



Full wwPDB EM Validation Report ⓘ

Mar 5, 2026 – 12:47 AM UTC

PDB ID : 7RR5 / pdb_00007rr5
EMDB ID : EMD-24652
Title : Structure of ribosomal complex bound with Rbg1/Tma46
Authors : Zeng, F.; Li, X.; Pires-Alves, M.; Chen, X.; Hawk, C.W.; Jin, H.
Deposited on : 2021-08-09
Resolution : 3.23 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

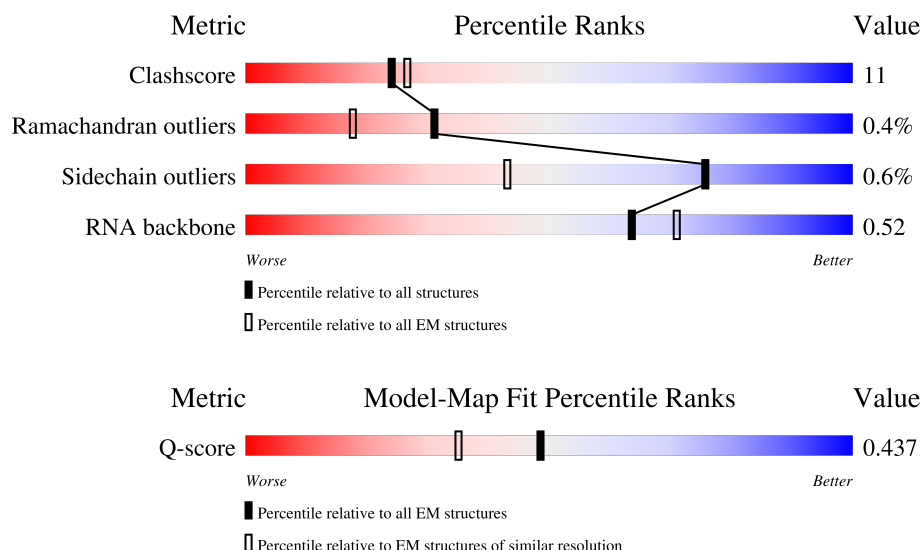
EMDB validation analysis : 0.0.1.dev132
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

1 Overall quality at a glance

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

The reported resolution of this entry is 3.23 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



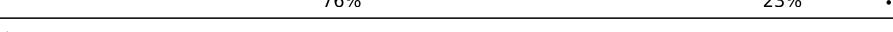
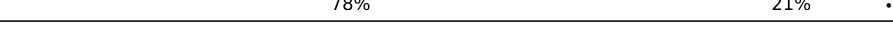
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	14612 (2.73 - 3.73)

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

Mol	Chain	Length	Quality of chain
1	C1	3396	
2	C4	121	
3	C3	158	

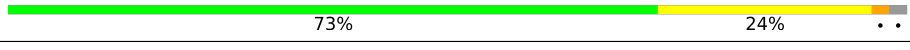
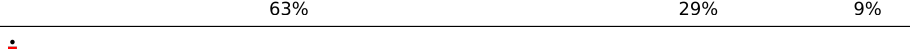
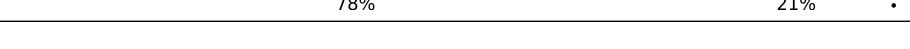
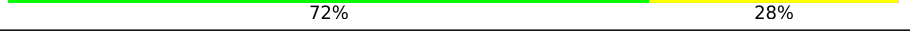
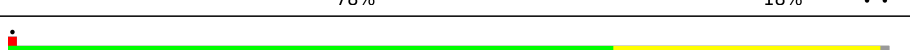
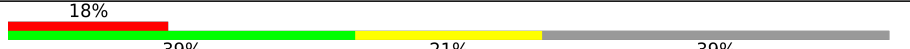
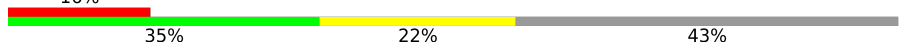
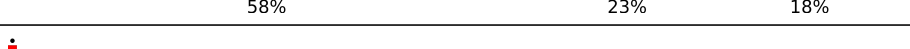
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Mol	Chain	Length	Quality of chain
4	LA	254	 74%25%.
5	LB	387	 80%20%
6	LC	362	 72%28%
7	LD	297	 75%24%. .
8	LE	176	 71%24%5%. .
9	LF	244	 60%31%9%
10	LG	256	 62%28%. 9%
11	LH	191	 70%30%
12	LI	221	 70%29%. .
13	LJ	174	 65%31%. .
14	LL	199	 77%19%. .
15	LM	138	 75%23%. .
16	LN	204	 66%33%
17	LO	199	 77%21%. .
18	LP	184	 77%22%. .
19	LQ	186	 76%23%. .
20	LR	189	 78%21%. .
21	LS	172	 78%20%. .
22	LT	160	 77%22%. .
23	LU	121	 68%15%17%
24	LV	137	 74%25%. .
25	LW	155	 14%74%7%19%
26	LX	142	 64%20%. 15%
27	LY	127	 74%24%. .
28	LZ	136	 72%27%. .

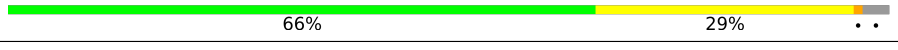
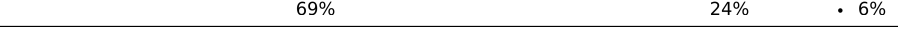
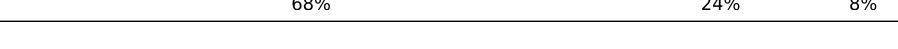
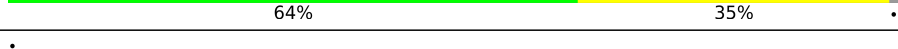
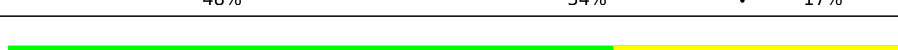
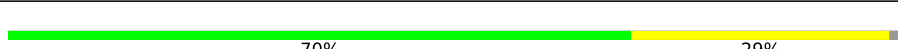
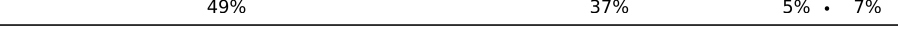
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Mol	Chain	Length	Quality of chain
29	La	149	
30	Lb	59	
31	Lc	105	
32	Ld	113	
33	Le	130	
34	Lf	107	
35	Lg	121	
36	Lh	120	
37	Li	100	
38	Lj	88	
39	Lk	78	
40	Ll	51	
41	Lm	128	
42	Ln	25	
43	Lo	106	
44	Lp	92	
45	P0	312	
46	P2	165	
47	C2	1800	
48	SA	252	
49	SB	255	
50	SC	254	
51	SD	240	
52	SE	261	
53	SF	225	

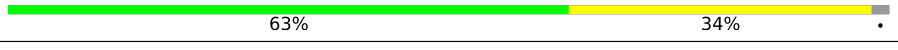
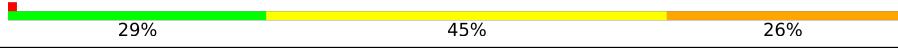
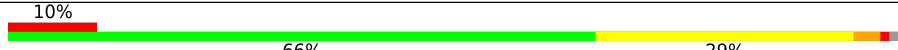
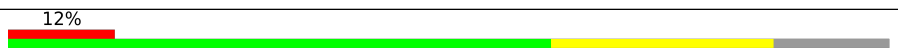
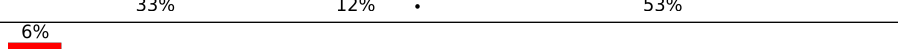
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Mol	Chain	Length	Quality of chain
54	SG	236	
55	SH	190	
56	SI	200	
57	SJ	197	
58	SK	105	
59	SL	156	
60	SM	143	
61	SN	151	
62	SO	138	
63	SP	142	
64	SQ	143	
65	SR	136	
66	SS	146	
67	ST	144	
68	SU	121	
69	SV	87	
70	SW	130	
71	SX	145	
72	SY	135	
73	SZ	108	
74	Sa	119	
75	Sb	82	
76	Sc	67	
77	Sd	56	
78	Se	63	

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Mol	Chain	Length	Quality of chain
79	Sf	152	
80	Sg	319	
81	A	76	
82	P	76	
83	m	16	
84	5	157	
85	R	410	
86	T	345	
87	L1	210	

2 Entry composition

There are 90 unique types of molecules in this entry. The entry contains 212517 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.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	C1	3221	Total	C	N	O	P	0	0
			68888	30771	12409	22487	3221		

- Molecule 2 is a RNA chain called 5S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	C4	121	Total	C	N	O	P	0	0
			2579	1152	461	845	121		

- Molecule 3 is a RNA chain called 5.8S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	C3	158	Total	C	N	O	P	0	0
			3353	1500	586	1109	158		

- Molecule 4 is a protein called 60S ribosomal protein L2-B.

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

- Molecule 5 is a protein called RPL3 isoform 1.

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

- Molecule 6 is a protein called RPL4A isoform 1.

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

- Molecule 7 is a protein called RPL5 isoform 1.

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

- Molecule 8 is a protein called 60S ribosomal protein L6.

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

- Molecule 9 is a protein called 60S ribosomal protein L7-A.

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

- Molecule 10 is a protein called 60S ribosomal protein L8-A.

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

- Molecule 11 is a protein called 60S ribosomal protein L9-A.

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

- Molecule 12 is a protein called RPL10 isoform 1.

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

- Molecule 13 is a protein called RPL11B isoform 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	LJ	169	Total	C	N	O	S	0	0
			1350	846	253	247	4		

- Molecule 14 is a protein called 60S ribosomal protein L13.

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

- Molecule 15 is a protein called 60S ribosomal protein L14-A.

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

- Molecule 16 is a protein called 60S ribosomal protein L15-A.

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

- Molecule 17 is a protein called 60S ribosomal protein L16-A.

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

- Molecule 18 is a protein called 60S ribosomal protein L17-A.

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

- Molecule 19 is a protein called 60S ribosomal protein L18-B.

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

- Molecule 20 is a protein called 60S ribosomal protein L19-A.

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

- Molecule 21 is a protein called 60S ribosomal protein L20-A.

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

- Molecule 22 is a protein called 60S ribosomal protein L21-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	LT	159	Total	C	N	O	S	0	0
			1276	805	246	221	4		

- Molecule 23 is a protein called 60S ribosomal protein L22-A.

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

- Molecule 24 is a protein called 60S ribosomal protein L23-B.

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

- Molecule 25 is a protein called RPL24A isoform 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	LW	126	Total	C	N	O	S	0	0
			849	532	167	149	1		

- Molecule 26 is a protein called 60S ribosomal protein L25.

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

- Molecule 27 is a protein called 60S ribosomal protein L26-A.

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

- Molecule 28 is a protein called 60S ribosomal protein L27.

Mol	Chain	Residues	Atoms				AltConf	Trace
28	LZ	135	Total	C	N	O	0	0
			1092	710	202	180		

- Molecule 29 is a protein called 60S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	La	148	Total	C	N	O	S	0	0
			1173	749	231	190	3		

- Molecule 30 is a protein called RPL29 isoform 1.

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

- Molecule 31 is a protein called 60S ribosomal protein L30.

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

- Molecule 32 is a protein called 60S ribosomal protein L31-A.

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

- Molecule 33 is a protein called RPL32 isoform 1.

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

- Molecule 34 is a protein called 60S ribosomal protein L33-A.

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

- Molecule 35 is a protein called 60S ribosomal protein L34-A.

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

- Molecule 36 is a protein called 60S ribosomal protein L35-A.

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

- Molecule 37 is a protein called 60S ribosomal protein L36-A.

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

- Molecule 38 is a protein called Ribosomal protein L37.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	Lj	85	Total	C	N	O	S	0	0
			670	408	146	111	5		

- Molecule 39 is a protein called RPL38 isoform 1.

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

- Molecule 40 is a protein called 60S ribosomal protein L39.

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

- Molecule 41 is a protein called Ubiquitin-60S ribosomal protein L40.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	Lm	52	Total	C	N	O	S	0	0
			417	259	86	67	5		

- Molecule 42 is a protein called 60S ribosomal protein L41-A.

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

- Molecule 43 is a protein called 60S ribosomal protein L42-A.

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

- Molecule 44 is a protein called 60S ribosomal protein L43-A.

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

- Molecule 45 is a protein called RPP0 isoform 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	P0	189	Total	C	N	O	S	0	0
			1473	942	257	270	4		

- Molecule 46 is a protein called RPL12A isoform 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	P2	94	Total	C	N	O	S	0	0
			723	448	138	135	2		

- Molecule 47 is a RNA chain called 18S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	C2	1771	Total	C	N	O	P	0	0
			37604	16807	6624	12402	1771		

- Molecule 48 is a protein called 40S ribosomal protein S0.

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

- Molecule 49 is a protein called RPS1A isoform 1.

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

- Molecule 50 is a protein called RPS2 isoform 1.

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

- Molecule 51 is a protein called RPS3 isoform 1.

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

- Molecule 52 is a protein called 40S ribosomal protein S4.

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

- Molecule 53 is a protein called Rps5p.

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

- Molecule 54 is a protein called 40S ribosomal protein S6.

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

- Molecule 55 is a protein called 40S ribosomal protein S7.

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

- Molecule 56 is a protein called RPS8A isoform 1.

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

- Molecule 57 is a protein called 40S ribosomal protein S9-A.

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

- Molecule 58 is a protein called 40S ribosomal protein S10-A.

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

- Molecule 59 is a protein called 40S ribosomal protein S11-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	SL	144	Total	C	N	O	S	0	0
			1159	742	219	195	3		

- Molecule 60 is a protein called 40S ribosomal protein S12.

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

- Molecule 61 is a protein called 40S ribosomal protein S13.

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

- Molecule 62 is a protein called 40S ribosomal protein S14-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
62	SO	127	Total	C	N	O	S	0	0
			926	569	185	169	3		

- Molecule 63 is a protein called RPS15 isoform 1.

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

- Molecule 64 is a protein called 40S ribosomal protein S16-A.

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

- Molecule 65 is a protein called 40S ribosomal protein S17-A.

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

- Molecule 66 is a protein called 40S ribosomal protein S18-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
66	SS	145	Total	C	N	O	S	0	0
			1192	743	237	210	2		

- Molecule 67 is a protein called 40S ribosomal protein S19-A.

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

- Molecule 68 is a protein called RPS20 isoform 1.

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

- Molecule 69 is a protein called 40S ribosomal protein S21-A.

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

- Molecule 70 is a protein called RPS22A isoform 1.

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

- Molecule 71 is a protein called 40S ribosomal protein S23.

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

- Molecule 72 is a protein called 40S ribosomal protein S24.

Mol	Chain	Residues	Atoms					AltConf	Trace
72	SY	134	Total	C	N	O		0	0
			1073	676	208	189			

- Molecule 73 is a protein called RPS25A isoform 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
73	SZ	100	Total	C	N	O		0	0
			771	491	147	133			

- Molecule 74 is a protein called RPS26B isoform 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
74	Sa	97	Total	C	N	O	S	0	0
			769	475	160	129	5		

- Molecule 75 is a protein called 40S ribosomal protein S27-A.

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

- Molecule 76 is a protein called RPS28A isoform 1.

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

- Molecule 77 is a protein called RPS29A isoform 1.

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

- Molecule 78 is a protein called 40S ribosomal protein S30.

Mol	Chain	Residues	Atoms					AltConf	Trace
78	Se	60	Total	C	N	O	S	0	0
			472	298	97	76	1		

- Molecule 79 is a protein called Ubiquitin-40S ribosomal protein S31.

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

- Molecule 80 is a protein called Guanine nucleotide-binding protein subunit beta-like protein.

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

- Molecule 81 is a RNA chain called A-tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
81	A	76	Total	C	N	O	P	0	0
			1609	720	278	536	75		

- Molecule 82 is a RNA chain called P-tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
82	P	76	Total	C	N	O	P	0	0
			1619	722	288	533	76		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
P	34	U	G	conflict	GB 176436

- Molecule 83 is a RNA chain called mRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
83	m	16	Total	C	N	O	P	0	0
			351	157	72	106	16		

- Molecule 84 is a protein called Eukaryotic translation initiation factor 5A.

Mol	Chain	Residues	Atoms					AltConf	Trace
84	5	154	Total	C	N	O	S	0	0
			1143	709	195	230	9		

- Molecule 85 is a protein called Ribosome-interacting GTPase 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
85	R	355	Total	C	N	O	S	0	0
			2738	1733	483	513	9		

There are 41 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
R	370	LYS	-	expression tag	UNP A0A6A5PWT7
R	371	ARG	-	expression tag	UNP A0A6A5PWT7
R	372	ARG	-	expression tag	UNP A0A6A5PWT7
R	373	TRP	-	expression tag	UNP A0A6A5PWT7
R	374	LYS	-	expression tag	UNP A0A6A5PWT7
R	375	LYS	-	expression tag	UNP A0A6A5PWT7
R	376	ASN	-	expression tag	UNP A0A6A5PWT7
R	377	PHE	-	expression tag	UNP A0A6A5PWT7
R	378	ILE	-	expression tag	UNP A0A6A5PWT7
R	379	ALA	-	expression tag	UNP A0A6A5PWT7
R	380	VAL	-	expression tag	UNP A0A6A5PWT7
R	381	SER	-	expression tag	UNP A0A6A5PWT7
R	382	ALA	-	expression tag	UNP A0A6A5PWT7
R	383	ALA	-	expression tag	UNP A0A6A5PWT7
R	384	ASN	-	expression tag	UNP A0A6A5PWT7
R	385	ARG	-	expression tag	UNP A0A6A5PWT7
R	386	PHE	-	expression tag	UNP A0A6A5PWT7
R	387	LYS	-	expression tag	UNP A0A6A5PWT7
R	388	LYS	-	expression tag	UNP A0A6A5PWT7
R	389	ILE	-	expression tag	UNP A0A6A5PWT7
R	390	SER	-	expression tag	UNP A0A6A5PWT7
R	391	SER	-	expression tag	UNP A0A6A5PWT7
R	392	SER	-	expression tag	UNP A0A6A5PWT7
R	393	GLY	-	expression tag	UNP A0A6A5PWT7
R	394	ALA	-	expression tag	UNP A0A6A5PWT7

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Chain	Residue	Modelled	Actual	Comment	Reference
R	395	LEU	-	expression tag	UNP A0A6A5PWT7
R	396	ASP	-	expression tag	UNP A0A6A5PWT7
R	397	TYR	-	expression tag	UNP A0A6A5PWT7
R	398	ASP	-	expression tag	UNP A0A6A5PWT7
R	399	ILE	-	expression tag	UNP A0A6A5PWT7
R	400	PRO	-	expression tag	UNP A0A6A5PWT7
R	401	THR	-	expression tag	UNP A0A6A5PWT7
R	402	THR	-	expression tag	UNP A0A6A5PWT7
R	403	ALA	-	expression tag	UNP A0A6A5PWT7
R	404	SER	-	expression tag	UNP A0A6A5PWT7
R	405	GLU	-	expression tag	UNP A0A6A5PWT7
R	406	ASN	-	expression tag	UNP A0A6A5PWT7
R	407	LEU	-	expression tag	UNP A0A6A5PWT7
R	408	TYR	-	expression tag	UNP A0A6A5PWT7
R	409	PHE	-	expression tag	UNP A0A6A5PWT7
R	410	GLN	-	expression tag	UNP A0A6A5PWT7

- Molecule 86 is a protein called Translation machinery-associated protein 46.

Mol	Chain	Residues	Atoms					AltConf	Trace
86	T	162	Total	C	N	O	S	0	0
			1276	810	221	240	5		

- Molecule 87 is a protein called 60S ribosomal protein L1.

Mol	Chain	Residues	Atoms				AltConf	Trace
87	L1	200	Total	C	N	O	0	0
			1000	600	200	200		

- Molecule 88 is MAGNESIUM ION (CCD ID: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

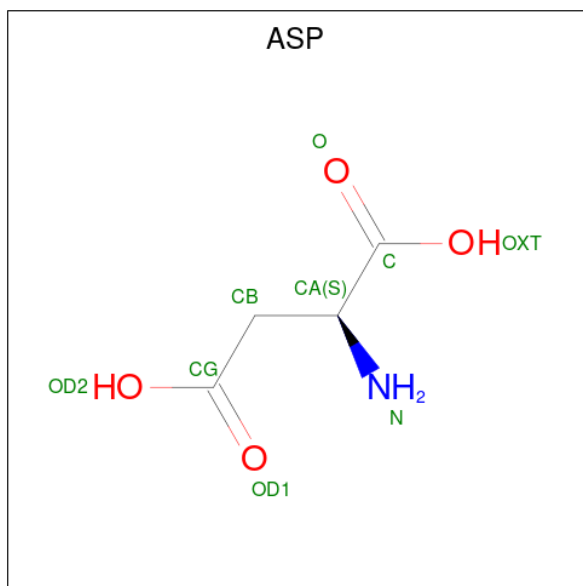
Mol	Chain	Residues	Atoms		AltConf
88	C1	192	Total	Mg	0
			192	192	
88	C4	1	Total	Mg	0
			1	1	
88	LA	2	Total	Mg	0
			2	2	
88	LB	1	Total	Mg	0
			1	1	

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Mol	Chain	Residues	Atoms		AltConf
88	LN	1	Total	Mg	0
			1	1	
88	LP	1	Total	Mg	0
			1	1	
88	LV	1	Total	Mg	0
			1	1	
88	Le	1	Total	Mg	0
			1	1	
88	C2	82	Total	Mg	0
			82	82	
88	SC	1	Total	Mg	0
			1	1	
88	SX	1	Total	Mg	0
			1	1	
88	Sa	1	Total	Mg	0
			1	1	
88	P	1	Total	Mg	0
			1	1	

- Molecule 89 is ASPARTIC ACID (CCD ID: ASP) (formula: $C_4H_7NO_4$).



Mol	Chain	Residues	Atoms				AltConf
89	C1	1	Total	C	N	O	0
			5	3	1	1	

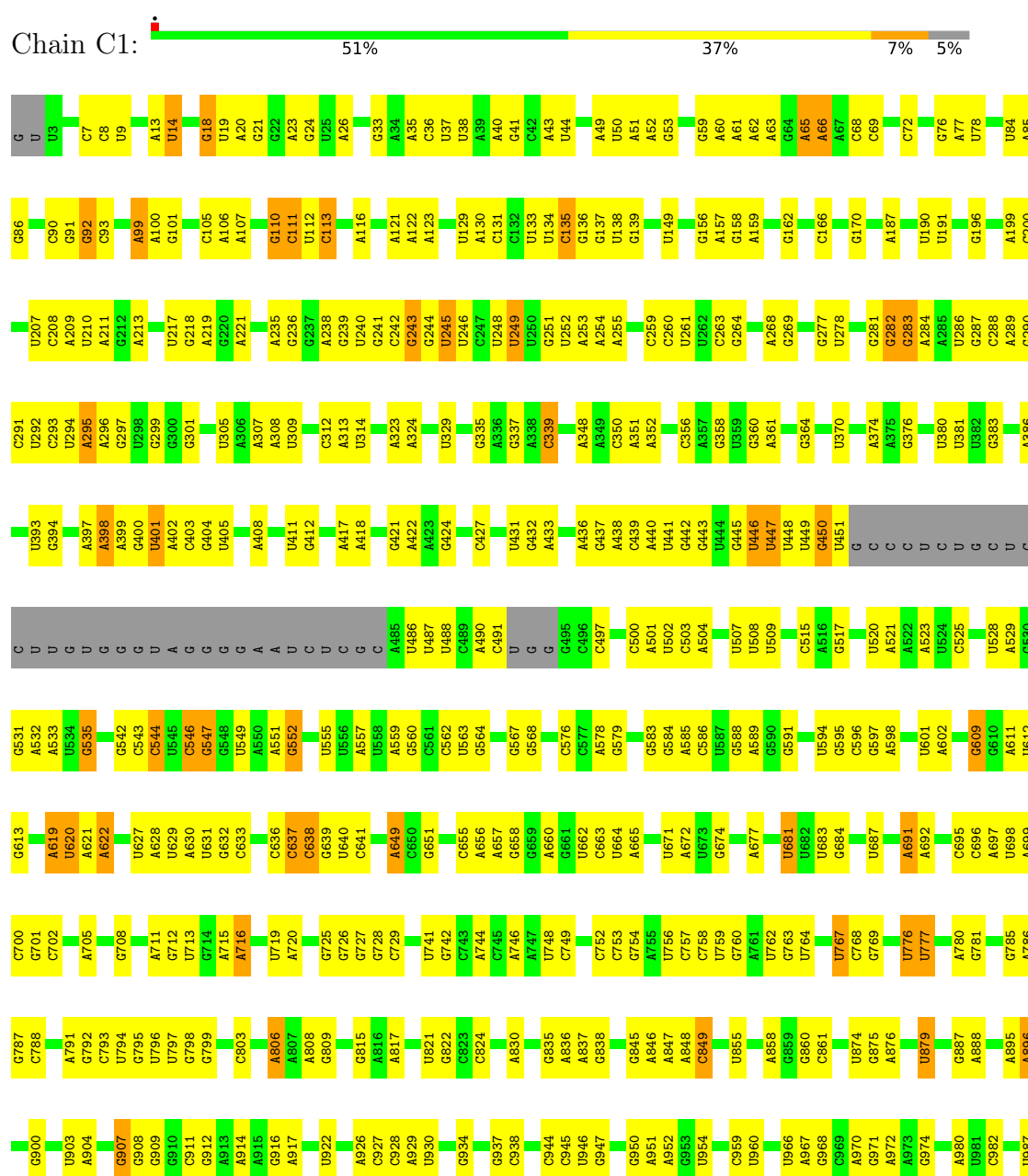
- Molecule 90 is ZINC ION (CCD ID: ZN) (formula: Zn) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		AltConf
90	Lg	1	Total 1	Zn 1	0
90	Lj	1	Total 1	Zn 1	0
90	Lm	1	Total 1	Zn 1	0
90	Lo	1	Total 1	Zn 1	0
90	Lp	1	Total 1	Zn 1	0
90	Sd	1	Total 1	Zn 1	0
90	Sf	1	Total 1	Zn 1	0
90	T	1	Total 1	Zn 1	0

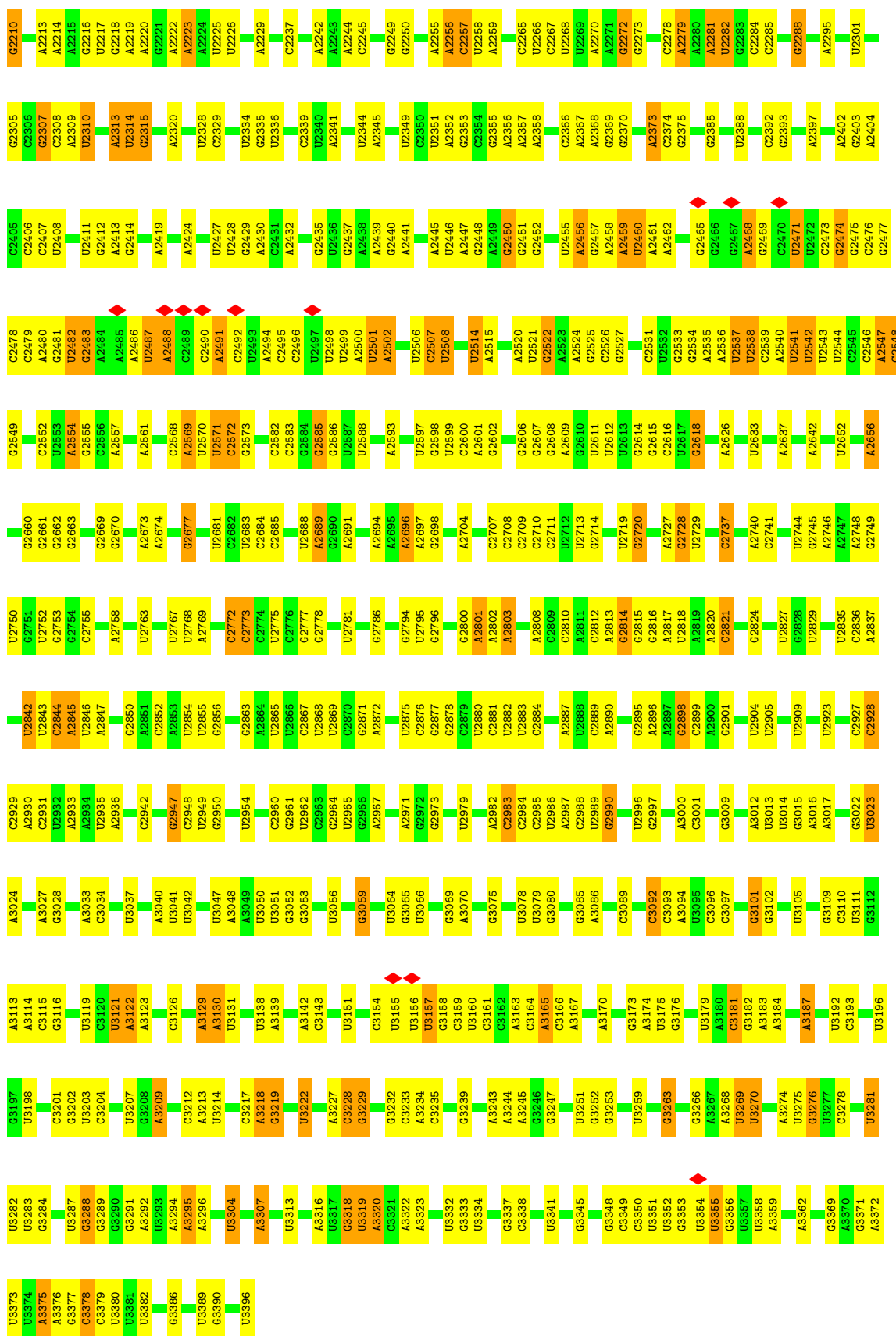
3 Residue-property plots

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

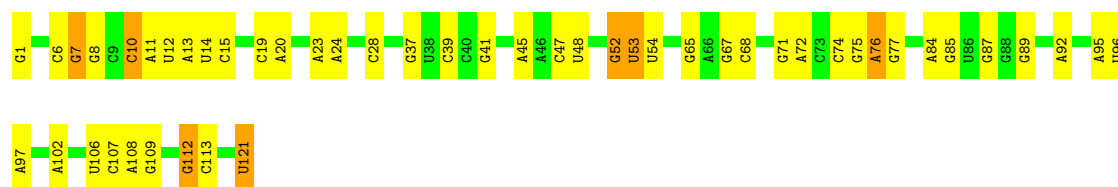
• Molecule 1: 25S rRNA





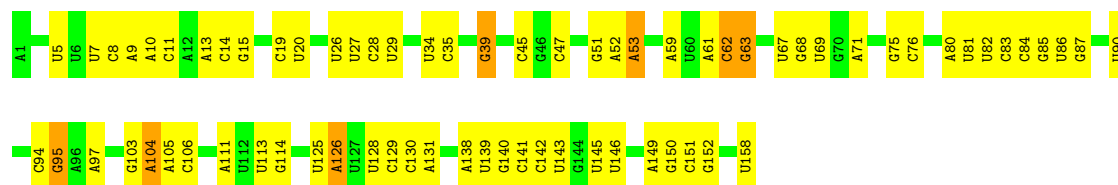


Chain C4: 



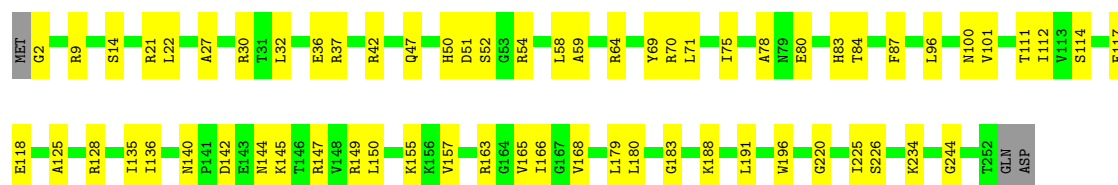
• Molecule 3: 5.8S rRNA

Chain C3: 



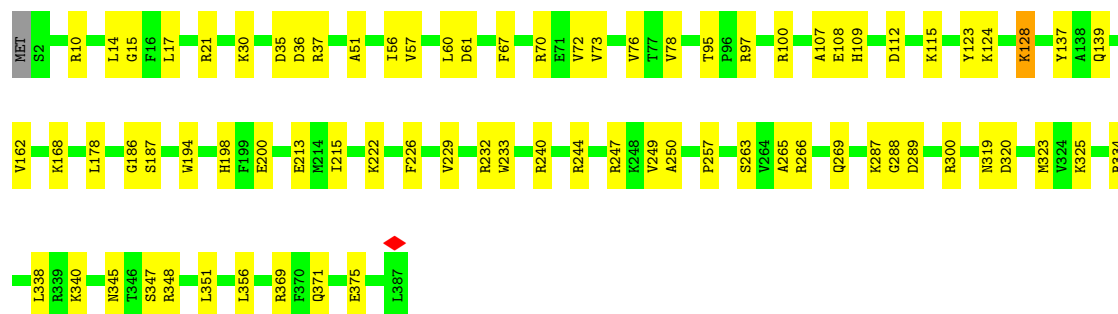
• Molecule 4: 60S ribosomal protein L2-B

Chain LA: 



• Molecule 5: RPL3 isoform 1

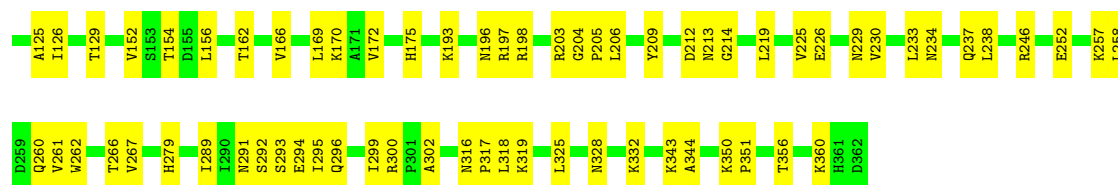
Chain LB: 



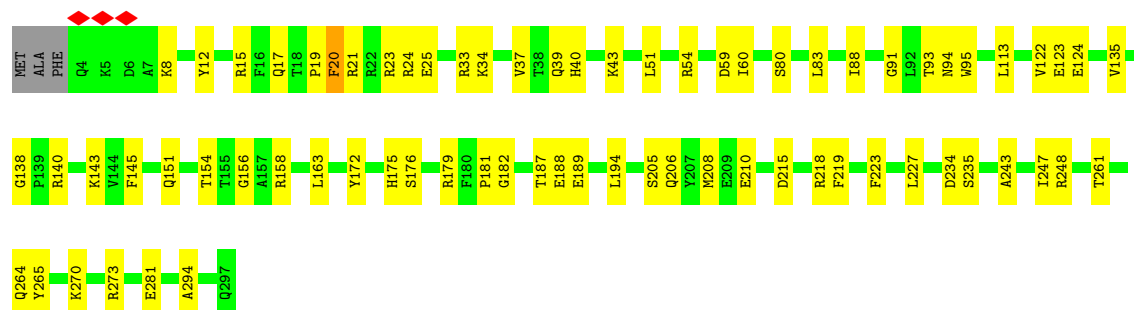
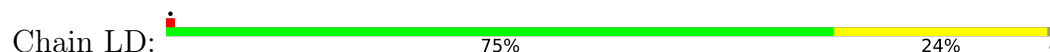
• Molecule 6: RPL4A isoform 1

Chain LC: 





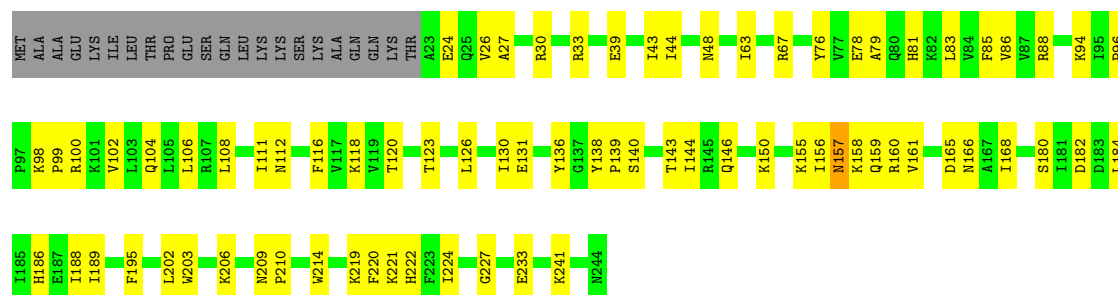
• Molecule 7: RPL5 isoform 1



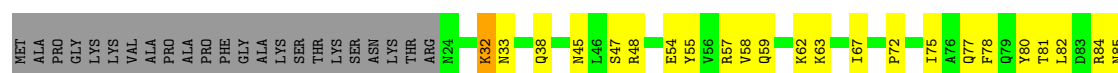
• Molecule 8: 60S ribosomal protein L6



• Molecule 9: 60S ribosomal protein L7-A



• Molecule 10: 60S ribosomal protein L8-A

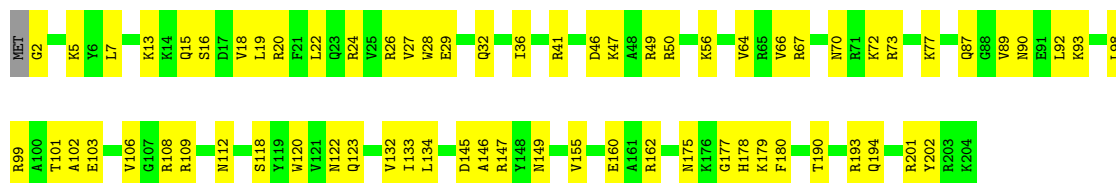


Chain LM:  75% 23%



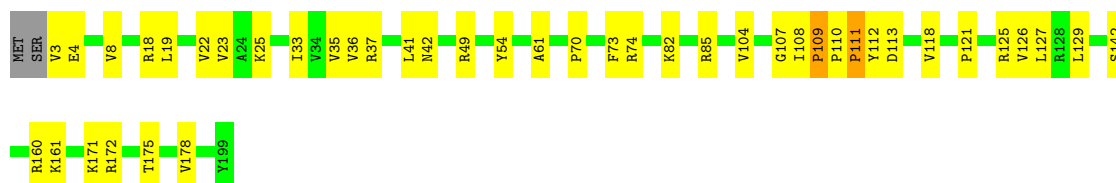
- Molecule 16: 60S ribosomal protein L15-A

Chain LN:  66% 33%



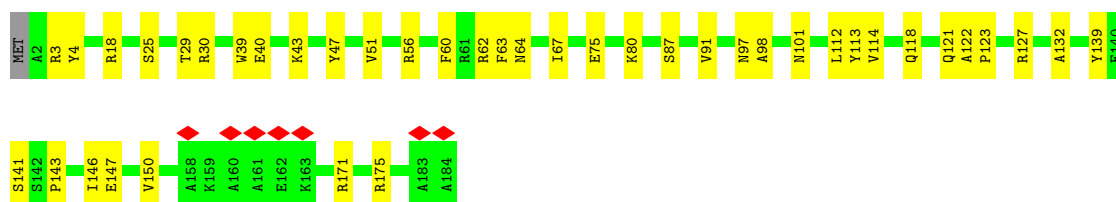
- Molecule 17: 60S ribosomal protein L16-A

Chain LO:  77% 21%



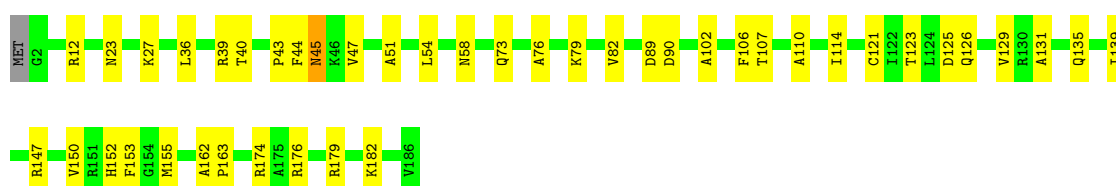
- Molecule 18: 60S ribosomal protein L17-A

Chain LP:  77% 22%

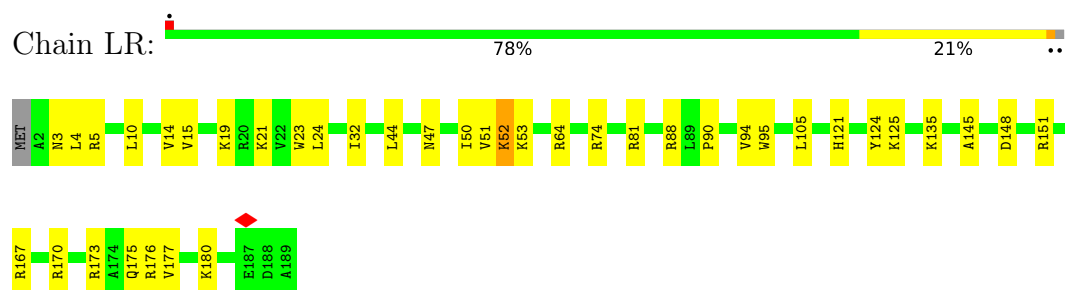


- Molecule 19: 60S ribosomal protein L18-B

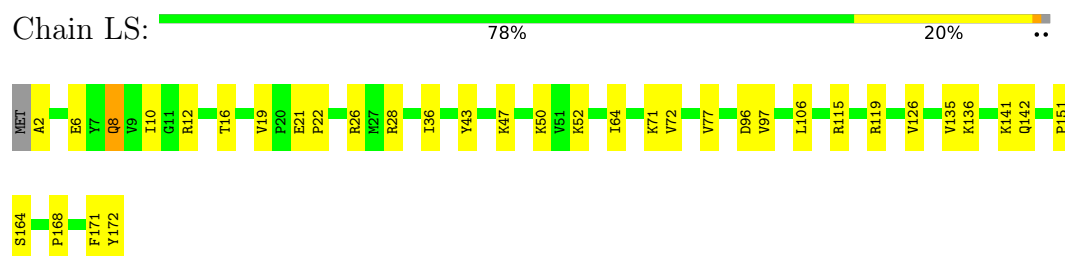
Chain LQ:  76% 23%



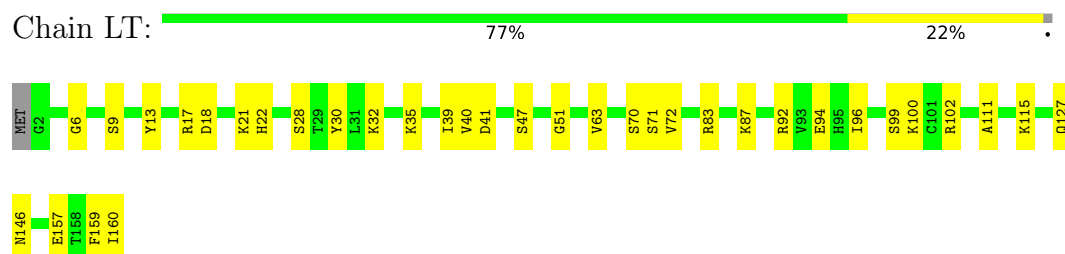
- Molecule 20: 60S ribosomal protein L19-A



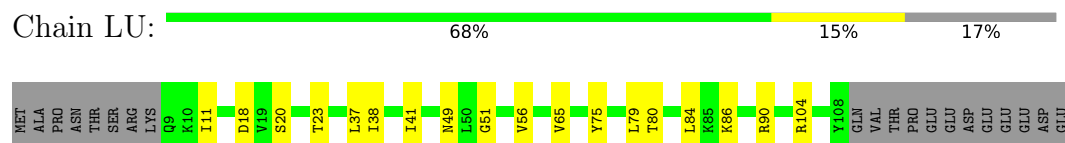
- Molecule 21: 60S ribosomal protein L20-A



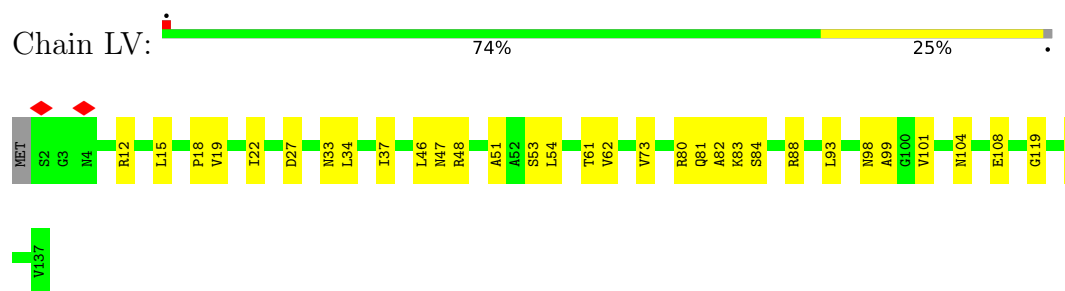
- Molecule 22: 60S ribosomal protein L21-A



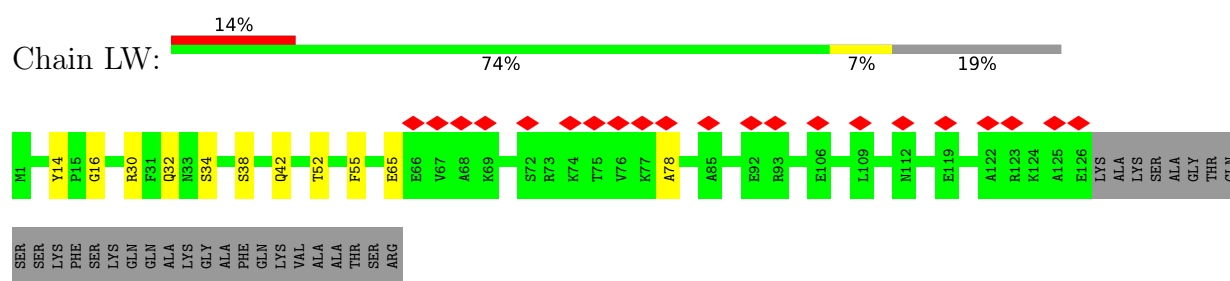
- Molecule 23: 60S ribosomal protein L22-A



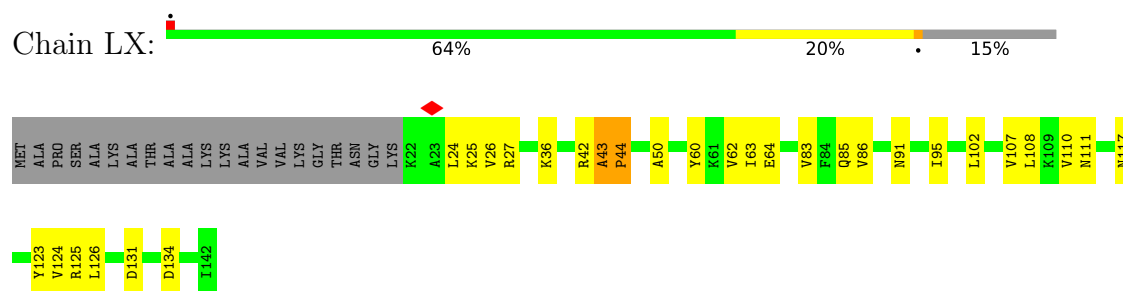
- Molecule 24: 60S ribosomal protein L23-B



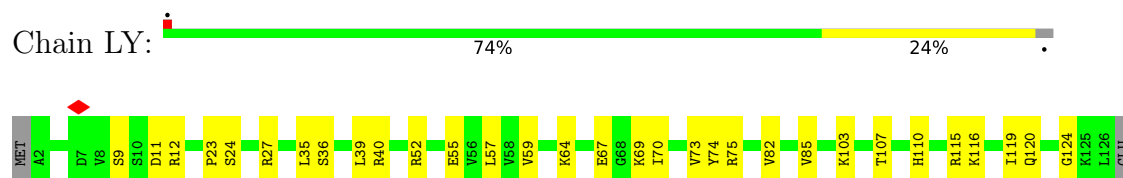
- Molecule 25: RPL24A isoform 1



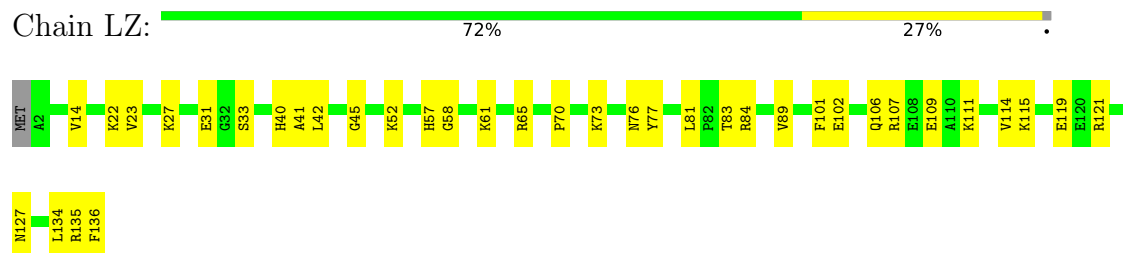
- Molecule 26: 60S ribosomal protein L25



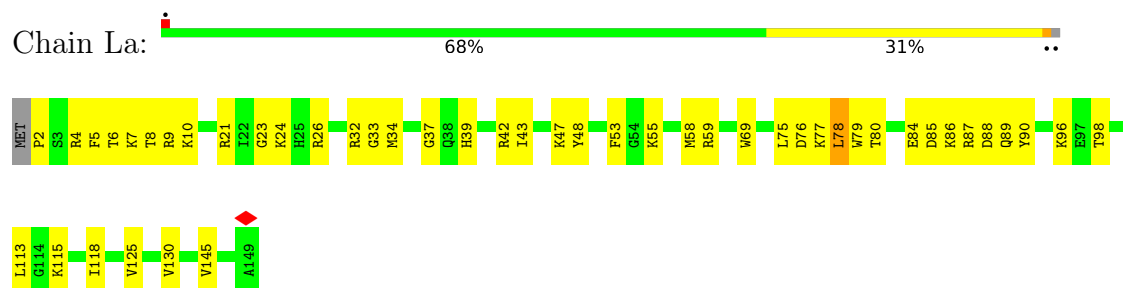
- Molecule 27: 60S ribosomal protein L26-A



- Molecule 28: 60S ribosomal protein L27

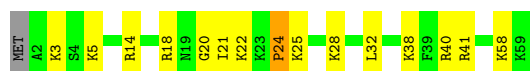


- Molecule 29: 60S ribosomal protein L28



- Molecule 30: RPL29 isoform 1





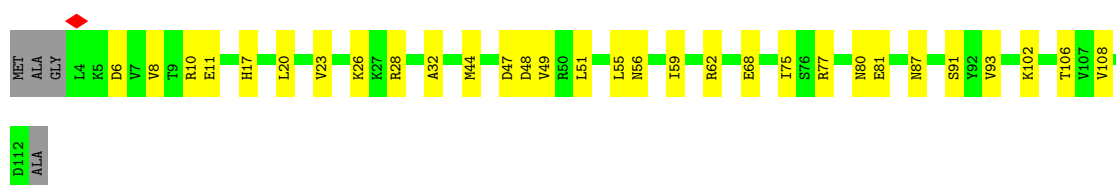
- Molecule 31: 60S ribosomal protein L30

Chain Lc: 63% 29% 9%



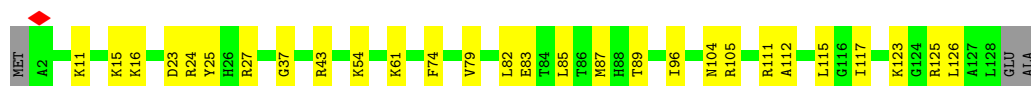
- Molecule 32: 60S ribosomal protein L31-A

Chain Ld: 70% 27% .



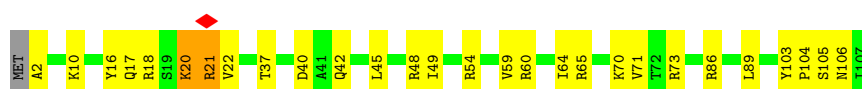
- Molecule 33: RPL32 isoform 1

Chain Le: 76% 22% .



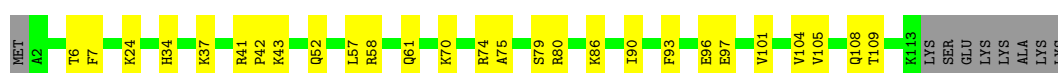
- Molecule 34: 60S ribosomal protein L33-A

Chain Lf: 73% 24% ..



- Molecule 35: 60S ribosomal protein L34-A

Chain Lg: 70% 22% 7%



- Molecule 36: 60S ribosomal protein L35-A

Chain Lh: 68% 32% .





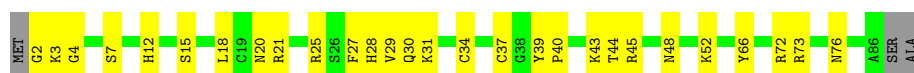
- Molecule 37: 60S ribosomal protein L36-A

Chain Li: 78% 21% .



- Molecule 38: Ribosomal protein L37

Chain Lj: 65% 32% .



- Molecule 39: RPL38 isoform 1

Chain Lk: 79% 19% .



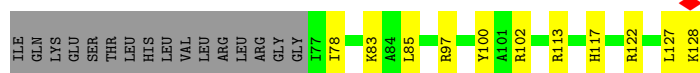
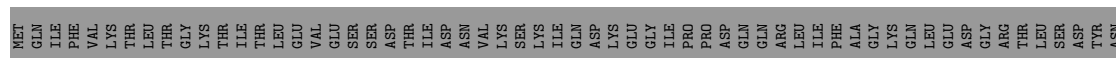
- Molecule 40: 60S ribosomal protein L39

Chain Ll: 63% 35% .



- Molecule 41: Ubiquitin-60S ribosomal protein L40

Chain Lm: 32% 9% 59%



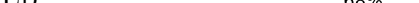
- Molecule 42: 60S ribosomal protein L41-A

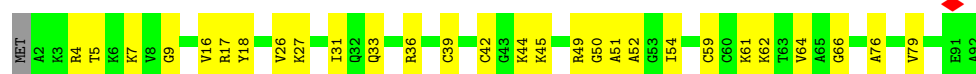
Chain Ln: 72% 28%

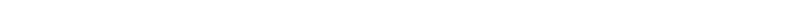


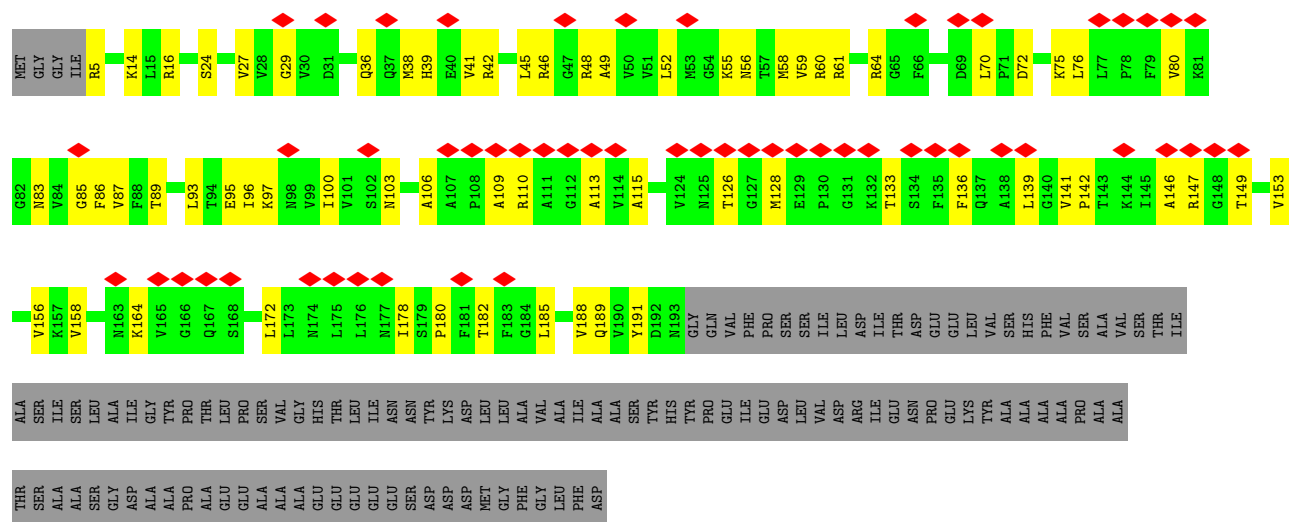
- Molecule 43: 60S ribosomal protein L42-A

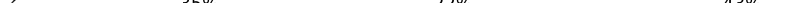
MET	V2	R8	C12	K15	R18	H23	Q27	A30	R41	R42	Y43	K46	Q47	Q53	T54	K55	K61	A62	K63	H90	F91	K97	L104	G1N	PHE
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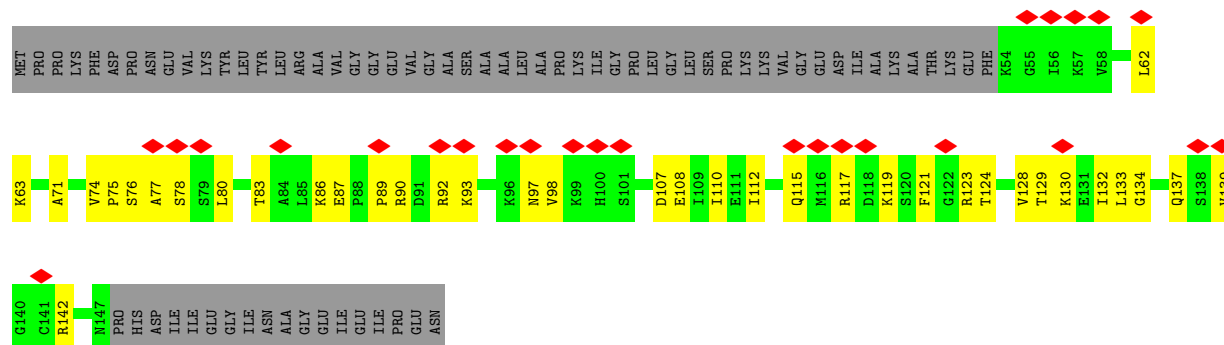
- Chain Lp:  68% 30%



- Chain P0: 

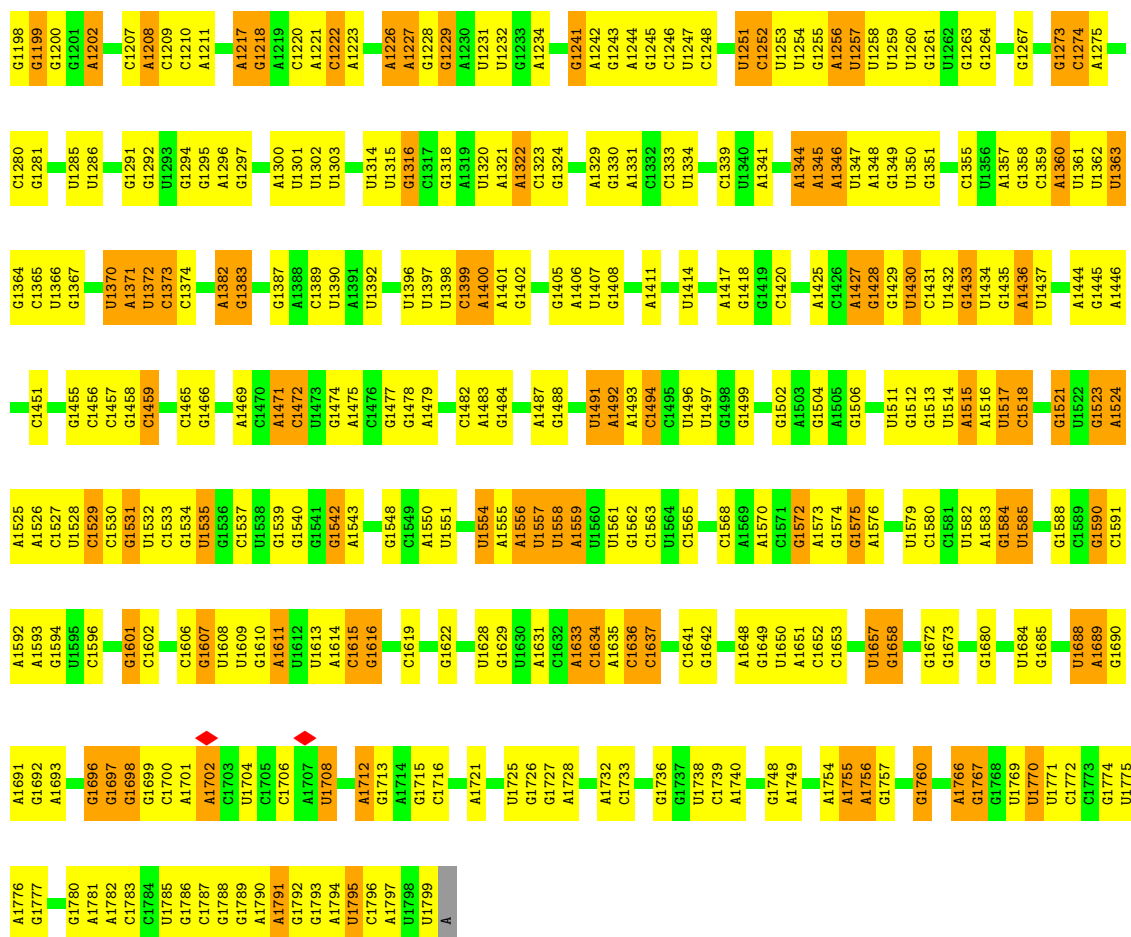


- Chain P2: 



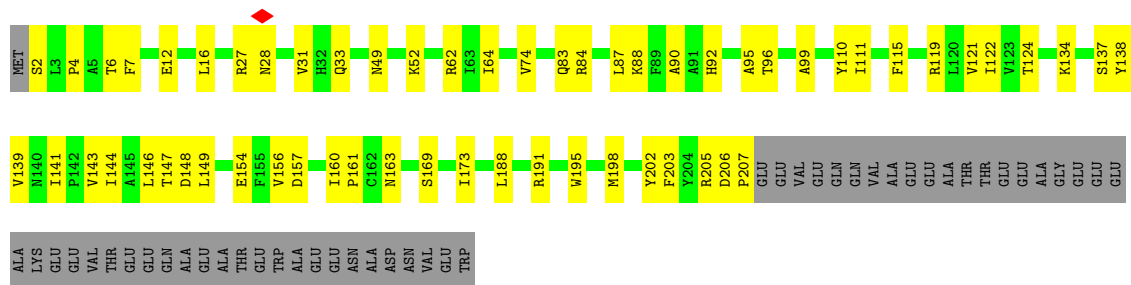
- Chain C2:





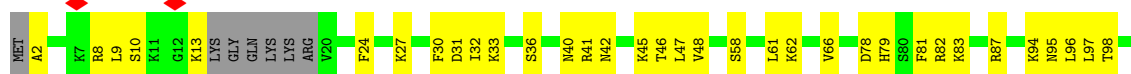
• Molecule 48: 40S ribosomal protein S0

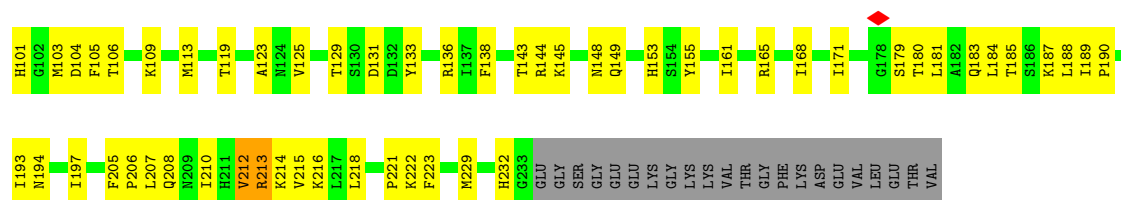
Chain SA: 58% 23% 18%



• Molecule 49: RPS1A isoform 1

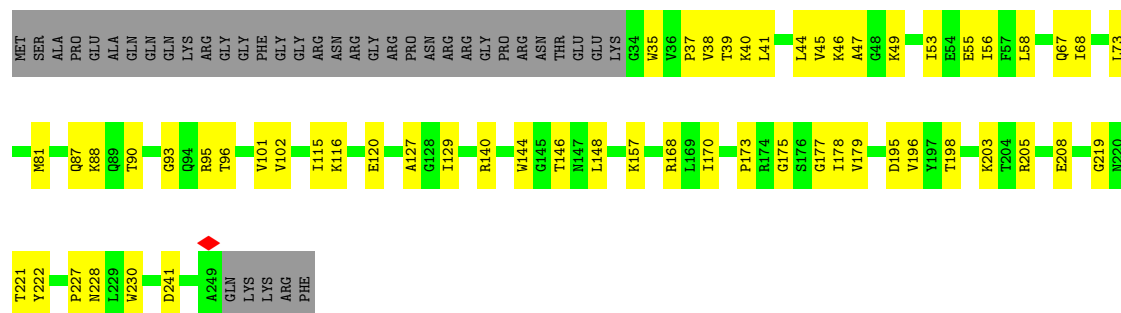
Chain SB: 54% 34% 11%





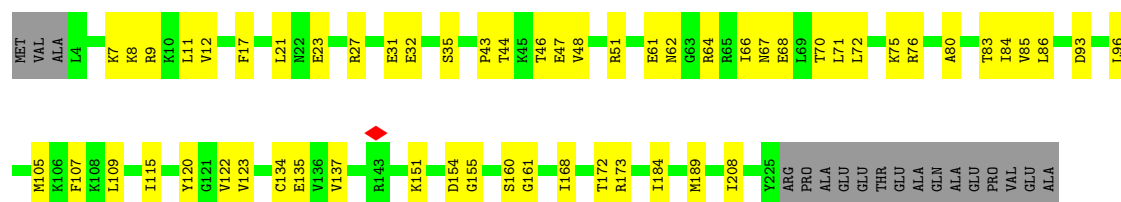
• Molecule 50: RPS2 isoform 1

Chain SC: 63% 22% 15%



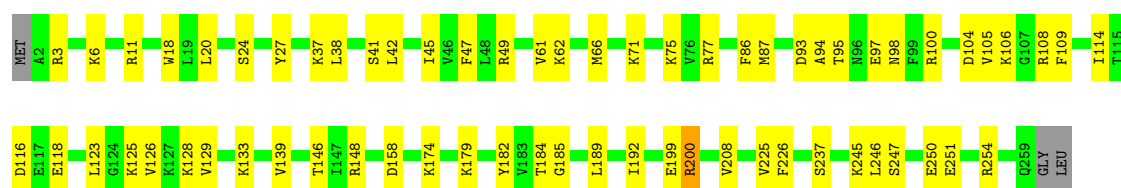
• Molecule 51: RPS3 isoform 1

Chain SD: 69% 24% 8%



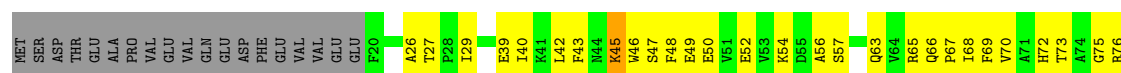
• Molecule 52: 40S ribosomal protein S4

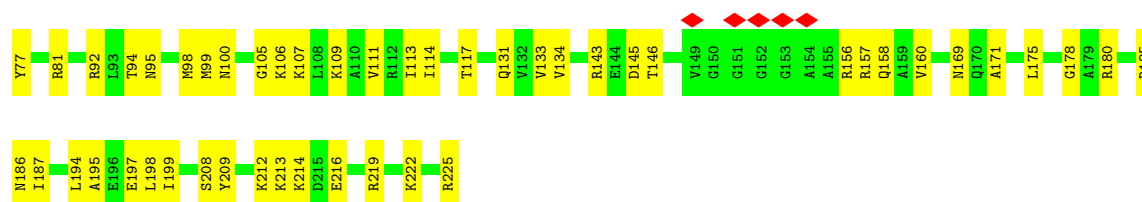
Chain SE: 74% 25%



• Molecule 53: Rps5p

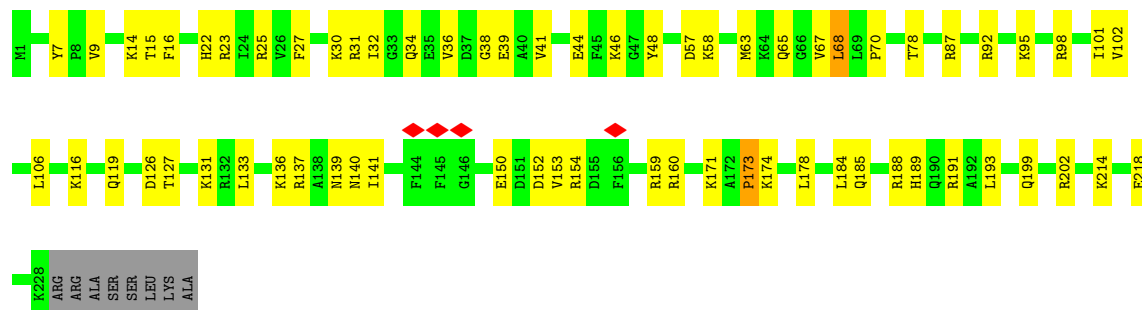
Chain SF: 58% 33% 8%





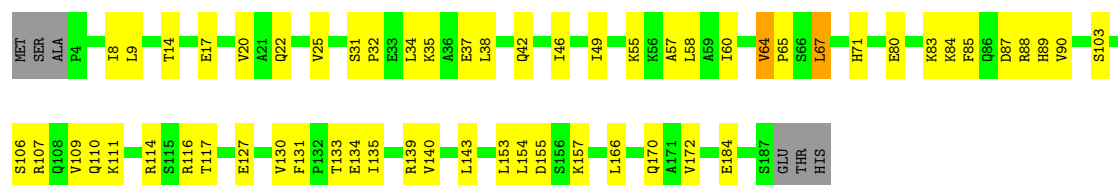
• Molecule 54: 40S ribosomal protein S6

Chain SG: 69% 27% ..



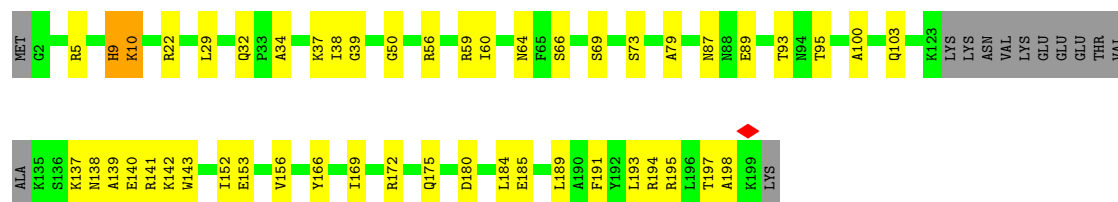
• Molecule 55: 40S ribosomal protein S7

Chain SH: 66% 29% ..



• Molecule 56: RPS8A isoform 1

Chain SI: 69% 24% 6%



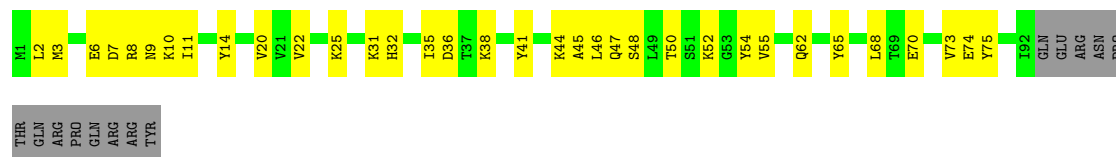
• Molecule 57: 40S ribosomal protein S9-A

Chain SJ: 62% 30% 7%





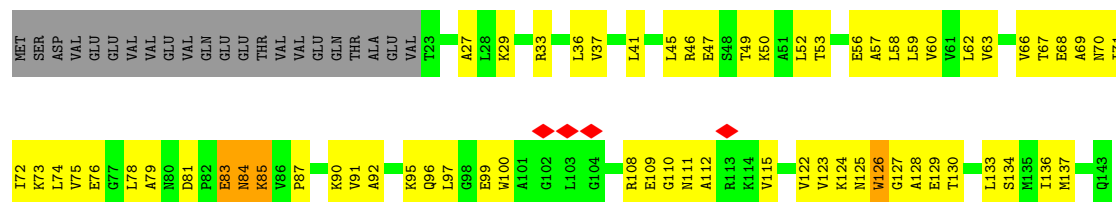
• Molecule 58: 40S ribosomal protein S10-A



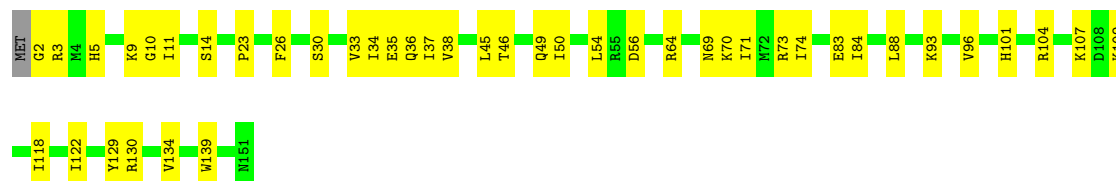
• Molecule 59: 40S ribosomal protein S11-B



• Molecule 60: 40S ribosomal protein S12

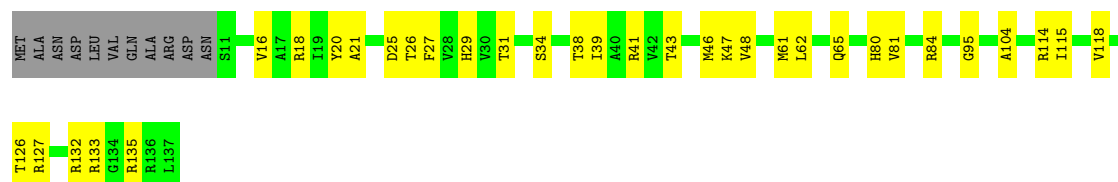


• Molecule 61: 40S ribosomal protein S13



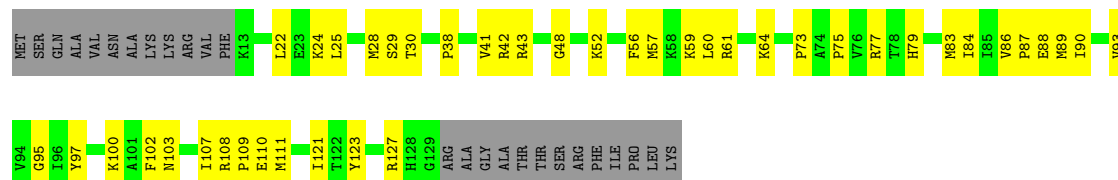
• Molecule 62: 40S ribosomal protein S14-B





- Molecule 63: RPS15 isoform 1

Chain SP:



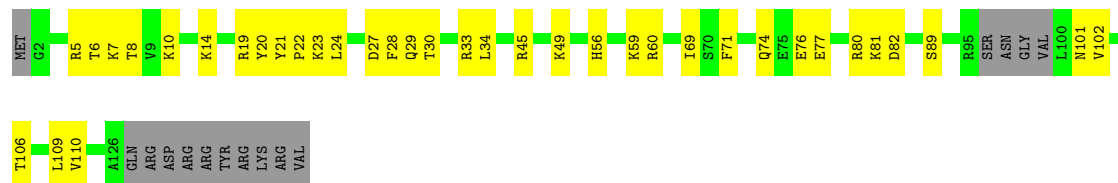
- Molecule 64: 40S ribosomal protein S16-A

Chain SQ:



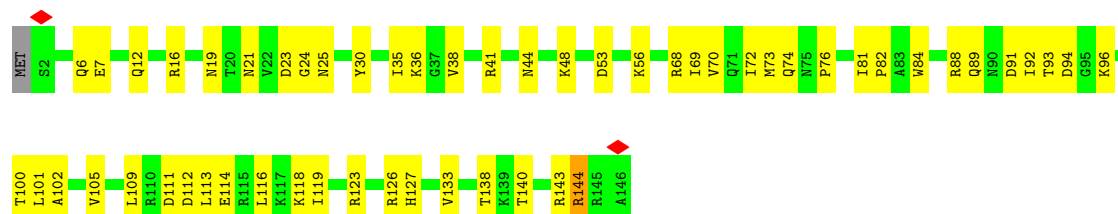
- Molecule 65: 40S ribosomal protein S17-A

Chain SR:



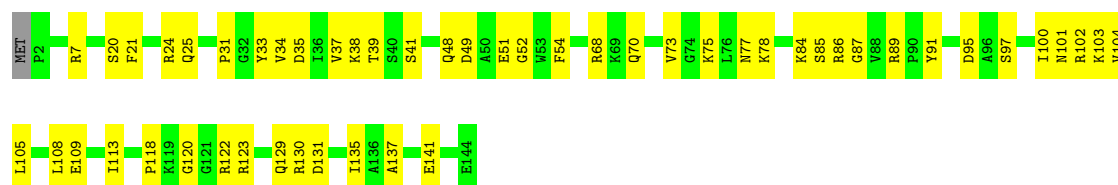
- Molecule 66: 40S ribosomal protein S18-B

Chain SS:



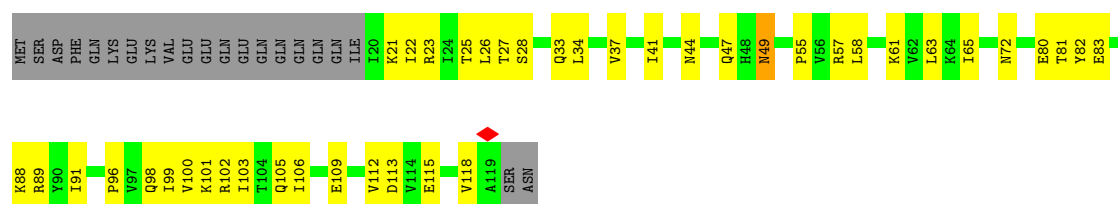
- Molecule 67: 40S ribosomal protein S19-A

Chain ST:  64% 35%



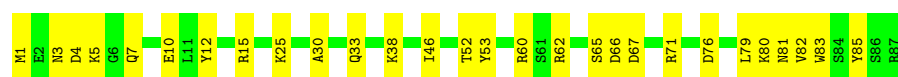
- Molecule 68: RPS20 isoform 1

Chain SU:  48% 34% 17%



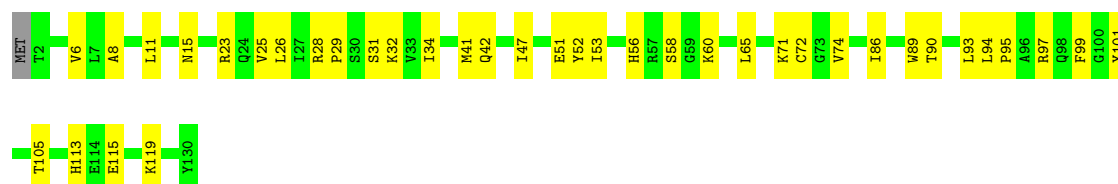
- Molecule 69: 40S ribosomal protein S21-A

Chain SV:  68% 32%



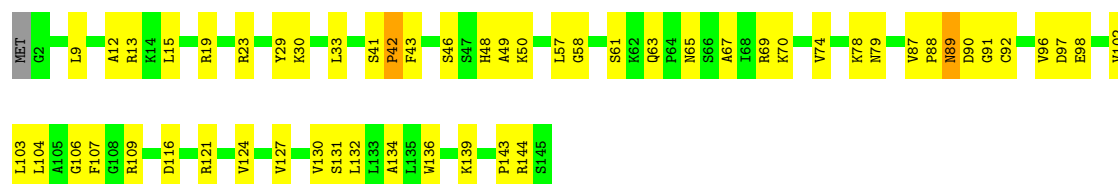
- Molecule 70: RPS22A isoform 1

Chain SW:  70% 29%



- Molecule 71: 40S ribosomal protein S23

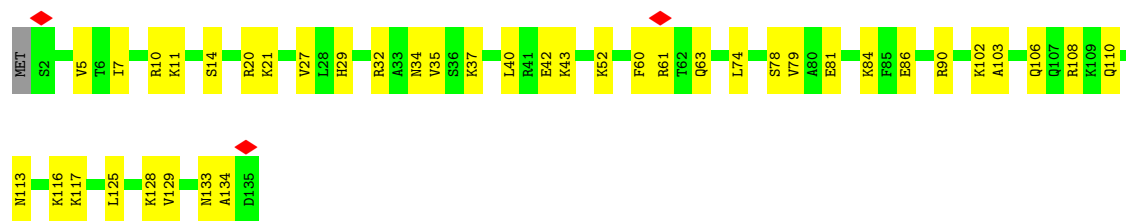
Chain SX:  62% 36%



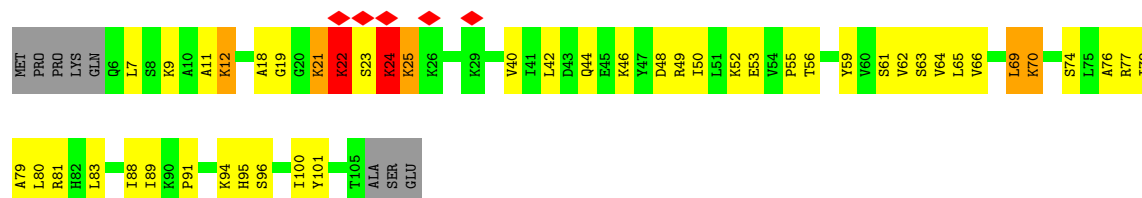
- Molecule 72: 40S ribosomal protein S24

Chain SY:  70% 30%

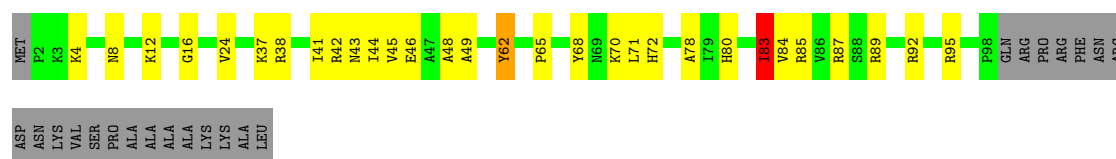




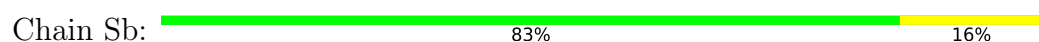
• Molecule 73: RPS25A isoform 1



• Molecule 74: RPS26B isoform 1



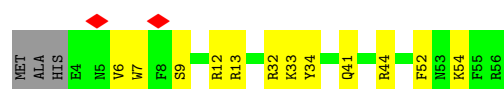
• Molecule 75: 40S ribosomal protein S27-A



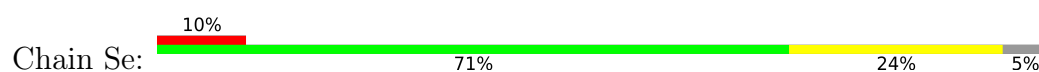
• Molecule 76: RPS28A isoform 1



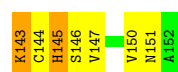
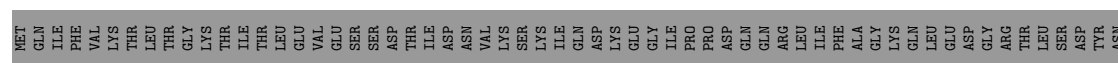
• Molecule 77: RPS29A isoform 1



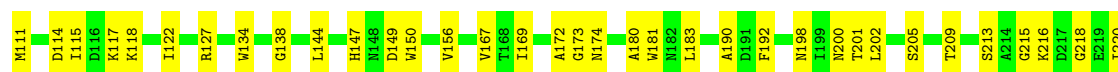
• Molecule 78: 40S ribosomal protein S30



• Molecule 79: Ubiquitin-40S ribosomal protein S31



• Molecule 80: Guanine nucleotide-binding protein subunit beta-like protein

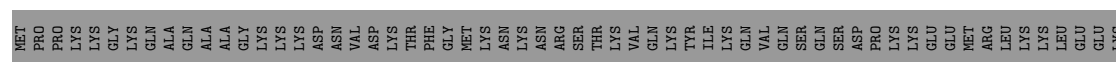


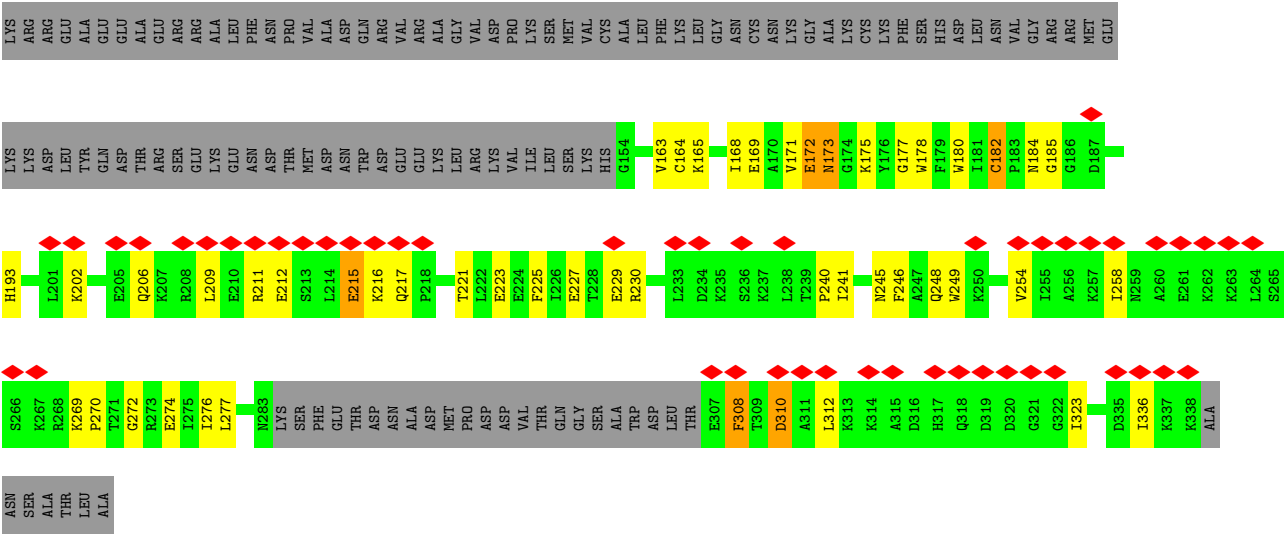
• Molecule 81: A-tRNA



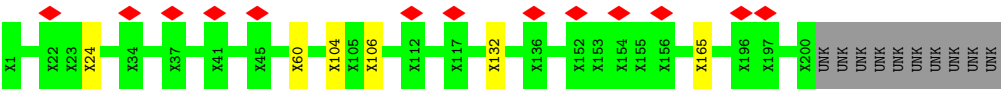
• Molecule 82: P-tRNA







• Molecule 87: 60S ribosomal protein L1



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	95380	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	30	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	FEI FALCON III (4k x 4k)	Depositor
Maximum map value	0.047	Depositor
Minimum map value	-0.029	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.002	Depositor
Recommended contour level	0.003	Depositor
Map size (Å)	483.84003, 483.84003, 483.84003	wwPDB
Map dimensions	448, 448, 448	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.08, 1.08, 1.08	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: MG, ZN, 5CT

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	C1	0.11	0/77108	0.32	0/120216
2	C4	0.08	0/2883	0.25	0/4491
3	C3	0.10	0/3746	0.32	0/5832
4	LA	0.14	0/1933	0.44	0/2598
5	LB	0.12	0/3146	0.36	0/4228
6	LC	0.15	0/2800	0.41	0/3790
7	LD	0.15	0/2400	0.43	0/3239
8	LE	0.14	0/1329	0.43	0/1794
9	LF	0.15	0/1821	0.41	0/2451
10	LG	0.17	0/1836	0.46	0/2481
11	LH	0.16	0/1529	0.47	0/2060
12	LI	0.14	0/1801	0.41	0/2416
13	LJ	0.16	0/1371	0.51	0/1838
14	LL	0.18	0/1568	0.51	0/2106
15	LM	0.15	0/1068	0.42	0/1438
16	LN	0.14	0/1757	0.44	0/2354
17	LO	0.19	0/1585	0.48	0/2128
18	LP	0.13	0/1439	0.40	0/1938
19	LQ	0.14	0/1465	0.42	0/1965
20	LR	0.18	0/1532	0.50	0/2043
21	LS	0.15	0/1473	0.44	0/1980
22	LT	0.14	0/1300	0.39	0/1743
23	LU	0.17	0/812	0.45	0/1099
24	LV	0.12	0/1018	0.40	0/1369
25	LW	0.16	0/863	0.51	0/1169
26	LX	0.16	0/979	0.49	0/1321
27	LY	0.14	0/995	0.40	0/1329
28	LZ	0.13	0/1118	0.41	0/1497
29	La	0.13	0/1204	0.40	0/1612
30	Lb	0.14	0/473	0.45	0/629
31	Lc	0.14	0/745	0.41	0/1001
32	Ld	0.14	0/890	0.43	0/1196

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
33	Le	0.12	0/1038	0.38	0/1390
34	Lf	0.13	0/868	0.42	0/1168
35	Lg	0.14	0/890	0.44	0/1189
36	Lh	0.17	0/978	0.47	0/1301
37	Li	0.17	0/772	0.45	0/1026
38	Lj	0.14	0/685	0.46	0/908
39	Lk	0.15	0/618	0.46	0/826
40	Ll	0.15	0/443	0.38	0/588
41	Lm	0.18	0/423	0.54	0/562
42	Ln	0.17	0/230	0.50	0/296
43	Lo	0.13	0/836	0.37	0/1104
44	Lp	0.16	0/701	0.49	0/934
45	P0	0.14	0/1498	0.46	0/2025
46	P2	0.14	0/728	0.45	0/975
47	C2	0.11	0/42053	0.34	0/65522
48	SA	0.16	0/1644	0.44	0/2249
49	SB	0.17	0/1823	0.50	0/2447
50	SC	0.16	0/1656	0.47	0/2251
51	SD	0.16	0/1754	0.45	0/2361
52	SE	0.14	0/2097	0.44	0/2823
53	SF	0.18	0/1625	0.51	0/2197
54	SG	0.16	0/1839	0.50	0/2460
55	SH	0.18	0/1498	0.52	0/2019
56	SI	0.15	0/1501	0.47	0/2006
57	SJ	0.16	0/1504	0.47	0/2016
58	SK	0.22	0/769	0.54	0/1039
59	SL	0.12	0/1185	0.41	0/1598
60	SM	0.24	0/883	0.99	6/1199 (0.5%)
61	SN	0.19	0/1215	0.52	0/1638
62	SO	0.15	0/937	0.45	0/1261
63	SP	0.16	0/936	0.48	0/1259
64	SQ	0.20	0/1125	0.55	0/1510
65	SR	0.19	0/957	0.51	0/1283
66	SS	0.17	0/1211	0.55	0/1628
67	ST	0.18	0/1130	0.53	0/1517
68	SU	0.21	0/807	0.60	0/1091
69	SV	0.15	0/682	0.50	0/921
70	SW	0.16	0/1038	0.47	0/1395
71	SX	0.18	0/1139	0.61	0/1518
72	SY	0.16	0/1087	0.52	0/1449
73	SZ	0.19	0/781	0.71	0/1045
74	Sa	0.17	0/782	0.56	0/1047
75	Sb	0.14	0/620	0.50	0/838

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
76	Sc	0.14	0/493	0.44	0/663
77	Sd	0.14	0/452	0.36	0/600
78	Se	0.18	0/480	0.50	0/639
79	Sf	0.17	0/567	0.62	0/764
80	Sg	0.15	0/2436	0.50	0/3318
81	A	0.16	0/1796	0.43	0/2796
82	P	0.11	0/1808	0.33	0/2816
83	m	0.10	0/395	0.28	0/615
84	5	0.18	0/1142	0.68	0/1537
85	R	0.16	0/2777	0.49	1/3754 (0.0%)
86	T	0.15	0/1301	0.59	2/1745 (0.1%)
All	All	0.13	0/226620	0.39	9/332477 (0.0%)

There are no bond length outliers.

All (9) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
60	SM	110	GLY	CA-C-N	9.16	134.56	120.82
60	SM	110	GLY	C-N-CA	9.16	134.56	120.82
60	SM	111	ASN	N-CA-C	7.84	124.30	111.37
60	SM	108	ARG	CA-C-N	7.83	136.49	121.54
60	SM	108	ARG	C-N-CA	7.83	136.49	121.54
60	SM	110	GLY	N-CA-C	-7.59	100.09	113.76
86	T	216	LYS	N-CA-C	6.28	117.68	107.32
86	T	215	GLU	N-CA-C	6.02	123.62	110.80
85	R	91	GLU	N-CA-C	5.59	116.64	108.14

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	C1	68888	0	34613	1002	0
2	C4	2579	0	1304	37	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	C3	3353	0	1695	58	0
4	LA	1899	0	1957	53	0
5	LB	3075	0	3142	54	0
6	LC	2748	0	2859	83	0
7	LD	2351	0	2294	60	0
8	LE	1307	0	1377	32	0
9	LF	1784	0	1862	63	0
10	LG	1804	0	1877	48	0
11	LH	1508	0	1572	45	0
12	LI	1764	0	1804	45	0
13	LJ	1350	0	1381	47	0
14	LL	1543	0	1608	40	0
15	LM	1053	0	1149	29	0
16	LN	1720	0	1779	62	0
17	LO	1555	0	1659	36	0
18	LP	1416	0	1433	33	0
19	LQ	1441	0	1543	33	0
20	LR	1515	0	1606	31	0
21	LS	1437	0	1475	35	0
22	LT	1276	0	1323	29	0
23	LU	796	0	812	13	0
24	LV	1003	0	1048	22	0
25	LW	849	0	727	8	0
26	LX	964	0	1025	27	0
27	LY	984	0	1075	21	0
28	LZ	1092	0	1155	28	0
29	La	1173	0	1215	46	0
30	Lb	462	0	491	12	0
31	Lc	737	0	792	23	0
32	Ld	876	0	912	20	0
33	Le	1017	0	1081	23	0
34	Lf	850	0	880	23	0
35	Lg	880	0	941	22	0
36	Lh	969	0	1078	32	0
37	Li	766	0	844	15	0
38	Lj	670	0	673	26	0
39	Lk	612	0	682	12	0
40	Ll	436	0	475	20	0
41	Lm	417	0	455	11	0
42	Ln	229	0	273	7	0
43	Lo	824	0	888	17	0
44	Lp	694	0	735	26	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
45	P0	1473	0	1514	46	0
46	P2	723	0	774	29	0
47	C2	37604	0	18917	692	0
48	SA	1603	0	1610	49	0
49	SB	1798	0	1890	75	0
50	SC	1626	0	1715	50	0
51	SD	1729	0	1812	45	0
52	SE	2056	0	2140	48	0
53	SF	1605	0	1669	60	0
54	SG	1815	0	1894	58	0
55	SH	1473	0	1555	38	0
56	SI	1476	0	1501	34	0
57	SJ	1479	0	1556	58	0
58	SK	752	0	719	31	0
59	SL	1159	0	1225	33	0
60	SM	875	0	878	53	0
61	SN	1192	0	1255	34	0
62	SO	926	0	950	28	0
63	SP	916	0	941	35	0
64	SQ	1105	0	1166	49	0
65	SR	948	0	990	29	0
66	SS	1192	0	1222	45	0
67	ST	1112	0	1124	40	0
68	SU	797	0	863	35	0
69	SV	673	0	662	27	0
70	SW	1021	0	1060	31	0
71	SX	1121	0	1196	47	0
72	SY	1073	0	1132	36	0
73	SZ	771	0	826	37	0
74	Sa	769	0	818	24	0
75	Sb	610	0	633	11	0
76	Sc	491	0	524	13	0
77	Sd	442	0	428	12	0
78	Se	472	0	521	17	0
79	Sf	556	0	546	25	0
80	Sg	2383	0	2332	79	0
81	A	1609	0	816	30	0
82	P	1619	0	821	41	0
83	m	351	0	175	2	0
84	5	1143	0	1108	42	0
85	R	2738	0	2807	68	0
86	T	1276	0	1260	35	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
87	L1	1000	0	213	3	0
88	C1	192	0	0	0	0
88	C2	82	0	0	0	0
88	C4	1	0	0	0	0
88	LA	2	0	0	0	0
88	LB	1	0	0	0	0
88	LN	1	0	0	0	0
88	LP	1	0	0	0	0
88	LV	1	0	0	0	0
88	Le	1	0	0	0	0
88	P	1	0	0	0	0
88	SC	1	0	0	0	0
88	SX	1	0	0	0	0
88	Sa	1	0	0	0	0
89	C1	5	0	1	1	0
90	Lg	1	0	0	0	0
90	Lj	1	0	0	0	0
90	Lm	1	0	0	0	0
90	Lo	1	0	0	0	0
90	Lp	1	0	0	0	0
90	Sd	1	0	0	0	0
90	Sf	1	0	0	0	0
90	T	1	0	0	0	0
All	All	212517	0	157328	3926	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 11.

All (3926) 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:C1:2465:G:H21	1:C1:2491:A:N6	1.51	1.07
1:C1:1257:C:H42	1:C1:1261:G:N2	1.55	1.05
1:C1:2465:G:N2	1:C1:2491:A:H62	1.54	1.04
1:C1:1896:A:H61	1:C1:2339:C:N4	1.55	1.02
1:C1:1018:G:H1	1:C1:1034:U:H3	1.06	0.98
1:C1:1387:G:HO2'	8:LE:2:THR:N	1.62	0.97
1:C1:1896:A:H61	1:C1:2339:C:H42	1.03	0.97
47:C2:1588:G:H1	47:C2:1608:U:H3	1.17	0.91
1:C1:1896:A:N6	1:C1:2339:C:H42	1.67	0.91
47:C2:273:G:H1	47:C2:283:U:H3	0.92	0.91

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
66:SS:25:ASN:HB2	73:SZ:40:VAL:HG11	1.53	0.90
50:SC:87:GLN:HG2	50:SC:96:THR:HG22	1.56	0.88
17:LO:109[A]:PRO:HB2	17:LO:110[A]:PRO:CD	2.02	0.88
1:C1:1257:C:N4	1:C1:1261:G:H22	1.72	0.88
80:Sg:180:ALA:HB3	80:Sg:190:ALA:HB3	1.56	0.88
80:Sg:10:ARG:HG3	80:Sg:314:GLN:HE21	1.38	0.88
47:C2:69:G:H1	47:C2:82:U:H3	1.18	0.87
47:C2:174:U:H3	47:C2:266:A:H62	1.23	0.87
82:P:5:U:H3	82:P:68:G:H1	1.21	0.86
49:SB:179:SER:HB3	49:SB:183:GLN:HE21	1.39	0.85
1:C1:1257:C:N4	1:C1:1261:G:N2	2.24	0.85
21:LS:96:ASP:OD1	21:LS:97:VAL:N	2.09	0.84
1:C1:1231:A:H5''	1:C1:1232:C:H5'	1.56	0.84
4:LA:180:LEU:HD11	44:Lp:26:VAL:HG21	1.59	0.84
45:P0:46:ARG:HD2	46:P2:123:ARG:HD2	1.58	0.83
1:C1:2468:A:N3	1:C1:2477:G:N2	2.26	0.83
39:Lk:32:ASN:OD1	39:Lk:33:LYS:N	2.10	0.83
50:SC:101:VAL:HG12	50:SC:115:ILE:HG12	1.60	0.83
1:C1:1352:A:H4'	1:C1:1353:U:H5'	1.59	0.82
49:SB:212:VAL:HG13	49:SB:213:ARG:H	1.44	0.82
85:R:103:VAL:H	85:R:104:PRO:HD2	1.43	0.81
1:C1:18:G:N2	3:C3:141:C:O2	2.10	0.81
80:Sg:89:LEU:HB2	80:Sg:103:PHE:HB2	1.62	0.81
71:SX:41:SER:O	71:SX:43:PHE:N	2.13	0.81
84:5:112:ASP:O	84:5:114:LYS:N	2.13	0.81
12:LI:70:ILE:HD12	81:A:53:G:H4'	1.62	0.80
47:C2:1229:G:H21	47:C2:1256:A:H62	1.28	0.80
72:SY:10:ARG:HE	72:SY:11:LYS:H	1.29	0.80
57:SJ:88:GLU:O	57:SJ:91:LYS:NZ	2.15	0.80
79:Sf:130:VAL:HG11	79:Sf:143:LYS:HB2	1.64	0.79
47:C2:1465:C:OP1	64:SQ:139:GLN:NE2	2.16	0.79
40:LI:27:ILE:HG23	40:LI:30:ARG:HH12	1.49	0.78
1:C1:1257:C:H42	1:C1:1261:G:H22	1.30	0.78
48:SA:52:LYS:HG2	69:SV:82:VAL:HG23	1.66	0.78
3:C3:95:G:OP2	38:Lj:72:ARG:NH1	2.17	0.78
10:LG:163:VAL:HA	10:LG:166:LEU:HD23	1.66	0.77
81:A:1:G:N1	81:A:72:C:N3	2.31	0.77
86:T:310:ASP:N	86:T:310:ASP:OD1	2.16	0.77
47:C2:229:U:OP2	47:C2:230:C:N4	2.18	0.77
33:Le:105:ARG:HH12	33:Le:125:ARG:HG3	1.50	0.76
84:5:109:THR:HG22	84:5:110:LYS:H	1.50	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:LN:36:ILE:HG12	16:LN:64:VAL:HG23	1.67	0.76
47:C2:1034:C:OP1	61:SN:9:LYS:NZ	2.17	0.76
13:LJ:49:LYS:HB3	13:LJ:62:ASN:HA	1.69	0.75
85:R:65:VAL:HG11	85:R:113:LYS:HB2	1.68	0.75
54:SG:67:VAL:HG13	54:SG:68:LEU:H	1.49	0.75
1:C1:443:G:N2	1:C1:491:C:O2	2.20	0.75
47:C2:765:G:H22	57:SJ:82:ARG:HH22	1.32	0.75
50:SC:227:PRO:HA	50:SC:230:TRP:HD1	1.51	0.75
1:C1:762:U:O4	1:C1:769:G:N2	2.19	0.75
46:P2:76:SER:HA	46:P2:80:LEU:HD11	1.68	0.75
49:SB:145:LYS:HB2	49:SB:149:GLN:HG3	1.69	0.75
47:C2:523:G:H1	47:C2:527:A:H5''	1.51	0.74
53:SF:63:GLN:NE2	53:SF:66:GLN:OE1	2.19	0.74
55:SH:34:LEU:HB2	55:SH:38:LEU:HD13	1.69	0.74
1:C1:1237:G:H1	1:C1:1251:A:H61	1.35	0.74
1:C1:2842:U:OP1	1:C1:2844:C:N4	2.20	0.74
84:5:104:ASN:HB2	84:5:107:GLY:H	1.51	0.74
53:SF:156:ARG:HE	53:SF:157:ARG:H	1.36	0.74
60:SM:126:TRP:HD1	60:SM:128:ALA:HB3	1.52	0.74
1:C1:443:G:N1	1:C1:491:C:N3	2.36	0.74
47:C2:1357:A:O2'	67:ST:129:GLN:OE1	2.06	0.74
1:C1:2424:A:OP1	16:LN:90:ASN:ND2	2.21	0.74
60:SM:134:SER:HA	60:SM:137:MET:HG3	1.69	0.74
36:Lh:102:GLU:OE1	36:Lh:105:ARG:NH1	2.20	0.73
1:C1:294:U:OP2	16:LN:15:GLN:NE2	2.21	0.73
63:SP:108:ARG:H	63:SP:111:MET:HE3	1.54	0.73
1:C1:217:U:O2	27:LY:103:LYS:NZ	2.21	0.73
9:LF:48:ASN:ND2	9:LF:182:ASP:OD2	2.21	0.73
1:C1:2877:G:H1	1:C1:2949:U:H3	1.34	0.73
12:LI:156:ARG:NH1	12:LI:163:GLN:O	2.21	0.73
50:SC:227:PRO:HA	50:SC:230:TRP:CD1	2.24	0.73
60:SM:112:ALA:O	86:T:178:TRP:NE1	2.21	0.73
60:SM:129:GLU:CD	60:SM:130:THR:H	1.97	0.73
28:LZ:52:LYS:O	28:LZ:65:ARG:NH1	2.22	0.73
47:C2:1060:U:H3'	47:C2:1061:A:H5''	1.69	0.73
10:LG:160:ILE:O	10:LG:164:VAL:HG13	1.88	0.73
36:Lh:102:GLU:HG3	36:Lh:106:LYS:HE2	1.71	0.73
1:C1:1277:C:O2'	1:C1:1278:A:O5'	2.07	0.72
10:LG:62:LYS:NZ	16:LN:29:GLU:OE1	2.22	0.72
45:P0:41:VAL:HG11	45:P0:103:ASN:HD22	1.53	0.72
1:C1:1261:G:N2	1:C1:1261:G:OP2	2.22	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:LF:85:PHE:HB2	9:LF:139:PRO:HG3	1.72	0.72
47:C2:1568:C:OP1	66:SS:36:LYS:NZ	2.21	0.72
85:R:347:HIS:ND1	85:R:347:HIS:O	2.21	0.72
7:LD:40:HIS:HB3	7:LD:43:LYS:HD2	1.71	0.72
32:Ld:47:ASP:OD1	32:Ld:87:ASN:ND2	2.21	0.72
1:C1:1168:U:H1'	9:LF:209:ASN:HD22	1.52	0.72
47:C2:1358:G:H5''	67:ST:130:ARG:HH21	1.55	0.72
20:LR:163:ARG:HB3	20:LR:167:ARG:HH12	1.55	0.72
1:C1:1188:U:OP1	1:C1:1210:U:O2'	2.07	0.72
1:C1:3028:G:H4'	85:R:62:ARG:HG3	1.70	0.72
54:SG:152:ASP:OD1	54:SG:154:ARG:NH2	2.23	0.72
47:C2:553:G:H3'	47:C2:554:C:H2'	1.71	0.72
1:C1:2341:A:OP2	5:LB:247:ARG:NH2	2.22	0.72
47:C2:521:A:N3	72:SY:34:ASN:ND2	2.37	0.72
60:SM:91:VAL:HG11	60:SM:97:LEU:HD22	1.70	0.72
1:C1:1084:A:OP1	22:LT:35:LYS:NZ	2.23	0.72
1:C1:1651:U:OP1	4:LA:70:ARG:NH1	2.23	0.72
1:C1:1329:U:OP1	34:Lf:17:GLN:NE2	2.13	0.71
5:LB:215:ILE:HD12	5:LB:338:LEU:HD12	1.72	0.71
1:C1:1156:C:OP2	9:LF:94:LYS:NZ	2.22	0.71
1:C1:2681:U:H5'	13:LJ:65:ILE:HD11	1.71	0.71
76:Sc:11:LYS:NZ	76:Sc:51:ASN:OD1	2.23	0.71
1:C1:658:G:H21	6:LC:93:MET:HB2	1.55	0.71
1:C1:1580:A:OP2	1:C1:2522:G:N2	2.24	0.71
17:LO:109[A]:PRO:HB2	17:LO:110[A]:PRO:HD2	1.73	0.71
1:C1:1562:C:O2'	1:C1:1563:C:O5'	2.07	0.71
1:C1:1567:U:O2	1:C1:1571:A:N6	2.15	0.71
63:SP:86:VAL:H	63:SP:89:MET:HE3	1.56	0.71
1:C1:509:U:O2'	34:Lf:42:GLN:NE2	2.24	0.71
1:C1:655:C:H2'	1:C1:656:A:H8	1.54	0.71
1:C1:1508:C:HO2'	1:C1:2353:G:HO2'	1.38	0.71
5:LB:57:VAL:HG22	5:LB:73:VAL:HG12	1.71	0.71
60:SM:33:ARG:NH2	60:SM:100:TRP:O	2.23	0.71
1:C1:1656:A:OP2	35:Lg:37:LYS:NZ	2.23	0.70
1:C1:2964:G:N2	1:C1:2967:A:OP2	2.24	0.70
1:C1:1547:G:OP1	16:LN:108:ARG:NH2	2.24	0.70
50:SC:228:ASN:HD22	69:SV:1:MET:HB3	1.55	0.70
26:LX:25:LYS:HD2	26:LX:27:ARG:HH22	1.57	0.70
79:Sf:135:HIS:HB2	79:Sf:138:ARG:HE	1.55	0.70
57:SJ:41:GLU:OE1	57:SJ:44:ARG:NH1	2.24	0.70
1:C1:2138:A:HO2'	38:Lj:2:GLY:N	1.88	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:LJ:53:THR:HG22	13:LJ:60:ARG:HA	1.74	0.70
47:C2:861:U:OP1	61:SN:64:ARG:NH2	2.24	0.70
1:C1:69:C:OP1	16:LN:178:HIS:ND1	2.21	0.70
1:C1:838:G:O6	44:Lp:4:ARG:NH2	2.24	0.70
3:C3:53:A:OP1	40:LI:19:GLN:NE2	2.24	0.70
1:C1:116:A:OP2	16:LN:2:GLY:N	2.24	0.70
47:C2:163:G:OP2	47:C2:163:G:N2	2.25	0.70
28:LZ:81:LEU:HD11	35:Lg:90:ILE:HG12	1.72	0.70
6:LC:295:ILE:O	6:LC:299:ILE:HG12	1.92	0.70
17:LO:175[A]:THR:HA	17:LO:178[A]:VAL:HG22	1.73	0.70
1:C1:500:C:H4'	8:LE:80:ASN:HD21	1.57	0.69
47:C2:15:U:O2'	47:C2:620:A:N6	2.25	0.69
47:C2:1562:G:OP1	67:ST:89:ARG:NH2	2.25	0.69
1:C1:562:C:OP2	15:LM:77:ARG:NH2	2.26	0.69
1:C1:1014:U:H3	1:C1:1036:A:H61	1.38	0.69
68:SU:34:LEU:HD21	68:SU:89:ARG:HG3	1.74	0.69
1:C1:1793:C:O2	4:LA:188:LYS:NZ	2.25	0.69
4:LA:111:THR:HG23	4:LA:136:ILE:HD13	1.73	0.69
49:SB:61:LEU:HD23	49:SB:96:LEU:HD13	1.74	0.69
55:SH:140:VAL:HB	70:SW:52:TYR:HB3	1.74	0.69
71:SX:74:VAL:HG21	71:SX:104:LEU:HD11	1.73	0.69
1:C1:1786:G:H2'	1:C1:1787:A:C8	2.27	0.69
46:P2:128:VAL:HG13	46:P2:132:ILE:HD12	1.73	0.69
45:P0:115:ALA:H	45:P0:164:LYS:HD3	1.58	0.69
70:SW:31:SER:H	70:SW:34:ILE:HD12	1.57	0.69
72:SY:102:LYS:HG2	72:SY:108:ARG:HH21	1.56	0.69
1:C1:2854:U:OP2	12:LI:3:ARG:NH2	2.25	0.69
47:C2:821:U:N3	47:C2:852:C:O2	2.19	0.69
47:C2:1615:C:H3'	53:SF:81:ARG:HD2	1.75	0.69
24:LV:81:GLN:O	24:LV:98:ASN:ND2	2.26	0.69
47:C2:480:G:H1	47:C2:508:U:H3	1.38	0.69
47:C2:1132:A:OP1	71:SX:30:LYS:NZ	2.25	0.69
78:Se:41:THR:HA	78:Se:45:VAL:HG22	1.75	0.69
80:Sg:156:VAL:HG12	80:Sg:169:ILE:HG22	1.74	0.69
1:C1:1824:U:O3'	39:Lk:17:ARG:NH2	2.27	0.68
1:C1:3268:A:OP1	8:LE:46:ARG:NH1	2.27	0.68
75:Sb:36:LYS:HE2	75:Sb:41:LEU:HA	1.75	0.68
45:P0:48:ARG:NH2	45:P0:95:GLU:OE2	2.26	0.68
1:C1:497:C:O2'	34:Lf:86:ARG:NH1	2.27	0.68
63:SP:52:LYS:HB2	63:SP:83:MET:HE1	1.76	0.68
67:ST:20:SER:O	67:ST:24:ARG:NH1	2.27	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
70:SW:90:THR:HB	70:SW:94:LEU:HD12	1.75	0.68
1:C1:1477:A:OP1	1:C1:3075:G:O2'	2.12	0.68
13:LJ:61:ARG:NH1	82:P:56:C:O4'	2.26	0.68
36:Lh:84:LYS:O	38:Lj:73:ARG:NH2	2.27	0.68
65:SR:20:TYR:HD1	65:SR:23:LYS:HG3	1.57	0.68
29:La:6:THR:HG22	29:La:8:THR:H	1.59	0.68
38:Lj:39:TYR:HD1	38:Lj:40:PRO:HA	1.59	0.68
64:SQ:77:GLN:O	64:SQ:81:ILE:HD12	1.94	0.68
47:C2:1487:A:OP2	51:SD:8:LYS:NZ	2.27	0.68
1:C1:1279:C:H2'	1:C1:1280:C:C6	2.29	0.67
47:C2:1611:A:O2'	53:SF:95:ASN:O	2.12	0.67
54:SG:30:LYS:HB3	54:SG:34:GLN:HE21	1.59	0.67
12:LI:193:ASP:OD2	12:LI:198:LYS:NZ	2.27	0.67
47:C2:1371:A:O2'	47:C2:1373:C:OP1	2.13	0.67
47:C2:1400:A:O3'	65:SR:60:ARG:NH1	2.27	0.67
68:SU:99:ILE:O	68:SU:103:ILE:HD12	1.95	0.67
1:C1:1562:C:H2'	1:C1:1563:C:C6	2.29	0.67
53:SF:92:ARG:NH2	53:SF:169:ASN:OD1	2.28	0.67
4:LA:27:ALA:O	4:LA:128:ARG:NH2	2.27	0.67
20:LR:176:ARG:NH2	47:C2:852:C:OP2	2.27	0.67
47:C2:1502:G:N7	67:ST:102:ARG:NH2	2.41	0.67
47:C2:1596:C:H3'	77:Sd:32:ARG:HH22	1.59	0.67
56:SI:138:ASN:OD1	56:SI:141:ARG:NH2	2.28	0.67
73:SZ:22:LYS:C	73:SZ:24:LYS:H	2.02	0.67
17:LO:126[A]:VAL:HG23	17:LO:127[A]:LEU:HD12	1.76	0.67
49:SB:36:SER:HA	49:SB:41:ARG:HH22	1.60	0.67
59:SL:21:ASN:O	59:SL:21:ASN:ND2	2.27	0.67
47:C2:1504:G:N3	47:C2:1563:C:O2'	2.28	0.67
47:C2:1527:C:OP1	53:SF:106:LYS:NZ	2.27	0.67
70:SW:25:VAL:HG12	70:SW:65:LEU:HD11	1.74	0.67
47:C2:343:C:H2'	47:C2:344:A:H8	1.59	0.67
53:SF:52:GLU:OE2	53:SF:54:LYS:NZ	2.25	0.67
63:SP:57:MET:HB3	63:SP:61:ARG:HH21	1.58	0.67
2:C4:28:C:OP1	13:LJ:137:ARG:NH1	2.27	0.67
47:C2:1456:C:H5''	47:C2:1457:C:H5''	1.76	0.67
1:C1:837:A:OP2	44:Lp:4:ARG:NH1	2.28	0.67
1:C1:1569:U:H5'	1:C1:1570:U:H5''	1.77	0.67
81:A:1:G:N2	81:A:72:C:O2	2.18	0.67
1:C1:3042:U:OP2	1:C1:3092:C:N4	2.26	0.66
47:C2:1727:G:H2'	47:C2:1728:A:C8	2.29	0.66
65:SR:27:ASP:OD2	80:Sg:38:ARG:NH2	2.28	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
71: SX:127: VAL: HG23	71: SX:132: LEU: HD21	1.78	0.66
1: C1:2608: G: OP1	4: LA:2: GLY: N	2.28	0.66
47: C2:448: C: OP2	52: SE:49: ARG: NH1	2.24	0.66
47: C2:1339: C: O2'	47: C2:1341: A: N7	2.28	0.66
85: R:321: LYS: HB2	85: R:354: LEU: HB3	1.76	0.66
1: C1:297: G: OP2	1: C1:297: G: N2	2.24	0.66
1: C1:1486: G: H21	35: Lg:6: THR: HG22	1.61	0.66
47: C2:763: G: OP2	57: SJ:79: ARG: NH1	2.29	0.66
47: C2:1292: G: H21	48: SA:111: ILE: HD11	1.61	0.66
57: SJ:123: HIS: HD2	78: Se:33: ARG: HE	1.42	0.66
74: Sa:45: VAL: HG23	74: Sa:46: GLU: H	1.60	0.66
1: C1:1459: C: O4'	32: Ld:56: ASN: ND2	2.28	0.66
11: LH:5: GLN: NE2	11: LH:7: GLU: OE2	2.27	0.66
51: SD:23: GLU: OE2	51: SD:27: ARG: NE	2.28	0.66
59: SL:131: ILE: HB	59: SL:135: VAL: HG13	1.78	0.66
86: T:225: PHE: HA	86: T:229: GLU: HB2	1.76	0.66
1: C1:14: U: H1'	26: LX:42: ARG: HD2	1.78	0.66
1: C1:1348: U: O2	1: C1:1349: G: N2	2.29	0.66
13: LJ:114: ILE: H	13: LJ:114: ILE: HD12	1.60	0.66
48: SA:156: VAL: O	69: SV:65: SER: OG	2.13	0.66
73: SZ:65: LEU: HD22	73: SZ:69: LEU: HD11	1.76	0.66
85: R:156: LEU: HD12	85: R:160: GLN: HE22	1.59	0.66
86: T:163: VAL: HG13	86: T:168: ILE: HD11	1.77	0.66
1: C1:2507: C: H2'	1: C1:2508: U: C6	2.30	0.66
1: C1:3358: U: H2'	1: C1:3359: A: H8	1.61	0.66
13: LJ:61: ARG: NH1	82: P:56: C: OP1	2.29	0.66
56: SI:79: ALA: HB3	56: SI:103: GLN: HB2	1.77	0.66
3: C3:94: C: H5''	38: Lj:76: ASN: HD21	1.60	0.66
16: LN:122: ASN: OD1	16: LN:123: GLN: N	2.28	0.66
65: SR:27: ASP: HB3	65: SR:30: THR: HG22	1.78	0.66
1: C1:3212: C: OP2	15: LM:124: ARG: NH2	2.28	0.66
6: LC:169: LEU: HA	6: LC:172: VAL: HG12	1.77	0.66
18: LP:60: PHE: HB3	18: LP:64: ASN: HB3	1.77	0.66
44: Lp:76: ALA: HA	44: Lp:79: VAL: HG12	1.76	0.66
72: SY:7: ILE: HD12	72: SY:43: LYS: HD2	1.76	0.66
1: C1:3092: C: O2'	1: C1:3094: A: OP2	2.13	0.66
13: LJ:92: ARG: HH22	13: LJ:94: ARG: HE	1.43	0.66
47: C2:406: U: H2'	47: C2:407: A: H8	1.61	0.66
1: C1:289: A: O2'	16: LN:93: LYS: O	2.13	0.66
1: C1:1907: C: O2	5: LB:240: ARG: NH2	2.29	0.66
4: LA:32: LEU: HD11	4: LA:37: ARG: HB3	1.77	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:P2:83:THR:HA	46:P2:90:ARG:HG2	1.78	0.66
61:SN:56:ASP:OD2	75:Sb:52:THR:OG1	2.14	0.66
80:Sg:222:LEU:HB3	80:Sg:231:MET:HE2	1.76	0.65
1:C1:1523:U:O2'	26:LX:111:ASN:ND2	2.29	0.65
2:C4:14:U:H5'	7:LD:24:ARG:HH11	1.60	0.65
47:C2:656:G:O6	47:C2:679:U:O2	2.13	0.65
47:C2:871:G:H2'	47:C2:872:G:C8	2.31	0.65
48:SA:64:ILE:HD11	48:SA:122:ILE:HD11	1.78	0.65
1:C1:2775:U:H1'	29:La:58:MET:HE1	1.77	0.65
68:SU:57:ARG:HG2	68:SU:89:ARG:HD2	1.77	0.65
1:C1:1047:A:N3	1:C1:2633:U:O2'	2.30	0.65
1:C1:3227:A:O2'	15:LM:133:LYS:NZ	2.29	0.65
71:SX:57:LEU:HD22	78:Se:4:VAL:HB	1.78	0.65
1:C1:687:U:OP2	14:LL:36:ARG:NH2	2.29	0.65
1:C1:741:U:O2'	19:LQ:73:GLN:OE1	2.15	0.65
1:C1:1114:U:OP1	29:La:23:GLY:N	2.29	0.65
1:C1:1471:U:OP1	20:LR:5:ARG:NH1	2.30	0.65
11:LH:90:MET:HE2	11:LH:179:ILE:HG22	1.77	0.65
47:C2:1420:C:OP1	77:Sd:54:LYS:NZ	2.30	0.65
62:SO:25:ASP:OD1	62:SO:26:THR:N	2.29	0.65
84:5:52:HIS:ND1	84:5:52:HIS:O	2.29	0.65
10:LG:147:LYS:O	10:LG:201:THR:OG1	2.12	0.65
46:P2:134:GLY:H	46:P2:137:GLN:HB3	1.62	0.65
47:C2:38:C:O3'	57:SJ:6:ARG:NH1	2.29	0.65
54:SG:78:THR:HG22	54:SG:92:ARG:HG2	1.78	0.65
1:C1:1387:G:O2'	8:LE:2:THR:N	2.29	0.65
1:C1:2965:U:H5	84:5:73:LEU:HD21	1.60	0.65
47:C2:1183:A:C5	63:SP:100:LYS:HD2	2.32	0.65
50:SC:177:GLY:N	50:SC:195:ASP:OD1	2.29	0.65
52:SE:185:GLY:H	52:SE:189:LEU:HD13	1.62	0.65
1:C1:2901:G:O2'	1:C1:3024:A:N1	2.28	0.65
42:Ln:4:LYS:NZ	47:C2:1774:G:N7	2.44	0.65
64:SQ:34:SER:OG	67:ST:7:ARG:O	2.15	0.65
1:C1:309:U:OP1	37:Li:84:LYS:NZ	2.29	0.65
1:C1:1805:C:H2'	1:C1:1806:A:H8	1.61	0.65
29:La:84:GLU:OE2	29:La:87:ARG:NH1	2.30	0.65
47:C2:31:C:O3'	71:SX:139:LYS:NZ	2.29	0.65
47:C2:66:U:O3'	54:SG:171:LYS:NZ	2.29	0.65
85:R:108:ARG:HH22	85:R:111:GLY:HA2	1.61	0.65
13:LJ:87:LYS:NZ	13:LJ:105:GLY:O	2.30	0.65
47:C2:610:G:HO2'	47:C2:613:G:HO2'	1.44	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:SB:144:ARG:HD3	49:SB:208:GLN:HB3	1.79	0.64
54:SG:70:PRO:HB3	54:SG:101:ILE:HB	1.79	0.64
72:SY:86:GLU:OE2	72:SY:90:ARG:NE	2.24	0.64
1:C1:1362:G:H2'	1:C1:1363:A:C8	2.31	0.64
3:C3:52:A:OP1	40:Ll:21:ARG:NH1	2.30	0.64
9:LF:184:LEU:HD21	9:LF:202:LEU:HD11	1.77	0.64
36:Lh:78:LYS:HD3	36:Lh:81:ARG:HH21	1.61	0.64
49:SB:83:LYS:HE2	49:SB:106:THR:HG22	1.79	0.64
62:SO:61:MET:SD	62:SO:65:GLN:NE2	2.69	0.64
1:C1:664:U:H2'	1:C1:665:A:H8	1.61	0.64
4:LA:70:ARG:HH11	4:LA:71:LEU:H	1.45	0.64
4:LA:80:GLU:HG3	44:Lp:66:GLY:HA2	1.80	0.64
61:SN:101:HIS:HA	61:SN:104:ARG:HH11	1.62	0.64
85:R:166:LEU:HD12	85:R:173:LEU:HD11	1.79	0.64
1:C1:431:U:OP1	34:Lf:65:ARG:NH1	2.31	0.64
44:Lp:36:ARG:NH2	44:Lp:45:LYS:O	2.29	0.64
73:SZ:94:LYS:NZ	73:SZ:101:TYR:OH	2.30	0.64
45:P0:109:ALA:HB1	45:P0:113:ALA:HB3	1.80	0.64
14:LL:90:ALA:HA	14:LL:93:ILE:HG22	1.79	0.64
1:C1:2185:G:O2'	1:C1:2314:U:OP2	2.15	0.64
47:C2:1797:A:C6	74:Sa:84:VAL:HB	2.33	0.64
64:SQ:100:GLN:NE2	80:Sg:57:PRO:O	2.30	0.64
1:C1:649:A:OP2	1:C1:2868:U:O2'	2.16	0.64
1:C1:1339:C:OP1	33:Le:61:LYS:NZ	2.30	0.64
1:C1:1899:G:O2'	1:C1:2334:U:O4	2.16	0.64
42:Ln:11:ARG:NH1	47:C2:1775:U:OP1	2.27	0.64
47:C2:821:U:O4	47:C2:852:C:N3	2.31	0.64
51:SD:105:MET:HG2	51:SD:122:VAL:HG21	1.80	0.64
73:SZ:49:ARG:O	73:SZ:53:GLU:HG2	1.97	0.64
1:C1:282:G:O2'	1:C1:283:G:OP2	2.14	0.64
1:C1:824:C:H5''	4:LA:21:ARG:HD3	1.78	0.64
1:C1:1381:A:OP1	6:LC:197:ARG:NH1	2.30	0.64
1:C1:1661:G:H2'	1:C1:1662:G:C8	2.33	0.64
1:C1:2514:U:OP2	1:C1:2586:G:N2	2.31	0.64
1:C1:2890:A:O2'	1:C1:2933:A:N3	2.26	0.64
9:LF:131:GLU:OE2	9:LF:222:HIS:NE2	2.30	0.64
22:LT:17:ARG:HD3	22:LT:22:HIS:HA	1.80	0.64
31:Lc:22:LYS:HG3	31:Lc:93:LEU:HB2	1.79	0.64
34:Lf:42:GLN:HA	34:Lf:45:LEU:HD23	1.80	0.64
47:C2:1610:G:OP1	53:SF:72:HIS:NE2	2.30	0.64
48:SA:122:ILE:HG12	48:SA:144:ILE:HB	1.78	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:SR:14:LYS:HZ3	65:SR:69:ILE:HG13	1.63	0.64
85:R:180:ILE:HB	85:R:234:VAL:HG21	1.80	0.64
1:C1:2728:G:N7	22:LT:87:LYS:NZ	2.45	0.63
2:C4:15:C:O3'	7:LD:8:LYS:NZ	2.32	0.63
47:C2:159:U:H1'	54:SG:87:ARG:HH12	1.62	0.63
47:C2:1795:U:OP2	74:Sa:4:LYS:NZ	2.29	0.63
52:SE:71:LYS:NZ	52:SE:93:ASP:OD2	2.30	0.63
68:SU:22:ILE:HG22	68:SU:118:VAL:HG22	1.79	0.63
1:C1:2772:C:OP1	43:Lo:15:LYS:NZ	2.30	0.63
47:C2:1785:U:H2'	47:C2:1786:G:H8	1.61	0.63
1:C1:3022:G:H5'	86:T:312:LEU:HD22	1.80	0.63
47:C2:738:G:OP2	52:SE:200:ARG:NH1	2.32	0.63
47:C2:1672:G:H2'	47:C2:1673:G:C8	2.33	0.63
49:SB:104:ASP:OD1	49:SB:105:PHE:N	2.32	0.63
61:SN:37:ILE:HG12	61:SN:54:LEU:HD11	1.81	0.63
66:SS:111:ASP:HA	66:SS:114:GLU:HG2	1.80	0.63
1:C1:951:A:OP1	30:Lb:18:ARG:NH2	2.32	0.63
47:C2:788:A:OP2	52:SE:108:ARG:NH1	2.30	0.63
3:C3:8:C:H2'	3:C3:9:A:H8	1.64	0.63
47:C2:1484:G:H21	47:C2:1606:C:H1'	1.62	0.63
1:C1:2196:C:O2'	1:C1:2270:A:N3	2.28	0.63
1:C1:3187:A:OP1	11:LH:23:ARG:NH2	2.32	0.63
6:LC:112:LYS:HG3	16:LN:202:TYR:HB3	1.80	0.63
9:LF:88:ARG:HB2	9:LF:108:LEU:HD23	1.79	0.63
43:Lo:61:LYS:NZ	43:Lo:63:LYS:O	2.30	0.63
47:C2:1179:G:O3'	73:SZ:12:LYS:NZ	2.30	0.63
47:C2:1183:A:N3	47:C2:1210:C:O2'	2.26	0.63
50:SC:81:MET:HB2	50:SC:101:VAL:HG23	1.80	0.63
51:SD:120:TYR:HA	51:SD:123:VAL:HG12	1.79	0.63
1:C1:1684:U:OP1	23:LU:86:LYS:NZ	2.31	0.63
47:C2:1257:U:O2'	58:SK:8:ARG:NH1	2.30	0.63
47:C2:1591:C:H2'	47:C2:1592:A:H8	1.62	0.63
1:C1:729:C:O2'	19:LQ:79:LYS:NZ	2.32	0.63
1:C1:1256:G:O2'	46:P2:123:ARG:NH2	2.31	0.63
1:C1:2950:G:N2	1:C1:2950:G:OP2	2.31	0.63
6:LC:219:LEU:HD12	6:LC:225:VAL:HG21	1.79	0.63
47:C2:1258:U:H4'	58:SK:2:LEU:HB3	1.81	0.63
48:SA:83:GLN:HG3	48:SA:99:ALA:HB1	1.81	0.63
50:SC:175:GLY:O	57:SJ:57:ARG:NH1	2.31	0.63
80:Sg:192:PHE:HE2	80:Sg:223:TRP:HB3	1.64	0.63
1:C1:123:A:OP1	10:LG:105:LYS:NZ	2.22	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C1:836:A:O2'	44:Lp:9:GLY:O	2.17	0.63
1:C1:2137:U:OP2	1:C1:2142:A:N6	2.32	0.63
1:C1:3116:G:OP1	1:C1:3116:G:N2	2.32	0.63
47:C2:1488:G:O2'	47:C2:1494:C:O2	2.12	0.63
1:C1:674:G:O2'	6:LC:116:ASN:OD1	2.17	0.62
1:C1:1076:C:O3'	30:Lb:38:LYS:NZ	2.32	0.62
29:La:88:ASP:OD1	29:La:89:GLN:N	2.31	0.62
64:SQ:50:GLU:OE1	64:SQ:82:ARG:NH1	2.32	0.62
1:C1:532:A:H61	1:C1:560:G:H1	1.47	0.62
1:C1:562:C:O3'	21:LS:71:LYS:NZ	2.30	0.62
53:SF:100:ASN:OD1	53:SF:180:ARG:NH1	2.32	0.62
60:SM:60:VAL:HG22	60:SM:122:VAL:HG22	1.81	0.62
65:SR:76:GLU:OE1	65:SR:80:ARG:NH1	2.29	0.62
85:R:107:ILE:HG12	85:R:116:MET:HE1	1.79	0.62
1:C1:664:U:H2'	1:C1:665:A:C8	2.33	0.62
13:LJ:21:ILE:HD12	13:LJ:37:LEU:HD11	1.80	0.62
51:SD:72:LEU:HD12	58:SK:65:TYR:HD1	1.63	0.62
74:Sa:24:VAL:HG11	74:Sa:71:LEU:HD12	1.82	0.62
4:LA:36:GLU:OE1	4:LA:163:ARG:NH1	2.32	0.62
34:Lf:16:TYR:OH	34:Lf:89:LEU:O	2.15	0.62
47:C2:1690:G:H2'	47:C2:1691:A:C8	2.35	0.62
66:SS:36:LYS:HB3	66:SS:102:ALA:HA	1.79	0.62
1:C1:1404:G:N2	1:C1:1407:A:OP2	2.25	0.62
43:Lo:15:LYS:HA	43:Lo:18:ARG:HH11	1.65	0.62
47:C2:511:A:H5''	57:SJ:172:VAL:HG13	1.81	0.62
47:C2:1229:G:N2	47:C2:1256:A:H62	1.97	0.62
17:LO:74[A]:ARG:O	17:LO:142[A]:SER:OG	2.17	0.62
47:C2:780:A:H1'	72:SY:10:ARG:HH12	1.62	0.62
69:SV:30:ALA:O	69:SV:60:ARG:NH2	2.33	0.62
13:LJ:173:ASP:OD1	13:LJ:174:LYS:N	2.31	0.62
47:C2:142:G:H22	47:C2:173:A:H2	1.48	0.62
69:SV:15:ARG:NH1	69:SV:33:GLN:OE1	2.33	0.62
1:C1:2568:C:O2'	1:C1:2569:A:O4'	2.17	0.62
1:C1:2781:U:O3'	14:LL:185:LYS:NZ	2.33	0.62
6:LC:198:ARG:HH11	27:LY:12:ARG:HH12	1.48	0.62
12:LI:189:GLU:HB2	12:LI:200:LEU:HB3	1.82	0.62
80:Sg:42:LEU:HB2	80:Sg:61:PHE:HB2	1.80	0.62
39:Lk:2:ALA:N	39:Lk:51:LEU:O	2.33	0.62
47:C2:1041:G:H2'	47:C2:1042:G:C8	2.34	0.62
47:C2:1697:G:H5'	47:C2:1698:G:H5''	1.81	0.62
1:C1:912:G:OP2	4:LA:9:ARG:NH1	2.32	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C1:3278:C:OP1	34:Lf:54:ARG:NH1	2.33	0.62
47:C2:397:A:H4'	56:SI:50:GLY:HA2	1.80	0.62
55:SH:49:ILE:HD11	55:SH:172:VAL:HG12	1.82	0.62
60:SM:36:LEU:HB3	60:SM:41:LEU:HD12	1.82	0.62
60:SM:70:ASN:OD1	60:SM:71:ILE:N	2.32	0.62
1:C1:2895:G:O2'	41:Lm:100:TYR:O	2.18	0.61
16:LN:5:LYS:HG3	37:Li:40:VAL:HG11	1.82	0.61
47:C2:918:U:H2'	47:C2:919:A:H8	1.64	0.61
73:SZ:95:HIS:ND1	73:SZ:96:SER:O	2.32	0.61
1:C1:99:A:OP1	16:LN:194:GLN:NE2	2.32	0.61
1:C1:398:A:N7	18:LP:3:ARG:NH1	2.48	0.61
1:C1:3219:G:N7	34:Lf:2:ALA:N	2.48	0.61
47:C2:304:U:O2	59:SL:69:LYS:NZ	2.33	0.61
47:C2:1297:G:N2	47:C2:1300:A:OP2	2.30	0.61
52:SE:94:ALA:O	52:SE:95:THR:OG1	2.18	0.61
62:SO:20:TYR:HB3	62:SO:27:PHE:HB2	1.80	0.61
16:LN:27:VAL:HB	16:LN:122:ASN:HD21	1.64	0.61
54:SG:141:ILE:HG21	54:SG:153:VAL:HG13	1.81	0.61
68:SU:28:SER:HB3	68:SU:34:LEU:HD12	1.81	0.61
84:5:91:GLN:NE2	84:5:92:LEU:O	2.33	0.61
1:C1:1077:U:O3'	7:LD:43:LYS:NZ	2.32	0.61
9:LF:83:LEU:HD21	9:LF:116:PHE:HD1	1.64	0.61
46:P2:77:ALA:O	46:P2:117:ARG:NH1	2.31	0.61
47:C2:472:U:O2'	47:C2:769:A:N3	2.32	0.61
47:C2:925:G:H2'	47:C2:926:A:H8	1.66	0.61
82:P:17:G:H1	82:P:55:U:H1'	1.64	0.61
85:R:150:LEU:HD12	85:R:155:PRO:HA	1.83	0.61
3:C3:141:C:O2	16:LN:112:ASN:ND2	2.33	0.61
4:LA:117:GLU:HA	4:LA:125:ALA:HB3	1.81	0.61
13:LJ:138:VAL:HA	13:LJ:141:ARG:HE	1.66	0.61
47:C2:1531:G:N2	67:ST:48:GLN:OE1	2.33	0.61
67:ST:21:PHE:HA	67:ST:24:ARG:HH12	1.66	0.61
1:C1:1362:G:H2'	1:C1:1363:A:H8	1.65	0.61
12:LI:76:MET:HE1	12:LI:148:VAL:HG13	1.82	0.61
31:Lc:25:LEU:HD22	31:Lc:87:VAL:HG11	1.81	0.61
47:C2:78:A:H2'	47:C2:79:C:C6	2.34	0.61
54:SG:39:GLU:HG3	54:SG:46:LYS:HD2	1.83	0.61
72:SY:133:ASN:OD1	72:SY:134:ALA:N	2.33	0.61
1:C1:1383:G:H5''	6:LC:203:ARG:HD2	1.82	0.61
16:LN:16:SER:O	16:LN:20:ARG:HG2	2.00	0.61
31:Lc:81:VAL:HG23	31:Lc:83:LYS:HG2	1.81	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:C2:780:A:N3	72:SY:10:ARG:NH1	2.47	0.61
48:SA:119:ARG:NH1	50:SC:241:ASP:OD1	2.33	0.61
70:SW:86:ILE:O	70:SW:90:THR:HG23	2.01	0.61
81:A:1:G:O6	81:A:72:C:N4	2.29	0.61
1:C1:1279:C:H2'	1:C1:1280:C:H6	1.63	0.61
7:LD:39:GLN:HE21	7:LD:43:LYS:HB2	1.65	0.61
12:LI:206:LEU:O	12:LI:210:ILE:HG12	2.01	0.61
24:LV:129:VAL:O	24:LV:133:SER:HB3	2.00	0.61
37:Li:57:LEU:O	37:Li:61:ILE:HG12	2.01	0.61
45:P0:58:MET:SD	45:P0:61:ARG:NH1	2.74	0.61
47:C2:129:U:O2'	47:C2:131:C:N4	2.33	0.61
47:C2:278:U:OP2	47:C2:279:G:N2	2.34	0.61
85:R:63:THR:HG23	85:R:64:GLY:H	1.65	0.61
31:Lc:17:VAL:HG11	31:Lc:92:ILE:HD12	1.83	0.61
47:C2:736:C:H2'	47:C2:737:A:H8	1.64	0.61
1:C1:544:C:H2'	1:C1:547:G:H1	1.65	0.61
1:C1:700:C:OP1	14:LL:65:TYR:OH	2.16	0.61
1:C1:2202:C:H5''	4:LA:226:SER:HB2	1.82	0.61
1:C1:2344:U:H2'	1:C1:2345:A:H8	1.66	0.61
47:C2:194:U:H2'	47:C2:195:G:H4'	1.82	0.61
51:SD:8:LYS:HE2	68:SU:61:LYS:HD3	1.83	0.61
61:SN:33:VAL:O	61:SN:37:ILE:HG13	2.01	0.61
69:SV:4:ASP:OD1	69:SV:5:LYS:N	2.34	0.61
1:C1:2863:G:O3'	12:LI:112:GLN:NE2	2.34	0.60
47:C2:1171:A:H2'	47:C2:1172:G:C8	2.36	0.60
47:C2:1218:G:N2	47:C2:1444:A:OP2	2.27	0.60
1:C1:1003:A:N1	1:C1:1049:C:O2'	2.32	0.60
1:C1:3016:A:H2'	1:C1:3017:A:H8	1.67	0.60
27:LY:55:GLU:HA	27:LY:69:LYS:HA	1.83	0.60
32:Ld:44:MET:HE3	32:Ld:77:ARG:HB2	1.83	0.60
41:Lm:127:LEU:HD12	41:Lm:128:LYS:H	1.67	0.60
47:C2:95:G:OP1	52:SE:6:LYS:NZ	2.34	0.60
52:SE:174:LYS:O	52:SE:179:LYS:NZ	2.33	0.60
62:SO:81:VAL:HB	62:SO:115:ILE:HG12	1.82	0.60
84:5:124:LEU:HD12	84:5:150:PHE:HB2	1.83	0.60
1:C1:1117:G:O6	1:C1:1142:G:N2	2.35	0.60
1:C1:1237:G:H1	1:C1:1251:A:N6	1.98	0.60
6:LC:33:ASP:OD1	6:LC:34:ILE:N	2.34	0.60
7:LD:206:GLN:NE2	7:LD:210:GLU:OE2	2.35	0.60
26:LX:60:TYR:OH	36:Lh:26:LYS:NZ	2.34	0.60
47:C2:217:A:N1	47:C2:844:A:O2'	2.34	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C1:1155:C:O2'	1:C1:1197:A:N1	2.34	0.60
1:C1:2683:U:H2'	1:C1:2684:C:H6	1.66	0.60
12:LI:108:ALA:O	12:LI:112:GLN:HG3	2.02	0.60
21:LS:16:THR:HG23	21:LS:19:VAL:H	1.67	0.60
47:C2:917:U:O2'	62:SO:29:HIS:NE2	2.34	0.60
47:C2:1411:A:OP1	64:SQ:114:ARG:NH1	2.35	0.60
47:C2:1601:G:OP1	67:ST:86:ARG:NH2	2.35	0.60
62:SO:21:ALA:O	62:SO:95:GLY:N	2.29	0.60
1:C1:508:U:H3	1:C1:583:G:H1	1.50	0.60
47:C2:34:G:O2'	47:C2:515:A:O2'	2.19	0.60
1:C1:2218:G:H2'	1:C1:2219:A:H8	1.66	0.60
14:LL:79:GLU:OE2	14:LL:101:ARG:NH2	2.34	0.60
44:Lp:39:CYS:HB3	44:Lp:42:CYS:SG	2.41	0.60
47:C2:1727:G:N2	56:SI:32:GLN:OE1	2.28	0.60
47:C2:1755:A:O4'	71:SX:63:GLN:NE2	2.35	0.60
65:SR:101:ASN:OD1	65:SR:102:VAL:N	2.34	0.60
10:LG:33:ASN:OD1	10:LG:38:GLN:NE2	2.29	0.60
17:LO:110[A]:PRO:O	17:LO:112[A]:TYR:N	2.34	0.60
28:LZ:23:VAL:HG12	28:LZ:45:GLY:HA3	1.84	0.60
47:C2:1231:U:H3	47:C2:1254:U:H3	1.50	0.60
47:C2:1512:G:H2'	47:C2:1513:G:C8	2.36	0.60
47:C2:1556:A:H4'	47:C2:1557:U:H5	1.67	0.60
63:SP:75:PRO:HA	63:SP:93:VAL:HG23	1.84	0.60
47:C2:1260:U:H2'	47:C2:1261:G:H8	1.65	0.60
47:C2:1754:A:H1'	78:Se:2:ALA:HA	1.84	0.60
47:C2:1760:G:H1'	47:C2:1781:A:H2	1.66	0.60
51:SD:66:ILE:HD11	51:SD:86:LEU:HB2	1.84	0.60
72:SY:103:ALA:O	72:SY:108:ARG:NH2	2.34	0.60
1:C1:787:G:H2'	1:C1:788:C:H6	1.67	0.60
1:C1:896:A:H5'	4:LA:183:GLY:HA2	1.84	0.60
1:C1:1928:G:N2	1:C1:2320:A:O2'	2.35	0.60
10:LG:130:TYR:HD2	10:LG:204:ARG:HG2	1.67	0.60
43:Lo:12:CYS:HB2	43:Lo:23:HIS:CE1	2.37	0.60
47:C2:153:G:H2'	47:C2:154:G:H8	1.65	0.60
47:C2:897:C:O2	62:SO:41:ARG:NH2	2.35	0.60
1:C1:91:G:OP2	43:Lo:42:ARG:NH1	2.35	0.60
3:C3:45:C:O3'	40:LI:11:GLN:NE2	2.34	0.60
4:LA:112:ILE:HD12	4:LA:135:ILE:HG12	1.84	0.60
7:LD:34:LYS:HE2	22:LT:30:TYR:CZ	2.37	0.60
7:LD:187:THR:HG22	7:LD:189:GLU:OE1	2.02	0.60
58:SK:25:LYS:HB3	58:SK:62:GLN:HB2	1.84	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:SO:16:VAL:HG12	62:SO:18:ARG:HG3	1.84	0.60
71:SX:144:ARG:HH21	71:SX:144:ARG:HA	1.65	0.60
1:C1:1178:G:N3	1:C1:1328:C:O2'	2.33	0.59
47:C2:1082:C:H1'	69:SV:62:ARG:HH12	1.67	0.59
1:C1:427:C:OP2	33:Le:15:LYS:NZ	2.35	0.59
16:LN:175:ASN:HB2	16:LN:180:PHE:CE2	2.36	0.59
47:C2:487:G:H2'	47:C2:488:G:C8	2.37	0.59
47:C2:955:A:OP1	61:SN:3:ARG:NE	2.27	0.59
51:SD:61:GLU:OE2	51:SD:62:ASN:ND2	2.35	0.59
60:SM:46:ARG:HH11	60:SM:50:LYS:HZ2	1.48	0.59
61:SN:130:ARG:NH1	61:SN:139:TRP:O	2.35	0.59
15:LM:13:ARG:NH1	15:LM:65:LEU:O	2.36	0.59
47:C2:56:U:OP1	47:C2:403:G:N1	2.34	0.59
47:C2:1429:G:O2'	68:SU:72:ASN:ND2	2.36	0.59
50:SC:219:GLY:O	69:SV:25:LYS:NZ	2.34	0.59
80:Sg:292:LEU:HD12	80:Sg:301:LEU:HD11	1.84	0.59
1:C1:2557:A:OP1	4:LA:69:TYR:OH	2.14	0.59
67:ST:100:ILE:O	67:ST:104:VAL:HG23	2.02	0.59
1:C1:2278:C:OP2	42:Ln:23:ARG:NH1	2.35	0.59
1:C1:3042:U:OP1	24:LV:48:ARG:NH1	2.34	0.59
1:C1:3213:A:OP1	15:LM:128:ARG:NH1	2.35	0.59
21:LS:155:ARG:NE	21:LS:171:PHE:O	2.34	0.59
47:C2:1357:A:H2'	47:C2:1358:G:H8	1.67	0.59
47:C2:1477:G:H2'	47:C2:1478:G:H8	1.67	0.59
51:SD:76:ARG:HB2	58:SK:22:VAL:HG11	1.84	0.59
1:C1:542:G:H1	1:C1:549:U:H3	1.49	0.59
1:C1:695:C:OP2	6:LC:115:HIS:NE2	2.32	0.59
1:C1:787:G:H2'	1:C1:788:C:C6	2.37	0.59
1:C1:1336:U:H2'	1:C1:1337:A:H8	1.67	0.59
1:C1:2948:C:OP1	5:LB:244:ARG:NH2	2.34	0.59
1:C1:3252:G:H2'	1:C1:3253:G:C8	2.38	0.59
1:C1:3291:G:H2'	1:C1:3292:A:H8	1.67	0.59
5:LB:10:ARG:NH1	5:LB:263:SER:O	2.36	0.59
28:LZ:115:LYS:NZ	28:LZ:119:GLU:OE2	2.36	0.59
47:C2:473:A:OP1	57:SJ:44:ARG:NE	2.35	0.59
57:SJ:129:ILE:HG12	57:SJ:134:ILE:HD13	1.83	0.59
67:ST:70:GLN:NE2	67:ST:120:GLY:O	2.34	0.59
69:SV:1:MET:N	69:SV:10:GLU:OE1	2.35	0.59
70:SW:15:ASN:ND2	70:SW:72:CYS:O	2.31	0.59
1:C1:394:G:N1	1:C1:397:A:OP2	2.36	0.59
1:C1:1419:A:H5''	6:LC:193:LYS:HZ2	1.67	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C1:3163:A:N6	1:C1:3288:G:O6	2.36	0.59
68:SU:58:LEU:HD12	68:SU:88:LYS:HD3	1.85	0.59
80:Sg:267:PRO:HG2	80:Sg:269:TYR:CD1	2.38	0.59
81:A:57:G:N2	81:A:60:U:O4	2.36	0.59
1:C1:658:G:N2	6:LC:93:MET:HB2	2.17	0.59
1:C1:1592:G:OP1	35:Lg:58:ARG:NH2	2.28	0.59
4:LA:64:ARG:HH22	10:LG:38:GLN:HA	1.66	0.59
10:LG:106:LYS:O	10:LG:110:THR:HG23	2.03	0.59
47:C2:762:A:OP1	57:SJ:79:ARG:NH2	2.28	0.59
49:SB:109:LYS:O	49:SB:113:MET:HG2	2.02	0.59
53:SF:47:SER:OG	53:SF:49:GLU:OE1	2.21	0.59
55:SH:109:VAL:HG22	55:SH:110:GLN:H	1.67	0.59
61:SN:23:PRO:HD2	61:SN:26:PHE:HB2	1.83	0.59
70:SW:53:ILE:HD13	75:Sb:24:LEU:HD11	1.84	0.59
80:Sg:114:ASP:OD1	80:Sg:115:ILE:N	2.36	0.59
1:C1:1569:U:H5''	1:C1:1570:U:C6	2.37	0.59
1:C1:3040:A:H5''	24:LV:12:ARG:HB2	1.85	0.59
1:C1:3209:A:N7	15:LM:106:ARG:NH2	2.51	0.59
1:C1:3233:C:H2'	1:C1:3234:A:C8	2.38	0.59
10:LG:81:THR:HG21	10:LG:181:LYS:HB2	1.84	0.59
29:La:24:LYS:O	29:La:26:ARG:HG2	2.01	0.59
49:SB:40:ASN:OD1	49:SB:41:ARG:N	2.35	0.59
68:SU:63:LEU:O	68:SU:83:GLU:HA	2.02	0.59
79:Sf:83:LYS:HD3	79:Sf:85:TYR:H	1.66	0.59
1:C1:797:U:H5''	14:LL:2:ALA:HB1	1.83	0.59
1:C1:2282:U:OP1	1:C1:2973:G:O2'	2.21	0.59
5:LB:287:LYS:NZ	5:LB:289:ASP:OD1	2.35	0.59
18:LP:67:ILE:HD11	18:LP:80:LYS:HB3	1.85	0.59
19:LQ:44:PHE:HD1	19:LQ:139:ILE:HD11	1.68	0.59
47:C2:1551:U:OP2	63:SP:43:ARG:NH1	2.36	0.59
59:SL:30:ARG:HD3	59:SL:30:ARG:H	1.68	0.59
68:SU:57:ARG:HB3	68:SU:89:ARG:HH21	1.67	0.59
1:C1:348:A:N3	1:C1:352:A:O2'	2.36	0.58
1:C1:684:G:OP2	14:LL:28:GLN:NE2	2.35	0.58
1:C1:1793:C:OP2	44:Lp:49:ARG:NH2	2.36	0.58
1:C1:1799:A:H2'	1:C1:1800:A:H8	1.67	0.58
1:C1:2772:C:H4'	1:C1:2773:C:H5'	1.85	0.58
19:LQ:150:VAL:HA	19:LQ:153:PHE:HD2	1.68	0.58
28:LZ:57:HIS:CD2	28:LZ:61:LYS:HE2	2.37	0.58
47:C2:655:G:H4'	47:C2:656:G:H8	1.67	0.58
61:SN:46:THR:OG1	61:SN:49:GLN:OE1	2.19	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C1:1220:U:H4'	1:C1:1222:G:H5''	1.84	0.58
1:C1:3037:U:H5''	5:LB:348:ARG:HE	1.67	0.58
6:LC:302:ALA:HA	19:LQ:39:ARG:HH12	1.68	0.58
22:LT:111:ALA:HB1	22:LT:115:LYS:NZ	2.18	0.58
29:La:77:LYS:O	29:La:79:TRP:N	2.36	0.58
46:P2:86:LYS:HE2	46:P2:142:ARG:HH21	1.68	0.58
47:C2:1303:U:O2'	47:C2:1322:A:OP2	2.21	0.58
54:SG:27:PHE:HE1	54:SG:36:VAL:HG21	1.68	0.58
80:Sg:69:GLN:NE2	80:Sg:111:MET:SD	2.77	0.58
85:R:268:ASN:HD21	85:R:290:ARG:NH2	2.01	0.58
1:C1:1634:G:OP1	28:LZ:107:ARG:NH1	2.36	0.58
1:C1:3050:U:O2'	25:LW:16:GLY:O	2.22	0.58
2:C4:89:G:N2	2:C4:92:A:OP2	2.32	0.58
3:C3:13:A:O2'	18:LP:121:GLN:O	2.21	0.58
6:LC:229:ASN:OD1	6:LC:230:VAL:N	2.36	0.58
13:LJ:49:LYS:HA	13:LJ:64:LYS:HA	1.85	0.58
23:LU:18:ASP:HB3	23:LU:104:ARG:HB3	1.84	0.58
35:Lg:101:VAL:HA	35:Lg:104:VAL:HG12	1.85	0.58
47:C2:554:C:N4	47:C2:571:G:O6	2.31	0.58
66:SS:53:ASP:O	66:SS:56:LYS:NZ	2.37	0.58
76:Sc:33:LEU:HD21	76:Sc:53:ILE:HD12	1.84	0.58
1:C1:1119:C:H2'	1:C1:1120:A:H8	1.69	0.58
1:C1:2869:U:O4	89:C1:3593:ASP:N	2.36	0.58
5:LB:78:VAL:HG12	5:LB:323:MET:HG3	1.86	0.58
19:LQ:54:LEU:HD23	19:LQ:58:ASN:HB3	1.85	0.58
31:Lc:95:ALA:HB2	31:Lc:101:LEU:HD23	1.84	0.58
85:R:72:GLY:O	85:R:78:LYS:NZ	2.35	0.58
1:C1:2737:C:OP1	22:LT:70:SER:OG	2.21	0.58
6:LC:152:VAL:HG21	6:LC:156:LEU:HD13	1.84	0.58
7:LD:60:ILE:HD11	7:LD:93:THR:HA	1.85	0.58
27:LY:35:LEU:HD23	27:LY:39:LEU:HB3	1.86	0.58
47:C2:1007:C:O3'	62:SO:135:ARG:NH1	2.36	0.58
63:SP:111:MET:HB3	66:SS:119:ILE:HD11	1.85	0.58
69:SV:79:LEU:HD12	69:SV:80:LYS:H	1.68	0.58
72:SY:29:HIS:HB2	72:SY:32:ARG:HG3	1.86	0.58
80:Sg:20:VAL:HG11	80:Sg:310:ILE:HD11	1.84	0.58
1:C1:655:C:H2'	1:C1:656:A:C8	2.36	0.58
1:C1:799:G:O2'	14:LL:18:TRP:NE1	2.37	0.58
1:C1:1025:A:H61	66:SS:118:LYS:NZ	2.01	0.58
1:C1:1420:C:OP2	6:LC:193:LYS:NZ	2.25	0.58
1:C1:2768:U:H2'	1:C1:2769:A:H8	1.68	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:LD:60:ILE:HB	7:LD:80:SER:HB3	1.86	0.58
11:LH:6:THR:O	11:LH:56:ALA:HA	2.03	0.58
17:LO:108[A]:ILE:HD13	17:LO:160[A]:ARG:HH22	1.68	0.58
22:LT:18:ASP:HB2	22:LT:21:LYS:HB2	1.84	0.58
47:C2:512:A:O2'	57:SJ:133:HIS:NE2	2.34	0.58
49:SB:41:ARG:HH11	49:SB:232:HIS:HA	1.69	0.58
50:SC:88:LYS:HD3	50:SC:95:ARG:HH21	1.69	0.58
60:SM:58:LEU:HD22	60:SM:125:ASN:H	1.68	0.58
60:SM:85:LYS:HG2	60:SM:87:PRO:HD3	1.86	0.58
64:SQ:69:VAL:HG11	64:SQ:81:ILE:HD11	1.84	0.58
1:C1:358:G:N2	1:C1:361:A:OP2	2.36	0.58
4:LA:140:ASN:O	4:LA:144:ASN:HA	2.03	0.58
9:LF:233:GLU:N	9:LF:233:GLU:OE1	2.35	0.58
47:C2:522:U:OP1	72:SY:37:LYS:NZ	2.35	0.58
47:C2:1738:U:H2'	47:C2:1739:C:C6	2.39	0.58
47:C2:1739:C:H2'	47:C2:1740:A:H8	1.69	0.58
51:SD:109:LEU:HD11	51:SD:115:ILE:HD13	1.86	0.58
1:C1:424:G:O2'	33:Le:23:ASP:OD2	2.19	0.58
6:LC:36:HIS:O	6:LC:40:THR:HG23	2.04	0.58
20:LR:24:LEU:HD23	20:LR:50:ILE:HG12	1.85	0.58
47:C2:335:U:O3'	59:SL:129:ARG:NH1	2.36	0.58
47:C2:751:G:H2'	47:C2:752:A:H8	1.68	0.58
52:SE:250:GLU:O	52:SE:254:ARG:HG2	2.03	0.58
55:SH:80:GLU:HG3	55:SH:83:LYS:HZ3	1.69	0.58
73:SZ:83:LEU:HD12	73:SZ:88:ILE:HD12	1.85	0.58
85:R:77:GLY:HA3	85:R:251:LYS:HZ2	1.68	0.58
1:C1:337:G:O4'	6:LC:48:GLN:NE2	2.31	0.58
1:C1:2369:G:H2'	1:C1:2370:G:C8	2.38	0.58
47:C2:1554:U:H3'	47:C2:1555:A:H8	1.68	0.58
48:SA:31:VAL:HG12	48:SA:33:GLN:H	1.69	0.58
53:SF:54:LYS:HA	53:SF:54:LYS:HE3	1.85	0.58
60:SM:52:LEU:HA	60:SM:57:ALA:HB2	1.85	0.58
2:C4:6:C:OP1	7:LD:54:ARG:NE	2.30	0.58
4:LA:47:GLN:HA	4:LA:84:THR:HG22	1.86	0.58
10:LG:85:ASN:OD1	10:LG:86:THR:N	2.36	0.58
14:LL:42:ARG:O	14:LL:46:ILE:HG12	2.04	0.58
19:LQ:36:LEU:HB3	19:LQ:45:ASN:OD1	2.04	0.58
19:LQ:51:ALA:HA	19:LQ:54:LEU:HD13	1.86	0.58
47:C2:1533:C:OP2	73:SZ:77:ARG:NH2	2.37	0.58
86:T:269:LYS:HG3	86:T:270:PRO:HD2	1.85	0.58
1:C1:312:C:H2'	1:C1:313:A:H8	1.69	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C1:2424:A:H5''	16:LN:90:ASN:HD21	1.70	0.57
15:LM:72:LEU:HD12	15:LM:73:PRO:HD2	1.86	0.57
29:La:130:VAL:HG21	29:La:145:VAL:HG21	1.85	0.57
47:C2:140:A:OP2	47:C2:140:A:H4'	2.03	0.57
47:C2:1251:U:H1'	79:Sf:135:HIS:CE1	2.39	0.57
47:C2:1529:C:H5''	64:SQ:42:GLU:OE1	2.04	0.57
56:SI:195:ARG:HH12	59:SL:11:ARG:HA	1.68	0.57
62:SO:43:THR:H	62:SO:46:MET:HE3	1.69	0.57
63:SP:41:VAL:HG12	63:SP:84:ILE:HD13	1.85	0.57
1:C1:776:U:OP1	30:Lb:41:ARG:NH1	2.38	0.57
1:C1:2245:C:O2'	4:LA:220:GLY:O	2.23	0.57
28:LZ:70:PRO:HG3	28:LZ:115:LYS:HB2	1.85	0.57
47:C2:144:U:H2'	47:C2:145:A:H8	1.69	0.57
47:C2:1256:A:H4'	47:C2:1257:U:O5'	2.05	0.57
50:SC:53:ILE:HD13	50:SC:73:LEU:HD11	1.86	0.57
51:SD:31:GLU:OE1	51:SD:31:GLU:N	2.33	0.57
52:SE:45:ILE:HG13	52:SE:61:VAL:HG21	1.86	0.57
71:SX:102:VAL:HG12	71:SX:127:VAL:HG22	1.86	0.57
1:C1:35:A:O2'	1:C1:809:G:N3	2.37	0.57
5:LB:123:TYR:OH	5:LB:124:LYS:NZ	2.36	0.57
12:LI:36:LEU:HB2	12:LI:87:LEU:HB3	1.86	0.57
18:LP:56:ARG:NH1	18:LP:75:GLU:OE2	2.37	0.57
72:SY:35:VAL:HG23	72:SY:40:LEU:HD21	1.85	0.57
85:R:311:VAL:HG11	85:R:323:PHE:HE1	1.69	0.57
1:C1:3138:U:OP2	5:LB:30:LYS:NZ	2.36	0.57
11:LH:23:ARG:HD2	11:LH:38:LEU:O	2.05	0.57
22:LT:51:GLY:HA3	22:LT:92:ARG:HG3	1.84	0.57
66:SS:123:ARG:O	66:SS:127:HIS:ND1	2.38	0.57
84:5:94:ASP:HA	84:5:128:PHE:HZ	1.69	0.57
25:LW:52:THR:HG23	25:LW:55:PHE:H	1.70	0.57
47:C2:843:U:H2'	47:C2:844:A:H8	1.68	0.57
51:SD:172:THR:O	51:SD:173:ARG:NH1	2.31	0.57
58:SK:47:GLN:O	58:SK:50:THR:OG1	2.20	0.57
65:SR:21:TYR:O	65:SR:23:LYS:N	2.37	0.57
1:C1:2392:C:H1'	5:LB:266:ARG:HH21	1.68	0.57
1:C1:3276:G:O2'	18:LP:175:ARG:NH2	2.36	0.57
47:C2:477:A:O3'	78:Se:33:ARG:NH2	2.37	0.57
47:C2:1650:U:H2'	47:C2:1651:A:C8	2.40	0.57
73:SZ:46:LYS:O	73:SZ:50:ILE:HD12	2.05	0.57
80:Sg:147:HIS:HE2	80:Sg:173:GLY:HA3	1.69	0.57
1:C1:2681:U:OP2	13:LJ:51:ARG:NH1	2.38	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:LO:109[A]:PRO:HB2	17:LO:110[A]:PRO:HD3	1.84	0.57
17:LO:127[A]:LEU:HD11	21:LS:168:PRO:HG2	1.87	0.57
20:LR:167:ARG:HG2	20:LR:170:ARG:NH2	2.18	0.57
33:Le:79:VAL:O	33:Le:83:GLU:HG2	2.05	0.57
45:P0:60:ARG:O	45:P0:64:ARG:HD2	2.05	0.57
47:C2:384:G:H2'	47:C2:385:A:H8	1.69	0.57
47:C2:1267:G:OP1	47:C2:1435:G:N2	2.38	0.57
47:C2:1417:A:O2'	64:SQ:128:LYS:NZ	2.37	0.57
48:SA:143:VAL:O	48:SA:157:ASP:HB2	2.04	0.57
53:SF:109:LYS:O	53:SF:113:ILE:HG12	2.04	0.57
65:SR:24:LEU:HB3	65:SR:34:LEU:HD11	1.86	0.57
84:5:113:VAL:HG23	84:5:115:ALA:H	1.67	0.57
1:C1:928:C:H2'	1:C1:929:A:H8	1.70	0.57
1:C1:1125:U:OP1	12:LI:15:LYS:NZ	2.37	0.57
6:LC:204:GLY:O	6:LC:246:ARG:NH2	2.37	0.57
9:LF:156:ILE:HD13	9:LF:161:VAL:HB	1.87	0.57
13:LJ:160:VAL:O	13:LJ:164:LYS:HG2	2.04	0.57
17:LO:110[A]:PRO:HB3	17:LO:111[A]:PRO:HD2	1.86	0.57
21:LS:77:VAL:HG11	21:LS:106:LEU:HD22	1.87	0.57
24:LV:104:ASN:OD1	24:LV:108:GLU:N	2.33	0.57
47:C2:959:U:H5''	61:SN:14:SER:HB3	1.85	0.57
47:C2:1382:A:O2'	47:C2:1383:G:OP1	2.21	0.57
55:SH:17:GLU:HA	55:SH:20:VAL:HG12	1.86	0.57
57:SJ:107:ARG:HE	57:SJ:112:GLN:HE21	1.53	0.57
61:SN:88:LEU:HD11	61:SN:122:ILE:HG23	1.86	0.57
82:P:17:G:OP1	84:5:87:ARG:NH2	2.38	0.57
1:C1:695:C:P	6:LC:115:HIS:HE2	2.27	0.57
1:C1:2176:U:OP1	4:LA:54:ARG:NH2	2.29	0.57
3:C3:26:U:H2'	3:C3:27:U:C6	2.40	0.57
5:LB:51:ALA:HB3	5:LB:78:VAL:HG23	1.87	0.57
10:LG:82:LEU:HD21	10:LG:178:ALA:HB1	1.86	0.57
47:C2:1331:A:OP1	65:SR:45:ARG:NH2	2.38	0.57
47:C2:1497:U:O3'	67:ST:75:LYS:NZ	2.38	0.57
47:C2:1628:U:H2'	47:C2:1629:G:C8	2.40	0.57
48:SA:4:PRO:HG2	48:SA:6:THR:HG22	1.86	0.57
63:SP:48:GLY:O	63:SP:52:LYS:NZ	2.36	0.57
1:C1:1259:A:OP1	45:P0:14:LYS:NZ	2.37	0.57
8:LE:154:LEU:HA	8:LE:157:GLN:HE22	1.69	0.57
29:La:76:ASP:OD1	29:La:77:LYS:N	2.37	0.57
47:C2:575:C:N4	71:SX:65:ASN:OD1	2.38	0.57
47:C2:1791:A:H3'	74:Sa:8:ASN:HB3	1.85	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:SQ:13:LYS:HG3	64:SQ:14:LYS:H	1.69	0.57
80:Sg:144:LEU:HD23	80:Sg:181:TRP:CE3	2.40	0.57
1:C1:370:U:H3	1:C1:374:A:H62	1.53	0.56
9:LF:156:ILE:O	9:LF:159:GLN:HB2	2.04	0.56
21:LS:12:ARG:HE	21:LS:22:PRO:HD2	1.70	0.56
71:SX:130:VAL:HG21	71:SX:143:PRO:HD3	1.87	0.56
1:C1:138:U:H2'	1:C1:139:G:H8	1.70	0.56
1:C1:284:A:OP2	43:Lo:41:ARG:NH2	2.33	0.56
1:C1:501:A:OP1	8:LE:82:ARG:NH1	2.38	0.56
1:C1:2763:U:H4'	19:LQ:176:ARG:HD2	1.87	0.56
6:LC:266:THR:HG23	6:LC:267:VAL:HG13	1.87	0.56
10:LG:54:GLU:HG2	10:LG:57:ARG:HH21	1.69	0.56
16:LN:106:VAL:HG11	16:LN:132:VAL:HG11	1.86	0.56
1:C1:364:G:OP2	38:Lj:52:LYS:NZ	2.37	0.56
1:C1:999:G:N3	1:C1:1002:A:N6	2.54	0.56
1:C1:1008:U:O4	1:C1:1043:C:N4	2.38	0.56
3:C3:97:A:OP1	36:Lh:63:ARG:NH2	2.31	0.56
5:LB:300:ARG:HH22	54:SG:22:HIS:CG	2.24	0.56
14:LL:90:ALA:HB1	14:LL:95:ILE:HB	1.86	0.56
21:LS:77:VAL:HG22	21:LS:126:VAL:HG12	1.87	0.56
31:Lc:73:GLY:N	31:Lc:76:GLU:OE2	2.36	0.56
36:Lh:31:LEU:HD12	36:Lh:41:LEU:HD21	1.87	0.56
47:C2:953:G:H2'	47:C2:954:G:H8	1.71	0.56
47:C2:1712:A:H3'	47:C2:1713:G:H8	1.69	0.56
49:SB:179:SER:HB3	49:SB:183:GLN:NE2	2.13	0.56
52:SE:18:TRP:NE1	52:SE:41:SER:O	2.37	0.56
55:SH:127:GLU:HG2	55:SH:135:ILE:HD12	1.87	0.56
68:SU:99:ILE:HG13	68:SU:103:ILE:HD11	1.88	0.56
70:SW:89:TRP:O	70:SW:93:LEU:HD23	2.05	0.56
1:C1:1084:A:H2'	1:C1:1085:A:C8	2.41	0.56
27:LY:116:LYS:O	27:LY:120:GLN:HG2	2.05	0.56
44:Lp:39:CYS:CB	44:Lp:42:CYS:SG	2.93	0.56
47:C2:742:U:O2	55:SH:107:ARG:NH2	2.39	0.56
47:C2:1565:C:OP1	66:SS:41:ARG:NH1	2.39	0.56
47:C2:1584:G:C6	64:SQ:14:LYS:HE2	2.40	0.56
59:SL:102:LYS:O	71:SX:13:ARG:NH2	2.38	0.56
60:SM:56:GLU:HB2	60:SM:124:LYS:HE3	1.86	0.56
67:ST:73:VAL:O	67:ST:77:ASN:ND2	2.39	0.56
80:Sg:261:LYS:HB3	80:Sg:263:PHE:HE1	1.70	0.56
1:C1:640:U:OP1	29:La:21:ARG:NH2	2.31	0.56
1:C1:1838:G:H5''	1:C1:1839:A:H5'	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:Lo:2:VAL:N	43:Lo:90:HIS:O	2.38	0.56
47:C2:1738:U:H2'	47:C2:1739:C:H6	1.71	0.56
53:SF:209:TYR:HE1	53:SF:213:LYS:HE3	1.70	0.56
54:SG:67:VAL:O	54:SG:68:LEU:HG	2.06	0.56
1:C1:1236:G:N2	1:C1:1272:C:OP1	2.38	0.56
1:C1:1404:G:OP2	33:Le:11:LYS:NZ	2.39	0.56
1:C1:2683:U:H2'	1:C1:2684:C:C6	2.40	0.56
15:LM:23:ILE:HG21	15:LM:28:SER:HB2	1.88	0.56
45:P0:189:GLN:HE22	45:P0:191:TYR:HB2	1.69	0.56
46:P2:112:ILE:O	46:P2:115:GLN:NE2	2.39	0.56
47:C2:405:C:O2'	54:SG:92:ARG:O	2.24	0.56
47:C2:924:A:H2'	47:C2:925:G:C8	2.41	0.56
63:SP:28:MET:SD	63:SP:29:SER:N	2.79	0.56
63:SP:38:PRO:O	63:SP:42:ARG:HG3	2.05	0.56
1:C1:699:A:OP1	14:LL:68:LYS:NZ	2.32	0.56
4:LA:83:HIS:HB3	44:Lp:64:VAL:HG22	1.88	0.56
6:LC:74:ILE:HD12	6:LC:75:PRO:HD2	1.86	0.56
47:C2:1366:U:O2'	67:ST:7:ARG:NH1	2.38	0.56
48:SA:84:ARG:NH2	65:SR:82:ASP:O	2.39	0.56
1:C1:243:G:H2'	1:C1:244:G:H8	1.71	0.56
1:C1:1624:G:O2'	1:C1:1643:A:N1	2.37	0.56
1:C1:1639:C:OP2	35:Lg:74:ARG:NH2	2.39	0.56
1:C1:2814:G:OP1	6:LC:73:ARG:NH2	2.38	0.56
6:LC:170:LYS:HD3	6:LC:175:HIS:HB2	1.86	0.56
45:P0:70:LEU:HG	45:P0:72:ASP:OD1	2.06	0.56
47:C2:961:U:H5''	61:SN:71:ILE:HD13	1.87	0.56
47:C2:1316:G:OP1	65:SR:7:LYS:N	2.39	0.56
47:C2:1444:A:H4'	47:C2:1445:G:H5'	1.88	0.56
61:SN:69:ASN:HB2	61:SN:74:ILE:HD11	1.88	0.56
84:5:140:SER:HA	84:5:145:GLU:HB3	1.87	0.56
1:C1:1881:A:H2'	1:C1:1882:G:H8	1.71	0.56
13:LJ:51:ARG:HG3	13:LJ:52:TYR:HD1	1.71	0.56
16:LN:28:TRP:O	16:LN:32:GLN:HG2	2.06	0.56
20:LR:164:LEU:HD22	20:LR:167:ARG:HH21	1.70	0.56
43:Lo:12:CYS:HB2	43:Lo:23:HIS:HE1	1.69	0.56
47:C2:218:A:H61	47:C2:829:A:H2	1.54	0.56
51:SD:9:ARG:HA	51:SD:12:VAL:HG22	1.87	0.56
60:SM:133:LEU:HD23	60:SM:133:LEU:H	1.71	0.56
82:P:70:G:H2'	82:P:71:A:H8	1.71	0.56
85:R:35:LEU:O	85:R:39:ARG:HG3	2.06	0.56
1:C1:1616:U:H2'	1:C1:1617:G:H8	1.71	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C1:2837:A:H2'	1:C1:2845:A:N1	2.20	0.56
12:LI:66:GLU:O	12:LI:70:ILE:HG12	2.06	0.56
17:LO:108[A]:ILE:HB	17:LO:160[A]:ARG:HH12	1.71	0.56
47:C2:93:A:H4'	52:SE:3:ARG:HH21	1.71	0.56
47:C2:340:U:H2'	47:C2:341:A:H8	1.71	0.56
47:C2:1483:A:H4'	64:SQ:71:GLY:HA2	1.88	0.56
47:C2:1688:U:H3'	47:C2:1689:A:H8	1.70	0.56
53:SF:39:GLU:OE1	53:SF:39:GLU:N	2.39	0.56
57:SJ:59:LEU:HD12	57:SJ:69:ARG:HA	1.88	0.56
67:ST:37:VAL:HG21	67:ST:100:ILE:HD11	1.88	0.56
1:C1:99:A:H1'	1:C1:281:G:N7	2.22	0.55
1:C1:296:A:N3	1:C1:299:G:O2'	2.38	0.55
1:C1:1523:U:O2	26:LX:111:ASN:ND2	2.39	0.55
1:C1:3214:U:O4	15:LM:124:ARG:NH1	2.39	0.55
3:C3:52:A:H62	40:Ll:27:ILE:HD13	1.71	0.55
17:LO:61[A]:ALA:HA	17:LO:70[A]:PRO:HD2	1.87	0.55
44:Lp:44:LYS:NZ	44:Lp:59:CYS:SG	2.79	0.55
47:C2:168:A:OP1	54:SG:140:ASN:ND2	2.39	0.55
47:C2:327:U:H2'	47:C2:328:A:C8	2.41	0.55
55:SH:87:ASP:O	55:SH:88:ARG:NE	2.36	0.55
68:SU:21:LYS:HD2	68:SU:21:LYS:O	2.06	0.55
1:C1:1210:U:OP1	11:LH:62:ARG:NH1	2.39	0.55
1:C1:1795:U:N3	44:Lp:50:GLY:O	2.39	0.55
11:LH:41:ILE:HG22	11:LH:43:VAL:HG13	1.87	0.55
11:LH:92:TYR:HB2	11:LH:142:ASP:HB3	1.87	0.55
17:LO:110[A]:PRO:CB	17:LO:111[A]:PRO:HD2	2.36	0.55
18:LP:118:GLN:NE2	18:LP:147:GLU:OE2	2.39	0.55
21:LS:6:GLU:OE2	21:LS:28:ARG:NH1	2.38	0.55
47:C2:1260:U:H2'	47:C2:1261:G:C8	2.42	0.55
53:SF:48:PHE:O	53:SF:65:ARG:NH2	2.39	0.55
85:R:161:ILE:O	85:R:165:GLU:HG3	2.06	0.55
1:C1:2487:U:H3'	1:C1:2488:A:H8	1.71	0.55
1:C1:3089:C:OP1	5:LB:222:LYS:NZ	2.26	0.55
47:C2:144:U:O4	54:SG:137:ARG:NH1	2.31	0.55
47:C2:523:G:H21	47:C2:528:U:H5	1.55	0.55
47:C2:918:U:H2'	47:C2:919:A:C8	2.41	0.55
49:SB:183:GLN:N	49:SB:183:GLN:OE1	2.37	0.55
73:SZ:62:VAL:HG23	73:SZ:76:ALA:HB3	1.88	0.55
85:R:62:ARG:HH22	85:R:67:SER:HB3	1.70	0.55
1:C1:446:U:H4'	1:C1:447:U:H5	1.71	0.55
1:C1:1193:A:OP1	17:LO:49[A]:ARG:NH2	2.40	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:LN:175:ASN:HB2	16:LN:180:PHE:HE2	1.72	0.55
18:LP:87:SER:O	18:LP:91:VAL:HG23	2.05	0.55
47:C2:144:U:H2'	47:C2:145:A:C8	2.41	0.55
1:C1:107:A:O2'	1:C1:324:A:N3	2.36	0.55
1:C1:2555:G:N2	28:LZ:135:ARG:O	2.39	0.55
1:C1:3113:A:OP1	11:LH:69:ARG:NH2	2.39	0.55
9:LF:106:LEU:HD11	9:LF:126:LEU:HD23	1.88	0.55
9:LF:111:ILE:HG12	9:LF:112:ASN:OD1	2.07	0.55
11:LH:9:GLN:HB3	11:LH:52:LEU:HD11	1.87	0.55
47:C2:593:U:H4'	47:C2:595:G:H4'	1.87	0.55
48:SA:124:THR:HA	48:SA:146:LEU:HD12	1.87	0.55
50:SC:116:LYS:HG2	50:SC:127:ALA:HB3	1.88	0.55
57:SJ:123:HIS:CE1	78:Se:37:ARG:HD2	2.41	0.55
68:SU:80:GLU:OE1	77:Sd:44:ARG:NH1	2.40	0.55
70:SW:11:LEU:HD12	70:SW:74:VAL:HB	1.89	0.55
81:A:7:U:C4	81:A:66:A:N1	2.74	0.55
28:LZ:22:LYS:HE3	28:LZ:134:LEU:HB2	1.88	0.55
46:P2:121:PHE:HD2	46:P2:124:THR:HB	1.72	0.55
63:SP:22:LEU:O	63:SP:25:LEU:N	2.39	0.55
76:Sc:11:LYS:O	76:Sc:31:GLU:N	2.32	0.55
1:C1:560:G:OP1	15:LM:83:LYS:NZ	2.34	0.55
1:C1:728:G:H5''	19:LQ:43:PRO:HB2	1.88	0.55
1:C1:768:C:OP1	14:LL:186:ARG:NH2	2.39	0.55
1:C1:928:C:H2'	1:C1:929:A:C8	2.41	0.55
1:C1:1064:A:H4'	1:C1:1065:A:O5'	2.07	0.55
1:C1:2746:A:H4'	7:LD:176:SER:HB2	1.89	0.55
6:LC:226:GLU:OE1	6:LC:246:ARG:NH2	2.40	0.55
19:LQ:110:ALA:O	19:LQ:114:ILE:HG13	2.07	0.55
28:LZ:57:HIS:HD2	28:LZ:61:LYS:HE2	1.72	0.55
47:C2:17:C:H2'	47:C2:18:C:H6	1.72	0.55
47:C2:424:C:O2'	47:C2:426:G:OP1	2.15	0.55
47:C2:1529:C:H2'	47:C2:1530:C:C6	2.42	0.55
53:SF:178:GLY:HA2	53:SF:209:TYR:HD2	1.71	0.55
60:SM:76:GLU:HA	60:SM:79:ALA:HB3	1.87	0.55
69:SV:60:ARG:HH21	69:SV:60:ARG:HG3	1.71	0.55
1:C1:2615:G:H2'	1:C1:2616:C:H6	1.72	0.55
12:LI:30:LYS:HG3	12:LI:63:GLU:HB3	1.88	0.55
23:LU:37:LEU:O	23:LU:41:ILE:HD12	2.06	0.55
39:Lk:7:ASP:OD1	39:Lk:10:GLN:HB3	2.07	0.55
47:C2:199:G:H2'	47:C2:200:A:H8	1.72	0.55
47:C2:922:G:H2'	47:C2:923:A:H8	1.72	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
81:A:54:U:N3	81:A:58:A:OP2	2.40	0.55
2:C4:1:G:O3'	7:LD:273:ARG:NH1	2.40	0.55
3:C3:8:C:H2'	3:C3:9:A:C8	2.42	0.55
27:LY:24:SER:OG	27:LY:75:ARG:NH1	2.40	0.55
40:LI:9:ILE:O	40:LI:13:MET:HG3	2.06	0.55
84:5:23:CYS:HA	84:5:26:LEU:HG	1.88	0.55
1:C1:1795:U:OP2	4:LA:50:HIS:NE2	2.37	0.55
7:LD:208:MET:HA	7:LD:208:MET:HE3	1.89	0.55
14:LL:186:ARG:O	14:LL:190:LYS:HG2	2.07	0.55
47:C2:174:U:O4	47:C2:266:A:N7	2.39	0.55
47:C2:300:A:H2'	47:C2:301:A:C8	2.42	0.55
1:C1:528:U:H2'	1:C1:529:A:C8	2.42	0.54
1:C1:629:U:H2'	1:C1:630:A:H8	1.72	0.54
1:C1:638:C:N4	1:C1:639:G:O6	2.40	0.54
1:C1:2177:G:N1	4:LA:118:GLU:OE1	2.40	0.54
3:C3:103:G:OP2	3:C3:105:A:O2'	2.24	0.54
45:P0:97:LYS:HA	45:P0:100:ILE:HG12	1.88	0.54
45:P0:178:ILE:HG23	45:P0:180:PRO:HD3	1.90	0.54
51:SD:43:PRO:O	51:SD:44:THR:OG1	2.22	0.54
61:SN:70:LYS:O	61:SN:74:ILE:HG12	2.07	0.54
1:C1:2295:A:N3	1:C1:2929:C:O2'	2.33	0.54
13:LJ:74:PRO:HA	13:LJ:77:GLU:HG2	1.88	0.54
19:LQ:89:ASP:OD1	19:LQ:90:ASP:N	2.41	0.54
31:Lc:9:SER:N	31:Lc:12:GLN:HE22	2.05	0.54
32:Ld:55:LEU:O	32:Ld:59:ILE:HD12	2.07	0.54
36:Lh:5:LYS:HB2	36:Lh:8:GLU:HG2	1.89	0.54
36:Lh:29:ALA:HA	36:Lh:32:LYS:HD3	1.88	0.54
52:SE:200:ARG:HG2	52:SE:200:ARG:HH21	1.71	0.54
55:SH:22:GLN:O	55:SH:25:VAL:HG12	2.07	0.54
71:SX:58:GLY:N	78:Se:4:VAL:O	2.27	0.54
80:Sg:41:THR:HG22	80:Sg:62:LYS:HG2	1.87	0.54
82:P:72:A:H4'	84:5:48:LYS:HZ1	1.72	0.54
1:C1:503:C:H2'	1:C1:504:A:H8	1.72	0.54
1:C1:1596:C:O2'	1:C1:1696:A:N3	2.38	0.54
12:LI:54:SER:HB2	12:LI:135:ILE:HD11	1.87	0.54
31:Lc:14:LEU:O	31:Lc:18:ILE:HG12	2.07	0.54
47:C2:78:A:H5''	54:SG:159:ARG:HH21	1.69	0.54
47:C2:1357:A:H2'	47:C2:1358:G:C8	2.42	0.54
47:C2:1615:C:O2'	47:C2:1616:G:OP2	2.22	0.54
57:SJ:18:PRO:HB2	57:SJ:19:TYR:CD1	2.42	0.54
57:SJ:73:GLY:O	57:SJ:77:ILE:HG13	2.06	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
85:R:13:ASP:OD1	85:R:14:GLU:N	2.39	0.54
1:C1:2815:G:N2	1:C1:2818:U:O2	2.37	0.54
15:LM:44:VAL:HG13	15:LM:60:LEU:HD21	1.89	0.54
27:LY:70:ILE:HD13	27:LY:82:VAL:HG22	1.88	0.54
47:C2:591:A:H2'	47:C2:592:A:C8	2.42	0.54
47:C2:647:G:H22	47:C2:687:G:H1	1.54	0.54
47:C2:1045:C:OP1	49:SB:153:HIS:NE2	2.33	0.54
49:SB:183:GLN:HG2	49:SB:184:LEU:N	2.23	0.54
50:SC:88:LYS:HB3	50:SC:95:ARG:NE	2.22	0.54
51:SD:7:LYS:HD2	68:SU:27:THR:HG21	1.89	0.54
71:SX:97:ASP:OD1	71:SX:98:GLU:N	2.37	0.54
1:C1:437:G:H2'	1:C1:438:A:C4	2.42	0.54
1:C1:629:U:H2'	1:C1:630:A:C8	2.42	0.54
1:C1:2471:U:O2	1:C1:2473:C:N4	2.40	0.54
2:C4:7:G:OP1	7:LD:33:ARG:NH1	2.40	0.54
46:P2:92:ARG:HD3	46:P2:93:LYS:HB2	1.87	0.54
47:C2:1050:G:OP1	75:Sb:70:LYS:NZ	2.39	0.54
47:C2:1594:G:OP2	47:C2:1596:C:N4	2.41	0.54
51:SD:47:GLU:OE1	51:SD:85:VAL:HB	2.06	0.54
51:SD:71:LEU:O	51:SD:75:LYS:HG2	2.08	0.54
57:SJ:96:VAL:HA	57:SJ:99:LEU:HG	1.90	0.54
1:C1:1419:A:OP1	3:C3:20:U:O2'	2.25	0.54
1:C1:1553:U:H4'	1:C1:1554:U:H5'	1.89	0.54
1:C1:2537:U:O2'	1:C1:2538:U:O5'	2.23	0.54
10:LG:214:LEU:O	10:LG:218:ILE:HG12	2.08	0.54
34:Lf:49:ILE:HD11	34:Lf:71:VAL:HG23	1.89	0.54
35:Lg:7:PHE:HD1	35:Lg:34:HIS:HE1	1.56	0.54
47:C2:327:U:H2'	47:C2:328:A:H8	1.72	0.54
48:SA:205:ARG:HH21	65:SR:81:LYS:HZ3	1.56	0.54
49:SB:30:PHE:O	49:SB:45:LYS:HA	2.08	0.54
50:SC:168:ARG:HG2	50:SC:170:ILE:HD11	1.89	0.54
54:SG:57:ASP:OD1	54:SG:58:LYS:N	2.40	0.54
70:SW:115:GLU:O	70:SW:119:LYS:HG2	2.08	0.54
1:C1:289:A:H2'	1:C1:290:G:H8	1.71	0.54
1:C1:1747:G:H21	39:Lk:2:ALA:HB1	1.72	0.54
4:LA:59:ALA:HB2	4:LA:78:ALA:HB2	1.90	0.54
4:LA:225:ILE:HG21	4:LA:234:LYS:HA	1.90	0.54
6:LC:122:THR:O	6:LC:126:ILE:HG13	2.08	0.54
22:LT:111:ALA:HB1	22:LT:115:LYS:HZ3	1.71	0.54
47:C2:1572:G:O2'	53:SF:185:ARG:NH1	2.41	0.54
53:SF:49:GLU:HA	53:SF:65:ARG:HH22	1.72	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:SF:73:THR:HG22	64:SQ:47:LYS:HZ1	1.73	0.54
54:SG:126:ASP:OD1	54:SG:127:THR:N	2.41	0.54
65:SR:20:TYR:O	65:SR:23:LYS:HB2	2.08	0.54
77:Sd:13:ARG:HH11	77:Sd:13:ARG:HG3	1.73	0.54
1:C1:129:U:H2'	1:C1:130:A:C8	2.43	0.54
1:C1:900:G:H1'	1:C1:1589:A:N6	2.22	0.54
1:C1:1490:A:O2'	38:Lj:12:HIS:O	2.25	0.54
5:LB:35:ASP:OD2	5:LB:37:ARG:NH1	2.41	0.54
10:LG:161:GLU:OE1	10:LG:161:GLU:N	2.38	0.54
34:Lf:45:LEU:HD11	34:Lf:73:ARG:HA	1.89	0.54
39:Lk:77:ARG:NH2	39:Lk:77:ARG:HB2	2.23	0.54
47:C2:488:G:N2	47:C2:499:U:O4	2.40	0.54
52:SE:42:LEU:HD13	52:SE:109:PHE:HD2	1.73	0.54
52:SE:106:LYS:HE3	52:SE:108:ARG:HH12	1.72	0.54
59:SL:59:PRO:HG3	59:SL:138:ASN:ND2	2.23	0.54
1:C1:408:A:N3	1:C1:655:C:O2'	2.35	0.54
1:C1:1039:U:H2'	1:C1:1040:A:H8	1.73	0.54
8:LE:52:VAL:HG23	8:LE:67:GLY:HA2	1.90	0.54
9:LF:224:ILE:HG23	21:LS:36:ILE:HG12	1.90	0.54
47:C2:16:G:O6	50:SC:203:LYS:NZ	2.41	0.54
47:C2:337:G:O2'	56:SI:10:LYS:NZ	2.35	0.54
50:SC:157:LYS:HD3	70:SW:95:PRO:HA	1.90	0.54
52:SE:11:ARG:HH11	52:SE:20:LEU:HB3	1.72	0.54
57:SJ:94:ASP:OD1	57:SJ:95:TYR:N	2.41	0.54
1:C1:1054:A:H5''	1:C1:2637:A:H61	1.72	0.54
1:C1:2847:A:H5''	41:Lm:122:ARG:NH1	2.22	0.54
2:C4:121:U:OP2	7:LD:265:TYR:OH	2.22	0.54
5:LB:10:ARG:HH22	5:LB:14:LEU:HD21	1.73	0.54
6:LC:299:ILE:HG23	19:LQ:39:ARG:HB3	1.89	0.54
8:LE:76:LEU:HD21	8:LE:141:VAL:HG11	1.89	0.54
16:LN:22:LEU:O	16:LN:26:ARG:HG3	2.08	0.54
19:LQ:123:THR:OG1	19:LQ:125:ASP:OD1	2.24	0.54
44:Lp:33:GLN:HE21	44:Lp:49:ARG:NH1	2.06	0.54
47:C2:1483:A:OP2	47:C2:1521:G:N2	2.23	0.54
54:SG:185:GLN:OE1	54:SG:188:ARG:NH1	2.40	0.54
55:SH:32:PRO:HA	55:SH:35:LYS:HZ2	1.73	0.54
70:SW:6:VAL:HG22	70:SW:34:ILE:HD11	1.90	0.54
1:C1:1232:C:O2'	45:P0:39:HIS:NE2	2.40	0.53
1:C1:1259:A:N3	1:C1:1280:C:O2'	2.41	0.53
1:C1:2180:G:H2'	1:C1:2181:C:C6	2.43	0.53
1:C1:2571:U:H1'	1:C1:2572:C:H2'	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C1:3348:G:H2'	1:C1:3349:C:C6	2.44	0.53
6:LC:212:ASP:OD1	6:LC:214:GLY:N	2.33	0.53
36:Lh:86:ARG:HE	36:Lh:90:ARG:HH21	1.56	0.53
45:P0:142:PRO:HB2	45:P0:153:VAL:HB	1.90	0.53
47:C2:143:G:P	54:SG:139:ASN:HD22	2.31	0.53
47:C2:736:C:H2'	47:C2:737:A:C8	2.43	0.53
52:SE:104:ASP:OD1	52:SE:108:ARG:N	2.28	0.53
53:SF:216:GLU:OE1	53:SF:219:ARG:NH1	2.40	0.53
69:SV:53:TYR:OH	69:SV:76:ASP:OD2	2.16	0.53
71:SX:96:VAL:HG22	71:SX:127:VAL:HG21	1.89	0.53
82:P:75:C:H4'	84:5:51:5CT:H13	1.90	0.53
84:5:109:THR:HG22	84:5:110:LYS:N	2.18	0.53
1:C1:259:C:H2'	1:C1:260:C:C6	2.43	0.53
1:C1:2157:G:C5	4:LA:150:LEU:HD23	2.44	0.53
1:C1:2357:A:H2'	1:C1:2358:A:H8	1.73	0.53
47:C2:580:A:O2'	47:C2:582:U:OP1	2.25	0.53
47:C2:1524:A:H2'	47:C2:1525:A:C8	2.43	0.53
48:SA:198:MET:SD	65:SR:89:SER:OG	2.59	0.53
54:SG:102:VAL:HG13	54:SG:106:LEU:HD12	1.90	0.53
65:SR:45:ARG:O	65:SR:49:LYS:HG3	2.08	0.53
71:SX:69:ARG:NH2	71:SX:116:ASP:OD2	2.41	0.53
81:A:59:A:H2'	81:A:60:U:H5'	1.89	0.53
82:P:62:C:H2'	82:P:63:U:C6	2.42	0.53
1:C1:1621:A:H2'	1:C1:1622:U:C6	2.43	0.53
1:C1:2745:G:N2	1:C1:2748:A:OP2	2.35	0.53
1:C1:2812:C:H2'	1:C1:2813:A:H8	1.74	0.53
14:LL:153:ASP:OD1	14:LL:154:VAL:N	2.38	0.53
26:LX:110:VAL:HG22	26:LX:124:VAL:HG12	1.90	0.53
32:Ld:20:LEU:HD11	32:Ld:32:ALA:HB2	1.89	0.53
38:Lj:4:GLY:O	38:Lj:7:SER:OG	2.17	0.53
45:P0:100:ILE:HB	45:P0:185:LEU:HD23	1.89	0.53
47:C2:73:U:C5	47:C2:74:U:H1'	2.44	0.53
47:C2:1521:G:O6	67:ST:68:ARG:NE	2.41	0.53
57:SJ:62:ARG:HH22	57:SJ:68:LYS:HD3	1.74	0.53
80:Sg:50:ASP:OD1	80:Sg:51:ASP:N	2.41	0.53
1:C1:806:A:N3	1:C1:2812:C:O2'	2.39	0.53
13:LJ:132:ASN:HA	13:LJ:154:THR:HG21	1.90	0.53
17:LO:121[A]:PRO:HG3	21:LS:164:SER:HB2	1.91	0.53
26:LX:64:GLU:OE1	26:LX:85:GLN:NE2	2.41	0.53
47:C2:361:C:N4	47:C2:379:U:OP1	2.41	0.53
47:C2:1691:A:H2'	47:C2:1692:G:C8	2.43	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:SG:30:LYS:HB3	54:SG:34:GLN:NE2	2.22	0.53
60:SM:126:TRP:CD1	60:SM:128:ALA:HB3	2.39	0.53
70:SW:6:VAL:HG23	70:SW:29:PRO:HD2	1.90	0.53
79:Sf:83:LYS:HZ2	79:Sf:85:TYR:HD1	1.55	0.53
80:Sg:93:ASP:HB2	80:Sg:100:TYR:CE1	2.43	0.53
1:C1:86:G:N2	1:C1:99:A:OP2	2.19	0.53
1:C1:501:A:H2'	1:C1:502:U:C6	2.44	0.53
1:C1:1334:U:H5''	9:LF:206:LYS:HG2	1.89	0.53
1:C1:3184:A:N3	1:C1:3187:A:O2'	2.39	0.53
2:C4:13:A:O2'	7:LD:24:ARG:NH1	2.39	0.53
11:LH:47:LYS:NZ	15:LM:5:SER:O	2.33	0.53
13:LJ:47:GLN:HG2	13:LJ:67:VAL:HG22	1.90	0.53
47:C2:1198:G:OP1	47:C2:1199:G:O2'	2.19	0.53
71:SX:61:SER:OG	71:SX:67:ALA:N	2.40	0.53
1:C1:1079:A:H4'	7:LD:140:ARG:O	2.09	0.53
2:C4:45:A:OP1	7:LD:151:GLN:NE2	2.40	0.53
2:C4:112:G:H2'	2:C4:113:C:C6	2.44	0.53
4:LA:147:ARG:HG2	4:LA:157:VAL:HG22	1.91	0.53
8:LE:87:THR:HG22	8:LE:176:PHE:HB3	1.91	0.53
10:LG:55:TYR:HA	10:LG:58:VAL:HG12	1.90	0.53
12:LI:153:ARG:NH1	12:LI:157:TYR:OH	2.42	0.53
34:Lf:54:ARG:HG2	34:Lf:64:ILE:HG13	1.91	0.53
47:C2:861:U:O2'	70:SW:56:HIS:O	2.27	0.53
80:Sg:93:ASP:HB2	80:Sg:100:TYR:HE1	1.74	0.53
3:C3:67:U:H2'	3:C3:68:G:H8	1.74	0.53
5:LB:108:GLU:OE2	5:LB:109:HIS:NE2	2.42	0.53
6:LC:162:THR:O	6:LC:166:VAL:HG12	2.09	0.53
15:LM:19:ARG:HB3	15:LM:35:ILE:HD12	1.91	0.53
47:C2:585:A:H2'	47:C2:586:G:H8	1.74	0.53
48:SA:2:SER:OG	69:SV:80:LYS:NZ	2.42	0.53
51:SD:70:THR:HG22	51:SD:86:LEU:HG	1.89	0.53
60:SM:129:GLU:OE1	60:SM:130:THR:HG22	2.08	0.53
73:SZ:89:ILE:HD12	73:SZ:101:TYR:HB3	1.89	0.53
80:Sg:83:ALA:HB1	80:Sg:110:VAL:HG12	1.90	0.53
1:C1:1050:U:OP2	22:LT:13:TYR:OH	2.19	0.53
1:C1:1221:A:N1	45:P0:5:ARG:NH1	2.55	0.53
1:C1:1447:G:N7	18:LP:25:SER:OG	2.41	0.53
1:C1:1834:U:OP2	40:Ll:10:LYS:NZ	2.41	0.53
1:C1:2208:A:O2'	1:C1:2210:G:OP2	2.26	0.53
4:LA:149:ARG:HG2	4:LA:149:ARG:HH11	1.73	0.53
11:LH:41:ILE:HG21	11:LH:71:VAL:HG21	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:C2:1529:C:H2'	47:C2:1530:C:H6	1.72	0.53
48:SA:74:VAL:HB	48:SA:121:VAL:HG12	1.91	0.53
60:SM:33:ARG:O	60:SM:37:VAL:HG23	2.08	0.53
61:SN:36:GLN:NE2	61:SN:36:GLN:O	2.41	0.53
76:Sc:27:GLN:OE1	76:Sc:43:ASN:ND2	2.41	0.53
82:P:1:U:H2'	82:P:2:U:H6	1.74	0.53
1:C1:909:G:OP2	16:LN:77:LYS:NZ	2.42	0.53
1:C1:1277:C:O2'	1:C1:1278:A:H8	1.90	0.53
1:C1:2458:A:H62	1:C1:2475:G:H2'	1.73	0.53
11:LH:4:ILE:H	21:LS:142:GLN:HE22	1.55	0.53
22:LT:40:VAL:HG21	22:LT:96:ILE:HG23	1.91	0.53
29:La:77:LYS:C	29:La:79:TRP:H	2.17	0.53
37:Li:90:MET:O	37:Li:94:ILE:HD12	2.09	0.53
47:C2:1097:U:O2'	50:SC:168:ARG:HD2	2.08	0.53
47:C2:1482:C:H4'	64:SQ:77:GLN:HE22	1.73	0.53
54:SG:38:GLY:HA2	54:SG:41:VAL:HG12	1.91	0.53
57:SJ:49:LEU:HD21	57:SJ:53:ARG:HH11	1.74	0.53
66:SS:92:ILE:HG23	66:SS:93:THR:HG23	1.91	0.53
71:SX:144:ARG:HA	71:SX:144:ARG:NH2	2.24	0.53
79:Sf:139:LEU:HD21	79:Sf:150:VAL:H	1.74	0.53
84:5:35:LYS:HD2	84:5:35:LYS:O	2.08	0.53
7:LD:122:VAL:O	7:LD:248:ARG:NH2	2.42	0.53
19:LQ:125:ASP:OD1	19:LQ:126:GLN:N	2.42	0.53
47:C2:923:A:H2'	47:C2:924:A:C8	2.44	0.53
69:SV:66:ASP:OD1	69:SV:67:ASP:N	2.42	0.53
76:Sc:29:ARG:HH11	76:Sc:29:ARG:HG3	1.73	0.53
84:5:32:VAL:HG23	84:5:41:ILE:HD11	1.91	0.53
1:C1:1635:G:N2	1:C1:1638:A:OP2	2.36	0.52
1:C1:2413:A:H2'	1:C1:2414:G:H8	1.74	0.52
1:C1:2618:G:O4'	30:Lb:3:LYS:NZ	2.42	0.52
1:C1:3213:A:H8	1:C1:3213:A:O5'	1.93	0.52
2:C4:13:A:OP2	2:C4:67:G:N2	2.42	0.52
4:LA:52:SER:HB3	4:LA:191:LEU:HD13	1.90	0.52
9:LF:81:HIS:HB2	9:LF:138:TYR:CD1	2.44	0.52
13:LJ:14:ILE:HD13	13:LJ:131:MET:SD	2.48	0.52
22:LT:83:ARG:HG2	22:LT:83:ARG:HH11	1.74	0.52
47:C2:52:U:H2'	47:C2:53:G:H8	1.74	0.52
47:C2:628:G:H21	47:C2:971:A:H62	1.57	0.52
47:C2:1499:G:OP1	67:ST:122:ARG:NH1	2.42	0.52
57:SJ:168:ARG:HE	57:SJ:174:ARG:HD3	1.73	0.52
63:SP:90:ILE:HD12	63:SP:107:ILE:HG22	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
70:SW:8:ALA:HA	70:SW:74:VAL:HG11	1.91	0.52
74:Sa:87:ARG:HE	74:Sa:92:ARG:HA	1.74	0.52
77:Sd:6:VAL:HA	77:Sd:9:SER:HB2	1.90	0.52
84:5:22:GLN:HG2	84:5:24:SER:H	1.73	0.52
1:C1:777:U:O2'	1:C1:2720:G:OP1	2.28	0.52
1:C1:2205:U:O4	1:C1:2237:C:N4	2.42	0.52
12:LI:95:HIS:HD2	12:LI:128:ARG:HD2	1.74	0.52
17:LO:35[A]:VAL:HG13	17:LO:104[A]:VAL:HG13	1.91	0.52
47:C2:68:A:OP1	54:SG:160:ARG:NH2	2.34	0.52
47:C2:1596:C:H3'	77:Sd:32:ARG:NH2	2.24	0.52
71:SX:96:VAL:HG12	71:SX:96:VAL:O	2.08	0.52
73:SZ:55:PRO:O	73:SZ:56:THR:OG1	2.24	0.52
77:Sd:33:LYS:HG2	77:Sd:34:TYR:CD1	2.43	0.52
1:C1:692:A:OP1	16:LN:201:ARG:NH2	2.39	0.52
1:C1:1506:A:OP2	18:LP:127:ARG:NH1	2.43	0.52
6:LC:3:ARG:HE	6:LC:22:LEU:HB2	1.74	0.52
7:LD:83:LEU:HB3	7:LD:88:ILE:HB	1.91	0.52
11:LH:21:LYS:HG3	11:LH:22:SER:H	1.74	0.52
20:LR:164:LEU:HD22	20:LR:167:ARG:NH2	2.25	0.52
20:LR:167:ARG:HG2	20:LR:170:ARG:HH22	1.75	0.52
47:C2:85:A:N3	47:C2:148:A:O2'	2.42	0.52
49:SB:143:THR:HB	49:SB:205:PHE:HE2	1.73	0.52
61:SN:118:ILE:O	61:SN:122:ILE:HD12	2.10	0.52
72:SY:20:ARG:HD2	72:SY:74:LEU:HD12	1.90	0.52
81:A:27:G:H22	81:A:43:U:H3	1.55	0.52
85:R:323:PHE:CZ	85:R:327:ILE:HD11	2.44	0.52
1:C1:149:U:P	16:LN:49:ARG:HH12	2.33	0.52
1:C1:1747:G:H4'	39:Lk:53:THR:HG21	1.90	0.52
1:C1:2103:U:H2'	1:C1:2104:A:H8	1.75	0.52
2:C4:8:G:O6	7:LD:21:ARG:NH2	2.38	0.52
3:C3:142:C:H2'	3:C3:143:U:C6	2.45	0.52
38:Lj:39:TYR:CD1	38:Lj:40:PRO:HA	2.41	0.52
47:C2:199:G:H2'	47:C2:200:A:C8	2.43	0.52
51:SD:208:ILE:HG21	65:SR:19:ARG:HD2	1.92	0.52
61:SN:30:SER:O	61:SN:33:VAL:N	2.43	0.52
68:SU:99:ILE:HG13	68:SU:103:ILE:CD1	2.40	0.52
80:Sg:5:GLU:OE1	80:Sg:5:GLU:N	2.43	0.52
80:Sg:245:PHE:CD1	80:Sg:252:LEU:HD13	2.43	0.52
1:C1:356:C:O2'	6:LC:81:GLY:O	2.26	0.52
1:C1:3121:U:H1'	1:C1:3122:A:H5''	1.90	0.52
11:LH:89:LYS:HG2	11:LH:145:VAL:HG22	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:LJ:47:GLN:OE1	13:LJ:64:LYS:HE2	2.09	0.52
47:C2:17:C:H2'	47:C2:18:C:C6	2.43	0.52
47:C2:384:G:H2'	47:C2:385:A:C8	2.44	0.52
47:C2:1347:U:OP1	68:SU:23:ARG:NH2	2.42	0.52
47:C2:1524:A:N3	47:C2:1590:G:O2'	2.40	0.52
47:C2:1787:C:H2'	47:C2:1788:G:H8	1.75	0.52
52:SE:105:VAL:HG21	52:SE:245:LYS:H	1.75	0.52
57:SJ:139:GLN:NE2	72:SY:63:GLN:HE21	2.07	0.52
63:SP:61:ARG:NH2	63:SP:88:GLU:OE1	2.41	0.52
68:SU:96:PRO:O	68:SU:100:VAL:HG23	2.09	0.52
86:T:245:ASN:O	86:T:248:GLN:NE2	2.38	0.52
1:C1:113:C:OP1	16:LN:147:ARG:NE	2.42	0.52
1:C1:1493:G:N2	1:C1:1493:G:OP2	2.43	0.52
1:C1:2218:G:H2'	1:C1:2219:A:C8	2.45	0.52
1:C1:3165:A:H2'	1:C1:3166:C:C6	2.44	0.52
8:LE:135:VAL:HG12	8:LE:139:LYS:HZ2	1.75	0.52
8:LE:135:VAL:HG12	8:LE:139:LYS:NZ	2.24	0.52
47:C2:572:C:OP1	71:SX:109:ARG:NH1	2.43	0.52
47:C2:884:A:H2'	47:C2:885:G:C8	2.44	0.52
47:C2:1027:A:OP1	47:C2:1789:G:O2'	2.28	0.52
47:C2:1079:U:H2'	47:C2:1080:U:C6	2.45	0.52
54:SG:48:TYR:HE1	54:SG:116:LYS:HG2	1.74	0.52
54:SG:184:LEU:O	54:SG:188:ARG:HG2	2.10	0.52
67:ST:31:PRO:HB3	67:ST:103:LYS:HD3	1.92	0.52
86:T:172:GLU:OE2	86:T:202:LYS:N	2.36	0.52
1:C1:584:G:H2'	1:C1:585:A:H8	1.74	0.52
1:C1:619:A:H5''	1:C1:620:U:OP1	2.10	0.52
9:LF:143:THR:HG22	9:LF:241:LYS:HE2	1.92	0.52
17:LO:108[A]:ILE:HD13	17:LO:160[A]:ARG:HH12	1.72	0.52
18:LP:122:ALA:HB3	18:LP:143:PRO:HB2	1.90	0.52
36:Lh:17:LEU:HB3	36:Lh:58:ILE:HD11	1.92	0.52
37:Li:50:LEU:O	37:Li:55:ARG:NH1	2.42	0.52
40:Li:27:ILE:O	40:Li:33:ASN:ND2	2.42	0.52
47:C2:884:A:O3'	49:SB:136:ARG:NH1	2.42	0.52
64:SQ:50:GLU:OE2	64:SQ:112:TYR:OH	2.18	0.52
1:C1:1272:C:H2'	1:C1:1273:A:O4'	2.09	0.52
1:C1:1431:G:OP2	29:La:9:ARG:NH2	2.43	0.52
1:C1:2708:C:H2'	1:C1:2709:C:H6	1.73	0.52
1:C1:3319:U:O2'	1:C1:3320:A:OP1	2.23	0.52
5:LB:107:ALA:HB1	5:LB:200:GLU:HG3	1.92	0.52
6:LC:205:PRO:HD2	6:LC:225:VAL:HG12	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:LG:227:ASP:O	10:LG:231:LYS:NZ	2.41	0.52
37:Li:5:THR:HG23	37:Li:12:ASN:HB2	1.92	0.52
46:P2:62:LEU:HB2	46:P2:75:PRO:HG3	1.91	0.52
47:C2:234:G:C2	47:C2:235:G:H1'	2.45	0.52
58:SK:7:ASP:O	58:SK:11:ILE:HG12	2.09	0.52
82:P:1:U:H2'	82:P:2:U:C6	2.44	0.52
84:5:18:THR:HG22	84:5:83:PRO:HA	1.91	0.52
1:C1:72:C:H4'	14:LL:63:VAL:HB	1.92	0.52
1:C1:398:A:O2'	1:C1:1416:C:OP1	2.19	0.52
1:C1:627:U:H2'	1:C1:628:A:C8	2.45	0.52
1:C1:1071:U:H3	1:C1:1087:G:H1	1.58	0.52
1:C1:1157:G:H5''	9:LF:220:PHE:HE2	1.74	0.52
1:C1:2526:C:H2'	1:C1:2527:G:H8	1.75	0.52
1:C1:2585:G:O6	10:LG:47:SER:OG	2.28	0.52
1:C1:3016:A:H2'	1:C1:3017:A:C8	2.44	0.52
2:C4:77:G:O6	21:LS:52:LYS:NZ	2.39	0.52
3:C3:9:A:H2'	3:C3:10:A:H8	1.75	0.52
13:LJ:152:HIS:O	13:LJ:152:HIS:ND1	2.40	0.52
47:C2:373:G:O3'	59:SL:96:LYS:NZ	2.43	0.52
47:C2:992:A:O2'	47:C2:1785:U:O2	2.27	0.52
47:C2:1582:U:C2	47:C2:1614:A:C5	2.98	0.52
47:C2:1650:U:H2'	47:C2:1651:A:H8	1.74	0.52
49:SB:33:LYS:O	49:SB:98:THR:OG1	2.25	0.52
60:SM:95:LYS:NZ	60:SM:115:VAL:O	2.43	0.52
67:ST:97:SER:O	67:ST:101:ASN:ND2	2.42	0.52
68:SU:37:VAL:O	68:SU:41:ILE:HG12	2.10	0.52
21:LS:135:VAL:O	21:LS:141:LYS:NZ	2.43	0.52
49:SB:144:ARG:HB2	49:SB:208:GLN:HG2	1.91	0.52
60:SM:59:LEU:HB2	60:SM:123:VAL:HB	1.91	0.52
80:Sg:38:ARG:HG2	80:Sg:67:ILE:HG23	1.91	0.52
1:C1:2582:C:H2'	1:C1:2583:C:C6	2.44	0.51
7:LD:21:ARG:HA	7:LD:24:ARG:HE	1.74	0.51
9:LF:144:ILE:HD13	9:LF:189:ILE:HD13	1.92	0.51
15:LM:49:PRO:HG3	15:LM:81:VAL:HG23	1.92	0.51
47:C2:148:A:H62	47:C2:166:C:H42	1.58	0.51
47:C2:272:U:O2'	47:C2:273:G:O4'	2.21	0.51
47:C2:293:U:O2'	52:SE:133:LYS:NZ	2.43	0.51
47:C2:404:G:H2'	47:C2:405:C:H6	1.76	0.51
47:C2:885:G:OP1	49:SB:216:LYS:NZ	2.39	0.51
47:C2:1362:U:O2'	47:C2:1363:U:O2	2.24	0.51
52:SE:208:VAL:HG11	52:SE:225:VAL:HG21	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:SH:143:LEU:O	70:SW:42:GLN:NE2	2.43	0.51
60:SM:62:LEU:HD21	60:SM:72:ILE:HG23	1.92	0.51
73:SZ:22:LYS:O	73:SZ:24:LYS:N	2.40	0.51
1:C1:1429:G:OP2	6:LC:107:ARG:NH2	2.43	0.51
12:LI:144:ASN:ND2	12:LI:147:VAL:HB	2.24	0.51
26:LX:83:VAL:HG22	26:LX:123:TYR:HD1	1.75	0.51
47:C2:1399:C:O2'	47:C2:1400:A:O5'	2.24	0.51
49:SB:184:LEU:HD23	49:SB:188:LEU:HD23	1.92	0.51
51:SD:64:ARG:O	51:SD:68:GLU:HG2	2.10	0.51
67:ST:52:GLY:C	67:ST:54:PHE:H	2.18	0.51
85:R:37:LYS:HE2	85:R:212:GLU:HB3	1.93	0.51
1:C1:627:U:H2'	1:C1:628:A:H8	1.75	0.51
1:C1:1472:U:H2'	1:C1:1473:G:H8	1.74	0.51
1:C1:2146:C:H2'	1:C1:2147:A:H8	1.76	0.51
1:C1:2546:C:H2'	1:C1:2547:A:C8	2.45	0.51
3:C3:26:U:H2'	3:C3:27:U:H6	1.74	0.51
16:LN:146:ALA:HA	16:LN:149:ASN:ND2	2.25	0.51
19:LQ:150:VAL:HA	19:LQ:153:PHE:CD2	2.45	0.51
20:LR:32:ILE:HD13	20:LR:44:LEU:HD13	1.93	0.51
29:La:80:THR:HA	29:La:87:ARG:HH21	1.75	0.51
47:C2:1477:G:H2'	47:C2:1478:G:C8	2.45	0.51
66:SS:94:ASP:HB2	66:SS:96:LYS:HZ3	1.76	0.51
73:SZ:61:SER:H	73:SZ:64:VAL:HB	1.75	0.51
6:LC:291:ASN:HA	6:LC:296:GLN:HE21	1.74	0.51
7:LD:51:LEU:N	7:LD:145:PHE:O	2.34	0.51
45:P0:58:MET:HB2	45:P0:80:VAL:HG23	1.93	0.51
47:C2:39:A:OP1	57:SJ:3:ARG:NH1	2.44	0.51
47:C2:200:A:H2'	47:C2:201:G:C8	2.45	0.51
47:C2:977:A:N7	47:C2:1024:U:O4	2.43	0.51
47:C2:1320:U:O2'	47:C2:1322:A:OP1	2.27	0.51
47:C2:1367:G:OP1	64:SQ:68:ARG:NH2	2.39	0.51
72:SY:5:VAL:HG21	72:SY:43:LYS:HE3	1.92	0.51
80:Sg:50:ASP:CG	80:Sg:51:ASP:H	2.17	0.51
86:T:240:PRO:O	86:T:245:ASN:ND2	2.43	0.51
1:C1:8:C:H2'	1:C1:9:U:C6	2.45	0.51
1:C1:37:U:OP1	1:C1:934:G:N2	2.43	0.51
1:C1:2696:A:N7	1:C1:2758:A:N6	2.58	0.51
1:C1:2837:A:P	1:C1:2845:A:H61	2.32	0.51
1:C1:3126:C:H1'	11:LH:156:GLN:HE22	1.74	0.51
1:C1:3274:A:H2'	18:LP:171:ARG:HH12	1.76	0.51
3:C3:97:A:O2'	36:Lh:59:ASN:ND2	2.38	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:LC:125:ALA:O	6:LC:129:THR:HG23	2.11	0.51
28:LZ:58:GLY:H	28:LZ:61:LYS:HZ3	1.59	0.51
32:Ld:62:ARG:NH1	32:Ld:68:GLU:OE2	2.43	0.51
34:Lf:37:THR:HG23	34:Lf:40:ASP:H	1.75	0.51
38:Lj:25:ARG:HD2	38:Lj:25:ARG:O	2.10	0.51
47:C2:135:A:H4'	47:C2:136:C:H5'	1.92	0.51
47:C2:1523:G:OP2	47:C2:1523:G:N2	2.27	0.51
51:SD:32:GLU:N	51:SD:32:GLU:OE2	2.44	0.51
51:SD:154:ASP:OD1	51:SD:155:GLY:N	2.43	0.51
52:SE:246:LEU:HD12	52:SE:250:GLU:HG3	1.92	0.51
61:SN:35:GLU:HA	61:SN:38:VAL:HG22	1.93	0.51
69:SV:5:LYS:O	69:SV:7:GLN:HG2	2.11	0.51
82:P:70:G:H2'	82:P:71:A:C8	2.45	0.51
85:R:65:VAL:HG23	85:R:66:ALA:H	1.75	0.51
1:C1:2882:U:H2'	1:C1:2883:U:C6	2.46	0.51
7:LD:143:LYS:HG3	7:LD:172:TYR:HD1	1.76	0.51
36:Lh:104:GLN:O	36:Lh:108:GLN:HG3	2.10	0.51
38:Lj:21:ARG:NH2	38:Lj:37:CYS:O	2.43	0.51
47:C2:182:A:H2'	47:C2:183:U:C6	2.45	0.51
47:C2:605:A:OP2	47:C2:606:A:O2'	2.22	0.51
47:C2:778:G:O6	72:SY:10:ARG:NH2	2.44	0.51
47:C2:891:A:H2'	47:C2:892:A:H8	1.75	0.51
49:SB:30:PHE:HB3	49:SB:96:LEU:HD22	1.93	0.51
54:SG:150:GLU:OE1	54:SG:150:GLU:N	2.43	0.51
82:P:69:G:H2'	82:P:70:G:H8	1.76	0.51
86:T:182:CYS:SG	86:T:193:HIS:HE1	2.32	0.51
1:C1:294:U:O2'	1:C1:295:A:O4'	2.29	0.51
1:C1:1108:U:H2'	1:C1:1109:U:C6	2.46	0.51
1:C1:1843:C:OP1	40:Ll:48:LYS:NZ	2.38	0.51
2:C4:107:C:H2'	2:C4:108:A:H8	1.75	0.51
3:C3:47:C:H1'	3:C3:61:A:H2'	1.93	0.51
9:LF:79:ALA:HB2	22:LT:137:GLU:HA	1.93	0.51
13:LJ:63:GLU:OE1	13:LJ:65:ILE:HG22	2.10	0.51
47:C2:329:G:H2'	47:C2:330:G:H8	1.76	0.51
47:C2:947:U:H2'	47:C2:948:G:H8	1.75	0.51
47:C2:1218:G:H22	47:C2:1444:A:P	2.34	0.51
47:C2:1365:C:OP1	64:SQ:66:ARG:NH1	2.44	0.51
49:SB:119:THR:HG21	49:SB:161:ILE:HD11	1.91	0.51
51:SD:71:LEU:HB3	58:SK:20:VAL:HG21	1.93	0.51
72:SY:106:GLN:O	72:SY:110:GLN:HG2	2.10	0.51
1:C1:44:U:O2	43:Lo:46:LYS:NZ	2.42	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C1:1039:U:H2'	1:C1:1040:A:C8	2.46	0.51
1:C1:1717:U:H2'	1:C1:1718:G:C8	2.46	0.51
1:C1:2160:G:H2'	1:C1:2161:G:H8	1.76	0.51
1:C1:2471:U:N3	1:C1:2474:G:N7	2.58	0.51
7:LD:243:ALA:O	7:LD:247:ILE:HD12	2.11	0.51
16:LN:99:ARG:O	16:LN:103:GLU:HG3	2.10	0.51
47:C2:12:U:H2'	47:C2:13:C:C6	2.46	0.51
47:C2:1382:A:O2'	68:SU:89:ARG:NH2	2.35	0.51
55:SH:37:GLU:HG2	55:SH:38:LEU:HD12	1.93	0.51
60:SM:71:ILE:O	60:SM:75:VAL:HG23	2.11	0.51
62:SO:132:ARG:HH11	62:SO:132:ARG:HG3	1.76	0.51
68:SU:102:ARG:O	68:SU:106:ILE:HG12	2.11	0.51
1:C1:53:G:P	38:Lj:48:ASN:HD22	2.34	0.51
1:C1:251:G:H5'	1:C1:253:A:H1'	1.93	0.51
1:C1:911:C:OP1	4:LA:14:SER:OG	2.29	0.51
1:C1:1097:G:H4'	1:C1:1098:A:O5'	2.10	0.51
1:C1:1290:A:H2'	1:C1:1291:A:C8	2.46	0.51
1:C1:1508:C:O2'	1:C1:2353:G:O2'	2.13	0.51
1:C1:1616:U:H2'	1:C1:1617:G:C8	2.46	0.51
1:C1:2880:U:O2	5:LB:250:ALA:HB3	2.11	0.51
1:C1:3222:U:H3	1:C1:3263:G:H1	1.59	0.51
19:LQ:126:GLN:HA	19:LQ:129:VAL:HG22	1.93	0.51
38:Lj:27:PHE:HA	38:Lj:34:CYS:HA	1.93	0.51
42:Ln:2:ARG:HH21	42:Ln:4:LYS:HE3	1.76	0.51
53:SF:63:GLN:HE22	53:SF:66:GLN:HB2	1.75	0.51
58:SK:45:ALA:O	58:SK:48:SER:OG	2.21	0.51
81:A:62:C:H2'	81:A:63:U:C6	2.45	0.51
1:C1:1746:U:H2'	1:C1:1747:G:H8	1.76	0.51
1:C1:2547:A:O2'	1:C1:2548:C:OP1	2.25	0.51
1:C1:2812:C:H2'	1:C1:2813:A:C8	2.46	0.51
1:C1:2960:C:H2'	1:C1:2961:G:H8	1.76	0.51
1:C1:3198:U:C2	11:LH:21:LYS:HB2	2.46	0.51
1:C1:3304:U:O3'	5:LB:334:ARG:NH2	2.44	0.51
16:LN:70:ASN:HB3	16:LN:92:LEU:O	2.11	0.51
27:LY:23:PRO:O	27:LY:27:ARG:HG2	2.10	0.51
31:Lc:58:TYR:O	31:Lc:61:MET:HG3	2.11	0.51
36:Lh:5:LYS:O	36:Lh:9:LEU:HG	2.11	0.51
44:Lp:17:ARG:HB2	44:Lp:18:TYR:CD1	2.45	0.51
47:C2:506:A:C2	86:T:165:LYS:HG2	2.45	0.51
47:C2:809:A:H2'	47:C2:810:G:C8	2.45	0.51
47:C2:1557:U:H5''	47:C2:1558:U:OP2	2.12	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:SC:140:ARG:HB3	50:SC:221:THR:HB	1.91	0.51
52:SE:247:SER:N	52:SE:250:GLU:OE2	2.44	0.51
53:SF:133:VAL:HG12	53:SF:198:LEU:HD13	1.93	0.51
57:SJ:62:ARG:O	57:SJ:69:ARG:NH1	2.44	0.51
60:SM:27:ALA:HB3	60:SM:136:ILE:HD11	1.93	0.51
66:SS:116:LEU:HA	66:SS:119:ILE:HG22	1.92	0.51
78:Se:31:LYS:HA	78:Se:35:TYR:HB2	1.92	0.51
79:Sf:143:LYS:HD2	79:Sf:143:LYS:O	2.11	0.51
82:P:22:C:H2'	82:P:23:G:H8	1.75	0.51
85:R:3:THR:O	85:R:6:GLU:HG2	2.11	0.51
85:R:103:VAL:N	85:R:104:PRO:HD2	2.21	0.51
1:C1:72:C:OP2	37:Li:13:LYS:NZ	2.43	0.50
1:C1:567:G:H2'	1:C1:568:G:C8	2.46	0.50
1:C1:753:C:H2'	1:C1:754:G:H8	1.76	0.50
1:C1:1257:C:O5'	46:P2:123:ARG:NH2	2.41	0.50
1:C1:1363:A:OP1	9:LF:160:ARG:NH1	2.40	0.50
1:C1:2355:G:OP1	18:LP:141:SER:OG	2.22	0.50
1:C1:2588:U:OP1	10:LG:48:ARG:NH2	2.40	0.50
20:LR:173:ARG:NH2	47:C2:854:U:OP2	2.36	0.50
35:Lg:105:VAL:O	35:Lg:109:THR:HG23	2.11	0.50
42:Ln:2:ARG:HB3	42:Ln:5:TRP:CD1	2.46	0.50
47:C2:340:U:H2'	47:C2:341:A:C8	2.46	0.50
47:C2:385:A:H5''	56:SI:22:ARG:HG3	1.91	0.50
47:C2:689:G:H2'	47:C2:690:G:H8	1.77	0.50
61:SN:30:SER:O	61:SN:34:ILE:HD12	2.11	0.50
64:SQ:129:PHE:O	64:SQ:137:ARG:NH1	2.38	0.50
66:SS:53:ASP:HB3	66:SS:56:LYS:NZ	2.26	0.50
70:SW:6:VAL:CG2	70:SW:29:PRO:HD2	2.40	0.50
71:SX:130:VAL:O	71:SX:130:VAL:HG12	2.11	0.50
80:Sg:149:ASP:OD2	80:Sg:174:ASN:HB2	2.11	0.50
1:C1:525:C:OP2	15:LM:77:ARG:HD3	2.11	0.50
3:C3:9:A:H2'	3:C3:10:A:C8	2.47	0.50
11:LH:92:TYR:CD1	11:LH:179:ILE:HG12	2.46	0.50
32:Ld:44:MET:HE2	32:Ld:75:ILE:HG22	1.93	0.50
40:Ll:24:PRO:HD2	40:Ll:27:ILE:HD12	1.93	0.50
47:C2:246:G:C2	59:SL:40:LEU:HG	2.47	0.50
53:SF:26:ALA:HB3	64:SQ:28:LEU:HB3	1.94	0.50
79:Sf:144:CYS:O	79:Sf:146:SER:N	2.45	0.50
85:R:156:LEU:O	85:R:159:LYS:N	2.44	0.50
1:C1:531:G:H2'	1:C1:532:A:C8	2.46	0.50
1:C1:1129:A:OP1	12:LI:13:LYS:NZ	2.28	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C1:1339:C:H2'	1:C1:1340:G:C8	2.47	0.50
1:C1:1460:A:H2'	1:C1:1461:A:H8	1.76	0.50
1:C1:2412:G:H2'	1:C1:2413:A:H8	1.77	0.50
9:LF:118:LYS:HB2	9:LF:195:PHE:CE2	2.47	0.50
26:LX:108:LEU:N	26:LX:125:ARG:O	2.35	0.50
36:Lh:28:LEU:HG	36:Lh:32:LYS:HD2	1.93	0.50
47:C2:108:A:H2'	47:C2:109:G:C8	2.45	0.50
47:C2:678:A:H2'	47:C2:679:U:C6	2.47	0.50
47:C2:778:G:H1	72:SY:10:ARG:CZ	2.24	0.50
47:C2:1273:G:H4'	47:C2:1274:C:O5'	2.11	0.50
47:C2:1563:C:OP1	67:ST:84:LYS:NZ	2.26	0.50
49:SB:185:THR:O	49:SB:189:ILE:HG12	2.10	0.50
54:SG:199:GLN:NE2	54:SG:202:ARG:HH22	2.09	0.50
1:C1:612:U:H2'	1:C1:613:G:H8	1.76	0.50
1:C1:1594:A:O2'	1:C1:1614:C:O2	2.26	0.50
1:C1:1662:G:H22	1:C1:1787:A:H2	1.60	0.50
1:C1:3281:U:H2'	1:C1:3282:U:C6	2.46	0.50
6:LC:299:ILE:HG22	6:LC:300:ARG:O	2.12	0.50
11:LH:23:ARG:HB2	11:LH:39:LYS:HG2	1.93	0.50
47:C2:866:G:OP1	61:SN:2:GLY:N	2.44	0.50
47:C2:1418:G:O5'	64:SQ:128:LYS:NZ	2.39	0.50
47:C2:1471:A:O2'	47:C2:1472:C:OP1	2.20	0.50
55:SH:130:VAL:HG21	55:SH:154:LEU:HD11	1.94	0.50
79:Sf:116:LYS:HA	79:Sf:116:LYS:HE2	1.94	0.50
80:Sg:271:VAL:HG12	80:Sg:272:ASP:OD1	2.11	0.50
1:C1:1341:U:H2'	1:C1:1342:C:C6	2.46	0.50
1:C1:2180:G:H2'	1:C1:2181:C:H6	1.75	0.50
1:C1:3355:U:O2'	1:C1:3356:G:H5''	2.11	0.50
13:LJ:155:THR:HG23	13:LJ:158:ASP:H	1.76	0.50
33:Le:87:MET:HE3	33:Le:87:MET:HA	1.92	0.50
47:C2:700:C:H2'	47:C2:701:U:C6	2.47	0.50
58:SK:55:VAL:HG12	58:SK:68:LEU:HA	1.93	0.50
66:SS:69:ILE:O	66:SS:73:MET:HG2	2.11	0.50
73:SZ:59:TYR:HE1	73:SZ:100:ILE:HG23	1.76	0.50
79:Sf:100:LEU:HD21	79:Sf:103:LEU:HD11	1.93	0.50
1:C1:20:A:H2'	1:C1:21:G:C8	2.46	0.50
1:C1:595:G:OP2	9:LF:30:ARG:NH1	2.44	0.50
1:C1:1393:A:N6	1:C1:1417:G:H1'	2.27	0.50
1:C1:1486:G:N2	35:Lg:6:THR:HG22	2.25	0.50
1:C1:2351:U:H2'	1:C1:2352:A:H8	1.77	0.50
13:LJ:164:LYS:HE3	13:LJ:170:ASP:HA	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:LO:54[A]:TYR:OH	17:LO:73[A]:PHE:O	2.30	0.50
22:LT:102:ARG:HG2	22:LT:102:ARG:HH11	1.76	0.50
22:LT:157:GLU:HB3	22:LT:159:PHE:CE2	2.46	0.50
23:LU:56:VAL:HG22	23:LU:65:VAL:HG22	1.94	0.50
31:Lc:43:ILE:HD13	31:Lc:68:TYR:HB3	1.92	0.50
47:C2:922:G:H2'	47:C2:923:A:C8	2.46	0.50
47:C2:1160:A:H2'	47:C2:1161:C:C6	2.47	0.50
47:C2:1370:U:O3'	47:C2:1371:A:H4'	2.11	0.50
47:C2:1487:A:H2'	47:C2:1488:G:C8	2.47	0.50
52:SE:42:LEU:HD21	52:SE:47:PHE:CD1	2.47	0.50
57:SJ:139:GLN:OE1	57:SJ:140:ILE:N	2.44	0.50
74:Sa:12:LYS:HZ2	74:Sa:16:GLY:H	1.59	0.50
84:5:97:ASP:O	84:5:99:PHE:N	2.45	0.50
1:C1:1508:C:OP1	18:LP:127:ARG:NH2	2.36	0.50
1:C1:1596:C:H2'	1:C1:1597:C:C6	2.47	0.50
1:C1:2213:A:H2'	1:C1:2214:A:H8	1.76	0.50
1:C1:2582:C:H2'	1:C1:2583:C:H6	1.76	0.50
1:C1:3015:G:H2'	1:C1:3016:A:H8	1.76	0.50
1:C1:3269:U:H4'	1:C1:3270:U:O5'	2.11	0.50
1:C1:3373:U:OP2	32:Ld:102:LYS:NZ	2.35	0.50
12:LI:103:LEU:HB2	12:LI:112:GLN:HG2	1.94	0.50
37:Li:54:GLU:O	37:Li:58:ILE:HG12	2.12	0.50
47:C2:178:U:OP1	54:SG:191:ARG:NH1	2.45	0.50
47:C2:1295:G:H1	47:C2:1302:U:H3	1.59	0.50
49:SB:31:ASP:O	49:SB:96:LEU:HD23	2.12	0.50
80:Sg:10:ARG:HG3	80:Sg:314:GLN:NE2	2.18	0.50
82:P:63:U:H2'	82:P:64:G:H8	1.77	0.50
85:R:166:LEU:HD22	85:R:171:ILE:HD12	1.93	0.50
1:C1:542:G:H2'	1:C1:543:C:C6	2.47	0.50
1:C1:2960:C:H2'	1:C1:2961:G:C8	2.47	0.50
1:C1:3164:C:O2'	1:C1:3165:A:H8	1.95	0.50
3:C3:94:C:H5''	38:Lj:76:ASN:ND2	2.25	0.50
7:LD:15:ARG:HG2	7:LD:15:ARG:HH11	1.76	0.50
9:LF:63:ILE:O	9:LF:67:ARG:HG3	2.11	0.50
9:LF:96:PRO:HB2	9:LF:99:PRO:HD2	1.93	0.50
10:LG:91:PHE:CZ	10:LG:180:VAL:HG21	2.47	0.50
15:LM:12:TRP:HB2	21:LS:172:TYR:C	2.36	0.50
47:C2:623:A:O2'	47:C2:624:G:OP1	2.27	0.50
54:SG:7:TYR:CE1	54:SG:9:VAL:HB	2.47	0.50
61:SN:46:THR:H	61:SN:49:GLN:NE2	2.09	0.50
80:Sg:117:LYS:HD3	80:Sg:118:LYS:H	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
81:A:54:U:H4'	81:A:55:U:OP1	2.10	0.50
84:5:155:ARG:HD2	84:5:157:ASP:HB2	1.93	0.50
1:C1:339:C:OP1	1:C1:1380:G:O2'	2.29	0.50
1:C1:1134:G:O2'	1:C1:2642:A:N3	2.32	0.50
1:C1:1411:C:H2'	1:C1:1412:G:H8	1.76	0.50
1:C1:2129:U:H2'	1:C1:2130:G:C8	2.47	0.50
10:LG:55:TYR:O	10:LG:59:GLN:HG2	2.12	0.50
12:LI:153:ARG:O	12:LI:156:ARG:HG2	2.11	0.50
36:Lh:77:PRO:HD2	36:Lh:80:LEU:HD12	1.94	0.50
47:C2:554:C:H1'	47:C2:555:A:H2	1.76	0.50
47:C2:1147:A:O2'	47:C2:1636:C:OP2	2.29	0.50
47:C2:1350:U:H2'	47:C2:1351:G:C8	2.47	0.50
47:C2:1401:A:OP1	65:SR:56:HIS:NE2	2.28	0.50
47:C2:1434:U:O2'	47:C2:1436:A:OP1	2.30	0.50
48:SA:139:VAL:HG23	48:SA:141:ILE:HG12	1.94	0.50
50:SC:41:LEU:HD11	50:SC:56:ILE:HD12	1.94	0.50
80:Sg:45:TRP:HA	80:Sg:57:PRO:HA	1.93	0.50
81:A:13:C:O2'	81:A:14:A:O5'	2.24	0.50
81:A:15:G:N2	81:A:21:A:N3	2.59	0.50
1:C1:110:G:C2	1:C1:111:C:H1'	2.47	0.49
1:C1:3110:C:H2'	1:C1:3111:U:C6	2.47	0.49
7:LD:59:ASP:OD1	7:LD:80:SER:OG	2.24	0.49
9:LF:157:ASN:O	9:LF:157:ASN:ND2	2.41	0.49
18:LP:97:ASN:O	18:LP:101:ASN:ND2	2.44	0.49
39:Lk:62:ALA:O	39:Lk:66:ILE:HG12	2.11	0.49
45:P0:75:LYS:HG3	45:P0:76:LEU:HD23	1.92	0.49
47:C2:59:C:O2'	47:C2:60:U:O4'	2.30	0.49
47:C2:506:A:C5	86:T:165:LYS:HE3	2.47	0.49
47:C2:594:A:P	57:SJ:38:ASN:HD21	2.35	0.49
47:C2:741:C:OP2	59:SL:43:LYS:HE3	2.11	0.49
50:SC:101:VAL:HG11	50:SC:208:GLU:HG3	1.94	0.49
56:SI:39:GLY:O	56:SI:59:ARG:HB3	2.12	0.49
56:SI:194:ARG:O	56:SI:198:ALA:HB2	2.11	0.49
60:SM:49:THR:O	60:SM:53:THR:HG22	2.12	0.49
73:SZ:7:LEU:HG	73:SZ:11:ALA:HB3	1.94	0.49
85:R:103:VAL:H	85:R:104:PRO:CD	2.20	0.49
85:R:106:VAL:HB	86:T:323:ILE:HG22	1.94	0.49
1:C1:2307:G:O2'	1:C1:2310:U:OP2	2.27	0.49
1:C1:3232:G:H2'	1:C1:3233:C:C6	2.47	0.49
3:C3:149:A:H2'	3:C3:150:G:C8	2.47	0.49
14:LL:165:SER:O	14:LL:167:PHE:N	2.45	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:LT:17:ARG:HE	22:LT:47:SER:HB3	1.77	0.49
47:C2:273:G:N2	47:C2:283:U:O2	2.32	0.49
47:C2:530:C:O2	72:SY:61:ARG:NH1	2.45	0.49
47:C2:610:G:O2'	47:C2:613:G:O2'	2.23	0.49
55:SH:67:LEU:HG	55:SH:71:HIS:HD2	1.77	0.49
60:SM:69:ALA:HA	60:SM:72:ILE:HD12	1.93	0.49
1:C1:135:C:N3	36:Lh:94:LYS:NZ	2.61	0.49
1:C1:264:G:OP1	37:Li:34:SER:OG	2.23	0.49
1:C1:546:C:H5'	1:C1:547:G:C4	2.47	0.49
1:C1:2366:C:H2'	1:C1:2367:A:H8	1.78	0.49
1:C1:2662:G:H2'	1:C1:2663:G:C8	2.48	0.49
1:C1:2876:C:H2'	1:C1:2877:G:O4'	2.11	0.49
6:LC:209:TYR:O	6:LC:230:VAL:HG23	2.12	0.49
8:LE:43:LEU:HD11	8:LE:85:ILE:HG13	1.93	0.49
26:LX:83:VAL:HG22	26:LX:123:TYR:CD1	2.47	0.49
47:C2:874:C:H2'	47:C2:875:G:C8	2.48	0.49
47:C2:895:G:H2'	47:C2:896:U:C6	2.48	0.49
47:C2:934:C:N4	74:Sa:95:ARG:HH12	2.10	0.49
47:C2:1582:U:O2	47:C2:1614:A:C6	2.65	0.49
47:C2:1591:C:H2'	47:C2:1592:A:C8	2.47	0.49
58:SK:9:ASN:OD1	58:SK:10:LYS:N	2.46	0.49
58:SK:38:LYS:HZ3	58:SK:41:TYR:HE2	1.58	0.49
60:SM:81:ASP:OD1	60:SM:83:GLU:HB2	2.11	0.49
68:SU:82:TYR:HB3	77:Sd:52:PHE:HB3	1.93	0.49
1:C1:360:G:H21	1:C1:815:G:H1'	1.77	0.49
1:C1:1305:U:C2	5:LB:257:PRO:HB3	2.47	0.49
1:C1:1492:G:N7	40:Ll:2:ALA:N	2.61	0.49
1:C1:2451:G:O5'	1:C1:2451:G:H8	1.95	0.49
1:C1:2526:C:H2'	1:C1:2527:G:C8	2.48	0.49
1:C1:2662:G:H2'	1:C1:2663:G:H8	1.77	0.49
1:C1:2988:C:H2'	1:C1:2989:U:H6	1.77	0.49
12:LI:36:LEU:HD21	12:LI:69:ARG:HD3	1.95	0.49
19:LQ:182:LYS:NZ	29:La:55:LYS:O	2.46	0.49
29:La:39:HIS:O	29:La:42:ARG:N	2.45	0.49
36:Lh:54:VAL:O	36:Lh:58:ILE:HG12	2.13	0.49
45:P0:59:VAL:HG23	45:P0:60:ARG:H	1.77	0.49
47:C2:566:C:O2	78:Se:13:LYS:NZ	2.36	0.49
47:C2:1517:U:O2'	47:C2:1518:C:OP1	2.24	0.49
47:C2:1539:G:C8	66:SS:30:TYR:HE2	2.30	0.49
74:Sa:37:LYS:HG2	74:Sa:72:HIS:ND1	2.27	0.49
1:C1:576:C:OP1	9:LF:241:LYS:HE3	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C1:631:U:H2'	1:C1:632:G:H8	1.77	0.49
1:C1:922:U:OP1	38:Lj:3:LYS:NZ	2.36	0.49
1:C1:1562:C:HO2'	1:C1:1563:C:C5'	2.26	0.49
1:C1:2989:U:O2'	5:LB:232:ARG:NH1	2.41	0.49
1:C1:3322:A:H2'	1:C1:3323:A:C8	2.48	0.49
14:LL:64:LYS:HZ3	14:LL:65:TYR:HE1	1.59	0.49
28:LZ:27:LYS:HB3	28:LZ:42:LEU:HB2	1.95	0.49
47:C2:4:C:H1'	57:SJ:17:ARG:HH12	1.77	0.49
47:C2:29:U:H2'	47:C2:30:G:H8	1.76	0.49
47:C2:186:C:H3'	47:C2:187:G:H8	1.77	0.49
47:C2:447:U:O2'	52:SE:27:TYR:O	2.30	0.49
47:C2:868:G:H1	47:C2:960:U:H3	1.60	0.49
47:C2:1405:G:H2'	47:C2:1406:A:H8	1.78	0.49
47:C2:1482:C:H4'	64:SQ:77:GLN:NE2	2.28	0.49
47:C2:1548:G:H5'	66:SS:89:GLN:O	2.13	0.49
47:C2:1755:A:H5''	71:SX:63:GLN:HE21	1.77	0.49
49:SB:229:MET:HA	49:SB:229:MET:HE3	1.95	0.49
50:SC:47:ALA:O	50:SC:49:LYS:NZ	2.46	0.49
54:SG:137:ARG:O	54:SG:141:ILE:HG12	2.13	0.49
60:SM:29:LYS:HB3	60:SM:33:ARG:HH12	1.78	0.49
81:A:2:G:H2'	81:A:3:G:C8	2.47	0.49
1:C1:383:G:N2	1:C1:386:A:OP2	2.33	0.49
1:C1:1295:G:O2'	21:LS:115:ARG:NH1	2.46	0.49
1:C1:1468:A:H61	1:C1:1881:A:H1'	1.77	0.49
1:C1:1909:A:H2'	1:C1:1910:A:C8	2.47	0.49
5:LB:72:VAL:HG12	24:LV:88:ARG:HB3	1.95	0.49
9:LF:83:LEU:HD21	9:LF:116:PHE:CD1	2.45	0.49
27:LY:57:LEU:HD13	27:LY:67:GLU:HG3	1.95	0.49
47:C2:68:A:H5'	54:SG:160:ARG:HH12	1.77	0.49
47:C2:127:G:O6	54:SG:202:ARG:NH2	2.45	0.49
47:C2:406:U:H2'	47:C2:407:A:C8	2.43	0.49
47:C2:535:A:OP1	57:SJ:168:ARG:NH1	2.45	0.49
47:C2:826:U:H2'	47:C2:827:C:C6	2.47	0.49
47:C2:1524:A:H5'	67:ST:78:LYS:HE2	1.94	0.49
50:SC:35:TRP:CE2	50:SC:37:PRO:HB3	2.47	0.49
50:SC:35:TRP:NE1	50:SC:67:GLN:HE21	2.10	0.49
52:SE:200:ARG:HG2	52:SE:200:ARG:NH2	2.26	0.49
64:SQ:79:TYR:HA	64:SQ:82:ARG:HG2	1.95	0.49
82:P:69:G:H2'	82:P:70:G:C8	2.47	0.49
1:C1:633:C:H5'	34:Lf:18:ARG:HH12	1.78	0.49
1:C1:1132:C:H2'	1:C1:1133:A:H8	1.78	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C1:3375:A:O2'	1:C1:3378:C:OP2	2.27	0.49
9:LF:100:ARG:O	9:LF:104:GLN:HG3	2.12	0.49
9:LF:139:PRO:HB2	9:LF:144:ILE:HD11	1.94	0.49
11:LH:4:ILE:H	21:LS:142:GLN:NE2	2.10	0.49
15:LM:15:VAL:HG22	15:LM:65:LEU:HD11	1.95	0.49
18:LP:98:ALA:HA	18:LP:101:ASN:HD22	1.78	0.49
20:LR:163:ARG:HB3	20:LR:167:ARG:NH1	2.27	0.49
22:LT:28:SER:O	22:LT:32:LYS:HG2	2.12	0.49
32:Ld:47:ASP:OD1	32:Ld:48:ASP:N	2.46	0.49
47:C2:307:G:OP1	59:SL:103:ARG:NH1	2.42	0.49
54:SG:22:HIS:HB3	54:SG:25:ARG:HH21	1.78	0.49
57:SJ:55:ALA:O	57:SJ:59:LEU:HD23	2.13	0.49
66:SS:68:ARG:O	66:SS:72:ILE:HG13	2.13	0.49
1:C1:293:C:O2'	37:Li:76:ARG:HD3	2.13	0.49
1:C1:1369:A:OP1	29:La:21:ARG:NH1	2.45	0.49
1:C1:2412:G:H2'	1:C1:2413:A:C8	2.48	0.49
1:C1:2468:A:H1'	1:C1:2477:G:N2	2.27	0.49
1:C1:2599:U:H2'	1:C1:2600:C:H6	1.78	0.49
1:C1:2660:G:O3'	1:C1:2749:G:N2	2.46	0.49
1:C1:3138:U:H2'	1:C1:3139:A:H8	1.78	0.49
2:C4:74:C:H2'	2:C4:75:G:C8	2.48	0.49
20:LR:105:LEU:HD22	20:LR:135:LYS:HG3	1.94	0.49
33:Le:82:LEU:HD21	33:Le:112:ALA:HB2	1.95	0.49
42:Ln:2:ARG:NH2	42:Ln:4:LYS:HE3	2.28	0.49
47:C2:123:G:H21	52:SE:146:THR:HG21	1.77	0.49
47:C2:1392:U:OP1	65:SR:59:LYS:NZ	2.37	0.49
47:C2:1396:U:H2'	47:C2:1397:U:C6	2.48	0.49
55:SH:114:ARG:O	55:SH:117:THR:HG22	2.13	0.49
59:SL:10:GLU:HB3	59:SL:14:GLN:HE22	1.76	0.49
67:ST:108:LEU:HD12	67:ST:113:ILE:HB	1.94	0.49
1:C1:544:C:O2'	1:C1:547:G:N2	2.41	0.49
1:C1:640:U:H2'	1:C1:641:C:C6	2.48	0.49
1:C1:798:G:OP1	29:La:33:GLY:N	2.43	0.49
1:C1:2213:A:H2'	1:C1:2214:A:C8	2.47	0.49
1:C1:2450:G:O5'	1:C1:2450:G:H8	1.95	0.49
1:C1:3244:A:OP2	5:LB:100:ARG:NH2	2.44	0.49
15:LM:13:ARG:HB2	21:LS:172:TYR:C	2.38	0.49
22:LT:39:ILE:HD12	22:LT:102:ARG:HD2	1.95	0.49
30:Lb:14:ARG:O	30:Lb:18:ARG:HG2	2.13	0.49
34:Lf:48:ARG:HH12	34:Lf:70:LYS:HE2	1.77	0.49
47:C2:224:C:O2'	47:C2:225:A:OP1	2.30	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:C2:843:U:H2'	47:C2:844:A:C8	2.45	0.49
47:C2:939:A:H2'	47:C2:940:A:C8	2.47	0.49
47:C2:1684:U:H2'	47:C2:1685:G:H8	1.78	0.49
61:SN:46:THR:O	61:SN:50:ILE:HG12	2.12	0.49
63:SP:90:ILE:HD11	63:SP:109:PRO:HA	1.95	0.49
64:SQ:52:LEU:HA	64:SQ:60:PHE:HE2	1.77	0.49
66:SS:6:GLN:HE21	73:SZ:44:GLN:H	1.61	0.49
70:SW:29:PRO:HB2	70:SW:58:SER:CB	2.43	0.49
71:SX:92:CYS:HG	71:SX:136:TRP:CD1	2.31	0.49
73:SZ:48:ASP:C	73:SZ:52:LYS:HZ2	2.20	0.49
82:P:29:U:H2'	82:P:30:G:H8	1.78	0.49
85:R:306:ASP:OD1	85:R:307:PHE:N	2.46	0.49
1:C1:791:A:H2'	1:C1:792:G:H8	1.78	0.49
1:C1:952:A:C2	1:C1:1114:U:H4'	2.48	0.49
1:C1:2149:A:H4'	4:LA:179:LEU:HB2	1.95	0.49
12:LI:205:SER:OG	12:LI:208:ASN:HB2	2.13	0.49
19:LQ:174:ARG:O	19:LQ:179:ARG:NH1	2.45	0.49
47:C2:817:A:H2'	47:C2:818:C:C6	2.48	0.49
47:C2:1089:U:O2'	47:C2:1093:A:N1	2.46	0.49
47:C2:1633:A:H4'	47:C2:1634:C:O5'	2.12	0.49
47:C2:1766:A:N1	74:Sa:80:HIS:ND1	2.54	0.49
47:C2:1776:A:H2'	47:C2:1777:G:C8	2.48	0.49
54:SG:70:PRO:O	54:SG:98:ARG:NH2	2.46	0.49
85:R:63:THR:HA	85:R:326:GLN:OE1	2.13	0.49
1:C1:952:A:H4'	1:C1:968:G:N2	2.28	0.48
1:C1:1157:G:O2'	1:C1:1169:A:N3	2.39	0.48
1:C1:2257:C:O5'	1:C1:2257:C:H6	1.96	0.48
2:C4:37:G:N2	2:C4:41:G:N3	2.61	0.48
5:LB:112:ASP:HA	5:LB:115:LYS:HG2	1.94	0.48
6:LC:230:VAL:O	6:LC:233:LEU:HD23	2.13	0.48
6:LC:294:GLU:OE1	6:LC:294:GLU:N	2.46	0.48
9:LF:146:GLN:OE1	9:LF:241:LYS:NZ	2.42	0.48
15:LM:48:GLY:HA3	15:LM:53:VAL:HB	1.95	0.48
20:LR:81:ARG:HG2	20:LR:88:ARG:NH1	2.28	0.48
47:C2:250:C:H2'	47:C2:251:A:H8	1.78	0.48
47:C2:634:G:N2	47:C2:965:U:OP2	2.42	0.48
47:C2:1331:A:H61	51:SD:161:GLY:HA3	1.78	0.48
48:SA:83:GLN:O	48:SA:87:LEU:HD23	2.13	0.48
72:SY:78:SER:OG	72:SY:79:VAL:N	2.46	0.48
74:Sa:41:ILE:HG12	74:Sa:68:TYR:CD2	2.48	0.48
1:C1:18:G:N2	16:LN:112:ASN:HD22	2.11	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C1:68:C:N4	1:C1:314:U:O2'	2.42	0.48
1:C1:361:A:O3'	38:Lj:45:ARG:NH2	2.43	0.48
1:C1:443:G:O6	1:C1:491:C:N4	2.46	0.48
1:C1:1033:U:H2'	1:C1:1034:U:C6	2.48	0.48
1:C1:1103:A:OP2	9:LF:158:LYS:NZ	2.46	0.48
1:C1:1895:A:O2'	1:C1:3053:G:H4'	2.13	0.48
1:C1:2947:G:C2	5:LB:250:ALA:HB1	2.48	0.48
1:C1:3251:U:H2'	1:C1:3252:G:C8	2.47	0.48
2:C4:87:G:O2'	21:LS:119:ARG:NH2	2.45	0.48
3:C3:142:C:H2'	3:C3:143:U:H6	1.78	0.48
23:LU:49:ASN:O	23:LU:51:GLY:N	2.45	0.48
45:P0:136:PHE:HE1	45:P0:172:LEU:HD22	1.79	0.48
47:C2:189:C:H2'	47:C2:190:C:H6	1.79	0.48
47:C2:328:A:H2'	47:C2:329:G:H8	1.78	0.48
47:C2:451:A:N6	47:C2:453:U:O2	2.46	0.48
47:C2:1584:G:N2	47:C2:1611:A:OP2	2.46	0.48
50:SC:146:THR:O	50:SC:148:LEU:N	2.46	0.48
53:SF:114:ILE:HA	53:SF:117:THR:HG22	1.95	0.48
80:Sg:200:ASN:HB2	80:Sg:215:GLY:HA2	1.94	0.48
80:Sg:223:TRP:CZ3	80:Sg:230:ALA:HB2	2.48	0.48
80:Sg:245:PHE:CE1	80:Sg:252:LEU:HD13	2.48	0.48
85:R:180:ILE:HD12	85:R:222:PHE:CD1	2.48	0.48
1:C1:1804:A:H5'	35:Lg:70:LYS:NZ	2.28	0.48
1:C1:1805:C:H2'	1:C1:1806:A:C8	2.45	0.48
1:C1:2845:A:H2	1:C1:2850:G:H1	1.60	0.48
6:LC:31:ARG:O	6:LC:35:VAL:HG23	2.13	0.48
33:Le:24:ARG:HD3	33:Le:25:TYR:CE2	2.48	0.48
45:P0:106:ALA:HB2	45:P0:182:THR:HB	1.95	0.48
46:P2:137:GLN:NE2	46:P2:139:VAL:HB	2.28	0.48
47:C2:708:C:H2'	47:C2:710:U:C2	2.47	0.48
47:C2:1080:U:H2'	47:C2:1081:A:C8	2.48	0.48
61:SN:11:ILE:HG13	61:SN:11:ILE:O	2.13	0.48
1:C1:158:G:H2'	1:C1:159:A:H8	1.77	0.48
1:C1:533:A:O2'	1:C1:535:G:OP2	2.32	0.48
1:C1:845:G:N2	1:C1:848:A:OP2	2.47	0.48
1:C1:1560:G:N7	26:LX:36:LYS:NZ	2.60	0.48
1:C1:2185:G:H2'	1:C1:2186:U:C6	2.48	0.48
1:C1:2305:G:OP2	1:C1:2305:G:N2	2.25	0.48
1:C1:2481:G:N7	1:C1:2482:U:N3	2.61	0.48
4:LA:101:VAL:O	4:LA:101:VAL:HG12	2.13	0.48
10:LG:162:LEU:HD23	16:LN:7:LEU:HD21	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:LL:56:PRO:HB3	14:LL:75:PHE:CD2	2.48	0.48
25:LW:38:SER:O	25:LW:42:GLN:HG3	2.12	0.48
29:La:85:ASP:OD1	29:La:86:LYS:N	2.46	0.48
41:Lm:127:LEU:HD12	41:Lm:128:LYS:N	2.28	0.48
47:C2:10:G:OP1	47:C2:1633:A:O2'	2.30	0.48
47:C2:400:A:H4'	47:C2:401:A:O5'	2.12	0.48
47:C2:1366:U:OP2	64:SQ:66:ARG:NH2	2.46	0.48
50:SC:35:TRP:CZ2	50:SC:37:PRO:HB3	2.48	0.48
50:SC:179:VAL:O	50:SC:198:THR:HB	2.12	0.48
53:SF:117:THR:HG21	53:SF:194:LEU:HD23	1.95	0.48
59:SL:59:PRO:HG3	59:SL:138:ASN:HD22	1.75	0.48
65:SR:6:THR:HG23	65:SR:8:THR:HG22	1.94	0.48
66:SS:16:ARG:HH21	66:SS:19:ASN:HA	1.78	0.48
74:Sa:44:ILE:HD12	74:Sa:65:PRO:HG2	1.95	0.48
85:R:256:SER:OG	85:R:259:GLU:OE1	2.30	0.48
1:C1:662:U:H2'	1:C1:663:C:C6	2.49	0.48
1:C1:1868:G:HO2'	1:C1:2118:C:HO2'	1.58	0.48
1:C1:1942:U:OP2	20:LR:74:ARG:NE	2.32	0.48
1:C1:2597:U:H2'	1:C1:2598:G:H8	1.79	0.48
13:LJ:12:LEU:HB3	13:LJ:131:MET:CE	2.43	0.48
22:LT:41:ASP:OD1	22:LT:99:SER:HB2	2.14	0.48
28:LZ:121:ARG:NH2	28:LZ:127:ASN:OD1	2.44	0.48
33:Le:89:THR:HG22	33:Le:117:ILE:HD13	1.95	0.48
45:P0:16:ARG:NH2	45:P0:64:ARG:HG2	2.28	0.48
45:P0:93:LEU:HD13	45:P0:96:ILE:HD12	1.96	0.48
47:C2:58:U:O2'	47:C2:451:A:N3	2.46	0.48
51:SD:35:SER:N	51:SD:51:ARG:O	2.38	0.48
66:SS:6:GLN:HE21	73:SZ:44:GLN:N	2.11	0.48
85:R:173:LEU:HD22	85:R:245:ALA:HB2	1.95	0.48
1:C1:1046:A:H2'	1:C1:1049:C:C5	2.48	0.48
1:C1:1203:A:H2'	1:C1:1204:A:H8	1.77	0.48
1:C1:1322:U:H2'	1:C1:1323:G:H8	1.78	0.48
1:C1:1339:C:H2'	1:C1:1340:G:H8	1.78	0.48
1:C1:2688:U:OP1	7:LD:12:TYR:OH	2.30	0.48
1:C1:2786:G:H21	29:La:58:MET:HE3	1.78	0.48
11:LH:7:GLU:HA	11:LH:55:VAL:O	2.14	0.48
11:LH:122:LYS:HD2	11:LH:123:ILE:H	1.78	0.48
26:LX:107:VAL:HA	26:LX:126:LEU:HA	1.94	0.48
46:P2:110:ILE:HD13	46:P2:130:LYS:HD3	1.96	0.48
47:C2:445:A:H1'	47:C2:525:A:OP1	2.13	0.48
57:SJ:57:ARG:O	57:SJ:61:THR:HG23	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:SJ:119:ALA:O	57:SJ:120:LYS:HG2	2.13	0.48
66:SS:70:VAL:O	66:SS:74:GLN:HG3	2.14	0.48
80:Sg:238:ASP:OD1	80:Sg:239:GLU:N	2.47	0.48
82:P:75:C:H5'	82:P:76:A:OP2	2.13	0.48
85:R:343:SER:OG	85:R:359:GLU:OE1	2.19	0.48
1:C1:1447:G:O2'	1:C1:2355:G:O6	2.30	0.48
2:C4:19:C:H2'	2:C4:20:A:H8	1.78	0.48
3:C3:51:G:P	40:Ll:21:ARG:HH22	2.37	0.48
16:LN:118:SER:OG	16:LN:132:VAL:HG22	2.13	0.48
46:P2:123:ARG:HD3	46:P2:123:ARG:H	1.79	0.48
47:C2:183:U:H2'	47:C2:184:C:H6	1.77	0.48
47:C2:211:U:OP1	59:SL:20:PHE:HB2	2.14	0.48
47:C2:247:A:O2'	59:SL:37:ASN:O	2.25	0.48
47:C2:953:G:H2'	47:C2:954:G:C8	2.49	0.48
50:SC:144:TRP:CE2	50:SC:173:PRO:HG3	2.49	0.48
59:SL:132:SER:OG	59:SL:135:VAL:HG12	2.14	0.48
73:SZ:70:LYS:HA	73:SZ:70:LYS:HD3	1.53	0.48
85:R:65:VAL:HG23	85:R:66:ALA:N	2.28	0.48
86:T:274:GLU:HA	86:T:277:LEU:HG	1.95	0.48
1:C1:1203:A:H2'	1:C1:1204:A:C8	2.48	0.48
1:C1:1234:G:H3'	1:C1:1235:U:H2'	1.95	0.48
1:C1:1290:A:H2'	1:C1:1291:A:H8	1.78	0.48
1:C1:1427:U:OP2	29:La:4:ARG:NH2	2.45	0.48
1:C1:1666:G:H2'	1:C1:1667:A:H8	1.79	0.48
1:C1:2697:A:H2'	1:C1:2698:G:H8	1.78	0.48
1:C1:3085:G:OP1	25:LW:34:SER:OG	2.32	0.48
1:C1:3322:A:H2'	1:C1:3323:A:H8	1.78	0.48
4:LA:142:ASP:N	4:LA:142:ASP:OD1	2.47	0.48
12:LI:192:ASP:HA	12:LI:197:VAL:HG23	1.95	0.48
16:LN:155:VAL:O	16:LN:162:ARG:NH2	2.46	0.48
18:LP:60:PHE:O	18:LP:64:ASN:ND2	2.39	0.48
20:LR:90:PRO:O	20:LR:94:VAL:HG23	2.14	0.48
27:LY:27:ARG:NH1	27:LY:75:ARG:O	2.47	0.48
29:La:47:LYS:HG2	29:La:48:TYR:CE1	2.48	0.48
37:Li:42:SER:O	37:Li:46:GLU:HG3	2.13	0.48
47:C2:160:C:O2'	54:SG:95:LYS:NZ	2.32	0.48
47:C2:551:G:H2'	47:C2:552:G:H8	1.78	0.48
47:C2:595:G:H2'	47:C2:596:C:C6	2.49	0.48
47:C2:884:A:H2'	47:C2:885:G:H8	1.79	0.48
47:C2:1171:A:H2'	47:C2:1172:G:H8	1.76	0.48
47:C2:1436:A:OP2	51:SD:27:ARG:NH2	2.47	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:SB:48:VAL:HG21	49:SB:61:LEU:HD11	1.96	0.48
53:SF:73:THR:HG22	64:SQ:47:LYS:NZ	2.29	0.48
57:SJ:105:LEU:HD12	57:SJ:108:ARG:HD2	1.96	0.48
63:SP:110:GLU:HG2	66:SS:119:ILE:HD13	1.96	0.48
64:SQ:49:TYR:HB3	64:SQ:53:LEU:HD23	1.96	0.48
66:SS:44:ASN:OD1	66:SS:48:LYS:HD2	2.14	0.48
85:R:172:ARG:NH2	85:R:233:ASP:OD1	2.47	0.48
1:C1:1138:U:H2'	1:C1:1139:G:H8	1.79	0.48
1:C1:2697:A:H2'	1:C1:2698:G:C8	2.48	0.48
1:C1:2846:U:O2	41:Lm:97:ARG:NH2	2.47	0.48
1:C1:3064:U:H2'	1:C1:3065:G:H8	1.79	0.48
3:C3:29:U:H5''	14:LL:27:ASP:HB3	1.95	0.48
4:LA:30:ARG:HB3	4:LA:36:GLU:OE2	2.14	0.48
4:LA:144:ASN:C	4:LA:145:LYS:HD2	2.38	0.48
12:LI:166:ILE:HG21	22:LT:160:ILE:HD11	1.96	0.48
29:La:37:GLY:HA3	29:La:53:PHE:HZ	1.79	0.48
31:Lc:42:ILE:HG13	31:Lc:67:VAL:HG23	1.95	0.48
38:Lj:18:LEU:HD23	38:Lj:25:ARG:HB2	1.96	0.48
47:C2:166:C:H4'	54:SG:131:LYS:HD2	1.95	0.48
48:SA:134:LYS:O	48:SA:137:SER:OG	2.22	0.48
53:SF:143:ARG:HB2	76:Sc:57:MET:HE2	1.95	0.48
55:SH:85:PHE:CD2	55:SH:88:ARG:HG3	2.49	0.48
60:SM:58:LEU:HD23	60:SM:126:TRP:CZ3	2.49	0.48
72:SY:37:LYS:O	72:SY:40:LEU:HB2	2.14	0.48
1:C1:277:G:H2'	1:C1:278:U:C6	2.49	0.48
1:C1:296:A:H2'	1:C1:297:G:C4	2.48	0.48
1:C1:517:G:H5''	9:LF:67:ARG:HH11	1.79	0.48
1:C1:1194:G:H2'	1:C1:1195:A:C8	2.48	0.48
1:C1:2225:U:H2'	1:C1:2226:U:C6	2.49	0.48
1:C1:2266:U:H2'	1:C1:2267:C:C6	2.48	0.48
1:C1:2407:C:H2'	1:C1:2408:U:H6	1.79	0.48
1:C1:2555:G:N1	35:Lg:96:GLU:OE2	2.39	0.48
1:C1:2615:G:H2'	1:C1:2616:C:C6	2.49	0.48
5:LB:369:ARG:HG2	25:LW:32:GLN:NE2	2.29	0.48
7:LD:124:GLU:O	7:LD:124:GLU:HG2	2.14	0.48
9:LF:30:ARG:HD2	9:LF:33:ARG:HH12	1.79	0.48
13:LJ:99:THR:O	13:LJ:154:THR:OG1	2.30	0.48
18:LP:47:TYR:O	18:LP:51:VAL:HG23	2.14	0.48
20:LR:177:VAL:HA	20:LR:180:LYS:HB3	1.96	0.48
47:C2:435:C:OP1	71:SX:50:LYS:N	2.46	0.48
47:C2:804:A:N3	70:SW:105:THR:HG22	2.28	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:C2:819:G:H4'	47:C2:820:U:O5'	2.13	0.48
47:C2:1163:A:N3	47:C2:1613:U:O2'	2.38	0.48
47:C2:1273:G:H4'	47:C2:1274:C:H3'	1.96	0.48
47:C2:1482:C:O2'	64:SQ:72:GLY:O	2.22	0.48
47:C2:1592:A:H2'	47:C2:1593:A:H8	1.79	0.48
49:SB:123:ALA:HB2	49:SB:165:ARG:HG3	1.96	0.48
57:SJ:25:ASP:O	57:SJ:29:LYS:HG2	2.14	0.48
65:SR:77:GLU:HA	65:SR:80:ARG:NH2	2.28	0.48
66:SS:100:THR:HG23	66:SS:105:VAL:HG12	1.95	0.48
80:Sg:205:SER:HA	80:Sg:245:PHE:HD2	1.79	0.48
80:Sg:299:GLN:HB3	80:Sg:315:VAL:HG22	1.95	0.48
1:C1:503:C:O5'	8:LE:26:ARG:NH2	2.48	0.47
1:C1:1276:U:OP1	45:P0:110:ARG:NH1	2.48	0.47
1:C1:1298:C:O3'	41:Lm:113:ARG:NH2	2.47	0.47
1:C1:1425:U:O2'	6:LC:36:HIS:NE2	2.43	0.47
1:C1:2836:C:H5	1:C1:2852:C:H42	1.62	0.47
4:LA:144:ASN:O	4:LA:145:LYS:HD2	2.13	0.47
4:LA:180:LEU:HB3	44:Lp:18:TYR:CD2	2.49	0.47
13:LJ:51:ARG:HG3	13:LJ:52:TYR:CD1	2.48	0.47
17:LO:108[A]:ILE:HB	17:LO:160[A]:ARG:NH1	2.29	0.47
44:Lp:27:LYS:O	44:Lp:31:ILE:HG12	2.13	0.47
45:P0:146:ALA:O	45:P0:149:THR:N	2.47	0.47
46:P2:137:GLN:HE21	46:P2:139:VAL:HB	1.79	0.47
47:C2:400:A:H4'	47:C2:401:A:C5'	2.43	0.47
47:C2:1451:C:OP1	77:Sd:12:ARG:NH2	2.42	0.47
53:SF:195:ALA:O	53:SF:199:ILE:HG12	2.14	0.47
66:SS:48:LYS:HE2	67:ST:35:ASP:HB2	1.96	0.47
81:A:27:G:H1	81:A:43:U:H3	1.61	0.47
1:C1:585:A:H2'	1:C1:586:C:C6	2.49	0.47
1:C1:821:U:H2'	1:C1:822:G:H8	1.79	0.47
1:C1:1622:U:H2'	1:C1:1623:G:H8	1.80	0.47
1:C1:2468:A:O2'	1:C1:2478:C:H1'	2.14	0.47
1:C1:2599:U:H5''	16:LN:70:ASN:OD1	2.14	0.47
1:C1:2661:G:H2'	1:C1:2662:G:H8	1.80	0.47
19:LQ:155:MET:HE1	19:LQ:163:PRO:HB3	1.95	0.47
28:LZ:83:THR:HG22	35:Lg:93:PHE:CZ	2.49	0.47
47:C2:522:U:C2	47:C2:523:G:C8	3.02	0.47
47:C2:777:C:H2'	47:C2:778:G:H5''	1.96	0.47
47:C2:1226:A:H4'	47:C2:1227:A:OP1	2.13	0.47
47:C2:1466:G:O2'	47:C2:1602:C:OP1	2.31	0.47
53:SF:171:ALA:O	53:SF:175:LEU:HD23	2.13	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:SH:139:ARG:HB3	70:SW:51:GLU:OE2	2.14	0.47
57:SJ:18:PRO:HB2	57:SJ:19:TYR:CE1	2.48	0.47
57:SJ:32:GLY:HA3	78:Se:40:TYR:CD2	2.49	0.47
80:Sg:288:HIS:H	80:Sg:306:THR:HG22	1.78	0.47
81:A:2:G:H2'	81:A:3:G:H8	1.78	0.47
82:P:66:C:H2'	82:P:67:G:H8	1.78	0.47
84:5:116:PRO:HG3	84:5:147:ALA:O	2.14	0.47
1:C1:1544:G:H21	1:C1:2167:A:H2	1.61	0.47
1:C1:1927:G:O5'	44:Lp:5:THR:OG1	2.32	0.47
1:C1:2547:A:HO2'	1:C1:2548:C:P	2.37	0.47
1:C1:3113:A:H2'	1:C1:3114:A:O4'	2.14	0.47
5:LB:288:GLY:N	5:LB:320:ASP:OD1	2.33	0.47
19:LQ:152:HIS:ND1	19:LQ:162:ALA:O	2.32	0.47
29:La:86:LYS:HB3	29:La:90:TYR:CE2	2.50	0.47
33:Le:96:ILE:HG21	33:Le:105:ARG:HD3	1.97	0.47
45:P0:146:ALA:C	45:P0:147:ARG:HD3	2.40	0.47
47:C2:438:A:H1'	47:C2:465:G:H22	1.79	0.47
47:C2:598:U:H2'	47:C2:599:A:H8	1.78	0.47
47:C2:751:G:H2'	47:C2:752:A:C8	2.47	0.47
47:C2:1159:C:O2'	47:C2:1580:C:OP1	2.28	0.47
47:C2:1582:U:C2	47:C2:1614:A:C6	3.02	0.47
47:C2:1696:G:H4'	47:C2:1697:G:OP1	2.14	0.47
52:SE:247:SER:O	52:SE:251:GLU:HG3	2.15	0.47
65:SR:22:PRO:O	65:SR:23:LYS:HD2	2.14	0.47
81:A:16:U:O2'	81:A:18:G:OP2	2.29	0.47
86:T:169:GLU:HA	86:T:172:GLU:HB3	1.96	0.47
1:C1:23:A:OP1	38:Lj:44:THR:N	2.40	0.47
1:C1:2465:G:H21	1:C1:2491:A:H62	0.70	0.47
1:C1:2534:G:H2'	1:C1:2535:A:C8	2.49	0.47
1:C1:2684:C:H2'	1:C1:2685:C:H6	1.79	0.47
1:C1:3047:U:O2'	1:C1:3048:A:H5'	2.14	0.47
2:C4:52:G:O2'	2:C4:53:U:OP1	2.31	0.47
12:LI:87:LEU:HD13	12:LI:138:VAL:HG22	1.95	0.47
16:LN:98:LEU:HA	16:LN:101:THR:HG22	1.95	0.47
17:LO:125[A]:ARG:HG2	17:LO:129[A]:LEU:HD13	1.95	0.47
20:LR:21:LYS:O	20:LR:53:LYS:HD2	2.13	0.47
36:Lh:30:GLU:OE1	36:Lh:34:GLN:NE2	2.47	0.47
41:Lm:78:ILE:HG23	41:Lm:83:LYS:HD3	1.97	0.47
47:C2:300:A:H2'	47:C2:301:A:H8	1.78	0.47
47:C2:936:G:OP1	47:C2:1074:G:N2	2.29	0.47
47:C2:1170:G:C2	47:C2:1171:A:C8	3.02	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:C2:1232:U:H3	47:C2:1253:U:H3	1.63	0.47
47:C2:1556:A:H4'	47:C2:1557:U:C5	2.48	0.47
81:A:14:A:C4	81:A:15:G:H1'	2.49	0.47
84:5:26:LEU:HD13	84:5:32:VAL:HG21	1.96	0.47
85:R:28:LEU:O	85:R:32:LYS:NZ	2.46	0.47
1:C1:631:U:H2'	1:C1:632:G:C8	2.49	0.47
1:C1:1178:G:O6	34:Lf:20:LYS:HG3	2.14	0.47
1:C1:1566:A:H2'	1:C1:1567:U:C6	2.49	0.47
1:C1:3182:G:H2'	1:C1:3183:A:C8	2.49	0.47
3:C3:28:C:H2'	3:C3:29:U:C6	2.50	0.47
14:LL:62:THR:O	14:LL:64:LYS:N	2.47	0.47
27:LY:36:SER:O	27:LY:40:ARG:HG2	2.14	0.47
40:Ll:43:ASN:HD22	40:Ll:46:ARG:HH12	1.62	0.47
45:P0:55:LYS:HD2	45:P0:56:ASN:N	2.30	0.47
47:C2:479:C:O3'	57:SJ:120:LYS:NZ	2.47	0.47
47:C2:1360:A:H2'	47:C2:1361:U:O4'	2.14	0.47
52:SE:95:THR:OG1	52:SE:97:GLU:OE1	2.32	0.47
53:SF:143:ARG:HH21	53:SF:214:LYS:NZ	2.12	0.47
53:SF:186:ASN:OD1	53:SF:187:ILE:N	2.47	0.47
54:SG:14:LYS:NZ	54:SG:15:THR:O	2.44	0.47
55:SH:153:LEU:HD13	55:SH:184:GLU:OE2	2.15	0.47
56:SI:66:SER:HA	56:SI:73:SER:HA	1.95	0.47
58:SK:14:TYR:CZ	58:SK:35:ILE:HD11	2.49	0.47
59:SL:2:SER:OG	59:SL:3:THR:N	2.46	0.47
63:SP:61:ARG:HA	63:SP:64:LYS:HG2	1.96	0.47
66:SS:23:ASP:OD1	66:SS:24:GLY:N	2.46	0.47
80:Sg:201:THR:HG21	80:Sg:242:SER:HA	1.96	0.47
80:Sg:234:LEU:HD21	80:Sg:263:PHE:CD2	2.50	0.47
84:5:33:VAL:O	84:5:34:ILE:HD13	2.14	0.47
1:C1:594:U:P	1:C1:609:G:H1	2.36	0.47
1:C1:1373:A:OP2	29:La:7:LYS:NZ	2.45	0.47
1:C1:1615:C:H2'	1:C1:1616:U:C6	2.50	0.47
4:LA:58:LEU:HD23	4:LA:75:ILE:HG21	1.97	0.47
10:LG:63:LYS:O	10:LG:67:ILE:HG12	2.15	0.47
15:LM:32:LEU:HD11	15:LM:94:TRP:CD1	2.49	0.47
18:LP:40:GLU:OE2	18:LP:43:LYS:HB2	2.15	0.47
19:LQ:44:PHE:CD1	19:LQ:139:ILE:HD11	2.48	0.47
24:LV:81:GLN:HG2	24:LV:83:LYS:H	1.78	0.47
31:Lc:43:ILE:HD12	31:Lc:68:TYR:HD2	1.80	0.47
36:Lh:58:ILE:O	36:Lh:62:GLN:HG2	2.14	0.47
40:Ll:15:LYS:O	40:Ll:19:GLN:HG3	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:L1:30:ARG:HG3	40:L1:30:ARG:HH11	1.80	0.47
47:C2:29:U:H2'	47:C2:30:G:C8	2.49	0.47
47:C2:655:G:H4'	47:C2:656:G:C8	2.47	0.47
49:SB:125:VAL:O	49:SB:136:ARG:HA	2.14	0.47
53:SF:145:ASP:OD1	53:SF:146:THR:N	2.43	0.47
55:SH:57:ALA:HA	55:SH:89:HIS:O	2.15	0.47
70:SW:23:ARG:HD2	75:Sb:4:VAL:HG22	1.95	0.47
1:C1:405:U:H5''	1:C1:1416:C:H4'	1.95	0.47
1:C1:887:G:H2'	1:C1:888:A:C8	2.50	0.47
1:C1:1060:U:H2'	1:C1:1061:A:H8	1.79	0.47
1:C1:1110:U:H2'	1:C1:1111:U:C6	2.50	0.47
1:C1:1650:G:H2'	1:C1:1651:U:C6	2.49	0.47
1:C1:1856:C:C2	1:C1:1857:C:C5	3.02	0.47
1:C1:2468:A:H1'	1:C1:2477:G:H22	1.79	0.47
1:C1:2744:U:H2'	1:C1:2745:G:C8	2.49	0.47
1:C1:3376:A:H5'	1:C1:3377:G:H5''	1.96	0.47
4:LA:168:VAL:HG23	44:Lp:79:VAL:HG11	1.96	0.47
5:LB:233:TRP:CD1	5:LB:265:ALA:HB1	2.49	0.47
6:LC:234:ASN:HB3	6:LC:237:GLN:OE1	2.15	0.47
7:LD:91:GLY:O	7:LD:94:ASN:ND2	2.48	0.47
7:LD:95:TRP:CD1	7:LD:158:ARG:HA	2.50	0.47
7:LD:261:THR:OG1	7:LD:264:GLN:HG3	2.14	0.47
8:LE:131:LYS:NZ	8:LE:132:THR:OG1	2.47	0.47
12:LI:146:ASP:OD1	12:LI:147:VAL:N	2.47	0.47
15:LM:78:THR:HA	15:LM:81:VAL:HG22	1.97	0.47
21:LS:22:PRO:O	22:LT:146:ASN:ND2	2.31	0.47
22:LT:39:ILE:HG12	22:LT:63:VAL:HG22	1.96	0.47
28:LZ:101:PHE:O	28:LZ:102:GLU:HG2	2.15	0.47
34:Lf:59:VAL:HG13	34:Lf:60:ARG:N	2.30	0.47
36:Lh:78:LYS:HD3	36:Lh:81:ARG:NH2	2.28	0.47
46:P2:107:ASP:OD1	46:P2:108:GLU:N	2.48	0.47
47:C2:78:A:H5''	54:SG:159:ARG:NH2	2.29	0.47
47:C2:394:C:H42	47:C2:401:A:H62	1.63	0.47
47:C2:629:U:OP2	47:C2:969:C:N4	2.44	0.47
47:C2:684:A:H2'	47:C2:685:A:C8	2.50	0.47
47:C2:856:A:N6	55:SH:116:ARG:HG3	2.29	0.47
47:C2:1066:C:O2'	49:SB:148:ASN:OD1	2.32	0.47
47:C2:1169:G:N1	47:C2:1575:G:OP2	2.48	0.47
47:C2:1280:C:H2'	47:C2:1281:G:H8	1.80	0.47
47:C2:1483:A:N3	47:C2:1607:G:O2'	2.38	0.47
49:SB:30:PHE:HD2	49:SB:94:LYS:HA	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:SB:103:MET:HB3	49:SB:215:VAL:HG12	1.97	0.47
51:SD:72:LEU:HD22	58:SK:20:VAL:HG11	1.97	0.47
52:SE:125:LYS:HB2	52:SE:226:PHE:CE1	2.49	0.47
55:SH:84:LYS:HD2	55:SH:85:PHE:HB2	1.97	0.47
55:SH:87:ASP:C	55:SH:88:ARG:HE	2.20	0.47
56:SI:87:ASN:OD1	56:SI:89:GLU:N	2.46	0.47
58:SK:46:LEU:O	58:SK:50:THR:HG23	2.15	0.47
63:SP:24:LYS:HE2	63:SP:24:LYS:HA	1.96	0.47
73:SZ:63:SER:HA	73:SZ:66:VAL:HG22	1.95	0.47
75:Sb:80:ARG:HH21	75:Sb:80:ARG:HG2	1.80	0.47
80:Sg:190:ALA:HB1	80:Sg:192:PHE:HE1	1.79	0.47
85:R:183:LYS:HG3	85:R:185:LYS:NZ	2.30	0.47
1:C1:432:G:H2'	1:C1:433:A:H8	1.80	0.47
1:C1:756:U:H2'	1:C1:757:C:H6	1.80	0.47
1:C1:1791:C:H2'	1:C1:1792:C:C6	2.50	0.47
5:LB:67:PHE:HA	5:LB:70:ARG:HD3	1.97	0.47
9:LF:44:ILE:HD12	9:LF:180:SER:HB3	1.97	0.47
10:LG:112:GLU:O	10:LG:116:VAL:HG23	2.14	0.47
47:C2:298:C:H5''	52:SE:38:LEU:HB2	1.97	0.47
47:C2:1202:A:H1'	47:C2:1207:C:N4	2.30	0.47
47:C2:1491:U:H4'	47:C2:1492:A:H5'	1.97	0.47
47:C2:1525:A:H2'	47:C2:1526:A:C8	2.50	0.47
49:SB:10:SER:OG	49:SB:13:LYS:O	2.33	0.47
49:SB:87:ARG:HB2	49:SB:101:HIS:HD2	1.80	0.47
58:SK:70:GLU:O	58:SK:74:GLU:HG3	2.15	0.47
84:5:151:LYS:NZ	84:5:153:ALA:HB2	2.30	0.47
1:C1:622:A:O4'	34:Lf:60:ARG:NH1	2.48	0.47
1:C1:993:G:N3	1:C1:2637:A:H2'	2.30	0.47
1:C1:2927:C:H2'	1:C1:2928:C:C6	2.50	0.47
1:C1:3160:U:H2'	1:C1:3161:C:C6	2.50	0.47
6:LC:206:LEU:HB2	6:LC:246:ARG:HE	1.79	0.47
11:LH:26:LYS:HG2	11:LH:35:THR:HG22	1.96	0.47
11:LH:86:TYR:CE2	11:LH:151:VAL:HB	2.50	0.47
14:LL:190:LYS:HE2	14:LL:190:LYS:HA	1.97	0.47
15:LM:8:LYS:HA	15:LM:8:LYS:HE2	1.97	0.47
38:Lj:28:HIS:CG	38:Lj:31:LYS:HD3	2.50	0.47
45:P0:52:LEU:HB3	45:P0:86:PHE:HB2	1.95	0.47
47:C2:956:C:OP1	47:C2:1072:C:O2'	2.30	0.47
47:C2:1087:A:H2'	47:C2:1088:A:C8	2.50	0.47
47:C2:1615:C:P	53:SF:81:ARG:HE	2.38	0.47
48:SA:188:LEU:HD11	48:SA:195:TRP:CD1	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:SO:43:THR:O	62:SO:46:MET:HG2	2.15	0.47
68:SU:49:ASN:O	68:SU:49:ASN:ND2	2.41	0.47
72:SY:81:GLU:HA	72:SY:84:LYS:HG2	1.97	0.47
79:Sf:87:THR:OG1	79:Sf:88:PRO:HD2	2.15	0.47
79:Sf:132:LEU:HG	79:Sf:141:CYS:HA	1.97	0.47
86:T:227:GLU:CD	86:T:227:GLU:H	2.23	0.47
1:C1:63:A:N3	1:C1:78:U:O2'	2.41	0.47
1:C1:656:A:H2'	1:C1:657:A:C8	2.50	0.47
1:C1:1467:A:H1'	1:C1:1469:C:OP2	2.15	0.47
1:C1:1712:G:H2'	1:C1:1713:G:C8	2.50	0.47
1:C1:2456:A:N6	1:C1:2460:U:OP2	2.48	0.47
1:C1:3115:C:OP1	11:LH:62:ARG:NH2	2.48	0.47
6:LC:291:ASN:OD1	6:LC:296:GLN:NE2	2.48	0.47
8:LE:4:GLN:HG2	33:Le:74:PHE:CE1	2.50	0.47
14:LL:64:LYS:HG3	29:La:69:TRP:CG	2.50	0.47
14:LL:76:THR:O	14:LL:79:GLU:N	2.46	0.47
47:C2:478:A:H2'	47:C2:479:C:C6	2.50	0.47
47:C2:488:G:N1	47:C2:499:U:O4	2.48	0.47
47:C2:1220:C:H5''	58:SK:52:LYS:HZ2	1.80	0.47
47:C2:1294:G:H1	47:C2:1303:U:H3	1.63	0.47
47:C2:1776:A:H2'	47:C2:1777:G:H8	1.80	0.47
48:SA:74:VAL:HG22	48:SA:96:THR:OG1	2.15	0.47
50:SC:178:ILE:HD12	50:SC:196:VAL:HG12	1.97	0.47
59:SL:16:GLN:NE2	59:SL:61:THR:O	2.48	0.47
73:SZ:91:PRO:HB3	73:SZ:101:TYR:HE1	1.79	0.47
86:T:241:ILE:HD11	86:T:246:PHE:HD1	1.80	0.47
1:C1:796:U:H2'	1:C1:797:U:C6	2.50	0.46
1:C1:2268:U:H3	1:C1:2272:G:H22	1.62	0.46
1:C1:2456:A:O2'	1:C1:2457:G:O4'	2.33	0.46
1:C1:2709:C:H2'	1:C1:2710:C:C6	2.51	0.46
18:LP:40:GLU:HA	18:LP:113:TYR:HA	1.96	0.46
47:C2:1329:A:OP2	51:SD:160:SER:OG	2.31	0.46
47:C2:1483:A:H2'	47:C2:1484:G:C8	2.50	0.46
47:C2:1512:G:H2'	47:C2:1513:G:H8	1.80	0.46
49:SB:9:LEU:HD23	49:SB:9:LEU:H	1.80	0.46
49:SB:131:ASP:O	49:SB:221:PRO:HG3	2.15	0.46
51:SD:80:ALA:O	51:SD:83:THR:OG1	2.31	0.46
53:SF:222:LYS:HG3	53:SF:225:ARG:CZ	2.45	0.46
61:SN:69:ASN:HB3	61:SN:73:ARG:HD2	1.96	0.46
61:SN:93:LYS:HA	61:SN:96:VAL:HG12	1.98	0.46
66:SS:82:PRO:HB2	66:SS:84:TRP:NE1	2.30	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
81:A:5:C:H2'	81:A:6:G:C8	2.51	0.46
1:C1:100:A:H3'	1:C1:101:G:H21	1.80	0.46
1:C1:110:G:OP2	14:LL:73:ARG:NH1	2.48	0.46
1:C1:138:U:H2'	1:C1:139:G:C8	2.49	0.46
1:C1:713:U:OP1	14:LL:171:ARG:NH2	2.48	0.46
1:C1:716:A:OP1	1:C1:752:C:O2'	2.33	0.46
1:C1:938:C:O2	1:C1:2813:A:O2'	2.33	0.46
1:C1:1472:U:H2'	1:C1:1473:G:C8	2.51	0.46
1:C1:1555:U:H5''	1:C1:1556:C:OP2	2.15	0.46
1:C1:2708:C:H2'	1:C1:2709:C:C6	2.50	0.46
1:C1:3269:U:OP1	8:LE:77:ARG:NH2	2.48	0.46
9:LF:39:GLU:O	9:LF:43:ILE:HG12	2.14	0.46
13:LJ:19:LEU:O	13:LJ:68:HIS:HA	2.16	0.46
16:LN:46:ASP:OD1	16:LN:47:LYS:N	2.47	0.46
19:LQ:23:ASN:O	19:LQ:27:LYS:HG2	2.15	0.46
26:LX:50:ALA:O	36:Lh:66:VAL:HG11	2.15	0.46
43:Lo:27:GLN:HG3	43:Lo:91:PHE:CE2	2.49	0.46
47:C2:225:A:H2'	47:C2:226:A:C8	2.50	0.46
47:C2:695:U:O2'	47:C2:697:C:OP1	2.31	0.46
47:C2:778:G:OP2	47:C2:780:A:N6	2.48	0.46
47:C2:784:C:H2'	47:C2:785:U:C6	2.50	0.46
47:C2:823:G:N1	47:C2:824:G:N7	2.63	0.46
47:C2:925:G:H2'	47:C2:926:A:C8	2.49	0.46
48:SA:27:ARG:HG2	48:SA:28:ASN:H	1.79	0.46
61:SN:107:LYS:O	61:SN:109:LYS:N	2.48	0.46
65:SR:71:PHE:O	65:SR:74:GLN:N	2.40	0.46
69:SV:46:ILE:H	69:SV:46:ILE:HD12	1.80	0.46
80:Sg:249:ARG:HG3	80:Sg:249:ARG:HH21	1.79	0.46
1:C1:411:U:H2'	1:C1:412:G:H8	1.80	0.46
1:C1:727:G:O6	1:C1:742:G:O2'	2.33	0.46
1:C1:1232:C:H2'	1:C1:1233:G:C8	2.49	0.46
1:C1:1571:A:H2'	1:C1:1572:U:O4'	2.15	0.46
10:LG:94:PHE:HB3	10:LG:189:LEU:HD11	1.96	0.46
45:P0:38:MET:O	45:P0:42:ARG:NH1	2.48	0.46
47:C2:404:G:H2'	47:C2:405:C:C6	2.50	0.46
47:C2:700:C:H2'	47:C2:701:U:H6	1.79	0.46
47:C2:976:G:N1	47:C2:1023:A:O2'	2.39	0.46
56:SI:152:ILE:HG13	56:SI:153:GLU:H	1.80	0.46
58:SK:6:GLU:O	58:SK:10:LYS:HG3	2.14	0.46
67:ST:49:ASP:C	67:ST:51:GLU:H	2.23	0.46
72:SY:14:SER:HA	72:SY:21:LYS:HD2	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
80:Sg:167:VAL:HG13	80:Sg:183:LEU:HD21	1.97	0.46
82:P:62:C:H2'	82:P:63:U:H6	1.80	0.46
1:C1:284:A:P	43:Lo:41:ARG:HH21	2.38	0.46
1:C1:691:A:N1	3:C3:28:C:O2'	2.45	0.46
1:C1:1667:A:H2'	1:C1:1668:G:C8	2.51	0.46
1:C1:2103:U:H2'	1:C1:2104:A:C8	2.50	0.46
2:C4:84:A:H2'	2:C4:85:G:C8	2.51	0.46
3:C3:27:U:H2'	3:C3:28:C:H6	1.81	0.46
9:LF:126:LEU:O	9:LF:130:ILE:HG12	2.15	0.46
11:LH:36:LYS:HE2	11:LH:78:MET:SD	2.56	0.46
28:LZ:14:VAL:CG1	35:Lg:86:LYS:HG3	2.45	0.46
47:C2:1031:U:H4'	47:C2:1032:G:OP2	2.15	0.46
47:C2:1241:G:O4'	63:SP:79:HIS:ND1	2.49	0.46
48:SA:163:ASN:O	48:SA:169:SER:OG	2.20	0.46
49:SB:30:PHE:CD2	49:SB:94:LYS:HA	2.49	0.46
50:SC:38:VAL:O	50:SC:39:THR:HG23	2.16	0.46
50:SC:177:GLY:O	50:SC:195:ASP:HA	2.15	0.46
60:SM:46:ARG:NH1	60:SM:50:LYS:HD3	2.31	0.46
68:SU:27:THR:HG23	68:SU:113:ASP:HB2	1.97	0.46
80:Sg:103:PHE:CE1	80:Sg:138:GLY:HA2	2.50	0.46
80:Sg:183:LEU:HD23	80:Sg:183:LEU:H	1.81	0.46
80:Sg:248:ASN:OD1	80:Sg:249:ARG:N	2.49	0.46
1:C1:170:G:C6	1:C1:249:U:O2	2.68	0.46
1:C1:562:C:H5''	21:LS:71:LYS:HE2	1.97	0.46
1:C1:708:G:N2	1:C1:711:A:OP2	2.44	0.46
1:C1:2225:U:H2'	1:C1:2226:U:H6	1.81	0.46
1:C1:2599:U:H2'	1:C1:2600:C:C6	2.51	0.46
1:C1:3203:U:H2'	1:C1:3204:C:C6	2.50	0.46
10:LG:161:GLU:CD	16:LN:26:ARG:HH22	2.24	0.46
21:LS:72:VAL:HA	21:LS:97:VAL:HA	1.97	0.46
26:LX:25:LYS:HD2	26:LX:27:ARG:NH2	2.26	0.46
28:LZ:111:LYS:HA	28:LZ:114:VAL:HG12	1.96	0.46
35:Lg:105:VAL:HG23	35:Lg:108:GLN:HE21	1.79	0.46
45:P0:45:LEU:HG	45:P0:48:ARG:HB2	1.97	0.46
47:C2:1042:G:H2'	47:C2:1043:A:H8	1.80	0.46
49:SB:2:ALA:N	62:SO:48:VAL:O	2.48	0.46
54:SG:31:ARG:O	54:SG:34:GLN:NE2	2.44	0.46
55:SH:133:THR:O	55:SH:134:GLU:HG2	2.15	0.46
60:SM:62:LEU:HD23	60:SM:63:VAL:O	2.16	0.46
70:SW:41:MET:HE2	70:SW:47:ILE:HG23	1.97	0.46
73:SZ:25:LYS:HD2	73:SZ:25:LYS:HA	1.47	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
78:Se:55:ARG:NH2	78:Se:57:ASN:O	2.48	0.46
81:A:34:U:H2'	81:A:35:U:C6	2.51	0.46
1:C1:990:U:H4'	22:LT:100:LYS:HG3	1.97	0.46
2:C4:112:G:H2'	2:C4:113:C:H6	1.80	0.46
13:LJ:87:LYS:HZ3	13:LJ:106:ILE:HG22	1.81	0.46
19:LQ:131:ALA:HB1	19:LQ:135:GLN:H	1.81	0.46
35:Lg:79:SER:OG	35:Lg:80:ARG:NH1	2.48	0.46
46:P2:78:SER:HA	46:P2:117:ARG:HH22	1.81	0.46
46:P2:87:GLU:HB3	46:P2:89:PRO:HD2	1.97	0.46
47:C2:1229:G:H21	47:C2:1256:A:N6	2.05	0.46
47:C2:1542:G:H5''	67:ST:87:GLY:C	2.41	0.46
55:SH:166:LEU:O	55:SH:170:GLN:HG3	2.15	0.46
64:SQ:59:LYS:HE3	64:SQ:105:LEU:HD11	1.97	0.46
66:SS:138:THR:HG22	66:SS:138:THR:O	2.16	0.46
71:SX:78:LYS:HG3	71:SX:79:ASN:OD1	2.16	0.46
79:Sf:137:ASP:OD1	79:Sf:151:ASN:ND2	2.49	0.46
80:Sg:273:ASP:OD2	80:Sg:275:ARG:NH2	2.49	0.46
81:A:23:A:H2'	81:A:24:G:H8	1.81	0.46
86:T:202:LYS:O	86:T:206:GLN:HG3	2.15	0.46
1:C1:90:C:OP1	29:La:59:ARG:NH1	2.46	0.46
1:C1:1392:G:H3'	33:Le:125:ARG:HH12	1.81	0.46
1:C1:1498:A:H2'	1:C1:1499:C:C6	2.50	0.46
1:C1:1643:A:H2'	1:C1:1644:C:C2	2.51	0.46
1:C1:1794:G:O2'	1:C1:1796:G:N2	2.49	0.46
1:C1:2349:U:O2'	1:C1:3307:A:N3	2.48	0.46
1:C1:2554:A:N7	44:Lp:62:LYS:NZ	2.63	0.46
1:C1:2568:C:O2'	1:C1:2569:A:O5'	2.33	0.46
1:C1:3371:G:H2'	1:C1:3372:A:H8	1.81	0.46
2:C4:76:A:O3'	21:LS:50:LYS:NZ	2.47	0.46
3:C3:75:G:OP2	27:LY:74:TYR:OH	2.32	0.46
5:LB:375:GLU:OE1	25:LW:14:TYR:OH	2.33	0.46
7:LD:156:GLY:HA2	7:LD:181:PRO:HD3	1.98	0.46
10:LG:157:VAL:HG12	10:LG:159:PRO:HD2	1.97	0.46
47:C2:66:U:C6	54:SG:173:PRO:HB3	2.51	0.46
47:C2:918:U:H4'	62:SO:18:ARG:HE	1.80	0.46
47:C2:1217:A:O3'	58:SK:44:LYS:NZ	2.47	0.46
47:C2:1534:G:O2'	47:C2:1535:U:O2	2.34	0.46
49:SB:66:VAL:HG12	62:SO:34:SER:HA	1.97	0.46
55:SH:46:ILE:HD12	55:SH:60:ILE:HG13	1.97	0.46
56:SI:152:ILE:HG13	56:SI:153:GLU:N	2.30	0.46
66:SS:35:ILE:HB	66:SS:38:VAL:HB	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:SU:26:LEU:O	68:SU:88:LYS:HA	2.15	0.46
1:C1:242:C:O2'	1:C1:243:G:H8	1.99	0.46
1:C1:296:A:H2'	1:C1:297:G:N3	2.31	0.46
1:C1:449:U:O2'	1:C1:450:G:N2	2.48	0.46
1:C1:929:A:H2'	1:C1:930:U:C6	2.50	0.46
1:C1:1139:G:O2'	9:LF:94:LYS:HG2	2.16	0.46
1:C1:1609:C:H2'	1:C1:1610:G:H8	1.80	0.46
1:C1:2355:G:H4'	18:LP:139:TYR:CE1	2.51	0.46
1:C1:2899:C:N3	11:LH:173:ARG:NH2	2.62	0.46
1:C1:3337:G:H2'	1:C1:3338:C:C6	2.50	0.46
4:LA:21:ARG:HB3	4:LA:22:LEU:HD12	1.96	0.46
7:LD:135:VAL:HG13	7:LD:138:GLY:HA3	1.97	0.46
10:LG:226:TYR:HA	10:LG:229:VAL:HG22	1.98	0.46
12:LI:110:ARG:NH1	82:P:74:C:H3'	2.31	0.46
39:Lk:11:PHE:O	39:Lk:15:THR:HG23	2.15	0.46
47:C2:153:G:H2'	47:C2:154:G:C8	2.49	0.46
47:C2:330:G:OP2	56:SI:172:ARG:NH1	2.48	0.46
47:C2:474:A:H5''	57:SJ:144:PRO:HD2	1.98	0.46
47:C2:623:A:H3'	47:C2:624:G:C5'	2.45	0.46
47:C2:627:C:H5''	61:SN:5:HIS:HD2	1.81	0.46
47:C2:1696:G:O2'	47:C2:1697:G:O5'	2.32	0.46
48:SA:156:VAL:HG12	48:SA:157:ASP:O	2.16	0.46
49:SB:24:PHE:HE2	62:SO:39:ILE:HG12	1.81	0.46
60:SM:67:THR:C	60:SM:69:ALA:H	2.22	0.46
63:SP:97:TYR:HB2	63:SP:102:PHE:CE1	2.51	0.46
64:SQ:46:PHE:HA	64:SQ:49:TYR:HB2	1.98	0.46
66:SS:76:PRO:HB2	66:SS:81:ILE:HG13	1.97	0.46
74:Sa:45:VAL:HG23	74:Sa:46:GLU:N	2.26	0.46
78:Se:55:ARG:HG2	78:Se:58:PRO:HB3	1.98	0.46
86:T:221:THR:HG23	86:T:223:GLU:HG3	1.98	0.46
1:C1:2406:C:H2'	1:C1:2407:C:H6	1.80	0.46
1:C1:2881:C:H2'	1:C1:2882:U:C6	2.51	0.46
1:C1:2896:A:P	41:Lm:102:ARG:HH21	2.39	0.46
1:C1:2930:A:H2'	1:C1:2931:C:C6	2.50	0.46
1:C1:3000:A:H2'	1:C1:3001:C:C6	2.50	0.46
5:LB:35:ASP:OD1	5:LB:36:ASP:N	2.49	0.46
14:LL:75:PHE:CD1	14:LL:75:PHE:N	2.82	0.46
19:LQ:76:ALA:HB1	19:LQ:79:LYS:HD2	1.97	0.46
47:C2:622:A:O2'	47:C2:1032:G:H5'	2.16	0.46
47:C2:1739:C:H2'	47:C2:1740:A:C8	2.51	0.46
47:C2:1787:C:H2'	47:C2:1788:G:C8	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
49:SB:58:SER:O	49:SB:62:LYS:HG2	2.15	0.46
52:SE:118:GLU:OE2	52:SE:237:SER:N	2.49	0.46
64:SQ:27:GLY:HA2	64:SQ:63:ILE:O	2.16	0.46
84:5:68:LYS:HG3	84:5:69:LYS:H	1.80	0.46
85:R:19:GLN:HE22	85:R:21:ASN:CG	2.24	0.46
1:C1:879:U:H4'	18:LP:132:ALA:HB3	1.98	0.46
1:C1:1060:U:H2'	1:C1:1061:A:C8	2.51	0.46
1:C1:1650:G:C6	1:C1:1806:A:N6	2.84	0.46
1:C1:2344:U:H2'	1:C1:2345:A:C8	2.49	0.46
2:C4:71:G:H2'	2:C4:72:A:C8	2.50	0.46
6:LC:8:VAL:O	6:LC:16:THR:OG1	2.27	0.46
8:LE:129:GLU:HB3	8:LE:130:ILE:HD12	1.98	0.46
13:LJ:26:SER:HA	13:LJ:30:LEU:HB2	1.97	0.46
16:LN:56:LYS:NZ	16:LN:145:ASP:OD2	2.49	0.46
17:LO:41[A]:LEU:C	17:LO:42[A]:ASN:HD22	2.23	0.46
31:Lc:10:ILE:O	31:Lc:14:LEU:HD12	2.16	0.46
47:C2:15:U:H2'	47:C2:16:G:O4'	2.15	0.46
47:C2:209:U:H2'	47:C2:210:A:C8	2.50	0.46
47:C2:639:U:H1'	47:C2:640:U:OP2	2.16	0.46
47:C2:956:C:H2'	47:C2:957:G:H8	1.82	0.46
47:C2:1182:U:H5	47:C2:1185:U:H5''	1.80	0.46
47:C2:1615:C:OP1	76:Sc:18:ARG:NH1	2.48	0.46
52:SE:62:LYS:NZ	52:SE:66:MET:HB3	2.31	0.46
82:P:17:G:C2	82:P:57:A:C5	3.04	0.46
85:R:268:ASN:HD21	85:R:290:ARG:CZ	2.28	0.46
1:C1:563:U:H2'	1:C1:564:G:H8	1.80	0.45
1:C1:691:A:N6	6:LC:48:GLN:OE1	2.49	0.45
1:C1:1357:G:H2'	1:C1:1358:C:H6	1.82	0.45
1:C1:1696:A:H2'	1:C1:1697:A:C8	2.51	0.45
1:C1:2242:A:H5''	4:LA:244:GLY:HA3	1.98	0.45
1:C1:2429:G:H2'	1:C1:2430:A:H8	1.81	0.45
1:C1:2611:U:H2'	1:C1:2612:U:C6	2.52	0.45
5:LB:351:LEU:HD23	5:LB:351:LEU:H	1.81	0.45
47:C2:14:C:H2'	47:C2:15:U:C6	2.51	0.45
47:C2:430:G:H4'	85:R:350:GLN:OE1	2.16	0.45
47:C2:956:C:O2'	47:C2:1047:G:O2'	2.33	0.45
47:C2:1532:U:P	73:SZ:81:ARG:HH22	2.39	0.45
52:SE:126:VAL:HG22	52:SE:158:ASP:H	1.80	0.45
53:SF:160:VAL:HG23	76:Sc:43:ASN:HB2	1.97	0.45
54:SG:32:ILE:HG21	54:SG:65:GLN:HG2	1.98	0.45
54:SG:136:LYS:HE3	54:SG:174:LYS:HB3	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
59:SL:3:THR:C	59:SL:5:LEU:H	2.24	0.45
66:SS:144:ARG:HD3	73:SZ:22:LYS:CG	2.46	0.45
71:SX:131:SER:O	71:SX:134:ALA:N	2.49	0.45
82:P:5:U:H2'	82:P:6:C:C6	2.51	0.45
1:C1:1109:U:H4'	19:LQ:153:PHE:CD1	2.50	0.45
1:C1:1460:A:H2'	1:C1:1461:A:C8	2.50	0.45
1:C1:1667:A:H2'	1:C1:1668:G:H8	1.81	0.45
1:C1:1682:U:O4	23:LU:90:ARG:NH1	2.41	0.45
1:C1:1689:U:OP1	20:LR:64:ARG:NH1	2.50	0.45
1:C1:2767:U:O2'	43:Lo:30:ALA:O	2.33	0.45
1:C1:2986:U:H2'	1:C1:2987:A:H8	1.80	0.45
4:LA:51:ASP:HB2	4:LA:58:LEU:HD13	1.97	0.45
7:LD:33:ARG:O	7:LD:37:VAL:HG22	2.16	0.45
36:Lh:83:LYS:O	38:Lj:73:ARG:NH2	2.45	0.45
45:P0:133:THR:HA	45:P0:136:PHE:CE2	2.51	0.45
47:C2:304:U:O4'	59:SL:127:GLN:NE2	2.49	0.45
47:C2:464:A:C2	47:C2:465:G:C8	3.04	0.45
47:C2:712:G:O6	47:C2:726:C:O2'	2.30	0.45
47:C2:1641:C:H2'	47:C2:1642:G:C8	2.50	0.45
51:SD:66:ILE:O	51:SD:70:THR:HG23	2.17	0.45
66:SS:6:GLN:O	66:SS:7:GLU:HB2	2.16	0.45
84:5:40:LYS:HB2	84:5:64:ILE:CD1	2.47	0.45
1:C1:9:U:OP1	16:LN:41:ARG:NH1	2.49	0.45
1:C1:308:A:H1'	1:C1:2222:A:C2	2.52	0.45
1:C1:601:U:H2'	1:C1:602:A:C8	2.50	0.45
1:C1:1108:U:H2'	1:C1:1109:U:H6	1.80	0.45
1:C1:1545:A:H4'	1:C1:2166:A:H2	1.81	0.45
6:LC:64:SER:HA	6:LC:75:PRO:HA	1.98	0.45
9:LF:221:LYS:O	9:LF:227:GLY:HA3	2.16	0.45
10:LG:154:ALA:HB2	10:LG:186:LEU:HD12	1.98	0.45
11:LH:4:ILE:HG12	21:LS:142:GLN:NE2	2.31	0.45
17:LO:19[A]:LEU:O	17:LO:23[A]:VAL:HG22	2.16	0.45
17:LO:82[A]:LYS:HA	17:LO:85[A]:ARG:HG2	1.97	0.45
30:Lb:20:GLY:C	30:Lb:22:LYS:H	2.25	0.45
38:Lj:28:HIS:HE1	38:Lj:30:GLN:HB2	1.81	0.45
47:C2:12:U:H2'	47:C2:13:C:H6	1.81	0.45
47:C2:227:U:H2'	47:C2:228:G:C8	2.52	0.45
47:C2:1223:A:OP1	86:T:177:GLY:HA3	2.16	0.45
47:C2:1619:C:C2	76:Sc:22:ARG:HG2	2.50	0.45
54:SG:23:ARG:HH21	54:SG:23:ARG:HG3	1.82	0.45
57:SJ:112:GLN:HA	57:SJ:112:GLN:OE1	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
63:SP:95:GLY:HA2	63:SP:103:ASN:O	2.16	0.45
67:ST:137:ALA:O	67:ST:141:GLU:HG3	2.16	0.45
1:C1:803:C:H4'	6:LC:92:ASN:ND2	2.32	0.45
1:C1:1203:A:N3	1:C1:2855:U:O2'	2.36	0.45
1:C1:1404:G:O6	33:Le:16:LYS:NZ	2.50	0.45
1:C1:1831:U:O2'	3:C3:114:G:OP1	2.18	0.45
1:C1:2820:A:H2'	1:C1:2821:C:H5''	1.98	0.45
1:C1:2988:C:H2'	1:C1:2989:U:C6	2.51	0.45
1:C1:3166:C:H2'	1:C1:3167:A:H8	1.80	0.45
1:C1:3348:G:H2'	1:C1:3349:C:H6	1.79	0.45
3:C3:47:C:O2'	3:C3:62:C:OP2	2.24	0.45
16:LN:179:LYS:HE2	16:LN:179:LYS:HB2	1.83	0.45
18:LP:51:VAL:HA	18:LP:56:ARG:O	2.16	0.45
29:La:75:LEU:HD12	29:La:118:ILE:HG21	1.98	0.45
36:Lh:30:GLU:CD	36:Lh:34:GLN:HE21	2.24	0.45
45:P0:72:ASP:O	45:P0:75:LYS:HB3	2.16	0.45
47:C2:246:G:N2	59:SL:38:ALA:O	2.49	0.45
47:C2:830:U:H2'	47:C2:831:U:C6	2.51	0.45
47:C2:931:C:OP2	74:Sa:70:LYS:NZ	2.49	0.45
47:C2:1254:U:H2'	47:C2:1255:G:C8	2.52	0.45
52:SE:87:MET:HE1	52:SE:123:LEU:HB2	1.98	0.45
53:SF:43:PHE:O	53:SF:69:PHE:HA	2.16	0.45
57:SJ:64:GLU:HA	57:SJ:69:ARG:HD3	1.99	0.45
63:SP:108:ARG:HB2	63:SP:111:MET:HE3	1.99	0.45
67:ST:21:PHE:HA	67:ST:24:ARG:HH22	1.81	0.45
72:SY:113:ASN:O	72:SY:117:LYS:HG2	2.15	0.45
80:Sg:70:ASP:HB3	80:Sg:83:ALA:HB3	1.97	0.45
80:Sg:229:LYS:NZ	80:Sg:230:ALA:O	2.49	0.45
86:T:209:LEU:HA	86:T:212:GLU:O	2.17	0.45
87:L1:60:UNK:O	87:L1:104:UNK:HA	2.17	0.45
1:C1:112:U:OP1	36:Lh:107:LYS:NZ	2.50	0.45
1:C1:1025:A:H61	66:SS:118:LYS:HZ1	1.63	0.45
1:C1:1268:G:O2'	1:C1:1269:U:O2	2.35	0.45
1:C1:1563:C:H2'	1:C1:1564:U:C6	2.51	0.45
1:C1:2373:A:N3	1:C1:2824:G:O2'	2.47	0.45
1:C1:3101:G:H2'	1:C1:3102:G:H8	1.81	0.45
3:C3:130:C:H2'	3:C3:131:A:H8	1.82	0.45
12:LI:72:ALA:O	12:LI:76:MET:HG2	2.16	0.45
13:LJ:114:ILE:H	13:LJ:114:ILE:CD1	2.24	0.45
17:LO:109[A]:PRO:CB	17:LO:110[A]:PRO:CD	2.85	0.45
29:La:76:ASP:OD2	29:La:115:LYS:HD3	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:Lb:24:PRO:O	30:Lb:25:LYS:HG3	2.17	0.45
47:C2:57:G:OP2	72:SY:116:LYS:NZ	2.42	0.45
47:C2:279:G:N7	47:C2:281:G:O2'	2.38	0.45
47:C2:1026:A:N7	47:C2:1772:C:O2'	2.49	0.45
47:C2:1037:C:H2'	47:C2:1038:U:C6	2.51	0.45
47:C2:1120:U:H2'	47:C2:1121:C:C6	2.52	0.45
51:SD:72:LEU:HD12	58:SK:65:TYR:CD1	2.47	0.45
62:SO:80:HIS:ND1	62:SO:114:ARG:HB2	2.32	0.45
63:SP:121:ILE:HG22	63:SP:123:TYR:H	1.81	0.45
64:SQ:13:LYS:HD2	64:SQ:13:LYS:HA	1.74	0.45
87:L1:24:UNK:HA	87:L1:165:UNK:HA	1.98	0.45
1:C1:597:G:H2'	1:C1:598:A:H8	1.82	0.45
1:C1:1661:G:H2'	1:C1:1662:G:H8	1.77	0.45
5:LB:345:ASN:OD1	5:LB:347:SER:HB3	2.16	0.45
6:LC:295:ILE:H	6:LC:295:ILE:HD12	1.81	0.45
12:LI:66:GLU:OE2	12:LI:69:ARG:NH2	2.49	0.45
15:LM:12:TRP:NE1	21:LS:151:PRO:HB2	2.32	0.45
16:LN:66:VAL:HG21	16:LN:98:LEU:HB3	1.99	0.45
16:LN:106:VAL:HG11	16:LN:132:VAL:HG21	1.99	0.45
24:LV:18:PRO:HA	24:LV:51:ALA:HA	1.98	0.45
33:Le:74:PHE:CD2	33:Le:85:LEU:HD11	2.52	0.45
47:C2:76:A:N3	47:C2:80:A:N6	2.65	0.45
47:C2:296:U:OP1	52:SE:128:LYS:NZ	2.50	0.45
47:C2:599:A:H4'	71:SX:106:GLY:O	2.16	0.45
47:C2:829:A:H2'	47:C2:830:U:C5	2.52	0.45
47:C2:1187:U:H2'	47:C2:1188:G:H8	1.82	0.45
47:C2:1263:G:H2'	47:C2:1264:G:O4'	2.16	0.45
48:SA:92:HIS:ND1	48:SA:202:TYR:OH	2.48	0.45
48:SA:122:ILE:HA	48:SA:144:ILE:O	2.16	0.45
51:SD:46:THR:O	51:SD:84:ILE:HD12	2.16	0.45
51:SD:137:VAL:HG22	51:SD:151:LYS:HG2	1.98	0.45
52:SE:98:ASN:ND2	52:SE:116:ASP:OD1	2.49	0.45
53:SF:45:LYS:HA	53:SF:45:LYS:HD3	1.37	0.45
53:SF:208:SER:O	53:SF:212:LYS:HG2	2.17	0.45
60:SM:124:LYS:HD3	60:SM:124:LYS:C	2.41	0.45
64:SQ:42:GLU:O	64:SQ:42:GLU:HG2	2.15	0.45
73:SZ:79:ALA:O	73:SZ:83:LEU:HD23	2.16	0.45
80:Sg:14:GLU:HG2	80:Sg:14:GLU:O	2.16	0.45
80:Sg:45:TRP:CZ3	80:Sg:57:PRO:HD3	2.51	0.45
82:P:18:G:H4'	82:P:19:U:H5''	1.99	0.45
1:C1:1655:G:N2	1:C1:1801:U:O4	2.50	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C1:2406:C:H2'	1:C1:2407:C:C6	2.52	0.45
1:C1:2542:U:O2'	1:C1:2543:U:H5''	2.17	0.45
1:C1:2827:U:O2'	1:C1:2829:U:O4	2.34	0.45
1:C1:2965:U:C5	84:5:73:LEU:HD21	2.48	0.45
2:C4:19:C:H2'	2:C4:20:A:C8	2.52	0.45
3:C3:71:A:O3'	27:LY:52:ARG:NH1	2.50	0.45
6:LC:317:PRO:O	6:LC:318:LEU:HB2	2.17	0.45
9:LF:81:HIS:HB2	9:LF:138:TYR:CE1	2.51	0.45
16:LN:13:LYS:O	16:LN:19:LEU:HD22	2.17	0.45
17:LO:172[A]:ARG:HA	17:LO:175[A]:THR:HG22	1.98	0.45
21:LS:10:ILE:HG12	21:LS:26:ARG:HB2	1.99	0.45
49:SB:81:PHE:HD2	49:SB:82:ARG:H	1.64	0.45
53:SF:40:ILE:HG23	53:SF:42:LEU:HD21	1.98	0.45
55:SH:103:SER:O	55:SH:106:SER:OG	2.24	0.45
56:SI:100:ALA:HB3	56:SI:169:ILE:HD13	1.98	0.45
57:SJ:29:LYS:HD2	78:Se:44:PHE:CE2	2.51	0.45
63:SP:56:PHE:O	63:SP:60:LEU:HD23	2.16	0.45
85:R:293:LEU:HB3	85:R:312:VAL:CG2	2.47	0.45
1:C1:792:G:H2'	1:C1:793:C:H6	1.80	0.45
1:C1:1471:U:H4'	20:LR:3:ASN:HA	1.98	0.45
1:C1:1564:U:H2'	1:C1:1565:G:O4'	2.17	0.45
1:C1:1718:G:H2'	1:C1:1719:G:H8	1.81	0.45
18:LP:39:TRP:O	18:LP:114:VAL:HG22	2.16	0.45
33:Le:79:VAL:HG13	33:Le:111:ARG:HG2	1.99	0.45
47:C2:560:U:H2'	47:C2:561:G:H8	1.81	0.45
53:SF:75:GLY:HA3	53:SF:77:TYR:CE2	2.52	0.45
56:SI:93:THR:HG23	56:SI:95:THR:HG23	1.97	0.45
56:SI:191:PHE:CE1	56:SI:195:ARG:HD3	2.52	0.45
63:SP:127:ARG:HD3	63:SP:127:ARG:HA	1.72	0.45
68:SU:102:ARG:HA	68:SU:105:GLN:HB3	1.99	0.45
72:SY:125:LEU:HA	72:SY:128:LYS:HB3	1.99	0.45
76:Sc:16:LEU:HD12	76:Sc:27:GLN:HB3	1.99	0.45
81:A:75:C:H2'	81:A:76:A:C8	2.51	0.45
84:5:109:THR:CG2	84:5:110:LYS:H	2.23	0.45
1:C1:400:G:H4'	1:C1:401:U:H5''	1.99	0.45
1:C1:1011:A:H5'	12:LI:194:GLY:HA3	1.98	0.45
1:C1:1168:U:H2'	1:C1:1169:A:H8	1.82	0.45
1:C1:1246:G:N2	1:C1:1264:G:O2'	2.49	0.45
1:C1:1868:G:O2'	1:C1:2118:C:O2'	2.32	0.45
1:C1:2328:U:H2'	1:C1:2329:C:H6	1.81	0.45
2:C4:87:G:OP1	9:LF:221:LYS:NZ	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C3:126:A:O2'	3:C3:129:C:N4	2.50	0.45
5:LB:194:TRP:O	5:LB:198:HIS:ND1	2.42	0.45
6:LC:27:SER:O	6:LC:279:HIS:NE2	2.43	0.45
10:LG:84:ARG:HG2	10:LG:84:ARG:HH11	1.82	0.45
13:LJ:17:LEU:HD12	13:LJ:128:TYR:O	2.17	0.45
21:LS:8:GLN:HB2	21:LS:64:ILE:HD11	1.97	0.45
22:LT:102:ARG:HG2	22:LT:102:ARG:NH1	2.32	0.45
47:C2:269:G:H2'	47:C2:270:C:C6	2.52	0.45
47:C2:585:A:H2'	47:C2:586:G:C8	2.52	0.45
47:C2:931:C:P	74:Sa:70:LYS:HZ1	2.40	0.45
47:C2:1488:G:H3'	47:C2:1515:A:H61	1.81	0.45
51:SD:105:MET:O	51:SD:109:LEU:HD23	2.17	0.45
57:SJ:107:ARG:NE	57:SJ:112:GLN:HE21	2.14	0.45
60:SM:70:ASN:O	60:SM:74:LEU:HG	2.17	0.45
67:ST:105:LEU:O	67:ST:109:GLU:HG2	2.17	0.45
82:P:58:A:H2'	82:P:61:C:H41	1.82	0.45
1:C1:335:G:OP1	27:LY:9:SER:HB2	2.17	0.45
1:C1:1324:U:H5'	21:LS:2:ALA:HA	1.99	0.45
1:C1:1597:C:H2'	1:C1:1598:G:C8	2.52	0.45
1:C1:1798:A:H2'	1:C1:1799:A:C8	2.51	0.45
1:C1:1814:A:H4'	1:C1:1815:U:H5'	1.99	0.45
5:LB:76:VAL:HG12	5:LB:325:LYS:HA	1.99	0.45
14:LL:168:ARG:HH21	14:LL:172:LEU:HD21	1.82	0.45
16:LN:20:ARG:O	16:LN:24:ARG:HG3	2.17	0.45
19:LQ:106:PHE:CE1	19:LQ:121:CYS:HB2	2.52	0.45
23:LU:38:ILE:H	23:LU:38:ILE:HD12	1.82	0.45
25:LW:78:ALA:HB1	54:SG:9:VAL:HG13	1.99	0.45
29:La:2:PRO:HG2	29:La:5:PHE:CD2	2.52	0.45
47:C2:61:A:O2'	47:C2:62:A:O4'	2.35	0.45
47:C2:152:U:O2'	54:SG:15:THR:HG23	2.18	0.45
47:C2:486:G:N2	47:C2:501:U:O2	2.42	0.45
47:C2:1322:A:H2'	47:C2:1323:C:C6	2.52	0.45
47:C2:1399:C:HO2'	47:C2:1400:A:P	2.39	0.45
66:SS:88:ARG:HH12	66:SS:112:ASP:CG	2.25	0.45
73:SZ:42:LEU:HD23	73:SZ:42:LEU:H	1.81	0.45
75:Sb:56:CYS:HB3	75:Sb:59:CYS:O	2.16	0.45
81:A:19:G:O6	81:A:56:C:N4	2.50	0.45
1:C1:725:G:O6	1:C1:746:A:N6	2.51	0.44
1:C1:1785:U:H2'	1:C1:1786:G:C8	2.52	0.44
1:C1:1861:G:O2'	1:C1:3066:U:OP1	2.30	0.44
1:C1:2216:G:H22	1:C1:2229:A:H2	1.64	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C1:2713:U:O2'	43:Lo:8:ARG:NH1	2.50	0.44
1:C1:3033:A:H2'	1:C1:3034:C:H6	1.83	0.44
17:LO:36[A]:VAL:HB	17:LO:107[A]:GLY:O	2.17	0.44
24:LV:27:ASP:HB3	24:LV:101:VAL:HG13	1.98	0.44
37:Li:68:ARG:HB3	37:Li:68:ARG:NH1	2.32	0.44
39:Lk:32:ASN:O	39:Lk:33:LYS:HD3	2.17	0.44
47:C2:399:A:H4'	52:SE:3:ARG:HG3	1.99	0.44
47:C2:623:A:H3'	47:C2:624:G:H5''	1.98	0.44
47:C2:756:A:H3'	47:C2:757:A:H8	1.82	0.44
47:C2:848:C:H2'	47:C2:849:C:C6	2.52	0.44
47:C2:1147:A:H2'	47:C2:1148:C:C6	2.52	0.44
47:C2:1592:A:H2'	47:C2:1593:A:C8	2.51	0.44
47:C2:1696:G:HO2'	47:C2:1697:G:C5'	2.31	0.44
49:SB:144:ARG:CZ	49:SB:206:PRO:HB3	2.47	0.44
52:SE:75:LYS:HD2	52:SE:77:ARG:NH2	2.32	0.44
55:SH:80:GLU:HG3	55:SH:83:LYS:NZ	2.32	0.44
60:SM:83:GLU:HB3	60:SM:84:ASN:H	1.48	0.44
71:SX:29:TYR:CZ	71:SX:33:LEU:HD11	2.53	0.44
1:C1:209:A:H4'	1:C1:211:A:N7	2.32	0.44
1:C1:1245:A:N7	1:C1:1272:C:H4'	2.31	0.44
1:C1:1544:G:H5'	16:LN:67:ARG:HE	1.82	0.44
1:C1:1764:U:H3'	1:C1:1765:U:H4'	1.99	0.44
1:C1:1786:G:H2'	1:C1:1787:A:H8	1.78	0.44
1:C1:3069:G:C2	1:C1:3070:A:C8	3.05	0.44
2:C4:23:A:H2'	2:C4:24:A:C8	2.52	0.44
4:LA:42:ARG:HD3	4:LA:87:PHE:CD1	2.52	0.44
4:LA:96:LEU:HD12	4:LA:166:ILE:HD13	1.98	0.44
6:LC:258:LEU:HA	6:LC:261:VAL:HG12	1.99	0.44
6:LC:328:ASN:ND2	9:LF:182:ASP:OD2	2.50	0.44
12:LI:95:HIS:CD2	12:LI:128:ARG:HD2	2.51	0.44
28:LZ:106:GLN:HA	28:LZ:109:GLU:OE2	2.17	0.44
47:C2:52:U:H2'	47:C2:53:G:C8	2.51	0.44
47:C2:1483:A:H2	47:C2:1607:G:H1'	1.81	0.44
57:SJ:16:LYS:HE2	57:SJ:16:LYS:HB3	1.87	0.44
67:ST:85:SER:HA	67:ST:91:TYR:CD1	2.53	0.44
67:ST:131:ASP:O	67:ST:135:ILE:HG12	2.17	0.44
71:SX:70:LYS:O	71:SX:87:VAL:HG12	2.17	0.44
84:5:33:VAL:HG23	84:5:83:PRO:HD3	1.98	0.44
85:R:19:GLN:NE2	85:R:21:ASN:OD1	2.49	0.44
1:C1:1551:C:O2'	1:C1:2170:U:O2'	2.25	0.44
3:C3:10:A:H2'	3:C3:11:C:C6	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C3:126:A:O2'	3:C3:128:U:OP2	2.26	0.44
13:LJ:110:ILE:HD12	66:SS:21:ASN:HD21	1.82	0.44
29:La:80:THR:HA	29:La:87:ARG:NH2	2.31	0.44
44:Lp:7:LYS:O	44:Lp:27:LYS:NZ	2.41	0.44
47:C2:77:U:H1'	47:C2:78:A:OP2	2.17	0.44
47:C2:473:A:H2'	47:C2:474:A:O4'	2.18	0.44
47:C2:1098:U:O2'	70:SW:71:LYS:NZ	2.44	0.44
47:C2:1748:G:H2'	47:C2:1749:A:C8	2.52	0.44
56:SI:9:HIS:CE1	56:SI:10:LYS:HG2	2.52	0.44
56:SI:153:GLU:OE1	56:SI:156:VAL:N	2.32	0.44
57:SJ:109:LEU:HB2	57:SJ:146:PHE:HB3	1.98	0.44
57:SJ:123:HIS:NE2	78:Se:37:ARG:HD2	2.31	0.44
60:SM:59:LEU:O	60:SM:122:VAL:HA	2.17	0.44
63:SP:64:LYS:HA	63:SP:73:PRO:HB3	1.99	0.44
85:R:204:ASP:HA	85:R:207:ARG:NH1	2.32	0.44
1:C1:129:U:H2'	1:C1:130:A:H8	1.81	0.44
1:C1:1269:U:H1'	1:C1:1272:C:H5	1.82	0.44
1:C1:3000:A:H2'	1:C1:3001:C:H6	1.83	0.44
2:C4:10:C:N3	7:LD:20:PHE:HB3	2.32	0.44
2:C4:47:C:H2'	2:C4:48:U:C6	2.52	0.44
3:C3:68:G:H2'	3:C3:69:U:H6	1.82	0.44
10:LG:87:ALA:HA	10:LG:90:THR:HG22	2.00	0.44
20:LR:145:ALA:HA	20:LR:148:ASP:OD2	2.17	0.44
22:LT:94:GLU:N	22:LT:94:GLU:OE1	2.47	0.44
24:LV:15:LEU:HD23	24:LV:53:SER:HB3	1.99	0.44
47:C2:78:A:N6	54:SG:178:LEU:HD23	2.32	0.44
47:C2:139:C:H4'	47:C2:140:A:O5'	2.17	0.44
47:C2:222:A:H2'	47:C2:223:U:C6	2.52	0.44
47:C2:482:U:H2'	47:C2:483:A:H8	1.82	0.44
47:C2:487:G:H2'	47:C2:488:G:H8	1.81	0.44
47:C2:906:A:H2'	47:C2:907:A:C8	2.53	0.44
47:C2:1242:A:OP1	63:SP:59:LYS:NZ	2.44	0.44
51:SD:134:CYS:SG	51:SD:135:GLU:N	2.90	0.44
52:SE:106:LYS:HE3	52:SE:108:ARG:NH1	2.33	0.44
59:SL:8:GLN:HE22	59:SL:14:GLN:H	1.66	0.44
64:SQ:58:ASP:OD1	64:SQ:59:LYS:N	2.50	0.44
65:SR:29:GLN:HA	65:SR:29:GLN:OE1	2.18	0.44
71:SX:46:SER:OG	71:SX:48:HIS:O	2.35	0.44
73:SZ:22:LYS:C	73:SZ:24:LYS:N	2.72	0.44
80:Sg:122:ILE:HB	80:Sg:134:TRP:HB2	2.00	0.44
82:P:53:G:H2'	82:P:54:U:H6	1.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
85:R:79:SER:HA	85:R:82:LEU:HG	1.99	0.44
85:R:341:TYR:HB2	85:R:363:VAL:HB	1.99	0.44
1:C1:19:U:H2'	1:C1:20:A:C8	2.52	0.44
1:C1:105:C:H2'	1:C1:106:A:H8	1.82	0.44
1:C1:987:U:H2'	1:C1:988:U:C6	2.52	0.44
1:C1:1141:C:H2'	1:C1:1142:G:O4'	2.18	0.44
1:C1:1340:G:H2'	1:C1:1341:U:C6	2.52	0.44
1:C1:1886:A:O2'	5:LB:226:PHE:O	2.35	0.44
1:C1:2256:A:N1	47:C2:1756:A:O2'	2.47	0.44
1:C1:2844:C:H42	1:C1:2898:G:H22	1.66	0.44
1:C1:3201:C:H2'	1:C1:3202:G:H8	1.82	0.44
1:C1:3228:C:H4'	1:C1:3229:G:O5'	2.17	0.44
6:LC:4:PRO:O	6:LC:5:GLN:HG2	2.18	0.44
8:LE:31:ARG:HG2	8:LE:34:LEU:HD13	1.99	0.44
11:LH:169:ASN:C	11:LH:170:LYS:HD2	2.43	0.44
12:LI:56:GLU:OE1	12:LI:161:GLY:HA3	2.18	0.44
13:LJ:156:LYS:O	13:LJ:160:VAL:HG22	2.17	0.44
24:LV:22:ILE:HA	24:LV:34:LEU:O	2.18	0.44
27:LY:119:ILE:HG22	27:LY:124:GLY:HA3	1.99	0.44
29:La:86:LYS:HB3	29:La:90:TYR:HE2	1.83	0.44
35:Lg:41:ARG:HH22	35:Lg:52:GLN:HA	1.82	0.44
36:Lh:86:ARG:NE	36:Lh:90:ARG:HH21	2.15	0.44
44:Lp:49:ARG:HE	44:Lp:52:ALA:HA	1.82	0.44
46:P2:110:ILE:H	46:P2:110:ILE:HD12	1.81	0.44
47:C2:119:A:H1'	47:C2:397:A:C4	2.52	0.44
47:C2:638:U:OP2	70:SW:32:LYS:NZ	2.43	0.44
47:C2:640:U:HO2'	47:C2:641:G:P	2.40	0.44
47:C2:1138:A:OP1	47:C2:1138:A:H4'	2.17	0.44
47:C2:1172:G:H2'	47:C2:1173:C:C6	2.52	0.44
47:C2:1346:A:O2'	47:C2:1347:U:H5''	2.17	0.44
47:C2:1511:U:H2'	47:C2:1512:G:C8	2.53	0.44
49:SB:181:LEU:N	49:SB:183:GLN:HE22	2.16	0.44
53:SF:72:HIS:HA	53:SF:107:LYS:HE2	2.00	0.44
58:SK:70:GLU:HA	58:SK:73:VAL:HG12	1.99	0.44
60:SM:96:GLN:HA	60:SM:99:GLU:HG3	1.98	0.44
71:SX:88:PRO:HD3	71:SX:124:VAL:HG22	1.99	0.44
80:Sg:209:THR:O	80:Sg:225:LEU:HD23	2.17	0.44
86:T:171:VAL:C	86:T:173:ASN:H	2.26	0.44
86:T:209:LEU:C	86:T:211:ARG:H	2.26	0.44
1:C1:360:G:N2	1:C1:815:G:H1'	2.33	0.44
1:C1:907:G:C5	1:C1:926:A:C8	3.05	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C1:1472:U:H5'	20:LR:4:LEU:HB2	2.00	0.44
1:C1:2148:U:H2'	1:C1:2149:A:C8	2.53	0.44
1:C1:2265:C:H2'	1:C1:2266:U:H6	1.83	0.44
1:C1:2656:A:OP2	43:Lo:97:LYS:HE2	2.18	0.44
1:C1:3283:U:H2'	1:C1:3284:G:C8	2.53	0.44
3:C3:28:C:H2'	3:C3:29:U:H6	1.82	0.44
5:LB:371:GLN:OE1	5:LB:371:GLN:HA	2.18	0.44
6:LC:11:LEU:HD21	6:LC:156:LEU:HB2	1.99	0.44
6:LC:316:ASN:HD21	9:LF:150:LYS:HD2	1.83	0.44
9:LF:214:TRP:CE2	9:LF:219:LYS:HD2	2.52	0.44
11:LH:19:SER:OG	11:LH:26:LYS:HB2	2.18	0.44
11:LH:179:ILE:C	11:LH:180:TYR:HD1	2.24	0.44
14:LL:174:ARG:HH11	14:LL:174:ARG:HG3	1.82	0.44
47:C2:223:U:H2'	47:C2:224:C:O4'	2.18	0.44
47:C2:366:A:OP1	47:C2:758:U:O2'	2.29	0.44
47:C2:680:U:H5'	47:C2:681:U:OP2	2.18	0.44
47:C2:1211:A:N3	63:SP:97:TYR:OH	2.49	0.44
47:C2:1482:C:P	47:C2:1521:G:H22	2.41	0.44
49:SB:180:THR:N	49:SB:183:GLN:NE2	2.66	0.44
49:SB:222:LYS:HZ1	49:SB:223:PHE:HB2	1.83	0.44
51:SD:48:VAL:HB	51:SD:86:LEU:HD22	1.98	0.44
53:SF:48:PHE:HD2	53:SF:67:PRO:HB3	1.82	0.44
59:SL:57:LYS:HE2	59:SL:131:ILE:HG23	1.98	0.44
60:SM:92:ALA:HB3	60:SM:96:GLN:NE2	2.33	0.44
62:SO:61:MET:HG2	62:SO:104:ALA:HB2	1.99	0.44
67:ST:34:VAL:HG22	67:ST:35:ASP:H	1.82	0.44
72:SY:27:VAL:HG11	72:SY:35:VAL:HG11	1.99	0.44
74:Sa:42:ARG:NH1	83:m:38:G:H4'	2.32	0.44
80:Sg:72:THR:HG22	80:Sg:81:LEU:HB2	2.00	0.44
1:C1:135:C:O2	36:Lh:93:THR:OG1	2.36	0.44
1:C1:835:G:H1'	1:C1:858:A:N6	2.33	0.44
1:C1:2206:G:O2'	1:C1:2208:A:N6	2.44	0.44
1:C1:3232:G:H2'	1:C1:3233:C:H6	1.83	0.44
1:C1:3318:G:O2'	1:C1:3320:A:OP2	2.35	0.44
5:LB:60:LEU:HD12	5:LB:61:ASP:N	2.33	0.44
7:LD:281:GLU:OE1	7:LD:281:GLU:N	2.47	0.44
8:LE:31:ARG:HG3	8:LE:33:SER:H	1.83	0.44
9:LF:138:TYR:N	9:LF:233:GLU:O	2.49	0.44
19:LQ:147:ARG:HB3	19:LQ:150:VAL:HG23	2.00	0.44
20:LR:148:ASP:HA	20:LR:151:ARG:NH1	2.33	0.44
23:LU:11:ILE:H	23:LU:11:ILE:HD12	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
26:LX:117:ASN:O	40:L1:18:LYS:HE2	2.17	0.44
47:C2:103:A:H4'	47:C2:105:A:C8	2.53	0.44
47:C2:181:A:H2'	47:C2:182:A:C8	2.53	0.44
47:C2:341:A:H2'	47:C2:342:C:C6	2.52	0.44
47:C2:636:A:H5''	70:SW:31:SER:HB2	2.00	0.44
47:C2:861:U:H3'	47:C2:862:A:C8	2.52	0.44
47:C2:1086:A:H2'	47:C2:1087:A:C8	2.53	0.44
48:SA:90:ALA:HA	48:SA:95:ALA:HB3	2.00	0.44
49:SB:138:PHE:O	49:SB:213:ARG:HB2	2.18	0.44
49:SB:207:LEU:O	49:SB:210:ILE:HD11	2.17	0.44
50:SC:45:VAL:HG21	50:SC:68:ILE:HG23	1.99	0.44
51:SD:172:THR:HA	51:SD:184:ILE:O	2.18	0.44
56:SI:193:LEU:O	56:SI:197:THR:HG22	2.18	0.44
58:SK:50:THR:HG22	58:SK:55:VAL:HG23	1.99	0.44
60:SM:78:LEU:HD22	79:Sf:114:VAL:HG11	1.99	0.44
62:SO:126:THR:OG1	62:SO:127:ARG:N	2.49	0.44
64:SQ:40:GLU:O	64:SQ:41:PRO:C	2.61	0.44
68:SU:33:GLN:HB3	68:SU:109:GLU:OE2	2.18	0.44
70:SW:101:TYR:HA	70:SW:113:HIS:CE1	2.52	0.44
72:SY:29:HIS:ND1	72:SY:32:ARG:O	2.41	0.44
81:A:15:G:H3'	81:A:16:U:C5	2.53	0.44
84:5:51:5CT:H3	84:5:51:5CT:H10	1.81	0.44
1:C1:77:A:H5'	14:LL:100:ARG:NH1	2.32	0.44
1:C1:1415:U:H2'	1:C1:1416:C:C6	2.53	0.44
1:C1:1695:U:O2'	1:C1:1749:A:N1	2.42	0.44
1:C1:2507:C:H2'	1:C1:2508:U:H6	1.80	0.44
3:C3:26:U:O2'	6:LC:51:ALA:O	2.36	0.44
3:C3:139:U:H2'	3:C3:140:G:H8	1.81	0.44
9:LF:140:SER:O	9:LF:144:ILE:HD12	2.17	0.44
15:LM:72:LEU:HD21	15:LM:81:VAL:HG12	1.99	0.44
47:C2:778:G:C8	47:C2:779:U:H5	2.35	0.44
47:C2:1333:C:H2'	47:C2:1334:U:H6	1.82	0.44
49:SB:32:ILE:HG13	49:SB:96:LEU:HD21	2.00	0.44
53:SF:107:LYS:O	53:SF:111:VAL:HG23	2.17	0.44
61:SN:83:GLU:HG2	61:SN:84:ILE:HG23	2.00	0.44
1:C1:235:A:H2'	1:C1:236:G:H8	1.83	0.44
1:C1:263:C:H2'	1:C1:264:G:O4'	2.18	0.44
1:C1:1266:G:N2	1:C1:1276:U:H1'	2.33	0.44
1:C1:1597:C:H2'	1:C1:1598:G:H8	1.83	0.44
1:C1:1659:U:H2'	1:C1:1660:C:C6	2.53	0.44
1:C1:2684:C:H2'	1:C1:2685:C:C6	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:LB:348:ARG:HG2	5:LB:348:ARG:O	2.17	0.44
6:LC:233:LEU:HD12	6:LC:238:LEU:HD11	2.00	0.44
6:LC:261:VAL:HG13	6:LC:262:TRP:CD1	2.53	0.44
6:LC:325:LEU:HD11	6:LC:332:LYS:HB2	1.99	0.44
28:LZ:84:ARG:NE	35:Lg:97:GLU:OE2	2.50	0.44
34:Lf:103:TYR:HA	34:Lf:104:PRO:C	2.43	0.44
36:Lh:47:VAL:O	36:Lh:51:ILE:HG12	2.18	0.44
47:C2:139:C:H4'	47:C2:140:A:C5'	2.48	0.44
47:C2:200:A:H2'	47:C2:201:G:H8	1.83	0.44
47:C2:385:A:H2'	47:C2:386:G:C8	2.53	0.44
47:C2:591:A:H2'	47:C2:592:A:H8	1.82	0.44
47:C2:919:A:H2'	47:C2:920:U:C6	2.53	0.44
47:C2:1280:C:H2'	47:C2:1281:G:C8	2.53	0.44
47:C2:1688:U:H3'	47:C2:1689:A:C8	2.51	0.44
50:SC:102:VAL:HG21	50:SC:129:ILE:HA	2.00	0.44
55:SH:110:GLN:HG3	55:SH:111:LYS:H	1.83	0.44
58:SK:32:HIS:CD2	58:SK:35:ILE:HD13	2.53	0.44
67:ST:77:ASN:HB3	67:ST:95:ASP:HB2	2.00	0.44
70:SW:28:ARG:HD3	70:SW:60:LYS:HE2	1.99	0.44
80:Sg:12:THR:HG22	80:Sg:311:ARG:HB3	2.00	0.44
80:Sg:213:SER:O	80:Sg:220:ILE:HA	2.18	0.44
1:C1:1246:G:H2'	1:C1:1247:U:C6	2.52	0.43
1:C1:1357:G:H2'	1:C1:1358:C:C6	2.52	0.43
1:C1:1381:A:H2'	1:C1:1382:G:H8	1.81	0.43
1:C1:1927:G:N7	44:Lp:16:VAL:HG12	2.33	0.43
1:C1:1927:G:C5	44:Lp:16:VAL:HG12	2.53	0.43
1:C1:2217:U:H2'	1:C1:2218:G:H8	1.83	0.43
1:C1:2258:U:C2	1:C1:2259:A:C8	3.05	0.43
1:C1:3027:A:OP1	85:R:135:GLN:NE2	2.51	0.43
1:C1:3101:G:H2'	1:C1:3102:G:C8	2.53	0.43
3:C3:75:G:H2'	3:C3:76:C:C6	2.53	0.43
8:LE:58:LEU:HD22	8:LE:78:ARG:HG3	1.99	0.43
9:LF:160:ARG:HD2	9:LF:203:TRP:CE2	2.53	0.43
9:LF:186:HIS:HA	9:LF:189:ILE:HG22	2.00	0.43
11:LH:70:THR:O	11:LH:74:LEU:HD23	2.18	0.43
20:LR:148:ASP:HA	20:LR:151:ARG:HH12	1.83	0.43
32:Ld:80:ASN:OD1	32:Ld:81:GLU:N	2.49	0.43
37:Li:56:ARG:O	37:Li:60:LEU:HD23	2.18	0.43
47:C2:30:G:H2'	47:C2:31:C:C6	2.52	0.43
47:C2:82:U:H2'	47:C2:83:G:O4'	2.18	0.43
47:C2:570:A:N6	71:SX:116:ASP:OD1	2.46	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:C2:1610:G:N7	64:SQ:14:LYS:NZ	2.66	0.43
47:C2:1693:A:H2	47:C2:1708:U:H3	1.65	0.43
48:SA:62:ARG:HH21	69:SV:38:LYS:HA	1.82	0.43
49:SB:205:PHE:HB3	49:SB:207:LEU:CD1	2.48	0.43
49:SB:207:LEU:HB3	49:SB:210:ILE:HD11	1.99	0.43
57:SJ:41:GLU:O	57:SJ:45:ILE:HG12	2.18	0.43
66:SS:53:ASP:HB3	66:SS:56:LYS:HZ2	1.82	0.43
68:SU:65:ILE:O	68:SU:81:THR:HA	2.18	0.43
80:Sg:64:HIS:ND1	80:Sg:84:SER:HB3	2.33	0.43
82:P:61:C:H2'	82:P:62:C:C6	2.53	0.43
85:R:30:GLN:HA	85:R:212:GLU:OE2	2.18	0.43
86:T:272:GLY:O	86:T:276:ILE:HG22	2.18	0.43
1:C1:33:G:OP1	16:LN:73:ARG:NH1	2.51	0.43
1:C1:846:A:H2'	1:C1:847:A:O4'	2.18	0.43
1:C1:1445:U:H5''	1:C1:1446:A:OP2	2.18	0.43
1:C1:1610:G:P	26:LX:125:ARG:HH12	2.40	0.43
14:LL:64:LYS:C	14:LL:65:TYR:HD1	2.26	0.43
16:LN:190:THR:O	16:LN:194:GLN:HG2	2.18	0.43
46:P2:97:ASN:OD1	46:P2:98:VAL:N	2.51	0.43
47:C2:97:C:H2'	47:C2:98:U:C6	2.54	0.43
47:C2:119:A:H1'	47:C2:397:A:C5	2.53	0.43
47:C2:1350:U:H2'	47:C2:1351:G:H8	1.81	0.43
48:SA:154:GLU:O	48:SA:156:VAL:HG23	2.18	0.43
48:SA:205:ARG:HG2	48:SA:207:PRO:HD2	2.00	0.43
51:SD:31:GLU:HA	51:SD:107:PHE:HE2	1.84	0.43
53:SF:94:THR:OG1	53:SF:114:ILE:HG13	2.18	0.43
56:SI:64:ASN:O	56:SI:180:ASP:HA	2.18	0.43
61:SN:129:TYR:HD1	61:SN:134:VAL:HG21	1.83	0.43
62:SO:16:VAL:HG11	62:SO:18:ARG:HH11	1.83	0.43
66:SS:109:LEU:O	66:SS:113:LEU:HG	2.18	0.43
66:SS:127:HIS:CE1	66:SS:133:VAL:HG11	2.53	0.43
67:ST:34:VAL:O	67:ST:35:ASP:OD1	2.36	0.43
69:SV:3:ASN:HD21	69:SV:7:GLN:HG3	1.84	0.43
69:SV:80:LYS:O	69:SV:82:VAL:N	2.50	0.43
77:Sd:13:ARG:HG3	77:Sd:13:ARG:NH1	2.33	0.43
79:Sf:107:LYS:HB3	79:Sf:115:THR:OG1	2.19	0.43
82:P:5:U:H2'	82:P:6:C:H6	1.83	0.43
82:P:72:A:H4'	84:5:48:LYS:NZ	2.34	0.43
84:5:110:LYS:C	84:5:112:ASP:H	2.26	0.43
85:R:65:VAL:HG11	85:R:113:LYS:HE2	2.00	0.43
1:C1:36:C:H4'	1:C1:808:A:N1	2.33	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C1:92:G:H5'	1:C1:93:C:H5''	2.00	0.43
1:C1:697:A:H2'	1:C1:698:U:C6	2.53	0.43
1:C1:945:C:H2'	1:C1:946:U:C6	2.53	0.43
1:C1:1221:A:P	45:P0:60:ARG:HH12	2.41	0.43
1:C1:1945:A:H2'	1:C1:1946:A:C8	2.53	0.43
1:C1:2555:G:O2'	28:LZ:136:PHE:O	2.35	0.43
1:C1:2909:U:O2'	1:C1:3105:U:O2	2.33	0.43
1:C1:2989:U:H2'	1:C1:2990:G:O4'	2.17	0.43
1:C1:3121:U:H4'	1:C1:3122:A:OP1	2.18	0.43
1:C1:3182:G:O3'	17:LO:161[A]:LYS:NZ	2.51	0.43
6:LC:260:GLN:H	6:LC:260:GLN:CD	2.24	0.43
9:LF:86:VAL:HG22	9:LF:136:TYR:HB3	2.00	0.43
14:LL:149:GLN:HA	14:LL:149:GLN:OE1	2.19	0.43
23:LU:37:LEU:HD12	23:LU:41:ILE:HD11	1.99	0.43
40:LI:14:ALA:O	40:LI:18:LYS:HG3	2.18	0.43
47:C2:693:U:H5''	47:C2:694:U:H5'	1.99	0.43
47:C2:907:A:H1'	47:C2:997:G:O2'	2.19	0.43
47:C2:932:U:OP2	49:SB:155:TYR:OH	2.29	0.43
47:C2:1330:G:C2	47:C2:1331:A:H1'	2.53	0.43
47:C2:1672:G:H2'	47:C2:1673:G:H8	1.81	0.43
53:SF:56:ALA:O	53:SF:57:SER:OG	2.32	0.43
53:SF:68:ILE:HD12	53:SF:70:VAL:O	2.17	0.43
53:SF:131:GLN:HA	53:SF:134:VAL:HG22	1.99	0.43
55:SH:14:THR:HG22	55:SH:17:GLU:OE1	2.19	0.43
55:SH:155:ASP:OD2	55:SH:157:LYS:HG2	2.18	0.43
59:SL:78:THR:HA	59:SL:84:ILE:HG22	2.00	0.43
61:SN:71:ILE:H	61:SN:71:ILE:HD12	1.83	0.43
71:SX:49:ALA:O	71:SX:103:LEU:HD12	2.18	0.43
73:SZ:18:ALA:O	73:SZ:21:LYS:HB2	2.19	0.43
82:P:66:C:H2'	82:P:67:G:C8	2.53	0.43
1:C1:417:A:H2'	1:C1:418:A:C8	2.54	0.43
1:C1:1109:U:H2'	1:C1:1110:U:C6	2.53	0.43
1:C1:1232:C:H2'	1:C1:1233:G:H8	1.84	0.43
1:C1:1636:U:H5''	28:LZ:73:LYS:NZ	2.33	0.43
1:C1:2660:G:OP1	1:C1:2750:U:O2'	2.37	0.43
1:C1:3218:A:H5''	1:C1:3219:G:C5	2.52	0.43
2:C4:14:U:H5'	7:LD:24:ARG:NH1	2.32	0.43
3:C3:14:C:H5''	18:LP:123:PRO:HG3	2.00	0.43
6:LC:22:LEU:HA	6:LC:23:PRO:HD3	1.89	0.43
7:LD:188:GLU:OE1	7:LD:188:GLU:N	2.52	0.43
20:LR:15:VAL:HG11	20:LR:52:LYS:HG3	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:Ln:17:ARG:HA	42:Ln:20:VAL:HG12	2.00	0.43
43:Lo:42:ARG:HG3	43:Lo:42:ARG:HH11	1.84	0.43
45:P0:36:GLN:HA	45:P0:39:HIS:CD2	2.53	0.43
47:C2:640:U:O2'	47:C2:641:G:OP1	2.31	0.43
47:C2:711:U:H1'	47:C2:712:G:OP2	2.17	0.43
47:C2:891:A:H2'	47:C2:892:A:C8	2.52	0.43
47:C2:1294:G:O6	47:C2:1303:U:O4	2.35	0.43
47:C2:1471:A:HO2'	47:C2:1472:C:P	2.38	0.43
48:SA:146:LEU:HD22	48:SA:173:ILE:HG21	1.99	0.43
50:SC:37:PRO:HD3	50:SC:46:LYS:HD2	2.00	0.43
52:SE:100:ARG:HB2	52:SE:114:ILE:HD13	1.99	0.43
58:SK:38:LYS:NZ	58:SK:41:TYR:HE2	2.16	0.43
59:SL:24:LYS:HE2	59:SL:24:LYS:HB3	1.83	0.43
65:SR:106:THR:O	65:SR:110:VAL:HG23	2.18	0.43
80:Sg:44:SER:OG	80:Sg:59:ARG:HB2	2.18	0.43
82:P:37:A:H3'	82:P:38:A:H8	1.83	0.43
1:C1:436:A:H2'	1:C1:437:G:C8	2.53	0.43
1:C1:1225:A:H3'	1:C1:1226:G:H8	1.84	0.43
1:C1:1342:C:H2'	1:C1:1343:A:H8	1.82	0.43
6:LC:234:ASN:O	6:LC:238:LEU:HG	2.19	0.43
6:LC:343:LYS:HD3	6:LC:344:ALA:H	1.82	0.43
10:LG:114:ALA:O	10:LG:118:GLU:HG3	2.19	0.43
17:LO:8[A]:VAL:O	17:LO:118[A]:VAL:HG22	2.17	0.43
17:LO:23[A]:VAL:HG12	17:LO:33[A]:ILE:HD13	2.01	0.43
17:LO:111[A]:PRO:C	17:LO:113[A]:ASP:N	2.76	0.43
46:P2:86:LYS:HA	46:P2:86:LYS:HD3	1.84	0.43
47:C2:514:G:H2'	47:C2:515:A:H8	1.83	0.43
47:C2:604:A:H2'	47:C2:605:A:O4'	2.18	0.43
47:C2:1107:G:O2'	47:C2:1108:G:H5'	2.18	0.43
47:C2:1341:A:OP1	80:Sg:63:GLY:HA2	2.18	0.43
50:SC:55:GLU:OE2	50:SC:55:GLU:N	2.37	0.43
52:SE:11:ARG:NH2	52:SE:24:SER:O	2.51	0.43
57:SJ:112:GLN:HG3	57:SJ:148:VAL:HG21	1.99	0.43
69:SV:85:TYR:CE2	75:Sb:6:ASP:HB3	2.53	0.43
80:Sg:127:ARG:HA	80:Sg:150:TRP:HB2	2.01	0.43
82:P:14:A:H2'	82:P:15:A:O4'	2.18	0.43
85:R:337:ASN:N	85:R:337:ASN:OD1	2.51	0.43
86:T:308:PHE:HD1	86:T:308:PHE:HA	1.67	0.43
1:C1:38:U:H4'	29:La:32:ARG:HD2	1.99	0.43
1:C1:503:C:H2'	1:C1:504:A:C8	2.51	0.43
1:C1:1433:A:O4'	33:Le:27:ARG:HD2	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C1:1565:G:H1	1:C1:1574:C:N4	2.15	0.43
1:C1:1940:G:H21	1:C1:3362:A:H8	1.67	0.43
1:C1:3157:U:H4'	1:C1:3158:G:H5'	1.99	0.43
2:C4:107:C:H2'	2:C4:108:A:C8	2.53	0.43
6:LC:257:LYS:HA	6:LC:260:GLN:OE1	2.18	0.43
7:LD:205:SER:HA	7:LD:208:MET:HG2	2.01	0.43
7:LD:234:ASP:OD1	7:LD:235:SER:N	2.52	0.43
10:LG:158:ASP:OD2	10:LG:159:PRO:HD3	2.19	0.43
15:LM:96:ALA:O	15:LM:101:LYS:NZ	2.52	0.43
16:LN:190:THR:O	16:LN:193:ARG:HG2	2.18	0.43
18:LP:112:LEU:HD12	18:LP:150:VAL:HB	1.98	0.43
19:LQ:36:LEU:O	19:LQ:40:THR:OG1	2.33	0.43
29:La:78:LEU:HD23	29:La:78:LEU:O	2.19	0.43
47:C2:209:U:H2'	47:C2:210:A:H8	1.83	0.43
47:C2:269:G:H2'	47:C2:270:C:H6	1.84	0.43
47:C2:610:G:H21	71:SX:19:ARG:HH12	1.66	0.43
47:C2:928:U:H4'	47:C2:929:A:O5'	2.18	0.43
47:C2:1088:A:O3'	74:Sa:89:ARG:NH2	2.52	0.43
47:C2:1359:C:C4	47:C2:1360:A:C2	3.07	0.43
47:C2:1387:G:OP1	65:SR:33:ARG:NH2	2.45	0.43
47:C2:1652:C:H2'	47:C2:1653:C:H6	1.82	0.43
48:SA:12:GLU:O	48:SA:16:LEU:HD13	2.19	0.43
57:SJ:107:ARG:HH21	57:SJ:148:VAL:HG23	1.84	0.43
68:SU:25:THR:OG1	68:SU:115:GLU:HB2	2.18	0.43
73:SZ:21:LYS:HA	73:SZ:21:LYS:CE	2.47	0.43
1:C1:23:A:C6	1:C1:24:G:C6	3.07	0.43
1:C1:432:G:H2'	1:C1:433:A:C8	2.53	0.43
1:C1:507:U:H2'	1:C1:508:U:C6	2.53	0.43
1:C1:767:U:C2	1:C1:768:C:C5	3.07	0.43
1:C1:2144:A:H1'	1:C1:2281:A:H61	1.83	0.43
1:C1:2266:U:H2'	1:C1:2267:C:H6	1.83	0.43
1:C1:2688:U:N3	7:LD:17:GLN:O	2.52	0.43
1:C1:2984:C:H2'	1:C1:2985:C:H6	1.83	0.43
4:LA:135:ILE:HB	4:LA:149:ARG:HB3	2.00	0.43
10:LG:75:ILE:C	10:LG:77:GLN:H	2.25	0.43
11:LH:134:ILE:HD12	11:LH:146:LEU:HD22	2.01	0.43
12:LI:150:GLU:HA	12:LI:153:ARG:HB3	2.00	0.43
17:LO:3[A]:VAL:HG13	17:LO:4[A]:GLU:HG2	2.00	0.43
22:LT:6:GLY:N	22:LT:9:SER:OG	2.49	0.43
47:C2:141:U:O2'	47:C2:142:G:H8	2.02	0.43
47:C2:183:U:H2'	47:C2:184:C:C6	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:C2:449:C:H2'	47:C2:450:U:C6	2.54	0.43
47:C2:637:C:OP1	70:SW:32:LYS:N	2.48	0.43
47:C2:866:G:H2'	47:C2:867:G:H8	1.84	0.43
47:C2:1382:A:HO2'	68:SU:89:ARG:HH22	1.61	0.43
47:C2:1436:A:H2'	47:C2:1437:U:O4'	2.19	0.43
49:SB:222:LYS:NZ	49:SB:223:PHE:H	2.17	0.43
58:SK:68:LEU:HD23	58:SK:68:LEU:H	1.82	0.43
62:SO:61:MET:HE2	76:Sc:60:GLU:O	2.19	0.43
67:ST:33:TYR:OH	67:ST:103:LYS:HD2	2.19	0.43
76:Sc:9:LEU:HD13	76:Sc:55:VAL:HG12	2.01	0.43
80:Sg:13:LEU:HD12	80:Sg:45:TRP:CE3	2.54	0.43
80:Sg:307:ASP:OD1	80:Sg:309:VAL:HG12	2.19	0.43
1:C1:307:A:H2'	1:C1:308:A:C8	2.54	0.43
1:C1:651:G:O2'	1:C1:1435:A:OP1	2.36	0.43
1:C1:656:A:H2'	1:C1:657:A:H8	1.84	0.43
1:C1:681:U:O2	1:C1:696:C:N4	2.33	0.43
1:C1:748:U:H2'	1:C1:749:C:C6	2.53	0.43
1:C1:1119:C:H2'	1:C1:1120:A:C8	2.52	0.43
1:C1:1167:U:O2'	9:LF:210:PRO:O	2.37	0.43
1:C1:1246:G:O2'	1:C1:1247:U:O5'	2.35	0.43
1:C1:2102:U:H2'	1:C1:2103:U:C6	2.54	0.43
1:C1:2148:U:H4'	4:LA:196:TRP:CZ2	2.54	0.43
1:C1:3274:A:OP2	18:LP:171:ARG:NH1	2.52	0.43
3:C3:7:U:H2'	3:C3:8:C:C6	2.54	0.43
6:LC:356:THR:O	6:LC:360:LYS:HG2	2.19	0.43
7:LD:123:GLU:OE1	7:LD:123:GLU:N	2.52	0.43
10:LG:72:PRO:HG3	16:LN:18:VAL:HA	2.00	0.43
23:LU:75:TYR:HE1	23:LU:79:LEU:HD11	1.83	0.43
24:LV:46:LEU:HG	24:LV:47:ASN:ND2	2.34	0.43
24:LV:84:SER:HA	24:LV:93:LEU:O	2.19	0.43
29:La:58:MET:HE2	29:La:58:MET:HB3	1.88	0.43
31:Lc:69:TYR:O	31:Lc:71:GLN:NE2	2.52	0.43
35:Lg:57:LEU:HB3	35:Lg:61:GLN:HB2	2.00	0.43
47:C2:166:C:O2'	54:SG:133:LEU:O	2.27	0.43
47:C2:305:C:H2'	47:C2:306:U:C6	2.54	0.43
47:C2:826:U:H2'	47:C2:827:C:H6	1.82	0.43
47:C2:1389:C:H6	65:SR:28:PHE:CZ	2.37	0.43
47:C2:1407:U:H2'	47:C2:1408:G:C8	2.54	0.43
47:C2:1701:A:H5''	47:C2:1702:A:H5''	2.01	0.43
49:SB:87:ARG:HB2	49:SB:101:HIS:CD2	2.53	0.43
49:SB:213:ARG:HH11	49:SB:214:LYS:HD3	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:SE:250:GLU:HB2	52:SE:254:ARG:NH1	2.34	0.43
53:SF:49:GLU:OE1	53:SF:49:GLU:N	2.51	0.43
55:SH:9:LEU:HD21	55:SH:17:GLU:HG3	2.01	0.43
55:SH:58:LEU:HD12	55:SH:90:VAL:HG12	2.01	0.43
58:SK:31:LYS:NZ	58:SK:36:ASP:O	2.43	0.43
66:SS:12:GLN:OE1	66:SS:12:GLN:N	2.52	0.43
66:SS:140:THR:HA	66:SS:143:ARG:HH21	1.82	0.43
69:SV:71:ARG:HG3	69:SV:83:TRP:CZ2	2.54	0.43
73:SZ:65:LEU:HD12	73:SZ:80:LEU:HD21	2.01	0.43
81:A:23:A:H2'	81:A:24:G:C8	2.54	0.43
82:P:4:C:H4'	84:5:27:ARG:NH1	2.34	0.43
1:C1:287:G:H5''	16:LN:180:PHE:HE1	1.82	0.43
1:C1:1090:G:H2'	1:C1:1091:A:H8	1.84	0.43
1:C1:1621:A:H2'	1:C1:1622:U:H6	1.83	0.43
1:C1:1809:A:OP1	28:LZ:65:ARG:NH2	2.51	0.43
1:C1:2794:G:O2'	1:C1:2795:U:OP2	2.32	0.43
1:C1:2801:A:O2'	1:C1:2802:A:H2'	2.19	0.43
1:C1:2847:A:OP2	41:Lm:122:ARG:NH1	2.52	0.43
6:LC:154:THR:HG23	6:LC:252:GLU:HG3	2.00	0.43
6:LC:196:ASN:ND2	27:LY:11:ASP:HA	2.33	0.43
7:LD:19:PRO:HB3	7:LD:23:ARG:HB3	2.00	0.43
7:LD:270:LYS:HE2	7:LD:273:ARG:HH21	1.84	0.43
21:LS:155:ARG:HD3	21:LS:172:TYR:CD1	2.53	0.43
26:LX:91:ASN:O	26:LX:95:ILE:HD12	2.19	0.43
27:LY:110:HIS:O	27:LY:115:ARG:NH1	2.52	0.43
45:P0:27:VAL:HG23	45:P0:188:VAL:HG23	2.01	0.43
47:C2:1097:U:HO2'	50:SC:168:ARG:HD2	1.82	0.43
47:C2:1458:G:H5''	47:C2:1459:C:OP2	2.19	0.43
48:SA:49:ASN:HB3	48:SA:52:LYS:HD2	2.00	0.43
56:SI:137:LYS:HA	56:SI:140:GLU:CD	2.44	0.43
57:SJ:58:ASP:O	57:SJ:61:THR:OG1	2.24	0.43
57:SJ:77:ILE:HD11	57:SJ:93:LEU:HB2	2.00	0.43
64:SQ:10:PHE:O	64:SQ:87:LYS:HE2	2.19	0.43
79:Sf:145:HIS:CE1	79:Sf:147:VAL:HG12	2.54	0.43
1:C1:504:A:N6	1:C1:588:G:O6	2.52	0.43
1:C1:954:U:OP2	30:Lb:5:LYS:HG2	2.19	0.43
1:C1:1015:U:O2	1:C1:1017:C:O2'	2.33	0.43
1:C1:1405:U:O2	33:Le:54:LYS:N	2.52	0.43
1:C1:1444:G:H2'	1:C1:1445:U:O4'	2.18	0.43
1:C1:1590:G:C2	1:C1:1591:G:C8	3.07	0.43
1:C1:1799:A:H2'	1:C1:1800:A:C8	2.50	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C1:2223:A:O3'	37:Li:74:LYS:NZ	2.52	0.43
1:C1:2309:A:N3	1:C1:2961:G:O2'	2.45	0.43
1:C1:2618:G:O5'	30:Lb:3:LYS:NZ	2.44	0.43
1:C1:3252:G:H2'	1:C1:3253:G:H8	1.80	0.43
2:C4:96:U:H2'	2:C4:97:A:H8	1.84	0.43
10:LG:32:LYS:HE2	10:LG:32:LYS:HB3	1.72	0.43
12:LI:135:ILE:HG22	12:LI:136:PHE:CD1	2.54	0.43
13:LJ:82:ARG:HA	13:LJ:85:LYS:HE3	2.00	0.43
14:LL:180:ARG:O	14:LL:184:GLU:HG2	2.18	0.43
28:LZ:58:GLY:H	28:LZ:61:LYS:NZ	2.16	0.43
45:P0:29:GLY:HA2	45:P0:83:ASN:O	2.19	0.43
47:C2:1144:U:H2'	47:C2:1145:U:O2	2.18	0.43
47:C2:1732:A:H2'	47:C2:1733:C:C6	2.54	0.43
50:SC:116:LYS:HG2	50:SC:127:ALA:CB	2.48	0.43
51:SD:67:ASN:O	51:SD:71:LEU:HD23	2.19	0.43
51:SD:168:ILE:HD13	51:SD:189:MET:HB2	2.01	0.43
52:SE:129:VAL:HG12	52:SE:139:VAL:HG23	2.01	0.43
57:SJ:63:ASP:OD1	57:SJ:64:GLU:N	2.52	0.43
59:SL:6:THR:O	59:SL:9:SER:HB3	2.19	0.43
73:SZ:46:LYS:O	73:SZ:49:ARG:HB2	2.19	0.43
73:SZ:48:ASP:O	73:SZ:52:LYS:HG2	2.18	0.43
78:Se:23:LYS:HE2	78:Se:23:LYS:HA	2.01	0.43
81:A:1:G:H2'	81:A:2:G:H8	1.84	0.43
1:C1:287:G:H2'	1:C1:288:C:C6	2.54	0.42
1:C1:1138:U:H2'	1:C1:1139:G:C8	2.54	0.42
1:C1:1369:A:H5''	29:La:21:ARG:HH11	1.84	0.42
1:C1:3013:U:H2'	1:C1:3014:U:C6	2.54	0.42
1:C1:3056:U:OP1	1:C1:3079:U:N3	2.31	0.42
1:C1:3122:A:C2	1:C1:3123:A:C8	3.07	0.42
1:C1:3251:U:H2'	1:C1:3252:G:H8	1.84	0.42
1:C1:3274:A:H2'	18:LP:171:ARG:NH1	2.34	0.42
5:LB:56:ILE:HG21	5:LB:356:LEU:HD22	2.00	0.42
6:LC:317:PRO:C	6:LC:319:LYS:H	2.26	0.42
11:LH:3:TYR:HA	21:LS:142:GLN:HE22	1.83	0.42
11:LH:20:ILE:HG21	11:LH:45:PHE:CD2	2.54	0.42
11:LH:180:TYR:HB2	41:Lm:85:LEU:HD21	2.01	0.42
24:LV:61:THR:HG22	24:LV:73:VAL:HA	2.00	0.42
26:LX:62:VAL:HG23	26:LX:63:ILE:HG13	2.00	0.42
32:Ld:51:LEU:HA	32:Ld:93:VAL:HG22	2.01	0.42
34:Lf:59:VAL:HG13	34:Lf:60:ARG:H	1.82	0.42
47:C2:823:G:C6	47:C2:824:G:C5	3.07	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:C2:979:A:H4'	47:C2:1786:G:N2	2.34	0.42
47:C2:1150:G:H1'	83:m:45:A:N6	2.34	0.42
47:C2:1405:G:H2'	47:C2:1406:A:C8	2.54	0.42
47:C2:1511:U:H2'	47:C2:1512:G:H8	1.84	0.42
47:C2:1690:G:H2'	47:C2:1691:A:H8	1.81	0.42
47:C2:1785:U:P	62:SO:133:ARG:HH22	2.42	0.42
49:SB:78:ASP:OD1	49:SB:79:HIS:N	2.52	0.42
49:SB:136:ARG:HB2	49:SB:218:LEU:HD11	2.00	0.42
67:ST:38:LYS:O	67:ST:39:THR:OG1	2.29	0.42
82:P:2:U:H2'	82:P:3:C:C6	2.53	0.42
1:C1:591:G:O2'	8:LE:17:ALA:O	2.26	0.42
1:C1:1207:G:H4'	41:Lm:117:HIS:O	2.20	0.42
1:C1:1730:G:N7	31:Lc:28:LYS:HG3	2.34	0.42
1:C1:2707:C:H2'	1:C1:2708:C:C6	2.54	0.42
1:C1:2947:G:N3	5:LB:250:ALA:HB1	2.35	0.42
1:C1:3064:U:H2'	1:C1:3065:G:C8	2.55	0.42
6:LC:92:ASN:HA	6:LC:98:ARG:O	2.19	0.42
9:LF:155:LYS:HA	9:LF:159:GLN:O	2.19	0.42
14:LL:32:LYS:O	14:LL:36:ARG:HG3	2.18	0.42
28:LZ:89:VAL:O	28:LZ:89:VAL:HG13	2.19	0.42
30:Lb:58:LYS:O	30:Lb:58:LYS:HG2	2.19	0.42
45:P0:49:ALA:HB1	45:P0:87:VAL:HB	2.01	0.42
45:P0:146:ALA:O	45:P0:147:ARG:HD3	2.19	0.42
47:C2:10:G:O2'	50:SC:87:GLN:OE1	2.31	0.42
47:C2:1323:C:H2'	47:C2:1324:G:C8	2.54	0.42
47:C2:1725:U:H2'	47:C2:1726:G:C8	2.54	0.42
49:SB:109:LYS:HE2	49:SB:113:MET:SD	2.59	0.42
49:SB:193:ILE:HD12	49:SB:193:ILE:H	1.84	0.42
50:SC:88:LYS:HD3	50:SC:95:ARG:NH2	2.33	0.42
51:SD:17:PHE:O	51:SD:21:LEU:HD13	2.19	0.42
61:SN:45:LEU:HB2	61:SN:50:ILE:HD11	2.01	0.42
68:SU:28:SER:HB2	68:SU:112:VAL:HA	2.01	0.42
72:SY:40:LEU:HG	72:SY:60:PHE:CZ	2.54	0.42
80:Sg:249:ARG:HG3	80:Sg:249:ARG:NH2	2.33	0.42
81:A:67:C:H2'	81:A:68:G:C8	2.53	0.42
1:C1:137:G:H2'	1:C1:138:U:C6	2.55	0.42
1:C1:301:G:H1	1:C1:314:U:H3	1.67	0.42
1:C1:528:U:H2'	1:C1:529:A:H8	1.82	0.42
1:C1:1168:U:H1'	9:LF:209:ASN:ND2	2.28	0.42
1:C1:2609:A:N3	16:LN:87:GLN:NE2	2.63	0.42
1:C1:3295:A:H2'	1:C1:3296:A:C8	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:LO:25[A]:LYS:HD2	17:LO:25[A]:LYS:HA	1.88	0.42
21:LS:136:LYS:HB2	21:LS:136:LYS:NZ	2.34	0.42
24:LV:19:VAL:HG13	24:LV:37:ILE:HA	2.00	0.42
28:LZ:33:SER:HB3	28:LZ:40:HIS:HE1	1.84	0.42
38:Lj:15:SER:O	38:Lj:29:VAL:HG22	2.19	0.42
39:Lk:42:LYS:HG2	39:Lk:55:VAL:HG12	2.01	0.42
46:P2:63:LYS:HE2	46:P2:71:ALA:H	1.83	0.42
46:P2:121:PHE:HZ	46:P2:129:THR:HG23	1.83	0.42
47:C2:241:U:H2'	47:C2:242:U:C6	2.54	0.42
47:C2:328:A:H2'	47:C2:329:G:C8	2.53	0.42
47:C2:407:A:H2'	47:C2:408:C:H6	1.84	0.42
47:C2:1220:C:H2'	47:C2:1221:A:H8	1.84	0.42
47:C2:1259:U:H2'	47:C2:1260:U:C6	2.54	0.42
47:C2:1628:U:H2'	47:C2:1629:G:H8	1.82	0.42
47:C2:1789:G:H2'	47:C2:1790:A:H8	1.84	0.42
47:C2:1789:G:OP2	62:SO:132:ARG:NH2	2.42	0.42
50:SC:140:ARG:NE	69:SV:10:GLU:OE2	2.40	0.42
56:SI:172:ARG:HE	56:SI:175:GLN:HG3	1.84	0.42
57:SJ:157:ASP:OD1	57:SJ:157:ASP:N	2.53	0.42
60:SM:45:LEU:O	60:SM:49:THR:HG23	2.20	0.42
62:SO:114:ARG:HE	74:Sa:62:TYR:HE1	1.67	0.42
64:SQ:18:ALA:HB2	64:SQ:69:VAL:HG23	2.01	0.42
65:SR:5:ARG:O	65:SR:10:LYS:HE3	2.18	0.42
79:Sf:119:ARG:NH2	79:Sf:119:ARG:HG2	2.34	0.42
80:Sg:260:ILE:HB	80:Sg:274:LEU:HB2	2.01	0.42
86:T:164:CYS:O	86:T:168:ILE:HG13	2.19	0.42
1:C1:1383:G:OP1	6:LC:203:ARG:NH1	2.43	0.42
1:C1:2166:A:H4'	16:LN:72:LYS:NZ	2.35	0.42
1:C1:2193:U:O2'	1:C1:2313:A:OP2	2.21	0.42
1:C1:2507:C:O2'	1:C1:2508:U:P	2.77	0.42
1:C1:2768:U:H2'	1:C1:2769:A:C8	2.51	0.42
1:C1:3269:U:H3	8:LE:134:ARG:NH2	2.17	0.42
6:LC:289:ILE:O	6:LC:295:ILE:HD13	2.19	0.42
12:LI:99:ILE:HB	12:LI:123:HIS:CE1	2.53	0.42
13:LJ:61:ARG:HH22	82:P:56:C:H5'	1.85	0.42
14:LL:91:ARG:HG2	14:LL:91:ARG:HH11	1.84	0.42
29:La:96:LYS:C	29:La:98:THR:H	2.27	0.42
31:Lc:43:ILE:HB	31:Lc:90:VAL:HG12	2.02	0.42
38:Lj:43:LYS:HB2	38:Lj:43:LYS:HE3	1.89	0.42
43:Lo:43:TYR:O	43:Lo:47:GLN:HG2	2.19	0.42
45:P0:27:VAL:HA	45:P0:85:GLY:O	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:C2:607:G:H5'	47:C2:613:G:N2	2.34	0.42
47:C2:689:G:H2'	47:C2:690:G:C8	2.53	0.42
47:C2:1070:C:H2'	47:C2:1071:U:C6	2.54	0.42
47:C2:1474:G:H2'	47:C2:1475:A:H8	1.84	0.42
49:SB:212:VAL:HG13	49:SB:213:ARG:N	2.24	0.42
50:SC:90:THR:OG1	50:SC:93:GLY:O	2.30	0.42
54:SG:189:HIS:O	54:SG:193:LEU:HD23	2.19	0.42
55:SH:8:ILE:O	55:SH:42:GLN:HB2	2.19	0.42
72:SY:125:LEU:O	72:SY:129:VAL:HG12	2.20	0.42
74:Sa:46:GLU:HB3	74:Sa:48:ALA:H	1.85	0.42
1:C1:50:U:H2'	1:C1:51:A:H8	1.85	0.42
1:C1:69:C:O2'	1:C1:101:G:O2'	2.19	0.42
1:C1:1289:G:H2'	1:C1:1290:A:H8	1.84	0.42
1:C1:1910:A:O5'	1:C1:1910:A:H8	2.03	0.42
1:C1:2186:U:H5''	1:C1:2315:G:OP2	2.19	0.42
1:C1:2618:G:C8	1:C1:2865:U:H5''	2.54	0.42
1:C1:3085:G:H5'	1:C1:3332:U:OP1	2.19	0.42
1:C1:3129:A:H2'	1:C1:3130:A:H5''	2.02	0.42
6:LC:350:LYS:HD3	6:LC:351:PRO:HD2	2.01	0.42
7:LD:294:ALA:HB1	12:LI:217:PHE:HB3	1.99	0.42
23:LU:20:SER:O	23:LU:23:THR:HG22	2.19	0.42
24:LV:128:ARG:HD3	24:LV:128:ARG:HA	1.89	0.42
25:LW:30:ARG:HH11	25:LW:30:ARG:HG3	1.85	0.42
26:LX:131:ASP:HB3	26:LX:134:ASP:CB	2.49	0.42
29:La:34:MET:HE3	29:La:34:MET:HB3	1.84	0.42
32:Ld:6:ASP:HB3	32:Ld:77:ARG:HH21	1.84	0.42
45:P0:126:THR:HG21	45:P0:128:MET:HE3	2.00	0.42
46:P2:77:ALA:H	46:P2:80:LEU:HD21	1.85	0.42
47:C2:114:C:O2'	59:SL:65:SER:OG	2.31	0.42
47:C2:159:U:O2	54:SG:87:ARG:NH1	2.52	0.42
47:C2:272:U:H2'	47:C2:273:G:H8	1.83	0.42
47:C2:705:U:O2'	47:C2:706:A:O5'	2.30	0.42
47:C2:780:A:H1'	72:SY:10:ARG:NH1	2.33	0.42
47:C2:1221:A:H2'	47:C2:1222:C:O4'	2.20	0.42
48:SA:27:ARG:CG	48:SA:28:ASN:H	2.32	0.42
48:SA:206:ASP:HB3	48:SA:207:PRO:HD3	2.00	0.42
52:SE:125:LYS:HB2	52:SE:226:PHE:CD1	2.55	0.42
54:SG:31:ARG:N	54:SG:34:GLN:HE22	2.17	0.42
58:SK:54:TYR:HE2	58:SK:75:TYR:CG	2.38	0.42
59:SL:84:ILE:HD13	59:SL:117:VAL:HG21	2.01	0.42
82:P:29:U:C2	82:P:30:G:C8	3.08	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
85:R:37:LYS:O	85:R:40:ARG:HG2	2.20	0.42
1:C1:84:U:OP2	1:C1:85:A:O2'	2.32	0.42
1:C1:583:G:O3'	34:Lf:106:ASN:ND2	2.51	0.42
1:C1:1447:G:N2	1:C1:2356:A:OP2	2.46	0.42
1:C1:1669:C:OP1	35:Lg:24:LYS:NZ	2.38	0.42
1:C1:1896:A:N6	1:C1:2339:C:N4	2.36	0.42
1:C1:2112:U:H4'	1:C1:2113:A:H5'	2.00	0.42
1:C1:2146:C:H2'	1:C1:2147:A:C8	2.53	0.42
1:C1:2432:A:N6	1:C1:2598:G:O6	2.52	0.42
1:C1:2808:A:OP1	84:5:51:5CT:NZ	2.52	0.42
1:C1:2982:A:O2'	1:C1:2983:C:H5''	2.20	0.42
7:LD:163:LEU:HD21	7:LD:175:HIS:CG	2.55	0.42
11:LH:169:ASN:O	11:LH:170:LYS:HD2	2.19	0.42
20:LR:44:LEU:HA	20:LR:47:ASN:OD1	2.19	0.42
21:LS:77:VAL:HG13	21:LS:126:VAL:HG12	2.02	0.42
22:LT:71:SER:OG	22:LT:72:VAL:N	2.51	0.42
28:LZ:31:GLU:H	28:LZ:31:GLU:CD	2.28	0.42
31:Lc:57:GLU:OE2	31:Lc:69:TYR:OH	2.22	0.42
36:Lh:30:GLU:O	36:Lh:33:VAL:HG12	2.20	0.42
45:P0:58:MET:HA	45:P0:61:ARG:HD2	2.01	0.42
45:P0:139:LEU:HD21	45:P0:158:VAL:HG22	2.02	0.42
47:C2:445:A:C2	47:C2:446:A:C8	3.07	0.42
47:C2:919:A:P	62:SO:18:ARG:HH21	2.41	0.42
47:C2:1208:A:H5''	47:C2:1209:C:OP2	2.18	0.42
47:C2:1234:A:O2'	79:Sf:140:TYR:OH	2.27	0.42
47:C2:1247:U:H2'	47:C2:1248:C:C6	2.55	0.42
47:C2:1579:U:H2'	47:C2:1580:C:C6	2.55	0.42
48:SA:62:ARG:NH2	69:SV:38:LYS:HA	2.34	0.42
48:SA:84:ARG:HD3	48:SA:203:PHE:O	2.20	0.42
48:SA:148:ASP:CG	48:SA:149:LEU:H	2.28	0.42
60:SM:134:SER:HA	60:SM:137:MET:CG	2.44	0.42
71:SX:19:ARG:O	71:SX:23:ARG:HG2	2.20	0.42
79:Sf:119:ARG:HG2	79:Sf:119:ARG:HH21	1.84	0.42
1:C1:245:U:H2'	1:C1:246:U:C6	2.55	0.42
1:C1:726:G:H21	1:C1:744:A:H62	1.67	0.42
1:C1:1029:G:H2'	1:C1:1030:A:H8	1.84	0.42
1:C1:1441:G:H4'	3:C3:15:G:H4'	2.02	0.42
1:C1:1750:A:OP2	39:Lk:42:LYS:NZ	2.41	0.42
1:C1:2429:G:H2'	1:C1:2430:A:C8	2.55	0.42
1:C1:2661:G:H2'	1:C1:2662:G:C8	2.55	0.42
1:C1:3009:G:N2	5:LB:15:GLY:O	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C1:3218:A:H4'	1:C1:3219:G:O5'	2.20	0.42
5:LB:14:LEU:HA	5:LB:17:LEU:HD13	2.01	0.42
7:LD:182:GLY:HA2	7:LD:194:LEU:HD23	2.02	0.42
8:LE:170:LYS:HD2	8:LE:173:LEU:HD12	2.01	0.42
10:LG:91:PHE:HD2	10:LG:185:ARG:CZ	2.33	0.42
11:LH:88:TYR:HE2	11:LH:155:SER:HA	1.85	0.42
28:LZ:76:ASN:OD1	28:LZ:77:TYR:N	2.53	0.42
31:Lc:58:TYR:CE1	35:Lg:97:GLU:HG2	2.54	0.42
45:P0:48:ARG:O	45:P0:89:THR:OG1	2.27	0.42
47:C2:322:G:O2'	47:C2:323:A:OP2	2.32	0.42
47:C2:923:A:H2'	47:C2:924:A:H8	1.84	0.42
47:C2:1061:A:H4'	47:C2:1061:A:OP1	2.19	0.42
49:SB:168:ILE:HA	49:SB:171:ILE:HG22	2.00	0.42
49:SB:213:ARG:HE	49:SB:214:LYS:HG2	1.85	0.42
64:SQ:95:LYS:NZ	64:SQ:96:TYR:OH	2.48	0.42
71:SX:88:PRO:O	71:SX:89:ASN:O	2.36	0.42
80:Sg:149:ASP:CG	80:Sg:150:TRP:H	2.28	0.42
85:R:30:GLN:O	85:R:34:LYS:HG2	2.19	0.42
1:C1:277:G:H2'	1:C1:278:U:H6	1.85	0.42
1:C1:589:A:H1'	1:C1:1337:A:H5''	2.01	0.42
1:C1:2279:A:N7	1:C1:2288:G:C8	2.88	0.42
1:C1:2883:U:H2'	1:C1:2884:C:H6	1.84	0.42
1:C1:3181:C:OP2	17:LO:171[A]:LYS:NZ	2.34	0.42
2:C4:108:A:H2'	2:C4:109:G:H8	1.85	0.42
3:C3:141:C:H2'	3:C3:142:C:C6	2.55	0.42
8:LE:84:VAL:O	34:Lf:105:SER:OG	2.34	0.42
12:LI:182:LEU:O	12:LI:186:GLU:HG2	2.19	0.42
13:LJ:115:LYS:H	13:LJ:115:LYS:HG3	1.51	0.42
13:LJ:138:VAL:HA	13:LJ:141:ARG:NE	2.35	0.42
16:LN:72:LYS:HG3	16:LN:89:VAL:HG12	2.02	0.42
19:LQ:43:PRO:O	19:LQ:47:VAL:HG23	2.19	0.42
23:LU:18:ASP:HB3	23:LU:104:ARG:CB	2.49	0.42
24:LV:80:ARG:HB2	24:LV:99:ALA:HB3	2.01	0.42
26:LX:43:ALA:O	26:LX:44:PRO:C	2.62	0.42
32:Ld:10:ARG:HG2	32:Ld:108:VAL:HA	2.02	0.42
47:C2:213:A:H2'	47:C2:214:G:O4'	2.20	0.42
47:C2:647:G:N2	47:C2:687:G:H22	2.18	0.42
47:C2:1209:C:N3	47:C2:1455:G:N2	2.67	0.42
47:C2:1296:A:OP1	48:SA:138:TYR:OH	2.29	0.42
47:C2:1344:A:H4'	47:C2:1345:A:OP1	2.19	0.42
48:SA:110:TYR:HA	48:SA:115:PHE:CD1	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:SA:146:LEU:HD23	48:SA:160:ILE:HD12	2.02	0.42
50:SC:228:ASN:ND2	69:SV:1:MET:HE2	2.35	0.42
51:SD:93:ASP:HB3	51:SD:96:LEU:HB2	2.02	0.42
54:SG:214:LYS:O	54:SG:218:GLU:OE1	2.38	0.42
58:SK:31:LYS:HD3	58:SK:31:LYS:HA	1.77	0.42
68:SU:44:ASN:HA	68:SU:47:GLN:HG2	2.01	0.42
73:SZ:19:GLY:C	73:SZ:21:LYS:H	2.28	0.42
80:Sg:224:ASN:HB2	80:Sg:231:MET:SD	2.59	0.42
85:R:174:ASN:ND2	85:R:268:ASN:OD1	2.53	0.42
85:R:341:TYR:HE2	86:T:276:ILE:HD13	1.85	0.42
1:C1:297:G:C8	1:C1:299:G:H1'	2.55	0.42
1:C1:637:C:H6	1:C1:637:C:H2'	1.69	0.42
1:C1:875:G:C2	1:C1:876:A:C8	3.07	0.42
1:C1:1816:A:H2'	1:C1:1817:G:O4'	2.19	0.42
1:C1:2146:C:C2	1:C1:2147:A:C8	3.07	0.42
5:LB:95:THR:HG22	5:LB:97:ARG:H	1.85	0.42
6:LC:212:ASP:OD1	6:LC:213:ASN:N	2.53	0.42
9:LF:24:GLU:OE1	9:LF:26:VAL:HG12	2.20	0.42
11:LH:71:VAL:O	11:LH:75:VAL:HG22	2.20	0.42
14:LL:75:PHE:CZ	14:LL:116:LEU:HD21	2.55	0.42
23:LU:80:THR:O	23:LU:84:LEU:HD23	2.19	0.42
27:LY:59:VAL:O	27:LY:64:LYS:NZ	2.53	0.42
34:Lf:21:ARG:HD3	34:Lf:21:ARG:HA	1.77	0.42
36:Lh:83:LYS:NZ	38:Lj:66:TYR:OH	2.53	0.42
38:Lj:20:ASN:HB2	38:Lj:39:TYR:HE2	1.84	0.42
47:C2:154:G:N7	72:SY:128:LYS:NZ	2.60	0.42
47:C2:778:G:H1	72:SY:10:ARG:NH1	2.17	0.42
47:C2:1373:C:H2'	47:C2:1374:C:H6	1.85	0.42
49:SB:32:ILE:HD11	49:SB:46:THR:OG1	2.20	0.42
53:SF:158:GLN:OE1	53:SF:158:GLN:HA	2.20	0.42
56:SI:38:ILE:HA	56:SI:60:ILE:O	2.20	0.42
63:SP:86:VAL:HG12	63:SP:87:PRO:HD2	2.02	0.42
68:SU:98:GLN:HA	68:SU:101:LYS:NZ	2.35	0.42
80:Sg:118:LYS:HG2	80:Sg:118:LYS:O	2.18	0.42
80:Sg:216:LYS:HA	80:Sg:239:GLU:HG2	2.00	0.42
80:Sg:218:GLY:HA2	80:Sg:240:VAL:HG12	2.02	0.42
82:P:56:C:OP1	82:P:56:C:H6	2.02	0.42
85:R:184:LYS:C	85:R:185:LYS:HD3	2.45	0.42
85:R:297:TYR:HE1	85:R:361:GLU:HA	1.85	0.42
1:C1:41:G:N2	1:C1:2803:A:H62	2.18	0.42
1:C1:248:U:H3'	1:C1:249:U:H5''	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C1:855:U:H4'	20:LR:95:TRP:NE1	2.34	0.42
1:C1:952:A:H4'	1:C1:968:G:H21	1.85	0.42
1:C1:1389:G:OP1	33:Le:104:ASN:ND2	2.52	0.42
1:C1:2367:A:H2'	1:C1:2368:A:C8	2.55	0.42
1:C1:2585:G:N3	1:C1:2585:G:H2'	2.35	0.42
1:C1:2904:U:H2'	1:C1:2905:U:C6	2.55	0.42
1:C1:3164:C:C2	1:C1:3165:A:C8	3.07	0.42
1:C1:3332:U:H2'	1:C1:3333:G:O4'	2.20	0.42
6:LC:237:GLN:O	6:LC:246:ARG:HD2	2.20	0.42
8:LE:52:VAL:HG22	8:LE:65:VAL:HG22	2.01	0.42
9:LF:98:LYS:HB2	9:LF:99:PRO:HD3	2.02	0.42
10:LG:78:PHE:C	10:LG:80:TYR:H	2.28	0.42
12:LI:215:GLU:HA	12:LI:218:ALA:HB3	2.02	0.42
26:LX:63:ILE:HD12	26:LX:102:LEU:HD12	2.01	0.42
27:LY:85:VAL:O	27:LY:85:VAL:HG13	2.20	0.42
35:Lg:42:PRO:C	35:Lg:43:LYS:HD3	2.44	0.42
35:Lg:74:ARG:HG2	35:Lg:75:ALA:N	2.35	0.42
47:C2:142:G:H1	47:C2:173:A:H2	1.68	0.42
47:C2:649:U:H2'	47:C2:650:U:C6	2.55	0.42
47:C2:1073:G:H4'	61:SN:10:GLY:HA2	2.02	0.42
47:C2:1251:U:O2'	47:C2:1252:C:OP1	2.35	0.42
47:C2:1657:U:H5'	47:C2:1658:G:H5''	2.02	0.42
48:SA:49:ASN:HD22	48:SA:52:LYS:HD2	1.84	0.42
48:SA:188:LEU:HD21	48:SA:195:TRP:CD1	2.54	0.42
49:SB:40:ASN:OD1	49:SB:42:ASN:N	2.52	0.42
53:SF:99:MET:HG3	53:SF:180:ARG:HH12	1.85	0.42
54:SG:44:GLU:O	54:SG:119:GLN:NE2	2.52	0.42
58:SK:44:LYS:HD3	58:SK:44:LYS:HA	1.78	0.42
59:SL:99:ARG:HG3	71:SX:12:ALA:HB2	2.02	0.42
60:SM:58:LEU:C	60:SM:59:LEU:HD12	2.44	0.42
63:SP:24:LYS:HB2	63:SP:25:LEU:HD12	2.01	0.42
64:SQ:40:GLU:HB3	64:SQ:41:PRO:HD3	2.02	0.42
80:Sg:16:HIS:CE1	80:Sg:43:ILE:HG12	2.54	0.42
1:C1:68:C:O3'	16:LN:177:GLY:HA2	2.20	0.41
1:C1:551:A:O2'	1:C1:552:G:H8	2.03	0.41
1:C1:792:G:H2'	1:C1:793:C:C6	2.55	0.41
1:C1:945:C:H2'	1:C1:946:U:H6	1.85	0.41
1:C1:1580:A:H8	1:C1:2522:G:N2	2.18	0.41
1:C1:1781:C:H2'	1:C1:1782:U:C6	2.54	0.41
1:C1:3041:U:OP1	24:LV:12:ARG:NH1	2.46	0.41
3:C3:51:G:OP2	40:Ll:21:ARG:NH1	2.48	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C3:62:C:H4'	3:C3:63:G:O5'	2.19	0.41
4:LA:100:ASN:O	4:LA:165:VAL:HA	2.20	0.41
4:LA:114:SER:O	4:LA:165:VAL:HG12	2.19	0.41
6:LC:292:SER:OG	6:LC:293:SER:N	2.52	0.41
7:LD:15:ARG:HG2	7:LD:15:ARG:NH1	2.35	0.41
7:LD:17:GLN:HE22	22:LT:22:HIS:HB2	1.85	0.41
8:LE:63:LEU:O	8:LE:78:ARG:HA	2.20	0.41
13:LJ:166:LYS:HG2	13:LJ:167:TYR:CD1	2.55	0.41
16:LN:120:TRP:NE1	16:LN:123:GLN:OE1	2.51	0.41
20:LR:19:LYS:HB3	20:LR:19:LYS:HE2	1.96	0.41
27:LY:39:LEU:HD21	27:LY:107:THR:O	2.20	0.41
31:Lc:10:ILE:O	31:Lc:13:LYS:HB2	2.20	0.41
33:Le:37:GLY:O	33:Le:43:ARG:NE	2.53	0.41
45:P0:24:SER:OG	45:P0:89:THR:O	2.34	0.41
47:C2:97:C:H1'	47:C2:426:G:H5'	2.02	0.41
47:C2:513:U:H2'	47:C2:514:G:C8	2.55	0.41
47:C2:632:U:O2'	47:C2:1103:U:OP1	2.35	0.41
47:C2:776:G:O6	72:SY:11:LYS:NZ	2.52	0.41
47:C2:827:C:H2'	47:C2:828:U:C6	2.55	0.41
47:C2:933:A:OP2	74:Sa:37:LYS:HE3	2.20	0.41
50:SC:140:ARG:HB2	50:SC:222:TYR:CD1	2.55	0.41
54:SG:14:LYS:HE3	54:SG:16:PHE:HE1	1.84	0.41
54:SG:15:THR:C	54:SG:16:PHE:HD1	2.27	0.41
61:SN:45:LEU:HD22	61:SN:49:GLN:HE21	1.85	0.41
66:SS:101:LEU:HB3	66:SS:102:ALA:H	1.70	0.41
79:Sf:108:VAL:HG13	79:Sf:108:VAL:O	2.20	0.41
80:Sg:198:ASN:OD1	80:Sg:216:LYS:HB2	2.20	0.41
84:5:27:ARG:HD3	84:5:27:ARG:HA	1.82	0.41
84:5:40:LYS:HB2	84:5:64:ILE:HD11	2.02	0.41
1:C1:100:A:H2'	1:C1:101:G:N3	2.35	0.41
1:C1:268:A:OP1	16:LN:50:ARG:NH1	2.52	0.41
1:C1:628:A:H2'	1:C1:629:U:C6	2.55	0.41
1:C1:848:A:C5	1:C1:849:C:H1'	2.55	0.41
1:C1:1112:A:N3	1:C1:1370:G:O2'	2.53	0.41
1:C1:1541:G:H1'	1:C1:1557:A:C5	2.54	0.41
1:C1:1745:C:H2'	1:C1:1746:U:H6	1.85	0.41
1:C1:1813:A:O2'	1:C1:1816:A:N3	2.49	0.41
1:C1:2295:A:C6	24:LV:37:ILE:HB	2.55	0.41
1:C1:2835:U:H2'	1:C1:2836:C:O2	2.20	0.41
1:C1:2984:C:H2'	1:C1:2985:C:C6	2.55	0.41
1:C1:3059:G:OP1	32:Ld:17:HIS:NE2	2.52	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C1:3283:U:H2'	1:C1:3284:G:H8	1.84	0.41
5:LB:128:LYS:HB3	5:LB:128:LYS:HE3	1.37	0.41
5:LB:213:GLU:OE2	5:LB:340:LYS:NZ	2.42	0.41
5:LB:229:VAL:HG11	5:LB:249:VAL:HG23	2.02	0.41
10:LG:101:THR:HG22	10:LG:104:GLU:OE2	2.20	0.41
20:LR:23:TRP:CE3	20:LR:51:VAL:HG22	2.55	0.41
31:Lc:10:ILE:HG13	31:Lc:14:LEU:CD1	2.50	0.41
46:P2:115:GLN:HA	46:P2:119:LYS:HD2	2.02	0.41
47:C2:297:U:OP1	52:SE:37:LYS:HE3	2.20	0.41
47:C2:640:U:H2'	47:C2:641:G:O4'	2.19	0.41
47:C2:848:C:H2'	47:C2:849:C:H6	1.85	0.41
47:C2:1482:C:OP1	47:C2:1521:G:N1	2.44	0.41
55:SH:55:LYS:HE2	55:SH:89:HIS:NE2	2.35	0.41
56:SI:184:LEU:HB2	56:SI:189:LEU:HD13	2.02	0.41
60:SM:67:THR:O	60:SM:68:GLU:HG2	2.20	0.41
62:SO:47:LYS:HB3	62:SO:62:LEU:HD22	2.02	0.41
63:SP:123:TYR:OH	66:SS:126:ARG:NH1	2.53	0.41
70:SW:97:ARG:HG2	70:SW:97:ARG:HH11	1.84	0.41
71:SX:107:PHE:HB2	71:SX:121:ARG:C	2.45	0.41
74:Sa:78:ALA:O	74:Sa:83:ILE:HG13	2.20	0.41
85:R:89:GLU:HB2	86:T:336:ILE:HD11	2.02	0.41
1:C1:8:C:H2'	1:C1:9:U:H6	1.85	0.41
1:C1:291:C:H2'	1:C1:292:U:C6	2.55	0.41
1:C1:1157:G:H5''	9:LF:220:PHE:CE2	2.54	0.41
1:C1:1246:G:N3	1:C1:1264:G:H2'	2.35	0.41
1:C1:1471:U:H2'	1:C1:1472:U:C6	2.55	0.41
1:C1:1721:U:OP2	20:LR:124:TYR:OH	2.31	0.41
1:C1:2133:U:O4	1:C1:2147:A:H2	2.04	0.41
1:C1:2193:U:H5'	1:C1:2194:G:H5'	2.02	0.41
1:C1:2710:C:H2'	1:C1:2711:C:C6	2.55	0.41
1:C1:3159:C:H2'	1:C1:3160:U:C6	2.55	0.41
2:C4:39:C:O2'	13:LJ:43:GLN:HB3	2.20	0.41
3:C3:19:C:H2'	3:C3:20:U:C6	2.54	0.41
4:LA:149:ARG:NE	4:LA:155:LYS:HZ2	2.18	0.41
8:LE:157:GLN:H	8:LE:157:GLN:CD	2.28	0.41
9:LF:168:ILE:HD12	9:LF:168:ILE:H	1.85	0.41
12:LI:131:ILE:H	12:LI:131:ILE:HD12	1.85	0.41
13:LJ:12:LEU:HD12	13:LJ:133:ARG:HG2	2.00	0.41
14:LL:64:LYS:HD2	29:La:69:TRP:HB2	2.02	0.41
16:LN:133:ILE:C	16:LN:134:LEU:HD12	2.45	0.41
17:LO:18[A]:ARG:O	17:LO:22[A]:VAL:HG23	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:LO:108[A]:ILE:HG21	17:LO:113[A]:ASP:HA	2.02	0.41
33:Le:111:ARG:CZ	33:Le:115:LEU:HD21	2.50	0.41
40:Ll:21:ARG:HG2	40:Ll:22:PRO:O	2.20	0.41
44:Lp:51:ALA:H	44:Lp:54:ILE:HB	1.84	0.41
47:C2:1427:A:O2'	47:C2:1428:G:OP2	2.31	0.41
49:SB:27:LYS:NZ	49:SB:47:LEU:HB3	2.35	0.41
50:SC:88:LYS:HD3	50:SC:95:ARG:HE	1.85	0.41
52:SE:182:TYR:HD1	52:SE:192:ILE:HG13	1.84	0.41
53:SF:76:ARG:HD2	64:SQ:122:ARG:NH1	2.35	0.41
58:SK:3:MET:HB3	58:SK:41:TYR:CE1	2.55	0.41
60:SM:47:GLU:HA	60:SM:50:LYS:NZ	2.35	0.41
62:SO:84:ARG:HB3	62:SO:118:VAL:HG23	2.02	0.41
84:5:114:LYS:HG3	84:5:114:LYS:O	2.20	0.41
85:R:154:LYS:O	85:R:154:LYS:HD2	2.20	0.41
86:T:165:LYS:HA	86:T:168:ILE:HD12	2.02	0.41
1:C1:361:A:N1	1:C1:927:C:O2'	2.45	0.41
1:C1:393:U:H2'	1:C1:394:G:O4'	2.21	0.41
1:C1:641:C:H4'	29:La:24:LYS:HZ1	1.86	0.41
1:C1:759:U:H2'	1:C1:760:G:O4'	2.19	0.41
1:C1:946:U:H2'	1:C1:947:G:H8	1.86	0.41
1:C1:972:A:OP1	19:LQ:12:ARG:NH2	2.49	0.41
1:C1:1234:G:H1	1:C1:1254:C:H42	1.69	0.41
1:C1:1413:G:H2'	1:C1:1414:G:H8	1.86	0.41
1:C1:1422:G:H2'	1:C1:1423:C:H6	1.86	0.41
1:C1:1503:A:C2	1:C1:1504:A:C8	3.09	0.41
1:C1:1544:G:O2'	1:C1:2167:A:H1'	2.20	0.41
1:C1:1550:C:H2'	1:C1:1551:C:C6	2.55	0.41
1:C1:1562:C:O2'	1:C1:1563:C:O4'	2.33	0.41
1:C1:1622:U:H2'	1:C1:1623:G:C8	2.55	0.41
1:C1:2601:A:H2'	1:C1:2602:G:H8	1.85	0.41
1:C1:2689:A:H2'	1:C1:2689:A:N3	2.35	0.41
1:C1:3023:U:H2'	1:C1:3024:A:H8	1.85	0.41
3:C3:39:G:H1'	3:C3:104:A:N6	2.36	0.41
7:LD:270:LYS:HE2	7:LD:273:ARG:NH2	2.35	0.41
9:LF:184:LEU:O	9:LF:188:ILE:HG12	2.20	0.41
13:LJ:20:ASN:OD1	13:LJ:21:ILE:N	2.53	0.41
13:LJ:132:ASN:HA	13:LJ:154:THR:CG2	2.49	0.41
14:LL:2:ALA:HB3	29:La:33:GLY:O	2.21	0.41
14:LL:165:SER:C	14:LL:167:PHE:H	2.28	0.41
15:LM:47:ASP:OD1	15:LM:48:GLY:N	2.53	0.41
18:LP:29:THR:HG21	18:LP:146:ILE:HD11	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:LR:121:HIS:NE2	20:LR:125:LYS:HE2	2.35	0.41
26:LX:86:VAL:HG11	26:LX:95:ILE:HD11	2.02	0.41
29:La:77:LYS:C	29:La:79:TRP:N	2.77	0.41
43:Lo:53:GLN:OE1	43:Lo:55:LYS:N	2.50	0.41
45:P0:48:ARG:HH22	45:P0:96:ILE:HG12	1.85	0.41
47:C2:228:G:C2	47:C2:229:U:C4	3.08	0.41
47:C2:321:C:O2'	47:C2:322:G:OP1	2.36	0.41
47:C2:382:C:H2'	47:C2:383:G:H8	1.85	0.41
47:C2:803:A:O2'	47:C2:804:A:C8	2.73	0.41
47:C2:823:G:C5	47:C2:850:A:C6	3.09	0.41
47:C2:1365:C:O3'	64:SQ:30:LYS:NZ	2.53	0.41
47:C2:1767:G:OP1	47:C2:1770:U:H4'	2.21	0.41
49:SB:95:ASN:O	49:SB:97:LEU:HD12	2.20	0.41
51:SD:105:MET:HE3	51:SD:105:MET:HB3	1.92	0.41
55:SH:71:HIS:CE1	55:SH:131:PHE:CG	3.09	0.41
56:SI:139:ALA:HB1	56:SI:143:TRP:CZ3	2.55	0.41
64:SQ:64:ASP:OD1	64:SQ:65:ILE:N	2.53	0.41
67:ST:95:ASP:OD1	67:ST:95:ASP:N	2.54	0.41
74:Sa:38:ARG:HH21	74:Sa:84:VAL:HG11	1.85	0.41
79:Sf:136:LYS:HE2	79:Sf:136:LYS:HA	2.02	0.41
82:P:68:G:H2'	82:P:69:G:C8	2.54	0.41
85:R:67:SER:HA	85:R:115:GLN:O	2.21	0.41
1:C1:1037:C:H2'	1:C1:1038:C:H6	1.85	0.41
1:C1:1596:C:H2'	1:C1:1597:C:H6	1.86	0.41
1:C1:2427:U:H2'	1:C1:2428:U:C6	2.56	0.41
1:C1:3096:C:H2'	1:C1:3097:C:C6	2.56	0.41
8:LE:64:LEU:HD11	8:LE:76:LEU:HD12	2.02	0.41
10:LG:45:ASN:ND2	26:LX:26:VAL:HG13	2.36	0.41
19:LQ:107:THR:HG23	19:LQ:110:ALA:H	1.85	0.41
28:LZ:41:ALA:HB2	28:LZ:77:TYR:HE1	1.86	0.41
48:SA:84:ARG:HH21	48:SA:88:LYS:HZ1	1.68	0.41
52:SE:62:LYS:O	52:SE:66:MET:HG3	2.20	0.41
53:SF:29:ILE:HG21	64:SQ:57:LEU:HD21	2.02	0.41
57:SJ:163:PRO:O	57:SJ:164:PHE:HB2	2.19	0.41
80:Sg:149:ASP:CG	80:Sg:150:TRP:N	2.79	0.41
85:R:262:LEU:HD21	86:T:229:GLU:HB3	2.02	0.41
1:C1:61:A:C4	1:C1:62:A:C8	3.09	0.41
1:C1:65:A:H4'	1:C1:66:A:O5'	2.21	0.41
1:C1:307:A:H2'	1:C1:308:A:H8	1.85	0.41
1:C1:515:C:H5'	6:LC:343:LYS:HZ3	1.86	0.41
1:C1:700:C:H2'	1:C1:701:G:H8	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C1:1046:A:O2'	1:C1:1048:A:OP2	2.31	0.41
1:C1:1534:A:H2'	1:C1:1535:A:C8	2.56	0.41
1:C1:2536:A:H2'	1:C1:2537:U:C5	2.55	0.41
1:C1:2986:U:C2	1:C1:2987:A:C8	3.09	0.41
2:C4:106:U:H2'	2:C4:107:C:C6	2.56	0.41
3:C3:5:U:OP1	18:LP:62:ARG:HG3	2.21	0.41
10:LG:158:ASP:OD1	10:LG:183:LYS:NZ	2.54	0.41
18:LP:25:SER:O	18:LP:29:THR:OG1	2.27	0.41
21:LS:21:GLU:O	21:LS:21:GLU:HG2	2.20	0.41
26:LX:43:ALA:N	26:LX:44:PRO:CD	2.84	0.41
30:Lb:28:LYS:HE2	30:Lb:28:LYS:HB3	1.77	0.41
31:Lc:13:LYS:O	31:Lc:17:VAL:HG23	2.20	0.41
32:Ld:11:GLU:O	32:Ld:106:THR:HA	2.21	0.41
47:C2:139:C:H4'	47:C2:140:A:H5'	2.03	0.41
47:C2:198:A:H2'	47:C2:199:G:O4'	2.20	0.41
47:C2:1371:A:O2'	47:C2:1372:U:H5'	2.20	0.41
49:SB:194:ASN:HA	49:SB:197:ILE:HG12	2.02	0.41
53:SF:49:GLU:HG2	53:SF:50:GLU:OE1	2.21	0.41
53:SF:175:LEU:HD13	53:SF:197:GLU:HG3	2.03	0.41
56:SI:29:LEU:HD23	56:SI:29:LEU:H	1.85	0.41
60:SM:66:VAL:HG23	60:SM:67:THR:H	1.85	0.41
68:SU:96:PRO:HB2	68:SU:98:GLN:OE1	2.20	0.41
69:SV:71:ARG:HD2	75:Sb:4:VAL:HG11	2.01	0.41
80:Sg:10:ARG:CZ	80:Sg:10:ARG:HB3	2.50	0.41
80:Sg:51:ASP:O	80:Sg:53:LYS:N	2.52	0.41
80:Sg:172:ALA:HB3	80:Sg:202:LEU:HD22	2.03	0.41
82:P:52:G:H2'	82:P:53:G:C8	2.56	0.41
1:C1:1355:A:H1'	1:C1:1356:U:OP2	2.20	0.41
1:C1:1471:U:H2'	1:C1:1472:U:H6	1.85	0.41
1:C1:2127:U:O2'	1:C1:2301:U:OP1	2.34	0.41
1:C1:2196:C:H2'	1:C1:2242:A:H61	1.85	0.41
1:C1:2538:U:O2'	1:C1:2541:U:O4	2.23	0.41
1:C1:2904:U:H2'	1:C1:2905:U:H6	1.85	0.41
7:LD:208:MET:HE1	7:LD:223:PHE:CG	2.54	0.41
7:LD:215:ASP:OD2	7:LD:218:ARG:HG2	2.19	0.41
10:LG:98:ARG:NH1	10:LG:98:ARG:HB3	2.36	0.41
13:LJ:110:ILE:CD1	66:SS:21:ASN:HD21	2.34	0.41
14:LL:123:ILE:HG22	36:Lh:118:ILE:HG13	2.01	0.41
20:LR:10:LEU:O	20:LR:14:VAL:HG12	2.20	0.41
24:LV:82:ALA:HB3	24:LV:98:ASN:HD21	1.86	0.41
37:Li:58:ILE:HD11	37:Li:90:MET:HE3	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:C2:446:A:C6	47:C2:447:U:C4	3.08	0.41
47:C2:558:U:P	78:Se:55:ARG:HH22	2.44	0.41
47:C2:1022:C:H4'	47:C2:1125:A:H61	1.85	0.41
47:C2:1373:C:H2'	47:C2:1374:C:C6	2.56	0.41
47:C2:1636:C:H4'	47:C2:1637:C:O5'	2.21	0.41
54:SG:67:VAL:HG13	54:SG:68:LEU:N	2.28	0.41
57:SJ:99:LEU:O	57:SJ:100:LYS:HB2	2.21	0.41
57:SJ:102:GLU:OE1	57:SJ:102:GLU:N	2.54	0.41
60:SM:47:GLU:H	60:SM:47:GLU:CD	2.27	0.41
64:SQ:99:GLU:O	64:SQ:102:LYS:HB3	2.21	0.41
67:ST:25:GLN:CD	67:ST:25:GLN:H	2.29	0.41
71:SX:41:SER:HA	71:SX:42:PRO:HD2	1.82	0.41
71:SX:131:SER:O	71:SX:132:LEU:C	2.64	0.41
1:C1:196:G:N1	1:C1:199:A:OP2	2.51	0.41
1:C1:207:U:H2'	1:C1:208:C:H6	1.86	0.41
1:C1:1161:G:O3'	33:Le:54:LYS:NZ	2.53	0.41
1:C1:1340:G:H2'	1:C1:1341:U:H6	1.85	0.41
1:C1:1895:A:N6	1:C1:2335:G:O2'	2.54	0.41
1:C1:2284:C:N4	1:C1:2308:C:O4'	2.53	0.41
1:C1:2677:G:H2'	1:C1:2677:G:N3	2.36	0.41
1:C1:2709:C:H2'	1:C1:2710:C:H6	1.84	0.41
7:LD:219:PHE:CE1	7:LD:227:LEU:HD11	2.54	0.41
8:LE:60:ASP:O	8:LE:62:THR:HG23	2.20	0.41
10:LG:84:ARG:HG2	10:LG:84:ARG:NH1	2.36	0.41
46:P2:74:VAL:HA	46:P2:75:PRO:HD3	1.90	0.41
47:C2:1:U:O4	57:SJ:53:ARG:HD2	2.21	0.41
47:C2:825:U:H2'	47:C2:826:U:C6	2.55	0.41
47:C2:886:U:OP2	49:SB:216:LYS:NZ	2.52	0.41
47:C2:1563:C:H5''	67:ST:41:SER:OG	2.20	0.41
47:C2:1609:U:H2'	47:C2:1610:G:O4'	2.20	0.41
50:SC:58:LEU:HA	69:SV:12:TYR:HE1	1.85	0.41
52:SE:86:PHE:CE2	52:SE:184:THR:HG21	2.56	0.41
53:SF:76:ARG:HD2	64:SQ:122:ARG:HH11	1.84	0.41
56:SI:138:ASN:O	56:SI:142:LYS:HG3	2.21	0.41
60:SM:125:ASN:C	60:SM:127:GLY:H	2.29	0.41
76:Sc:29:ARG:HG3	76:Sc:29:ARG:NH1	2.35	0.41
80:Sg:11:GLY:H	80:Sg:312:VAL:HG22	1.85	0.41
1:C1:51:A:C4	1:C1:52:A:C8	3.09	0.41
1:C1:289:A:N3	16:LN:93:LYS:HG2	2.36	0.41
1:C1:546:C:H5''	1:C1:547:G:H5'	2.03	0.41
1:C1:663:C:H2'	1:C1:664:U:C6	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C1:701:G:H2'	1:C1:702:C:C6	2.56	0.41
1:C1:970:A:H2'	1:C1:971:G:C8	2.56	0.41
1:C1:1211:U:H2'	1:C1:1212:A:C8	2.55	0.41
1:C1:1525:G:N3	1:C1:1525:G:H2'	2.35	0.41
1:C1:1759:C:H2'	1:C1:1760:A:O4'	2.20	0.41
1:C1:1866:C:H5'	1:C1:1867:A:OP2	2.21	0.41
1:C1:2149:A:C2	1:C1:2188:A:H4'	2.56	0.41
1:C1:2457:G:N7	1:C1:2459:A:H2'	2.36	0.41
1:C1:2877:G:H2'	1:C1:2878:G:H8	1.86	0.41
1:C1:2961:G:H2'	1:C1:2962:U:C6	2.56	0.41
1:C1:3159:C:H2'	1:C1:3160:U:H6	1.86	0.41
1:C1:3213:A:H62	15:LM:124:ARG:HH12	1.67	0.41
2:C4:7:G:OP1	7:LD:33:ARG:HD2	2.21	0.41
3:C3:129:C:H2'	3:C3:130:C:H6	1.85	0.41
3:C3:151:C:C5	26:LX:24:LEU:HD21	2.56	0.41
3:C3:151:C:H5	26:LX:24:LEU:HD21	1.86	0.41
6:LC:4:PRO:HD2	6:LC:22:LEU:HD12	2.03	0.41
7:LD:21:ARG:O	7:LD:25:GLU:HG3	2.21	0.41
7:LD:154:THR:HA	7:LD:179:ARG:HH21	1.86	0.41
9:LF:99:PRO:HA	9:LF:102:VAL:HG12	2.03	0.41
11:LH:21:LYS:O	11:LH:22:SER:C	2.64	0.41
12:LI:101:LYS:HD2	12:LI:101:LYS:C	2.46	0.41
14:LL:168:ARG:HH11	14:LL:168:ARG:HG3	1.86	0.41
16:LN:27:VAL:HB	16:LN:122:ASN:ND2	2.34	0.41
16:LN:102:ALA:O	16:LN:106:VAL:HG12	2.21	0.41
16:LN:103:GLU:HA	16:LN:106:VAL:HG12	2.03	0.41
18:LP:30:ARG:HD2	18:LP:63:PHE:HE1	1.86	0.41
24:LV:33:ASN:O	24:LV:62:VAL:HG23	2.20	0.41
31:Lc:17:VAL:HG21	31:Lc:100:ILE:HD12	2.02	0.41
33:Le:123:LYS:HA	33:Le:126:LEU:HD23	2.03	0.41
44:Lp:59:CYS:C	44:Lp:61:LYS:H	2.29	0.41
47:C2:17:C:O2'	47:C2:1137:A:N1	2.46	0.41
47:C2:352:A:H1'	47:C2:353:A:OP2	2.21	0.41
47:C2:482:U:H2'	47:C2:483:A:C8	2.56	0.41
47:C2:506:A:C4	86:T:165:LYS:HE3	2.55	0.41
47:C2:554:C:H1'	47:C2:555:A:C2	2.54	0.41
47:C2:639:U:H4'	47:C2:640:U:O5'	2.21	0.41
47:C2:1070:C:H2'	47:C2:1071:U:H6	1.85	0.41
47:C2:1241:G:OP2	63:SP:77:ARG:NH2	2.54	0.41
47:C2:1253:U:C2	47:C2:1254:U:C5	3.09	0.41
47:C2:1433:G:C4	77:Sd:41:GLN:HG3	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:C2:1550:A:H2'	47:C2:1551:U:C6	2.56	0.41
47:C2:1680:G:H1'	47:C2:1721:A:H61	1.86	0.41
47:C2:1688:U:C2'	47:C2:1689:A:H5'	2.50	0.41
49:SB:119:THR:HB	49:SB:143:THR:CG2	2.51	0.41
50:SC:38:VAL:O	50:SC:38:VAL:HG13	2.20	0.41
53:SF:42:LEU:HD22	53:SF:46:TRP:O	2.20	0.41
53:SF:98:MET:HE2	53:SF:105:GLY:O	2.21	0.41
53:SF:117:THR:OG1	53:SF:195:ALA:HB2	2.21	0.41
57:SJ:123:HIS:CD2	78:Se:33:ARG:HE	2.29	0.41
57:SJ:125:ALA:O	57:SJ:129:ILE:HG13	2.21	0.41
59:SL:94:ILE:HD12	71:SX:12:ALA:HB1	2.03	0.41
60:SM:58:LEU:HD23	60:SM:126:TRP:HZ3	1.85	0.41
60:SM:90:LYS:HD2	60:SM:91:VAL:H	1.86	0.41
63:SP:29:SER:OG	63:SP:30:THR:N	2.53	0.41
69:SV:33:GLN:HE21	69:SV:52:THR:HG21	1.84	0.41
70:SW:26:LEU:HD23	70:SW:26:LEU:H	1.85	0.41
71:SX:90:ASP:C	71:SX:92:CYS:H	2.29	0.41
73:SZ:74:SER:O	73:SZ:78:ILE:HG22	2.21	0.41
81:A:13:C:H4'	81:A:14:A:OP1	2.21	0.41
82:P:3:C:H2'	82:P:4:C:H6	1.85	0.41
84:5:92:LEU:HD23	84:5:134:LEU:HG	2.03	0.41
85:R:62:ARG:NH2	85:R:67:SER:HB3	2.36	0.41
1:C1:532:A:N6	1:C1:560:G:H1	2.16	0.41
1:C1:950:G:H21	1:C1:1369:A:H62	1.69	0.41
1:C1:2482:U:H2'	1:C1:2483:G:C8	2.56	0.41
1:C1:2501:U:H4'	1:C1:2502:A:OP1	2.20	0.41
1:C1:3183:A:OP1	17:LO:37[A]:ARG:NH1	2.41	0.41
1:C1:3266:G:OP2	8:LE:70:LYS:NZ	2.54	0.41
5:LB:162:VAL:O	5:LB:178:LEU:HD12	2.21	0.41
5:LB:168:LYS:C	5:LB:319:ASN:HD21	2.28	0.41
6:LC:84:ARG:O	6:LC:87:GLN:HG3	2.22	0.41
10:LG:136:LEU:HA	10:LG:197:VAL:HG11	2.01	0.41
10:LG:138:HIS:O	10:LG:142:LEU:HD23	2.21	0.41
11:LH:159:ALA:O	11:LH:163:GLN:HB2	2.21	0.41
26:LX:50:ALA:HB2	36:Lh:77:PRO:HG2	2.02	0.41
29:La:2:PRO:HG2	29:La:5:PHE:HD2	1.86	0.41
38:Lj:28:HIS:CE1	38:Lj:30:GLN:HB2	2.55	0.41
47:C2:334:G:O6	56:SI:5:ARG:NH2	2.54	0.41
47:C2:701:U:H2'	47:C2:702:G:O4'	2.21	0.41
47:C2:846:G:H3'	47:C2:847:A:H8	1.86	0.41
47:C2:979:A:H4'	47:C2:1786:G:H21	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:SH:64:VAL:N	55:SH:65:PRO:CD	2.84	0.41
56:SI:37:LYS:HB2	56:SI:59:ARG:HG2	2.03	0.41
60:SM:91:VAL:HG22	60:SM:92:ALA:N	2.36	0.41
64:SQ:122:ARG:C	64:SQ:123:ARG:HD2	2.46	0.41
68:SU:57:ARG:CB	68:SU:89:ARG:HH21	2.34	0.41
71:SX:130:VAL:HG21	71:SX:143:PRO:CD	2.50	0.41
80:Sg:69:GLN:HE21	80:Sg:85:TRP:HE1	1.69	0.41
84:5:56:LYS:NZ	84:5:73:LEU:HD13	2.36	0.41
84:5:128:PHE:HD1	84:5:134:LEU:HG	1.86	0.41
1:C1:7:C:H2'	1:C1:8:C:C6	2.56	0.40
1:C1:130:A:H2'	1:C1:131:C:C6	2.56	0.40
1:C1:1054:A:H5''	1:C1:2637:A:N6	2.35	0.40
1:C1:2520:A:H2'	1:C1:2521:U:C6	2.56	0.40
1:C1:2673:A:H4'	13:LJ:104:PHE:HA	2.04	0.40
1:C1:2727:A:C2	29:La:43:ILE:HG23	2.56	0.40
1:C1:3051:U:C2	1:C1:3052:G:C8	3.09	0.40
2:C4:12:U:OP2	2:C4:68:C:O2'	2.38	0.40
3:C3:39:G:H1'	3:C3:104:A:H61	1.86	0.40
3:C3:145:U:H2'	3:C3:146:U:C6	2.55	0.40
9:LF:27:ALA:HA	9:LF:30:ARG:HB3	2.02	0.40
9:LF:76:TYR:HE1	9:LF:78:GLU:HB3	1.86	0.40
9:LF:165:ASP:OD1	9:LF:166:ASN:N	2.54	0.40
11:LH:138:THR:HG22	11:LH:139:ASN:N	2.35	0.40
12:LI:31:ILE:HA	12:LI:66:GLU:OE1	2.21	0.40
12:LI:86:HIS:HB3	12:LI:139:ARG:HG2	2.01	0.40
15:LM:59:ASN:OD1	15:LM:60:LEU:N	2.54	0.40
24:LV:54:LEU:HD21	24:LV:119:GLY:HA3	2.03	0.40
30:Lb:32:LEU:O	30:Lb:40:ARG:NH1	2.54	0.40
32:Ld:20:LEU:O	32:Ld:23:VAL:HG12	2.20	0.40
32:Ld:23:VAL:HG13	32:Ld:28:ARG:HD3	2.02	0.40
32:Ld:49:VAL:HG13	32:Ld:91:SER:HB2	2.03	0.40
47:C2:7:G:N7	50:SC:205:ARG:NH1	2.59	0.40
47:C2:519:C:H2'	47:C2:520:A:O4'	2.21	0.40
47:C2:520:A:H2'	47:C2:521:A:C8	2.57	0.40
47:C2:813:U:O2'	47:C2:814:A:OP2	2.36	0.40
47:C2:1069:A:OP1	48:SA:28:ASN:ND2	2.55	0.40
47:C2:1071:U:H2'	47:C2:1072:C:C6	2.57	0.40
47:C2:1172:G:H2'	47:C2:1173:C:H6	1.86	0.40
47:C2:1333:C:H2'	47:C2:1334:U:C6	2.56	0.40
47:C2:1584:G:O2'	47:C2:1585:U:P	2.80	0.40
48:SA:7:PHE:HA	48:SA:191:ARG:HH11	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
48:SA:147:THR:O	48:SA:161:PRO:HA	2.21	0.40
49:SB:31:ASP:OD1	49:SB:45:LYS:HE2	2.21	0.40
49:SB:129:THR:OG1	49:SB:133:TYR:HB2	2.21	0.40
49:SB:183:GLN:O	49:SB:187:LYS:HG3	2.21	0.40
50:SC:120:GLU:OE1	50:SC:120:GLU:N	2.53	0.40
54:SG:32:ILE:HD11	54:SG:63:MET:HE3	2.03	0.40
67:ST:118:PRO:HD2	67:ST:123:ARG:HH21	1.86	0.40
74:Sa:43:ASN:OD1	74:Sa:43:ASN:N	2.53	0.40
74:Sa:46:GLU:OE1	74:Sa:49:ALA:HB3	2.21	0.40
75:Sb:61:THR:O	75:Sb:62:ILE:HG12	2.20	0.40
81:A:26:A:H2'	81:A:27:G:C8	2.56	0.40
82:P:7:G:O2'	82:P:49:C:OP2	2.36	0.40
85:R:177:PRO:HA	85:R:178:PRO:HD3	1.95	0.40
86:T:184:ASN:OD1	86:T:185:GLY:N	2.54	0.40
87:L1:106:UNK:O	87:L1:132:UNK:N	2.54	0.40
1:C1:7:C:H2'	1:C1:8:C:H6	1.86	0.40
1:C1:260:C:H2'	1:C1:261:U:C6	2.57	0.40
1:C1:542:G:H2'	1:C1:543:C:H6	1.86	0.40
1:C1:632:G:H2'	1:C1:633:C:C6	2.56	0.40
1:C1:671:U:H2'	1:C1:672:A:H8	1.86	0.40
1:C1:1095:U:N3	22:LT:127:GLN:OE1	2.45	0.40
1:C1:1297:C:H2'	1:C1:1298:C:H6	1.86	0.40
1:C1:2669:G:H2'	1:C1:2670:G:H8	1.86	0.40
1:C1:3123:A:O2'	11:LH:40:HIS:ND1	2.49	0.40
1:C1:3276:G:H5'	8:LE:48:ARG:NH2	2.36	0.40
4:LA:149:ARG:HG2	4:LA:149:ARG:NH1	2.36	0.40
5:LB:21:ARG:HE	5:LB:269:GLN:HE21	1.69	0.40
5:LB:137:TYR:C	5:LB:139:GLN:H	2.28	0.40
6:LC:34:ILE:O	6:LC:38:VAL:HG22	2.21	0.40
6:LC:38:VAL:HG21	6:LC:121:ALA:CB	2.51	0.40
7:LD:59:ASP:OD1	7:LD:60:ILE:N	2.54	0.40
10:LG:115:ALA:O	10:LG:120:LYS:N	2.52	0.40
11:LH:90:MET:HE1	11:LH:161:LEU:HB3	2.04	0.40
12:LI:213:PHE:N	12:LI:214:PRO:HD3	2.36	0.40
13:LJ:87:LYS:NZ	13:LJ:106:ILE:HG22	2.36	0.40
18:LP:4:TYR:CZ	18:LP:18:ARG:HD2	2.55	0.40
21:LS:135:VAL:HG23	21:LS:141:LYS:HZ2	1.86	0.40
47:C2:778:G:H5'	47:C2:780:A:H62	1.86	0.40
47:C2:1331:A:H61	51:SD:161:GLY:CA	2.35	0.40
47:C2:1429:G:H2'	47:C2:1430:U:C6	2.56	0.40
48:SA:49:ASN:HA	65:SR:109:LEU:HD11	2.02	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:SH:31:SER:O	55:SH:31:SER:OG	2.34	0.40
56:SI:9:HIS:CG	56:SI:10:LYS:H	2.39	0.40
56:SI:166:TYR:HB3	56:SI:184:LEU:HD13	2.03	0.40
58:SK:14:TYR:CE2	58:SK:35:ILE:HD11	2.57	0.40
60:SM:73:LYS:NZ	79:Sf:108:VAL:HG11	2.36	0.40
72:SY:42:GLU:HB2	72:SY:52:LYS:HE3	2.02	0.40
75:Sb:81:ARG:HA	75:Sb:81:ARG:HD2	1.87	0.40
85:R:261:GLU:OE1	86:T:249:TRP:NE1	2.50	0.40
1:C1:66:A:N6	1:C1:76:G:H1'	2.36	0.40
1:C1:254:A:H2'	1:C1:255:A:H8	1.85	0.40
1:C1:794:U:C2	1:C1:795:G:C8	3.09	0.40
1:C1:1351:U:O2'	1:C1:1352:A:H5'	2.21	0.40
1:C1:3175:U:OP1	34:Lf:10:LYS:NZ	2.54	0.40
1:C1:3192:U:H2'	1:C1:3193:C:C6	2.57	0.40
10:LG:146:LYS:NZ	10:LG:173:MET:O	2.54	0.40
12:LI:145:LYS:O	12:LI:149:VAL:HG12	2.21	0.40
16:LN:109:ARG:HA	16:LN:109:ARG:HD2	1.86	0.40
19:LQ:82:VAL:HG12	19:LQ:102:ALA:HB3	2.03	0.40
29:La:125:VAL:HG23	29:La:145:VAL:HG23	2.03	0.40
45:P0:141:VAL:HG12	45:P0:156:VAL:HB	2.04	0.40
46:P2:133:LEU:HD12	46:P2:137:GLN:HB2	2.03	0.40
47:C2:844:A:H2'	47:C2:845:G:C8	2.57	0.40
47:C2:1217:A:H61	77:Sd:7:TRP:NE1	2.19	0.40
47:C2:1648:A:H2'	47:C2:1649:G:H8	1.86	0.40
49:SB:187:LYS:C	49:SB:190:PRO:HD2	2.46	0.40
50:SC:40:LYS:O	50:SC:44:LEU:HG	2.21	0.40
51:SD:7:LYS:O	51:SD:11:LEU:HD23	2.21	0.40
53:Sf:27:THR:HG23	64:SQ:28:LEU:HB2	2.03	0.40
59:SL:99:ARG:HB2	71:SX:9:LEU:O	2.21	0.40
64:SQ:8:GLN:HA	64:SQ:20:ALA:O	2.20	0.40
66:SS:144:ARG:HD3	73:SZ:22:LYS:HG2	2.03	0.40
79:Sf:120:GLU:CD	79:Sf:121:CYS:H	2.29	0.40
80:Sg:114:ASP:OD2	80:Sg:156:VAL:HG22	2.21	0.40
84:5:151:LYS:HZ2	84:5:153:ALA:HB2	1.85	0.40
85:R:239:SER:OG	85:R:240:ARG:HD3	2.21	0.40
1:C1:380:U:H2'	1:C1:381:U:C6	2.57	0.40
1:C1:903:U:H2'	1:C1:904:A:H8	1.86	0.40
1:C1:966:U:H2'	1:C1:967:A:H8	1.86	0.40
1:C1:1517:G:OP1	40:Ll:22:PRO:HG3	2.20	0.40
1:C1:1743:G:C2	1:C1:1744:G:C8	3.10	0.40
1:C1:2154:U:H2'	1:C1:2155:G:H8	1.87	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C1:2222:A:H2'	1:C1:2223:A:C8	2.57	0.40
1:C1:2535:A:H3'	1:C1:2536:A:H8	1.85	0.40
1:C1:2740:A:H2'	1:C1:2741:C:C6	2.56	0.40
3:C3:104:A:OP2	3:C3:105:A:H2'	2.22	0.40
6:LC:33:ASP:O	6:LC:37:THR:HG23	2.21	0.40
11:LH:28:VAL:HG13	11:LH:33:THR:HG22	2.03	0.40
12:LI:85:PHE:HA	12:LI:140:THR:HG22	2.03	0.40
21:LS:43:TYR:O	21:LS:47:LYS:HG2	2.21	0.40
29:La:10:LYS:HD3	29:La:10:LYS:HA	1.83	0.40
29:La:75:LEU:HD23	29:La:113:LEU:O	2.22	0.40
31:Lc:43:ILE:CD1	31:Lc:68:TYR:HB3	2.52	0.40
32:Ld:6:ASP:C	32:Ld:8:VAL:H	2.28	0.40
47:C2:176:C:H2'	47:C2:177:U:C6	2.56	0.40
47:C2:569:C:H41	71:SX:69:ARG:NH2	2.19	0.40
47:C2:610:G:N2	71:SX:19:ARG:HH22	2.19	0.40
47:C2:872:G:H2'	47:C2:873:U:O4'	2.21	0.40
47:C2:888:U:H2'	47:C2:889:U:C6	2.56	0.40
47:C2:911:U:H5	49:SB:8:ARG:HH21	1.70	0.40
47:C2:1330:G:H2'	47:C2:1331:A:O4'	2.21	0.40
47:C2:1558:U:O2'	47:C2:1559:A:OP2	2.33	0.40
56:SI:69:SER:OG	56:SI:185:GLU:OE2	2.39	0.40
59:SL:99:ARG:HD2	71:SX:15:LEU:HD12	2.04	0.40
63:SP:111:MET:HE2	66:SS:119:ILE:HD11	2.04	0.40
68:SU:55:PRO:HA	68:SU:91:ILE:HG12	2.03	0.40
79:Sf:113:LYS:HD2	79:Sf:113:LYS:HA	1.61	0.40
86:T:225:PHE:O	86:T:230:ARG:N	2.46	0.40
1:C1:595:G:H2'	1:C1:596:C:C6	2.56	0.40
1:C1:860:G:O2'	1:C1:895:A:H4'	2.21	0.40
1:C1:1169:A:H4'	9:LF:219:LYS:HD3	2.03	0.40
1:C1:1277:C:O2'	1:C1:1278:A:C8	2.72	0.40
1:C1:1455:U:O2'	32:Ld:26:LYS:NZ	2.54	0.40
1:C1:1908:A:H2'	1:C1:1909:A:C8	2.56	0.40
1:C1:2148:U:H4'	4:LA:196:TRP:HZ2	1.87	0.40
1:C1:2181:C:H2'	1:C1:2182:A:H8	1.86	0.40
1:C1:2219:A:H2'	1:C1:2220:A:H8	1.86	0.40
1:C1:3379:C:H2'	1:C1:3380:U:C6	2.57	0.40
5:LB:186:GLY:C	5:LB:187:SER:HG	2.28	0.40
7:LD:113:LEU:HD23	7:LD:113:LEU:HA	1.91	0.40
8:LE:51:ARG:NH2	15:LM:114:ASP:OD1	2.55	0.40
9:LF:120:THR:H	9:LF:123:THR:HG1	1.65	0.40
10:LG:97:TYR:HE2	10:LG:203:VAL:HG23	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:LN:160:GLU:OE1	16:LN:160:GLU:N	2.47	0.40
27:LY:73:VAL:HG13	27:LY:73:VAL:O	2.21	0.40
47:C2:142:G:OP2	54:SG:139:ASN:ND2	2.55	0.40
47:C2:447:U:H2'	47:C2:448:C:O4'	2.21	0.40
47:C2:553:G:OP2	47:C2:554:C:O2'	2.33	0.40
47:C2:1259:U:C2	47:C2:1260:U:C5	3.09	0.40
48:SA:49:ASN:ND2	48:SA:52:LYS:HD2	2.37	0.40
50:SC:227:PRO:HG2	70:SW:99:PHE:HB3	2.04	0.40
53:SF:69:PHE:CD2	64:SQ:46:PHE:HB3	2.57	0.40
56:SI:34:ALA:HB2	56:SI:56:ARG:HD2	2.04	0.40
60:SM:66:VAL:HG23	60:SM:67:THR:N	2.36	0.40
60:SM:91:VAL:HG22	60:SM:92:ALA:H	1.86	0.40
62:SO:31:THR:HG22	62:SO:38:THR:HA	2.02	0.40
72:SY:35:VAL:CG2	72:SY:40:LEU:HD21	2.50	0.40
79:Sf:147:VAL:HG13	79:Sf:147:VAL:O	2.22	0.40
80:Sg:64:HIS:NE2	80:Sg:82:SER:OG	2.50	0.40
81:A:61:C:H2'	81:A:62:C:C6	2.56	0.40
85:R:127:LYS:HG2	85:R:130:ARG:CZ	2.51	0.40
85:R:166:LEU:HA	85:R:169:VAL:HG22	2.03	0.40
85:R:324:CYS:HA	85:R:331:LEU:HD23	2.03	0.40
86:T:254:VAL:O	86:T:258:ILE:HG13	2.21	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
4	LA	249/254 (98%)	230 (92%)	19 (8%)	0	100	100
5	LB	384/387 (99%)	354 (92%)	30 (8%)	0	100	100
6	LC	359/362 (99%)	330 (92%)	27 (8%)	2 (1%)	21	53
7	LD	292/297 (98%)	274 (94%)	17 (6%)	1 (0%)	36	66

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
8	LE	163/176 (93%)	146 (90%)	17 (10%)	0	100	100
9	LF	220/244 (90%)	208 (94%)	12 (6%)	0	100	100
10	LG	231/256 (90%)	214 (93%)	16 (7%)	1 (0%)	30	60
11	LH	189/191 (99%)	173 (92%)	16 (8%)	0	100	100
12	LI	216/221 (98%)	205 (95%)	11 (5%)	0	100	100
13	LJ	167/174 (96%)	146 (87%)	21 (13%)	0	100	100
14	LL	191/199 (96%)	171 (90%)	19 (10%)	1 (0%)	24	56
15	LM	134/138 (97%)	124 (92%)	10 (8%)	0	100	100
16	LN	201/204 (98%)	186 (92%)	15 (8%)	0	100	100
17	LO	195/199 (98%)	189 (97%)	4 (2%)	2 (1%)	12	42
18	LP	181/184 (98%)	168 (93%)	13 (7%)	0	100	100
19	LQ	183/186 (98%)	171 (93%)	12 (7%)	0	100	100
20	LR	186/189 (98%)	179 (96%)	6 (3%)	1 (0%)	24	56
21	LS	169/172 (98%)	161 (95%)	8 (5%)	0	100	100
22	LT	157/160 (98%)	150 (96%)	7 (4%)	0	100	100
23	LU	98/121 (81%)	90 (92%)	8 (8%)	0	100	100
24	LV	134/137 (98%)	133 (99%)	1 (1%)	0	100	100
25	LW	124/155 (80%)	108 (87%)	15 (12%)	1 (1%)	16	47
26	LX	119/142 (84%)	111 (93%)	6 (5%)	2 (2%)	7	32
27	LY	123/127 (97%)	117 (95%)	6 (5%)	0	100	100
28	LZ	133/136 (98%)	124 (93%)	9 (7%)	0	100	100
29	La	146/149 (98%)	130 (89%)	15 (10%)	1 (1%)	18	50
30	Lb	56/59 (95%)	50 (89%)	4 (7%)	2 (4%)	2	17
31	Lc	94/105 (90%)	90 (96%)	4 (4%)	0	100	100
32	Ld	107/113 (95%)	96 (90%)	11 (10%)	0	100	100
33	Le	125/130 (96%)	120 (96%)	5 (4%)	0	100	100
34	Lf	104/107 (97%)	97 (93%)	7 (7%)	0	100	100
35	Lg	110/121 (91%)	106 (96%)	4 (4%)	0	100	100
36	Lh	117/120 (98%)	111 (95%)	6 (5%)	0	100	100
37	Li	97/100 (97%)	92 (95%)	5 (5%)	0	100	100
38	Lj	83/88 (94%)	76 (92%)	7 (8%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
39	Lk	75/78 (96%)	73 (97%)	2 (3%)	0	100	100
40	Ll	48/51 (94%)	47 (98%)	1 (2%)	0	100	100
41	Lm	50/128 (39%)	48 (96%)	2 (4%)	0	100	100
42	Ln	23/25 (92%)	23 (100%)	0	0	100	100
43	Lo	101/106 (95%)	94 (93%)	7 (7%)	0	100	100
44	Lp	89/92 (97%)	84 (94%)	5 (6%)	0	100	100
45	P0	187/312 (60%)	160 (86%)	27 (14%)	0	100	100
46	P2	92/165 (56%)	74 (80%)	18 (20%)	0	100	100
48	SA	204/252 (81%)	180 (88%)	24 (12%)	0	100	100
49	SB	222/255 (87%)	192 (86%)	28 (13%)	2 (1%)	14	44
50	SC	214/254 (84%)	198 (92%)	16 (8%)	0	100	100
51	SD	220/240 (92%)	212 (96%)	8 (4%)	0	100	100
52	SE	256/261 (98%)	232 (91%)	24 (9%)	0	100	100
53	SF	204/225 (91%)	188 (92%)	16 (8%)	0	100	100
54	SG	226/236 (96%)	197 (87%)	27 (12%)	2 (1%)	14	44
55	SH	182/190 (96%)	167 (92%)	14 (8%)	1 (0%)	24	56
56	SI	183/200 (92%)	163 (89%)	18 (10%)	2 (1%)	11	40
57	SJ	182/197 (92%)	162 (89%)	19 (10%)	1 (0%)	24	56
58	SK	90/105 (86%)	76 (84%)	14 (16%)	0	100	100
59	SL	142/156 (91%)	126 (89%)	16 (11%)	0	100	100
60	SM	119/143 (83%)	81 (68%)	36 (30%)	2 (2%)	7	32
61	SN	148/151 (98%)	133 (90%)	15 (10%)	0	100	100
62	SO	125/138 (91%)	110 (88%)	15 (12%)	0	100	100
63	SP	115/142 (81%)	106 (92%)	9 (8%)	0	100	100
64	SQ	139/143 (97%)	128 (92%)	10 (7%)	1 (1%)	18	50
65	SR	117/136 (86%)	105 (90%)	12 (10%)	0	100	100
66	SS	143/146 (98%)	130 (91%)	12 (8%)	1 (1%)	18	50
67	ST	141/144 (98%)	124 (88%)	17 (12%)	0	100	100
68	SU	98/121 (81%)	92 (94%)	6 (6%)	0	100	100
69	SV	85/87 (98%)	74 (87%)	10 (12%)	1 (1%)	10	38
70	SW	127/130 (98%)	122 (96%)	5 (4%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
71	SX	142/145 (98%)	122 (86%)	17 (12%)	3 (2%)	5	27
72	SY	132/135 (98%)	122 (92%)	10 (8%)	0	100	100
73	SZ	98/108 (91%)	85 (87%)	10 (10%)	3 (3%)	3	19
74	Sa	95/119 (80%)	78 (82%)	14 (15%)	3 (3%)	3	19
75	Sb	79/82 (96%)	70 (89%)	9 (11%)	0	100	100
76	Sc	61/67 (91%)	55 (90%)	6 (10%)	0	100	100
77	Sd	51/56 (91%)	49 (96%)	2 (4%)	0	100	100
78	Se	58/63 (92%)	46 (79%)	12 (21%)	0	100	100
79	Sf	71/152 (47%)	44 (62%)	24 (34%)	3 (4%)	2	14
80	Sg	310/319 (97%)	280 (90%)	29 (9%)	1 (0%)	36	66
84	5	151/157 (96%)	125 (83%)	22 (15%)	4 (3%)	4	23
85	R	351/410 (86%)	330 (94%)	18 (5%)	3 (1%)	14	44
86	T	158/345 (46%)	138 (87%)	19 (12%)	1 (1%)	21	53
All	All	11941/13270 (90%)	10875 (91%)	1018 (8%)	48 (0%)	31	60

All (48) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
17	LO	111[A]	PRO
26	LX	44	PRO
56	SI	10	LYS
60	SM	109	GLU
66	SS	91	ASP
71	SX	42	PRO
71	SX	89	ASN
73	SZ	22	LYS
74	Sa	85	ARG
79	Sf	110	ALA
79	Sf	145	HIS
84	5	113	VAL
14	LL	63	VAL
29	La	78	LEU
73	SZ	23	SER
85	R	90	SER
6	LC	14	GLU
17	LO	109[A]	PRO
25	LW	65	GLU

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Mol	Chain	Res	Type
30	Lb	21	ILE
54	SG	68	LEU
54	SG	173	PRO
69	SV	81	ASN
79	Sf	112	GLY
84	5	77	THR
85	R	103	VAL
20	LR	52	LYS
49	SB	213	ARG
80	Sg	267	PRO
85	R	92	ALA
86	T	215	GLU
7	LD	20	PHE
26	LX	43	ALA
60	SM	126	TRP
64	SQ	40	GLU
73	SZ	24	LYS
74	Sa	62	TYR
74	Sa	83	ILE
56	SI	9	HIS
57	SJ	99	LEU
84	5	97	ASP
71	SX	91	GLY
10	LG	160	ILE
6	LC	4	PRO
84	5	98	GLY
30	Lb	24	PRO
49	SB	212	VAL
55	SH	64	VAL

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
4	LA	190/196 (97%)	190 (100%)	0	100	100
5	LB	319/323 (99%)	318 (100%)	1 (0%)	86	87

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
6	LC	288/289 (100%)	288 (100%)	0	100	100
7	LD	241/245 (98%)	241 (100%)	0	100	100
8	LE	139/155 (90%)	138 (99%)	1 (1%)	76	81
9	LF	186/205 (91%)	185 (100%)	1 (0%)	81	84
10	LG	187/208 (90%)	184 (98%)	3 (2%)	55	72
11	LH	168/171 (98%)	168 (100%)	0	100	100
12	LI	185/187 (99%)	185 (100%)	0	100	100
13	LJ	146/151 (97%)	144 (99%)	2 (1%)	59	74
14	LL	154/159 (97%)	153 (99%)	1 (1%)	78	83
15	LM	107/109 (98%)	107 (100%)	0	100	100
16	LN	175/176 (99%)	175 (100%)	0	100	100
17	LO	160/162 (99%)	160 (100%)	0	100	100
18	LP	138/146 (94%)	138 (100%)	0	100	100
19	LQ	150/151 (99%)	149 (99%)	1 (1%)	76	81
20	LR	152/154 (99%)	151 (99%)	1 (1%)	76	81
21	LS	155/156 (99%)	154 (99%)	1 (1%)	78	83
22	LT	136/137 (99%)	136 (100%)	0	100	100
23	LU	87/107 (81%)	87 (100%)	0	100	100
24	LV	104/105 (99%)	104 (100%)	0	100	100
25	LW	60/129 (46%)	60 (100%)	0	100	100
26	LX	104/118 (88%)	104 (100%)	0	100	100
27	LY	108/110 (98%)	108 (100%)	0	100	100
28	LZ	115/116 (99%)	115 (100%)	0	100	100
29	La	118/119 (99%)	118 (100%)	0	100	100
30	Lb	46/47 (98%)	46 (100%)	0	100	100
31	Lc	81/88 (92%)	81 (100%)	0	100	100
32	Ld	92/97 (95%)	92 (100%)	0	100	100
33	Le	108/111 (97%)	108 (100%)	0	100	100
34	Lf	90/91 (99%)	87 (97%)	3 (3%)	33	62
35	Lg	95/103 (92%)	95 (100%)	0	100	100
36	Lh	104/105 (99%)	104 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
37	Li	80/82 (98%)	80 (100%)	0	100	100
38	Lj	69/71 (97%)	69 (100%)	0	100	100
39	Lk	68/69 (99%)	68 (100%)	0	100	100
40	Ll	45/46 (98%)	45 (100%)	0	100	100
41	Lm	47/116 (40%)	47 (100%)	0	100	100
42	Ln	22/23 (96%)	22 (100%)	0	100	100
43	Lo	87/91 (96%)	86 (99%)	1 (1%)	65	77
44	Lp	71/72 (99%)	71 (100%)	0	100	100
45	P0	160/254 (63%)	160 (100%)	0	100	100
46	P2	81/136 (60%)	81 (100%)	0	100	100
48	SA	170/210 (81%)	170 (100%)	0	100	100
49	SB	200/224 (89%)	200 (100%)	0	100	100
50	SC	175/205 (85%)	175 (100%)	0	100	100
51	SD	182/195 (93%)	182 (100%)	0	100	100
52	SE	220/222 (99%)	217 (99%)	3 (1%)	59	74
53	SF	172/191 (90%)	171 (99%)	1 (1%)	78	83
54	SG	189/201 (94%)	189 (100%)	0	100	100
55	SH	163/170 (96%)	162 (99%)	1 (1%)	78	83
56	SI	148/161 (92%)	148 (100%)	0	100	100
57	SJ	156/166 (94%)	156 (100%)	0	100	100
58	SK	77/98 (79%)	77 (100%)	0	100	100
59	SL	129/137 (94%)	128 (99%)	1 (1%)	73	80
60	SM	88/119 (74%)	85 (97%)	3 (3%)	32	61
61	SN	127/128 (99%)	127 (100%)	0	100	100
62	SO	91/105 (87%)	91 (100%)	0	100	100
63	SP	95/118 (80%)	95 (100%)	0	100	100
64	SQ	117/119 (98%)	115 (98%)	2 (2%)	53	72
65	SR	101/124 (82%)	101 (100%)	0	100	100
66	SS	128/129 (99%)	127 (99%)	1 (1%)	73	80
67	ST	115/116 (99%)	115 (100%)	0	100	100
68	SU	93/114 (82%)	92 (99%)	1 (1%)	65	77

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
69	SV	71/74 (96%)	71 (100%)	0	100	100
70	SW	110/111 (99%)	110 (100%)	0	100	100
71	SX	119/120 (99%)	119 (100%)	0	100	100
72	SY	112/113 (99%)	112 (100%)	0	100	100
73	SZ	77/89 (86%)	69 (90%)	8 (10%)	7	26
74	Sa	83/100 (83%)	82 (99%)	1 (1%)	63	76
75	Sb	70/71 (99%)	70 (100%)	0	100	100
76	Sc	55/60 (92%)	55 (100%)	0	100	100
77	Sd	47/49 (96%)	47 (100%)	0	100	100
78	Se	50/54 (93%)	50 (100%)	0	100	100
79	Sf	56/135 (42%)	53 (95%)	3 (5%)	20	50
80	Sg	250/262 (95%)	249 (100%)	1 (0%)	84	85
84	5	118/132 (89%)	111 (94%)	7 (6%)	18	48
85	R	299/353 (85%)	293 (98%)	6 (2%)	48	69
86	T	134/302 (44%)	126 (94%)	8 (6%)	17	47
All	All	10005/11163 (90%)	9942 (99%)	63 (1%)	76	83

All (63) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
5	LB	128	LYS
8	LE	28	GLN
9	LF	157	ASN
10	LG	32	LYS
10	LG	158	ASP
10	LG	160	ILE
13	LJ	114	ILE
13	LJ	115	LYS
14	LL	75	PHE
19	LQ	45	ASN
20	LR	175	GLN
21	LS	8	GLN
34	Lf	20	LYS
34	Lf	21	ARG
34	Lf	22	VAL
43	Lo	27	GLN
52	SE	148	ARG

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Mol	Chain	Res	Type
52	SE	199	GLU
52	SE	200	ARG
53	SF	45	LYS
55	SH	67	LEU
59	SL	21	ASN
60	SM	83	GLU
60	SM	84	ASN
60	SM	85	LYS
64	SQ	34	SER
64	SQ	40	GLU
66	SS	144	ARG
68	SU	49	ASN
73	SZ	9	LYS
73	SZ	12	LYS
73	SZ	21	LYS
73	SZ	22	LYS
73	SZ	24	LYS
73	SZ	25	LYS
73	SZ	69	LEU
73	SZ	70	LYS
74	Sa	83	ILE
79	Sf	107	LYS
79	Sf	113	LYS
79	Sf	143	LYS
80	Sg	266	ASP
84	5	48	LYS
84	5	49	THR
84	5	52	HIS
84	5	54	HIS
84	5	77	THR
84	5	112	ASP
84	5	113	VAL
85	R	7	LYS
85	R	45	SER
85	R	62	ARG
85	R	187	LYS
85	R	346	LYS
85	R	348	GLN
86	T	172	GLU
86	T	173	ASN
86	T	175	LYS
86	T	180	TRP

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Mol	Chain	Res	Type
86	T	182	CYS
86	T	217	GLN
86	T	308	PHE
86	T	310	ASP

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (91) such sidechains are listed below:

Mol	Chain	Res	Type
4	LA	215	ASN
5	LB	319	ASN
6	LC	5	GLN
6	LC	196	ASN
6	LC	296	GLN
7	LD	17	GLN
7	LD	39	GLN
7	LD	63	GLN
8	LE	157	GLN
11	LH	9	GLN
12	LI	95	HIS
12	LI	123	HIS
12	LI	144	ASN
14	LL	12	ASN
16	LN	15	GLN
16	LN	90	ASN
16	LN	117	ASN
17	LO	26[A]	GLN
17	LO	31[A]	GLN
19	LQ	5	HIS
20	LR	166	ASN
21	LS	8	GLN
21	LS	68	HIS
21	LS	74	ASN
21	LS	114	HIS
21	LS	138	GLN
21	LS	142	GLN
22	LT	90	ASN
22	LT	103	GLN
22	LT	149	GLN
23	LU	9	GLN
23	LU	87	ASN
24	LV	7	GLN
24	LV	98	ASN

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Mol	Chain	Res	Type
27	LY	81	GLN
27	LY	98	ASN
28	LZ	29	HIS
28	LZ	122	HIS
29	La	44	ASN
30	Lb	10	HIS
32	Ld	15	ASN
32	Ld	21	HIS
36	Lh	68	GLN
38	Lj	16	HIS
38	Lj	48	ASN
43	Lo	23	HIS
45	P0	189	GLN
45	P0	193	ASN
46	P2	105	GLN
46	P2	137	GLN
48	SA	49	ASN
49	SB	101	HIS
49	SB	177	GLN
50	SC	220	ASN
51	SD	62	ASN
52	SE	17	HIS
53	SF	131	GLN
54	SG	139	ASN
55	SH	11	GLN
55	SH	22	GLN
55	SH	71	HIS
55	SH	74	GLN
55	SH	122	HIS
56	SI	159	GLN
57	SJ	123	HIS
59	SL	14	GLN
60	SM	139	HIS
61	SN	36	GLN
62	SO	65	GLN
64	SQ	74	HIS
66	SS	6	GLN
66	SS	13	HIS
66	SS	103	ASN
67	ST	70	GLN
69	SV	3	ASN
70	SW	56	HIS

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Mol	Chain	Res	Type
70	SW	64	GLN
70	SW	80	ASN
71	SX	63	GLN
71	SX	99	ASN
72	SY	63	GLN
73	SZ	6	GLN
74	Sa	8	ASN
76	Sc	43	ASN
78	Se	17	GLN
80	Sg	308	ASN
80	Sg	314	GLN
85	R	19	GLN
85	R	174	ASN
85	R	216	ASN
85	R	268	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	C1	3217/3396 (94%)	565 (17%)	36 (1%)
2	C4	120/121 (99%)	11 (9%)	1 (0%)
3	C3	157/158 (99%)	25 (15%)	1 (0%)
47	C2	1768/1800 (98%)	456 (25%)	45 (2%)
81	A	75/76 (98%)	36 (48%)	3 (4%)
82	P	75/76 (98%)	20 (26%)	0
83	m	15/16 (93%)	5 (33%)	0
All	All	5427/5643 (96%)	1118 (20%)	86 (1%)

All (1118) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	C1	13	A
1	C1	14	U
1	C1	18	G
1	C1	26	A
1	C1	40	A
1	C1	43	A
1	C1	49	A
1	C1	59	G
1	C1	60	A
1	C1	65	A

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Mol	Chain	Res	Type
1	C1	66	A
1	C1	92	G
1	C1	99	A
1	C1	110	G
1	C1	111	C
1	C1	113	C
1	C1	121	A
1	C1	122	A
1	C1	133	U
1	C1	134	U
1	C1	135	C
1	C1	136	G
1	C1	156	G
1	C1	157	A
1	C1	162	G
1	C1	166	C
1	C1	187	A
1	C1	190	U
1	C1	191	U
1	C1	200	C
1	C1	210	U
1	C1	213	A
1	C1	218	G
1	C1	219	A
1	C1	221	A
1	C1	238	A
1	C1	240	U
1	C1	241	G
1	C1	243	G
1	C1	245	U
1	C1	249	U
1	C1	252	U
1	C1	269	G
1	C1	283	G
1	C1	286	U
1	C1	295	A
1	C1	305	U
1	C1	323	A
1	C1	329	U
1	C1	339	C
1	C1	350	C
1	C1	351	A

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Mol	Chain	Res	Type
1	C1	376	G
1	C1	398	A
1	C1	399	A
1	C1	401	U
1	C1	402	A
1	C1	403	C
1	C1	404	G
1	C1	421	G
1	C1	422	A
1	C1	439	C
1	C1	440	A
1	C1	441	U
1	C1	442	G
1	C1	445	G
1	C1	446	U
1	C1	447	U
1	C1	448	U
1	C1	450	G
1	C1	451	U
1	C1	486	U
1	C1	487	U
1	C1	488	U
1	C1	490	A
1	C1	520	U
1	C1	521	A
1	C1	523	A
1	C1	535	G
1	C1	544	C
1	C1	546	C
1	C1	547	G
1	C1	552	G
1	C1	555	U
1	C1	557	A
1	C1	559	A
1	C1	578	A
1	C1	579	G
1	C1	609	G
1	C1	611	A
1	C1	620	U
1	C1	621	A
1	C1	622	A
1	C1	636	C

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Mol	Chain	Res	Type
1	C1	637	C
1	C1	638	C
1	C1	649	A
1	C1	660	A
1	C1	677	A
1	C1	681	U
1	C1	683	U
1	C1	691	A
1	C1	705	A
1	C1	712	G
1	C1	715	A
1	C1	716	A
1	C1	719	U
1	C1	720	A
1	C1	758	C
1	C1	764	U
1	C1	767	U
1	C1	776	U
1	C1	777	U
1	C1	780	A
1	C1	781	G
1	C1	785	G
1	C1	786	A
1	C1	806	A
1	C1	817	A
1	C1	830	A
1	C1	849	C
1	C1	861	C
1	C1	874	U
1	C1	879	U
1	C1	896	A
1	C1	907	G
1	C1	908	G
1	C1	914	A
1	C1	916	G
1	C1	917	A
1	C1	937	G
1	C1	944	C
1	C1	959	C
1	C1	960	U
1	C1	974	G
1	C1	980	A

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Mol	Chain	Res	Type
1	C1	982	C
1	C1	994	G
1	C1	1002	A
1	C1	1010	G
1	C1	1014	U
1	C1	1015	U
1	C1	1017	C
1	C1	1018	G
1	C1	1020	G
1	C1	1021	G
1	C1	1024	G
1	C1	1025	A
1	C1	1026	A
1	C1	1027	A
1	C1	1036	A
1	C1	1047	A
1	C1	1049	C
1	C1	1063	G
1	C1	1064	A
1	C1	1065	A
1	C1	1072	G
1	C1	1081	U
1	C1	1093	A
1	C1	1094	U
1	C1	1095	U
1	C1	1097	G
1	C1	1098	A
1	C1	1103	A
1	C1	1104	G
1	C1	1117	G
1	C1	1131	G
1	C1	1159	A
1	C1	1178	G
1	C1	1180	A
1	C1	1181	U
1	C1	1192	C
1	C1	1193	A
1	C1	1196	C
1	C1	1197	A
1	C1	1201	C
1	C1	1208	U
1	C1	1217	A

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Mol	Chain	Res	Type
1	C1	1220	U
1	C1	1222	G
1	C1	1227	C
1	C1	1230	G
1	C1	1232	C
1	C1	1235	U
1	C1	1236	G
1	C1	1238	C
1	C1	1240	A
1	C1	1241	U
1	C1	1245	A
1	C1	1246	G
1	C1	1247	U
1	C1	1253	U
1	C1	1254	C
1	C1	1256	G
1	C1	1257	C
1	C1	1258	U
1	C1	1259	A
1	C1	1262	G
1	C1	1263	A
1	C1	1264	G
1	C1	1265	U
1	C1	1266	G
1	C1	1269	U
1	C1	1270	A
1	C1	1271	A
1	C1	1272	C
1	C1	1274	A
1	C1	1278	A
1	C1	1279	C
1	C1	1287	A
1	C1	1307	G
1	C1	1308	A
1	C1	1309	U
1	C1	1313	G
1	C1	1330	A
1	C1	1348	U
1	C1	1349	G
1	C1	1351	U
1	C1	1352	A
1	C1	1353	U

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Mol	Chain	Res	Type
1	C1	1354	G
1	C1	1356	U
1	C1	1357	G
1	C1	1380	G
1	C1	1386	A
1	C1	1392	G
1	C1	1399	A
1	C1	1400	G
1	C1	1418	A
1	C1	1419	A
1	C1	1434	G
1	C1	1437	C
1	C1	1446	A
1	C1	1450	G
1	C1	1481	A
1	C1	1483	G
1	C1	1484	U
1	C1	1488	G
1	C1	1508	C
1	C1	1523	U
1	C1	1536	G
1	C1	1555	U
1	C1	1556	C
1	C1	1557	A
1	C1	1560	G
1	C1	1562	C
1	C1	1563	C
1	C1	1565	G
1	C1	1566	A
1	C1	1567	U
1	C1	1568	U
1	C1	1569	U
1	C1	1570	U
1	C1	1572	U
1	C1	1573	G
1	C1	1576	G
1	C1	1580	A
1	C1	1581	C
1	C1	1582	C
1	C1	1583	A
1	C1	1587	A
1	C1	1589	A

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Mol	Chain	Res	Type
1	C1	1605	A
1	C1	1607	U
1	C1	1619	A
1	C1	1620	U
1	C1	1629	U
1	C1	1639	C
1	C1	1642	A
1	C1	1643	A
1	C1	1645	U
1	C1	1657	C
1	C1	1683	A
1	C1	1717	U
1	C1	1724	U
1	C1	1725	C
1	C1	1736	G
1	C1	1741	A
1	C1	1750	A
1	C1	1751	G
1	C1	1760	A
1	C1	1761	C
1	C1	1765	U
1	C1	1766	G
1	C1	1770	G
1	C1	1780	G
1	C1	1797	A
1	C1	1808	G
1	C1	1813	A
1	C1	1814	A
1	C1	1816	A
1	C1	1817	G
1	C1	1820	U
1	C1	1821	U
1	C1	1835	A
1	C1	1839	A
1	C1	1840	U
1	C1	1841	A
1	C1	1842	A
1	C1	1846	C
1	C1	1849	C
1	C1	1866	C
1	C1	1867	A
1	C1	1878	G

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Mol	Chain	Res	Type
1	C1	1880	U
1	C1	1893	A
1	C1	1906	G
1	C1	1952	G
1	C1	1953	G
1	C1	1954	G
1	C1	2101	C
1	C1	2102	U
1	C1	2111	G
1	C1	2112	U
1	C1	2113	A
1	C1	2114	C
1	C1	2121	G
1	C1	2122	G
1	C1	2131	A
1	C1	2158	A
1	C1	2169	G
1	C1	2170	U
1	C1	2188	A
1	C1	2192	C
1	C1	2194	G
1	C1	2206	G
1	C1	2207	A
1	C1	2209	U
1	C1	2210	G
1	C1	2223	A
1	C1	2244	A
1	C1	2249	G
1	C1	2250	G
1	C1	2255	A
1	C1	2256	A
1	C1	2257	C
1	C1	2272	G
1	C1	2273	G
1	C1	2279	A
1	C1	2281	A
1	C1	2282	U
1	C1	2285	C
1	C1	2288	G
1	C1	2307	G
1	C1	2310	U
1	C1	2313	A

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Mol	Chain	Res	Type
1	C1	2314	U
1	C1	2315	G
1	C1	2336	U
1	C1	2373	A
1	C1	2374	C
1	C1	2375	G
1	C1	2385	G
1	C1	2388	U
1	C1	2393	G
1	C1	2397	A
1	C1	2402	A
1	C1	2403	G
1	C1	2404	A
1	C1	2411	U
1	C1	2419	A
1	C1	2435	G
1	C1	2437	G
1	C1	2439	A
1	C1	2440	G
1	C1	2441	A
1	C1	2445	A
1	C1	2446	U
1	C1	2447	A
1	C1	2448	G
1	C1	2450	G
1	C1	2452	G
1	C1	2455	U
1	C1	2456	A
1	C1	2459	A
1	C1	2460	U
1	C1	2461	A
1	C1	2462	A
1	C1	2468	A
1	C1	2469	G
1	C1	2471	U
1	C1	2474	G
1	C1	2476	C
1	C1	2479	C
1	C1	2480	A
1	C1	2482	U
1	C1	2483	G
1	C1	2486	A

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Mol	Chain	Res	Type
1	C1	2487	U
1	C1	2488	A
1	C1	2490	C
1	C1	2491	A
1	C1	2492	C
1	C1	2494	A
1	C1	2495	C
1	C1	2496	C
1	C1	2498	U
1	C1	2499	U
1	C1	2500	A
1	C1	2501	U
1	C1	2502	A
1	C1	2506	U
1	C1	2508	U
1	C1	2514	U
1	C1	2515	A
1	C1	2522	G
1	C1	2524	A
1	C1	2525	G
1	C1	2531	C
1	C1	2533	G
1	C1	2537	U
1	C1	2538	U
1	C1	2539	C
1	C1	2540	A
1	C1	2541	U
1	C1	2542	U
1	C1	2544	U
1	C1	2548	C
1	C1	2549	G
1	C1	2552	C
1	C1	2554	A
1	C1	2561	A
1	C1	2569	A
1	C1	2570	U
1	C1	2571	U
1	C1	2572	C
1	C1	2573	G
1	C1	2585	G
1	C1	2593	A
1	C1	2606	G

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Mol	Chain	Res	Type
1	C1	2607	G
1	C1	2614	G
1	C1	2618	G
1	C1	2626	A
1	C1	2652	U
1	C1	2656	A
1	C1	2674	A
1	C1	2677	G
1	C1	2689	A
1	C1	2691	A
1	C1	2694	A
1	C1	2696	A
1	C1	2704	A
1	C1	2714	G
1	C1	2719	U
1	C1	2720	G
1	C1	2728	G
1	C1	2729	U
1	C1	2737	C
1	C1	2752	U
1	C1	2753	G
1	C1	2755	C
1	C1	2772	C
1	C1	2773	C
1	C1	2777	G
1	C1	2778	G
1	C1	2796	G
1	C1	2800	G
1	C1	2801	A
1	C1	2803	A
1	C1	2810	C
1	C1	2814	G
1	C1	2816	G
1	C1	2817	A
1	C1	2821	C
1	C1	2842	U
1	C1	2844	C
1	C1	2845	A
1	C1	2856	G
1	C1	2867	C
1	C1	2871	G
1	C1	2872	A

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Mol	Chain	Res	Type
1	C1	2875	U
1	C1	2887	A
1	C1	2889	C
1	C1	2898	G
1	C1	2923	U
1	C1	2928	C
1	C1	2935	U
1	C1	2936	A
1	C1	2942	C
1	C1	2947	G
1	C1	2954	U
1	C1	2971	A
1	C1	2979	U
1	C1	2983	C
1	C1	2990	G
1	C1	2996	U
1	C1	2997	G
1	C1	3012	A
1	C1	3023	U
1	C1	3059	G
1	C1	3078	U
1	C1	3080	G
1	C1	3086	A
1	C1	3092	C
1	C1	3093	C
1	C1	3101	G
1	C1	3109	G
1	C1	3119	U
1	C1	3122	A
1	C1	3129	A
1	C1	3130	A
1	C1	3131	U
1	C1	3142	A
1	C1	3143	C
1	C1	3151	U
1	C1	3154	C
1	C1	3155	U
1	C1	3156	U
1	C1	3157	U
1	C1	3165	A
1	C1	3170	A
1	C1	3173	G

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Mol	Chain	Res	Type
1	C1	3174	A
1	C1	3176	G
1	C1	3179	U
1	C1	3181	C
1	C1	3187	A
1	C1	3196	U
1	C1	3207	U
1	C1	3209	A
1	C1	3217	C
1	C1	3218	A
1	C1	3219	G
1	C1	3222	U
1	C1	3229	G
1	C1	3235	C
1	C1	3239	G
1	C1	3243	A
1	C1	3245	A
1	C1	3247	G
1	C1	3259	U
1	C1	3263	G
1	C1	3270	U
1	C1	3276	G
1	C1	3281	U
1	C1	3287	U
1	C1	3288	G
1	C1	3289	G
1	C1	3294	A
1	C1	3295	A
1	C1	3304	U
1	C1	3307	A
1	C1	3313	U
1	C1	3316	A
1	C1	3318	G
1	C1	3319	U
1	C1	3320	A
1	C1	3334	U
1	C1	3341	U
1	C1	3345	G
1	C1	3351	U
1	C1	3352	U
1	C1	3353	G
1	C1	3354	U

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Mol	Chain	Res	Type
1	C1	3355	U
1	C1	3369	G
1	C1	3375	A
1	C1	3378	C
1	C1	3382	U
1	C1	3386	G
1	C1	3389	U
1	C1	3390	G
1	C1	3396	U
2	C4	7	G
2	C4	10	C
2	C4	11	A
2	C4	53	U
2	C4	54	U
2	C4	65	G
2	C4	76	A
2	C4	95	A
2	C4	102	A
2	C4	112	G
2	C4	121	U
3	C3	34	U
3	C3	35	C
3	C3	39	G
3	C3	53	A
3	C3	59	A
3	C3	62	C
3	C3	63	G
3	C3	80	A
3	C3	81	U
3	C3	82	U
3	C3	83	C
3	C3	84	C
3	C3	86	U
3	C3	87	G
3	C3	90	U
3	C3	95	G
3	C3	104	A
3	C3	106	C
3	C3	111	A
3	C3	113	U
3	C3	125	U
3	C3	126	A

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Mol	Chain	Res	Type
3	C3	138	A
3	C3	152	G
3	C3	158	U
47	C2	2	A
47	C2	4	C
47	C2	5	U
47	C2	17	C
47	C2	25	C
47	C2	26	A
47	C2	34	G
47	C2	42	G
47	C2	45	U
47	C2	46	A
47	C2	47	A
47	C2	51	A
47	C2	56	U
47	C2	57	G
47	C2	62	A
47	C2	63	G
47	C2	65	A
47	C2	66	U
47	C2	68	A
47	C2	69	G
47	C2	74	U
47	C2	75	U
47	C2	76	A
47	C2	78	A
47	C2	79	C
47	C2	81	G
47	C2	104	A
47	C2	114	C
47	C2	126	A
47	C2	127	G
47	C2	129	U
47	C2	130	C
47	C2	131	C
47	C2	132	U
47	C2	134	U
47	C2	135	A
47	C2	136	C
47	C2	138	A
47	C2	140	A

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Mol	Chain	Res	Type
47	C2	141	U
47	C2	142	G
47	C2	153	G
47	C2	155	U
47	C2	171	A
47	C2	174	U
47	C2	176	C
47	C2	178	U
47	C2	179	A
47	C2	180	A
47	C2	185	U
47	C2	186	C
47	C2	187	G
47	C2	188	A
47	C2	189	C
47	C2	191	C
47	C2	193	U
47	C2	195	G
47	C2	197	A
47	C2	217	A
47	C2	218	A
47	C2	224	C
47	C2	225	A
47	C2	227	U
47	C2	228	G
47	C2	230	C
47	C2	232	U
47	C2	233	C
47	C2	234	G
47	C2	235	G
47	C2	238	U
47	C2	240	U
47	C2	241	U
47	C2	250	C
47	C2	257	A
47	C2	260	U
47	C2	265	A
47	C2	272	U
47	C2	274	G
47	C2	275	C
47	C2	277	U
47	C2	278	U

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Mol	Chain	Res	Type
47	C2	279	G
47	C2	280	U
47	C2	281	G
47	C2	287	G
47	C2	299	A
47	C2	314	C
47	C2	316	A
47	C2	321	C
47	C2	322	G
47	C2	323	A
47	C2	333	A
47	C2	337	G
47	C2	338	C
47	C2	350	U
47	C2	352	A
47	C2	353	A
47	C2	359	A
47	C2	361	C
47	C2	373	G
47	C2	388	G
47	C2	400	A
47	C2	401	A
47	C2	402	C
47	C2	404	G
47	C2	416	A
47	C2	417	A
47	C2	419	G
47	C2	423	G
47	C2	424	C
47	C2	425	A
47	C2	426	G
47	C2	432	G
47	C2	434	G
47	C2	437	A
47	C2	439	U
47	C2	444	C
47	C2	448	C
47	C2	454	U
47	C2	460	A
47	C2	468	A
47	C2	471	A
47	C2	481	A

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Mol	Chain	Res	Type
47	C2	483	A
47	C2	485	A
47	C2	487	G
47	C2	489	C
47	C2	492	A
47	C2	493	U
47	C2	494	U
47	C2	495	C
47	C2	496	G
47	C2	498	G
47	C2	499	U
47	C2	500	C
47	C2	502	U
47	C2	505	A
47	C2	506	A
47	C2	507	U
47	C2	508	U
47	C2	510	G
47	C2	511	A
47	C2	527	A
47	C2	534	A
47	C2	537	G
47	C2	538	A
47	C2	540	G
47	C2	541	A
47	C2	542	A
47	C2	543	C
47	C2	544	A
47	C2	554	C
47	C2	555	A
47	C2	556	A
47	C2	557	G
47	C2	558	U
47	C2	559	C
47	C2	565	C
47	C2	568	G
47	C2	578	U
47	C2	579	A
47	C2	580	A
47	C2	582	U
47	C2	594	A
47	C2	595	G

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Mol	Chain	Res	Type
47	C2	606	A
47	C2	610	G
47	C2	611	U
47	C2	619	A
47	C2	620	A
47	C2	622	A
47	C2	623	A
47	C2	624	G
47	C2	630	A
47	C2	639	U
47	C2	640	U
47	C2	641	G
47	C2	651	G
47	C2	652	G
47	C2	653	C
47	C2	655	G
47	C2	677	G
47	C2	679	U
47	C2	680	U
47	C2	681	U
47	C2	683	C
47	C2	684	A
47	C2	687	G
47	C2	694	U
47	C2	696	C
47	C2	698	U
47	C2	699	U
47	C2	700	C
47	C2	702	G
47	C2	703	G
47	C2	704	C
47	C2	705	U
47	C2	706	A
47	C2	707	A
47	C2	708	C
47	C2	709	C
47	C2	710	U
47	C2	711	U
47	C2	712	G
47	C2	714	G
47	C2	728	U
47	C2	729	G

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Mol	Chain	Res	Type
47	C2	730	G
47	C2	731	C
47	C2	732	G
47	C2	733	A
47	C2	734	A
47	C2	736	C
47	C2	737	A
47	C2	738	G
47	C2	739	G
47	C2	740	A
47	C2	742	U
47	C2	743	U
47	C2	753	A
47	C2	756	A
47	C2	765	G
47	C2	766	U
47	C2	767	U
47	C2	774	A
47	C2	775	G
47	C2	778	G
47	C2	779	U
47	C2	780	A
47	C2	781	U
47	C2	782	U
47	C2	783	G
47	C2	789	A
47	C2	812	A
47	C2	813	U
47	C2	814	A
47	C2	815	G
47	C2	818	C
47	C2	819	G
47	C2	820	U
47	C2	821	U
47	C2	823	G
47	C2	832	U
47	C2	833	U
47	C2	835	U
47	C2	838	G
47	C2	840	U
47	C2	846	G
47	C2	852	C

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Mol	Chain	Res	Type
47	C2	855	A
47	C2	856	A
47	C2	857	U
47	C2	863	A
47	C2	876	G
47	C2	886	U
47	C2	899	G
47	C2	901	G
47	C2	902	G
47	C2	904	G
47	C2	912	U
47	C2	913	G
47	C2	915	A
47	C2	921	U
47	C2	929	A
47	C2	933	A
47	C2	934	C
47	C2	935	U
47	C2	942	G
47	C2	945	U
47	C2	960	U
47	C2	963	A
47	C2	966	A
47	C2	970	A
47	C2	971	A
47	C2	988	A
47	C2	992	A
47	C2	993	A
47	C2	998	A
47	C2	1004	U
47	C2	1012	U
47	C2	1020	A
47	C2	1021	C
47	C2	1024	U
47	C2	1025	A
47	C2	1028	C
47	C2	1031	U
47	C2	1032	G
47	C2	1039	A
47	C2	1053	G
47	C2	1058	U
47	C2	1060	U

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Mol	Chain	Res	Type
47	C2	1061	A
47	C2	1063	U
47	C2	1076	A
47	C2	1082	C
47	C2	1092	A
47	C2	1093	A
47	C2	1096	C
47	C2	1100	G
47	C2	1132	A
47	C2	1138	A
47	C2	1150	G
47	C2	1158	C
47	C2	1159	C
47	C2	1160	A
47	C2	1164	G
47	C2	1167	G
47	C2	1185	U
47	C2	1194	A
47	C2	1196	A
47	C2	1199	G
47	C2	1200	G
47	C2	1202	A
47	C2	1208	A
47	C2	1217	A
47	C2	1218	G
47	C2	1222	C
47	C2	1227	A
47	C2	1228	G
47	C2	1229	G
47	C2	1241	G
47	C2	1243	G
47	C2	1244	A
47	C2	1245	G
47	C2	1246	C
47	C2	1251	U
47	C2	1252	C
47	C2	1256	A
47	C2	1257	U
47	C2	1274	C
47	C2	1275	A
47	C2	1285	U
47	C2	1286	U

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Mol	Chain	Res	Type
47	C2	1291	G
47	C2	1301	U
47	C2	1314	U
47	C2	1315	U
47	C2	1316	G
47	C2	1318	G
47	C2	1321	A
47	C2	1322	A
47	C2	1344	A
47	C2	1345	A
47	C2	1346	A
47	C2	1348	A
47	C2	1349	G
47	C2	1355	C
47	C2	1360	A
47	C2	1363	U
47	C2	1364	G
47	C2	1370	U
47	C2	1371	A
47	C2	1372	U
47	C2	1373	C
47	C2	1382	A
47	C2	1383	G
47	C2	1390	U
47	C2	1398	U
47	C2	1399	C
47	C2	1400	A
47	C2	1402	G
47	C2	1414	U
47	C2	1425	A
47	C2	1427	A
47	C2	1428	G
47	C2	1431	C
47	C2	1432	U
47	C2	1433	G
47	C2	1436	A
47	C2	1446	A
47	C2	1459	C
47	C2	1469	A
47	C2	1471	A
47	C2	1472	C
47	C2	1479	A

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Mol	Chain	Res	Type
47	C2	1491	U
47	C2	1492	A
47	C2	1493	A
47	C2	1494	C
47	C2	1496	U
47	C2	1506	G
47	C2	1514	U
47	C2	1515	A
47	C2	1516	A
47	C2	1518	C
47	C2	1521	G
47	C2	1523	G
47	C2	1524	A
47	C2	1528	U
47	C2	1529	C
47	C2	1531	G
47	C2	1535	U
47	C2	1537	C
47	C2	1540	G
47	C2	1542	G
47	C2	1543	A
47	C2	1554	U
47	C2	1556	A
47	C2	1557	U
47	C2	1558	U
47	C2	1559	A
47	C2	1561	U
47	C2	1570	A
47	C2	1572	G
47	C2	1573	A
47	C2	1574	G
47	C2	1575	G
47	C2	1576	A
47	C2	1583	A
47	C2	1584	G
47	C2	1585	U
47	C2	1590	G
47	C2	1601	G
47	C2	1607	G
47	C2	1611	A
47	C2	1616	G
47	C2	1622	G

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Mol	Chain	Res	Type
47	C2	1631	A
47	C2	1634	C
47	C2	1635	A
47	C2	1637	C
47	C2	1657	U
47	C2	1658	G
47	C2	1688	U
47	C2	1689	A
47	C2	1696	G
47	C2	1697	G
47	C2	1698	G
47	C2	1699	G
47	C2	1700	C
47	C2	1702	A
47	C2	1704	U
47	C2	1706	C
47	C2	1708	U
47	C2	1712	A
47	C2	1715	G
47	C2	1716	C
47	C2	1736	G
47	C2	1755	A
47	C2	1756	A
47	C2	1757	G
47	C2	1760	G
47	C2	1766	A
47	C2	1767	G
47	C2	1769	U
47	C2	1770	U
47	C2	1771	U
47	C2	1780	G
47	C2	1782	A
47	C2	1783	C
47	C2	1792	G
47	C2	1793	G
47	C2	1794	A
47	C2	1795	U
47	C2	1796	C
47	C2	1799	U
81	A	3	G
81	A	5	C
81	A	6	G

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Mol	Chain	Res	Type
81	A	7	U
81	A	8	U
81	A	14	A
81	A	15	G
81	A	16	U
81	A	17	U
81	A	18	G
81	A	19	G
81	A	21	A
81	A	22	G
81	A	35	U
81	A	36	U
81	A	38	A
81	A	43	U
81	A	46	G
81	A	47	U
81	A	48	C
81	A	49	G
81	A	50	C
81	A	51	A
81	A	52	G
81	A	53	G
81	A	54	U
81	A	55	U
81	A	57	G
81	A	59	A
81	A	60	U
81	A	61	C
81	A	64	G
81	A	65	C
81	A	71	C
81	A	73	A
81	A	74	C
82	P	3	C
82	P	13	C
82	P	15	A
82	P	16	U
82	P	17	G
82	P	18	G
82	P	19	U
82	P	21	A
82	P	42	G

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Mol	Chain	Res	Type
82	P	48	U
82	P	50	C
82	P	55	U
82	P	56	C
82	P	58	A
82	P	61	C
82	P	65	G
82	P	73	G
82	P	74	C
82	P	75	C
82	P	76	A
83	m	38	G
83	m	40	A
83	m	41	U
83	m	42	G
83	m	49	A

All (86) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	C1	13	A
1	C1	65	A
1	C1	239	G
1	C1	282	G
1	C1	619	A
1	C1	637	C
1	C1	715	A
1	C1	763	G
1	C1	916	G
1	C1	1064	A
1	C1	1097	G
1	C1	1307	G
1	C1	1348	U
1	C1	1355	A
1	C1	1554	U
1	C1	1562	C
1	C1	1815	U
1	C1	1820	U
1	C1	2101	C
1	C1	2112	U
1	C1	2461	A
1	C1	2500	A

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Mol	Chain	Res	Type
1	C1	2501	U
1	C1	2507	C
1	C1	2537	U
1	C1	2541	U
1	C1	2547	A
1	C1	2843	U
1	C1	3121	U
1	C1	3218	A
1	C1	3228	C
1	C1	3269	U
1	C1	3275	U
1	C1	3319	U
1	C1	3350	C
1	C1	3351	U
2	C4	52	G
3	C3	85	G
47	C2	68	A
47	C2	77	U
47	C2	139	C
47	C2	141	U
47	C2	224	C
47	C2	237	C
47	C2	322	G
47	C2	352	A
47	C2	387	A
47	C2	400	A
47	C2	539	G
47	C2	541	A
47	C2	555	A
47	C2	577	G
47	C2	609	U
47	C2	639	U
47	C2	640	U
47	C2	705	U
47	C2	711	U
47	C2	765	G
47	C2	813	U
47	C2	819	G
47	C2	912	U
47	C2	928	U
47	C2	1226	A
47	C2	1251	U

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Mol	Chain	Res	Type
47	C2	1256	A
47	C2	1273	G
47	C2	1274	C
47	C2	1344	A
47	C2	1382	A
47	C2	1399	C
47	C2	1430	U
47	C2	1471	A
47	C2	1493	A
47	C2	1517	U
47	C2	1556	A
47	C2	1557	U
47	C2	1558	U
47	C2	1573	A
47	C2	1584	G
47	C2	1615	C
47	C2	1633	A
47	C2	1636	C
47	C2	1791	A
81	A	13	C
81	A	15	G
81	A	54	U

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

1 non-standard protein/DNA/RNA residue is modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. 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 $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
84	5CT	5	51	84	13,14,15	0.68	0	8,15,17	0.87	0

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
84	5CT	5	51	84	-	8/13/14/16	-

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (8) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
84	5	51	5CT	C2-C1-NZ-CE
84	5	51	5CT	NZ-C1-C2-C3
84	5	51	5CT	NZ-C1-C2-O1
84	5	51	5CT	C-CA-CB-CG
84	5	51	5CT	N-CA-CB-CG
84	5	51	5CT	CE-CD-CG-CB
84	5	51	5CT	CD-CE-NZ-C1
84	5	51	5CT	C2-C3-C4-N1

There are no ring outliers.

1 monomer is involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
84	5	51	5CT	3	0

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 295 ligands modelled in this entry, 294 are monoatomic - leaving 1 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. 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 $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
89	ASP	C1	3593	88	3,4,8	1.01	0	2,4,10	0.97	0

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
89	ASP	C1	3593	88	-	0/1/2/8	-

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
89	C1	3593	ASP	1	0

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

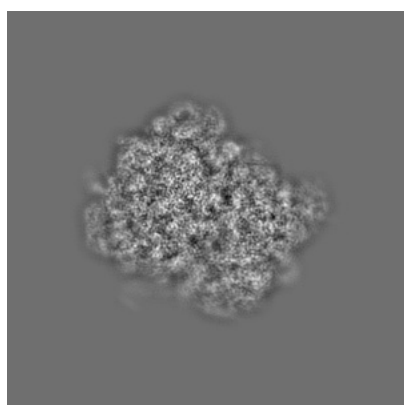
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-24652. These allow visual inspection of the internal detail of the map and identification of artifacts.

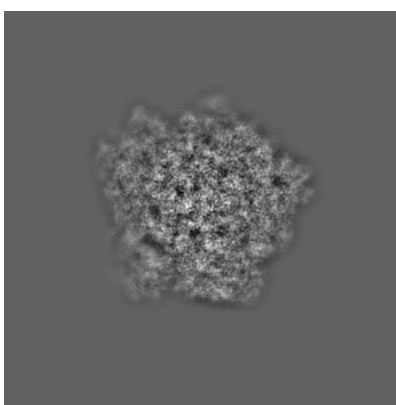
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

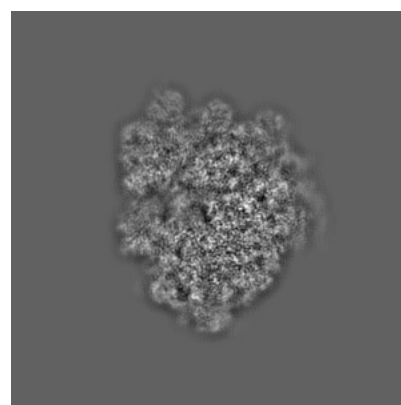
6.1.1 Primary map



X



Y

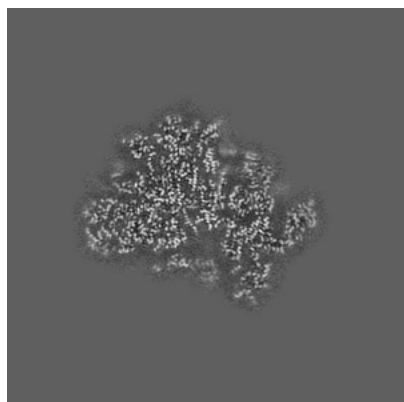


Z

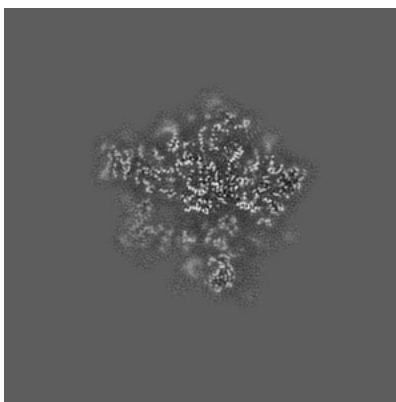
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

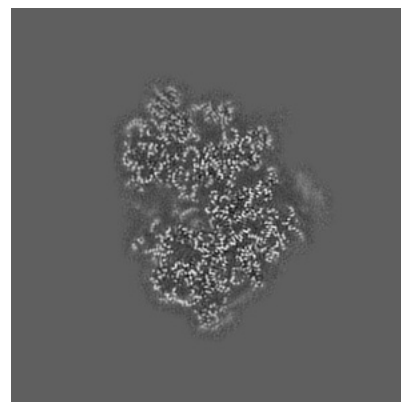
6.2.1 Primary map



X Index: 224



Y Index: 224

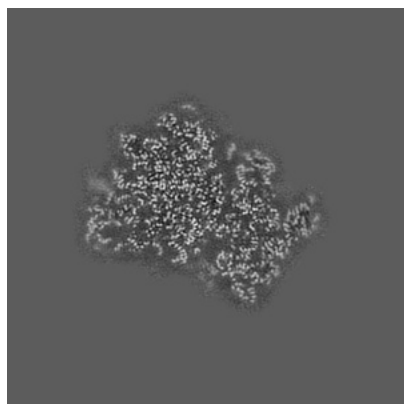


Z Index: 224

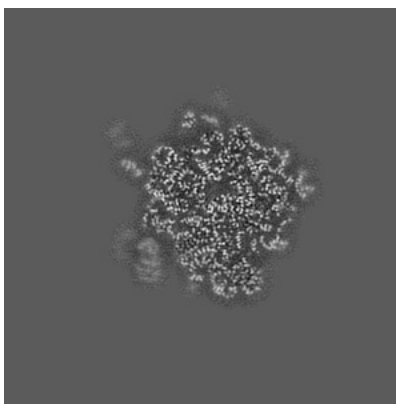
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

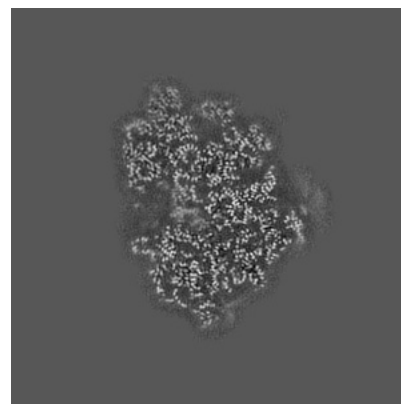
6.3.1 Primary map



X Index: 232



Y Index: 192

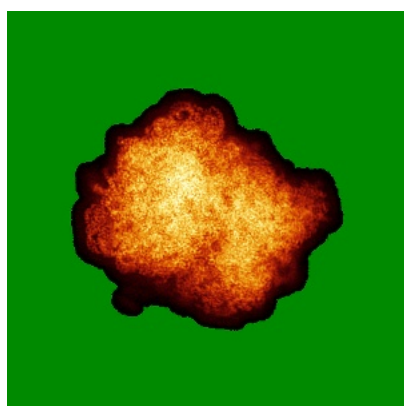


Z Index: 227

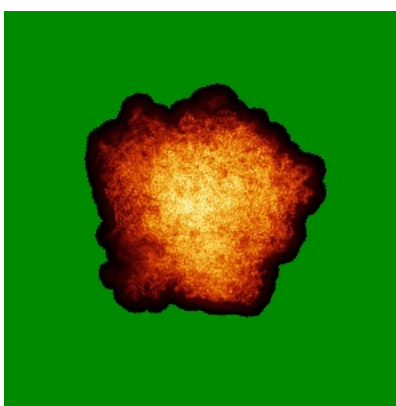
The images above show the largest variance slices of the map in three orthogonal directions.

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

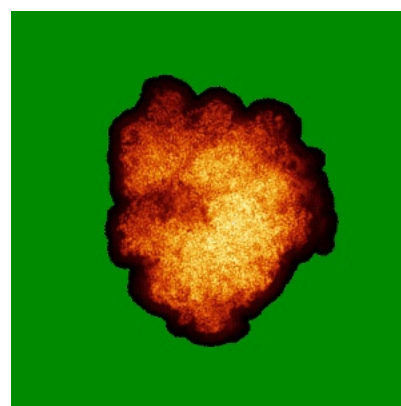
6.4.1 Primary map



X



Y

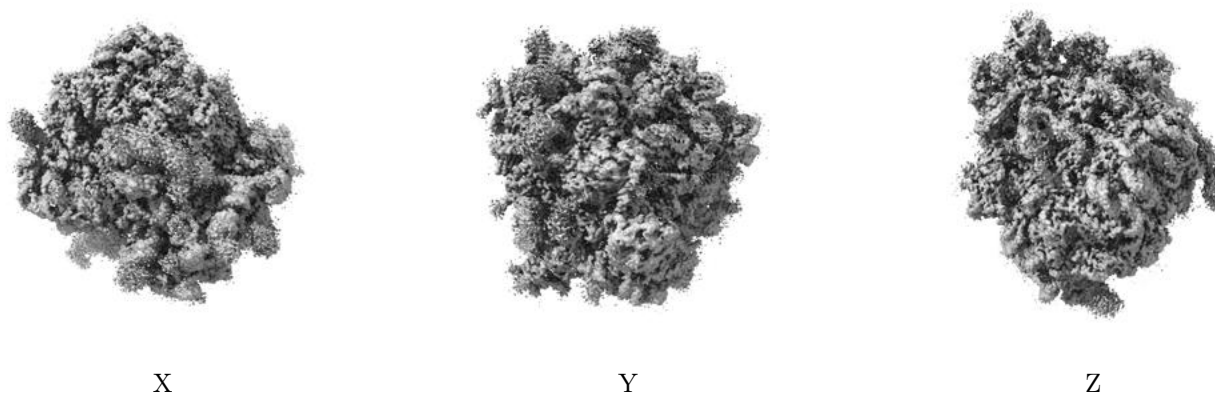


Z

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

6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.003. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

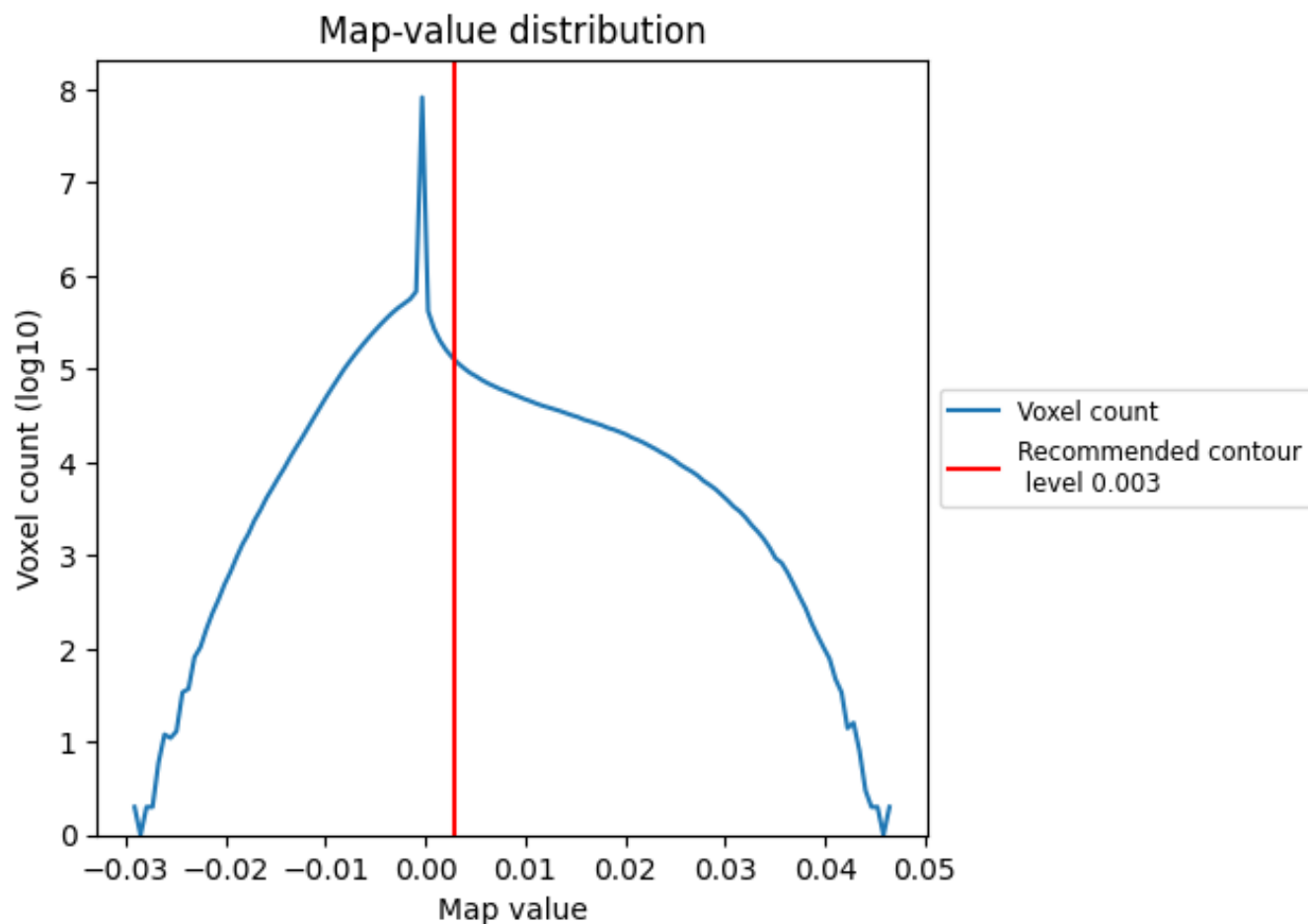
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

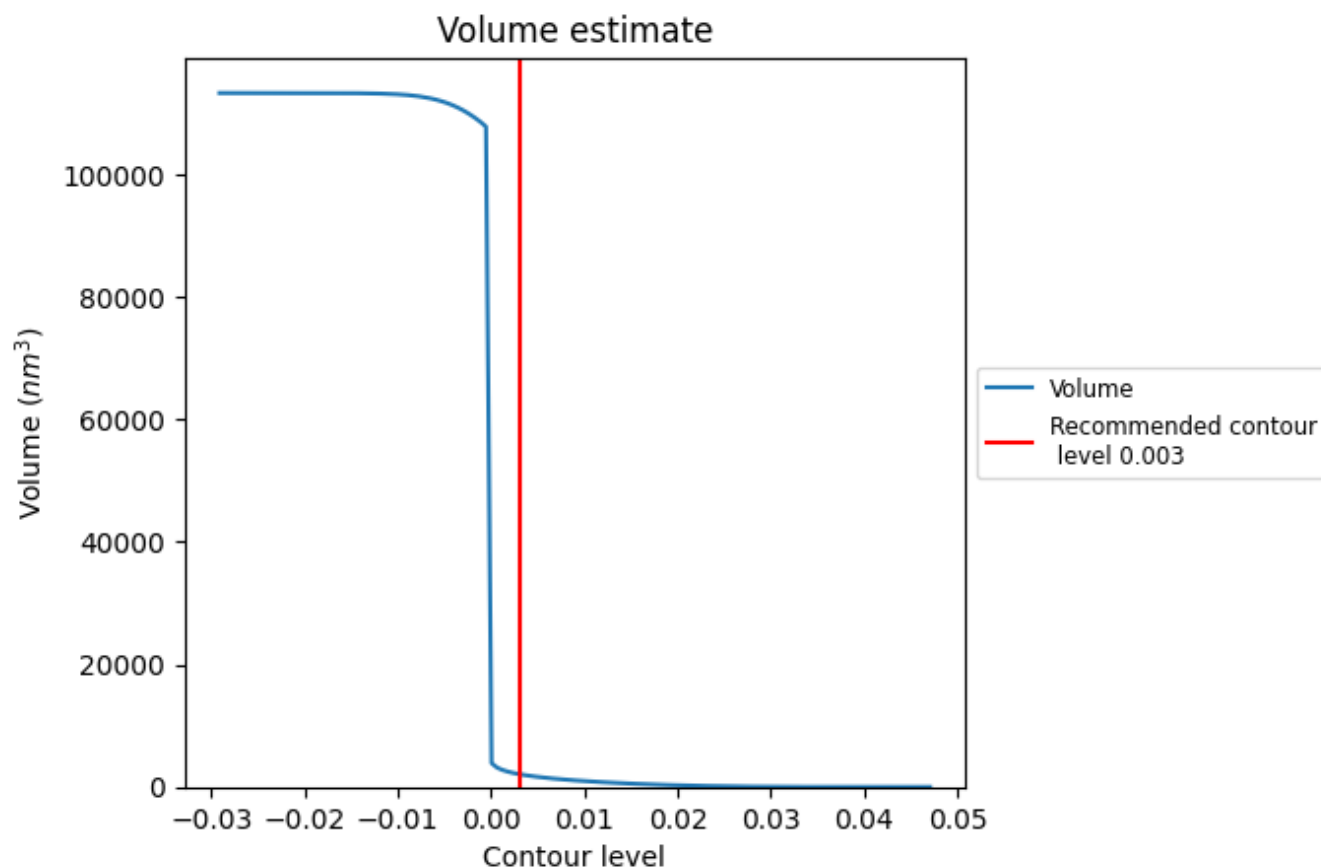
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

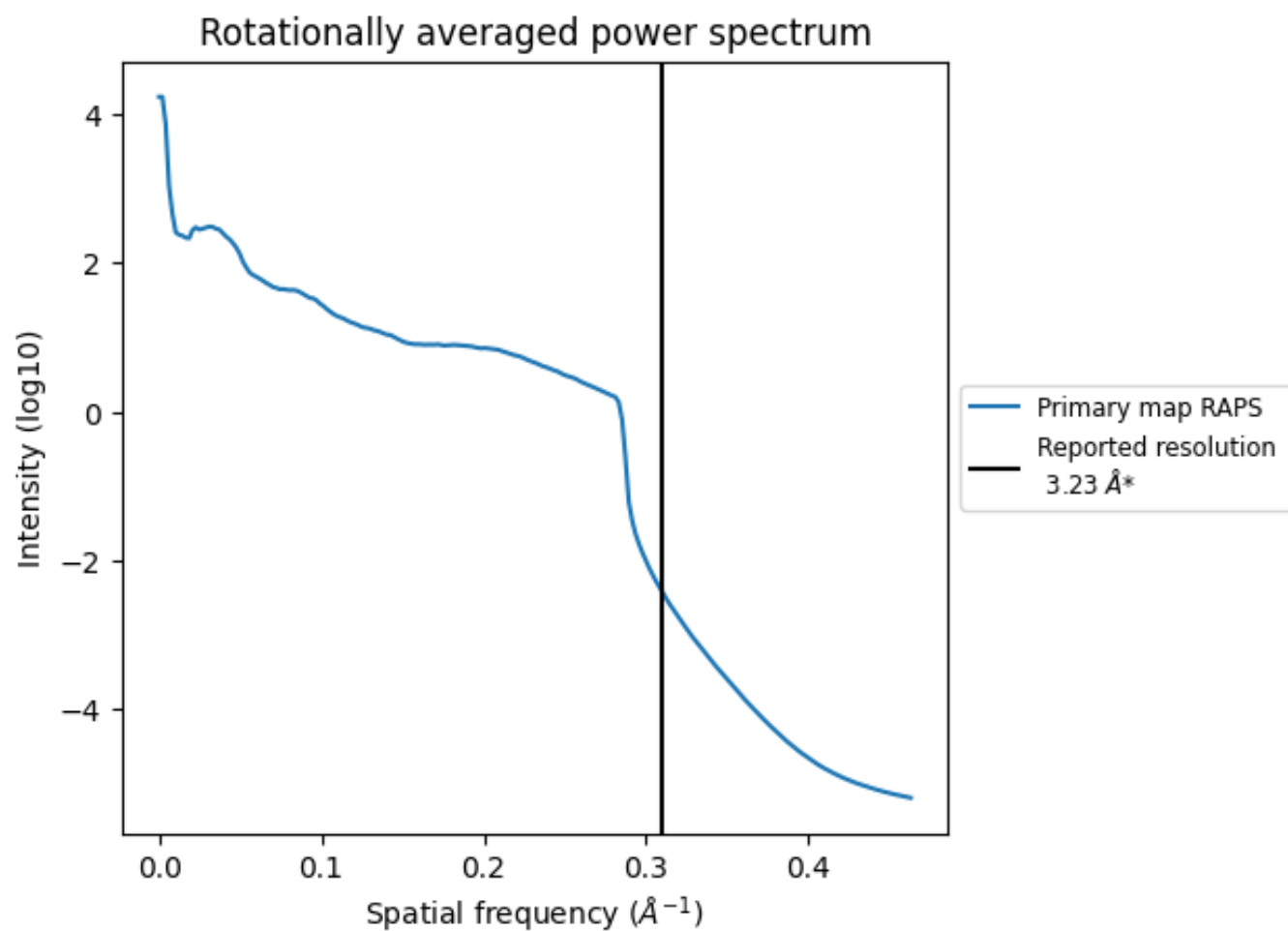
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 2093 nm³; this corresponds to an approximate mass of 1891 kDa.

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

7.3 Rotationally averaged power spectrum ⓘ

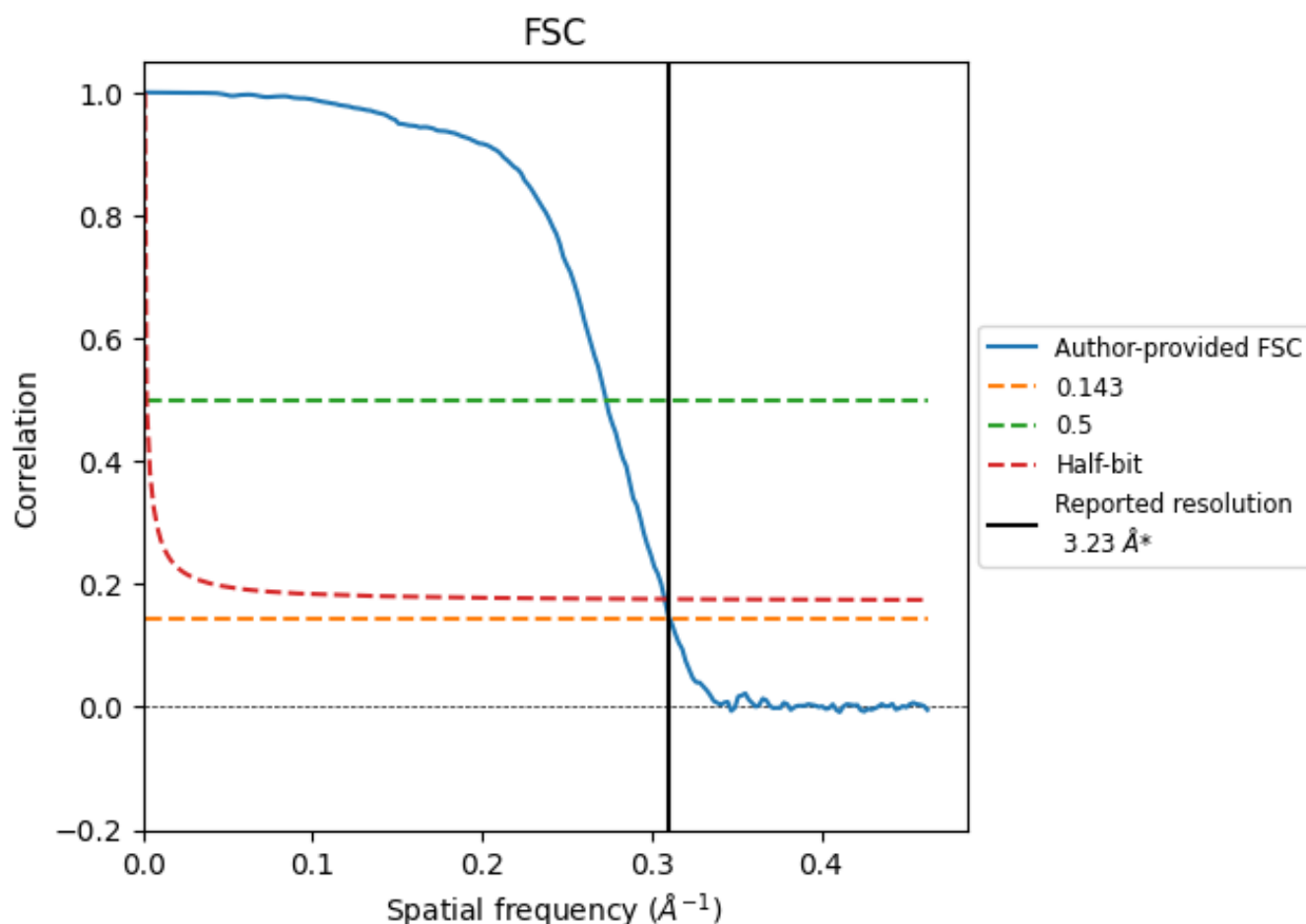


*Reported resolution corresponds to spatial frequency of 0.310 Å⁻¹

8 Fourier-Shell correlation [i](#)

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

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.310 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.23	-	-
Author-provided FSC curve	3.22	3.66	3.25
Unmasked-calculated*	-	-	-

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps.

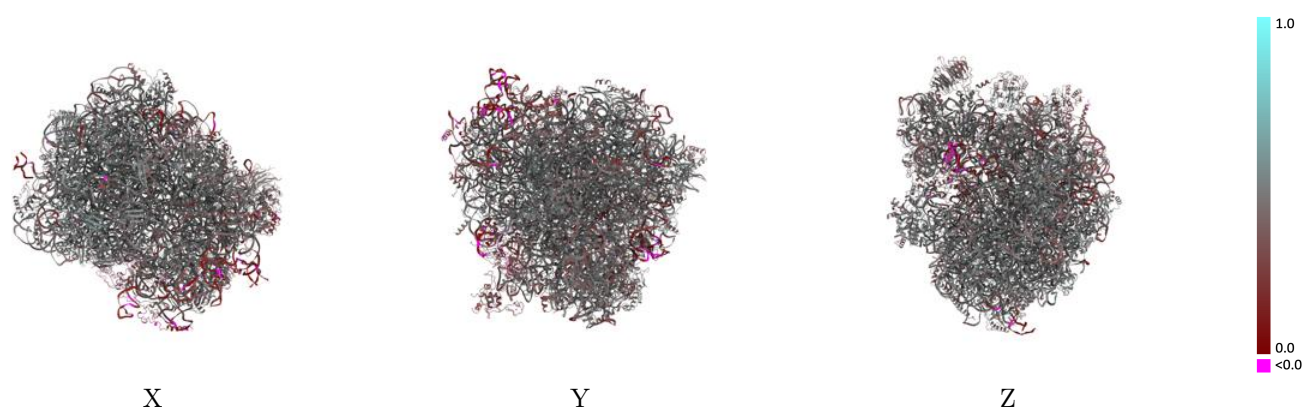
9 Map-model fit [i](#)

This section contains information regarding the fit between EMD map EMD-24652 and PDB model 7RR5. Per-residue inclusion information can be found in section 3 on page 23.

9.1 Map-model overlay [i](#)

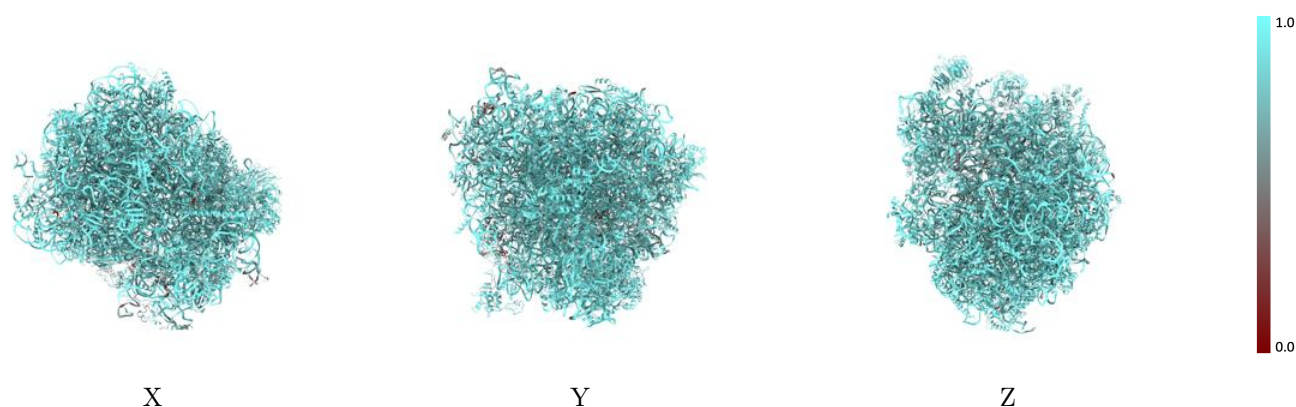
This section was not generated.

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



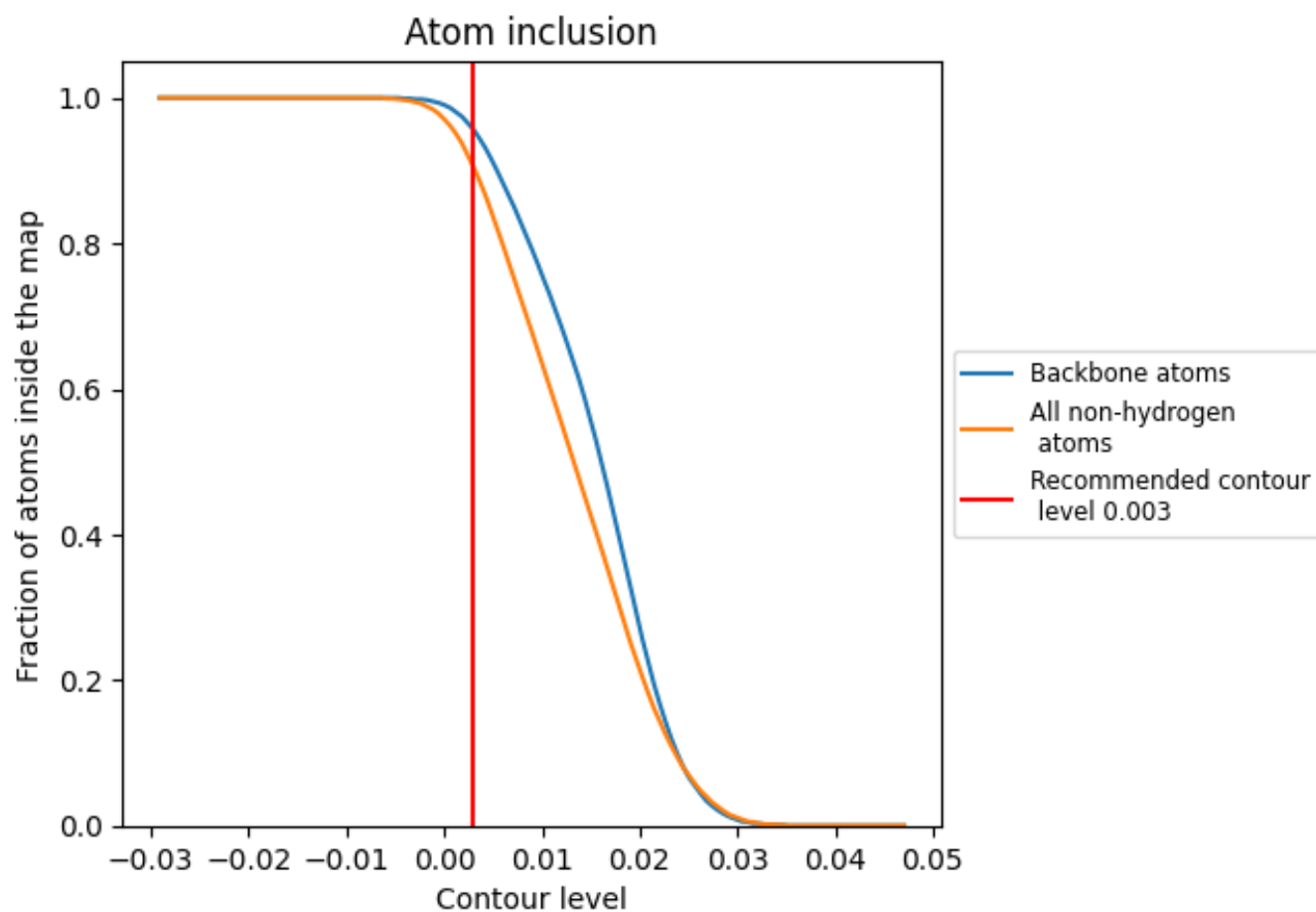
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.003).

9.4 Atom inclusion [i](#)



At the recommended contour level, 96% of all backbone atoms, 90% 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 (0.003) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9050	 0.4370
5	 0.7240	 0.3570
A	 0.9130	 0.3670
C1	 0.9420	 0.4440
C2	 0.9290	 0.4180
C3	 0.9570	 0.4650
C4	 0.9730	 0.4790
L1	 0.8580	 0.3200
LA	 0.8770	 0.5050
LB	 0.9190	 0.5110
LC	 0.9070	 0.4810
LD	 0.9050	 0.4590
LE	 0.8980	 0.4520
LF	 0.8880	 0.4740
LG	 0.9000	 0.4540
LH	 0.9100	 0.4720
LI	 0.8900	 0.4840
LJ	 0.8800	 0.4470
LL	 0.9020	 0.4560
LM	 0.9180	 0.4880
LN	 0.8760	 0.5060
LO	 0.8960	 0.4920
LP	 0.8770	 0.4680
LQ	 0.8810	 0.4830
LR	 0.8950	 0.4390
LS	 0.8890	 0.4880
LT	 0.8890	 0.4960
LU	 0.9390	 0.4610
LV	 0.8840	 0.5050
LW	 0.7500	 0.3550
LX	 0.8580	 0.4600
LY	 0.9230	 0.5030
LZ	 0.8860	 0.4490
La	 0.9120	 0.4960
Lb	 0.8410	 0.4450



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Chain	Atom inclusion	Q-score
Lc	 0.9320	 0.4680
Ld	 0.8930	 0.4850
Le	 0.8840	 0.5040
Lf	 0.8990	 0.5160
Lg	 0.8530	 0.4700
Lh	 0.9050	 0.4640
Li	 0.8930	 0.4550
Lj	 0.8870	 0.4940
Lk	 0.8980	 0.4450
Ll	 0.8840	 0.5020
Lm	 0.8610	 0.4730
Ln	 0.8510	 0.4700
Lo	 0.8930	 0.4940
Lp	 0.8820	 0.4820
P	 0.9070	 0.3590
P0	 0.5840	 0.1510
P2	 0.6260	 0.0780
R	 0.6920	 0.3460
SA	 0.9080	 0.4490
SB	 0.8530	 0.4130
SC	 0.8930	 0.4760
SD	 0.8540	 0.4290
SE	 0.8710	 0.4560
SF	 0.8670	 0.4290
SG	 0.8650	 0.3990
SH	 0.8590	 0.3560
SI	 0.8920	 0.4690
SJ	 0.8750	 0.4590
SK	 0.8920	 0.4210
SL	 0.8720	 0.4750
SM	 0.8050	 0.2760
SN	 0.8700	 0.4510
SO	 0.8680	 0.4580
SP	 0.9100	 0.4390
SQ	 0.8600	 0.4710
SR	 0.8880	 0.4300
SS	 0.8940	 0.4340
ST	 0.8840	 0.4500
SU	 0.8350	 0.4280
SV	 0.9160	 0.4540
SW	 0.8760	 0.4840
SX	 0.8570	 0.4800

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Chain	Atom inclusion	Q-score
SY	 0.8690	 0.4350
SZ	 0.8420	 0.3920
Sa	 0.8720	 0.4590
Sb	 0.8980	 0.4120
Sc	 0.8560	 0.4340
Sd	 0.8260	 0.4800
Se	 0.8050	 0.4260
Sf	 0.8240	 0.2690
Sg	 0.8900	 0.4080
T	 0.5870	 0.2400
m	 0.7120	 0.3330