0.41
1:LA:1799:A:H2'	1:LA:1800:U:O4'	2.19	0.41
1:LA:1800:U:H2'	1:LA:1801:C:H6	1.83	0.41
1:LA:1806:G:OP1	28:Lb:135:ARG:NH2	2.54	0.41
1:LA:2185:U:OP2	4:LD:200:ARG:HD2	2.20	0.41
1:LA:3175:G:N2	1:LA:3212:A:H1'	2.35	0.41
7:LG:8:LYS:HD3	7:LG:12:TYR:CE2	2.55	0.41
8:LH:56:LYS:HD2	8:LH:98:VAL:HG13	2.00	0.41
9:LI:214:TRP:CD2	9:LI:219:LYS:HD3	2.55	0.41
11:LK:23:ARG:NE	11:LK:39:LYS:HA	2.35	0.41
14:LN:179:PHE:HB2	14:LN:183:ARG:NH1	2.34	0.41
15:LO:20:VAL:HG22	15:LO:66:THR:OG1	2.20	0.41
29:Lc:96:LYS:C	29:Lc:97:GLU:HG3	2.45	0.41
45:S2:338:C:H2'	45:S2:339:C:C6	2.55	0.41
45:S2:609:U:N3	74:Sc:22:ASN:O	2.43	0.41
45:S2:1343:U:H1'	45:S2:1383:G:N2	2.35	0.41
45:S2:1426:C:O2'	45:S2:1428:G:H8	2.02	0.41
45:S2:1727:G:C6	45:S2:1728:A:C6	3.07	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:SA:33:GLY:HA3	46:SA:53:THR:HB	2.01	0.41
61:SP:3:LEU:HD13	61:SP:7:PHE:HB2	2.02	0.41
62:SQ:104:ASP:HB2	62:SQ:214:LYS:HG2	2.02	0.41
65:ST:181:PRO:HA	65:ST:184:LEU:HD12	2.02	0.41
66:SU:39:ARG:HG3	66:SU:40:PRO:HD3	2.02	0.41
73:Sb:31:SER:H	73:Sb:34:ILE:HD12	1.84	0.41
1:LA:31:C:OP2	16:LP:188:ARG:NH2	2.45	0.41
1:LA:662:C:H2'	1:LA:663:U:C6	2.55	0.41
1:LA:1698:A:C6	1:LA:1746:G:C6	3.08	0.41
1:LA:2960:G:H2'	1:LA:2961:U:H6	1.86	0.41
1:LA:3323:C:H2'	1:LA:3324:G:O4'	2.20	0.41
5:LE:90:VAL:HG23	5:LE:161:LEU:HD11	2.00	0.41
6:LF:110:ASN:HB2	16:LP:201:ARG:O	2.21	0.41
11:LK:138:THR:C	11:LK:140:VAL:H	2.26	0.41
12:LL:208:ASN:O	12:LL:212:GLU:HG2	2.19	0.41
15:LO:70:PHE:CZ	15:LO:72:LEU:HD22	2.55	0.41
21:LU:12:ARG:HB3	21:LU:24:LEU:HD12	2.02	0.41
23:LW:99:LYS:H	23:LW:102:GLU:HB2	1.85	0.41
26:LZ:95:ILE:O	26:LZ:99:VAL:HG23	2.20	0.41
45:S2:108:A:H2'	45:S2:109:G:C8	2.55	0.41
45:S2:542:A:H2	78:Sg:28:LYS:HE2	1.85	0.41
45:S2:622:A:O2'	45:S2:1032:G:H5'	2.21	0.41
45:S2:1358:G:H21	54:SI:5:SER:HA	1.85	0.41
45:S2:1440:C:O2'	45:S2:1441:C:OP1	2.37	0.41
45:S2:1512:G:H2'	45:S2:1513:G:N2	2.35	0.41
51:SF:46:PHE:O	51:SF:50:GLU:HG3	2.21	0.41
52:SG:75:GLU:HA	52:SG:78:ARG:HD2	2.03	0.41
53:SH:81:ILE:HD13	53:SH:81:ILE:HA	1.88	0.41
54:SI:52:GLY:C	54:SI:54:PHE:H	2.27	0.41
59:SN:83:LYS:HD3	59:SN:83:LYS:HA	1.85	0.41
61:SP:188:LEU:HD13	61:SP:188:LEU:HA	1.87	0.41
62:SQ:176:VAL:HG13	62:SQ:184:LEU:HD22	2.02	0.41
64:SS:211:LYS:HB3	64:SS:217:THR:HG23	2.01	0.41
68:SW:112:GLN:HG2	68:SW:148:VAL:HG21	2.02	0.41
69:SX:26:LYS:HD2	69:SX:26:LYS:HA	1.72	0.41
1:LA:178:U:C5	1:LA:179:C:H1'	2.55	0.41
1:LA:719:A:N7	1:LA:782:A:H4'	2.35	0.41
1:LA:952:G:OP1	30:Ld:15:LYS:NZ	2.53	0.41
1:LA:1399:G:C6	1:LA:1411:G:C6	3.07	0.41
1:LA:1467:A:H2'	1:LA:1468:C:C6	2.55	0.41
1:LA:2266:C:O2'	1:LA:2267:U:OP1	2.37	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:2806:U:O3'	1:LA:2807:A:H3'	2.20	0.41
1:LA:3149:A:OP1	5:LE:133:TYR:N	2.50	0.41
2:LB:9:C:OP1	22:LV:26:HIS:HB2	2.20	0.41
16:LP:47:LYS:CD	16:LP:50:ARG:HH11	2.33	0.41
20:LT:28:GLU:O	20:LT:32:ILE:HG13	2.20	0.41
26:LZ:46:TYR:CD1	36:Lj:75:TYR:HB3	2.56	0.41
27:La:38:GLU:H	27:La:38:GLU:CD	2.28	0.41
29:Lc:114:GLY:O	29:Lc:137:LYS:NZ	2.53	0.41
37:Lk:57:LEU:HD23	37:Lk:57:LEU:HA	1.89	0.41
39:Lm:43:PHE:N	39:Lm:43:PHE:CD1	2.89	0.41
45:S2:94:U:O2'	64:SS:7:LYS:HB2	2.21	0.41
45:S2:595:G:H2'	45:S2:596:C:C6	2.55	0.41
45:S2:739:G:N7	45:S2:741:C:N4	2.69	0.41
45:S2:1329:A:H2'	45:S2:1330:G:O4'	2.20	0.41
48:SC:44:LYS:HA	48:SC:44:LYS:HD3	1.74	0.41
51:SF:127:LYS:HG2	51:SF:128:LYS:N	2.35	0.41
54:SI:103:LYS:HA	54:SI:106:GLN:HG3	2.01	0.41
60:SO:87:LYS:HE2	60:SO:87:LYS:HB3	1.93	0.41
60:SO:132:LYS:HG3	60:SO:134:TRP:CD1	2.56	0.41
61:SP:66:ALA:HB2	72:Sa:37:ALA:HB2	2.03	0.41
62:SQ:83:LYS:HE2	62:SQ:83:LYS:HB2	1.80	0.41
1:LA:65:A:N1	1:LA:109:A:O2'	2.48	0.41
1:LA:536:A:N6	1:LA:537:G:O6	2.54	0.41
1:LA:663:U:H5'	6:LF:107:ARG:HA	2.01	0.41
1:LA:823:C:H2'	1:LA:824:U:C6	2.56	0.41
1:LA:1447:U:H2'	1:LA:1448:A:H8	1.85	0.41
1:LA:1581:C:O2'	1:LA:1582:A:O5'	2.27	0.41
1:LA:1589:G:O2'	1:LA:1796:A:N1	2.53	0.41
1:LA:1695:A:H2'	1:LA:1696:A:H8	1.86	0.41
1:LA:2895:A:O2'	41:Lo:122:ARG:NH2	2.54	0.41
1:LA:2940:A:O5'	1:LA:2942:G:H4'	2.19	0.41
3:LC:26:U:H2'	3:LC:27:U:C6	2.55	0.41
5:LE:121:ASN:OD1	5:LE:121:ASN:N	2.54	0.41
6:LF:300:ARG:HB2	6:LF:301:PRO:HD2	2.03	0.41
11:LK:91:ARG:HD2	11:LK:143:GLU:HG3	2.01	0.41
21:LU:137:ARG:O	21:LU:141:LYS:HG3	2.19	0.41
32:Lf:61:LYS:HB3	32:Lf:61:LYS:NZ	2.36	0.41
45:S2:153:G:N2	65:ST:56:ASN:OD1	2.54	0.41
45:S2:192:U:H2'	45:S2:193:U:H4'	2.02	0.41
45:S2:413:U:H2'	45:S2:414:C:C6	2.56	0.41
45:S2:449:C:H2'	45:S2:450:U:C6	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:492:A:O2'	45:S2:493:U:H5'	2.20	0.41
45:S2:856:A:N6	66:SU:97:ARG:O	2.49	0.41
48:SC:17:GLN:HG2	48:SC:18:GLU:HG2	2.01	0.41
54:SI:38:LYS:C	54:SI:40:SER:H	2.27	0.41
60:SO:46:LYS:HG2	60:SO:48:THR:HG23	2.01	0.41
61:SP:122:ILE:HA	61:SP:144:ILE:O	2.20	0.41
62:SQ:194:ASN:ND2	62:SQ:211:HIS:HA	2.36	0.41
65:ST:191:ARG:HH11	65:ST:191:ARG:HG3	1.86	0.41
66:SU:161:GLN:H	66:SU:161:GLN:HG3	1.71	0.41
70:SY:94:LYS:HB2	70:SY:94:LYS:HE3	1.66	0.41
71:SZ:54:GLU:CD	71:SZ:54:GLU:C	2.88	0.41
75:Sd:19:ALA:HB1	75:Sd:77:ASN:OD1	2.19	0.41
75:Sd:83:LYS:HZ2	75:Sd:96:LEU:HB3	1.86	0.41
1:LA:573:U:H2'	1:LA:574:G:H8	1.86	0.41
1:LA:995:A:H2'	1:LA:996:A:O4'	2.20	0.41
1:LA:1860:G:H5"	20:LT:63:THR:HG21	2.02	0.41
1:LA:2585:G:C8	10:LJ:241:LYS:HE3	2.56	0.41
1:LA:3022:U:C5	1:LA:3031:A:N7	2.88	0.41
7:LG:55:PHE:CZ	7:LG:158:ARG:HB3	2.56	0.41
9:LI:175:LYS:HD2	9:LI:176:TYR:CZ	2.55	0.41
18:LR:41:LEU:HD21	18:LR:99:ALA:HB2	2.03	0.41
19:LS:120:GLU:CD	19:LS:130:ARG:HH22	2.26	0.41
21:LU:49:HIS:CD2	22:LV:151:LEU:HD21	2.55	0.41
22:LV:72:VAL:HG21	22:LV:96:ILE:HD13	2.02	0.41
32:Lf:17:HIS:HB2	32:Lf:69:TYR:CD1	2.56	0.41
35:Li:90:ILE:HG22	35:Li:94:LEU:HD12	2.02	0.41
40:Ln:44:TRP:CZ3	40:Ln:45:ARG:HG2	2.56	0.41
43:Lq:13:LYS:HB3	43:Lq:18:ARG:NH2	2.36	0.41
45:S2:699:U:O2'	45:S2:700:C:H6	2.02	0.41
45:S2:1257:U:O2'	48:SC:1:MET:N	2.38	0.41
45:S2:1284:C:N3	45:S2:1328:G:O2'	2.37	0.41
45:S2:1349:G:H8	45:S2:1350:U:H4'	1.84	0.41
45:S2:1669:U:O2	45:S2:1669:U:H3'	2.21	0.41
46:SA:37:VAL:HG23	46:SA:50:ILE:HD13	2.03	0.41
46:SA:54:ARG:NH1	46:SA:57:ASP:OD2	2.38	0.41
46:SA:158:ILE:HG13	46:SA:164:VAL:HG22	2.03	0.41
47:SB:108:LEU:HD23	51:SF:43:ILE:HD13	2.01	0.41
47:SB:174:LEU:HB3	47:SB:210:ALA:HA	2.03	0.41
51:SF:13:LYS:HB3	51:SF:16:ALA:HB3	2.01	0.41
60:SO:89:LEU:HD13	60:SO:106:HIS:HE1	1.84	0.41
61:SP:56:LYS:HA	61:SP:56:LYS:HD2	1.90	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
61:SP:164:ASN:HA	61:SP:170:ILE:HD11	2.03	0.41
62:SQ:141:ALA:HA	62:SQ:209:ASN:O	2.20	0.41
67:SV:83:TYR:HB3	67:SV:101:ILE:HB	2.03	0.41
74:Sc:92:CYS:O	74:Sc:96:VAL:HG23	2.19	0.41
1:LA:135:C:HO2'	36:Lj:95:PHE:H	1.65	0.41
1:LA:714:A:N1	1:LA:780:G:O2'	2.40	0.41
1:LA:1230:A:H1'	1:LA:1260:G:N7	2.35	0.41
1:LA:1384:C:OP1	6:LF:141:ARG:NH1	2.50	0.41
1:LA:1554:U:H5	1:LA:1558:A:H61	1.68	0.41
1:LA:1638:C:C5'	35:Li:52:GLN:HG2	2.49	0.41
1:LA:1674:G:OP1	23:LW:72:SER:HB3	2.21	0.41
1:LA:3048:A:O2'	5:LE:55:THR:OG1	2.38	0.41
1:LA:3086:A:H2'	1:LA:3087:G:O4'	2.20	0.41
1:LA:3270:G:OP2	18:LR:170:SER:OG	2.34	0.41
2:LB:47:C:OP1	7:LG:94:ASN:HB2	2.20	0.41
4:LD:75:ILE:N	4:LD:75:ILE:HD12	2.36	0.41
6:LF:58:HIS:HA	6:LF:90:PHE:CE1	2.54	0.41
8:LH:62:THR:HG21	8:LH:78:ARG:HB2	2.01	0.41
8:LH:172:HIS:CD2	8:LH:173:LEU:HG	2.56	0.41
10:LJ:178:ALA:HB2	10:LJ:218:ILE:HG23	2.03	0.41
12:LL:184:LYS:HD2	12:LL:189:GLU:OE1	2.21	0.41
15:LO:137:LYS:HE3	15:LO:137:LYS:HB2	1.94	0.41
16:LP:8:GLU:O	16:LP:12:ARG:HG3	2.21	0.41
19:LS:34:THR:HG22	19:LS:49:LEU:HD11	2.03	0.41
24:LX:17:LEU:HD21	24:LX:98:ASN:ND2	2.36	0.41
27:La:58:VAL:HG22	27:La:99:LEU:HD21	2.03	0.41
37:Lk:71:LYS:HB2	37:Lk:71:LYS:HE3	1.39	0.41
41:Lo:127:LEU:HD23	41:Lo:127:LEU:HA	1.82	0.41
45:S2:40:A:N3	45:S2:469:C:N4	2.69	0.41
45:S2:45:U:O2	45:S2:434:G:H1'	2.20	0.41
45:S2:162:A:N6	65:ST:56:ASN:OD1	2.47	0.41
45:S2:291:G:H8	45:S2:292:U:H5"	1.85	0.41
45:S2:854:U:H2'	45:S2:855:A:O4'	2.20	0.41
46:SA:55:THR:HA	46:SA:58:VAL:HG12	2.03	0.41
47:SB:217:LEU:HD23	47:SB:217:LEU:HA	1.86	0.41
50:SE:102:PHE:O	50:SE:104:GLN:NE2	2.52	0.41
52:SG:50:ILE:HG13	52:SG:50:ILE:H	1.69	0.41
63:SR:140:ARG:H	63:SR:221:THR:CG2	2.33	0.41
68:SW:27:GLU:HG2	68:SW:42:ILE:HG21	2.01	0.41
68:SW:150:LEU:HA	68:SW:150:LEU:HD23	1.80	0.41
1:LA:946:G:H2'	1:LA:947:C:C6	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:1140:C:O2'	1:LA:1152:A:N3	2.53	0.41
1:LA:1201:A:C2	1:LA:2856:C:H5'	2.55	0.41
1:LA:1471:U:OP1	20:LT:8:LYS:HG3	2.20	0.41
1:LA:1578:C:H5"	1:LA:1579:A:C5	2.55	0.41
1:LA:2103:A:OP1	20:LT:85:ARG:NH2	2.54	0.41
1:LA:2114:G:H4'	20:LT:79:GLY:O	2.20	0.41
1:LA:2977:U:O2'	82:pp:4377:TYR:HA	2.20	0.41
2:LB:85:G:O2'	2:LB:87:G:OP1	2.37	0.41
3:LC:97:A:OP1	36:Lj:67:ARG:NH2	2.41	0.41
4:LD:127:ALA:HB2	4:LD:134:VAL:HG23	2.02	0.41
9:LI:66:LYS:HB2	9:LI:66:LYS:HE3	1.78	0.41
13:LM:139:THR:HG23	13:LM:140:ARG:HG3	2.03	0.41
14:LN:159:VAL:HB	29:Lc:96:LYS:HG2	2.02	0.41
21:LU:26:ARG:HD3	22:LV:150:THR:OG1	2.21	0.41
22:LV:89:LEU:HB3	22:LV:91:LEU:HG	2.02	0.41
23:LW:37:LEU:HD12	23:LW:37:LEU:HA	1.87	0.41
28:Lb:52:LYS:O	28:Lb:65:ARG:NE	2.45	0.41
45:S2:97:C:H2'	45:S2:98:U:H6	1.86	0.41
45:S2:169:A:H1'	45:S2:170:U:H2'	2.03	0.41
45:S2:199:G:H2'	45:S2:200:A:C8	2.55	0.41
45:S2:240:U:H3'	45:S2:241:U:C6	2.56	0.41
45:S2:1199:G:C6	58:SM:40:ARG:HB3	2.56	0.41
45:S2:1251:U:H1'	45:S2:1252:C:C5	2.55	0.41
45:S2:1316:G:O2'	52:SG:10:LYS:NZ	2.41	0.41
47:SB:166:ARG:HB2	57:SL:46:GLY:HA3	2.02	0.41
49:SD:85:LYS:O	49:SD:87:PRO:HD3	2.21	0.41
55:SJ:112:VAL:HG13	55:SJ:114:VAL:HG23	2.03	0.41
62:SQ:24:PHE:CE1	71:SZ:39:ILE:HG22	2.56	0.41
63:SR:188:LEU:CD1	63:SR:196:VAL:HG11	2.51	0.41
65:ST:175:ILE:HG21	65:ST:178:LEU:HD13	2.02	0.41
67:SV:118:GLY:HA3	67:SV:143:TRP:NE1	2.35	0.41
75:Sd:29:HIS:CE1	75:Sd:34:ASN:HA	2.56	0.41
80:eR:128:ASP:OD2	80:eR:132:HIS:NE2	2.54	0.41
1:LA:20:A:C6	3:LC:140:G:C6	3.09	0.41
1:LA:757:C:C4	1:LA:758:U:C5	3.08	0.41
1:LA:928:A:H2'	1:LA:929:U:C6	2.55	0.41
1:LA:1372:A:OP2	29:Lc:7:LYS:NZ	2.45	0.41
1:LA:1471:U:H2'	1:LA:1472:G:C8	2.55	0.41
1:LA:1546:G:H2'	1:LA:1547:C:C6	2.55	0.41
1:LA:1736:U:H3	1:LA:1737:C:N4	2.19	0.41
1:LA:1803:A:OP1	35:Li:70:LYS:NZ	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:2326:U:H2'	1:LA:2327:U:O2	2.21	0.41
1:LA:2388:C:O2'	1:LA:3306:A:N1	2.51	0.41
1:LA:2418:A:H2'	1:LA:2419:C:H6	1.86	0.41
1:LA:2580:U:H2'	1:LA:2581:C:C6	2.55	0.41
1:LA:2611:U:H2'	1:LA:2612:U:O4'	2.21	0.41
1:LA:2853:U:P	12:LL:3:ARG:HH22	2.44	0.41
1:LA:3106:U:H2'	1:LA:3107:G:C8	2.56	0.41
1:LA:3253:G:H2'	1:LA:3254:U:O4'	2.21	0.41
2:LB:71:G:H2'	2:LB:72:A:H8	1.86	0.41
5:LE:109:HIS:HB2	5:LE:200:GLU:OE2	2.21	0.41
6:LF:26:PHE:HA	6:LF:127:ALA:HA	2.03	0.41
7:LG:83:LEU:HD13	7:LG:248:ARG:HH12	1.86	0.41
7:LG:200:PHE:CE2	7:LG:240:TYR:HE1	2.38	0.41
10:LJ:82:LEU:HD11	10:LJ:180:VAL:HG23	2.03	0.41
11:LK:90:MET:HE1	11:LK:146:LEU:HD21	2.03	0.41
16:LP:52:GLY:O	16:LP:59:PHE:HE2	2.04	0.41
18:LR:116:HIS:HB3	18:LR:149:VAL:HB	2.03	0.41
20:LT:164:LEU:HD23	20:LT:164:LEU:HA	1.83	0.41
21:LU:12:ARG:HD2	21:LU:22:PRO:HD2	2.03	0.41
21:LU:40:ARG:HD2	21:LU:40:ARG:HA	1.73	0.41
24:LX:25:CYS:SG	24:LX:31:ALA:HB3	2.60	0.41
32:Lf:65:LYS:O	32:Lf:65:LYS:HG2	2.21	0.41
33:Lg:13:HIS:HB2	33:Lg:57:TYR:CD1	2.56	0.41
36:Lj:14:LYS:HA	36:Lj:14:LYS:HD3	1.91	0.41
36:Lj:17:LEU:HD23	36:Lj:17:LEU:HA	1.84	0.41
37:Lk:77:LEU:HD11	37:Lk:86:LYS:HE3	2.03	0.41
37:Lk:86:LYS:HB2	37:Lk:86:LYS:HE2	1.87	0.41
38:Ll:67:LEU:HA	38:Ll:67:LEU:HD23	1.83	0.41
40:Ln:13:MET:HE3	40:Ln:49:MET:HE2	2.02	0.41
40:Ln:24:PRO:O	40:Ln:27:ILE:HG22	2.21	0.41
41:Lo:95:VAL:HA	41:Lo:101:ALA:O	2.20	0.41
45:S2:398:G:OP1	67:SV:47:ARG:NH1	2.52	0.41
45:S2:876:G:H1'	45:S2:944:A:O4'	2.20	0.41
45:S2:884:A:H2'	45:S2:885:G:C8	2.55	0.41
45:S2:887:A:N6	45:S2:924:A:H62	2.19	0.41
45:S2:1044:U:H2'	45:S2:1045:C:C6	2.55	0.41
45:S2:1050:G:OP1	77:Sf:70:LYS:NZ	2.41	0.41
45:S2:1158:C:N4	45:S2:1163:A:H61	2.14	0.41
45:S2:1191:U:H2'	45:S2:1192:C:C6	2.56	0.41
45:S2:1223:A:O5'	45:S2:1223:A:H8	2.04	0.41
45:S2:1411:A:O2'	45:S2:1412:G:OP1	2.38	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:1515:A:O3'	45:S2:1518:C:N4	2.47	0.41
45:S2:1548:G:O2'	53:SH:89:GLN:OE1	2.26	0.41
45:S2:1606:C:H2'	45:S2:1607:G:C8	2.56	0.41
45:S2:1671:A:H2'	45:S2:1672:G:O4'	2.20	0.41
46:SA:7:LYS:HG3	55:SJ:27:THR:HG21	2.02	0.41
47:SB:89:ILE:HD12	47:SB:89:ILE:HA	1.90	0.41
48:SC:40:LEU:O	48:SC:44:LYS:HG2	2.21	0.41
60:SO:61:PHE:CE1	60:SO:97:GLY:HA2	2.54	0.41
60:SO:178:VAL:HG23	60:SO:195:HIS:NE2	2.36	0.41
60:SO:278:PHE:CE1	60:SO:287:PRO:HG2	2.55	0.41
63:SR:35:TRP:CZ2	63:SR:37:PRO:HB3	2.56	0.41
64:SS:22:LYS:HB2	64:SS:23:LEU:HD22	2.03	0.41
67:SV:39:GLY:O	67:SV:59:ARG:HB2	2.21	0.41
68:SW:57:ARG:HE	68:SW:57:ARG:HB2	1.77	0.41
71:SZ:82:LYS:CE	71:SZ:118:VAL:HG11	2.51	0.41
74:Sc:79:ASN:HB3	74:Sc:81:LYS:HG3	2.03	0.41
74:Sc:132:LEU:HA	74:Sc:135:LEU:HD23	2.03	0.41
78:Sg:39:LEU:O	78:Sg:43:ARG:HG3	2.21	0.41
80:eR:178:LYS:HB3	80:eR:180:HIS:NE2	2.36	0.41
1:LA:98:G:OP1	14:LN:16:LYS:NZ	2.41	0.41
1:LA:1210:U:H2'	1:LA:1211:A:H8	1.86	0.41
1:LA:1921:A:H2'	1:LA:1922:C:O4'	2.21	0.41
1:LA:2394:G:H5"	5:LE:255:TRP:CD1	2.56	0.41
1:LA:2510:A:H5"	1:LA:2511:C:OP2	2.21	0.41
1:LA:3179:A:N6	17:LQ:114[A]:LYS:HE3	2.34	0.41
1:LA:3256:C:H2'	1:LA:3257:U:O4'	2.20	0.41
3:LC:80:A:H1'	3:LC:82:U:C5	2.56	0.41
4:LD:29:LEU:O	4:LD:123:ARG:NE	2.40	0.41
4:LD:104:LEU:O	4:LD:139:HIS:HE1	2.04	0.41
5:LE:152:LYS:HE3	5:LE:189:SER:HB3	2.02	0.41
6:LF:178:LEU:HD11	6:LF:222:VAL:CG1	2.51	0.41
7:LG:148:ILE:H	7:LG:148:ILE:HG13	1.75	0.41
8:LH:142:ASP:OD1	8:LH:143:LYS:N	2.53	0.41
10:LJ:146:LYS:HD3	10:LJ:173:MET:SD	2.61	0.41
12:LL:193:ASP:H	12:LL:197:VAL:HA	1.86	0.41
13:LM:19:LEU:HB3	13:LM:125:MET:HE1	2.04	0.41
21:LU:36:ILE:HD12	21:LU:36:ILE:N	2.36	0.41
24:LX:66:LYS:HE3	24:LX:66:LYS:HB2	1.86	0.41
25:LY:23:ARG:NE	25:LY:25:ASP:OD2	2.39	0.41
33:Lg:105:ARG:NH1	33:Lg:125:ARG:HE	2.18	0.41
36:Lj:63:ARG:NH2	36:Lj:79:ASP:OD1	2.54	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:Ln:18:LYS:N	40:Ln:18:LYS:HD2	2.36	0.41
45:S2:78:A:H5"	65:ST:159:ARG:HH12	1.86	0.41
45:S2:167:U:H3	45:S2:168:A:N6	2.14	0.41
45:S2:179:A:N7	45:S2:180:A:O2'	2.49	0.41
45:S2:279:G:H2'	45:S2:281:G:C8	2.56	0.41
45:S2:1317:C:O2'	45:S2:1400:A:H1'	2.20	0.41
45:S2:1584:G:O2'	45:S2:1585:U:H5	2.04	0.41
45:S2:1685:G:H2'	45:S2:1687:U:H5	1.85	0.41
60:SO:221:MET:HE3	60:SO:223:TRP:NE1	2.36	0.41
60:SO:302:PHE:HD1	60:SO:312:VAL:HG12	1.85	0.41
63:SR:169:LEU:HD11	63:SR:218:ILE:HG13	2.02	0.41
65:ST:103:GLY:H	65:ST:106:LEU:HD23	1.86	0.41
1:LA:264:G:OP1	37:Lk:34:SER:HB2	2.22	0.40
1:LA:787:C:H2'	1:LA:788:A:H8	1.85	0.40
1:LA:1083:A:H4'	7:LG:44:TYR:CE1	2.56	0.40
1:LA:1326:C:O2'	34:Lh:76:GLY:HA2	2.21	0.40
1:LA:1447:U:H2'	1:LA:1448:A:C8	2.56	0.40
1:LA:2117:C:H2'	1:LA:2118:A:O4'	2.20	0.40
1:LA:2262:C:O2'	45:S2:1759:C:H4'	2.21	0.40
1:LA:2267:U:H4'	1:LA:2268:U:OP1	2.21	0.40
1:LA:2397:A:OP1	1:LA:2872:U:H4'	2.22	0.40
1:LA:2740:C:O2'	43:Lq:20:HIS:N	2.54	0.40
1:LA:2797:C:H5'	1:LA:2799:G:H5'	2.03	0.40
1:LA:2837:A:H2'	1:LA:2838:G:O4'	2.21	0.40
1:LA:3005:A:C2	1:LA:3140:A:C4	3.09	0.40
1:LA:3009:U:O2'	1:LA:3010:A:H2'	2.21	0.40
2:LB:120:C:H2'	7:LG:265:TYR:CE1	2.56	0.40
3:LC:58:G:O2'	3:LC:99:C:H4'	2.21	0.40
8:LH:136:GLU:O	8:LH:140:VAL:HG23	2.20	0.40
9:LI:84:VAL:HG21	9:LI:127:LEU:HD11	2.01	0.40
10:LJ:86:THR:O	10:LJ:89:GLU:HG2	2.20	0.40
17:LQ:155[A]:LYS:HA	17:LQ:155[A]:LYS:HD2	1.91	0.40
22:LV:84:TYR:CB	30:Ld:24:PRO:HD3	2.47	0.40
29:Lc:104:THR:HG23	29:Lc:109:TYR:HB2	2.02	0.40
31:Le:25:LEU:HD22	31:Le:87:VAL:HG11	2.02	0.40
38:Ll:18:LEU:HD21	40:Ln:51:ILE:HG22	2.03	0.40
45:S2:13:C:H4'	45:S2:1298:U:O2	2.21	0.40
45:S2:60:U:H3	45:S2:63:G:P	2.44	0.40
45:S2:783:G:H2'	45:S2:784:C:C6	2.56	0.40
45:S2:1267:G:O2'	45:S2:1448:G:O2'	2.35	0.40
45:S2:1320:U:O2	45:S2:1322:A:H5"	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:S2:1478:G:N3	45:S2:1478:G:H2'	2.36	0.40
45:S2:1759:C:H2'	45:S2:1760:G:O4'	2.21	0.40
56:SK:93:SER:HB3	56:SK:100:ILE:HB	2.02	0.40
62:SQ:121:ILE:HD12	62:SQ:207:LEU:HD11	2.02	0.40
63:SR:65:GLU:O	63:SR:68:ILE:HG23	2.21	0.40
67:SV:74:LYS:HE2	67:SV:74:LYS:HB2	1.89	0.40
67:SV:81:VAL:HA	67:SV:102:VAL:HG12	2.03	0.40
78:Sg:30:PRO:O	78:Sg:35:TYR:HB2	2.21	0.40
80:eR:78:VAL:O	80:eR:82:LEU:HD23	2.20	0.40
1:LA:655:A:H2'	1:LA:656:A:H8	1.86	0.40
1:LA:870:U:H2'	1:LA:871:U:C6	2.56	0.40
1:LA:911:G:O6	4:LD:3:ARG:HD3	2.21	0.40
1:LA:1054:A:H5"	2:LB:100:C:O2'	2.21	0.40
1:LA:1478:U:C3'	1:LA:1479:G:H5'	2.51	0.40
1:LA:1516:G:H5"	40:Ln:22:PRO:HG3	2.02	0.40
1:LA:2346:U:H2'	1:LA:2347:A:O4'	2.21	0.40
1:LA:2425:U:H2'	1:LA:2426:U:H6	1.85	0.40
1:LA:2500:U:O2'	1:LA:2501:A:OP1	2.38	0.40
1:LA:2827:G:O2'	12:LL:4:ARG:NH2	2.44	0.40
1:LA:2833:G:H2'	1:LA:2834:U:C6	2.56	0.40
1:LA:2985:U:H2'	1:LA:2986:A:C8	2.57	0.40
1:LA:3043:G:H2'	1:LA:3044:G:C8	2.55	0.40
1:LA:3051:G:H2'	1:LA:3052:G:H8	1.85	0.40
1:LA:3349:C:HO2'	1:LA:3350:U:P	2.40	0.40
4:LD:138:GLY:HA3	4:LD:147:ARG:NH1	2.36	0.40
5:LE:57:VAL:HG12	5:LE:357:LYS:HB2	2.03	0.40
5:LE:57:VAL:HG22	5:LE:73:VAL:HG22	2.03	0.40
5:LE:108:GLU:HG2	5:LE:137:TYR:CG	2.56	0.40
6:LF:209:TYR:HB3	6:LF:215:ILE:HD13	2.03	0.40
6:LF:343:LYS:HE3	6:LF:343:LYS:HB3	1.91	0.40
7:LG:229:ASP:HB3	7:LG:231:ILE:HG13	2.01	0.40
11:LK:6:THR:HG21	11:LK:65:VAL:HG13	2.03	0.40
21:LU:12:ARG:HG3	21:LU:13:ARG:O	2.20	0.40
45:S2:176:C:H2'	45:S2:177:U:O4'	2.21	0.40
45:S2:179:A:H3'	45:S2:180:A:H4'	2.02	0.40
45:S2:294:C:H2'	45:S2:295:A:C8	2.56	0.40
45:S2:546:U:H2'	45:S2:547:U:C6	2.56	0.40
45:S2:801:G:H2'	45:S2:802:G:H5'	2.03	0.40
45:S2:891:A:O2'	45:S2:892:A:OP1	2.31	0.40
45:S2:1795:U:O2'	45:S2:1797:A:N7	2.44	0.40
48:SC:48:SER:O	48:SC:51:SER:OG	2.34	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
51:SF:41:PRO:HG2	51:SF:44:LEU:CG	2.51	0.40
60:SO:292:LEU:HA	60:SO:303:ALA:HA	2.03	0.40
63:SR:67:GLN:HA	63:SR:70:ASP:OD2	2.21	0.40
1:LA:36:C:H4'	1:LA:807:A:C2	2.57	0.40
1:LA:507:U:H2'	1:LA:508:U:C6	2.56	0.40
1:LA:670:U:H2'	1:LA:671:A:H8	1.86	0.40
1:LA:2129:G:O4'	1:LA:2143:A:H4'	2.22	0.40
1:LA:2287:G:O3'	80:eR:229:SER:HB2	2.21	0.40
1:LA:2378:U:H2'	1:LA:2379:U:C6	2.56	0.40
1:LA:2742:A:H2'	1:LA:2743:U:C6	2.56	0.40
1:LA:3033:C:C2	1:LA:3034:A:C8	3.10	0.40
5:LE:294:GLY:HA2	5:LE:359:ILE:HD12	2.04	0.40
6:LF:69:ARG:HH22	82:pp:4370:VAL:HG22	1.86	0.40
6:LF:286:VAL:HG21	19:LS:28:LEU:HB3	2.03	0.40
8:LH:170:LYS:HE3	34:Lh:34:GLY:HA3	2.04	0.40
9:LI:56:GLU:O	9:LI:60:ARG:HG2	2.21	0.40
12:LL:170:LYS:NZ	12:LL:175:ASN:O	2.48	0.40
16:LP:66:VAL:HG12	16:LP:105:ARG:HH11	1.87	0.40
19:LS:178:ARG:HD2	19:LS:178:ARG:HA	1.81	0.40
22:LV:157:GLU:CD	22:LV:159:PHE:CD1	2.98	0.40
27:La:53:ASP:C	27:La:69:LYS:HD2	2.46	0.40
31:Le:98:SER:OG	31:Le:99:ASP:N	2.54	0.40
33:Lg:97:ALA:HB3	33:Lg:100:ILE:HD12	2.03	0.40
45:S2:803:A:N7	66:SU:104:ARG:N	2.68	0.40
45:S2:822:U:H2'	45:S2:823:G:O4'	2.21	0.40
45:S2:1203:A:N1	58:SM:14:TYR:HE2	2.20	0.40
47:SB:117:THR:HG23	47:SB:195:ALA:HB2	2.03	0.40
49:SD:125:ASN:C	49:SD:127:GLY:H	2.29	0.40
53:SH:11:PHE:CE2	56:SK:41:ILE:HD12	2.57	0.40
55:SJ:77:LYS:N	55:SJ:77:LYS:HD3	2.35	0.40
61:SP:36:TYR:CD2	61:SP:161:PRO:HB3	2.56	0.40
63:SR:143:TYR:CD2	63:SR:147:ASN:HA	2.56	0.40
64:SS:114:ILE:HB	64:SS:118:GLU:HG2	2.03	0.40
66:SU:138:LYS:HB2	73:Sb:54:ASP:HB3	2.03	0.40
76:Se:49:ALA:O	76:Se:53:LEU:HD23	2.22	0.40
77:Sf:53:ALA:HB1	77:Sf:62:ILE:HD12	2.02	0.40
79:Ta:66:C:H2'	79:Ta:67:C:C6	2.56	0.40
1:LA:180:C:H2'	1:LA:181:U:C6	2.55	0.40
1:LA:199:A:H4'	1:LA:200:C:OP1	2.22	0.40
1:LA:352:A:N6	1:LA:365:A:H5"	2.34	0.40
1:LA:415:G:H2'	1:LA:416:A:H8	1.87	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:827:A:H2'	1:LA:828:U:C6	2.57	0.40
1:LA:1169:A:H2'	1:LA:1170:G:O4'	2.22	0.40
1:LA:1222:A:H2'	1:LA:1223:C:C5	2.56	0.40
1:LA:1261:G:C4	1:LA:1263:G:H5'	2.56	0.40
1:LA:1282:C:H2'	1:LA:1284:G:C2	2.57	0.40
1:LA:1764:U:O2'	1:LA:1765:G:OP1	2.36	0.40
1:LA:2415:U:H2'	1:LA:2416:U:C6	2.56	0.40
1:LA:2605:G:N3	1:LA:2605:G:H2'	2.36	0.40
1:LA:2674:C:H3'	1:LA:2675:A:C5'	2.51	0.40
1:LA:2987:C:H2'	1:LA:2988:U:C6	2.57	0.40
1:LA:3303:U:O3'	5:LE:334:ARG:NH2	2.55	0.40
3:LC:19:C:H2'	3:LC:20:U:C6	2.56	0.40
4:LD:247:ARG:HB3	45:S2:1012:U:H4'	2.03	0.40
5:LE:83:PRO:O	5:LE:165:GLN:HG3	2.21	0.40
5:LE:156:SER:O	5:LE:188:ILE:HD11	2.21	0.40
7:LG:179:ARG:HA	7:LG:179:ARG:HD3	1.86	0.40
12:LL:202:LYS:HD3	12:LL:202:LYS:HA	1.74	0.40
13:LM:28:ASP:OD1	13:LM:28:ASP:N	2.54	0.40
14:LN:5:LYS:H	14:LN:5:LYS:CD	2.34	0.40
16:LP:13:LYS:HA	16:LP:13:LYS:HD3	1.75	0.40
26:LZ:139:ILE:HG22	36:Lj:33:VAL:HG11	2.02	0.40
27:La:29:VAL:HG12	27:La:30:LEU:N	2.36	0.40
29:Lc:24:LYS:H	29:Lc:24:LYS:HG3	1.64	0.40
38:Ll:50:GLY:O	38:Ll:54:LYS:HG2	2.21	0.40
45:S2:385:A:OP1	67:SV:22:ARG:NH2	2.55	0.40
45:S2:752:A:H8	64:SS:221:ARG:HE	1.69	0.40
45:S2:912:U:C5	62:SQ:10:SER:HA	2.56	0.40
45:S2:1199:G:H1	58:SM:31:ILE:HD13	1.86	0.40
45:S2:1393:C:H4'	60:SO:281:TYR:CD1	2.56	0.40
45:S2:1471:A:H2	45:S2:1474:G:N3	2.19	0.40
47:SB:209:TYR:OH	47:SB:213:LYS:HE2	2.22	0.40
53:SH:142:GLY:HA2	53:SH:145:ARG:HH11	1.86	0.40
60:SO:301:LEU:O	60:SO:312:VAL:HA	2.20	0.40
62:SQ:97:LEU:HD23	62:SQ:97:LEU:N	2.36	0.40
68:SW:147:MET:N	68:SW:147:MET:SD	2.93	0.40
69:SX:54:ILE:HD13	69:SX:54:ILE:HA	1.84	0.40
70:SY:128:TYR:O	70:SY:132:VAL:HG22	2.22	0.40
71:SZ:20:TYR:O	71:SZ:27:PHE:N	2.40	0.40
71:SZ:42:VAL:HA	71:SZ:46:MET:CE	2.52	0.40
80:eR:176:LEU:HD23	80:eR:176:LEU:HA	1.85	0.40
1:LA:608:G:OP2	6:LF:315:LYS:NZ	2.26	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:LA:715:A:C6	29:Lc:117:ARG:HG3	2.56	0.40
1:LA:2115:G:C2	1:LA:3063:U:H5'	2.56	0.40
1:LA:2882:U:H2'	1:LA:2883:C:H6	1.85	0.40
1:LA:3268:U:OP1	8:LH:77:ARG:HD2	2.22	0.40
1:LA:3297:C:C2	1:LA:3298:A:C8	3.09	0.40
4:LD:57:PRO:HB3	44:Lr:54:ILE:CD1	2.51	0.40
5:LE:45:SER:OG	5:LE:46:PHE:N	2.55	0.40
5:LE:159:ARG:HG2	5:LE:182:GLN:HB2	2.03	0.40
5:LE:227:GLU:HG2	5:LE:270:ARG:HD3	2.02	0.40
7:LG:220:SER:O	7:LG:224:LYS:HB2	2.21	0.40
11:LK:90:MET:HE2	11:LK:161:LEU:HD22	2.04	0.40
13:LM:27:GLY:O	13:LM:31:THR:HG22	2.21	0.40
14:LN:56:PRO:HG3	14:LN:74:GLY:O	2.21	0.40
15:LO:45:LEU:HD11	15:LO:55:ARG:HG3	2.03	0.40
17:LQ:111[A]:PRO:HG2	17:LQ:112[A]:TYR:CE2	2.57	0.40
22:LV:17:ARG:HD2	22:LV:17:ARG:HA	1.70	0.40
27:La:58:VAL:HG13	27:La:99:LEU:HD11	2.04	0.40
31:Le:58:TYR:OH	35:Li:97:GLU:OE2	2.38	0.40
40:Ln:46:ARG:NH2	82:pp:4363:ARG:HB3	2.36	0.40
45:S2:105:A:H2'	45:S2:106:U:C6	2.56	0.40
45:S2:271:A:H1'	45:S2:285:G:N2	2.36	0.40
45:S2:404:G:H2'	45:S2:405:C:C6	2.56	0.40
45:S2:1660:A:N3	45:S2:1660:A:H2'	2.37	0.40
46:SA:134:CYS:SG	46:SA:135:GLU:N	2.94	0.40
47:SB:224:ASN:ND2	47:SB:224:ASN:N	2.69	0.40
51:SF:87:LYS:HE3	51:SF:117:LEU:O	2.21	0.40
53:SH:111:ASP:O	53:SH:114:GLU:HG3	2.22	0.40
59:SN:107:LYS:HD2	59:SN:107:LYS:HA	1.87	0.40
60:SO:74:THR:OG1	60:SO:75:ALA:N	2.54	0.40
61:SP:59:LEU:HD22	72:Sa:79:LEU:HD21	2.03	0.40
64:SS:163:ASP:C	64:SS:165:ALA:H	2.30	0.40
65:ST:122:GLU:OE2	65:ST:122:GLU:N	2.51	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

entries.

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
4	LD	249/251 (99%)	236 (95%)	13 (5%)	0	100	100
5	LE	384/386 (100%)	360 (94%)	24 (6%)	0	100	100
6	LF	359/361 (99%)	340 (95%)	19 (5%)	0	100	100
7	LG	292/294 (99%)	273 (94%)	19 (6%)	0	100	100
8	LH	163/175 (93%)	154 (94%)	9 (6%)	0	100	100
9	LI	220/222 (99%)	210 (96%)	10 (4%)	0	100	100
10	LJ	231/233 (99%)	217 (94%)	14 (6%)	0	100	100
11	LK	189/191 (99%)	174 (92%)	15 (8%)	0	100	100
12	LL	216/218 (99%)	203 (94%)	13 (6%)	0	100	100
13	LM	167/169 (99%)	157 (94%)	10 (6%)	0	100	100
14	LN	191/193 (99%)	173 (91%)	18 (9%)	0	100	100
15	LO	134/136 (98%)	129 (96%)	5 (4%)	0	100	100
16	LP	201/203 (99%)	192 (96%)	9 (4%)	0	100	100
17	LQ	195/197 (99%)	192 (98%)	3 (2%)	0	100	100
18	LR	181/183 (99%)	170 (94%)	11 (6%)	0	100	100
19	LS	183/185 (99%)	177 (97%)	6 (3%)	0	100	100
20	LT	186/188 (99%)	182 (98%)	4 (2%)	0	100	100
21	LU	169/171 (99%)	161 (95%)	8 (5%)	0	100	100
22	LV	157/159 (99%)	148 (94%)	9 (6%)	0	100	100
23	LW	98/100 (98%)	87 (89%)	11 (11%)	0	100	100
24	LX	134/136 (98%)	130 (97%)	4 (3%)	0	100	100
25	LY	63/65 (97%)	63 (100%)	0	0	100	100
26	LZ	119/121 (98%)	116 (98%)	3 (2%)	0	100	100
27	La	123/125 (98%)	109 (89%)	12 (10%)	2 (2%)	8	7
28	Lb	133/135 (98%)	119 (90%)	14 (10%)	0	100	100
29	Lc	146/148 (99%)	133 (91%)	13 (9%)	0	100	100
30	Ld	56/58 (97%)	51 (91%)	5 (9%)	0	100	100
31	Le	94/96 (98%)	94 (100%)	0	0	100	100
32	Lf	107/109 (98%)	101 (94%)	6 (6%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
33	Lg	125/127 (98%)	116 (93%)	9 (7%)	0	100	100
34	Lh	104/106 (98%)	102 (98%)	2 (2%)	0	100	100
35	Li	110/112 (98%)	108 (98%)	2 (2%)	0	100	100
36	Lj	117/119 (98%)	112 (96%)	5 (4%)	0	100	100
37	Lk	97/99 (98%)	93 (96%)	4 (4%)	0	100	100
38	Ll	79/81 (98%)	73 (92%)	6 (8%)	0	100	100
39	Lm	75/77 (97%)	75 (100%)	0	0	100	100
40	Ln	48/50 (96%)	47 (98%)	1 (2%)	0	100	100
41	Lo	50/52 (96%)	48 (96%)	2 (4%)	0	100	100
42	Lp	23/25 (92%)	23 (100%)	0	0	100	100
43	Lq	101/103 (98%)	91 (90%)	10 (10%)	0	100	100
44	Lr	89/91 (98%)	85 (96%)	4 (4%)	0	100	100
46	SA	220/223 (99%)	214 (97%)	6 (3%)	0	100	100
47	SB	204/206 (99%)	192 (94%)	12 (6%)	0	100	100
48	SC	90/92 (98%)	83 (92%)	7 (8%)	0	100	100
49	SD	119/124 (96%)	96 (81%)	23 (19%)	0	100	100
50	SE	115/117 (98%)	106 (92%)	9 (8%)	0	100	100
51	SF	139/141 (99%)	131 (94%)	8 (6%)	0	100	100
52	SG	117/125 (94%)	113 (97%)	4 (3%)	0	100	100
53	SH	143/145 (99%)	137 (96%)	6 (4%)	0	100	100
54	SI	141/143 (99%)	133 (94%)	8 (6%)	0	100	100
55	SJ	98/101 (97%)	96 (98%)	2 (2%)	0	100	100
56	SK	80/82 (98%)	69 (86%)	11 (14%)	0	100	100
57	SL	61/63 (97%)	58 (95%)	3 (5%)	0	100	100
58	SM	51/53 (96%)	50 (98%)	1 (2%)	0	100	100
59	SN	71/73 (97%)	55 (78%)	16 (22%)	0	100	100
60	SO	310/312 (99%)	284 (92%)	26 (8%)	0	100	100
61	SP	204/206 (99%)	182 (89%)	22 (11%)	0	100	100
62	SQ	222/232 (96%)	205 (92%)	17 (8%)	0	100	100
63	SR	214/217 (99%)	199 (93%)	15 (7%)	0	100	100
64	SS	256/260 (98%)	236 (92%)	20 (8%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
65	ST	226/228 (99%)	219 (97%)	7 (3%)	0	100	100
66	SU	182/185 (98%)	170 (93%)	12 (7%)	0	100	100
67	SV	183/199 (92%)	173 (94%)	10 (6%)	0	100	100
68	SW	182/185 (98%)	176 (97%)	6 (3%)	0	100	100
69	SX	140/146 (96%)	134 (96%)	6 (4%)	0	100	100
70	SY	148/150 (99%)	140 (95%)	8 (5%)	0	100	100
71	SZ	125/128 (98%)	113 (90%)	12 (10%)	0	100	100
72	Sa	85/87 (98%)	76 (89%)	9 (11%)	0	100	100
73	Sb	127/129 (98%)	119 (94%)	8 (6%)	0	100	100
74	Sc	142/144 (99%)	133 (94%)	9 (6%)	0	100	100
75	Sd	132/134 (98%)	126 (96%)	6 (4%)	0	100	100
76	Se	95/97 (98%)	87 (92%)	8 (8%)	0	100	100
77	Sf	79/81 (98%)	74 (94%)	5 (6%)	0	100	100
78	Sg	55/57 (96%)	48 (87%)	7 (13%)	0	100	100
80	eR	417/446 (94%)	405 (97%)	11 (3%)	1 (0%)	44	55
82	pp	26/32 (81%)	22 (85%)	4 (15%)	0	100	100
All	All	11357/11593 (98%)	10678 (94%)	676 (6%)	3 (0%)	100	100

All (3) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
27	La	28	ARG
27	La	31	LEU
80	eR	317	VAL

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
4	LD	190/193 (98%)	181 (95%)	9 (5%)	22	32

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
5	LE	318/322 (99%)	307 (96%)	11 (4%)	31 46
6	LF	288/288 (100%)	273 (95%)	15 (5%)	19 28
7	LG	241/243 (99%)	235 (98%)	6 (2%)	42 60
8	LH	139/154 (90%)	130 (94%)	9 (6%)	14 20
9	LI	186/186 (100%)	181 (97%)	5 (3%)	40 57
10	LJ	187/191 (98%)	178 (95%)	9 (5%)	21 32
11	LK	168/171 (98%)	155 (92%)	13 (8%)	10 14
12	LL	185/185 (100%)	178 (96%)	7 (4%)	28 42
13	LM	145/147 (99%)	135 (93%)	10 (7%)	13 18
14	LN	154/154 (100%)	140 (91%)	14 (9%)	7 9
15	LO	107/107 (100%)	98 (92%)	9 (8%)	9 11
16	LP	175/175 (100%)	169 (97%)	6 (3%)	32 47
17	LQ	160/160 (100%)	157 (98%)	3 (2%)	52 69
18	LR	138/145 (95%)	133 (96%)	5 (4%)	30 44
19	LS	150/150 (100%)	148 (99%)	2 (1%)	65 79
20	LT	152/153 (99%)	145 (95%)	7 (5%)	23 33
21	LU	155/155 (100%)	149 (96%)	6 (4%)	27 41
22	LV	135/136 (99%)	130 (96%)	5 (4%)	29 43
23	LW	87/87 (100%)	78 (90%)	9 (10%)	6 7
24	LX	104/104 (100%)	104 (100%)	0	100 100
25	LY	54/57 (95%)	50 (93%)	4 (7%)	11 15
26	LZ	104/105 (99%)	97 (93%)	7 (7%)	13 19
27	La	108/108 (100%)	103 (95%)	5 (5%)	23 33
28	Lb	112/115 (97%)	104 (93%)	8 (7%)	12 17
29	Lc	117/118 (99%)	114 (97%)	3 (3%)	41 58
30	Ld	46/46 (100%)	44 (96%)	2 (4%)	25 36
31	Le	81/81 (100%)	76 (94%)	5 (6%)	15 22
32	Lf	92/96 (96%)	86 (94%)	6 (6%)	14 20
33	Lg	108/109 (99%)	105 (97%)	3 (3%)	38 55
34	Lh	90/90 (100%)	86 (96%)	4 (4%)	24 35
35	Li	95/95 (100%)	91 (96%)	4 (4%)	25 37

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
36	Lj	104/104 (100%)	102 (98%)	2 (2%)	52 69
37	Lk	80/81 (99%)	74 (92%)	6 (8%)	11 15
38	Ll	67/67 (100%)	63 (94%)	4 (6%)	16 23
39	Lm	68/68 (100%)	64 (94%)	4 (6%)	16 23
40	Ln	45/45 (100%)	44 (98%)	1 (2%)	47 65
41	Lo	45/47 (96%)	43 (96%)	2 (4%)	24 35
42	Lp	22/23 (96%)	21 (96%)	1 (4%)	23 34
43	Lq	87/88 (99%)	85 (98%)	2 (2%)	45 63
44	Lr	71/71 (100%)	69 (97%)	2 (3%)	38 55
46	SA	182/182 (100%)	167 (92%)	15 (8%)	9 12
47	SB	172/173 (99%)	160 (93%)	12 (7%)	12 17
48	SC	77/85 (91%)	76 (99%)	1 (1%)	65 79
49	SD	88/100 (88%)	85 (97%)	3 (3%)	32 47
50	SE	95/98 (97%)	92 (97%)	3 (3%)	34 50
51	SF	117/117 (100%)	106 (91%)	11 (9%)	7 9
52	SG	101/113 (89%)	96 (95%)	5 (5%)	20 30
53	SH	127/128 (99%)	124 (98%)	3 (2%)	44 61
54	SI	115/115 (100%)	111 (96%)	4 (4%)	31 46
55	SJ	93/94 (99%)	86 (92%)	7 (8%)	11 15
56	SK	67/73 (92%)	66 (98%)	1 (2%)	60 76
57	SL	55/56 (98%)	51 (93%)	4 (7%)	11 16
58	SM	47/47 (100%)	45 (96%)	2 (4%)	25 36
59	SN	56/64 (88%)	55 (98%)	1 (2%)	54 71
60	SO	250/257 (97%)	232 (93%)	18 (7%)	12 16
61	SP	170/173 (98%)	164 (96%)	6 (4%)	31 46
62	SQ	200/205 (98%)	186 (93%)	14 (7%)	12 17
63	SR	175/176 (99%)	165 (94%)	10 (6%)	17 25
64	SS	220/221 (100%)	204 (93%)	16 (7%)	11 16
65	ST	189/195 (97%)	180 (95%)	9 (5%)	21 32
66	SU	163/165 (99%)	147 (90%)	16 (10%)	6 8
67	SV	148/160 (92%)	136 (92%)	12 (8%)	9 13

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
68	SW	156/158 (99%)	147 (94%)	9 (6%)	17 24
69	SX	126/129 (98%)	123 (98%)	3 (2%)	44 61
70	SY	127/127 (100%)	119 (94%)	8 (6%)	15 21
71	SZ	90/97 (93%)	87 (97%)	3 (3%)	33 48
72	Sa	71/74 (96%)	68 (96%)	3 (4%)	25 37
73	Sb	110/110 (100%)	107 (97%)	3 (3%)	40 57
74	Sc	119/119 (100%)	117 (98%)	2 (2%)	56 72
75	Sd	102/112 (91%)	97 (95%)	5 (5%)	21 31
76	Se	82/83 (99%)	79 (96%)	3 (4%)	29 43
77	Sf	70/70 (100%)	66 (94%)	4 (6%)	17 25
78	Sg	48/49 (98%)	47 (98%)	1 (2%)	48 66
80	eR	361/384 (94%)	342 (95%)	19 (5%)	19 28
82	pp	26/29 (90%)	24 (92%)	2 (8%)	10 14
All	All	9555/9758 (98%)	9082 (95%)	473 (5%)	23 30

All (473) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
4	LD	31	THR
4	LD	44	ILE
4	LD	45	VAL
4	LD	80	GLU
4	LD	82	VAL
4	LD	106	SER
4	LD	113	VAL
4	LD	118	GLU
4	LD	135	ILE
5	LE	45	SER
5	LE	55	THR
5	LE	71	GLU
5	LE	108	GLU
5	LE	115	LYS
5	LE	158	VAL
5	LE	319	ASN
5	LE	324	VAL
5	LE	327	CYS
5	LE	342	LEU

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Mol	Chain	Res	Type
5	LE	344	THR
6	LF	6	VAL
6	LF	9	HIS
6	LF	85	SER
6	LF	111	VAL
6	LF	136	LEU
6	LF	179	LEU
6	LF	227	THR
6	LF	230	VAL
6	LF	265	GLU
6	LF	276	LEU
6	LF	278	SER
6	LF	306	THR
6	LF	319	LYS
6	LF	350	LYS
6	LF	359	LEU
7	LG	6	ASP
7	LG	10	SER
7	LG	28	THR
7	LG	36	LEU
7	LG	204	VAL
7	LG	205	SER
8	LH	26	ARG
8	LH	35	VAL
8	LH	53	VAL
8	LH	62	THR
8	LH	76	LEU
8	LH	91	VAL
8	LH	96	VAL
8	LH	99	GLU
8	LH	143	LYS
9	LI	29	GLU
9	LI	143	THR
9	LI	161	VAL
9	LI	164	SER
9	LI	228	SER
10	LJ	30	THR
10	LJ	47	SER
10	LJ	67	ILE
10	LJ	126	SER
10	LJ	139	VAL
10	LJ	145	ASN

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Mol	Chain	Res	Type
10	LJ	175	VAL
10	LJ	180	VAL
10	LJ	229	VAL
11	LK	6	THR
11	LK	10	ILE
11	LK	16	VAL
11	LK	17	THR
11	LK	18	VAL
11	LK	38	LEU
11	LK	50	ASN
11	LK	55	VAL
11	LK	82	VAL
11	LK	112	ILE
11	LK	133	THR
11	LK	138	THR
11	LK	181	VAL
12	LL	57	LEU
12	LL	89	VAL
12	LL	96	VAL
12	LL	109	ASP
12	LL	111	LEU
12	LL	123	HIS
12	LL	169	LYS
13	LM	22	SER
13	LM	23	VAL
13	LM	31	THR
13	LM	36	VAL
13	LM	59	ILE
13	LM	67	VAL
13	LM	78	GLU
13	LM	107	ASP
13	LM	110	ILE
13	LM	145	LYS
14	LN	4	SER
14	LN	5	LYS
14	LN	19	GLN
14	LN	58	VAL
14	LN	69	VAL
14	LN	80	VAL
14	LN	101	ARG
14	LN	104	ARG
14	LN	121	SER

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Mol	Chain	Res	Type
14	LN	124	ILE
14	LN	138	VAL
14	LN	154	VAL
14	LN	162	ASN
14	LN	169	THR
15	LO	4	ASP
15	LO	11	ASN
15	LO	14	LEU
15	LO	20	VAL
15	LO	28	SER
15	LO	35	ILE
15	LO	55	ARG
15	LO	60	LEU
15	LO	90	VAL
16	LP	56	LYS
16	LP	64	VAL
16	LP	101	THR
16	LP	117	ASN
16	LP	171	SER
16	LP	175	ASN
17	LQ	34[A]	VAL
17	LQ	56[A]	ASP
17	LQ	68[A]	ARG
18	LR	9	THR
18	LR	16	SER
18	LR	26	PHE
18	LR	70	THR
18	LR	165	VAL
19	LS	31	LYS
19	LS	83	VAL
20	LT	13	SER
20	LT	29	THR
20	LT	49	THR
20	LT	60	LYS
20	LT	69	SER
20	LT	86	GLU
20	LT	110	ARG
21	LU	32	SER
21	LU	59	VAL
21	LU	63	GLN
21	LU	94	ILE
21	LU	119	ARG

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Mol	Chain	Res	Type
21	LU	160	THR
22	LV	16	GLN
22	LV	18	ASP
22	LV	63	VAL
22	LV	79	MET
22	LV	147	VAL
23	LW	38	ILE
23	LW	43	VAL
23	LW	54	VAL
23	LW	65	VAL
23	LW	66	VAL
23	LW	70	LYS
23	LW	89	LEU
23	LW	96	VAL
23	LW	107	PHE
25	LY	23	ARG
25	LY	33	ASN
25	LY	47	ARG
25	LY	52	THR
26	LZ	28	THR
26	LZ	29	SER
26	LZ	62	VAL
26	LZ	63	ILE
26	LZ	71	THR
26	LZ	83	VAL
26	LZ	107	VAL
27	La	7	ASP
27	La	55	GLU
27	La	80	VAL
27	La	102	SER
27	La	104	LEU
28	Lb	13	VAL
28	Lb	25	ILE
28	Lb	30	ASP
28	Lb	46	ILE
28	Lb	53	VAL
28	Lb	74	VAL
28	Lb	80	LEU
28	Lb	95	VAL
29	Lc	45	MET
29	Lc	85	ASP
29	Lc	148	ILE

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Mol	Chain	Res	Type
30	Ld	35	VAL
30	Ld	40	ARG
31	Le	12	GLN
31	Le	81	VAL
31	Le	90	VAL
31	Le	92	ILE
31	Le	102	THR
32	Lf	13	THR
32	Lf	73	LEU
32	Lf	80	ASN
32	Lf	94	GLU
32	Lf	106	THR
32	Lf	109	VAL
33	Lg	30	GLU
33	Lg	31	ASN
33	Lg	51	SER
34	Lh	49	ILE
34	Lh	98	VAL
34	Lh	102	LEU
34	Lh	105	SER
35	Li	56	THR
35	Li	65	VAL
35	Li	71	THR
35	Li	87	GLU
36	Lj	85	THR
36	Lj	101	THR
37	Lk	29	LYS
37	Lk	43	LEU
37	Lk	71	LYS
37	Lk	81	THR
37	Lk	87	VAL
37	Lk	94	ILE
38	Ll	44	THR
38	Ll	57	HIS
38	Ll	71	SER
38	Ll	80	THR
39	Lm	22	THR
39	Lm	45	VAL
39	Lm	73	LEU
39	Lm	76	ASN
40	Ln	27	ILE
41	Lo	108	THR

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Mol	Chain	Res	Type
41	Lo	114	LYS
42	Lp	15	ARG
43	Lq	2	VAL
43	Lq	84	THR
44	Lr	16	VAL
44	Lr	31	ILE
46	SA	9	ARG
46	SA	12	VAL
46	SA	39	VAL
46	SA	72	LEU
46	SA	79	TYR
46	SA	85	VAL
46	SA	86	LEU
46	SA	96	LEU
46	SA	154	ASP
46	SA	156	PHE
46	SA	168	ILE
46	SA	170	THR
46	SA	176	LEU
46	SA	206	VAL
46	SA	208	ILE
47	SB	33	VAL
47	SB	53	VAL
47	SB	68	ILE
47	SB	70	VAL
47	SB	89	ILE
47	SB	102	ARG
47	SB	122	ASN
47	SB	132	VAL
47	SB	134	VAL
47	SB	138	THR
47	SB	146	THR
47	SB	224	ASN
48	SC	67	THR
49	SD	45	LEU
49	SD	58	LEU
49	SD	116	VAL
50	SE	78	THR
50	SE	80	MET
50	SE	86	VAL
51	SF	7	VAL
51	SF	12	LYS

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Mol	Chain	Res	Type
51	SF	19	VAL
51	SF	28	LEU
51	SF	43	ILE
51	SF	44	LEU
51	SF	70	THR
51	SF	97	VAL
51	SF	117	LEU
51	SF	121	SER
51	SF	140	LYS
52	SG	34	LEU
52	SG	38	ILE
52	SG	85	VAL
52	SG	88	VAL
52	SG	115	LEU
53	SH	38	VAL
53	SH	52	VAL
53	SH	86	LEU
54	SI	9	VAL
54	SI	37	VAL
54	SI	48	GLN
54	SI	51	GLU
55	SJ	25	THR
55	SJ	29	THR
55	SJ	41	ILE
55	SJ	81	THR
55	SJ	97	VAL
55	SJ	108	ILE
55	SJ	112	VAL
56	SK	64	VAL
57	SL	8	THR
57	SL	12	VAL
57	SL	30	VAL
57	SL	55	VAL
58	SM	36	LEU
58	SM	50	ILE
59	SN	91	ILE
60	SO	12	THR
60	SO	13	LEU
60	SO	17	ASN
60	SO	41	THR
60	SO	56	VAL
60	SO	72	THR

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Mol	Chain	Res	Type
60	SO	73	LEU
60	SO	86	ASP
60	SO	88	THR
60	SO	169	ILE
60	SO	183	LEU
60	SO	193	ILE
60	SO	209	THR
60	SO	234	LEU
60	SO	242	SER
60	SO	256	THR
60	SO	262	VAL
60	SO	306	THR
61	SP	27	ARG
61	SP	73	VAL
61	SP	98	ILE
61	SP	169	SER
61	SP	172	LEU
61	SP	196	SER
62	SQ	36	SER
62	SQ	48	VAL
62	SQ	68	VAL
62	SQ	70	LEU
62	SQ	91	VAL
62	SQ	95	ASN
62	SQ	97	LEU
62	SQ	125	VAL
62	SQ	129	THR
62	SQ	132	ASP
62	SQ	180	THR
62	SQ	193	ILE
62	SQ	210	ILE
62	SQ	217	LEU
63	SR	38	VAL
63	SR	49	LYS
63	SR	50	ILE
63	SR	56	ILE
63	SR	68	ILE
63	SR	82	ASN
63	SR	104	VAL
63	SR	159	THR
63	SR	187	LEU
63	SR	218	ILE

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Mol	Chain	Res	Type
64	SS	23	LEU
64	SS	38	LEU
64	SS	48	LEU
64	SS	72	VAL
64	SS	78	THR
64	SS	90	ILE
64	SS	105	VAL
64	SS	111	VAL
64	SS	115	THR
64	SS	126	VAL
64	SS	154	ILE
64	SS	173	ILE
64	SS	210	ILE
64	SS	215	ASP
64	SS	217	THR
64	SS	227	VAL
65	ST	26	VAL
65	ST	41	VAL
65	ST	71	THR
65	ST	78	THR
65	ST	112	VAL
65	ST	133	LEU
65	ST	163	THR
65	ST	199	GLN
65	ST	218	GLU
66	SU	18	LEU
66	SU	34	LEU
66	SU	47	ARG
66	SU	51	VAL
66	SU	72	LYS
66	SU	77	LEU
66	SU	85	PHE
66	SU	109	VAL
66	SU	115	SER
66	SU	130	VAL
66	SU	136	VAL
66	SU	147	ASN
66	SU	159	VAL
66	SU	162	ILE
66	SU	165	LYS
66	SU	172	VAL
67	SV	41	LYS

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Mol	Chain	Res	Type
67	SV	45	SER
67	SV	58	LEU
67	SV	60	ILE
67	SV	81	VAL
67	SV	107	THR
67	SV	111	GLN
67	SV	136	SER
67	SV	149	SER
67	SV	152	ILE
67	SV	156	VAL
67	SV	168	CYS
68	SW	10	LYS
68	SW	13	SER
68	SW	14	THR
68	SW	22	SER
68	SW	44	ARG
68	SW	103	ASP
68	SW	121	SER
68	SW	157	ASP
68	SW	161	THR
69	SX	86	ILE
69	SX	109	VAL
69	SX	131	ILE
70	SY	30	SER
70	SY	65	VAL
70	SY	67	THR
70	SY	82	PRO
70	SY	84	ILE
70	SY	86	GLU
70	SY	102	LEU
70	SY	150	VAL
71	SZ	26	THR
71	SZ	28	VAL
71	SZ	61	MET
72	Sa	8	LEU
72	Sa	46	ILE
72	Sa	65	SER
73	Sb	11	LEU
73	Sb	74	VAL
73	Sb	104	LEU
74	Sc	36	THR
74	Sc	56	LYS

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Mol	Chain	Res	Type
75	Sd	12	VAL
75	Sd	25	VAL
75	Sd	27	VAL
75	Sd	44	LEU
75	Sd	107	GLN
76	Se	50	VAL
76	Se	66	LYS
76	Se	83	ILE
77	Sf	14	SER
77	Sf	33	LEU
77	Sf	41	LEU
77	Sf	61	THR
78	Sg	18	THR
80	eR	17	ILE
80	eR	50	LYS
80	eR	76	THR
80	eR	80	GLN
80	eR	124	LEU
80	eR	133	THR
80	eR	141	SER
80	eR	144	SER
80	eR	152	ASP
80	eR	168	VAL
80	eR	173	THR
80	eR	192	ARG
80	eR	197	LYS
80	eR	233	LYS
80	eR	238	GLN
80	eR	241	MET
80	eR	305	VAL
80	eR	308	THR
80	eR	401	GLN
82	pp	4377	TYR
82	pp	4382	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (103) such sidechains are listed below:

Mol	Chain	Res	Type
4	LD	205	ASN
5	LE	121	ASN
5	LE	163	HIS
5	LE	224	HIS

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Mol	Chain	Res	Type
5	LE	279	ASN
6	LF	160	GLN
6	LF	260	GLN
6	LF	320	ASN
7	LG	57	ASN
7	LG	63	GLN
7	LG	151	GLN
7	LG	296	GLN
9	LI	146	GLN
10	LJ	38	GLN
10	LJ	77	GLN
10	LJ	155	ASN
11	LK	59	ASN
11	LK	96	HIS
11	LK	162	GLN
12	LL	59	GLN
13	LM	20	ASN
14	LN	102	GLN
14	LN	120	GLN
16	LP	32	GLN
16	LP	57	GLN
16	LP	112	ASN
17	LQ	122[A]	GLN
17	LQ	193[A]	GLN
18	LR	92	GLN
18	LR	125	GLN
18	LR	137	ASN
20	LT	7	GLN
21	LU	65	ASN
22	LV	49	GLN
22	LV	77	ASN
22	LV	127	GLN
24	LX	98	ASN
27	La	4	GLN
30	Ld	6	ASN
31	Le	11	ASN
31	Le	71	GLN
33	Lg	21	HIS
33	Lg	49	ASN
34	Lh	42	GLN
36	Lj	16	GLN
36	Lj	68	GLN

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Mol	Chain	Res	Type
38	Ll	69	HIS
41	Lo	90	ASN
41	Lo	109	ASN
41	Lo	120	GLN
43	Lq	90	HIS
46	SA	74	GLN
46	SA	162	GLN
46	SA	165	ASN
47	SB	63	GLN
47	SB	66	GLN
47	SB	103	ASN
50	SE	70	ASN
50	SE	114	HIS
53	SH	44	ASN
53	SH	71	GLN
55	SJ	40	ASN
55	SJ	47	GLN
55	SJ	48	HIS
56	SK	82	HIS
57	SL	27	GLN
59	SN	151	ASN
60	SO	182	ASN
61	SP	15	GLN
61	SP	21	ASN
61	SP	23	HIS
61	SP	49	ASN
61	SP	140	ASN
62	SQ	40	ASN
62	SQ	124	ASN
62	SQ	153	HIS
62	SQ	183	GLN
63	SR	233	GLN
64	SS	36	HIS
64	SS	197	HIS
65	ST	13	GLN
68	SW	38	ASN
68	SW	48	GLN
68	SW	131	GLN
69	SX	14	GLN
69	SX	37	ASN
69	SX	98	ASN
70	SY	62	GLN

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Mol	Chain	Res	Type
72	Sa	21	ASN
72	Sa	81	ASN
73	Sb	12	ASN
73	Sb	70	ASN
73	Sb	98	GLN
74	Sc	89	ASN
75	Sd	22	GLN
76	Se	8	ASN
77	Sf	42	ASN
77	Sf	49	HIS
80	eR	79	GLN
80	eR	199	HIS
80	eR	211	GLN
80	eR	356	HIS
80	eR	380	ASN

5.3.3 RNA

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	LA	3180/3393 (93%)	814 (25%)	33 (1%)
2	LB	120/121 (99%)	17 (14%)	1 (0%)
3	LC	157/158 (99%)	42 (26%)	1 (0%)
45	S2	1768/1799 (98%)	709 (40%)	30 (1%)
79	Ta	76/77 (98%)	20 (26%)	0
81	mR	0/25	-	-
All	All	5301/5573 (95%)	1602 (30%)	65 (1%)

All (1602) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	LA	11	A
1	LA	12	A
1	LA	14	U
1	LA	15	C
1	LA	16	A
1	LA	22	G
1	LA	26	A
1	LA	34	A
1	LA	40	A
1	LA	43	A
1	LA	49	A

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Mol	Chain	Res	Type
1	LA	60	A
1	LA	65	A
1	LA	66	A
1	LA	67	A
1	LA	71	A
1	LA	73	C
1	LA	91	G
1	LA	92	G
1	LA	99	A
1	LA	109	A
1	LA	110	G
1	LA	111	C
1	LA	117	U
1	LA	118	U
1	LA	119	U
1	LA	122	A
1	LA	129	U
1	LA	130	A
1	LA	134	U
1	LA	135	C
1	LA	136	G
1	LA	139	G
1	LA	143	G
1	LA	146	U
1	LA	147	U
1	LA	148	G
1	LA	156	G
1	LA	157	A
1	LA	162	G
1	LA	165	A
1	LA	166	C
1	LA	167	U
1	LA	170	G
1	LA	173	G
1	LA	174	C
1	LA	176	G
1	LA	177	U
1	LA	178	U
1	LA	180	C
1	LA	187	A
1	LA	188	U
1	LA	190	U

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Mol	Chain	Res	Type
1	LA	191	U
1	LA	193	C
1	LA	198	A
1	LA	200	C
1	LA	210	U
1	LA	211	A
1	LA	218	G
1	LA	219	A
1	LA	222	A
1	LA	223	U
1	LA	225	C
1	LA	227	G
1	LA	231	G
1	LA	234	G
1	LA	236	G
1	LA	238	A
1	LA	240	U
1	LA	241	G
1	LA	242	C
1	LA	243	G
1	LA	244	G
1	LA	245	U
1	LA	246	U
1	LA	247	C
1	LA	248	U
1	LA	249	U
1	LA	252	U
1	LA	253	A
1	LA	254	A
1	LA	261	U
1	LA	263	C
1	LA	265	A
1	LA	269	G
1	LA	286	U
1	LA	295	A
1	LA	298	U
1	LA	299	G
1	LA	305	U
1	LA	311	C
1	LA	323	A
1	LA	329	U
1	LA	334	A

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Mol	Chain	Res	Type
1	LA	338	A
1	LA	339	C
1	LA	349	A
1	LA	354	U
1	LA	373	A
1	LA	375	A
1	LA	376	G
1	LA	381	U
1	LA	390	G
1	LA	398	A
1	LA	402	A
1	LA	403	C
1	LA	404	G
1	LA	413	U
1	LA	414	U
1	LA	415	G
1	LA	421	G
1	LA	422	A
1	LA	438	A
1	LA	439	C
1	LA	440	A
1	LA	441	U
1	LA	444	U
1	LA	445	G
1	LA	447	U
1	LA	449	U
1	LA	450	G
1	LA	451	U
1	LA	487	U
1	LA	488	U
1	LA	489	C
1	LA	490	A
1	LA	491	C
1	LA	492	U
1	LA	493	G
1	LA	520	A
1	LA	521	A
1	LA	522	A
1	LA	524	C
1	LA	527	U
1	LA	528	A
1	LA	529	G

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Mol	Chain	Res	Type
1	LA	533	U
1	LA	534	G
1	LA	537	G
1	LA	539	U
1	LA	543	C
1	LA	544	U
1	LA	545	C
1	LA	546	G
1	LA	548	U
1	LA	549	A
1	LA	550	A
1	LA	551	G
1	LA	553	A
1	LA	554	U
1	LA	556	A
1	LA	558	A
1	LA	559	G
1	LA	564	U
1	LA	565	G
1	LA	566	G
1	LA	567	G
1	LA	569	A
1	LA	570	U
1	LA	572	C
1	LA	578	G
1	LA	588	A
1	LA	591	A
1	LA	592	C
1	LA	593	U
1	LA	599	G
1	LA	602	A
1	LA	603	G
1	LA	604	U
1	LA	608	G
1	LA	610	A
1	LA	611	U
1	LA	618	A
1	LA	619	U
1	LA	620	A
1	LA	624	G
1	LA	635	C
1	LA	636	C

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Mol	Chain	Res	Type
1	LA	637	C
1	LA	648	A
1	LA	659	A
1	LA	666	C
1	LA	676	A
1	LA	689	A
1	LA	690	A
1	LA	696	A
1	LA	697	U
1	LA	698	A
1	LA	704	A
1	LA	710	A
1	LA	714	A
1	LA	716	C
1	LA	717	G
1	LA	718	U
1	LA	730	U
1	LA	733	C
1	LA	734	A
1	LA	736	G
1	LA	737	A
1	LA	742	C
1	LA	765	U
1	LA	770	A
1	LA	772	G
1	LA	773	G
1	LA	775	U
1	LA	780	G
1	LA	784	G
1	LA	798	G
1	LA	805	A
1	LA	807	A
1	LA	816	A
1	LA	829	A
1	LA	831	G
1	LA	848	C
1	LA	849	U
1	LA	860	C
1	LA	873	U
1	LA	878	U
1	LA	895	A
1	LA	905	A

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Mol	Chain	Res	Type
1	LA	906	G
1	LA	913	A
1	LA	915	G
1	LA	916	A
1	LA	920	A
1	LA	922	C
1	LA	923	G
1	LA	924	A
1	LA	936	G
1	LA	943	C
1	LA	952	G
1	LA	958	C
1	LA	959	U
1	LA	977	G
1	LA	978	U
1	LA	980	U
1	LA	981	C
1	LA	983	G
1	LA	990	G
1	LA	993	G
1	LA	1005	A
1	LA	1009	G
1	LA	1011	G
1	LA	1014	U
1	LA	1015	C
1	LA	1017	G
1	LA	1018	G
1	LA	1020	G
1	LA	1021	U
1	LA	1022	C
1	LA	1023	G
1	LA	1024	A
1	LA	1025	A
1	LA	1028	G
1	LA	1030	C
1	LA	1033	U
1	LA	1034	G
1	LA	1035	A
1	LA	1036	C
1	LA	1038	U
1	LA	1039	A
1	LA	1040	U

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Mol	Chain	Res	Type
1	LA	1046	A
1	LA	1063	A
1	LA	1066	U
1	LA	1067	C
1	LA	1068	C
1	LA	1069	U
1	LA	1070	U
1	LA	1074	A
1	LA	1080	U
1	LA	1082	G
1	LA	1089	G
1	LA	1092	A
1	LA	1093	U
1	LA	1094	U
1	LA	1095	U
1	LA	1096	G
1	LA	1097	A
1	LA	1102	A
1	LA	1115	G
1	LA	1116	G
1	LA	1119	A
1	LA	1130	G
1	LA	1143	U
1	LA	1152	A
1	LA	1158	A
1	LA	1159	C
1	LA	1167	U
1	LA	1177	G
1	LA	1179	A
1	LA	1180	U
1	LA	1181	A
1	LA	1186	C
1	LA	1191	C
1	LA	1192	A
1	LA	1195	C
1	LA	1200	C
1	LA	1201	A
1	LA	1205	G
1	LA	1207	U
1	LA	1218	C
1	LA	1219	U
1	LA	1220	A

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Mol	Chain	Res	Type
1	LA	1221	G
1	LA	1224	A
1	LA	1230	A
1	LA	1232	G
1	LA	1233	G
1	LA	1234	U
1	LA	1235	G
1	LA	1236	G
1	LA	1237	C
1	LA	1238	C
1	LA	1239	A
1	LA	1240	U
1	LA	1241	G
1	LA	1242	G
1	LA	1244	A
1	LA	1245	G
1	LA	1246	U
1	LA	1248	G
1	LA	1249	G
1	LA	1250	A
1	LA	1251	A
1	LA	1253	C
1	LA	1257	U
1	LA	1258	A
1	LA	1259	A
1	LA	1262	A
1	LA	1263	G
1	LA	1264	U
1	LA	1265	G
1	LA	1267	G
1	LA	1268	U
1	LA	1269	A
1	LA	1270	A
1	LA	1273	A
1	LA	1274	C
1	LA	1275	U
1	LA	1276	C
1	LA	1277	A
1	LA	1278	C
1	LA	1283	C
1	LA	1284	G
1	LA	1285	A

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Mol	Chain	Res	Type
1	LA	1286	A
1	LA	1306	G
1	LA	1307	A
1	LA	1308	U
1	LA	1315	C
1	LA	1324	U
1	LA	1329	A
1	LA	1330	U
1	LA	1331	A
1	LA	1347	U
1	LA	1350	U
1	LA	1351	A
1	LA	1353	G
1	LA	1354	A
1	LA	1355	U
1	LA	1356	G
1	LA	1365	A
1	LA	1385	A
1	LA	1398	A
1	LA	1399	G
1	LA	1417	A
1	LA	1418	A
1	LA	1427	A
1	LA	1433	G
1	LA	1436	C
1	LA	1442	G
1	LA	1445	A
1	LA	1464	A
1	LA	1467	A
1	LA	1468	C
1	LA	1469	U
1	LA	1470	U
1	LA	1474	A
1	LA	1479	G
1	LA	1480	A
1	LA	1481	A
1	LA	1482	G
1	LA	1483	U
1	LA	1487	G
1	LA	1493	U
1	LA	1501	C
1	LA	1507	C

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Mol	Chain	Res	Type
1	LA	1510	U
1	LA	1526	C
1	LA	1536	A
1	LA	1538	A
1	LA	1547	C
1	LA	1552	U
1	LA	1555	C
1	LA	1556	A
1	LA	1558	A
1	LA	1559	G
1	LA	1560	G
1	LA	1561	C
1	LA	1562	C
1	LA	1563	U
1	LA	1566	U
1	LA	1567	U
1	LA	1568	U
1	LA	1569	U
1	LA	1570	A
1	LA	1572	G
1	LA	1574	A
1	LA	1575	G
1	LA	1576	G
1	LA	1578	C
1	LA	1579	A
1	LA	1580	C
1	LA	1582	A
1	LA	1586	A
1	LA	1588	A
1	LA	1592	A
1	LA	1593	A
1	LA	1602	A
1	LA	1604	A
1	LA	1618	A
1	LA	1621	U
1	LA	1625	U
1	LA	1626	U
1	LA	1627	C
1	LA	1628	U
1	LA	1635	U
1	LA	1638	C
1	LA	1641	A

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Mol	Chain	Res	Type
1	LA	1642	A
1	LA	1644	U
1	LA	1656	C
1	LA	1682	A
1	LA	1686	U
1	LA	1711	G
1	LA	1712	G
1	LA	1714	A
1	LA	1723	U
1	LA	1729	G
1	LA	1735	G
1	LA	1737	C
1	LA	1739	U
1	LA	1740	A
1	LA	1741	U
1	LA	1749	A
1	LA	1750	G
1	LA	1759	A
1	LA	1760	C
1	LA	1761	C
1	LA	1762	U
1	LA	1763	U
1	LA	1764	U
1	LA	1765	G
1	LA	1774	G
1	LA	1779	G
1	LA	1787	C
1	LA	1796	A
1	LA	1798	A
1	LA	1801	C
1	LA	1807	G
1	LA	1812	A
1	LA	1813	A
1	LA	1815	A
1	LA	1819	U
1	LA	1820	U
1	LA	1822	A
1	LA	1829	G
1	LA	1838	A
1	LA	1839	U
1	LA	1841	A
1	LA	1845	C

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Mol	Chain	Res	Type
1	LA	1848	C
1	LA	1849	A
1	LA	1865	C
1	LA	1866	A
1	LA	1877	G
1	LA	1878	A
1	LA	1879	U
1	LA	1880	A
1	LA	1882	A
1	LA	1883	A
1	LA	1884	U
1	LA	1885	A
1	LA	1888	G
1	LA	1892	A
1	LA	1905	G
1	LA	1911	U
1	LA	1912	A
1	LA	1941	U
1	LA	1947	G
1	LA	1950	C
1	LA	1951	G
1	LA	1953	G
1	LA	1954	U
1	LA	2093	C
1	LA	2094	G
1	LA	2095	A
1	LA	2096	U
1	LA	2097	C
1	LA	2099	A
1	LA	2101	U
1	LA	2110	G
1	LA	2111	U
1	LA	2112	A
1	LA	2113	C
1	LA	2120	G
1	LA	2121	G
1	LA	2130	A
1	LA	2139	U
1	LA	2143	A
1	LA	2157	A
1	LA	2168	G
1	LA	2187	A

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Mol	Chain	Res	Type
1	LA	2196	C
1	LA	2204	U
1	LA	2205	G
1	LA	2206	A
1	LA	2208	U
1	LA	2209	G
1	LA	2218	A
1	LA	2219	A
1	LA	2220	G
1	LA	2221	A
1	LA	2223	A
1	LA	2225	U
1	LA	2226	C
1	LA	2227	A
1	LA	2229	C
1	LA	2231	A
1	LA	2235	G
1	LA	2241	A
1	LA	2243	A
1	LA	2248	G
1	LA	2255	A
1	LA	2256	C
1	LA	2264	C
1	LA	2267	U
1	LA	2268	U
1	LA	2269	A
1	LA	2271	G
1	LA	2272	G
1	LA	2280	A
1	LA	2304	G
1	LA	2306	G
1	LA	2309	U
1	LA	2312	A
1	LA	2313	U
1	LA	2314	G
1	LA	2325	A
1	LA	2333	U
1	LA	2334	G
1	LA	2335	U
1	LA	2352	G
1	LA	2360	A
1	LA	2370	G

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Mol	Chain	Res	Type
1	LA	2371	A
1	LA	2372	A
1	LA	2373	C
1	LA	2374	G
1	LA	2382	C
1	LA	2387	U
1	LA	2392	G
1	LA	2393	G
1	LA	2396	A
1	LA	2401	A
1	LA	2402	G
1	LA	2403	A
1	LA	2410	U
1	LA	2416	U
1	LA	2417	G
1	LA	2421	C
1	LA	2432	U
1	LA	2434	G
1	LA	2436	G
1	LA	2439	G
1	LA	2440	A
1	LA	2441	G
1	LA	2442	A
1	LA	2443	C
1	LA	2444	A
1	LA	2445	U
1	LA	2446	A
1	LA	2450	G
1	LA	2451	G
1	LA	2492	U
1	LA	2493	A
1	LA	2494	C
1	LA	2495	C
1	LA	2497	U
1	LA	2501	A
1	LA	2503	U
1	LA	2505	U
1	LA	2506	C
1	LA	2507	U
1	LA	2511	C
1	LA	2513	U
1	LA	2514	A

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Mol	Chain	Res	Type
1	LA	2523	A
1	LA	2529	G
1	LA	2530	C
1	LA	2531	U
1	LA	2532	G
1	LA	2533	G
1	LA	2535	A
1	LA	2536	U
1	LA	2537	U
1	LA	2538	C
1	LA	2539	A
1	LA	2540	U
1	LA	2541	U
1	LA	2542	U
1	LA	2547	C
1	LA	2548	G
1	LA	2549	U
1	LA	2550	U
1	LA	2551	C
1	LA	2554	G
1	LA	2556	A
1	LA	2559	C
1	LA	2560	A
1	LA	2565	C
1	LA	2568	A
1	LA	2569	U
1	LA	2570	U
1	LA	2572	G
1	LA	2573	G
1	LA	2578	G
1	LA	2579	A
1	LA	2584	G
1	LA	2585	G
1	LA	2588	G
1	LA	2592	A
1	LA	2605	G
1	LA	2606	G
1	LA	2613	G
1	LA	2628	U
1	LA	2636	A
1	LA	2640	U
1	LA	2641	A

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Mol	Chain	Res	Type
1	LA	2650	G
1	LA	2651	U
1	LA	2655	A
1	LA	2656	A
1	LA	2657	G
1	LA	2668	G
1	LA	2673	A
1	LA	2674	C
1	LA	2675	A
1	LA	2676	G
1	LA	2679	A
1	LA	2680	U
1	LA	2684	C
1	LA	2688	A
1	LA	2693	A
1	LA	2695	A
1	LA	2703	A
1	LA	2705	G
1	LA	2707	C
1	LA	2713	G
1	LA	2716	U
1	LA	2727	G
1	LA	2728	U
1	LA	2733	A
1	LA	2734	U
1	LA	2741	C
1	LA	2751	U
1	LA	2752	G
1	LA	2770	U
1	LA	2771	C
1	LA	2776	G
1	LA	2777	G
1	LA	2779	A
1	LA	2781	U
1	LA	2787	C
1	LA	2795	G
1	LA	2798	A
1	LA	2799	G
1	LA	2800	A
1	LA	2802	A
1	LA	2809	C
1	LA	2813	G

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Mol	Chain	Res	Type
1	LA	2816	A
1	LA	2841	U
1	LA	2842	U
1	LA	2843	C
1	LA	2844	A
1	LA	2846	A
1	LA	2860	U
1	LA	2866	C
1	LA	2870	G
1	LA	2871	A
1	LA	2875	C
1	LA	2886	A
1	LA	2888	C
1	LA	2897	G
1	LA	2901	A
1	LA	2903	U
1	LA	2910	A
1	LA	2913	G
1	LA	2922	U
1	LA	2929	A
1	LA	2931	U
1	LA	2934	U
1	LA	2935	A
1	LA	2937	G
1	LA	2941	C
1	LA	2942	G
1	LA	2946	G
1	LA	2950	G
1	LA	2956	G
1	LA	2970	A
1	LA	2971	G
1	LA	2982	C
1	LA	2989	G
1	LA	2995	U
1	LA	2996	G
1	LA	2997	U
1	LA	3011	A
1	LA	3027	G
1	LA	3040	U
1	LA	3055	U
1	LA	3057	U
1	LA	3058	G

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Mol	Chain	Res	Type
1	LA	3071	C
1	LA	3077	U
1	LA	3085	A
1	LA	3091	C
1	LA	3100	G
1	LA	3113	A
1	LA	3114	C
1	LA	3115	G
1	LA	3116	C
1	LA	3121	A
1	LA	3129	A
1	LA	3130	U
1	LA	3140	A
1	LA	3141	A
1	LA	3142	C
1	LA	3143	G
1	LA	3152	U
1	LA	3154	U
1	LA	3155	U
1	LA	3156	U
1	LA	3164	A
1	LA	3165	C
1	LA	3167	A
1	LA	3168	U
1	LA	3169	A
1	LA	3170	U
1	LA	3171	A
1	LA	3172	G
1	LA	3173	A
1	LA	3174	U
1	LA	3175	G
1	LA	3178	U
1	LA	3180	C
1	LA	3186	A
1	LA	3194	U
1	LA	3195	U
1	LA	3196	G
1	LA	3198	G
1	LA	3206	U
1	LA	3215	G
1	LA	3216	C
1	LA	3217	A

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Mol	Chain	Res	Type
1	LA	3218	G
1	LA	3221	U
1	LA	3225	A
1	LA	3226	A
1	LA	3230	U
1	LA	3234	C
1	LA	3248	C
1	LA	3249	U
1	LA	3250	U
1	LA	3252	G
1	LA	3255	G
1	LA	3258	U
1	LA	3262	G
1	LA	3275	G
1	LA	3277	C
1	LA	3278	A
1	LA	3280	U
1	LA	3281	U
1	LA	3284	C
1	LA	3285	G
1	LA	3287	G
1	LA	3288	G
1	LA	3292	U
1	LA	3293	A
1	LA	3295	A
1	LA	3303	U
1	LA	3306	A
1	LA	3312	U
1	LA	3315	A
1	LA	3316	U
1	LA	3323	C
1	LA	3324	G
1	LA	3325	G
1	LA	3343	A
1	LA	3344	G
1	LA	3350	U
1	LA	3351	U
1	LA	3352	G
1	LA	3353	U
1	LA	3354	U
1	LA	3355	G
1	LA	3368	G

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Mol	Chain	Res	Type
1	LA	3377	C
1	LA	3381	U
1	LA	3382	G
1	LA	3388	U
1	LA	3395	U
2	LB	7	G
2	LB	11	A
2	LB	19	C
2	LB	29	C
2	LB	30	G
2	LB	37	G
2	LB	39	C
2	LB	52	G
2	LB	54	U
2	LB	55	A
2	LB	65	G
2	LB	73	C
2	LB	75	G
2	LB	88	G
2	LB	102	A
2	LB	112	G
2	LB	121	U
3	LC	4	C
3	LC	5	U
3	LC	6	U
3	LC	7	U
3	LC	9	A
3	LC	10	A
3	LC	11	C
3	LC	13	A
3	LC	34	U
3	LC	35	C
3	LC	39	G
3	LC	59	A
3	LC	61	A
3	LC	62	C
3	LC	63	G
3	LC	71	A
3	LC	77	A
3	LC	79	A
3	LC	80	A
3	LC	81	U

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Mol	Chain	Res	Type
3	LC	84	C
3	LC	85	G
3	LC	86	U
3	LC	87	G
3	LC	90	U
3	LC	92	A
3	LC	93	U
3	LC	95	G
3	LC	96	A
3	LC	100	U
3	LC	102	U
3	LC	104	A
3	LC	106	C
3	LC	111	A
3	LC	121	U
3	LC	125	U
3	LC	126	A
3	LC	129	C
3	LC	136	G
3	LC	140	G
3	LC	151	C
3	LC	158	U
45	S2	3	U
45	S2	4	C
45	S2	17	C
45	S2	25	C
45	S2	26	A
45	S2	32	U
45	S2	33	U
45	S2	34	G
45	S2	35	U
45	S2	36	C
45	S2	42	G
45	S2	47	A
45	S2	50	C
45	S2	56	U
45	S2	57	G
45	S2	59	C
45	S2	62	A
45	S2	63	G
45	S2	66	U
45	S2	67	A

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Mol	Chain	Res	Type
45	S2	68	A
45	S2	72	A
45	S2	73	U
45	S2	74	U
45	S2	75	U
45	S2	77	U
45	S2	79	C
45	S2	80	A
45	S2	81	G
45	S2	84	A
45	S2	85	A
45	S2	86	A
45	S2	100	A
45	S2	104	A
45	S2	106	U
45	S2	109	G
45	S2	110	U
45	S2	111	U
45	S2	114	C
45	S2	117	U
45	S2	119	A
45	S2	120	U
45	S2	127	G
45	S2	128	U
45	S2	129	U
45	S2	130	C
45	S2	131	C
45	S2	132	U
45	S2	133	U
45	S2	134	U
45	S2	136	C
45	S2	137	U
45	S2	138	A
45	S2	140	A
45	S2	141	U
45	S2	142	G
45	S2	143	G
45	S2	146	U
45	S2	147	A
45	S2	148	A
45	S2	149	C
45	S2	152	U

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Mol	Chain	Res	Type
45	S2	153	G
45	S2	158	U
45	S2	162	A
45	S2	164	A
45	S2	165	G
45	S2	166	C
45	S2	168	A
45	S2	169	A
45	S2	170	U
45	S2	171	A
45	S2	172	C
45	S2	173	A
45	S2	174	U
45	S2	179	A
45	S2	180	A
45	S2	181	A
45	S2	188	A
45	S2	190	C
45	S2	191	C
45	S2	193	U
45	S2	195	G
45	S2	197	A
45	S2	198	A
45	S2	199	G
45	S2	207	U
45	S2	208	U
45	S2	213	A
45	S2	216	U
45	S2	217	A
45	S2	218	A
45	S2	220	A
45	S2	224	C
45	S2	225	A
45	S2	226	A
45	S2	227	U
45	S2	228	G
45	S2	229	U
45	S2	233	C
45	S2	234	G
45	S2	236	A
45	S2	238	U
45	S2	241	U

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Mol	Chain	Res	Type
45	S2	243	G
45	S2	250	C
45	S2	253	A
45	S2	257	A
45	S2	259	U
45	S2	261	U
45	S2	262	U
45	S2	266	A
45	S2	274	G
45	S2	278	U
45	S2	280	U
45	S2	281	G
45	S2	282	C
45	S2	284	G
45	S2	287	G
45	S2	290	G
45	S2	291	G
45	S2	292	U
45	S2	293	U
45	S2	299	A
45	S2	303	U
45	S2	304	U
45	S2	313	U
45	S2	314	C
45	S2	315	A
45	S2	316	A
45	S2	319	U
45	S2	320	U
45	S2	322	G
45	S2	323	A
45	S2	337	G
45	S2	338	C
45	S2	341	A
45	S2	344	A
45	S2	345	U
45	S2	346	G
45	S2	352	A
45	S2	359	A
45	S2	360	A
45	S2	361	C
45	S2	388	G
45	S2	390	G

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Mol	Chain	Res	Type
45	S2	398	G
45	S2	400	A
45	S2	401	A
45	S2	402	C
45	S2	417	A
45	S2	422	G
45	S2	423	G
45	S2	424	C
45	S2	425	A
45	S2	426	G
45	S2	432	G
45	S2	434	G
45	S2	435	C
45	S2	439	U
45	S2	444	C
45	S2	448	C
45	S2	453	U
45	S2	455	C
45	S2	456	A
45	S2	459	G
45	S2	460	A
45	S2	468	A
45	S2	469	C
45	S2	470	A
45	S2	473	A
45	S2	475	A
45	S2	477	A
45	S2	478	A
45	S2	485	A
45	S2	486	G
45	S2	487	G
45	S2	488	G
45	S2	489	C
45	S2	490	C
45	S2	491	C
45	S2	493	U
45	S2	495	C
45	S2	497	G
45	S2	499	U
45	S2	500	C
45	S2	501	U
45	S2	505	A

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Mol	Chain	Res	Type
45	S2	506	A
45	S2	507	U
45	S2	510	G
45	S2	511	A
45	S2	512	A
45	S2	516	G
45	S2	518	A
45	S2	521	A
45	S2	523	G
45	S2	526	A
45	S2	527	A
45	S2	528	U
45	S2	529	A
45	S2	531	C
45	S2	532	U
45	S2	533	U
45	S2	534	A
45	S2	535	A
45	S2	538	A
45	S2	539	G
45	S2	540	G
45	S2	542	A
45	S2	543	C
45	S2	544	A
45	S2	545	A
45	S2	555	A
45	S2	556	A
45	S2	557	G
45	S2	558	U
45	S2	565	C
45	S2	568	G
45	S2	572	C
45	S2	577	G
45	S2	578	U
45	S2	579	A
45	S2	580	A
45	S2	583	C
45	S2	594	A
45	S2	595	G
45	S2	606	A
45	S2	611	U
45	S2	619	A

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Mol	Chain	Res	Type
45	S2	620	A
45	S2	623	A
45	S2	624	G
45	S2	638	U
45	S2	639	U
45	S2	641	G
45	S2	642	G
45	S2	648	G
45	S2	649	U
45	S2	650	U
45	S2	651	G
45	S2	652	G
45	S2	653	C
45	S2	654	C
45	S2	655	G
45	S2	656	G
45	S2	658	C
45	S2	677	G
45	S2	679	U
45	S2	680	U
45	S2	683	C
45	S2	684	A
45	S2	685	A
45	S2	686	C
45	S2	687	G
45	S2	692	C
45	S2	694	U
45	S2	696	C
45	S2	697	C
45	S2	699	U
45	S2	700	C
45	S2	701	U
45	S2	705	U
45	S2	707	A
45	S2	708	C
45	S2	709	C
45	S2	710	U
45	S2	711	U
45	S2	729	G
45	S2	732	G
45	S2	733	A
45	S2	734	A

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Mol	Chain	Res	Type
45	S2	735	C
45	S2	736	C
45	S2	738	G
45	S2	739	G
45	S2	741	C
45	S2	742	U
45	S2	743	U
45	S2	744	U
45	S2	747	C
45	S2	748	U
45	S2	751	G
45	S2	752	A
45	S2	753	A
45	S2	755	A
45	S2	765	G
45	S2	766	U
45	S2	771	A
45	S2	774	A
45	S2	779	U
45	S2	780	A
45	S2	781	U
45	S2	782	U
45	S2	783	G
45	S2	787	G
45	S2	789	A
45	S2	790	U
45	S2	792	U
45	S2	793	A
45	S2	794	U
45	S2	796	A
45	S2	797	G
45	S2	798	C
45	S2	799	A
45	S2	800	U
45	S2	801	G
45	S2	804	A
45	S2	807	A
45	S2	808	U
45	S2	812	A
45	S2	813	U
45	S2	814	A
45	S2	815	G

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Mol	Chain	Res	Type
45	S2	816	G
45	S2	819	G
45	S2	820	U
45	S2	821	U
45	S2	823	G
45	S2	827	C
45	S2	828	U
45	S2	829	A
45	S2	831	U
45	S2	832	U
45	S2	833	U
45	S2	834	G
45	S2	835	U
45	S2	836	U
45	S2	837	G
45	S2	843	U
45	S2	844	A
45	S2	846	G
45	S2	847	A
45	S2	849	C
45	S2	850	A
45	S2	852	C
45	S2	853	G
45	S2	856	A
45	S2	857	U
45	S2	859	A
45	S2	860	U
45	S2	863	A
45	S2	864	U
45	S2	876	G
45	S2	885	G
45	S2	886	U
45	S2	890	C
45	S2	892	A
45	S2	897	C
45	S2	898	A
45	S2	913	G
45	S2	921	U
45	S2	924	A
45	S2	928	U
45	S2	931	C
45	S2	933	A

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Mol	Chain	Res	Type
45	S2	934	C
45	S2	935	U
45	S2	942	G
45	S2	951	A
45	S2	960	U
45	S2	964	U
45	S2	966	A
45	S2	983	A
45	S2	984	G
45	S2	986	G
45	S2	995	A
45	S2	997	G
45	S2	998	A
45	S2	999	U
45	S2	1000	C
45	S2	1001	A
45	S2	1002	G
45	S2	1003	A
45	S2	1004	U
45	S2	1005	A
45	S2	1014	G
45	S2	1015	U
45	S2	1019	A
45	S2	1020	A
45	S2	1026	A
45	S2	1028	C
45	S2	1031	U
45	S2	1032	G
45	S2	1039	A
45	S2	1040	G
45	S2	1046	G
45	S2	1047	G
45	S2	1052	U
45	S2	1053	G
45	S2	1057	U
45	S2	1058	U
45	S2	1060	U
45	S2	1061	A
45	S2	1062	A
45	S2	1068	C
45	S2	1070	C
45	S2	1076	A

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Mol	Chain	Res	Type
45	S2	1078	C
45	S2	1079	U
45	S2	1080	U
45	S2	1081	A
45	S2	1082	C
45	S2	1089	U
45	S2	1091	A
45	S2	1092	A
45	S2	1096	C
45	S2	1098	U
45	S2	1100	G
45	S2	1115	U
45	S2	1116	A
45	S2	1117	U
45	S2	1118	G
45	S2	1137	A
45	S2	1138	A
45	S2	1150	G
45	S2	1151	A
45	S2	1154	G
45	S2	1158	C
45	S2	1160	A
45	S2	1161	C
45	S2	1164	G
45	S2	1167	G
45	S2	1182	U
45	S2	1183	A
45	S2	1185	U
45	S2	1190	C
45	S2	1191	U
45	S2	1193	A
45	S2	1194	A
45	S2	1196	A
45	S2	1199	G
45	S2	1200	G
45	S2	1201	G
45	S2	1203	A
45	S2	1205	C
45	S2	1206	U
45	S2	1209	C
45	S2	1213	G
45	S2	1215	C

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Mol	Chain	Res	Type
45	S2	1216	C
45	S2	1217	A
45	S2	1218	G
45	S2	1219	A
45	S2	1220	C
45	S2	1221	A
45	S2	1222	C
45	S2	1223	A
45	S2	1226	A
45	S2	1227	A
45	S2	1228	G
45	S2	1236	A
45	S2	1237	G
45	S2	1238	A
45	S2	1239	U
45	S2	1240	U
45	S2	1241	G
45	S2	1242	A
45	S2	1243	G
45	S2	1244	A
45	S2	1245	G
45	S2	1249	U
45	S2	1250	U
45	S2	1253	U
45	S2	1258	U
45	S2	1259	U
45	S2	1260	U
45	S2	1261	G
45	S2	1262	U
45	S2	1263	G
45	S2	1264	G
45	S2	1273	G
45	S2	1274	C
45	S2	1282	U
45	S2	1284	C
45	S2	1285	U
45	S2	1286	U
45	S2	1287	A
45	S2	1288	G
45	S2	1301	U
45	S2	1307	U
45	S2	1310	U

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Mol	Chain	Res	Type
45	S2	1311	U
45	S2	1312	A
45	S2	1313	A
45	S2	1314	U
45	S2	1318	G
45	S2	1319	A
45	S2	1320	U
45	S2	1321	A
45	S2	1322	A
45	S2	1325	A
45	S2	1338	C
45	S2	1339	C
45	S2	1340	U
45	S2	1341	A
45	S2	1342	C
45	S2	1343	U
45	S2	1344	A
45	S2	1346	A
45	S2	1348	A
45	S2	1350	U
45	S2	1351	G
45	S2	1352	G
45	S2	1354	G
45	S2	1357	A
45	S2	1358	G
45	S2	1359	C
45	S2	1361	U
45	S2	1362	U
45	S2	1363	U
45	S2	1364	G
45	S2	1365	C
45	S2	1368	G
45	S2	1369	U
45	S2	1370	U
45	S2	1371	A
45	S2	1373	C
45	S2	1375	A
45	S2	1376	C
45	S2	1377	U
45	S2	1378	U
45	S2	1379	C
45	S2	1380	U

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Mol	Chain	Res	Type
45	S2	1381	U
45	S2	1382	A
45	S2	1383	G
45	S2	1384	A
45	S2	1386	G
45	S2	1388	A
45	S2	1389	C
45	S2	1390	U
45	S2	1391	A
45	S2	1395	G
45	S2	1396	U
45	S2	1398	U
45	S2	1399	C
45	S2	1400	A
45	S2	1403	C
45	S2	1405	G
45	S2	1407	U
45	S2	1409	G
45	S2	1410	A
45	S2	1411	A
45	S2	1412	G
45	S2	1414	U
45	S2	1415	U
45	S2	1424	A
45	S2	1425	A
45	S2	1427	A
45	S2	1428	G
45	S2	1429	G
45	S2	1431	C
45	S2	1432	U
45	S2	1436	A
45	S2	1438	G
45	S2	1439	C
45	S2	1441	C
45	S2	1444	A
45	S2	1445	G
45	S2	1446	A
45	S2	1450	U
45	S2	1451	C
45	S2	1456	C
45	S2	1457	C
45	S2	1458	G

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Mol	Chain	Res	Type
45	S2	1459	C
45	S2	1460	A
45	S2	1461	C
45	S2	1469	A
45	S2	1471	A
45	S2	1472	C
45	S2	1473	U
45	S2	1474	G
45	S2	1480	G
45	S2	1481	C
45	S2	1482	C
45	S2	1489	U
45	S2	1490	C
45	S2	1491	U
45	S2	1492	A
45	S2	1493	A
45	S2	1494	C
45	S2	1495	C
45	S2	1496	U
45	S2	1497	U
45	S2	1498	G
45	S2	1499	G
45	S2	1500	C
45	S2	1501	C
45	S2	1502	G
45	S2	1503	A
45	S2	1504	G
45	S2	1508	U
45	S2	1509	C
45	S2	1510	U
45	S2	1512	G
45	S2	1513	G
45	S2	1514	U
45	S2	1515	A
45	S2	1516	A
45	S2	1518	C
45	S2	1519	U
45	S2	1520	U
45	S2	1522	U
45	S2	1523	G
45	S2	1524	A
45	S2	1525	A

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Mol	Chain	Res	Type
45	S2	1530	C
45	S2	1533	C
45	S2	1534	G
45	S2	1535	U
45	S2	1536	G
45	S2	1537	C
45	S2	1541	G
45	S2	1542	G
45	S2	1543	A
45	S2	1548	G
45	S2	1554	U
45	S2	1555	A
45	S2	1556	A
45	S2	1557	U
45	S2	1558	U
45	S2	1559	A
45	S2	1566	U
45	S2	1568	C
45	S2	1569	A
45	S2	1573	A
45	S2	1575	G
45	S2	1576	A
45	S2	1579	U
45	S2	1582	U
45	S2	1583	A
45	S2	1584	G
45	S2	1592	A
45	S2	1597	A
45	S2	1599	C
45	S2	1600	A
45	S2	1601	G
45	S2	1605	G
45	S2	1606	C
45	S2	1612	U
45	S2	1614	A
45	S2	1615	C
45	S2	1616	G
45	S2	1619	C
45	S2	1620	C
45	S2	1621	U
45	S2	1622	G
45	S2	1634	C

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Mol	Chain	Res	Type
45	S2	1657	U
45	S2	1658	G
45	S2	1659	A
45	S2	1660	A
45	S2	1661	U
45	S2	1662	G
45	S2	1663	G
45	S2	1665	U
45	S2	1666	U
45	S2	1678	A
45	S2	1681	A
45	S2	1683	C
45	S2	1684	U
45	S2	1685	G
45	S2	1686	C
45	S2	1689	A
45	S2	1690	G
45	S2	1691	A
45	S2	1692	G
45	S2	1693	A
45	S2	1695	G
45	S2	1697	G
45	S2	1700	C
45	S2	1701	A
45	S2	1702	A
45	S2	1705	C
45	S2	1706	C
45	S2	1708	U
45	S2	1710	U
45	S2	1714	A
45	S2	1716	C
45	S2	1717	G
45	S2	1718	G
45	S2	1724	U
45	S2	1725	U
45	S2	1726	G
45	S2	1732	A
45	S2	1733	C
45	S2	1735	U
45	S2	1736	G
45	S2	1740	A
45	S2	1741	U

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Mol	Chain	Res	Type
45	S2	1743	U
45	S2	1744	A
45	S2	1760	G
45	S2	1762	A
45	S2	1766	A
45	S2	1769	U
45	S2	1770	U
45	S2	1780	G
45	S2	1782	A
45	S2	1783	C
45	S2	1792	G
45	S2	1793	G
45	S2	1794	A
45	S2	1795	U
45	S2	1796	C
45	S2	1798	U
45	S2	1799	U
79	Ta	5	G
79	Ta	13	C
79	Ta	16	C
79	Ta	17	C
79	Ta	18	C
79	Ta	20	G
79	Ta	33	C
79	Ta	37	G
79	Ta	48	U
79	Ta	55	U
79	Ta	56	U
79	Ta	57	C
79	Ta	58	A
79	Ta	59	A
79	Ta	60	A
79	Ta	62	C
79	Ta	63	C
79	Ta	70	C
79	Ta	76	C
79	Ta	77	A

All (65) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	LA	161	G

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Mol	Chain	Res	Type
1	LA	197	G
1	LA	199	A
1	LA	372	A
1	LA	374	A
1	LA	592	C
1	LA	619	U
1	LA	623	G
1	LA	848	C
1	LA	915	G
1	LA	1248	G
1	LA	1306	G
1	LA	1330	U
1	LA	1467	A
1	LA	1581	C
1	LA	1625	U
1	LA	1738	U
1	LA	1764	U
1	LA	1806	G
1	LA	1946	G
1	LA	2266	C
1	LA	2267	U
1	LA	2371	A
1	LA	2500	U
1	LA	2540	U
1	LA	2672	A
1	LA	2706	C
1	LA	2733	A
1	LA	3120	U
1	LA	3224	C
1	LA	3322	A
1	LA	3342	G
1	LA	3349	C
2	LB	18	C
3	LC	85	G
45	S2	85	A
45	S2	129	U
45	S2	171	A
45	S2	172	C
45	S2	237	C
45	S2	387	A
45	S2	422	G
45	S2	474	A

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Mol	Chain	Res	Type
45	S2	498	G
45	S2	511	A
45	S2	641	G
45	S2	650	U
45	S2	746	A
45	S2	819	G
45	S2	859	A
45	S2	891	A
45	S2	923	A
45	S2	963	A
45	S2	998	A
45	S2	1061	A
45	S2	1219	A
45	S2	1226	A
45	S2	1351	G
45	S2	1378	U
45	S2	1411	A
45	S2	1440	C
45	S2	1443	U
45	S2	1523	G
45	S2	1680	G
45	S2	1742	U

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

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

5.5 Carbohydrates

There are no oligosaccharides in this entry.

5.6 Ligand geometry

There are no ligands in this entry.

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

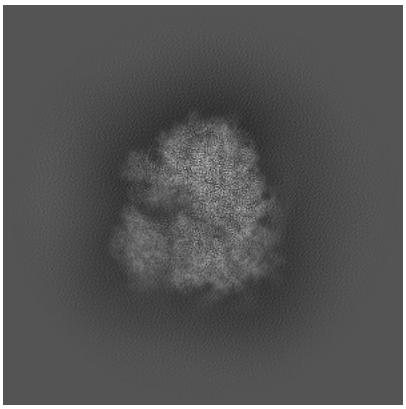
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-60098. These allow visual inspection of the internal detail of the map and identification of artifacts.

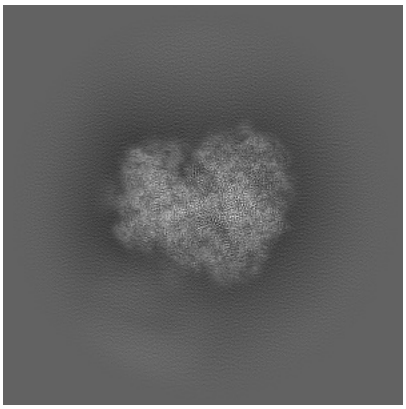
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

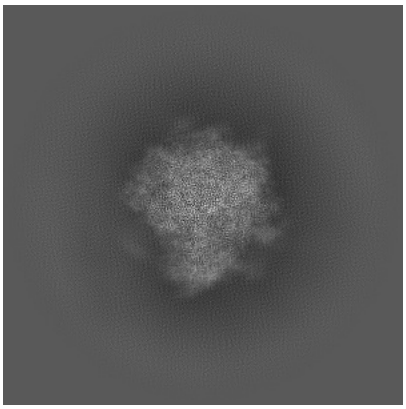
6.1.1 Primary map



X

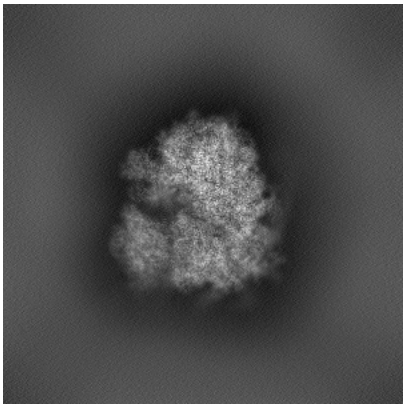


Y

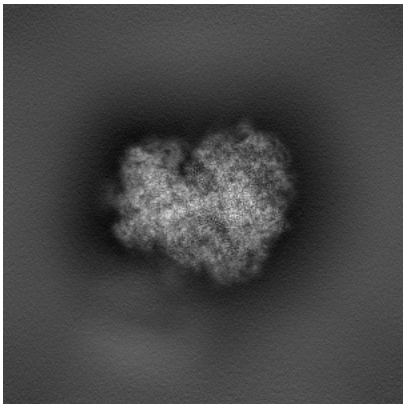


Z

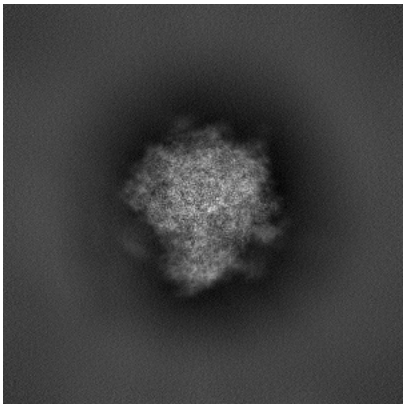
6.1.2 Raw map



X



Y

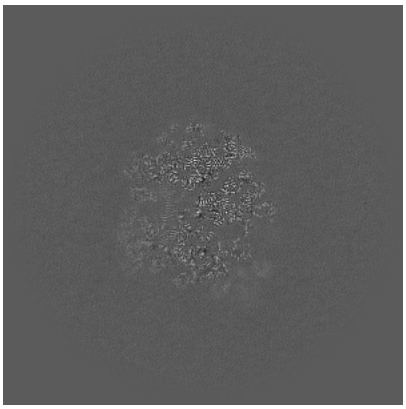


Z

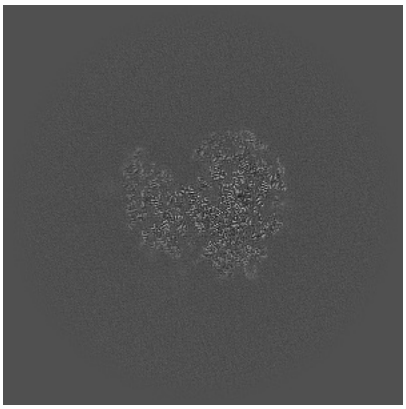
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

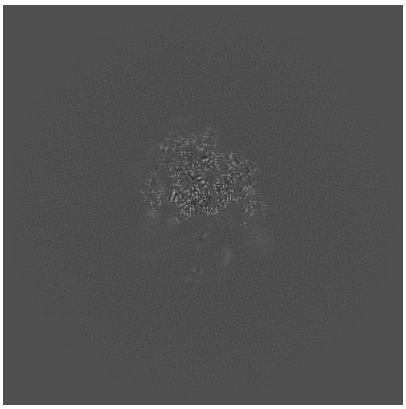
6.2.1 Primary map



X Index: 300

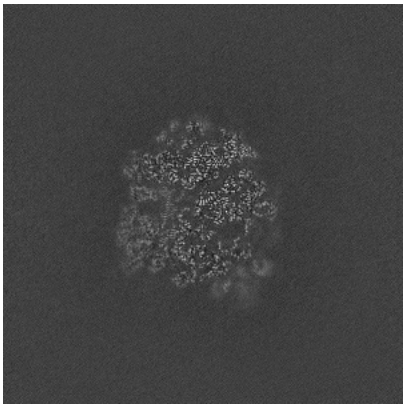


Y Index: 300

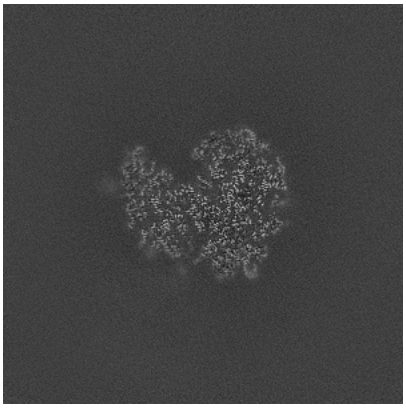


Z Index: 300

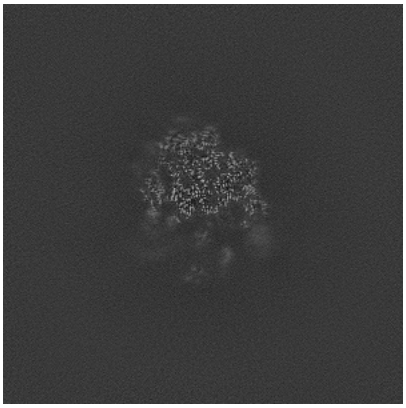
6.2.2 Raw map



X Index: 300



Y Index: 300

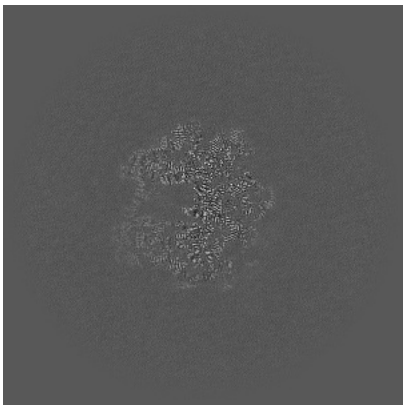


Z Index: 300

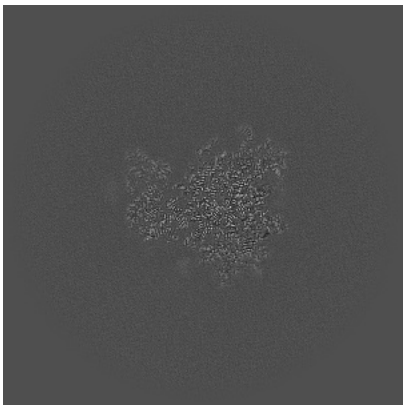
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

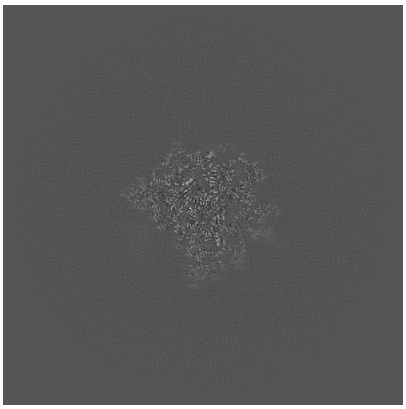
6.3.1 Primary map



X Index: 288

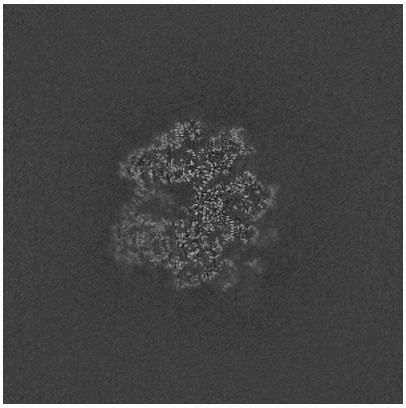


Y Index: 309

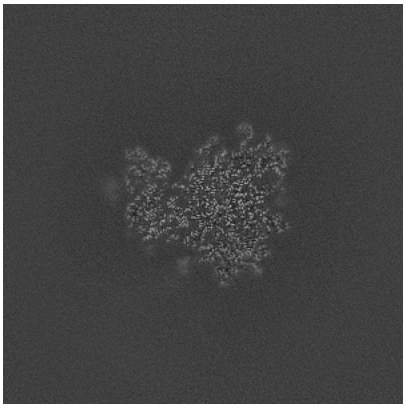


Z Index: 341

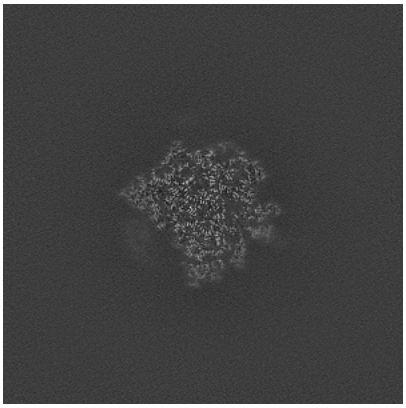
6.3.2 Raw map



X Index: 289



Y Index: 309

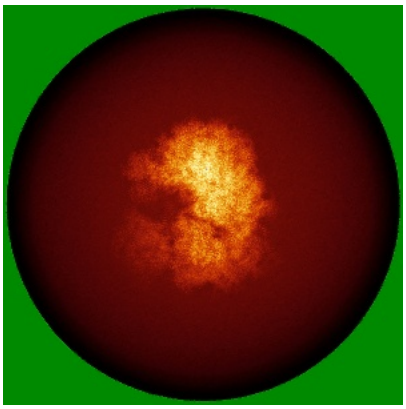


Z Index: 341

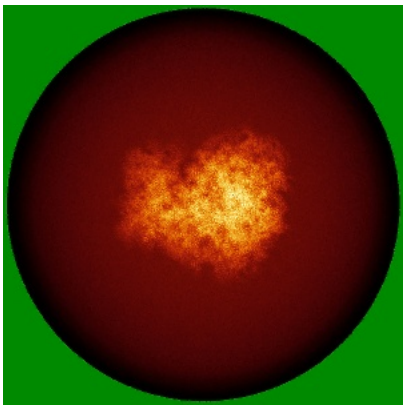
The images above show the largest variance slices of the map in three orthogonal directions.

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

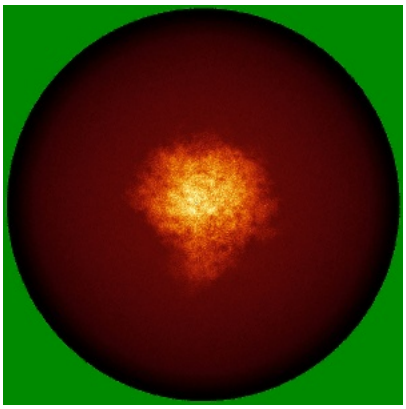
6.4.1 Primary map



X

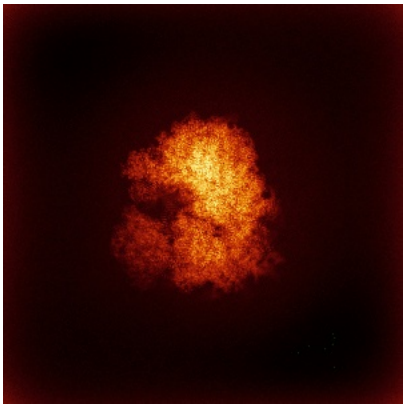


Y

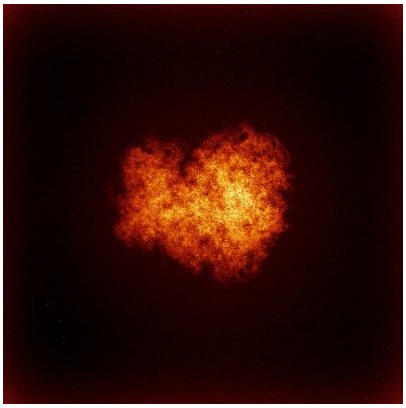


Z

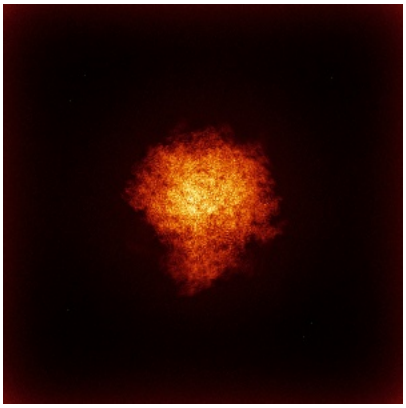
6.4.2 Raw map



X



Y

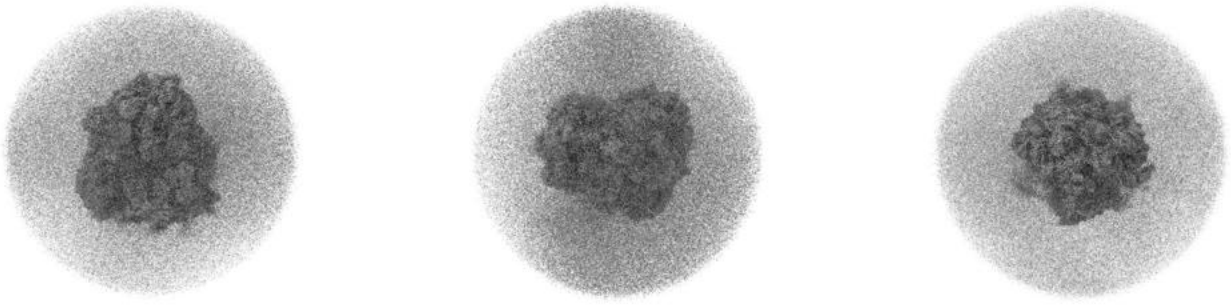


Z

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

6.5 Orthogonal surface views (i)

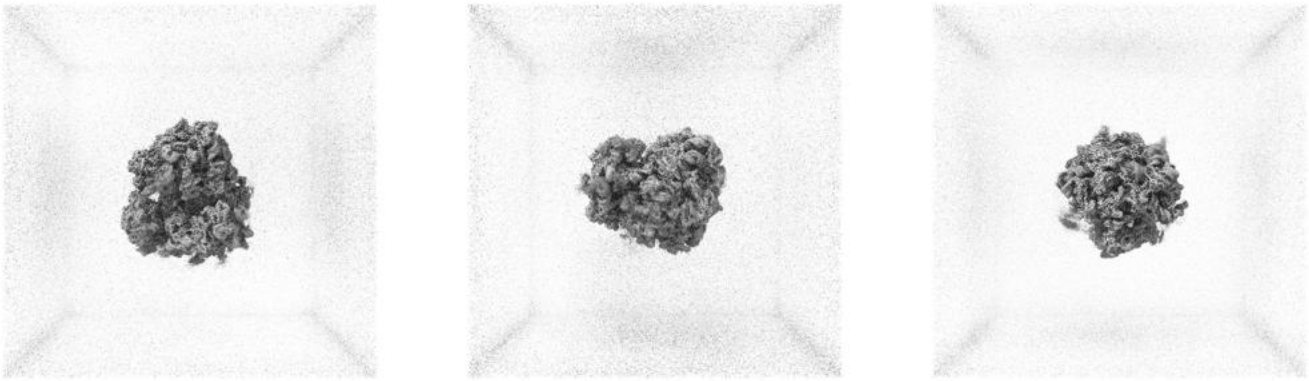
6.5.1 Primary map



X Y Z

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

6.5.2 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.

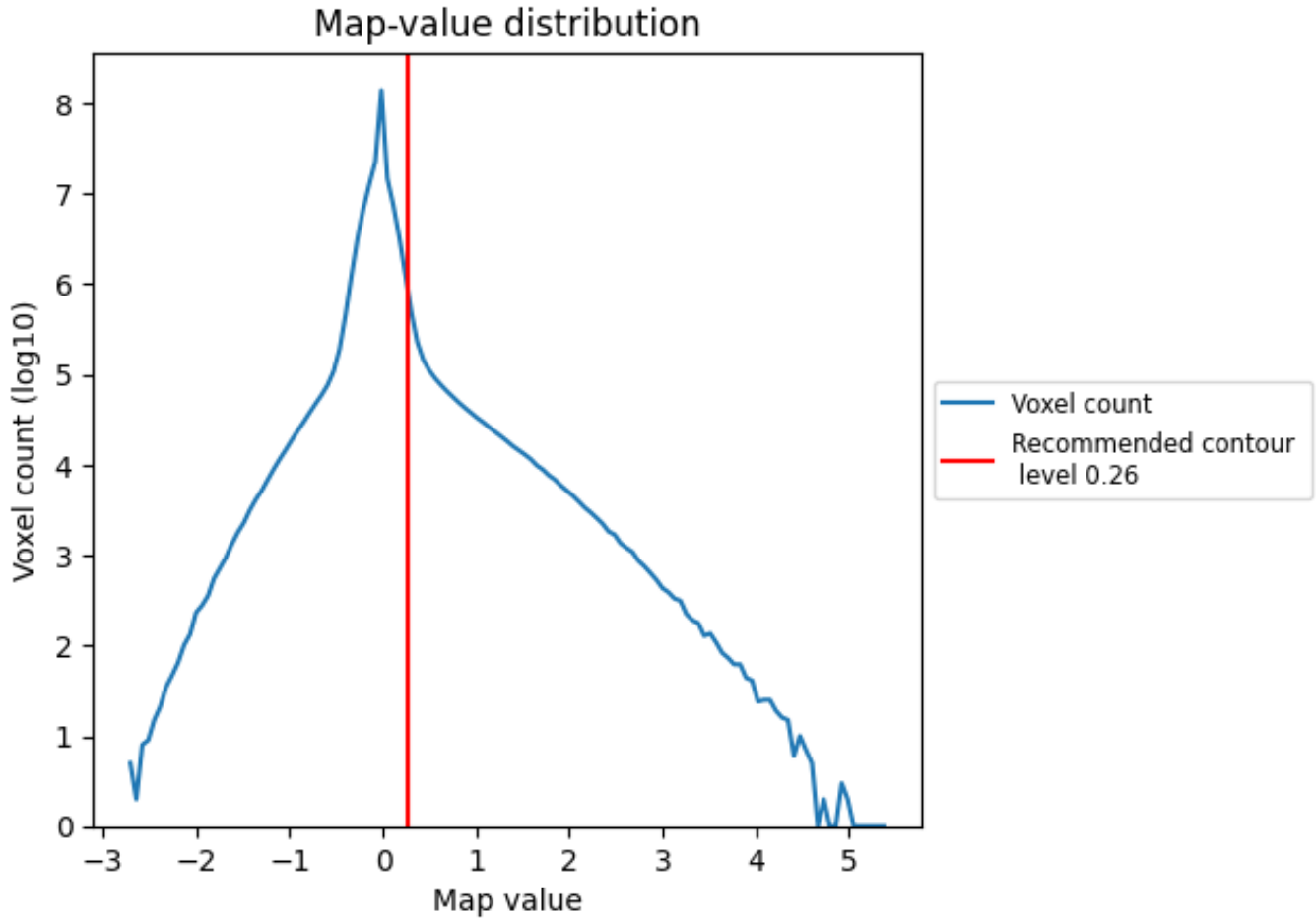
6.6 Mask visualisation (i)

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

7 Map analysis

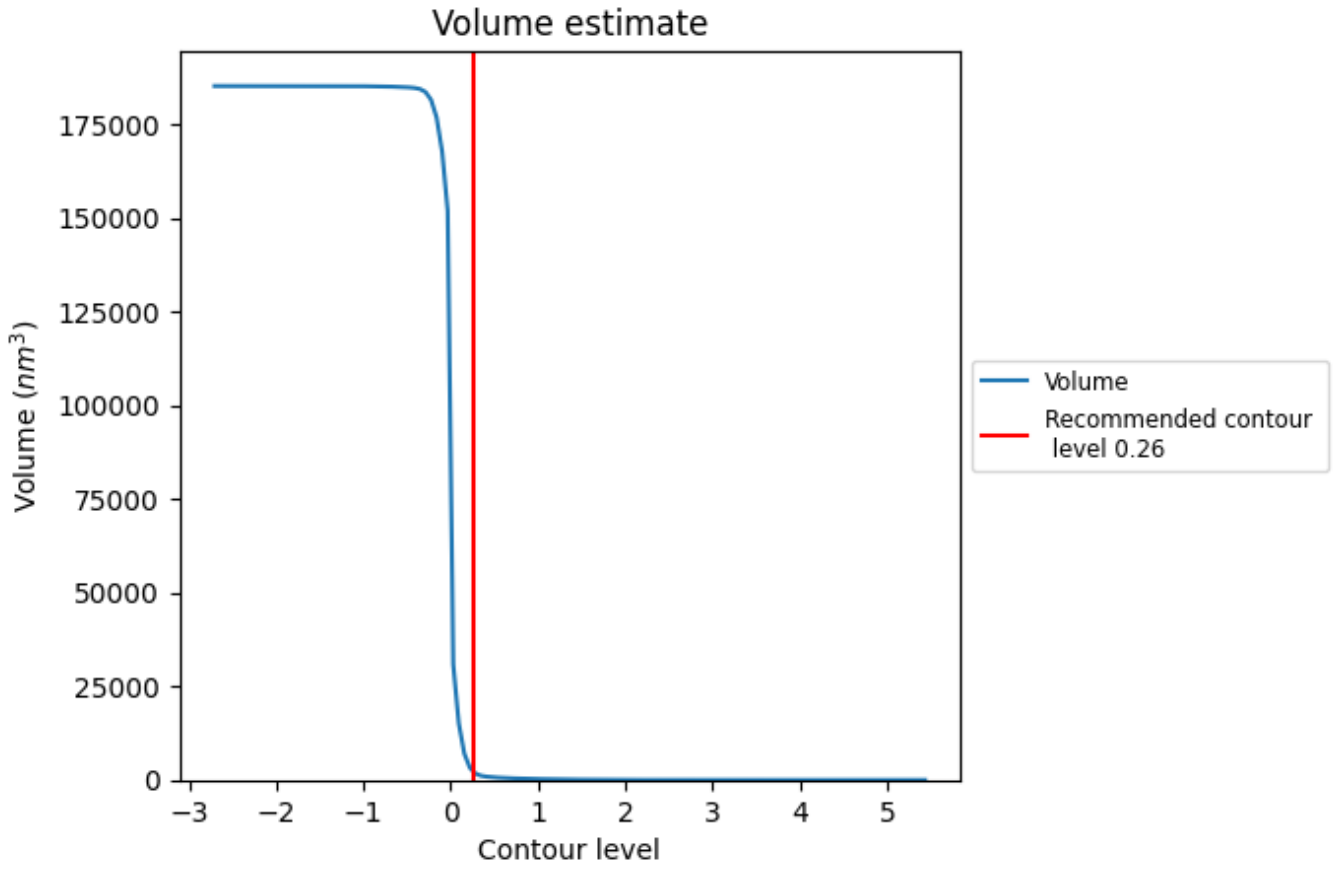
This section contains the results of statistical analysis of the map.

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.

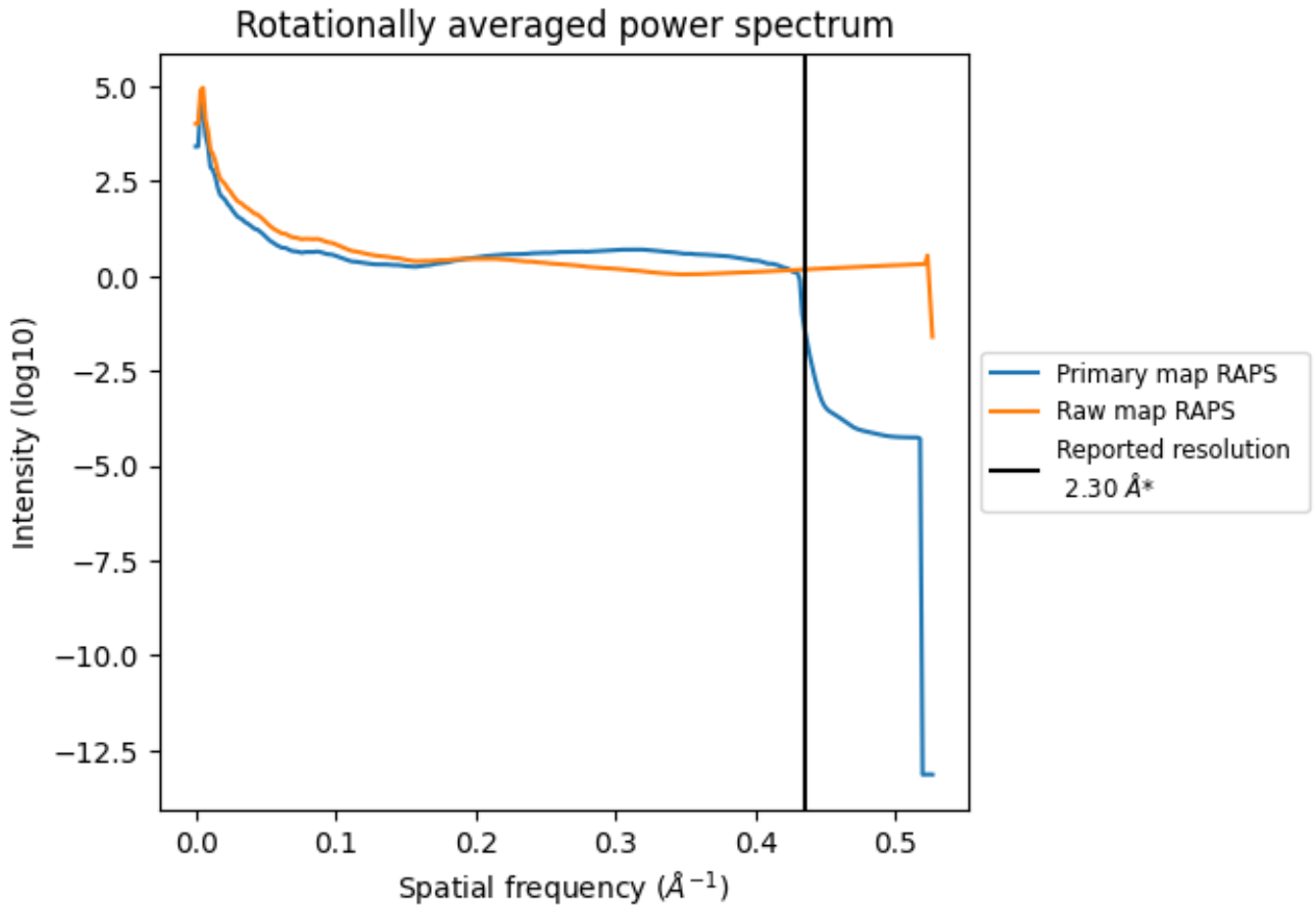
7.2 Volume estimate



The volume at the recommended contour level is 2267 nm^3; this corresponds to an approximate mass of 2048 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)

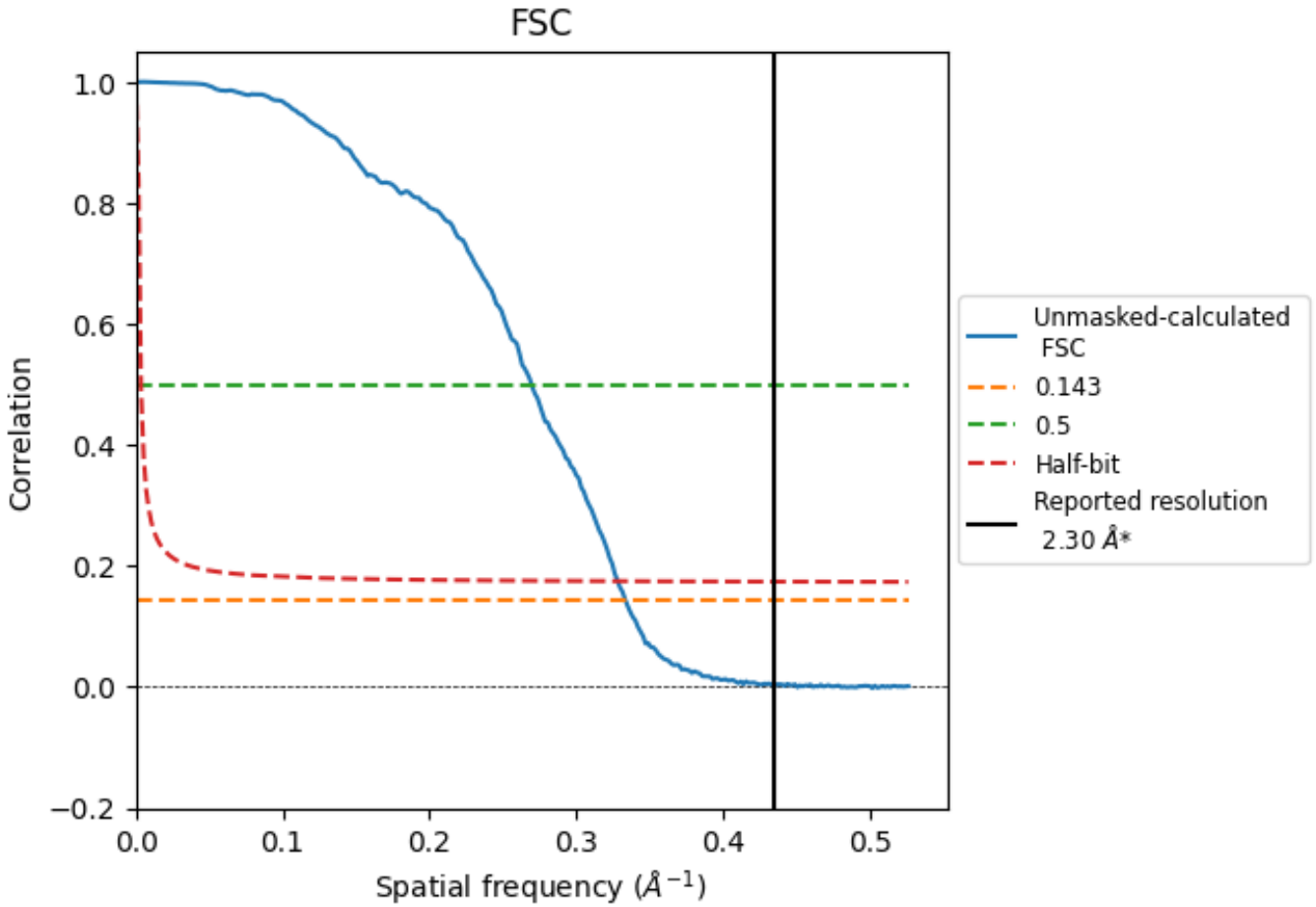


*Reported resolution corresponds to spatial frequency of 0.435 $Å^{-1}$

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 0.435 Å^{-1}

8.2 Resolution estimates (i)

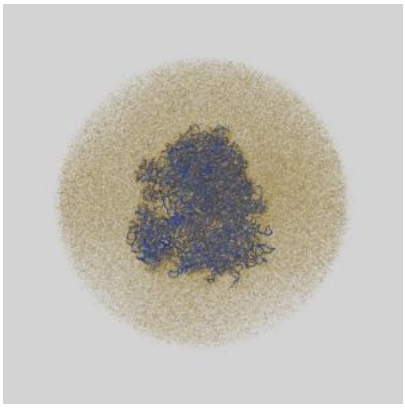
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.30	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	3.00	3.71	3.05

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 3.00 differs from the reported value 2.3 by more than 10 %

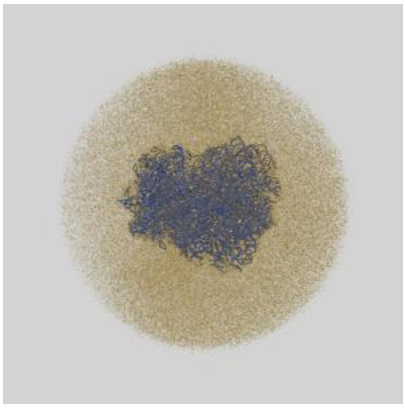
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-60098 and PDB model 8ZHC. Per-residue inclusion information can be found in section 3 on page 19.

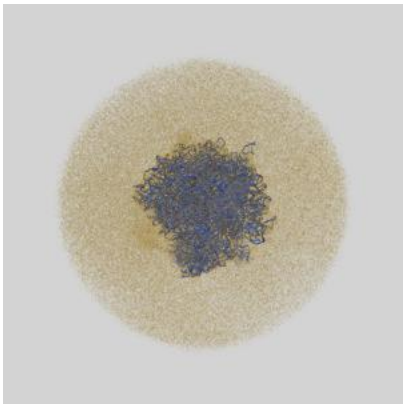
9.1 Map-model overlay



X



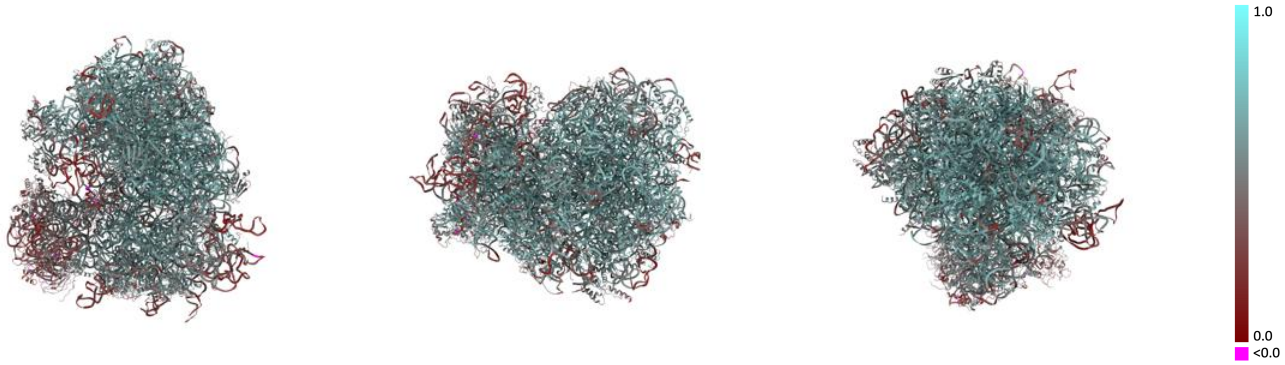
Y



Z

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

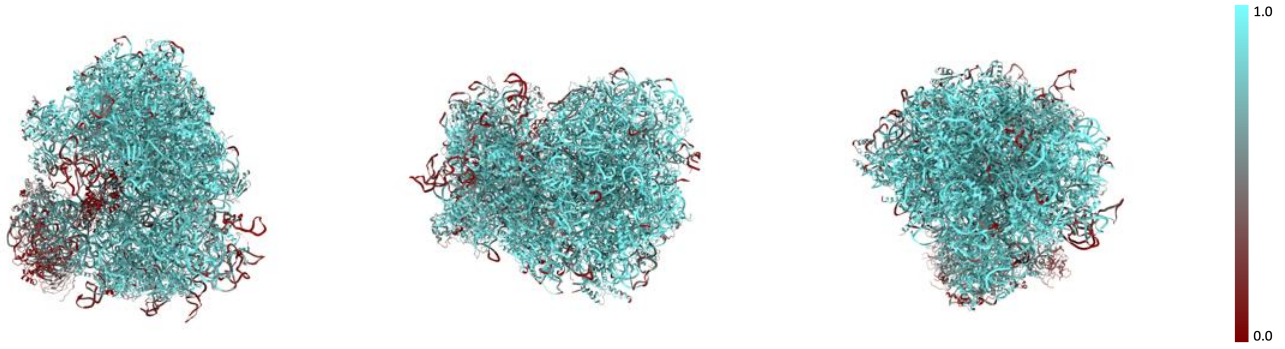
9.2 Q-score mapped to coordinate model (i)



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.

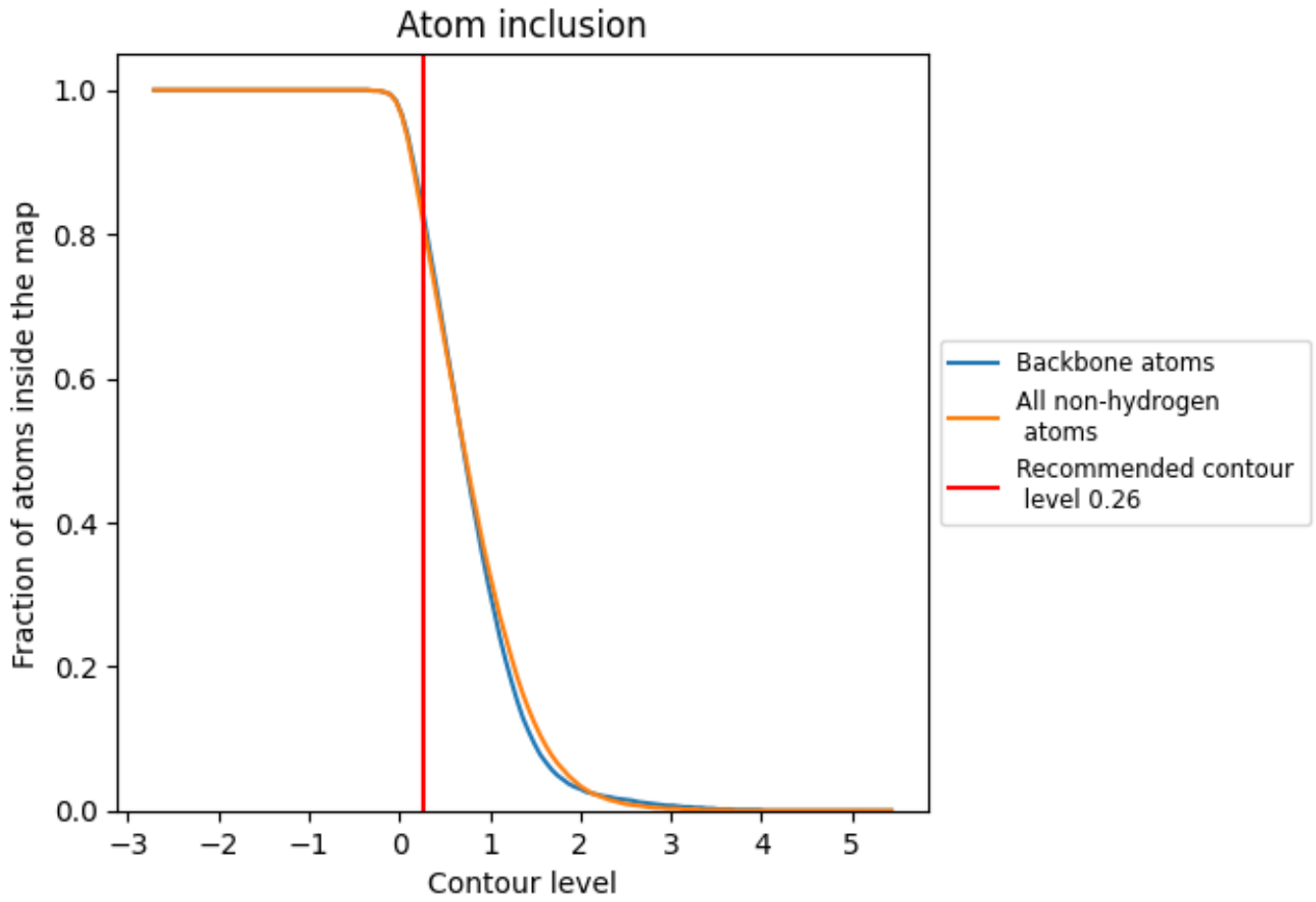
9.3 Atom inclusion mapped to coordinate model (i)



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 (0.26).

9.4 Atom inclusion (i)



At the recommended contour level, 83% of all backbone atoms, 82% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.26) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.8190	0.5570
LA	0.8920	0.5980
LB	0.9120	0.5770
LC	0.9180	0.5870
LD	0.9700	0.6810
LE	0.9440	0.6400
LF	0.9390	0.6420
LG	0.7670	0.5190
LH	0.8390	0.5710
LI	0.9460	0.6660
LJ	0.7810	0.4980
LK	0.8490	0.5560
LL	0.8910	0.6020
LM	0.8100	0.5200
LN	0.8840	0.5890
LO	0.8990	0.5730
LP	0.9760	0.6360
LQ	0.9300	0.6280
LR	0.9310	0.6470
LS	0.9710	0.6810
LT	0.8800	0.6180
LU	0.9260	0.6260
LV	0.9430	0.6540
LW	0.7750	0.5140
LX	0.9420	0.6610
LY	0.9350	0.6510
LZ	0.8740	0.5800
La	0.7780	0.4820
Lb	0.8410	0.5510
Lc	0.9610	0.6560
Ld	0.9540	0.6530
Le	0.9520	0.6430
Lf	0.9060	0.6130
Lg	0.8950	0.6380
Lh	0.9780	0.6750

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Chain	Atom inclusion	Q-score
Li	0.9150	0.6180
Lj	0.9230	0.5850
Lk	0.8730	0.5490
Ll	0.9770	0.6640
Lm	0.6880	0.4830
Ln	0.9300	0.6260
Lo	0.9220	0.6230
Lp	0.9860	0.6930
Lq	0.9430	0.6430
Lr	0.9360	0.6680
S2	0.7500	0.4860
SA	0.5590	0.4480
SB	0.6060	0.4300
SC	0.3930	0.3600
SD	0.0650	0.2560
SE	0.4580	0.3670
SF	0.5870	0.4300
SG	0.7080	0.4990
SH	0.5630	0.4260
SI	0.5450	0.3860
SJ	0.4710	0.3900
SK	0.4100	0.3530
SL	0.6640	0.4730
SM	0.6880	0.4630
SN	0.0880	0.2520
SO	0.3730	0.3430
SP	0.8430	0.5560
SQ	0.8490	0.5660
SR	0.8990	0.6000
SS	0.8670	0.5760
ST	0.6900	0.4860
SU	0.7600	0.5420
SV	0.9110	0.6150
SW	0.7910	0.5200
SX	0.9240	0.6560
SY	0.9330	0.6460
SZ	0.9070	0.5840
Sa	0.8640	0.5790
Sb	0.9680	0.6710
Sc	0.9140	0.6270
Sd	0.7380	0.4920
Se	0.9420	0.6300

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Chain	Atom inclusion	Q-score
Sf	0.8600	0.5920
Sg	0.6760	0.4690
Ta	0.6870	0.4670
eR	0.1680	0.3890
mR	0.7510	0.5490
pp	0.2900	0.3350