



Full wwPDB EM Validation Report ⓘ

Mar 5, 2026 – 02:53 PM UTC

PDB ID : 7ZUX / pdb_00007zux
EMDB ID : EMD-14979
Title : Collided ribosome in a disome unit from *S. cerevisiae*
Authors : Best, K.M.; Ikeuchi, K.; Kater, L.; Best, D.M.; Musial, J.; Matsuo, Y.; Berninghausen, O.; Becker, T.; Inada, T.; Beckmann, R.
Deposited on : 2022-05-13
Resolution : 2.50 Å(reported)

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

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

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

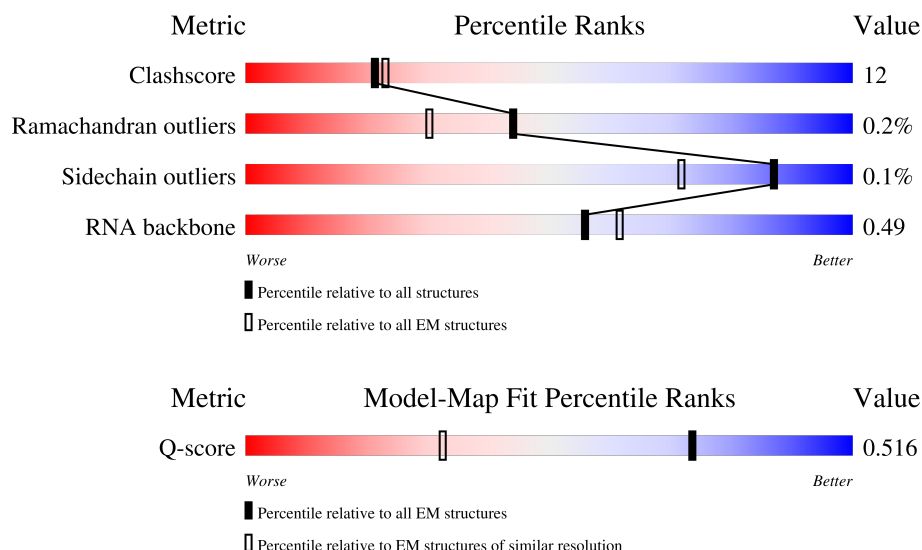
EMDB validation analysis : 0.0.1.dev132
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh &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

1 Overall quality at a glance

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

The reported resolution of this entry is 2.50 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.



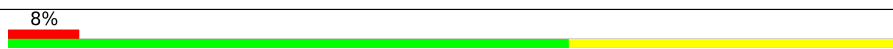
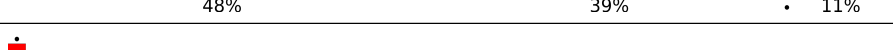
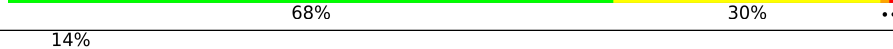
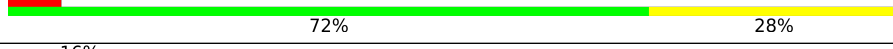
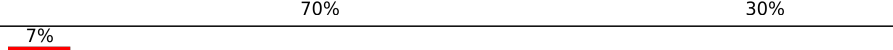
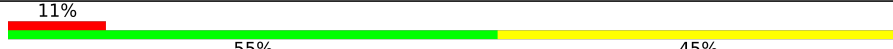
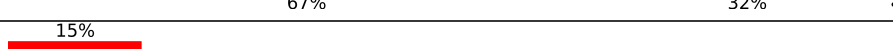
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
RNA backbone	8273	3508	-
Q-score	-	25397	7115 (2.00 - 3.00)

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	2	1800	
2	3	158	
3	4	121	

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Mol	Chain	Length	Quality of chain
4	5	3396	
5	6	76	
6	7	77	
7	DA	206	
8	DB	255	
9	DC	216	
10	DD	222	
11	DE	258	
12	DF	206	
13	DG	228	
14	DH	184	
15	DI	200	
16	DJ	184	
17	DK	92	
18	DL	144	
19	DM	121	
20	DN	150	
21	DO	127	
22	DP	117	
23	DQ	141	
24	DR	136	
25	DS	145	
26	DT	143	
27	DU	100	
28	DV	87	

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Mol	Chain	Length	Quality of chain
29	DW	129	
30	DX	144	
31	DY	134	
32	DZ	82	
33	Da	97	
34	Db	81	
35	Dc	63	
36	Dd	53	
37	De	60	
38	Df	73	
39	Dg	312	
40	EA	251	
41	EB	386	
42	EC	361	
43	ED	294	
44	EE	176	
45	EF	222	
46	EG	233	
47	EH	191	
48	EI	218	
49	EJ	169	
50	EK	193	
51	EL	136	
52	EM	203	
53	EN	197	

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Mol	Chain	Length	Quality of chain
54	EO	183	
55	EP	185	
56	EQ	188	
57	ER	171	
58	ES	159	
59	ET	100	
60	EU	136	
61	EV	126	
62	EW	121	
63	EX	125	
64	EY	135	
65	EZ	148	
66	Ea	58	
67	Eb	96	
68	Ec	109	
69	Ed	127	
70	Ee	106	
71	Ef	112	
72	Eg	119	
73	Eh	99	
74	Ei	85	
75	Ej	77	
76	Ek	50	
77	El	52	
78	Em	25	

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Mol	Chain	Length	Quality of chain
79	En	103	7% 67% 33%
80	Eo	91	70% 30%

2 Entry composition

There are 82 unique types of molecules in this entry. The entry contains 202365 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 18S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	2	1769	Total	C	N	O	P	0	0
			37699	16854	6679	12397	1769		

- Molecule 2 is a RNA chain called 5.8S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	3	158	Total	C	N	O	P	0	0
			3353	1500	586	1109	158		

- Molecule 3 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	4	121	Total	C	N	O	P	0	0
			2579	1152	461	845	121		

- Molecule 4 is a RNA chain called 25S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	5	3163	Total	C	N	O	P	0	0
			67650	30218	12191	22078	3163		

- Molecule 5 is a RNA chain called A/P tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	6	76	Total	C	N	O	P	0	0
			1620	723	290	532	75		

- Molecule 6 is a RNA chain called P/E tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	7	77	Total	C	N	O	P	0	0
			1644	732	297	538	77		

- Molecule 7 is a protein called 40S ribosomal protein S0-A.

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

- Molecule 8 is a protein called 40S ribosomal protein S1-A.

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

- Molecule 9 is a protein called 40S ribosomal protein S2.

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

- Molecule 10 is a protein called 40S ribosomal protein S3.

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

- Molecule 11 is a protein called 40S ribosomal protein S4-A.

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

- Molecule 12 is a protein called 40S ribosomal protein S5.

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

- Molecule 13 is a protein called 40S ribosomal protein S6-A.

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

- Molecule 14 is a protein called 40S ribosomal protein S7-A.

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

- Molecule 15 is a protein called 40S ribosomal protein S8-B.

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

- Molecule 16 is a protein called 40S ribosomal protein S9-A.

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

- Molecule 17 is a protein called 40S ribosomal protein S10-A.

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

- Molecule 18 is a protein called 40S ribosomal protein S11-A.

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

- Molecule 19 is a protein called 40S ribosomal protein S12.

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

- Molecule 20 is a protein called 40S ribosomal protein S13.

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

- Molecule 21 is a protein called 40S ribosomal protein S14-B.

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

- Molecule 22 is a protein called 40S ribosomal protein S15.

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

- Molecule 23 is a protein called 40S ribosomal protein S16-A.

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

- Molecule 24 is a protein called 40S ribosomal protein S17-A.

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

- Molecule 25 is a protein called 40S ribosomal protein S18-A.

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

- Molecule 26 is a protein called 40S ribosomal protein S19-A.

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

- Molecule 27 is a protein called 40S ribosomal protein S20.

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

- Molecule 28 is a protein called 40S ribosomal protein S21-A.

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

- Molecule 29 is a protein called 40S ribosomal protein S22-A.

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

- Molecule 30 is a protein called 40S ribosomal protein S23-A.

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

- Molecule 31 is a protein called 40S ribosomal protein S24-A.

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

- Molecule 32 is a protein called 40S ribosomal protein S25-A.

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

- Molecule 33 is a protein called 40S ribosomal protein S26-B.

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

- Molecule 34 is a protein called 40S ribosomal protein S27-A.

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

- Molecule 35 is a protein called 40S ribosomal protein S28-A.

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

- Molecule 36 is a protein called 40S ribosomal protein S29-A.

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

- Molecule 37 is a protein called 40S ribosomal protein S30-A.

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

- Molecule 38 is a protein called Ubiquitin.

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

- Molecule 39 is a protein called Guanine nucleotide-binding protein subunit beta-like protein.

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

- Molecule 40 is a protein called 60S ribosomal protein L2-A.

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

- Molecule 41 is a protein called 60S ribosomal protein L3.

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

- Molecule 42 is a protein called 60S ribosomal protein L4-A.

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

- Molecule 43 is a protein called 60S ribosomal protein L5.

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

- Molecule 44 is a protein called 60S ribosomal protein L6-B.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	EE	167	Total	C	N	O	S	0	0
			1305	841	234	229	1		

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
EE	146	ILE	LEU	conflict	UNP P05739
EE	173	MET	LEU	conflict	UNP P05739

- Molecule 45 is a protein called 60S ribosomal protein L7-A.

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

- Molecule 46 is a protein called 60S ribosomal protein L8-A.

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

- Molecule 47 is a protein called 60S ribosomal protein L9-A.

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

- Molecule 48 is a protein called 60S ribosomal protein L10.

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

- Molecule 49 is a protein called 60S ribosomal protein L11-B.

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

- Molecule 50 is a protein called 60S ribosomal protein L13-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	EK	193	Total	C	N	O	S	0	0
			1543	962	315	266			

- Molecule 51 is a protein called 60S ribosomal protein L14-A.

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

- Molecule 52 is a protein called 60S ribosomal protein L15-A.

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

- Molecule 53 is a protein called 60S ribosomal protein L16-A.

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

- Molecule 54 is a protein called 60S ribosomal protein L17-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	EO	183	Total	C	N	O	S	0	0
			1416	879	284	253			

- Molecule 55 is a protein called 60S ribosomal protein L18-A.

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

- Molecule 56 is a protein called 60S ribosomal protein L19-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	EQ	188	Total	C	N	O	S	0	0
			1515	932	323	260			

- Molecule 57 is a protein called 60S ribosomal protein L20-A.

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

- Molecule 58 is a protein called 60S ribosomal protein L21-A.

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

- Molecule 59 is a protein called 60S ribosomal protein L22-A.

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

- Molecule 60 is a protein called 60S ribosomal protein L23-A.

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

- Molecule 61 is a protein called 60S ribosomal protein L24-A.

Mol	Chain	Residues	Atoms					AltConf	Trace
61	EV	126	Total	C	N	O	S	0	0
			836	525	165	145	1		

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
EV	104	GLN	ASN	conflict	UNP P04449
EV	109	GLN	LEU	conflict	UNP P04449
EV	112	ASP	ASN	conflict	UNP P04449
EV	119	ALA	GLU	conflict	UNP P04449

- Molecule 62 is a protein called 60S ribosomal protein L25.

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

- Molecule 63 is a protein called 60S ribosomal protein L26-A.

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

- Molecule 64 is a protein called 60S ribosomal protein L27-A.

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

- Molecule 65 is a protein called 60S ribosomal protein L28.

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

- Molecule 66 is a protein called 60S ribosomal protein L29.

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

- Molecule 67 is a protein called 60S ribosomal protein L30.

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

- Molecule 68 is a protein called 60S ribosomal protein L31-A.

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

- Molecule 69 is a protein called 60S ribosomal protein L32.

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

- Molecule 70 is a protein called 60S ribosomal protein L33-A.

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

- Molecule 71 is a protein called 60S ribosomal protein L34-A.

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

- Molecule 72 is a protein called 60S ribosomal protein L35-A.

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

- Molecule 73 is a protein called 60S ribosomal protein L36-A.

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

- Molecule 74 is a protein called 60S ribosomal protein L37-A.

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

- Molecule 75 is a protein called 60S ribosomal protein L38.

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

- Molecule 76 is a protein called 60S ribosomal protein L39.

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

- Molecule 77 is a protein called 60S ribosomal protein L40-A.

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

- Molecule 78 is a protein called 60S ribosomal protein L41-A.

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

- Molecule 79 is a protein called 60S ribosomal protein L42-A.

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

- Molecule 80 is a protein called 60S ribosomal protein L43-A.

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

- Molecule 81 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
81	2	84	Total	Mg	0
			84	84	
81	DF	1	Total	Mg	0
			1	1	
81	DN	1	Total	Mg	0
			1	1	

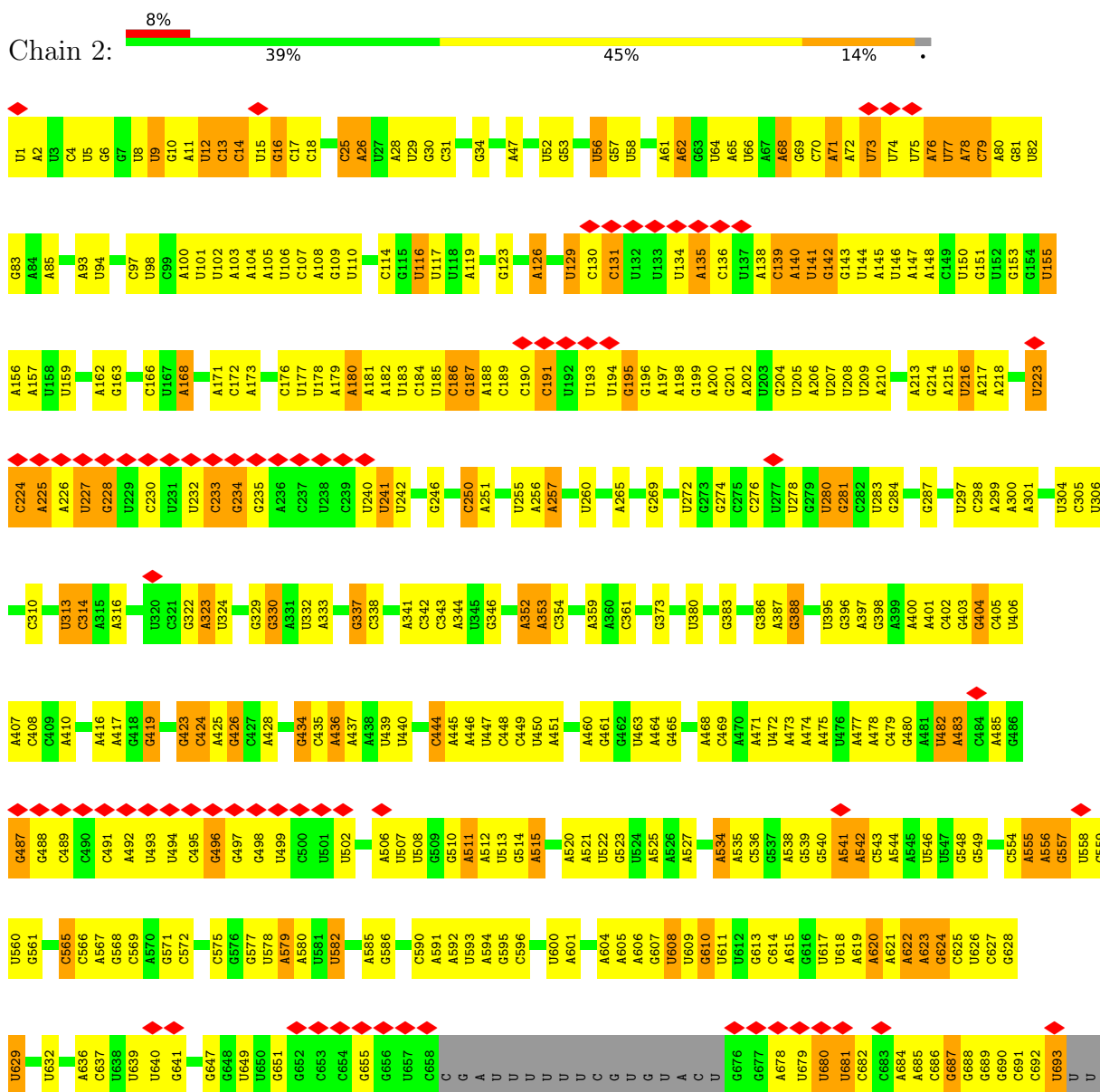
- Molecule 82 is ZINC ION (CCD ID: ZN) (formula: Zn).

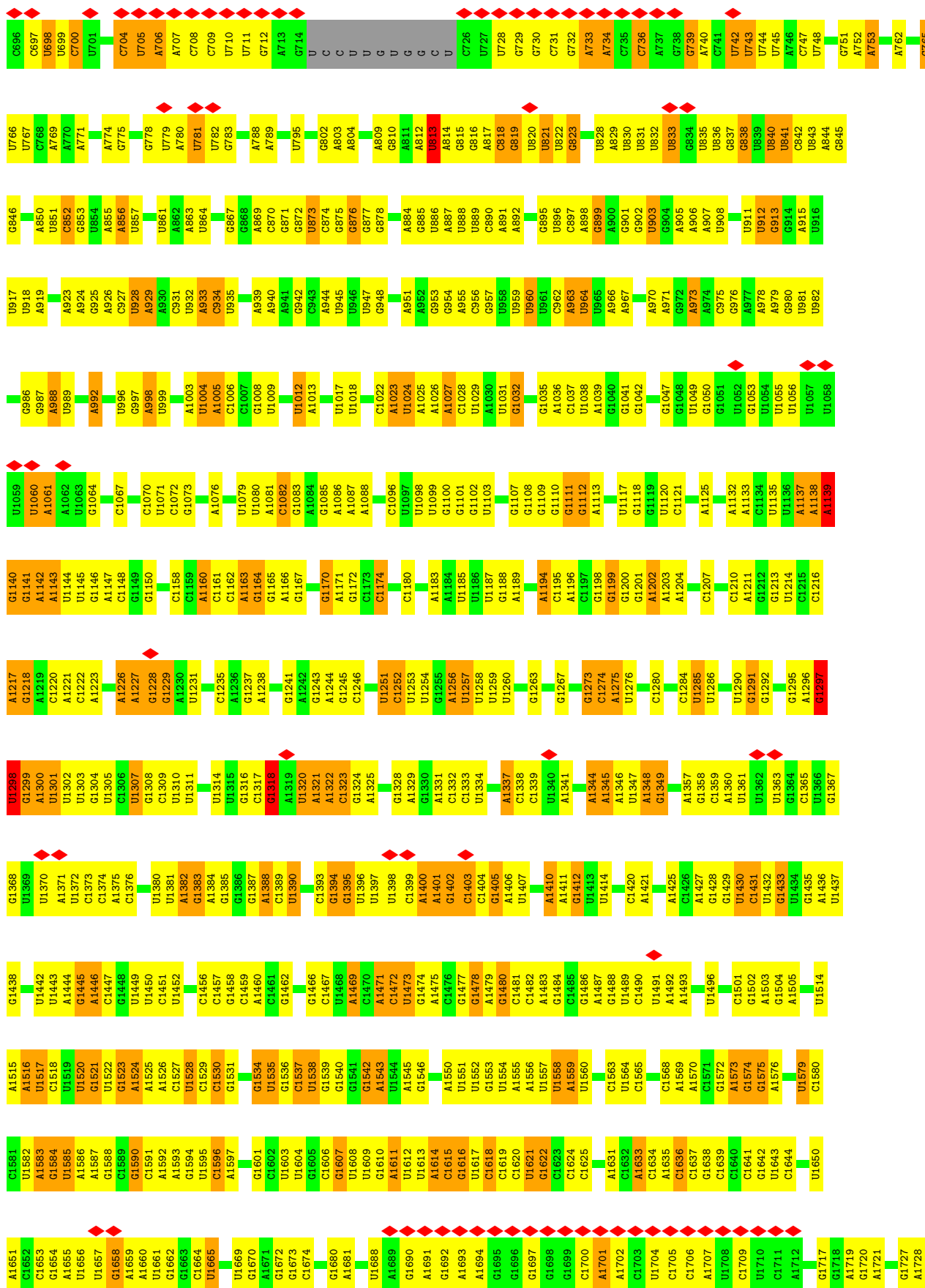
Mol	Chain	Residues	Atoms		AltConf
82	Dd	1	Total 1	Zn 1	0
82	Df	1	Total 1	Zn 1	0
82	Ef	1	Total 1	Zn 1	0
82	Ei	1	Total 1	Zn 1	0
82	El	1	Total 1	Zn 1	0
82	En	1	Total 1	Zn 1	0
82	Eo	1	Total 1	Zn 1	0

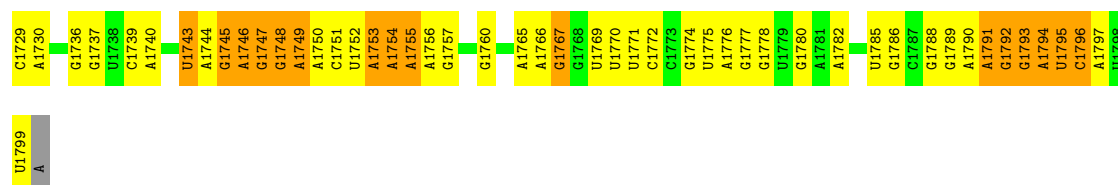
3 Residue-property plots

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.

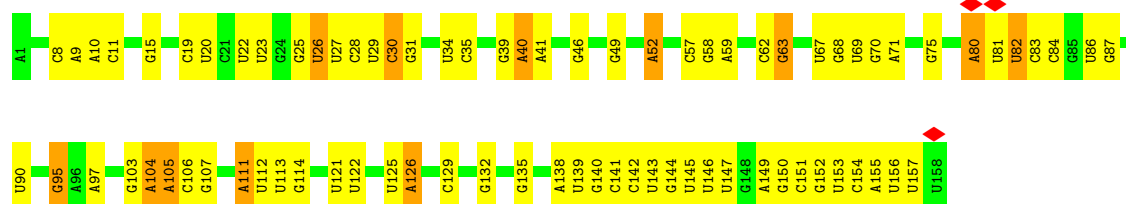
• Molecule 1: 18S ribosomal RNA



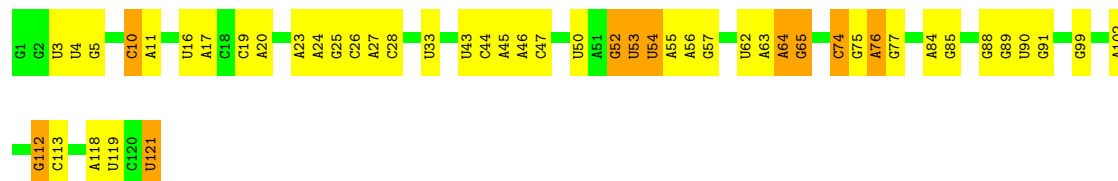




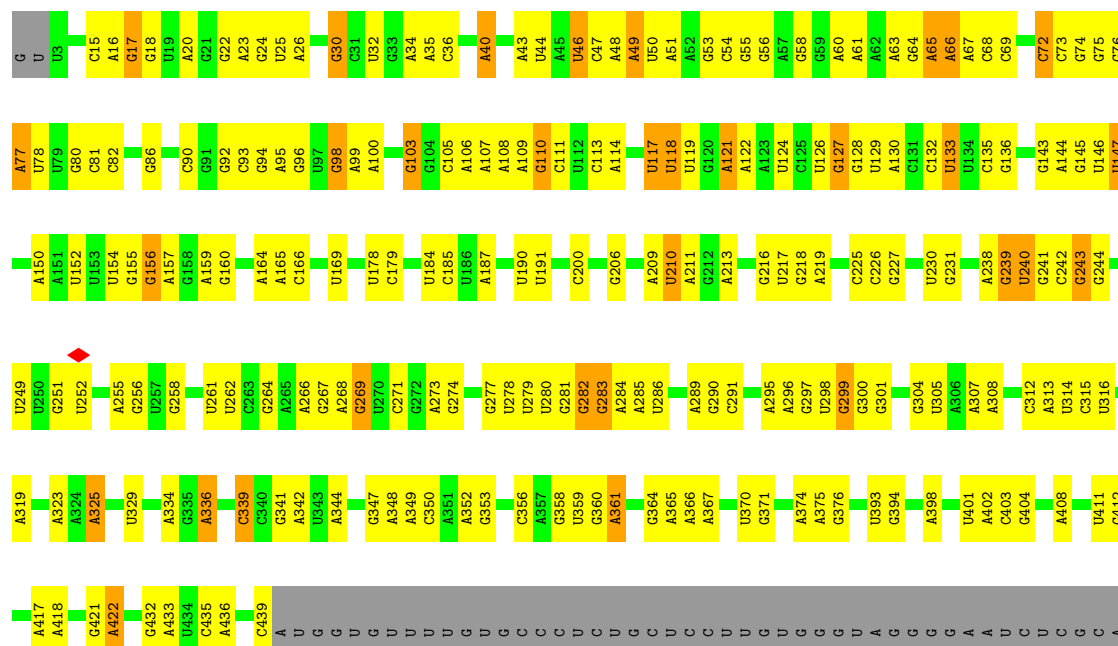
• Molecule 2: 5.8S ribosomal RNA

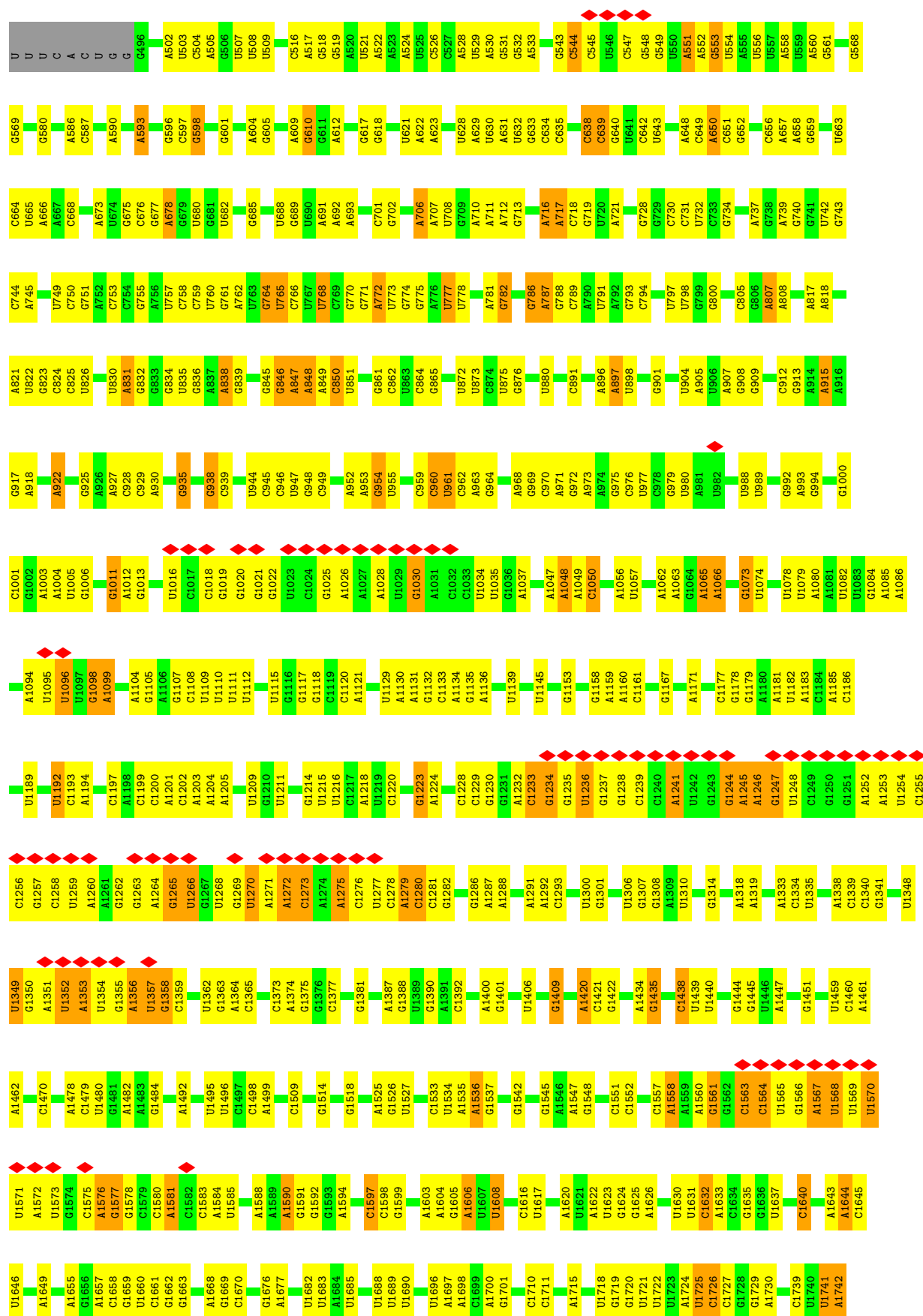


• Molecule 3: 5S ribosomal RNA

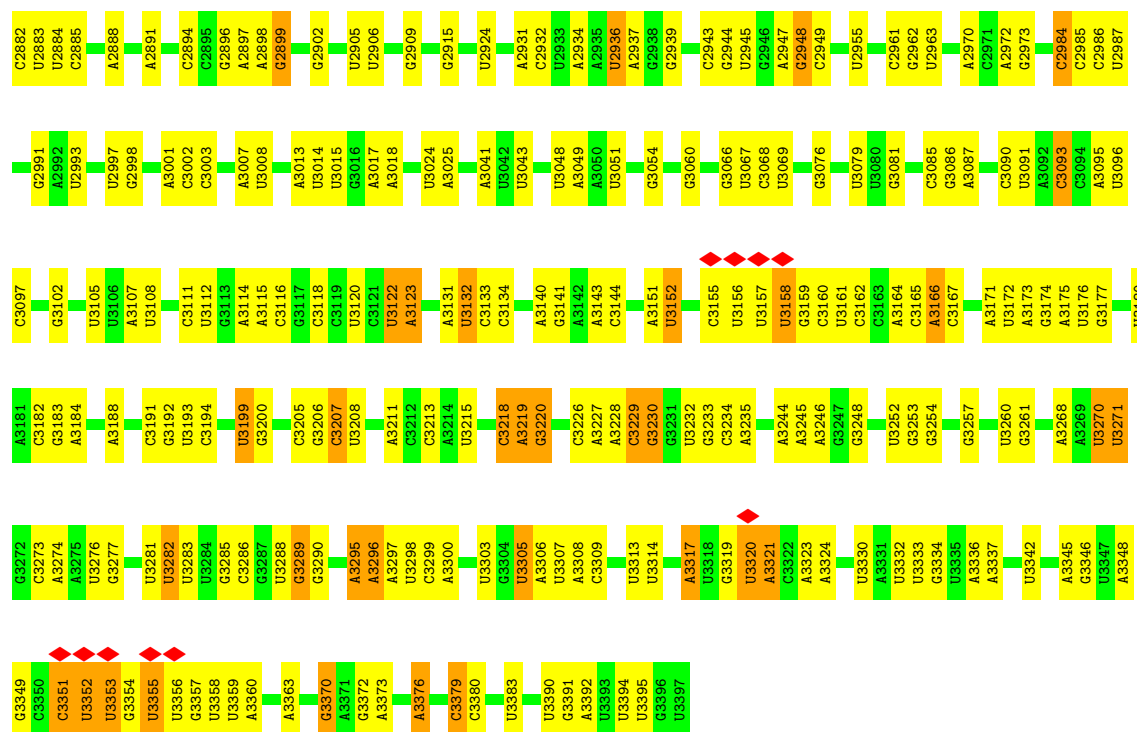


• Molecule 4: 25S ribosomal RNA

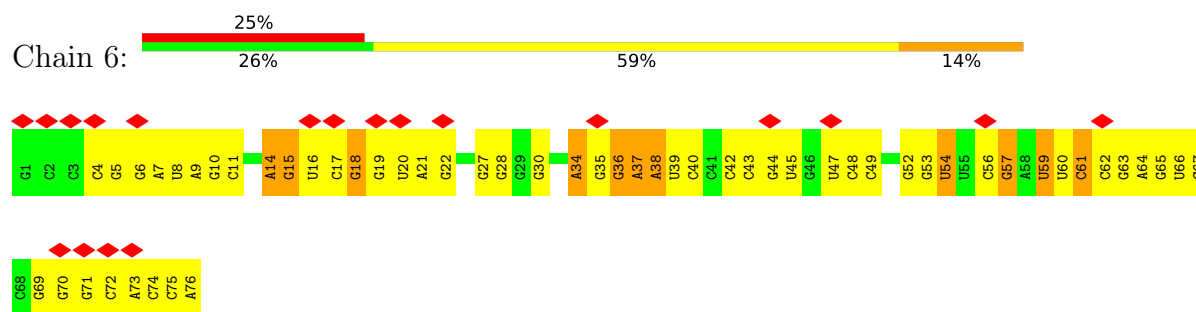




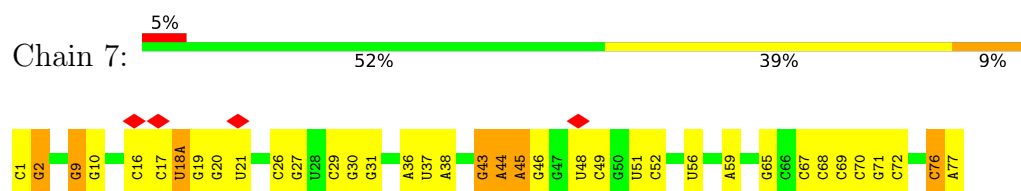




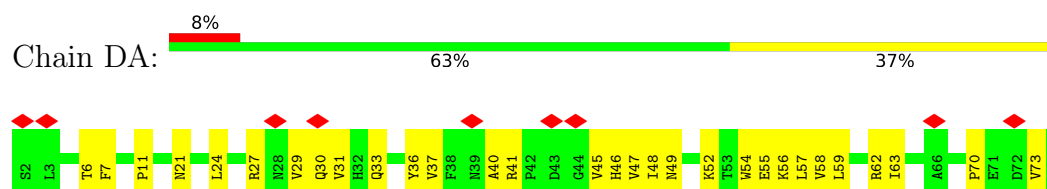
• Molecule 5: A/P tRNA

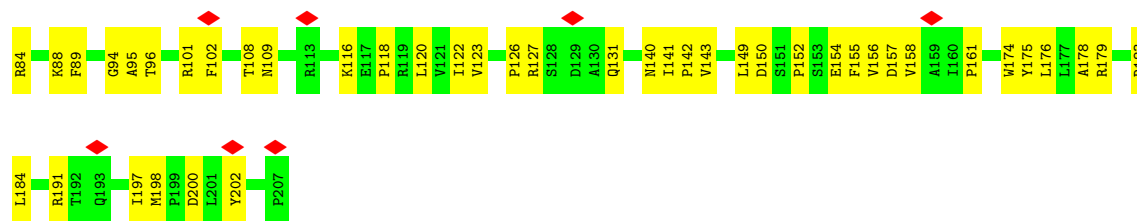


• Molecule 6: P/E tRNA

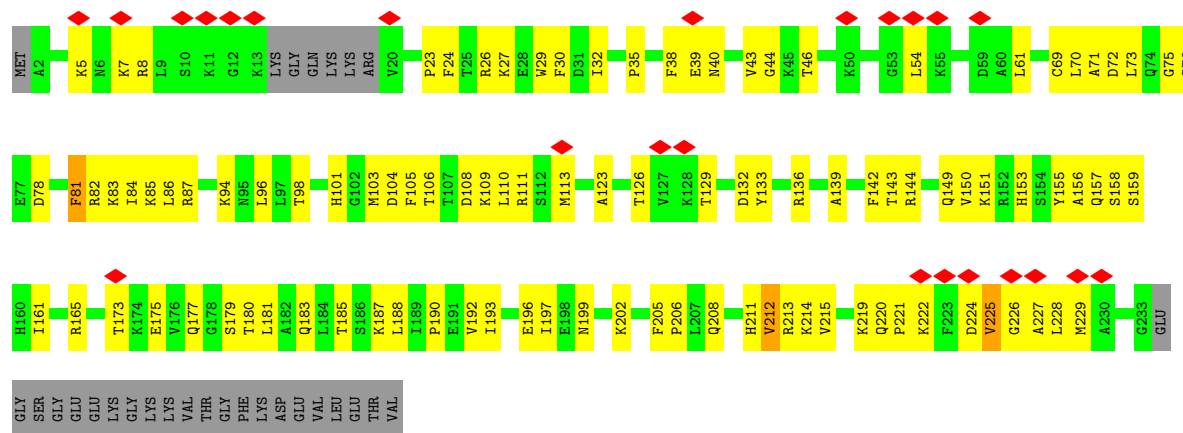


• Molecule 7: 40S ribosomal protein S0-A

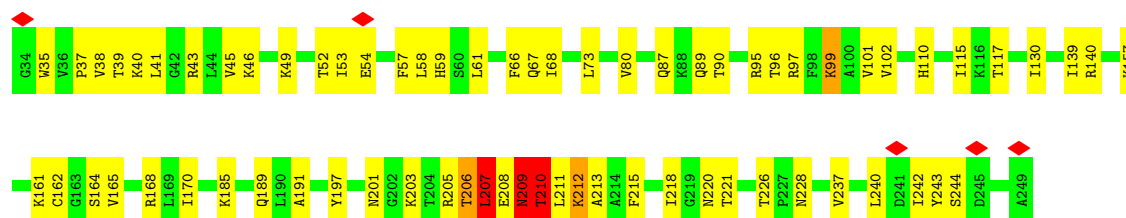




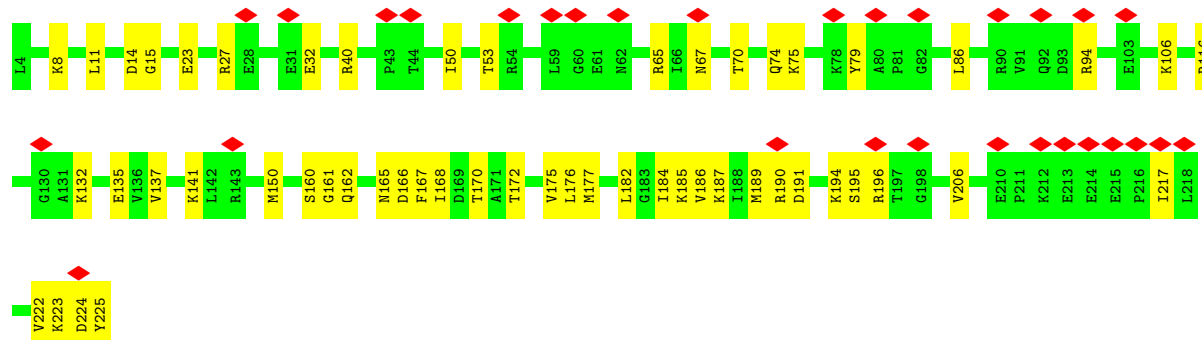
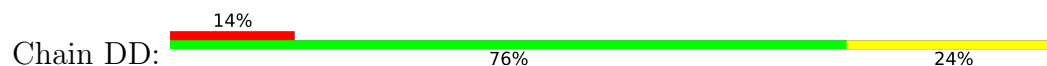
• Molecule 8: 40S ribosomal protein S1-A



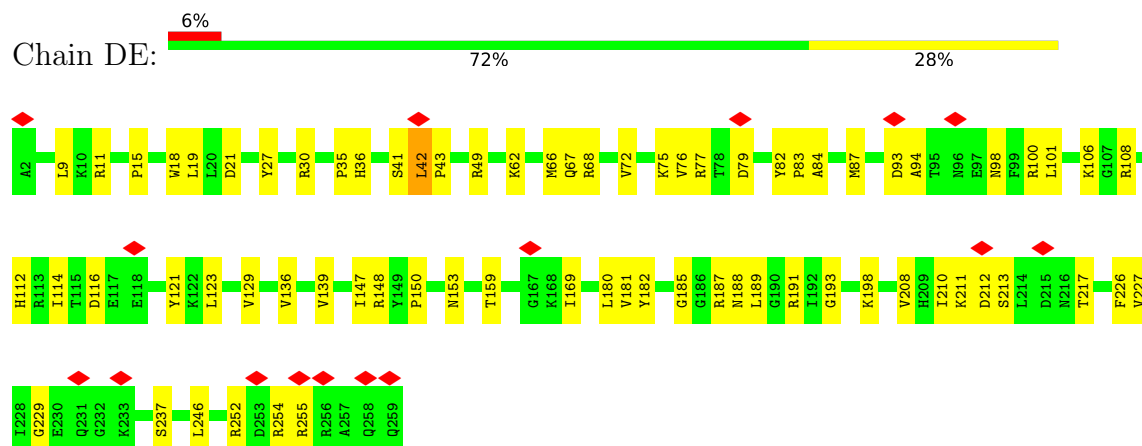
• Molecule 9: 40S ribosomal protein S2



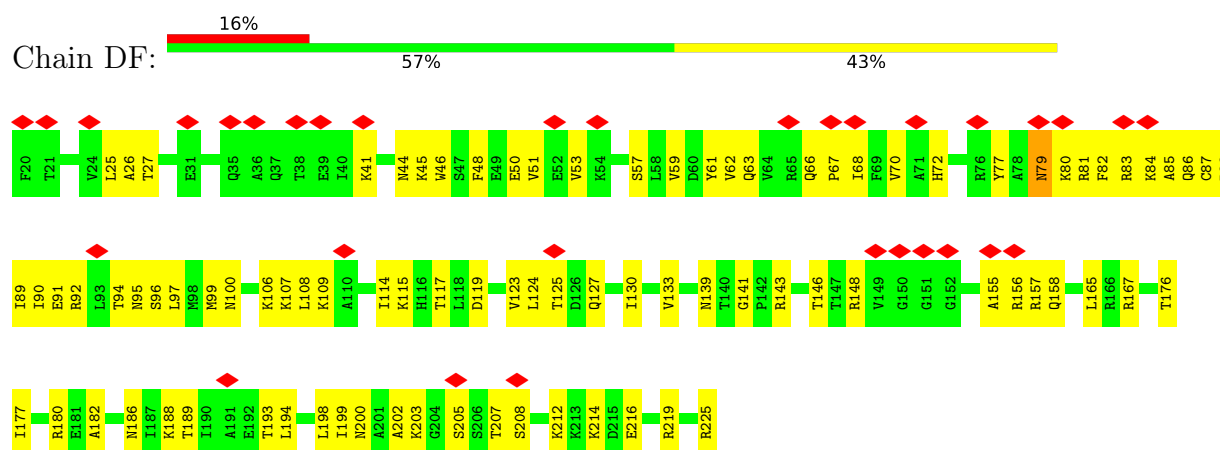
• Molecule 10: 40S ribosomal protein S3



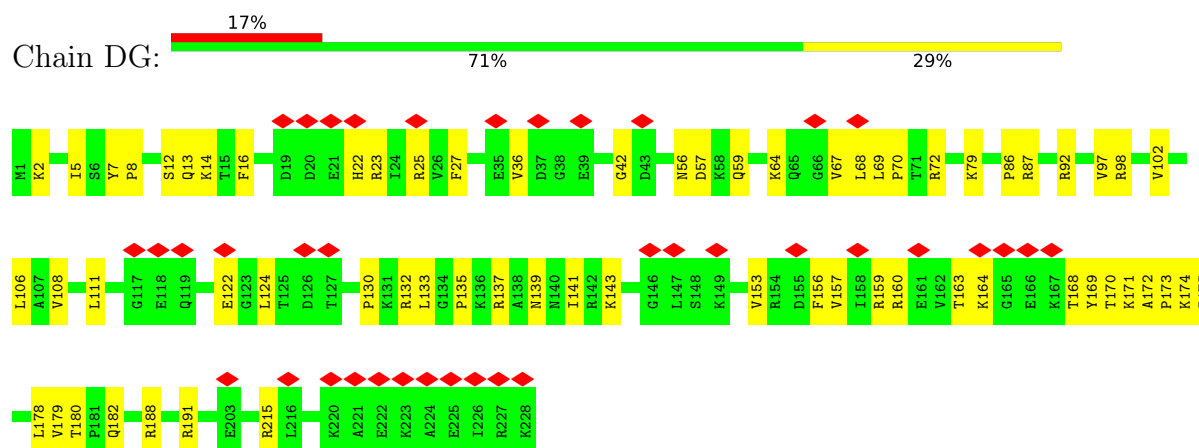
- Molecule 11: 40S ribosomal protein S4-A



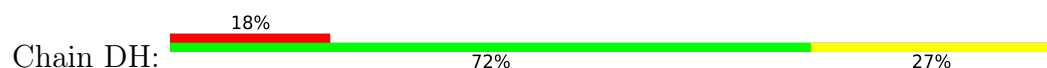
- Molecule 12: 40S ribosomal protein S5

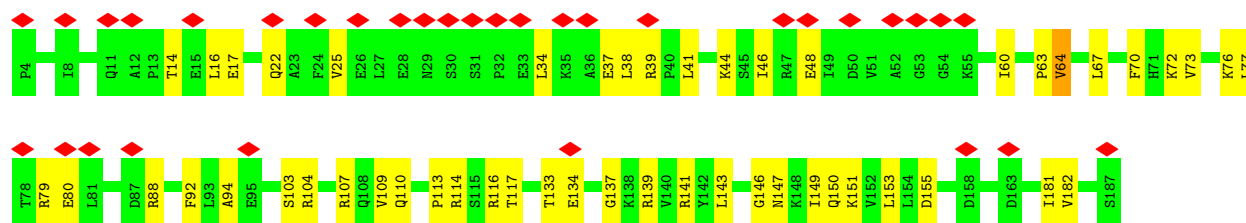


- Molecule 13: 40S ribosomal protein S6-A

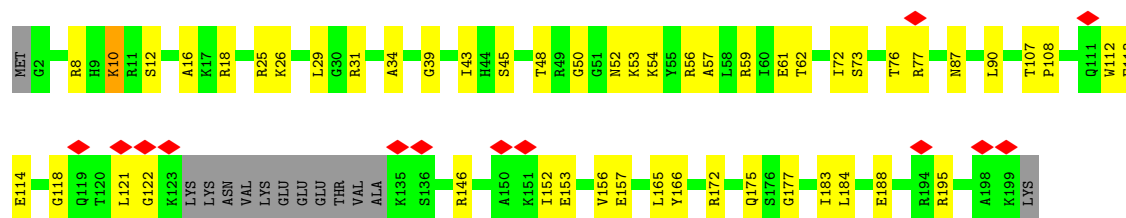


- Molecule 14: 40S ribosomal protein S7-A

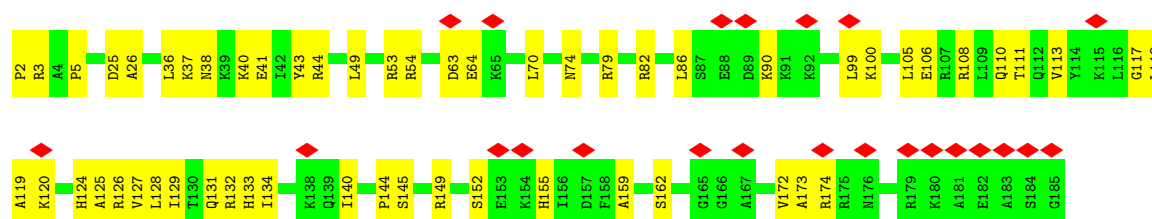
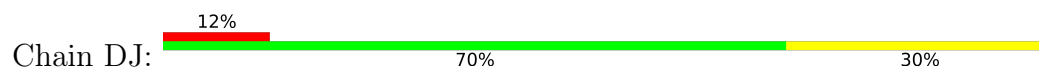




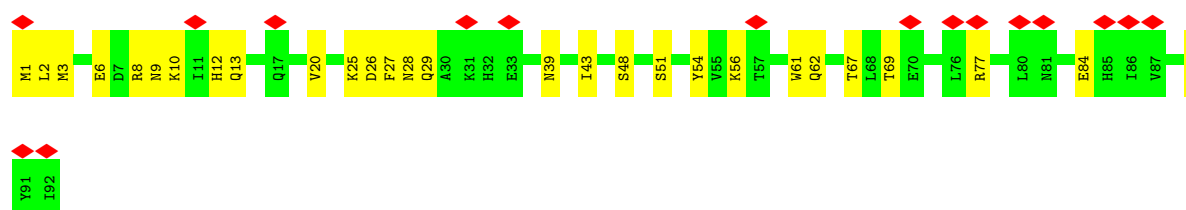
• Molecule 15: 40S ribosomal protein S8-B



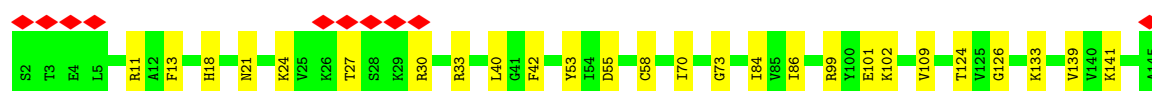
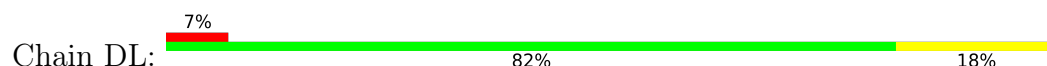
• Molecule 16: 40S ribosomal protein S9-A



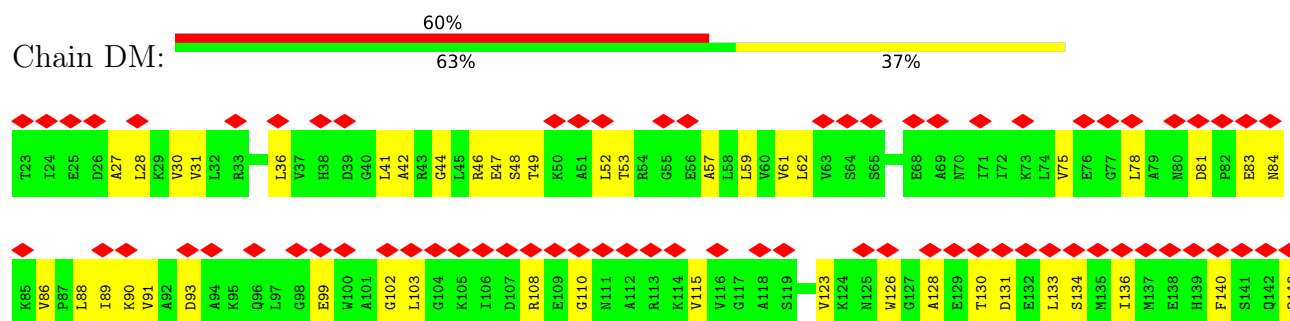
• Molecule 17: 40S ribosomal protein S10-A



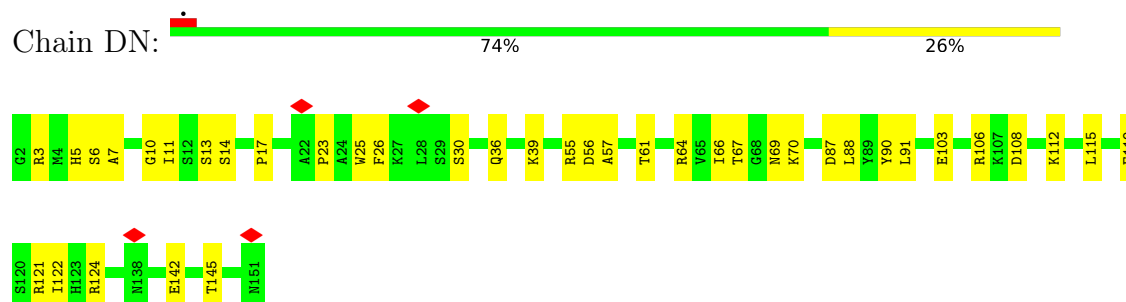
• Molecule 18: 40S ribosomal protein S11-A



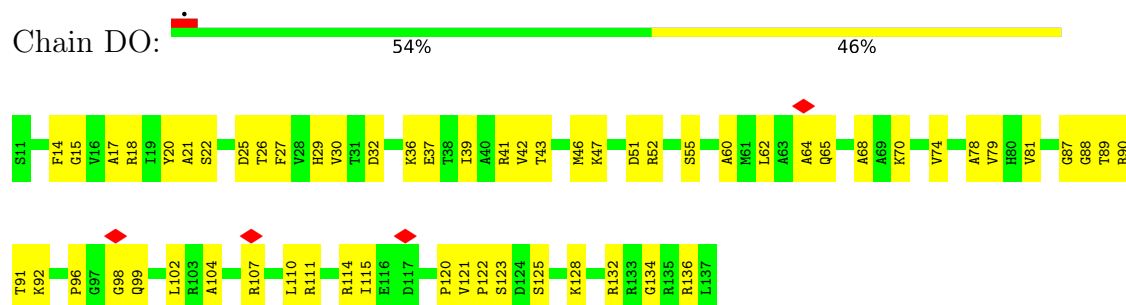
• Molecule 19: 40S ribosomal protein S12



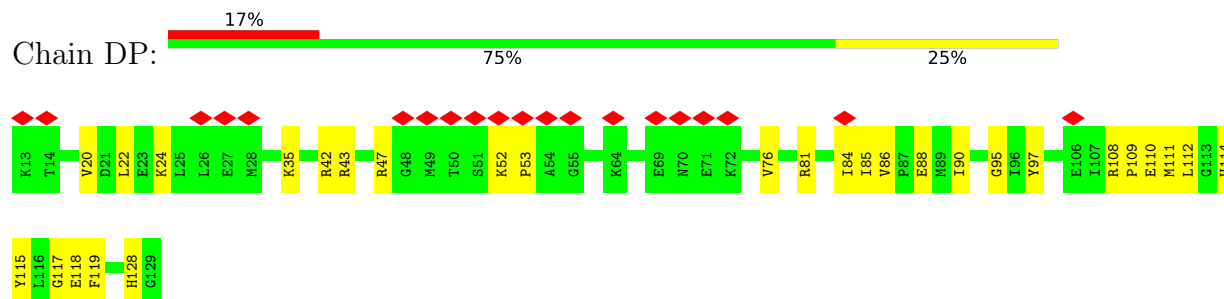
- Molecule 20: 40S ribosomal protein S13



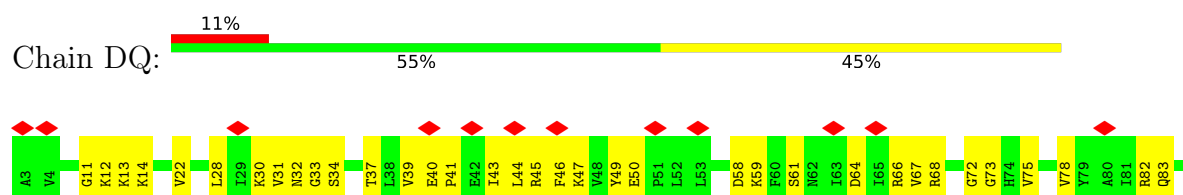
- Molecule 21: 40S ribosomal protein S14-B



- Molecule 22: 40S ribosomal protein S15



- Molecule 23: 40S ribosomal protein S16-A

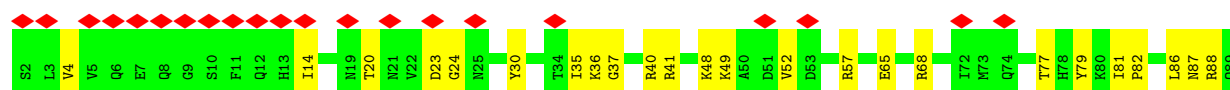




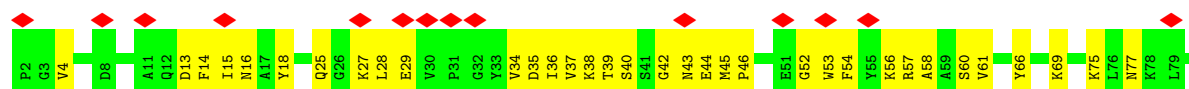
• Molecule 24: 40S ribosomal protein S17-A



• Molecule 25: 40S ribosomal protein S18-A



• Molecule 26: 40S ribosomal protein S19-A

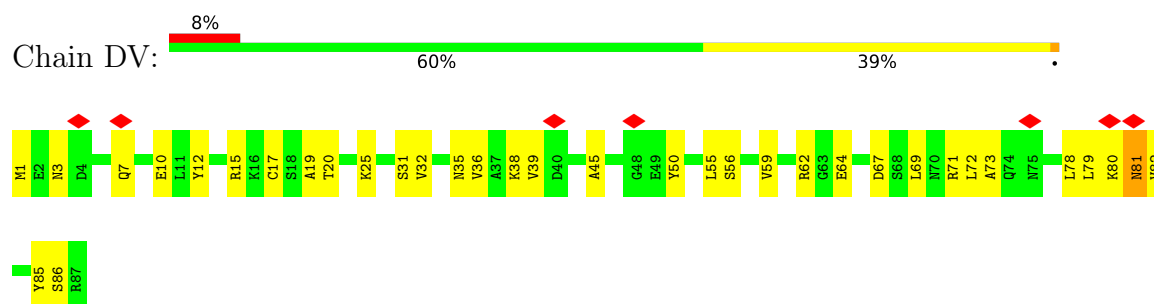


• Molecule 27: 40S ribosomal protein S20

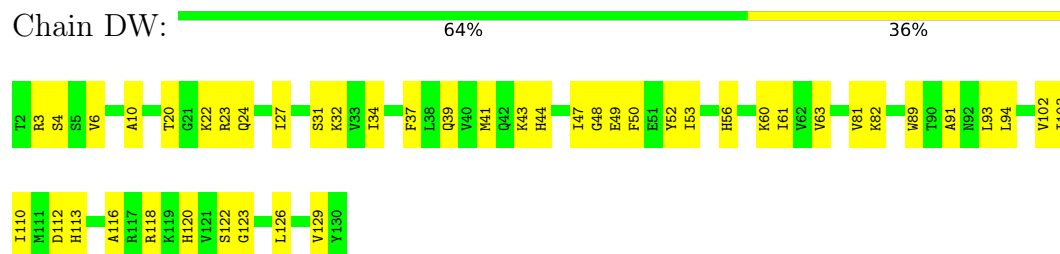


• Molecule 28: 40S ribosomal protein S21-A

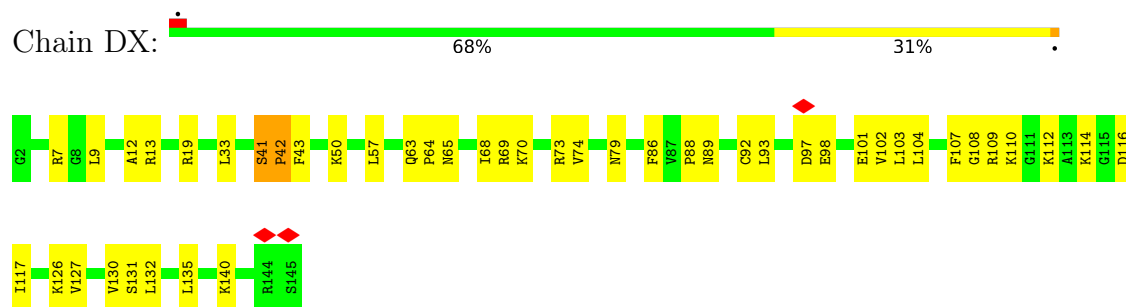




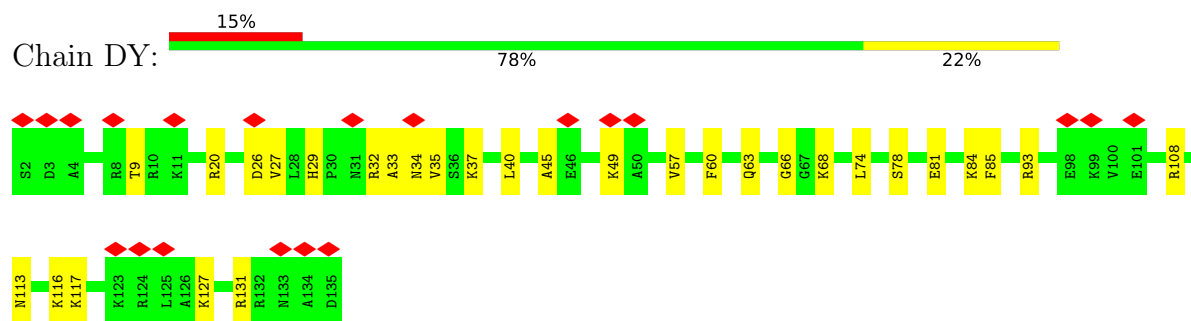
- Molecule 29: 40S ribosomal protein S22-A



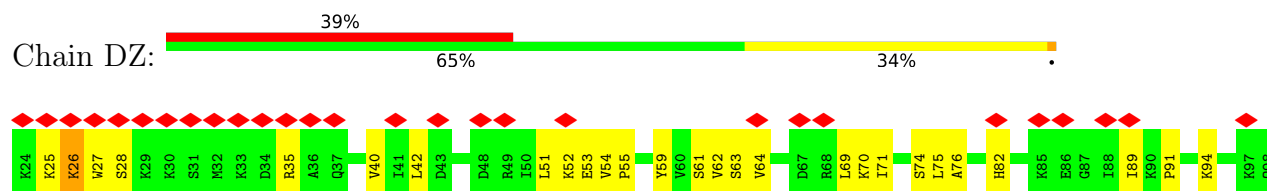
- Molecule 30: 40S ribosomal protein S23-A

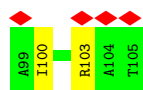


- Molecule 31: 40S ribosomal protein S24-A

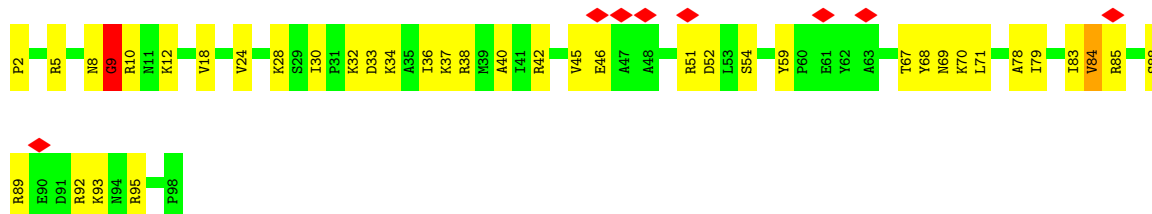


- Molecule 32: 40S ribosomal protein S25-A

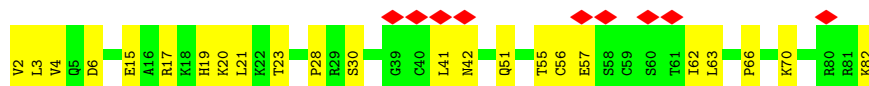
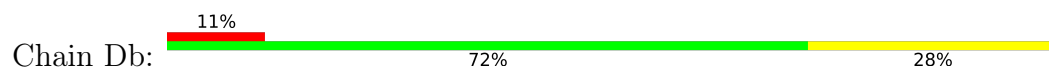




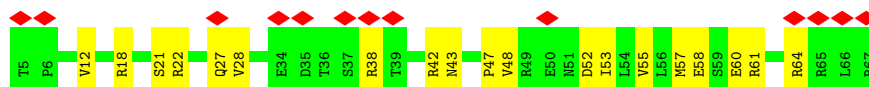
- Molecule 33: 40S ribosomal protein S26-B



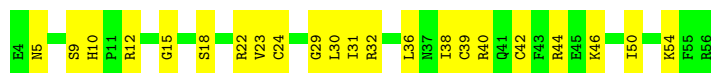
- Molecule 34: 40S ribosomal protein S27-A



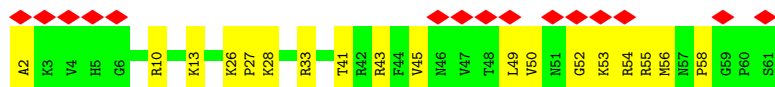
- Molecule 35: 40S ribosomal protein S28-A



- Molecule 36: 40S ribosomal protein S29-A

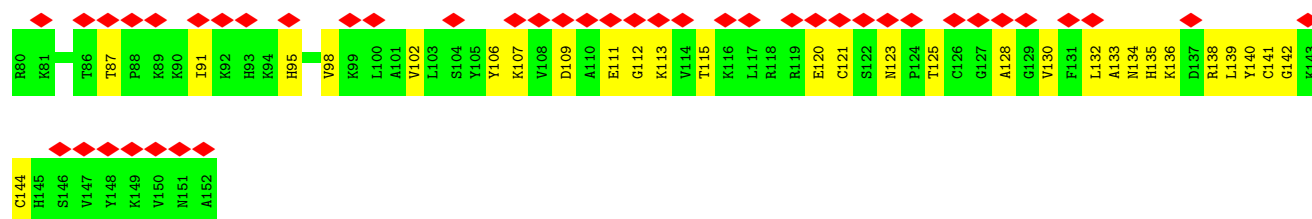


- Molecule 37: 40S ribosomal protein S30-A

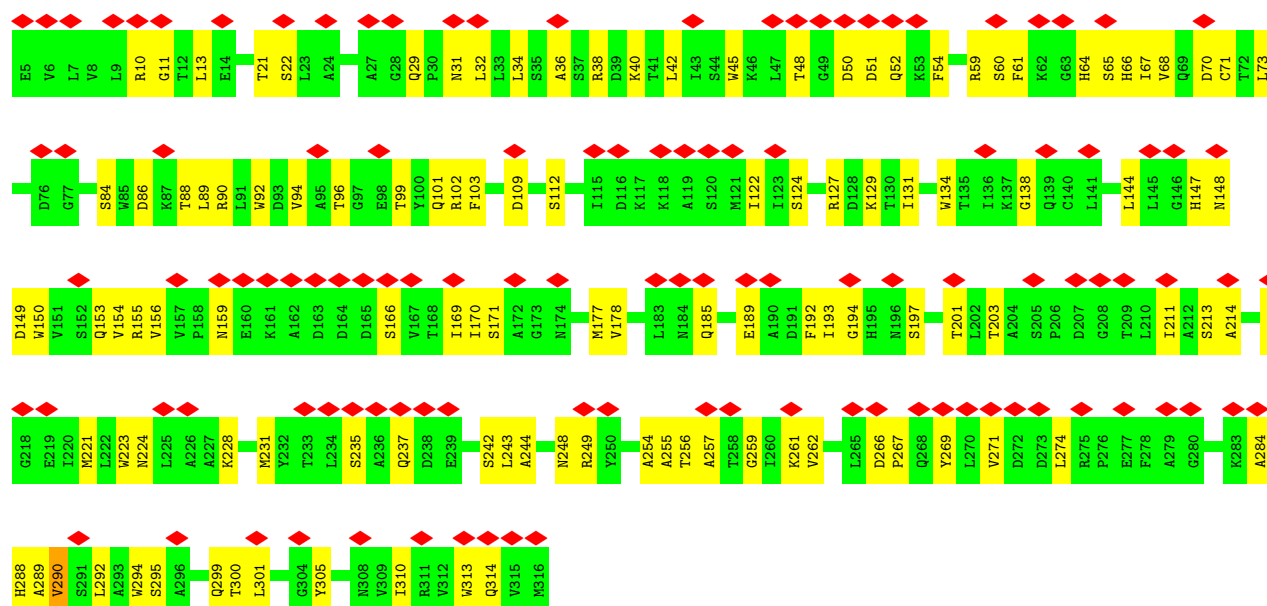
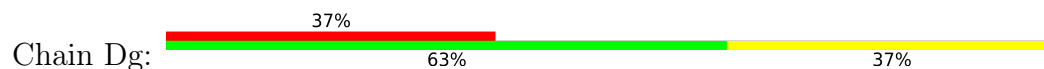


- Molecule 38: Ubiquitin

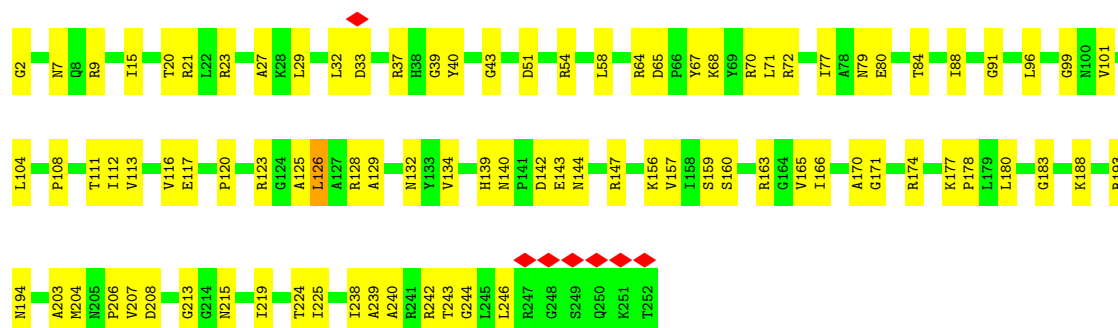




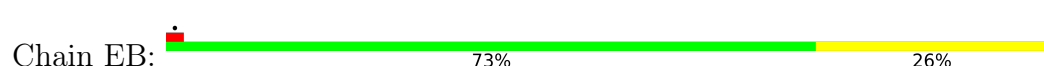
• Molecule 39: Guanine nucleotide-binding protein subunit beta-like protein

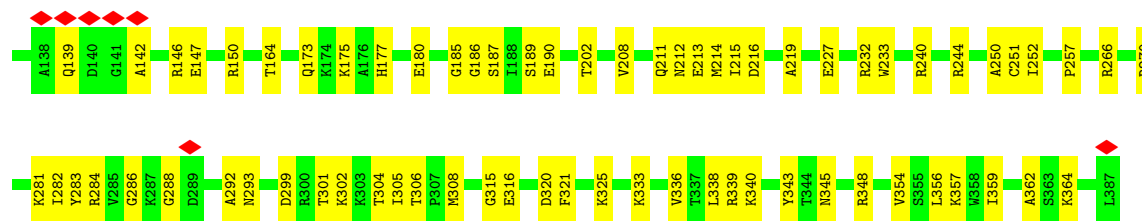


• Molecule 40: 60S ribosomal protein L2-A

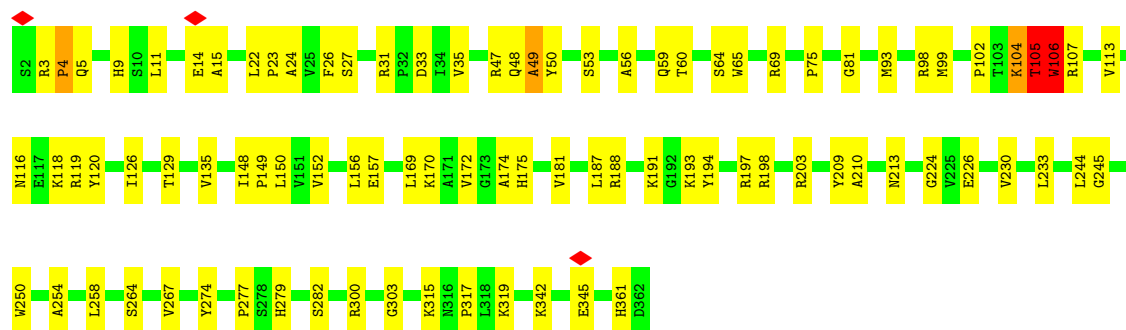
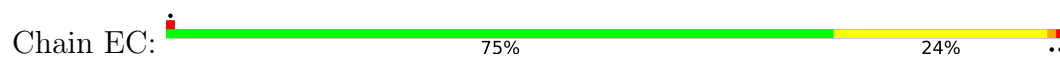


• Molecule 41: 60S ribosomal protein L3

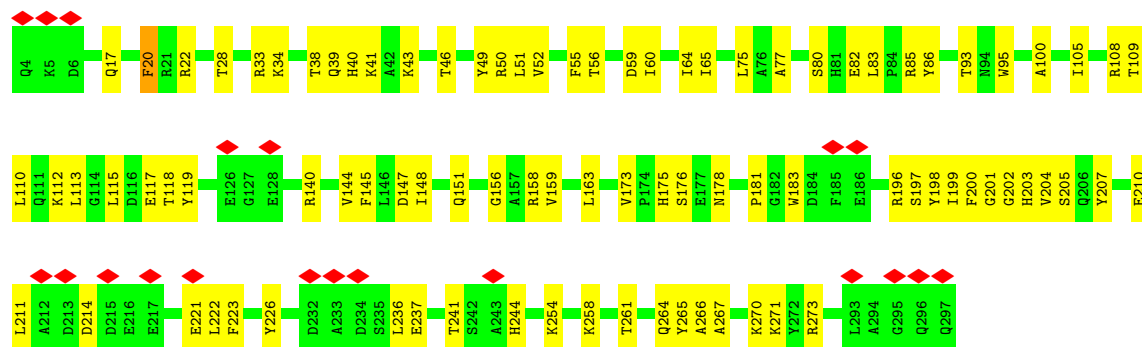




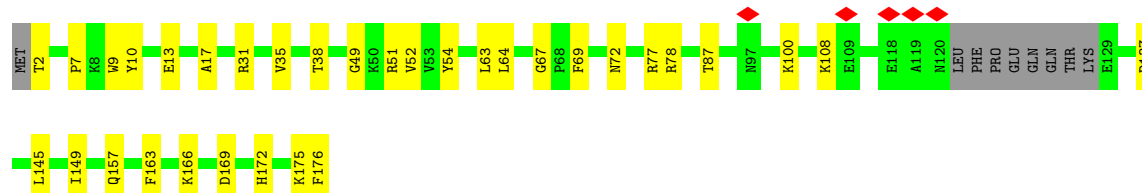
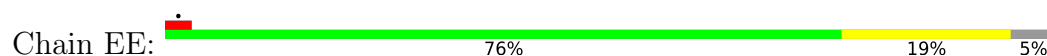
• Molecule 42: 60S ribosomal protein L4-A



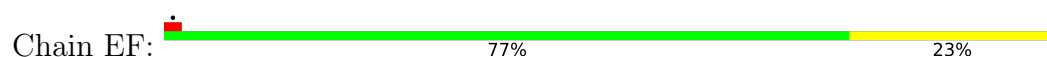
• Molecule 43: 60S ribosomal protein L5



• Molecule 44: 60S ribosomal protein L6-B

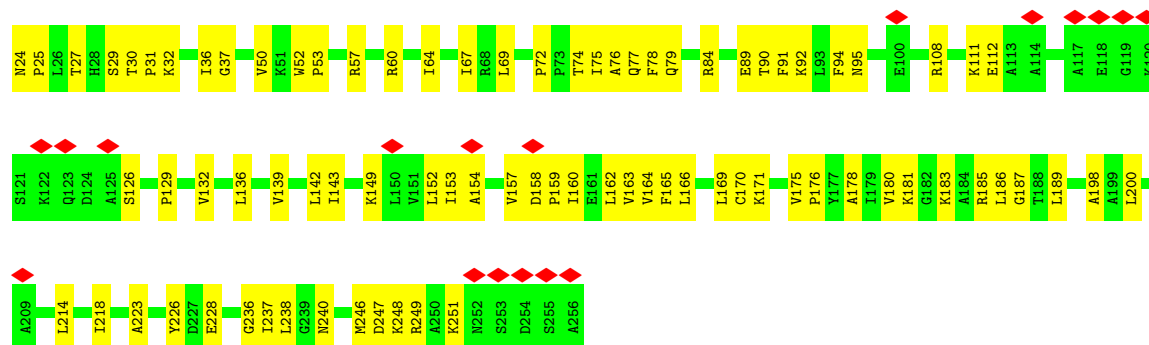


• Molecule 45: 60S ribosomal protein L7-A

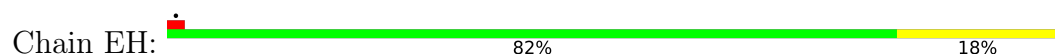




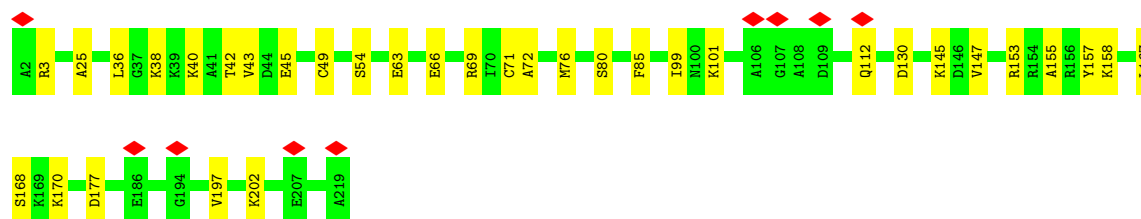
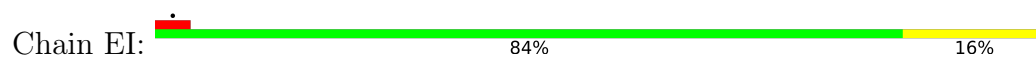
• Molecule 46: 60S ribosomal protein L8-A



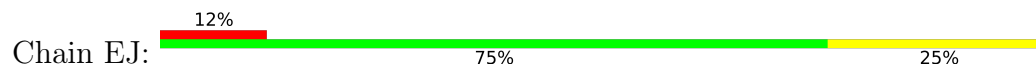
• Molecule 47: 60S ribosomal protein L9-A

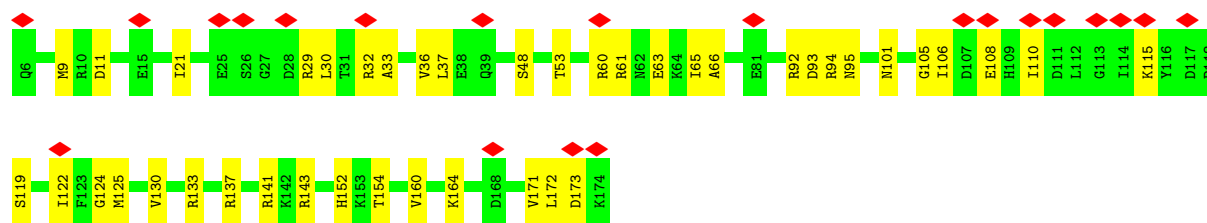


• Molecule 48: 60S ribosomal protein L10

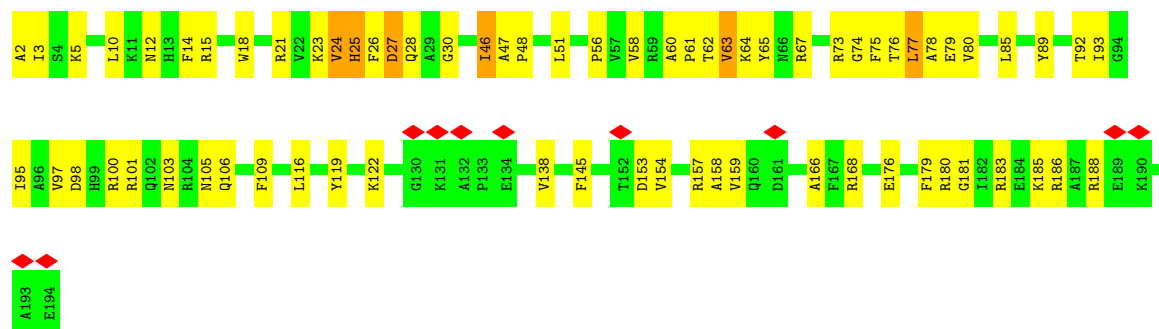


• Molecule 49: 60S ribosomal protein L11-B

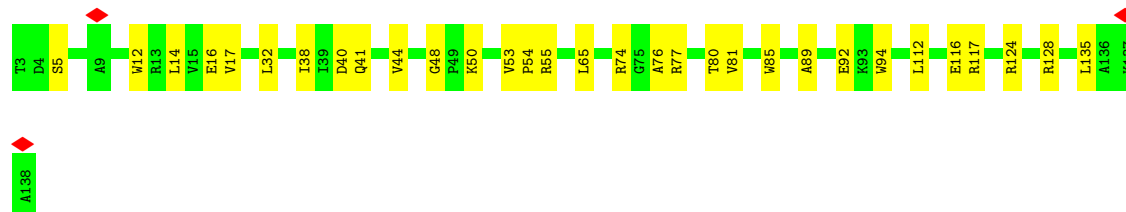
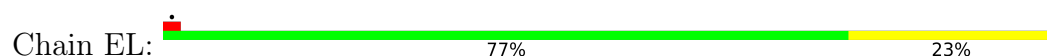




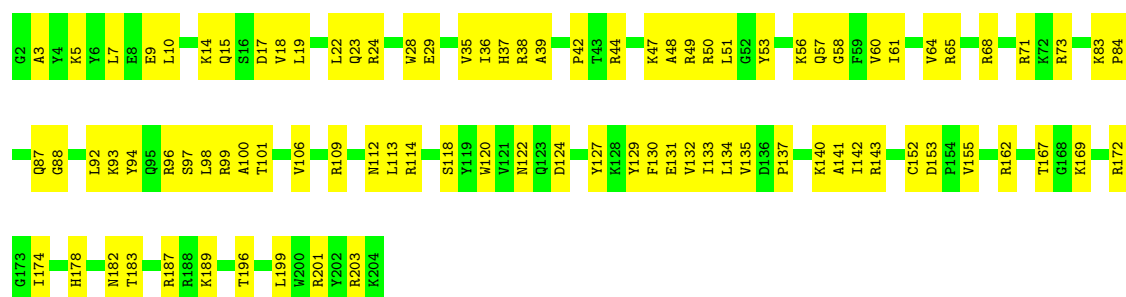
- Molecule 50: 60S ribosomal protein L13-A



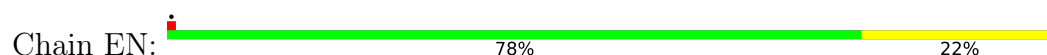
- Molecule 51: 60S ribosomal protein L14-A

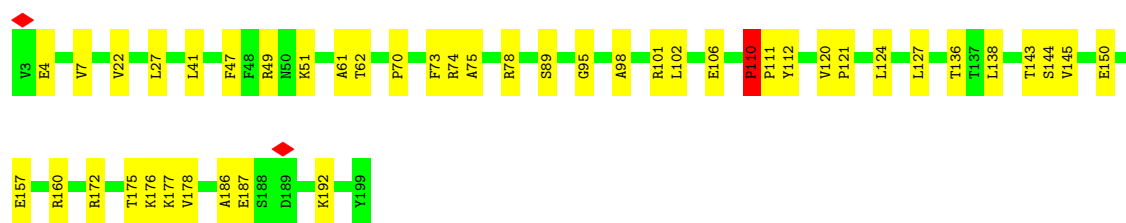


- Molecule 52: 60S ribosomal protein L15-A

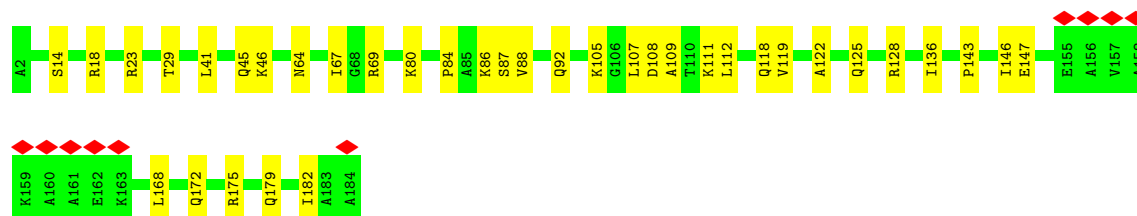
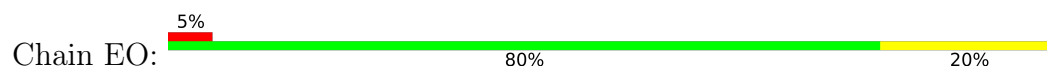


- Molecule 53: 60S ribosomal protein L16-A

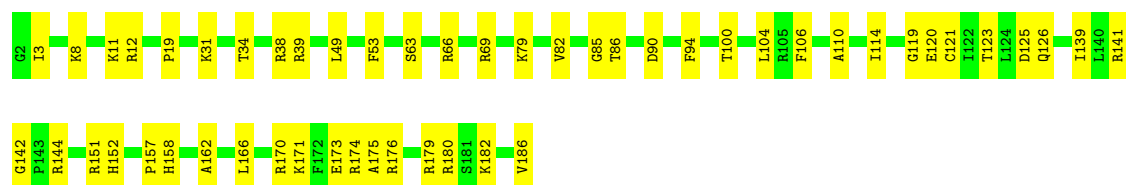




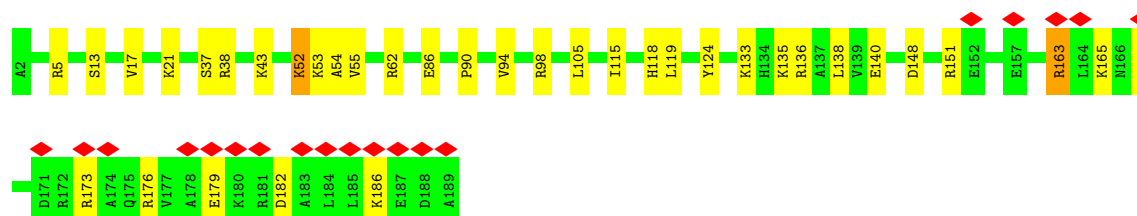
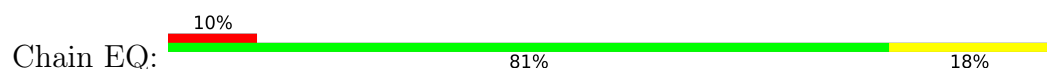
- Molecule 54: 60S ribosomal protein L17-A



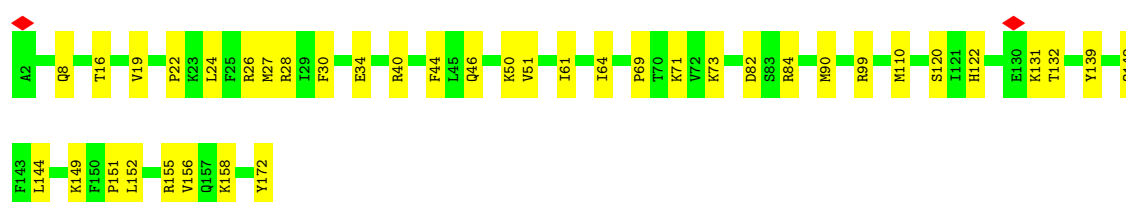
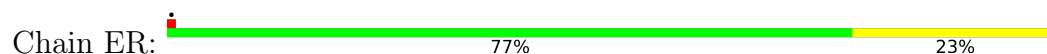
- Molecule 55: 60S ribosomal protein L18-A



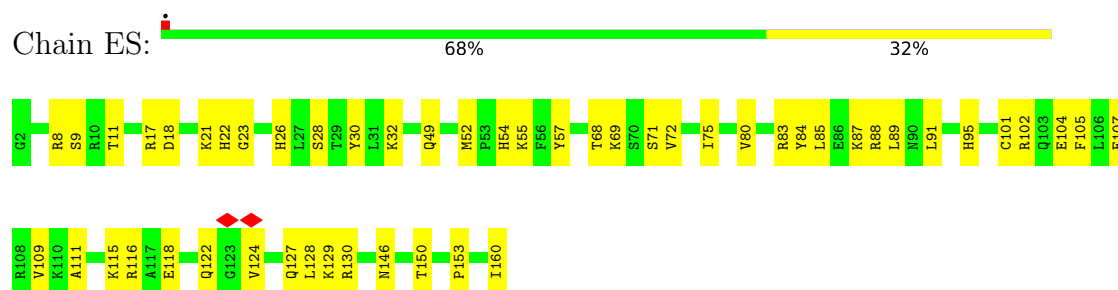
- Molecule 56: 60S ribosomal protein L19-A



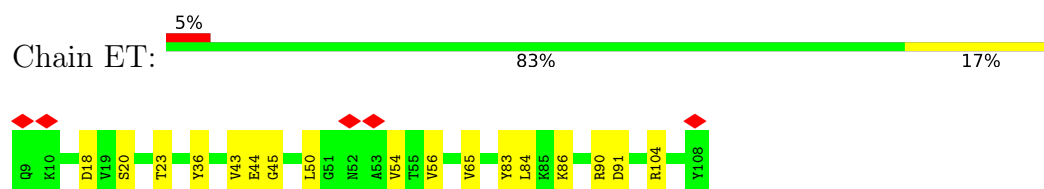
- Molecule 57: 60S ribosomal protein L20-A



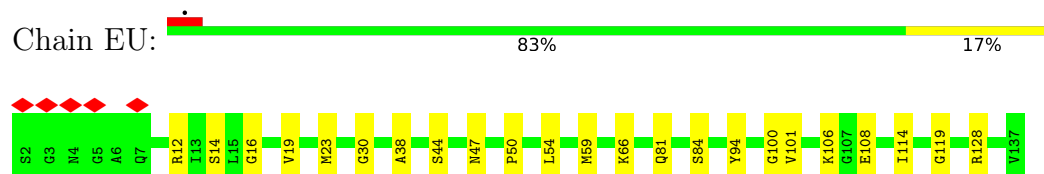
- Molecule 58: 60S ribosomal protein L21-A



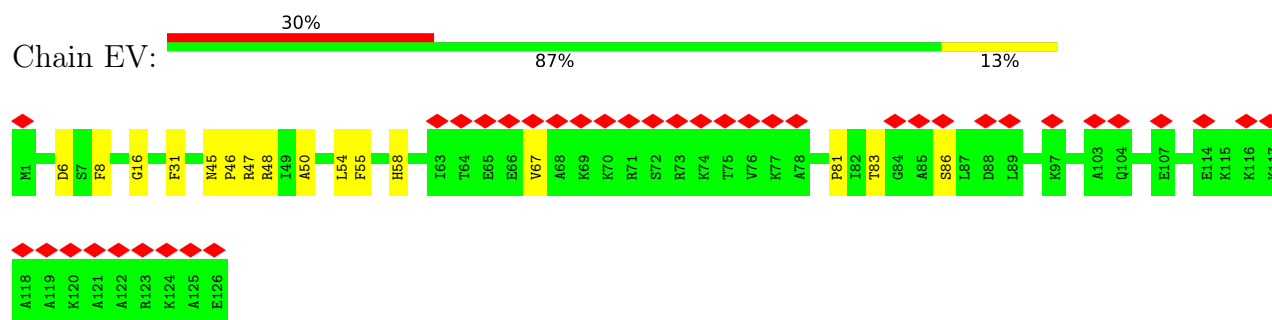
- Molecule 59: 60S ribosomal protein L22-A



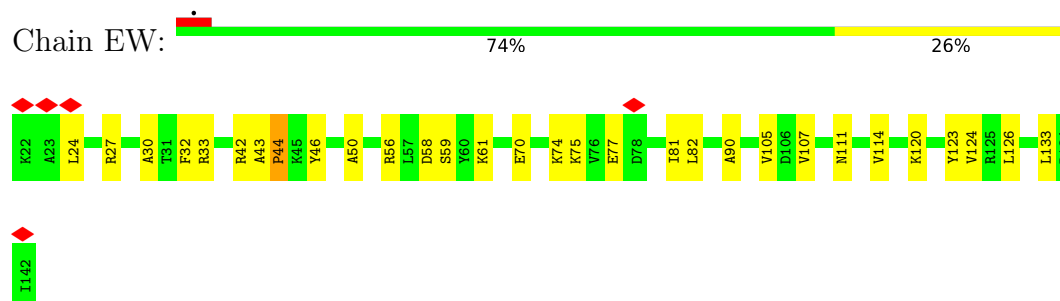
- Molecule 60: 60S ribosomal protein L23-A



- Molecule 61: 60S ribosomal protein L24-A



- Molecule 62: 60S ribosomal protein L25



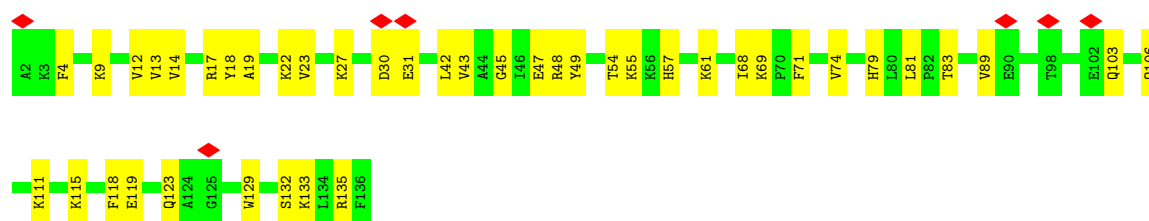
- Molecule 63: 60S ribosomal protein L26-A

Chain EX:  77% 23%



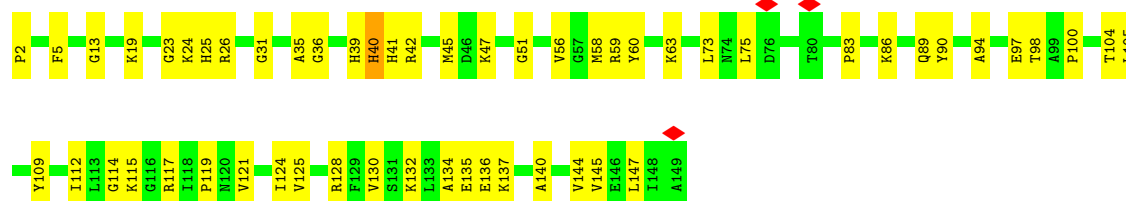
- Molecule 64: 60S ribosomal protein L27-A

Chain EY:  5% 69% 31%



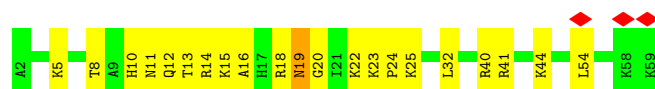
- Molecule 65: 60S ribosomal protein L28

Chain EZ:  63% 36%



- Molecule 66: 60S ribosomal protein L29

Chain Ea:  5% 64% 34%



- Molecule 67: 60S ribosomal protein L30

Chain Eb:  72% 28%



- Molecule 68: 60S ribosomal protein L31-A

Chain Ec:  10% 80% 20%



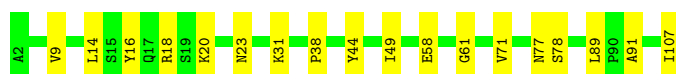
- Molecule 69: 60S ribosomal protein L32

Chain Ed:  86% 14%



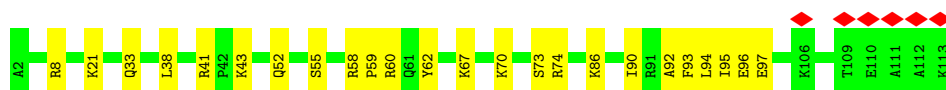
- Molecule 70: 60S ribosomal protein L33-A

Chain Ee:  83% 17%



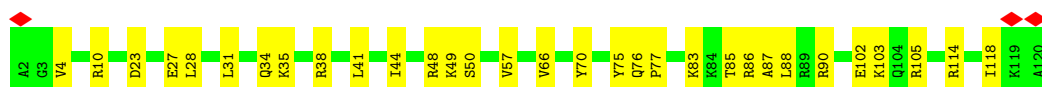
- Molecule 71: 60S ribosomal protein L34-A

Chain Ef:  5% 79% 21%



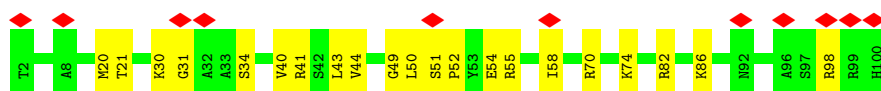
- Molecule 72: 60S ribosomal protein L35-A

Chain Eg:  74% 26%



- Molecule 73: 60S ribosomal protein L36-A

Chain Eh:  11% 79% 21%



- Molecule 74: 60S ribosomal protein L37-A

Chain Ei:  76% 24%

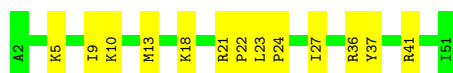
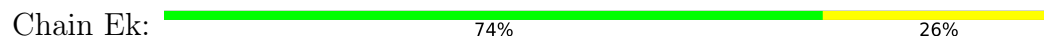


- Molecule 75: 60S ribosomal protein L38

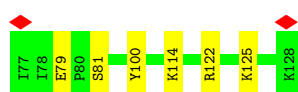
Chain Ej:  71% 29%



- Molecule 76: 60S ribosomal protein L39



- Molecule 77: 60S ribosomal protein L40-A



- Molecule 78: 60S ribosomal protein L41-A



- Molecule 79: 60S ribosomal protein L42-A



- Molecule 80: 60S ribosomal protein L43-A



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	95228	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 ($e^-/\text{\AA}^2$)	44	Depositor
Minimum defocus (nm)	500	Depositor
Maximum defocus (nm)	3000	Depositor
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	7.114	Depositor
Minimum map value	-3.966	Depositor
Average map value	0.016	Depositor
Map value standard deviation	0.134	Depositor
Recommended contour level	0.6	Depositor
Map size (Å)	585.19995, 585.19995, 585.19995	wwPDB
Map dimensions	560, 560, 560	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.045, 1.045, 1.045	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

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	2	0.57	27/42166 (0.1%)	0.36	3/65701 (0.0%)
2	3	0.26	0/3746	0.33	0/5832
3	4	0.17	0/2883	0.28	0/4491
4	5	0.23	6/75723 (0.0%)	0.32	0/118057
5	6	0.14	0/1810	0.30	0/2821
6	7	0.13	0/1836	0.25	0/2859
7	DA	0.17	0/1644	0.42	0/2249
8	DB	0.21	0/1823	0.54	1/2447 (0.0%)
9	DC	0.67	8/1656 (0.5%)	0.73	7/2251 (0.3%)
10	DD	0.14	0/1754	0.39	0/2361
11	DE	0.14	0/2097	0.37	0/2823
12	DF	0.18	0/1625	0.46	0/2197
13	DG	0.13	0/1839	0.36	0/2460
14	DH	0.17	0/1498	0.48	0/2019
15	DI	0.13	0/1501	0.38	0/2006
16	DJ	0.15	0/1504	0.43	0/2016
17	DK	0.14	0/769	0.40	0/1039
18	DL	0.16	0/1185	0.35	0/1598
19	DM	0.15	0/883	0.56	0/1199
20	DN	0.17	0/1215	0.42	0/1638
21	DO	0.20	0/937	0.44	0/1261
22	DP	0.15	0/936	0.40	0/1259
23	DQ	0.16	0/1125	0.48	0/1510
24	DR	0.18	0/957	0.47	0/1283
25	DS	0.14	0/1211	0.43	0/1628
26	DT	0.16	0/1130	0.45	0/1517
27	DU	0.15	0/807	0.38	0/1091
28	DV	0.17	0/682	0.39	0/921
29	DW	0.18	0/1038	0.40	0/1395
30	DX	0.18	0/1139	0.46	0/1518
31	DY	0.13	0/1087	0.32	0/1449
32	DZ	0.17	0/661	0.47	0/888

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
33	Da	0.20	0/782	0.57	0/1047
34	Db	0.14	0/620	0.41	0/838
35	Dc	0.16	0/493	0.37	0/663
36	Dd	0.18	0/452	0.39	0/600
37	De	0.14	0/480	0.38	0/639
38	Df	0.14	0/567	0.49	0/764
39	Dg	0.14	0/2436	0.39	1/3318 (0.0%)
40	EA	0.22	0/1933	0.45	0/2598
41	EB	0.18	0/3146	0.38	0/4228
42	EC	0.52	9/2800 (0.3%)	0.47	1/3790 (0.0%)
43	ED	0.18	0/2400	0.40	0/3239
44	EE	0.17	0/1327	0.40	0/1790
45	EF	0.19	0/1821	0.36	0/2451
46	EG	0.18	0/1836	0.44	0/2481
47	EH	1.56	1/1529 (0.1%)	0.39	1/2060 (0.0%)
48	EI	0.18	0/1801	0.36	0/2416
49	EJ	0.16	0/1371	0.50	2/1838 (0.1%)
50	EK	0.61	8/1568 (0.5%)	0.56	1/2106 (0.0%)
51	EL	0.16	0/1068	0.33	0/1438
52	EM	0.21	0/1757	0.43	0/2354
53	EN	0.19	0/1585	0.33	0/2128
54	EO	0.17	0/1439	0.36	0/1938
55	EP	0.19	0/1465	0.39	0/1965
56	EQ	0.68	2/1532 (0.1%)	0.64	2/2043 (0.1%)
57	ER	0.18	0/1473	0.37	0/1980
58	ES	0.19	0/1300	0.40	0/1743
59	ET	0.17	0/812	0.44	0/1099
60	EU	0.18	0/1018	0.35	0/1369
61	EV	0.16	0/850	0.37	1/1152 (0.1%)
62	EW	0.17	0/979	0.35	0/1321
63	EX	0.20	0/995	0.35	0/1329
64	EY	0.17	0/1118	0.39	0/1497
65	EZ	0.22	0/1204	0.47	0/1612
66	Ea	0.19	0/473	0.50	0/629
67	Eb	0.17	0/745	0.34	0/1001
68	Ec	0.16	0/890	0.33	0/1196
69	Ed	0.17	0/1038	0.37	0/1390
70	Ee	0.18	0/868	0.36	0/1168
71	Ef	0.18	0/890	0.38	0/1189
72	Eg	0.17	0/978	0.35	0/1301
73	Uh	0.18	0/772	0.40	0/1026
74	Ei	0.22	0/685	0.45	0/908
75	Ej	0.15	0/618	0.33	0/826

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
76	Ek	0.18	0/443	0.34	0/588
77	El	0.16	0/423	0.38	0/562
78	Em	0.22	0/230	0.51	0/296
79	En	0.19	0/836	0.40	0/1104
80	Eo	0.19	0/701	0.40	0/934
All	All	0.35	61/217414 (0.0%)	0.37	20/319736 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
8	DB	0	2
11	DE	0	1
12	DF	0	1
14	DH	0	1
23	DQ	0	1
25	DS	0	1
30	DX	0	2
32	DZ	0	1
33	Da	0	1
41	EB	0	1
46	EG	0	1
50	EK	0	1
53	EN	0	1
62	EW	0	1
66	Ea	0	1
All	All	0	17

All (61) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
47	EH	21	LYS	CD-CE	60.85	3.35	1.52
1	2	9	U	C5-C6	38.41	2.10	1.34
1	2	9	U	C2-N3	35.97	2.09	1.37
1	2	813	U	N3-C4	24.31	1.87	1.38
1	2	813	U	C2-N3	23.87	1.85	1.37
1	2	813	U	N1-C2	23.10	1.84	1.38
1	2	1297	G	N1-C2	22.87	1.83	1.37
1	2	1297	G	C6-N1	22.63	1.84	1.39
1	2	1139	A	C5-C6	22.37	1.85	1.41

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	2	813	U	N1-C6	22.18	1.82	1.38
1	2	1318	G	N1-C2	21.26	1.80	1.37
1	2	1139	A	C6-N1	21.17	1.77	1.35
56	EQ	163	ARG	CD-NE	21.00	1.75	1.46
1	2	813	U	C4-C5	20.92	1.85	1.43
1	2	1318	G	C6-N1	20.53	1.80	1.39
1	2	813	U	C5-C6	19.18	1.72	1.34
1	2	1139	A	C5-C4	19.11	1.76	1.38
1	2	1139	A	N3-C4	19.06	1.73	1.34
1	2	1139	A	N1-C2	18.90	1.72	1.34
1	2	1139	A	C2-N3	18.05	1.69	1.33
1	2	1318	G	C2-N3	17.62	1.68	1.32
1	2	1318	G	N3-C4	17.07	1.69	1.35
1	2	1297	G	C2-N3	15.97	1.64	1.32
1	2	1297	G	C5-C6	15.28	1.73	1.42
4	5	3199	U	C2-N3	15.18	1.68	1.37
1	2	1297	G	N3-C4	14.97	1.65	1.35
1	2	1318	G	C5-C4	14.96	1.68	1.38
56	EQ	163	ARG	NE-CZ	14.69	1.49	1.33
1	2	1318	G	C5-C6	14.25	1.70	1.42
4	5	3199	U	N3-C4	13.73	1.66	1.38
1	2	1297	G	C5-C4	13.58	1.65	1.38
4	5	3199	U	N1-C2	12.46	1.63	1.38
42	EC	105	THR	CA-C	-11.18	1.37	1.52
4	5	3199	U	N1-C6	10.85	1.59	1.38
4	5	3199	U	C4-C5	10.06	1.63	1.43
50	EK	26	PHE	N-CA	-9.83	1.33	1.46
9	DC	207	LEU	CA-C	-9.67	1.42	1.53
9	DC	209	ASN	CA-C	-8.97	1.38	1.52
1	2	9	U	N3-C4	8.97	1.56	1.38
4	5	3199	U	C5-C6	8.79	1.51	1.34
42	EC	50	TYR	CA-C	-8.65	1.42	1.52
50	EK	27	ASP	C-N	-8.18	1.23	1.33
50	EK	27	ASP	CA-C	-8.14	1.42	1.52
9	DC	208	GLU	CA-C	-7.90	1.42	1.52
50	EK	25	HIS	CA-C	-7.90	1.44	1.53
50	EK	26	PHE	CA-C	-6.35	1.44	1.52
50	EK	27	ASP	C-O	-6.26	1.15	1.24
42	EC	106	TRP	C-O	-6.06	1.15	1.24
9	DC	210	THR	N-CA	-6.05	1.38	1.46
42	EC	47	ARG	C-O	-6.04	1.16	1.24
42	EC	104	LYS	CA-C	-5.89	1.45	1.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
9	DC	208	GLU	N-CA	-5.79	1.38	1.46
9	DC	210	THR	CA-C	-5.76	1.44	1.52
42	EC	105	THR	C-N	-5.62	1.25	1.33
50	EK	25	HIS	C-O	-5.50	1.18	1.23
42	EC	105	THR	C-O	-5.45	1.16	1.23
50	EK	25	HIS	C-N	-5.39	1.26	1.33
42	EC	105	THR	N-CA	-5.31	1.39	1.46
9	DC	99	LYS	CA-C	-5.25	1.45	1.52
42	EC	49	ALA	C-O	-5.20	1.17	1.24
9	DC	211	LEU	N-CA	-5.12	1.39	1.46

All (20) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
56	EQ	163	ARG	CD-NE-CZ	22.26	155.56	124.40
9	DC	210	THR	N-CA-C	-13.43	97.36	113.88
56	EQ	163	ARG	CG-CD-NE	10.21	134.46	112.00
9	DC	207	LEU	CB-CA-C	-9.68	96.42	112.00
9	DC	207	LEU	N-CA-C	9.16	123.95	109.39
47	EH	21	LYS	CG-CD-CE	8.23	130.23	111.30
9	DC	206	THR	CB-CA-C	-8.03	100.61	112.09
1	2	1298	U	C3'-C2'-O2'	7.42	121.83	110.70
49	EJ	115	LYS	CA-C-N	-7.38	109.36	122.42
49	EJ	115	LYS	C-N-CA	-7.38	109.36	122.42
42	EC	106	TRP	CA-CB-CG	7.17	127.22	113.60
1	2	9	U	N3-C4-C5	-6.70	94.51	114.60
50	EK	24	VAL	N-CA-C	-6.45	96.02	107.18
9	DC	212	LYS	CA-C-N	5.92	130.71	120.58
9	DC	212	LYS	C-N-CA	5.92	130.71	120.58
39	Dg	290	VAL	N-CA-C	-5.87	108.14	113.71
8	DB	225	VAL	N-CA-CB	-5.71	106.94	112.65
9	DC	208	GLU	N-CA-C	-5.66	98.75	110.80
61	EV	83	THR	CB-CA-C	-5.56	110.14	116.54
1	2	1139	A	O5'-C5'-C4'	5.10	119.15	111.50

There are no chirality outliers.

All (17) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
8	DB	211	HIS	Peptide
8	DB	81	PHE	Peptide
11	DE	42	LEU	Peptide

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Mol	Chain	Res	Type	Group
12	DF	79	ASN	Peptide
14	DH	64	VAL	Peptide
23	DQ	40	GLU	Peptide
25	DS	90	ASN	Peptide
30	DX	41	SER	Peptide
30	DX	88	PRO	Peptide
32	DZ	26	LYS	Peptide
33	Da	9	GLY	Peptide
41	EB	127	LYS	Peptide
46	EG	30	THR	Peptide
50	EK	46	ILE	Peptide
53	EN	110[A]	PRO	Peptide
62	EW	43	ALA	Peptide
66	Ea	19	ASN	Peptide

5.2 Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	2	37699	0	18969	959	0
2	3	3353	0	1695	70	0
3	4	2579	0	1304	43	0
4	5	67650	0	33997	1100	0
5	6	1620	0	822	25	0
6	7	1644	0	836	33	0
7	DA	1603	0	1610	58	0
8	DB	1798	0	1890	104	0
9	DC	1626	0	1715	59	0
10	DD	1729	0	1812	45	0
11	DE	2056	0	2140	48	0
12	DF	1605	0	1668	77	0
13	DG	1815	0	1894	54	0
14	DH	1473	0	1555	36	0
15	DI	1476	0	1501	39	0
16	DJ	1479	0	1556	43	0
17	DK	752	0	719	24	0
18	DL	1159	0	1225	20	0
19	DM	875	0	878	30	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
20	DN	1192	0	1255	28	0
21	DO	926	0	950	59	0
22	DP	916	0	941	21	0
23	DQ	1105	0	1166	53	0
24	DR	948	0	990	44	0
25	DS	1192	0	1222	42	0
26	DT	1112	0	1124	57	0
27	DU	797	0	863	33	0
28	DV	673	0	662	32	0
29	DW	1021	0	1060	38	0
30	DX	1121	0	1195	41	0
31	DY	1073	0	1132	23	0
32	DZ	651	0	682	31	0
33	Da	769	0	818	49	0
34	Db	610	0	633	22	0
35	Dc	491	0	524	20	0
36	Dd	442	0	428	24	0
37	De	472	0	521	14	0
38	Df	556	0	546	22	0
39	Dg	2383	0	2332	89	0
40	EA	1899	0	1957	83	0
41	EB	3075	0	3142	72	0
42	EC	2748	0	2859	64	0
43	ED	2351	0	2294	72	0
44	EE	1305	0	1370	25	0
45	EF	1784	0	1862	35	0
46	EG	1804	0	1877	62	0
47	EH	1508	0	1572	43	0
48	EI	1764	0	1804	23	0
49	EJ	1350	0	1381	37	0
50	EK	1543	0	1608	70	0
51	EL	1053	0	1149	28	0
52	EM	1720	0	1779	88	0
53	EN	1555	0	1659	27	0
54	EO	1416	0	1433	24	0
55	EP	1441	0	1543	52	0
56	EQ	1515	0	1606	58	0
57	ER	1437	0	1475	36	0
58	ES	1276	0	1323	42	0
59	ET	796	0	812	10	0
60	EU	1003	0	1048	15	0
61	EV	836	0	709	8	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
62	EW	964	0	1025	28	0
63	EX	984	0	1075	23	0
64	EY	1092	0	1155	39	0
65	EZ	1173	0	1215	59	0
66	Ea	462	0	491	20	0
67	Eb	737	0	792	23	0
68	Ec	876	0	912	13	0
69	Ed	1017	0	1081	13	0
70	Ee	850	0	880	14	0
71	Ef	880	0	942	21	0
72	Eg	969	0	1078	25	0
73	Eh	766	0	844	23	0
74	Ei	670	0	673	20	0
75	Ej	612	0	682	16	0
76	Ek	436	0	475	13	0
77	El	417	0	455	7	0
78	Em	229	0	273	8	0
79	En	824	0	889	29	0
80	Eo	694	0	735	24	0
81	2	84	0	0	0	0
81	DF	1	0	0	0	0
81	DN	1	0	0	0	0
82	Dd	1	0	0	0	0
82	Df	1	0	0	0	0
82	Ef	1	0	0	0	0
82	Ei	1	0	0	0	0
82	El	1	0	0	0	0
82	En	1	0	0	0	0
82	Eo	1	0	0	0	0
All	All	202365	0	148764	4068	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 12.

All (4068) 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)
1:2:813:U:C4	1:2:813:U:C5	1.85	1.65
1:2:1139:A:C5	1:2:1139:A:C6	1.85	1.64
1:2:1318:G:N3	1:2:1318:G:C2	1.68	1.62
1:2:1139:A:C2	1:2:1139:A:N1	1.72	1.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1139:A:C2	1:2:1139:A:N3	1.69	1.56
4:5:3199:U:N3	4:5:3199:U:C2	1.68	1.56
1:2:1318:G:N3	1:2:1318:G:C4	1.69	1.55
1:2:1139:A:N3	1:2:1139:A:C4	1.73	1.53
1:2:1139:A:C6	1:2:1139:A:N1	1.77	1.50
1:2:813:U:C2	56:EQ:163:ARG:NE	1.79	1.50
1:2:1318:G:C2	1:2:1318:G:N1	1.80	1.49
1:2:813:U:C6	1:2:813:U:N1	1.82	1.48
56:EQ:163:ARG:NE	56:EQ:163:ARG:CD	1.75	1.47
1:2:1318:G:N1	1:2:1318:G:C6	1.80	1.46
1:2:1297:G:N1	1:2:1297:G:C2	1.83	1.45
1:2:1139:A:C5	1:2:1139:A:C4	1.77	1.44
1:2:813:U:N1	56:EQ:163:ARG:NE	1.67	1.43
1:2:813:U:C4	1:2:813:U:N3	1.87	1.43
1:2:813:U:C2	1:2:813:U:N3	1.85	1.43
1:2:813:U:C2	1:2:813:U:N1	1.84	1.42
1:2:1297:G:N1	1:2:1297:G:C6	1.84	1.42
1:2:813:U:C6	56:EQ:163:ARG:NE	1.86	1.40
1:2:9:U:C5	1:2:9:U:C6	2.11	1.38
1:2:813:U:C4	56:EQ:163:ARG:NE	1.92	1.38
1:2:813:U:C5	56:EQ:163:ARG:NE	1.96	1.34
1:2:813:U:N3	56:EQ:163:ARG:NE	1.78	1.29
4:5:3199:U:C2	47:EH:21:LYS:CE	2.18	1.27
4:5:3199:U:C2	47:EH:21:LYS:CD	2.19	1.26
1:2:9:U:N3	1:2:9:U:C2	2.09	1.19
1:2:16:G:N2	1:2:1138:A:N6	1.91	1.18
1:2:628:G:H21	1:2:971:A:N6	1.38	1.17
4:5:3199:U:N3	47:EH:21:LYS:CD	2.06	1.17
1:2:813:U:C4	56:EQ:163:ARG:CZ	2.30	1.15
1:2:628:G:N2	1:2:971:A:H62	1.44	1.14
1:2:13:C:OP1	1:2:1299:G:H1'	1.48	1.14
1:2:813:U:C2	56:EQ:163:ARG:CD	2.32	1.13
4:5:3199:U:N3	47:EH:21:LYS:CE	2.11	1.13
1:2:813:U:N3	56:EQ:163:ARG:CD	2.12	1.13
1:2:813:U:C2	56:EQ:163:ARG:CZ	2.34	1.10
1:2:813:U:N3	56:EQ:163:ARG:CZ	2.16	1.08
4:5:3199:U:C4	47:EH:21:LYS:CD	2.36	1.08
4:5:267:G:H1'	52:EM:50:ARG:HE	1.18	1.07
1:2:813:U:N3	56:EQ:163:ARG:HD2	1.66	1.07
4:5:3199:U:C4	47:EH:21:LYS:CE	2.37	1.06
1:2:821:U:H3	1:2:852:C:N4	1.55	1.05

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:629:U:O4	1:2:970:A:N7	1.90	1.04
1:2:629:U:H3	1:2:970:A:N6	1.55	1.04
1:2:813:U:C4	56:EQ:163:ARG:CD	2.40	1.03
1:2:16:G:H21	1:2:1138:A:N6	1.53	0.99
1:2:1552:U:H3	1:2:1556:A:N6	1.60	0.99
4:5:3199:U:N1	47:EH:21:LYS:CE	2.29	0.95
1:2:1697:G:H1	1:2:1704:U:H3	1.03	0.94
4:5:3199:U:C6	47:EH:21:LYS:CE	2.51	0.93
1:2:813:U:N3	56:EQ:163:ARG:NH1	2.16	0.92
4:5:1019:G:H1	4:5:1035:U:H3	0.98	0.91
1:2:1140:G:N1	1:2:1141:G:O6	2.03	0.91
1:2:813:U:C5	56:EQ:163:ARG:CZ	2.54	0.91
1:2:1588:G:H1	1:2:1608:U:H3	0.95	0.91
4:5:3199:U:C4	47:EH:21:LYS:HD3	2.04	0.91
6:7:51:U:H3	6:7:65:G:H1	1.12	0.90
4:5:1258:C:N4	4:5:1262:G:H22	1.70	0.90
53:EN:27[A]:LEU:HD21	53:EN:102[A]:LEU:HB2	1.52	0.90
1:2:16:G:N2	1:2:1138:A:H62	1.65	0.89
4:5:3199:U:C5	47:EH:21:LYS:CE	2.56	0.89
8:DB:144:ARG:HB3	8:DB:208:GLN:HB2	1.56	0.88
4:5:1238:G:H1	4:5:1252:A:N6	1.70	0.88
1:2:971:A:N6	4:5:847:A:N7	2.23	0.87
4:5:2534:G:N2	4:5:2535:G:O6	2.08	0.87
1:2:1665:U:H3	1:2:1736:G:H1	1.18	0.87
21:DO:21:ALA:HB3	21:DO:98:GLY:HA2	1.54	0.86
4:5:3199:U:N1	47:EH:21:LYS:CD	2.39	0.86
9:DC:53:ILE:HD13	9:DC:73:LEU:HD11	1.58	0.85
1:2:870:C:O2	34:Db:51:GLN:NE2	2.08	0.85
3:4:52:G:H21	49:EJ:9:MET:HE1	1.38	0.85
39:Dg:29:GLN:HE22	39:Dg:32:LEU:HB2	1.39	0.85
9:DC:203:LYS:HD3	9:DC:206:THR:HG23	1.57	0.85
9:DC:95:ARG:HH12	9:DC:97:ARG:HH11	1.25	0.84
27:DU:26:LEU:HB3	27:DU:34:LEU:HD11	1.59	0.84
4:5:3199:U:C5	47:EH:21:LYS:CD	2.61	0.84
4:5:3199:U:C2	47:EH:21:LYS:HD2	2.11	0.84
1:2:1654:G:N2	1:2:1745:G:O6	2.11	0.83
11:DE:185:GLY:H	11:DE:189:LEU:HD13	1.42	0.83
4:5:147:U:O4	46:EG:183:LYS:NZ	2.11	0.83
4:5:1238:G:H1	4:5:1252:A:H61	1.26	0.83
21:DO:99:GLN:NE2	33:Da:45:VAL:O	2.12	0.82
33:Da:5:ARG:HG3	33:Da:8:ASN:HA	1.61	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:2537:A:O5'	8:DB:227:ALA:N	2.11	0.82
4:5:1258:C:N3	4:5:1262:G:N1	2.27	0.82
4:5:2537:A:P	8:DB:227:ALA:H	2.02	0.82
21:DO:90:ARG:HG3	21:DO:91:THR:H	1.45	0.82
55:EP:152:HIS:ND1	55:EP:162:ALA:O	2.11	0.81
4:5:3199:U:C6	47:EH:21:LYS:CD	2.62	0.81
4:5:3199:U:C2	47:EH:21:LYS:HE3	2.14	0.81
1:2:14:C:H5''	9:DC:164:SER:HB3	1.62	0.81
1:2:905:A:H5''	21:DO:52:ARG:HD3	1.63	0.81
4:5:68:C:OP2	4:5:301:G:N2	2.14	0.81
9:DC:99:LYS:HG3	9:DC:117:THR:HG22	1.62	0.81
1:2:918:U:H4'	21:DO:18:ARG:HD3	1.63	0.80
1:2:1217:A:H5'	17:DK:1:MET:HE3	1.61	0.80
4:5:2970:A:N7	40:EA:215:ASN:ND2	2.30	0.80
7:DA:41:ARG:HH21	7:DA:45:VAL:HG11	1.45	0.80
1:2:72:A:H2'	1:2:73:U:H4'	1.63	0.80
1:2:618:U:O2	1:2:1141:G:O2'	1.99	0.80
1:2:813:U:C6	56:EQ:163:ARG:CZ	2.64	0.80
4:5:2536:A:O2'	8:DB:224:ASP:OD1	1.99	0.80
4:5:3199:U:C5	47:EH:21:LYS:HE2	2.17	0.79
1:2:1552:U:H3	1:2:1556:A:H62	0.79	0.79
4:5:2194:U:H5'	4:5:2195:G:H5'	1.62	0.79
6:7:76:C:H41	79:En:40:LYS:HD2	1.48	0.79
4:5:297:G:N2	4:5:297:G:OP2	2.16	0.79
4:5:2547:C:H2'	4:5:2548:A:H8	1.48	0.79
15:DI:87:ASN:HB3	15:DI:90:LEU:HD23	1.63	0.79
40:EA:27:ALA:O	40:EA:128:ARG:NH2	2.14	0.79
30:DX:130:VAL:HG13	30:DX:135:LEU:HD11	1.64	0.79
1:2:1387:G:OP1	24:DR:32:LYS:NZ	2.16	0.78
2:3:22:U:O4	4:5:341:G:O2'	2.01	0.78
1:2:813:U:C2	56:EQ:163:ARG:HD3	2.19	0.78
1:2:1756:A:N7	5:6:36:G:O2'	2.16	0.78
4:5:1794:C:OP2	80:Eo:49:ARG:NH2	2.17	0.78
64:EY:22:LYS:NZ	64:EY:129:TRP:O	2.17	0.78
13:DG:22:HIS:O	13:DG:25:ARG:NH1	2.17	0.78
4:5:61:A:N1	52:EM:189:LYS:NZ	2.33	0.77
46:EG:181:LYS:O	46:EG:185:ARG:NH2	2.15	0.77
1:2:16:G:H22	1:2:1138:A:H62	1.32	0.77
1:2:628:G:OP1	20:DN:5:HIS:NE2	2.18	0.77
4:5:68:C:N4	4:5:314:U:O2'	2.17	0.77
55:EP:174:ARG:O	55:EP:179:ARG:NH1	2.14	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1795:U:H3'	33:Da:5:ARG:HH12	1.48	0.77
1:2:813:U:N1	56:EQ:163:ARG:CZ	2.47	0.77
42:EC:361:HIS:O	57:ER:28:ARG:NH1	2.17	0.76
1:2:973:A:O2'	4:5:848:A:N1	2.18	0.76
1:2:1402:G:OP1	24:DR:5:ARG:NH1	2.18	0.76
1:2:1502:G:N2	1:2:1505:A:OP2	2.18	0.76
49:EJ:172:LEU:HD23	49:EJ:173:ASP:H	1.50	0.76
60:EU:30:GLY:HA3	60:EU:66:LYS:HE3	1.68	0.76
9:DC:209:ASN:H	9:DC:209:ASN:HD22	1.31	0.76
26:DT:53:TRP:H	26:DT:56:LYS:HG2	1.49	0.76
34:Db:15:GLU:OE1	34:Db:23:THR:OG1	2.04	0.76
23:DQ:99:GLU:HB2	39:Dg:59:ARG:HA	1.68	0.76
42:EC:35:VAL:HG21	42:EC:244:LEU:HD21	1.68	0.75
50:EK:75:PHE:H	50:EK:97:VAL:HA	1.50	0.75
1:2:1297:G:H5'	1:2:1298:U:OP2	1.86	0.75
46:EG:111:LYS:NZ	46:EG:126:SER:OG	2.19	0.75
4:5:675:G:OP1	42:EC:31:ARG:NH1	2.19	0.75
58:ES:84:TYR:HB2	66:Ea:24:PRO:HD3	1.68	0.75
1:2:16:G:H21	1:2:1138:A:H61	1.32	0.75
4:5:1258:C:H42	4:5:1262:G:N2	1.84	0.75
4:5:20:A:OP2	72:Eg:90:ARG:NH2	2.18	0.75
4:5:2438:G:N2	4:5:2511:U:O2	2.18	0.75
11:DE:212:ASP:OD1	11:DE:213:SER:N	2.19	0.75
1:2:959:U:OP2	34:Db:20:LYS:NZ	2.19	0.75
4:5:114:A:N1	4:5:266:A:O2'	2.18	0.75
1:2:16:G:N2	1:2:1138:A:H61	1.85	0.74
1:2:629:U:H3	1:2:970:A:H62	0.80	0.74
4:5:1107:G:OP1	66:Ea:22:LYS:NZ	2.20	0.74
21:DO:26:THR:HG21	21:DO:60:ALA:HA	1.69	0.74
47:EH:9:GLN:HB3	47:EH:52:LEU:HD11	1.67	0.74
51:EL:48:GLY:HA3	51:EL:53:VAL:HB	1.67	0.74
52:EM:15:GLN:HG2	73:Eh:52:PRO:HD2	1.67	0.74
4:5:751:G:H5'	66:Ea:44:LYS:HE2	1.69	0.74
4:5:1258:C:N4	4:5:1262:G:N2	2.35	0.74
1:2:813:U:N1	56:EQ:163:ARG:CD	2.51	0.74
64:EY:27:LYS:HE3	64:EY:42:LEU:HD12	1.67	0.74
17:DK:26:ASP:O	17:DK:39:ASN:ND2	2.21	0.74
1:2:813:U:C5	56:EQ:163:ARG:CD	2.71	0.73
1:2:1331:A:H61	10:DD:161:GLY:HA2	1.52	0.73
1:2:1585:U:H3	1:2:1611:A:H2	1.37	0.73
8:DB:212:VAL:HG13	8:DB:213:ARG:H	1.53	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:DE:42:LEU:HD22	11:DE:101:LEU:HD21	1.69	0.73
4:5:267:G:H1'	52:EM:50:ARG:NE	1.99	0.73
8:DB:190:PRO:HB2	8:DB:192:VAL:HG13	1.70	0.73
67:Eb:40:LYS:NZ	67:Eb:93:LEU:O	2.21	0.73
1:2:1615:C:OP1	35:Dc:18:ARG:NH2	2.22	0.73
4:5:36:C:N4	4:5:47:C:O2	2.14	0.73
4:5:289:A:O2'	52:EM:93:LYS:O	2.06	0.73
4:5:913:G:N1	40:EA:208:ASP:OD1	2.17	0.73
21:DO:89:THR:O	21:DO:128:LYS:NZ	2.20	0.73
1:2:151:G:N3	13:DG:13:GLN:NE2	2.35	0.73
30:DX:69:ARG:HG3	30:DX:117:ILE:HG12	1.69	0.73
4:5:2537:A:H5'	8:DB:225:VAL:HA	1.71	0.73
26:DT:86:ARG:HG3	26:DT:89:ARG:HB2	1.71	0.73
33:Da:79:ILE:HG12	33:Da:85:ARG:HA	1.69	0.73
34:Db:55:THR:HA	34:Db:63:LEU:HD23	1.69	0.73
75:Ej:5:ILE:HD11	75:Ej:11:PHE:HD1	1.54	0.73
1:2:1022:C:H4'	1:2:1125:A:H61	1.54	0.72
4:5:678:A:N6	4:5:786:G:O2'	2.22	0.72
39:Dg:22:SER:HB3	39:Dg:36:ALA:HB3	1.71	0.72
11:DE:79:ASP:HB3	11:DE:82:TYR:HB2	1.70	0.72
13:DG:67:VAL:HG13	13:DG:68:LEU:H	1.53	0.72
1:2:332:U:OP1	15:DI:31:ARG:NH1	2.21	0.72
4:5:3093:C:O2'	4:5:3095:A:OP2	2.06	0.72
1:2:1403:C:H2'	1:2:1404:C:C6	2.25	0.72
1:2:813:U:C4	56:EQ:163:ARG:NH1	2.57	0.72
1:2:1285:U:C4	1:2:1421:A:N1	2.58	0.72
52:EM:39:ALA:HB3	52:EM:61:ILE:HG22	1.70	0.72
1:2:1788:G:H3'	21:DO:132:ARG:HH12	1.53	0.72
39:Dg:178:VAL:HB	39:Dg:192:PHE:HB2	1.71	0.72
4:5:2207:G:N3	4:5:2208:A:N6	2.37	0.72
27:DU:69:LYS:HG2	36:Dd:44:ARG:HH12	1.54	0.72
33:Da:83:ILE:O	33:Da:85:ARG:N	2.22	0.72
1:2:1109:G:H21	1:2:1138:A:H2	1.37	0.72
9:DC:95:ARG:NH1	9:DC:97:ARG:HD3	2.05	0.72
12:DF:200:ASN:ND2	12:DF:207:THR:OG1	2.23	0.72
57:ER:26:ARG:NH1	58:ES:150:THR:OG1	2.23	0.72
4:5:1685:U:OP1	59:ET:86:LYS:NZ	2.22	0.72
48:EI:170:LYS:HA	48:EI:177:ASP:HA	1.72	0.72
1:2:1674:C:OP1	13:DG:92:ARG:NH1	2.23	0.71
4:5:2537:A:C4	8:DB:226:GLY:HA2	2.24	0.71
1:2:647:G:H22	1:2:687:G:H1	1.38	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:952:A:OP1	66:Ea:18:ARG:NH2	2.23	0.71
12:DF:77:TYR:HE2	12:DF:87:CYS:HB2	1.55	0.71
1:2:68:A:N6	13:DG:132:ARG:O	2.22	0.71
48:EI:36:LEU:HD21	48:EI:69:ARG:HH11	1.55	0.71
4:5:782:G:OP1	55:EP:151:ARG:NH1	2.19	0.71
26:DT:77:ASN:HB3	26:DT:95:ASP:HB3	1.70	0.71
2:3:26:U:H2'	2:3:27:U:C6	2.25	0.71
2:3:142:C:OP1	52:EM:38:ARG:NH2	2.23	0.71
19:DM:131:ASP:HA	19:DM:134:SER:HB2	1.71	0.71
78:Em:1:MET:HE3	78:Em:6:ARG:HG3	1.72	0.71
1:2:1785:U:OP1	21:DO:136:ARG:NH2	2.23	0.71
4:5:94:G:H2'	4:5:95:A:C8	2.26	0.71
52:EM:68:ARG:NH1	52:EM:124:ASP:O	2.23	0.71
66:Ea:10:HIS:O	66:Ea:12:GLN:NE2	2.23	0.71
1:2:1027:A:OP1	1:2:1789:G:O2'	2.09	0.71
49:EJ:21:ILE:HD13	49:EJ:37:LEU:HD11	1.73	0.71
1:2:536:C:OP2	16:DJ:174:ARG:NH2	2.23	0.71
4:5:2537:A:O5'	8:DB:226:GLY:N	2.22	0.71
7:DA:63:ILE:HG12	28:DV:36:VAL:HG22	1.73	0.71
45:EF:44:ILE:HD12	45:EF:180:SER:HB3	1.73	0.71
4:5:1640:C:N4	71:Ef:73:SER:OG	2.24	0.71
4:5:1719:G:OP1	56:EQ:118:HIS:ND1	2.24	0.71
4:5:2539:U:O2'	4:5:2542:U:N3	2.23	0.71
1:2:1060:U:H3'	1:2:1061:A:H5''	1.72	0.70
1:2:1280:C:OP1	36:Dd:44:ARG:NH2	2.22	0.70
4:5:3199:U:N1	47:EH:21:LYS:HE3	2.06	0.70
3:4:5:G:OP1	49:EJ:143:ARG:NH2	2.23	0.70
2:3:52:A:H62	76:Ek:27:ILE:HD13	1.56	0.70
4:5:2156:G:H4'	40:EA:239:ALA:HB3	1.73	0.70
43:ED:22:ARG:NE	43:ED:28:THR:OG1	2.23	0.70
4:5:1722:U:OP2	56:EQ:124:TYR:OH	2.09	0.70
5:6:37:A:H2'	5:6:38:A:O4'	1.91	0.70
9:DC:209:ASN:HD22	9:DC:209:ASN:N	1.90	0.70
11:DE:68:ARG:HE	11:DE:76:VAL:HG11	1.57	0.70
4:5:2438:G:H1	4:5:2511:U:H3	1.39	0.70
12:DF:41:LYS:NZ	12:DF:67:PRO:O	2.25	0.70
23:DQ:32:ASN:O	23:DQ:68:ARG:NH1	2.23	0.70
45:EF:168:ILE:O	45:EF:172:ASN:ND2	2.22	0.70
1:2:1610:G:N7	23:DQ:14:LYS:NZ	2.39	0.70
4:5:2656:U:H5'	79:En:3:ASN:HB3	1.72	0.70
4:5:3199:U:N3	47:EH:21:LYS:HD2	2.06	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:DD:23:GLU:OE1	17:DK:61:TRP:NE1	2.19	0.70
43:ED:51:LEU:N	43:ED:145:PHE:O	2.25	0.70
1:2:1253:U:OP2	19:DM:46:ARG:NH2	2.24	0.70
1:2:1477:G:H2'	1:2:1478:G:C8	2.27	0.70
4:5:2214:A:H2'	4:5:2215:A:C8	2.27	0.70
43:ED:80:SER:HA	43:ED:83:LEU:HD13	1.74	0.70
1:2:1502:G:N7	26:DT:102:ARG:NH2	2.40	0.70
3:4:44:C:H2'	3:4:45:A:H8	1.56	0.70
4:5:1349:U:O2	4:5:1350:G:N2	2.25	0.70
9:DC:35:TRP:HB3	9:DC:46:LYS:HZ1	1.55	0.70
12:DF:91:GLU:OE1	12:DF:95:ASN:ND2	2.25	0.70
12:DF:141:GLY:HA3	12:DF:167:ARG:HG2	1.71	0.70
32:DZ:59:TYR:HE1	32:DZ:100:ILE:HG23	1.57	0.70
41:EB:164:THR:HG22	41:EB:177:HIS:H	1.57	0.70
1:2:1515:A:O2'	1:2:1517:U:OP2	2.09	0.70
4:5:2721:G:OP1	55:EP:180:ARG:NH1	2.24	0.70
24:DR:75:GLU:HA	24:DR:78:ARG:HE	1.55	0.70
1:2:959:U:O2	34:D _b :30:SER:OG	2.08	0.69
4:5:838:A:OP1	80:E _o :5:THR:OG1	2.10	0.69
8:DB:44:GLY:HA3	21:DO:14:PHE:HE1	1.55	0.69
4:5:3041:A:H5''	60:EU:12:ARG:HB2	1.75	0.69
33:Da:10:ARG:HD2	33:Da:12:LYS:HE3	1.74	0.69
1:2:1321:A:H4'	1:2:1322:A:OP1	1.92	0.69
1:2:1727:G:H2'	1:2:1728:A:C8	2.26	0.69
3:4:54:U:O2	3:4:56:A:N6	2.19	0.69
5:6:5:G:H2'	5:6:6:G:C8	2.26	0.69
40:EA:51:ASP:HB2	40:EA:58:LEU:HD13	1.72	0.69
44:EE:52:VAL:HG12	44:EE:67:GLY:HA2	1.74	0.69
1:2:897:C:O2	21:DO:41:ARG:NH2	2.24	0.69
1:2:1796:C:C2	33:Da:5:ARG:HB2	2.28	0.69
6:7:76:C:O2'	79:En:56:PRO:O	2.10	0.69
43:ED:204:VAL:HG13	43:ED:236:LEU:HD21	1.74	0.69
15:DI:57:ALA:HB2	15:DI:177:GLY:HA2	1.75	0.69
25:DS:120:ARG:HD3	25:DS:125:ILE:HD11	1.73	0.69
71:Ef:21:LYS:HE2	71:Ef:33:GLN:HE21	1.58	0.69
1:2:813:U:C6	56:EQ:163:ARG:CD	2.76	0.69
1:2:1213:G:H1	1:2:1450:U:H3	1.37	0.69
1:2:1615:C:O2'	1:2:1616:G:OP2	2.11	0.69
2:3:95:G:OP2	74:Ei:72:ARG:NH1	2.24	0.69
4:5:3140:A:OP2	41:EB:30:LYS:NZ	2.21	0.69
33:Da:83:ILE:HG22	33:Da:84:VAL:H	1.55	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:EA:180:LEU:HD22	80:Eo:18:TYR:HB3	1.73	0.69
46:EG:90:THR:HA	46:EG:214:LEU:HD21	1.75	0.69
62:EW:105:VAL:HG11	62:EW:135:ILE:HD13	1.75	0.69
4:5:316:U:O2'	73:Eh:30:LYS:NZ	2.21	0.69
47:EH:134:ILE:HG12	47:EH:146:LEU:HG	1.75	0.69
4:5:1204:A:H2'	4:5:1205:A:C8	2.28	0.69
4:5:1662:G:H2'	4:5:1663:G:C8	2.27	0.69
21:DO:107:ARG:NH2	33:Da:52:ASP:O	2.26	0.69
1:2:998:A:N6	1:2:1004:U:OP2	2.25	0.68
1:2:1568:C:OP1	25:DS:36:LYS:NZ	2.26	0.68
4:5:361:A:OP1	74:Ei:24:ARG:NH1	2.22	0.68
4:5:2769:U:H2'	4:5:2770:A:H8	1.58	0.68
27:DU:70:THR:O	36:Dd:40:ARG:NH1	2.25	0.68
39:Dg:221:MET:HE3	39:Dg:223:TRP:HZ2	1.58	0.68
50:EK:158:ALA:HA	65:EZ:97:GLU:HA	1.73	0.68
79:En:28:TYR:HB3	79:En:69:VAL:HB	1.74	0.68
1:2:1299:G:C6	1:2:1300:A:N6	2.61	0.68
1:2:1403:C:H5'	24:DR:3:ARG:HH21	1.57	0.68
1:2:1504:G:N3	1:2:1563:C:O2'	2.25	0.68
1:2:1339:C:O2'	1:2:1341:A:N7	2.25	0.68
23:DQ:13:LYS:HG3	23:DQ:14:LYS:H	1.57	0.68
48:EI:145:LYS:HE2	48:EI:167:LEU:HD21	1.75	0.68
1:2:1113:A:OP2	1:2:1750:A:O2'	2.11	0.68
4:5:2569:C:O2'	4:5:2570:A:O4'	2.12	0.68
8:DB:149:GLN:HE21	8:DB:151:LYS:HG2	1.58	0.68
1:2:765:G:O6	16:DJ:149:ARG:NH2	2.27	0.68
4:5:2182:C:OP1	40:EA:193:ARG:NH1	2.22	0.68
8:DB:126:THR:OG1	8:DB:136:ARG:NH1	2.26	0.68
38:Df:133:ALA:O	38:Df:140:TYR:N	2.26	0.68
39:Dg:86:ASP:OD1	39:Dg:88:THR:OG1	2.11	0.68
72:Eg:70:TYR:O	72:Eg:76:GLN:NE2	2.27	0.68
71:Ef:38:LEU:O	71:Ef:58:ARG:NH1	2.27	0.68
4:5:2739:A:O2'	66:Ea:41:ARG:NH2	2.27	0.68
4:5:2949:C:OP1	41:EB:244:ARG:NH2	2.27	0.68
1:2:1754:A:N3	37:De:2:ALA:N	2.42	0.68
4:5:2537:A:H5''	8:DB:228:LEU:HB2	1.76	0.68
25:DS:37:GLY:O	25:DS:99:HIS:NE2	2.24	0.68
1:2:1452:U:OP1	36:Dd:10:HIS:ND1	2.25	0.68
1:2:1672:G:H2'	1:2:1673:G:C8	2.29	0.68
10:DD:168:ILE:HD13	10:DD:189:MET:HB3	1.74	0.68
10:DD:217:ILE:HD11	39:Dg:194:GLY:HA2	1.76	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
67:Eb:30:THR:HG23	67:Eb:91:SER:HB3	1.74	0.68
1:2:1797:A:N6	33:Da:84:VAL:O	2.26	0.67
54:EO:23:ARG:NH1	54:EO:125:GLN:OE1	2.27	0.67
5:6:14:A:H2'	5:6:15:G:H4'	1.76	0.67
1:2:513:U:H2'	1:2:514:G:H8	1.59	0.67
4:5:596:G:H1	4:5:610:G:H5''	1.58	0.67
23:DQ:127:LYS:HA	23:DQ:134:ALA:HA	1.76	0.67
32:DZ:53:GLU:HG2	32:DZ:69:LEU:HD21	1.77	0.67
50:EK:85:LEU:HD11	50:EK:89:TYR:HD2	1.59	0.67
76:Ek:36:ARG:HG3	76:Ek:37:TYR:HD2	1.59	0.67
1:2:478:A:O2'	16:DJ:124:HIS:ND1	2.28	0.67
1:2:1267:G:OP1	1:2:1435:G:N1	2.27	0.67
1:2:1477:G:H2'	1:2:1478:G:H8	1.59	0.67
1:2:1486:G:OP1	27:DU:64:LYS:NZ	2.27	0.67
1:2:1540:G:OP2	25:DS:40:ARG:NH2	2.27	0.67
19:DM:59:LEU:HB3	19:DM:123:VAL:HB	1.75	0.67
46:EG:27:THR:HG21	64:EY:55:LYS:HD2	1.74	0.67
1:2:1170:G:H1	1:2:1469:A:H61	1.42	0.67
4:5:2961:C:H2'	4:5:2962:G:H8	1.58	0.67
8:DB:23:PRO:O	8:DB:27:LYS:NZ	2.22	0.67
41:EB:126:LYS:HB2	41:EB:128:LYS:HG2	1.76	0.67
48:EI:80:SER:HB3	48:EI:147:VAL:HG11	1.76	0.67
53:EN:121[A]:PRO:HA	53:EN:124[A]:LEU:HD12	1.76	0.67
76:Ek:21:ARG:NH1	76:Ek:22:PRO:O	2.28	0.67
1:2:1479:A:OP1	26:DT:57:ARG:NE	2.28	0.67
27:DU:84:MET:HE1	27:DU:86:ILE:HD11	1.77	0.67
41:EB:139:GLN:OE1	41:EB:142:ALA:N	2.26	0.67
53:EN:61[A]:ALA:HA	53:EN:70[A]:PRO:HD2	1.76	0.67
9:DC:220:ASN:OD1	28:DV:25:LYS:NZ	2.28	0.67
23:DQ:31:VAL:N	23:DQ:34:SER:O	2.24	0.67
1:2:1102:G:OP2	30:DX:7:ARG:NH1	2.27	0.67
1:2:1237:G:H2'	1:2:1238:A:H8	1.60	0.67
4:5:1348:U:H5''	42:EC:303:GLY:H	1.59	0.66
4:5:2742:C:H4'	79:En:19:LYS:HA	1.77	0.66
4:5:2896:G:O2'	77:El:100:TYR:O	2.13	0.66
7:DA:55:GLU:HA	7:DA:58:VAL:HG22	1.77	0.66
50:EK:67:ARG:NH1	65:EZ:105:LEU:O	2.28	0.66
4:5:67:A:O2'	4:5:315:C:O2	2.14	0.66
4:5:2271:A:H2'	4:5:2272:A:C8	2.30	0.66
11:DE:98:ASN:ND2	11:DE:116:ASP:OD1	2.29	0.66
39:Dg:109:ASP:OD2	39:Dg:127:ARG:NH1	2.28	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1140:G:C2	1:2:1141:G:N7	2.64	0.66
4:5:282:G:O2'	4:5:283:G:OP2	2.10	0.66
8:DB:69:CYS:SG	21:DO:114:ARG:NH1	2.68	0.66
1:2:1744:A:H2'	1:2:1745:G:C4	2.31	0.66
4:5:734:G:N2	4:5:737:A:OP2	2.27	0.66
4:5:960:C:H41	4:5:2802:A:H5''	1.60	0.66
1:2:751:G:H2'	1:2:752:A:H8	1.60	0.66
1:2:1573:A:H4'	1:2:1574:G:O5'	1.95	0.66
4:5:269:G:OP2	52:EM:44:ARG:NH2	2.29	0.66
3:4:4:U:H2'	3:4:5:G:H8	1.60	0.66
4:5:716:A:N1	4:5:782:G:O2'	2.28	0.66
4:5:1420:A:H5''	42:EC:193:LYS:HE2	1.78	0.66
7:DA:57:LEU:HD21	7:DA:176:LEU:HB3	1.77	0.66
9:DC:226:THR:OG1	9:DC:228:ASN:OD1	2.13	0.66
12:DF:63:GLN:NE2	12:DF:86:GLN:O	2.27	0.66
12:DF:216:GLU:OE1	12:DF:219:ARG:NH2	2.28	0.66
1:2:992:A:O2'	1:2:1785:U:O2	2.12	0.66
1:2:1171:A:H2'	1:2:1172:G:C8	2.30	0.66
4:5:861:G:OP1	80:Eo:17:ARG:NH1	2.29	0.66
15:DI:172:ARG:HE	15:DI:175:GLN:HG3	1.61	0.66
27:DU:96:PRO:HD2	27:DU:99:ILE:HD11	1.77	0.66
52:EM:113:LEU:HB3	52:EM:134:LEU:HD12	1.78	0.66
1:2:1042:G:H22	1:2:1076:A:H2	1.44	0.66
4:5:58:G:H4'	52:EM:155:VAL:HG12	1.77	0.66
33:Da:5:ARG:CG	33:Da:8:ASN:HA	2.25	0.66
3:4:74:C:H2'	3:4:75:G:C8	2.31	0.65
4:5:2428:U:H2'	4:5:2429:U:C6	2.31	0.65
1:2:225:A:H2'	1:2:226:A:C8	2.32	0.65
21:DO:88:GLY:O	21:DO:92:LYS:NZ	2.29	0.65
23:DQ:45:ARG:NH2	23:DQ:49:TYR:OH	2.29	0.65
23:DQ:46:PHE:HA	23:DQ:49:TYR:HB2	1.78	0.65
23:DQ:87:LYS:NZ	23:DQ:117:LEU:O	2.23	0.65
38:Df:123:ASN:ND2	38:Df:144:CYS:SG	2.67	0.65
52:EM:17:ASP:OD2	73:Eh:55:ARG:NH2	2.28	0.65
4:5:1238:G:N1	4:5:1252:A:N6	2.32	0.65
6:7:44:A:H5'	32:DZ:25:LYS:HA	1.79	0.65
57:ER:22:PRO:O	58:ES:146:ASN:ND2	2.30	0.65
2:3:39:G:H1'	2:3:104:A:H61	1.60	0.65
4:5:788:G:H2'	4:5:789:C:C6	2.31	0.65
4:5:2250:G:H21	4:5:2268:C:N4	1.93	0.65
4:5:2585:G:O2'	46:EG:240:ASN:OD1	2.14	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:DE:182:TYR:N	11:DE:226:PHE:O	2.29	0.65
32:DZ:26:LYS:HE3	32:DZ:28:SER:HB2	1.78	0.65
50:EK:25:HIS:C	50:EK:27:ASP:H	2.05	0.65
4:5:915:A:O2'	40:EA:203:ALA:O	2.15	0.65
40:EA:108:PRO:O	40:EA:111:THR:OG1	2.14	0.65
48:EI:66:GLU:OE2	48:EI:69:ARG:NH2	2.27	0.65
4:5:1604:A:OP1	56:EQ:38:ARG:NH1	2.28	0.65
49:EJ:124:GLY:O	49:EJ:125:MET:HE2	1.95	0.65
4:5:904:U:OP2	74:EI:30:GLN:NE2	2.29	0.65
33:Da:37:LYS:O	33:Da:38:ARG:NH1	2.29	0.65
1:2:78:A:H5''	13:DG:159:ARG:HH12	1.62	0.65
1:2:1318:G:H4'	24:DR:67:ARG:HH12	1.62	0.65
1:2:1436:A:OP2	10:DD:27:ARG:NH2	2.29	0.65
1:2:1552:U:O4	1:2:1556:A:N7	2.30	0.65
1:2:1583:A:N7	23:DQ:122:ARG:NH1	2.43	0.65
72:Eg:83:LYS:NZ	74:EI:66:TYR:OH	2.29	0.65
4:5:2675:A:H5''	49:EJ:105:GLY:HA3	1.79	0.65
4:5:2961:C:H2'	4:5:2962:G:C8	2.31	0.65
12:DF:68:ILE:HD13	12:DF:88:PRO:HG3	1.78	0.65
49:EJ:29:ARG:O	49:EJ:33:ALA:N	2.28	0.65
1:2:878:G:O2'	20:DN:108:ASP:OD1	2.14	0.65
1:2:1188:G:O2'	1:2:1430:U:OP1	2.14	0.65
1:2:1396:U:O4	1:2:1402:G:O6	2.15	0.65
2:3:151:C:H5	62:EW:24:LEU:HD11	1.61	0.65
4:5:1741:U:H1'	4:5:1742:A:H2	1.61	0.65
4:5:3234:C:H2'	4:5:3235:A:C8	2.31	0.65
4:5:1635:G:N7	64:EY:17:ARG:NH1	2.44	0.64
39:Dg:40:LYS:HE3	39:Dg:65:SER:HA	1.78	0.64
50:EK:98:ASP:OD1	50:EK:101:ARG:N	2.31	0.64
1:2:1658:G:H22	1:2:1743:U:H3	1.45	0.64
4:5:2879:G:H5''	41:EB:5:LYS:HE3	1.78	0.64
33:Da:42:ARG:O	33:Da:67:THR:N	2.24	0.64
53:EN:27[A]:LEU:O	53:EN:101[A]:ARG:NH1	2.30	0.64
42:EC:53:SER:HB2	42:EC:56:ALA:HB2	1.79	0.64
3:4:119:U:OP2	43:ED:258:LYS:NZ	2.26	0.64
4:5:516:C:O2'	42:EC:342:LYS:O	2.14	0.64
12:DF:143:ARG:HB3	12:DF:167:ARG:HH12	1.62	0.64
74:EI:64:MET:SD	74:EI:67:LEU:HB3	2.37	0.64
1:2:706:A:H61	1:2:731:C:H5''	1.63	0.64
4:5:284:A:OP2	79:En:41:ARG:NH1	2.30	0.64
4:5:2539:U:HO2'	4:5:2542:U:H3	1.44	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:EP:157:PRO:HD3	65:EZ:47:LYS:HG3	1.79	0.64
1:2:1456:C:H5''	1:2:1457:C:H5''	1.80	0.64
3:4:47:C:H5''	43:ED:203:HIS:CE1	2.32	0.64
14:DH:34:LEU:HD13	14:DH:38:LEU:HD12	1.79	0.64
23:DQ:12:LYS:NZ	23:DQ:120:ASP:OD1	2.31	0.64
36:Dd:10:HIS:O	36:Dd:12:ARG:NH1	2.31	0.64
2:3:28:C:H2'	2:3:29:U:C6	2.33	0.64
52:EM:106:VAL:HG21	52:EM:132:VAL:HG21	1.80	0.64
80:Eo:89:MET:HA	80:Eo:92:ALA:HB2	1.79	0.64
1:2:979:A:N3	1:2:1775:U:O2'	2.30	0.64
4:5:665:U:H2'	4:5:666:A:C8	2.33	0.64
4:5:728:G:H22	55:EP:139:ILE:HB	1.63	0.64
8:DB:187:LYS:HB3	8:DB:193:ILE:HD11	1.78	0.64
12:DF:200:ASN:HB3	12:DF:208:SER:HB2	1.80	0.64
29:DW:102:VAL:HB	29:DW:113:HIS:HB3	1.79	0.64
47:EH:28:VAL:HG12	47:EH:33:THR:HG22	1.78	0.64
65:EZ:112:ILE:HB	65:EZ:130:VAL:HG12	1.79	0.64
1:2:1520:U:OP2	26:DT:75:LYS:NZ	2.30	0.64
64:EY:9:LYS:NZ	64:EY:83:THR:O	2.26	0.64
64:EY:12:VAL:HG12	64:EY:22:LYS:HG2	1.79	0.64
1:2:513:U:H2'	1:2:514:G:C8	2.33	0.64
1:2:1291:G:O6	1:2:1324:G:O6	2.16	0.64
4:5:2682:U:H5'	49:EJ:65:ILE:HD11	1.79	0.64
43:ED:258:LYS:O	43:ED:265:TYR:OH	2.16	0.64
48:EI:72:ALA:HB2	48:EI:155:ALA:HB2	1.80	0.64
4:5:505:A:O2'	42:EC:315:LYS:NZ	2.30	0.63
11:DE:100:ARG:NH2	11:DE:121:TYR:O	2.31	0.63
29:DW:27:ILE:HB	29:DW:61:ILE:HB	1.79	0.63
39:Dg:13:LEU:HD21	39:Dg:54:PHE:HD2	1.63	0.63
64:EY:115:LYS:NZ	64:EY:119:GLU:OE2	2.29	0.63
1:2:16:G:H3'	1:2:17:C:C6	2.32	0.63
1:2:1459:C:OP1	25:DS:126:ARG:NH1	2.31	0.63
1:2:1404:C:N4	1:2:1405:G:O6	2.31	0.63
8:DB:199:ASN:HA	8:DB:202:LYS:HE3	1.78	0.63
9:DC:41:LEU:HD21	9:DC:61:LEU:HD23	1.80	0.63
47:EH:124:ARG:NH1	47:EH:164:ILE:O	2.31	0.63
4:5:2698:A:H2'	4:5:2699:G:C8	2.32	0.63
8:DB:35:PRO:HD2	8:DB:38:PHE:HE2	1.63	0.63
14:DH:150:GLN:HB3	14:DH:181:ILE:HG22	1.80	0.63
31:DY:37:LYS:HA	31:DY:40:LEU:HD23	1.79	0.63
46:EG:163:VAL:HG13	46:EG:166:LEU:HD12	1.79	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:911:U:O4	8:DB:7:LYS:NZ	2.27	0.63
3:4:26:C:O2	3:4:57:G:N2	2.31	0.63
4:5:1192:U:OP2	53:EN:49[A]:ARG:NH1	2.31	0.63
4:5:1941:G:H21	4:5:3363:A:H8	1.47	0.63
12:DF:61:TYR:OH	35:Dc:52:ASP:OD2	2.17	0.63
50:EK:138:VAL:HG22	72:Eg:118:ILE:HG23	1.81	0.63
1:2:1483:A:OP2	1:2:1521:G:N2	2.32	0.63
1:2:1594:G:OP2	1:2:1596:C:N4	2.32	0.63
4:5:1535:A:H2'	4:5:1536:A:C8	2.33	0.63
4:5:3017:A:H2'	4:5:3018:A:H8	1.62	0.63
4:5:3164:A:N6	4:5:3289:G:O6	2.32	0.63
72:Eg:38:ARG:HH22	72:Eg:41:LEU:HD13	1.62	0.63
1:2:1235:C:O2	38:Df:138:ARG:NH1	2.32	0.63
9:DC:35:TRP:CE2	9:DC:37:PRO:HB3	2.34	0.63
11:DE:11:ARG:NH1	11:DE:21:ASP:O	2.32	0.63
13:DG:159:ARG:HB3	13:DG:170:THR:HB	1.81	0.63
29:DW:44:HIS:NE2	29:DW:112:ASP:OD2	2.30	0.63
38:Df:121:CYS:HB2	38:Df:132:LEU:HD21	1.81	0.63
40:EA:80:GLU:HG3	80:Eo:66:GLY:HA2	1.80	0.63
42:EC:49:ALA:HB1	42:EC:105:THR:CG2	2.28	0.63
6:7:44:A:OP1	32:DZ:27:TRP:N	2.30	0.63
52:EM:56:LYS:HE2	52:EM:141:ALA:HB1	1.81	0.63
65:EZ:83:PRO:HD2	65:EZ:86:LYS:HD2	1.81	0.63
1:2:78:A:H2'	1:2:79:C:C6	2.33	0.62
1:2:146:U:H2'	1:2:147:A:H8	1.64	0.62
1:2:479:C:O3'	16:DJ:120:LYS:NZ	2.31	0.62
1:2:554:C:H1'	1:2:555:A:H2	1.63	0.62
1:2:1329:A:OP2	10:DD:160:SER:OG	2.15	0.62
4:5:2632:U:OP1	4:5:2758:U:O2'	2.15	0.62
10:DD:67:ASN:ND2	17:DK:90:THR:O	2.30	0.62
10:DD:74:GLN:NE2	10:DD:79:TYR:O	2.31	0.62
13:DG:14:LYS:NZ	13:DG:122:GLU:OE2	2.28	0.62
26:DT:89:ARG:CZ	26:DT:89:ARG:HA	2.28	0.62
28:DV:1:MET:HG2	28:DV:10:GLU:HB2	1.81	0.62
39:Dg:13:LEU:HB2	39:Dg:310:ILE:HB	1.81	0.62
39:Dg:185:GLN:NE2	39:Dg:189:GLU:OE2	2.32	0.62
59:ET:43:VAL:HG12	59:ET:44:GLU:OE1	1.98	0.62
4:5:319:A:O5'	52:EM:50:ARG:NH1	2.25	0.62
39:Dg:235:SER:OG	39:Dg:237:GLN:OE1	2.12	0.62
1:2:482:U:H2'	1:2:483:A:H8	1.64	0.62
4:5:1349:U:OP1	55:EP:39:ARG:NH1	2.32	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
19:DM:28:LEU:HD22	19:DM:136:ILE:HD12	1.82	0.62
36:Dd:30:LEU:HA	36:Dd:39:CYS:HA	1.81	0.62
1:2:813:U:C2	56:EQ:163:ARG:HD2	2.33	0.62
4:5:798:U:O2	50:EK:12:ASN:ND2	2.33	0.62
4:5:1204:A:H2'	4:5:1205:A:H8	1.63	0.62
4:5:1696:U:O2'	4:5:1750:A:N1	2.25	0.62
4:5:2219:G:H2'	4:5:2220:A:H8	1.65	0.62
6:7:43:G:H5'	32:DZ:27:TRP:CD1	2.34	0.62
55:EP:11:LYS:NZ	55:EP:12:ARG:O	2.27	0.62
1:2:15:U:C6	1:2:16:G:H5'	2.34	0.62
30:DX:70:LYS:HB3	30:DX:93:LEU:HD22	1.81	0.62
40:EA:180:LEU:HD21	80:Eo:22:LEU:HB3	1.82	0.62
4:5:1335:U:H5''	45:EF:206:LYS:HB3	1.81	0.62
4:5:1390:G:OP1	69:Ed:104:ASN:ND2	2.31	0.62
4:5:2679:A:N1	5:6:57:G:N2	2.47	0.62
1:2:579:A:N6	1:2:1438:G:O2'	2.30	0.62
2:3:58:G:O6	74:Ei:63:ARG:NH1	2.32	0.62
8:DB:83:LYS:N	8:DB:104:ASP:O	2.32	0.62
39:Dg:48:THR:OG1	39:Dg:50:ASP:OD1	2.17	0.62
39:Dg:153:GLN:OE1	39:Dg:155:ARG:NH1	2.31	0.62
64:EY:9:LYS:HZ1	67:Eb:62:LEU:HD21	1.65	0.62
65:EZ:39:HIS:O	65:EZ:41:HIS:N	2.33	0.62
4:5:371:G:N1	4:5:374:A:OP2	2.31	0.62
4:5:1632:C:OP2	64:EY:48:ARG:NH1	2.32	0.62
13:DG:23:ARG:HH21	13:DG:42:GLY:HA2	1.64	0.62
50:EK:166:ALA:HB1	65:EZ:147:LEU:HD13	1.81	0.62
54:EO:128:ARG:HE	54:EO:136:ILE:HG21	1.64	0.62
1:2:110:U:OP1	1:2:753:A:O2'	2.16	0.62
1:2:629:U:C5	4:5:847:A:C6	2.88	0.62
3:4:64:A:H5'	3:4:65:G:H5''	1.81	0.62
4:5:1281:C:H2'	4:5:1282:G:H8	1.63	0.62
7:DA:108:THR:HG22	7:DA:109:ASN:H	1.65	0.62
1:2:163:G:OP2	1:2:163:G:N2	2.23	0.62
4:5:601:G:N2	4:5:604:A:OP2	2.31	0.62
4:5:1135:G:O2'	4:5:2643:A:N3	2.30	0.62
24:DR:33:ARG:NH1	39:Dg:109:ASP:OD2	2.33	0.62
55:EP:125:ASP:OD1	55:EP:126:GLN:N	2.33	0.62
71:Ef:58:ARG:HG3	71:Ef:59:PRO:HD2	1.82	0.62
1:2:514:G:H2'	1:2:515:A:H8	1.65	0.61
4:5:1177:C:H2'	4:5:1178:G:N2	2.15	0.61
4:5:1640:C:OP2	71:Ef:74:ARG:NH2	2.22	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:2902:G:O2'	4:5:3025:A:N1	2.32	0.61
49:EJ:48:SER:HB2	49:EJ:66:ALA:HB3	1.82	0.61
50:EK:153:ASP:OD2	50:EK:157:ARG:NH2	2.33	0.61
1:2:623:A:H3'	1:2:624:G:H5''	1.82	0.61
2:3:46:G:OP1	76:Ek:18:LYS:NZ	2.29	0.61
4:5:64:G:OP2	52:EM:169:LYS:NZ	2.30	0.61
4:5:2816:G:N2	4:5:2819:U:O2	2.27	0.61
4:5:3043:U:OP2	4:5:3093:C:N4	2.29	0.61
7:DA:76:ILE:HB	7:DA:123:VAL:HG12	1.81	0.61
42:EC:203:ARG:NH2	42:EC:226:GLU:OE2	2.19	0.61
64:EY:23:VAL:HG12	64:EY:45:GLY:HA3	1.82	0.61
1:2:25:C:H5'	1:2:26:A:H5'	1.82	0.61
1:2:1433:G:O2'	36:Dd:24:CYS:SG	2.58	0.61
1:2:1777:G:O6	78:Em:8:LYS:NZ	2.33	0.61
8:DB:82:ARG:NH2	8:DB:188:LEU:O	2.33	0.61
23:DQ:50:GLU:OE1	23:DQ:82:ARG:NH2	2.32	0.61
52:EM:99:ARG:HD2	52:EM:118:SER:HB2	1.81	0.61
1:2:628:G:N2	4:5:847:A:H62	1.98	0.61
9:DC:203:LYS:HD3	9:DC:206:THR:CG2	2.30	0.61
10:DD:40:ARG:HH21	27:DU:110:PRO:HD3	1.66	0.61
14:DH:113:PRO:HG2	14:DH:116:ARG:HD3	1.82	0.61
40:EA:177:LYS:NZ	80:Eo:30:GLU:OE2	2.28	0.61
1:2:1615:C:H5''	12:DF:81:ARG:HH11	1.66	0.61
12:DF:27:THR:HG23	23:DQ:28:LEU:HB2	1.81	0.61
26:DT:108:LEU:HD23	26:DT:111:ILE:HD11	1.83	0.61
1:2:813:U:C2	1:2:813:U:C1'	2.82	0.61
1:2:1691:A:H2'	1:2:1692:G:H8	1.66	0.61
4:5:3017:A:H2'	4:5:3018:A:C8	2.35	0.61
40:EA:140:ASN:OD1	40:EA:147:ARG:NH1	2.29	0.61
49:EJ:110:ILE:HD11	49:EJ:122:ILE:HG22	1.81	0.61
1:2:435:C:H5''	30:DX:50:LYS:HE2	1.81	0.61
1:2:872:G:H21	1:2:1047:G:H4'	1.66	0.61
1:2:891:A:H2'	1:2:892:A:C8	2.36	0.61
2:3:27:U:H2'	2:3:28:C:C6	2.36	0.61
4:5:2308:G:O2'	4:5:2311:U:OP2	2.19	0.61
44:EE:166:LYS:N	44:EE:169:ASP:OD2	2.30	0.61
47:EH:112:ILE:HD11	47:EH:134:ILE:HD13	1.82	0.61
1:2:680:U:O4	1:2:682:C:N4	2.34	0.61
4:5:832:G:O2'	4:5:1865:A:N3	2.34	0.61
8:DB:219:LYS:NZ	80:Eo:90:VAL:O	2.34	0.61
22:DP:20:VAL:HG13	22:DP:24:LYS:HE2	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:EO:168:LEU:HD12	54:EO:172:GLN:HB3	1.82	0.61
4:5:2250:G:H21	4:5:2268:C:H42	1.49	0.61
4:5:2427:U:H2'	4:5:2428:U:C6	2.36	0.61
4:5:3051:U:O2'	61:EV:16:GLY:O	2.19	0.61
4:5:3199:U:C6	47:EH:21:LYS:HE2	2.29	0.61
1:2:1778:G:O6	78:Em:8:LYS:NZ	2.25	0.61
4:5:1747:U:O2'	75:Ej:4:GLU:OE2	2.12	0.61
11:DE:18:TRP:NE1	11:DE:41:SER:O	2.33	0.61
12:DF:139:ASN:ND2	12:DF:202:ALA:O	2.34	0.61
13:DG:180:THR:HG22	13:DG:182:GLN:H	1.65	0.61
33:Da:83:ILE:C	33:Da:85:ARG:H	2.08	0.61
71:Ef:41:ARG:O	71:Ef:43:LYS:NZ	2.34	0.61
4:5:2448:A:N1	4:5:2501:A:N6	2.48	0.60
4:5:2515:U:OP2	4:5:2587:G:N2	2.32	0.60
4:5:2536:A:H2'	8:DB:226:GLY:N	2.16	0.60
30:DX:132:LEU:HA	30:DX:135:LEU:HD13	1.82	0.60
43:ED:95:TRP:CD1	43:ED:158:ARG:HA	2.36	0.60
60:EU:38:ALA:HB3	60:EU:59:MET:HB2	1.83	0.60
76:Ek:21:ARG:HH12	76:Ek:24:PRO:HD3	1.66	0.60
1:2:1081:A:O2'	1:2:1083:G:N7	2.32	0.60
1:2:1501:C:OP2	26:DT:102:ARG:NH1	2.28	0.60
1:2:1609:U:H5''	23:DQ:75:VAL:HG22	1.83	0.60
1:2:1613:U:H2'	1:2:1614:A:H5''	1.83	0.60
1:2:1755:A:H5''	30:DX:63:GLN:CD	2.27	0.60
2:3:49:G:OP2	72:Eg:48:ARG:NH2	2.34	0.60
13:DG:159:ARG:HG2	13:DG:172:ALA:HB2	1.83	0.60
27:DU:28:SER:HB2	27:DU:112:VAL:HA	1.82	0.60
1:2:58:U:O2'	1:2:451:A:N3	2.33	0.60
1:2:821:U:H3	1:2:852:C:H42	0.74	0.60
39:Dg:255:ALA:HB2	39:Dg:292:LEU:HD23	1.82	0.60
56:EQ:17:VAL:HG11	56:EQ:52:LYS:HE3	1.83	0.60
4:5:913:G:OP2	40:EA:9:ARG:NH2	2.33	0.60
4:5:1637:U:O2'	64:EY:79:HIS:ND1	2.33	0.60
17:DK:27:PHE:HE1	17:DK:43:ILE:HD13	1.66	0.60
19:DM:89:ILE:HG13	19:DM:90:LYS:H	1.65	0.60
23:DQ:12:LYS:HE3	23:DQ:119:ALA:HB1	1.82	0.60
45:EF:55:TYR:CZ	45:EF:189:ILE:HD11	2.36	0.60
52:EM:36:ILE:HG23	52:EM:64:VAL:HG22	1.83	0.60
59:ET:56:VAL:HG22	59:ET:65:VAL:HG22	1.84	0.60
64:EY:71:PHE:HA	64:EY:111:LYS:HE2	1.83	0.60
1:2:386:G:OP2	15:DI:25:ARG:NH2	2.35	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1654:G:H8	1:2:1654:G:O5'	1.83	0.60
28:DV:67:ASP:OD2	34:Db:2:VAL:N	2.34	0.60
41:EB:214:MET:HE2	41:EB:281:LYS:HE2	1.83	0.60
42:EC:9:HIS:HA	42:EC:15:ALA:HA	1.82	0.60
1:2:813:U:C6	56:EQ:163:ARG:NH2	2.69	0.60
1:2:1298:U:O2'	1:2:1299:G:OP1	2.19	0.60
1:2:1451:C:OP1	36:Dd:12:ARG:NH1	2.35	0.60
3:4:28:C:OP1	49:EJ:141:ARG:NH1	2.35	0.60
4:5:2669:U:H2'	4:5:2670:G:H8	1.65	0.60
4:5:3253:G:H2'	4:5:3254:G:C8	2.36	0.60
8:DB:103:MET:HB3	8:DB:215:VAL:HG12	1.84	0.60
14:DH:39:ARG:NH2	56:EQ:186:LYS:O	2.34	0.60
14:DH:60:ILE:HB	14:DH:92:PHE:HA	1.82	0.60
16:DJ:40:LYS:HA	16:DJ:43:TYR:HB2	1.84	0.60
26:DT:45:MET:SD	26:DT:46:PRO:HD2	2.41	0.60
1:2:85:A:N3	1:2:148:A:O2'	2.33	0.60
1:2:1256:A:H4'	1:2:1257:U:O5'	2.01	0.60
4:5:296:A:OP1	73:Eh:86:LYS:NZ	2.35	0.60
25:DS:126:ARG:HB2	25:DS:133:VAL:HG12	1.83	0.60
28:DV:62:ARG:NH2	29:DW:20:THR:OG1	2.35	0.60
50:EK:62:THR:O	50:EK:64:LYS:N	2.35	0.60
1:2:625:C:H2'	1:2:626:U:C6	2.37	0.60
1:2:688:G:OP1	29:DW:43:LYS:NZ	2.35	0.60
1:2:1487:A:OP2	10:DD:8:LYS:NZ	2.35	0.60
1:2:1550:A:OP1	22:DP:42:ARG:NH2	2.35	0.60
2:3:71:A:O2'	63:EX:52:ARG:NH2	2.34	0.60
4:5:1660:U:H2'	4:5:1661:C:C6	2.37	0.60
23:DQ:93:HIS:HA	23:DQ:97:VAL:HB	1.84	0.60
60:EU:54:LEU:HD11	60:EU:119:GLY:HA3	1.83	0.60
1:2:762:A:OP1	16:DJ:79:ARG:NH1	2.30	0.60
1:2:1199:G:N1	36:Dd:30:LEU:O	2.27	0.60
4:5:283:G:N2	4:5:285:A:OP1	2.35	0.60
4:5:745:A:OP1	55:EP:66:ARG:NH2	2.34	0.60
4:5:2357:A:H61	4:5:2984:C:H5	1.49	0.60
7:DA:89:PHE:HD1	7:DA:178:ALA:HB2	1.66	0.60
8:DB:70:LEU:HD23	8:DB:82:ARG:HE	1.67	0.60
13:DG:5:ILE:HD12	13:DG:16:PHE:HD2	1.66	0.60
42:EC:11:LEU:HD21	42:EC:156:LEU:HB2	1.83	0.60
42:EC:193:LYS:HA	42:EC:198:ARG:HA	1.83	0.60
1:2:751:G:H2'	1:2:752:A:C8	2.37	0.60
9:DC:45:VAL:HG21	9:DC:68:ILE:HG23	1.81	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
72:Eg:31:LEU:HB3	72:Eg:44:ILE:HG12	1.84	0.60
1:2:629:U:H5	4:5:847:A:C6	2.19	0.59
1:2:1394:G:H2'	1:2:1395:G:C8	2.37	0.59
1:2:1789:G:N7	21:DO:132:ARG:NH2	2.50	0.59
4:5:1749:G:OP2	75:Ej:42:LYS:NZ	2.33	0.59
4:5:1800:A:H2'	4:5:1801:A:C8	2.36	0.59
19:DM:49:THR:O	19:DM:53:THR:OG1	2.18	0.59
40:EA:80:GLU:HB2	40:EA:170:ALA:HA	1.82	0.59
1:2:477:A:H2'	1:2:478:A:H8	1.65	0.59
1:2:649:U:O2	14:DH:147:ASN:ND2	2.34	0.59
1:2:963:A:OP2	20:DN:70:LYS:NZ	2.30	0.59
1:2:1395:G:H2'	1:2:1396:U:C6	2.37	0.59
2:3:9:A:H2'	2:3:10:A:C8	2.37	0.59
4:5:656:C:H2'	4:5:657:A:H8	1.66	0.59
4:5:1565:U:O2	4:5:1576:A:N6	2.34	0.59
46:EG:67:ILE:HD12	46:EG:237:ILE:HD11	1.84	0.59
1:2:233:C:O2'	1:2:234:G:N2	2.32	0.59
4:5:300:G:H2'	4:5:301:G:H8	1.68	0.59
4:5:3349:G:H1	4:5:3358:U:H3	1.49	0.59
7:DA:120:LEU:HD13	7:DA:142:PRO:HB2	1.84	0.59
1:2:1743:U:H2'	1:2:1744:A:H5'	1.84	0.59
4:5:805:C:OP1	42:EC:98:ARG:NH2	2.28	0.59
4:5:1233:C:N4	4:5:1234:G:O6	2.35	0.59
12:DF:81:ARG:HE	12:DF:82:PHE:HE2	1.50	0.59
28:DV:64:GLU:OE1	34:Db:3:LEU:HD13	2.02	0.59
40:EA:225:ILE:HD11	40:EA:238:ILE:HG13	1.84	0.59
1:2:1482:C:N4	1:2:1524:A:OP2	2.24	0.59
3:4:44:C:H2'	3:4:45:A:C8	2.38	0.59
4:5:299:G:C4	73:Eh:31:GLY:HA3	2.37	0.59
4:5:628:U:H2'	4:5:629:A:C8	2.38	0.59
4:5:823:G:H4'	40:EA:194:ASN:CG	2.27	0.59
4:5:2358:A:H2'	4:5:2359:A:C8	2.37	0.59
4:5:3192:G:H5''	53:EN:176[A]:LYS:HE2	1.84	0.59
6:7:29:C:H2'	6:7:30:G:C8	2.37	0.59
9:DC:139:ILE:HD11	9:DC:218:ILE:HD11	1.85	0.59
11:DE:42:LEU:HB3	11:DE:84:ALA:HB3	1.83	0.59
13:DG:159:ARG:NE	13:DG:170:THR:OG1	2.30	0.59
14:DH:133:THR:O	14:DH:134:GLU:HG2	2.02	0.59
65:EZ:105:LEU:HD21	65:EZ:128:ARG:HG3	1.84	0.59
80:Eo:46:THR:OG1	80:Eo:57:CYS:SG	2.60	0.59
1:2:1:U:O4	16:DJ:53:ARG:NH1	2.34	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:15:U:O2'	1:2:608:U:OP2	2.15	0.59
1:2:70:C:OP2	13:DG:164:LYS:NZ	2.31	0.59
1:2:895:G:H2'	1:2:896:U:C6	2.38	0.59
1:2:1146:G:H2'	1:2:1147:A:C8	2.36	0.59
1:2:1402:G:O2'	1:2:1403:C:OP1	2.19	0.59
4:5:2769:U:H2'	4:5:2770:A:C8	2.37	0.59
4:5:3273:C:OP2	44:EE:78:ARG:NE	2.35	0.59
9:DC:80:VAL:HG22	9:DC:102:VAL:HG22	1.83	0.59
27:DU:46:GLU:OE1	27:DU:52:LYS:NZ	2.36	0.59
48:EI:49:CYS:HB3	48:EI:168:SER:HB3	1.84	0.59
50:EK:159:VAL:HG22	65:EZ:124:ILE:HD11	1.84	0.59
1:2:926:A:H2'	1:2:927:C:C6	2.38	0.59
2:3:126:A:O2'	2:3:129:C:N4	2.35	0.59
4:5:86:G:O2'	4:5:98:G:O6	2.21	0.59
4:5:271:C:O2	73:Eh:82:ARG:NH2	2.33	0.59
56:EQ:13:SER:OG	56:EQ:38:ARG:NH2	2.35	0.59
1:2:1216:C:O2	1:2:1446:A:N6	2.36	0.59
1:2:1218:G:N2	1:2:1444:A:OP2	2.36	0.59
4:5:155:G:H5''	4:5:156:G:C8	2.37	0.59
4:5:1800:A:H2'	4:5:1801:A:H8	1.67	0.59
4:5:2424:U:H2'	4:5:2425:A:C8	2.37	0.59
15:DI:12:SER:HB3	15:DI:18:ARG:HE	1.67	0.59
16:DJ:36:LEU:HD11	16:DJ:105:LEU:HD11	1.84	0.59
39:Dg:147:HIS:ND1	39:Dg:149:ASP:O	2.34	0.59
54:EO:108:ASP:OD1	54:EO:109:ALA:N	2.36	0.59
70:Ee:58:GLU:OE2	70:Ee:61:GLY:N	2.36	0.59
1:2:1025:A:H5'	1:2:1774:G:H4'	1.85	0.59
1:2:1483:A:N3	1:2:1607:G:O2'	2.32	0.59
4:5:53:G:OP2	74:Et:48:ASN:ND2	2.31	0.59
4:5:1111:U:H2'	4:5:1112:U:C6	2.38	0.59
7:DA:88:LYS:NZ	24:DR:82:ASP:O	2.32	0.59
42:EC:3:ARG:HB3	42:EC:22:LEU:HB2	1.84	0.59
67:Eb:15:ALA:O	67:Eb:18:ILE:HG22	2.03	0.59
70:Ee:14:LEU:HD21	70:Ee:31:LYS:HB2	1.85	0.59
79:En:10:THR:H	79:En:23:HIS:CD2	2.21	0.59
1:2:119:A:H1'	1:2:397:A:C4	2.38	0.59
1:2:636:A:H5''	29:DW:31:SER:HB3	1.84	0.59
4:5:1633:A:OP1	64:EY:48:ARG:NH2	2.36	0.59
12:DF:96:SER:HB3	12:DF:176:THR:HG21	1.84	0.59
41:EB:142:ALA:O	41:EB:146:ARG:NH1	2.36	0.59
45:EF:88:ARG:NH1	45:EF:108:LEU:O	2.33	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:EK:24:VAL:HG22	52:EM:199:LEU:HB2	1.85	0.59
1:2:284:G:N7	13:DG:188:ARG:NH1	2.50	0.58
1:2:496:G:H2'	1:2:497:G:C8	2.38	0.58
1:2:1558:U:OP2	1:2:1559:A:O2'	2.13	0.58
9:DC:87:GLN:HG2	9:DC:96:THR:HG22	1.85	0.58
12:DF:82:PHE:CZ	35:Dc:47:PRO:HB2	2.38	0.58
50:EK:85:LEU:HD11	50:EK:89:TYR:CD2	2.36	0.58
54:EO:118:GLN:NE2	54:EO:147:GLU:OE1	2.35	0.58
1:2:472:U:O2'	1:2:769:A:N3	2.33	0.58
4:5:2139:A:HO2'	74:EI:2:GLY:N	2.01	0.58
6:7:16:C:OP2	6:7:17:C:N4	2.36	0.58
19:DM:36:LEU:HB3	19:DM:41:LEU:HD12	1.84	0.58
60:EU:23:MET:HE3	60:EU:100:GLY:HA3	1.85	0.58
67:Eb:24:THR:HB	67:Eb:29:SER:HB2	1.84	0.58
80:Eo:30:GLU:HA	80:Eo:33:GLN:HG2	1.85	0.58
1:2:13:C:O2	1:2:1086:A:O2'	2.21	0.58
1:2:123:G:OP1	11:DE:77:ARG:NH2	2.30	0.58
1:2:1273:G:H4'	1:2:1274:C:H3'	1.84	0.58
1:2:1471:A:H2	1:2:1474:G:N3	2.01	0.58
9:DC:140:ARG:HB3	9:DC:221:THR:HB	1.84	0.58
39:Dg:129:LYS:HA	39:Dg:150:TRP:HA	1.84	0.58
43:ED:148:ILE:HG22	43:ED:151:GLN:HB3	1.85	0.58
43:ED:198:TYR:HA	43:ED:202:GLY:H	1.69	0.58
62:EW:82:LEU:HD12	62:EW:126:LEU:HD21	1.85	0.58
72:Eg:34:GLN:HG3	72:Eg:38:ARG:HH21	1.68	0.58
4:5:1787:G:H2'	4:5:1788:A:C8	2.38	0.58
63:EX:54:ASP:OD1	63:EX:110:HIS:N	2.36	0.58
1:2:435:C:H5''	30:DX:50:LYS:HG3	1.85	0.58
1:2:1360:A:OP1	26:DT:134:ARG:NH1	2.34	0.58
4:5:1388:G:HO2'	44:EE:2:THR:N	2.00	0.58
67:Eb:27:TYR:CE1	67:Eb:52:ARG:HD2	2.38	0.58
75:Ej:42:LYS:HG2	75:Ej:55:VAL:HG22	1.84	0.58
1:2:851:U:OP1	56:EQ:165:LYS:NZ	2.35	0.58
17:DK:77:ARG:HE	17:DK:84:GLU:HA	1.68	0.58
35:Dc:12:VAL:HG23	35:Dc:28:VAL:HG13	1.85	0.58
35:Dc:21:SER:OG	35:Dc:22:ARG:NH1	2.36	0.58
1:2:1553:G:N1	1:2:1556:A:OP2	2.36	0.58
22:DP:110:GLU:HG2	25:DS:119:ILE:HD11	1.84	0.58
46:EG:94:PHE:HB3	46:EG:189:LEU:HD21	1.86	0.58
57:ER:71:LYS:HE3	57:ER:73:LYS:HD2	1.85	0.58
1:2:867:G:OP2	20:DN:3:ARG:NH2	2.25	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1172:G:O2'	1:2:1543:A:O2'	2.18	0.58
4:5:147:U:H3	46:EG:159:PRO:HD2	1.69	0.58
4:5:216:G:OP1	63:EX:16:ARG:NH1	2.36	0.58
4:5:2229:A:H2'	4:5:2230:A:C8	2.39	0.58
4:5:2572:U:H1'	4:5:2573:C:H2'	1.86	0.58
8:DB:61:LEU:HD13	8:DB:96:LEU:HD22	1.85	0.58
8:DB:111:ARG:HD3	33:Da:68:TYR:HB2	1.84	0.58
10:DD:224:ASP:OD1	39:Dg:228:LYS:NZ	2.34	0.58
11:DE:19:LEU:HD11	11:DE:108:ARG:HD2	1.86	0.58
19:DM:36:LEU:HD13	19:DM:102:GLY:HA3	1.86	0.58
20:DN:30:SER:OG	20:DN:66:ILE:O	2.20	0.58
21:DO:81:VAL:HB	21:DO:115:ILE:HG13	1.84	0.58
26:DT:37:VAL:HG12	26:DT:39:THR:H	1.67	0.58
29:DW:81:VAL:O	29:DW:122:SER:OG	2.21	0.58
50:EK:106:GLN:HA	50:EK:109:PHE:HB3	1.86	0.58
57:ER:8:GLN:HB3	57:ER:64:ILE:HD11	1.86	0.58
65:EZ:75:LEU:HD23	65:EZ:137:LYS:HE2	1.84	0.58
1:2:629:U:H6	4:5:847:A:C2	2.21	0.58
1:2:1402:G:H2'	1:2:1403:C:C6	2.38	0.58
4:5:1278:C:O2'	4:5:1279:A:H8	1.86	0.58
4:5:2909:G:O2'	77:El:114:LYS:NZ	2.36	0.58
6:7:43:G:H21	32:DZ:25:LYS:NZ	2.02	0.58
7:DA:198:MET:HG2	7:DA:200:ASP:H	1.69	0.58
8:DB:108:ASP:OD1	8:DB:109:LYS:N	2.37	0.58
24:DR:86:PRO:HB2	24:DR:88:VAL:HG12	1.84	0.58
25:DS:94:ASP:OD2	25:DS:98:TYR:OH	2.19	0.58
26:DT:97:SER:O	26:DT:101:ASN:ND2	2.36	0.58
63:EX:55:GLU:HA	63:EX:69:LYS:HA	1.86	0.58
1:2:1344:A:O2'	1:2:1345:A:O5'	2.22	0.58
4:5:1120:C:H2'	4:5:1121:A:H8	1.69	0.58
4:5:1435:G:H5''	4:5:1438:C:H5	1.67	0.58
4:5:1808:G:O2'	4:5:2560:U:O4	2.20	0.58
11:DE:153:ASN:OD1	13:DG:215:ARG:NH1	2.37	0.58
15:DI:195:ARG:HH12	18:DL:11:ARG:HA	1.68	0.58
31:DY:27:VAL:HG11	31:DY:35:VAL:HG21	1.85	0.58
41:EB:123:TYR:CE2	41:EB:124:LYS:HG2	2.39	0.58
45:EF:46:GLU:O	45:EF:50:ALA:N	2.33	0.58
1:2:1552:U:N3	1:2:1556:A:N6	2.31	0.57
4:5:341:G:C6	42:EC:194:TYR:HE2	2.22	0.57
18:DL:27:THR:O	18:DL:30:ARG:NH1	2.36	0.57
40:EA:113:VAL:HG13	40:EA:134:VAL:HB	1.85	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:EM:35:VAL:HG12	52:EM:36:ILE:HG13	1.85	0.57
64:EY:12:VAL:HG23	64:EY:81:LEU:HB3	1.86	0.57
70:Ee:16:TYR:OH	70:Ee:89:LEU:O	2.17	0.57
1:2:29:U:H2'	1:2:30:G:H8	1.68	0.57
1:2:813:U:C6	1:2:813:U:C1'	2.84	0.57
4:5:2180:C:O2'	40:EA:174:ARG:NH2	2.37	0.57
6:7:71:G:H2'	6:7:72:C:C6	2.39	0.57
14:DH:39:ARG:HE	56:EQ:186:LYS:HA	1.69	0.57
16:DJ:110:GLN:HE22	16:DJ:126:ARG:HB2	1.69	0.57
39:Dg:154:VAL:O	39:Dg:155:ARG:NH1	2.33	0.57
53:EN:143[A]:THR:OG1	53:EN:150[A]:GLU:OE1	2.17	0.57
78:Em:14:LYS:O	78:Em:18:ARG:NE	2.37	0.57
1:2:190:C:C4	1:2:191:C:H1'	2.40	0.57
4:5:656:C:H2'	4:5:657:A:C8	2.38	0.57
4:5:1278:C:O2'	4:5:1279:A:O5'	2.19	0.57
53:EN:110[A]:PRO:O	53:EN:112[A]:TYR:N	2.36	0.57
1:2:17:C:H2'	1:2:18:C:C6	2.40	0.57
1:2:947:U:H2'	1:2:948:G:C8	2.38	0.57
1:2:1183:A:N3	1:2:1210:C:O2'	2.35	0.57
1:2:1202:A:H1'	1:2:1207:C:H42	1.68	0.57
4:5:2748:A:H2'	4:5:2749:A:C8	2.38	0.57
4:5:3296:A:H2'	4:5:3297:A:C8	2.39	0.57
12:DF:148:ARG:HH21	35:Dc:22:ARG:NH1	2.02	0.57
30:DX:41:SER:O	30:DX:43:PHE:N	2.38	0.57
46:EG:158:ASP:HB3	46:EG:159:PRO:HD3	1.85	0.57
50:EK:122:LYS:HD2	50:EK:145:PHE:HE1	1.69	0.57
55:EP:19:PRO:HD3	55:EP:53:PHE:CD1	2.39	0.57
56:EQ:21:LYS:O	56:EQ:53:LYS:HE2	2.04	0.57
64:EY:68:ILE:HD11	64:EY:118:PHE:HB3	1.85	0.57
1:2:924:A:H2'	1:2:925:G:C8	2.39	0.57
1:2:1323:C:H2'	1:2:1324:G:O4'	2.04	0.57
1:2:1396:U:H3	1:2:1402:G:H1	1.52	0.57
4:5:75:G:H5''	50:EK:58:VAL:CG1	2.35	0.57
4:5:1244:G:HO2'	4:5:1272:A:HO2'	1.40	0.57
11:DE:100:ARG:HB2	11:DE:114:ILE:HD13	1.86	0.57
79:En:21:THR:HB	79:En:76:LYS:HD3	1.87	0.57
1:2:142:G:H5''	13:DG:139:ASN:HD21	1.69	0.57
1:2:1328:G:OP1	10:DD:160:SER:N	2.27	0.57
1:2:1357:A:H2'	1:2:1358:G:H8	1.69	0.57
1:2:1776:A:H2'	1:2:1777:G:C8	2.39	0.57
4:5:66:A:OP2	50:EK:100:ARG:NH1	2.37	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:639:C:OP1	69:Ed:21:HIS:NE2	2.37	0.57
4:5:2140:A:O2'	74:Ei:3:LYS:NZ	2.37	0.57
4:5:2417:U:H2'	4:5:2418:U:C6	2.39	0.57
6:7:76:C:N4	79:En:40:LYS:HD2	2.18	0.57
10:DD:75:LYS:HZ3	17:DK:20:VAL:HG23	1.68	0.57
17:DK:20:VAL:HG12	17:DK:67:THR:HA	1.85	0.57
29:DW:103:ILE:HD11	29:DW:129:VAL:HG12	1.86	0.57
41:EB:215:ILE:HD12	41:EB:338:LEU:HD12	1.87	0.57
50:EK:79:GLU:HG2	50:EK:103:ASN:HD21	1.69	0.57
1:2:404:G:H2'	1:2:405:C:H6	1.70	0.57
1:2:474:A:H5''	16:DJ:144:PRO:HD2	1.87	0.57
1:2:1580:C:H4'	23:DQ:137:ARG:HB2	1.85	0.57
1:2:1603:U:H2'	1:2:1604:U:C6	2.39	0.57
4:5:358:G:N2	4:5:361:A:OP2	2.29	0.57
4:5:1912:A:H2	4:5:2123:G:C8	2.23	0.57
4:5:2799:C:H5'	4:5:2801:G:H5'	1.87	0.57
10:DD:11:LEU:HD22	27:DU:86:ILE:HD12	1.86	0.57
37:De:43:ARG:NH1	37:De:56:MET:SD	2.78	0.57
39:Dg:11:GLY:HA2	39:Dg:52:GLN:HA	1.87	0.57
42:EC:99:MET:SD	42:EC:102:PRO:HA	2.45	0.57
4:5:2882:C:H2'	4:5:2883:U:C6	2.39	0.57
23:DQ:11:GLY:HA3	23:DQ:83:GLN:HB2	1.86	0.57
33:Da:78:ALA:HA	33:Da:83:ILE:HD12	1.87	0.57
41:EB:208:VAL:O	41:EB:340:LYS:NZ	2.28	0.57
49:EJ:30:LEU:HA	49:EJ:33:ALA:HB3	1.87	0.57
50:EK:89:TYR:O	50:EK:92:THR:OG1	2.19	0.57
52:EM:60:VAL:HB	52:EM:134:LEU:HB2	1.87	0.57
1:2:61:A:O2'	1:2:62:A:O4'	2.22	0.57
1:2:1400:A:H5'	24:DR:60:ARG:HH12	1.68	0.57
1:2:1653:C:H2'	1:2:1654:G:O4'	2.05	0.57
4:5:2358:A:H2'	4:5:2359:A:H8	1.69	0.57
4:5:3069:U:OP2	56:EQ:62:ARG:NH2	2.30	0.57
7:DA:70:PRO:HB2	7:DA:94:GLY:HA3	1.86	0.57
46:EG:170:CYS:O	46:EG:175:VAL:N	2.38	0.57
39:Dg:59:ARG:NH2	39:Dg:94:VAL:O	2.38	0.57
1:2:1:U:O2	16:DJ:54:ARG:NH2	2.38	0.56
1:2:354:C:H5''	15:DI:16:ALA:HB2	1.86	0.56
1:2:841:U:H2'	1:2:842:C:C6	2.40	0.56
1:2:1400:A:C5'	24:DR:60:ARG:HH12	2.18	0.56
3:4:112:G:H2'	3:4:113:C:C6	2.40	0.56
4:5:1594:A:OP1	71:Ef:60:ARG:NH1	2.38	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:1847:C:OP1	4:5:1850:C:N4	2.27	0.56
10:DD:50:ILE:HD11	10:DD:86:LEU:HD23	1.86	0.56
13:DG:2:LYS:HB3	13:DG:108:VAL:HG22	1.86	0.56
41:EB:41:VAL:HA	41:EB:185:GLY:HA3	1.86	0.56
1:2:592:A:O2'	1:2:596:C:OP1	2.23	0.56
1:2:1365:C:OP1	23:DQ:66:ARG:NH2	2.35	0.56
1:2:1788:G:H3'	21:DO:132:ARG:NH1	2.20	0.56
4:5:1115:U:OP1	65:EZ:23:GLY:N	2.33	0.56
4:5:2182:C:H5''	40:EA:193:ARG:CZ	2.35	0.56
4:5:2891:A:O2'	4:5:2934:A:N3	2.35	0.56
6:7:56:U:N3	6:7:59:A:OP2	2.35	0.56
20:DN:23:PRO:HD2	20:DN:26:PHE:HB2	1.86	0.56
20:DN:56:ASP:OD1	20:DN:57:ALA:N	2.38	0.56
35:Dc:27:GLN:NE2	35:Dc:43:ASN:OD1	2.26	0.56
40:EA:142:ASP:O	40:EA:143:GLU:HG3	2.05	0.56
63:EX:39:LEU:HD11	63:EX:108:LYS:HA	1.85	0.56
1:2:78:A:H4'	13:DG:172:ALA:HB3	1.88	0.56
1:2:190:C:N4	1:2:191:C:O2	2.37	0.56
1:2:580:A:O2'	1:2:582:U:OP1	2.24	0.56
1:2:939:A:H2'	1:2:940:A:C8	2.40	0.56
2:3:8:C:H2'	2:3:9:A:H8	1.71	0.56
4:5:663:U:H2'	4:5:664:C:C6	2.40	0.56
8:DB:86:LEU:HB3	8:DB:98:THR:HG22	1.87	0.56
16:DJ:110:GLN:HE22	16:DJ:126:ARG:HD3	1.70	0.56
42:EC:106:TRP:O	52:EM:203:ARG:NH2	2.33	0.56
43:ED:95:TRP:CZ3	43:ED:199:ILE:HD13	2.40	0.56
47:EH:57:VAL:HG22	47:EH:68:LEU:HD22	1.87	0.56
51:EL:55:ARG:NH1	51:EL:76:ALA:O	2.36	0.56
66:Ea:32:LEU:O	66:Ea:40:ARG:NH1	2.38	0.56
4:5:1349:U:OP2	55:EP:38:ARG:NH2	2.37	0.56
4:5:1622:A:H2'	4:5:1623:U:C6	2.41	0.56
13:DG:157:VAL:HG22	13:DG:175:ILE:HD11	1.88	0.56
15:DI:62:THR:HG22	15:DI:77:ARG:HA	1.87	0.56
40:EA:113:VAL:O	40:EA:134:VAL:N	2.36	0.56
41:EB:211:GLN:NE2	41:EB:212:ASN:OD1	2.39	0.56
57:ER:132:THR:HG23	57:ER:144:LEU:HD13	1.87	0.56
1:2:337:G:O2'	15:DI:10:LYS:NZ	2.27	0.56
4:5:744:C:N3	55:EP:141:ARG:NH2	2.46	0.56
4:5:946:C:H2'	4:5:947:U:C6	2.40	0.56
4:5:1229:C:H2'	4:5:1230:G:C8	2.41	0.56
4:5:1246:A:N6	4:5:1273:C:O2'	2.37	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:DB:181:LEU:O	8:DB:185:THR:OG1	2.16	0.56
25:DS:65:GLU:HG2	25:DS:68:ARG:HH22	1.70	0.56
30:DX:86:PHE:HB3	30:DX:107:PHE:HZ	1.71	0.56
43:ED:178:ASN:HA	43:ED:183:TRP:CD2	2.41	0.56
49:EJ:9:MET:O	49:EJ:9:MET:HG2	2.06	0.56
52:EM:37:HIS:ND1	52:EM:38:ARG:O	2.38	0.56
63:EX:59:VAL:O	63:EX:60:ARG:NH1	2.37	0.56
4:5:1362:U:O2	45:EF:159:GLN:NE2	2.38	0.56
4:5:1632:C:H3'	64:EY:48:ARG:NH2	2.21	0.56
4:5:1660:U:H2'	4:5:1661:C:H6	1.71	0.56
4:5:2537:A:O2'	4:5:2538:U:O5'	2.22	0.56
4:5:2620:G:OP2	4:5:2620:G:H8	1.89	0.56
16:DJ:108:ARG:HG2	16:DJ:145:SER:HA	1.88	0.56
18:DL:99:ARG:HB2	30:DX:9:LEU:O	2.05	0.56
33:Da:9:GLY:O	33:Da:34:LYS:HG3	2.06	0.56
39:Dg:295:SER:OG	39:Dg:300:THR:O	2.18	0.56
50:EK:176:GLU:O	50:EK:180:ARG:HB2	2.05	0.56
67:Eb:23:TYR:OH	67:Eb:83:LYS:NZ	2.33	0.56
1:2:926:A:H2'	1:2:927:C:H6	1.69	0.56
1:2:1480:G:H2'	1:2:1481:C:O4'	2.05	0.56
1:2:1747:G:H4'	4:5:2305:C:H5'	1.88	0.56
2:3:146:U:H2'	2:3:147:U:C6	2.41	0.56
4:5:1220:C:H4'	4:5:1224:A:H5'	1.87	0.56
4:5:1365:C:OP1	45:EF:110:ARG:NH2	2.39	0.56
18:DL:101:GLU:HG3	30:DX:13:ARG:HB2	1.87	0.56
29:DW:53:ILE:HB	29:DW:60:LYS:HB2	1.86	0.56
39:Dg:122:ILE:HB	39:Dg:134:TRP:HB2	1.88	0.56
1:2:323:A:OP1	15:DI:10:LYS:HB2	2.06	0.56
1:2:487:G:H2'	1:2:488:G:C8	2.41	0.56
1:2:549:G:O2'	1:2:556:A:N1	2.30	0.56
1:2:689:G:OP1	29:DW:118:ARG:NH1	2.38	0.56
4:5:1254:U:N3	4:5:1265:G:OP1	2.39	0.56
8:DB:81:PHE:HB3	8:DB:109:LYS:HG3	1.87	0.56
19:DM:81:ASP:O	19:DM:83:GLU:N	2.36	0.56
23:DQ:138:PHE:O	23:DQ:139:GLN:HG3	2.05	0.56
48:EI:202:LYS:HA	48:EI:202:LYS:HE3	1.88	0.56
50:EK:67:ARG:HD3	65:EZ:105:LEU:HB3	1.86	0.56
50:EK:185:LYS:HD3	50:EK:188:ARG:HH21	1.71	0.56
1:2:1394:G:H2'	1:2:1395:G:H8	1.70	0.56
4:5:721:A:N3	55:EP:69:ARG:NH2	2.52	0.56
4:5:3253:G:H2'	4:5:3254:G:H8	1.71	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:6:54:U:H1'	5:6:61:C:N3	2.21	0.56
9:DC:95:ARG:NH1	9:DC:97:ARG:HH11	2.00	0.56
31:DY:20:ARG:HD2	31:DY:74:LEU:HB3	1.87	0.56
31:DY:113:ASN:HA	31:DY:116:LYS:HE2	1.87	0.56
40:EA:112:ILE:H	80:Eo:83:ILE:HD11	1.71	0.56
47:EH:147:SER:HB2	47:EH:187:ILE:HD11	1.87	0.56
53:EN:187[A]:GLU:HA	53:EN:192[A]:LYS:HE3	1.88	0.56
1:2:1297:G:C5	1:2:1299:G:OP2	2.59	0.56
1:2:1751:C:H2'	1:2:1752:U:O4'	2.06	0.56
17:DK:56:LYS:HE3	17:DK:69:THR:HG22	1.86	0.56
31:DY:45:ALA:O	31:DY:49:LYS:N	2.39	0.56
33:Da:88:SER:O	33:Da:92:ARG:HG3	2.06	0.56
41:EB:284:ARG:NH1	41:EB:293:ASN:O	2.39	0.56
1:2:477:A:OP2	37:De:28:LYS:NZ	2.39	0.55
1:2:1055:U:H3	1:2:1064:G:H1	1.55	0.55
2:3:121:U:H3	2:3:132:G:H1	1.53	0.55
4:5:2712:C:O2'	4:5:2745:U:OP1	2.24	0.55
15:DI:76:THR:HG22	15:DI:108:PRO:HG2	1.87	0.55
43:ED:77:ALA:O	43:ED:108:ARG:NH1	2.36	0.55
48:EI:3:ARG:NH2	48:EI:63:GLU:OE2	2.39	0.55
1:2:227:U:H2'	1:2:228:G:C8	2.41	0.55
1:2:692:C:H2'	1:2:693:U:H4'	1.87	0.55
1:2:1195:C:N4	23:DQ:143:ARG:O	2.37	0.55
1:2:1297:G:C2	1:2:1299:G:H5''	2.42	0.55
1:2:1592:A:H2'	1:2:1593:A:C8	2.41	0.55
3:4:52:G:O2'	3:4:53:U:OP1	2.25	0.55
4:5:296:A:H2'	4:5:297:G:C4	2.42	0.55
15:DI:48:THR:HG21	15:DI:54:LYS:HE3	1.88	0.55
23:DQ:82:ARG:NH1	23:DQ:115:THR:OG1	2.38	0.55
40:EA:29:LEU:N	40:EA:123:ARG:O	2.24	0.55
42:EC:31:ARG:NH2	42:EC:33:ASP:OD2	2.38	0.55
1:2:52:U:H2'	1:2:53:G:C8	2.41	0.55
1:2:903:U:O2'	1:2:905:A:N7	2.31	0.55
2:3:141:C:O2	52:EM:112:ASN:ND2	2.39	0.55
4:5:1597:C:H2'	4:5:1598:C:C6	2.41	0.55
8:DB:44:GLY:HA3	21:DO:14:PHE:CE1	2.38	0.55
8:DB:70:LEU:HD13	8:DB:84:ILE:HG13	1.89	0.55
10:DD:175:VAL:HG12	10:DD:177:MET:SD	2.47	0.55
36:Dd:36:LEU:HD12	36:Dd:38:ILE:H	1.71	0.55
50:EK:46:ILE:HD11	50:EK:51:LEU:HD23	1.89	0.55
1:2:1776:A:H2'	1:2:1777:G:H8	1.70	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:3:70:G:O2'	2:3:87:G:N2	2.40	0.55
4:5:1896:A:O2'	4:5:3054:G:H4'	2.07	0.55
4:5:2669:U:H2'	4:5:2670:G:C8	2.41	0.55
39:Dg:10:ARG:NH1	39:Dg:314:GLN:OE1	2.38	0.55
45:EF:233:GLU:CD	45:EF:234:GLU:HG2	2.31	0.55
1:2:166:C:O2'	13:DG:133:LEU:O	2.23	0.55
1:2:189:C:H2'	1:2:190:C:C6	2.42	0.55
1:2:997:G:H2'	1:2:998:A:O4'	2.07	0.55
1:2:1402:G:HO2'	1:2:1403:C:P	2.29	0.55
4:5:568:G:H2'	4:5:569:G:C8	2.41	0.55
4:5:2200:G:H2'	4:5:2201:U:C6	2.41	0.55
4:5:2881:U:OP1	60:EU:47:ASN:ND2	2.36	0.55
31:DY:113:ASN:O	31:DY:117:LYS:NZ	2.34	0.55
33:Da:45:VAL:HG23	33:Da:46:GLU:H	1.71	0.55
73:Eh:51:SER:HB2	73:Eh:54:GLU:HG3	1.88	0.55
75:Ej:14:LEU:HD22	75:Ej:45:VAL:HG11	1.88	0.55
1:2:628:G:N2	1:2:971:A:N6	2.22	0.55
1:2:733:A:N3	1:2:736:C:N4	2.54	0.55
1:2:1584:G:O2'	1:2:1610:G:N1	2.34	0.55
4:5:716:A:H3'	65:EZ:115:LYS:HD2	1.89	0.55
4:5:848:A:P	4:5:848:A:H8	2.29	0.55
4:5:1605:G:H4'	4:5:1836:A:H4'	1.88	0.55
4:5:2883:U:H2'	4:5:2884:U:C6	2.41	0.55
5:6:64:A:H2'	5:6:65:G:C8	2.41	0.55
27:DU:53:LYS:HB3	27:DU:92:ASP:HB2	1.88	0.55
36:Dd:29:GLY:O	36:Dd:40:ARG:N	2.35	0.55
41:EB:288:GLY:N	41:EB:320:ASP:OD1	2.31	0.55
42:EC:4:PRO:O	42:EC:5:GLN:HG2	2.06	0.55
44:EE:100:LYS:NZ	44:EE:137:ASP:OD2	2.37	0.55
48:EI:42:THR:HG22	48:EI:45:GLU:OE2	2.06	0.55
65:EZ:86:LYS:HA	65:EZ:89:GLN:HE22	1.71	0.55
66:Ea:23:LYS:HG2	66:Ea:24:PRO:HD2	1.89	0.55
78:Em:7:LYS:HE2	78:Em:11:ARG:NH2	2.22	0.55
1:2:144:U:O4	13:DG:137:ARG:NH2	2.24	0.55
1:2:313:U:H4'	1:2:314:C:O5'	2.06	0.55
1:2:566:C:O2	37:De:13:LYS:NZ	2.28	0.55
1:2:591:A:H2'	1:2:592:A:C8	2.41	0.55
4:5:2547:C:H2'	4:5:2548:A:C8	2.37	0.55
19:DM:126:TRP:CD1	19:DM:128:ALA:HB3	2.42	0.55
66:Ea:5:LYS:HE3	66:Ea:8:THR:HB	1.88	0.55
1:2:628:G:C2	4:5:847:A:N6	2.74	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1430:U:O2'	1:2:1431:C:OP1	2.24	0.55
4:5:650:A:OP2	4:5:2869:U:O2'	2.23	0.55
4:5:2802:A:O2'	4:5:2803:A:H2'	2.06	0.55
4:5:2862:U:H2'	4:5:2863:U:O4'	2.07	0.55
12:DF:77:TYR:CE2	12:DF:87:CYS:HB2	2.38	0.55
28:DV:19:ALA:O	29:DW:23:ARG:NH2	2.40	0.55
33:Da:28:LYS:HG3	33:Da:30:ILE:HG23	1.87	0.55
47:EH:124:ARG:HH12	47:EH:165:CYS:HA	1.70	0.55
1:2:625:C:O2'	1:2:939:A:N3	2.36	0.55
1:2:1487:A:H2'	1:2:1488:G:C8	2.42	0.55
1:2:1611:A:O2'	12:DF:95:ASN:O	2.25	0.55
4:5:127:G:H2'	4:5:128:G:H8	1.72	0.55
4:5:590:A:H1'	4:5:1338:A:H5''	1.87	0.55
26:DT:18:TYR:HD1	26:DT:135:ILE:HG21	1.71	0.55
28:DV:17:CYS:HB2	28:DV:56:SER:HB3	1.89	0.55
39:Dg:262:VAL:HG23	39:Dg:271:VAL:HB	1.89	0.55
40:EA:39:GLY:HA3	46:EG:36:ILE:HD13	1.89	0.55
70:Ee:49:ILE:HD11	70:Ee:71:VAL:HG23	1.88	0.55
1:2:250:C:H2'	1:2:251:A:H8	1.72	0.55
1:2:970:A:H3'	1:2:971:A:H8	1.72	0.55
2:3:75:G:OP2	63:EX:74:TYR:OH	2.21	0.55
4:5:96:G:O2'	50:EK:15:ARG:NH2	2.40	0.55
4:5:1235:G:H3'	4:5:1236:U:H2'	1.89	0.55
12:DF:148:ARG:HH21	35:Dc:22:ARG:HH12	1.55	0.55
13:DG:27:PHE:HE1	13:DG:36:VAL:HG21	1.72	0.55
32:DZ:89:ILE:HB	32:DZ:103:ARG:HA	1.88	0.55
39:Dg:103:PHE:CE2	39:Dg:138:GLY:HA2	2.42	0.55
1:2:16:G:H5''	1:2:17:C:OP2	2.07	0.54
4:5:953:A:P	66:Ea:14:ARG:HH22	2.29	0.54
18:DL:33:ARG:NH2	18:DL:53:TYR:O	2.38	0.54
21:DO:25:ASP:N	21:DO:55:SER:OG	2.38	0.54
24:DR:74:GLN:OE1	24:DR:78:ARG:NH2	2.40	0.54
32:DZ:54:VAL:HG23	32:DZ:55:PRO:HD3	1.89	0.54
35:Dc:12:VAL:HG12	35:Dc:52:ASP:H	1.72	0.54
1:2:142:G:H22	1:2:173:A:H2	1.55	0.54
1:2:842:C:H2'	1:2:843:U:O4'	2.07	0.54
1:2:887:A:H1'	21:DO:122:PRO:HB3	1.89	0.54
4:5:185:C:H5''	63:EX:122:LYS:HG2	1.88	0.54
4:5:1616:C:H2'	4:5:1617:U:C6	2.43	0.54
4:5:3001:A:H2'	4:5:3002:C:C6	2.42	0.54
5:6:15:G:O6	5:6:59:U:O2'	2.21	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:DH:109:VAL:HG12	14:DH:110:GLN:H	1.72	0.54
15:DI:114:GLU:HA	15:DI:118:GLY:HA2	1.89	0.54
30:DX:127:VAL:O	30:DX:130:VAL:HG12	2.06	0.54
38:Df:107:LYS:NZ	38:Df:109:ASP:OD2	2.39	0.54
42:EC:107:ARG:O	52:EM:203:ARG:NH2	2.40	0.54
43:ED:266:ALA:O	43:ED:270:LYS:HG2	2.08	0.54
53:EN:27[A]:LEU:HD23	53:EN:98[A]:ALA:O	2.07	0.54
1:2:199:G:H2'	1:2:200:A:H8	1.71	0.54
1:2:566:C:O2'	37:De:10:ARG:NH1	2.40	0.54
1:2:1070:C:H5''	34:Db:17:ARG:HH21	1.70	0.54
1:2:1368:G:H5''	26:DT:69:LYS:HG2	1.90	0.54
15:DI:39:GLY:O	15:DI:59:ARG:HB3	2.07	0.54
24:DR:21:TYR:CG	24:DR:22:PRO:HD3	2.43	0.54
25:DS:52:VAL:HG22	25:DS:68:ARG:HH21	1.73	0.54
30:DX:41:SER:O	30:DX:41:SER:OG	2.25	0.54
41:EB:37:ARG:HG3	41:EB:186:GLY:HA2	1.88	0.54
42:EC:188:ARG:NE	42:EC:197:ARG:HB3	2.23	0.54
1:2:1171:A:H2'	1:2:1172:G:H8	1.73	0.54
2:3:141:C:H2'	2:3:142:C:H6	1.72	0.54
4:5:94:G:H2'	4:5:95:A:H8	1.70	0.54
4:5:1908:C:O2	41:EB:240:ARG:NH2	2.39	0.54
16:DJ:127:VAL:HG12	16:DJ:131:GLN:HG3	1.88	0.54
46:EG:143:ILE:HG21	46:EG:169:LEU:HB3	1.89	0.54
54:EO:88:VAL:O	54:EO:92:GLN:HG2	2.07	0.54
1:2:52:U:H2'	1:2:53:G:H8	1.72	0.54
1:2:1112:G:H4'	1:2:1751:C:H4'	1.90	0.54
1:2:1334:U:O2'	27:DU:85:ARG:NH2	2.40	0.54
4:5:40:A:H5''	65:EZ:35:ALA:HB1	1.89	0.54
4:5:76:G:H3'	50:EK:73:ARG:HD3	1.89	0.54
12:DF:51:VAL:HG11	12:DF:130:ILE:HG22	1.90	0.54
13:DG:67:VAL:HG13	13:DG:68:LEU:N	2.22	0.54
15:DI:39:GLY:HA2	15:DI:61:GLU:OE1	2.08	0.54
28:DV:80:LYS:HD2	28:DV:81:ASN:N	2.22	0.54
34:Db:56:CYS:SG	34:Db:57:GLU:N	2.80	0.54
68:Ec:55:LEU:HB2	68:Ec:95:PRO:HD3	1.88	0.54
1:2:947:U:H2'	1:2:948:G:H8	1.71	0.54
1:2:1005:A:H2'	1:2:1006:C:C6	2.42	0.54
4:5:17:G:OP1	62:EW:44:PRO:HB2	2.07	0.54
4:5:283:G:O2'	65:EZ:59:ARG:NH1	2.37	0.54
4:5:1478:A:OP1	4:5:3076:G:O2'	2.25	0.54
4:5:1950:G:H1	4:5:2098:U:H3	1.55	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:2315:U:O2'	4:5:2316:G:OP1	2.25	0.54
7:DA:84:ARG:NH2	24:DR:82:ASP:O	2.40	0.54
9:DC:59:HIS:HB2	9:DC:61:LEU:HD11	1.90	0.54
10:DD:135:GLU:HB3	10:DD:187:LYS:HB2	1.89	0.54
11:DE:182:TYR:HB3	11:DE:226:PHE:HB3	1.88	0.54
23:DQ:58:ASP:O	23:DQ:61:SER:OG	2.20	0.54
30:DX:57:LEU:HD11	30:DX:73:ARG:HG2	1.90	0.54
39:Dg:266:ASP:HB2	39:Dg:267:PRO:HD3	1.89	0.54
4:5:1280:C:H2'	4:5:1281:C:C6	2.43	0.54
4:5:1567:A:H2'	4:5:1568:U:C6	2.42	0.54
4:5:2697:A:H2'	4:5:2698:A:C8	2.42	0.54
13:DG:64:LYS:HB2	13:DG:97:VAL:HG21	1.89	0.54
38:Df:107:LYS:HD3	38:Df:115:THR:HG22	1.90	0.54
49:EJ:53:THR:HG23	49:EJ:61:ARG:HG2	1.90	0.54
51:EL:65:LEU:HG	57:ER:172:TYR:OH	2.08	0.54
54:EO:108:ASP:OD2	54:EO:111:LYS:HE2	2.07	0.54
68:Ec:74:ARG:HB3	68:Ec:94:GLU:HB2	1.90	0.54
1:2:227:U:H2'	1:2:228:G:H8	1.72	0.54
1:2:895:G:H1	1:2:917:U:H3	1.54	0.54
1:2:1542:G:H5''	26:DT:87:GLY:HA2	1.89	0.54
1:2:1673:G:H22	1:2:1728:A:H2	1.55	0.54
2:3:9:A:H2'	2:3:10:A:H8	1.72	0.54
3:4:52:G:N2	49:EJ:9:MET:HE1	2.14	0.54
4:5:2962:G:H2'	4:5:2963:U:C6	2.43	0.54
10:DD:106:LYS:HZ3	10:DD:175:VAL:HA	1.73	0.54
24:DR:57:LEU:HD23	24:DR:60:ARG:HD3	1.90	0.54
41:EB:187:SER:O	41:EB:190:GLU:N	2.39	0.54
42:EC:317:PRO:C	42:EC:319:LYS:H	2.16	0.54
50:EK:10:LEU:HG	55:EP:166:LEU:HD11	1.89	0.54
51:EL:77:ARG:O	51:EL:81:VAL:HG23	2.06	0.54
56:EQ:105:LEU:HD23	56:EQ:138:LEU:HD23	1.88	0.54
64:EY:17:ARG:NH2	64:EY:18:TYR:OH	2.41	0.54
1:2:861:U:OP1	20:DN:64:ARG:NH2	2.40	0.54
1:2:899:G:O5'	21:DO:46:MET:HG2	2.07	0.54
1:2:911:U:H3'	8:DB:8:ARG:HH12	1.73	0.54
1:2:1471:A:C8	1:2:1540:G:H1'	2.43	0.54
1:2:1748:G:H5''	1:2:1749:A:OP2	2.08	0.54
4:5:15:C:H5''	62:EW:42:ARG:HG2	1.90	0.54
4:5:708:U:O2'	4:5:755:G:N3	2.40	0.54
4:5:2194:U:O2'	4:5:2314:A:OP2	2.16	0.54
4:5:2197:C:O2'	4:5:2271:A:N3	2.36	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:2537:A:P	8:DB:226:GLY:H	2.30	0.54
4:5:2605:U:H2'	4:5:2606:G:O4'	2.08	0.54
18:DL:73:GLY:HA3	18:DL:86:ILE:HD12	1.88	0.54
30:DX:42:PRO:O	30:DX:79:ASN:ND2	2.41	0.54
32:DZ:51:LEU:HD12	32:DZ:52:LYS:HG2	1.90	0.54
34:Db:19:HIS:CE1	34:Db:21:LEU:HD23	2.43	0.54
40:EA:112:ILE:HG13	80:Eo:79:VAL:HG13	1.90	0.54
43:ED:163:LEU:HD11	43:ED:175:HIS:HB3	1.89	0.54
58:ES:91:LEU:HD12	58:ES:95:HIS:HB2	1.89	0.54
63:EX:86:THR:HG22	63:EX:96:PRO:HA	1.90	0.54
1:2:447:U:O2'	11:DE:27:TYR:O	2.25	0.54
1:2:1474:G:H2'	1:2:1475:A:C8	2.43	0.54
4:5:353:G:O6	74:Ei:55:ARG:NH1	2.41	0.54
4:5:830:U:H3	4:5:896:A:H62	1.54	0.54
4:5:2250:G:N2	4:5:2268:C:H42	2.05	0.54
11:DE:112:HIS:NE2	11:DE:237:SER:O	2.39	0.54
17:DK:3:MET:HE3	17:DK:8:ARG:HD2	1.88	0.54
38:Df:123:ASN:ND2	38:Df:125:THR:OG1	2.41	0.54
50:EK:56:PRO:HG3	50:EK:74:GLY:O	2.08	0.54
72:Eg:102:GLU:HA	72:Eg:105:ARG:HB3	1.88	0.54
1:2:557:G:OP1	37:De:55:ARG:NH2	2.39	0.53
1:2:1318:G:H8	1:2:1318:G:O5'	1.91	0.53
4:5:711:A:H2'	4:5:712:A:C8	2.43	0.53
4:5:3320:U:O2'	4:5:3321:A:OP1	2.25	0.53
12:DF:25:LEU:HD21	23:DQ:28:LEU:HA	1.90	0.53
12:DF:225:ARG:HG2	35:Dc:61:ARG:NH1	2.24	0.53
18:DL:84:ILE:HD11	18:DL:139:VAL:HG21	1.89	0.53
21:DO:47:LYS:HB3	21:DO:62:LEU:HD23	1.90	0.53
30:DX:89:ASN:HB2	30:DX:92:CYS:SG	2.48	0.53
40:EA:43:GLY:N	40:EA:88:ILE:O	2.36	0.53
1:2:194:U:H2'	1:2:195:G:H4'	1.91	0.53
1:2:628:G:H21	1:2:971:A:H62	0.65	0.53
1:2:1137:A:N3	1:2:1138:A:C6	2.76	0.53
4:5:67:A:N6	4:5:271:C:O2'	2.41	0.53
4:5:93:C:OP2	4:5:2765:C:O2'	2.22	0.53
4:5:728:G:N2	55:EP:139:ILE:HB	2.22	0.53
16:DJ:134:ILE:O	16:DJ:140:ILE:HD12	2.07	0.53
40:EA:171:GLY:N	80:Eo:66:GLY:O	2.38	0.53
50:EK:76:THR:O	50:EK:78:ALA:N	2.42	0.53
53:EN:157[A]:GLU:OE1	53:EN:160[A]:ARG:NH2	2.37	0.53
58:ES:9:SER:O	58:ES:55:LYS:HE2	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
75:Ej:2:ALA:N	75:Ej:51:LEU:O	2.42	0.53
1:2:1597:A:OP2	36:Dd:32:ARG:NH1	2.38	0.53
4:5:979:G:N2	4:5:980:U:O4	2.32	0.53
4:5:1864:G:N2	4:5:1867:C:OP2	2.36	0.53
4:5:2931:A:H2'	4:5:2932:C:C6	2.44	0.53
7:DA:62:ARG:HH21	28:DV:38:LYS:HA	1.72	0.53
8:DB:35:PRO:HD2	8:DB:38:PHE:CE2	2.43	0.53
38:Df:135:HIS:C	38:Df:136:LYS:HD3	2.33	0.53
65:EZ:125:VAL:HG23	65:EZ:145:VAL:HG23	1.90	0.53
1:2:1071:U:H2'	1:2:1072:C:C6	2.43	0.53
1:2:1400:A:H4'	24:DR:60:ARG:HH22	1.74	0.53
4:5:359:U:O2'	74:Ei:16:HIS:ND1	2.24	0.53
7:DA:142:PRO:HG3	28:DV:32:VAL:HG13	1.91	0.53
17:DK:9:ASN:HB2	17:DK:13:GLN:HE22	1.73	0.53
28:DV:3:ASN:HD21	28:DV:7:GLN:HB3	1.73	0.53
1:2:13:C:O2'	1:2:1086:A:H4'	2.09	0.53
1:2:622:A:O2'	1:2:1032:G:H5'	2.07	0.53
1:2:870:C:H2'	1:2:871:G:C8	2.44	0.53
1:2:960:U:H5'	20:DN:55:ARG:HG3	1.90	0.53
1:2:1357:A:H2'	1:2:1358:G:C8	2.43	0.53
4:5:825:C:H2'	4:5:826:U:C6	2.43	0.53
4:5:915:A:C2	40:EA:204:MET:HG2	2.44	0.53
4:5:1183:A:OP2	57:ER:158:LYS:NZ	2.39	0.53
4:5:1928:G:C8	80:Eo:16:VAL:HG12	2.43	0.53
4:5:3219:A:H5''	4:5:3220:G:C4	2.43	0.53
4:5:3232:U:H2'	4:5:3233:G:H8	1.73	0.53
8:DB:105:PHE:HB2	8:DB:213:ARG:NH2	2.22	0.53
10:DD:32:GLU:OE2	10:DD:65:ARG:NH1	2.41	0.53
21:DO:92:LYS:HD3	21:DO:121:VAL:HG22	1.89	0.53
22:DP:81:ARG:HH21	22:DP:117:GLY:HA2	1.73	0.53
39:Dg:109:ASP:HB2	39:Dg:127:ARG:HD2	1.91	0.53
1:2:447:U:H2'	1:2:448:C:O4'	2.08	0.53
1:2:886:U:O2'	21:DO:121:VAL:O	2.27	0.53
1:2:1220:C:H2'	1:2:1221:A:H8	1.73	0.53
1:2:1486:G:O6	1:2:1520:U:O4	2.26	0.53
1:2:1525:A:H2'	1:2:1526:A:C8	2.44	0.53
4:5:279:U:H2'	4:5:280:U:C6	2.43	0.53
4:5:1637:U:H5'	64:EY:74:VAL:HG23	1.90	0.53
4:5:2698:A:H2'	4:5:2699:G:H8	1.73	0.53
4:5:2782:U:H4'	50:EK:185:LYS:HG3	1.90	0.53
4:5:3297:A:H2'	4:5:3298:U:H6	1.74	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:DF:108:LEU:HD13	23:DQ:43:ILE:HD11	1.89	0.53
39:Dg:148:ASN:OD1	39:Dg:149:ASP:N	2.42	0.53
1:2:406:U:H2'	1:2:407:A:H8	1.74	0.53
1:2:1275:A:N3	10:DD:141:LYS:NZ	2.51	0.53
2:3:39:G:H1'	2:3:104:A:N6	2.23	0.53
4:5:16:A:H5''	62:EW:44:PRO:HA	1.91	0.53
4:5:72:C:H5'	50:EK:63:VAL:HB	1.91	0.53
4:5:2408:C:H2'	4:5:2409:U:H6	1.73	0.53
10:DD:167:PHE:HB3	10:DD:189:MET:HB2	1.90	0.53
39:Dg:203:THR:HG21	39:Dg:244:ALA:HA	1.91	0.53
46:EG:154:ALA:HB2	46:EG:186:LEU:HD12	1.90	0.53
1:2:1258:U:H4'	17:DK:2:LEU:HB3	1.89	0.53
1:2:1332:C:H2'	1:2:1333:C:H6	1.73	0.53
1:2:1565:C:H5''	25:DS:41:ARG:HD3	1.90	0.53
1:2:1756:A:O2'	4:5:2257:A:N1	2.38	0.53
4:5:239:G:O2'	4:5:240:U:O4'	2.21	0.53
7:DA:6:THR:HG22	7:DA:191:ARG:HG2	1.89	0.53
11:DE:139:VAL:HG13	11:DE:150:PRO:HG3	1.89	0.53
13:DG:70:PRO:O	13:DG:98:ARG:NH1	2.42	0.53
15:DI:122:GLY:N	15:DI:157:GLU:OE2	2.38	0.53
21:DO:65:GLN:NE2	35:Dc:60:GLU:OE2	2.42	0.53
21:DO:87:GLY:HA3	21:DO:120:PRO:HG2	1.91	0.53
22:DP:114:HIS:HB3	22:DP:118:GLU:HG3	1.91	0.53
26:DT:112:GLY:O	26:DT:125:SER:OG	2.27	0.53
38:Df:133:ALA:N	38:Df:140:TYR:O	2.42	0.53
42:EC:150:LEU:HD21	42:EC:172:VAL:HG12	1.91	0.53
67:Eb:13:LYS:HB3	67:Eb:100:ILE:HG22	1.90	0.53
67:Eb:27:TYR:CD1	67:Eb:52:ARG:HD2	2.43	0.53
1:2:140:A:OP2	1:2:140:A:H4'	2.08	0.53
1:2:817:A:H2'	1:2:818:C:C6	2.44	0.53
1:2:928:U:O2'	1:2:945:U:OP2	2.24	0.53
1:2:1291:G:C8	1:2:1292:G:C8	2.96	0.53
4:5:1019:G:N2	4:5:1035:U:O2	2.30	0.53
7:DA:30:GLN:HE22	7:DA:149:LEU:HB3	1.74	0.53
14:DH:48:GLU:OE1	14:DH:88:ARG:NH2	2.42	0.53
15:DI:152:ILE:HG13	15:DI:153:GLU:H	1.74	0.53
40:EA:2:GLY:HA2	40:EA:207:VAL:HG23	1.90	0.53
40:EA:104:LEU:HD11	40:EA:116:VAL:HG13	1.90	0.53
67:Eb:42:ILE:HD11	67:Eb:67:VAL:HG22	1.90	0.53
79:En:65:THR:HG22	79:En:89:LYS:HD3	1.89	0.53
1:2:79:C:O2	13:DG:174:LYS:NZ	2.38	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:708:U:O2	4:5:755:G:O2'	2.27	0.53
4:5:721:A:H2'	55:EP:69:ARG:HH22	1.74	0.53
4:5:793:G:H2'	4:5:794:C:C6	2.44	0.53
4:5:1697:A:H2'	4:5:1698:A:C8	2.44	0.53
4:5:1900:G:O2'	4:5:2335:U:O4	2.22	0.53
4:5:3303:U:H3	4:5:3313:U:H3	1.56	0.53
9:DC:207:LEU:HA	9:DC:210:THR:OG1	2.09	0.53
12:DF:143:ARG:HB3	12:DF:167:ARG:NH1	2.24	0.53
12:DF:177:ILE:HG22	12:DF:180:ARG:HH12	1.74	0.53
21:DO:20:TYR:O	21:DO:27:PHE:HB2	2.09	0.53
25:DS:20:THR:HG21	25:DS:35:ILE:HG13	1.91	0.53
39:Dg:256:THR:OG1	39:Dg:259:GLY:O	2.22	0.53
43:ED:75:LEU:O	43:ED:112:LYS:NZ	2.38	0.53
46:EG:176:PRO:HB2	46:EG:218:ILE:HD11	1.91	0.53
1:2:837:G:H2'	1:2:838:G:H8	1.72	0.52
1:2:1359:C:OP1	26:DT:134:ARG:NH2	2.42	0.52
4:5:1232:A:H2	4:5:1280:C:H42	1.56	0.52
4:5:2527:C:H2'	4:5:2528:G:H8	1.74	0.52
5:6:69:G:H2'	5:6:70:G:H8	1.73	0.52
15:DI:61:GLU:O	15:DI:77:ARG:NH1	2.41	0.52
17:DK:29:GLN:HG2	17:DK:39:ASN:ND2	2.24	0.52
20:DN:17:PRO:HG3	34:Db:28:PRO:HG3	1.91	0.52
26:DT:66:TYR:HA	26:DT:124:ILE:HD13	1.91	0.52
52:EM:9:GLU:HG3	73:Eh:44:VAL:HG11	1.91	0.52
78:Em:2:ARG:HH21	78:Em:4:LYS:HD3	1.74	0.52
1:2:209:U:H2'	1:2:210:A:C8	2.44	0.52
1:2:480:G:H1	1:2:508:U:H3	1.57	0.52
1:2:628:G:H2'	4:5:847:A:C4	2.43	0.52
1:2:1203:A:N6	1:2:1553:G:H1'	2.24	0.52
1:2:1482:C:O2'	23:DQ:72:GLY:O	2.27	0.52
1:2:1658:G:H2'	1:2:1659:A:H8	1.74	0.52
2:3:28:C:H2'	2:3:29:U:H6	1.73	0.52
4:5:651:C:H2'	4:5:652:G:C8	2.44	0.52
4:5:1228:C:N4	4:5:1229:C:H41	2.08	0.52
4:5:2149:U:H2'	4:5:2150:A:C8	2.45	0.52
13:DG:57:ASP:HA	13:DG:106:LEU:HA	1.91	0.52
21:DO:68:ALA:HB1	21:DO:110:LEU:HD23	1.91	0.52
31:DY:29:HIS:HB2	31:DY:32:ARG:HB3	1.90	0.52
62:EW:75:LYS:HB3	62:EW:81:ILE:CG2	2.39	0.52
1:2:813:U:N1	56:EQ:163:ARG:HD3	2.24	0.52
1:2:873:U:O2'	1:2:1047:G:OP1	2.26	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1588:G:N2	1:2:1608:U:O2	2.25	0.52
2:3:149:A:H2'	2:3:150:G:C8	2.44	0.52
3:4:3:U:H2'	3:4:4:U:H6	1.75	0.52
4:5:2864:G:O3'	48:EI:112:GLN:NE2	2.43	0.52
4:5:3024:U:H2'	4:5:3025:A:H8	1.74	0.52
40:EA:225:ILE:HG13	40:EA:238:ILE:HA	1.92	0.52
41:EB:35:ASP:OD2	41:EB:37:ARG:NH1	2.43	0.52
45:EF:130:ILE:HD12	45:EF:134:VAL:HG11	1.91	0.52
47:EH:31:ARG:NH2	47:EH:188:THR:OG1	2.42	0.52
52:EM:140:LYS:HD3	52:EM:143:ARG:HD3	1.92	0.52
52:EM:183:THR:HB	52:EM:187:ARG:HB2	1.91	0.52
71:Ef:93:PHE:HD2	71:Ef:94:LEU:HD22	1.75	0.52
1:2:257:A:H1'	15:DI:73:SER:HB2	1.91	0.52
1:2:788:A:OP1	11:DE:106:LYS:NZ	2.43	0.52
1:2:802:G:H2'	1:2:803:A:O4'	2.10	0.52
4:5:54:C:O2'	4:5:1548:G:O2'	2.09	0.52
4:5:543:G:N1	4:5:551:A:C6	2.78	0.52
4:5:1062:A:O3'	58:ES:102:ARG:NH1	2.43	0.52
4:5:2390:C:H2'	4:5:2391:A:C8	2.45	0.52
4:5:2519:C:H2'	4:5:2520:A:C8	2.44	0.52
4:5:2899:G:O6	77:EI:125:LYS:NZ	2.42	0.52
8:DB:109:LYS:O	8:DB:113:MET:HG2	2.10	0.52
13:DG:169:TYR:HE2	13:DG:171:LYS:HD2	1.73	0.52
18:DL:42:PHE:HE1	18:DL:141:LYS:HE2	1.74	0.52
42:EC:126:ILE:HD11	42:EC:233:LEU:HD13	1.91	0.52
1:2:144:U:H2'	1:2:145:A:C8	2.44	0.52
1:2:742:U:H2'	14:DH:107:ARG:HH12	1.75	0.52
4:5:105:C:O2'	4:5:685:G:O2'	2.28	0.52
4:5:1356:A:H4'	4:5:1357:U:O5'	2.10	0.52
4:5:2428:U:H2'	4:5:2429:U:H6	1.71	0.52
4:5:2537:A:C5'	8:DB:228:LEU:H	2.22	0.52
4:5:3165:C:O2'	4:5:3166:A:H8	1.92	0.52
4:5:3199:U:N3	47:EH:21:LYS:NZ	2.57	0.52
8:DB:212:VAL:HG13	8:DB:213:ARG:N	2.23	0.52
11:DE:9:LEU:HB2	11:DE:30:ARG:HG3	1.92	0.52
23:DQ:59:LYS:HD3	23:DQ:105:LEU:HD21	1.90	0.52
32:DZ:61:SER:H	32:DZ:64:VAL:HB	1.74	0.52
40:EA:51:ASP:HB3	40:EA:54:ARG:HG2	1.91	0.52
1:2:923:A:H2'	1:2:924:A:C8	2.44	0.52
1:2:1383:G:H2'	1:2:1384:A:C8	2.44	0.52
1:2:1584:G:HO2'	1:2:1585:U:P	2.33	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:4:16:U:H2'	3:4:17:A:H8	1.74	0.52
3:4:23:A:H2'	3:4:24:A:C8	2.45	0.52
4:5:226:C:H2'	4:5:227:G:O4'	2.09	0.52
4:5:1256:C:H2'	4:5:1257:G:C8	2.44	0.52
4:5:1377:C:O2'	4:5:1409:G:O2'	2.25	0.52
4:5:2424:U:H2'	4:5:2425:A:H8	1.73	0.52
4:5:2519:C:H2'	4:5:2520:A:H8	1.75	0.52
10:DD:222:VAL:HG11	39:Dg:228:LYS:HG2	1.92	0.52
21:DO:64:ALA:HB3	21:DO:104:ALA:HB3	1.92	0.52
29:DW:110:ILE:HD12	29:DW:126:LEU:HD11	1.90	0.52
41:EB:127:LYS:O	41:EB:129:ALA:N	2.43	0.52
50:EK:25:HIS:O	50:EK:27:ASP:N	2.43	0.52
55:EP:158:HIS:H	55:EP:186:VAL:HG12	1.75	0.52
1:2:1767:G:OP1	1:2:1770:U:H4'	2.09	0.52
2:3:27:U:H2'	2:3:28:C:H6	1.75	0.52
4:5:66:A:H61	4:5:76:G:H1'	1.74	0.52
4:5:1214:G:OP1	57:ER:139:TYR:OH	2.24	0.52
6:7:27:G:H1	6:7:45:A:H2	1.56	0.52
15:DI:61:GLU:HG3	15:DI:62:THR:HG23	1.92	0.52
17:DK:25:LYS:HB3	17:DK:62:GLN:HB3	1.91	0.52
25:DS:49:LYS:HB3	25:DS:79:TYR:HE2	1.74	0.52
39:Dg:21:THR:HG23	39:Dg:290:VAL:HG22	1.91	0.52
40:EA:125:ALA:O	40:EA:128:ARG:HG3	2.10	0.52
43:ED:261:THR:OG1	43:ED:264:GLN:OE1	2.15	0.52
54:EO:23:ARG:HH11	54:EO:125:GLN:CD	2.17	0.52
1:2:151:G:OP2	31:DY:127:LYS:NZ	2.41	0.52
1:2:684:A:H2'	1:2:685:A:C8	2.45	0.52
1:2:925:G:H2'	1:2:926:A:C8	2.45	0.52
1:2:1041:G:H2'	1:2:1042:G:C8	2.44	0.52
1:2:1691:A:H2'	1:2:1692:G:C8	2.44	0.52
4:5:356:C:O2'	42:EC:81:GLY:O	2.24	0.52
4:5:2207:G:O2'	4:5:2209:A:N7	2.43	0.52
4:5:2524:A:H3'	62:EW:30:ALA:HB1	1.91	0.52
21:DO:17:ALA:HA	21:DO:30:VAL:HG12	1.91	0.52
33:Da:40:ALA:O	33:Da:69:ASN:N	2.42	0.52
39:Dg:274:LEU:HD21	39:Dg:313:TRP:CE2	2.45	0.52
47:EH:41:ILE:HG22	47:EH:43:VAL:HG13	1.91	0.52
65:EZ:60:TYR:HE2	65:EZ:63:LYS:HA	1.74	0.52
1:2:300:A:H2'	1:2:301:A:C8	2.45	0.52
1:2:448:C:H2'	1:2:449:C:C6	2.45	0.52
1:2:1795:U:H5'	33:Da:85:ARG:O	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:314:U:H2'	4:5:315:C:C6	2.44	0.52
4:5:2537:A:OP2	8:DB:228:LEU:HD12	2.10	0.52
14:DH:72:LYS:HG3	14:DH:73:VAL:HG13	1.91	0.52
24:DR:34:LEU:HB3	24:DR:38:ILE:HD13	1.92	0.52
30:DX:97:ASP:OD1	30:DX:98:GLU:N	2.38	0.52
52:EM:36:ILE:HG12	52:EM:64:VAL:HG13	1.92	0.52
1:2:5:U:H2'	1:2:6:G:H8	1.75	0.52
1:2:704:C:H42	1:2:734:A:H61	1.57	0.52
1:2:1486:G:N1	1:2:1522:U:O4	2.43	0.52
4:5:1238:G:N2	4:5:1253:A:O2'	2.43	0.52
4:5:1563:C:H2'	4:5:1564:C:C6	2.45	0.52
4:5:1580:C:N3	4:5:1581:A:N6	2.58	0.52
4:5:3359:U:H2'	4:5:3360:A:H8	1.75	0.52
26:DT:53:TRP:HB3	26:DT:56:LYS:HZ3	1.75	0.52
41:EB:17:LEU:HD21	41:EB:233:TRP:HH2	1.74	0.52
41:EB:227:GLU:HG2	41:EB:270:ARG:HD3	1.91	0.52
58:ES:71:SER:OG	58:ES:72:VAL:N	2.41	0.52
61:EV:6:ASP:OD1	61:EV:31:PHE:HA	2.10	0.52
61:EV:46:PRO:HB2	61:EV:54:LEU:HD12	1.91	0.52
61:EV:47:ARG:HD2	61:EV:58:HIS:ND1	2.25	0.52
1:2:103:A:H4'	1:2:105:A:C8	2.45	0.51
1:2:153:G:OP2	31:DY:131:ARG:NH1	2.43	0.51
1:2:1029:U:OP2	33:Da:12:LYS:NZ	2.44	0.51
1:2:1137:A:O3'	1:2:1138:A:C8	2.63	0.51
1:2:1267:G:N2	1:2:1442:U:O2	2.35	0.51
1:2:1516:A:OP2	27:DU:61:LYS:NZ	2.36	0.51
2:3:155:A:OP1	46:EG:84:ARG:NH1	2.43	0.51
4:5:107:A:H2'	4:5:108:A:O4'	2.10	0.51
4:5:532:G:H2'	4:5:533:A:C8	2.45	0.51
4:5:3097:C:O3'	41:EB:325:LYS:NZ	2.43	0.51
8:DB:133:TYR:CD1	8:DB:181:LEU:HD21	2.44	0.51
9:DC:49:LYS:HD2	9:DC:243:TYR:CE2	2.45	0.51
12:DF:167:ARG:HH22	35:Dc:55:VAL:HG22	1.75	0.51
32:DZ:59:TYR:CE1	32:DZ:100:ILE:HG23	2.43	0.51
39:Dg:159:ASN:ND2	39:Dg:166:SER:O	2.43	0.51
79:En:2:VAL:N	79:En:90:HIS:O	2.43	0.51
1:2:1086:A:H2'	1:2:1087:A:C8	2.45	0.51
4:5:36:C:OP2	52:EM:83:LYS:NZ	2.43	0.51
4:5:147:U:OP2	46:EG:136:LEU:HB2	2.10	0.51
4:5:1109:U:H2'	4:5:1110:U:C6	2.45	0.51
4:5:1269:G:O2'	4:5:1270:U:O2	2.27	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:DB:32:ILE:HB	8:DB:43:VAL:HB	1.92	0.51
8:DB:78:ASP:OD1	8:DB:78:ASP:N	2.43	0.51
9:DC:97:ARG:NH2	9:DC:117:THR:OG1	2.44	0.51
11:DE:147:ILE:HG21	11:DE:169:ILE:HG23	1.91	0.51
12:DF:177:ILE:HG22	12:DF:180:ARG:NH1	2.25	0.51
16:DJ:117:GLY:O	16:DJ:118:LEU:HG	2.11	0.51
19:DM:140:PHE:HA	19:DM:143:GLN:HE21	1.76	0.51
29:DW:47:ILE:HG13	29:DW:48:GLY:N	2.25	0.51
37:De:26:LYS:HE3	37:De:27:PRO:HD2	1.92	0.51
1:2:404:G:H2'	1:2:405:C:C6	2.45	0.51
1:2:590:C:H2'	1:2:591:A:H8	1.75	0.51
1:2:877:G:H22	1:2:951:A:H2	1.59	0.51
1:2:1534:G:OP2	32:DZ:74:SER:OG	2.22	0.51
1:2:1693:A:H2'	1:2:1694:A:H8	1.76	0.51
4:5:319:A:P	52:EM:50:ARG:HH12	2.33	0.51
4:5:586:A:H2'	4:5:587:C:C6	2.46	0.51
4:5:1098:G:H4'	4:5:1099:A:O5'	2.10	0.51
4:5:2103:U:H2'	4:5:2104:U:C6	2.46	0.51
4:5:2612:U:H2'	4:5:2613:U:C6	2.45	0.51
31:DY:63:GLN:NE2	31:DY:66:GLY:O	2.44	0.51
40:EA:70:ARG:HH12	40:EA:72:ARG:HD3	1.76	0.51
50:EK:95:ILE:HG12	50:EK:116:LEU:HD11	1.90	0.51
62:EW:111:ASN:HB2	62:EW:123:TYR:HB2	1.92	0.51
75:Ej:32:ASN:OD1	75:Ej:33:LYS:N	2.40	0.51
1:2:590:C:H2'	1:2:591:A:C8	2.45	0.51
1:2:885:G:H2'	1:2:886:U:C6	2.46	0.51
1:2:908:U:O2	1:2:1008:G:N2	2.43	0.51
1:2:959:U:H6	20:DN:61:THR:OG1	1.94	0.51
4:5:1916:A:H2'	4:5:1917:U:C6	2.46	0.51
6:7:17:C:OP2	6:7:18(A):U:O2'	2.18	0.51
9:DC:237:VAL:HB	9:DC:242:ILE:HD11	1.93	0.51
26:DT:113:ILE:HG22	26:DT:114:VAL:HG23	1.91	0.51
68:Ec:32:ALA:O	68:Ec:36:ILE:HG12	2.10	0.51
73:Eh:70:ARG:O	73:Eh:74:LYS:N	2.44	0.51
1:2:971:A:N6	4:5:847:A:H62	2.08	0.51
1:2:1160:A:H2'	1:2:1161:C:C6	2.46	0.51
1:2:1403:C:H2'	1:2:1404:C:H6	1.74	0.51
1:2:1584:G:HO2'	1:2:1610:G:H1	1.56	0.51
4:5:1492:A:H5''	74:Ei:14:LYS:HE2	1.93	0.51
4:5:1914:A:N3	4:5:2121:A:H2'	2.25	0.51
7:DA:7:PHE:O	7:DA:54:TRP:NE1	2.37	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:Dd:15:GLY:O	36:Dd:18:SER:OG	2.27	0.51
51:EL:50:LYS:HG3	51:EL:85:TRP:CD1	2.46	0.51
1:2:323:A:O2'	1:2:346:G:N2	2.44	0.51
1:2:448:C:H2'	1:2:449:C:H6	1.74	0.51
1:2:813:U:C4	56:EQ:163:ARG:HD2	2.39	0.51
1:2:928:U:H4'	1:2:929:A:O5'	2.11	0.51
1:2:1445:G:C4	38:Df:91:ILE:HD11	2.46	0.51
3:4:118:A:H2'	3:4:119:U:O4'	2.11	0.51
4:5:1668:A:H2'	4:5:1669:G:C8	2.44	0.51
4:5:1794:C:O2	40:EA:188:LYS:NZ	2.38	0.51
4:5:2420:A:H2'	4:5:2421:C:C6	2.46	0.51
4:5:3048:U:O2'	4:5:3049:A:H5'	2.10	0.51
7:DA:7:PHE:HE2	7:DA:184:LEU:HD11	1.75	0.51
10:DD:106:LYS:HD2	10:DD:175:VAL:HG13	1.93	0.51
13:DG:79:LYS:HE2	13:DG:86:PRO:HG2	1.92	0.51
14:DH:41:LEU:HB3	14:DH:70:PHE:CE1	2.45	0.51
27:DU:68:ARG:HG2	27:DU:79:TRP:CE2	2.46	0.51
38:Df:111:GLU:N	38:Df:112:GLY:HA2	2.25	0.51
41:EB:232:ARG:NH1	41:EB:266:ARG:O	2.39	0.51
50:EK:2:ALA:HB3	65:EZ:41:HIS:CE1	2.45	0.51
51:EL:112:LEU:HD22	51:EL:116:GLU:HG3	1.91	0.51
55:EP:82:VAL:HG13	55:EP:139:ILE:HD13	1.93	0.51
62:EW:107:VAL:HG13	62:EW:124:VAL:HG13	1.92	0.51
65:EZ:73:LEU:HB2	65:EZ:109:TYR:CG	2.45	0.51
66:Ea:16:ALA:O	66:Ea:20:GLY:HA2	2.11	0.51
1:2:836:U:H2'	1:2:837:G:C8	2.46	0.51
1:2:896:U:H2'	1:2:897:C:C6	2.45	0.51
1:2:1474:G:H2'	1:2:1475:A:H8	1.73	0.51
1:2:1490:C:H5'	1:2:1492:A:H1'	1.93	0.51
1:2:1584:G:C5	23:DQ:14:LYS:HE2	2.45	0.51
4:5:971:A:OP2	66:Ea:19:ASN:ND2	2.44	0.51
4:5:994:G:N3	4:5:2638:A:H2'	2.26	0.51
7:DA:127:ARG:NH2	7:DA:150:ASP:O	2.43	0.51
11:DE:181:VAL:HA	11:DE:227:VAL:HA	1.93	0.51
19:DM:52:LEU:HA	19:DM:57:ALA:HB2	1.93	0.51
43:ED:207:TYR:CE1	43:ED:211:LEU:HD12	2.46	0.51
47:EH:92:TYR:HD1	47:EH:179:ILE:HG12	1.75	0.51
57:ER:34:GLU:OE2	57:ER:61:ILE:HG21	2.11	0.51
62:EW:77:GLU:HG3	62:EW:133:LEU:HD12	1.93	0.51
62:EW:114:VAL:O	76:Ek:10:LYS:NZ	2.33	0.51
71:Ef:93:PHE:CE1	71:Ef:97:GLU:HG3	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1187:U:H2'	1:2:1188:G:H8	1.76	0.51
1:2:1231:U:H3	1:2:1254:U:H3	1.59	0.51
1:2:1614:A:O2'	1:2:1615:C:OP1	2.26	0.51
2:3:30:C:H2'	2:3:31:G:C8	2.45	0.51
4:5:2354:G:H5''	54:EO:86:LYS:HB2	1.92	0.51
4:5:3215:U:O4	51:EL:124:ARG:NH1	2.44	0.51
11:DE:62:LYS:O	11:DE:66:MET:HG2	2.11	0.51
13:DG:5:ILE:HG12	13:DG:111:LEU:HB2	1.92	0.51
16:DJ:106:GLU:HA	16:DJ:111:THR:HG21	1.91	0.51
17:DK:54:TYR:O	17:DK:69:THR:OG1	2.27	0.51
39:Dg:224:ASN:HB3	39:Dg:231:MET:HE3	1.93	0.51
58:ES:49:GLN:HA	58:ES:52:MET:HE2	1.92	0.51
58:ES:105:PHE:O	58:ES:109:VAL:HG23	2.11	0.51
64:EY:103:GLN:HE22	64:EY:106:GLN:CD	2.18	0.51
76:Ek:21:ARG:HH22	76:Ek:24:PRO:HG3	1.76	0.51
79:En:75:VAL:HG23	79:En:76:LYS:HD2	1.92	0.51
1:2:689:G:H2'	1:2:690:G:H8	1.74	0.51
4:5:719:G:OP1	65:EZ:117:ARG:NH2	2.44	0.51
4:5:1725:U:H1'	4:5:1726:C:C6	2.45	0.51
4:5:2368:A:H2'	4:5:2369:A:C8	2.46	0.51
4:5:2882:C:H2'	4:5:2883:U:H6	1.75	0.51
4:5:3297:A:H2'	4:5:3298:U:C6	2.46	0.51
12:DF:70:VAL:HG21	23:DQ:47:LYS:HB2	1.92	0.51
16:DJ:41:GLU:HG3	16:DJ:44:ARG:HH21	1.75	0.51
43:ED:85:ARG:HG3	43:ED:86:TYR:CD1	2.46	0.51
48:EI:43:VAL:HG21	48:EI:197:VAL:HB	1.92	0.51
1:2:225:A:N6	1:2:837:G:O6	2.44	0.51
4:5:243:G:H2'	4:5:244:G:H8	1.75	0.51
4:5:807:A:N3	4:5:2813:C:O2'	2.43	0.51
4:5:2408:C:H2'	4:5:2409:U:C6	2.46	0.51
12:DF:80:LYS:HD2	12:DF:83:ARG:HH11	1.75	0.51
14:DH:64:VAL:HG23	14:DH:67:LEU:HB3	1.93	0.51
25:DS:92:ILE:HG23	25:DS:93:THR:HG23	1.94	0.51
39:Dg:213:SER:OG	39:Dg:221:MET:O	2.27	0.51
40:EA:242:ARG:NH1	40:EA:246:LEU:HD23	2.26	0.51
53:EN:186[A]:ALA:O	53:EN:187[A]:GLU:HG3	2.11	0.51
64:EY:57:HIS:HD2	64:EY:61:LYS:HD2	1.76	0.51
78:Em:2:ARG:NH2	78:Em:4:LYS:HD3	2.26	0.51
1:2:200:A:H2'	1:2:201:G:C8	2.46	0.50
1:2:209:U:H2'	1:2:210:A:H8	1.76	0.50
1:2:343:C:H2'	1:2:344:A:H8	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:626:U:H2'	1:2:627:C:H6	1.75	0.50
1:2:1099:U:O4	9:DC:168:ARG:NH1	2.45	0.50
1:2:1404:C:H2'	1:2:1405:G:H8	1.76	0.50
1:2:1524:A:H2'	1:2:1525:A:C8	2.46	0.50
4:5:169:U:N3	4:5:251:G:O6	2.44	0.50
4:5:269:G:H2'	52:EM:120:TRP:CD2	2.46	0.50
4:5:821:A:H2'	4:5:822:U:C6	2.46	0.50
4:5:1085:A:H2'	4:5:1086:A:C8	2.46	0.50
4:5:1726:C:H2'	4:5:1727:C:C6	2.45	0.50
4:5:2610:A:H2'	4:5:2611:G:C8	2.45	0.50
7:DA:140:ASN:ND2	28:DV:31:SER:O	2.44	0.50
12:DF:143:ARG:HG3	35:Dc:57:MET:SD	2.51	0.50
24:DR:20:TYR:CE1	24:DR:38:ILE:HD12	2.46	0.50
46:EG:153:ILE:O	46:EG:180:VAL:N	2.41	0.50
46:EG:157:VAL:HG23	46:EG:160:ILE:HA	1.93	0.50
53:EN:127[A]:LEU:HD22	57:ER:156:VAL:HG13	1.93	0.50
1:2:255:U:H2'	1:2:256:A:H8	1.77	0.50
1:2:1145:U:H5	1:2:1633:A:N1	2.08	0.50
1:2:1653:C:C2	1:2:1748:G:N2	2.79	0.50
2:3:63:G:O2'	72:Eg:49:LYS:NZ	2.33	0.50
2:3:63:G:HO2'	72:Eg:49:LYS:HZ2	1.56	0.50
4:5:1265:G:N2	4:5:1266:U:O4	2.44	0.50
4:5:1358:G:H2'	4:5:1359:C:C6	2.47	0.50
4:5:1741:U:H4'	4:5:1742:A:H5'	1.91	0.50
4:5:2535:G:C6	4:5:2536:A:C6	2.99	0.50
4:5:3003:C:O2'	41:EB:180:GLU:OE2	2.13	0.50
5:6:64:A:H2'	5:6:65:G:H8	1.76	0.50
6:7:37:U:H2'	6:7:38:A:O4'	2.11	0.50
19:DM:78:LEU:HD22	38:Df:106:TYR:CD2	2.46	0.50
1:2:1170:G:H1	1:2:1469:A:N6	2.09	0.50
1:2:1317:C:H2'	1:2:1318:G:N7	2.26	0.50
1:2:1320:U:H2'	7:DA:101:ARG:HH22	1.77	0.50
4:5:411:U:H2'	4:5:412:G:H8	1.76	0.50
4:5:1719:G:H2'	4:5:1720:G:C8	2.46	0.50
4:5:3122:U:H1'	4:5:3123:A:H5''	1.94	0.50
7:DA:79:ARG:O	7:DA:83:GLN:NE2	2.45	0.50
8:DB:76:SER:OG	8:DB:78:ASP:OD1	2.19	0.50
8:DB:85:LYS:HG3	8:DB:101:HIS:HB3	1.93	0.50
8:DB:193:ILE:O	8:DB:196:GLU:HG2	2.11	0.50
13:DG:12:SER:OG	13:DG:124:LEU:O	2.27	0.50
19:DM:44:GLY:O	19:DM:48:SER:OG	2.19	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
33:Da:51:ARG:NH2	33:Da:54:SER:OG	2.44	0.50
39:Dg:22:SER:OG	39:Dg:71:CYS:N	2.44	0.50
40:EA:147:ARG:HG2	40:EA:157:VAL:HG22	1.93	0.50
42:EC:27:SER:O	42:EC:279:HIS:NE2	2.39	0.50
46:EG:108:ARG:O	46:EG:112:GLU:N	2.37	0.50
50:EK:153:ASP:OD1	50:EK:154:VAL:N	2.42	0.50
54:EO:84:PRO:HB2	54:EO:87:SER:HB2	1.94	0.50
67:Eb:23:TYR:HB3	67:Eb:92:ILE:HD12	1.94	0.50
71:Ef:93:PHE:CD2	71:Ef:94:LEU:HD22	2.46	0.50
1:2:623:A:O2'	1:2:624:G:OP1	2.24	0.50
1:2:830:U:H2'	1:2:831:U:C6	2.46	0.50
1:2:850:A:H2'	1:2:851:U:C6	2.46	0.50
1:2:885:G:N2	21:DO:123:SER:O	2.44	0.50
1:2:1049:U:H2'	1:2:1050:G:C8	2.47	0.50
1:2:1318:G:C2	1:2:1318:G:C4	2.94	0.50
1:2:1380:U:H2'	1:2:1381:U:C6	2.46	0.50
1:2:1615:C:H5''	12:DF:81:ARG:NH1	2.26	0.50
1:2:1752:U:H2'	1:2:1753:A:C8	2.46	0.50
2:3:151:C:O2'	2:3:153:U:OP2	2.29	0.50
3:4:84:A:H2'	3:4:85:G:C8	2.46	0.50
4:5:90:C:OP1	65:EZ:59:ARG:NH1	2.39	0.50
4:5:1079:U:H4'	43:ED:46:THR:HG21	1.93	0.50
4:5:1810:A:H2'	4:5:1811:A:O4'	2.12	0.50
4:5:2214:A:H2'	4:5:2215:A:H8	1.75	0.50
4:5:2948:G:C2	41:EB:250:ALA:HB1	2.47	0.50
5:6:43:C:H2'	5:6:44:G:H8	1.77	0.50
5:6:65:G:H2'	5:6:66:U:C6	2.47	0.50
29:DW:52:TYR:HA	29:DW:61:ILE:HD13	1.93	0.50
59:ET:18:ASP:HB3	59:ET:104:ARG:HG3	1.92	0.50
64:EY:30:ASP:OD1	64:EY:31:GLU:N	2.45	0.50
1:2:1467:C:O2'	26:DT:89:ARG:NH2	2.45	0.50
1:2:1791:A:O3'	33:Da:8:ASN:ND2	2.45	0.50
2:3:19:C:H2'	2:3:20:U:C6	2.46	0.50
3:4:89:G:H4'	57:ER:84:ARG:HD3	1.93	0.50
4:5:277:G:H5''	79:En:49:GLY:HA2	1.94	0.50
4:5:504:C:H2'	4:5:505:A:H8	1.76	0.50
4:5:1533:C:H2'	4:5:1534:U:O4'	2.12	0.50
7:DA:73:VAL:HB	7:DA:95:ALA:HA	1.94	0.50
14:DH:151:LYS:HG3	14:DH:182:VAL:HG23	1.92	0.50
15:DI:113:PHE:HB3	15:DI:121:LEU:HD21	1.94	0.50
26:DT:52:GLY:C	26:DT:54:PHE:H	2.19	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
36:Dd:38:ILE:HD13	36:Dd:46:LYS:HD2	1.94	0.50
40:EA:70:ARG:NH1	40:EA:72:ARG:HB2	2.26	0.50
41:EB:299:ASP:OD2	41:EB:301:THR:OG1	2.24	0.50
41:EB:362:ALA:O	41:EB:364:LYS:NZ	2.45	0.50
47:EH:4:ILE:HD12	57:ER:142:GLN:HG2	1.93	0.50
50:EK:75:PHE:O	50:EK:79:GLU:HB2	2.11	0.50
50:EK:92:THR:HB	72:Eg:114:ARG:H	1.76	0.50
64:EY:49:TYR:CG	64:EY:133:LYS:HG3	2.46	0.50
1:2:139:C:H4'	1:2:140:A:O5'	2.10	0.50
1:2:189:C:H2'	1:2:190:C:H6	1.77	0.50
1:2:1285:U:O4	1:2:1421:A:C6	2.65	0.50
1:2:1302:U:H2'	1:2:1303:U:O4'	2.11	0.50
1:2:1527:C:OP1	12:DF:106:LYS:NZ	2.44	0.50
1:2:1615:C:HO2'	1:2:1616:G:P	2.33	0.50
4:5:3219:A:H5''	4:5:3220:G:C5	2.47	0.50
12:DF:133:VAL:HA	12:DF:198:LEU:HD12	1.94	0.50
15:DI:153:GLU:HB3	15:DI:156:VAL:HG22	1.94	0.50
24:DR:46:LEU:O	24:DR:50:ILE:HG13	2.12	0.50
43:ED:196:ARG:NH1	43:ED:237:GLU:OE2	2.41	0.50
59:ET:50:LEU:HB2	59:ET:54:VAL:HG22	1.93	0.50
61:EV:45:ASN:HB3	61:EV:48:ARG:HG3	1.94	0.50
1:2:424:C:O2'	1:2:426:G:OP1	2.23	0.50
1:2:482:U:H2'	1:2:483:A:C8	2.46	0.50
1:2:975:C:OP1	20:DN:112:LYS:NZ	2.45	0.50
1:2:987:G:N2	1:2:1013:A:OP2	2.44	0.50
2:3:151:C:C5	62:EW:24:LEU:HD11	2.46	0.50
4:5:304:G:O6	52:EM:178:HIS:HB2	2.11	0.50
4:5:597:C:H2'	4:5:598:G:O4'	2.12	0.50
4:5:657:A:H2'	4:5:658:A:C8	2.47	0.50
4:5:1719:G:H2'	4:5:1720:G:H8	1.76	0.50
6:7:9:G:H1'	6:7:46:G:H2'	1.92	0.50
9:DC:35:TRP:CE2	9:DC:67:GLN:HB2	2.47	0.50
12:DF:48:PHE:HB3	12:DF:67:PRO:HB3	1.93	0.50
24:DR:16:LEU:O	24:DR:20:TYR:N	2.41	0.50
49:EJ:11:ASP:OD1	49:EJ:11:ASP:N	2.41	0.50
51:EL:14:LEU:HD13	57:ER:149:LYS:HB2	1.93	0.50
52:EM:73:ARG:HB2	52:EM:92:LEU:HD12	1.94	0.50
66:Ea:11:ASN:OD1	66:Ea:14:ARG:NH2	2.45	0.50
1:2:610:G:H21	30:DX:19:ARG:HH12	1.60	0.50
1:2:1111:G:O2'	1:2:1112:G:OP1	2.26	0.50
1:2:1285:U:O4	1:2:1421:A:N1	2.45	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:184:U:H2'	4:5:185:C:C6	2.46	0.50
4:5:1622:A:H2'	4:5:1623:U:H6	1.77	0.50
4:5:1792:C:H2'	4:5:1793:C:C6	2.47	0.50
10:DD:106:LYS:HZ3	10:DD:176:LEU:H	1.58	0.50
14:DH:133:THR:OG1	14:DH:134:GLU:N	2.41	0.50
28:DV:86:SER:HA	34:Db:6:ASP:HB3	1.93	0.50
1:2:141:U:H5'	1:2:142:G:OP1	2.12	0.50
1:2:1394:G:OP1	39:Dg:284:ALA:N	2.35	0.50
4:5:289:A:H2	52:EM:93:LYS:HG3	1.75	0.50
4:5:364:G:OP1	42:EC:60:THR:OG1	2.23	0.50
4:5:749:U:H2'	4:5:750:C:C6	2.47	0.50
4:5:1575:C:H2'	4:5:1576:A:H5''	1.94	0.50
4:5:3295:A:H5'	41:EB:128:LYS:HG3	1.94	0.50
12:DF:45:LYS:NZ	12:DF:115:LYS:HE2	2.27	0.50
44:EE:7:PRO:HG2	44:EE:10:TYR:CE1	2.47	0.50
1:2:446:A:N6	1:2:461:G:H21	2.10	0.49
1:2:615:A:O2'	1:2:621:A:N1	2.35	0.49
1:2:925:G:H2'	1:2:926:A:H8	1.76	0.49
1:2:1162:C:H2'	1:2:1163:A:H8	1.77	0.49
1:2:1690:G:H2'	1:2:1691:A:H8	1.77	0.49
2:3:111:A:C6	74:Ei:29:VAL:HG11	2.47	0.49
3:4:16:U:H2'	3:4:17:A:C8	2.47	0.49
4:5:897:A:H5'	40:EA:183:GLY:CA	2.42	0.49
4:5:2377:G:H2'	4:5:2378:G:C8	2.46	0.49
4:5:3285:G:H2'	4:5:3286:C:C6	2.47	0.49
4:5:3372:G:H2'	4:5:3373:A:C8	2.47	0.49
6:7:68:C:H2'	6:7:69:C:C6	2.46	0.49
8:DB:213:ARG:HE	8:DB:214:LYS:H	1.60	0.49
17:DK:28:ASN:N	17:DK:39:ASN:HD21	2.10	0.49
18:DL:55:ASP:HB3	18:DL:58:CYS:HB2	1.94	0.49
19:DM:103:LEU:HD11	19:DM:115:VAL:HG23	1.94	0.49
20:DN:142:GLU:HG2	20:DN:145:THR:HG22	1.94	0.49
24:DR:75:GLU:O	24:DR:78:ARG:N	2.39	0.49
41:EB:173:GLN:HG2	41:EB:175:LYS:H	1.77	0.49
42:EC:169:LEU:HB3	42:EC:174:ALA:HB3	1.93	0.49
45:EF:119:VAL:HG13	45:EF:124:LEU:HD21	1.93	0.49
45:EF:167:ALA:HA	45:EF:170:GLU:HB3	1.94	0.49
46:EG:149:LYS:HZ3	46:EG:200:LEU:HB3	1.77	0.49
1:2:15:U:H3'	1:2:16:G:C5'	2.40	0.49
4:5:544:C:O2'	4:5:545:C:O4'	2.26	0.49
4:5:706:A:O4'	4:5:716:A:N6	2.45	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:2178:G:O2'	40:EA:126:LEU:HA	2.11	0.49
4:5:2656:U:H1'	4:5:2657:A:C2	2.47	0.49
4:5:2898:A:H5''	77:EL:125:LYS:HG3	1.93	0.49
4:5:3229:C:H4'	4:5:3230:G:O5'	2.11	0.49
6:7:43:G:O2'	32:DZ:25:LYS:HG2	2.13	0.49
14:DH:44:LYS:HD3	14:DH:63:PRO:HB3	1.93	0.49
39:Dg:64:HIS:CD2	39:Dg:84:SER:HB3	2.47	0.49
42:EC:300:ARG:O	55:EP:39:ARG:NH2	2.26	0.49
45:EF:145:ARG:HA	45:EF:185:ILE:HD13	1.94	0.49
1:2:199:G:H2'	1:2:200:A:C8	2.47	0.49
1:2:753:A:OP1	11:DE:187:ARG:N	2.46	0.49
1:2:795:U:OP1	29:DW:82:LYS:NZ	2.45	0.49
1:2:872:G:N2	1:2:1047:G:H4'	2.26	0.49
1:2:932:U:O2	33:Da:32:LYS:NZ	2.44	0.49
1:2:956:C:H2'	1:2:957:G:C8	2.47	0.49
1:2:999:U:O2	1:2:1006:C:N4	2.45	0.49
1:2:1486:G:N2	1:2:1592:A:O3'	2.45	0.49
3:4:4:U:H2'	3:4:5:G:C8	2.45	0.49
3:4:90:U:H2'	3:4:91:G:O4'	2.12	0.49
4:5:69:C:OP1	52:EM:178:HIS:ND1	2.31	0.49
4:5:632:U:H2'	4:5:633:G:C8	2.48	0.49
4:5:1363:G:H2'	4:5:1364:A:C8	2.47	0.49
4:5:1421:C:OP2	42:EC:193:LYS:NZ	2.30	0.49
4:5:1581:A:OP2	4:5:2523:G:N2	2.39	0.49
4:5:1623:U:H2'	4:5:1624:G:H8	1.77	0.49
6:7:27:G:O6	6:7:45:A:N1	2.45	0.49
11:DE:87:MET:HE1	11:DE:123:LEU:HB2	1.93	0.49
14:DH:22:GLN:HA	14:DH:25:VAL:HG12	1.93	0.49
24:DR:35:CYS:HA	24:DR:38:ILE:HG12	1.95	0.49
24:DR:109:LEU:O	24:DR:112:SER:OG	2.26	0.49
27:DU:55:PRO:HA	27:DU:91:ILE:HG13	1.95	0.49
39:Dg:201:THR:HG21	39:Dg:242:SER:HA	1.94	0.49
41:EB:147:GLU:HA	41:EB:150:ARG:HD3	1.94	0.49
1:2:1701:A:H2'	1:2:1702:A:C8	2.47	0.49
4:5:508:U:H2'	4:5:509:U:C6	2.48	0.49
4:5:901:G:H1'	4:5:1590:A:N6	2.28	0.49
4:5:2787:G:N2	65:EZ:58:MET:SD	2.84	0.49
16:DJ:37:LYS:O	16:DJ:38:ASN:ND2	2.45	0.49
40:EA:147:ARG:HG3	40:EA:147:ARG:HH11	1.78	0.49
43:ED:211:LEU:HD23	43:ED:214:ASP:HB3	1.93	0.49
53:EN:74[A]:ARG:HG3	53:EN:145[A]:VAL:HG23	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
56:EQ:148:ASP:OD1	56:EQ:151:ARG:NH2	2.43	0.49
1:2:15:U:H3'	1:2:16:G:H5'	1.94	0.49
1:2:1036:A:H2'	1:2:1037:C:C6	2.47	0.49
3:4:3:U:H2'	3:4:4:U:C6	2.48	0.49
4:5:717:A:OP1	4:5:753:C:O2'	2.30	0.49
4:5:786:G:H1	55:EP:90:ASP:HA	1.77	0.49
4:5:876:G:O2'	4:5:1892:A:OP1	2.30	0.49
4:5:953:A:H5''	66:Ea:15:LYS:HD3	1.94	0.49
4:5:1281:C:H2'	4:5:1282:G:C8	2.45	0.49
4:5:1748:G:H21	75:Ej:2:ALA:HB1	1.77	0.49
4:5:2219:G:H2'	4:5:2220:A:C8	2.45	0.49
7:DA:36:TYR:OH	7:DA:56:LYS:NZ	2.26	0.49
26:DT:42:GLY:HA2	26:DT:84:LYS:HG3	1.95	0.49
26:DT:88:VAL:HG13	26:DT:89:ARG:NH1	2.28	0.49
40:EA:33:ASP:O	40:EA:37:ARG:NH1	2.36	0.49
42:EC:113:VAL:HB	42:EC:118:LYS:HE2	1.93	0.49
48:EI:54:SER:OG	48:EI:130:ASP:O	2.30	0.49
50:EK:2:ALA:HB3	65:EZ:41:HIS:HE1	1.77	0.49
50:EK:3:ILE:HG21	65:EZ:45:MET:SD	2.53	0.49
52:EM:58:GLY:HA3	52:EM:142:ILE:HD11	1.95	0.49
54:EO:18:ARG:NH2	54:EO:147:GLU:OE2	2.45	0.49
57:ER:16:THR:HG23	57:ER:19:VAL:H	1.78	0.49
69:Ed:87:MET:HE2	69:Ed:87:MET:HA	1.94	0.49
1:2:29:U:H2'	1:2:30:G:C8	2.46	0.49
1:2:569:C:H41	30:DX:69:ARG:HH22	1.60	0.49
1:2:1073:G:H4'	20:DN:10:GLY:HA2	1.94	0.49
1:2:1146:G:O2'	9:DC:90:THR:O	2.30	0.49
2:3:104:A:N3	4:5:22:G:H1'	2.26	0.49
4:5:266:A:H2'	73:Eh:30:LYS:HE3	1.94	0.49
4:5:2273:G:OP2	4:5:2273:G:N2	2.36	0.49
4:5:2819:U:H5'	4:5:2819:U:H6	1.76	0.49
4:5:3330:U:H5''	41:EB:308:MET:HE2	1.95	0.49
5:6:43:C:H2'	5:6:44:G:C8	2.47	0.49
8:DB:143:THR:HG21	8:DB:156:ALA:HB2	1.94	0.49
12:DF:79:ASN:C	12:DF:80:LYS:HG3	2.38	0.49
25:DS:14:ILE:HG12	25:DS:23:ASP:HA	1.94	0.49
28:DV:62:ARG:NH2	29:DW:20:THR:O	2.46	0.49
71:Ef:86:LYS:O	71:Ef:90:ILE:HG12	2.13	0.49
74:Ei:45:ARG:HG2	74:Ei:45:ARG:HH11	1.77	0.49
1:2:1195:C:OP1	27:DU:77:LYS:NZ	2.32	0.49
1:2:1403:C:P	24:DR:3:ARG:HE	2.35	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1587:A:H2'	1:2:1588:G:H8	1.78	0.49
1:2:1669:U:H2'	1:2:1670:G:O4'	2.12	0.49
4:5:777:U:H5	4:5:2720:U:O2	1.95	0.49
4:5:1815:A:H4'	4:5:1816:U:H5'	1.93	0.49
4:5:2537:A:P	8:DB:227:ALA:N	2.79	0.49
4:5:2884:U:H2'	4:5:2885:C:C6	2.48	0.49
7:DA:143:VAL:O	7:DA:157:ASP:HB2	2.13	0.49
10:DD:75:LYS:NZ	17:DK:20:VAL:HG23	2.28	0.49
40:EA:20:THR:HA	40:EA:23:ARG:HD2	1.94	0.49
40:EA:79:ASN:ND2	40:EA:166:ILE:O	2.46	0.49
46:EG:67:ILE:O	46:EG:236:GLY:N	2.46	0.49
56:EQ:52:LYS:O	56:EQ:53:LYS:HB2	2.13	0.49
65:EZ:24:LYS:O	65:EZ:26:ARG:HG2	2.12	0.49
1:2:108:A:H2'	1:2:109:G:C8	2.47	0.49
1:2:872:G:H2'	1:2:873:U:O4'	2.13	0.49
1:2:1308:G:H2'	1:2:1309:C:C6	2.47	0.49
1:2:1344:A:H2'	1:2:1345:A:C8	2.47	0.49
2:3:8:C:H2'	2:3:9:A:C8	2.48	0.49
2:3:141:C:H2'	2:3:142:C:C6	2.48	0.49
4:5:269:G:H5'	52:EM:14:LYS:HE2	1.95	0.49
4:5:969:G:H2'	4:5:970:C:H6	1.78	0.49
4:5:1108:C:OP1	66:Ea:25:LYS:NZ	2.45	0.49
4:5:1189:U:OP1	4:5:1211:U:O2'	2.23	0.49
8:DB:156:ALA:HA	8:DB:205:PHE:CZ	2.47	0.49
27:DU:69:LYS:HG2	36:Dd:44:ARG:NH1	2.24	0.49
32:DZ:71:ILE:HB	32:DZ:75:LEU:HB3	1.94	0.49
43:ED:207:TYR:HA	43:ED:210:GLU:HG2	1.95	0.49
45:EF:116:PHE:CZ	45:EF:144:ILE:HG12	2.47	0.49
53:EN:75[A]:ALA:HB1	53:EN:106[A]:GLU:OE2	2.13	0.49
54:EO:122:ALA:HB3	54:EO:143:PRO:HB2	1.94	0.49
70:Ee:16:TYR:CZ	70:Ee:91:ALA:HB2	2.48	0.49
1:2:6:G:OP2	9:DC:205:ARG:HB2	2.12	0.49
1:2:329:G:H2'	1:2:330:G:H8	1.77	0.49
1:2:575:C:N4	30:DX:65:ASN:OD1	2.44	0.49
1:2:618:U:O2'	1:2:1141:G:H4'	2.13	0.49
1:2:1375:A:H2'	1:2:1376:C:C6	2.47	0.49
4:5:1238:G:C6	4:5:1252:A:N6	2.80	0.49
4:5:1563:C:O2'	4:5:1564:C:O5'	2.31	0.49
4:5:1700:A:H2'	4:5:1701:G:C8	2.48	0.49
4:5:3171:A:H2'	4:5:3172:U:C6	2.48	0.49
4:5:3282:U:H2'	4:5:3283:U:C6	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:DG:68:LEU:HB3	13:DG:69:LEU:HD23	1.94	0.49
20:DN:67:THR:HG22	20:DN:69:ASN:H	1.78	0.49
27:DU:20:ILE:HG22	27:DU:22:ILE:HG23	1.94	0.49
37:De:50:VAL:HA	37:De:54:ARG:HA	1.93	0.49
38:Df:134:ASN:HA	38:Df:139:LEU:HA	1.94	0.49
52:EM:84:PRO:HA	52:EM:87:GLN:HG3	1.94	0.49
62:EW:56:ARG:O	62:EW:61:LYS:NZ	2.42	0.49
65:EZ:124:ILE:HD12	65:EZ:144:VAL:HG12	1.94	0.49
65:EZ:136:GLU:O	65:EZ:140:ALA:N	2.28	0.49
1:2:177:U:H2'	13:DG:191:ARG:HH22	1.77	0.49
1:2:353:A:H8	1:2:353:A:OP2	1.96	0.49
1:2:891:A:H2'	1:2:892:A:H8	1.76	0.49
1:2:980:G:H4'	1:2:1776:A:H4'	1.95	0.49
1:2:1396:U:C4	1:2:1402:G:O6	2.66	0.49
4:5:366:A:H2'	4:5:367:A:O4'	2.13	0.49
4:5:2537:A:C5'	8:DB:225:VAL:HA	2.42	0.49
4:5:3299:C:C2	4:5:3300:A:C8	3.01	0.49
9:DC:170:ILE:HB	9:DC:197:TYR:HB2	1.95	0.49
39:Dg:254:ALA:HB3	39:Dg:261:LYS:HB2	1.94	0.49
54:EO:41:LEU:O	54:EO:45:GLN:HG3	2.13	0.49
58:ES:116:ARG:HB2	58:ES:128:LEU:HD11	1.95	0.49
67:Eb:18:ILE:HD12	67:Eb:23:TYR:CE1	2.48	0.49
1:2:601:A:OP2	30:DX:110:LYS:HG3	2.13	0.48
1:2:844:A:H2'	1:2:845:G:C8	2.48	0.48
1:2:996:U:N3	1:2:997:G:N7	2.61	0.48
1:2:1267:G:H1	1:2:1442:U:H3	1.61	0.48
1:2:1638:G:H2'	1:2:1639:C:O4'	2.14	0.48
1:2:1727:G:H2'	1:2:1728:A:H8	1.78	0.48
4:5:1232:A:N6	4:5:1277:U:OP2	2.35	0.48
4:5:1461:A:H2'	4:5:1462:A:C8	2.48	0.48
4:5:2153:A:H2'	4:5:2154:U:H6	1.77	0.48
4:5:2407:C:H2'	4:5:2408:C:C6	2.48	0.48
4:5:2414:A:H2'	4:5:2415:G:H8	1.76	0.48
4:5:2600:U:H2'	4:5:2601:C:C6	2.48	0.48
4:5:2687:A:H2'	4:5:2688:G:O4'	2.13	0.48
4:5:2764:U:H5'	55:EP:176:ARG:HG3	1.95	0.48
6:7:43:G:H5'	32:DZ:27:TRP:HD1	1.76	0.48
6:7:43:G:H21	32:DZ:25:LYS:HZ2	1.60	0.48
6:7:67:C:H2'	6:7:68:C:C6	2.48	0.48
12:DF:125:THR:HG21	12:DF:199:ILE:HG23	1.95	0.48
14:DH:143:LEU:HA	29:DW:49:GLU:OE1	2.12	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:DX:103:LEU:HB3	30:DX:126:LYS:HB2	1.95	0.48
40:EA:33:ASP:C	40:EA:37:ARG:HH12	2.18	0.48
43:ED:59:ASP:OD1	43:ED:60:ILE:N	2.46	0.48
47:EH:50:ASN:OD1	51:EL:5:SER:OG	2.25	0.48
1:2:304:U:H2'	1:2:305:C:C6	2.47	0.48
1:2:1552:U:C2	1:2:1556:A:N6	2.79	0.48
1:2:1624:C:H2'	1:2:1625:C:C6	2.48	0.48
4:5:118:U:O2	4:5:121:A:H5''	2.12	0.48
4:5:708:U:H1'	4:5:755:G:H1'	1.93	0.48
4:5:1461:A:H2'	4:5:1462:A:H8	1.78	0.48
4:5:1688:U:O4	59:ET:45:GLY:N	2.38	0.48
4:5:2675:A:H61	49:EJ:21:ILE:HG23	1.77	0.48
4:5:2773:C:OP1	79:En:15:LYS:NZ	2.45	0.48
4:5:3323:A:H2'	4:5:3324:A:C8	2.48	0.48
7:DA:158:VAL:HB	28:DV:69:LEU:HD23	1.96	0.48
8:DB:132:ASP:HB3	8:DB:221:PRO:HB3	1.95	0.48
8:DB:139:ALA:HA	8:DB:212:VAL:HG22	1.94	0.48
8:DB:180:THR:OG1	8:DB:181:LEU:N	2.46	0.48
19:DM:126:TRP:HD1	19:DM:128:ALA:HB3	1.79	0.48
23:DQ:30:LYS:O	23:DQ:67:VAL:HG22	2.12	0.48
30:DX:65:ASN:ND2	30:DX:116:ASP:OD2	2.46	0.48
40:EA:242:ARG:NH2	40:EA:243:THR:O	2.46	0.48
67:Eb:100:ILE:HG13	67:Eb:101:LEU:HD22	1.95	0.48
1:2:186:C:OP1	15:DI:146:ARG:NH2	2.31	0.48
1:2:1484:G:N2	1:2:1606:C:O2	2.46	0.48
2:3:107:G:H4'	2:3:138:A:H5'	1.94	0.48
4:5:297:G:N3	73:Eh:41:ARG:NH1	2.62	0.48
4:5:1258:C:O2	4:5:1262:G:O6	2.31	0.48
4:5:2104:U:H2'	4:5:2105:A:H8	1.77	0.48
4:5:2151:G:H5''	40:EA:178:PRO:HB3	1.94	0.48
6:7:9:G:O2'	6:7:10:G:N7	2.34	0.48
17:DK:48:SER:O	17:DK:51:SER:OG	2.31	0.48
26:DT:111:ILE:HG13	26:DT:113:ILE:HG12	1.95	0.48
39:Dg:90:ARG:NH2	39:Dg:99:THR:HG21	2.29	0.48
40:EA:117:GLU:HA	40:EA:125:ALA:HB3	1.96	0.48
41:EB:56:ILE:HD12	41:EB:359:ILE:HG12	1.96	0.48
46:EG:60:ARG:O	46:EG:64:ILE:HG12	2.13	0.48
49:EJ:60:ARG:N	49:EJ:63:GLU:OE1	2.32	0.48
56:EQ:136:ARG:O	56:EQ:140:GLU:HG2	2.13	0.48
1:2:765:G:H1	16:DJ:149:ARG:HH12	1.61	0.48
1:2:907:A:H2'	1:2:908:U:C6	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:992:A:H2	1:2:1012:U:H3	1.59	0.48
1:2:1017:U:H2'	1:2:1018:U:C6	2.49	0.48
1:2:1550:A:H2'	1:2:1551:U:C6	2.49	0.48
4:5:113:C:H3'	4:5:154:U:O4	2.13	0.48
4:5:552:A:O2'	4:5:553:G:H8	1.96	0.48
4:5:944:U:H3'	65:EZ:13:GLY:HA2	1.94	0.48
4:5:1078:U:O3'	43:ED:43:LYS:HE3	2.13	0.48
4:5:2186:G:O2'	4:5:2315:U:OP2	2.26	0.48
4:5:3226:C:H2'	4:5:3227:A:H8	1.78	0.48
9:DC:53:ILE:HD12	9:DC:57:PHE:CE2	2.49	0.48
9:DC:99:LYS:HG3	9:DC:117:THR:CG2	2.38	0.48
16:DJ:82:ARG:CZ	16:DJ:149:ARG:HG2	2.43	0.48
19:DM:90:LYS:NZ	19:DM:91:VAL:O	2.39	0.48
24:DR:5:ARG:HD3	24:DR:9:VAL:HG11	1.95	0.48
26:DT:25:GLN:HE22	26:DT:27:LYS:HD3	1.78	0.48
30:DX:109:ARG:HG3	30:DX:114:LYS:HA	1.94	0.48
31:DY:35:VAL:HG22	31:DY:40:LEU:HD21	1.95	0.48
39:Dg:42:LEU:HD21	39:Dg:68:VAL:HG11	1.96	0.48
41:EB:71:GLU:OE2	41:EB:357:LYS:HE2	2.13	0.48
42:EC:188:ARG:NE	42:EC:197:ARG:O	2.43	0.48
43:ED:75:LEU:HD23	43:ED:75:LEU:H	1.78	0.48
50:EK:24:VAL:HG22	52:EM:199:LEU:HD12	1.93	0.48
52:EM:53:TYR:HB2	52:EM:133:ILE:HD12	1.95	0.48
58:ES:75:ILE:HD13	58:ES:88:ARG:HG2	1.94	0.48
4:5:1246:A:H3'	4:5:1247:G:H8	1.78	0.48
4:5:2220:A:H2'	4:5:2221:A:C8	2.48	0.48
4:5:2397:G:OP1	4:5:2398:A:O2'	2.19	0.48
4:5:3014:U:H2'	4:5:3015:U:C6	2.48	0.48
4:5:3205:C:H2'	4:5:3206:G:C8	2.48	0.48
8:DB:113:MET:HB3	8:DB:142:PHE:CE2	2.49	0.48
8:DB:129:THR:OG1	8:DB:180:THR:HA	2.14	0.48
8:DB:142:PHE:O	8:DB:208:GLN:N	2.46	0.48
10:DD:206:VAL:HG11	24:DR:12:ALA:HB2	1.95	0.48
43:ED:52:VAL:HA	43:ED:147:ASP:OD1	2.14	0.48
47:EH:21:LYS:HB2	47:EH:24:ILE:HB	1.95	0.48
53:EN:41[A]:LEU:HB2	53:EN:138[A]:LEU:HD12	1.95	0.48
58:ES:17:ARG:NH2	58:ES:23:GLY:O	2.47	0.48
1:2:1135:U:H4'	1:2:1752:U:O2'	2.14	0.48
4:5:850:C:H2'	4:5:851:U:C6	2.49	0.48
4:5:938:G:N2	4:5:962:C:OP1	2.47	0.48
4:5:2130:U:H2'	4:5:2131:G:C8	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:2226:U:H2'	4:5:2227:U:C6	2.49	0.48
4:5:2948:G:N3	41:EB:250:ALA:HB1	2.29	0.48
14:DH:76:LYS:HG3	14:DH:79:ARG:HH21	1.78	0.48
21:DO:89:THR:HB	21:DO:128:LYS:HG2	1.96	0.48
26:DT:34:VAL:O	26:DT:36:ILE:HD12	2.14	0.48
28:DV:20:THR:C	29:DW:23:ARG:HH22	2.20	0.48
42:EC:181:VAL:HG11	42:EC:224:GLY:HA3	1.96	0.48
43:ED:55:PHE:HE2	43:ED:159:VAL:HA	1.79	0.48
46:EG:152:LEU:HD23	46:EG:178:ALA:HB3	1.94	0.48
47:EH:8:GLN:HB3	47:EH:72:LYS:HD2	1.96	0.48
47:EH:48:VAL:HG21	47:EH:54:LYS:HE2	1.96	0.48
1:2:205:U:H2'	1:2:206:A:H8	1.79	0.48
1:2:898:A:N1	1:2:911:U:O2'	2.41	0.48
1:2:1140:G:N3	1:2:1141:G:N7	2.62	0.48
1:2:1790:A:O2'	1:2:1791:A:H5'	2.13	0.48
4:5:132:C:H2'	4:5:133:U:H5''	1.96	0.48
4:5:255:A:H2'	4:5:256:G:H8	1.79	0.48
4:5:314:U:H2'	4:5:315:C:H6	1.78	0.48
4:5:3252:U:H2'	4:5:3253:G:H8	1.79	0.48
9:DC:35:TRP:NE1	9:DC:67:GLN:HE21	2.11	0.48
10:DD:70:THR:HG22	10:DD:86:LEU:HB2	1.96	0.48
11:DE:211:LYS:HA	11:DE:217:THR:HA	1.96	0.48
21:DO:81:VAL:HG11	21:DO:102:LEU:HD21	1.96	0.48
24:DR:82:ASP:N	24:DR:82:ASP:OD1	2.44	0.48
24:DR:105:GLN:HG3	24:DR:106:THR:N	2.28	0.48
34:Db:20:LYS:HG3	34:Db:21:LEU:HD22	1.96	0.48
35:Dc:42:ARG:NH2	35:Dc:58:GLU:O	2.46	0.48
1:2:445:A:H1'	1:2:525:A:H5'	1.96	0.48
1:2:473:A:H2'	1:2:474:A:O4'	2.14	0.48
1:2:565:C:H2'	1:2:577:G:C4	2.49	0.48
1:2:953:G:H2'	1:2:954:G:C8	2.49	0.48
1:2:1055:U:H2'	1:2:1056:U:C6	2.48	0.48
2:3:69:U:H2'	2:3:70:G:O4'	2.14	0.48
2:3:114:G:OP1	4:5:1832:U:O2'	2.23	0.48
4:5:665:U:H2'	4:5:666:A:H8	1.77	0.48
4:5:969:G:H2'	4:5:970:C:C6	2.49	0.48
4:5:1120:C:H2'	4:5:1121:A:C8	2.49	0.48
4:5:1632:C:H3'	64:EY:48:ARG:HH22	1.78	0.48
4:5:2284:G:HO2'	4:5:2285:C:P	2.36	0.48
4:5:3218:C:C2	54:EO:182:ILE:HD11	2.49	0.48
8:DB:71:ALA:HB3	21:DO:114:ARG:HH22	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:DB:104:ASP:OD1	8:DB:105:PHE:N	2.47	0.48
8:DB:144:ARG:HG2	8:DB:206:PRO:HB2	1.95	0.48
9:DC:215:PHE:HA	9:DC:218:ILE:HG22	1.94	0.48
10:DD:191:ASP:OD2	10:DD:194:LYS:NZ	2.44	0.48
25:DS:82:PRO:HG2	26:DT:36:ILE:HG21	1.96	0.48
41:EB:219:ALA:HB2	41:EB:336:VAL:HG23	1.95	0.48
56:EQ:21:LYS:O	56:EQ:53:LYS:HB2	2.14	0.48
57:ER:82:ASP:HB2	57:ER:120:SER:HB2	1.94	0.48
1:2:213:A:H2'	1:2:214:G:O4'	2.14	0.48
1:2:788:A:OP2	11:DE:108:ARG:NH1	2.43	0.48
1:2:1608:U:H2'	1:2:1609:U:C6	2.49	0.48
4:5:676:C:O2'	4:5:680:U:OP1	2.26	0.48
4:5:788:G:H2'	4:5:789:C:H6	1.76	0.48
4:5:1278:C:HO2'	4:5:1279:A:P	2.36	0.48
4:5:1659:G:H2'	4:5:1660:U:C6	2.49	0.48
4:5:2513:C:H5'	46:EG:249:ARG:HH22	1.79	0.48
4:5:2663:G:H2'	4:5:2664:G:C8	2.49	0.48
4:5:2737:A:H4'	58:ES:71:SER:HB3	1.96	0.48
8:DB:38:PHE:HB3	8:DB:73:LEU:HB3	1.96	0.48
8:DB:123:ALA:HB2	8:DB:165:ARG:HG3	1.96	0.48
8:DB:212:VAL:O	8:DB:213:ARG:HB2	2.13	0.48
11:DE:188:ASN:HB3	11:DE:191:ARG:HD3	1.96	0.48
23:DQ:98:ASP:OD2	23:DQ:100:GLN:NE2	2.47	0.48
41:EB:112:ASP:O	41:EB:116:ARG:HG3	2.14	0.48
46:EG:171:LYS:HD3	46:EG:223:ALA:HA	1.96	0.48
53:EN:73[A]:PHE:HB3	53:EN:78[A]:ARG:HB3	1.96	0.48
63:EX:6:LEU:HD23	63:EX:6:LEU:H	1.78	0.48
72:Eg:85:THR:HB	72:Eg:88:LEU:HB2	1.95	0.48
75:Ej:5:ILE:HD11	75:Ej:11:PHE:CD1	2.43	0.48
1:2:428:A:N3	1:2:440:U:O2'	2.37	0.48
1:2:475:A:OP1	16:DJ:126:ARG:NE	2.36	0.48
1:2:1008:G:C6	1:2:1009:U:C4	3.02	0.48
1:2:1583:A:OP1	1:2:1583:A:H4'	2.13	0.48
1:2:1586:A:H3'	1:2:1587:A:H8	1.78	0.48
1:2:1793:G:H1'	1:2:1794:A:H2'	1.95	0.48
4:5:1158:G:H2'	4:5:1159:A:O4'	2.14	0.48
4:5:2407:C:H2'	4:5:2408:C:H6	1.79	0.48
4:5:2446:A:O2'	4:5:2447:U:OP1	2.30	0.48
4:5:2884:U:H2'	4:5:2885:C:H6	1.78	0.48
4:5:3199:U:O2	47:EH:19:SER:OG	2.24	0.48
4:5:3215:U:OP2	51:EL:128:ARG:NH1	2.44	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:DA:197:ILE:H	7:DA:197:ILE:HD12	1.79	0.48
23:DQ:37:THR:HA	23:DQ:45:ARG:HH22	1.79	0.48
39:Dg:131:ILE:HB	39:Dg:144:LEU:HB2	1.95	0.48
39:Dg:243:LEU:HD23	39:Dg:254:ALA:HA	1.96	0.48
41:EB:306:THR:HG21	41:EB:316:GLU:HG2	1.96	0.48
44:EE:87:THR:HG22	44:EE:176:PHE:HB3	1.95	0.48
46:EG:165:PHE:HD2	46:EG:169:LEU:HD23	1.78	0.48
50:EK:67:ARG:CD	65:EZ:105:LEU:HB3	2.43	0.48
63:EX:55:GLU:OE2	63:EX:108:LYS:HG2	2.13	0.48
1:2:82:U:H2'	1:2:83:G:O4'	2.13	0.47
1:2:541:A:O2'	1:2:542:A:OP1	2.26	0.47
1:2:885:G:H2'	1:2:886:U:N1	2.28	0.47
1:2:1237:G:H2'	1:2:1238:A:C8	2.45	0.47
1:2:1253:U:H2'	1:2:1254:U:C6	2.49	0.47
1:2:1320:U:H3'	7:DA:101:ARG:HH12	1.78	0.47
1:2:1480:G:OP1	26:DT:60:SER:OG	2.31	0.47
2:3:30:C:H2'	2:3:31:G:H8	1.79	0.47
3:4:50:U:O2'	43:ED:221:GLU:O	2.27	0.47
4:5:742:U:H2'	4:5:743:G:O4'	2.13	0.47
4:5:1750:A:H5''	4:5:1752:G:N7	2.28	0.47
4:5:1809:G:OP1	64:EY:135:ARG:NH2	2.46	0.47
4:5:2261:U:H2'	4:5:2262:G:C8	2.49	0.47
23:DQ:22:VAL:HG21	23:DQ:88:GLY:HA3	1.95	0.47
25:DS:96:LYS:HD2	25:DS:98:TYR:CZ	2.49	0.47
33:Da:83:ILE:O	33:Da:85:ARG:HG2	2.14	0.47
52:EM:94:TYR:CZ	52:EM:96:ARG:HB3	2.48	0.47
59:ET:83:TYR:HD2	59:ET:84:LEU:HD23	1.78	0.47
1:2:255:U:H2'	1:2:256:A:C8	2.49	0.47
1:2:337:G:H3'	18:DL:133:LYS:HB2	1.96	0.47
1:2:1222:C:H2'	1:2:1223:A:H8	1.79	0.47
1:2:1615:C:H4'	1:2:1616:G:O5'	2.14	0.47
2:3:25:G:N7	63:EX:13:ARG:NH1	2.59	0.47
4:5:209:A:H4'	4:5:211:A:N7	2.30	0.47
4:5:632:U:H2'	4:5:633:G:H8	1.79	0.47
4:5:839:G:O6	80:Eo:4:ARG:NH1	2.45	0.47
4:5:1048:A:H2'	4:5:1049:A:C8	2.49	0.47
4:5:1896:A:HO2'	4:5:3054:G:H4'	1.79	0.47
4:5:2104:U:H2'	4:5:2105:A:C8	2.48	0.47
4:5:2370:G:H2'	4:5:2371:G:C8	2.49	0.47
4:5:2782:U:H5'	50:EK:185:LYS:HZ3	1.78	0.47
5:6:9:A:H1'	5:6:45:U:H2'	1.95	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:DA:88:LYS:HB3	7:DA:202:TYR:CE1	2.49	0.47
12:DF:72:HIS:CD2	23:DQ:44:LEU:HD21	2.49	0.47
24:DR:24:LEU:HB2	24:DR:31:ASN:HD22	1.79	0.47
26:DT:124:ILE:HD12	26:DT:129:GLN:HG3	1.96	0.47
41:EB:343:TYR:CE2	41:EB:345:ASN:HB3	2.49	0.47
42:EC:65:TRP:HB3	42:EC:69:ARG:HD3	1.95	0.47
46:EG:171:LYS:NZ	46:EG:226:TYR:HB3	2.29	0.47
55:EP:179:ARG:CZ	65:EZ:56:VAL:HG23	2.44	0.47
1:2:680:U:H2'	1:2:681:U:H5	1.79	0.47
1:2:874:C:H2'	1:2:875:G:C8	2.49	0.47
1:2:1321:A:H5''	7:DA:131:GLN:NE2	2.29	0.47
1:2:1528:U:OP1	12:DF:109:LYS:HG3	2.14	0.47
1:2:1587:A:H2'	1:2:1588:G:C8	2.49	0.47
4:5:375:A:H1'	63:EX:87:LYS:NZ	2.29	0.47
4:5:770:G:O2'	50:EK:168:ARG:NH1	2.47	0.47
4:5:1073:G:H2'	4:5:1074:U:C6	2.49	0.47
4:5:1139:U:OP1	66:Ea:13:THR:HG21	2.14	0.47
4:5:2098:U:H2'	4:5:2099:C:C6	2.49	0.47
4:5:2284:G:O2'	4:5:2285:C:OP2	2.31	0.47
4:5:2436:G:N7	4:5:2594:A:H2'	2.29	0.47
4:5:2723:U:H2'	4:5:2724:U:C6	2.50	0.47
4:5:3114:A:H2'	4:5:3115:A:O4'	2.13	0.47
12:DF:44:ASN:C	12:DF:45:LYS:HD3	2.39	0.47
14:DH:64:VAL:HB	14:DH:94:ALA:HB1	1.96	0.47
43:ED:49:TYR:CE1	43:ED:75:LEU:HD22	2.50	0.47
46:EG:50:VAL:HG21	62:EW:27:ARG:HD3	1.96	0.47
46:EG:139:VAL:HA	46:EG:142:LEU:HD12	1.96	0.47
50:EK:27:ASP:O	50:EK:30:GLY:N	2.47	0.47
68:Ec:4:LEU:O	68:Ec:79:ARG:NH2	2.46	0.47
68:Ec:6:ASP:HB3	68:Ec:77:ARG:NH2	2.29	0.47
1:2:898:A:H4'	21:DO:46:MET:SD	2.54	0.47
1:2:1633:A:H2	9:DC:89:GLN:HG2	1.78	0.47
1:2:1745:G:H4'	1:2:1746:A:OP1	2.14	0.47
4:5:210:U:C2	4:5:230:U:H4'	2.50	0.47
4:5:2727:C:O2'	4:5:2728:A:H2'	2.14	0.47
5:6:34:A:O2'	5:6:36:G:OP1	2.32	0.47
21:DO:55:SER:HB3	21:DO:96:PRO:HG2	1.96	0.47
26:DT:4:VAL:HG11	26:DT:137:ALA:HA	1.95	0.47
39:Dg:64:HIS:NE2	39:Dg:84:SER:HB3	2.29	0.47
39:Dg:257:ALA:HA	39:Dg:288:HIS:CG	2.50	0.47
43:ED:210:GLU:HG3	43:ED:211:LEU:HG	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
46:EG:247:ASP:O	46:EG:251:LYS:HD3	2.14	0.47
58:ES:8:ARG:O	58:ES:11:THR:OG1	2.31	0.47
58:ES:57:TYR:CD1	58:ES:89:LEU:HD21	2.50	0.47
64:EY:23:VAL:HB	64:EY:43:VAL:HG13	1.97	0.47
65:EZ:19:LYS:HB3	65:EZ:25:HIS:HB2	1.96	0.47
65:EZ:90:TYR:CD2	65:EZ:100:PRO:HG3	2.49	0.47
72:Eg:23:ASP:O	72:Eg:27:GLU:HG2	2.14	0.47
1:2:30:G:H2'	1:2:31:C:C6	2.50	0.47
1:2:78:A:H5''	13:DG:159:ARG:NH1	2.29	0.47
1:2:632:U:O2'	1:2:1103:U:OP1	2.30	0.47
1:2:953:G:H2'	1:2:954:G:H8	1.79	0.47
1:2:1382:A:O2'	1:2:1383:G:OP1	2.24	0.47
1:2:1406:A:H2'	1:2:1407:U:H6	1.79	0.47
1:2:1539:G:C8	25:DS:30:TYR:HE2	2.32	0.47
1:2:1771:U:H2'	1:2:1772:C:O4'	2.15	0.47
3:4:24:A:H2'	3:4:25:G:O4'	2.14	0.47
4:5:1065:A:H4'	4:5:1066:A:O5'	2.13	0.47
4:5:1096:U:H3	58:ES:127:GLN:HE21	1.61	0.47
4:5:1568:U:O2'	4:5:1570:U:OP1	2.22	0.47
4:5:2450:A:H2'	4:5:2451:G:C8	2.49	0.47
4:5:3252:U:H2'	4:5:3253:G:C8	2.49	0.47
7:DA:31:VAL:HG12	7:DA:33:GLN:H	1.80	0.47
7:DA:126:PRO:HG2	7:DA:152:PRO:HD2	1.97	0.47
12:DF:89:ILE:HD13	12:DF:92:ARG:HD3	1.96	0.47
17:DK:29:GLN:H	17:DK:39:ASN:ND2	2.12	0.47
39:Dg:90:ARG:NH1	39:Dg:102:ARG:HG2	2.29	0.47
41:EB:56:ILE:HG21	41:EB:356:LEU:HD22	1.97	0.47
46:EG:183:LYS:O	46:EG:187:GLY:N	2.47	0.47
48:EI:36:LEU:HD11	48:EI:69:ARG:HD2	1.97	0.47
50:EK:28:GLN:HB3	52:EM:201:ARG:NE	2.30	0.47
50:EK:74:GLY:HA3	50:EK:98:ASP:HB2	1.96	0.47
1:2:250:C:H2'	1:2:251:A:C8	2.49	0.47
1:2:566:C:H2'	1:2:567:A:O4'	2.15	0.47
1:2:1221:A:H2'	1:2:1222:C:C6	2.50	0.47
1:2:1348:A:H2'	1:2:1349:G:O4'	2.14	0.47
1:2:1613:U:C4	1:2:1614:A:N1	2.82	0.47
4:5:551:A:H2'	4:5:552:A:C8	2.50	0.47
4:5:787:A:H1'	4:5:788:G:C8	2.50	0.47
4:5:834:G:OP1	56:EQ:86:GLU:HB3	2.15	0.47
4:5:1179:G:O6	70:Ee:20:LYS:HE2	2.15	0.47
4:5:1306:U:C2	41:EB:257:PRO:HB3	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:1832:U:H2'	4:5:1833:C:C6	2.49	0.47
4:5:2837:C:H5	4:5:2853:C:H42	1.60	0.47
10:DD:170:THR:HA	10:DD:186:VAL:O	2.15	0.47
10:DD:195:SER:O	10:DD:196:ARG:HG3	2.15	0.47
11:DE:67:GLN:HE22	31:DY:85:PHE:HZ	1.63	0.47
16:DJ:113:VAL:HG12	16:DJ:119:ALA:HB2	1.96	0.47
19:DM:130:THR:OG1	19:DM:131:ASP:N	2.48	0.47
27:DU:87:HIS:HB3	27:DU:89:ARG:NH1	2.29	0.47
30:DX:109:ARG:HB3	30:DX:112:LYS:HG3	1.97	0.47
38:Df:135:HIS:O	38:Df:136:LYS:HD3	2.14	0.47
46:EG:169:LEU:HD22	73:Eh:43:LEU:HD21	1.96	0.47
51:EL:14:LEU:HA	57:ER:151:PRO:HA	1.97	0.47
64:EY:42:LEU:HD23	64:EY:42:LEU:HA	1.77	0.47
1:2:129:U:O2'	1:2:131:C:N4	2.32	0.47
1:2:153:G:C6	1:2:162:A:C6	3.02	0.47
1:2:1310:U:H2'	1:2:1311:U:C6	2.49	0.47
1:2:1332:C:H2'	1:2:1333:C:C6	2.50	0.47
1:2:1473:U:O4	12:DF:180:ARG:NE	2.31	0.47
1:2:1797:A:C6	33:Da:84:VAL:HB	2.49	0.47
2:3:71:A:OP2	63:EX:51:ARG:NH1	2.48	0.47
4:5:948:G:H2'	4:5:949:C:C6	2.50	0.47
4:5:1020:G:H1	4:5:1034:U:H3	1.63	0.47
4:5:1606:A:O2'	4:5:1608:U:OP2	2.21	0.47
4:5:1655:A:N3	71:Ef:59:PRO:HB3	2.30	0.47
4:5:1715:A:N6	4:5:1729:G:O4'	2.48	0.47
4:5:1897:A:H61	4:5:2340:C:H42	1.61	0.47
4:5:2220:A:H2'	4:5:2221:A:H8	1.80	0.47
4:5:2521:A:H2'	4:5:2522:U:C6	2.50	0.47
4:5:2562:A:C2	46:EG:32:LYS:HG3	2.49	0.47
4:5:2795:G:H1'	4:5:2796:U:C6	2.50	0.47
5:6:36:G:O2'	5:6:37:A:O4'	2.32	0.47
9:DC:185:LYS:O	9:DC:189:GLN:HG3	2.14	0.47
10:DD:177:MET:HE1	10:DD:182:LEU:HB2	1.97	0.47
14:DH:103:SER:OG	14:DH:104:ARG:N	2.46	0.47
16:DJ:119:ALA:O	16:DJ:120:LYS:HG2	2.14	0.47
16:DJ:125:ALA:O	16:DJ:129:ILE:HD12	2.14	0.47
21:DO:70:LYS:O	21:DO:74:VAL:HG23	2.13	0.47
22:DP:52:LYS:HG3	22:DP:53:PRO:HD3	1.95	0.47
40:EA:147:ARG:NH1	40:EA:147:ARG:HG3	2.30	0.47
42:EC:119:ARG:HD3	42:EC:274:TYR:CE1	2.49	0.47
43:ED:38:THR:HG23	58:ES:30:TYR:HB3	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
43:ED:223:PHE:HD2	43:ED:226:TYR:CD2	2.33	0.47
44:EE:54:TYR:CE1	44:EE:63:LEU:HB3	2.49	0.47
65:EZ:132:LYS:O	65:EZ:135:GLU:HG3	2.14	0.47
67:Eb:17:VAL:HG21	67:Eb:100:ILE:HD13	1.96	0.47
79:En:9:LYS:HZ3	79:En:22:GLN:HB2	1.79	0.47
1:2:406:U:H2'	1:2:407:A:C8	2.50	0.47
1:2:979:A:H4'	1:2:1786:G:N2	2.30	0.47
1:2:1619:C:H2'	1:2:1620:C:H6	1.80	0.47
4:5:114:A:H5''	52:EM:49:ARG:HH21	1.79	0.47
4:5:635:C:O3'	69:Ed:47:ARG:NH2	2.47	0.47
4:5:939:C:C5	65:EZ:26:ARG:HD2	2.50	0.47
4:5:2556:G:N1	71:Ef:96:GLU:OE2	2.47	0.47
6:7:1:C:H2'	6:7:2:G:C8	2.50	0.47
6:7:44:A:P	32:DZ:27:TRP:CD1	3.08	0.47
8:DB:87:ARG:HH12	8:DB:220:GLN:CD	2.22	0.47
8:DB:193:ILE:O	8:DB:197:ILE:HG12	2.15	0.47
33:Da:10:ARG:HB2	33:Da:33:ASP:OD1	2.15	0.47
43:ED:144:VAL:HG23	43:ED:173:VAL:HG22	1.97	0.47
55:EP:170:ARG:O	55:EP:171:LYS:HG2	2.14	0.47
57:ER:27:MET:HE3	58:ES:153:PRO:HD3	1.97	0.47
79:En:27:GLN:HB2	79:En:93:LEU:HD21	1.96	0.47
1:2:572:C:OP1	30:DX:109:ARG:NH1	2.47	0.47
3:4:62:U:O4	3:4:63:A:N6	2.47	0.47
4:5:264:G:OP1	73:Eh:34:SER:HB2	2.15	0.47
4:5:2184:A:H5''	40:EA:7:ASN:HB3	1.97	0.47
4:5:2844:U:OP2	4:5:2845:C:N4	2.36	0.47
5:6:63:G:H4'	48:EI:25:ALA:HB1	1.96	0.47
8:DB:179:SER:HA	8:DB:183:GLN:HG3	1.96	0.47
9:DC:240:LEU:O	9:DC:244:SER:OG	2.22	0.47
23:DQ:95:LYS:HD2	23:DQ:96:TYR:CD1	2.49	0.47
26:DT:35:ASP:H	26:DT:53:TRP:HZ2	1.62	0.47
31:DY:37:LYS:HE3	31:DY:93:ARG:HH21	1.80	0.47
42:EC:250:TRP:CZ3	42:EC:258:LEU:HD21	2.50	0.47
45:EF:98:LYS:O	45:EF:102:VAL:HG23	2.15	0.47
47:EH:41:ILE:HG21	47:EH:71:VAL:HG21	1.96	0.47
48:EI:36:LEU:HD21	48:EI:69:ARG:NH1	2.28	0.47
50:EK:28:GLN:HB3	52:EM:201:ARG:HE	1.80	0.47
50:EK:122:LYS:HD2	50:EK:145:PHE:CE1	2.49	0.47
55:EP:114:ILE:HG22	55:EP:119:GLY:HA3	1.96	0.47
1:2:71:A:H2'	1:2:72:A:C8	2.50	0.47
1:2:804:A:C8	29:DW:107:SER:HA	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1203:A:H61	1:2:1553:G:H1'	1.80	0.47
1:2:1204:A:C8	1:2:1555:A:N1	2.83	0.47
1:2:1304:G:H3'	1:2:1305:U:H2'	1.96	0.47
4:5:1700:A:H2'	4:5:1701:G:H8	1.80	0.47
4:5:2555:A:N1	40:EA:84:THR:OG1	2.39	0.47
8:DB:30:PHE:HA	8:DB:94:LYS:HG2	1.97	0.47
9:DC:157:LYS:NZ	29:DW:94:LEU:O	2.39	0.47
11:DE:252:ARG:HA	11:DE:255:ARG:HG2	1.97	0.47
20:DN:5:HIS:CE1	20:DN:121:ARG:HG3	2.50	0.47
41:EB:216:ASP:HB2	41:EB:339:ARG:HB3	1.97	0.47
45:EF:127:LEU:HD23	45:EF:130:ILE:HD11	1.97	0.47
52:EM:39:ALA:HB3	52:EM:61:ILE:CG2	2.42	0.47
53:EN:172[A]:ARG:HA	53:EN:175[A]:THR:HG22	1.97	0.47
68:Ec:37:LYS:NZ	68:Ec:49:VAL:O	2.47	0.47
1:2:200:A:H2'	1:2:201:G:H8	1.78	0.46
1:2:1584:G:O2'	1:2:1585:U:P	2.74	0.46
1:2:1610:G:H8	1:2:1610:G:O5'	1.98	0.46
3:4:33:U:C2	43:ED:207:TYR:CD1	3.04	0.46
3:4:112:G:H2'	3:4:113:C:H6	1.77	0.46
4:5:825:C:H5''	40:EA:21:ARG:HD3	1.97	0.46
4:5:897:A:H5'	40:EA:183:GLY:HA3	1.97	0.46
4:5:1496:U:H2'	4:5:1843:A:C2	2.50	0.46
4:5:1547:A:N7	52:EM:71:ARG:NH2	2.64	0.46
4:5:1739:C:O2'	71:Ef:52:GLN:HB2	2.15	0.46
4:5:2431:A:H2'	4:5:2432:C:C6	2.50	0.46
4:5:3067:U:H2'	4:5:3068:C:H6	1.79	0.46
5:6:18:G:H4'	5:6:60:U:H3	1.79	0.46
9:DC:66:PHE:CD1	9:DC:130:ILE:HD12	2.51	0.46
12:DF:97:LEU:HD11	12:DF:114:ILE:HD11	1.97	0.46
15:DI:188:GLU:HB3	18:DL:13:PHE:CZ	2.51	0.46
39:Dg:59:ARG:HH22	39:Dg:96:THR:C	2.23	0.46
43:ED:34:LYS:O	43:ED:38:THR:OG1	2.24	0.46
46:EG:157:VAL:HA	46:EG:183:LYS:NZ	2.30	0.46
50:EK:181:GLY:O	50:EK:185:LYS:HG2	2.15	0.46
80:Eo:49:ARG:HB2	80:Eo:55:TRP:CZ3	2.49	0.46
1:2:143:G:OP1	13:DG:143:LYS:NZ	2.28	0.46
1:2:201:G:H2'	1:2:202:A:C8	2.49	0.46
1:2:1071:U:H2'	1:2:1072:C:H6	1.80	0.46
1:2:1437:U:H2'	1:2:1438:G:H8	1.80	0.46
1:2:1660:A:H2'	1:2:1661:U:C6	2.50	0.46
1:2:1661:U:H2'	1:2:1662:G:C8	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:4:99:G:H4'	45:EF:128:LYS:HE3	1.97	0.46
4:5:126:U:H1'	52:EM:57:GLN:OE1	2.14	0.46
4:5:676:C:H5'	42:EC:116:ASN:HD21	1.80	0.46
4:5:1004:A:N1	4:5:1050:C:O2'	2.46	0.46
4:5:1722:U:O2'	4:5:1724:A:N7	2.38	0.46
4:5:1887:A:O4'	4:5:3308:A:H5'	2.16	0.46
4:5:2511:U:H2'	4:5:2512:A:H8	1.79	0.46
4:5:2668:A:O2'	4:5:2692:A:OP1	2.22	0.46
4:5:2746:G:N2	4:5:2748:A:H3'	2.29	0.46
12:DF:139:ASN:O	12:DF:214:LYS:NZ	2.34	0.46
15:DI:54:LYS:HG2	15:DI:175:GLN:O	2.16	0.46
41:EB:286:GLY:HA3	41:EB:321:PHE:CE2	2.51	0.46
46:EG:238:LEU:HD12	46:EG:246:MET:HE2	1.98	0.46
52:EM:124:ASP:OD1	52:EM:127:TYR:N	2.35	0.46
54:EO:119:VAL:HG22	54:EO:146:ILE:HG12	1.98	0.46
1:2:153:G:N2	13:DG:56:ASN:OD1	2.37	0.46
1:2:187:G:N1	1:2:197:A:N1	2.63	0.46
1:2:464:A:C2	1:2:465:G:C8	3.03	0.46
1:2:555:A:O2'	1:2:556:A:O5'	2.29	0.46
1:2:931:C:OP2	33:Da:70:LYS:NZ	2.48	0.46
1:2:1147:A:H2'	1:2:1148:C:C6	2.50	0.46
4:5:1171:A:OP1	45:EF:219:LYS:N	2.39	0.46
4:5:1644:A:O2'	4:5:1645:C:O4'	2.33	0.46
4:5:1676:G:H2'	4:5:1677:A:H8	1.79	0.46
4:5:1950:G:OP2	56:EQ:135:LYS:NZ	2.40	0.46
4:5:2427:U:H2'	4:5:2428:U:H6	1.79	0.46
4:5:3067:U:H2'	4:5:3068:C:C6	2.49	0.46
10:DD:11:LEU:HA	10:DD:14:ASP:HB2	1.98	0.46
14:DH:137:GLY:HA3	14:DH:153:LEU:HD12	1.96	0.46
20:DN:36:GLN:O	20:DN:39:LYS:HG3	2.15	0.46
28:DV:62:ARG:NH2	34:Db:3:LEU:HD11	2.29	0.46
43:ED:17:GLN:OE1	58:ES:22:HIS:N	2.48	0.46
43:ED:83:LEU:HD21	43:ED:100:ALA:HB3	1.98	0.46
49:EJ:108:GLU:C	49:EJ:110:ILE:H	2.22	0.46
51:EL:17:VAL:HG21	51:EL:74:ARG:HG3	1.97	0.46
52:EM:28:TRP:CE3	52:EM:29:GLU:HG3	2.51	0.46
71:Ef:92:ALA:O	71:Ef:96:GLU:HG2	2.14	0.46
73:Eh:54:GLU:O	73:Eh:58:ILE:HD12	2.16	0.46
1:2:107:C:OP1	1:2:383:G:O2'	2.23	0.46
1:2:116:U:H2'	1:2:117:U:C6	2.50	0.46
1:2:397:A:H4'	15:DI:50:GLY:HA2	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1189:A:N3	1:2:1194:A:O2'	2.40	0.46
1:2:1394:G:C2	1:2:1395:G:C5	3.03	0.46
4:5:184:U:H2'	4:5:185:C:H6	1.80	0.46
4:5:435:C:H2'	4:5:436:A:C8	2.50	0.46
4:5:2200:G:H2'	4:5:2201:U:H6	1.78	0.46
4:5:3001:A:H2'	4:5:3002:C:H6	1.80	0.46
4:5:3166:A:H2'	4:5:3167:C:C6	2.51	0.46
4:5:3199:U:C6	47:EH:21:LYS:CG	2.99	0.46
12:DF:45:LYS:HB2	12:DF:46:TRP:CZ3	2.50	0.46
16:DJ:110:GLN:NE2	16:DJ:126:ARG:HD3	2.31	0.46
22:DP:84:ILE:HD13	22:DP:115:TYR:HE1	1.81	0.46
27:DU:22:ILE:HG22	27:DU:118:VAL:HG22	1.98	0.46
39:Dg:31:ASN:O	39:Dg:32:LEU:HD23	2.16	0.46
42:EC:23:PRO:HD2	42:EC:26:PHE:CD2	2.50	0.46
47:EH:124:ARG:NH1	47:EH:165:CYS:HA	2.31	0.46
58:ES:104:GLU:HA	58:ES:107:GLU:HG2	1.97	0.46
60:EU:19:VAL:HG23	60:EU:50:PRO:O	2.14	0.46
1:2:93:A:H5'	1:2:94:U:C5	2.50	0.46
1:2:155:U:H5'	1:2:156:A:OP2	2.16	0.46
1:2:997:G:C6	1:2:1008:G:C6	3.04	0.46
1:2:1534:G:O2'	1:2:1535:U:O2	2.27	0.46
4:5:77:A:H2'	4:5:78:U:O4'	2.15	0.46
4:5:642:C:H2'	4:5:643:U:O4'	2.16	0.46
4:5:650:A:H2'	4:5:651:C:C6	2.50	0.46
4:5:1581:A:H5''	4:5:2523:G:C2	2.51	0.46
4:5:1857:C:H2'	4:5:1858:C:C6	2.50	0.46
4:5:2094:A:H2'	4:5:2095:C:O4'	2.15	0.46
4:5:2271:A:H2'	4:5:2272:A:H8	1.80	0.46
4:5:2586:G:H2'	4:5:2586:G:N3	2.29	0.46
4:5:2748:A:H5'	43:ED:175:HIS:HA	1.97	0.46
4:5:2936:U:O4	60:EU:44:SER:OG	2.33	0.46
9:DC:58:LEU:HA	28:DV:12:TYR:CE2	2.50	0.46
9:DC:139:ILE:HD12	9:DC:191:ALA:HB1	1.98	0.46
13:DG:163:THR:HG22	13:DG:168:THR:HG22	1.98	0.46
32:DZ:51:LEU:HD12	32:DZ:52:LYS:HE3	1.97	0.46
41:EB:252:ILE:HD13	41:EB:266:ARG:HH12	1.81	0.46
43:ED:178:ASN:HA	43:ED:183:TRP:CE3	2.51	0.46
46:EG:162:LEU:HD23	52:EM:7:LEU:HD11	1.97	0.46
51:EL:76:ALA:HB1	51:EL:80:THR:HG23	1.97	0.46
56:EQ:115:ILE:HG13	56:EQ:119:LEU:HD23	1.97	0.46
62:EW:50:ALA:HB2	72:Eg:77:PRO:HG2	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
70:Ee:16:TYR:CE2	70:Ee:91:ALA:HB2	2.50	0.46
72:Eg:28:LEU:HD11	72:Eg:48:ARG:HG2	1.97	0.46
1:2:223:U:H2'	1:2:224:C:H6	1.81	0.46
1:2:256:A:H2'	1:2:257:A:O4'	2.15	0.46
1:2:691:C:H2'	1:2:692:C:C6	2.50	0.46
1:2:813:U:C4	56:EQ:163:ARG:HB2	2.51	0.46
1:2:1101:G:O2'	29:DW:4:SER:OG	2.27	0.46
1:2:1332:C:C2	1:2:1333:C:C5	3.03	0.46
3:4:10:C:N3	43:ED:20:PHE:HB3	2.30	0.46
4:5:44:U:O2	79:En:46:LYS:NZ	2.39	0.46
4:5:677:G:O6	55:EP:86:THR:HG21	2.16	0.46
4:5:946:C:H2'	4:5:947:U:H6	1.78	0.46
4:5:1514:G:OP1	56:EQ:5:ARG:NH2	2.48	0.46
4:5:2096:G:H2'	4:5:2097:A:H8	1.81	0.46
4:5:2283:U:O2	4:5:2311:U:H4'	2.16	0.46
4:5:3213:C:OP2	51:EL:124:ARG:NH2	2.45	0.46
8:DB:71:ALA:O	8:DB:75:GLY:N	2.48	0.46
17:DK:61:TRP:CZ2	36:Dd:46:LYS:HE2	2.50	0.46
24:DR:107:SER:O	24:DR:111:LYS:HG2	2.16	0.46
46:EG:53:PRO:HD3	62:EW:32:PHE:HD2	1.81	0.46
58:ES:83:ARG:NH2	58:ES:85:LEU:HD11	2.31	0.46
1:2:68:A:H5'	13:DG:160:ARG:HH22	1.80	0.46
1:2:1086:A:H2	1:2:1141:G:N3	2.14	0.46
1:2:1088:A:O2'	1:2:1143:A:OP1	2.26	0.46
1:2:1390:U:H1'	1:2:1412:G:C2	2.51	0.46
4:5:954:G:H4'	4:5:955:U:H6	1.80	0.46
4:5:1063:A:N3	58:ES:130:ARG:NH2	2.62	0.46
4:5:2517:U:O2'	4:5:2596:A:N6	2.48	0.46
8:DB:227:ALA:HA	8:DB:229:MET:HE1	1.97	0.46
9:DC:38:VAL:O	9:DC:39:THR:OG1	2.32	0.46
21:DO:30:VAL:HG23	21:DO:39:ILE:HB	1.98	0.46
27:DU:103:ILE:HA	27:DU:106:ILE:HG12	1.97	0.46
39:Dg:64:HIS:HE1	39:Dg:86:ASP:H	1.64	0.46
39:Dg:197:SER:OG	39:Dg:217:ASP:N	2.49	0.46
41:EB:213:GLU:HB3	41:EB:282:ILE:HD12	1.98	0.46
44:EE:157:GLN:OE1	44:EE:157:GLN:N	2.48	0.46
75:Ej:24:THR:HG22	75:Ej:76:ASN:HB3	1.97	0.46
1:2:155:U:O2'	13:DG:59:GLN:HA	2.15	0.46
1:2:852:C:H5'	56:EQ:176:ARG:NH1	2.31	0.46
1:2:1606:C:H2'	1:2:1607:G:C8	2.50	0.46
1:2:1617:U:H2'	1:2:1618:C:C6	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:3:52:A:N6	76:Ek:27:ILE:HD13	2.27	0.46
4:5:47:C:OP2	4:5:48:A:O2'	2.24	0.46
4:5:593:A:H5'	44:EE:17:ALA:O	2.15	0.46
4:5:628:U:H2'	4:5:629:A:H8	1.80	0.46
4:5:2289:G:H2'	4:5:2290:U:C6	2.50	0.46
4:5:2657:A:C8	4:5:2659:G:C8	3.04	0.46
4:5:3380:C:H4'	41:EB:315:GLY:HA2	1.96	0.46
7:DA:27:ARG:HH22	7:DA:45:VAL:HG22	1.81	0.46
9:DC:40:LYS:HD3	9:DC:43:ARG:HH12	1.79	0.46
14:DH:139:ARG:O	14:DH:151:LYS:N	2.41	0.46
40:EA:101:VAL:HG22	40:EA:165:VAL:HG22	1.97	0.46
40:EA:104:LEU:O	40:EA:139:HIS:HE1	1.98	0.46
57:ER:24:LEU:HD13	58:ES:146:ASN:ND2	2.30	0.46
57:ER:44:PHE:HE1	57:ER:122:HIS:CD2	2.34	0.46
58:ES:26:HIS:HD1	58:ES:28:SER:HB2	1.80	0.46
65:EZ:83:PRO:HB2	65:EZ:86:LYS:HB3	1.98	0.46
67:Eb:25:LEU:O	67:Eb:29:SER:OG	2.33	0.46
77:El:79:GLU:OE2	77:El:81:SER:OG	2.33	0.46
1:2:135:A:H4'	1:2:136:C:H5'	1.98	0.46
1:2:884:A:H5''	8:DB:136:ARG:CZ	2.46	0.46
1:2:1141:G:C2'	1:2:1142:A:H5'	2.46	0.46
1:2:1406:A:H2'	1:2:1407:U:C6	2.51	0.46
1:2:1601:G:C4	26:DT:89:ARG:CZ	2.98	0.46
4:5:63:A:OP1	52:EM:169:LYS:HE2	2.16	0.46
4:5:417:A:H2'	4:5:418:A:C8	2.50	0.46
4:5:823:G:H2'	4:5:824:C:H6	1.81	0.46
4:5:973:A:H4'	4:5:1373:C:H4'	1.98	0.46
4:5:1153:G:N2	4:5:1153:G:OP2	2.46	0.46
4:5:1318:A:O2'	4:5:1319:A:H3'	2.15	0.46
4:5:1718:U:H2'	4:5:1719:G:C8	2.51	0.46
4:5:2662:G:H2'	4:5:2663:G:C8	2.51	0.46
4:5:2724:U:H2'	4:5:2725:U:C6	2.51	0.46
6:7:51:U:H2'	6:7:52:C:C6	2.51	0.46
18:DL:99:ARG:HG3	30:DX:12:ALA:HB2	1.97	0.46
36:Dd:22:ARG:HG3	36:Dd:23:VAL:HG23	1.97	0.46
39:Dg:214:ALA:HB3	39:Dg:243:LEU:HD11	1.96	0.46
41:EB:95:THR:OG1	41:EB:98:GLY:O	2.25	0.46
41:EB:147:GLU:H	41:EB:147:GLU:CD	2.24	0.46
44:EE:172:HIS:HD2	70:Ee:44:TYR:OH	1.99	0.46
44:EE:175:LYS:O	51:EL:117:ARG:NH2	2.45	0.46
50:EK:24:VAL:HA	52:EM:199:LEU:O	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:EP:94:PHE:HD2	65:EZ:119:PRO:HG3	1.81	0.46
1:2:241:U:O2'	1:2:242:U:O4'	2.25	0.46
1:2:856:A:H1'	14:DH:64:VAL:HG13	1.98	0.46
1:2:925:G:H1'	1:2:988:A:C8	2.51	0.46
1:2:1035:G:O2'	29:DW:3:ARG:HG2	2.16	0.46
1:2:1174:C:OP2	25:DS:141:THR:HG21	2.15	0.46
1:2:1228:G:H4'	38:Df:102:VAL:HG12	1.97	0.46
1:2:1462:G:O2'	6:7:31:G:OP1	2.23	0.46
2:3:139:U:H2'	2:3:140:G:H8	1.81	0.46
4:5:2390:C:H2'	4:5:2391:A:H8	1.81	0.46
7:DA:154:GLU:OE1	7:DA:155:PHE:HD2	1.98	0.46
23:DQ:94:GLN:NE2	39:Dg:60:SER:O	2.49	0.46
25:DS:4:VAL:HG22	32:DZ:82:HIS:CD2	2.51	0.46
30:DX:50:LYS:HB3	30:DX:101:GLU:OE2	2.16	0.46
37:De:52:GLY:O	37:De:53:LYS:HE2	2.16	0.46
42:EC:14:GLU:HG2	42:EC:15:ALA:H	1.81	0.46
43:ED:64:ILE:HG12	43:ED:105:ILE:HD11	1.98	0.46
45:EF:163:LEU:O	45:EF:168:ILE:HD12	2.16	0.46
51:EL:12:TRP:HB2	57:ER:172:TYR:O	2.16	0.46
1:2:655:G:H1'	1:2:678:A:H61	1.80	0.45
1:2:919:A:H1'	21:DO:36:LYS:HA	1.98	0.45
1:2:1309:C:H2'	1:2:1310:U:O4'	2.16	0.45
1:2:1584:G:N2	1:2:1611:A:OP2	2.49	0.45
1:2:1592:A:H2'	1:2:1593:A:H8	1.79	0.45
1:2:1619:C:H2'	1:2:1620:C:C6	2.51	0.45
2:3:57:C:H4'	2:3:63:G:N7	2.31	0.45
3:4:27:A:H2'	3:4:28:C:C6	2.51	0.45
4:5:225:C:H5'	63:EX:34:PRO:HD3	1.97	0.45
4:5:823:G:H2'	4:5:824:C:C6	2.51	0.45
4:5:1109:U:H2'	4:5:1110:U:H6	1.80	0.45
4:5:1561:G:N7	62:EW:33:ARG:NH2	2.63	0.45
4:5:2186:G:H5'	40:EA:219:ILE:HD11	1.96	0.45
4:5:2662:G:H2'	4:5:2663:G:H8	1.81	0.45
4:5:2745:U:H2'	4:5:2746:G:C8	2.51	0.45
6:7:29:C:H2'	6:7:30:G:H8	1.82	0.45
7:DA:37:VAL:HG22	7:DA:149:LEU:HD13	1.97	0.45
12:DF:57:SER:HA	35:Dc:53:ILE:HB	1.98	0.45
28:DV:39:VAL:HG22	28:DV:45:ALA:HA	1.98	0.45
32:DZ:62:VAL:HG13	32:DZ:76:ALA:HB3	1.97	0.45
40:EA:84:THR:HG22	80:Eo:63:THR:H	1.81	0.45
47:EH:113:GLU:OE2	47:EH:115:ARG:NE	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:ER:24:LEU:HD13	58:ES:146:ASN:HD21	1.80	0.45
62:EW:75:LYS:HB3	62:EW:81:ILE:HG21	1.97	0.45
1:2:962:C:H2'	1:2:963:A:O4'	2.16	0.45
1:2:1004:U:H5'	1:2:1005:A:H5''	1.98	0.45
1:2:1231:U:O2'	1:2:1258:U:O2'	2.21	0.45
1:2:1365:C:O3'	23:DQ:30:LYS:NZ	2.49	0.45
2:3:121:U:H2'	2:3:122:U:C6	2.51	0.45
4:5:277:G:H2'	4:5:278:U:C6	2.51	0.45
4:5:568:G:H2'	4:5:569:G:H8	1.81	0.45
4:5:961:U:H4'	4:5:964:G:N1	2.31	0.45
4:5:3357:G:H2'	4:5:3358:U:C6	2.51	0.45
7:DA:11:PRO:HG3	24:DR:115:LEU:HD22	1.97	0.45
8:DB:39:GLU:OE2	8:DB:40:ASN:ND2	2.50	0.45
11:DE:198:LYS:HA	11:DE:208:VAL:HA	1.98	0.45
37:De:49:LEU:HD13	37:De:58:PRO:HD2	1.98	0.45
43:ED:270:LYS:HE3	43:ED:273:ARG:HH21	1.81	0.45
46:EG:24:ASN:HB3	46:EG:25:PRO:HD3	1.98	0.45
49:EJ:33:ALA:O	49:EJ:37:LEU:HD13	2.16	0.45
56:EQ:98:ARG:HH21	56:EQ:133:LYS:HA	1.82	0.45
1:2:395:U:H2'	1:2:396:G:O4'	2.16	0.45
1:2:933:A:O2'	1:2:934:C:O5'	2.29	0.45
1:2:1429:G:H2'	1:2:1430:U:C6	2.51	0.45
4:5:739:A:H2'	4:5:740:G:C8	2.52	0.45
4:5:927:A:H2'	4:5:928:C:C6	2.51	0.45
4:5:1000:G:H2'	4:5:1001:C:C6	2.51	0.45
4:5:1631:U:O2'	4:5:1813:G:N1	2.40	0.45
4:5:2526:G:O2'	4:5:2527:C:OP2	2.26	0.45
4:5:2684:U:H2'	4:5:2685:C:C6	2.51	0.45
4:5:3348:A:H2'	4:5:3349:G:C8	2.51	0.45
8:DB:173:THR:O	8:DB:177:GLN:HG3	2.15	0.45
9:DC:38:VAL:O	9:DC:38:VAL:HG13	2.16	0.45
10:DD:166:ASP:O	10:DD:190:ARG:NH1	2.41	0.45
12:DF:148:ARG:HB2	12:DF:157:ARG:NH2	2.32	0.45
28:DV:80:LYS:O	28:DV:82:VAL:N	2.49	0.45
41:EB:58:ARG:HD2	41:EB:354:VAL:HG13	1.98	0.45
45:EF:144:ILE:HD12	45:EF:189:ILE:HG22	1.98	0.45
50:EK:185:LYS:CD	50:EK:188:ARG:HH21	2.29	0.45
1:2:571:G:H5'	30:DX:114:LYS:HE2	1.99	0.45
1:2:628:G:C2'	4:5:847:A:C4	3.00	0.45
1:2:1523:G:H21	1:2:1523:G:P	2.38	0.45
2:3:144:G:H2'	2:3:145:U:H6	1.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:787:A:O3'	4:5:788:G:H8	2.00	0.45
4:5:1534:U:O2'	4:5:1535:A:H5'	2.16	0.45
4:5:2374:A:N7	4:5:2868:C:H1'	2.31	0.45
5:6:9:A:O2'	5:6:10:G:N7	2.48	0.45
11:DE:72:VAL:N	11:DE:75:LYS:O	2.45	0.45
15:DI:152:ILE:HG22	18:DL:24:LYS:HE3	1.98	0.45
17:DK:8:ARG:O	17:DK:12:HIS:ND1	2.29	0.45
19:DM:99:GLU:HG2	19:DM:115:VAL:HG11	1.97	0.45
23:DQ:94:GLN:HB2	23:DQ:102:LYS:HG3	1.97	0.45
33:Da:40:ALA:HB3	33:Da:69:ASN:HB3	1.96	0.45
39:Dg:177:MET:HG3	39:Dg:193:ILE:HG23	1.99	0.45
40:EA:120:PRO:HD3	40:EA:159:SER:HB3	1.98	0.45
47:EH:23:ARG:NH1	47:EH:42:ASP:OD1	2.49	0.45
1:2:207:U:H2'	1:2:208:U:C6	2.51	0.45
1:2:560:U:H2'	1:2:561:G:H8	1.81	0.45
1:2:684:A:H2'	1:2:685:A:H8	1.80	0.45
1:2:1290:U:H2'	1:2:1291:G:N3	2.31	0.45
1:2:1337:A:O2'	23:DQ:123:ARG:NH2	2.49	0.45
1:2:1338:C:H1'	1:2:1410:A:C5	2.52	0.45
1:2:1608:U:O3'	23:DQ:73:GLY:HA3	2.16	0.45
1:2:1791:A:O2'	1:2:1792:G:OP2	2.34	0.45
4:5:864:C:H2'	4:5:865:G:O4'	2.17	0.45
4:5:1406:U:OP2	69:Ed:59:SER:OG	2.27	0.45
4:5:1435:G:H5''	4:5:1438:C:C5	2.51	0.45
4:5:1857:C:H2'	4:5:1858:C:H6	1.81	0.45
4:5:1916:A:H2'	4:5:1917:U:H6	1.81	0.45
4:5:2181:G:H2'	4:5:2182:C:C6	2.52	0.45
4:5:2380:U:H2'	4:5:2381:U:C6	2.51	0.45
4:5:2414:A:H2'	4:5:2415:G:C8	2.51	0.45
4:5:2713:U:H2'	4:5:2714:U:C6	2.51	0.45
4:5:3281:U:O2'	4:5:3282:U:H5'	2.17	0.45
4:5:3372:G:H2'	4:5:3373:A:H8	1.82	0.45
7:DA:48:ILE:HG21	7:DA:161:PRO:HB2	1.99	0.45
7:DA:75:ALA:HB1	7:DA:174:TRP:HH2	1.81	0.45
7:DA:156:VAL:HG12	7:DA:157:ASP:O	2.16	0.45
10:DD:53:THR:HG21	10:DD:94:ARG:HD3	1.99	0.45
12:DF:25:LEU:HD23	12:DF:27:THR:H	1.79	0.45
39:Dg:13:LEU:HB3	39:Dg:45:TRP:CH2	2.52	0.45
42:EC:64:SER:HA	42:EC:75:PRO:HA	1.99	0.45
52:EM:99:ARG:HB2	52:EM:130:PHE:CE2	2.52	0.45
55:EP:123:THR:OG1	55:EP:125:ASP:OD1	2.33	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
57:ER:152:LEU:HB2	57:ER:172:TYR:CD2	2.52	0.45
1:2:140:A:H2'	13:DG:179:VAL:HG21	1.98	0.45
1:2:818:C:N4	1:2:819:G:N7	2.65	0.45
1:2:1537:C:O5'	1:2:1572:G:N2	2.49	0.45
4:5:282:G:O6	52:EM:182:ASN:ND2	2.50	0.45
4:5:822:U:H2'	4:5:823:G:H8	1.81	0.45
4:5:1241:A:N1	4:5:1245:A:H8	2.15	0.45
4:5:1496:U:H5	4:5:1836:A:N1	2.15	0.45
4:5:1632:C:H5''	4:5:1633:A:H5''	1.98	0.45
4:5:2556:G:N7	71:Ef:95:ILE:HD11	2.32	0.45
4:5:2841:C:H2'	4:5:2842:G:O4'	2.17	0.45
4:5:3296:A:H2'	4:5:3297:A:H8	1.81	0.45
8:DB:5:LYS:NZ	21:DO:51:ASP:OD2	2.44	0.45
8:DB:54:LEU:HD23	8:DB:54:LEU:H	1.82	0.45
14:DH:17:GLU:OE2	14:DH:46:ILE:N	2.49	0.45
16:DJ:126:ARG:HG2	37:De:33:ARG:HD3	1.98	0.45
17:DK:62:GLN:HE22	36:Dd:24:CYS:HA	1.81	0.45
18:DL:21:ASN:ND2	18:DL:30:ARG:O	2.38	0.45
23:DQ:28:LEU:HD12	23:DQ:30:LYS:HE3	1.98	0.45
40:EA:88:ILE:HG23	40:EA:99:GLY:O	2.16	0.45
49:EJ:93:ASP:OD1	49:EJ:94:ARG:N	2.49	0.45
50:EK:179:PHE:O	50:EK:183:ARG:HG2	2.17	0.45
64:EY:13:VAL:HG12	64:EY:19:ALA:HA	1.98	0.45
72:Eg:86:ARG:O	72:Eg:90:ARG:HD3	2.16	0.45
79:En:8:ARG:HD2	79:En:9:LYS:H	1.82	0.45
1:2:388:G:OP1	1:2:423:G:O2'	2.24	0.45
1:2:813:U:H2'	56:EQ:167:ARG:HH21	1.82	0.45
4:5:103:G:OP1	50:EK:61:PRO:HD2	2.16	0.45
4:5:2723:U:H2'	4:5:2724:U:H6	1.82	0.45
4:5:3095:A:H2'	4:5:3096:U:C6	2.52	0.45
9:DC:209:ASN:N	9:DC:209:ASN:ND2	2.60	0.45
15:DI:165:LEU:HD13	15:DI:183:ILE:HG12	1.99	0.45
19:DM:27:ALA:HA	19:DM:30:VAL:HG22	1.97	0.45
21:DO:78:ALA:HA	21:DO:111:ARG:HB3	1.98	0.45
29:DW:20:THR:HG23	29:DW:22:LYS:HG3	1.99	0.45
40:EA:40:TYR:HA	40:EA:91:GLY:HA3	1.97	0.45
42:EC:170:LYS:HD2	42:EC:175:HIS:ND1	2.32	0.45
43:ED:267:ALA:O	43:ED:271:LYS:NZ	2.49	0.45
46:EG:89:GLU:O	46:EG:92:LYS:HG3	2.16	0.45
50:EK:14:PHE:HB3	50:EK:18:TRP:NE1	2.31	0.45
67:Eb:86:ARG:NH2	80:Eo:44:LYS:HE3	2.31	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:126:A:H8	1:2:204:G:H21	1.63	0.45
1:2:1072:C:H2'	1:2:1073:G:C8	2.51	0.45
1:2:1251:U:O2'	1:2:1252:C:OP1	2.31	0.45
1:2:1259:U:H2'	1:2:1260:U:C6	2.52	0.45
1:2:1404:C:H2'	1:2:1405:G:C8	2.52	0.45
1:2:1471:A:O2'	1:2:1472:C:OP1	2.33	0.45
1:2:1590:G:H2'	1:2:1591:C:C6	2.51	0.45
1:2:1681:A:H2	1:2:1720:G:H21	1.65	0.45
1:2:1791:A:OP2	33:Da:10:ARG:NH2	2.50	0.45
4:5:993:A:O2'	4:5:994:G:H5'	2.17	0.45
4:5:1291:A:H2'	4:5:1292:A:C8	2.51	0.45
4:5:2684:U:H2'	4:5:2685:C:H6	1.82	0.45
4:5:2685:C:H2'	4:5:2686:C:H6	1.81	0.45
4:5:2724:U:H5''	58:ES:87:LYS:HE3	1.98	0.45
7:DA:47:VAL:HG21	24:DR:105:GLN:NE2	2.32	0.45
8:DB:212:VAL:CG1	8:DB:213:ARG:H	2.27	0.45
9:DC:203:LYS:CD	9:DC:206:THR:HG23	2.38	0.45
14:DH:14:THR:HG23	14:DH:16:LEU:HG	1.99	0.45
15:DI:26:LYS:HG2	15:DI:29:LEU:HD23	1.99	0.45
20:DN:25:TRP:CE3	34:Db:82:LYS:HD3	2.52	0.45
25:DS:49:LYS:O	25:DS:79:TYR:OH	2.28	0.45
26:DT:14:PHE:HE1	26:DT:136:ALA:HB2	1.82	0.45
29:DW:37:PHE:O	29:DW:41:MET:HG3	2.17	0.45
33:Da:36:ILE:O	33:Da:36:ILE:HG22	2.17	0.45
43:ED:41:LYS:HB2	58:ES:68:THR:O	2.17	0.45
49:EJ:164:LYS:HE2	49:EJ:171:VAL:HB	1.98	0.45
50:EK:76:THR:HG21	50:EK:103:ASN:CG	2.42	0.45
52:EM:19:LEU:O	52:EM:23:GLN:N	2.28	0.45
53:EN:89[A]:SER:O	53:EN:95[A]:GLY:HA3	2.17	0.45
58:ES:18:ASP:OD2	58:ES:21:LYS:HG3	2.17	0.45
58:ES:111:ALA:O	58:ES:115:LYS:HG2	2.17	0.45
1:2:1081:A:N3	1:2:1082:C:N4	2.52	0.45
1:2:1111:G:HO2'	1:2:1112:G:P	2.39	0.45
4:5:121:A:C2	46:EG:129:PRO:HB3	2.52	0.45
4:5:297:G:N2	73:Eh:41:ARG:HH11	2.15	0.45
4:5:312:C:H2'	4:5:313:A:H8	1.82	0.45
4:5:904:U:N3	4:5:905:A:N7	2.65	0.45
4:5:1080:A:C6	43:ED:113:LEU:HD22	2.52	0.45
4:5:2652:G:H5''	4:5:2653:U:O4'	2.17	0.45
4:5:3333:U:H2'	4:5:3334:G:O4'	2.16	0.45
8:DB:24:PHE:HA	8:DB:27:LYS:NZ	2.32	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:DC:101:VAL:HG22	9:DC:115:ILE:HG23	1.98	0.45
12:DF:66:GLN:OE1	12:DF:66:GLN:N	2.50	0.45
12:DF:90:ILE:O	12:DF:94:THR:HG23	2.17	0.45
24:DR:110:VAL:O	24:DR:114:GLY:N	2.49	0.45
32:DZ:35:ARG:HA	32:DZ:35:ARG:HD2	1.81	0.45
39:Dg:267:PRO:HG2	39:Dg:269:TYR:HE1	1.81	0.45
39:Dg:289:ALA:HB2	39:Dg:305:TYR:HE1	1.81	0.45
39:Dg:299:GLN:NE2	39:Dg:314:GLN:HB2	2.32	0.45
41:EB:57:VAL:HG22	41:EB:73:VAL:HG22	1.98	0.45
76:Ek:36:ARG:HG3	76:Ek:37:TYR:CD2	2.46	0.45
1:2:76:A:N3	1:2:80:A:N6	2.65	0.45
1:2:918:U:C4	1:2:919:A:N7	2.85	0.45
1:2:1023:A:H4'	1:2:1024:U:O5'	2.17	0.45
1:2:1522:U:H4'	1:2:1523:G:OP2	2.17	0.45
1:2:1564:U:H2'	1:2:1565:C:C6	2.52	0.45
1:2:1746:A:OP1	1:2:1746:A:H8	2.00	0.45
2:3:142:C:H42	4:5:17:G:H1	1.64	0.45
4:5:339:C:OP1	4:5:1381:G:O2'	2.30	0.45
4:5:432:G:H2'	4:5:433:A:C8	2.51	0.45
4:5:507:U:H2'	4:5:508:U:O4'	2.17	0.45
4:5:2178:G:H2'	40:EA:128:ARG:HB2	1.99	0.45
4:5:2715:G:H4'	4:5:2716:A:H5''	1.99	0.45
4:5:3199:U:C2	4:5:3199:U:C4	2.94	0.45
8:DB:83:LYS:HE2	8:DB:106:THR:HA	1.99	0.45
9:DC:115:ILE:HD12	9:DC:212:LYS:HD2	1.99	0.45
14:DH:34:LEU:HA	14:DH:37:GLU:OE2	2.17	0.45
20:DN:87:ASP:OD1	20:DN:88:LEU:N	2.50	0.45
22:DP:90:ILE:HD11	22:DP:112:LEU:HD11	1.98	0.45
29:DW:50:PHE:HB2	29:DW:63:VAL:HG22	1.99	0.45
37:De:54:ARG:O	37:De:54:ARG:HD3	2.17	0.45
43:ED:105:ILE:O	43:ED:109:THR:HG22	2.17	0.45
48:EI:38:LYS:N	48:EI:85:PHE:O	2.42	0.45
50:EK:93:ILE:O	50:EK:119:TYR:OH	2.35	0.45
52:EM:122:ASN:O	52:EM:129:TYR:HB2	2.17	0.45
57:ER:19:VAL:O	57:ER:19:VAL:HG13	2.16	0.45
79:En:28:TYR:CZ	79:En:30:ALA:HA	2.52	0.45
1:2:889:U:H2'	1:2:890:C:C6	2.52	0.44
1:2:905:A:O3'	21:DO:52:ARG:NH1	2.50	0.44
1:2:956:C:H2'	1:2:957:G:H8	1.82	0.44
1:2:971:A:C6	4:5:847:A:N7	2.83	0.44
1:2:1400:A:H5''	1:2:1401:A:OP2	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1636:C:O2	1:2:1765:A:N6	2.50	0.44
2:3:111:A:O2'	2:3:112:U:H5'	2.17	0.44
4:5:178:U:H2'	4:5:179:C:H6	1.82	0.44
4:5:768:U:O5'	50:EK:186:ARG:NH1	2.50	0.44
4:5:1710:C:H2'	4:5:1711:C:H6	1.81	0.44
8:DB:193:ILE:H	8:DB:193:ILE:HD12	1.82	0.44
10:DD:137:VAL:O	10:DD:184:ILE:HA	2.17	0.44
22:DP:111:MET:HG3	25:DS:119:ILE:HG23	1.98	0.44
29:DW:39:GLN:O	29:DW:43:LYS:HG3	2.17	0.44
30:DX:102:VAL:HG12	30:DX:127:VAL:HG23	1.99	0.44
32:DZ:53:GLU:HB3	32:DZ:69:LEU:HD11	1.97	0.44
40:EA:64:ARG:NH2	46:EG:37:GLY:O	2.46	0.44
42:EC:14:GLU:H	42:EC:14:GLU:CD	2.25	0.44
42:EC:282:SER:HB3	55:EP:126:GLN:HE21	1.82	0.44
43:ED:95:TRP:HD1	43:ED:158:ARG:HA	1.82	0.44
45:EF:55:TYR:OH	45:EF:186:HIS:ND1	2.39	0.44
46:EG:76:ALA:HA	46:EG:79:GLN:OE1	2.17	0.44
1:2:97:C:H2'	1:2:98:U:C6	2.52	0.44
1:2:106:U:OP1	15:DI:8:ARG:NH2	2.49	0.44
1:2:172:C:H2'	1:2:173:A:C8	2.52	0.44
1:2:1120:U:H2'	1:2:1121:C:C6	2.52	0.44
1:2:1583:A:N6	23:DQ:122:ARG:HH12	2.14	0.44
1:2:1641:C:H2'	1:2:1642:G:C8	2.52	0.44
1:2:1736:G:H2'	1:2:1737:G:H8	1.83	0.44
3:4:26:C:H5'	43:ED:56:THR:OG1	2.16	0.44
4:5:268:A:H5''	52:EM:47:LYS:NZ	2.33	0.44
4:5:526:C:OP2	51:EL:77:ARG:NH2	2.36	0.44
4:5:929:C:H2'	4:5:930:A:C8	2.53	0.44
4:5:2162:G:N2	4:5:2182:C:O2'	2.51	0.44
4:5:3295:A:H2'	4:5:3296:A:O4'	2.16	0.44
5:6:52:G:C2	5:6:53:G:C8	3.05	0.44
12:DF:94:THR:HG22	12:DF:114:ILE:HG13	1.99	0.44
21:DO:29:HIS:HB3	21:DO:41:ARG:HG3	1.98	0.44
29:DW:122:SER:OG	29:DW:123:GLY:N	2.51	0.44
39:Dg:61:PHE:HB3	39:Dg:92:TRP:CZ2	2.52	0.44
41:EB:187:SER:O	41:EB:190:GLU:HG2	2.17	0.44
48:EI:72:ALA:O	48:EI:76:MET:HG3	2.17	0.44
54:EO:64:ASN:O	54:EO:80:LYS:NZ	2.40	0.44
60:EU:101:VAL:HG11	60:EU:114:ILE:HD12	1.98	0.44
1:2:511:A:H5''	16:DJ:172:VAL:HG13	1.98	0.44
1:2:600:U:OP2	30:DX:108:GLY:HA2	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:624:G:H1'	1:2:1027:A:C4	2.52	0.44
1:2:747:C:H2'	1:2:748:U:C6	2.52	0.44
1:2:832:U:H3'	1:2:833:U:H5''	1.99	0.44
1:2:1359:C:O2'	26:DT:4:VAL:N	2.45	0.44
1:2:1574:G:H5''	1:2:1575:G:OP1	2.18	0.44
4:5:282:G:HO2'	4:5:283:G:P	2.36	0.44
4:5:300:G:H2'	4:5:301:G:C8	2.49	0.44
4:5:307:A:H2'	4:5:308:A:C8	2.52	0.44
4:5:845:G:H2'	4:5:846:G:O4'	2.18	0.44
4:5:1598:C:H2'	4:5:1599:G:H8	1.82	0.44
4:5:2147:C:H5''	40:EA:203:ALA:HB1	1.99	0.44
4:5:2177:U:OP1	40:EA:54:ARG:NH2	2.51	0.44
4:5:2778:G:N3	65:EZ:60:TYR:HE1	2.16	0.44
4:5:2905:U:H2'	4:5:2906:U:C6	2.53	0.44
4:5:3376:A:O2'	4:5:3379:C:OP2	2.30	0.44
5:6:56:C:O2'	5:6:57:G:O5'	2.32	0.44
7:DA:101:ARG:HD2	7:DA:102:PHE:H	1.83	0.44
8:DB:222:LYS:O	8:DB:224:ASP:N	2.51	0.44
25:DS:4:VAL:HB	32:DZ:42:LEU:HD21	2.00	0.44
30:DX:68:ILE:O	30:DX:70:LYS:NZ	2.48	0.44
33:Da:89:ARG:O	33:Da:93:LYS:NZ	2.44	0.44
39:Dg:154:VAL:HG22	39:Dg:171:SER:HB2	1.99	0.44
45:EF:139:PRO:HG2	45:EF:144:ILE:HD11	1.98	0.44
46:EG:74:THR:HA	46:EG:77:GLN:HE22	1.82	0.44
69:Ed:79:VAL:O	69:Ed:83:GLU:HG3	2.16	0.44
1:2:182:A:H2'	1:2:183:U:C6	2.51	0.44
1:2:626:U:H2'	1:2:627:C:C6	2.53	0.44
1:2:629:U:C6	4:5:847:A:C2	3.04	0.44
1:2:1110:G:H4'	1:2:1139:A:C2	2.53	0.44
1:2:1421:A:H4'	10:DD:160:SER:HB3	1.98	0.44
4:5:46:U:H2'	4:5:47:C:C6	2.53	0.44
4:5:773:U:H2'	4:5:774:G:C8	2.53	0.44
4:5:1262:G:N2	4:5:1262:G:OP2	2.50	0.44
4:5:1577:G:H2'	4:5:1578:G:C8	2.52	0.44
4:5:1751:A:OP2	75:Ej:28:ASN:ND2	2.43	0.44
4:5:2097:A:H2'	4:5:2098:U:C6	2.53	0.44
4:5:2113:U:H4'	4:5:2114:A:H5'	1.98	0.44
4:5:2715:G:H5'	4:5:2717:U:H6	1.82	0.44
4:5:2799:C:H5''	4:5:2800:A:OP1	2.17	0.44
12:DF:61:TYR:HA	12:DF:85:ALA:HB1	2.00	0.44
12:DF:188:LYS:HD2	32:DZ:63:SER:HB3	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
22:DP:86:VAL:HG12	22:DP:88:GLU:OE1	2.17	0.44
23:DQ:103:ASN:OD1	23:DQ:104:GLU:N	2.50	0.44
24:DR:24:LEU:HD13	24:DR:31:ASN:HD22	1.82	0.44
25:DS:23:ASP:OD1	25:DS:24:GLY:N	2.51	0.44
39:Dg:254:ALA:N	39:Dg:261:LYS:O	2.51	0.44
41:EB:110:LEU:O	41:EB:115:LYS:NZ	2.51	0.44
55:EP:173:GLU:HA	65:EZ:51:GLY:C	2.43	0.44
65:EZ:86:LYS:NZ	65:EZ:90:TYR:HE2	2.15	0.44
1:2:329:G:H2'	1:2:330:G:C8	2.52	0.44
1:2:592:A:H2'	1:2:593:U:O4'	2.18	0.44
1:2:765:G:H21	1:2:765:G:P	2.40	0.44
1:2:912:U:H4'	1:2:913:G:O5'	2.17	0.44
1:2:981:U:H2'	1:2:982:U:C6	2.52	0.44
1:2:1216:C:O2'	1:2:1217:A:H2'	2.18	0.44
1:2:1347:U:C5	27:DU:58:LEU:HD21	2.53	0.44
1:2:1579:U:H2'	1:2:1580:C:C6	2.52	0.44
3:4:76:A:H1'	57:ER:50:LYS:HZ1	1.82	0.44
4:5:30:G:C6	4:5:55:G:C6	3.05	0.44
4:5:528:A:H2'	4:5:529:U:C6	2.53	0.44
4:5:659:G:N2	42:EC:93:MET:HB2	2.33	0.44
4:5:730:C:O2'	55:EP:79:LYS:HE3	2.17	0.44
4:5:848:A:H8	4:5:848:A:O5'	2.01	0.44
6:7:44:A:H2'	6:7:45:A:C8	2.52	0.44
9:DC:35:TRP:CE3	9:DC:46:LYS:HE3	2.51	0.44
12:DF:53:VAL:HG21	12:DF:62:VAL:HG21	1.99	0.44
14:DH:114:ARG:O	14:DH:117:THR:HG22	2.18	0.44
26:DT:38:LYS:NZ	26:DT:44:GLU:HA	2.33	0.44
42:EC:157:GLU:OE2	42:EC:213:ASN:N	2.50	0.44
43:ED:60:ILE:HD11	43:ED:93:THR:HA	1.99	0.44
54:EO:175:ARG:O	54:EO:179:GLN:HG2	2.17	0.44
74:EI:34:CYS:N	74:EI:39:TYR:O	2.38	0.44
80:EO:39:CYS:HB2	80:EO:57:CYS:SG	2.57	0.44
1:2:628:G:H2'	4:5:847:A:C5	2.52	0.44
1:2:906:A:H61	1:2:1008:G:H1'	1.82	0.44
1:2:1072:C:H2'	1:2:1073:G:H8	1.82	0.44
1:2:1132:A:H2'	1:2:1133:A:H8	1.82	0.44
1:2:1331:A:OP1	24:DR:45:ARG:NH1	2.44	0.44
2:3:80:A:HO2'	2:3:82:U:H5	1.65	0.44
4:5:75:G:H5''	50:EK:58:VAL:HG12	1.99	0.44
4:5:217:U:O2	63:EX:103:LYS:NZ	2.42	0.44
4:5:948:G:H2'	4:5:949:C:H6	1.81	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:976:C:H2'	4:5:977:U:C6	2.52	0.44
4:5:1214:G:H4'	57:ER:90:MET:HG3	1.99	0.44
4:5:1623:U:H2'	4:5:1624:G:C8	2.53	0.44
4:5:1811:A:H2'	4:5:1812:G:C8	2.52	0.44
4:5:2268:C:O2'	4:5:2269:U:O5'	2.35	0.44
4:5:2535:G:H3'	4:5:2536:A:H8	1.83	0.44
12:DF:119:ASP:HB3	32:DZ:100:ILE:HG21	1.99	0.44
12:DF:189:THR:O	12:DF:193:THR:OG1	2.30	0.44
16:DJ:132:ARG:C	16:DJ:133:HIS:HD1	2.26	0.44
19:DM:81:ASP:N	19:DM:81:ASP:OD1	2.50	0.44
42:EC:152:VAL:HG21	42:EC:156:LEU:HD22	1.99	0.44
43:ED:85:ARG:HH22	43:ED:254:LYS:NZ	2.16	0.44
43:ED:156:GLY:HA2	43:ED:181:PRO:HB3	2.00	0.44
49:EJ:32:ARG:NH1	49:EJ:119:SER:O	2.47	0.44
49:EJ:92:ARG:HG2	49:EJ:172:LEU:HD22	1.99	0.44
50:EK:56:PRO:HB3	50:EK:75:PHE:CE1	2.53	0.44
57:ER:131:LYS:HG3	57:ER:132:THR:O	2.17	0.44
61:EV:50:ALA:HA	61:EV:55:PHE:CG	2.53	0.44
69:Ed:38:ILE:O	69:Ed:43:ARG:NH2	2.50	0.44
73:Eh:40:VAL:O	73:Eh:44:VAL:HG23	2.17	0.44
1:2:323:A:H2'	1:2:324:U:C6	2.53	0.44
1:2:330:G:OP2	15:DI:172:ARG:NH1	2.51	0.44
1:2:607:G:H5'	1:2:613:G:N2	2.32	0.44
1:2:686:C:O2'	14:DH:146:GLY:O	2.35	0.44
1:2:698:U:H2'	1:2:699:U:C6	2.53	0.44
1:2:996:U:C2	1:2:997:G:C8	3.06	0.44
1:2:1067:C:H5''	8:DB:150:VAL:HG23	1.99	0.44
1:2:1137:A:H1'	1:2:1138:A:C5	2.53	0.44
1:2:1138:A:O5'	1:2:1138:A:H8	2.00	0.44
1:2:1165:G:H2'	1:2:1166:A:C8	2.52	0.44
1:2:1199:G:O6	36:Dd:31:ILE:HG13	2.17	0.44
1:2:1680:G:H1'	1:2:1721:A:H61	1.82	0.44
1:2:1785:U:H2'	1:2:1786:G:H8	1.82	0.44
4:5:266:A:C5	73:Eh:30:LYS:HG3	2.53	0.44
4:5:630:U:H2'	4:5:631:A:C8	2.53	0.44
4:5:1279:A:O2'	4:5:1280:C:O5'	2.34	0.44
4:5:1307:G:C6	53:EN:62[A]:THR:HA	2.53	0.44
4:5:1598:C:H2'	4:5:1599:G:C8	2.53	0.44
4:5:1689:U:H2'	4:5:1690:U:C6	2.53	0.44
4:5:2537:A:C5	8:DB:226:GLY:HA2	2.52	0.44
4:5:2564:G:P	64:EY:54:THR:HG23	2.58	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:2843:U:OP1	4:5:2845:C:N4	2.43	0.44
4:5:3090:C:H2'	4:5:3091:U:O4'	2.16	0.44
19:DM:31:VAL:HB	19:DM:133:LEU:HD12	2.00	0.44
26:DT:117:SER:HB2	26:DT:123:ARG:HB3	2.00	0.44
28:DV:80:LYS:C	28:DV:82:VAL:H	2.24	0.44
43:ED:222:LEU:HD23	43:ED:222:LEU:H	1.82	0.44
51:EL:32:LEU:HD11	51:EL:94:TRP:CG	2.52	0.44
55:EP:158:HIS:H	55:EP:186:VAL:CG1	2.30	0.44
57:ER:155:ARG:HD3	57:ER:172:TYR:CD1	2.52	0.44
1:2:77:U:H1'	1:2:78:A:OP2	2.18	0.44
1:2:1163:A:C2	1:2:1613:U:O2	2.71	0.44
1:2:1525:A:H5''	26:DT:83:ALA:HB2	1.99	0.44
4:5:269:G:OP1	52:EM:47:LYS:HE2	2.18	0.44
4:5:590:A:O2'	4:5:1339:C:OP1	2.35	0.44
4:5:912:C:H5''	40:EA:15:ILE:HD13	1.99	0.44
4:5:2831:G:H1'	4:5:2862:U:C2	2.53	0.44
4:5:2947:A:H5''	4:5:2948:G:H5'	2.00	0.44
4:5:3245:A:OP1	41:EB:97:ARG:NH2	2.51	0.44
12:DF:146:THR:HA	12:DF:158:GLN:O	2.18	0.44
22:DP:85:ILE:HG22	22:DP:112:LEU:HD23	2.00	0.44
24:DR:14:LYS:HG3	24:DR:69:ILE:CD1	2.48	0.44
25:DS:126:ARG:O	25:DS:130:GLY:N	2.49	0.44
28:DV:85:TYR:CD1	34:Db:6:ASP:HB2	2.52	0.44
39:Dg:34:LEU:HB2	39:Dg:73:LEU:HD11	2.00	0.44
50:EK:105:ASN:O	50:EK:109:PHE:N	2.47	0.44
52:EM:5:LYS:HG3	73:Eh:40:VAL:HG11	2.00	0.44
52:EM:42:PRO:HD3	52:EM:61:ILE:HG13	2.00	0.44
61:EV:8:PHE:CD1	61:EV:46:PRO:HG3	2.53	0.44
73:Eh:98:ARG:HA	73:Eh:98:ARG:HD2	1.81	0.44
1:2:64:U:O2'	1:2:168:A:N3	2.47	0.44
1:2:388:G:C6	1:2:410:A:C6	3.06	0.44
1:2:478:A:H5'	37:De:33:ARG:HH22	1.82	0.44
1:2:610:G:H2'	1:2:614:C:C5	2.53	0.44
1:2:822:U:H2'	1:2:823:G:H5''	1.99	0.44
1:2:1006:C:H4'	21:DO:136:ARG:HH21	1.83	0.44
4:5:242:C:HO2'	4:5:243:G:H8	1.63	0.44
4:5:319:A:H4'	52:EM:51:LEU:HD13	1.99	0.44
4:5:411:U:H2'	4:5:412:G:C8	2.53	0.44
4:5:1623:U:C2	4:5:1624:G:C8	3.06	0.44
4:5:2659:G:N2	4:5:2716:A:OP1	2.33	0.44
4:5:2776:U:H2'	4:5:2777:C:C6	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:2897:A:O2'	77:El:122:ARG:NH2	2.50	0.44
4:5:2986:C:H2'	4:5:2987:U:C6	2.53	0.44
4:5:3233:G:C6	4:5:3257:G:C6	3.05	0.44
9:DC:165:VAL:HA	9:DC:201:ASN:O	2.18	0.44
38:Df:120:GLU:OE2	38:Df:130:VAL:N	2.51	0.44
45:EF:160:ARG:CZ	45:EF:206:LYS:HE2	2.47	0.44
50:EK:77:LEU:HA	50:EK:80:VAL:HG12	1.99	0.44
51:EL:135:LEU:HD21	53:EN:177[A]:LYS:HG2	1.99	0.44
52:EM:61:ILE:HG23	52:EM:131:GLU:OE2	2.17	0.44
52:EM:65:ARG:HB3	52:EM:129:TYR:CE2	2.53	0.44
53:EN:47[A]:PHE:HD1	53:EN:136[A]:THR:HG23	1.83	0.44
58:ES:28:SER:O	58:ES:32:LYS:HG2	2.17	0.44
58:ES:118:GLU:OE2	58:ES:122:GLN:NE2	2.47	0.44
79:En:2:VAL:N	79:En:91:PHE:HA	2.33	0.44
1:2:150:U:H2'	1:2:151:G:C8	2.53	0.43
1:2:870:C:H2'	1:2:871:G:H8	1.82	0.43
1:2:1079:U:H2'	1:2:1080:U:C6	2.52	0.43
1:2:1590:G:OP1	26:DT:91:TYR:HB2	2.18	0.43
1:2:1796:C:O2'	33:Da:95:ARG:NH1	2.51	0.43
2:3:103:G:OP2	2:3:105:A:O2'	2.22	0.43
3:4:28:C:OP1	49:EJ:137:ARG:NH1	2.51	0.43
4:5:24:G:OP1	74:Ei:54:LYS:NZ	2.51	0.43
4:5:290:G:H2'	4:5:291:C:C6	2.53	0.43
4:5:1365:C:H5''	55:EP:3:ILE:HD13	1.99	0.43
4:5:1923:A:H2'	4:5:1924:C:O4'	2.18	0.43
4:5:2704:A:H5''	4:5:2705:A:H5'	2.00	0.43
9:DC:52:THR:OG1	9:DC:54:GLU:HB3	2.18	0.43
10:DD:8:LYS:HD3	27:DU:63:LEU:HD21	1.99	0.43
16:DJ:70:LEU:O	16:DJ:74:ASN:ND2	2.50	0.43
19:DM:108:ARG:O	19:DM:110:GLY:N	2.52	0.43
25:DS:104:ASN:HA	25:DS:107:SER:HB3	1.99	0.43
29:DW:31:SER:OG	29:DW:34:ILE:HG12	2.18	0.43
30:DX:126:LYS:HG2	30:DX:131:SER:HA	1.99	0.43
36:Dd:5:ASN:O	36:Dd:9:SER:OG	2.36	0.43
45:EF:118:LYS:HB2	45:EF:195:PHE:CE2	2.53	0.43
55:EP:63:SER:OG	55:EP:90:ASP:HB2	2.18	0.43
71:Ef:67:LYS:HA	71:Ef:70:LYS:HE2	2.00	0.43
1:2:10:G:H1	1:2:1144:U:H3	1.67	0.43
1:2:31:C:OP1	30:DX:140:LYS:NZ	2.39	0.43
1:2:159:U:O2'	13:DG:87:ARG:NH1	2.51	0.43
1:2:637:C:OP1	29:DW:32:LYS:N	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1220:C:H2'	1:2:1221:A:C8	2.51	0.43
1:2:1792:G:OP2	1:2:1792:G:H3'	2.17	0.43
2:3:15:G:H1'	4:5:408:A:N6	2.32	0.43
4:5:1223:G:O2'	4:5:1224:A:OP2	2.31	0.43
4:5:1354:U:H3'	44:EE:9:TRP:HZ2	1.83	0.43
4:5:1568:U:H3	4:5:1572:A:H61	1.65	0.43
4:5:1710:C:H2'	4:5:1711:C:C6	2.54	0.43
4:5:2526:G:N7	40:EA:67:TYR:OH	2.46	0.43
4:5:3160:C:H2'	4:5:3161:U:C6	2.53	0.43
4:5:3219:A:H4'	4:5:3220:G:O5'	2.17	0.43
4:5:3305:U:N3	41:EB:333:LYS:O	2.51	0.43
9:DC:59:HIS:HA	28:DV:15:ARG:HH21	1.83	0.43
11:DE:35:PRO:HD2	11:DE:83:PRO:HG2	2.00	0.43
11:DE:93:ASP:OD1	11:DE:94:ALA:N	2.51	0.43
12:DF:182:ALA:O	12:DF:186:ASN:HB3	2.17	0.43
16:DJ:86:LEU:HD13	16:DJ:99:LEU:HD21	2.00	0.43
19:DM:42:ALA:HB1	19:DM:47:GLU:HG2	1.99	0.43
19:DM:81:ASP:C	19:DM:83:GLU:H	2.26	0.43
20:DN:6:SER:OG	20:DN:7:ALA:N	2.50	0.43
22:DP:22:LEU:HD11	22:DP:109:PRO:HB3	1.98	0.43
27:DU:106:ILE:HG13	27:DU:107:THR:HG23	2.00	0.43
32:DZ:59:TYR:CD2	32:DZ:64:VAL:HG21	2.53	0.43
41:EB:63:PRO:HD2	41:EB:348:ARG:HH21	1.83	0.43
43:ED:33:ARG:NH1	43:ED:50:ARG:HH12	2.16	0.43
45:EF:90:LYS:HG3	45:EF:91:GLY:N	2.33	0.43
45:EF:233:GLU:OE1	45:EF:234:GLU:HG2	2.18	0.43
53:EN:22[A]:VAL:HG11	53:EN:120[A]:VAL:HG11	2.00	0.43
55:EP:106:PHE:CZ	55:EP:121:CYS:HB3	2.53	0.43
59:ET:90:ARG:O	59:ET:91:ASP:OD1	2.36	0.43
60:EU:14:SER:O	60:EU:81:GLN:NE2	2.52	0.43
67:Eb:76:GLU:N	67:Eb:76:GLU:OE2	2.52	0.43
70:Ee:18:ARG:HA	70:Ee:23:ASN:HA	1.99	0.43
1:2:444:C:OP2	31:DY:108:ARG:NH2	2.50	0.43
1:2:885:G:H21	21:DO:123:SER:HB2	1.81	0.43
1:2:1316:G:C5	1:2:1317:C:C4	3.06	0.43
1:2:1344:A:HO2'	1:2:1345:A:C5'	2.28	0.43
4:5:261:U:H2'	4:5:262:U:C6	2.53	0.43
4:5:352:A:N1	4:5:365:A:H5''	2.33	0.43
4:5:393:U:H2'	4:5:394:G:O4'	2.17	0.43
4:5:1644:A:H2'	4:5:1645:C:C2	2.54	0.43
4:5:2591:A:H2'	4:5:2592:A:O4'	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:2734:A:H2'	4:5:2735:A:O4'	2.17	0.43
4:5:2737:A:H4'	58:ES:71:SER:CB	2.48	0.43
4:5:3165:C:O2'	4:5:3166:A:O5'	2.36	0.43
5:6:53:G:H5''	5:6:54:U:H5	1.83	0.43
11:DE:42:LEU:HD22	11:DE:101:LEU:HD11	2.01	0.43
12:DF:123:VAL:HG23	12:DF:124:LEU:HD12	2.00	0.43
12:DF:203:LYS:NZ	12:DF:205:SER:HB2	2.33	0.43
19:DM:84:ASN:O	19:DM:86:VAL:HG13	2.18	0.43
21:DO:22:SER:O	21:DO:55:SER:OG	2.35	0.43
21:DO:90:ARG:HG3	21:DO:91:THR:N	2.21	0.43
28:DV:69:LEU:HA	28:DV:72:LEU:HB2	2.01	0.43
40:EA:144:ASN:HD22	40:EA:160:SER:HB3	1.84	0.43
43:ED:117:GLU:HG2	43:ED:118:THR:N	2.33	0.43
44:EE:35:VAL:O	44:EE:38:THR:OG1	2.21	0.43
44:EE:175:LYS:H	51:EL:117:ARG:NH2	2.15	0.43
65:EZ:2:PRO:HG2	65:EZ:5:PHE:HD2	1.83	0.43
70:Ee:9:VAL:HG21	70:Ee:44:TYR:HE1	1.83	0.43
72:Eg:35:LYS:HD2	72:Eg:44:ILE:HD12	2.00	0.43
76:Ek:5:LYS:HE2	76:Ek:13:MET:HE1	1.99	0.43
1:2:101:U:H2'	1:2:102:U:O4'	2.18	0.43
1:2:867:G:H21	20:DN:87:ASP:HB3	1.83	0.43
1:2:1650:U:H2'	1:2:1651:A:C8	2.53	0.43
3:4:121:U:OP2	43:ED:265:TYR:OH	2.17	0.43
4:5:80:G:H2'	4:5:81:C:H6	1.84	0.43
4:5:922:A:C6	74:Ei:8:PHE:HE2	2.36	0.43
4:5:1726:C:H2'	4:5:1727:C:H6	1.82	0.43
12:DF:79:ASN:HB2	12:DF:80:LYS:HE3	2.00	0.43
13:DG:153:VAL:HA	13:DG:156:PHE:HB2	2.00	0.43
22:DP:112:LEU:HD23	22:DP:112:LEU:HA	1.89	0.43
29:DW:116:ALA:O	29:DW:120:HIS:N	2.51	0.43
38:Df:109:ASP:HB2	38:Df:113:LYS:O	2.18	0.43
39:Dg:66:HIS:CG	39:Dg:67:ILE:H	2.36	0.43
42:EC:345:GLU:H	42:EC:345:GLU:CD	2.27	0.43
43:ED:207:TYR:HE2	43:ED:223:PHE:HE1	1.67	0.43
44:EE:64:LEU:HD12	44:EE:77:ARG:O	2.18	0.43
45:EF:98:LYS:HB3	45:EF:99:PRO:HD3	2.00	0.43
50:EK:3:ILE:HD13	65:EZ:45:MET:SD	2.59	0.43
52:EM:137:PRO:HB3	52:EM:152:CYS:HA	2.01	0.43
54:EO:29:THR:HG22	54:EO:119:VAL:HG21	2.00	0.43
55:EP:110:ALA:O	55:EP:114:ILE:HD12	2.18	0.43
56:EQ:179:GLU:HA	56:EQ:182:ASP:HB3	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
65:EZ:60:TYR:CE2	65:EZ:63:LYS:HG3	2.54	0.43
65:EZ:114:GLY:N	65:EZ:134:ALA:HB2	2.32	0.43
67:Eb:49:PRO:HG2	67:Eb:52:ARG:CB	2.48	0.43
1:2:1050:G:OP1	34:Db:70:LYS:NZ	2.39	0.43
1:2:1227:A:H4'	1:2:1229:G:H1'	2.01	0.43
1:2:1388:A:H4'	1:2:1389:C:O4'	2.18	0.43
1:2:1553:G:O6	22:DP:43:ARG:NH2	2.40	0.43
1:2:1705:C:H2'	1:2:1706:C:C6	2.54	0.43
4:5:209:A:H4'	4:5:211:A:C8	2.53	0.43
4:5:336:A:OP2	63:EX:9:SER:OG	2.31	0.43
4:5:1340:C:H2'	4:5:1341:G:C8	2.53	0.43
4:5:1565:U:C2	4:5:1566:G:C8	3.06	0.43
4:5:1597:C:H2'	4:5:1598:C:H6	1.84	0.43
4:5:3161:U:H2'	4:5:3162:C:C6	2.54	0.43
7:DA:40:ALA:HB2	7:DA:46:HIS:ND1	2.33	0.43
9:DC:162:CYS:HB3	9:DC:213:ALA:HB2	2.00	0.43
18:DL:99:ARG:HH12	30:DX:7:ARG:HA	1.83	0.43
24:DR:93:LEU:HD11	24:DR:100:LEU:HB3	2.00	0.43
27:DU:82:TYR:CE1	36:Dd:54:LYS:HG3	2.54	0.43
43:ED:163:LEU:HD21	43:ED:175:HIS:CG	2.53	0.43
43:ED:197:SER:O	43:ED:202:GLY:N	2.52	0.43
44:EE:31:ARG:NE	70:Ee:107:ILE:O	2.44	0.43
1:2:234:G:N1	1:2:235:G:N3	2.66	0.43
1:2:617:U:H2'	1:2:618:U:C6	2.53	0.43
1:2:632:U:OP1	18:DL:102:LYS:HD3	2.19	0.43
1:2:1477:G:H5''	26:DT:45:MET:O	2.19	0.43
4:5:50:U:H2'	4:5:51:A:H8	1.83	0.43
4:5:66:A:N6	4:5:76:G:H1'	2.34	0.43
4:5:341:G:C6	42:EC:194:TYR:CE2	3.03	0.43
4:5:1179:G:O6	70:Ee:20:LYS:HB3	2.17	0.43
4:5:2096:G:H2'	4:5:2097:A:C8	2.53	0.43
4:5:2535:G:H3'	4:5:2536:A:C8	2.54	0.43
4:5:2536:A:H3'	8:DB:226:GLY:CA	2.48	0.43
4:5:2707:G:H2'	4:5:2707:G:N3	2.33	0.43
21:DO:42:VAL:HG23	21:DO:46:MET:HE3	2.01	0.43
30:DX:74:VAL:HG11	30:DX:104:LEU:HD11	2.00	0.43
39:Dg:90:ARG:HA	39:Dg:90:ARG:HD2	1.69	0.43
39:Dg:156:VAL:HG22	39:Dg:169:ILE:HG22	2.00	0.43
42:EC:126:ILE:O	42:EC:129:THR:OG1	2.36	0.43
43:ED:52:VAL:HG21	43:ED:65:ILE:HD12	2.00	0.43
50:EK:21:ARG:HB3	52:EM:196:THR:OG1	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
62:EW:70:GLU:O	62:EW:74:LYS:HG3	2.18	0.43
63:EX:79:ALA:HB1	63:EX:98:ASN:HB3	2.01	0.43
64:EY:4:PHE:CE1	67:Eb:63:SER:HB2	2.53	0.43
79:En:26:THR:O	79:En:71:ARG:HG3	2.17	0.43
1:2:15:U:N3	1:2:620:A:C6	2.87	0.43
1:2:310:C:H4'	30:DX:33:LEU:HD23	2.00	0.43
1:2:585:A:H2'	1:2:586:G:H8	1.83	0.43
1:2:872:G:H1	1:2:955:A:H61	1.66	0.43
1:2:963:A:O2'	1:2:964:U:O5'	2.32	0.43
2:3:104:A:H1'	4:5:22:G:O4'	2.19	0.43
4:5:126:U:H2'	4:5:127:G:O4'	2.19	0.43
4:5:597:C:N3	4:5:609:A:O2'	2.47	0.43
4:5:1444:G:H2'	4:5:1445:G:C8	2.54	0.43
4:5:1479:C:H2'	4:5:1480:U:C6	2.53	0.43
4:5:2155:U:H2'	4:5:2156:G:H8	1.83	0.43
4:5:2793:A:OP1	79:En:84:THR:HG21	2.19	0.43
4:5:3268:A:H2'	44:EE:69:PHE:CZ	2.54	0.43
5:6:27:G:H2'	5:6:28:G:C8	2.54	0.43
8:DB:213:ARG:HG3	8:DB:214:LYS:N	2.34	0.43
10:DD:15:GLY:C	36:Dd:50:ILE:HD12	2.44	0.43
10:DD:162:GLN:OE1	10:DD:165:ASN:HB2	2.19	0.43
11:DE:180:LEU:N	11:DE:229:GLY:O	2.52	0.43
13:DG:102:VAL:HG13	13:DG:106:LEU:HD12	2.00	0.43
18:DL:84:ILE:HG13	18:DL:109:VAL:HG13	2.00	0.43
22:DP:108:ARG:HH12	25:DS:118:LYS:HB2	1.84	0.43
28:DV:1:MET:HG2	28:DV:10:GLU:CB	2.48	0.43
46:EG:152:LEU:HB2	46:EG:198:ALA:HB3	2.00	0.43
56:EQ:173:ARG:HD3	56:EQ:176:ARG:HD2	2.01	0.43
65:EZ:86:LYS:O	65:EZ:86:LYS:HD3	2.18	0.43
68:Ec:14:ILE:HD13	68:Ec:36:ILE:HD13	2.00	0.43
79:En:8:ARG:N	79:En:22:GLN:OE1	2.51	0.43
1:2:183:U:H2'	1:2:184:C:H6	1.83	0.43
1:2:522:U:C2	1:2:523:G:C8	3.06	0.43
1:2:813:U:C4	56:EQ:163:ARG:CB	3.02	0.43
1:2:1546:G:H21	25:DS:87:ASN:HB2	1.82	0.43
1:2:1770:U:H2'	1:2:1771:U:C6	2.54	0.43
4:5:688:U:H2'	4:5:689:G:C8	2.54	0.43
4:5:808:A:H61	4:5:935:G:H22	1.65	0.43
4:5:1011:G:C2	4:5:1012:A:C8	3.06	0.43
4:5:1136:A:OP2	66:Ea:5:LYS:NZ	2.52	0.43
4:5:1300:U:H2'	4:5:1301:G:O4'	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:1374:A:H2'	4:5:1375:G:C8	2.54	0.43
4:5:1720:G:H2'	4:5:1721:U:O4'	2.19	0.43
4:5:2236:C:O2'	6:7:72:C:H5''	2.19	0.43
4:5:2599:G:H2'	4:5:2600:U:C6	2.53	0.43
4:5:2747:A:H5'	43:ED:178:ASN:OD1	2.18	0.43
4:5:2849:G:OP1	77:El:100:TYR:OH	2.32	0.43
4:5:3133:C:H2'	4:5:3134:C:C6	2.54	0.43
8:DB:111:ARG:NH1	33:Da:68:TYR:O	2.52	0.43
8:DB:111:ARG:HG2	33:Da:68:TYR:HD2	1.84	0.43
10:DD:116:ARG:NH1	10:DD:150:MET:SD	2.92	0.43
25:DS:86:LEU:HD22	25:DS:99:HIS:HB2	2.01	0.43
26:DT:15:ILE:HG13	26:DT:16:ASN:N	2.32	0.43
41:EB:36:ASP:OD1	41:EB:36:ASP:N	2.49	0.43
42:EC:3:ARG:NH2	42:EC:24:ALA:HA	2.33	0.43
42:EC:105:THR:C	42:EC:107:ARG:H	2.26	0.43
46:EG:91:PHE:O	46:EG:95:ASN:HB2	2.19	0.43
46:EG:228:GLU:OE1	46:EG:228:GLU:N	2.52	0.43
74:Ei:45:ARG:HG2	74:Ei:45:ARG:NH1	2.34	0.43
75:Ej:13:GLU:HA	75:Ej:16:ARG:HH21	1.83	0.43
1:2:9:U:C6	1:2:9:U:N3	2.85	0.43
1:2:13:C:OP1	1:2:1299:G:N3	2.52	0.43
1:2:61:A:H8	1:2:269:G:O2'	2.02	0.43
1:2:685:A:H2'	1:2:686:C:C6	2.54	0.43
1:2:1203:A:C2	1:2:1556:A:C4	3.06	0.43
1:2:1226:A:H4'	1:2:1227:A:OP1	2.18	0.43
1:2:1393:C:H2'	1:2:1394:G:C8	2.54	0.43
1:2:1546:G:OP1	25:DS:127:HIS:NE2	2.34	0.43
1:2:1584:G:O2'	1:2:1585:U:OP2	2.21	0.43
1:2:1601:G:O4'	26:DT:89:ARG:NH2	2.52	0.43
1:2:1794:A:H1'	33:Da:79:ILE:CD1	2.49	0.43
2:3:29:U:H3	4:5:334:A:H61	1.67	0.43
2:3:63:G:HO2'	72:Eg:49:LYS:NZ	2.15	0.43
4:5:117:U:O2'	4:5:119:U:OP2	2.18	0.43
4:5:213:A:OP1	63:EX:2:ALA:N	2.51	0.43
4:5:553:G:H2'	4:5:554:U:C6	2.54	0.43
4:5:968:A:H2'	4:5:969:G:O4'	2.19	0.43
4:5:1096:U:C2	58:ES:129:LYS:HB2	2.54	0.43
4:5:1235:G:OP2	4:5:1236:U:H3'	2.19	0.43
4:5:1439:U:H2'	4:5:1440:U:C6	2.54	0.43
4:5:1751:A:H4'	75:Ej:26:LYS:HZ1	1.83	0.43
4:5:2229:A:H2'	4:5:2230:A:H8	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:2513:C:H2'	4:5:2514:U:C6	2.53	0.43
4:5:2537:A:C8	8:DB:226:GLY:C	2.97	0.43
4:5:2808:U:O2'	4:5:2810:C:OP1	2.27	0.43
4:5:2858:C:H2'	4:5:2859:U:C6	2.54	0.43
8:DB:110:LEU:HD22	8:DB:213:ARG:HH22	1.82	0.43
9:DC:99:LYS:HA	9:DC:117:THR:HG22	2.00	0.43
12:DF:212:LYS:HZ1	12:DF:216:GLU:HB2	1.83	0.43
16:DJ:63:ASP:OD1	16:DJ:64:GLU:N	2.52	0.43
24:DR:11:ARG:HE	24:DR:14:LYS:HE3	1.84	0.43
26:DT:58:ALA:HA	26:DT:61:VAL:HG12	2.00	0.43
26:DT:123:ARG:HB3	26:DT:123:ARG:HE	1.65	0.43
33:Da:78:ALA:O	33:Da:83:ILE:HB	2.19	0.43
42:EC:48:GLN:HE21	42:EC:48:GLN:HB3	1.60	0.43
44:EE:51:ARG:O	44:EE:72:ASN:ND2	2.52	0.43
44:EE:145:LEU:O	44:EE:149:ILE:HG12	2.19	0.43
50:EK:27:ASP:O	50:EK:28:GLN:C	2.61	0.43
51:EL:12:TRP:NE1	57:ER:151:PRO:HB2	2.34	0.43
51:EL:38:ILE:HA	51:EL:44:VAL:HG12	2.00	0.43
57:ER:110:MET:HE3	57:ER:110:MET:HB3	1.85	0.43
1:2:396:G:N2	1:2:398:G:H3'	2.34	0.43
1:2:852:C:H2'	1:2:853:G:O4'	2.19	0.43
1:2:986:G:H2'	1:2:987:G:O4'	2.19	0.43
1:2:1140:G:C6	1:2:1141:G:O6	2.69	0.43
1:2:1443:U:H4'	1:2:1446:A:H1'	2.00	0.43
1:2:1583:A:H62	23:DQ:122:ARG:HH12	1.64	0.43
4:5:75:G:OP1	50:EK:58:VAL:HG13	2.19	0.43
4:5:269:G:P	52:EM:44:ARG:HH22	2.40	0.43
4:5:1663:G:H22	4:5:1788:A:H2	1.67	0.43
4:5:2322:A:H2'	4:5:2323:C:O4'	2.19	0.43
4:5:2881:U:H1'	41:EB:250:ALA:HB3	2.00	0.43
4:5:3199:U:O4	47:EH:26:LYS:HB2	2.18	0.43
7:DA:55:GLU:H	7:DA:55:GLU:CD	2.26	0.43
7:DA:101:ARG:HD2	7:DA:102:PHE:N	2.34	0.43
9:DC:35:TRP:HB3	9:DC:46:LYS:NZ	2.30	0.43
14:DH:44:LYS:HG2	14:DH:63:PRO:HD3	2.00	0.43
23:DQ:44:LEU:HB3	23:DQ:78:VAL:HG11	2.00	0.43
25:DS:110:ARG:HH12	49:EJ:122:ILE:HG21	1.84	0.43
28:DV:78:LEU:HD23	28:DV:78:LEU:H	1.83	0.43
29:DW:89:TRP:O	29:DW:93:LEU:HG	2.18	0.43
52:EM:47:LYS:O	52:EM:51:LEU:HD23	2.19	0.43
52:EM:114:ARG:O	52:EM:135:VAL:HG12	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
68:Ec:44:MET:O	68:Ec:77:ARG:NH1	2.51	0.43
69:Ed:9:ILE:HG12	69:Ed:63:THR:HB	2.00	0.43
1:2:56:U:OP1	1:2:403:G:N1	2.36	0.42
1:2:297:U:H2'	1:2:298:C:C6	2.54	0.42
1:2:352:A:H4'	1:2:353:A:O5'	2.18	0.42
1:2:1081:A:H1'	1:2:1082:C:C5	2.53	0.42
2:3:145:U:H2'	2:3:146:U:C6	2.54	0.42
2:3:154:C:H5''	46:EG:181:LYS:HD3	2.00	0.42
3:4:85:G:O3'	45:EF:218:ARG:NH2	2.52	0.42
4:5:518:G:H5'	45:EF:67:ARG:NH2	2.34	0.42
4:5:529:U:H2'	4:5:530:A:C8	2.54	0.42
4:5:617:G:H2'	4:5:618:G:C8	2.55	0.42
4:5:797:U:H2'	4:5:798:U:C6	2.54	0.42
4:5:1047:A:H2'	4:5:1050:C:C5	2.54	0.42
4:5:1745:G:H2'	4:5:1746:C:C6	2.54	0.42
7:DA:27:ARG:HB2	7:DA:29:VAL:HG22	2.01	0.42
16:DJ:125:ALA:O	16:DJ:128:LEU:N	2.52	0.42
38:Df:120:GLU:HG2	38:Df:128:ALA:HA	2.01	0.42
55:EP:175:ALA:HB3	65:EZ:51:GLY:O	2.19	0.42
62:EW:135:ILE:O	62:EW:139:ILE:HG12	2.19	0.42
68:Ec:96:VAL:HG12	68:Ec:98:VAL:HG13	2.00	0.42
1:2:511:A:H5'	16:DJ:173:ALA:HB2	1.99	0.42
1:2:907:A:H1'	1:2:997:G:O2'	2.19	0.42
1:2:1037:C:H2'	1:2:1038:U:C6	2.53	0.42
1:2:1180:C:O2'	22:DP:128:HIS:ND1	2.51	0.42
4:5:147:U:C2	46:EG:162:LEU:HD11	2.53	0.42
4:5:502:A:H2'	4:5:503:U:C6	2.54	0.42
4:5:639:C:H2'	4:5:640:G:C8	2.53	0.42
4:5:901:G:H1'	4:5:1590:A:H61	1.85	0.42
4:5:988:U:H2'	4:5:989:U:C6	2.54	0.42
4:5:1268:U:H3'	4:5:1269:G:H8	1.85	0.42
4:5:2527:C:H2'	4:5:2528:G:C8	2.52	0.42
4:5:3191:C:H5''	53:EN:172[A]:ARG:HD3	1.99	0.42
4:5:3332:U:H2'	4:5:3333:U:C6	2.54	0.42
10:DD:53:THR:HG21	10:DD:94:ARG:NH1	2.34	0.42
16:DJ:159:ALA:O	16:DJ:162:SER:OG	2.32	0.42
26:DT:83:ALA:HB1	26:DT:91:TYR:HB3	2.01	0.42
27:DU:57:ARG:HG2	27:DU:89:ARG:NE	2.35	0.42
39:Dg:170:ILE:HD13	39:Dg:211:ILE:HD12	2.00	0.42
43:ED:110:LEU:HD22	43:ED:115:LEU:HB2	2.01	0.42
51:EL:14:LEU:HD12	51:EL:16:GLU:OE1	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:EM:106:VAL:HG11	52:EM:134:LEU:HD21	2.00	0.42
55:EP:94:PHE:CD2	65:EZ:119:PRO:HG3	2.54	0.42
67:Eb:83:LYS:HG2	67:Eb:85:PHE:CZ	2.55	0.42
71:Ef:55:SER:O	71:Ef:62:TYR:OH	2.20	0.42
1:2:8:U:H5	1:2:16:G:N1	2.18	0.42
1:2:144:U:H2'	1:2:145:A:H8	1.83	0.42
1:2:521:A:H1'	31:DY:34:ASN:HB2	1.99	0.42
4:5:744:C:O2	55:EP:141:ARG:NE	2.49	0.42
4:5:1333:A:H2'	4:5:1334:C:C6	2.54	0.42
4:5:2766:C:O3'	79:En:39:GLY:HA3	2.19	0.42
4:5:2985:C:H2'	4:5:2986:C:H6	1.84	0.42
4:5:3132:U:H2'	4:5:3133:C:C6	2.55	0.42
13:DG:169:TYR:CE2	13:DG:171:LYS:HD2	2.54	0.42
21:DO:90:ARG:CG	21:DO:91:THR:H	2.25	0.42
29:DW:24:GLN:HA	29:DW:63:VAL:O	2.19	0.42
33:Da:83:ILE:C	33:Da:85:ARG:N	2.74	0.42
39:Dg:22:SER:OG	39:Dg:71:CYS:SG	2.65	0.42
39:Dg:257:ALA:HA	39:Dg:288:HIS:CD2	2.54	0.42
40:EA:65:ASP:HB3	40:EA:68:LYS:O	2.19	0.42
41:EB:187:SER:O	41:EB:189:SER:N	2.52	0.42
46:EG:52:TRP:O	46:EG:57:ARG:NE	2.52	0.42
60:EU:84:SER:HA	60:EU:94:TYR:HB3	2.02	0.42
62:EW:46:TYR:CD2	72:Eg:75:TYR:HB3	2.55	0.42
67:Eb:25:LEU:HD23	67:Eb:90:VAL:HG23	2.02	0.42
69:Ed:34:LYS:NZ	69:Ed:52:GLN:OE1	2.40	0.42
72:Eg:102:GLU:HG3	72:Eg:103:LYS:N	2.35	0.42
79:En:12:CYS:N	79:En:19:LYS:O	2.51	0.42
80:Eo:10:ILE:HG22	80:Eo:27:LYS:HG3	2.01	0.42
1:2:17:C:H2'	1:2:18:C:H6	1.82	0.42
1:2:215:A:H2'	1:2:216:U:O4'	2.18	0.42
1:2:629:U:H5''	4:5:847:A:C2	2.53	0.42
1:2:700:C:C2	1:2:739:G:C2	3.07	0.42
1:2:1139:A:C2	1:2:1139:A:C4	3.00	0.42
1:2:1309:C:C5	1:2:1310:U:C4	3.07	0.42
1:2:1374:C:H2'	1:2:1375:A:C8	2.53	0.42
1:2:1382:A:N3	1:2:1382:A:H2'	2.34	0.42
1:2:1437:U:H2'	1:2:1438:G:C8	2.54	0.42
1:2:1583:A:N1	1:2:1584:G:N2	2.67	0.42
1:2:1690:G:H2'	1:2:1691:A:C8	2.54	0.42
1:2:1797:A:H5'	33:Da:95:ARG:HG3	2.01	0.42
3:4:45:A:C4	3:4:46:A:C8	3.08	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:772:A:H2'	4:5:773:U:O4'	2.20	0.42
4:5:835:U:H2'	4:5:836:G:O4'	2.19	0.42
4:5:1056:A:H2'	4:5:1057:U:O4'	2.20	0.42
4:5:1215:U:H2'	4:5:1216:U:C6	2.54	0.42
4:5:1355:G:C8	44:EE:9:TRP:CE2	3.06	0.42
4:5:1552:C:HO2'	4:5:2171:U:HO2'	1.62	0.42
4:5:1561:G:O6	62:EW:33:ARG:NH2	2.52	0.42
4:5:2426:G:H2'	4:5:2427:U:O4'	2.19	0.42
4:5:2737:A:O2'	58:ES:68:THR:HG21	2.20	0.42
4:5:2962:G:H2'	4:5:2963:U:H6	1.82	0.42
4:5:3394:U:H2'	4:5:3395:U:C6	2.54	0.42
12:DF:155:ALA:O	12:DF:156:ARG:NH1	2.52	0.42
14:DH:77:LEU:HA	14:DH:80:GLU:OE2	2.19	0.42
23:DQ:95:LYS:HD2	23:DQ:96:TYR:HD1	1.84	0.42
26:DT:28:LEU:HG	26:DT:29:GLU:H	1.84	0.42
26:DT:114:VAL:HG11	26:DT:122:ARG:HB3	2.01	0.42
33:Da:10:ARG:HG3	33:Da:12:LYS:H	1.83	0.42
39:Dg:267:PRO:HB2	39:Dg:269:TYR:HD1	1.85	0.42
40:EA:96:LEU:O	80:Eo:87:ARG:HD2	2.19	0.42
41:EB:304:THR:HG22	41:EB:305:ILE:N	2.34	0.42
52:EM:100:ALA:HB2	52:EM:167:THR:HB	2.02	0.42
54:EO:64:ASN:O	54:EO:67:ILE:HG12	2.18	0.42
57:ER:40:ARG:HA	57:ER:40:ARG:HD2	1.85	0.42
60:EU:106:LYS:HG3	60:EU:108:GLU:OE1	2.19	0.42
64:EY:14:VAL:HB	71:Ef:86:LYS:HG3	2.00	0.42
70:Ee:31:LYS:NZ	70:Ee:78:SER:O	2.53	0.42
75:Ej:41:THR:HG21	75:Ej:62:ALA:HB1	2.02	0.42
1:2:809:A:H2'	1:2:810:G:C8	2.55	0.42
1:2:828:U:H2'	1:2:829:A:C8	2.55	0.42
1:2:1144:U:O2'	1:2:1301:U:O2'	2.16	0.42
1:2:1307:U:H3	1:2:1318:G:N2	2.18	0.42
1:2:1794:A:H1'	33:Da:79:ILE:HD12	2.02	0.42
3:4:76:A:H1'	57:ER:50:LYS:NZ	2.34	0.42
4:5:65:A:C8	4:5:110:G:C6	3.07	0.42
4:5:159:A:H2'	4:5:160:G:H8	1.84	0.42
4:5:289:A:H5''	52:EM:97:SER:HB2	2.00	0.42
4:5:296:A:H2'	4:5:297:G:N3	2.35	0.42
4:5:1011:G:O3'	48:EI:40:LYS:NZ	2.39	0.42
4:5:1381:G:OP1	42:EC:191:LYS:N	2.51	0.42
4:5:2169:A:C6	4:5:2171:U:H1'	2.55	0.42
4:5:3066:G:H2'	4:5:3067:U:C6	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:3206:G:OP2	4:5:3207:C:N4	2.49	0.42
6:7:26:C:N3	6:7:27:G:C8	2.88	0.42
7:DA:49:ASN:HB3	7:DA:52:LYS:HG2	2.00	0.42
8:DB:158:SER:HA	8:DB:161:ILE:HD12	2.02	0.42
20:DN:103:GLU:HA	20:DN:106:ARG:HH21	1.84	0.42
21:DO:15:GLY:N	21:DO:79:VAL:HA	2.35	0.42
25:DS:48:LYS:HE2	26:DT:35:ASP:O	2.18	0.42
31:DY:81:GLU:HA	31:DY:84:LYS:HG2	2.02	0.42
40:EA:129:ALA:HB3	40:EA:132:ASN:HD22	1.85	0.42
52:EM:153:ASP:OD2	52:EM:155:VAL:HG22	2.20	0.42
53:EN:4[A]:GLU:HG2	53:EN:7[A]:VAL:HG22	2.00	0.42
55:EP:175:ALA:HA	55:EP:179:ARG:HH22	1.84	0.42
63:EX:57:LEU:N	63:EX:105:VAL:O	2.52	0.42
68:Ec:9:THR:HG23	68:Ec:109:VAL:HB	2.02	0.42
1:2:13:C:O2'	1:2:14:C:OP1	2.35	0.42
1:2:407:A:H2'	1:2:408:C:C6	2.55	0.42
1:2:888:U:H2'	1:2:889:U:C6	2.54	0.42
1:2:1187:U:H2'	1:2:1188:G:C8	2.55	0.42
1:2:1555:A:OP2	22:DP:47:ARG:NH1	2.51	0.42
1:2:1621:U:C4	1:2:1622:G:N7	2.87	0.42
1:2:1658:G:O2'	1:2:1659:A:H5'	2.19	0.42
4:5:178:U:H2'	4:5:179:C:C6	2.54	0.42
4:5:336:A:OP1	63:EX:9:SER:HA	2.20	0.42
4:5:731:C:H2'	4:5:732:U:C6	2.54	0.42
4:5:760:U:H2'	4:5:761:G:O4'	2.19	0.42
4:5:1012:A:H2'	4:5:1013:G:H8	1.84	0.42
4:5:1080:A:H4'	43:ED:140:ARG:O	2.19	0.42
4:5:1232:A:H2	4:5:1280:C:N4	2.18	0.42
4:5:1765:U:H3'	4:5:1766:U:H4'	2.02	0.42
4:5:2158:G:H4'	4:5:2159:A:H5'	2.00	0.42
4:5:2690:A:H2'	4:5:2690:A:N3	2.34	0.42
4:5:3232:U:H2'	4:5:3233:G:C8	2.53	0.42
8:DB:153:HIS:HB3	8:DB:155:TYR:CD2	2.55	0.42
11:DE:129:VAL:HG22	11:DE:139:VAL:HG12	2.01	0.42
11:DE:181:VAL:HG21	11:DE:210:ILE:HD12	2.01	0.42
12:DF:26:ALA:HB3	23:DQ:28:LEU:HB3	2.01	0.42
26:DT:13:ASP:OD1	26:DT:13:ASP:N	2.52	0.42
37:De:41:THR:HA	37:De:45:VAL:HG22	2.02	0.42
39:Dg:294:TRP:CZ3	39:Dg:301:LEU:HB2	2.55	0.42
41:EB:292:ALA:HB2	41:EB:302:LYS:HA	2.02	0.42
42:EC:210:ALA:HB2	42:EC:254:ALA:HA	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:EF:120:THR:H	45:EF:123:THR:HG1	1.66	0.42
51:EL:89:ALA:HB1	51:EL:92:GLU:OE2	2.19	0.42
52:EM:10:LEU:HD13	73:Eh:44:VAL:HG13	2.02	0.42
52:EM:172:ARG:NE	52:EM:174:ILE:HD11	2.34	0.42
57:ER:46:GLN:HG2	57:ER:51:VAL:O	2.20	0.42
58:ES:101:CYS:SG	58:ES:102:ARG:N	2.93	0.42
62:EW:58:ASP:OD1	62:EW:59:SER:N	2.46	0.42
64:EY:47:GLU:HB2	64:EY:69:LYS:O	2.19	0.42
1:2:585:A:H2'	1:2:586:G:C8	2.55	0.42
1:2:876:G:H1'	1:2:944:A:O4'	2.19	0.42
1:2:886:U:H2'	1:2:887:A:O4'	2.19	0.42
1:2:1160:A:H2'	1:2:1161:C:H6	1.83	0.42
1:2:1420:C:OP1	36:Dd:54:LYS:NZ	2.47	0.42
4:5:432:G:H2'	4:5:433:A:H8	1.84	0.42
4:5:524:A:O2'	57:ER:69:PRO:HD2	2.19	0.42
4:5:633:G:H2'	4:5:634:C:C6	2.55	0.42
4:5:953:A:H4'	4:5:969:G:N2	2.35	0.42
4:5:1028:A:H2'	4:5:1030:G:H5''	2.02	0.42
4:5:1518:G:P	76:Ek:41:ARG:HH22	2.42	0.42
4:5:2443:G:N2	4:5:2506:U:O2	2.49	0.42
4:5:2778:G:C4	65:EZ:60:TYR:CE1	3.07	0.42
7:DA:48:ILE:HG12	7:DA:149:LEU:HD21	2.02	0.42
8:DB:72:ASP:OD1	33:Da:59:TYR:OH	2.20	0.42
8:DB:188:LEU:HD23	8:DB:193:ILE:HD13	2.02	0.42
11:DE:15:PRO:HG2	11:DE:18:TRP:CE2	2.55	0.42
13:DG:67:VAL:CG1	13:DG:68:LEU:H	2.27	0.42
15:DI:34:ALA:HB2	15:DI:56:ARG:HD2	2.02	0.42
27:DU:99:ILE:HA	27:DU:102:ARG:HH11	1.84	0.42
27:DU:100:VAL:HA	27:DU:103:ILE:HG12	2.00	0.42
34:Db:41:LEU:HG	34:Db:42:ASN:H	1.83	0.42
39:Dg:89:LEU:HD21	39:Dg:124:SER:HB3	2.01	0.42
40:EA:33:ASP:OD1	40:EA:33:ASP:N	2.52	0.42
46:EG:75:ILE:HG13	46:EG:78:PHE:HD1	1.84	0.42
48:EI:71:CYS:SG	48:EI:158:LYS:HE3	2.59	0.42
49:EJ:60:ARG:HG3	49:EJ:61:ARG:H	1.85	0.42
50:EK:60:ALA:HB3	50:EK:65:TYR:O	2.19	0.42
52:EM:65:ARG:HB2	52:EM:127:TYR:HB3	2.01	0.42
57:ER:30:PHE:HZ	57:ER:99:ARG:HE	1.68	0.42
64:EY:83:THR:HG22	71:Ef:93:PHE:CE1	2.55	0.42
64:EY:135:ARG:HA	64:EY:135:ARG:HD3	1.84	0.42
65:EZ:130:VAL:HG11	65:EZ:145:VAL:HG21	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
72:Eg:4:VAL:HG13	72:Eg:50:SER:HB2	2.00	0.42
73:Eh:49:GLY:C	73:Eh:50:LEU:HD12	2.44	0.42
1:2:201:G:H2'	1:2:202:A:H8	1.85	0.42
1:2:604:A:H2'	1:2:605:A:O4'	2.20	0.42
1:2:788:A:C5	11:DE:19:LEU:HD13	2.55	0.42
1:2:1402:G:O2'	1:2:1403:C:P	2.76	0.42
1:2:1479:A:H2'	1:2:1480:G:C8	2.55	0.42
2:3:67:U:H2'	2:3:68:G:H8	1.84	0.42
4:5:74:G:C2	4:5:75:G:C8	3.08	0.42
4:5:359:U:H2'	4:5:360:G:O4'	2.19	0.42
4:5:1565:U:N3	4:5:1566:G:N7	2.67	0.42
4:5:2274:G:N2	4:5:2312:G:H2'	2.34	0.42
4:5:3158:U:H4'	4:5:3159:G:H5'	2.02	0.42
4:5:3270:U:H4'	4:5:3271:U:O5'	2.19	0.42
4:5:3317:A:C6	41:EB:124:LYS:HD2	2.55	0.42
4:5:3336:A:H2'	4:5:3337:A:C8	2.55	0.42
7:DA:179:ARG:O	7:DA:183:ARG:HG3	2.20	0.42
14:DH:63:PRO:O	14:DH:64:VAL:HG12	2.20	0.42
15:DI:166:TYR:HB3	15:DI:184:LEU:HD12	2.01	0.42
21:DO:21:ALA:HB3	21:DO:98:GLY:CA	2.38	0.42
24:DR:5:ARG:HB2	24:DR:10:LYS:HZ2	1.85	0.42
25:DS:101:LEU:O	25:DS:105:VAL:HG13	2.19	0.42
35:Dc:28:VAL:CG2	35:Dc:48:VAL:HG11	2.49	0.42
43:ED:55:PHE:CE1	43:ED:60:ILE:HD12	2.55	0.42
46:EG:69:LEU:HD13	52:EM:24:ARG:HD3	2.01	0.42
46:EG:75:ILE:HG12	46:EG:76:ALA:H	1.84	0.42
49:EJ:106:ILE:HG12	49:EJ:125:MET:HB2	2.01	0.42
51:EL:14:LEU:HD13	57:ER:149:LYS:HD3	2.02	0.42
52:EM:48:ALA:C	52:EM:53:TYR:HB3	2.45	0.42
58:ES:124:VAL:HG12	58:ES:124:VAL:O	2.19	0.42
64:EY:9:LYS:NZ	67:Eb:62:LEU:HD11	2.34	0.42
1:2:15:U:N3	1:2:620:A:N6	2.68	0.42
1:2:743:U:H2'	1:2:744:U:C6	2.55	0.42
1:2:976:G:C6	1:2:1023:A:C4	3.08	0.42
1:2:1162:C:O4'	35:Dc:22:ARG:HD3	2.19	0.42
1:2:1614:A:HO2'	1:2:1615:C:P	2.42	0.42
4:5:35:A:H2'	4:5:36:C:H6	1.84	0.42
4:5:66:A:N1	4:5:77:A:H5''	2.34	0.42
4:5:347:G:OP1	42:EC:59:GLN:NE2	2.53	0.42
4:5:1133:C:H2'	4:5:1134:A:H8	1.85	0.42
4:5:1292:A:H2'	4:5:1293:C:O4'	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:1350:G:H2'	4:5:1351:A:C8	2.54	0.42
4:5:2339:C:H5''	60:EU:47:ASN:O	2.20	0.42
4:5:2537:A:H5''	8:DB:228:LEU:CB	2.46	0.42
4:5:2945:U:H1'	41:EB:251:CYS:SG	2.59	0.42
4:5:3151:A:H2'	4:5:3152:U:O4'	2.20	0.42
4:5:3164:A:H2'	4:5:3165:C:C6	2.55	0.42
8:DB:183:GLN:O	8:DB:187:LYS:N	2.53	0.42
11:DE:182:TYR:O	11:DE:226:PHE:N	2.38	0.42
12:DF:125:THR:O	12:DF:127:GLN:N	2.53	0.42
12:DF:200:ASN:ND2	12:DF:205:SER:HB3	2.35	0.42
16:DJ:100:LYS:HA	16:DJ:100:LYS:HD3	1.75	0.42
17:DK:9:ASN:OD1	17:DK:10:LYS:N	2.53	0.42
21:DO:32:ASP:N	21:DO:37:GLU:O	2.48	0.42
25:DS:77:THR:HA	25:DS:81:ILE:HG22	2.02	0.42
25:DS:110:ARG:HH22	49:EJ:110:ILE:HG13	1.85	0.42
28:DV:71:ARG:NE	34:Db:4:VAL:HG21	2.35	0.42
31:DY:78:SER:N	31:DY:81:GLU:OE2	2.52	0.42
43:ED:39:GLN:HG3	43:ED:40:HIS:O	2.20	0.42
45:EF:141:TYR:HD2	45:EF:189:ILE:HD13	1.83	0.42
46:EG:91:PHE:CZ	46:EG:180:VAL:HG21	2.55	0.42
52:EM:118:SER:OG	52:EM:132:VAL:HG12	2.20	0.42
53:EN:51[A]:LYS:HE2	53:EN:144[A]:SER:HB2	2.02	0.42
54:EO:107:LEU:HD23	54:EO:112:LEU:HD21	2.01	0.42
79:En:8:ARG:HE	79:En:10:THR:CG2	2.33	0.42
1:2:183:U:H2'	1:2:184:C:C6	2.55	0.42
1:2:223:U:H2'	1:2:224:C:C6	2.55	0.42
1:2:449:C:H2'	1:2:450:U:C6	2.55	0.42
1:2:1388:A:N7	1:2:1411:A:N6	2.68	0.42
3:4:19:C:H2'	3:4:20:A:C8	2.54	0.42
4:5:143:G:H2'	4:5:144:A:H8	1.85	0.42
4:5:761:G:O2'	4:5:771:G:N2	2.49	0.42
4:5:831:A:H2'	4:5:832:G:O4'	2.19	0.42
4:5:1204:A:N3	4:5:2856:U:O2'	2.51	0.42
4:5:1333:A:H2'	4:5:1334:C:H6	1.85	0.42
4:5:1616:C:H2'	4:5:1617:U:H6	1.84	0.42
4:5:2393:C:O2'	41:EB:266:ARG:NH2	2.48	0.42
4:5:2985:C:H2'	4:5:2986:C:C6	2.54	0.42
4:5:3355:U:H4'	4:5:3357:G:OP2	2.19	0.42
8:DB:23:PRO:O	8:DB:26:ARG:HG2	2.19	0.42
8:DB:180:THR:O	8:DB:181:LEU:HD22	2.20	0.42
18:DL:70:ILE:HD13	18:DL:126:GLY:HA2	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
20:DN:91:LEU:HB3	20:DN:122:ILE:HG12	2.02	0.42
20:DN:115:LEU:O	20:DN:119:GLU:HG3	2.20	0.42
22:DP:35:LYS:HE3	22:DP:35:LYS:HB3	1.76	0.42
24:DR:2:GLY:C	24:DR:3:ARG:HD3	2.44	0.42
30:DX:19:ARG:HD3	30:DX:19:ARG:HA	1.69	0.42
31:DY:29:HIS:ND1	31:DY:32:ARG:O	2.48	0.42
40:EA:32:LEU:HD13	40:EA:163:ARG:NE	2.35	0.42
45:EF:116:PHE:O	45:EF:199:ASN:ND2	2.43	0.42
45:EF:207:LEU:HB3	45:EF:243:MET:HB3	2.02	0.42
50:EK:2:ALA:HB2	65:EZ:31:GLY:O	2.20	0.42
50:EK:23:LYS:O	52:EM:199:LEU:N	2.50	0.42
64:EY:22:LYS:HZ1	64:EY:132:SER:H	1.68	0.42
1:2:555:A:N7	1:2:590:C:O2'	2.52	0.41
1:2:1297:G:H5'	1:2:1298:U:P	2.59	0.41
1:2:1374:C:H2'	1:2:1375:A:H8	1.85	0.41
1:2:1449:U:H2'	1:2:1450:U:C6	2.55	0.41
2:3:146:U:H2'	2:3:147:U:H6	1.85	0.41
4:5:56:G:H1'	52:EM:162:ARG:HG3	2.02	0.41
4:5:65:A:C4	4:5:110:G:N7	2.88	0.41
4:5:127:G:H2'	4:5:128:G:C8	2.54	0.41
4:5:718:C:H2'	4:5:719:G:O4'	2.20	0.41
4:5:959:C:O2	65:EZ:40:HIS:HB3	2.20	0.41
4:5:1766:U:C5	56:EQ:43:LYS:HE3	2.55	0.41
4:5:2537:A:OP2	8:DB:228:LEU:N	2.53	0.41
4:5:2770:A:H5''	79:En:80:ARG:NH1	2.34	0.41
4:5:2837:C:H5	4:5:2853:C:N4	2.17	0.41
4:5:3306:A:H2'	4:5:3307:U:O4'	2.20	0.41
7:DA:96:THR:HG21	7:DA:116:LYS:NZ	2.35	0.41
7:DA:118:PRO:HD2	7:DA:141:ILE:HD13	2.02	0.41
12:DF:87:CYS:SG	12:DF:88:PRO:HD2	2.60	0.41
15:DI:107:THR:OG1	15:DI:108:PRO:HD3	2.19	0.41
16:DJ:49:LEU:HD21	16:DJ:53:ARG:HH22	1.84	0.41
18:DL:124:THR:HG22	18:DL:141:LYS:HB3	2.01	0.41
21:DO:107:ARG:NH1	35:Dc:38:ARG:HH12	2.17	0.41
23:DQ:30:LYS:HA	23:DQ:34:SER:O	2.20	0.41
34:Db:62:ILE:O	34:Db:63:LEU:HD22	2.20	0.41
39:Dg:38:ARG:HG2	39:Dg:67:ILE:HG23	2.02	0.41
39:Dg:64:HIS:HD2	39:Dg:90:ARG:HG2	1.85	0.41
42:EC:282:SER:OG	55:EP:125:ASP:OD2	2.34	0.41
52:EM:18:VAL:O	52:EM:22:LEU:HD23	2.20	0.41
55:EP:85:GLY:O	55:EP:104:LEU:HB2	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:EP:100:THR:OG1	55:EP:120:GLU:O	2.29	0.41
68:Ec:74:ARG:NH2	68:Ec:109:VAL:HG11	2.35	0.41
72:Eg:10:ARG:HD3	72:Eg:57:VAL:HG13	2.02	0.41
73:Eh:20:MET:O	73:Eh:21:THR:OG1	2.33	0.41
1:2:142:G:H5''	13:DG:139:ASN:ND2	2.35	0.41
1:2:341:A:H2'	1:2:342:C:C6	2.55	0.41
1:2:743:U:H2'	1:2:744:U:H6	1.85	0.41
1:2:1086:A:N3	1:2:1141:G:C2	2.88	0.41
1:2:1345:A:H4'	27:DU:53:LYS:HE2	2.02	0.41
1:2:1538:U:O2'	1:2:1539:G:N2	2.52	0.41
2:3:40:A:H2	4:5:23:A:O4'	2.03	0.41
2:3:104:A:C8	2:3:105:A:C8	3.08	0.41
3:4:3:U:O2'	3:4:25:G:N3	2.49	0.41
4:5:17:G:P	62:EW:44:PRO:HB2	2.60	0.41
4:5:49:A:C2	4:5:279:U:H4'	2.55	0.41
4:5:106:A:N3	4:5:325:A:O2'	2.34	0.41
4:5:618:G:OP1	44:EE:108:LYS:NZ	2.52	0.41
4:5:963:A:N1	4:5:2815:G:O2'	2.41	0.41
4:5:1112:U:P	50:EK:5:LYS:HD3	2.60	0.41
4:5:1275:A:H2'	4:5:1276:C:H6	1.85	0.41
4:5:1352:U:O2'	4:5:1353:A:H5'	2.21	0.41
4:5:1392:C:C2	69:Ed:103:LYS:HD3	2.54	0.41
4:5:1551:C:H2'	4:5:1552:C:H6	1.83	0.41
4:5:1603:A:H5'	56:EQ:37:SER:HA	2.01	0.41
4:5:2179:A:H5''	40:EA:132:ASN:ND2	2.35	0.41
6:7:30:G:H2'	6:7:31:G:C8	2.56	0.41
6:7:69:C:H2'	6:7:70:C:C6	2.55	0.41
8:DB:133:TYR:CD2	8:DB:181:LEU:HD11	2.55	0.41
8:DB:180:THR:C	8:DB:181:LEU:HD22	2.45	0.41
10:DD:223:LYS:NZ	10:DD:225:TYR:OH	2.52	0.41
11:DE:123:LEU:HD22	11:DE:159:THR:HG22	2.01	0.41
12:DF:84:LYS:HG3	12:DF:165:LEU:HD11	2.01	0.41
12:DF:99:MET:HG2	12:DF:100:ASN:H	1.85	0.41
24:DR:76:GLU:HA	24:DR:79:GLU:CD	2.44	0.41
25:DS:86:LEU:HD12	25:DS:97:ASP:CG	2.45	0.41
25:DS:88:ARG:NE	25:DS:91:ASP:OD1	2.43	0.41
28:DV:55:LEU:HD22	28:DV:59:VAL:HG21	2.02	0.41
39:Dg:274:LEU:HD21	39:Dg:313:TRP:NE1	2.34	0.41
43:ED:200:PHE:HE1	43:ED:244:HIS:CD2	2.38	0.41
48:EI:168:SER:OG	58:ES:160:ILE:O	2.27	0.41
55:EP:106:PHE:CE1	55:EP:121:CYS:HB3	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:EP:114:ILE:HD12	55:EP:114:ILE:H	1.84	0.41
68:Ec:78:LYS:HE2	68:Ec:90:PHE:CZ	2.55	0.41
76:Ek:9:ILE:HG22	76:Ek:13:MET:SD	2.59	0.41
1:2:66:U:O2	13:DG:160:ARG:NE	2.44	0.41
1:2:78:A:N1	13:DG:178:LEU:HD22	2.35	0.41
1:2:1307:U:H5'	1:2:1308:G:H8	1.85	0.41
1:2:1564:U:H2'	1:2:1565:C:H6	1.85	0.41
4:5:124:U:H4'	4:5:150:A:O2'	2.20	0.41
4:5:1526:G:H5'	4:5:1831:G:OP2	2.19	0.41
4:5:1545:G:OP1	52:EM:127:TYR:OH	2.31	0.41
4:5:1584:A:H2'	4:5:1585:U:O4'	2.18	0.41
4:5:2191:U:C4	4:5:2192:U:C4	3.08	0.41
4:5:2511:U:H2'	4:5:2512:A:C8	2.55	0.41
4:5:2537:A:H5''	8:DB:228:LEU:H	1.83	0.41
4:5:2619:G:N2	4:5:2646:G:OP1	2.35	0.41
4:5:2685:C:H2'	4:5:2686:C:C6	2.55	0.41
13:DG:135:PRO:HB2	13:DG:141:ILE:HG13	2.02	0.41
23:DQ:129:PHE:CE2	27:DU:78:THR:HA	2.55	0.41
32:DZ:70:LYS:HD3	32:DZ:70:LYS:HA	1.87	0.41
48:EI:153:ARG:NH1	48:EI:157:TYR:OH	2.53	0.41
55:EP:31:LYS:HA	55:EP:34:THR:HG22	2.01	0.41
60:EU:108:GLU:HA	60:EU:128:ARG:HG3	2.02	0.41
64:EY:89:VAL:HG23	64:EY:89:VAL:O	2.20	0.41
79:En:3:ASN:OD1	79:En:95:GLY:HA2	2.20	0.41
1:2:28:A:H2'	1:2:29:U:C6	2.55	0.41
1:2:534:A:H3'	1:2:535:A:H8	1.86	0.41
1:2:967:A:OP2	20:DN:124:ARG:NH2	2.52	0.41
1:2:1211:A:H1'	22:DP:97:TYR:OH	2.20	0.41
1:2:1213:G:N2	1:2:1450:U:O2	2.36	0.41
1:2:1308:G:C6	1:2:1309:C:N4	2.88	0.41
1:2:1753:A:O2'	1:2:1754:A:H5'	2.21	0.41
4:5:129:U:H2'	4:5:130:A:C8	2.55	0.41
4:5:144:A:H2'	4:5:145:G:O4'	2.21	0.41
4:5:707:A:H2'	4:5:708:U:C6	2.55	0.41
4:5:1563:C:H4'	4:5:1564:C:OP1	2.20	0.41
4:5:1591:G:H2'	4:5:1592:G:H8	1.85	0.41
4:5:1781:G:H2'	4:5:1782:C:C6	2.56	0.41
4:5:2674:A:OP1	49:EJ:95:ASN:ND2	2.48	0.41
4:5:3193:U:H2'	4:5:3194:C:C6	2.55	0.41
9:DC:53:ILE:HD11	9:DC:110:HIS:NE2	2.35	0.41
11:DE:193:GLY:HA3	11:DE:210:ILE:CG2	2.49	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:DJ:2:PRO:HB2	16:DJ:3:ARG:H	1.58	0.41
21:DO:96:PRO:HB3	35:Dc:64:ARG:HH22	1.86	0.41
24:DR:5:ARG:HB2	24:DR:10:LYS:NZ	2.35	0.41
27:DU:109:GLU:HG3	27:DU:110:PRO:HD2	2.02	0.41
34:Db:51:GLN:C	34:Db:66:PRO:HB3	2.46	0.41
35:Dc:12:VAL:CG1	35:Dc:52:ASP:H	2.33	0.41
39:Dg:61:PHE:HB3	39:Dg:92:TRP:CH2	2.55	0.41
39:Dg:101:GLN:NE2	39:Dg:102:ARG:O	2.53	0.41
40:EA:77:ILE:HD11	40:EA:128:ARG:NH1	2.35	0.41
40:EA:224:THR:HG23	40:EA:240:ALA:HB3	2.02	0.41
46:EG:136:LEU:HD23	52:EM:3:ALA:HB1	2.02	0.41
49:EJ:36:VAL:HG13	49:EJ:37:LEU:HD12	2.01	0.41
49:EJ:53:THR:HG22	49:EJ:60:ARG:HA	2.03	0.41
55:EP:8:LYS:HZ2	55:EP:11:LYS:HB2	1.85	0.41
59:ET:20:SER:O	59:ET:23:THR:HG22	2.21	0.41
64:EY:119:GLU:O	64:EY:123:GLN:HG2	2.21	0.41
1:2:1229:G:H21	1:2:1256:A:H62	1.66	0.41
1:2:1320:U:HO2'	1:2:1321:A:P	2.42	0.41
1:2:1642:G:H2'	1:2:1643:U:H6	1.85	0.41
1:2:1644:C:O2'	4:5:2256:A:N1	2.41	0.41
1:2:1789:G:H2'	1:2:1790:A:H8	1.86	0.41
3:4:43:U:H2'	3:4:44:C:O4'	2.20	0.41
4:5:72:C:C2	4:5:74:G:H1'	2.56	0.41
4:5:508:U:O2'	4:5:1167:G:H4'	2.19	0.41
4:5:1245:A:O2'	4:5:1248:U:OP1	2.28	0.41
4:5:1558:A:C5	4:5:1560:A:C5	3.09	0.41
4:5:2248:G:O2'	4:5:2272:A:N1	2.40	0.41
4:5:3107:A:H2'	4:5:3108:U:O4'	2.21	0.41
12:DF:117:THR:HG21	12:DF:194:LEU:HD22	2.02	0.41
13:DG:130:PRO:HB3	61:EV:81:PRO:HG2	2.01	0.41
16:DJ:129:ILE:HG13	16:DJ:134:ILE:HG13	2.02	0.41
23:DQ:64:ASP:OD1	23:DQ:64:ASP:N	2.47	0.41
41:EB:74:GLU:OE2	41:EB:283:TYR:OH	2.16	0.41
49:EJ:133:ARG:NH1	49:EJ:152:HIS:O	2.52	0.41
52:EM:88:GLY:HA3	79:En:50:PHE:CE2	2.55	0.41
65:EZ:98:THR:O	65:EZ:98:THR:HG22	2.21	0.41
68:Ec:27:LYS:C	68:Ec:30:PRO:HD2	2.46	0.41
1:2:463:U:H2'	1:2:464:A:C8	2.56	0.41
1:2:840:U:H2'	1:2:841:U:C6	2.55	0.41
1:2:1107:G:O2'	1:2:1108:G:H5'	2.20	0.41
1:2:1139:A:H2'	1:2:1140:G:O5'	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:3:141:C:OP1	52:EM:109:ARG:NH2	2.54	0.41
4:5:34:A:H3'	4:5:35:A:H8	1.86	0.41
4:5:764:G:O2'	4:5:765:U:OP1	2.36	0.41
4:5:1084:G:C6	4:5:1085:A:C6	3.09	0.41
4:5:1354:U:H3'	44:EE:9:TRP:CZ2	2.56	0.41
4:5:1598:C:P	71:Ef:8:ARG:HH12	2.43	0.41
4:5:1649:A:H61	4:5:1808:G:H1'	1.85	0.41
4:5:2109:C:H1'	4:5:3345:A:C8	2.55	0.41
4:5:2158:G:O2'	40:EA:156:LYS:NZ	2.26	0.41
4:5:2616:G:H2'	4:5:2617:C:C6	2.56	0.41
4:5:3309:C:N3	54:EO:69:ARG:NH2	2.57	0.41
4:5:3348:A:H2'	4:5:3349:G:H8	1.85	0.41
8:DB:29:TRP:HA	8:DB:46:THR:O	2.20	0.41
19:DM:62:LEU:HD13	19:DM:75:VAL:HG21	2.02	0.41
21:DO:79:VAL:N	21:DO:111:ARG:O	2.53	0.41
23:DQ:127:LYS:C	23:DQ:128:LYS:HD2	2.46	0.41
31:DY:57:VAL:HB	31:DY:60:PHE:CE2	2.55	0.41
32:DZ:54:VAL:CG2	32:DZ:55:PRO:HD3	2.49	0.41
33:Da:24:VAL:HG21	33:Da:71:LEU:HD12	2.03	0.41
41:EB:28:ARG:H	41:EB:28:ARG:HG2	1.64	0.41
42:EC:135:VAL:HA	42:EC:245:GLY:O	2.21	0.41
42:EC:264:SER:OG	42:EC:267:VAL:HG12	2.21	0.41
43:ED:82:GLU:O	43:ED:85:ARG:HG2	2.20	0.41
46:EG:132:VAL:HG22	46:EG:200:LEU:HD21	2.02	0.41
56:EQ:53:LYS:HG2	56:EQ:54:ALA:N	2.36	0.41
64:EY:106:GLN:OE1	64:EY:106:GLN:N	2.53	0.41
66:Ea:24:PRO:O	66:Ea:25:LYS:HG3	2.21	0.41
1:2:280:U:H4'	1:2:281:G:O5'	2.19	0.41
1:2:305:C:H2'	1:2:306:U:C6	2.56	0.41
1:2:434:G:N2	1:2:436:A:H3'	2.35	0.41
1:2:522:U:OP1	31:DY:37:LYS:HG2	2.21	0.41
1:2:1132:A:H2'	1:2:1133:A:C8	2.54	0.41
1:2:1285:U:C5	1:2:1421:A:C2	3.09	0.41
1:2:1384:A:H2'	1:2:1385:G:O4'	2.20	0.41
1:2:1615:C:O5'	12:DF:81:ARG:HD2	2.21	0.41
1:2:1719:A:H2'	1:2:1720:G:O4'	2.21	0.41
4:5:638:C:H4'	4:5:639:C:OP1	2.21	0.41
4:5:745:A:H4'	55:EP:142:GLY:O	2.21	0.41
4:5:954:G:N2	4:5:1117:G:H2'	2.36	0.41
4:5:1459:U:H2'	4:5:1460:C:C6	2.55	0.41
4:5:1498:C:H2'	4:5:1499:A:H8	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:1625:G:C4	4:5:1626:A:C8	3.09	0.41
4:5:1772:C:H2'	4:5:1773:U:O4'	2.21	0.41
4:5:2108:A:H2	4:5:3345:A:C8	2.37	0.41
4:5:2168:A:H2'	4:5:2169:A:C8	2.55	0.41
4:5:2582:U:H2'	4:5:2583:C:C6	2.56	0.41
4:5:2675:A:H2'	4:5:2676:C:C6	2.56	0.41
10:DD:132:LYS:HG2	10:DD:189:MET:HE3	2.03	0.41
12:DF:212:LYS:HA	12:DF:212:LYS:HD2	1.86	0.41
29:DW:10:ALA:HA	29:DW:27:ILE:HD12	2.03	0.41
30:DX:63:GLN:HA	30:DX:64:PRO:HA	1.71	0.41
55:EP:34:THR:HA	55:EP:49:LEU:HD22	2.03	0.41
66:Ea:11:ASN:O	66:Ea:15:LYS:HG3	2.21	0.41
76:Ek:23:LEU:HD12	76:Ek:24:PRO:HD2	2.02	0.41
1:2:11:A:C2	1:2:12:U:H1'	2.56	0.41
1:2:380:U:C4	16:DJ:5:PRO:HB3	2.55	0.41
1:2:447:U:OP1	11:DE:49:ARG:NH1	2.53	0.41
1:2:487:G:H2'	1:2:488:G:H8	1.84	0.41
1:2:520:A:H2'	1:2:521:A:C8	2.55	0.41
1:2:1529:C:H2'	1:2:1530:C:C6	2.55	0.41
2:3:142:C:H2'	2:3:143:U:C6	2.56	0.41
4:5:717:A:N6	65:EZ:117:ARG:HG3	2.36	0.41
4:5:1838:U:H2'	4:5:1839:G:O4'	2.20	0.41
4:5:1898:G:O2'	60:EU:16:GLY:O	2.39	0.41
4:5:2725:U:H4'	58:ES:54:HIS:NE2	2.35	0.41
4:5:2729:G:N1	58:ES:80:VAL:HG11	2.35	0.41
4:5:3116:C:O2'	4:5:3118:C:N4	2.36	0.41
7:DA:55:GLU:OE2	28:DV:80:LYS:HE3	2.20	0.41
8:DB:157:GLN:C	8:DB:159:SER:H	2.29	0.41
25:DS:57:ARG:HH21	32:DZ:40:VAL:HG23	1.86	0.41
28:DV:35:ASN:HB3	28:DV:50:TYR:CD1	2.55	0.41
41:EB:87:VAL:HG23	41:EB:87:VAL:O	2.20	0.41
43:ED:40:HIS:CE1	58:ES:69:LYS:HA	2.56	0.41
46:EG:160:ILE:O	46:EG:164:VAL:HG13	2.21	0.41
51:EL:53:VAL:HA	51:EL:54:PRO:HD3	1.96	0.41
63:EX:31:LEU:HB3	63:EX:101:PRO:HG3	2.03	0.41
70:Ee:38:PRO:HD3	70:Ee:77:ASN:O	2.21	0.41
1:2:12:U:O2'	1:2:1299:G:N2	2.53	0.41
1:2:119:A:H1'	1:2:397:A:C5	2.55	0.41
1:2:436:A:OP2	1:2:436:A:H8	2.04	0.41
1:2:628:G:H2'	4:5:847:A:C2	2.55	0.41
1:2:636:A:H5''	29:DW:31:SER:CB	2.49	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:781:U:OP2	31:DY:9:THR:OG1	2.29	0.41
1:2:861:U:O2'	29:DW:56:HIS:O	2.39	0.41
1:2:997:G:C5	1:2:998:A:C8	3.09	0.41
1:2:1117:U:H2'	1:2:1118:G:C8	2.56	0.41
1:2:1162:C:H2'	1:2:1163:A:C8	2.55	0.41
1:2:1299:G:H2'	1:2:1300:A:C8	2.56	0.41
1:2:1601:G:OP1	26:DT:86:ARG:NH2	2.54	0.41
1:2:1610:G:OP1	12:DF:107:LYS:HE2	2.21	0.41
1:2:1729:C:H2'	1:2:1730:A:O4'	2.20	0.41
1:2:1750:A:OP1	78:Em:13:LEU:HD13	2.21	0.41
2:3:40:A:H2'	2:3:41:A:C8	2.56	0.41
4:5:178:U:H3	4:5:239:G:H22	1.69	0.41
4:5:230:U:H2'	4:5:231:G:O4'	2.21	0.41
4:5:255:A:H2'	4:5:256:G:C8	2.56	0.41
4:5:273:A:H2'	4:5:274:G:C8	2.55	0.41
4:5:872:U:H2'	4:5:873:U:C6	2.56	0.41
4:5:959:C:H1'	65:EZ:40:HIS:HA	2.02	0.41
4:5:988:U:H2'	4:5:989:U:H6	1.86	0.41
4:5:1005:U:H2'	4:5:1006:G:O4'	2.21	0.41
4:5:1073:G:H2'	4:5:1074:U:H6	1.86	0.41
4:5:1130:A:H2'	4:5:1131:A:C8	2.56	0.41
4:5:1525:A:O2'	4:5:1527:U:OP2	2.37	0.41
4:5:1668:A:H2'	4:5:1669:G:H8	1.84	0.41
4:5:1669:G:H2'	4:5:1670:C:O4'	2.21	0.41
4:5:1946:A:H2'	4:5:1947:A:C8	2.56	0.41
4:5:2413:G:H2'	4:5:2414:A:C8	2.56	0.41
4:5:2534:G:N2	4:5:2548:A:C8	2.88	0.41
4:5:2725:U:OP2	58:ES:87:LYS:NZ	2.35	0.41
4:5:2948:G:OP2	4:5:2948:G:H4'	2.20	0.41
4:5:3007:A:H2'	4:5:3008:U:O4'	2.21	0.41
4:5:3085:C:H2'	4:5:3086:G:O4'	2.21	0.41
4:5:3183:G:H2'	4:5:3184:A:C8	2.56	0.41
4:5:3351:C:O2'	4:5:3352:U:H2'	2.21	0.41
5:6:39:U:H2'	5:6:40:C:C6	2.56	0.41
9:DC:157:LYS:NZ	29:DW:91:ALA:O	2.51	0.41
12:DF:53:VAL:HB	12:DF:59:VAL:HG22	2.03	0.41
13:DG:7:TYR:HD2	13:DG:8:PRO:HD2	1.85	0.41
15:DI:45:SER:HB3	15:DI:53:LYS:HD3	2.02	0.41
15:DI:72:ILE:HG21	15:DI:112:TRP:CZ2	2.55	0.41
20:DN:13:SER:OG	20:DN:14:SER:N	2.54	0.41
22:DP:119:PHE:HE1	25:DS:119:ILE:HG22	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:DR:21:TYR:CD2	24:DR:22:PRO:HD3	2.56	0.41
26:DT:77:ASN:ND2	26:DT:96:ALA:O	2.54	0.41
31:DY:32:ARG:HE	31:DY:33:ALA:H	1.69	0.41
33:Da:18:VAL:HG12	33:Da:18:VAL:O	2.21	0.41
33:Da:45:VAL:HG23	33:Da:46:GLU:N	2.35	0.41
36:Dd:42:CYS:O	36:Dd:46:LYS:HG2	2.20	0.41
38:Df:95:HIS:HB2	38:Df:98:VAL:HG13	2.03	0.41
39:Dg:22:SER:HB2	39:Dg:70:ASP:HA	2.01	0.41
39:Dg:248:ASN:OD1	39:Dg:249:ARG:N	2.54	0.41
39:Dg:301:LEU:HB3	39:Dg:313:TRP:HB2	2.02	0.41
40:EA:71:LEU:HD12	40:EA:71:LEU:HA	1.95	0.41
42:EC:209:TYR:O	42:EC:230:VAL:HG23	2.21	0.41
43:ED:237:GLU:O	43:ED:241:THR:HG23	2.21	0.41
44:EE:13:GLU:OE1	69:Ed:90:LYS:HB2	2.21	0.41
46:EG:29:SER:OG	46:EG:31:PRO:HD3	2.20	0.41
49:EJ:160:VAL:O	49:EJ:164:LYS:HG2	2.20	0.41
51:EL:135:LEU:HD11	53:EN:178[A]:VAL:HA	2.03	0.41
56:EQ:21:LYS:HE3	56:EQ:55:VAL:HA	2.03	0.41
63:EX:101:PRO:HA	63:EX:104:LEU:HD12	2.03	0.41
69:Ed:40:SER:O	69:Ed:44:ARG:HG3	2.21	0.41
72:Eg:85:THR:HG22	72:Eg:87:ALA:H	1.86	0.41
1:2:13:C:C5	1:2:14:C:C5	3.09	0.41
1:2:246:G:N3	18:DL:40:LEU:HG	2.36	0.41
1:2:1141:G:H2'	1:2:1142:A:O4'	2.21	0.41
1:2:1164:G:O2'	1:2:1612:U:O2	2.23	0.41
1:2:1216:C:H2'	1:2:1444:A:N1	2.35	0.41
1:2:1445:G:H21	38:Df:87:THR:HG23	1.86	0.41
2:3:39:G:O2'	2:3:105:A:N1	2.50	0.41
4:5:81:C:H2'	4:5:82:C:C6	2.56	0.41
4:5:530:A:H2'	4:5:531:G:C8	2.56	0.41
4:5:675:G:H2'	4:5:676:C:C6	2.56	0.41
4:5:710:A:H2'	4:5:711:A:O4'	2.21	0.41
4:5:1567:A:H2'	4:5:1568:U:C5	2.56	0.41
4:5:2155:U:H5''	40:EA:242:ARG:O	2.21	0.41
4:5:2748:A:OP1	43:ED:176:SER:OG	2.22	0.41
4:5:2944:G:H2'	4:5:2945:U:O4'	2.21	0.41
5:6:53:G:H3'	5:6:54:U:C6	2.56	0.41
8:DB:175:GLU:HB3	8:DB:187:LYS:NZ	2.36	0.41
15:DI:43:ILE:HG12	15:DI:57:ALA:HA	2.03	0.41
24:DR:106:THR:O	24:DR:110:VAL:HG23	2.21	0.41
26:DT:114:VAL:CG1	26:DT:122:ARG:HB3	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:DW:6:VAL:HG21	29:DW:31:SER:HB3	2.03	0.41
29:DW:22:LYS:HG2	34:Db:3:LEU:HA	2.03	0.41
39:Dg:221:MET:HE3	39:Dg:223:TRP:CZ2	2.48	0.41
41:EB:53:MET:SD	41:EB:77:THR:HB	2.61	0.41
49:EJ:133:ARG:HH12	49:EJ:154:THR:N	2.18	0.41
55:EP:19:PRO:HD3	55:EP:53:PHE:HD1	1.83	0.41
1:2:705:U:O2'	1:2:706:A:O5'	2.24	0.40
1:2:869:A:H5''	20:DN:90:TYR:CD1	2.56	0.40
1:2:978:A:H2'	1:2:979:A:O4'	2.21	0.40
1:2:1085:G:OP1	9:DC:161:LYS:HE2	2.21	0.40
1:2:1137:A:H1'	1:2:1138:A:C8	2.56	0.40
1:2:1697:G:O6	1:2:1704:U:O4	2.39	0.40
1:2:1706:C:H2'	1:2:1707:A:N3	2.36	0.40
2:3:135:G:OP2	62:EW:56:ARG:NH1	2.53	0.40
2:3:156:U:H2'	2:3:157:U:O4'	2.21	0.40
4:5:348:A:N3	4:5:352:A:O2'	2.54	0.40
4:5:1551:C:H2'	4:5:1552:C:C6	2.56	0.40
4:5:2139:A:C4	74:EI:3:LYS:HB3	2.56	0.40
4:5:2154:U:H4'	40:EA:244:GLY:O	2.22	0.40
4:5:2705:A:C4	4:5:2707:G:C8	3.09	0.40
4:5:2725:U:OP1	58:ES:57:TYR:OH	2.38	0.40
4:5:2855:U:O2'	4:5:2856:U:H5'	2.21	0.40
4:5:3141:G:N7	41:EB:28:ARG:NH2	2.62	0.40
4:5:3392:A:O3'	54:EO:46:LYS:NZ	2.53	0.40
7:DA:59:LEU:O	7:DA:63:ILE:HG13	2.20	0.40
7:DA:126:PRO:HB2	7:DA:152:PRO:HG2	2.03	0.40
10:DD:116:ARG:HE	10:DD:116:ARG:HB3	1.73	0.40
11:DE:246:LEU:HD13	11:DE:254:ARG:NH1	2.37	0.40
15:DI:48:THR:OG1	15:DI:52:ASN:O	2.38	0.40
16:DJ:25:ASP:OD1	16:DJ:26:ALA:N	2.54	0.40
19:DM:93:ASP:N	19:DM:93:ASP:OD1	2.54	0.40
21:DO:65:GLN:HG3	21:DO:104:ALA:HB1	2.03	0.40
27:DU:28:SER:HB3	27:DU:34:LEU:HD13	2.04	0.40
48:EI:99:ILE:HG12	48:EI:101:LYS:HD2	2.04	0.40
49:EJ:108:GLU:C	49:EJ:110:ILE:N	2.79	0.40
52:EM:98:LEU:HA	52:EM:101:THR:HG22	2.03	0.40
56:EQ:90:PRO:O	56:EQ:94:VAL:HG23	2.20	0.40
66:Ea:54:LEU:HD23	66:Ea:54:LEU:HA	1.91	0.40
75:Ej:17:ARG:HB3	75:Ej:19:ASP:OD1	2.21	0.40
1:2:11:A:H4'	9:DC:87:GLN:H	1.85	0.40
1:2:283:U:H5''	13:DG:188:ARG:HD3	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:1429:G:O2'	27:DU:74:GLU:HG2	2.21	0.40
4:5:243:G:H2'	4:5:244:G:C8	2.54	0.40
4:5:422:A:C2	4:5:2364:A:H4'	2.57	0.40
4:5:596:G:N1	4:5:610:G:H5''	2.31	0.40
4:5:638:C:C2	4:5:639:C:C5	3.09	0.40
4:5:676:C:H5'	42:EC:116:ASN:ND2	2.35	0.40
4:5:701:C:H2'	4:5:702:G:C8	2.57	0.40
4:5:817:A:OP2	74:Ei:28:HIS:HE1	2.05	0.40
4:5:1199:C:OP2	4:5:1200:C:O2'	2.30	0.40
4:5:1420:A:N7	42:EC:187:LEU:HD12	2.36	0.40
4:5:1682:U:H2'	4:5:1683:U:O4'	2.22	0.40
4:5:2782:U:H2'	4:5:2783:U:C6	2.57	0.40
7:DA:56:LYS:HD2	7:DA:56:LYS:HA	1.92	0.40
11:DE:35:PRO:HG2	11:DE:36:HIS:CD2	2.56	0.40
11:DE:136:VAL:HG11	11:DE:148:ARG:CZ	2.51	0.40
14:DH:155:ASP:OD1	14:DH:155:ASP:N	2.52	0.40
16:DJ:152:SER:HA	16:DJ:155:HIS:ND1	2.36	0.40
20:DN:11:ILE:O	20:DN:11:ILE:HG23	2.21	0.40
26:DT:28:LEU:O	26:DT:29:GLU:HG3	2.21	0.40
39:Dg:112:SER:OG	39:Dg:153:GLN:HA	2.20	0.40
39:Dg:217:ASP:N	39:Dg:217:ASP:OD1	2.53	0.40
41:EB:48:GLY:HA3	41:EB:81:THR:HG22	2.03	0.40
46:EG:170:CYS:HB3	46:EG:175:VAL:O	2.21	0.40
50:EK:47:ALA:HB3	50:EK:48:PRO:HD3	2.02	0.40
62:EW:90:ALA:O	62:EW:120:LYS:NZ	2.53	0.40
65:EZ:2:PRO:HG2	65:EZ:5:PHE:CD2	2.57	0.40
75:Ej:7:ASP:N	75:Ej:7:ASP:OD1	2.46	0.40
1:2:5:U:H2'	1:2:6:G:C8	2.54	0.40
1:2:119:A:H1'	1:2:397:A:C8	2.56	0.40
1:2:512:A:H2'	1:2:513:U:O4'	2.20	0.40
1:2:844:A:H2'	1:2:845:G:H8	1.84	0.40
1:2:971:A:N1	4:5:847:A:N7	2.69	0.40
1:2:987:G:H22	1:2:1013:A:P	2.45	0.40
1:2:1680:G:H1'	1:2:1721:A:N6	2.37	0.40
4:5:370:U:H4'	4:5:404:G:H5'	2.03	0.40
4:5:977:U:OP1	55:EP:144:ARG:NH2	2.49	0.40
4:5:1129:U:H2'	4:5:1130:A:O4'	2.21	0.40
4:5:3334:G:N2	4:5:3370:G:O2'	2.54	0.40
7:DA:21:ASN:HB3	7:DA:24:LEU:HD12	2.03	0.40
8:DB:87:ARG:HB2	8:DB:101:HIS:CG	2.56	0.40
12:DF:50:GLU:N	12:DF:50:GLU:OE2	2.53	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:DJ:86:LEU:HD11	16:DJ:90:LYS:HB2	2.04	0.40
19:DM:78:LEU:HD22	38:Df:106:TYR:HD2	1.86	0.40
21:DO:43:THR:H	21:DO:46:MET:HE3	1.87	0.40
21:DO:134:GLY:O	21:DO:136:ARG:HG3	2.22	0.40
23:DQ:39:VAL:C	23:DQ:41:PRO:HD3	2.46	0.40
25:DS:127:HIS:CD2	25:DS:133:VAL:HG11	2.56	0.40
26:DT:40:SER:HG	26:DT:43:ASN:H	1.68	0.40
26:DT:109:GLU:HA	26:DT:114:VAL:O	2.21	0.40
31:DY:26:ASP:OD1	31:DY:68:LYS:HE3	2.21	0.40
41:EB:85:VAL:HG22	41:EB:202:THR:HG22	2.03	0.40
42:EC:120:TYR:CE1	42:EC:277:PRO:HB3	2.56	0.40
42:EC:148:ILE:HA	42:EC:149:PRO:C	2.46	0.40
43:ED:115:LEU:HD12	43:ED:119:TYR:CE2	2.56	0.40
43:ED:201:GLY:O	43:ED:205:SER:OG	2.22	0.40
46:EG:72:PRO:HG2	46:EG:75:ILE:HG22	2.03	0.40
49:EJ:101:ASN:OD1	49:EJ:130:VAL:HG13	2.22	0.40
51:EL:40:ASP:CG	51:EL:41:GLN:H	2.30	0.40
54:EO:14:SER:O	54:EO:105:LYS:NZ	2.33	0.40
59:ET:36:TYR:CD2	59:ET:83:TYR:HB2	2.56	0.40
65:EZ:104:THR:HG21	65:EZ:112:ILE:HD11	2.02	0.40
67:Eb:24:THR:OG1	67:Eb:91:SER:OG	2.40	0.40
80:Eo:3:LYS:HD2	80:Eo:3:LYS:HA	1.90	0.40
80:Eo:36:ARG:O	80:Eo:45:LYS:HE2	2.21	0.40
1:2:180:A:H3'	1:2:181:A:H8	1.85	0.40
1:2:419:G:H5'	13:DG:72:ARG:HH21	1.85	0.40
1:2:514:G:H2'	1:2:515:A:C8	2.50	0.40
1:2:856:A:N6	14:DH:116:ARG:HA	2.37	0.40
1:2:906:A:H2'	1:2:907:A:C8	2.57	0.40
1:2:1102:G:OP2	30:DX:7:ARG:HD2	2.20	0.40
1:2:1109:G:C2	1:2:1110:G:C8	3.09	0.40
1:2:1143:A:OP1	33:Da:2:PRO:HG3	2.21	0.40
1:2:1489:U:O2'	1:2:1492:A:N3	2.47	0.40
1:2:1582:U:OP1	23:DQ:135:ARG:HD2	2.22	0.40
4:5:1434:A:N7	69:Ed:19:ARG:NH2	2.70	0.40
4:5:1802:U:H2'	4:5:1803:C:C6	2.56	0.40
4:5:2155:U:H2'	4:5:2156:G:C8	2.56	0.40
4:5:2155:U:O2'	40:EA:238:ILE:O	2.35	0.40
4:5:2223:A:H2'	4:5:2224:A:C8	2.56	0.40
4:5:2529:G:H5''	46:EG:248:LYS:HE2	2.02	0.40
4:5:2905:U:H2'	4:5:2906:U:H6	1.86	0.40
4:5:3111:C:H2'	4:5:3112:U:C6	2.55	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:3352:U:H4'	4:5:3353:U:OP2	2.21	0.40
7:DA:175:TYR:HA	7:DA:202:TYR:CD2	2.56	0.40
10:DD:172:THR:HG23	10:DD:185:LYS:HG2	2.03	0.40
17:DK:6:GLU:O	17:DK:10:LYS:HE3	2.22	0.40
24:DR:24:LEU:HD13	24:DR:31:ASN:ND2	2.36	0.40
25:DS:121:ALA:O	25:DS:125:ILE:HG12	2.21	0.40
26:DT:28:LEU:HG	26:DT:29:GLU:N	2.35	0.40
39:Dg:64:HIS:CE1	39:Dg:84:SER:HB3	2.56	0.40
41:EB:123:TYR:CD2	41:EB:124:LYS:HG2	2.56	0.40
45:EF:40:LYS:O	45:EF:44:ILE:HG12	2.21	0.40
54:EO:179:GLN:O	54:EO:182:ILE:HG22	2.21	0.40
55:EP:176:ARG:HA	55:EP:182:LYS:O	2.21	0.40
64:EY:22:LYS:NZ	64:EY:132:SER:O	2.28	0.40
65:EZ:36:GLY:HA2	65:EZ:39:HIS:HB2	2.03	0.40
65:EZ:39:HIS:O	65:EZ:42:ARG:HG3	2.21	0.40
1:2:156:A:H2'	1:2:157:A:O4'	2.22	0.40
1:2:887:A:H1'	21:DO:125:SER:HB3	2.02	0.40
1:2:1396:U:H2'	1:2:1397:U:C2	2.57	0.40
2:3:10:A:H2'	2:3:11:C:C6	2.57	0.40
4:5:164:A:N1	4:5:258:G:C6	2.89	0.40
4:5:757:U:H2'	4:5:758:C:H6	1.87	0.40
4:5:850:C:H2'	4:5:851:U:H6	1.86	0.40
4:5:1185:A:H2'	4:5:1186:C:C6	2.57	0.40
4:5:1496:U:C5	4:5:1836:A:N1	2.89	0.40
4:5:2259:U:H3'	4:5:2260:A:H8	1.87	0.40
4:5:2661:G:O2'	4:5:2745:U:H1'	2.20	0.40
7:DA:36:TYR:CD2	7:DA:161:PRO:HB3	2.56	0.40
7:DA:76:ILE:N	7:DA:122:ILE:O	2.44	0.40
14:DH:141:ARG:N	14:DH:149:ILE:O	2.55	0.40
19:DM:61:VAL:HA	19:DM:88:LEU:HD13	2.03	0.40
22:DP:76:VAL:O	22:DP:95:GLY:N	2.36	0.40
25:DS:86:LEU:H	25:DS:86:LEU:HG	1.72	0.40
28:DV:73:ALA:HB3	28:DV:79:LEU:HD12	2.04	0.40
32:DZ:91:PRO:HG2	32:DZ:94:LYS:HZ1	1.86	0.40
33:Da:37:LYS:H	33:Da:37:LYS:HD3	1.87	0.40
38:Df:141:CYS:SG	38:Df:142:GLY:N	2.94	0.40
39:Dg:21:THR:HA	39:Dg:290:VAL:HG13	2.03	0.40
39:Dg:51:ASP:N	39:Dg:51:ASP:OD1	2.54	0.40
40:EA:54:ARG:HD2	40:EA:58:LEU:HD11	2.03	0.40
40:EA:206:PRO:HD3	40:EA:213:GLY:CA	2.51	0.40
41:EB:215:ILE:CD1	41:EB:338:LEU:HD12	2.51	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
44:EE:49:GLY:O	44:EE:163:PHE:N	2.41	0.40
45:EF:87:VAL:HA	45:EF:113:SER:O	2.21	0.40
52:EM:10:LEU:HD22	73:Eh:44:VAL:HG22	2.02	0.40
62:EW:50:ALA:O	72:Eg:66:VAL:HG11	2.22	0.40
65:EZ:94:ALA:HA	65:EZ:121:VAL:HG23	2.03	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
7	DA	204/206 (99%)	187 (92%)	17 (8%)	0	100	100
8	DB	222/255 (87%)	196 (88%)	25 (11%)	1 (0%)	24	43
9	DC	214/216 (99%)	205 (96%)	9 (4%)	0	100	100
10	DD	220/222 (99%)	217 (99%)	3 (1%)	0	100	100
11	DE	256/258 (99%)	250 (98%)	5 (2%)	1 (0%)	30	49
12	DF	204/206 (99%)	195 (96%)	9 (4%)	0	100	100
13	DG	226/228 (99%)	216 (96%)	9 (4%)	1 (0%)	30	49
14	DH	182/184 (99%)	168 (92%)	14 (8%)	0	100	100
15	DI	183/200 (92%)	174 (95%)	8 (4%)	1 (0%)	24	43
16	DJ	182/184 (99%)	170 (93%)	12 (7%)	0	100	100
17	DK	90/92 (98%)	87 (97%)	3 (3%)	0	100	100
18	DL	142/144 (99%)	136 (96%)	6 (4%)	0	100	100
19	DM	119/121 (98%)	94 (79%)	25 (21%)	0	100	100
20	DN	148/150 (99%)	142 (96%)	6 (4%)	0	100	100
21	DO	125/127 (98%)	117 (94%)	8 (6%)	0	100	100
22	DP	115/117 (98%)	112 (97%)	3 (3%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
23	DQ	139/141 (99%)	131 (94%)	7 (5%)	1 (1%)	18	34
24	DR	117/136 (86%)	113 (97%)	4 (3%)	0	100	100
25	DS	143/145 (99%)	136 (95%)	6 (4%)	1 (1%)	18	34
26	DT	141/143 (99%)	134 (95%)	7 (5%)	0	100	100
27	DU	98/100 (98%)	98 (100%)	0	0	100	100
28	DV	85/87 (98%)	77 (91%)	7 (8%)	1 (1%)	10	20
29	DW	127/129 (98%)	124 (98%)	3 (2%)	0	100	100
30	DX	142/144 (99%)	129 (91%)	12 (8%)	1 (1%)	18	34
31	DY	132/134 (98%)	126 (96%)	6 (4%)	0	100	100
32	DZ	80/82 (98%)	74 (92%)	6 (8%)	0	100	100
33	Da	95/97 (98%)	81 (85%)	12 (13%)	2 (2%)	5	9
34	Db	79/81 (98%)	73 (92%)	6 (8%)	0	100	100
35	Dc	61/63 (97%)	59 (97%)	2 (3%)	0	100	100
36	Dd	51/53 (96%)	51 (100%)	0	0	100	100
37	De	58/60 (97%)	56 (97%)	2 (3%)	0	100	100
38	Df	71/73 (97%)	59 (83%)	12 (17%)	0	100	100
39	Dg	310/312 (99%)	303 (98%)	7 (2%)	0	100	100
40	EA	249/251 (99%)	236 (95%)	12 (5%)	1 (0%)	30	49
41	EB	384/386 (100%)	366 (95%)	17 (4%)	1 (0%)	36	55
42	EC	359/361 (99%)	342 (95%)	16 (4%)	1 (0%)	36	55
43	ED	292/294 (99%)	280 (96%)	11 (4%)	1 (0%)	36	55
44	EE	163/176 (93%)	158 (97%)	5 (3%)	0	100	100
45	EF	220/222 (99%)	217 (99%)	3 (1%)	0	100	100
46	EG	231/233 (99%)	222 (96%)	9 (4%)	0	100	100
47	EH	189/191 (99%)	184 (97%)	5 (3%)	0	100	100
48	EI	216/218 (99%)	213 (99%)	3 (1%)	0	100	100
49	EJ	167/169 (99%)	155 (93%)	12 (7%)	0	100	100
50	EK	191/193 (99%)	173 (91%)	16 (8%)	2 (1%)	12	24
51	EL	134/136 (98%)	132 (98%)	2 (2%)	0	100	100
52	EM	201/203 (99%)	193 (96%)	8 (4%)	0	100	100
53	EN	195/197 (99%)	189 (97%)	4 (2%)	2 (1%)	12	24

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
54	EO	181/183 (99%)	174 (96%)	7 (4%)	0	100	100
55	EP	183/185 (99%)	178 (97%)	5 (3%)	0	100	100
56	EQ	186/188 (99%)	184 (99%)	1 (0%)	1 (0%)	24	43
57	ER	169/171 (99%)	166 (98%)	3 (2%)	0	100	100
58	ES	157/159 (99%)	153 (98%)	4 (2%)	0	100	100
59	ET	98/100 (98%)	96 (98%)	2 (2%)	0	100	100
60	EU	134/136 (98%)	133 (99%)	1 (1%)	0	100	100
61	EV	124/126 (98%)	119 (96%)	3 (2%)	2 (2%)	7	14
62	EW	119/121 (98%)	115 (97%)	3 (2%)	1 (1%)	16	31
63	EX	123/125 (98%)	121 (98%)	2 (2%)	0	100	100
64	EY	133/135 (98%)	129 (97%)	4 (3%)	0	100	100
65	EZ	146/148 (99%)	135 (92%)	10 (7%)	1 (1%)	18	34
66	Ea	56/58 (97%)	50 (89%)	6 (11%)	0	100	100
67	Eb	94/96 (98%)	94 (100%)	0	0	100	100
68	Ec	107/109 (98%)	103 (96%)	4 (4%)	0	100	100
69	Ed	125/127 (98%)	123 (98%)	2 (2%)	0	100	100
70	Ee	104/106 (98%)	104 (100%)	0	0	100	100
71	Ef	110/112 (98%)	108 (98%)	2 (2%)	0	100	100
72	Eg	117/119 (98%)	116 (99%)	1 (1%)	0	100	100
73	Eh	97/99 (98%)	96 (99%)	1 (1%)	0	100	100
74	Ei	83/85 (98%)	83 (100%)	0	0	100	100
75	Ej	75/77 (97%)	75 (100%)	0	0	100	100
76	Ek	48/50 (96%)	48 (100%)	0	0	100	100
77	El	50/52 (96%)	48 (96%)	2 (4%)	0	100	100
78	Em	23/25 (92%)	23 (100%)	0	0	100	100
79	En	101/103 (98%)	98 (97%)	3 (3%)	0	100	100
80	Eo	89/91 (98%)	88 (99%)	1 (1%)	0	100	100
All	All	10984/11206 (98%)	10510 (96%)	451 (4%)	23 (0%)	44	63

All (23) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
15	DI	10	LYS

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Mol	Chain	Res	Type
33	Da	84	VAL
41	EB	128	LYS
53	EN	111[A]	PRO
50	EK	63	VAL
50	EK	77	LEU
65	EZ	40	HIS
53	EN	110[A]	PRO
61	EV	86	SER
62	EW	44	PRO
40	EA	126	LEU
11	DE	43	PRO
13	DG	173	PRO
28	DV	81	ASN
43	ED	20	PHE
56	EQ	52	LYS
25	DS	91	ASP
61	EV	67	VAL
8	DB	212	VAL
23	DQ	33	GLY
30	DX	42	PRO
33	Da	9	GLY
42	EC	4	PRO

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
7	DA	170/173 (98%)	170 (100%)	0	100	100
8	DB	200/224 (89%)	200 (100%)	0	100	100
9	DC	175/175 (100%)	172 (98%)	3 (2%)	53	78
10	DD	182/182 (100%)	182 (100%)	0	100	100
11	DE	220/220 (100%)	220 (100%)	0	100	100
12	DF	172/173 (99%)	172 (100%)	0	100	100
13	DG	189/195 (97%)	189 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
14	DH	163/165 (99%)	163 (100%)	0	100	100
15	DI	148/161 (92%)	148 (100%)	0	100	100
16	DJ	156/157 (99%)	156 (100%)	0	100	100
17	DK	77/85 (91%)	77 (100%)	0	100	100
18	DL	129/129 (100%)	128 (99%)	1 (1%)	73	88
19	DM	88/98 (90%)	88 (100%)	0	100	100
20	DN	127/127 (100%)	127 (100%)	0	100	100
21	DO	91/96 (95%)	91 (100%)	0	100	100
22	DP	95/98 (97%)	95 (100%)	0	100	100
23	DQ	117/117 (100%)	117 (100%)	0	100	100
24	DR	101/124 (82%)	101 (100%)	0	100	100
25	DS	128/128 (100%)	128 (100%)	0	100	100
26	DT	115/115 (100%)	115 (100%)	0	100	100
27	DU	93/93 (100%)	93 (100%)	0	100	100
28	DV	71/74 (96%)	71 (100%)	0	100	100
29	DW	110/110 (100%)	110 (100%)	0	100	100
30	DX	119/119 (100%)	119 (100%)	0	100	100
31	DY	112/112 (100%)	112 (100%)	0	100	100
32	DZ	67/73 (92%)	67 (100%)	0	100	100
33	Da	83/83 (100%)	83 (100%)	0	100	100
34	Db	70/70 (100%)	70 (100%)	0	100	100
35	Dc	55/56 (98%)	55 (100%)	0	100	100
36	Dd	47/47 (100%)	47 (100%)	0	100	100
37	De	50/51 (98%)	50 (100%)	0	100	100
38	Df	56/64 (88%)	56 (100%)	0	100	100
39	Dg	250/257 (97%)	250 (100%)	0	100	100
40	EA	190/193 (98%)	190 (100%)	0	100	100
41	EB	319/322 (99%)	318 (100%)	1 (0%)	86	94
42	EC	288/288 (100%)	285 (99%)	3 (1%)	68	86
43	ED	241/243 (99%)	241 (100%)	0	100	100
44	EE	138/155 (89%)	138 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
45	EF	186/186 (100%)	186 (100%)	0	100	100
46	EG	187/191 (98%)	187 (100%)	0	100	100
47	EH	168/171 (98%)	168 (100%)	0	100	100
48	EI	185/185 (100%)	185 (100%)	0	100	100
49	EJ	146/147 (99%)	146 (100%)	0	100	100
50	EK	154/154 (100%)	154 (100%)	0	100	100
51	EL	107/107 (100%)	107 (100%)	0	100	100
52	EM	175/175 (100%)	175 (100%)	0	100	100
53	EN	160/160 (100%)	160 (100%)	0	100	100
54	EO	138/145 (95%)	138 (100%)	0	100	100
55	EP	150/150 (100%)	150 (100%)	0	100	100
56	EQ	152/153 (99%)	152 (100%)	0	100	100
57	ER	155/155 (100%)	155 (100%)	0	100	100
58	ES	136/136 (100%)	136 (100%)	0	100	100
59	ET	87/87 (100%)	87 (100%)	0	100	100
60	EU	104/104 (100%)	104 (100%)	0	100	100
61	EV	56/107 (52%)	56 (100%)	0	100	100
62	EW	104/105 (99%)	104 (100%)	0	100	100
63	EX	108/108 (100%)	108 (100%)	0	100	100
64	EY	115/115 (100%)	115 (100%)	0	100	100
65	EZ	118/118 (100%)	118 (100%)	0	100	100
66	Ea	46/46 (100%)	46 (100%)	0	100	100
67	Eb	81/81 (100%)	81 (100%)	0	100	100
68	Ec	92/96 (96%)	92 (100%)	0	100	100
69	Ed	108/109 (99%)	108 (100%)	0	100	100
70	Ee	90/90 (100%)	90 (100%)	0	100	100
71	Ef	95/95 (100%)	95 (100%)	0	100	100
72	Eg	104/104 (100%)	104 (100%)	0	100	100
73	Eh	80/81 (99%)	80 (100%)	0	100	100
74	Ei	69/69 (100%)	69 (100%)	0	100	100
75	Ej	68/68 (100%)	68 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
76	Ek	45/45 (100%)	45 (100%)	0	100	100
77	El	47/47 (100%)	47 (100%)	0	100	100
78	Em	22/23 (96%)	22 (100%)	0	100	100
79	En	87/88 (99%)	87 (100%)	0	100	100
80	Eo	71/71 (100%)	71 (100%)	0	100	100
All	All	9198/9424 (98%)	9190 (100%)	8 (0%)	87	96

All (8) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
9	DC	207	LEU
9	DC	209	ASN
9	DC	210	THR
18	DL	18	HIS
41	EB	104	THR
42	EC	104	LYS
42	EC	105	THR
42	EC	106	TRP

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (84) such sidechains are listed below:

Mol	Chain	Res	Type
7	DA	131	GLN
8	DB	101	HIS
8	DB	211	HIS
9	DC	67	GLN
9	DC	189	GLN
9	DC	209	ASN
11	DE	36	HIS
11	DE	188	ASN
12	DF	72	HIS
12	DF	104	ASN
12	DF	122	ASN
12	DF	200	ASN
13	DG	139	ASN
13	DG	176	GLN
14	DH	19	GLN
14	DH	180	GLN
16	DJ	110	GLN

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Mol	Chain	Res	Type
16	DJ	139	GLN
17	DK	62	GLN
18	DL	14	GLN
19	DM	142	GLN
19	DM	143	GLN
22	DP	104	GLN
24	DR	48	ASN
24	DR	56	HIS
24	DR	62	GLN
25	DS	75	ASN
25	DS	137	HIS
28	DV	75	ASN
29	DW	39	GLN
32	DZ	82	HIS
37	De	5	HIS
38	Df	134	ASN
39	Dg	29	GLN
39	Dg	64	HIS
39	Dg	101	GLN
39	Dg	184	ASN
40	EA	132	ASN
40	EA	205	ASN
40	EA	233	GLN
41	EB	177	HIS
42	EC	116	ASN
43	ED	57	ASN
44	EE	172	HIS
45	EF	81	HIS
45	EF	112	ASN
45	EF	146	GLN
46	EG	221	ASN
46	EG	243	GLN
47	EH	96	HIS
47	EH	100	ASN
47	EH	102	ASN
49	EJ	43	GLN
50	EK	19	GLN
50	EK	103	ASN
50	EK	137	GLN
50	EK	160	GLN
52	EM	182	ASN
53	EN	26[A]	GLN

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Mol	Chain	Res	Type
54	EO	54	HIS
54	EO	72	GLN
54	EO	92	GLN
55	EP	9	GLN
55	EP	45	ASN
55	EP	126	GLN
56	EQ	134	HIS
57	ER	114	HIS
58	ES	49	GLN
58	ES	103	GLN
59	ET	40	HIS
60	EU	24	ASN
61	EV	59	HIS
62	EW	111	ASN
64	EY	57	HIS
65	EZ	28	HIS
66	Ea	6	ASN
66	Ea	48	HIS
67	Eb	71	GLN
68	Ec	57	GLN
69	Ed	35	GLN
69	Ed	49	ASN
74	Ei	57	HIS
74	Ei	69	HIS
77	El	117	HIS

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	2	1765/1800 (98%)	468 (26%)	46 (2%)
2	3	157/158 (99%)	27 (17%)	1 (0%)
3	4	120/121 (99%)	15 (12%)	1 (0%)
4	5	3159/3396 (93%)	581 (18%)	31 (0%)
5	6	75/76 (98%)	34 (45%)	3 (4%)
6	7	76/77 (98%)	13 (17%)	1 (1%)
All	All	5352/5628 (95%)	1138 (21%)	83 (1%)

All (1138) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	2	2	A

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Mol	Chain	Res	Type
1	2	4	C
1	2	12	U
1	2	13	C
1	2	14	C
1	2	16	G
1	2	25	C
1	2	26	A
1	2	34	G
1	2	47	A
1	2	56	U
1	2	57	G
1	2	62	A
1	2	65	A
1	2	68	A
1	2	69	G
1	2	71	A
1	2	73	U
1	2	74	U
1	2	75	U
1	2	76	A
1	2	78	A
1	2	79	C
1	2	81	G
1	2	100	A
1	2	104	A
1	2	114	C
1	2	116	U
1	2	126	A
1	2	129	U
1	2	130	C
1	2	131	C
1	2	134	U
1	2	135	A
1	2	138	A
1	2	140	A
1	2	141	U
1	2	142	G
1	2	155	U
1	2	168	A
1	2	171	A
1	2	176	C
1	2	178	U

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Mol	Chain	Res	Type
1	2	179	A
1	2	180	A
1	2	185	U
1	2	186	C
1	2	187	G
1	2	188	A
1	2	191	C
1	2	193	U
1	2	195	G
1	2	196	G
1	2	198	A
1	2	216	U
1	2	217	A
1	2	218	A
1	2	223	U
1	2	225	A
1	2	227	U
1	2	228	G
1	2	230	C
1	2	232	U
1	2	233	C
1	2	234	G
1	2	240	U
1	2	241	U
1	2	250	C
1	2	257	A
1	2	260	U
1	2	265	A
1	2	272	U
1	2	274	G
1	2	276	C
1	2	278	U
1	2	280	U
1	2	281	G
1	2	287	G
1	2	299	A
1	2	314	C
1	2	316	A
1	2	322	G
1	2	323	A
1	2	330	G
1	2	333	A

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Mol	Chain	Res	Type
1	2	337	G
1	2	338	C
1	2	352	A
1	2	353	A
1	2	359	A
1	2	361	C
1	2	373	G
1	2	388	G
1	2	400	A
1	2	401	A
1	2	402	C
1	2	404	G
1	2	416	A
1	2	417	A
1	2	419	G
1	2	423	G
1	2	424	C
1	2	425	A
1	2	426	G
1	2	434	G
1	2	436	A
1	2	437	A
1	2	439	U
1	2	444	C
1	2	460	A
1	2	468	A
1	2	469	C
1	2	471	A
1	2	482	U
1	2	483	A
1	2	485	A
1	2	487	G
1	2	489	C
1	2	491	C
1	2	492	A
1	2	493	U
1	2	494	U
1	2	495	C
1	2	496	G
1	2	498	G
1	2	499	U
1	2	502	U

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Mol	Chain	Res	Type
1	2	506	A
1	2	507	U
1	2	510	G
1	2	511	A
1	2	515	A
1	2	527	A
1	2	534	A
1	2	538	A
1	2	540	G
1	2	541	A
1	2	542	A
1	2	543	C
1	2	544	A
1	2	546	U
1	2	548	G
1	2	555	A
1	2	556	A
1	2	557	G
1	2	558	U
1	2	559	C
1	2	565	C
1	2	568	G
1	2	578	U
1	2	579	A
1	2	582	U
1	2	594	A
1	2	595	G
1	2	606	A
1	2	608	U
1	2	610	G
1	2	611	U
1	2	619	A
1	2	620	A
1	2	622	A
1	2	623	A
1	2	624	G
1	2	629	U
1	2	639	U
1	2	640	U
1	2	641	G
1	2	651	G
1	2	679	U

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Mol	Chain	Res	Type
1	2	680	U
1	2	681	U
1	2	687	G
1	2	693	U
1	2	697	C
1	2	698	U
1	2	700	C
1	2	704	C
1	2	705	U
1	2	706	A
1	2	707	A
1	2	708	C
1	2	709	C
1	2	710	U
1	2	711	U
1	2	712	G
1	2	728	U
1	2	729	G
1	2	730	G
1	2	732	G
1	2	733	A
1	2	734	A
1	2	736	C
1	2	739	G
1	2	740	A
1	2	742	U
1	2	743	U
1	2	745	U
1	2	753	A
1	2	765	G
1	2	766	U
1	2	767	U
1	2	771	A
1	2	774	A
1	2	775	G
1	2	778	G
1	2	779	U
1	2	780	A
1	2	781	U
1	2	782	U
1	2	783	G
1	2	789	A

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Mol	Chain	Res	Type
1	2	812	A
1	2	813	U
1	2	814	A
1	2	815	G
1	2	816	G
1	2	818	C
1	2	819	G
1	2	820	U
1	2	821	U
1	2	823	G
1	2	833	U
1	2	835	U
1	2	838	G
1	2	840	U
1	2	841	U
1	2	846	G
1	2	852	C
1	2	855	A
1	2	856	A
1	2	857	U
1	2	863	A
1	2	864	U
1	2	873	U
1	2	876	G
1	2	899	G
1	2	901	G
1	2	902	G
1	2	903	U
1	2	912	U
1	2	913	G
1	2	915	A
1	2	929	A
1	2	933	A
1	2	934	C
1	2	935	U
1	2	942	G
1	2	960	U
1	2	964	U
1	2	966	A
1	2	973	A
1	2	988	A
1	2	989	U

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Mol	Chain	Res	Type
1	2	992	A
1	2	998	A
1	2	1003	A
1	2	1004	U
1	2	1005	A
1	2	1012	U
1	2	1023	A
1	2	1024	U
1	2	1026	A
1	2	1027	A
1	2	1028	C
1	2	1031	U
1	2	1032	G
1	2	1039	A
1	2	1053	G
1	2	1060	U
1	2	1061	A
1	2	1082	C
1	2	1096	C
1	2	1098	U
1	2	1100	G
1	2	1112	G
1	2	1137	A
1	2	1138	A
1	2	1139	A
1	2	1140	G
1	2	1141	G
1	2	1142	A
1	2	1143	A
1	2	1150	G
1	2	1158	C
1	2	1160	A
1	2	1163	A
1	2	1164	G
1	2	1167	G
1	2	1170	G
1	2	1174	C
1	2	1185	U
1	2	1194	A
1	2	1196	A
1	2	1198	G
1	2	1199	G

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Mol	Chain	Res	Type
1	2	1200	G
1	2	1201	G
1	2	1202	A
1	2	1214	U
1	2	1217	A
1	2	1218	G
1	2	1227	A
1	2	1228	G
1	2	1229	G
1	2	1241	G
1	2	1243	G
1	2	1244	A
1	2	1245	G
1	2	1246	C
1	2	1252	C
1	2	1256	A
1	2	1257	U
1	2	1263	G
1	2	1274	C
1	2	1275	A
1	2	1276	U
1	2	1284	C
1	2	1285	U
1	2	1286	U
1	2	1291	G
1	2	1295	G
1	2	1296	A
1	2	1297	G
1	2	1298	U
1	2	1299	G
1	2	1300	A
1	2	1301	U
1	2	1307	U
1	2	1314	U
1	2	1318	G
1	2	1320	U
1	2	1321	A
1	2	1322	A
1	2	1323	C
1	2	1325	A
1	2	1337	A
1	2	1344	A

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Mol	Chain	Res	Type
1	2	1345	A
1	2	1346	A
1	2	1348	A
1	2	1349	G
1	2	1361	U
1	2	1363	U
1	2	1367	G
1	2	1370	U
1	2	1371	A
1	2	1372	U
1	2	1373	C
1	2	1382	A
1	2	1383	G
1	2	1388	A
1	2	1390	U
1	2	1394	G
1	2	1395	G
1	2	1398	U
1	2	1399	C
1	2	1400	A
1	2	1401	A
1	2	1403	C
1	2	1405	G
1	2	1410	A
1	2	1412	G
1	2	1414	U
1	2	1425	A
1	2	1427	A
1	2	1428	G
1	2	1431	C
1	2	1432	U
1	2	1433	G
1	2	1445	G
1	2	1446	A
1	2	1447	C
1	2	1458	G
1	2	1460	A
1	2	1466	G
1	2	1469	A
1	2	1472	C
1	2	1473	U
1	2	1478	G

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Mol	Chain	Res	Type
1	2	1480	G
1	2	1491	U
1	2	1493	A
1	2	1496	U
1	2	1503	A
1	2	1514	U
1	2	1516	A
1	2	1517	U
1	2	1518	C
1	2	1520	U
1	2	1521	G
1	2	1523	G
1	2	1524	A
1	2	1528	U
1	2	1530	C
1	2	1531	G
1	2	1534	G
1	2	1535	U
1	2	1536	G
1	2	1537	C
1	2	1538	U
1	2	1542	G
1	2	1543	A
1	2	1545	A
1	2	1554	U
1	2	1557	U
1	2	1558	U
1	2	1559	A
1	2	1560	U
1	2	1569	A
1	2	1570	A
1	2	1573	A
1	2	1574	G
1	2	1575	G
1	2	1576	A
1	2	1579	U
1	2	1583	A
1	2	1585	U
1	2	1590	G
1	2	1595	U
1	2	1596	C
1	2	1607	G

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Mol	Chain	Res	Type
1	2	1611	A
1	2	1614	A
1	2	1615	C
1	2	1616	G
1	2	1618	C
1	2	1621	U
1	2	1622	G
1	2	1631	A
1	2	1634	C
1	2	1635	A
1	2	1636	C
1	2	1637	C
1	2	1655	A
1	2	1656	U
1	2	1657	U
1	2	1658	G
1	2	1664	C
1	2	1665	U
1	2	1688	U
1	2	1700	C
1	2	1701	A
1	2	1709	C
1	2	1717	G
1	2	1739	C
1	2	1740	A
1	2	1743	U
1	2	1745	G
1	2	1746	A
1	2	1747	G
1	2	1748	G
1	2	1749	A
1	2	1753	A
1	2	1754	A
1	2	1755	A
1	2	1757	G
1	2	1760	G
1	2	1766	A
1	2	1767	G
1	2	1769	U
1	2	1780	G
1	2	1782	A
1	2	1792	G

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Mol	Chain	Res	Type
1	2	1793	G
1	2	1794	A
1	2	1795	U
1	2	1796	C
1	2	1799	U
2	3	23	U
2	3	26	U
2	3	30	C
2	3	34	U
2	3	35	C
2	3	40	A
2	3	52	A
2	3	59	A
2	3	62	C
2	3	63	G
2	3	80	A
2	3	81	U
2	3	82	U
2	3	83	C
2	3	84	C
2	3	86	U
2	3	90	U
2	3	95	G
2	3	97	A
2	3	104	A
2	3	105	A
2	3	106	C
2	3	111	A
2	3	113	U
2	3	125	U
2	3	126	A
2	3	152	G
3	4	10	C
3	4	11	A
3	4	52	G
3	4	53	U
3	4	54	U
3	4	55	A
3	4	64	A
3	4	65	G
3	4	74	C
3	4	76	A

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Mol	Chain	Res	Type
3	4	77	G
3	4	88	G
3	4	102	A
3	4	112	G
3	4	121	U
4	5	17	G
4	5	18	G
4	5	25	U
4	5	26	A
4	5	30	G
4	5	32	U
4	5	40	A
4	5	43	A
4	5	46	U
4	5	49	A
4	5	60	A
4	5	65	A
4	5	66	A
4	5	72	C
4	5	73	C
4	5	77	A
4	5	92	G
4	5	98	G
4	5	99	A
4	5	100	A
4	5	103	G
4	5	109	A
4	5	110	G
4	5	111	C
4	5	117	U
4	5	118	U
4	5	121	A
4	5	122	A
4	5	127	G
4	5	133	U
4	5	135	C
4	5	136	G
4	5	146	U
4	5	147	U
4	5	152	U
4	5	156	G
4	5	157	A

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Mol	Chain	Res	Type
4	5	165	A
4	5	166	C
4	5	187	A
4	5	190	U
4	5	191	U
4	5	200	C
4	5	206	G
4	5	210	U
4	5	218	G
4	5	219	A
4	5	238	A
4	5	240	U
4	5	241	G
4	5	243	G
4	5	249	U
4	5	252	U
4	5	269	G
4	5	281	G
4	5	283	G
4	5	286	U
4	5	295	A
4	5	298	U
4	5	299	G
4	5	305	U
4	5	323	A
4	5	325	A
4	5	329	U
4	5	336	A
4	5	339	C
4	5	342	A
4	5	344	A
4	5	349	A
4	5	350	C
4	5	361	A
4	5	376	G
4	5	398	A
4	5	401	U
4	5	402	A
4	5	403	C
4	5	421	G
4	5	422	A
4	5	439	C

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Mol	Chain	Res	Type
4	5	517	A
4	5	519	G
4	5	521	U
4	5	522	A
4	5	544	C
4	5	547	C
4	5	548	G
4	5	549	G
4	5	551	A
4	5	553	G
4	5	556	U
4	5	558	A
4	5	560	A
4	5	561	G
4	5	580	G
4	5	593	A
4	5	598	G
4	5	605	G
4	5	610	G
4	5	612	A
4	5	621	U
4	5	622	A
4	5	623	A
4	5	638	C
4	5	639	C
4	5	648	A
4	5	649	C
4	5	650	A
4	5	668	C
4	5	673	A
4	5	678	A
4	5	682	U
4	5	691	A
4	5	692	A
4	5	693	A
4	5	706	A
4	5	713	G
4	5	717	A
4	5	759	C
4	5	762	A
4	5	764	G
4	5	765	U

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Mol	Chain	Res	Type
4	5	766	C
4	5	768	U
4	5	772	A
4	5	775	G
4	5	777	U
4	5	778	U
4	5	781	A
4	5	782	G
4	5	786	G
4	5	787	A
4	5	791	U
4	5	800	G
4	5	807	A
4	5	818	A
4	5	831	A
4	5	838	A
4	5	846	G
4	5	847	A
4	5	848	A
4	5	849	A
4	5	850	C
4	5	862	C
4	5	875	U
4	5	880	U
4	5	891	C
4	5	897	A
4	5	898	U
4	5	907	A
4	5	908	G
4	5	909	G
4	5	915	A
4	5	917	G
4	5	918	A
4	5	922	A
4	5	925	G
4	5	935	G
4	5	938	G
4	5	945	C
4	5	954	G
4	5	960	C
4	5	961	U
4	5	972	G

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Mol	Chain	Res	Type
4	5	975	G
4	5	992	G
4	5	1003	A
4	5	1011	G
4	5	1016	U
4	5	1018	C
4	5	1021	G
4	5	1022	G
4	5	1025	G
4	5	1026	A
4	5	1030	G
4	5	1037	A
4	5	1048	A
4	5	1050	C
4	5	1065	A
4	5	1066	A
4	5	1073	G
4	5	1082	U
4	5	1094	A
4	5	1095	U
4	5	1096	U
4	5	1098	G
4	5	1099	A
4	5	1104	A
4	5	1105	G
4	5	1118	G
4	5	1132	G
4	5	1145	U
4	5	1160	A
4	5	1161	C
4	5	1181	A
4	5	1182	U
4	5	1192	U
4	5	1193	C
4	5	1194	A
4	5	1197	C
4	5	1201	A
4	5	1202	C
4	5	1203	A
4	5	1209	U
4	5	1218	A
4	5	1223	G

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Mol	Chain	Res	Type
4	5	1233	C
4	5	1234	G
4	5	1236	U
4	5	1237	G
4	5	1239	C
4	5	1241	A
4	5	1244	G
4	5	1245	A
4	5	1246	A
4	5	1247	G
4	5	1255	C
4	5	1259	U
4	5	1260	A
4	5	1263	G
4	5	1264	A
4	5	1265	G
4	5	1266	U
4	5	1270	U
4	5	1271	A
4	5	1272	A
4	5	1273	C
4	5	1275	A
4	5	1279	A
4	5	1280	C
4	5	1286	G
4	5	1287	A
4	5	1288	A
4	5	1308	G
4	5	1310	U
4	5	1314	G
4	5	1349	U
4	5	1352	U
4	5	1353	A
4	5	1356	A
4	5	1357	U
4	5	1358	G
4	5	1387	A
4	5	1400	A
4	5	1401	G
4	5	1409	G
4	5	1420	A
4	5	1422	G

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Mol	Chain	Res	Type
4	5	1435	G
4	5	1438	C
4	5	1447	A
4	5	1451	G
4	5	1470	C
4	5	1482	A
4	5	1484	G
4	5	1495	U
4	5	1509	C
4	5	1536	A
4	5	1537	G
4	5	1542	G
4	5	1557	C
4	5	1558	A
4	5	1561	G
4	5	1563	C
4	5	1564	C
4	5	1567	A
4	5	1568	U
4	5	1569	U
4	5	1570	U
4	5	1571	U
4	5	1573	U
4	5	1576	A
4	5	1577	G
4	5	1581	A
4	5	1583	C
4	5	1588	A
4	5	1590	A
4	5	1597	C
4	5	1606	A
4	5	1608	U
4	5	1620	A
4	5	1630	U
4	5	1632	C
4	5	1640	C
4	5	1643	A
4	5	1644	A
4	5	1646	U
4	5	1657	A
4	5	1658	C
4	5	1725	U

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Mol	Chain	Res	Type
4	5	1726	C
4	5	1730	A
4	5	1741	U
4	5	1742	A
4	5	1751	A
4	5	1752	G
4	5	1753	A
4	5	1766	U
4	5	1767	G
4	5	1771	G
4	5	1776	G
4	5	1781	G
4	5	1794	C
4	5	1797	G
4	5	1798	A
4	5	1814	A
4	5	1815	A
4	5	1817	A
4	5	1818	G
4	5	1821	U
4	5	1822	U
4	5	1836	A
4	5	1840	A
4	5	1841	U
4	5	1843	A
4	5	1847	C
4	5	1851	A
4	5	1867	C
4	5	1868	A
4	5	1879	G
4	5	1881	U
4	5	1885	A
4	5	1894	A
4	5	1907	G
4	5	1909	A
4	5	1954	G
4	5	1955	G
4	5	2102	C
4	5	2103	U
4	5	2112	G
4	5	2113	U
4	5	2114	A

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Mol	Chain	Res	Type
4	5	2115	C
4	5	2122	G
4	5	2123	G
4	5	2132	A
4	5	2141	U
4	5	2159	A
4	5	2168	A
4	5	2170	G
4	5	2171	U
4	5	2172	G
4	5	2177	U
4	5	2194	U
4	5	2195	G
4	5	2203	C
4	5	2206	U
4	5	2207	G
4	5	2209	A
4	5	2210	U
4	5	2211	G
4	5	2223	A
4	5	2224	A
4	5	2226	U
4	5	2240	G
4	5	2250	G
4	5	2251	G
4	5	2258	C
4	5	2269	U
4	5	2271	A
4	5	2273	G
4	5	2274	G
4	5	2282	A
4	5	2283	U
4	5	2289	G
4	5	2298	U
4	5	2299	U
4	5	2305	C
4	5	2308	G
4	5	2311	U
4	5	2314	A
4	5	2315	U
4	5	2316	G
4	5	2335	U

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Mol	Chain	Res	Type
4	5	2336	G
4	5	2337	U
4	5	2373	A
4	5	2374	A
4	5	2375	C
4	5	2376	G
4	5	2379	C
4	5	2386	G
4	5	2389	U
4	5	2394	G
4	5	2398	A
4	5	2403	A
4	5	2404	G
4	5	2412	U
4	5	2413	G
4	5	2419	G
4	5	2421	C
4	5	2435	U
4	5	2436	G
4	5	2446	A
4	5	2447	U
4	5	2448	A
4	5	2450	A
4	5	2452	G
4	5	2453	G
4	5	2495	A
4	5	2497	C
4	5	2498	U
4	5	2499	U
4	5	2500	U
4	5	2502	U
4	5	2507	U
4	5	2508	C
4	5	2515	U
4	5	2516	A
4	5	2525	A
4	5	2526	G
4	5	2527	C
4	5	2537	A
4	5	2538	U
4	5	2539	U
4	5	2540	C

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Mol	Chain	Res	Type
4	5	2541	A
4	5	2542	U
4	5	2543	U
4	5	2544	U
4	5	2545	U
4	5	2546	C
4	5	2547	C
4	5	2550	G
4	5	2552	U
4	5	2553	C
4	5	2555	A
4	5	2559	U
4	5	2562	A
4	5	2570	A
4	5	2571	U
4	5	2572	U
4	5	2573	C
4	5	2574	G
4	5	2586	G
4	5	2594	A
4	5	2595	C
4	5	2596	A
4	5	2607	G
4	5	2608	G
4	5	2615	G
4	5	2627	A
4	5	2629	A
4	5	2642	U
4	5	2649	G
4	5	2653	U
4	5	2656	U
4	5	2657	A
4	5	2658	A
4	5	2659	G
4	5	2675	A
4	5	2677	A
4	5	2678	G
4	5	2679	A
4	5	2690	A
4	5	2692	A
4	5	2695	A
4	5	2697	A

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Mol	Chain	Res	Type
4	5	2704	A
4	5	2705	A
4	5	2706	A
4	5	2714	U
4	5	2718	U
4	5	2720	U
4	5	2729	G
4	5	2730	U
4	5	2738	C
4	5	2753	U
4	5	2754	G
4	5	2756	C
4	5	2757	C
4	5	2759	A
4	5	2763	A
4	5	2767	U
4	5	2778	G
4	5	2779	G
4	5	2797	G
4	5	2800	A
4	5	2801	G
4	5	2802	A
4	5	2804	A
4	5	2811	C
4	5	2815	G
4	5	2818	A
4	5	2819	U
4	5	2822	C
4	5	2843	U
4	5	2845	C
4	5	2846	A
4	5	2856	U
4	5	2868	C
4	5	2872	G
4	5	2873	A
4	5	2876	U
4	5	2888	A
4	5	2894	C
4	5	2899	G
4	5	2915	G
4	5	2924	U
4	5	2936	U

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Mol	Chain	Res	Type
4	5	2937	A
4	5	2939	G
4	5	2943	C
4	5	2948	G
4	5	2955	U
4	5	2972	A
4	5	2973	G
4	5	2984	C
4	5	2991	G
4	5	2993	U
4	5	2997	U
4	5	2998	G
4	5	3013	A
4	5	3060	G
4	5	3079	U
4	5	3081	G
4	5	3087	A
4	5	3093	C
4	5	3102	G
4	5	3105	U
4	5	3120	U
4	5	3123	A
4	5	3131	A
4	5	3132	U
4	5	3143	A
4	5	3144	C
4	5	3152	U
4	5	3155	C
4	5	3156	U
4	5	3157	U
4	5	3158	U
4	5	3166	A
4	5	3173	A
4	5	3174	G
4	5	3175	A
4	5	3176	U
4	5	3177	G
4	5	3180	U
4	5	3182	C
4	5	3188	A
4	5	3200	G
4	5	3207	C

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Mol	Chain	Res	Type
4	5	3208	U
4	5	3211	A
4	5	3218	C
4	5	3219	A
4	5	3220	G
4	5	3228	A
4	5	3230	G
4	5	3244	A
4	5	3246	A
4	5	3248	G
4	5	3260	U
4	5	3261	G
4	5	3271	U
4	5	3274	A
4	5	3277	G
4	5	3282	U
4	5	3288	U
4	5	3289	G
4	5	3290	G
4	5	3295	A
4	5	3296	A
4	5	3305	U
4	5	3314	U
4	5	3317	A
4	5	3319	G
4	5	3320	U
4	5	3321	A
4	5	3342	U
4	5	3346	G
4	5	3352	U
4	5	3353	U
4	5	3354	G
4	5	3355	U
4	5	3356	U
4	5	3370	G
4	5	3376	A
4	5	3379	C
4	5	3383	U
4	5	3390	U
4	5	3391	G
5	6	4	C
5	6	7	A

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Mol	Chain	Res	Type
5	6	8	U
5	6	11	C
5	6	14	A
5	6	15	G
5	6	16	U
5	6	17	C
5	6	18	G
5	6	19	G
5	6	20	U
5	6	21	A
5	6	22	G
5	6	30	G
5	6	34	A
5	6	35	G
5	6	36	G
5	6	38	A
5	6	42	C
5	6	47	U
5	6	48	C
5	6	49	C
5	6	54	U
5	6	57	G
5	6	59	U
5	6	61	C
5	6	62	C
5	6	67	C
5	6	71	G
5	6	72	C
5	6	73	A
5	6	74	C
5	6	75	C
5	6	76	A
6	7	2	G
6	7	9	G
6	7	18(A)	U
6	7	19	G
6	7	21	U
6	7	36	A
6	7	43	G
6	7	44	A
6	7	45	A
6	7	48	U

Continued on next page...

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Mol	Chain	Res	Type
6	7	49	C
6	7	76	C
6	7	77	A

All (83) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	2	13	C
1	2	68	A
1	2	77	U
1	2	139	C
1	2	141	U
1	2	224	C
1	2	280	U
1	2	313	U
1	2	322	G
1	2	352	A
1	2	387	A
1	2	400	A
1	2	539	G
1	2	541	A
1	2	555	A
1	2	609	U
1	2	705	U
1	2	711	U
1	2	765	G
1	2	819	G
1	2	912	U
1	2	928	U
1	2	963	A
1	2	1023	A
1	2	1111	G
1	2	1139	A
1	2	1226	A
1	2	1251	U
1	2	1256	A
1	2	1273	G
1	2	1274	C
1	2	1298	U
1	2	1299	G
1	2	1321	A
1	2	1344	A

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Mol	Chain	Res	Type
1	2	1382	A
1	2	1402	G
1	2	1430	U
1	2	1471	A
1	2	1573	A
1	2	1584	G
1	2	1614	A
1	2	1615	C
1	2	1633	A
1	2	1636	C
1	2	1791	A
2	3	82	U
3	4	52	G
4	5	239	G
4	5	282	G
4	5	638	C
4	5	648	A
4	5	716	A
4	5	764	G
4	5	917	G
4	5	1065	A
4	5	1098	G
4	5	1356	A
4	5	1563	C
4	5	1816	U
4	5	2102	C
4	5	2113	U
4	5	2446	A
4	5	2496	C
4	5	2526	G
4	5	2536	A
4	5	2537	A
4	5	2538	U
4	5	2542	U
4	5	2802	A
4	5	2818	A
4	5	3122	U
4	5	3219	A
4	5	3229	C
4	5	3270	U
4	5	3276	U
4	5	3320	U

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Mol	Chain	Res	Type
4	5	3351	C
4	5	3352	U
5	6	34	A
5	6	37	A
5	6	75	C
6	7	20	G

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

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

5.5 Carbohydrates ⓘ

There are no oligosaccharides in this entry.

5.6 Ligand geometry ⓘ

Of 93 ligands modelled in this entry, 93 are monoatomic - leaving 0 for Mogul analysis.

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.

No monomer is involved in short contacts.

5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

There are no chain breaks in this entry.

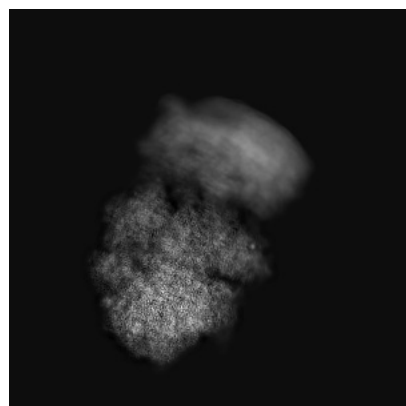
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-14979. These allow visual inspection of the internal detail of the map and identification of artifacts.

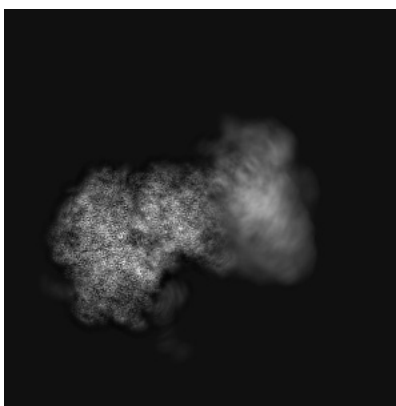
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

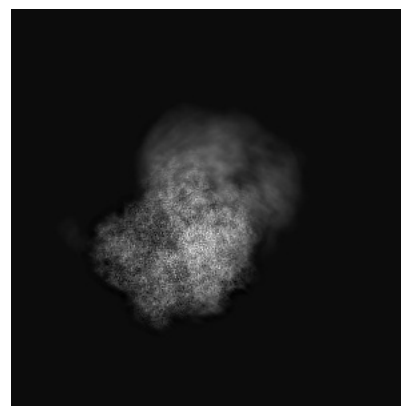
6.1.1 Primary map



X

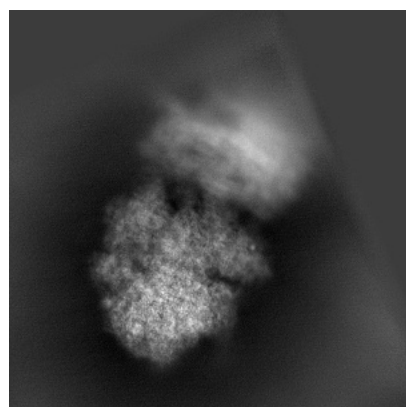


Y

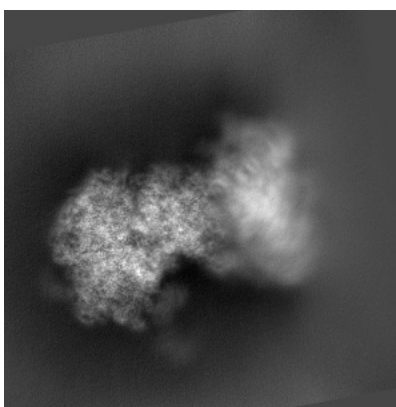


Z

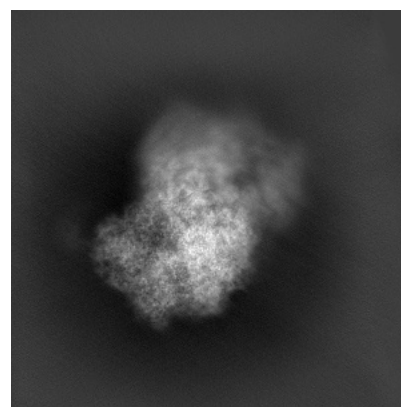
6.1.2 Raw map



X



Y

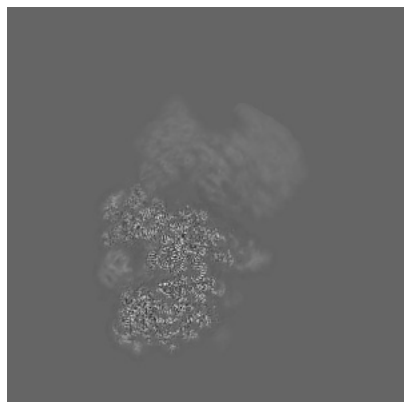


Z

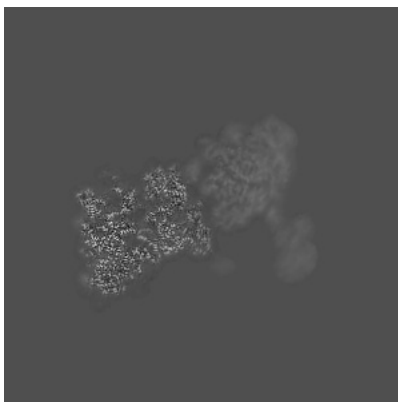
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

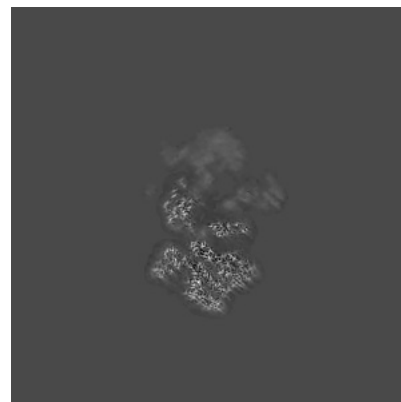
6.2.1 Primary map



X Index: 280

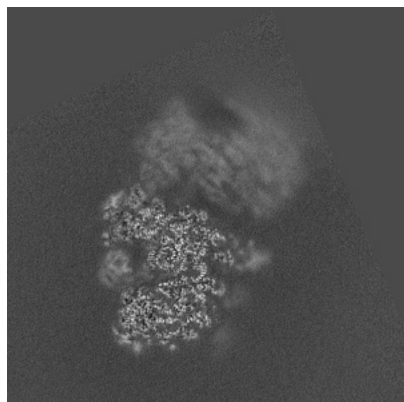


Y Index: 280

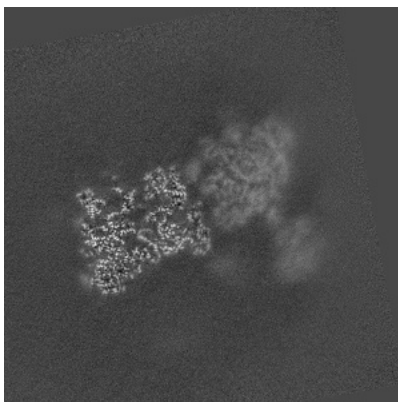


Z Index: 280

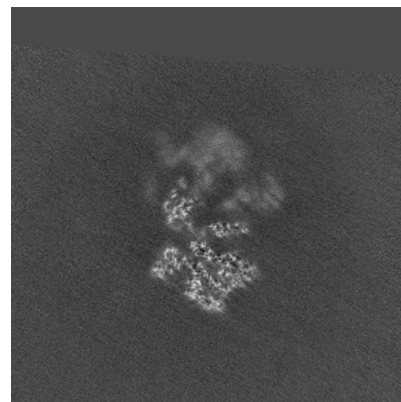
6.2.2 Raw map



X Index: 280



Y Index: 280

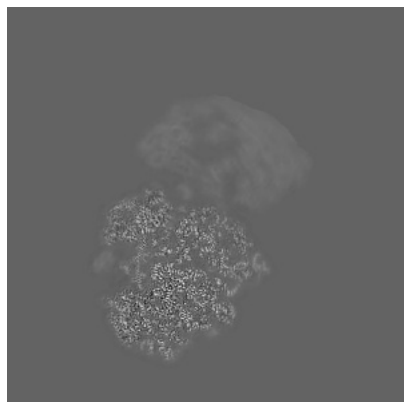


Z Index: 280

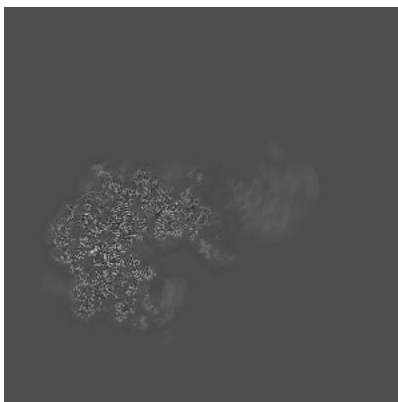
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

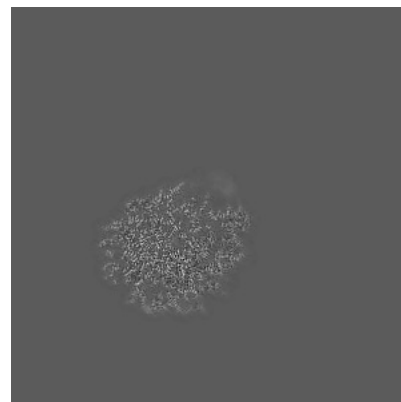
6.3.1 Primary map



X Index: 255

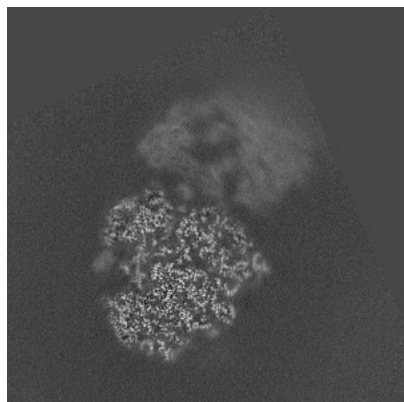


Y Index: 220

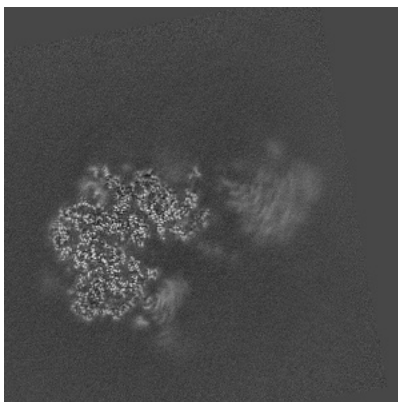


Z Index: 153

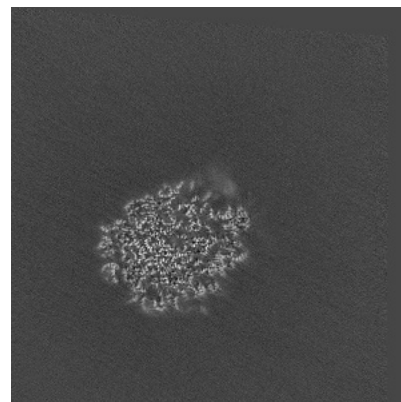
6.3.2 Raw map



X Index: 255



Y Index: 226

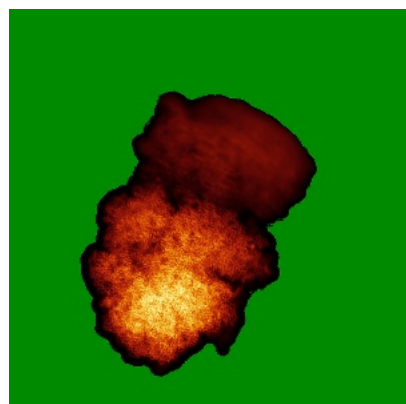


Z Index: 155

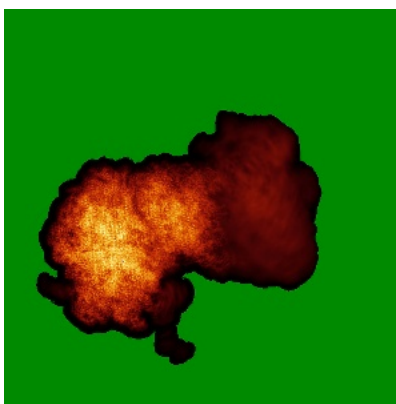
The images above show the largest variance slices of the map in three orthogonal directions.

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

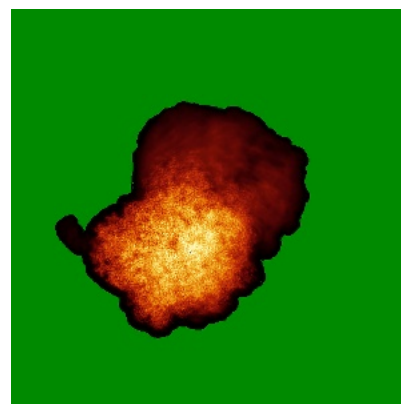
6.4.1 Primary map



X

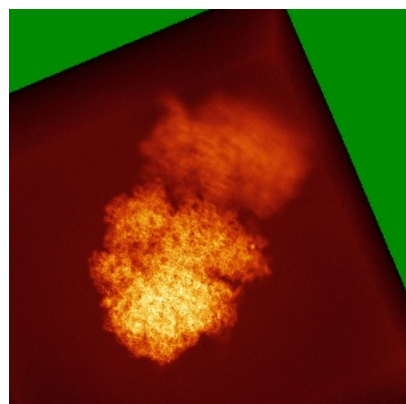


Y

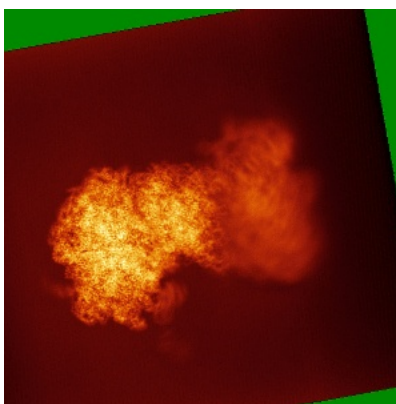


Z

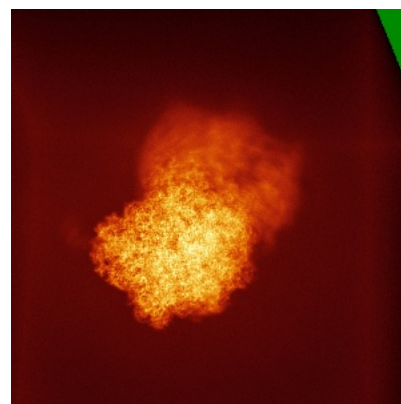
6.4.2 Raw map



X



Y



Z

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

6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.6. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

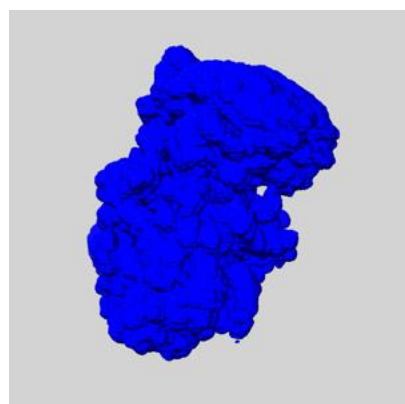
6.6 Mask visualisation [i](#)

This section shows the 3D surface view of the primary map at 50% transparency overlaid with the specified mask at 0% transparency

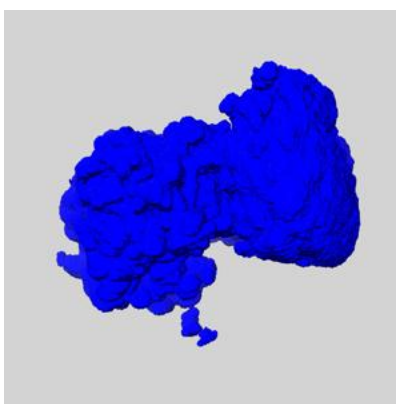
A mask typically either:

- Encompasses the whole structure
- Separates out a domain, a functional unit, a monomer or an area of interest from a larger structure

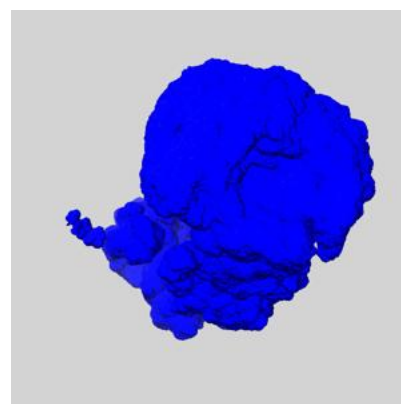
6.6.1 emd_14979_msk_1.map [i](#)



X



Y

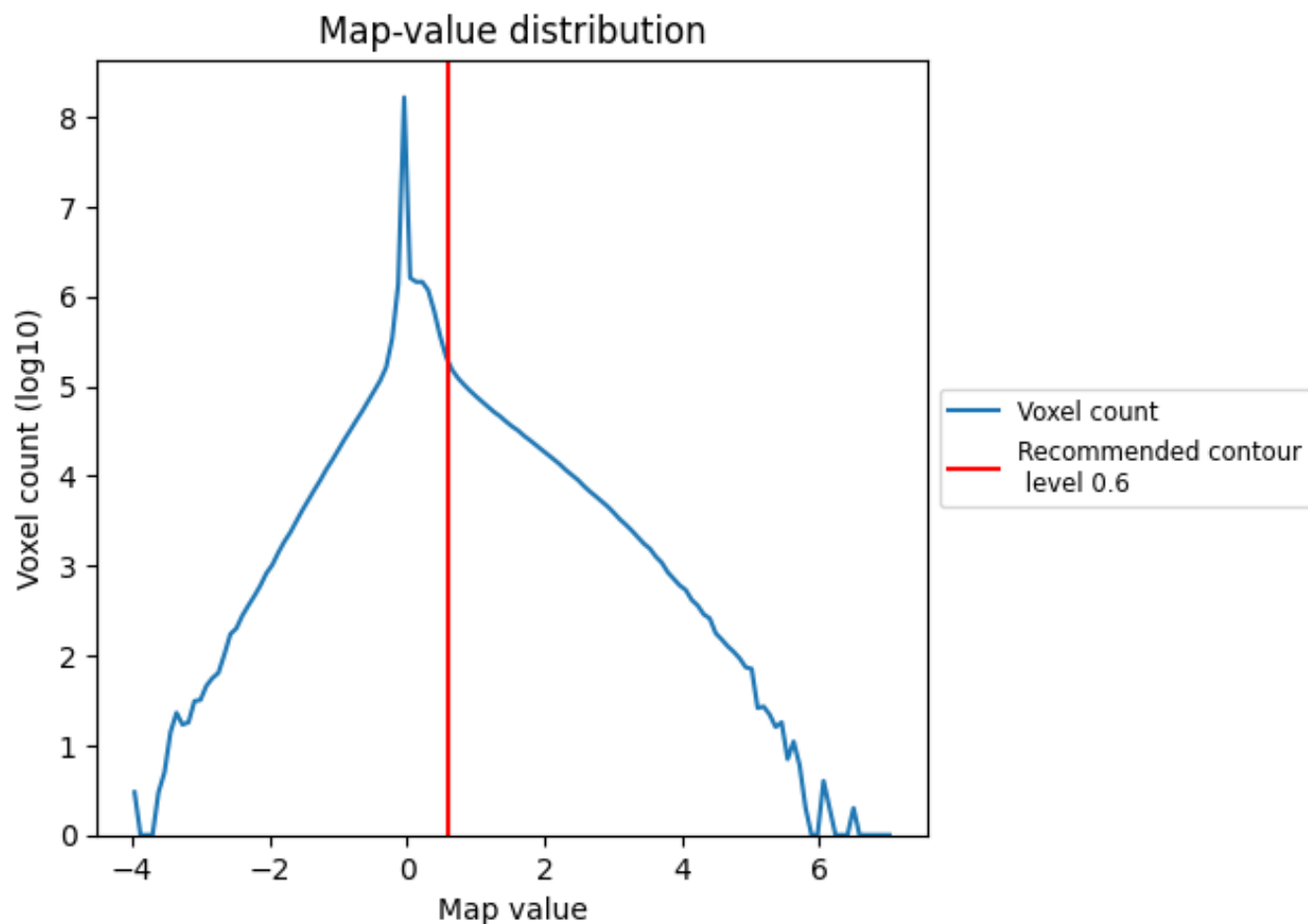


Z

7 Map analysis [i](#)

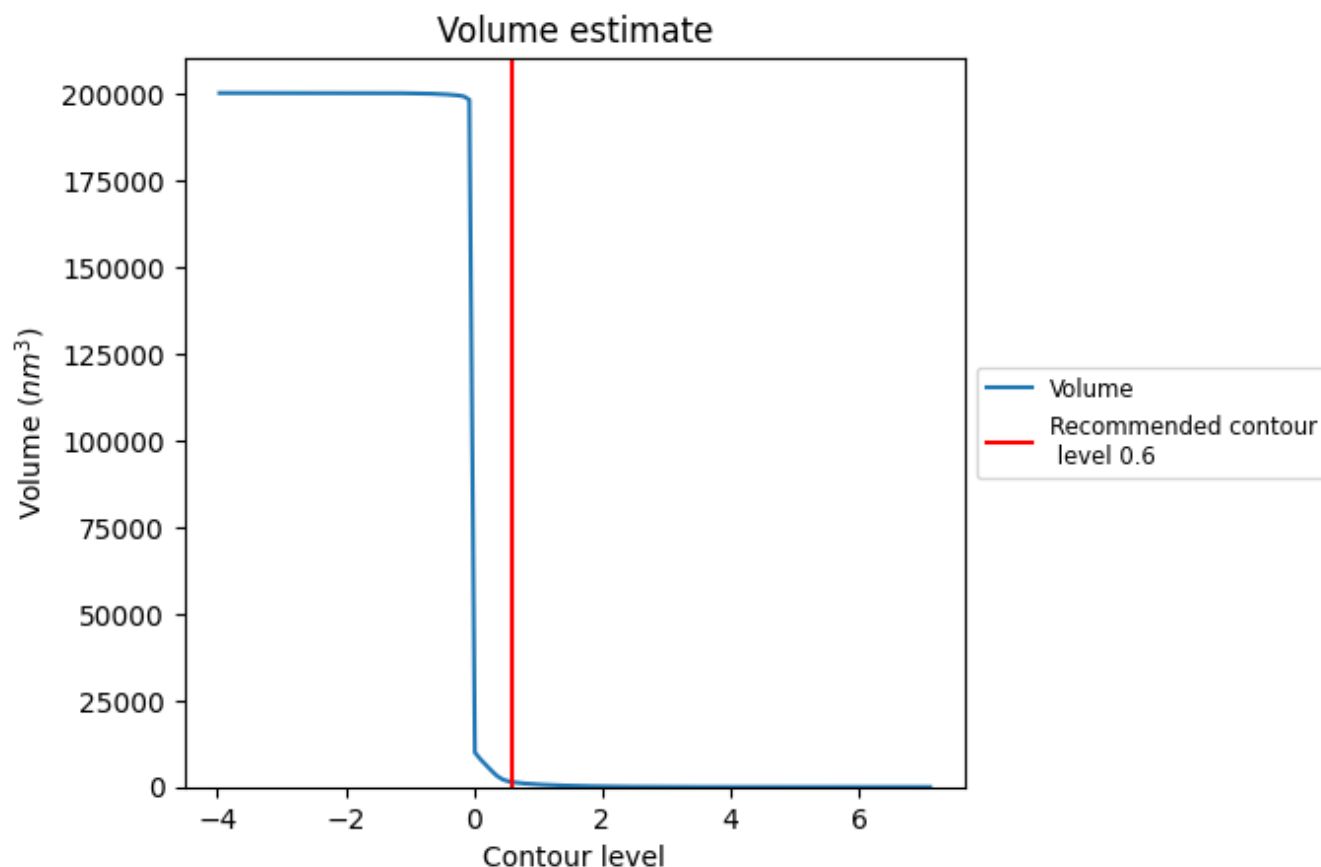
This section contains the results of statistical analysis of the map.

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.

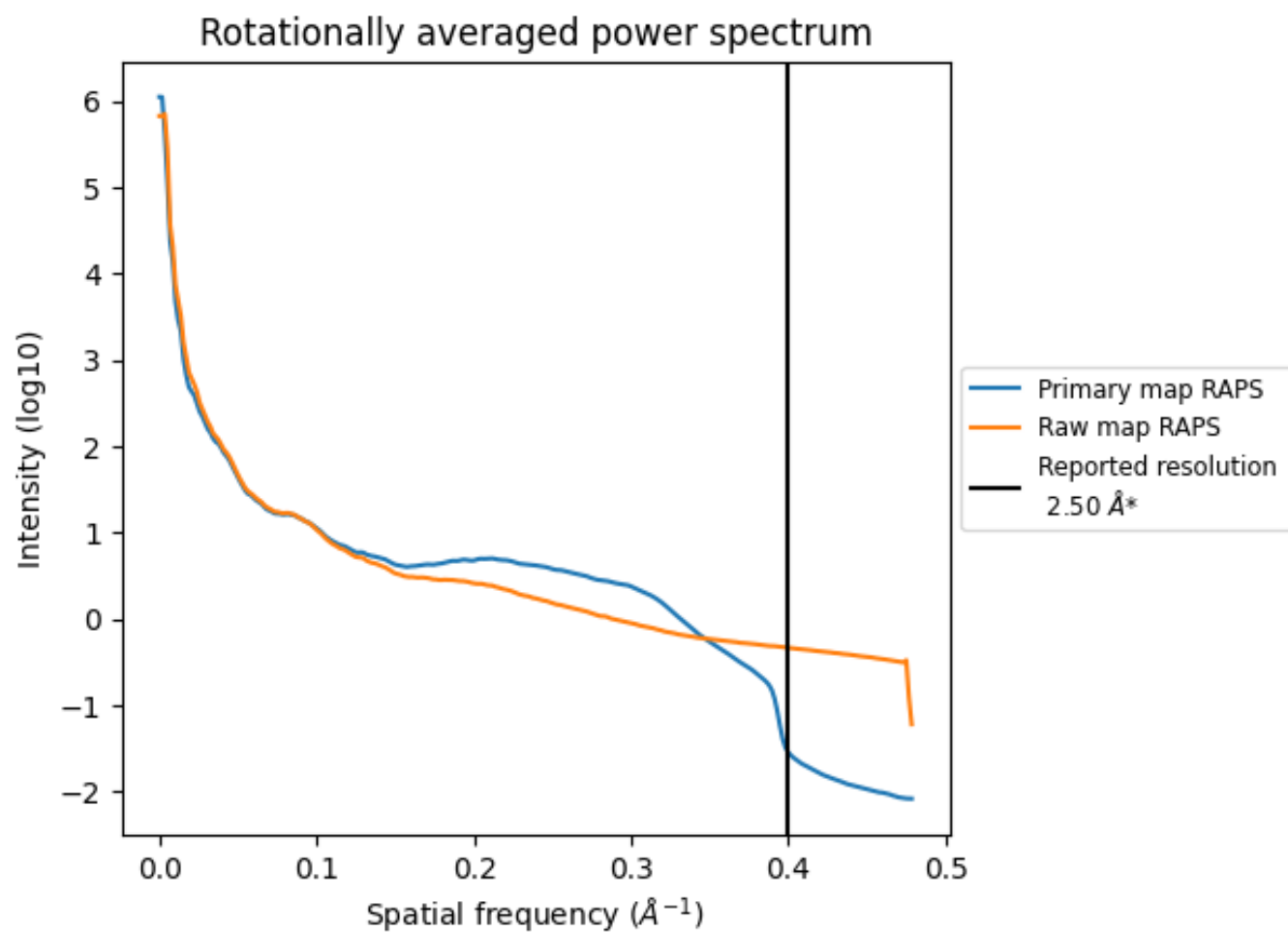
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1420 nm^3 ; this corresponds to an approximate mass of 1283 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 ⓘ

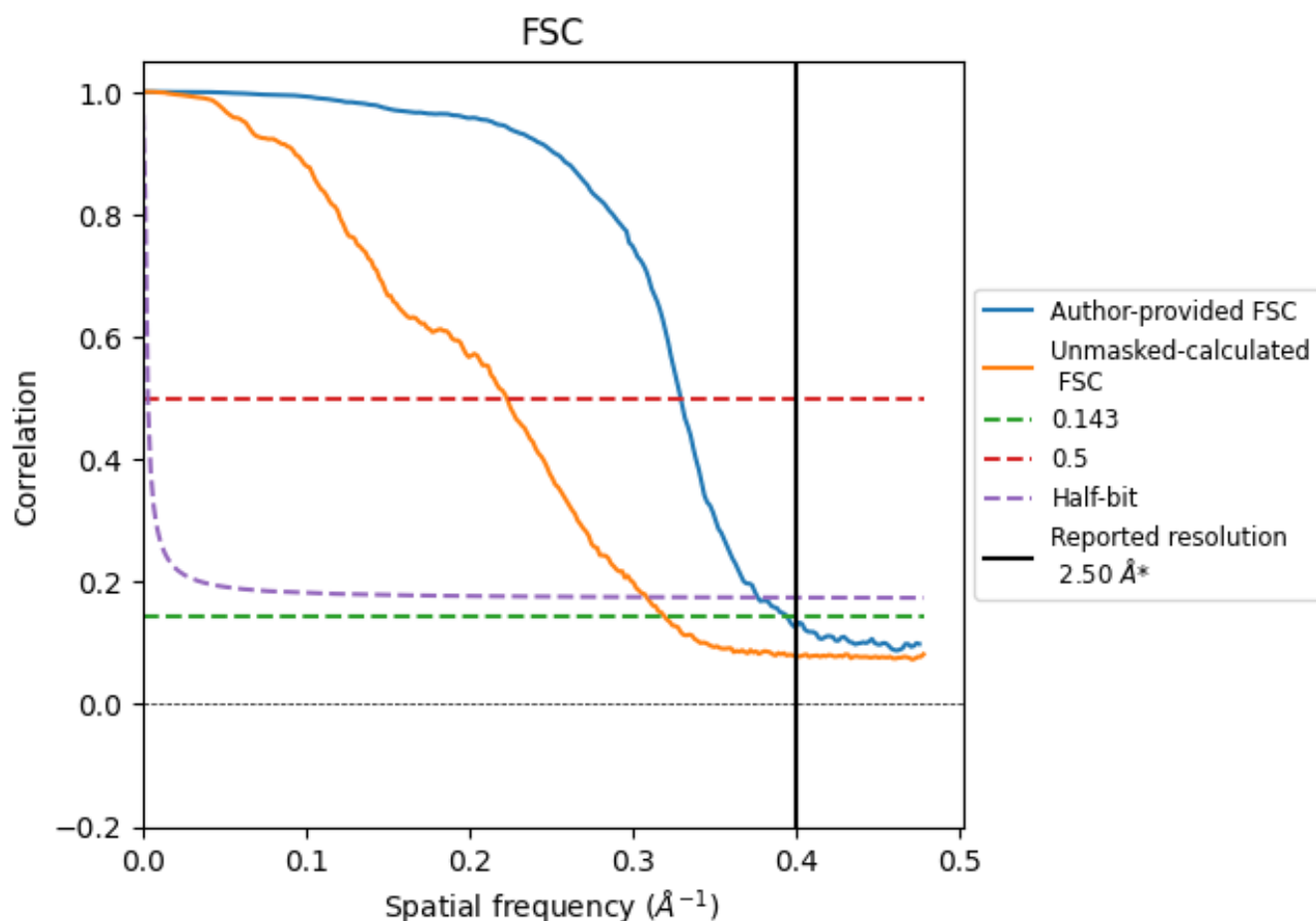


*Reported resolution corresponds to spatial frequency of $0.400 \text{ \AA}^{-1}$

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 0.400 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

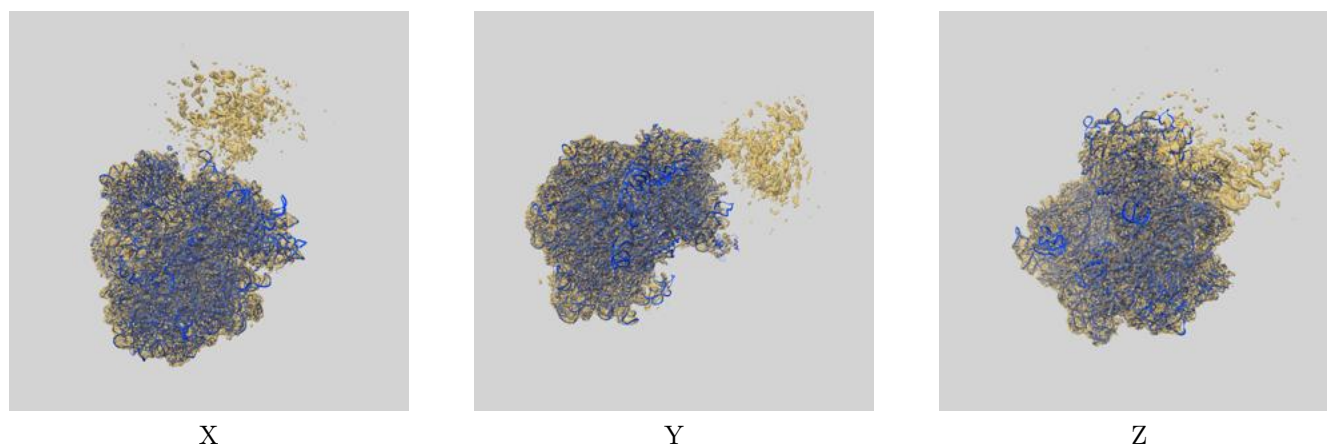
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.50	-	-
Author-provided FSC curve	2.53	3.03	2.65
Unmasked-calculated*	3.13	4.48	3.24

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 3.13 differs from the reported value 2.5 by more than 10 %

9 Map-model fit [i](#)

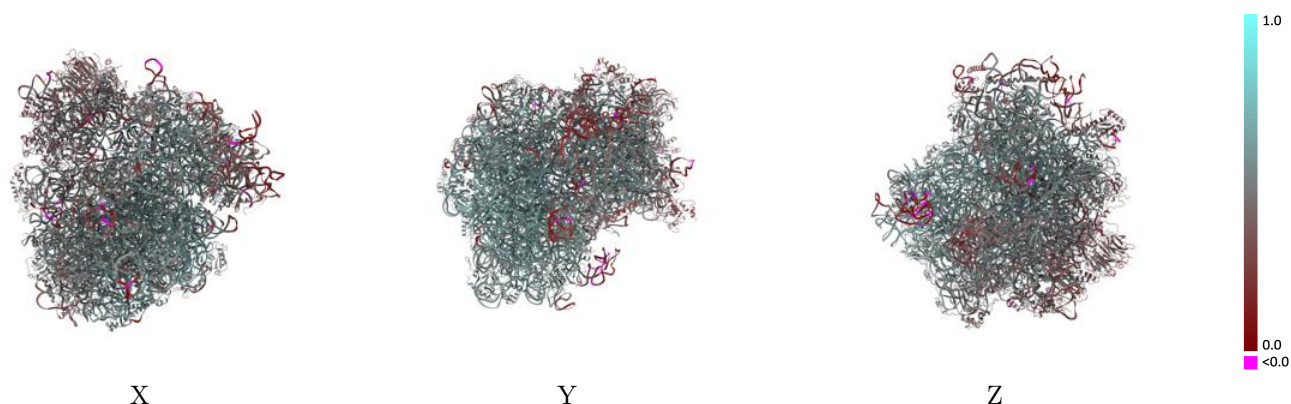
This section contains information regarding the fit between EMDB map EMD-14979 and PDB model 7ZUX. Per-residue inclusion information can be found in section [3](#) on page [20](#).

9.1 Map-model overlay [i](#)



The images above show the 3D surface view of the map at the recommended contour level 0.6 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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

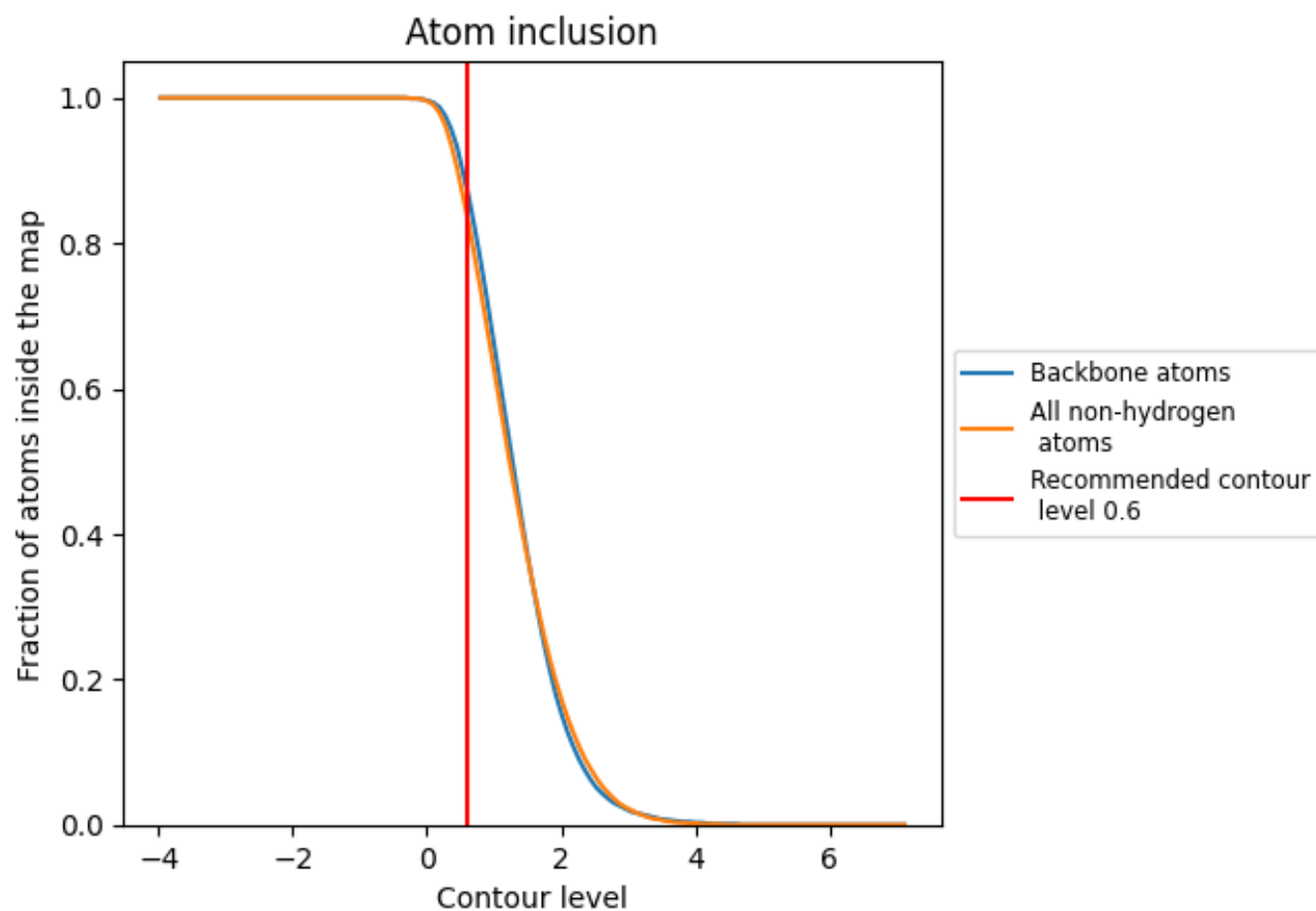


The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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

This section was not generated.

9.4 Atom inclusion [i](#)



At the recommended contour level, 87% of all backbone atoms, 84% 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 (0.6) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.8380	 0.5160
2	 0.8300	 0.4760
3	 0.9460	 0.5700
4	 0.9480	 0.5450
5	 0.9190	 0.5550
6	 0.5590	 0.3390
7	 0.7680	 0.4430
DA	 0.7180	 0.4480
DB	 0.6980	 0.4460
DC	 0.7950	 0.5280
DD	 0.6440	 0.4700
DE	 0.7390	 0.5180
DF	 0.6210	 0.3890
DG	 0.6330	 0.4600
DH	 0.6060	 0.4450
DI	 0.7390	 0.5020
DJ	 0.6910	 0.4780
DK	 0.6570	 0.4230
DL	 0.8000	 0.5410
DM	 0.3020	 0.2890
DN	 0.8240	 0.5220
DO	 0.7800	 0.4550
DP	 0.6710	 0.4410
DQ	 0.6670	 0.4050
DR	 0.6670	 0.4240
DS	 0.6400	 0.4100
DT	 0.6690	 0.4000
DU	 0.6350	 0.4250
DV	 0.7530	 0.4890
DW	 0.8660	 0.5520
DX	 0.8390	 0.5530
DY	 0.6510	 0.4720
DZ	 0.4670	 0.3480
Da	 0.7960	 0.4710
Db	 0.7400	 0.4850



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Chain	Atom inclusion	Q-score
Dc	 0.6130	 0.4080
Dd	 0.8470	 0.4890
De	 0.6100	 0.4550
Df	 0.3680	 0.2930
Dg	 0.4940	 0.3630
EA	 0.8780	 0.5490
EB	 0.9060	 0.5940
EC	 0.8930	 0.5710
ED	 0.7700	 0.4640
EE	 0.8520	 0.5570
EF	 0.8970	 0.5830
EG	 0.7230	 0.4440
EH	 0.8430	 0.5530
EI	 0.8640	 0.5680
EJ	 0.7220	 0.4320
EK	 0.8250	 0.5070
EL	 0.8690	 0.5560
EM	 0.9060	 0.5310
EN	 0.9210	 0.6050
EO	 0.9100	 0.6130
EP	 0.9120	 0.5600
EQ	 0.8030	 0.5240
ER	 0.8940	 0.5730
ES	 0.8690	 0.5450
ET	 0.7740	 0.5140
EU	 0.8600	 0.5890
EV	 0.6850	 0.5030
EW	 0.8460	 0.5440
EX	 0.9040	 0.5800
EY	 0.7750	 0.4880
EZ	 0.8770	 0.5250
Ea	 0.8140	 0.5090
Eb	 0.8040	 0.5070
Ec	 0.8410	 0.5810
Ed	 0.9310	 0.6180
Ee	 0.9350	 0.6220
Ef	 0.8600	 0.5480
Eg	 0.8380	 0.5180
Eh	 0.7530	 0.4580
Ei	 0.9610	 0.5980
Ej	 0.7860	 0.5160
Ek	 0.9130	 0.5920

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Chain	Atom inclusion	Q-score
El	 0.8640	 0.5800
Em	 0.7400	 0.4950
En	 0.8310	 0.4960
Eo	 0.8760	 0.5450