



Full wwPDB EM Validation Report ⓘ

Jan 21, 2026 – 11:00 AM EST

PDB ID : 9ZNG / pdb_00009zng
EMDB ID : EMD-74447
Title : Cryo-EM structure of the Methanosarcina acetivorans 70S ribosome in complex with SriD
Authors : Nissley, A.J.; Cate, J.H.D.
Deposited on : 2025-12-12
Resolution : 2.06 Å(reported)
Based on initial model : .

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:

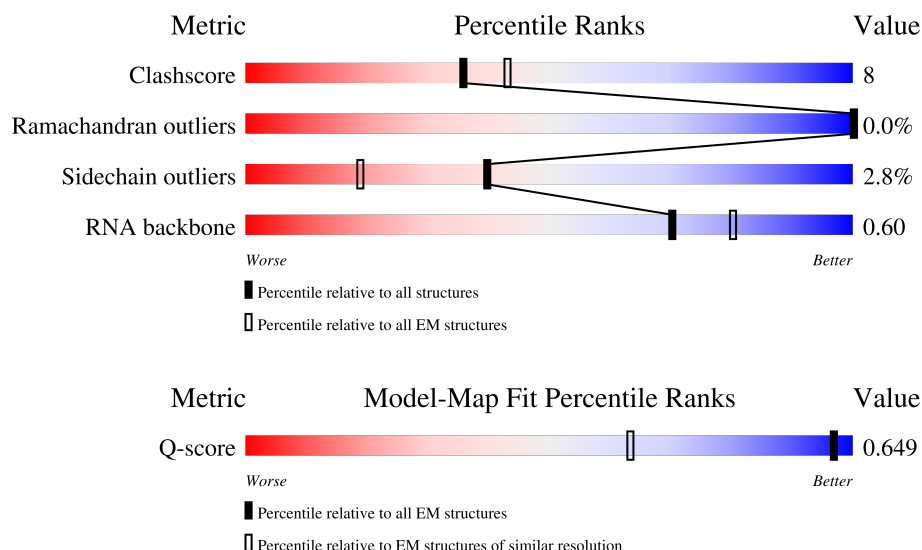
EMDB validation analysis : 0.0.1.dev129
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4-5-2 with Phenix2.0
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.47

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 2.06 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	210492	15764	-
Ramachandran outliers	207382	16835	-
Sidechain outliers	206894	16415	-
RNA backbone	6643	2191	-
Q-score	-	25397	1895 (1.56 - 2.56)

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	1	2904	
2	2	133	
3	3	1478	

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Mol	Chain	Length	Quality of chain
4	7	280	
5	8	75	
6	AA	238	
7	AB	337	
8	AC	253	
9	AD	165	
10	AE	176	
11	AF	120	
12	AG	143	
13	AH	132	
14	AI	140	
15	AJ	196	
16	AK	173	
17	AL	174	
18	AM	126	
19	AN	151	
20	AO	61	
21	AP	97	
22	AQ	151	
23	AR	82	
24	AS	119	
25	AT	62	
26	AU	67	
27	AV	153	
28	AW	99	

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Mol	Chain	Length	Quality of chain
29	AX	89	
30	AY	129	
31	AZ	56	
32	Aa	51	
33	Ab	49	
34	Ac	92	
35	Ad	94	
36	BA	203	
37	BB	225	
38	BC	318	
39	BD	218	
40	BE	235	
41	BF	209	
42	BG	136	
43	BH	189	
44	BI	130	
45	BJ	134	
46	BK	125	
47	BL	102	
48	BM	126	
49	BN	142	
50	BO	162	
51	BP	50	
52	BQ	152	
53	BR	109	

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Mol	Chain	Length	Quality of chain
54	BS	64	
55	BT	136	
56	BU	149	
57	BV	56	
58	BW	101	
59	BX	62	
60	BY	76	
61	BZ	57	

2 Entry composition

There are 64 unique types of molecules in this entry. The entry contains 159419 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 23S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	1	2711	Total	C	N	O	P	0	0
			58043	25909	10576	18847	2711		

There are 9 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
1	1	A	-	insertion	GB 470469544
1	2	A	-	insertion	GB 470469544
1	3	U	-	insertion	GB 470469544
1	4	U	-	insertion	GB 470469544
1	403	G	U	conflict	GB 470469544
1	408	U	C	conflict	GB 470469544
1	2716	U	C	conflict	GB 470469544
1	2721	A	G	conflict	GB 470469544
1	2904	A	-	insertion	GB 470469544

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

Mol	Chain	Residues	Atoms					AltConf	Trace
2	2	127	Total	C	N	O	P	0	0
			2697	1204	476	890	127		

- Molecule 3 is a RNA chain called 16S rRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	3	1425	Total	C	N	O	P	0	0
			30541	13619	5564	9933	1425		

- Molecule 4 is a protein called CBS domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	7	257	Total	C	N	O	S	0	0
			1995	1250	353	382	10		

There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
7	275	HIS	-	insertion	UNP Q8TH71
7	276	HIS	-	insertion	UNP Q8TH71
7	277	HIS	-	insertion	UNP Q8TH71
7	278	HIS	-	insertion	UNP Q8TH71
7	279	HIS	-	insertion	UNP Q8TH71
7	280	HIS	-	insertion	UNP Q8TH71

- Molecule 5 is a RNA chain called E-site tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	8	18	Total	C	N	O	P	0	0
			381	171	70	123	17		

- Molecule 6 is a protein called Large ribosomal subunit protein uL2.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	AA	235	Total	C	N	O	S	0	0
			1779	1112	343	317	7		

- Molecule 7 is a protein called Large ribosomal subunit protein uL3.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	AB	335	Total	C	N	O	S	0	0
			2583	1631	472	473	7		

- Molecule 8 is a protein called Large ribosomal subunit protein uL4.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	AC	252	Total	C	N	O	S	0	0
			1929	1208	368	352	1		

- Molecule 9 is a protein called Large ribosomal subunit protein uL5.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	AD	159	Total	C	N	O	S	0	0
			1241	781	228	225	7		

- Molecule 10 is a protein called Large ribosomal subunit protein uL6.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	AE	171	Total	C	N	O	S	0	0
			1329	849	229	246	5		

- Molecule 11 is a protein called Large ribosomal subunit protein eL8.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	AF	106	Total	C	N	O	S	0	0
			779	490	133	154	2		

- Molecule 12 is a protein called Large ribosomal subunit protein uL13.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	AG	139	Total	C	N	O	S	0	0
			1092	687	201	200	4		

- Molecule 13 is a protein called Large ribosomal subunit protein uL14.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	AH	132	Total	C	N	O	S	0	0
			998	623	185	181	9		

- Molecule 14 is a protein called Large ribosomal subunit protein uL15.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	AI	139	Total	C	N	O	S	0	0
			1048	638	203	201	6		

- Molecule 15 is a protein called Large ribosomal subunit protein eL15.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	AJ	195	Total	C	N	O	S	0	0
			1584	981	328	271	4		

- Molecule 16 is a protein called Large ribosomal subunit protein uL16.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	AK	161	Total	C	N	O	S	0	0
			1277	803	245	220	9		

- Molecule 17 is a protein called Large ribosomal subunit protein uL18.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	AL	172	Total	C	N	O	S	0	0
			1341	845	240	255	1		

- Molecule 18 is a protein called Large ribosomal subunit protein eL18.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	AM	125	Total	C	N	O	S	0	0
			953	603	172	176	2		

- Molecule 19 is a protein called Large ribosomal subunit protein eL19.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	AN	147	Total	C	N	O	S	0	0
			1159	717	236	203	3		

- Molecule 20 is a protein called Large ribosomal subunit protein eL20.

Mol	Chain	Residues	Atoms				AltConf	Trace
20	AO	56	Total	C	N	O	0	0
			447	284	78	85		

- Molecule 21 is a protein called Large ribosomal subunit protein eL21.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	AP	96	Total	C	N	O	S	0	0
			765	475	146	140	4		

- Molecule 22 is a protein called Large ribosomal subunit protein uL22.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	AQ	149	Total	C	N	O	S	0	0
			1149	718	213	209	9		

- Molecule 23 is a protein called Large ribosomal subunit protein uL23.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	AR	80	Total	C	N	O	S	0	0
			639	408	106	119	6		

- Molecule 24 is a protein called Large ribosomal subunit protein uL24.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	AS	115	Total	C	N	O	S	0	0
			880	545	166	164	5		

- Molecule 25 is a protein called Large ribosomal subunit protein eL24.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	AT	60	Total	C	N	O	S	0	0
			484	307	85	84	8		

- Molecule 26 is a protein called Large ribosomal subunit protein uL29.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	AU	65	Total	C	N	O	S	0	0
			515	310	101	103	1		

- Molecule 27 is a protein called Large ribosomal subunit protein uL30.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	AV	153	Total	C	N	O	S	0	0
			1236	779	230	221	6		

- Molecule 28 is a protein called Large ribosomal subunit protein eL30.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	AW	84	Total	C	N	O	S	0	0
			605	383	100	118	4		

- Molecule 29 is a protein called Large ribosomal subunit protein eL31.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	AX	84	Total	C	N	O	S	0	0
			685	437	128	117	3		

- Molecule 30 is a protein called Large ribosomal subunit protein eL32.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	AY	126	Total	C	N	O	S	0	0
			981	617	188	174	2		

- Molecule 31 is a protein called Large ribosomal subunit protein eL37.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	AZ	55	Total	C	N	O	S	0	0
			436	264	91	74	7		

- Molecule 32 is a protein called Large ribosomal subunit protein eL39.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	Aa	50	Total	C	N	O	S	0	0
			430	267	100	62	1		

- Molecule 33 is a protein called Large ribosomal subunit protein eL40.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	Ab	43	Total	C	N	O	S	0	0
			348	212	73	58	5		

- Molecule 34 is a protein called Large ribosomal subunit protein eL42.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	Ac	91	Total	C	N	O	S	0	0
			750	475	150	118	7		

- Molecule 35 is a protein called Large ribosomal subunit protein eL43.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	Ad	89	Total	C	N	O	S	0	0
			699	437	139	117	6		

- Molecule 36 is a protein called Small ribosomal subunit protein eS1.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	BA	179	Total	C	N	O	S	0	0
			1435	900	259	268	8		

- Molecule 37 is a protein called Small ribosomal subunit protein uS2.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	BB	188	Total	C	N	O	S	0	0
			1476	933	260	278	5		

- Molecule 38 is a protein called Small ribosomal subunit protein uS3.

Mol	Chain	Residues	Atoms					AltConf	Trace
38	BC	142	Total	C	N	O	S	0	0
			1085	686	193	199	7		

- Molecule 39 is a protein called Small ribosomal subunit protein uS4.

Mol	Chain	Residues	Atoms					AltConf	Trace
39	BD	162	Total	C	N	O	S	0	0
			1303	824	241	233	5		

- Molecule 40 is a protein called Small ribosomal subunit protein eS4.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	BE	228	Total	C	N	O	S	0	0
			1796	1131	327	333	5		

- Molecule 41 is a protein called Small ribosomal subunit protein uS5.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	BF	201	Total	C	N	O	S	0	0
			1527	966	273	281	7		

- Molecule 42 is a protein called Small ribosomal subunit protein eS6.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	BG	125	Total	C	N	O	S	0	0
			935	594	169	168	4		

- Molecule 43 is a protein called Small ribosomal subunit protein uS7.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	BH	175	Total	C	N	O	S	0	0
			1363	851	253	256	3		

- Molecule 44 is a protein called Small ribosomal subunit protein uS8.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	BI	129	Total	C	N	O	S	0	0
			980	628	166	182	4		

- Molecule 45 is a protein called Small ribosomal subunit protein uS9.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	BJ	132	Total	C	N	O	S	0	0
			1001	622	188	188	3		

- Molecule 46 is a protein called Small ribosomal subunit protein eS8.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	BK	124	Total	C	N	O	S	0	0
			954	582	195	173	4		

- Molecule 47 is a protein called Small ribosomal subunit protein uS10.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	BL	70	Total	C	N	O	S	0	0
			538	337	103	96	2		

- Molecule 48 is a protein called Small ribosomal subunit protein uS11.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	BM	123	Total	C	N	O	S	0	0
			910	560	180	166	4		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
BM	116	IAS	ASP	conflict	UNP Q8TRR0

- Molecule 49 is a protein called Small ribosomal subunit protein uS12.

Mol	Chain	Residues	Atoms					AltConf	Trace
49	BN	139	Total	C	N	O	S	0	0
			1057	662	202	188	5		

- Molecule 50 is a protein called Small ribosomal subunit protein uS13.

Mol	Chain	Residues	Atoms					AltConf	Trace
50	BO	131	Total	C	N	O	S	0	0
			1025	643	197	183	2		

- Molecule 51 is a protein called Small ribosomal subunit protein uS14.

Mol	Chain	Residues	Atoms					AltConf	Trace
51	BP	46	Total	C	N	O	S	0	0
			382	238	76	63	5		

- Molecule 52 is a protein called Small ribosomal subunit protein uS15.

Mol	Chain	Residues	Atoms					AltConf	Trace
52	BQ	150	Total	C	N	O	S	0	0
			1206	766	218	217	5		

- Molecule 53 is a protein called Small ribosomal subunit protein uS17A.

Mol	Chain	Residues	Atoms					AltConf	Trace
53	BR	107	Total	C	N	O	S	0	0
			831	522	149	153	7		

- Molecule 54 is a protein called Small ribosomal subunit protein eS17.

Mol	Chain	Residues	Atoms					AltConf	Trace
54	BS	58	Total	C	N	O	S	0	0
			476	302	86	87	1		

- Molecule 55 is a protein called Small ribosomal subunit protein uS19.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	BT	116	Total	C	N	O	S	0	0
			941	593	175	170	3		

- Molecule 56 is a protein called Small ribosomal subunit protein eS19.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	BU	148	Total	C	N	O	S	0	0
			1154	734	203	213	4		

- Molecule 57 is a protein called Putative zinc finger domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	BV	52	Total	C	N	O	S	0	0
			394	247	70	69	8		

- Molecule 58 is a protein called Small ribosomal subunit protein eS24.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	BW	90	Total	C	N	O	S	0	0
			736	463	131	138	4		

- Molecule 59 is a protein called Small ribosomal subunit protein eS27.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	BX	61	Total	C	N	O	S	0	0
			474	293	86	91	4		

- Molecule 60 is a protein called Small ribosomal subunit protein eS28.

Mol	Chain	Residues	Atoms					AltConf	Trace
60	BY	52	Total	C	N	O	S	0	0
			389	238	74	73	4		

- Molecule 61 is a protein called DUF5350 family protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
61	BZ	57	Total	C	N	O	S	0	0
			452	283	97	71	1		

- Molecule 62 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
62	1	236	Total	Mg	0
			236	236	
62	2	2	Total	Mg	0
			2	2	
62	3	64	Total	Mg	0
			64	64	
62	7	1	Total	Mg	0
			1	1	
62	AA	2	Total	Mg	0
			2	2	
62	AB	2	Total	Mg	0
			2	2	
62	AH	1	Total	Mg	0
			1	1	
62	AI	2	Total	Mg	0
			2	2	
62	AN	1	Total	Mg	0
			1	1	

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Mol	Chain	Residues	Atoms		AltConf
62	AZ	1	Total 1	Mg 1	0
62	BF	1	Total 1	Mg 1	0
62	BM	1	Total 1	Mg 1	0

- Molecule 63 is ZINC ION (CCD ID: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
63	AT	1	Total 1	Zn 1	0
63	AZ	1	Total 1	Zn 1	0
63	Ab	1	Total 1	Zn 1	0
63	Ac	1	Total 1	Zn 1	0
63	Ad	1	Total 1	Zn 1	0
63	BF	1	Total 1	Zn 1	0
63	BP	1	Total 1	Zn 1	0
63	BR	1	Total 1	Zn 1	0
63	BV	2	Total 2	Zn 2	0
63	BX	1	Total 1	Zn 1	0

- Molecule 64 is water.

Mol	Chain	Residues	Atoms		AltConf
64	1	6124	Total 6124	O 6124	0
64	2	109	Total 109	O 109	0
64	3	2579	Total 2579	O 2579	0
64	7	22	Total 22	O 22	0

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Mol	Chain	Residues	Atoms		AltConf
64	8	5	Total 5	O 5	0
64	AA	80	Total 80	O 80	0
64	AB	101	Total 101	O 101	0
64	AC	100	Total 100	O 100	0
64	AD	11	Total 11	O 11	0
64	AE	20	Total 20	O 20	0
64	AF	11	Total 11	O 11	0
64	AG	55	Total 55	O 55	0
64	AH	27	Total 27	O 27	0
64	AI	54	Total 54	O 54	0
64	AJ	77	Total 77	O 77	0
64	AK	42	Total 42	O 42	0
64	AL	24	Total 24	O 24	0
64	AM	27	Total 27	O 27	0
64	AN	57	Total 57	O 57	0
64	AO	6	Total 6	O 6	0
64	AP	41	Total 41	O 41	0
64	AQ	31	Total 31	O 31	0
64	AR	30	Total 30	O 30	0
64	AS	28	Total 28	O 28	0
64	AT	16	Total 16	O 16	0

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Mol	Chain	Residues	Atoms		AltConf
64	AU	13	Total 13	O 13	0
64	AV	36	Total 36	O 36	0
64	AW	9	Total 9	O 9	0
64	AX	27	Total 27	O 27	0
64	AY	34	Total 34	O 34	0
64	AZ	27	Total 27	O 27	0
64	Aa	23	Total 23	O 23	0
64	Ab	7	Total 7	O 7	0
64	Ac	36	Total 36	O 36	0
64	Ad	24	Total 24	O 24	0
64	BA	22	Total 22	O 22	0
64	BB	8	Total 8	O 8	0
64	BC	14	Total 14	O 14	0
64	BD	36	Total 36	O 36	0
64	BE	56	Total 56	O 56	0
64	BF	38	Total 38	O 38	0
64	BG	14	Total 14	O 14	0
64	BH	22	Total 22	O 22	0
64	BI	42	Total 42	O 42	0
64	BJ	20	Total 20	O 20	0
64	BK	29	Total 29	O 29	0

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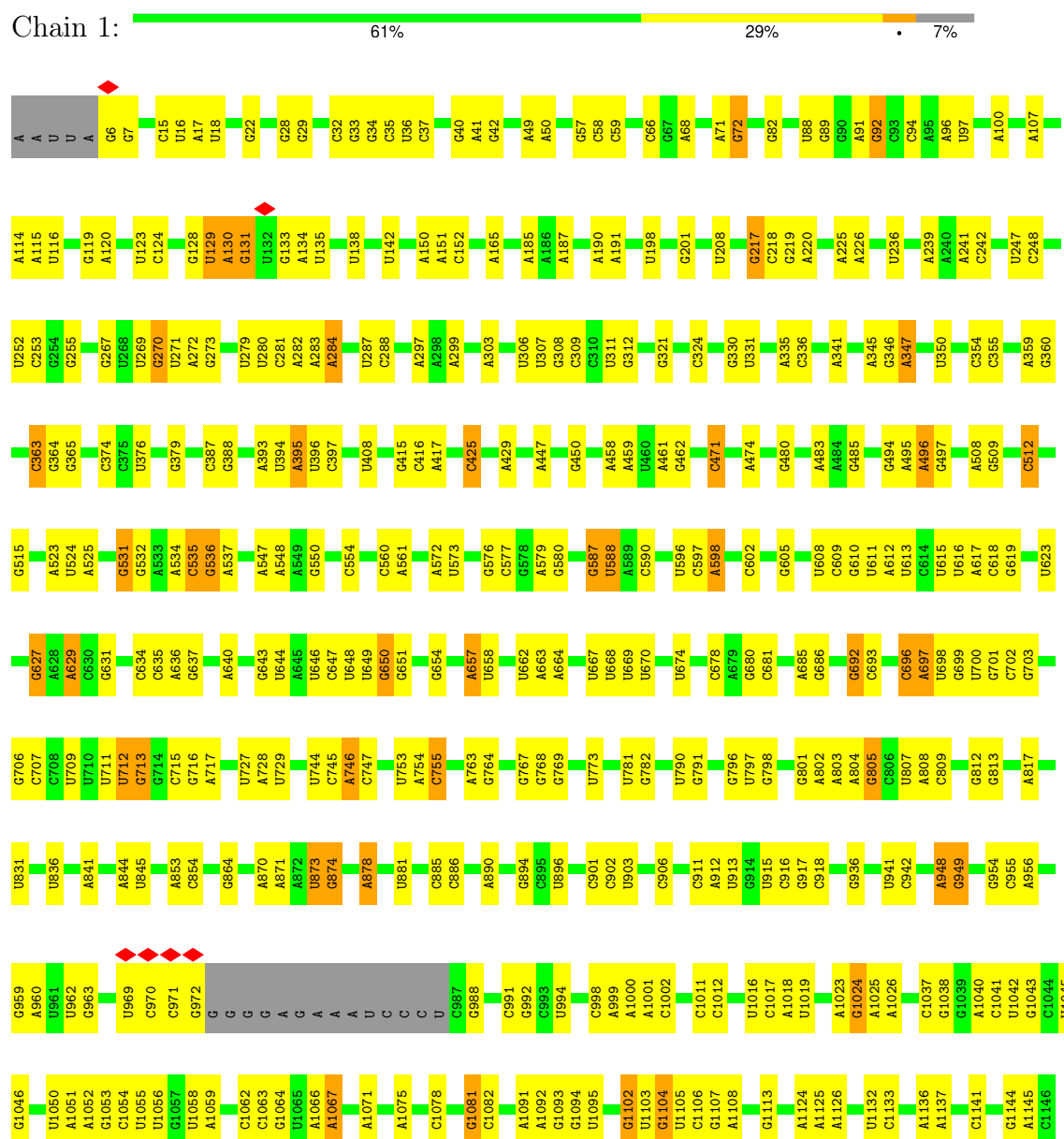
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Mol	Chain	Residues	Atoms		AltConf
64	BL	12	Total 12	O 12	0
64	BM	27	Total 27	O 27	0
64	BN	42	Total 42	O 42	0
64	BO	19	Total 19	O 19	0
64	BP	12	Total 12	O 12	0
64	BQ	31	Total 31	O 31	0
64	BR	36	Total 36	O 36	0
64	BS	3	Total 3	O 3	0
64	BT	22	Total 22	O 22	0
64	BU	23	Total 23	O 23	0
64	BV	9	Total 9	O 9	0
64	BW	7	Total 7	O 7	0
64	BX	7	Total 7	O 7	0
64	BY	4	Total 4	O 4	0
64	BZ	8	Total 8	O 8	0

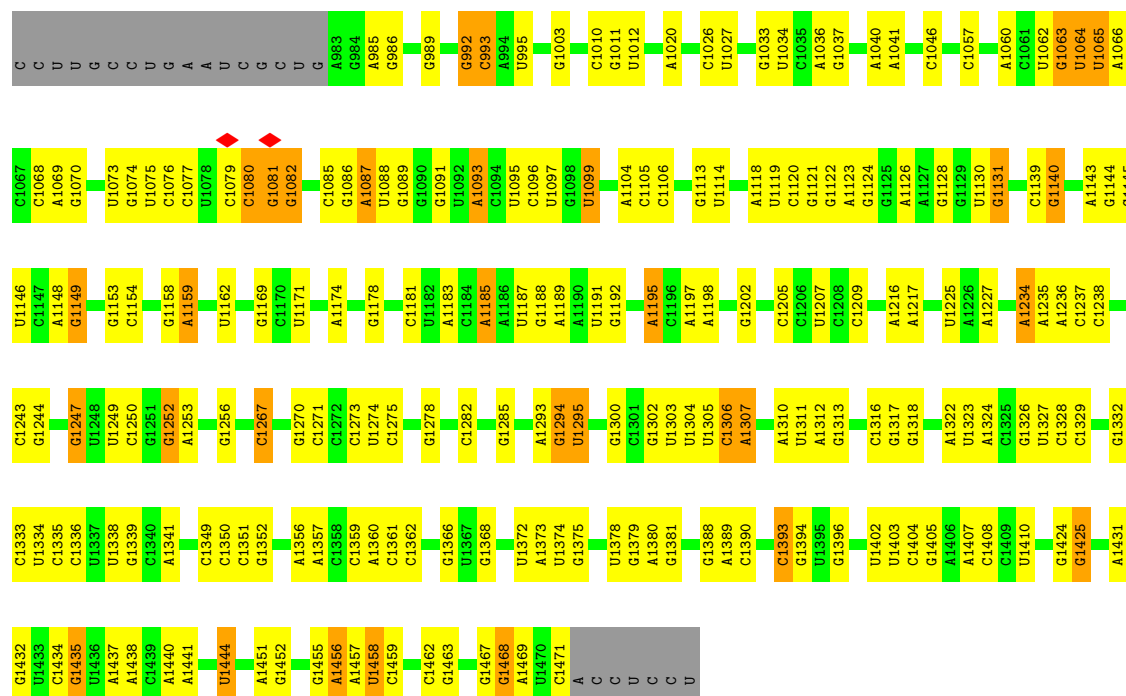
3 Residue-property plots [i](#)

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

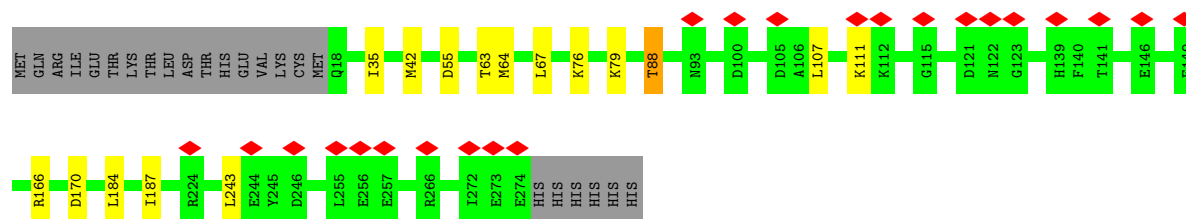
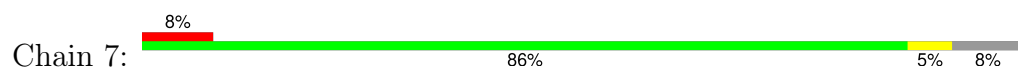
• Molecule 1: 23S rRNA



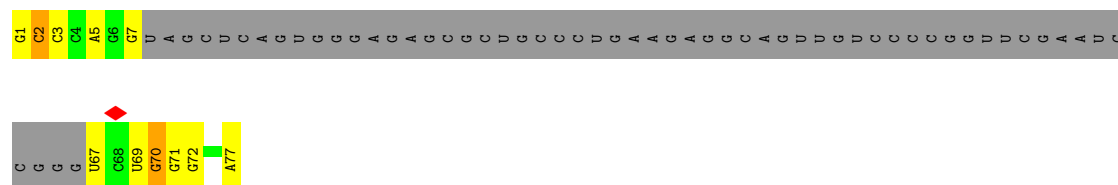
C2654	U2526	U2412	G2293	A	C	C2057	U1950	G	C1685	U1554	G1450	G1315	G1207	A1147
G2655	U2529	U2413	C2297	C	A	A2058	U1951	A1849	C1686	A1557	G1451	U1316	A1208	G
A2660	U2530	U2414	U2530	U	U	G2066	A1952	A1850	A1703	A1558	A1458	G1317	A1209	C
G2661	C2531	G2418	A2300	C	U	C2067	G1954	G1851	U1706	C1562	U1459	A1318	G1210	U
C2662	A2533	C2419	U2302	C	U	C2068	U1955	A1861	C1707	C1563	G1462	G1320	G1215	G
U2663	U2534	U2436	C2303	U	A	C2069	U1956	A1862	U1708	G1574	A1463	U1321	G1216	A
C2665	G2544	A2436	G2304	G	G	C2070	A1957	C1866	G1711	G1575	G1468	C1322	G1217	G
C2665	C2545	A2437	U2305	C	U	G2071	U1958	C1867	C1711	A1576	U1324	U1323	G1218	G
G2671	C2546	U2441	U2306	C	A	G2074	A1962	A1869	U1718	G1577	G1475	A1223	A1223	U
U2672	A2547	G2442	G2307	G	C	G2075	G1963	A1870	A1718	A1578	G1476	C1330	A1224	A
C2673	C2548	G2442	C2308	G	A	G2076	U1970	U1871	G1737	C1579	G1477	C1331	A1225	G
A2677	A2549	U2445	U2310	A	C	A2080	C1972	C1872	U1744	C1580	A1478	C	A1226	C
U2678	U2566	G2446	C2311	C	U	G2083	U1979	U1877	G1745	G1581	A1479	A1343	A1230	U
G2679	U2567	A2447	A2312	U	A	G2084	U1980	G1882	C1746	U1582	A1480	A1344	C1231	U
G2680	U2569	A2448	A2313	A	C	A2085	G1981	C1883	U1747	A1583	C1481	A1345	C1235	A
A2681	U2570	U2452	G2317	C	U	G2086	U1988	C1884	G1759	U1585	A1482	U1346	G1235	G
C2684	C2571	U2453	U2318	C	G	C2087	G1989	G1885	U1762	G1586	U1489	U1347	A1239	A
A2689	G2572	C2456	G2321	C	G	C2088	U1991	U1887	U1762	C1599	A1490	A1355	A1245	G
G2690	U2577	G2460	G2322	C	U	C2091	A1992	G1887	C1775	G1600	U1495	A1366	G1249	G
G2693	A2581	G2461	A2323	G	G	G2092	U1992	G1882	U1776	U1603	G1496	A1367	C1250	C
G2701	C2582	A2462	A2324	G	G	U2093	A1995	A1893	G1777	A1610	C1500	A1368	G1251	A
G2702	G2583	A2463	G2326	U	U	G2094	U1996	A1894	U1780	U1502	A1501	C1380	U1253	C
U2703	U2583	U2467	C2326	C	U	A2095	U1997	C1896	A1781	U1503	U1502	C1380	U1253	C
G2704	C2588	U2476	U2331	C	C	C2097	U1998	C1897	G1782	U1504	A1505	G1389	C1257	C
U2705	G2593	U2476	A2334	C	C	C2098	U1999	U1902	A1783	U1505	A1506	U1393	C1258	U
U2714	G2597	A2483	G2335	A	C	U2100	A2006	U1903	C1787	G1639	G1507	A1394	U1263	C
C2715	U2599	G2484	A2336	C	A	G2105	G2007	C1904	A1788	A1642	G	G1395	A1264	C
G2717	U2600	A2489	A2341	C	C	U2111	U2016	A1906	G1793	A1643	U	A1401	C1265	A
A2718	C2606	G2493	A2342	U	U	G2112	G2017	A1926	U1796	A1644	U	G1402	A1269	G
U2726	G2607	A2493	G2343	U	U	U2117	U2018	C1927	G1931	G1645	A	A1408	A1270	A
G2728	U2614	C2498	A2344	C	C	G2118	G2019	A1928	A1802	G1646	U1513	U1409	G1271	G
G2732	A2617	C2499	C2349	U	U	G2119	G2020	G1931	G1803	A1647	U1514	C1410	C1277	G
G2733	G2622	U2507	C2357	G	G	G2120	G2021	G1932	G1804	C1649	C1515	G1411	U1278	C
U2738	G2623	U2508	C2361	A	A	G2123	U2022	G1933	U1811	A	C1519	G1412	G1288	G
A2739	U2624	G2509	U2366	C	C	U	G2026	G1934	A1812	G	G1520	C1413	U1291	A
C2740	U2625	C2274	U2367	C	C	G	G2027	G1935	A1813	C1652	U1521	A1414	U1292	A
C2746	U2628	G2279	C2368	U	U	C	G2034	U1936	A1820	A1654	C1522	A1415	G1293	C
A2747	G2638	A2282	U2369	C	C	U	G2035	A	A1821	A1655	U1523	A1424	U1294	A
A2753	G2639	A2287	U2370	U	U	G	U2036	C	A1822	C1661	A1525	G1425	G1295	G
A2754	G2640	U2288	U2397	G	G	U	G2037	U	U1822	G1668	G1436	C1426	U1296	C
G2760	C2644	U2289	U2397	C	C	U	U2048	G	A1823	A1671	A1530	G1436	U1296	U
A2761	C2645	A2290	U2397	C	C	U	G2049	A1944	A1826	A1679	A1530	U1443	G1300	A
A2762	G2646	A2290	U2397	C	C	A	A2051	C1945	U1830	A1679	G1545	U1444	G1304	C
								C1946	A1831	A1679	G1545	A1445	G1304	C
								U1947	G1839	C1659	C1549	A1446	G1311	A
								C1948	C1840	G1683	G1550	A1447	G1312	U
								C1949						C



• Molecule 4: CBS domain-containing protein



• Molecule 5: E-site tRNA

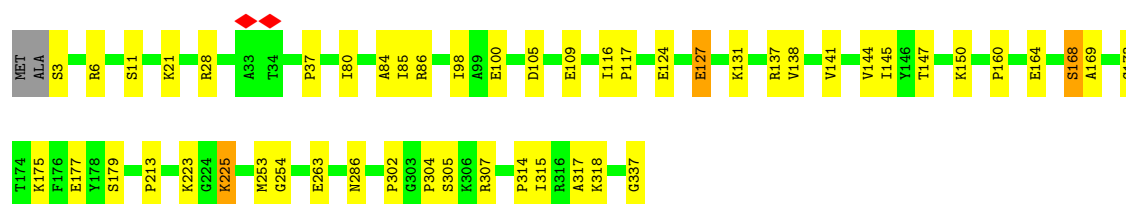


• Molecule 6: Large ribosomal subunit protein uL2



• Molecule 7: Large ribosomal subunit protein uL3

Chain AB:  85% 14% ..



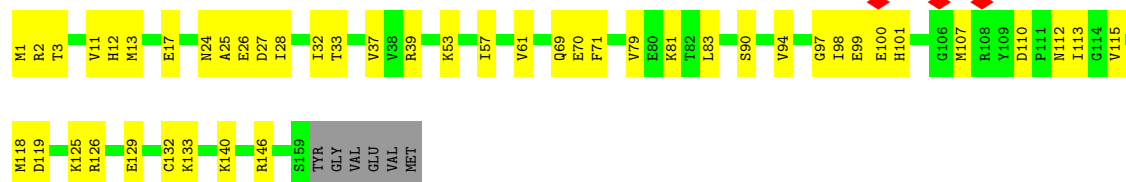
- Molecule 8: Large ribosomal subunit protein uL4

Chain AC:  89% 11%



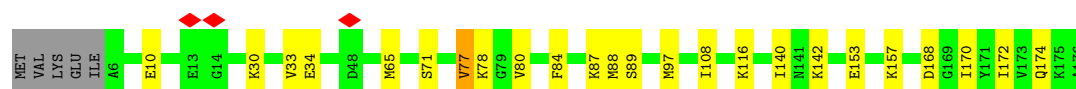
- Molecule 9: Large ribosomal subunit protein uL5

Chain AD:  68% 28% .



- Molecule 10: Large ribosomal subunit protein uL6

Chain AE:  84% 13% ..



- Molecule 11: Large ribosomal subunit protein eL8

Chain AF:  72% 15% 12%



- Molecule 12: Large ribosomal subunit protein uL13

Chain AG:  84% 13% .



- Molecule 13: Large ribosomal subunit protein uL14

Chain AH:  82% 17%



- Molecule 14: Large ribosomal subunit protein uL15

Chain AI:  86% 13%



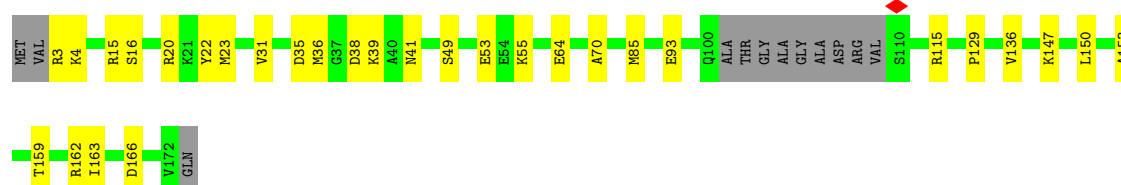
- Molecule 15: Large ribosomal subunit protein eL15

Chain AJ:  91% 8%



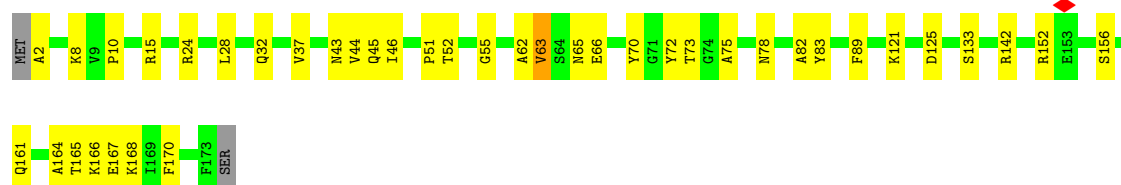
- Molecule 16: Large ribosomal subunit protein uL16

Chain AK:  76% 17% 7%



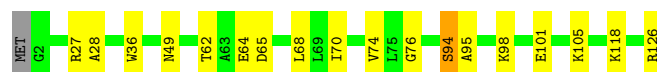
- Molecule 17: Large ribosomal subunit protein uL18

Chain AL:  76% 22%



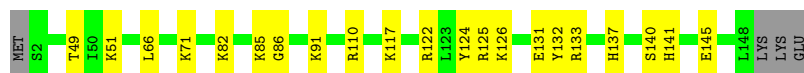
- Molecule 18: Large ribosomal subunit protein eL18

Chain AM:  85% 13%



- Molecule 19: Large ribosomal subunit protein eL19

Chain AN:  83% 14%



- Molecule 20: Large ribosomal subunit protein eL20

Chain AO:  75% 16% 8%



- Molecule 21: Large ribosomal subunit protein eL21

Chain AP:  93% 6%



- Molecule 22: Large ribosomal subunit protein uL22

Chain AQ:  89% 10%



- Molecule 23: Large ribosomal subunit protein uL23

Chain AR:  79% 18%



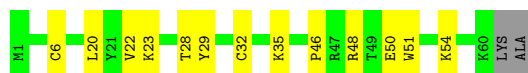
- Molecule 24: Large ribosomal subunit protein uL24

Chain AS:  80% 17%



- Molecule 25: Large ribosomal subunit protein eL24

Chain AT:  76% 21%



- Molecule 26: Large ribosomal subunit protein uL29

Chain AU:  78% 19%



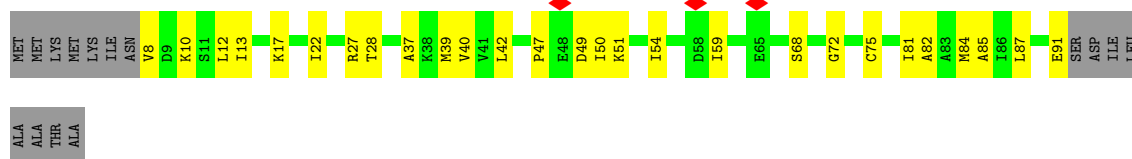
- Molecule 27: Large ribosomal subunit protein uL30

Chain AV:  91% 9%



- Molecule 28: Large ribosomal subunit protein eL30

Chain AW:  58% 27% 15%



- Molecule 29: Large ribosomal subunit protein eL31

Chain AX:  84% 9% 6%



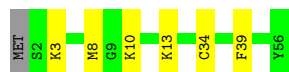
- Molecule 30: Large ribosomal subunit protein eL32

Chain AY:  87% 11%



- Molecule 31: Large ribosomal subunit protein eL37

Chain AZ:  88% 11%



- Molecule 32: Large ribosomal subunit protein eL39

Chain Aa:  86% 12%



- Molecule 33: Large ribosomal subunit protein eL40

Chain Ab:  63% 24% 12%



- Molecule 34: Large ribosomal subunit protein eL42

Chain Ac:  89% 10%



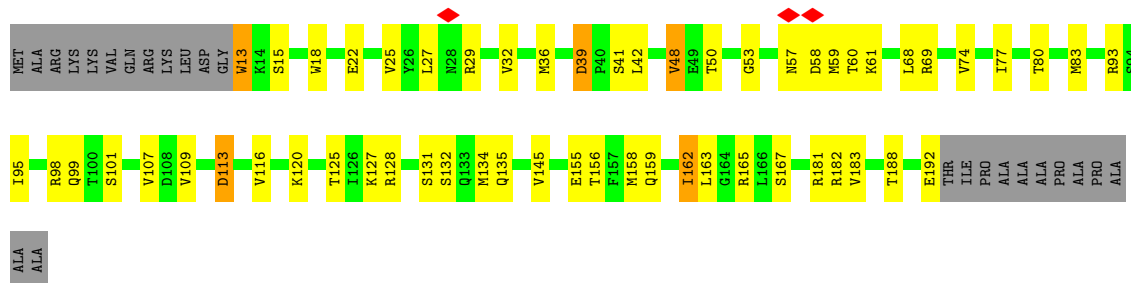
- Molecule 35: Large ribosomal subunit protein eL43

Chain Ad:  79% 16% 5%



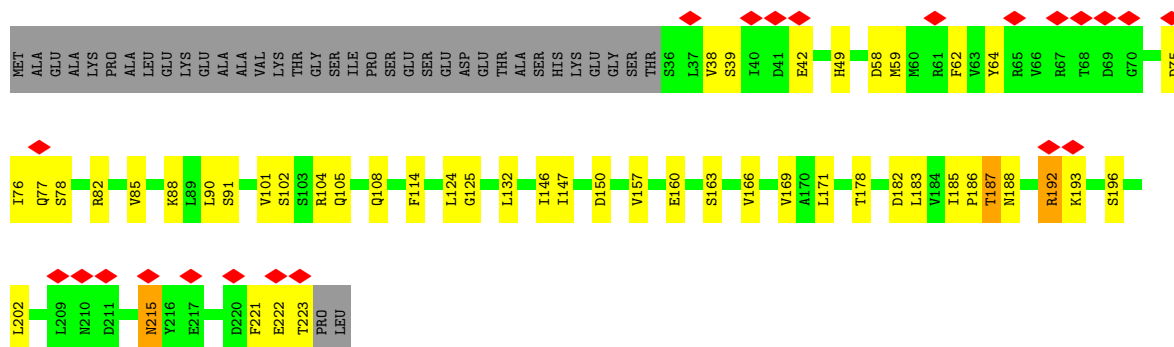
- Molecule 36: Small ribosomal subunit protein eS1

Chain BA:  60% 26% 12%

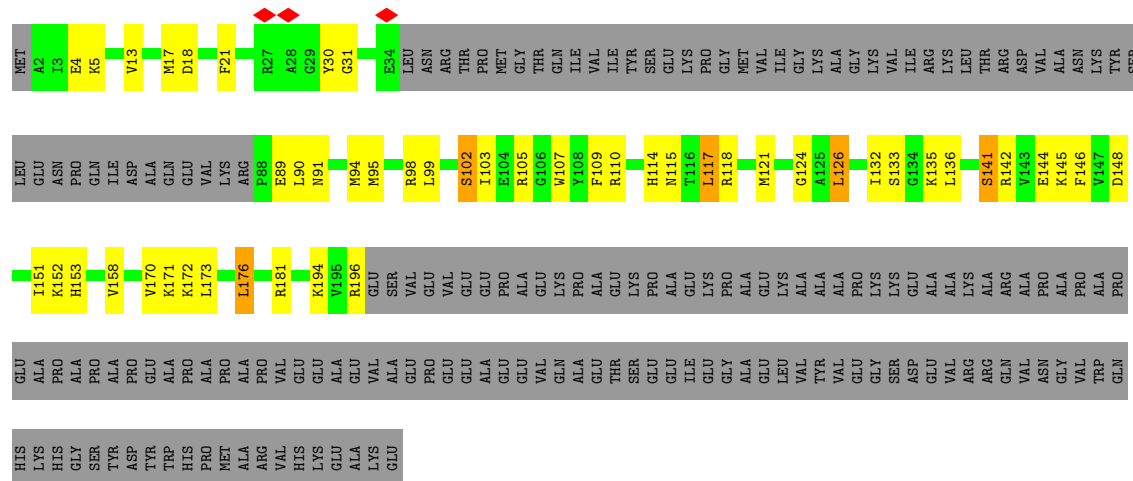
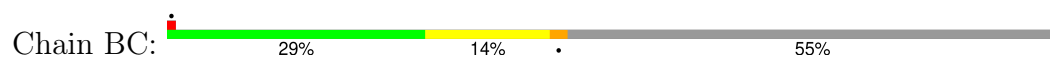


- Molecule 37: Small ribosomal subunit protein uS2

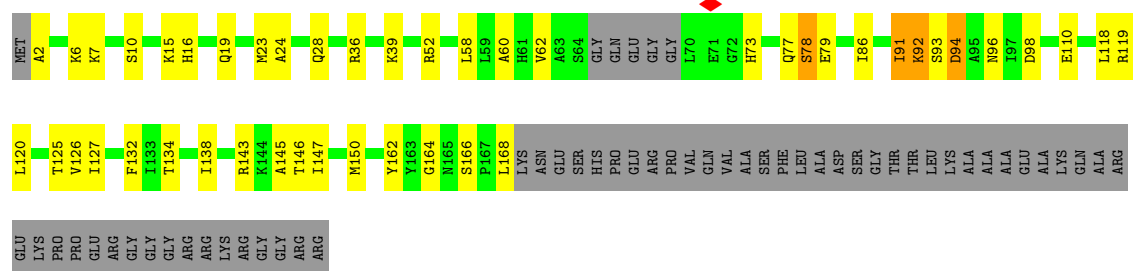
Chain BB:  10% 61% 21% 16%



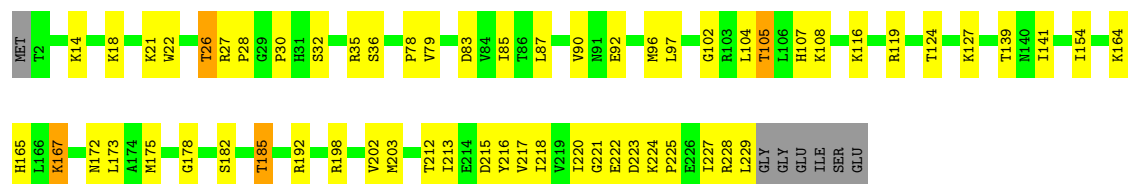
- Molecule 38: Small ribosomal subunit protein uS3



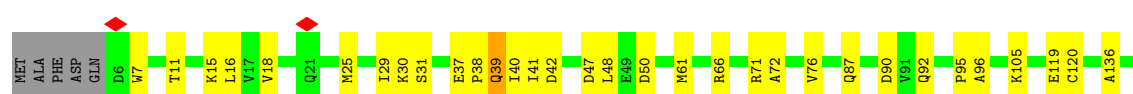
• Molecule 39: Small ribosomal subunit protein uS4

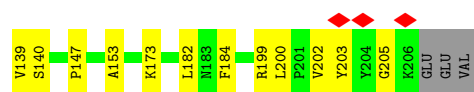


• Molecule 40: Small ribosomal subunit protein eS4

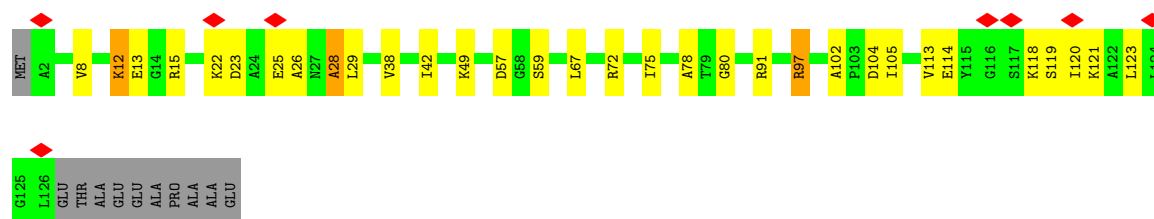


• Molecule 41: Small ribosomal subunit protein uS5

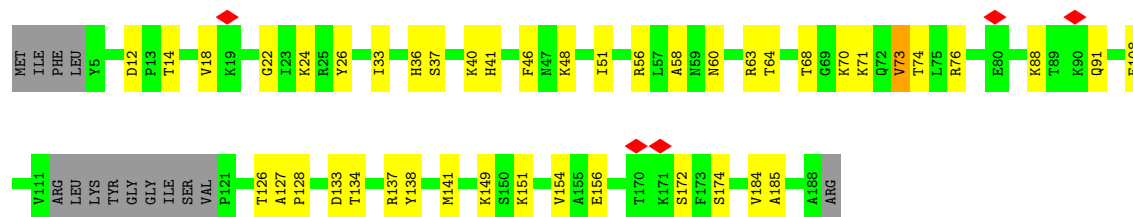




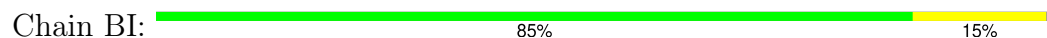
- Molecule 42: Small ribosomal subunit protein eS6



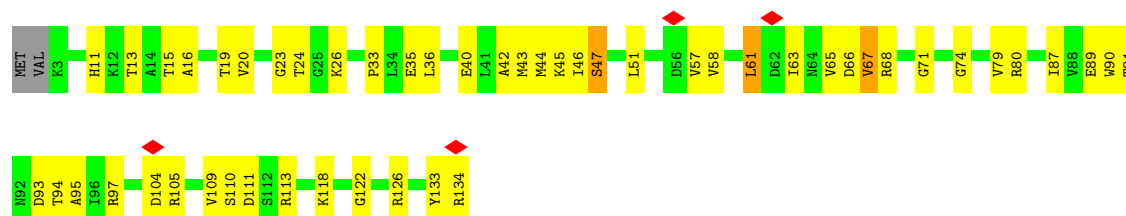
- Molecule 43: Small ribosomal subunit protein uS7



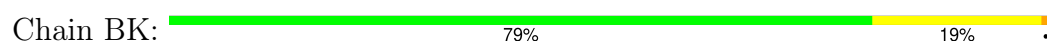
- Molecule 44: Small ribosomal subunit protein uS8

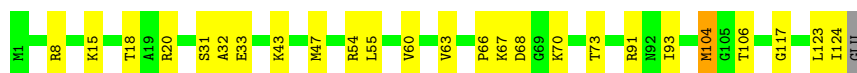


- Molecule 45: Small ribosomal subunit protein uS9

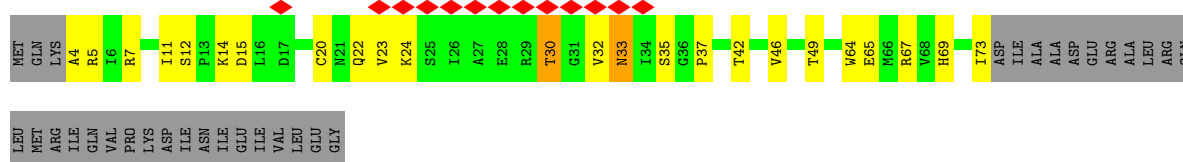


- Molecule 46: Small ribosomal subunit protein eS8

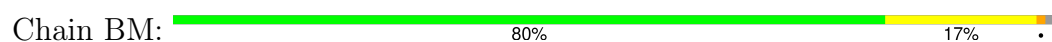




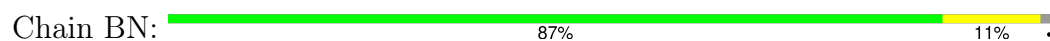
- Molecule 47: Small ribosomal subunit protein uS10



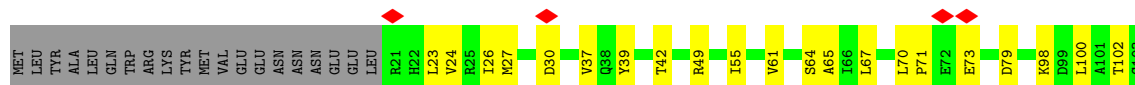
- Molecule 48: Small ribosomal subunit protein uS11



- Molecule 49: Small ribosomal subunit protein uS12



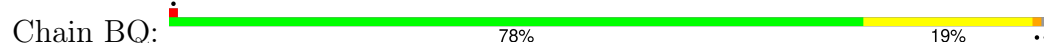
- Molecule 50: Small ribosomal subunit protein uS13



- Molecule 51: Small ribosomal subunit protein uS14

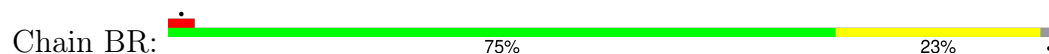


- Molecule 52: Small ribosomal subunit protein uS15





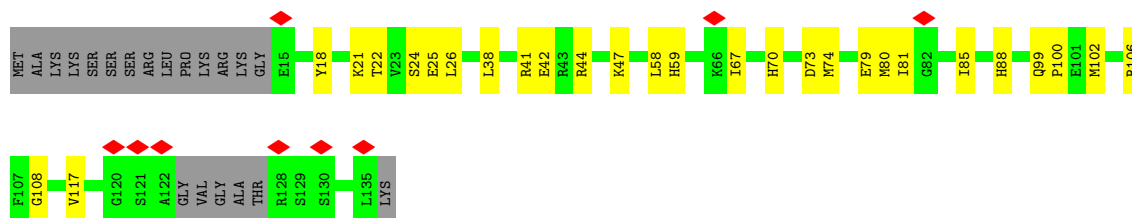
- Molecule 53: Small ribosomal subunit protein uS17A



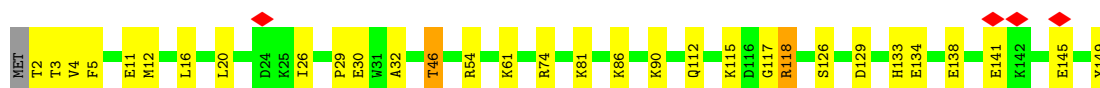
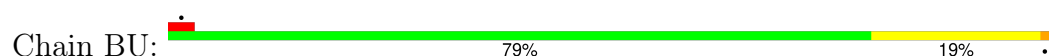
- Molecule 54: Small ribosomal subunit protein eS17



- Molecule 55: Small ribosomal subunit protein uS19



- Molecule 56: Small ribosomal subunit protein eS19

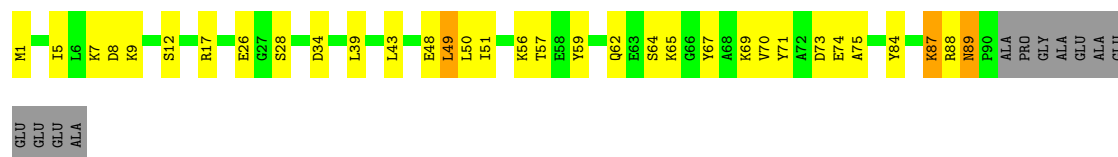


- Molecule 57: Putative zinc finger domain-containing protein

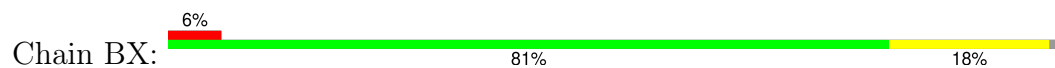


- Molecule 58: Small ribosomal subunit protein eS24

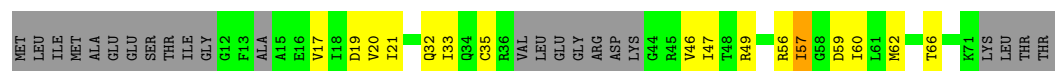




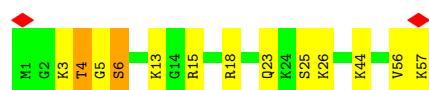
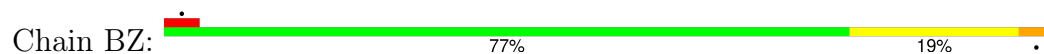
- Molecule 59: Small ribosomal subunit protein eS27



- Molecule 60: Small ribosomal subunit protein eS28



- Molecule 61: DUF5350 family protein



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	68687	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	40	Depositor
Minimum defocus (nm)	500	Depositor
Maximum defocus (nm)	1500	Depositor
Magnification	105000	Depositor
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	0.879	Depositor
Minimum map value	-0.222	Depositor
Average map value	-0.000	Depositor
Map value standard deviation	0.029	Depositor
Recommended contour level	0.1	Depositor
Map size (Å)	423.1168, 423.1168, 423.1168	wwPDB
Map dimensions	512, 512, 512	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.8264, 0.8264, 0.8264	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, 6MZ, 5MC, IAS, OMG, MA6, OMU, 5MU, 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	1	0.18	0/64866	0.34	0/101141
2	2	0.15	0/3011	0.31	0/4689
3	3	0.35	0/34071	0.36	0/53137
4	7	0.72	0/2019	1.25	0/2731
5	8	0.13	0/424	0.25	0/657
6	AA	0.16	0/1821	0.34	0/2462
7	AB	0.23	0/2632	0.40	0/3552
8	AC	0.20	0/1963	0.35	0/2654
9	AD	0.18	0/1261	0.39	0/1697
10	AE	0.24	0/1350	0.36	0/1816
11	AF	0.14	0/784	0.27	0/1055
12	AG	0.23	0/1107	0.36	0/1484
13	AH	0.19	0/1009	0.32	0/1355
14	AI	0.21	0/1061	0.41	0/1413
15	AJ	0.20	0/1616	0.37	0/2166
16	AK	0.14	0/1300	0.30	0/1741
17	AL	0.15	0/1367	0.31	0/1845
18	AM	0.16	0/966	0.33	0/1302
19	AN	0.17	0/1173	0.31	0/1558
20	AO	0.14	0/454	0.26	0/602
21	AP	0.16	0/779	0.31	0/1042
22	AQ	0.15	0/1169	0.34	0/1564
23	AR	0.13	0/647	0.30	0/864
24	AS	0.14	0/889	0.28	0/1189
25	AT	0.14	0/493	0.25	0/652
26	AU	0.15	0/517	0.30	0/695
27	AV	0.22	0/1258	0.37	0/1692
28	AW	0.15	0/610	0.38	0/825
29	AX	0.14	0/697	0.29	0/937
30	AY	0.24	0/997	0.42	0/1333
31	AZ	0.15	0/443	0.38	0/583
32	Aa	0.14	0/439	0.32	0/585

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
33	Ab	0.24	0/350	0.33	0/461
34	Ac	0.14	0/767	0.31	0/1017
35	Ad	0.14	0/712	0.32	0/950
36	BA	0.25	0/1453	0.41	0/1959
37	BB	0.20	0/1504	0.33	0/2045
38	BC	0.24	0/1102	0.42	0/1477
39	BD	0.31	0/1325	0.39	0/1779
40	BE	0.29	0/1822	0.38	0/2451
41	BF	0.27	0/1552	0.40	0/2105
42	BG	0.47	0/948	0.64	0/1273
43	BH	0.20	0/1380	0.33	0/1858
44	BI	0.36	0/996	0.42	0/1343
45	BJ	0.22	0/1013	0.39	0/1364
46	BK	0.29	0/962	0.31	0/1288
47	BL	0.24	0/549	0.36	0/744
48	BM	0.26	0/915	0.34	0/1230
49	BN	0.27	0/1071	0.31	0/1438
50	BO	0.21	0/1039	0.35	0/1396
51	BP	0.33	0/388	0.46	0/510
52	BQ	0.28	0/1227	0.32	0/1654
53	BR	0.31	0/846	0.43	0/1144
54	BS	0.22	0/481	0.43	0/645
55	BT	0.30	0/959	0.42	0/1279
56	BU	0.22	0/1177	0.37	0/1586
57	BV	0.22	0/402	0.35	0/539
58	BW	0.31	0/744	0.46	0/995
59	BX	0.23	0/479	0.33	0/645
60	BY	0.19	0/389	0.43	0/518
61	BZ	0.26	0/459	0.34	0/603
All	All	0.26	0/160204	0.38	0/237314

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	AC	0	1
42	BG	0	1
58	BW	0	1
All	All	0	3

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (3) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
8	AC	82	ARG	Sidechain
42	BG	15	ARG	Sidechain
58	BW	88	ARG	Sidechain

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	1	58043	0	29262	568	0
2	2	2697	0	1371	43	0
3	3	30541	0	15402	360	0
4	7	1995	0	2061	8	0
5	8	381	0	199	9	0
6	AA	1779	0	1804	20	0
7	AB	2583	0	2674	33	0
8	AC	1929	0	1989	24	0
9	AD	1241	0	1272	43	0
10	AE	1329	0	1375	16	0
11	AF	779	0	820	15	0
12	AG	1092	0	1142	17	0
13	AH	998	0	1059	17	0
14	AI	1048	0	1038	12	0
15	AJ	1584	0	1625	13	0
16	AK	1277	0	1318	19	0
17	AL	1341	0	1341	28	0
18	AM	953	0	1009	13	0
19	AN	1159	0	1233	17	0
20	AO	447	0	457	8	0
21	AP	765	0	777	4	0
22	AQ	1149	0	1186	11	0
23	AR	639	0	667	15	0
24	AS	880	0	935	13	0
25	AT	484	0	497	9	0
26	AU	515	0	524	9	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
27	AV	1236	0	1269	10	0
28	AW	605	0	643	26	0
29	AX	685	0	723	7	0
30	AY	981	0	1033	10	0
31	AZ	436	0	443	4	0
32	Aa	430	0	467	10	0
33	Ab	348	0	369	10	0
34	Ac	750	0	791	6	0
35	Ad	699	0	730	12	0
36	BA	1435	0	1483	49	0
37	BB	1476	0	1482	33	0
38	BC	1085	0	1098	37	0
39	BD	1303	0	1350	51	0
40	BE	1796	0	1878	46	0
41	BF	1527	0	1581	31	0
42	BG	935	0	988	17	0
43	BH	1363	0	1415	34	0
44	BI	980	0	1008	14	0
45	BJ	1001	0	1034	35	0
46	BK	954	0	1022	18	0
47	BL	538	0	564	17	0
48	BM	910	0	936	15	0
49	BN	1057	0	1104	10	0
50	BO	1025	0	1078	26	0
51	BP	382	0	384	10	0
52	BQ	1206	0	1280	32	0
53	BR	831	0	852	23	0
54	BS	476	0	499	30	0
55	BT	941	0	952	21	0
56	BU	1154	0	1185	29	0
57	BV	394	0	388	19	0
58	BW	736	0	769	29	0
59	BX	474	0	481	8	0
60	BY	389	0	397	11	0
61	BZ	452	0	502	10	0
62	1	236	0	0	0	0
62	2	2	0	0	0	0
62	3	64	0	0	0	0
62	7	1	0	0	0	0
62	AA	2	0	0	0	0
62	AB	2	0	0	0	0
62	AH	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
62	AI	2	0	0	0	0
62	AN	1	0	0	0	0
62	AZ	1	0	0	0	0
62	BF	1	0	0	0	0
62	BM	1	0	0	0	0
63	AT	1	0	0	0	0
63	AZ	1	0	0	0	0
63	Ab	1	0	0	0	0
63	Ac	1	0	0	0	0
63	Ad	1	0	0	0	0
63	BF	1	0	0	0	0
63	BP	1	0	0	0	0
63	BR	1	0	0	0	0
63	BV	2	0	0	0	0
63	BX	1	0	0	0	0
64	1	6124	0	0	120	0
64	2	109	0	0	4	0
64	3	2579	0	0	75	0
64	7	22	0	0	2	0
64	8	5	0	0	0	0
64	AA	80	0	0	0	0
64	AB	101	0	0	5	0
64	AC	100	0	0	4	0
64	AD	11	0	0	3	0
64	AE	20	0	0	0	0
64	AF	11	0	0	0	0
64	AG	55	0	0	4	0
64	AH	27	0	0	1	0
64	AI	54	0	0	1	0
64	AJ	77	0	0	3	0
64	AK	42	0	0	2	0
64	AL	24	0	0	2	0
64	AM	27	0	0	2	0
64	AN	57	0	0	3	0
64	AO	6	0	0	1	0
64	AP	41	0	0	0	0
64	AQ	31	0	0	3	0
64	AR	30	0	0	4	0
64	AS	28	0	0	1	0
64	AT	16	0	0	0	0
64	AU	13	0	0	0	0
64	AV	36	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
64	AW	9	0	0	0	0
64	AX	27	0	0	2	0
64	AY	34	0	0	2	0
64	AZ	27	0	0	0	0
64	Aa	23	0	0	5	0
64	Ab	7	0	0	2	0
64	Ac	36	0	0	2	0
64	Ad	24	0	0	2	0
64	BA	22	0	0	5	0
64	BB	8	0	0	2	0
64	BC	14	0	0	3	0
64	BD	36	0	0	13	0
64	BE	56	0	0	10	0
64	BF	38	0	0	5	0
64	BG	14	0	0	2	0
64	BH	22	0	0	6	0
64	BI	42	0	0	2	0
64	BJ	20	0	0	2	0
64	BK	29	0	0	1	0
64	BL	12	0	0	2	0
64	BM	27	0	0	2	0
64	BN	42	0	0	3	0
64	BO	19	0	0	2	0
64	BP	12	0	0	1	0
64	BQ	31	0	0	4	0
64	BR	36	0	0	6	0
64	BS	3	0	0	7	0
64	BT	22	0	0	4	0
64	BU	23	0	0	9	0
64	BV	9	0	0	4	0
64	BW	7	0	0	1	0
64	BX	7	0	0	3	0
64	BY	4	0	0	4	0
64	BZ	8	0	0	1	0
All	All	159419	0	105215	1904	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 8.

All (1904) 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)
43:BH:70:LYS:HD2	64:BH:218:HOH:O	1.31	1.31
1:1:360:G:H1'	64:1:4892:HOH:O	1.28	1.29
1:1:347:A:H4'	64:1:3900:HOH:O	1.33	1.24
3:3:916:C:H3'	64:3:2278:HOH:O	1.36	1.23
1:1:359:A:H3'	64:1:4380:HOH:O	1.46	1.15
1:1:1956:U:H5'	64:1:3746:HOH:O	1.44	1.13
9:AD:81:LYS:HE2	64:AD:203:HOH:O	1.47	1.11
1:1:531:G:H1'	64:1:3330:HOH:O	1.52	1.07
1:1:2120:G:H5''	64:1:3467:HOH:O	1.57	1.04
64:3:3883:HOH:O	54:BS:7:THR:HG22	1.60	1.01
52:BQ:112:LYS:HE2	64:BQ:216:HOH:O	1.60	1.01
29:AX:58:HIS:HE1	64:AX:114:HOH:O	1.46	0.97
15:AJ:23:GLU:OE1	15:AJ:23:GLU:N	1.99	0.95
55:BT:117:VAL:HG23	64:BT:203:HOH:O	1.66	0.94
11:AF:107:GLU:OE1	11:AF:107:GLU:N	2.00	0.93
3:3:909:G:H1	3:3:918:C:H5	1.17	0.93
28:AW:91:GLU:CD	52:BQ:42:LYS:NZ	2.27	0.92
36:BA:18:TRP:CE3	64:BA:305:HOH:O	2.21	0.92
33:Ab:3:ARG:HG2	33:Ab:8:GLU:OE1	1.70	0.92
39:BD:62:VAL:HG22	64:BD:320:HOH:O	1.71	0.91
36:BA:18:TRP:CD2	64:BA:305:HOH:O	2.23	0.91
28:AW:91:GLU:HG2	52:BQ:42:LYS:HZ1	1.34	0.90
3:3:1105:C:H5	3:3:1128:G:H1	1.16	0.88
3:3:888:G:H4'	64:3:3577:HOH:O	1.72	0.88
36:BA:77:ILE:HB	64:BA:309:HOH:O	1.73	0.88
3:3:623:G:H5'	64:3:1671:HOH:O	1.72	0.88
1:1:1649:C:H3'	64:1:7229:HOH:O	1.74	0.88
1:1:1649:C:H2'	64:1:7229:HOH:O	1.73	0.87
22:AQ:136:LYS:HE3	64:AQ:206:HOH:O	1.75	0.87
3:3:221:G:H2'	64:3:3288:HOH:O	1.73	0.86
22:AQ:136:LYS:CE	64:AQ:206:HOH:O	2.23	0.86
37:BB:64:TYR:CD2	64:BB:305:HOH:O	2.28	0.86
2:2:4:U:H3	2:2:124:G:H1	1.23	0.86
36:BA:74:VAL:HG13	64:BA:309:HOH:O	1.75	0.86
40:BE:26:THR:HG22	64:BE:331:HOH:O	1.76	0.86
1:1:1649:C:C3'	64:1:7229:HOH:O	2.24	0.85
3:3:908:G:H1	3:3:919:C:H5	1.18	0.85
28:AW:91:GLU:CG	52:BQ:42:LYS:NZ	2.40	0.85
1:1:1649:C:C2'	64:1:7229:HOH:O	2.25	0.85
2:2:21:U:H3	2:2:64:G:H1	1.23	0.85
3:3:395:U:H3'	64:3:2343:HOH:O	1.75	0.85
3:3:917:G:OP1	3:3:1178:G:N2	2.11	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
28:AW:91:GLU:HG2	52:BQ:42:LYS:NZ	1.93	0.84
64:3:2976:HOH:O	50:BO:98:LYS:HD3	1.78	0.84
39:BD:164:GLY:HA2	64:BD:323:HOH:O	1.76	0.83
3:3:386:G:N7	39:BD:36:ARG:NH2	2.27	0.83
64:3:3678:HOH:O	56:BU:90:LYS:HE3	1.76	0.83
54:BS:57:LYS:HE3	64:BS:103:HOH:O	1.79	0.83
3:3:886:G:OP1	43:BH:63:ARG:NH2	2.12	0.82
27:AV:82:TYR:O	27:AV:86:ASN:ND2	2.11	0.82
41:BF:7:TRP:NE1	41:BF:37:GLU:OE2	2.11	0.82
32:Aa:36:SER:HB2	64:Aa:109:HOH:O	1.80	0.82
28:AW:91:GLU:CD	52:BQ:42:LYS:HZ2	1.87	0.81
42:BG:22:LYS:HD2	42:BG:22:LYS:O	1.81	0.81
3:3:1128:G:H8	64:3:2531:HOH:O	1.64	0.81
39:BD:39:LYS:HE2	64:BD:308:HOH:O	1.79	0.81
64:3:3645:HOH:O	39:BD:2:ALA:HB3	1.80	0.80
36:BA:59:MET:HE1	36:BA:61:LYS:HG3	1.61	0.80
64:BN:205:HOH:O	61:BZ:3:LYS:HG2	1.83	0.79
33:Ab:8:GLU:OE2	33:Ab:12:LEU:HD12	1.80	0.79
3:3:663:G:OP1	36:BA:98:ARG:NH1	2.16	0.77
26:AU:42:GLU:OE2	26:AU:42:GLU:N	2.15	0.77
3:3:1273:C:OP1	56:BU:81:LYS:NZ	2.17	0.77
28:AW:91:GLU:CG	52:BQ:42:LYS:HZ1	1.98	0.77
33:Ab:18:MET:HE3	33:Ab:38:THR:HG22	1.66	0.77
39:BD:62:VAL:HG13	64:BD:320:HOH:O	1.84	0.77
54:BS:57:LYS:CE	64:BS:103:HOH:O	2.32	0.77
39:BD:92:LYS:HG2	39:BD:94:ASP:H	1.50	0.77
42:BG:102:ALA:H	42:BG:105:ILE:HD13	1.49	0.76
1:1:2066:G:N7	12:AG:87:LYS:NZ	2.33	0.76
3:3:1302:G:H5''	64:3:2975:HOH:O	1.84	0.76
8:AC:137:GLU:OE2	8:AC:137:GLU:N	2.14	0.76
1:1:2599:U:H2'	1:1:2600:U:H2'	1.67	0.76
64:3:2665:HOH:O	54:BS:60:ARG:HG2	1.85	0.76
1:1:131:G:H8	64:1:4327:HOH:O	1.69	0.76
1:1:128:G:H21	1:1:130:A:H61	1.35	0.75
1:1:1295:G:OP2	8:AC:178:ARG:NH2	2.19	0.75
3:3:423:A:H1'	64:3:3446:HOH:O	1.86	0.75
40:BE:228:ARG:NH1	40:BE:228:ARG:HB3	2.01	0.75
1:1:1610:U:H2'	64:1:3865:HOH:O	1.87	0.75
3:3:286:A:H5''	64:3:2930:HOH:O	1.86	0.75
1:1:598:A:N3	64:1:3304:HOH:O	2.20	0.75
3:3:1099:U:OP1	47:BL:69:HIS:ND1	2.19	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:AD:32:ILE:CD1	9:AD:118:MET:HE3	2.17	0.75
17:AL:43:ASN:ND2	17:AL:65:ASN:OD1	2.20	0.75
1:1:1480:A:N7	64:1:3305:HOH:O	2.20	0.74
42:BG:49:LYS:HB2	42:BG:114:GLU:HB3	1.67	0.74
43:BH:40:LYS:HE2	64:BH:220:HOH:O	1.86	0.74
1:1:640:A:H62	1:1:1343:A:H2	1.33	0.74
3:3:1306:C:N4	51:BP:12:VAL:O	2.20	0.74
4:7:166:ARG:HD3	4:7:170:ASP:OD2	1.87	0.74
47:BL:4:ALA:N	64:BL:201:HOH:O	2.21	0.74
55:BT:81:ILE:HD13	55:BT:100:PRO:HA	1.70	0.74
56:BU:133:HIS:CD2	64:BU:222:HOH:O	2.40	0.74
3:3:594:U:H2'	64:3:3046:HOH:O	1.88	0.74
3:3:892:A:H2'	3:3:893:G:C8	2.23	0.73
1:1:1506:G:N2	1:1:1652:C:O2	2.13	0.73
64:1:8947:HOH:O	14:AI:1:MET:CE	2.35	0.73
64:1:9388:HOH:O	23:AR:15:MET:HE2	1.87	0.73
64:3:3383:HOH:O	50:BO:98:LYS:HG3	1.88	0.73
1:1:429:A:OP1	15:AJ:49:ARG:NH2	2.19	0.73
19:AN:133:ARG:HD3	64:AN:348:HOH:O	1.89	0.72
1:1:2119:G:N2	1:1:2220:C:O2	2.14	0.72
3:3:697:G:OP2	52:BQ:124:ARG:NH2	2.22	0.72
3:3:938:G:N1	3:3:1159:A:OP2	2.16	0.72
1:1:1952:A:H2'	1:1:1953:A:C8	2.24	0.72
24:AS:34:GLU:OE1	24:AS:34:GLU:N	2.18	0.72
3:3:288:A:H5''	64:3:2126:HOH:O	1.89	0.72
38:BC:107:TRP:HB2	64:BC:406:HOH:O	1.90	0.71
1:1:1380:C:N4	64:1:3302:HOH:O	2.24	0.71
48:BM:66:LYS:HE3	64:BM:311:HOH:O	1.90	0.71
7:AB:124:GLU:OE1	7:AB:124:GLU:N	2.22	0.71
64:1:9388:HOH:O	23:AR:15:MET:CE	2.37	0.71
59:BX:19:ASP:HA	64:BX:202:HOH:O	1.90	0.71
3:3:1003:G:N3	64:3:1624:HOH:O	2.23	0.71
37:BB:105:GLN:OE1	37:BB:105:GLN:N	2.24	0.71
45:BJ:11:HIS:HD2	45:BJ:74:GLY:HA2	1.55	0.71
3:3:136:A:N3	64:3:1634:HOH:O	2.24	0.71
64:1:9178:HOH:O	12:AG:87:LYS:HD2	1.90	0.70
10:AE:88:MET:HE2	10:AE:170:ILE:HG22	1.72	0.70
3:3:488:G:N7	64:3:1636:HOH:O	2.24	0.70
64:1:8305:HOH:O	19:AN:66:LEU:HD22	1.89	0.70
1:1:994:U:H4'	64:1:3797:HOH:O	1.91	0.70
1:1:1481:C:H2'	1:1:1482:A:C8	2.26	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:3:560:C:H1'	39:BD:147:ILE:HD11	1.73	0.70
32:Aa:36:SER:CB	64:Aa:109:HOH:O	2.38	0.70
1:1:1366:A:H1'	64:1:6902:HOH:O	1.90	0.70
40:BE:92:GLU:OE2	40:BE:108:LYS:NZ	2.24	0.70
1:1:1861:A:H2'	1:1:1862:A:C8	2.26	0.70
1:1:1223:A:H4'	1:1:1224:A:H5''	1.73	0.69
3:3:787:G:N7	64:3:1637:HOH:O	2.24	0.69
53:BR:4:ASP:HB3	64:BR:304:HOH:O	1.93	0.69
1:1:374:C:HO2'	15:AJ:2:VAL:N	1.90	0.69
1:1:1979:U:O2'	1:1:1981:G:N7	2.24	0.69
1:1:2762:A:H1'	64:1:3348:HOH:O	1.91	0.69
3:3:1139:C:H5	64:3:3404:HOH:O	1.76	0.69
56:BU:115:LYS:HB2	64:BU:216:HOH:O	1.93	0.69
1:1:1468:G:N7	64:1:3342:HOH:O	2.25	0.69
1:1:2006:A:O2'	1:1:2007:G:OP1	2.08	0.69
1:1:2034:G:N2	64:1:3302:HOH:O	2.26	0.69
54:BS:4:ILE:HB	64:BS:102:HOH:O	1.91	0.69
1:1:654:G:OP1	8:AC:28:ARG:NH1	2.25	0.69
1:1:2801:U:O2'	1:1:2804:A:N3	2.26	0.69
1:1:1892:G:N7	64:1:3353:HOH:O	2.26	0.69
3:3:472:A:C6	38:BC:173:LEU:HD21	2.27	0.69
18:AM:27:ARG:NH1	64:AM:201:HOH:O	2.25	0.69
1:1:2074:G:H2'	1:1:2075:G:C8	2.27	0.68
37:BB:132:LEU:HB2	37:BB:160:GLU:HG2	1.75	0.68
40:BE:178:GLY:HA3	40:BE:216:TYR:CG	2.29	0.68
45:BJ:80:ARG:NH2	45:BJ:104:ASP:OD2	2.27	0.68
64:1:3769:HOH:O	23:AR:54:THR:HG21	1.92	0.68
15:AJ:70:ARG:HD3	15:AJ:128:LYS:HG3	1.74	0.68
41:BF:16:LEU:O	41:BF:18:VAL:N	2.27	0.68
38:BC:117:LEU:HD11	38:BC:148:ASP:HB2	1.73	0.68
60:BY:20:VAL:HA	60:BY:33:ILE:HG22	1.75	0.68
1:1:1478:A:OP1	1:1:1646:G:O2'	2.12	0.68
1:1:1515:C:O2	1:1:1647:G:N2	2.18	0.68
13:AH:115:ARG:O	13:AH:119:GLU:OE1	2.12	0.67
45:BJ:105:ARG:HE	45:BJ:109:VAL:HG21	1.57	0.67
47:BL:14:LYS:NZ	47:BL:15:ASP:OD1	2.27	0.67
9:AD:32:ILE:HD12	9:AD:71:PHE:HE2	1.60	0.67
37:BB:90:LEU:HD21	37:BB:147:ILE:HD11	1.75	0.67
3:3:1338:U:H2'	3:3:1339:G:C8	2.30	0.67
3:3:472:A:H8	64:3:3147:HOH:O	1.77	0.67
1:1:1040:A:H2'	1:1:1041:C:C6	2.29	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:2:123:A:N7	64:2:307:HOH:O	2.28	0.67
59:BX:21:GLU:HB2	64:BX:207:HOH:O	1.94	0.67
3:3:664:U:O4	36:BA:99:GLN:NE2	2.28	0.66
1:1:1125:A:H2'	1:1:1126:A:C8	2.31	0.66
3:3:601:G:H2'	3:3:602:G:C8	2.30	0.66
24:AS:70:VAL:HG22	24:AS:77:ILE:HG22	1.78	0.66
42:BG:23:ASP:OD1	42:BG:26:ALA:N	2.25	0.66
42:BG:25:GLU:HB3	42:BG:42:ILE:HG12	1.77	0.66
3:3:2:U:O2	41:BF:173:LYS:NZ	2.28	0.66
20:AO:11:GLY:HA2	20:AO:56:GLU:HG3	1.77	0.66
15:AJ:104:VAL:HG12	64:AJ:270:HOH:O	1.94	0.66
50:BO:73:GLU:OE1	50:BO:73:GLU:N	2.28	0.66
54:BS:4:ILE:N	64:BS:102:HOH:O	2.29	0.66
1:1:1263:U:H2'	1:1:1264:A:C8	2.31	0.66
3:3:709:A:N7	64:3:1669:HOH:O	2.28	0.66
29:AX:17:GLU:CD	29:AX:17:GLU:H	2.03	0.66
1:1:531:G:H2'	1:1:531:G:N3	2.11	0.66
64:3:1611:HOH:O	50:BO:49:ARG:NH2	2.26	0.66
48:BM:81:ASN:HB2	64:BM:315:HOH:O	1.95	0.66
1:1:1436:G:N7	64:1:3376:HOH:O	2.28	0.65
1:1:2089:C:H2'	1:1:2090:C:C6	2.31	0.65
1:1:2760:G:C8	64:1:4284:HOH:O	2.48	0.65
1:1:1263:U:H2'	1:1:1264:A:H8	1.62	0.65
11:AF:27:THR:HG21	11:AF:104:LYS:HD3	1.78	0.65
39:BD:125:THR:HG22	39:BD:127:ILE:H	1.60	0.65
1:1:2279:G:O6	21:AP:2:THR:N	2.29	0.65
40:BE:107:HIS:CD2	64:BE:317:HOH:O	2.48	0.65
60:BY:19:ASP:HA	60:BY:57:ILE:HD11	1.79	0.65
5:8:7:G:H22	5:8:67:U:H3	1.44	0.65
45:BJ:126:ARG:NE	64:BJ:202:HOH:O	2.29	0.65
54:BS:5:ARG:NH1	64:BS:101:HOH:O	2.25	0.65
3:3:764:U:HO2'	44:BI:2:VAL:N	1.95	0.65
40:BE:97:LEU:HD12	64:BE:317:HOH:O	1.96	0.65
40:BE:107:HIS:CG	64:BE:317:HOH:O	2.50	0.65
1:1:1210:G:H5'	64:1:8819:HOH:O	1.96	0.65
41:BF:87:GLN:OE1	64:BF:401:HOH:O	2.13	0.65
1:1:1811:U:H2'	1:1:1812:A:C8	2.32	0.65
1:1:2446:G:OP2	64:1:3301:HOH:O	2.15	0.65
1:1:1762:U:H5'	64:1:3755:HOH:O	1.97	0.65
16:AK:3:ARG:N	64:AK:201:HOH:O	2.30	0.65
41:BF:25:MET:HE3	41:BF:29:ILE:HG13	1.79	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
58:BW:48:GLU:H	58:BW:48:GLU:CD	2.04	0.65
64:1:3491:HOH:O	7:AB:21:LYS:HE2	1.97	0.64
1:1:1893:A:H2'	1:1:1894:A:C8	2.32	0.64
38:BC:18:ASP:OD1	38:BC:30:TYR:OH	2.13	0.64
1:1:1016:U:H2'	1:1:1017:C:C6	2.32	0.64
64:1:8287:HOH:O	32:Aa:5:MET:HE3	1.97	0.64
50:BO:24:VAL:HG21	50:BO:67:LEU:HG	1.79	0.64
3:3:854:A:OP1	49:BN:27:ARG:NH1	2.30	0.64
3:3:1410:U:H5'	64:3:3344:HOH:O	1.96	0.64
1:1:2566:U:H3	1:1:2572:G:H22	1.46	0.64
22:AQ:40:MET:HE3	22:AQ:44:GLU:HG2	1.78	0.64
37:BB:39:SER:OG	37:BB:42:GLU:OE1	2.15	0.64
64:1:7927:HOH:O	6:AA:221:PRO:HA	1.97	0.64
3:3:628:A:N6	3:3:644:A:O2'	2.31	0.64
3:3:662:U:OP2	36:BA:128:ARG:NH1	2.30	0.64
36:BA:155:GLU:O	36:BA:159:GLN:HG2	1.98	0.64
39:BD:39:LYS:CE	64:BD:308:HOH:O	2.41	0.64
9:AD:37:VAL:HG12	9:AD:61:VAL:HB	1.80	0.64
20:AO:14:LYS:HG2	64:AO:105:HOH:O	1.98	0.64
1:1:133:G:H2'	1:1:134:A:C8	2.33	0.63
39:BD:118:LEU:HD22	39:BD:126:VAL:HG13	1.80	0.63
1:1:2305:U:H2'	1:1:2306:U:C6	2.33	0.63
40:BE:228:ARG:HB3	40:BE:228:ARG:HH11	1.62	0.63
6:AA:75:ILE:HD11	6:AA:81:ILE:HD11	1.80	0.63
38:BC:194:LYS:O	54:BS:39:THR:OG1	2.15	0.63
52:BQ:144:GLU:OE2	52:BQ:144:GLU:N	2.28	0.63
56:BU:145:GLU:OE2	56:BU:145:GLU:N	2.26	0.63
40:BE:223:ASP:C	40:BE:224:LYS:HD3	2.24	0.63
56:BU:86:LYS:NZ	64:BU:202:HOH:O	2.31	0.63
3:3:33:U:H5'	61:BZ:15:ARG:HB3	1.81	0.63
3:3:881:A:H2'	3:3:882:C:C6	2.34	0.63
53:BR:50:GLU:OE2	53:BR:52:GLN:NE2	2.27	0.63
55:BT:67:ILE:HB	55:BT:85:ILE:HG13	1.80	0.63
1:1:2799:U:H4'	7:AB:117:PRO:HB3	1.81	0.63
55:BT:59:HIS:CA	64:BT:201:HOH:O	2.45	0.63
3:3:559:U:H3	39:BD:146:THR:HG22	1.64	0.63
3:3:1306:C:N4	51:BP:21:LYS:O	2.29	0.63
24:AS:28:MET:HE2	24:AS:70:VAL:HG13	1.81	0.63
56:BU:141:GLU:OE1	56:BU:141:GLU:N	2.24	0.63
38:BC:135:LYS:H	38:BC:141:SER:HA	1.63	0.62
56:BU:11:GLU:N	56:BU:11:GLU:OE2	2.31	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:AD:13:MET:HE2	9:AD:13:MET:HA	1.81	0.62
2:2:52:G:OP1	17:AL:152:ARG:NH1	2.31	0.62
1:1:131:G:C8	64:1:4327:HOH:O	2.48	0.62
1:1:201:G:H22	1:1:425:C:H5'	1.64	0.62
41:BF:50:ASP:HB3	41:BF:76:VAL:HG12	1.81	0.62
2:2:17:G:HO2'	17:AL:2:ALA:N	1.98	0.62
25:AT:20:LEU:HD11	25:AT:28:THR:HB	1.82	0.62
1:1:535:C:H5''	1:1:536:G:C8	2.35	0.62
12:AG:57:ARG:NH1	64:AG:203:HOH:O	2.32	0.62
53:BR:51:ARG:NH1	64:BR:303:HOH:O	2.32	0.62
1:1:89:G:N7	64:1:3415:HOH:O	2.31	0.62
1:1:417:A:H1'	1:1:1905:A:C2	2.35	0.62
1:1:667:U:H2'	1:1:668:U:C6	2.35	0.61
3:3:21:A:H1'	64:3:3898:HOH:O	2.00	0.61
13:AH:63:GLU:O	13:AH:67:GLN:NE2	2.29	0.61
16:AK:55:LYS:HB2	16:AK:129:PRO:HD3	1.82	0.61
24:AS:76:THR:HG22	64:AS:225:HOH:O	2.00	0.61
25:AT:48:ARG:HG2	25:AT:48:ARG:HH11	1.65	0.61
3:3:328:G:O2'	3:3:329:G:O4'	2.18	0.61
12:AG:70:LYS:HE3	64:AG:211:HOH:O	2.00	0.61
1:1:2467:U:C6	64:1:4231:HOH:O	2.51	0.61
3:3:654:G:H2'	3:3:655:G:C8	2.36	0.61
39:BD:145:ALA:HB1	39:BD:150:MET:HE1	1.82	0.61
1:1:1991:A:N6	64:1:3324:HOH:O	2.23	0.61
64:1:8035:HOH:O	19:AN:117:LYS:HD2	2.00	0.61
1:1:631:G:O2'	1:1:1346:A:OP1	2.18	0.61
17:AL:52:THR:OG1	17:AL:55:GLY:O	2.14	0.61
50:BO:71:PRO:HB2	50:BO:73:GLU:OE1	1.99	0.61
13:AH:96:VAL:HB	64:AH:301:HOH:O	2.00	0.61
1:1:72:G:H22	1:1:107:A:H2	1.49	0.61
1:1:1813:A:H5'	64:1:4494:HOH:O	2.01	0.61
1:1:2521:U:H5''	64:1:6501:HOH:O	1.99	0.61
58:BW:51:ILE:HD11	58:BW:69:LYS:HB2	1.83	0.61
7:AB:213:PRO:HD2	64:AB:540:HOH:O	2.01	0.61
1:1:247:U:H2'	1:1:248:C:C6	2.35	0.61
1:1:531:G:C1'	64:1:3330:HOH:O	2.23	0.61
3:3:435:G:N3	3:3:435:G:O2'	2.32	0.61
7:AB:98:ILE:HD11	7:AB:138:VAL:HG22	1.82	0.61
1:1:217:G:H5'	1:1:218:C:H5''	1.83	0.60
1:1:1208:A:H4'	64:1:4039:HOH:O	2.01	0.60
1:1:1639:G:N7	64:1:3417:HOH:O	2.31	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:3:1332:G:H2'	3:3:1333:C:C6	2.36	0.60
21:AP:17:LYS:HG3	21:AP:46:PRO:HG2	1.82	0.60
1:1:1866:C:O2'	1:1:1996:U:OP2	2.17	0.60
22:AQ:70:HIS:HA	22:AQ:76:ALA:O	2.01	0.60
48:BM:4:MET:HB3	48:BM:69:ASN:HD21	1.66	0.60
57:BV:6:VAL:HG23	57:BV:32:GLU:HG2	1.83	0.60
3:3:87:G:OP1	40:BE:21:LYS:NZ	2.31	0.60
38:BC:107:TRP:CG	64:BC:406:HOH:O	2.53	0.60
43:BH:48:LYS:NZ	43:BH:133:ASP:OD2	2.34	0.60
56:BU:12:MET:HE3	56:BU:16:LEU:HD11	1.82	0.60
1:1:1445:A:H2'	1:1:1446:A:C8	2.37	0.60
1:1:1652:C:H2'	1:1:1653:U:C6	2.36	0.60
2:2:122:A:H2'	2:2:123:A:C8	2.36	0.60
64:BI:215:HOH:O	57:BV:11:SER:HB3	2.00	0.60
45:BJ:42:ALA:O	45:BJ:46:ILE:HG13	2.01	0.60
2:2:30:U:H2'	2:2:31:C:C6	2.37	0.60
3:3:1149:G:N2	51:BP:39:GLU:OE1	2.32	0.60
36:BA:32:VAL:HB	36:BA:50:THR:HG21	1.82	0.60
42:BG:78:ALA:HB2	42:BG:91:ARG:HG3	1.84	0.60
55:BT:38:LEU:HD13	55:BT:42:GLU:HB3	1.84	0.60
1:1:247:U:H2'	1:1:248:C:H6	1.66	0.60
2:2:122:A:H2'	2:2:123:A:H8	1.66	0.60
3:3:717:G:N2	64:3:1720:HOH:O	2.34	0.60
3:3:1351:C:H2'	3:3:1352:G:C8	2.36	0.60
37:BB:192:ARG:NH1	37:BB:223:THR:OG1	2.35	0.60
53:BR:46:THR:HG23	53:BR:98:LYS:HD3	1.83	0.60
1:1:129:U:H4'	1:1:130:A:H5'	1.84	0.60
3:3:399:A:H2'	3:3:400:U:C6	2.36	0.60
3:3:1118:A:OP1	54:BS:5:ARG:HG2	2.01	0.60
3:3:357:U:O2'	40:BE:22:TRP:O	2.20	0.60
40:BE:227:ILE:CG2	64:BE:316:HOH:O	2.49	0.60
58:BW:8:ASP:OD2	58:BW:17:ARG:NH2	2.34	0.60
60:BY:17:VAL:HG22	60:BY:59:ASP:H	1.66	0.60
1:1:1501:A:H2'	1:1:1502:U:C6	2.37	0.60
9:AD:28:ILE:HG13	9:AD:107:MET:HE1	1.84	0.60
40:BE:97:LEU:CD1	64:BE:317:HOH:O	2.50	0.60
1:1:697:A:N6	14:AI:73:ASP:OD2	2.31	0.59
3:3:1351:C:H5	64:3:3962:HOH:O	1.84	0.59
5:8:71:G:H2'	5:8:72:G:C8	2.38	0.59
36:BA:113:ASP:OD1	36:BA:113:ASP:N	2.14	0.59
37:BB:104:ARG:NH2	37:BB:150:ASP:OD2	2.33	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:BF:199:ARG:NH1	57:BV:12:CYS:O	2.34	0.59
43:BH:26:TYR:CD2	43:BH:128:PRO:HB2	2.38	0.59
3:3:12:U:H2'	3:3:13:C:C6	2.37	0.59
3:3:1069:A:H2'	3:3:1070:G:H8	1.67	0.59
28:AW:40:VAL:HG11	28:AW:54:ILE:HD13	1.84	0.59
1:1:1614:A:N6	64:1:3472:HOH:O	2.34	0.59
41:BF:200:LEU:HB3	41:BF:205:GLY:HA2	1.83	0.59
3:3:669:A:H2'	3:3:670:A:C8	2.37	0.59
1:1:2804:A:H2'	1:1:2805:A:C8	2.37	0.59
3:3:397:A:O2'	3:3:398:U:O4'	2.20	0.59
9:AD:13:MET:HE1	9:AD:118:MET:SD	2.43	0.59
1:1:138:U:H5	64:1:6802:HOH:O	1.83	0.59
11:AF:108:MET:O	11:AF:112:ILE:HG13	2.03	0.59
1:1:2341:A:H2'	1:1:2342:A:C8	2.38	0.59
37:BB:49:HIS:HB3	37:BB:76:ILE:HD11	1.85	0.59
45:BJ:40:GLU:OE1	45:BJ:40:GLU:N	2.27	0.59
47:BL:46:VAL:HG22	47:BL:65:GLU:HG3	1.84	0.59
1:1:1574:G:C8	28:AW:27:ARG:HD3	2.37	0.59
3:3:25:U:H2'	3:3:26:A:C8	2.37	0.59
2:2:50:C:H4'	17:AL:142:ARG:HH21	1.68	0.59
3:3:128:A:H5''	64:3:2494:HOH:O	2.03	0.59
40:BE:119:ARG:HD2	40:BE:218:ILE:HD13	1.84	0.59
64:1:8719:HOH:O	31:AZ:10:LYS:HE3	2.01	0.58
5:8:5:A:H61	5:8:69:U:H3	1.51	0.58
45:BJ:58:VAL:HA	45:BJ:61:LEU:HD12	1.85	0.58
57:BV:26:CYS:HB3	57:BV:30:GLY:H	1.67	0.58
1:1:359:A:C3'	64:1:4380:HOH:O	2.24	0.58
1:1:605:G:O2'	1:1:1312:G:OP1	2.18	0.58
1:1:698:U:OP1	14:AI:109:ARG:NH1	2.36	0.58
1:1:954:G:H2'	1:1:955:C:C6	2.38	0.58
1:1:2099:U:H2'	1:1:2100:U:C6	2.37	0.58
64:1:8106:HOH:O	16:AK:115:ARG:HD3	2.02	0.58
16:AK:38:ASP:OD1	16:AK:41:ASN:HB2	2.03	0.58
26:AU:27:GLU:O	26:AU:31:GLU:HG2	2.03	0.58
1:1:2606:C:H2'	1:1:2607:G:C8	2.38	0.58
7:AB:169:ALA:HB3	7:AB:175:LYS:HG3	1.85	0.58
37:BB:85:VAL:HG13	57:BV:27:PRO:HB2	1.86	0.58
52:BQ:24:GLU:H	52:BQ:24:GLU:CD	2.12	0.58
1:1:1582:U:OP2	19:AN:124:TYR:OH	2.20	0.58
64:3:2889:HOH:O	61:BZ:26:LYS:HE2	2.02	0.58
15:AJ:192:LYS:NZ	64:AJ:203:HOH:O	2.35	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
55:BT:59:HIS:N	64:BT:201:HOH:O	2.37	0.58
3:3:1096:C:H2'	3:3:1097:U:H6	1.67	0.58
1:1:2305:U:OP1	1:1:2397:U:O2'	2.22	0.58
9:AD:26:GLU:OE1	9:AD:39:ARG:NH1	2.37	0.58
36:BA:57:ASN:HD22	36:BA:59:MET:HE2	1.68	0.58
53:BR:53:TYR:CE1	64:BR:305:HOH:O	2.52	0.58
56:BU:29:PRO:HD2	56:BU:32:ALA:HB2	1.84	0.58
1:1:727:U:H2'	1:1:728:A:C8	2.39	0.58
1:1:1502:U:H2'	1:1:1503:U:C6	2.39	0.58
18:AM:49:ASN:HB2	64:AM:206:HOH:O	2.04	0.58
1:1:1501:A:H2'	1:1:1502:U:H6	1.69	0.58
25:AT:23:LYS:HG3	25:AT:29:TYR:HE1	1.67	0.58
39:BD:110:GLU:OE2	39:BD:119:ARG:NH2	2.31	0.58
40:BE:35:ARG:NH2	40:BE:102:GLY:O	2.31	0.58
60:BY:21:ILE:HB	60:BY:32:GLN:HG2	1.85	0.58
1:1:635:C:H2'	1:1:636:A:H8	1.68	0.58
1:1:2342:A:H2'	1:1:2343:G:C8	2.38	0.58
1:1:1502:U:H2'	1:1:1503:U:H6	1.68	0.58
1:1:1524:C:H5'	64:1:5061:HOH:O	2.03	0.58
1:1:2096:A:H2'	1:1:2097:G:C8	2.39	0.58
1:1:2229:G:N2	1:1:2232:A:OP2	2.35	0.58
1:1:270:G:H1	1:1:408:U:H3	1.51	0.57
1:1:1081:G:OP2	27:AV:9:GLY:HA3	2.04	0.57
3:3:995:U:H5'	38:BC:141:SER:HB3	1.85	0.57
51:BP:10:ARG:NH1	64:BP:201:HOH:O	2.37	0.57
54:BS:56:ARG:O	54:BS:60:ARG:HD2	2.04	0.57
36:BA:162:ILE:HG22	36:BA:163:LEU:HD13	1.86	0.57
39:BD:147:ILE:HG13	39:BD:150:MET:HE2	1.86	0.57
3:3:1253:A:N6	3:3:1278:G:O2'	2.37	0.57
37:BB:187:THR:OG1	37:BB:188:ASN:N	2.37	0.57
46:BK:68:ASP:HB2	46:BK:70:LYS:NZ	2.19	0.57
1:1:187:A:OP1	15:AJ:162:ARG:NH2	2.38	0.57
1:1:1520:G:H2'	1:1:1521:U:C6	2.39	0.57
52:BQ:144:GLU:H	52:BQ:144:GLU:CD	2.12	0.57
53:BR:43:MET:HG3	53:BR:46:THR:HB	1.86	0.57
1:1:1500:C:H2'	1:1:1501:A:H8	1.70	0.57
3:3:1468:G:H2'	3:3:1469:A:C8	2.40	0.57
5:8:7:G:H1	5:8:67:U:H3	1.53	0.57
28:AW:42:LEU:HD13	28:AW:51:LYS:HG2	1.86	0.57
29:AX:53:LYS:O	29:AX:57:GLU:HG3	2.05	0.57
3:3:73:G:O2'	3:3:74:A:H5'	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
39:BD:143:ARG:NH1	58:BW:59:TYR:O	2.38	0.57
55:BT:79:GLU:OE1	55:BT:79:GLU:N	2.38	0.57
4:7:55:ASP:HA	64:7:402:HOH:O	2.05	0.57
38:BC:196:ARG:HD3	64:BC:412:HOH:O	2.04	0.57
52:BQ:28:ILE:HG23	52:BQ:32:GLU:OE1	2.04	0.57
1:1:2462:G:O4'	1:1:2516:5MC:HM52	2.04	0.57
40:BE:30:PRO:HD2	40:BE:78:PRO:HG2	1.87	0.57
44:BI:66:VAL:HG23	44:BI:68:ARG:HG3	1.86	0.57
1:1:1230:A:H2'	64:1:6661:HOH:O	2.04	0.57
1:1:1950:U:H2'	1:1:1951:U:H6	1.67	0.57
1:1:2394:A:H2'	1:1:2395:A:C8	2.39	0.57
3:3:407:U:H2'	3:3:408:G:C8	2.38	0.57
19:AN:91:LYS:NZ	64:AN:304:HOH:O	2.35	0.57
64:3:2706:HOH:O	47:BL:42:THR:HG21	2.05	0.56
64:3:3883:HOH:O	54:BS:7:THR:CG2	2.33	0.56
3:3:1091:G:N2	3:3:1093:A:H62	2.02	0.56
2:2:67:C:H4'	2:2:68:G:H5'	1.88	0.56
3:3:178:U:OP1	40:BE:127:LYS:NZ	2.38	0.56
37:BB:64:TYR:CE2	64:BB:305:HOH:O	2.54	0.56
47:BL:5:ARG:HD3	47:BL:7:ARG:HH12	1.70	0.56
3:3:902:U:O2	3:3:906:U:H5	1.88	0.56
3:3:1057:C:H1'	3:3:1126:A:C4	2.40	0.56
9:AD:24:ASN:HB3	9:AD:113:ILE:HG23	1.88	0.56
33:Ab:19:LYS:NZ	64:Ab:202:HOH:O	2.38	0.56
43:BH:12:ASP:OD1	43:BH:14:THR:OG1	2.21	0.56
55:BT:22:THR:HG22	55:BT:24:SER:H	1.70	0.56
1:1:2090:C:H2'	1:1:2091:C:C6	2.41	0.56
3:3:892:A:H2'	3:3:893:G:H8	1.68	0.56
40:BE:178:GLY:O	40:BE:182:SER:OG	2.23	0.56
1:1:805:G:H4'	64:1:3380:HOH:O	2.06	0.56
1:1:2306:U:H2'	1:1:2307:G:C8	2.41	0.56
64:1:6856:HOH:O	30:AY:38:ARG:HG3	2.04	0.56
13:AH:32:ILE:HD11	13:AH:56:SER:HB3	1.87	0.56
16:AK:16:SER:OG	16:AK:93:GLU:OE2	2.19	0.56
18:AM:62:THR:HG21	18:AM:68:LEU:HD11	1.88	0.56
50:BO:26:ILE:HG22	50:BO:27:MET:HG2	1.88	0.56
1:1:635:C:H2'	1:1:636:A:C8	2.40	0.56
7:AB:337:GLY:C	64:AB:510:HOH:O	2.47	0.56
9:AD:107:MET:HB3	64:AD:211:HOH:O	2.06	0.56
1:1:1887:U:P	64:1:3791:HOH:O	2.63	0.56
37:BB:215:ASN:OD1	37:BB:215:ASN:N	2.38	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:BF:11:THR:OG1	41:BF:37:GLU:OE1	2.18	0.56
54:BS:4:ILE:CA	64:BS:102:HOH:O	2.54	0.56
1:1:364:G:N7	64:1:3603:HOH:O	2.39	0.56
1:1:1557:A:H2'	1:1:1558:A:C8	2.41	0.56
3:3:1188:G:H2'	3:3:1189:A:H8	1.70	0.56
7:AB:263:GLU:HG3	7:AB:302:PRO:HD3	1.88	0.56
9:AD:32:ILE:HG13	9:AD:33:THR:N	2.21	0.56
43:BH:56:ARG:NH2	43:BH:133:ASP:OD1	2.37	0.56
54:BS:39:THR:HG23	54:BS:41:ILE:HG12	1.87	0.56
1:1:878:A:C5	31:AZ:8:MET:HE1	2.40	0.56
1:1:1653:U:H2'	1:1:1654:A:C8	2.40	0.56
1:1:2306:U:H2'	1:1:2307:G:H8	1.71	0.56
3:3:663:G:O3'	3:3:664:U:H2'	2.06	0.56
26:AU:12:MET:HE1	26:AU:20:GLU:HG3	1.88	0.56
28:AW:10:LYS:H	28:AW:10:LYS:HD3	1.70	0.56
48:BM:80:GLY:HA2	48:BM:114:PRO:HD3	1.87	0.56
1:1:1893:A:H2'	1:1:1894:A:H8	1.71	0.55
9:AD:32:ILE:HD11	9:AD:118:MET:HE3	1.87	0.55
36:BA:95:ILE:O	36:BA:181:ARG:NH2	2.39	0.55
37:BB:77:GLN:OE1	37:BB:77:GLN:N	2.31	0.55
45:BJ:35:GLU:HG2	56:BU:145:GLU:HB2	1.87	0.55
47:BL:32:VAL:HG12	47:BL:33:ASN:H	1.71	0.55
56:BU:133:HIS:HD2	64:BU:222:HOH:O	1.85	0.55
46:BK:33:GLU:HB2	46:BK:93:ILE:HD12	1.88	0.55
50:BO:61:VAL:HG21	50:BO:70:LEU:HD21	1.88	0.55
1:1:1945:C:H2'	1:1:1946:C:C6	2.41	0.55
4:7:42:MET:HE1	4:7:67:LEU:HD11	1.87	0.55
40:BE:107:HIS:HB3	40:BE:229:LEU:HG	1.88	0.55
54:BS:5:ARG:O	54:BS:9:ILE:HB	2.06	0.55
57:BV:22:VAL:HG22	57:BV:40:ARG:HD2	1.88	0.55
1:1:1578:G:H2'	1:1:1579:C:C6	2.42	0.55
7:AB:37:PRO:HA	7:AB:168:SER:O	2.07	0.55
39:BD:19:GLN:O	39:BD:23:MET:HG3	2.06	0.55
60:BY:62:MET:HB2	64:BY:102:HOH:O	2.06	0.55
1:1:767:G:H2'	1:1:768:G:C8	2.42	0.55
3:3:1253:A:H61	3:3:1278:G:H1'	1.72	0.55
9:AD:83:LEU:HD13	9:AD:94:VAL:HG21	1.88	0.55
21:AP:18:THR:OG1	21:AP:21:GLU:OE1	2.17	0.55
1:1:1934:G:H2'	1:1:1935:G:C8	2.41	0.55
3:3:173:A:O2'	3:3:174:A:OP1	2.22	0.55
3:3:1130:U:H3'	3:3:1131:G:H5''	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
17:AL:166:LYS:HZ3	17:AL:170:PHE:HE2	1.55	0.55
28:AW:47:PRO:HG2	28:AW:50:ILE:HD12	1.87	0.55
1:1:613:U:OP2	12:AG:88:ARG:NH1	2.39	0.55
64:3:2636:HOH:O	48:BM:44:ARG:HB2	2.07	0.55
24:AS:39:GLU:HG2	24:AS:40:TYR:CD2	2.41	0.55
27:AV:1:MET:N	27:AV:37:GLU:OE2	2.31	0.55
1:1:1652:C:H2'	1:1:1653:U:H6	1.72	0.55
3:3:765:C:OP1	52:BQ:2:ALA:HB2	2.06	0.55
40:BE:192:ARG:NE	40:BE:203:MET:HE1	2.22	0.55
1:1:1653:U:H2'	1:1:1654:A:H8	1.72	0.55
3:3:593:U:O4	3:3:693:G:O2'	2.22	0.55
1:1:120:A:N1	64:1:3435:HOH:O	2.32	0.55
39:BD:15:LYS:HE2	64:BD:334:HOH:O	2.07	0.55
10:AE:30:LYS:HB3	10:AE:140:ILE:HG22	1.89	0.54
38:BC:98:ARG:O	38:BC:102:SER:OG	2.24	0.54
43:BH:63:ARG:O	43:BH:64:THR:OG1	2.18	0.54
56:BU:20:LEU:HD22	56:BU:26:ILE:HG12	1.87	0.54
1:1:1529:C:H2'	1:1:1530:A:C8	2.42	0.54
1:1:2367:U:H2'	1:1:2368:C:C6	2.42	0.54
1:1:2606:C:H2'	1:1:2607:G:H8	1.73	0.54
3:3:241:U:H2'	3:3:242:G:C8	2.42	0.54
3:3:1010:C:H2'	3:3:1011:G:H8	1.70	0.54
8:AC:170:ARG:NH2	8:AC:193:LYS:O	2.40	0.54
44:BI:90:GLU:OE1	44:BI:117:ARG:NH2	2.40	0.54
1:1:36:U:H2'	1:1:37:C:C6	2.43	0.54
1:1:2835:A:H2'	1:1:2836:A:C8	2.42	0.54
3:3:710:G:H4'	3:3:1451:A:H4'	1.89	0.54
1:1:627:G:O2'	1:1:629:A:OP1	2.25	0.54
3:3:1185:A:H2	3:3:1188:G:N3	2.06	0.54
3:3:1359:C:H2'	3:3:1360:A:C8	2.43	0.54
11:AF:111:ASP:O	11:AF:115:LYS:HG3	2.06	0.54
36:BA:109:VAL:HG11	36:BA:145:VAL:HG12	1.88	0.54
40:BE:14:LYS:HD3	64:BE:304:HOH:O	2.07	0.54
57:BV:6:VAL:HG12	64:BV:206:HOH:O	2.07	0.54
1:1:2083:G:H5''	64:1:4245:HOH:O	2.08	0.54
3:3:1080:C:H4'	3:3:1081:G:O5'	2.07	0.54
14:AI:96:LEU:HD11	14:AI:104:VAL:HG22	1.90	0.54
24:AS:83:ILE:HD12	24:AS:91:GLU:HG2	1.89	0.54
45:BJ:33:PRO:HG2	45:BJ:36:LEU:HD12	1.88	0.54
1:1:2366:U:H2'	1:1:2367:U:C6	2.43	0.54
7:AB:131:LYS:HB2	7:AB:131:LYS:NZ	2.23	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AB:173:GLY:O	7:AB:177:GLU:HG2	2.08	0.54
1:1:1450:G:H2'	1:1:1451:U:C6	2.42	0.54
3:3:473:A:O2'	3:3:475:A:OP2	2.22	0.54
3:3:619:U:H2'	3:3:620:A:C8	2.42	0.54
3:3:698:U:H2'	3:3:699:G:O4'	2.08	0.54
32:Aa:47:SER:OG	64:Aa:101:HOH:O	2.18	0.54
42:BG:120:ILE:HA	42:BG:123:LEU:HD12	1.89	0.54
1:1:1331:C:OP2	8:AC:183:LYS:NZ	2.40	0.54
1:1:2714:U:H2'	1:1:2715:C:C6	2.43	0.54
23:AR:20:ASN:ND2	23:AR:68:GLU:O	2.39	0.54
55:BT:59:HIS:HA	64:BT:201:HOH:O	2.04	0.54
38:BC:152:LYS:O	38:BC:181:ARG:NH2	2.39	0.54
43:BH:46:PHE:CE2	60:BY:56:ARG:HG3	2.43	0.54
45:BJ:94:THR:HA	45:BJ:97:ARG:NH1	2.23	0.54
1:1:1136:A:H2'	1:1:1137:A:H8	1.73	0.53
1:1:2089:C:H2'	1:1:2090:C:H6	1.72	0.53
1:1:813:G:O6	19:AN:91:LYS:NZ	2.30	0.53
1:1:1136:A:H2'	1:1:1137:A:C8	2.43	0.53
1:1:1210:G:C5'	64:1:8819:HOH:O	2.55	0.53
1:1:2090:C:H2'	1:1:2091:C:H6	1.73	0.53
1:1:2798:C:H2'	1:1:2799:U:C6	2.43	0.53
3:3:400:U:H2'	3:3:401:G:H8	1.73	0.53
3:3:810:A:H2'	3:3:811:G:C8	2.43	0.53
13:AH:4:MET:SD	13:AH:116:GLU:HB3	2.48	0.53
20:AO:12:LYS:NZ	20:AO:56:GLU:OE2	2.42	0.53
39:BD:52:ARG:HD3	64:BD:332:HOH:O	2.08	0.53
45:BJ:40:GLU:O	45:BJ:44:MET:HG2	2.08	0.53
1:1:615:U:H2'	1:1:616:U:H5'	1.89	0.53
1:1:2412:U:H2'	1:1:2413:U:C6	2.43	0.53
3:3:872:G:H2'	3:3:873:G:H5'	1.89	0.53
3:3:1234:A:H2'	3:3:1235:A:C8	2.43	0.53
64:AC:325:HOH:O	24:AS:9:PRO:HD2	2.09	0.53
36:BA:22:GLU:OE2	36:BA:29:ARG:HB3	2.08	0.53
1:1:303:A:N3	1:1:324:C:O2'	2.39	0.53
3:3:1086:G:H4'	3:3:1087:A:H5'	1.90	0.53
6:AA:163:SER:HB3	35:Ad:77:THR:HG21	1.89	0.53
17:AL:166:LYS:NZ	17:AL:170:PHE:HE2	2.06	0.53
2:2:89:U:H2'	27:AV:129:LYS:HE3	1.89	0.53
40:BE:32:SER:O	40:BE:36:SER:OG	2.24	0.53
41:BF:71:ARG:HD2	64:BF:414:HOH:O	2.07	0.53
64:1:8936:HOH:O	21:AP:14:LYS:HE2	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:3:872:G:C2'	3:3:873:G:H5'	2.39	0.53
3:3:1270:G:H2'	3:3:1271:C:C6	2.44	0.53
37:BB:171:LEU:HD23	37:BB:185:ILE:HB	1.91	0.53
43:BH:58:ALA:O	43:BH:74:THR:HG21	2.08	0.53
45:BJ:65:VAL:HG11	45:BJ:79:VAL:HG13	1.90	0.53
3:3:16:G:H2'	3:3:17:C:C6	2.44	0.53
17:AL:45:GLN:HB3	17:AL:63:VAL:HG13	1.90	0.53
28:AW:8:VAL:HG12	28:AW:10:LYS:HE2	1.89	0.53
1:1:2894:C:H2'	1:1:2895:C:C6	2.44	0.53
3:3:689:G:H5''	52:BQ:14:SER:HB3	1.91	0.53
3:3:1062:U:H2'	3:3:1063:G:C8	2.44	0.53
64:3:3645:HOH:O	39:BD:2:ALA:CB	2.49	0.53
7:AB:137:ARG:HD3	64:AB:508:HOH:O	2.09	0.53
1:1:803:A:H2'	1:1:804:A:C8	2.44	0.53
1:1:1520:G:H2'	1:1:1521:U:H6	1.73	0.53
3:3:485:C:O2'	3:3:489:U:OP1	2.26	0.53
3:3:1105:C:H5	3:3:1128:G:N1	1.96	0.53
44:BI:42:GLN:HE21	44:BI:49:ASP:HA	1.73	0.53
1:1:1462:G:H2'	1:1:1463:A:C8	2.44	0.53
7:AB:305:SER:O	7:AB:305:SER:OG	2.24	0.53
1:1:1264:A:H2'	1:1:1265:C:C6	2.44	0.52
1:1:1506:G:N1	1:1:1652:C:N3	2.37	0.52
13:AH:115:ARG:HG2	13:AH:119:GLU:OE1	2.09	0.52
47:BL:37:PRO:HG3	47:BL:73:ILE:HD11	1.90	0.52
1:1:1300:G:OP1	30:AY:107:LYS:NZ	2.40	0.52
1:1:2319:U:C5	9:AD:97:GLY:HA3	2.44	0.52
3:3:1065:U:P	47:BL:5:ARG:HH22	2.32	0.52
3:3:1073:U:H2'	3:3:1074:G:H8	1.73	0.52
9:AD:101:HIS:CE1	9:AD:115:VAL:HA	2.44	0.52
38:BC:114:HIS:O	38:BC:118:ARG:HG2	2.08	0.52
1:1:1500:C:H2'	1:1:1501:A:C8	2.44	0.52
3:3:1444:U:H3'	64:3:2495:HOH:O	2.08	0.52
26:AU:14:ILE:HG12	26:AU:66:GLU:OE2	2.09	0.52
45:BJ:133:TYR:O	45:BJ:134:ARG:HD2	2.08	0.52
1:1:1554:U:O2'	1:1:1618:G:O2'	2.17	0.52
2:2:123:A:H2'	2:2:124:G:C8	2.44	0.52
3:3:1082:G:N7	64:3:1722:HOH:O	2.34	0.52
3:3:1424:G:H2'	3:3:1425:G:C8	2.44	0.52
35:Ad:13:ARG:HD2	35:Ad:35:GLU:OE2	2.10	0.52
38:BC:21:PHE:HB2	38:BC:30:TYR:HE1	1.74	0.52
40:BE:192:ARG:HE	40:BE:203:MET:HE1	1.73	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:151:A:H2'	1:1:152:C:C6	2.45	0.52
1:1:496:A:H2'	1:1:497:G:O4'	2.10	0.52
1:1:576:G:N2	1:1:579:A:OP2	2.37	0.52
1:1:753:U:OP1	14:AI:26:ARG:HD2	2.10	0.52
1:1:1235:G:H5'	12:AG:79:THR:HG23	1.92	0.52
7:AB:85:ILE:HD12	7:AB:179:SER:HB2	1.90	0.52
10:AE:97:MET:HE3	10:AE:108:ILE:HG23	1.92	0.52
23:AR:63:VAL:HG23	64:AR:120:HOH:O	2.09	0.52
50:BO:108:LEU:HD13	50:BO:116:THR:HG21	1.92	0.52
1:1:1711:C:O2	64:1:3302:HOH:O	2.16	0.52
3:3:409:U:H1'	39:BD:134:THR:HG22	1.90	0.52
25:AT:6:CYS:HB2	25:AT:32:CYS:HB3	1.92	0.52
1:1:2396:G:H2'	1:1:2397:U:C6	2.45	0.52
3:3:906:U:O2	3:3:1169:G:O2'	2.19	0.52
3:3:1139:C:C5	64:3:3404:HOH:O	2.54	0.52
3:3:1356:A:H2'	3:3:1357:A:C8	2.44	0.52
16:AK:36:MET:SD	16:AK:85:MET:HE3	2.50	0.52
36:BA:39:ASP:OD1	36:BA:42:LEU:HD13	2.10	0.52
1:1:128:G:H21	1:1:130:A:N6	2.04	0.52
3:3:763:C:H5''	64:3:4008:HOH:O	2.09	0.52
3:3:882:C:H2'	3:3:883:A:H8	1.73	0.52
3:3:923:C:N4	3:3:1171:U:O5'	2.43	0.52
3:3:1069:A:H2'	3:3:1070:G:C8	2.44	0.52
43:BH:41:HIS:HB2	43:BH:48:LYS:HA	1.92	0.52
54:BS:22:ASP:OD1	54:BS:22:ASP:N	2.37	0.52
1:1:133:G:H2'	1:1:134:A:H8	1.72	0.52
44:BI:57:LYS:HE3	59:BX:6:GLN:OE1	2.10	0.52
52:BQ:87:ASP:OD1	52:BQ:87:ASP:N	2.42	0.52
56:BU:61:LYS:NZ	64:BU:205:HOH:O	2.38	0.52
1:1:239:A:C2	1:1:376:U:H4'	2.45	0.51
1:1:1040:A:H2'	1:1:1041:C:H6	1.75	0.51
1:1:1529:C:H5	64:1:8591:HOH:O	1.93	0.51
3:3:1393:C:N4	42:BG:80:GLY:O	2.43	0.51
13:AH:79:GLU:HG3	13:AH:89:SER:HB3	1.90	0.51
39:BD:120:LEU:HD13	64:BD:301:HOH:O	2.08	0.51
40:BE:175:MET:HG3	40:BE:185:THR:HG23	1.92	0.51
53:BR:18:ASP:OD1	53:BR:20:TYR:N	2.29	0.51
57:BV:5:LYS:HD3	57:BV:32:GLU:OE1	2.10	0.51
3:3:295:A:H5''	46:BK:20:ARG:HB3	1.92	0.51
43:BH:22:GLY:O	43:BH:128:PRO:HB3	2.11	0.51
46:BK:55:LEU:HB2	46:BK:117:GLY:HA2	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:BQ:27:LYS:NZ	64:BQ:201:HOH:O	2.25	0.51
57:BV:29:CYS:SG	57:BV:30:GLY:N	2.83	0.51
1:1:1661:C:H4'	32:Aa:6:LYS:HB2	1.92	0.51
1:1:2319:U:O4	9:AD:118:MET:N	2.44	0.51
2:2:99:U:H2'	2:2:100:U:C6	2.45	0.51
3:3:891:G:C2	3:3:892:A:C8	2.98	0.51
3:3:1010:C:H2'	3:3:1011:G:C8	2.45	0.51
16:AK:70:ALA:HB2	16:AK:153:ALA:HB2	1.92	0.51
35:Ad:24:ARG:HD2	64:Ad:223:HOH:O	2.10	0.51
47:BL:22:GLN:HB2	64:BL:203:HOH:O	2.10	0.51
1:1:1078:C:O2'	27:AV:129:LYS:NZ	2.38	0.51
1:1:1125:A:H2'	1:1:1126:A:H8	1.73	0.51
1:1:2393:A:H4'	17:AL:133:SER:HB2	1.91	0.51
3:3:33:U:O4	3:3:487:A:H2'	2.10	0.51
40:BE:202:VAL:HG21	40:BE:217:VAL:HG21	1.91	0.51
41:BF:90:ASP:HB3	41:BF:96:ALA:HB2	1.92	0.51
52:BQ:24:GLU:OE2	52:BQ:24:GLU:N	2.35	0.51
1:1:91:A:H2'	1:1:92:G:O4'	2.09	0.51
1:1:702:C:H2'	1:1:703:G:O4'	2.10	0.51
1:1:1979:U:O2'	64:1:3303:HOH:O	2.19	0.51
3:3:521:G:OP1	52:BQ:124:ARG:NH1	2.42	0.51
3:3:690:U:H1'	52:BQ:52:MET:HG3	1.91	0.51
28:AW:91:GLU:CD	52:BQ:42:LYS:HZ3	2.16	0.51
39:BD:24:ALA:HB3	64:BD:318:HOH:O	2.10	0.51
45:BJ:16:ALA:HB2	45:BJ:67:VAL:HG13	1.92	0.51
55:BT:18:TYR:HB3	55:BT:26:LEU:HD11	1.93	0.51
55:BT:41:ARG:NH2	55:BT:44:ARG:HG2	2.25	0.51
3:3:1128:G:C8	64:3:2531:HOH:O	2.50	0.51
46:BK:32:ALA:HB2	46:BK:54:ARG:HD3	1.92	0.51
18:AM:28:ALA:HB2	18:AM:36:TRP:HB2	1.93	0.51
59:BX:21:GLU:CB	64:BX:207:HOH:O	2.57	0.51
1:1:363:C:H2'	1:1:364:G:O4'	2.10	0.51
3:3:1076:C:H2'	3:3:1077:C:H6	1.75	0.51
9:AD:125:LYS:HE3	9:AD:129:GLU:CD	2.36	0.51
38:BC:4:GLU:OE2	38:BC:5:LYS:HG3	2.11	0.51
38:BC:110:ARG:NH1	38:BC:144:GLU:OE1	2.44	0.51
41:BF:38:PRO:C	41:BF:40:ILE:H	2.19	0.51
41:BF:92:GLN:HB2	41:BF:95:PRO:HD2	1.93	0.51
1:1:790:U:H2'	1:1:791:G:O4'	2.11	0.51
3:3:769:A:O2'	3:3:770:G:O5'	2.25	0.51
3:3:1393:C:N4	64:3:1843:HOH:O	2.42	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:AB:314:PRO:HB2	7:AB:317:ALA:HB2	1.93	0.51
40:BE:27:ARG:HG3	40:BE:28:PRO:HD2	1.92	0.51
1:1:1703:A:N3	64:1:3450:HOH:O	2.33	0.51
2:2:126:U:H3'	64:2:309:HOH:O	2.11	0.51
3:3:71:G:C5'	64:3:2205:HOH:O	2.59	0.51
8:AC:101:ARG:HD3	64:AC:370:HOH:O	2.08	0.51
11:AF:107:GLU:H	11:AF:107:GLU:CD	2.10	0.51
12:AG:23:LYS:O	12:AG:27:SER:OG	2.28	0.51
25:AT:35:LYS:HE2	25:AT:51:TRP:CZ2	2.45	0.51
3:3:114:U:H2'	3:3:115:U:C6	2.46	0.50
28:AW:8:VAL:CG1	28:AW:10:LYS:HE2	2.41	0.50
36:BA:116:VAL:HB	36:BA:192:GLU:HG2	1.93	0.50
1:1:674:U:OP1	8:AC:110:ARG:HD2	2.11	0.50
1:1:1058:U:H2'	1:1:1059:A:C8	2.47	0.50
1:1:1409:U:H2'	1:1:1410:C:C6	2.46	0.50
6:AA:91:PRO:HD3	35:Ad:87:MET:SD	2.51	0.50
17:AL:75:ALA:HA	64:AL:221:HOH:O	2.11	0.50
25:AT:48:ARG:HG2	25:AT:48:ARG:NH1	2.25	0.50
36:BA:53:GLY:O	36:BA:58:ASP:N	2.35	0.50
1:1:1321:U:H2'	1:1:1322:C:C6	2.46	0.50
1:1:2622:G:N7	64:1:3483:HOH:O	2.35	0.50
8:AC:206:LEU:HD23	8:AC:217:VAL:HG12	1.94	0.50
22:AQ:41:LYS:HG2	22:AQ:110:TYR:CE1	2.46	0.50
40:BE:87:LEU:HB2	40:BE:90:VAL:HG12	1.94	0.50
45:BJ:93:ASP:OD1	45:BJ:95:ALA:N	2.44	0.50
1:1:2849:A:H2'	1:1:2850:C:C6	2.46	0.50
3:3:170:U:H2'	3:3:171:G:O4'	2.12	0.50
29:AX:42:MET:HE3	29:AX:75:ALA:HB3	1.93	0.50
52:BQ:25:TRP:HA	52:BQ:27:LYS:NZ	2.26	0.50
1:1:1424:A:H2'	1:1:1426:C:C5	2.47	0.50
2:2:2:A:H2'	2:2:3:G:C8	2.47	0.50
3:3:435:G:N2	3:3:437:A:N7	2.52	0.50
17:AL:70:TYR:O	17:AL:168:LYS:HE3	2.11	0.50
47:BL:23:VAL:HG11	47:BL:73:ILE:HG21	1.94	0.50
1:1:948:A:N3	1:1:2282:A:H2'	2.27	0.50
1:1:1949:C:H2'	1:1:1950:U:C6	2.47	0.50
3:3:1123:A:H2'	3:3:1124:G:C8	2.46	0.50
40:BE:105:THR:HG23	64:BE:304:HOH:O	2.12	0.50
44:BI:111:MET:HE1	44:BI:121:ILE:HD11	1.94	0.50
53:BR:54:MET:HE1	53:BR:65:LYS:HE3	1.94	0.50
55:BT:47:LYS:HB2	55:BT:47:LYS:NZ	2.26	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:3:25:U:OP1	39:BD:6:LYS:NZ	2.32	0.50
64:3:1899:HOH:O	40:BE:18:LYS:HD2	2.12	0.50
11:AF:35:ASN:O	11:AF:39:LYS:HG2	2.11	0.50
35:Ad:85:ARG:HD2	35:Ad:85:ARG:O	2.11	0.50
1:1:280:U:H2'	1:1:281:C:C6	2.47	0.50
1:1:2436:A:H2'	1:1:2437:A:H8	1.77	0.50
2:2:123:A:H2'	2:2:124:G:H8	1.77	0.50
37:BB:182:ASP:OD1	57:BV:35:ARG:NH1	2.43	0.50
58:BW:39:LEU:O	58:BW:43:LEU:HB2	2.11	0.50
1:1:873:U:H5'	1:1:874:G:OP1	2.12	0.50
1:1:1316:U:OP2	30:AY:16:LYS:NZ	2.45	0.50
1:1:1481:C:H2'	1:1:1482:A:H8	1.76	0.50
1:1:1931:G:H2'	1:1:1932:G:H8	1.77	0.50
1:1:2533:A:N7	64:1:3488:HOH:O	2.35	0.50
64:1:8211:HOH:O	6:AA:212:LYS:HE2	2.12	0.50
3:3:664:U:H3	36:BA:128:ARG:HH22	1.60	0.50
34:Ac:1:MET:HE1	34:Ac:83:PHE:CE1	2.47	0.50
43:BH:40:LYS:CE	64:BH:220:HOH:O	2.54	0.50
53:BR:52:GLN:HB3	64:BR:332:HOH:O	2.10	0.50
1:1:696:C:H5'	64:1:3808:HOH:O	2.11	0.49
1:1:2307:G:H2'	1:1:2308:A:C8	2.47	0.49
1:1:2701:G:H5'	13:AH:79:GLU:OE2	2.12	0.49
40:BE:83:ASP:OD1	40:BE:116:LYS:NZ	2.31	0.49
57:BV:6:VAL:CG1	64:BV:206:HOH:O	2.59	0.49
1:1:1645:A:H2'	1:1:1646:G:O4'	2.13	0.49
3:3:380:C:H2'	3:3:381:A:C8	2.47	0.49
3:3:554:A:H2'	3:3:555:C:C6	2.47	0.49
3:3:1064:U:C2	3:3:1066:A:C8	3.00	0.49
30:AY:40:PRO:HB2	30:AY:48:ARG:HB2	1.95	0.49
33:Ab:42:LYS:NZ	64:Ab:201:HOH:O	2.37	0.49
47:BL:65:GLU:OE2	47:BL:67:ARG:NE	2.42	0.49
1:1:471:C:H5'	64:1:8765:HOH:O	2.11	0.49
3:3:1328:C:H2'	64:3:2999:HOH:O	2.11	0.49
8:AC:101:ARG:NH2	64:AC:305:HOH:O	2.45	0.49
41:BF:61:MET:HA	41:BF:61:MET:HE3	1.94	0.49
1:1:1025:A:H2'	1:1:1026:A:C8	2.47	0.49
1:1:2117:U:N3	1:1:2239:C:OP2	2.46	0.49
3:3:1332:G:H2'	3:3:1333:C:H6	1.78	0.49
11:AF:23:LEU:HD21	11:AF:104:LYS:HG2	1.95	0.49
49:BN:99:THR:HB	49:BN:123:ALA:HB3	1.94	0.49
2:2:55:G:H21	9:AD:1:MET:HE1	1.78	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:3:1336:C:H1'	64:3:3571:HOH:O	2.11	0.49
12:AG:142:LYS:HD2	64:AG:233:HOH:O	2.12	0.49
16:AK:49:SER:OG	16:AK:166:ASP:OD2	2.22	0.49
23:AR:79:ILE:O	26:AU:30:ARG:HG3	2.12	0.49
35:Ad:41:HIS:HB2	35:Ad:51:VAL:HB	1.95	0.49
52:BQ:15:THR:HG23	59:BX:6:GLN:HG2	1.94	0.49
1:1:128:G:N2	1:1:130:A:H61	2.06	0.49
1:1:911:C:H2'	1:1:912:A:H8	1.78	0.49
1:1:2797:C:H2'	1:1:2798:C:C6	2.47	0.49
3:3:166:A:H2'	3:3:167:U:C6	2.47	0.49
50:BO:130:TYR:O	50:BO:134:ARG:HG2	2.12	0.49
1:1:648:U:H2'	1:1:649:U:C6	2.48	0.49
1:1:796:G:H2'	1:1:797:U:C6	2.47	0.49
1:1:801:G:H5'	64:1:5429:HOH:O	2.11	0.49
3:3:865:U:H2'	3:3:866:U:C6	2.48	0.49
11:AF:55:ILE:HG21	11:AF:60:ILE:HB	1.95	0.49
43:BH:137:ARG:O	43:BH:141:MET:HG3	2.13	0.49
1:1:1269:A:H2'	1:1:1270:A:C8	2.48	0.49
1:1:2246:A:H2'	1:1:2247:G:C8	2.48	0.49
3:3:612:G:OP1	64:3:1605:HOH:O	2.20	0.49
3:3:1120:C:H2'	3:3:1121:G:H8	1.78	0.49
1:1:1820:A:C4	31:AZ:3:LYS:HB3	2.47	0.49
64:1:9388:HOH:O	23:AR:15:MET:HE1	2.09	0.49
9:AD:13:MET:HE1	9:AD:118:MET:HA	1.94	0.49
10:AE:10:GLU:OE1	10:AE:10:GLU:N	2.42	0.49
28:AW:37:ALA:HA	28:AW:87:LEU:HG	1.95	0.49
36:BA:60:THR:O	36:BA:60:THR:OG1	2.30	0.49
37:BB:108:GLN:HE22	37:BB:125:GLY:H	1.61	0.49
53:BR:16:CYS:HB3	53:BR:24:HIS:HB2	1.93	0.49
53:BR:51:ARG:NH2	64:BR:305:HOH:O	2.46	0.49
3:3:691:U:OP2	52:BQ:16:ARG:NH2	2.46	0.49
3:3:1471:C:P	64:3:1724:HOH:O	2.71	0.49
19:AN:122:ARG:O	19:AN:126:LYS:HG3	2.13	0.49
50:BO:39:TYR:O	50:BO:42:THR:OG1	2.30	0.49
1:1:450:G:N7	8:AC:181:ARG:HD3	2.28	0.48
1:1:902:C:H2'	1:1:903:U:C6	2.48	0.48
1:1:1787:C:H2'	1:1:1788:A:C8	2.48	0.48
1:1:2799:U:H2'	1:1:2800:C:C6	2.48	0.48
33:Ab:4:PHE:O	33:Ab:8:GLU:HG2	2.11	0.48
64:BN:205:HOH:O	61:BZ:3:LYS:CG	2.49	0.48
58:BW:65:LYS:HG3	64:BW:203:HOH:O	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:890:A:C8	8:AC:55:MET:HE1	2.48	0.48
1:1:2571:C:H2'	1:1:2572:G:O4'	2.12	0.48
3:3:985:A:H2'	3:3:986:G:O4'	2.13	0.48
11:AF:52:ALA:HB3	11:AF:55:ILE:HD11	1.94	0.48
28:AW:39:MET:HE3	28:AW:39:MET:HB2	1.71	0.48
36:BA:13:TRP:CH2	36:BA:36:MET:HE2	2.48	0.48
46:BK:63:VAL:HB	46:BK:104:MET:HE1	1.95	0.48
1:1:134:A:H2'	1:1:135:U:C6	2.48	0.48
1:1:1644:A:H2'	1:1:1645:A:C8	2.48	0.48
1:1:2787:U:OP2	7:AB:28:ARG:NH2	2.37	0.48
3:3:1303:U:H2'	3:3:1304:U:C6	2.48	0.48
27:AV:93:GLN:O	27:AV:97:GLU:HG3	2.13	0.48
28:AW:49:ASP:OD2	28:AW:50:ILE:HG13	2.13	0.48
37:BB:114:PHE:HE2	37:BB:202:LEU:HB3	1.77	0.48
38:BC:89:GLU:OE2	38:BC:98:ARG:NH1	2.46	0.48
1:1:17:A:H2'	1:1:18:U:C6	2.48	0.48
1:1:447:A:HO2'	1:1:1293:G:HO2'	1.49	0.48
1:1:1581:G:OP2	19:AN:110:ARG:NH1	2.47	0.48
1:1:1643:A:H2'	1:1:1644:A:C8	2.48	0.48
1:1:1685:C:H2'	1:1:1686:C:C6	2.48	0.48
2:2:80:G:H1'	2:2:81:U:OP2	2.14	0.48
7:AB:304:PRO:HD2	7:AB:307:ARG:HB2	1.95	0.48
46:BK:18:THR:HG22	64:BK:218:HOH:O	2.13	0.48
54:BS:23:VAL:HG21	54:BS:38:TYR:CE2	2.48	0.48
1:1:297:A:N7	1:1:350:U:O2'	2.40	0.48
1:1:1793:G:N2	1:1:1796:G:OP2	2.46	0.48
1:1:2436:A:H2'	1:1:2437:A:C8	2.47	0.48
64:1:4801:HOH:O	27:AV:129:LYS:HD3	2.13	0.48
2:2:98:C:H2'	2:2:99:U:C6	2.49	0.48
3:3:400:U:H2'	3:3:401:G:C8	2.49	0.48
9:AD:98:ILE:HD11	9:AD:118:MET:HB2	1.93	0.48
12:AG:78:ARG:HD2	64:AG:242:HOH:O	2.13	0.48
40:BE:167:LYS:O	40:BE:172:ASN:ND2	2.46	0.48
48:BM:95:ARG:HH11	48:BM:95:ARG:HG3	1.79	0.48
58:BW:26:GLU:HA	58:BW:26:GLU:OE2	2.13	0.48
1:1:2568:OMG:H1'	1:1:2597:G:N3	2.29	0.48
1:1:2845:A:H2'	1:1:2846:A:C8	2.48	0.48
3:3:265:C:H2'	3:3:266:G:O4'	2.13	0.48
6:AA:63:ASN:ND2	6:AA:65:GLU:OE2	2.47	0.48
20:AO:24:LYS:HE3	20:AO:24:LYS:HB3	1.64	0.48
23:AR:21:LYS:NZ	64:AR:102:HOH:O	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
54:BS:30:THR:O	54:BS:34:LEU:HD23	2.13	0.48
1:1:999:A:H2'	1:1:1002:C:C5	2.48	0.48
2:2:98:C:H2'	2:2:99:U:H6	1.79	0.48
3:3:383:C:OP1	39:BD:10:SER:OG	2.25	0.48
3:3:663:G:H2'	3:3:663:G:N3	2.28	0.48
3:3:821:G:OP2	64:3:1606:HOH:O	2.20	0.48
37:BB:62:PHE:CD1	37:BB:186:PRO:HG3	2.47	0.48
40:BE:26:THR:CG2	64:BE:331:HOH:O	2.47	0.48
1:1:1045:U:O2'	2:2:96:G:OP1	2.31	0.48
1:1:2484:A:H2'	1:1:2485:G:O4'	2.14	0.48
3:3:897:G:H1'	3:3:917:G:OP1	2.14	0.48
3:3:1197:A:H2'	3:3:1198:A:C8	2.48	0.48
3:3:1389:A:H2'	3:3:1390:C:C6	2.49	0.48
4:7:243:LEU:HD13	64:7:422:HOH:O	2.13	0.48
7:AB:286:ASN:ND2	64:AB:506:HOH:O	2.36	0.48
8:AC:122:THR:HG22	8:AC:139:PRO:HB3	1.95	0.48
9:AD:110:ASP:OD1	9:AD:112:ASN:N	2.45	0.48
37:BB:193:LYS:NZ	37:BB:222:GLU:OE2	2.46	0.48
56:BU:30:GLU:H	56:BU:30:GLU:CD	2.20	0.48
58:BW:26:GLU:O	58:BW:62:GLN:NE2	2.44	0.48
1:1:1905:A:H2'	1:1:1906:A:O4'	2.13	0.48
3:3:916:C:O2'	3:3:917:G:OP2	2.29	0.48
3:3:1077:C:O2'	56:BU:129:ASP:OD1	2.31	0.48
6:AA:171:LEU:CD2	35:Ad:26:ASP:HB3	2.44	0.48
18:AM:64:GLU:HG3	18:AM:65:ASP:OD2	2.13	0.48
39:BD:86:ILE:HG12	39:BD:93:SER:HA	1.95	0.48
48:BM:5:LYS:HG3	48:BM:68:ILE:HD13	1.95	0.48
1:1:991:C:H2'	1:1:992:G:H8	1.78	0.48
1:1:1519:C:O2'	1:1:1642:A:OP2	2.21	0.48
1:1:1776:U:H2'	1:1:1777:G:H8	1.79	0.48
1:1:2251:G:N3	1:1:2251:G:H2'	2.29	0.48
64:1:3853:HOH:O	19:AN:82:LYS:HD3	2.13	0.48
3:3:873:G:H2'	64:3:2697:HOH:O	2.13	0.48
3:3:1238:C:OP1	43:BH:76:ARG:NH1	2.36	0.48
34:Ac:40:LYS:O	34:Ac:44:GLU:HG3	2.13	0.48
42:BG:25:GLU:O	42:BG:28:ALA:HB3	2.14	0.48
45:BJ:40:GLU:H	45:BJ:40:GLU:CD	2.20	0.48
1:1:844:A:H2'	1:1:845:U:C6	2.49	0.47
1:1:885:C:H2'	1:1:886:C:C6	2.49	0.47
1:1:2418:G:H2'	1:1:2419:C:O4'	2.14	0.47
1:1:2684:C:H4'	10:AE:116:LYS:HD3	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
64:1:6507:HOH:O	13:AH:36:LYS:HG2	2.13	0.47
3:3:257:G:H5''	53:BR:42:LYS:HB3	1.95	0.47
3:3:1076:C:H2'	3:3:1077:C:C6	2.49	0.47
7:AB:80:ILE:HD12	7:AB:145:ILE:HD12	1.96	0.47
9:AD:32:ILE:HD13	9:AD:118:MET:HE3	1.93	0.47
9:AD:98:ILE:HD12	9:AD:98:ILE:O	2.13	0.47
36:BA:158:MET:HE1	36:BA:188:THR:HG21	1.96	0.47
48:BM:58:GLN:O	48:BM:62:GLN:HG3	2.14	0.47
50:BO:112:ASP:O	50:BO:116:THR:HG22	2.14	0.47
1:1:100:A:C2	24:AS:21:LEU:HB3	2.49	0.47
1:1:2413:U:H2'	1:1:2414:U:C6	2.48	0.47
2:2:79:U:H4'	2:2:80:G:OP1	2.10	0.47
2:2:116:G:H2'	2:2:117:C:C6	2.48	0.47
3:3:398:U:H4'	3:3:399:A:O4'	2.14	0.47
3:3:692:C:H2'	3:3:693:G:O4'	2.14	0.47
9:AD:125:LYS:HE3	9:AD:129:GLU:OE1	2.14	0.47
41:BF:39:GLN:HA	41:BF:42:ASP:CG	2.38	0.47
45:BJ:20:VAL:HG22	45:BJ:63:ILE:HG23	1.97	0.47
1:1:284:A:N6	1:1:364:G:H1'	2.29	0.47
1:1:1001:A:H2'	16:AK:22:TYR:CZ	2.49	0.47
1:1:1315:G:N2	1:1:1318:A:OP2	2.43	0.47
1:1:2331:U:OP1	9:AD:140:LYS:HE2	2.15	0.47
1:1:2817:A:O2'	1:1:2819:A:OP2	2.26	0.47
3:3:666:G:N7	64:3:1741:HOH:O	2.36	0.47
3:3:1316:C:H2'	3:3:1317:G:C8	2.49	0.47
3:3:1356:A:H2'	3:3:1357:A:H8	1.78	0.47
3:3:1372:U:H2'	3:3:1373:A:C8	2.49	0.47
9:AD:13:MET:HG3	9:AD:25:ALA:HB1	1.97	0.47
24:AS:58:GLY:O	24:AS:61:LYS:HG3	2.14	0.47
56:BU:86:LYS:CE	64:BU:202:HOH:O	2.62	0.47
1:1:16:U:O2'	1:1:608:U:OP1	2.32	0.47
1:1:225:A:H2'	1:1:226:A:C8	2.49	0.47
1:1:1023:A:H3'	1:1:1024:G:H5'	1.95	0.47
1:1:1870:A:H5'	64:Ad:212:HOH:O	2.14	0.47
1:1:2810:U:C4	1:1:2811:C:C5	3.02	0.47
3:3:136:A:H2'	3:3:137:A:O4'	2.14	0.47
32:Aa:36:SER:CA	64:Aa:109:HOH:O	2.61	0.47
40:BE:164:LYS:HD2	40:BE:165:HIS:H	1.79	0.47
40:BE:178:GLY:HA3	40:BE:216:TYR:CD2	2.49	0.47
47:BL:65:GLU:HB3	51:BP:49:TYR:HD2	1.79	0.47
1:1:282:A:C4	64:1:6360:HOH:O	2.56	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:596:U:H2'	1:1:597:C:C6	2.50	0.47
1:1:623:U:O2'	1:1:1075:A:N1	2.46	0.47
1:1:2020:C:O2	13:AH:13:ASN:ND2	2.44	0.47
3:3:243:U:P	46:BK:54:ARG:HH22	2.37	0.47
3:3:1202:G:O2'	3:3:1205:C:O2	2.22	0.47
15:AJ:23:GLU:N	15:AJ:23:GLU:CD	2.70	0.47
38:BC:13:VAL:O	38:BC:17:MET:HB2	2.14	0.47
38:BC:151:ILE:HD12	38:BC:152:LYS:H	1.79	0.47
1:1:151:A:H2'	1:1:152:C:H6	1.79	0.47
1:1:1050:U:H2'	1:1:1051:A:O4'	2.14	0.47
1:1:1141:C:O2'	1:1:1208:A:N1	2.47	0.47
1:1:2256:U:H2'	1:1:2257:U:C6	2.49	0.47
3:3:1096:C:H2'	3:3:1097:U:C6	2.49	0.47
3:3:1274:U:H2'	3:3:1275:C:C6	2.50	0.47
3:3:1468:G:OP1	64:3:1604:HOH:O	2.20	0.47
36:BA:13:TRP:CE2	48:BM:66:LYS:HG2	2.50	0.47
1:1:49:A:H2'	1:1:50:A:C8	2.50	0.47
1:1:715:C:H2'	1:1:716:G:O4'	2.15	0.47
1:1:918:C:O2'	1:1:2261:C:OP1	2.29	0.47
1:1:1215:G:N7	64:1:3508:HOH:O	2.36	0.47
1:1:2260:C:H2'	1:1:2261:C:H6	1.79	0.47
1:1:2798:C:OP1	64:1:3306:HOH:O	2.20	0.47
2:2:5:U:H5'	64:2:301:HOH:O	2.14	0.47
2:2:52:G:OP2	17:AL:78:ASN:HB3	2.15	0.47
3:3:143:G:OP1	64:3:1607:HOH:O	2.20	0.47
3:3:1322:A:OP2	43:BH:41:HIS:NE2	2.36	0.47
11:AF:27:THR:HG21	11:AF:104:LYS:CD	2.43	0.47
13:AH:123:LYS:HD2	13:AH:123:LYS:HA	1.69	0.47
34:Ac:54:LYS:NZ	64:Ac:201:HOH:O	2.36	0.47
36:BA:125:THR:OG1	36:BA:127:LYS:O	2.24	0.47
38:BC:103:ILE:HG21	38:BC:176:LEU:HD13	1.97	0.47
38:BC:109:PHE:HE1	38:BC:144:GLU:HG3	1.79	0.47
39:BD:125:THR:HG22	39:BD:127:ILE:N	2.28	0.47
42:BG:104:ASP:OD1	42:BG:104:ASP:N	2.48	0.47
53:BR:54:MET:SD	53:BR:65:LYS:HG2	2.54	0.47
1:1:33:G:H1'	1:1:458:A:C4	2.49	0.47
1:1:1443:C:H2'	1:1:1444:U:C6	2.50	0.47
1:1:2087:A:O2'	1:1:2088:C:O5'	2.27	0.47
1:1:2326:C:O2'	9:AD:12:HIS:NE2	2.44	0.47
3:3:1085:C:OP2	64:3:1610:HOH:O	2.20	0.47
3:3:1216:A:OP1	56:BU:74:ARG:NH2	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:92:G:O2'	26:AU:43:ASN:OD1	2.27	0.47
1:1:341:A:OP1	24:AS:44:SER:HB3	2.15	0.47
1:1:643:G:H2'	1:1:644:U:C6	2.49	0.47
1:1:657:A:H5'	18:AM:76:GLY:O	2.15	0.47
1:1:2233:A:H2'	1:1:2234:G:C8	2.50	0.47
2:2:4:U:O2'	64:2:301:HOH:O	2.21	0.47
3:3:174:A:H4'	3:3:175:U:OP1	2.14	0.47
3:3:242:G:H5'	46:BK:31:SER:HA	1.97	0.47
3:3:470:G:C2	4:7:79:LYS:HE3	2.50	0.47
3:3:1036:A:H2'	3:3:1037:G:C8	2.50	0.47
3:3:1267:C:O2	55:BT:108:GLY:HA3	2.15	0.47
7:AB:124:GLU:O	7:AB:127:GLU:HG3	2.15	0.47
9:AD:101:HIS:HD2	9:AD:107:MET:SD	2.38	0.47
14:AI:68:ASN:HB2	14:AI:71:GLU:HG3	1.97	0.47
14:AI:73:ASP:OD1	14:AI:112:LYS:HG2	2.15	0.47
17:AL:32:GLN:NE2	64:AL:203:HOH:O	2.48	0.47
56:BU:3:THR:HG23	56:BU:5:PHE:H	1.80	0.47
1:1:308:G:H2'	1:1:309:C:C6	2.50	0.47
1:1:663:A:H2'	1:1:664:A:C8	2.50	0.47
1:1:2856:C:H2'	1:1:2857:A:O4'	2.14	0.47
2:2:107:C:H2'	2:2:108:U:O4'	2.15	0.47
3:3:559:U:N3	39:BD:146:THR:HG22	2.30	0.47
3:3:1282:C:H1'	43:BH:149:LYS:HZ3	1.80	0.47
6:AA:115:ASP:OD2	6:AA:115:ASP:C	2.58	0.47
16:AK:31:VAL:HA	16:AK:64:GLU:OE1	2.14	0.47
36:BA:15:SER:O	36:BA:15:SER:OG	2.29	0.47
39:BD:15:LYS:HG3	64:BD:334:HOH:O	2.15	0.47
50:BO:114:LEU:O	50:BO:117:PHE:HB3	2.15	0.47
1:1:1012:C:OP2	64:1:3307:HOH:O	2.20	0.46
1:1:1578:G:H2'	1:1:1579:C:H6	1.80	0.46
1:1:2498:C:H2'	1:1:2499:C:O4'	2.16	0.46
1:1:2753:A:H2'	1:1:2754:A:C8	2.50	0.46
2:2:125:C:H2'	2:2:126:U:C6	2.50	0.46
3:3:82:G:OP2	64:3:1609:HOH:O	2.20	0.46
5:8:2:C:H2'	5:8:3:C:C6	2.50	0.46
45:BJ:61:LEU:HD21	45:BJ:90:TRP:CD1	2.49	0.46
48:BM:71:ILE:HG22	48:BM:104:ILE:HG12	1.96	0.46
56:BU:54:ARG:NH1	64:BU:206:HOH:O	2.44	0.46
1:1:1524:C:H2'	1:1:1525:A:H8	1.78	0.46
1:1:2689:A:H2'	1:1:2690:G:C8	2.49	0.46
2:2:2:A:H2'	2:2:3:G:H8	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:3:33:U:H4'	64:3:3109:HOH:O	2.14	0.46
3:3:1407:A:H2'	3:3:1408:C:C6	2.50	0.46
22:AQ:79:LYS:NZ	64:AQ:202:HOH:O	2.48	0.46
29:AX:58:HIS:CE1	64:AX:114:HOH:O	2.36	0.46
1:1:283:A:H1'	64:1:8685:HOH:O	2.15	0.46
1:1:495:A:H5'	64:1:8345:HOH:O	2.14	0.46
1:1:812:G:H5'	1:1:1584:A:H4'	1.97	0.46
1:1:1291:U:H2'	1:1:1292:U:C6	2.49	0.46
1:1:1504:U:H2'	1:1:1505:A:C8	2.51	0.46
64:1:7058:HOH:O	7:AB:21:LYS:HE3	2.14	0.46
11:AF:32:LYS:HB2	11:AF:32:LYS:HE2	1.59	0.46
36:BA:167:SER:OG	36:BA:183:VAL:O	2.33	0.46
40:BE:96:MET:SD	40:BE:104:LEU:HB3	2.56	0.46
61:BZ:23:GLN:HB2	61:BZ:26:LYS:HD3	1.96	0.46
1:1:28:G:H2'	1:1:29:G:C8	2.50	0.46
1:1:608:U:H2'	1:1:609:C:C6	2.50	0.46
1:1:1495:U:H2'	1:1:1496:G:C8	2.51	0.46
1:1:2320:C:H3'	1:1:2321:G:C8	2.51	0.46
2:2:4:U:H2'	2:2:5:U:C6	2.50	0.46
8:AC:183:LYS:HB2	8:AC:183:LYS:HE2	1.64	0.46
23:AR:17:LEU:HD23	23:AR:17:LEU:HA	1.78	0.46
58:BW:7:LYS:HD2	58:BW:7:LYS:C	2.41	0.46
1:1:572:A:H2'	1:1:573:U:C6	2.50	0.46
1:1:2300:A:OP1	34:Ac:2:LYS:NZ	2.47	0.46
1:1:2548:C:OP1	1:1:2681:A:O2'	2.31	0.46
3:3:252:U:H2'	3:3:253:A:C8	2.50	0.46
3:3:790:C:H5''	36:BA:127:LYS:HE2	1.97	0.46
3:3:1120:C:H2'	3:3:1121:G:C8	2.51	0.46
14:AI:69:VAL:HG22	14:AI:106:GLY:HA2	1.98	0.46
17:AL:75:ALA:HB3	17:AL:78:ASN:HD22	1.80	0.46
25:AT:46:PRO:HB2	25:AT:54:LYS:HD2	1.97	0.46
28:AW:10:LYS:HD3	28:AW:10:LYS:N	2.31	0.46
39:BD:15:LYS:HA	39:BD:15:LYS:HD3	1.67	0.46
50:BO:117:PHE:O	50:BO:121:ILE:HD13	2.16	0.46
56:BU:86:LYS:HB3	64:BU:208:HOH:O	2.15	0.46
57:BV:18:GLU:OE2	57:BV:37:ILE:HD11	2.15	0.46
1:1:34:G:O6	24:AS:10:ARG:NH1	2.35	0.46
1:1:536:G:H2'	1:1:537:A:H8	1.79	0.46
1:1:706:G:H2'	1:1:707:C:C6	2.51	0.46
1:1:2069:C:H2'	1:1:2070:U:H6	1.81	0.46
1:1:2273:G:H2'	1:1:2274:C:H6	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:2317:G:H1'	64:AD:206:HOH:O	2.15	0.46
2:2:58:A:C5	9:AD:1:MET:HG2	2.51	0.46
3:3:426:C:H5''	58:BW:59:TYR:CD2	2.51	0.46
3:3:1140:G:OP2	38:BC:145:LYS:HE2	2.15	0.46
3:3:1185:A:N7	3:3:1250:C:H1'	2.30	0.46
3:3:1352:G:HO2'	3:3:1456:MA6:HO2'	1.60	0.46
3:3:1451:A:H2'	3:3:1452:G:C8	2.51	0.46
36:BA:36:MET:HB3	64:BA:305:HOH:O	2.16	0.46
39:BD:91:ILE:HG23	39:BD:92:LYS:N	2.29	0.46
1:1:1250:C:H2'	1:1:1251:G:O4'	2.15	0.46
3:3:404:G:H2'	3:3:405:G:O4'	2.16	0.46
3:3:1253:A:N6	3:3:1278:G:H1'	2.31	0.46
3:3:1361:C:H2'	3:3:1362:C:H6	1.80	0.46
9:AD:101:HIS:HE1	9:AD:115:VAL:HA	1.81	0.46
30:AY:49:ARG:NH2	64:AY:201:HOH:O	2.31	0.46
48:BM:73:ILE:HD13	48:BM:94:ILE:HG12	1.97	0.46
1:1:634:C:H2'	1:1:635:C:C6	2.50	0.46
1:1:971:C:H2'	1:1:972:G:C8	2.51	0.46
3:3:555:C:H2'	3:3:556:A:H8	1.80	0.46
3:3:1073:U:H2'	3:3:1074:G:C8	2.50	0.46
3:3:1402:U:H2'	3:3:1403:U:C6	2.51	0.46
6:AA:197:PRO:HG3	6:AA:204:GLY:HA3	1.98	0.46
39:BD:132:PHE:HB3	39:BD:138:ILE:HD13	1.98	0.46
52:BQ:52:MET:O	52:BQ:56:ASP:HB2	2.16	0.46
57:BV:43:GLY:HA2	64:BV:202:HOH:O	2.14	0.46
58:BW:51:ILE:O	58:BW:51:ILE:HD12	2.15	0.46
1:1:2476:U:H1'	1:1:2507:U:C2	2.51	0.46
1:1:2693:G:H4'	7:AB:11:SER:HB2	1.98	0.46
12:AG:23:LYS:HA	12:AG:23:LYS:HD2	1.69	0.46
29:AX:5:MET:SD	29:AX:76:VAL:HG13	2.55	0.46
34:Ac:41:LYS:HG3	64:Ac:235:HOH:O	2.15	0.46
36:BA:25:VAL:HA	36:BA:29:ARG:HD3	1.97	0.46
40:BE:173:LEU:HB3	40:BE:221:GLY:O	2.16	0.46
43:BH:134:THR:HG22	43:BH:138:TYR:CE2	2.51	0.46
1:1:1830:U:H2'	1:1:1831:A:C8	2.50	0.46
1:1:1871:U:H2'	1:1:1872:C:C6	2.51	0.46
1:1:2068:C:H2'	1:1:2069:C:H6	1.81	0.46
1:1:2508:U:H2'	1:1:2509:G:O4'	2.16	0.46
1:1:2677:G:H2'	1:1:2678:A:C8	2.51	0.46
9:AD:110:ASP:OD1	9:AD:110:ASP:C	2.59	0.46
15:AJ:2:VAL:HG22	15:AJ:3:LYS:H	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:BB:102:SER:O	37:BB:108:GLN:NE2	2.48	0.46
40:BE:222:GLU:OE1	40:BE:222:GLU:N	2.35	0.46
1:1:359:A:C2'	64:1:4380:HOH:O	2.59	0.45
1:1:416:C:H2'	1:1:417:A:C8	2.51	0.45
1:1:1041:C:H2'	1:1:1042:U:C6	2.52	0.45
1:1:1934:G:H2'	1:1:1935:G:H8	1.79	0.45
1:1:2703:U:H2'	1:1:2704:G:O4'	2.17	0.45
3:3:420:A:H5''	58:BW:84:TYR:CE1	2.50	0.45
3:3:485:C:H2'	3:3:486:G:O4'	2.16	0.45
3:3:604:A:OP1	36:BA:132:SER:OG	2.32	0.45
3:3:769:A:H3'	3:3:769:A:OP2	2.15	0.45
3:3:1349:C:H2'	3:3:1350:C:O4'	2.16	0.45
6:AA:94:ILE:HG12	6:AA:156:VAL:HG22	1.99	0.45
12:AG:129:TYR:CD2	12:AG:129:TYR:C	2.95	0.45
16:AK:20:ARG:HA	16:AK:23:MET:HG2	1.98	0.45
17:AL:44:VAL:HG11	17:AL:82:ALA:HA	1.98	0.45
23:AR:41:LYS:HB2	23:AR:41:LYS:NZ	2.31	0.45
41:BF:200:LEU:O	44:BI:68:ARG:NH2	2.33	0.45
2:2:10:G:OP1	17:AL:24:ARG:NH1	2.49	0.45
3:3:77:A:H2'	3:3:78:U:C6	2.51	0.45
3:3:427:A:C2	58:BW:28:SER:HB2	2.52	0.45
3:3:439:G:H2'	3:3:440:G:C8	2.51	0.45
3:3:655:G:H2'	3:3:656:A:C8	2.51	0.45
3:3:1145:G:H2'	3:3:1146:U:C6	2.52	0.45
3:3:1282:C:O3'	43:BH:149:LYS:NZ	2.40	0.45
8:AC:101:ARG:HH11	8:AC:101:ARG:HG3	1.81	0.45
10:AE:65:MET:HA	10:AE:65:MET:HE3	1.97	0.45
10:AE:153:GLU:OE1	10:AE:172:ILE:HD12	2.16	0.45
16:AK:147:LYS:HG3	16:AK:163:ILE:HG21	1.98	0.45
50:BO:37:VAL:HG23	50:BO:65:ALA:O	2.16	0.45
1:1:611:U:H2'	1:1:612:A:H8	1.81	0.45
1:1:697:A:H5''	1:1:698:U:H5'	1.98	0.45
3:3:525:C:H5''	49:BN:6:TYR:O	2.16	0.45
3:3:1118:A:OP1	54:BS:4:ILE:HG22	2.17	0.45
3:3:1195:A:OP1	64:3:1608:HOH:O	2.20	0.45
3:3:1368:G:H5'	13:AH:65:ARG:HH12	1.82	0.45
9:AD:11:VAL:HA	9:AD:119:ASP:O	2.16	0.45
36:BA:131:SER:O	36:BA:135:GLN:HG3	2.16	0.45
37:BB:85:VAL:CG1	57:BV:27:PRO:HB2	2.46	0.45
37:BB:196:SER:OG	37:BB:221:PHE:O	2.23	0.45
1:1:636:A:H2'	1:1:637:G:C8	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1999:A:H2'	1:1:2000:U:O4'	2.17	0.45
1:1:2760:G:H3'	64:1:4284:HOH:O	2.16	0.45
64:1:4750:HOH:O	6:AA:209:HIS:HE1	1.98	0.45
3:3:248:U:H1'	3:3:250:C:OP2	2.15	0.45
3:3:353:A:H2'	3:3:354:C:O4'	2.16	0.45
3:3:435:G:H21	3:3:436:C:H3'	1.81	0.45
3:3:1011:G:H2'	3:3:1012:U:C6	2.52	0.45
3:3:1458:U:H2'	3:3:1459:C:C6	2.51	0.45
5:8:1:G:C2'	5:8:2:C:H5'	2.47	0.45
23:AR:7:PRO:HG3	23:AR:79:ILE:HD13	1.98	0.45
37:BB:82:ARG:HD3	37:BB:82:ARG:HA	1.76	0.45
39:BD:147:ILE:CG1	39:BD:150:MET:HE2	2.47	0.45
44:BI:42:GLN:NE2	44:BI:49:ASP:HA	2.30	0.45
53:BR:22:PRO:HD3	53:BR:101:VAL:HG21	1.98	0.45
1:1:646:U:H2'	1:1:647:C:C6	2.52	0.45
1:1:692:G:H2'	1:1:693:C:C6	2.52	0.45
1:1:709:U:N3	1:1:711:U:O4	2.30	0.45
1:1:1661:C:H5''	32:Aa:6:LYS:HD2	1.98	0.45
1:1:1979:U:O2'	1:1:1980:U:OP2	2.35	0.45
3:3:71:G:H5'	64:3:2205:HOH:O	2.17	0.45
3:3:265:C:O2'	3:3:266:G:OP1	2.28	0.45
3:3:938:G:H22	3:3:1159:A:P	2.40	0.45
9:AD:110:ASP:CG	9:AD:113:ILE:HG12	2.41	0.45
1:1:94:C:OP1	26:AU:2:ALA:N	2.50	0.45
1:1:119:G:O2'	1:1:120:A:H5'	2.17	0.45
1:1:680:G:H2'	1:1:681:C:C6	2.51	0.45
1:1:2878:U:H2'	1:1:2879:U:O4'	2.17	0.45
3:3:426:C:H5''	58:BW:59:TYR:HD2	1.81	0.45
3:3:495:U:H2'	3:3:496:C:C6	2.52	0.45
3:3:515:G:H2'	64:3:3795:HOH:O	2.16	0.45
3:3:520:C:H2'	3:3:521:G:O4'	2.16	0.45
3:3:992:G:H4'	3:3:993:C:O5'	2.15	0.45
3:3:1250:C:OP1	64:3:1611:HOH:O	2.21	0.45
10:AE:97:MET:HE3	10:AE:108:ILE:CG2	2.46	0.45
10:AE:168:ASP:N	10:AE:168:ASP:OD1	2.50	0.45
16:AK:4:LYS:HA	16:AK:4:LYS:HD3	1.76	0.45
26:AU:27:GLU:HG3	26:AU:30:ARG:HH21	1.81	0.45
27:AV:143:GLU:O	27:AV:146:ASN:ND2	2.48	0.45
28:AW:28:THR:HG23	28:AW:85:ALA:HB2	1.98	0.45
33:Ab:10:ARG:HA	33:Ab:10:ARG:HD2	1.72	0.45
37:BB:75:ASP:HB3	37:BB:78:SER:OG	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BC:109:PHE:CE1	38:BC:144:GLU:HG3	2.52	0.45
41:BF:11:THR:O	41:BF:15:LYS:HG2	2.17	0.45
52:BQ:73:THR:O	52:BQ:77:GLU:HG3	2.16	0.45
1:1:311:U:H2'	1:1:312:G:O4'	2.17	0.45
1:1:870:A:OP2	64:1:3311:HOH:O	2.21	0.45
1:1:1529:C:H2'	1:1:1530:A:H8	1.81	0.45
1:1:1781:A:H2'	1:1:1782:G:C8	2.51	0.45
1:1:1971:U:H2'	1:1:1972:C:C6	2.51	0.45
1:1:2848:C:H2'	1:1:2849:A:H8	1.82	0.45
3:3:245:A:H2'	3:3:246:C:C6	2.52	0.45
3:3:1374:U:H2'	3:3:1375:G:H8	1.80	0.45
6:AA:75:ILE:HD12	6:AA:75:ILE:HA	1.79	0.45
28:AW:22:ILE:HD12	28:AW:87:LEU:HD11	1.98	0.45
44:BI:39:LYS:NZ	44:BI:43:ASP:OD1	2.38	0.45
51:BP:47:GLU:HG3	51:BP:48:LYS:N	2.30	0.45
1:1:712:U:O2'	1:1:713:G:H8	1.99	0.45
1:1:797:U:O2'	19:AN:131:GLU:OE2	2.34	0.45
1:1:896:U:H1'	1:1:2460:G:OP1	2.16	0.45
1:1:2597:G:OP1	64:1:3312:HOH:O	2.21	0.45
1:1:2661:G:H2'	1:1:2662:C:C6	2.52	0.45
11:AF:23:LEU:HB3	11:AF:105:ALA:HB2	1.98	0.45
45:BJ:118:LYS:NZ	45:BJ:122:GLY:O	2.39	0.45
45:BJ:133:TYR:C	45:BJ:134:ARG:HD2	2.42	0.45
52:BQ:91:LEU:HD12	52:BQ:125:LEU:HD12	1.99	0.45
52:BQ:142:LYS:HE2	64:BQ:230:HOH:O	2.15	0.45
3:3:560:C:H2'	3:3:561:A:C8	2.52	0.45
5:8:7:G:N2	5:8:67:U:H3	2.12	0.45
17:AL:37:VAL:HG22	17:AL:46:ILE:HG12	1.99	0.45
40:BE:119:ARG:HH12	40:BE:215:ASP:HA	1.81	0.45
49:BN:12:LYS:NZ	53:BR:64:GLU:OE1	2.44	0.45
1:1:15:C:H2'	1:1:16:U:C6	2.51	0.45
1:1:208:U:H5''	64:1:6821:HOH:O	2.17	0.45
1:1:308:G:H2'	1:1:309:C:H6	1.82	0.45
1:1:640:A:N7	1:1:1343:A:N1	2.64	0.45
1:1:1245:A:OP1	20:AO:50:ARG:HG3	2.17	0.45
1:1:2547:G:O2'	1:1:2673:A:N1	2.50	0.45
3:3:323:C:H2'	3:3:324:C:H6	1.82	0.45
3:3:665:G:C5'	64:3:3153:HOH:O	2.65	0.45
3:3:1318:G:OP1	45:BJ:13:THR:OG1	2.33	0.45
6:AA:119:PHE:CG	6:AA:141:MET:HE1	2.51	0.45
7:AB:105:ASP:O	7:AB:105:ASP:OD2	2.35	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:AE:78:LYS:HD3	10:AE:84:PHE:CE1	2.52	0.45
13:AH:132:VAL:HG11	25:AT:22:VAL:HG21	1.99	0.45
33:Ab:12:LEU:HB3	33:Ab:44:LYS:HE3	1.99	0.45
60:BY:62:MET:C	64:BY:102:HOH:O	2.60	0.45
1:1:700:U:H2'	1:1:701:G:H8	1.82	0.44
1:1:912:A:H2'	1:1:913:U:C6	2.52	0.44
1:1:2654:C:H5''	12:AG:71:ARG:HD2	1.99	0.44
4:7:35:ILE:HD11	4:7:88:THR:HG22	1.98	0.44
18:AM:70:ILE:HD12	18:AM:74:VAL:HG22	1.97	0.44
18:AM:76:GLY:N	18:AM:95:ALA:HB2	2.33	0.44
28:AW:75:CYS:SG	28:AW:84:MET:HE1	2.57	0.44
39:BD:91:ILE:CD1	39:BD:92:LYS:H	2.29	0.44
41:BF:30:LYS:O	41:BF:31:SER:OG	2.26	0.44
43:BH:18:VAL:HB	43:BH:24:LYS:HG3	1.98	0.44
54:BS:27:ASP:OD1	54:BS:30:THR:HG23	2.17	0.44
1:1:2263:G:OP1	1:1:2289:C:O2'	2.33	0.44
1:1:2452:U:H2'	1:1:2453:U:C6	2.52	0.44
1:1:2830:A:OP2	64:1:3310:HOH:O	2.21	0.44
3:3:88:C:H2'	3:3:89:U:C6	2.52	0.44
3:3:213:G:N7	64:3:1750:HOH:O	2.36	0.44
3:3:427:A:H2	58:BW:28:SER:HB2	1.82	0.44
64:3:2822:HOH:O	40:BE:30:PRO:HA	2.17	0.44
7:AB:86:ARG:NH2	7:AB:100:GLU:OE2	2.39	0.44
10:AE:77:VAL:O	10:AE:80:VAL:HG12	2.16	0.44
14:AI:92:TYR:HB2	14:AI:114:LEU:HD23	1.99	0.44
19:AN:51:LYS:HE2	19:AN:51:LYS:HB3	1.84	0.44
36:BA:27:LEU:HD23	36:BA:27:LEU:HA	1.73	0.44
45:BJ:94:THR:HA	45:BJ:97:ARG:HH12	1.82	0.44
50:BO:98:LYS:HE3	50:BO:98:LYS:HB3	1.80	0.44
1:1:911:C:H2'	1:1:912:A:C8	2.52	0.44
1:1:1051:A:H2'	1:1:1052:A:C8	2.52	0.44
1:1:2312:A:H2'	1:1:2313:A:O4'	2.17	0.44
3:3:401:G:H2'	3:3:402:C:C6	2.52	0.44
3:3:1153:G:H2'	3:3:1154:C:C6	2.52	0.44
3:3:1294:G:O2'	3:3:1295:U:P	2.75	0.44
6:AA:120:VAL:HG21	6:AA:127:ALA:HB2	1.98	0.44
9:AD:70:GLU:HG3	9:AD:71:PHE:N	2.32	0.44
30:AY:117:GLU:OE1	30:AY:118:ALA:N	2.50	0.44
31:AZ:34:CYS:HB3	31:AZ:39:PHE:H	1.83	0.44
39:BD:91:ILE:HD12	39:BD:92:LYS:H	1.83	0.44
50:BO:109:LEU:CD1	64:BO:204:HOH:O	2.66	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
50:BO:113:ILE:HB	64:BO:208:HOH:O	2.17	0.44
60:BY:47:ILE:HD11	60:BY:49:ARG:HD2	1.99	0.44
1:1:536:G:H2'	1:1:537:A:C8	2.53	0.44
1:1:1093:G:OP1	2:2:89:U:O2'	2.25	0.44
1:1:1210:G:H4'	64:1:8819:HOH:O	2.17	0.44
1:1:2111:U:H2'	1:1:2112:G:H8	1.83	0.44
1:1:2829:G:OP1	64:1:3310:HOH:O	2.21	0.44
3:3:553:G:H2'	3:3:554:A:H8	1.83	0.44
64:3:3177:HOH:O	46:BK:43:LYS:CD	2.66	0.44
9:AD:99:GLU:OE2	9:AD:99:GLU:N	2.23	0.44
36:BA:25:VAL:HG12	36:BA:29:ARG:HD3	2.00	0.44
41:BF:136:ALA:HA	64:BF:429:HOH:O	2.17	0.44
44:BI:50:PHE:HA	44:BI:62:SER:O	2.18	0.44
50:BO:108:LEU:HB2	50:BO:113:ILE:HG12	2.00	0.44
52:BQ:110:HIS:HA	64:BQ:218:HOH:O	2.17	0.44
1:1:6:G:H2'	1:1:7:G:H8	1.83	0.44
1:1:696:C:C5'	64:1:3808:HOH:O	2.66	0.44
1:1:2413:U:H2'	1:1:2414:U:H6	1.83	0.44
1:1:2732:G:H2'	1:1:2733:G:O4'	2.18	0.44
3:3:372:U:H2'	3:3:373:A:C8	2.52	0.44
30:AY:6:ARG:NH1	64:AY:207:HOH:O	2.49	0.44
43:BH:137:ARG:HD3	64:BH:214:HOH:O	2.17	0.44
53:BR:24:HIS:HE1	53:BR:77:CYS:SG	2.38	0.44
53:BR:53:TYR:CD1	64:BR:305:HOH:O	2.70	0.44
1:1:902:C:H2'	1:1:903:U:H6	1.83	0.44
1:1:1067:A:H8	1:1:1067:A:OP2	2.01	0.44
3:3:1282:C:H1'	43:BH:149:LYS:NZ	2.33	0.44
3:3:1389:A:H2'	3:3:1390:C:H6	1.82	0.44
39:BD:96:ASN:O	39:BD:98:ASP:N	2.43	0.44
41:BF:72:ALA:O	41:BF:87:GLN:HA	2.18	0.44
50:BO:127:VAL:HG21	55:BT:102:MET:HG2	2.00	0.44
60:BY:62:MET:CB	64:BY:102:HOH:O	2.65	0.44
1:1:393:A:C2	1:1:395:A:C6	3.06	0.44
1:1:577:C:O2	1:1:1106:C:H4'	2.18	0.44
1:1:728:A:H2'	1:1:729:U:C6	2.52	0.44
1:1:1091:A:H2'	1:1:1092:A:C8	2.52	0.44
1:1:1355:A:N7	64:1:3525:HOH:O	2.36	0.44
1:1:1401:A:H2'	1:1:1402:G:O4'	2.18	0.44
1:1:1477:G:O2'	64:1:3315:HOH:O	2.21	0.44
1:1:2798:C:H2'	1:1:2799:U:H6	1.83	0.44
3:3:399:A:H2'	3:3:400:U:H6	1.81	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
37:BB:183:LEU:HD12	37:BB:183:LEU:HA	1.89	0.44
56:BU:134:GLU:O	56:BU:138:GLU:HG3	2.18	0.44
1:1:287:U:H2'	1:1:288:C:C6	2.53	0.44
1:1:746:A:H2'	1:1:747:C:C6	2.52	0.44
1:1:1414:A:C4	1:1:1415:A:C8	3.06	0.44
1:1:1599:C:H2'	1:1:1600:G:O4'	2.18	0.44
3:3:383:C:O2'	3:3:561:A:N3	2.48	0.44
3:3:1096:C:C2	3:3:1097:U:C5	3.05	0.44
3:3:1122:G:H2'	3:3:1123:A:H8	1.83	0.44
8:AC:133:ILE:HA	64:AC:357:HOH:O	2.17	0.44
36:BA:18:TRP:HZ3	48:BM:5:LYS:HD2	1.83	0.44
37:BB:108:GLN:NE2	37:BB:124:LEU:HB3	2.32	0.44
58:BW:51:ILE:HA	58:BW:89:ASN:OD1	2.18	0.44
1:1:560:C:H2'	1:1:561:A:H8	1.83	0.44
1:1:1877:U:O2'	1:1:1952:A:N3	2.44	0.44
1:1:2055:C:O2'	1:1:2514:5MC:H4'	2.17	0.44
3:3:807:G:OP2	64:3:1613:HOH:O	2.21	0.44
3:3:1327:U:H2'	3:3:1328:C:C6	2.52	0.44
5:8:2:C:H2'	5:8:3:C:H6	1.83	0.44
7:AB:109:GLU:OE2	7:AB:150:LYS:HD3	2.17	0.44
36:BA:22:GLU:O	36:BA:80:THR:HG22	2.18	0.44
36:BA:48:VAL:HG13	36:BA:68:LEU:HB2	2.00	0.44
36:BA:101:SER:HB3	36:BA:134:MET:HE2	1.99	0.44
39:BD:60:ALA:HB2	41:BF:119:GLU:HG2	1.99	0.44
47:BL:11:ILE:C	47:BL:11:ILE:HD12	2.43	0.44
54:BS:32:LYS:O	54:BS:36:THR:HG22	2.18	0.44
61:BZ:13:LYS:HB2	61:BZ:13:LYS:HE2	1.73	0.44
1:1:531:G:C2'	64:1:3330:HOH:O	2.62	0.43
1:1:1132:U:H2'	1:1:1133:C:C6	2.53	0.43
1:1:1971:U:H2'	1:1:1972:C:H6	1.83	0.43
1:1:2689:A:H2'	1:1:2690:G:H8	1.83	0.43
1:1:2717:G:H2'	1:1:2718:A:H8	1.82	0.43
3:3:1388:G:H2'	3:3:1389:A:C8	2.52	0.43
6:AA:87:ALA:HB3	6:AA:95:VAL:HG12	2.00	0.43
7:AB:225:LYS:HB2	7:AB:225:LYS:HE3	1.69	0.43
16:AK:15:ARG:HD2	64:AK:241:HOH:O	2.18	0.43
28:AW:12:LEU:HD23	28:AW:12:LEU:HA	1.87	0.43
28:AW:37:ALA:O	28:AW:59:ILE:HD11	2.18	0.43
39:BD:62:VAL:CG2	64:BD:320:HOH:O	2.46	0.43
39:BD:162:TYR:CE1	39:BD:168:LEU:HB2	2.52	0.43
42:BG:97:ARG:NH1	64:BG:204:HOH:O	2.46	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:354:C:H2'	1:1:355:C:C6	2.53	0.43
1:1:587:G:H1'	1:1:588:U:OP2	2.17	0.43
1:1:685:A:OP2	64:1:3316:HOH:O	2.21	0.43
1:1:941:U:H2'	1:1:942:C:C6	2.53	0.43
1:1:1018:A:H2'	1:1:1019:U:C6	2.54	0.43
1:1:1056:U:O2'	1:1:2287:A:N3	2.42	0.43
1:1:2068:C:H2'	1:1:2069:C:C6	2.54	0.43
1:1:2447:A:O2'	1:1:2448:A:H2'	2.18	0.43
1:1:2569:U:H2'	1:1:2570:U:C6	2.53	0.43
64:1:6726:HOH:O	30:AY:49:ARG:HD3	2.17	0.43
3:3:553:G:H2'	3:3:554:A:C8	2.52	0.43
3:3:560:C:O2	39:BD:147:ILE:HD13	2.18	0.43
3:3:599:C:H2'	3:3:600:C:C6	2.52	0.43
15:AJ:45:THR:O	64:AJ:201:HOH:O	2.21	0.43
46:BK:91:ARG:HB2	46:BK:93:ILE:HG12	2.00	0.43
49:BN:79:VAL:HA	64:BN:214:HOH:O	2.17	0.43
1:1:717:A:C2	18:AM:126:ARG:HB3	2.53	0.43
1:1:949:G:H5'	1:1:2282:A:O2'	2.18	0.43
1:1:1869:A:C5	1:1:1870:A:C8	3.06	0.43
1:1:2233:A:H2'	1:1:2234:G:H8	1.83	0.43
3:3:458:C:H5''	3:3:459:C:C6	2.53	0.43
7:AB:147:THR:O	7:AB:160:PRO:HB3	2.18	0.43
10:AE:157:LYS:HE2	10:AE:157:LYS:HB2	1.79	0.43
11:AF:23:LEU:CD2	11:AF:104:LYS:HG2	2.48	0.43
22:AQ:4:ILE:HG13	22:AQ:19:MET:HE3	2.00	0.43
46:BK:66:PRO:HD3	46:BK:123:LEU:HB2	2.00	0.43
48:BM:71:ILE:HD12	48:BM:71:ILE:HA	1.92	0.43
57:BV:31:ALA:HB2	57:BV:50:LYS:HD2	2.00	0.43
1:1:396:U:H2'	1:1:397:C:C6	2.52	0.43
1:1:494:G:H3'	64:1:8345:HOH:O	2.18	0.43
1:1:524:U:H2'	1:1:525:A:H8	1.82	0.43
1:1:807:U:OP2	35:Ad:10:ARG:NH1	2.52	0.43
1:1:1257:A:H2'	1:1:1258:C:C6	2.54	0.43
1:1:1654:A:H2'	1:1:1655:A:C8	2.53	0.43
1:1:1787:C:H2'	1:1:1788:A:H8	1.83	0.43
1:1:1870:A:C5	1:1:1871:U:C5	3.06	0.43
1:1:2344:A:N7	64:1:3534:HOH:O	2.37	0.43
1:1:2885:C:H2'	1:1:2886:C:O4'	2.19	0.43
3:3:497:G:H2'	3:3:498:U:O4'	2.18	0.43
3:3:637:A:H2'	3:3:638:U:H6	1.82	0.43
3:3:703:G:H2'	3:3:704:A:C8	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:3:1307:A:H8	51:BP:9:GLY:HA3	1.83	0.43
4:7:107:LEU:HD11	4:7:111:LYS:HE3	2.01	0.43
39:BD:79:GLU:HB2	64:BD:303:HOH:O	2.18	0.43
39:BD:86:ILE:HG13	39:BD:91:ILE:CG2	2.49	0.43
40:BE:79:VAL:HG11	40:BE:85:ILE:HD11	1.99	0.43
41:BF:25:MET:N	64:BF:405:HOH:O	2.39	0.43
58:BW:51:ILE:CD1	58:BW:69:LYS:HB2	2.48	0.43
58:BW:73:ASP:OD1	58:BW:75:ALA:N	2.45	0.43
1:1:307:U:H2'	1:1:308:G:H8	1.82	0.43
1:1:1504:U:H2'	1:1:1505:A:H8	1.83	0.43
1:1:1839:G:O2'	6:AA:147:LYS:HD2	2.19	0.43
1:1:2483:A:O2'	64:1:3317:HOH:O	2.21	0.43
1:1:2671:G:H1'	1:1:2672:U:OP2	2.18	0.43
1:1:2844:U:C4	25:AT:50:GLU:HG2	2.53	0.43
3:3:1187:U:P	43:BH:154:VAL:HG23	2.58	0.43
12:AG:121:MET:HE1	12:AG:129:TYR:CZ	2.53	0.43
38:BC:136:LEU:HD12	38:BC:142:ARG:HG3	2.01	0.43
49:BN:111:MET:HE3	49:BN:111:MET:HB3	1.87	0.43
55:BT:80:MET:H	55:BT:80:MET:HG3	1.62	0.43
1:1:480:G:N1	1:1:483:A:OP2	2.46	0.43
1:1:1408:C:H2'	1:1:1409:U:C6	2.54	0.43
1:1:1562:G:H2'	1:1:1563:C:H6	1.84	0.43
2:2:30:U:H2'	2:2:31:C:H6	1.79	0.43
3:3:305:U:H2'	3:3:306:G:O4'	2.19	0.43
3:3:761:U:H4'	3:3:762:G:OP2	2.17	0.43
3:3:1323:U:H2'	3:3:1324:A:C8	2.54	0.43
64:3:3898:HOH:O	39:BD:16:HIS:HD2	2.01	0.43
17:AL:168:LYS:NZ	17:AL:168:LYS:HB3	2.33	0.43
22:AQ:23:LEU:HD13	22:AQ:87:GLU:HB3	2.01	0.43
43:BH:108:GLU:HG3	43:BH:185:ALA:CB	2.49	0.43
47:BL:64:TRP:HB3	51:BP:46:PHE:HB3	2.00	0.43
59:BX:53:ILE:HG13	59:BX:57:ILE:HD11	2.01	0.43
1:1:241:A:H61	1:1:267:G:H1'	1.83	0.43
1:1:969:U:H2'	1:1:970:C:H6	1.84	0.43
1:1:1718:A:C2	1:1:2074:G:H5''	2.54	0.43
1:1:2287:A:H2'	1:1:2288:U:C6	2.54	0.43
1:1:2644:C:N4	64:1:3396:HOH:O	2.29	0.43
3:3:555:C:H2'	3:3:556:A:C8	2.53	0.43
3:3:916:C:O2'	3:3:917:G:P	2.77	0.43
3:3:1068:C:OP1	45:BJ:68:ARG:NH2	2.52	0.43
3:3:1081:G:N3	3:3:1081:G:H2'	2.33	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:AG:45:SER:HB3	12:AG:128:ARG:NH2	2.34	0.43
27:AV:60:LYS:HE3	27:AV:60:LYS:HB2	1.78	0.43
42:BG:57:ASP:HA	42:BG:105:ILE:HA	2.00	0.43
44:BI:87:GLU:HG2	64:BI:226:HOH:O	2.19	0.43
45:BJ:43:MET:HE3	45:BJ:43:MET:HB3	1.91	0.43
50:BO:23:LEU:HD21	50:BO:30:ASP:HB3	1.99	0.43
50:BO:55:ILE:HD13	50:BO:55:ILE:HA	1.83	0.43
53:BR:41:SER:O	53:BR:41:SER:OG	2.37	0.43
58:BW:70:VAL:O	58:BW:71:TYR:HB2	2.18	0.43
61:BZ:4:THR:OG1	61:BZ:5:GLY:N	2.49	0.43
1:1:35:C:H2'	1:1:36:U:C6	2.53	0.43
1:1:2026:U:H2'	1:1:2027:G:C8	2.54	0.43
1:1:2453:U:OP1	64:1:3313:HOH:O	2.21	0.43
2:2:110:U:H2'	2:2:111:G:O4'	2.19	0.43
3:3:161:C:H2'	3:3:162:A:C8	2.53	0.43
3:3:765:C:H2'	3:3:766:G:H8	1.83	0.43
3:3:881:A:H2'	3:3:882:C:H6	1.83	0.43
3:3:1334:U:H2'	3:3:1335:C:C6	2.53	0.43
12:AG:101:TYR:CG	12:AG:105:PRO:HG3	2.53	0.43
28:AW:68:SER:HB3	28:AW:82:ALA:HA	2.00	0.43
36:BA:93:ARG:HG2	36:BA:93:ARG:HH11	1.83	0.43
40:BE:127:LYS:HD3	40:BE:127:LYS:HA	1.72	0.43
49:BN:101:GLU:HG2	49:BN:122:ILE:HD13	2.00	0.43
50:BO:116:THR:HA	50:BO:119:GLU:HG3	2.00	0.43
59:BX:17:CYS:SG	59:BX:41:ARG:HD3	2.59	0.43
61:BZ:6:SER:O	64:BZ:101:HOH:O	2.21	0.43
1:1:239:A:N1	1:1:376:U:H4'	2.34	0.43
1:1:1043:G:OP2	64:1:3308:HOH:O	2.21	0.43
1:1:1882:G:H2'	1:1:1883:C:C6	2.54	0.43
1:1:2086:G:N7	1:1:2516:5MC:H1'	2.34	0.43
3:3:845:A:H2'	3:3:846:A:C8	2.54	0.43
3:3:1312:A:H2'	3:3:1313:G:C8	2.53	0.43
3:3:1335:C:H2'	3:3:1336:C:H6	1.84	0.43
13:AH:40:VAL:HG22	13:AH:41:LYS:H	1.82	0.43
18:AM:105:LYS:HE2	18:AM:105:LYS:HB2	1.78	0.43
19:AN:141:HIS:O	19:AN:145:GLU:OE2	2.36	0.43
28:AW:72:GLY:HA2	28:AW:81:ILE:HD12	2.01	0.43
46:BK:8:ARG:NH2	46:BK:15:LYS:HE3	2.33	0.43
54:BS:37:LYS:HE2	54:BS:37:LYS:HB2	1.86	0.43
55:BT:73:ASP:O	55:BT:106:ARG:NH1	2.49	0.43
3:3:599:C:H2'	3:3:600:C:H6	1.82	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:3:1274:U:H2'	3:3:1275:C:H6	1.84	0.43
3:3:1335:C:H2'	3:3:1336:C:C6	2.53	0.43
17:AL:72:TYR:HB2	17:AL:165:THR:HG21	2.01	0.43
17:AL:73:THR:N	17:AL:161:GLN:OE1	2.46	0.43
26:AU:28:LEU:O	26:AU:32:ARG:HG3	2.19	0.43
36:BA:93:ARG:HG2	36:BA:93:ARG:NH1	2.34	0.43
38:BC:30:TYR:CG	38:BC:31:GLY:N	2.87	0.43
39:BD:73:HIS:O	39:BD:77:GLN:HB2	2.18	0.43
41:BF:61:MET:CE	41:BF:66:ARG:HG3	2.49	0.43
41:BF:120:CYS:HB2	41:BF:147:PRO:HA	1.99	0.43
55:BT:21:LYS:HB2	55:BT:21:LYS:HE3	1.74	0.43
56:BU:46:THR:O	64:BU:201:HOH:O	2.21	0.43
1:1:1104:G:H3'	64:1:6061:HOH:O	2.19	0.42
1:1:1557:A:H2'	1:1:1558:A:H8	1.80	0.42
3:3:381:A:O2'	39:BD:7:LYS:O	2.36	0.42
3:3:656:A:OP1	64:3:1615:HOH:O	2.22	0.42
3:3:1130:U:H3'	3:3:1131:G:C5'	2.49	0.42
3:3:1434:C:H2'	3:3:1435:G:O4'	2.19	0.42
64:3:2428:HOH:O	45:BJ:134:ARG:HG2	2.19	0.42
10:AE:84:PHE:CE2	10:AE:142:LYS:HB2	2.54	0.42
18:AM:98:LYS:HA	18:AM:101:GLU:HG3	2.01	0.42
23:AR:56:MET:HB2	64:AR:109:HOH:O	2.18	0.42
36:BA:36:MET:SD	48:BM:24:ASP:HB3	2.59	0.42
37:BB:59:MET:HE3	37:BB:59:MET:HB3	1.88	0.42
38:BC:90:LEU:HD21	38:BC:124:GLY:O	2.19	0.42
39:BD:58:LEU:HD13	39:BD:78:SER:HB3	2.00	0.42
1:1:1323:C:H2'	1:1:1324:U:C6	2.53	0.42
1:1:1948:U:H2'	1:1:1949:C:C6	2.54	0.42
1:1:2516:5MC:H6	64:1:7334:HOH:O	2.02	0.42
3:3:616:U:OP2	36:BA:120:LYS:NZ	2.53	0.42
6:AA:165:ARG:HA	35:Ad:73:TYR:CE2	2.54	0.42
7:AB:84:ALA:HB3	7:AB:144:VAL:HB	2.01	0.42
30:AY:117:GLU:OE1	30:AY:117:GLU:C	2.62	0.42
41:BF:41:ILE:C	41:BF:41:ILE:HD12	2.44	0.42
54:BS:9:ILE:HD11	54:BS:46:ILE:HD12	2.01	0.42
55:BT:58:LEU:HD23	55:BT:58:LEU:HA	1.83	0.42
58:BW:56:LYS:HB2	58:BW:56:LYS:HE3	1.86	0.42
1:1:279:U:H2'	1:1:280:U:C6	2.54	0.42
1:1:345:A:H2'	1:1:346:G:O4'	2.19	0.42
1:1:387:C:H2'	1:1:388:G:H8	1.85	0.42
1:1:1011:C:H2'	1:1:1012:C:C6	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:1783:A:OP2	19:AN:71:LYS:NZ	2.47	0.42
1:1:1884:A:H2'	1:1:1885:G:C8	2.54	0.42
2:2:3:G:H2'	2:2:4:U:H6	1.84	0.42
2:2:96:G:H2'	2:2:97:C:O4'	2.20	0.42
3:3:217:U:OP1	64:3:1616:HOH:O	2.22	0.42
3:3:794:U:H2'	3:3:795:C:C6	2.54	0.42
3:3:1338:U:H2'	3:3:1339:G:H8	1.80	0.42
5:8:69:U:H2'	5:8:70:G:C8	2.54	0.42
11:AF:15:ASN:O	11:AF:19:GLU:HG2	2.20	0.42
17:AL:62:ALA:HB3	17:AL:89:PHE:HB2	2.00	0.42
19:AN:85:LYS:HG3	19:AN:86:GLY:N	2.34	0.42
39:BD:150:MET:HE3	39:BD:150:MET:HB2	1.95	0.42
41:BF:41:ILE:HD11	41:BF:105:LYS:HG2	2.01	0.42
1:1:36:U:H2'	1:1:37:C:H6	1.83	0.42
1:1:217:G:H5''	1:1:219:G:N7	2.33	0.42
1:1:509:G:H5''	1:1:512:C:H1'	2.00	0.42
1:1:610:G:H2'	1:1:611:U:C6	2.55	0.42
1:1:1521:U:H2'	1:1:1522:C:C6	2.54	0.42
1:1:1849:A:H2'	1:1:1850:A:C8	2.55	0.42
3:3:417:U:H2'	3:3:418:G:O4'	2.20	0.42
9:AD:2:ARG:O	9:AD:126:ARG:HD3	2.20	0.42
17:AL:164:ALA:O	17:AL:167:GLU:HG3	2.19	0.42
38:BC:99:LEU:O	38:BC:103:ILE:HG12	2.19	0.42
38:BC:171:LYS:CD	38:BC:176:LEU:HD11	2.49	0.42
41:BF:39:GLN:HA	41:BF:42:ASP:OD1	2.20	0.42
42:BG:72:ARG:O	64:BG:201:HOH:O	2.22	0.42
51:BP:47:GLU:HG2	51:BP:49:TYR:CE1	2.54	0.42
52:BQ:92:ILE:HD13	52:BQ:150:ILE:HD11	2.00	0.42
54:BS:35:VAL:O	54:BS:39:THR:HG22	2.18	0.42
58:BW:49:LEU:O	58:BW:49:LEU:HD12	2.19	0.42
1:1:6:G:H2'	1:1:7:G:C8	2.53	0.42
1:1:994:U:C4'	64:1:3797:HOH:O	2.58	0.42
1:1:1412:G:O2'	1:1:1413:C:H5'	2.19	0.42
1:1:1515:C:N3	1:1:1647:G:N1	2.47	0.42
1:1:2549:A:N1	64:1:3528:HOH:O	2.36	0.42
1:1:2769:U:H1'	1:1:2770:A:H5''	2.01	0.42
64:1:6792:HOH:O	18:AM:94:SER:HB3	2.19	0.42
3:3:160:G:H2'	3:3:161:C:H6	1.85	0.42
3:3:1026:C:H2'	3:3:1027:U:C6	2.55	0.42
3:3:1247:G:H1'	3:3:1250:C:N4	2.35	0.42
17:AL:63:VAL:O	17:AL:66:GLU:HG2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
29:AX:57:GLU:O	29:AX:61:GLU:HB3	2.20	0.42
38:BC:89:GLU:HA	38:BC:95:MET:SD	2.60	0.42
38:BC:132:ILE:HD12	38:BC:146:PHE:HE1	1.83	0.42
39:BD:28:GLN:HG2	64:BD:336:HOH:O	2.18	0.42
40:BE:154:ILE:HB	40:BE:164:LYS:HB3	2.02	0.42
40:BE:212:THR:OG1	40:BE:213:ILE:N	2.53	0.42
45:BJ:44:MET:HE3	45:BJ:44:MET:HB3	1.97	0.42
46:BK:106:THR:HG22	46:BK:124:ILE:HD12	2.02	0.42
52:BQ:5:HIS:CG	52:BQ:117:LEU:HD22	2.54	0.42
1:1:22:G:H5''	22:AQ:4:ILE:HB	2.02	0.42
1:1:41:A:H2'	1:1:42:G:C8	2.55	0.42
1:1:1744:A:N3	1:1:1802:A:H2'	2.35	0.42
1:1:2884:A:H5'	1:1:2885:C:O4'	2.20	0.42
2:2:121:C:H2'	2:2:122:A:C8	2.55	0.42
3:3:98:C:H5''	3:3:293:G:O2'	2.19	0.42
9:AD:1:MET:HE2	9:AD:1:MET:HB2	1.84	0.42
15:AJ:123:GLU:HB2	15:AJ:128:LYS:HG2	2.01	0.42
17:AL:83:TYR:OH	17:AL:125:ASP:OD1	2.31	0.42
38:BC:153:HIS:C	38:BC:158:VAL:HG21	2.44	0.42
40:BE:203:MET:HE2	40:BE:203:MET:HB2	1.82	0.42
43:BH:127:ALA:HB1	64:BY:101:HOH:O	2.19	0.42
54:BS:39:THR:OG1	54:BS:40:THR:N	2.52	0.42
55:BT:70:HIS:HD2	55:BT:88:HIS:HB2	1.83	0.42
58:BW:9:LYS:HE2	58:BW:9:LYS:HB2	1.88	0.42
1:1:35:C:O2'	8:AC:48:GLY:O	2.37	0.42
1:1:612:A:H2'	1:1:613:U:C6	2.55	0.42
1:1:1216:G:H4'	20:AO:16:GLY:H	1.84	0.42
1:1:1776:U:H2'	1:1:1777:G:C8	2.55	0.42
1:1:2118:G:N7	1:1:2238:A:H2'	2.35	0.42
3:3:155:A:H2'	3:3:156:U:C6	2.54	0.42
3:3:246:C:O2'	53:BR:93:PRO:O	2.37	0.42
3:3:929:A:H5''	3:3:930:C:OP2	2.19	0.42
17:AL:83:TYR:HE2	17:AL:121:LYS:HG3	1.84	0.42
39:BD:86:ILE:HG13	39:BD:91:ILE:HG22	2.01	0.42
43:BH:22:GLY:HA2	60:BY:60:ILE:HB	2.00	0.42
46:BK:67:LYS:HA	46:BK:67:LYS:HD3	1.90	0.42
47:BL:30:THR:O	47:BL:32:VAL:HG23	2.20	0.42
55:BT:74:MET:HE3	55:BT:80:MET:HE1	2.01	0.42
56:BU:30:GLU:CD	56:BU:30:GLU:N	2.77	0.42
58:BW:50:LEU:HD23	58:BW:70:VAL:HG22	2.01	0.42
1:1:252:U:H3'	1:1:253:C:O2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:474:A:N3	64:1:3546:HOH:O	2.37	0.42
1:1:802:A:H2'	1:1:803:A:C8	2.55	0.42
1:1:1249:C:H2'	1:1:1250:C:C6	2.55	0.42
1:1:1296:U:H5	64:1:5302:HOH:O	2.03	0.42
3:3:52:U:H2'	3:3:53:G:C8	2.55	0.42
3:3:100:U:OP1	64:3:1619:HOH:O	2.22	0.42
3:3:167:U:H2'	3:3:168:G:O4'	2.19	0.42
3:3:218:G:H5''	53:BR:70:ILE:HD11	2.01	0.42
3:3:427:A:H2'	3:3:428:U:C6	2.55	0.42
3:3:552:U:H2'	3:3:553:G:H8	1.85	0.42
3:3:627:U:O4	3:3:644:A:H2'	2.20	0.42
3:3:677:U:H2'	3:3:678:U:C6	2.54	0.42
3:3:1404:C:H2'	3:3:1405:G:O4'	2.20	0.42
17:AL:10:PRO:HG2	17:AL:15:ARG:HG2	2.01	0.42
17:AL:121:LYS:HZ2	17:AL:121:LYS:HG2	1.76	0.42
28:AW:13:ILE:HG13	28:AW:17:LYS:HD2	2.01	0.42
37:BB:147:ILE:HD12	37:BB:169:VAL:HB	2.02	0.42
49:BN:58:LYS:HD2	49:BN:58:LYS:HA	1.70	0.42
51:BP:26:ARG:HG2	51:BP:31:TYR:CZ	2.55	0.42
1:1:241:A:C8	1:1:242:C:C5	3.08	0.42
1:1:1458:A:H2'	1:1:1459:U:C6	2.55	0.42
1:1:1780:U:H2'	1:1:1781:A:O4'	2.20	0.42
1:1:2664:G:H2'	1:1:2665:C:C6	2.55	0.42
3:3:554:A:H2'	3:3:555:C:H6	1.85	0.42
37:BB:88:LYS:O	37:BB:91:SER:OG	2.35	0.42
43:BH:51:ILE:HD11	43:BH:56:ARG:HG2	2.02	0.42
1:1:66:C:H4'	1:1:72:G:N7	2.34	0.42
1:1:129:U:H4'	1:1:130:A:C5'	2.49	0.42
1:1:808:A:OP2	35:Ad:7:LYS:HG3	2.20	0.42
1:1:2071:C:H5''	22:AQ:65:HIS:CE1	2.55	0.42
1:1:2098:C:OP1	6:AA:2:GLY:HA3	2.20	0.42
2:2:75:U:H2'	2:2:76:U:C6	2.55	0.42
3:3:315:A:H2'	3:3:316:U:C6	2.54	0.42
3:3:922:A:C2	3:3:1305:U:H2'	2.55	0.42
3:3:929:A:O2'	3:3:989:G:OP2	2.24	0.42
3:3:1378:U:H2'	3:3:1379:G:O4'	2.20	0.42
64:3:3177:HOH:O	46:BK:43:LYS:HD2	2.18	0.42
8:AC:101:ARG:HG3	8:AC:101:ARG:NH1	2.34	0.42
23:AR:68:GLU:HG2	64:AR:119:HOH:O	2.19	0.42
36:BA:25:VAL:HG12	36:BA:29:ARG:HH11	1.85	0.42
38:BC:94:MET:HB3	38:BC:94:MET:HE3	1.76	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
38:BC:102:SER:O	38:BC:105:ARG:HG2	2.19	0.42
54:BS:57:LYS:HE2	64:BS:103:HOH:O	2.12	0.42
56:BU:2:THR:HG21	56:BU:133:HIS:CG	2.54	0.42
1:1:802:A:H2'	1:1:803:A:O4'	2.20	0.41
1:1:1277:C:O2'	1:1:1278:U:H5'	2.20	0.41
1:1:1505:A:H5''	64:1:5795:HOH:O	2.20	0.41
1:1:1528:G:H2'	1:1:1529:C:C6	2.55	0.41
2:2:71:U:H2'	2:2:72:U:C6	2.55	0.41
3:3:508:G:O2'	3:3:514:A:N1	2.47	0.41
3:3:615:G:H2'	3:3:616:U:C6	2.55	0.41
3:3:828:C:O2'	3:3:829:U:H5'	2.21	0.41
3:3:882:C:H2'	3:3:883:A:C8	2.54	0.41
9:AD:69:GLN:C	9:AD:69:GLN:CD	2.88	0.41
19:AN:49:THR:OG1	64:AN:301:HOH:O	2.21	0.41
32:Aa:40:ARG:HA	32:Aa:40:ARG:HD2	1.82	0.41
36:BA:95:ILE:HD12	36:BA:182:ARG:HE	1.85	0.41
45:BJ:35:GLU:H	45:BJ:35:GLU:CD	2.28	0.41
54:BS:23:VAL:HG21	54:BS:38:TYR:HE2	1.82	0.41
56:BU:4:VAL:HG13	56:BU:12:MET:HE2	2.01	0.41
56:BU:117:GLY:C	56:BU:118:ARG:HG2	2.45	0.41
58:BW:1:MET:HE2	58:BW:1:MET:HB2	1.94	0.41
58:BW:87:LYS:HZ2	58:BW:87:LYS:HG3	1.73	0.41
1:1:650:G:H2'	1:1:651:G:C8	2.55	0.41
1:1:744:U:H2'	1:1:745:C:C6	2.55	0.41
1:1:1208:A:H5'	64:1:5798:HOH:O	2.20	0.41
1:1:2006:A:HO2'	1:1:2007:G:P	2.39	0.41
1:1:2638:A:H4'	1:1:2820:G:C8	2.55	0.41
1:1:2672:U:OP2	1:1:2680:G:N1	2.35	0.41
1:1:2714:U:H2'	1:1:2715:C:H6	1.81	0.41
1:1:2738:U:H2'	1:1:2739:A:C8	2.54	0.41
64:1:3301:HOH:O	14:AI:35:CYS:O	2.21	0.41
3:3:835:G:H4'	3:3:836:U:O5'	2.19	0.41
3:3:917:G:C8	3:3:1312:A:H4'	2.55	0.41
3:3:1046:C:H5''	38:BC:151:ILE:O	2.20	0.41
6:AA:165:ARG:HB3	35:Ad:72:THR:OG1	2.20	0.41
10:AE:30:LYS:HD3	10:AE:30:LYS:HA	1.77	0.41
15:AJ:3:LYS:NZ	15:AJ:11:ASP:OD2	2.27	0.41
19:AN:132:TYR:HA	19:AN:137:HIS:CD2	2.55	0.41
22:AQ:46:ARG:HH21	22:AQ:96:GLU:CD	2.27	0.41
36:BA:159:GLN:HG2	36:BA:159:GLN:H	1.74	0.41
40:BE:220:ILE:O	40:BE:225:PRO:HD2	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
45:BJ:87:ILE:O	45:BJ:91:THR:HG23	2.20	0.41
56:BU:4:VAL:HG22	56:BU:12:MET:HE2	2.02	0.41
60:BY:21:ILE:N	60:BY:32:GLN:O	2.53	0.41
1:1:364:G:C5	64:1:3603:HOH:O	2.57	0.41
1:1:841:A:N7	1:1:1821:A:C4	2.89	0.41
1:1:1489:U:H2'	1:1:1490:A:O4'	2.20	0.41
1:1:2050:U:H2'	1:1:2051:A:C8	2.55	0.41
64:1:4517:HOH:O	33:Ab:22:ALA:HB2	2.19	0.41
3:3:1252:G:H22	3:3:1278:G:H2'	1.84	0.41
7:AB:144:VAL:HG22	7:AB:164:GLU:HG2	2.02	0.41
9:AD:132:CYS:SG	9:AD:133:LYS:HE2	2.60	0.41
24:AS:88:ASP:C	24:AS:88:ASP:OD2	2.62	0.41
33:Ab:6:GLU:H	33:Ab:6:GLU:CD	2.27	0.41
35:Ad:50:THR:HG21	35:Ad:63:LYS:HG2	2.01	0.41
37:BB:58:ASP:HB3	37:BB:178:THR:HG23	2.02	0.41
38:BC:94:MET:H	38:BC:94:MET:HG2	1.71	0.41
57:BV:10:THR:HG21	57:BV:33:ILE:HG23	2.01	0.41
1:1:662:U:C5	1:1:678:C:H5	2.37	0.41
1:1:1304:G:H1'	1:1:1329:A:N6	2.35	0.41
1:1:2036:U:H2'	1:1:2037:G:O4'	2.20	0.41
1:1:2300:A:H4'	1:1:2301:A:O5'	2.21	0.41
1:1:2309:C:O2'	1:1:2310:U:H5'	2.20	0.41
1:1:2525:U:H2'	1:1:2526:U:C6	2.55	0.41
2:2:100:U:H2'	2:2:101:C:C6	2.54	0.41
3:3:774:U:H2'	3:3:775:C:C6	2.55	0.41
3:3:809:A:H2'	3:3:810:A:C8	2.56	0.41
3:3:1318:G:O3'	45:BJ:71:GLY:HA3	2.19	0.41
3:3:1462:C:H2'	3:3:1463:G:C8	2.55	0.41
6:AA:152:LYS:HA	6:AA:152:LYS:HD2	1.88	0.41
8:AC:140:ILE:HD13	8:AC:164:LEU:HD11	2.02	0.41
13:AH:114:ALA:HB3	13:AH:117:VAL:HG23	2.02	0.41
38:BC:126:LEU:HD23	38:BC:126:LEU:HA	1.83	0.41
43:BH:91:GLN:OE1	43:BH:91:GLN:N	2.46	0.41
45:BJ:47:SER:HB3	45:BJ:51:LEU:HD12	2.02	0.41
54:BS:36:THR:HB	54:BS:47:ARG:HD3	2.02	0.41
1:1:754:A:H2'	1:1:755:C:O4'	2.20	0.41
1:1:1970:G:H2'	1:1:1971:U:C6	2.56	0.41
1:1:2305:U:H2'	1:1:2306:U:H6	1.83	0.41
1:1:2746:C:O2	7:AB:318:LYS:NZ	2.46	0.41
3:3:161:C:H2'	3:3:162:A:H8	1.84	0.41
3:3:188:A:N3	3:3:204:C:O2'	2.46	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:3:395:U:C3'	64:3:2343:HOH:O	2.52	0.41
3:3:1256:G:OP1	50:BO:131:ARG:NH1	2.49	0.41
3:3:1323:U:H2'	3:3:1324:A:H8	1.85	0.41
9:AD:133:LYS:HA	9:AD:133:LYS:HD3	1.97	0.41
12:AG:75:ILE:HG21	12:AG:132:LEU:HD11	2.02	0.41
14:AI:96:LEU:CD1	14:AI:104:VAL:HG22	2.50	0.41
19:AN:125:ARG:HD3	19:AN:125:ARG:HA	1.91	0.41
37:BB:182:ASP:OD1	57:BV:40:ARG:NH1	2.54	0.41
42:BG:67:LEU:HD23	42:BG:67:LEU:HA	1.85	0.41
47:BL:20:CYS:O	47:BL:24:LYS:HG2	2.20	0.41
48:BM:108:GLU:HG2	48:BM:110:VAL:HG13	2.01	0.41
1:1:281:C:H2'	1:1:282:A:O4'	2.21	0.41
1:1:1480:A:H1'	1:1:1481:C:C6	2.56	0.41
1:1:1902:U:O2'	1:1:1905:A:N7	2.46	0.41
1:1:2467:U:N1	64:1:4231:HOH:O	2.54	0.41
3:3:813:C:H2'	3:3:814:G:O4'	2.20	0.41
3:3:922:A:H2	3:3:1305:U:H2'	1.85	0.41
8:AC:8:ASP:HA	8:AC:143:VAL:HG22	2.03	0.41
9:AD:53:LYS:HE3	9:AD:53:LYS:HB3	1.72	0.41
32:Aa:36:SER:HA	64:Aa:109:HOH:O	2.20	0.41
41:BF:47:ASP:CG	41:BF:48:LEU:H	2.29	0.41
43:BH:73:VAL:HG23	64:BH:203:HOH:O	2.20	0.41
44:BI:90:GLU:OE2	44:BI:113:GLN:NE2	2.54	0.41
45:BJ:26:LYS:HB3	56:BU:149:TYR:CE2	2.56	0.41
45:BJ:57:VAL:HG13	64:BJ:210:HOH:O	2.20	0.41
55:BT:99:GLN:H	55:BT:102:MET:HE3	1.85	0.41
58:BW:67:TYR:CZ	58:BW:69:LYS:HD2	2.56	0.41
1:1:523:A:H2'	1:1:524:U:H6	1.85	0.41
1:1:618:C:H2'	1:1:619:G:C8	2.56	0.41
1:1:1023:A:H4'	1:1:1024:G:OP2	2.21	0.41
1:1:1063:C:H2'	1:1:1064:G:O4'	2.20	0.41
1:1:2766:A:OP2	64:1:3309:HOH:O	2.21	0.41
3:3:762:G:H2'	3:3:763:C:C6	2.56	0.41
3:3:800:G:OP2	3:3:816:G:N1	2.47	0.41
3:3:1191:U:H2'	3:3:1192:G:C8	2.56	0.41
8:AC:195:VAL:HB	8:AC:215:VAL:HG22	2.03	0.41
9:AD:27:ASP:N	9:AD:27:ASP:OD1	2.53	0.41
15:AJ:3:LYS:HD3	15:AJ:8:TYR:CE2	2.55	0.41
16:AK:53:GLU:OE2	16:AK:162:ARG:NH2	2.50	0.41
20:AO:9:VAL:HG22	20:AO:58:VAL:HG22	2.03	0.41
37:BB:101:VAL:HG21	37:BB:157:VAL:HG21	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
40:BE:227:ILE:HG23	64:BE:316:HOH:O	2.15	0.41
42:BG:12:LYS:HB2	42:BG:12:LYS:HE2	1.85	0.41
45:BJ:23:GLY:O	45:BJ:24:THR:OG1	2.36	0.41
53:BR:7:LEU:HD11	53:BR:29:VAL:HG11	2.02	0.41
1:1:387:C:H2'	1:1:388:G:C8	2.56	0.41
1:1:915:U:H5'	1:1:2445:A:O2'	2.21	0.41
1:1:1093:G:H2'	1:1:1094:G:O4'	2.20	0.41
1:1:1217:G:H2'	1:1:1218:C:C6	2.55	0.41
1:1:1802:A:H1'	64:1:5954:HOH:O	2.20	0.41
1:1:2084:A:N7	64:1:3537:HOH:O	2.37	0.41
1:1:2321:G:C6	1:1:2325:A:N6	2.88	0.41
3:3:890:G:OP1	64:3:1618:HOH:O	2.22	0.41
3:3:1380:A:H2'	3:3:1381:G:O4'	2.21	0.41
4:7:107:LEU:C	4:7:107:LEU:HD13	2.45	0.41
36:BA:165:ARG:HA	36:BA:165:ARG:HD2	1.85	0.41
38:BC:107:TRP:CH2	38:BC:115:ASN:ND2	2.88	0.41
44:BI:32:LYS:HB2	44:BI:32:LYS:HE3	1.69	0.41
46:BK:47:MET:HE2	46:BK:47:MET:HB2	1.86	0.41
50:BO:104:GLN:HB2	50:BO:106:LYS:HE2	2.01	0.41
61:BZ:57:LYS:HA	61:BZ:57:LYS:HD3	1.96	0.41
1:1:57:G:O2'	1:1:59:C:OP2	2.37	0.41
1:1:219:G:H2'	1:1:220:A:C8	2.55	0.41
1:1:330:G:H2'	1:1:331:U:C6	2.56	0.41
1:1:524:U:H2'	1:1:525:A:C8	2.55	0.41
1:1:808:A:H2'	1:1:809:C:C6	2.56	0.41
1:1:962:U:O2'	16:AK:35:ASP:OD2	2.30	0.41
1:1:1055:U:H2'	1:1:1056:U:C6	2.56	0.41
1:1:1323:C:H2'	1:1:1324:U:H6	1.86	0.41
1:1:1549:C:H2'	1:1:1550:G:C8	2.56	0.41
1:1:1685:C:H2'	1:1:1686:C:H6	1.86	0.41
1:1:1895:A:H2'	1:1:1896:C:H6	1.86	0.41
1:1:2307:G:H2'	1:1:2308:A:H8	1.86	0.41
2:2:37:C:H2'	2:2:38:C:H6	1.86	0.41
3:3:160:G:H2'	3:3:161:C:C6	2.56	0.41
3:3:251:C:H2'	3:3:252:U:C6	2.56	0.41
3:3:257:G:C5'	53:BR:42:LYS:HB3	2.50	0.41
3:3:560:C:C2	39:BD:147:ILE:HD13	2.56	0.41
3:3:688:G:H1'	64:3:2028:HOH:O	2.20	0.41
3:3:863:A:H2'	3:3:864:A:C8	2.56	0.41
3:3:1119:U:H2'	3:3:1120:C:C6	2.56	0.41
3:3:1181:C:OP1	64:3:1617:HOH:O	2.22	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:3:1302:G:H2'	3:3:1303:U:C6	2.56	0.41
7:AB:253:MET:HG2	7:AB:254:GLY:N	2.35	0.41
8:AC:30:ASP:OD1	8:AC:30:ASP:N	2.49	0.41
10:AE:87:LYS:HB2	10:AE:87:LYS:HE2	1.90	0.41
11:AF:71:LYS:HB3	11:AF:71:LYS:HE3	1.80	0.41
12:AG:71:ARG:HB2	12:AG:74:ARG:HG3	2.03	0.41
23:AR:50:VAL:HG22	23:AR:64:LEU:HD13	2.03	0.41
34:Ac:64:ARG:HG2	34:Ac:84:ARG:HG3	2.02	0.41
37:BB:146:ILE:C	37:BB:147:ILE:HD13	2.45	0.41
41:BF:182:LEU:HB3	64:BF:428:HOH:O	2.21	0.41
43:BH:36:HIS:CD2	43:BH:71:LYS:HD3	2.56	0.41
43:BH:151:LYS:H	43:BH:151:LYS:HG3	1.72	0.41
43:BH:156:GLU:HG3	64:BH:202:HOH:O	2.21	0.41
50:BO:126:LYS:HB2	50:BO:126:LYS:HE2	1.50	0.41
52:BQ:3:LYS:HG2	52:BQ:8:ARG:O	2.21	0.41
54:BS:60:ARG:HG2	54:BS:60:ARG:HH11	1.86	0.41
1:1:1105:U:H2'	1:1:1106:C:H6	1.86	0.41
1:1:1822:U:H2'	64:1:5008:HOH:O	2.20	0.41
1:1:1945:C:H2'	1:1:1946:C:H6	1.85	0.41
1:1:2774:U:H2'	1:1:2775:C:O4'	2.21	0.41
3:3:316:U:H2'	3:3:317:C:C6	2.56	0.41
3:3:391:A:H2'	3:3:392:G:C8	2.56	0.41
3:3:885:C:H2'	3:3:886:G:C8	2.56	0.41
3:3:1361:C:H2'	3:3:1362:C:C6	2.56	0.41
16:AK:85:MET:HB2	16:AK:136:VAL:HG22	2.03	0.41
24:AS:56:MET:HE2	24:AS:101:VAL:C	2.46	0.41
30:AY:72:HIS:CG	30:AY:73:PRO:HD2	2.56	0.41
57:BV:46:TYR:CZ	57:BV:55:ALA:HB3	2.56	0.41
58:BW:57:THR:HA	58:BW:64:SER:HB2	2.03	0.41
58:BW:73:ASP:OD1	58:BW:74:GLU:N	2.54	0.41
1:1:284:A:H61	1:1:364:G:H1'	1.86	0.40
1:1:1105:U:H2'	1:1:1106:C:C6	2.56	0.40
1:1:2022:U:OP2	7:AB:223:LYS:NZ	2.47	0.40
1:1:2805:A:H8	1:1:2805:A:O5'	2.04	0.40
3:3:399:A:H5'	61:BZ:44:LYS:O	2.20	0.40
3:3:434:A:O4'	3:3:435:G:C8	2.75	0.40
3:3:560:C:H1'	39:BD:147:ILE:CD1	2.46	0.40
3:3:853:A:H2'	3:3:854:A:H8	1.86	0.40
8:AC:126:LEU:HD23	8:AC:126:LEU:HA	1.93	0.40
13:AH:49:ILE:HG23	13:AH:117:VAL:HG22	2.02	0.40
16:AK:39:LYS:HB2	16:AK:39:LYS:HE2	1.76	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
42:BG:29:LEU:HA	42:BG:29:LEU:HD12	1.82	0.40
58:BW:1:MET:HE1	58:BW:34:ASP:HB3	2.03	0.40
1:1:287:U:H2'	1:1:288:C:H6	1.86	0.40
1:1:1092:A:H2'	1:1:1093:G:O4'	2.21	0.40
1:1:1107:G:N2	20:AO:44:SER:HB2	2.36	0.40
1:1:1746:C:H2'	1:1:1747:U:C6	2.56	0.40
1:1:1884:A:H2'	1:1:1885:G:H8	1.85	0.40
1:1:2644:C:H2'	1:1:2645:C:O4'	2.21	0.40
1:1:2842:U:H2'	1:1:2843:G:O4'	2.21	0.40
3:3:1:A:N3	41:BF:153:ALA:HA	2.37	0.40
3:3:570:G:H3'	64:3:1715:HOH:O	2.21	0.40
8:AC:73:ARG:HD3	8:AC:78:SER:O	2.21	0.40
10:AE:87:LYS:NZ	10:AE:174:GLN:OE1	2.46	0.40
17:AL:28:LEU:HD22	17:AL:51:PRO:HG3	2.03	0.40
36:BA:69:ARG:C	36:BA:80:THR:HG1	2.29	0.40
38:BC:172:LYS:HE3	38:BC:172:LYS:HB3	1.95	0.40
42:BG:75:ILE:O	42:BG:75:ILE:HG13	2.20	0.40
44:BI:11:LEU:HD23	44:BI:11:LEU:HA	1.95	0.40
1:1:755:C:H5'	64:1:4217:HOH:O	2.21	0.40
1:1:1095:U:H2'	1:1:1102:G:C8	2.57	0.40
3:3:1185:A:N3	3:3:1185:A:H2'	2.35	0.40
13:AH:2:LYS:HG3	13:AH:3:GLY:N	2.36	0.40
18:AM:118:LYS:HE2	18:AM:118:LYS:HB2	1.90	0.40
36:BA:36:MET:HB3	36:BA:36:MET:HE3	1.98	0.40
54:BS:17:LEU:HD23	54:BS:17:LEU:HA	1.90	0.40
1:1:1826:A:C4	1:1:1963:G:C6	3.10	0.40
1:1:2529:U:H2'	1:1:2530:U:C6	2.57	0.40
1:1:2582:G:H2'	1:1:2583:G:C8	2.56	0.40
1:1:2784:A:H2'	1:1:2785:C:C6	2.56	0.40
1:1:2848:C:H2'	1:1:2849:A:C8	2.56	0.40
3:3:853:A:H2'	3:3:854:A:C8	2.56	0.40
3:3:1095:U:H2'	3:3:1096:C:O4'	2.21	0.40
3:3:1122:G:H2'	3:3:1123:A:C8	2.57	0.40
8:AC:44:LEU:HB3	8:AC:101:ARG:NH2	2.36	0.40
14:AI:21:ARG:O	64:AI:301:HOH:O	2.22	0.40
16:AK:150:LEU:HD23	16:AK:150:LEU:HA	1.88	0.40
23:AR:28:THR:O	32:Aa:6:LYS:NZ	2.51	0.40
27:AV:77:ARG:HE	27:AV:77:ARG:HB3	1.79	0.40
36:BA:69:ARG:HB2	36:BA:83:MET:HG3	2.03	0.40
43:BH:36:HIS:ND1	45:BJ:45:LYS:HE3	2.36	0.40
49:BN:50:LEU:HD23	49:BN:50:LEU:HA	1.91	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
52:BQ:106:LYS:HE2	52:BQ:106:LYS:HB2	1.91	0.40
54:BS:20:TYR:HB2	54:BS:24:PHE:HE2	1.86	0.40
57:BV:21:TYR:HB3	64:BV:201:HOH:O	2.21	0.40
59:BX:41:ARG:NH2	59:BX:54:THR:O	2.55	0.40
1:1:307:U:H2'	1:1:308:G:C8	2.57	0.40
1:1:547:A:H2'	1:1:548:A:C8	2.57	0.40
1:1:1503:U:H2'	1:1:1504:U:C6	2.56	0.40
2:2:76:U:H2'	2:2:77:A:C8	2.56	0.40
3:3:283:G:H5'	53:BR:59:LYS:HG3	2.04	0.40
3:3:323:C:H2'	3:3:324:C:C6	2.57	0.40
7:AB:3:SER:N	64:AB:521:HOH:O	2.54	0.40
9:AD:126:ARG:NH2	9:AD:146:ARG:O	2.45	0.40
41:BF:139:VAL:HG11	41:BF:184:PHE:HA	2.04	0.40
43:BH:88:LYS:HD3	43:BH:88:LYS:HA	1.93	0.40
45:BJ:111:ASP:OD2	45:BJ:113:ARG:HD3	2.21	0.40
46:BK:60:VAL:HG13	46:BK:73:THR:HG23	2.03	0.40
49:BN:38:PRO:HG2	49:BN:119:PHE:CZ	2.56	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
4	7	255/280 (91%)	250 (98%)	5 (2%)	0	100	100
6	AA	233/238 (98%)	230 (99%)	2 (1%)	1 (0%)	30	23
7	AB	333/337 (99%)	326 (98%)	7 (2%)	0	100	100
8	AC	250/253 (99%)	245 (98%)	5 (2%)	0	100	100
9	AD	157/165 (95%)	153 (98%)	4 (2%)	0	100	100
10	AE	169/176 (96%)	163 (96%)	6 (4%)	0	100	100
11	AF	104/120 (87%)	101 (97%)	3 (3%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
12	AG	137/143 (96%)	136 (99%)	1 (1%)	0	100	100
13	AH	130/132 (98%)	128 (98%)	2 (2%)	0	100	100
14	AI	137/140 (98%)	134 (98%)	3 (2%)	0	100	100
15	AJ	193/196 (98%)	190 (98%)	3 (2%)	0	100	100
16	AK	157/173 (91%)	153 (98%)	4 (2%)	0	100	100
17	AL	170/174 (98%)	169 (99%)	1 (1%)	0	100	100
18	AM	123/126 (98%)	122 (99%)	1 (1%)	0	100	100
19	AN	145/151 (96%)	143 (99%)	2 (1%)	0	100	100
20	AO	54/61 (88%)	53 (98%)	1 (2%)	0	100	100
21	AP	94/97 (97%)	93 (99%)	1 (1%)	0	100	100
22	AQ	147/151 (97%)	143 (97%)	4 (3%)	0	100	100
23	AR	78/82 (95%)	77 (99%)	1 (1%)	0	100	100
24	AS	113/119 (95%)	112 (99%)	1 (1%)	0	100	100
25	AT	58/62 (94%)	58 (100%)	0	0	100	100
26	AU	63/67 (94%)	62 (98%)	1 (2%)	0	100	100
27	AV	151/153 (99%)	150 (99%)	1 (1%)	0	100	100
28	AW	82/99 (83%)	78 (95%)	4 (5%)	0	100	100
29	AX	82/89 (92%)	82 (100%)	0	0	100	100
30	AY	124/129 (96%)	123 (99%)	1 (1%)	0	100	100
31	AZ	53/56 (95%)	49 (92%)	4 (8%)	0	100	100
32	Aa	48/51 (94%)	47 (98%)	1 (2%)	0	100	100
33	Ab	41/49 (84%)	41 (100%)	0	0	100	100
34	Ac	89/92 (97%)	88 (99%)	1 (1%)	0	100	100
35	Ad	87/94 (93%)	83 (95%)	4 (5%)	0	100	100
36	BA	177/203 (87%)	170 (96%)	7 (4%)	0	100	100
37	BB	186/225 (83%)	182 (98%)	4 (2%)	0	100	100
38	BC	138/318 (43%)	134 (97%)	4 (3%)	0	100	100
39	BD	158/218 (72%)	152 (96%)	6 (4%)	0	100	100
40	BE	226/235 (96%)	217 (96%)	9 (4%)	0	100	100
41	BF	199/209 (95%)	182 (92%)	17 (8%)	0	100	100
42	BG	123/136 (90%)	115 (94%)	7 (6%)	1 (1%)	16	8

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
43	BH	171/189 (90%)	164 (96%)	7 (4%)	0	100	100
44	BI	127/130 (98%)	124 (98%)	3 (2%)	0	100	100
45	BJ	130/134 (97%)	125 (96%)	5 (4%)	0	100	100
46	BK	122/125 (98%)	117 (96%)	5 (4%)	0	100	100
47	BL	68/102 (67%)	64 (94%)	4 (6%)	0	100	100
48	BM	119/126 (94%)	115 (97%)	4 (3%)	0	100	100
49	BN	137/142 (96%)	132 (96%)	5 (4%)	0	100	100
50	BO	129/162 (80%)	126 (98%)	3 (2%)	0	100	100
51	BP	44/50 (88%)	40 (91%)	4 (9%)	0	100	100
52	BQ	148/152 (97%)	146 (99%)	2 (1%)	0	100	100
53	BR	105/109 (96%)	102 (97%)	3 (3%)	0	100	100
54	BS	56/64 (88%)	55 (98%)	1 (2%)	0	100	100
55	BT	112/136 (82%)	111 (99%)	1 (1%)	0	100	100
56	BU	146/149 (98%)	144 (99%)	2 (1%)	0	100	100
57	BV	50/56 (89%)	49 (98%)	1 (2%)	0	100	100
58	BW	88/101 (87%)	84 (96%)	4 (4%)	0	100	100
59	BX	59/62 (95%)	55 (93%)	4 (7%)	0	100	100
60	BY	46/76 (60%)	42 (91%)	3 (6%)	1 (2%)	5	1
61	BZ	55/57 (96%)	51 (93%)	4 (7%)	0	100	100
All	All	7176/7921 (91%)	6980 (97%)	193 (3%)	3 (0%)	100	100

All (3) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
42	BG	28	ALA
60	BY	46	VAL
6	AA	120	VAL

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
4	7	228/251 (91%)	222 (97%)	6 (3%)	41	37
6	AA	185/188 (98%)	185 (100%)	0	100	100
7	AB	276/277 (100%)	269 (98%)	7 (2%)	42	38
8	AC	197/198 (100%)	197 (100%)	0	100	100
9	AD	135/140 (96%)	129 (96%)	6 (4%)	24	18
10	AE	143/148 (97%)	138 (96%)	5 (4%)	31	25
11	AF	79/91 (87%)	77 (98%)	2 (2%)	42	38
12	AG	115/119 (97%)	115 (100%)	0	100	100
13	AH	109/109 (100%)	106 (97%)	3 (3%)	38	34
14	AI	107/108 (99%)	104 (97%)	3 (3%)	38	34
15	AJ	165/166 (99%)	162 (98%)	3 (2%)	54	52
16	AK	134/141 (95%)	133 (99%)	1 (1%)	81	82
17	AL	141/143 (99%)	138 (98%)	3 (2%)	48	45
18	AM	103/104 (99%)	102 (99%)	1 (1%)	73	73
19	AN	119/123 (97%)	118 (99%)	1 (1%)	79	80
20	AO	49/54 (91%)	49 (100%)	0	100	100
21	AP	85/86 (99%)	85 (100%)	0	100	100
22	AQ	122/124 (98%)	122 (100%)	0	100	100
23	AR	71/73 (97%)	70 (99%)	1 (1%)	62	62
24	AS	97/100 (97%)	95 (98%)	2 (2%)	48	45
25	AT	53/54 (98%)	53 (100%)	0	100	100
26	AU	55/57 (96%)	54 (98%)	1 (2%)	54	52
27	AV	134/134 (100%)	132 (98%)	2 (2%)	60	59
28	AW	66/78 (85%)	66 (100%)	0	100	100
29	AX	74/78 (95%)	73 (99%)	1 (1%)	62	62
30	AY	103/106 (97%)	100 (97%)	3 (3%)	37	32
31	AZ	48/49 (98%)	47 (98%)	1 (2%)	48	45
32	Aa	47/48 (98%)	46 (98%)	1 (2%)	48	45
33	Ab	37/40 (92%)	37 (100%)	0	100	100
34	Ac	81/82 (99%)	81 (100%)	0	100	100
35	Ad	73/76 (96%)	73 (100%)	0	100	100
36	BA	158/173 (91%)	150 (95%)	8 (5%)	20	13

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
37	BB	164/193 (85%)	158 (96%)	6 (4%)	29	23
38	BC	111/250 (44%)	102 (92%)	9 (8%)	9	4
39	BD	138/178 (78%)	133 (96%)	5 (4%)	30	24
40	BE	204/209 (98%)	196 (96%)	8 (4%)	27	22
41	BF	163/170 (96%)	159 (98%)	4 (2%)	42	38
42	BG	96/103 (93%)	86 (90%)	10 (10%)	5	2
43	BH	147/159 (92%)	138 (94%)	9 (6%)	15	8
44	BI	104/105 (99%)	103 (99%)	1 (1%)	73	73
45	BJ	105/107 (98%)	97 (92%)	8 (8%)	11	4
46	BK	104/105 (99%)	103 (99%)	1 (1%)	73	73
47	BL	61/89 (68%)	56 (92%)	5 (8%)	9	4
48	BM	91/93 (98%)	88 (97%)	3 (3%)	33	27
49	BN	109/112 (97%)	107 (98%)	2 (2%)	54	52
50	BO	107/135 (79%)	101 (94%)	6 (6%)	17	10
51	BP	40/44 (91%)	37 (92%)	3 (8%)	11	4
52	BQ	136/138 (99%)	132 (97%)	4 (3%)	37	32
53	BR	94/96 (98%)	94 (100%)	0	100	100
54	BS	52/57 (91%)	49 (94%)	3 (6%)	17	9
55	BT	103/118 (87%)	102 (99%)	1 (1%)	73	73
56	BU	122/123 (99%)	118 (97%)	4 (3%)	33	27
57	BV	44/48 (92%)	42 (96%)	2 (4%)	23	17
58	BW	81/87 (93%)	76 (94%)	5 (6%)	15	8
59	BX	55/56 (98%)	52 (94%)	3 (6%)	18	11
60	BY	42/62 (68%)	39 (93%)	3 (7%)	12	6
61	BZ	47/47 (100%)	42 (89%)	5 (11%)	5	1
All	All	6109/6602 (92%)	5938 (97%)	171 (3%)	40	34

All (171) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
4	7	63	THR
4	7	64	MET
4	7	76	LYS

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Mol	Chain	Res	Type
4	7	88	THR
4	7	184	LEU
4	7	187	ILE
7	AB	6	ARG
7	AB	116	ILE
7	AB	127	GLU
7	AB	141	VAL
7	AB	168	SER
7	AB	225	LYS
7	AB	315	ILE
9	AD	3	THR
9	AD	17	GLU
9	AD	57	ILE
9	AD	79	VAL
9	AD	90	SER
9	AD	100	GLU
10	AE	33	VAL
10	AE	34	GLU
10	AE	71	SER
10	AE	77	VAL
10	AE	89	SER
11	AF	23	LEU
11	AF	96	THR
13	AH	56	SER
13	AH	105	LYS
13	AH	117	VAL
14	AI	17	HIS
14	AI	77	SER
14	AI	101	ILE
15	AJ	67	ASN
15	AJ	146	LYS
15	AJ	179	LYS
16	AK	159	THR
17	AL	8	LYS
17	AL	63	VAL
17	AL	156	SER
18	AM	94	SER
19	AN	140	SER
23	AR	8	PHE
24	AS	5	VAL
24	AS	115	SER
26	AU	36	SER

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Mol	Chain	Res	Type
27	AV	88	ASP
27	AV	92	ILE
29	AX	17	GLU
30	AY	1	MET
30	AY	2	ASP
30	AY	4	GLU
31	AZ	13	LYS
32	Aa	20	THR
36	BA	13	TRP
36	BA	39	ASP
36	BA	41	SER
36	BA	48	VAL
36	BA	107	VAL
36	BA	113	ASP
36	BA	156	THR
36	BA	162	ILE
37	BB	38	VAL
37	BB	163	SER
37	BB	166	VAL
37	BB	187	THR
37	BB	192	ARG
37	BB	215	ASN
38	BC	91	ASN
38	BC	102	SER
38	BC	117	LEU
38	BC	121	MET
38	BC	126	LEU
38	BC	133	SER
38	BC	141	SER
38	BC	170	VAL
38	BC	176	LEU
39	BD	78	SER
39	BD	91	ILE
39	BD	92	LYS
39	BD	94	ASP
39	BD	166	SER
40	BE	26	THR
40	BE	105	THR
40	BE	124	THR
40	BE	139	THR
40	BE	141	ILE
40	BE	167	LYS

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Mol	Chain	Res	Type
40	BE	185	THR
40	BE	198	ARG
41	BF	39	GLN
41	BF	140	SER
41	BF	202	VAL
41	BF	203	TYR
42	BG	8	VAL
42	BG	12	LYS
42	BG	13	GLU
42	BG	38	VAL
42	BG	59	SER
42	BG	97	ARG
42	BG	113	VAL
42	BG	118	LYS
42	BG	119	SER
42	BG	121	LYS
43	BH	33	ILE
43	BH	37	SER
43	BH	60	ASN
43	BH	68	THR
43	BH	73	VAL
43	BH	126	THR
43	BH	172	SER
43	BH	174	SER
43	BH	184	VAL
44	BI	112	SER
45	BJ	15	THR
45	BJ	19	THR
45	BJ	47	SER
45	BJ	61	LEU
45	BJ	66	ASP
45	BJ	67	VAL
45	BJ	89	GLU
45	BJ	110	SER
46	BK	104	MET
47	BL	12	SER
47	BL	30	THR
47	BL	33	ASN
47	BL	35	SER
47	BL	49	THR
48	BM	39	VAL
48	BM	71	ILE

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Mol	Chain	Res	Type
48	BM	113	VAL
49	BN	89	VAL
49	BN	114	ILE
50	BO	64	SER
50	BO	79	ASP
50	BO	100	LEU
50	BO	102	THR
50	BO	111	THR
50	BO	126	LYS
51	BP	12	VAL
51	BP	21	LYS
51	BP	22	GLN
52	BQ	33	VAL
52	BQ	42	LYS
52	BQ	104	VAL
52	BQ	150	ILE
54	BS	12	THR
54	BS	16	LEU
54	BS	40	THR
55	BT	25	GLU
56	BU	46	THR
56	BU	112	GLN
56	BU	118	ARG
56	BU	126	SER
57	BV	10	THR
57	BV	37	ILE
58	BW	5	ILE
58	BW	12	SER
58	BW	49	LEU
58	BW	87	LYS
58	BW	89	ASN
59	BX	24	GLN
59	BX	51	SER
59	BX	61	LEU
60	BY	35	CYS
60	BY	57	ILE
60	BY	66	THR
61	BZ	4	THR
61	BZ	6	SER
61	BZ	18	ARG
61	BZ	25	SER
61	BZ	56	VAL

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (43) such sidechains are listed below:

Mol	Chain	Res	Type
4	7	18	GLN
4	7	27	HIS
4	7	122	ASN
4	7	124	ASN
6	AA	209	HIS
7	AB	40	GLN
9	AD	35	GLN
11	AF	45	ASN
12	AG	137	GLN
14	AI	52	HIS
16	AK	71	ASN
16	AK	120	ASN
17	AL	32	GLN
17	AL	108	GLN
17	AL	147	HIS
20	AO	52	GLN
21	AP	5	HIS
21	AP	95	GLN
25	AT	3	GLN
26	AU	62	HIS
27	AV	27	HIS
30	AY	15	GLN
32	Aa	4	ASN
36	BA	34	ASN
36	BA	57	ASN
37	BB	210	ASN
38	BC	153	HIS
39	BD	28	GLN
39	BD	137	HIS
39	BD	141	ASN
41	BF	39	GLN
41	BF	92	GLN
41	BF	194	GLN
42	BG	51	GLN
43	BH	44	GLN
44	BI	98	ASN
45	BJ	11	HIS
45	BJ	114	GLN
46	BK	62	ASN
49	BN	13	GLN
52	BQ	105	ASN

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Mol	Chain	Res	Type
57	BV	41	GLN
58	BW	44	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	1	2704/2904 (93%)	321 (11%)	13 (0%)
2	2	126/133 (94%)	13 (10%)	3 (2%)
3	3	1422/1478 (96%)	222 (15%)	16 (1%)
5	8	16/75 (21%)	3 (18%)	0
All	All	4268/4590 (92%)	559 (13%)	32 (0%)

All (559) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	1	32	C
1	1	40	G
1	1	58	C
1	1	68	A
1	1	71	A
1	1	72	G
1	1	82	G
1	1	88	U
1	1	92	G
1	1	97	U
1	1	114	A
1	1	115	A
1	1	116	U
1	1	123	U
1	1	124	C
1	1	129	U
1	1	130	A
1	1	131	G
1	1	142	U
1	1	150	A
1	1	165	A
1	1	185	A
1	1	190	A
1	1	191	A
1	1	198	U
1	1	217	G

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Mol	Chain	Res	Type
1	1	236	U
1	1	255	G
1	1	269	U
1	1	270	G
1	1	271	U
1	1	272	A
1	1	273	G
1	1	284	A
1	1	299	A
1	1	306	U
1	1	321	G
1	1	335	A
1	1	336	C
1	1	347	A
1	1	363	C
1	1	365	G
1	1	379	G
1	1	394	U
1	1	395	A
1	1	415	G
1	1	425	C
1	1	459	A
1	1	461	A
1	1	462	G
1	1	471	C
1	1	485	G
1	1	496	A
1	1	508	A
1	1	512	C
1	1	531	G
1	1	532	G
1	1	534	A
1	1	535	C
1	1	536	G
1	1	550	G
1	1	554	C
1	1	580	G
1	1	587	G
1	1	588	U
1	1	590	C
1	1	598	A
1	1	602	C

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Mol	Chain	Res	Type
1	1	617	A
1	1	627	G
1	1	629	A
1	1	650	G
1	1	657	A
1	1	658	U
1	1	669	U
1	1	670	U
1	1	686	G
1	1	692	G
1	1	696	C
1	1	697	A
1	1	699	G
1	1	712	U
1	1	713	G
1	1	746	A
1	1	755	C
1	1	763	A
1	1	764	G
1	1	769	G
1	1	773	U
1	1	781	U
1	1	782	G
1	1	798	G
1	1	805	G
1	1	817	A
1	1	831	U
1	1	836	U
1	1	853	A
1	1	854	C
1	1	864	G
1	1	871	A
1	1	873	U
1	1	874	G
1	1	878	A
1	1	881	U
1	1	894	G
1	1	901	C
1	1	906	C
1	1	916	C
1	1	917	G
1	1	936	G

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Mol	Chain	Res	Type
1	1	948	A
1	1	949	G
1	1	956	A
1	1	959	G
1	1	960	A
1	1	963	G
1	1	988	G
1	1	998	C
1	1	1000	A
1	1	1024	G
1	1	1037	C
1	1	1038	G
1	1	1046	G
1	1	1053	G
1	1	1054	C
1	1	1062	C
1	1	1066	A
1	1	1067	A
1	1	1071	A
1	1	1081	G
1	1	1082	C
1	1	1102	G
1	1	1103	U
1	1	1104	G
1	1	1108	A
1	1	1113	G
1	1	1124	A
1	1	1144	G
1	1	1145	A
1	1	1209	G
1	1	1224	A
1	1	1226	A
1	1	1231	C
1	1	1239	A
1	1	1245	A
1	1	1253	U
1	1	1271	G
1	1	1277	C
1	1	1288	G
1	1	1311	G
1	1	1319	A
1	1	1330	C

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Mol	Chain	Res	Type
1	1	1345	A
1	1	1348	C
1	1	1367	A
1	1	1368	A
1	1	1389	G
1	1	1393	A
1	1	1394	A
1	1	1395	G
1	1	1447	G
1	1	1475	G
1	1	1478	A
1	1	1490	A
1	1	1514	U
1	1	1519	C
1	1	1545	G
1	1	1549	C
1	1	1576	G
1	1	1578	G
1	1	1579	C
1	1	1581	G
1	1	1586	G
1	1	1603	U
1	1	1618	G
1	1	1642	A
1	1	1668	A
1	1	1671	A
1	1	1679	A
1	1	1683	G
1	1	1684	C
1	1	1685	C
1	1	1706	C
1	1	1708	U
1	1	1711	C
1	1	1737	G
1	1	1759	G
1	1	1775	C
1	1	1783	A
1	1	1804	G
1	1	1813	A
1	1	1822	U
1	1	1823	A
1	1	1840	C

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Mol	Chain	Res	Type
1	1	1851	G
1	1	1852	G
1	1	1903	U
1	1	1926	A
1	1	1928	A
1	1	1931	G
1	1	1934	G
1	1	1935	G
1	1	1952	A
1	1	1955	G
1	1	1958	G
1	1	1962	A
1	1	1963	G
1	1	1980	U
1	1	1988	U
1	1	1989	G
1	1	1992	U
1	1	1995	A
1	1	1996	U
1	1	1997	G
1	1	2007	G
1	1	2016	U
1	1	2018	U
1	1	2022	U
1	1	2048	U
1	1	2056	A
1	1	2057	C
1	1	2058	A
1	1	2076	G
1	1	2080	A
1	1	2085	A
1	1	2086	G
1	1	2087	A
1	1	2088	C
1	1	2093	U
1	1	2094	G
1	1	2105	G
1	1	2118	G
1	1	2223	A
1	1	2233	A
1	1	2238	A
1	1	2239	C

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Mol	Chain	Res	Type
1	1	2256	U
1	1	2271	A
1	1	2290	A
1	1	2293	G
1	1	2297	C
1	1	2301	A
1	1	2302	U
1	1	2303	G
1	1	2319	U
1	1	2320	C
1	1	2321	G
1	1	2323	A
1	1	2334	A
1	1	2336	A
1	1	2349	A
1	1	2357	C
1	1	2361	C
1	1	2389	G
1	1	2400	G
1	1	2419	C
1	1	2441	U
1	1	2442	G
1	1	2447	A
1	1	2448	A
1	1	2456	C
1	1	2460	G
1	1	2463	A
1	1	2483	A
1	1	2489	A
1	1	2493	A
1	1	2502	G
1	1	2509	G
1	1	2517	G
1	1	2518	A
1	1	2519	U
1	1	2521	U
1	1	2532	C
1	1	2533	A
1	1	2534	U
1	1	2544	G
1	1	2545	C
1	1	2569	U

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Mol	Chain	Res	Type
1	1	2577	U
1	1	2581	A
1	1	2582	G
1	1	2588	C
1	1	2593	G
1	1	2597	G
1	1	2600	U
1	1	2614	G
1	1	2617	A
1	1	2624	U
1	1	2625	U
1	1	2628	U
1	1	2640	G
1	1	2645	C
1	1	2646	G
1	1	2655	G
1	1	2660	A
1	1	2661	G
1	1	2671	G
1	1	2672	U
1	1	2679	G
1	1	2705	U
1	1	2726	U
1	1	2728	G
1	1	2740	C
1	1	2746	C
1	1	2747	A
1	1	2761	A
1	1	2764	G
1	1	2778	A
1	1	2779	C
1	1	2789	A
1	1	2802	U
1	1	2803	U
1	1	2804	A
1	1	2830	A
1	1	2840	G
1	1	2854	G
1	1	2868	C
1	1	2874	G
1	1	2880	A
1	1	2881	C

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Mol	Chain	Res	Type
1	1	2887	A
2	2	10	G
2	2	26	C
2	2	34	G
2	2	46	A
2	2	52	G
2	2	57	U
2	2	58	A
2	2	67	C
2	2	80	G
2	2	81	U
2	2	90	G
2	2	96	G
2	2	116	G
3	3	4	C
3	3	8	U
3	3	33	U
3	3	42	G
3	3	47	A
3	3	50	C
3	3	57	G
3	3	60	A
3	3	72	U
3	3	73	G
3	3	74	A
3	3	75	A
3	3	86	U
3	3	96	C
3	3	105	A
3	3	107	C
3	3	120	C
3	3	122	G
3	3	140	U
3	3	168	G
3	3	172	G
3	3	174	A
3	3	175	U
3	3	184	C
3	3	188	A
3	3	190	A
3	3	191	C
3	3	196	U

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Mol	Chain	Res	Type
3	3	198	G
3	3	199	U
3	3	222	C
3	3	227	C
3	3	229	G
3	3	233	G
3	3	248	U
3	3	249	A
3	3	254	C
3	3	257	G
3	3	261	A
3	3	262	C
3	3	263	A
3	3	266	G
3	3	271	C
3	3	275	U
3	3	283	G
3	3	287	G
3	3	288	A
3	3	310	C
3	3	314	A
3	3	321	G
3	3	326	A
3	3	327	C
3	3	328	G
3	3	329	G
3	3	331	G
3	3	334	C
3	3	335	A
3	3	336	G
3	3	344	G
3	3	349	C
3	3	354	C
3	3	355	A
3	3	366	C
3	3	375	G
3	3	379	A
3	3	388	G
3	3	396	C
3	3	397	A
3	3	407	U
3	3	409	U

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Mol	Chain	Res	Type
3	3	422	A
3	3	423	A
3	3	434	A
3	3	436	C
3	3	448	A
3	3	450	G
3	3	451	A
3	3	458	C
3	3	461	G
3	3	467	G
3	3	487	A
3	3	488	G
3	3	504	U
3	3	512	A
3	3	513	A
3	3	516	G
3	3	517	G
3	3	536	A
3	3	573	U
3	3	574	U
3	3	575	C
3	3	590	G
3	3	594	U
3	3	603	G
3	3	606	A
3	3	616	U
3	3	629	G
3	3	636	A
3	3	644	A
3	3	664	U
3	3	665	G
3	3	672	G
3	3	675	U
3	3	690	U
3	3	696	G
3	3	718	C
3	3	734	U
3	3	735	A
3	3	756	A
3	3	758	C
3	3	762	G
3	3	769	A

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Mol	Chain	Res	Type
3	3	770	G
3	3	784	C
3	3	785	G
3	3	787	G
3	3	788	A
3	3	812	C
3	3	835	G
3	3	836	U
3	3	847	G
3	3	859	A
3	3	867	G
3	3	870	G
3	3	871	G
3	3	872	G
3	3	873	G
3	3	874	G
3	3	879	C
3	3	881	A
3	3	906	U
3	3	907	U
3	3	912	U
3	3	915	A
3	3	916	C
3	3	917	G
3	3	920	G
3	3	921	G
3	3	922	A
3	3	923	C
3	3	928	C
3	3	929	A
3	3	935	G
3	3	992	G
3	3	993	C
3	3	1020	A
3	3	1033	G
3	3	1034	U
3	3	1040	A
3	3	1041	A
3	3	1060	A
3	3	1063	G
3	3	1064	U
3	3	1065	U

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Mol	Chain	Res	Type
3	3	1075	U
3	3	1079	C
3	3	1080	C
3	3	1081	G
3	3	1082	G
3	3	1087	A
3	3	1088	U
3	3	1089	G
3	3	1093	A
3	3	1099	U
3	3	1104	A
3	3	1106	C
3	3	1113	G
3	3	1114	U
3	3	1131	G
3	3	1140	G
3	3	1143	A
3	3	1144	G
3	3	1149	G
3	3	1158	G
3	3	1159	A
3	3	1162	U
3	3	1174	A
3	3	1183	A
3	3	1185	A
3	3	1195	A
3	3	1207	U
3	3	1209	C
3	3	1217	A
3	3	1225	U
3	3	1227	A
3	3	1234	A
3	3	1236	A
3	3	1237	C
3	3	1243	C
3	3	1244	G
3	3	1247	G
3	3	1249	U
3	3	1252	G
3	3	1267	C
3	3	1285	G
3	3	1293	A

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Mol	Chain	Res	Type
3	3	1294	G
3	3	1295	U
3	3	1300	G
3	3	1306	C
3	3	1307	A
3	3	1310	A
3	3	1311	U
3	3	1326	G
3	3	1329	C
3	3	1341	A
3	3	1366	G
3	3	1393	C
3	3	1394	G
3	3	1396	G
3	3	1425	G
3	3	1431	A
3	3	1432	G
3	3	1435	G
3	3	1437	A
3	3	1440	A
3	3	1441	A
3	3	1444	U
3	3	1455	G
3	3	1458	U
3	3	1467	G
3	3	1468	G
5	8	2	C
5	8	70	G
5	8	77	A

All (32) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	1	96	A
1	1	269	U
1	1	461	A
1	1	515	G
1	1	587	G
1	1	853	A
1	1	873	U
1	1	948	A
1	1	1066	A

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Mol	Chain	Res	Type
1	1	2006	A
1	1	2238	A
1	1	2447	A
1	1	2671	G
2	2	79	U
2	2	80	G
2	2	89	U
3	3	173	A
3	3	174	A
3	3	265	C
3	3	515	G
3	3	574	U
3	3	689	G
3	3	769	A
3	3	834	A
3	3	835	G
3	3	916	C
3	3	928	C
3	3	992	G
3	3	1080	C
3	3	1148	A
3	3	1294	G
3	3	1393	C

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

9 non-standard protein/DNA/RNA residues are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
3	5MU	3	1222	3	19,22,23	0.26	0	27,32,35	0.39	0
3	6MZ	3	1438	3,62	17,25,26	0.85	1 (5%)	15,36,39	0.94	1 (6%)
1	5MC	1	2516	1	19,22,23	0.98	1 (5%)	26,32,35	0.61	0
48	IAS	BM	116	48	6,7,8	1.38	1 (16%)	3,8,10	0.72	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
1	5MC	1	2514	1,62	19,22,23	0.82	1 (5%)	26,32,35	0.53	0
1	OMG	1	2568	1	19,26,27	1.08	3 (15%)	21,38,41	0.69	0
3	MA6	3	1456	3	19,26,27	0.99	2 (10%)	18,38,41	0.78	0
3	MA6	3	1457	3	19,26,27	0.98	2 (10%)	18,38,41	0.77	0
1	OMU	1	2567	1,62	19,22,23	0.22	0	25,31,34	0.46	0

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	5MU	3	1222	3	-	0/7/25/26	0/2/2/2
3	6MZ	3	1438	3,62	-	0/5/27/28	0/3/3/3
1	5MC	1	2516	1	-	2/7/25/26	0/2/2/2
48	IAS	BM	116	48	-	0/7/7/8	-
1	5MC	1	2514	1,62	-	0/7/25/26	0/2/2/2
1	OMG	1	2568	1	-	1/5/27/28	0/3/3/3
3	MA6	3	1456	3	-	1/7/29/30	0/3/3/3
3	MA6	3	1457	3	-	3/7/29/30	0/3/3/3
1	OMU	1	2567	1,62	-	0/9/27/28	0/2/2/2

All (11) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	1	2516	5MC	C5-C4	-3.94	1.41	1.44
1	1	2514	5MC	C5-C4	-3.32	1.41	1.44
1	1	2568	OMG	C5-C6	-2.78	1.41	1.47
48	BM	116	IAS	CB-CG	2.31	1.56	1.50
1	1	2568	OMG	C8-N7	-2.19	1.31	1.34
3	3	1456	MA6	C6-N1	2.17	1.35	1.32
3	3	1457	MA6	C6-C5	-2.15	1.41	1.44
3	3	1456	MA6	C6-C5	-2.14	1.41	1.44
3	3	1438	6MZ	C6-C5	-2.11	1.41	1.44
3	3	1457	MA6	C6-N1	2.10	1.35	1.32
1	1	2568	OMG	C5-C4	-2.07	1.38	1.43

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	3	1438	6MZ	C2-N1-C6	2.67	118.67	116.60

There are no chirality outliers.

All (7) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	3	1456	MA6	C5-C6-N6-C9
3	3	1457	MA6	O4'-C4'-C5'-O5'
3	3	1457	MA6	C3'-C4'-C5'-O5'
3	3	1457	MA6	C5-C6-N6-C9
1	1	2516	5MC	O4'-C1'-N1-C6
1	1	2568	OMG	C3'-C2'-O2'-CM2
1	1	2516	5MC	C2'-C1'-N1-C6

There are no ring outliers.

4 monomers are involved in 6 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
1	1	2516	5MC	3	0
1	1	2514	5MC	1	0
1	1	2568	OMG	1	0
3	3	1456	MA6	1	0

5.5 Carbohydrates

There are no oligosaccharides in this entry.

5.6 Ligand geometry

Of 325 ligands modelled in this entry, 325 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.

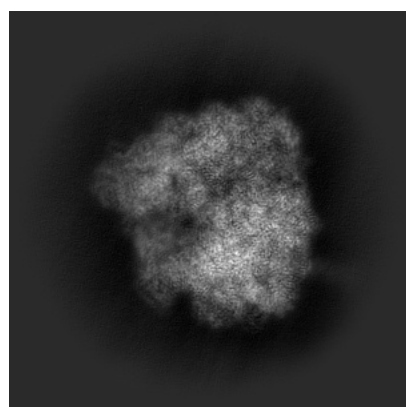
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-74447. These allow visual inspection of the internal detail of the map and identification of artifacts.

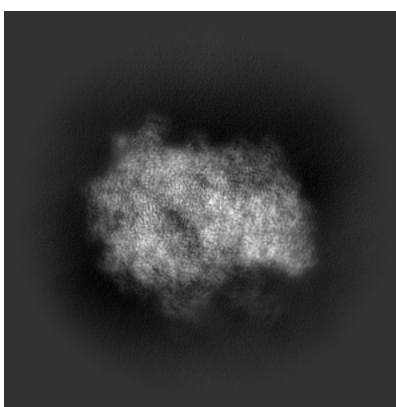
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

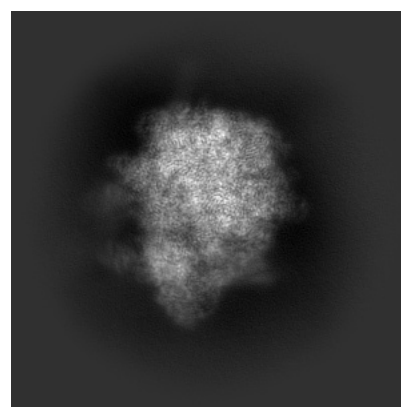
6.1.1 Primary map



X



Y

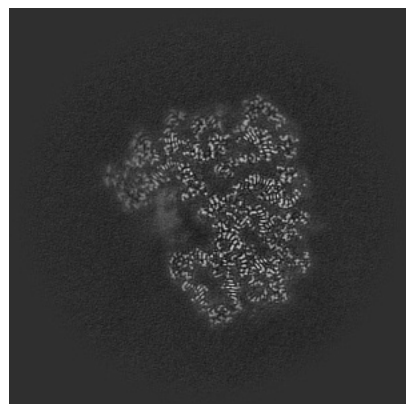


Z

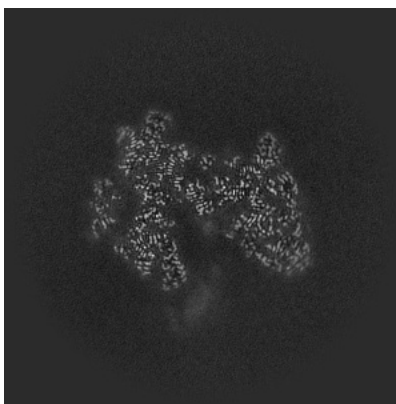
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

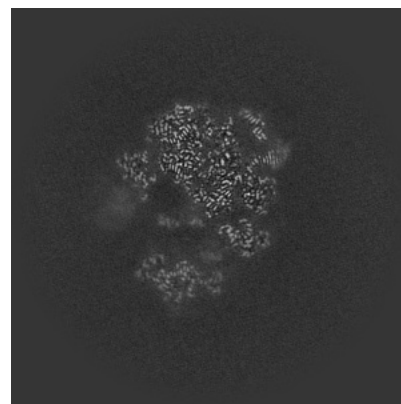
6.2.1 Primary map



X Index: 256



Y Index: 256

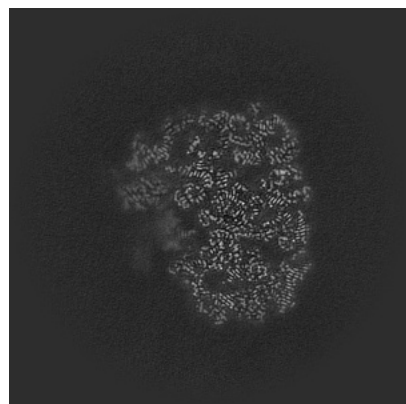


Z Index: 256

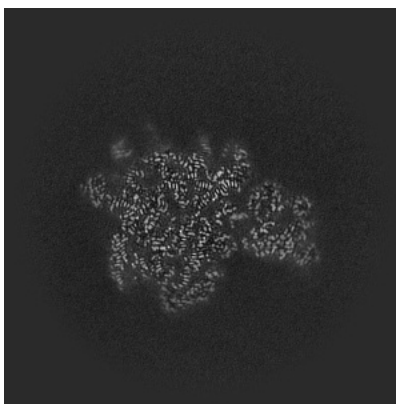
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

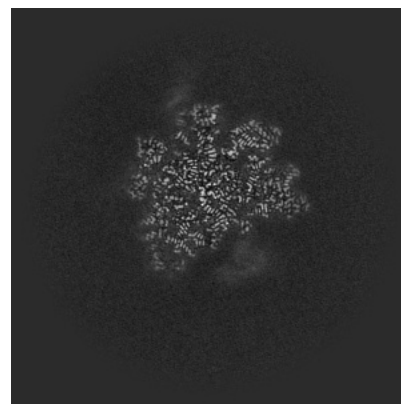
6.3.1 Primary map



X Index: 267



Y Index: 312

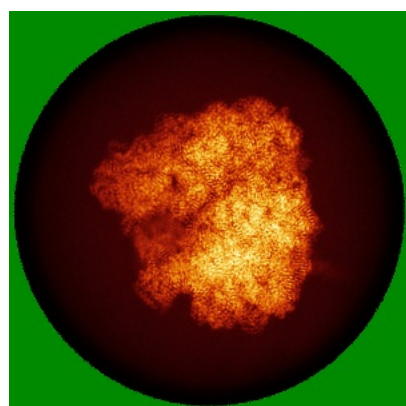


Z Index: 188

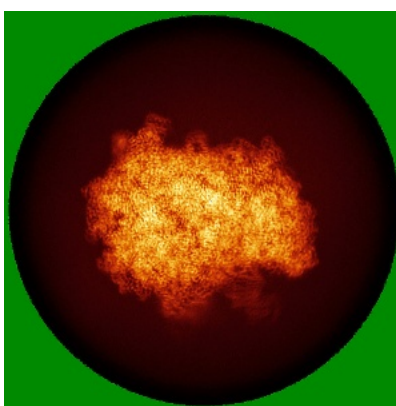
The images above show the largest variance slices of the map in three orthogonal directions.

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

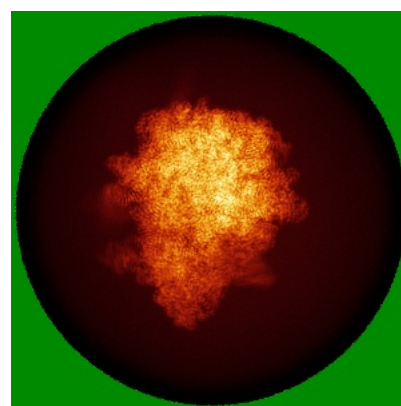
6.4.1 Primary map



X



Y

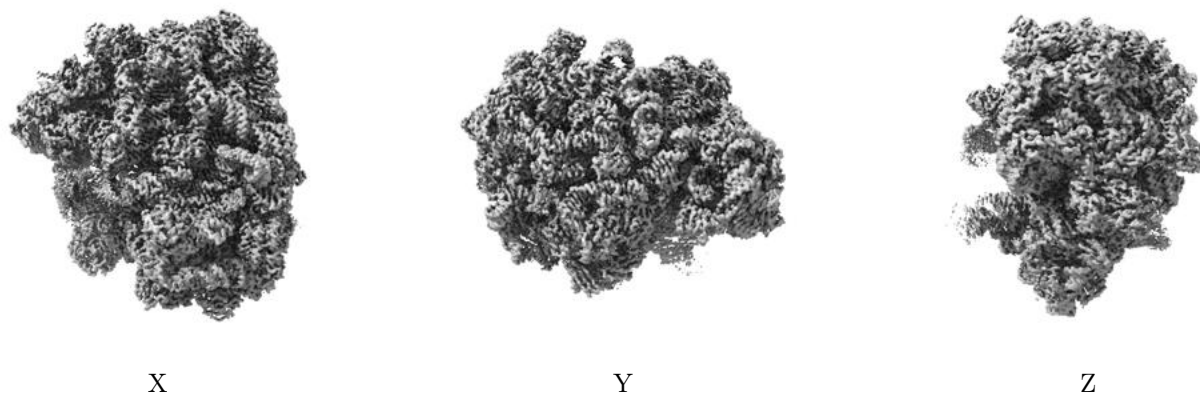


Z

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

6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.1. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

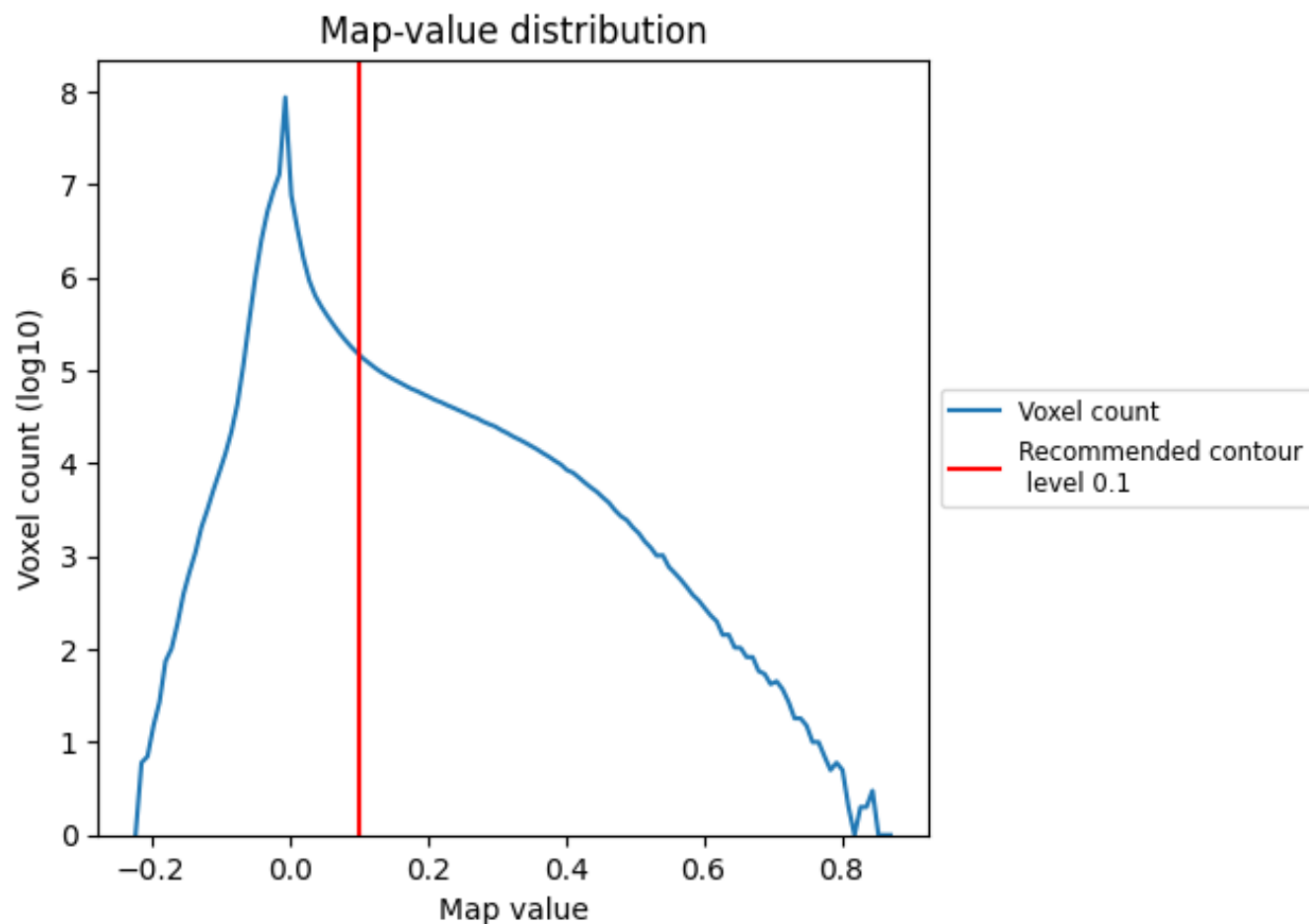
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

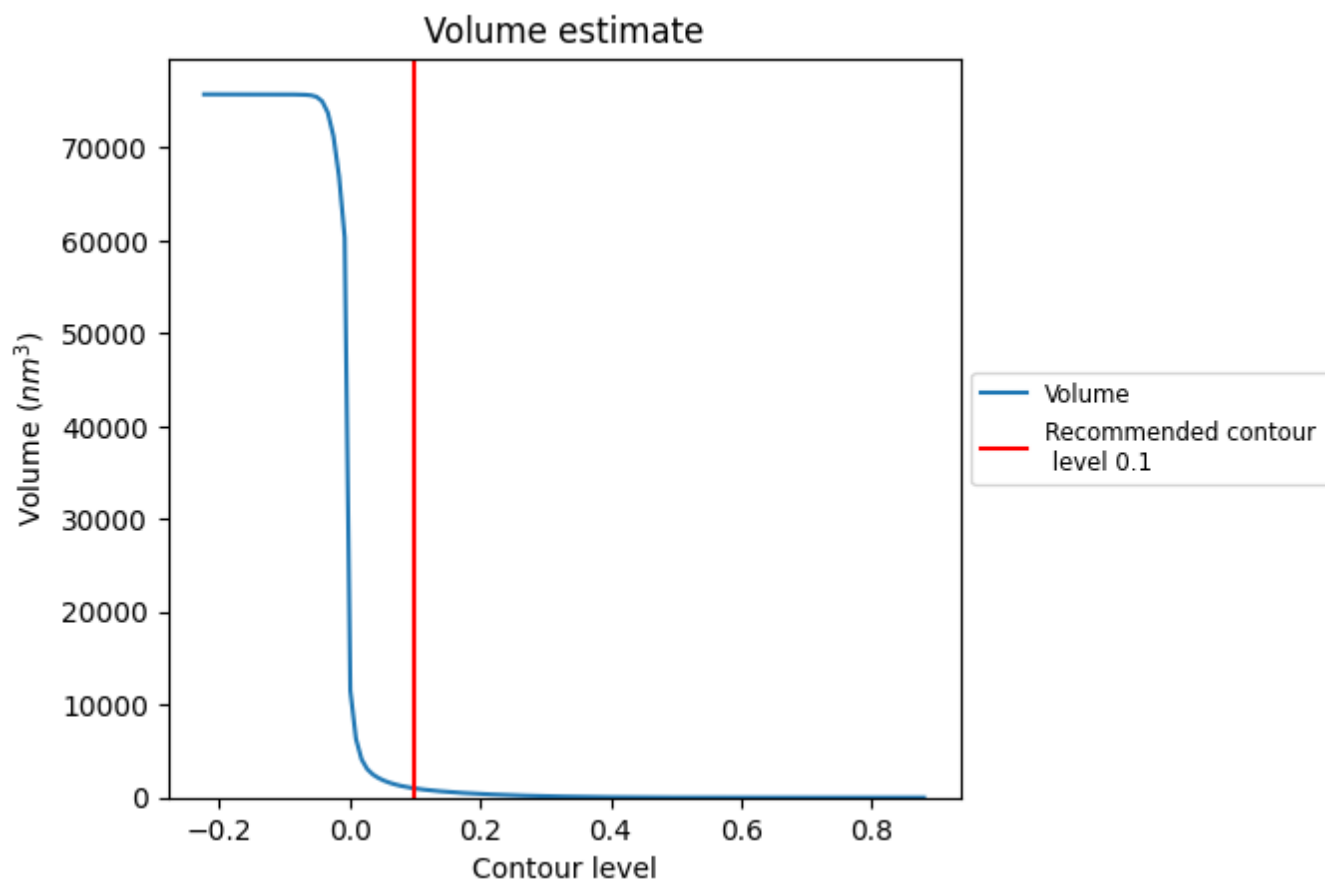
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

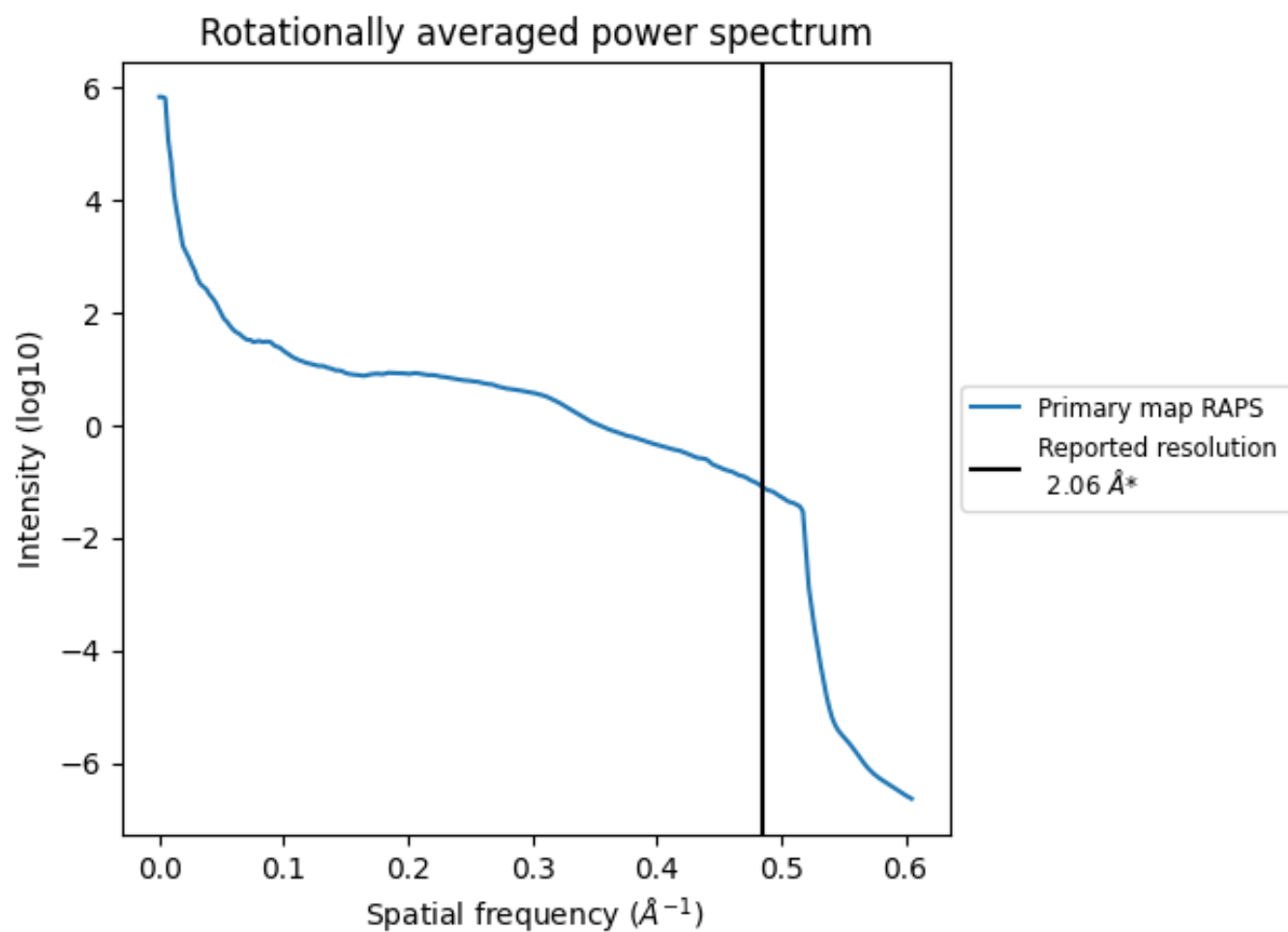
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 989 nm³; this corresponds to an approximate mass of 894 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 0.485 Å⁻¹

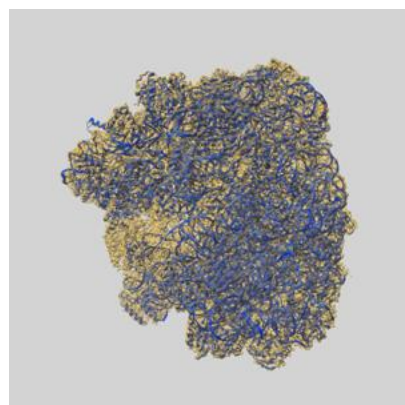
8 Fourier-Shell correlation

This section was not generated. No FSC curve or half-maps provided.

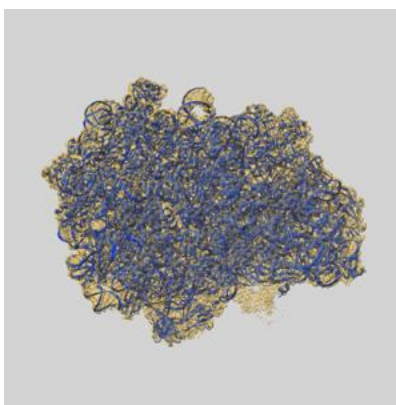
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-74447 and PDB model 9ZNG. Per-residue inclusion information can be found in section 3 on page 20.

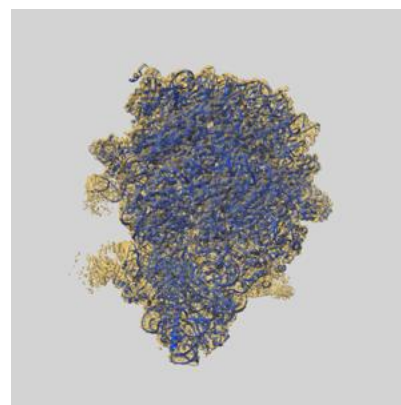
9.1 Map-model overlay [i](#)



X



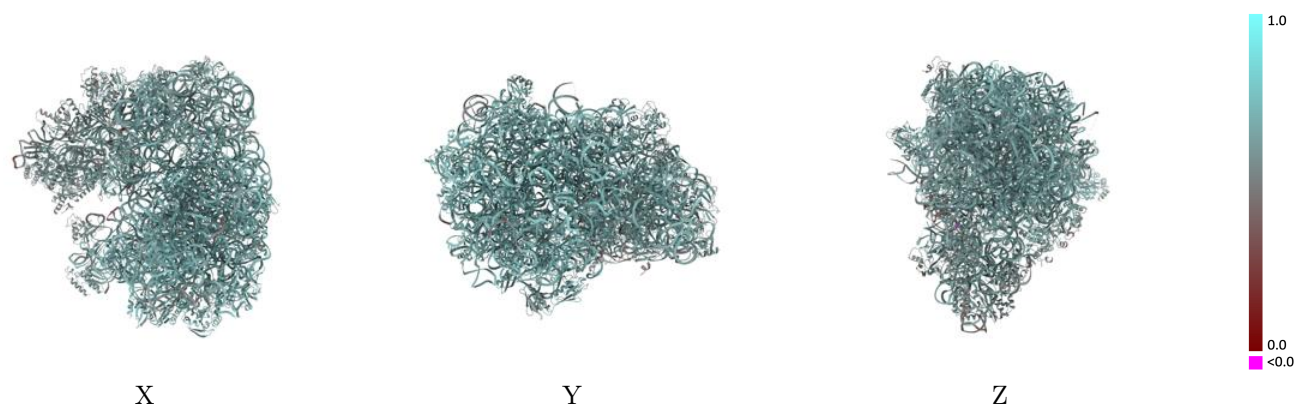
Y



Z

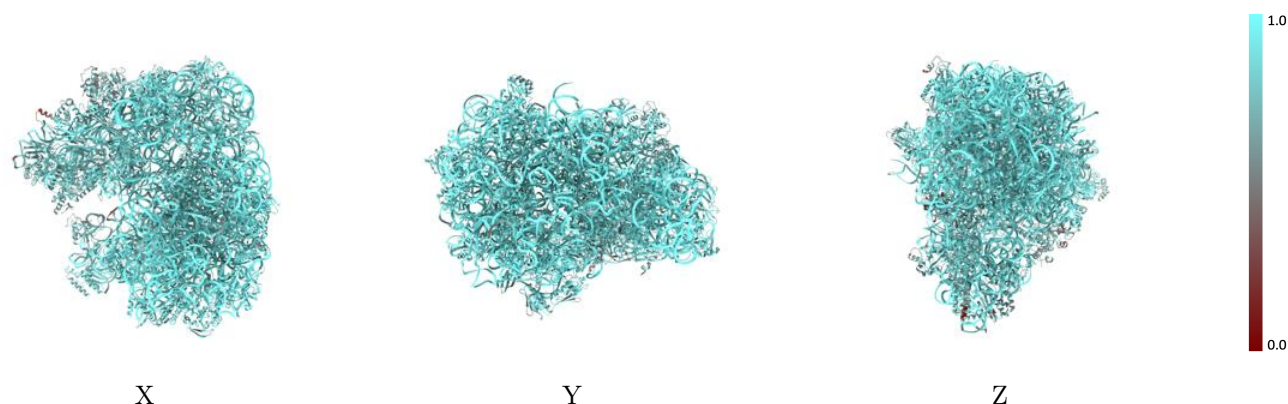
The images above show the 3D surface view of the map at the recommended contour level 0.1 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



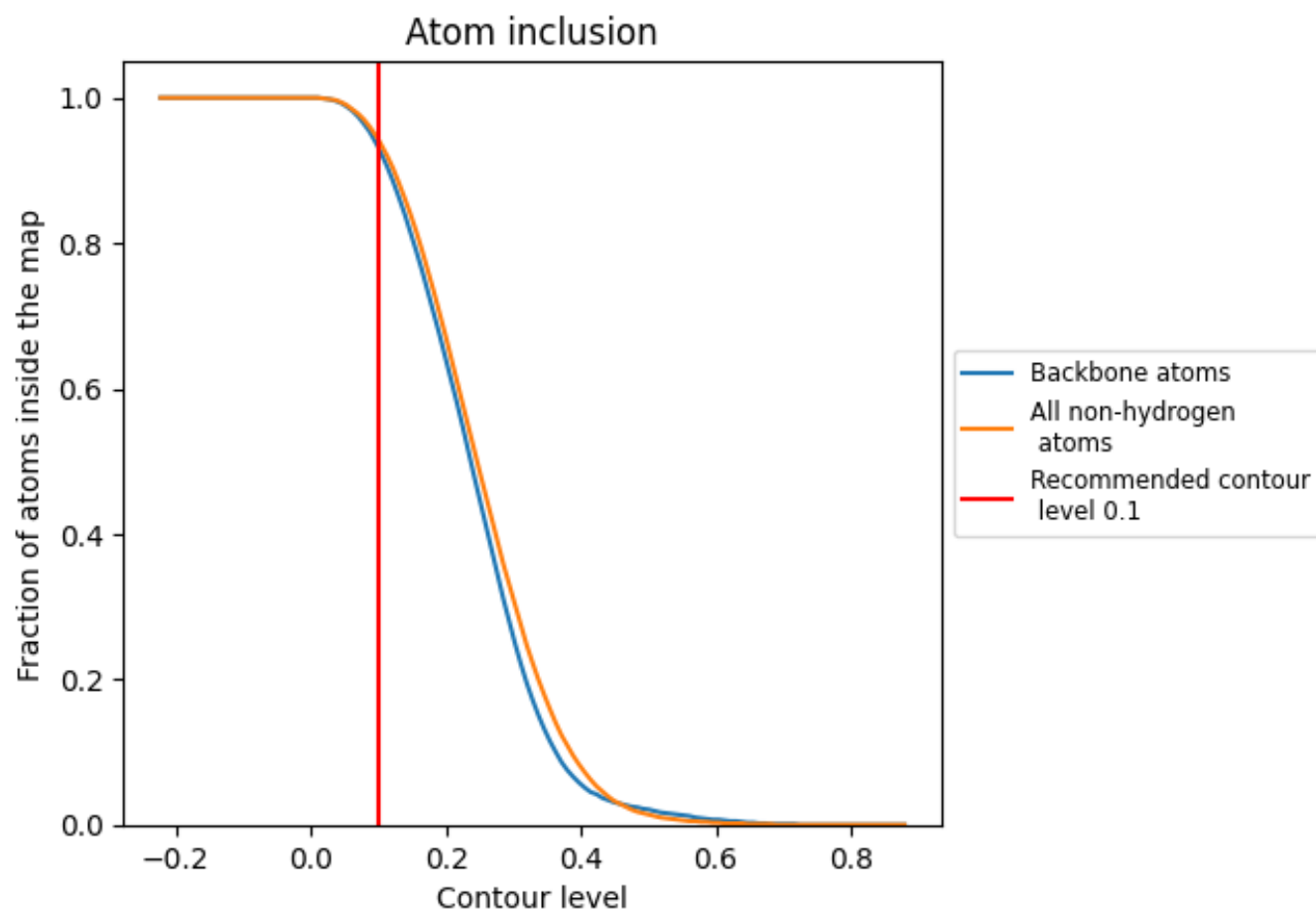
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.1).

9.4 Atom inclusion [i](#)



At the recommended contour level, 93% of all backbone atoms, 94% 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 (0.1) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9430	 0.6490
1	 0.9870	 0.6760
2	 0.9740	 0.6260
3	 0.9850	 0.6310
7	 0.7080	 0.5340
8	 0.8080	 0.5840
AA	 0.9630	 0.6970
AB	 0.9440	 0.6910
AC	 0.9330	 0.6850
AD	 0.7970	 0.5680
AE	 0.8370	 0.6160
AF	 0.8450	 0.6280
AG	 0.9360	 0.6900
AH	 0.9310	 0.6840
AI	 0.9140	 0.6730
AJ	 0.9800	 0.7060
AK	 0.9350	 0.6780
AL	 0.9150	 0.6420
AM	 0.9270	 0.6740
AN	 0.9300	 0.6720
AO	 0.8560	 0.6530
AP	 0.9670	 0.7000
AQ	 0.9440	 0.6880
AR	 0.9210	 0.6690
AS	 0.9390	 0.6720
AT	 0.9580	 0.6960
AU	 0.8750	 0.6420
AV	 0.9170	 0.6800
AW	 0.8340	 0.5960
AX	 0.9460	 0.6880
AY	 0.9480	 0.6860
AZ	 0.9950	 0.7230
Aa	 0.9850	 0.7010
Ab	 0.8950	 0.6610
Ac	 0.9520	 0.6960



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Chain	Atom inclusion	Q-score
Ad	 0.9500	 0.6870
BA	 0.7990	 0.5850
BB	 0.6710	 0.5570
BC	 0.7590	 0.5540
BD	 0.8970	 0.6000
BE	 0.8960	 0.6090
BF	 0.8790	 0.6130
BG	 0.7860	 0.5570
BH	 0.7910	 0.5580
BI	 0.9530	 0.6440
BJ	 0.8020	 0.5710
BK	 0.9380	 0.6510
BL	 0.7100	 0.5550
BM	 0.9150	 0.6360
BN	 0.9120	 0.6360
BO	 0.7800	 0.5620
BP	 0.8970	 0.6020
BQ	 0.8960	 0.6240
BR	 0.9060	 0.6280
BS	 0.8000	 0.5420
BT	 0.7340	 0.5500
BU	 0.8130	 0.5660
BV	 0.7540	 0.6040
BW	 0.8510	 0.5790
BX	 0.7760	 0.6040
BY	 0.7760	 0.5400
BZ	 0.8970	 0.5970