Full wwPDB EM Validation Report

Nov 2, 2024 – 06:50 PM EDT

PDB ID	:	6O7K
EMDB ID	:	EMD-0643
Title	:	30S initiation complex
Authors	:	Frank, J.; Gonzalez Jr., R.L.; kaledhonkar, S.; Fu, Z.; Caban, K.; Li, W.; Chen, B.; Sun, M.
Deposited on	:	2019-03-08
Resolution	:	4.20 Å(reported)
Based on initial model	:	2AVY

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 (i) 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 (i)) were used in the production of this report:

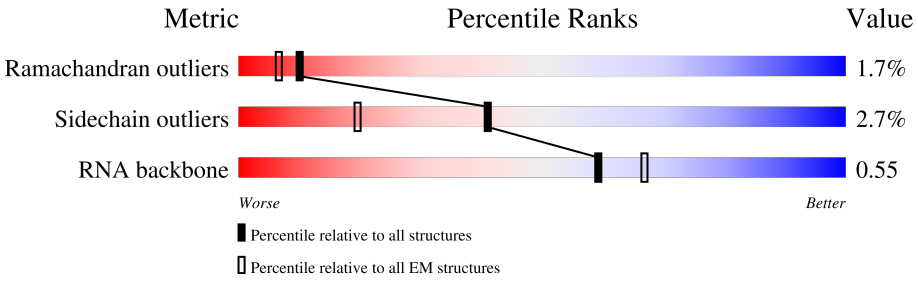
EMDB validation analysis	:	0.0.1.dev113
MolProbity	:	4.02b-467
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.39

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 4.20 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)
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415
RNA backbone	6643	2191

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

Mol	Chain	Length	Quality of chain
1	5	71	90% 10%
2	f	509	10% 91% 8%
3	g	1539	44% 47% 9%
4	P	80	92% 6%
5	r	98	88% 11%
6	q	117	91% 9%
7	t	123	90% 7%
8	s	114	89% 11%

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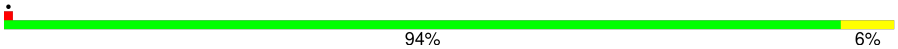
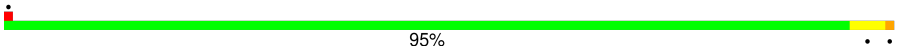
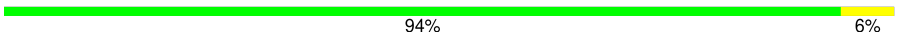
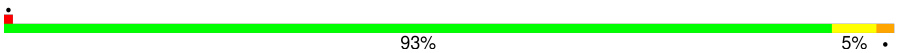
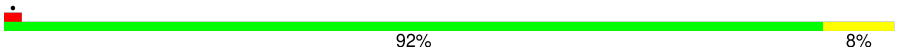
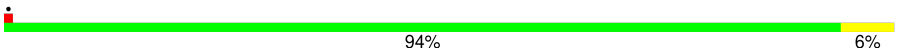
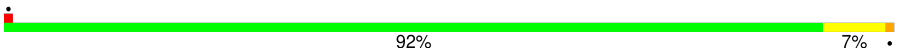
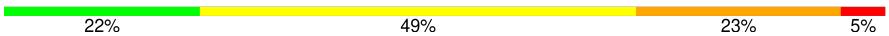
Mol	Chain	Length	Quality of chain
9	w	100	
10	u	88	
11	y	82	
12	1	55	
13	z	79	
14	j	218	
15	3	85	
16	2	51	
17	h	206	
18	l	205	
19	k	150	
20	n	100	
21	m	151	
22	p	129	
23	o	127	
24	v	77	
25	N	6	

2 Entry composition (i)

There are 25 unique types of molecules in this entry. The entry contains 57748 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 protein called Translation initiation factor IF-1.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	5	71	Total	C	N	O	S	0	0
			570	362	103	103	2		

- Molecule 2 is a protein called Translation initiation factor IF-2.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	f	509	Total	C	N	O	S	0	0
			3847	2409	675	748	15		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
3	g	1539	Total	C	N	O	P	0	0
			33012	14725	6052	10697	1538		

- Molecule 4 is a protein called 30S ribosomal protein S17.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	P	80	Total	C	N	O	S	0	0
			649	411	121	114	3		

- Molecule 5 is a protein called 30S ribosomal protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	r	98	Total	C	N	O	S	0	0
			787	493	150	143	1		

- Molecule 6 is a protein called 30S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	q	117	Total	C	N	O	S	0	0
			877	540	174	160	3		

- Molecule 7 is a protein called 30S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	t	123	Total	C	N	O	S	0	0
			955	590	196	165	4		

- Molecule 8 is a protein called 30S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	s	114	Total	C	N	O	S	0	0
			884	546	178	157	3		

- Molecule 9 is a protein called 30S ribosomal protein S14.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	w	96	Total	C	N	O	S	0	0
			774	483	160	128	3		

- Molecule 10 is a protein called 30S ribosomal protein S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	u	88	Total	C	N	O	S	0	0
			714	439	144	130	1		

- Molecule 11 is a protein called 30S ribosomal protein S16.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	y	82	Total	C	N	O	S	0	0
			649	406	128	114	1		

- Molecule 12 is a protein called 30S ribosomal protein S18.

Mol	Chain	Residues	Atoms				AltConf	Trace
12	1	55	Total	C	N	O	0	0
			456	288	86	82		

- Molecule 13 is a protein called 30S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	z	79	Total	C	N	O	S	0	0
			638	408	120	108	2		

- Molecule 14 is a protein called 30S ribosomal protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	j	218	Total	C	N	O	S	0	0
			1705	1081	305	312	7		

- Molecule 15 is a protein called 30S ribosomal protein S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	3	85	Total	C	N	O	S	0	0
			665	411	137	114	3		

- Molecule 16 is a protein called 30S ribosomal protein S21.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	2	51	Total	C	N	O	S	0	0
			426	265	86	74	1		

- Molecule 17 is a protein called 30S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	h	206	Total	C	N	O	S	0	0
			1625	1028	305	289	3		

- Molecule 18 is a protein called 30S ribosomal protein S4.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	l	205	Total	C	N	O	S	0	0
			1643	1026	315	298	4		

- Molecule 19 is a protein called 30S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	k	150	Total	C	N	O	S	0	0
			1106	687	211	202	6		

- Molecule 20 is a protein called 30S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	n	100	Total	C	N	O	S	0	0
			818	515	148	149	6		

- Molecule 21 is a protein called 30S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	m	151	Total	C	N	O	S	0	0
			1182	735	227	216	4		

- Molecule 22 is a protein called 30S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	p	129	Total	C	N	O	S	0	0
			979	616	173	184	6		

- Molecule 23 is a protein called 30S ribosomal protein S9.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	o	127	Total	C	N	O	S	0	0
			1022	634	206	179	3		

- Molecule 24 is a RNA chain called tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	v	77	Total	C	N	O	P	0	0
			1639	732	297	534	76		

- Molecule 25 is a RNA chain called mRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	N	6	Total	C	N	O	P	0	0
			126	58	24	39	5		

3 Residue-property plots (i)

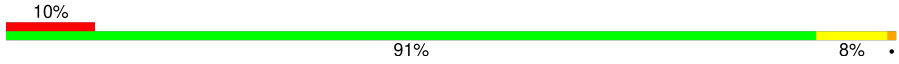
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion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

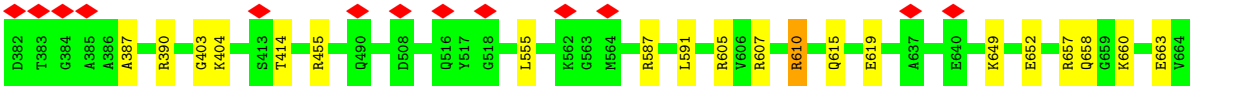
• Molecule 1: Translation initiation factor IF-1

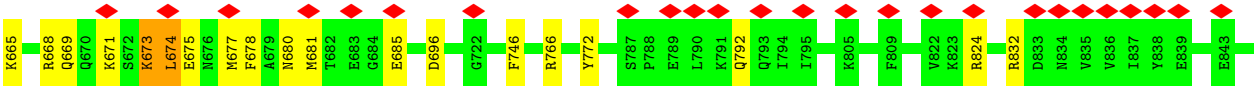
Chain 5:

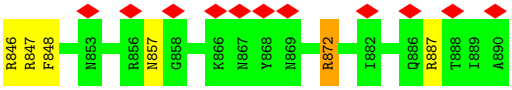
• Molecule 2: Translation initiation factor IF-2

Chain f:



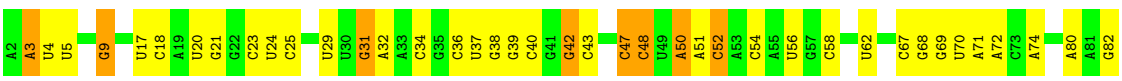


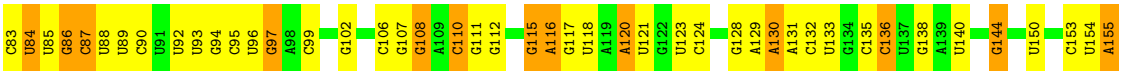


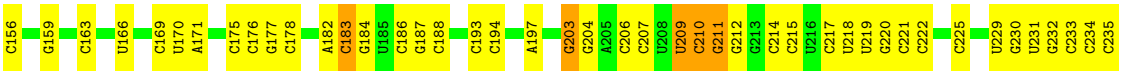


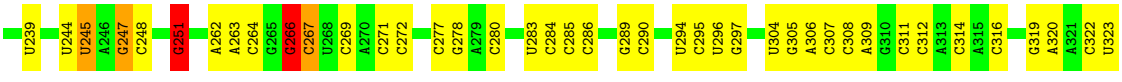
• Molecule 3: 16S ribosomal RNA

Chain g:

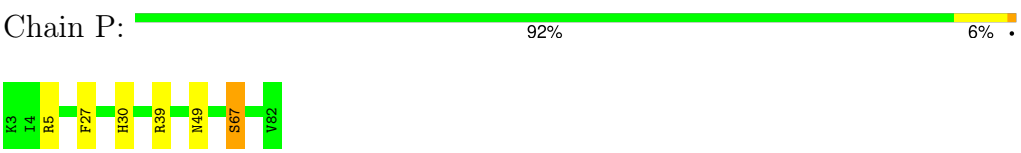




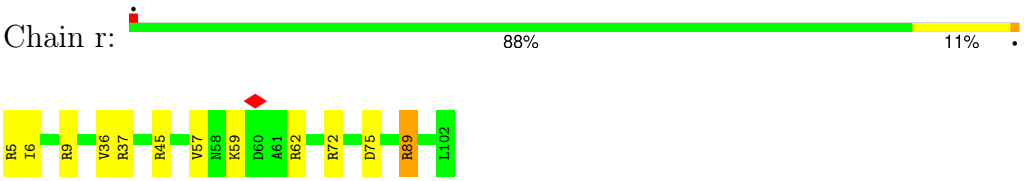




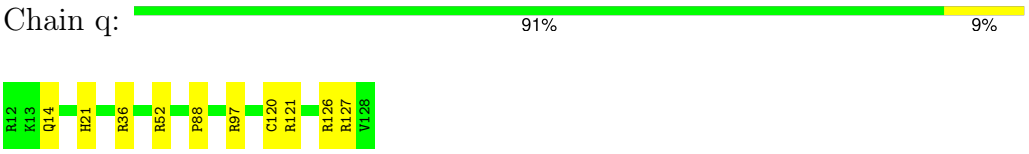
• Molecule 4: 30S ribosomal protein S17



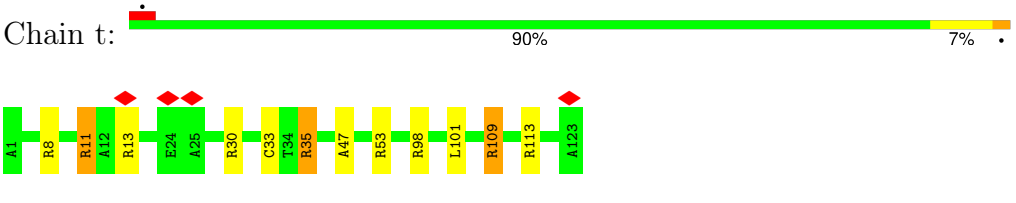
• Molecule 5: 30S ribosomal protein S10



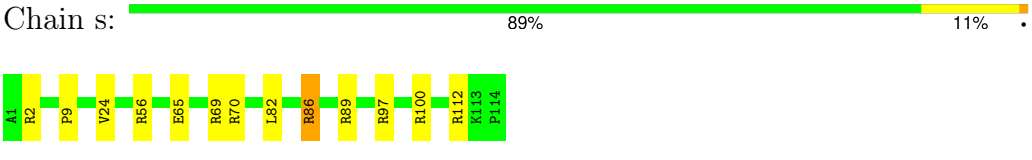
• Molecule 6: 30S ribosomal protein S11



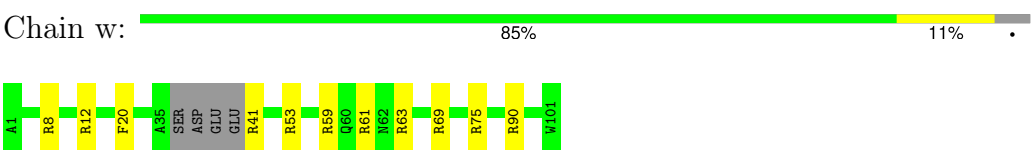
• Molecule 7: 30S ribosomal protein S12



• Molecule 8: 30S ribosomal protein S13

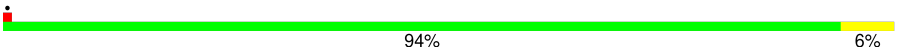


• Molecule 9: 30S ribosomal protein S14



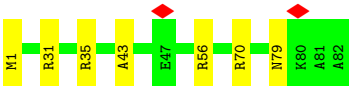
• Molecule 10: 30S ribosomal protein S15

Chain u:



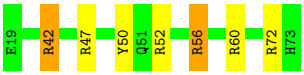
• Molecule 11: 30S ribosomal protein S16

Chain y:



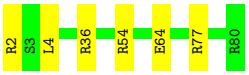
• Molecule 12: 30S ribosomal protein S18

Chain 1:



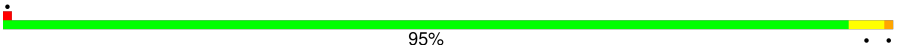
• Molecule 13: 30S ribosomal protein S19

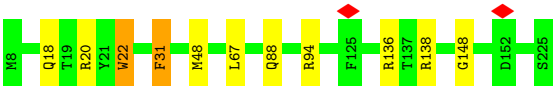
Chain z:



• Molecule 14: 30S ribosomal protein S2

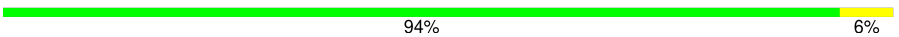
Chain j:

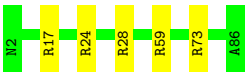




• Molecule 15: 30S ribosomal protein S20

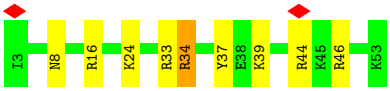
Chain 3:





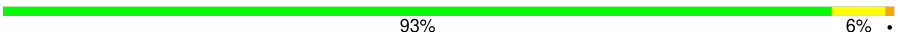
• Molecule 16: 30S ribosomal protein S21

Chain 2:



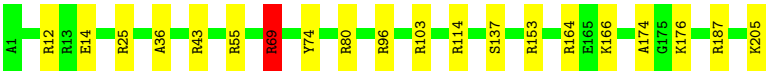
• Molecule 17: 30S ribosomal protein S3

Chain h:



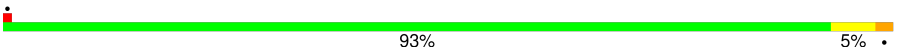
• Molecule 18: 30S ribosomal protein S4

Chain l:



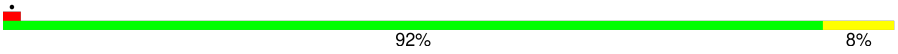
• Molecule 19: 30S ribosomal protein S5

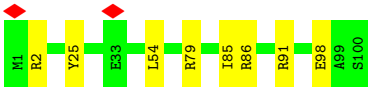
Chain k:



• Molecule 20: 30S ribosomal protein S6

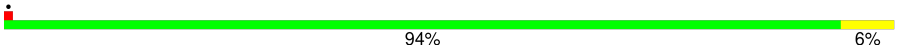
Chain n:

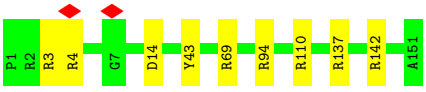




• Molecule 21: 30S ribosomal protein S7

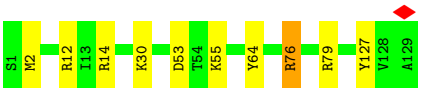
Chain m:





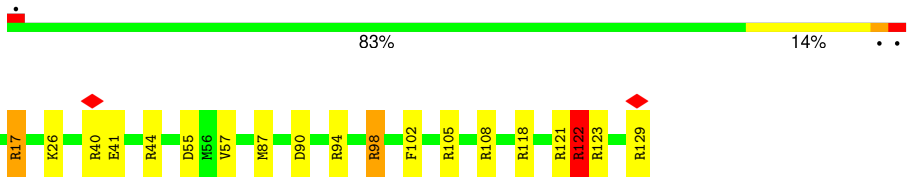
• Molecule 22: 30S ribosomal protein S8

Chain p:



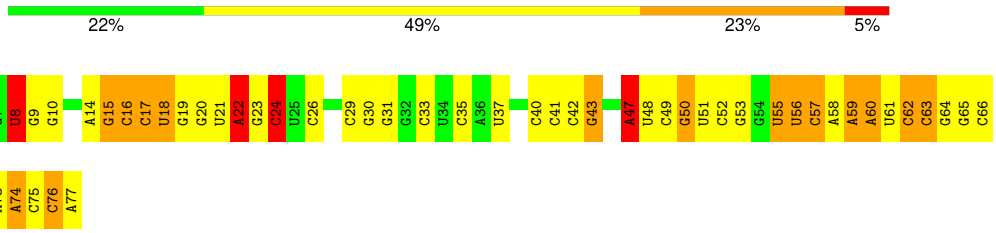
• Molecule 23: 30S ribosomal protein S9

Chain o:



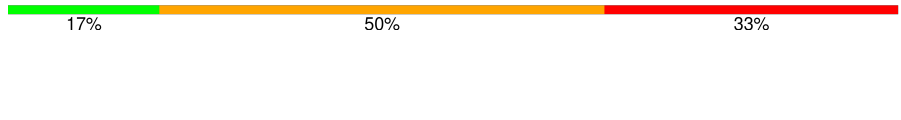
• Molecule 24: tRNA

Chain v:



• Molecule 25: mRNA

Chain N:



4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	86367	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TECNAI F30	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	35	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.231	Depositor
Minimum map value	-0.068	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.008	Depositor
Recommended contour level	0.03	Depositor
Map size (Å)	424.96, 424.96, 424.96	wwPDB
Map dimensions	256, 256, 256	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.66, 1.66, 1.66	Depositor

5 Model quality

5.1 Standard geometry

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|>5$	RMSZ	#$\|Z\|>5$
1	5	0.70	0/580	1.14	5/782 (0.6%)
2	f	0.66	0/3895	1.01	17/5264 (0.3%)
3	g	1.07	1/36963 (0.0%)	1.45	759/57662 (1.3%)
4	P	0.69	0/658	1.10	4/881 (0.5%)
5	r	0.67	0/797	1.15	7/1077 (0.6%)
6	q	0.68	0/893	1.09	5/1205 (0.4%)
7	t	0.69	0/969	1.21	12/1300 (0.9%)
8	s	0.68	0/893	1.21	10/1193 (0.8%)
9	w	0.69	0/785	1.29	12/1043 (1.2%)
10	u	0.69	0/722	1.13	5/964 (0.5%)
11	y	0.70	0/659	1.13	3/884 (0.3%)
12	1	0.73	0/463	1.34	8/621 (1.3%)
13	z	0.68	0/653	1.14	6/877 (0.7%)
14	j	0.67	0/1736	1.01	5/2338 (0.2%)
15	3	0.67	0/671	1.09	5/888 (0.6%)
16	2	0.78	0/431	1.33	4/570 (0.7%)
17	h	0.68	0/1652	1.07	11/2225 (0.5%)
18	l	0.71	0/1665	1.15	13/2227 (0.6%)
19	k	0.67	0/1119	1.06	5/1504 (0.3%)
20	n	0.69	0/836	1.12	7/1128 (0.6%)
21	m	0.70	0/1196	1.16	12/1602 (0.7%)
22	p	0.67	0/989	1.08	7/1326 (0.5%)
23	o	0.73	0/1034	1.37	23/1375 (1.7%)
24	v	1.21	2/1831 (0.1%)	1.74	70/2853 (2.5%)
25	N	1.37	0/141	2.23	8/218 (3.7%)
All	All	0.95	3/62231 (0.0%)	1.36	1023/92007 (1.1%)

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.

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Mol	Chain	#Chirality outliers	#Planarity outliers

Mol	Chain	#Chirality outliers	#Planarity outliers
2	f	0	3
3	g	0	108
4	P	0	1
5	r	0	1
6	q	0	2
7	t	0	2
8	s	0	3
11	y	0	1
12	1	0	2
14	j	0	1
16	2	0	3
17	h	0	3
18	l	0	5
19	k	0	4
21	m	0	1
22	p	0	2
23	o	0	4
24	v	0	15
25	N	0	2
All	All	0	163

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
24	v	22	A	N9-C4	-7.46	1.33	1.37
24	v	22	A	C3'-C2'	5.83	1.59	1.52
3	g	1228	C	P-O5'	-5.20	1.54	1.59

All (1023) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	v	56	U	P-O3'-C3'	16.86	139.93	119.70
25	N	14	A	P-O3'-C3'	13.63	136.06	119.70
3	g	325	A	P-O3'-C3'	10.67	132.50	119.70
3	g	1201	A	P-O3'-C3'	10.60	132.42	119.70
24	v	24	C	C6-N1-C2	-10.25	116.20	120.30
21	m	69	ARG	NE-CZ-NH1	10.05	125.32	120.30
24	v	8	U	C4'-C3'-C2'	9.99	112.59	102.60
12	1	72	ARG	NE-CZ-NH1	9.97	125.29	120.30
6	q	121	ARG	NE-CZ-NH1	9.96	125.28	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	g	363	A	P-O3'-C3'	9.83	131.50	119.70
8	s	97	ARG	NE-CZ-NH2	-9.68	115.46	120.30
24	v	22	A	O4'-C1'-C2'	-9.49	96.31	105.80
3	g	423	G	O4'-C1'-N9	9.22	115.58	108.20
2	f	847	ARG	NE-CZ-NH2	-9.15	115.72	120.30
2	f	847	ARG	NE-CZ-NH1	9.05	124.82	120.30
3	g	108	G	O4'-C1'-N9	8.97	115.38	108.20
1	5	66	ARG	NE-CZ-NH1	8.87	124.74	120.30
12	1	50	TYR	CB-CG-CD1	-8.69	115.79	121.00
17	h	39	ARG	NE-CZ-NH2	-8.68	115.96	120.30
3	g	1369	C	O4'-C1'-N1	8.67	115.13	108.20
9	w	63	ARG	NE-CZ-NH1	8.61	124.61	120.30
3	g	1373	G	C5-C6-O6	-8.57	123.46	128.60
3	g	856	C	O4'-C1'-N1	8.46	114.96	108.20
15	3	73	ARG	NE-CZ-NH1	8.44	124.52	120.30
3	g	96	U	P-O3'-C3'	8.42	129.81	119.70
3	g	465	A	P-O3'-C3'	8.41	129.79	119.70
3	g	1032	G	O4'-C1'-N9	8.41	114.92	108.20
3	g	689	C	O4'-C1'-N1	8.37	114.89	108.20
21	m	3	ARG	NE-CZ-NH2	-8.34	116.13	120.30
22	p	127	TYR	CB-CG-CD2	-8.32	116.00	121.00
3	g	1278	G	O4'-C1'-N9	8.31	114.85	108.20
18	l	12	ARG	NE-CZ-NH1	8.29	124.44	120.30
19	k	111	ARG	NE-CZ-NH2	-8.28	116.16	120.30
3	g	1101	A	P-O3'-C3'	8.24	129.59	119.70
24	v	8	U	C2-N3-C4	-8.16	122.10	127.00
3	g	1249	C	O4'-C1'-N1	8.15	114.72	108.20
23	o	122	ARG	NE-CZ-NH2	-8.15	116.23	120.30
24	v	42	C	O4'-C1'-N1	8.14	114.72	108.20
25	N	17	U	O4'-C1'-N1	8.14	114.71	108.20
19	k	111	ARG	NE-CZ-NH1	8.14	124.37	120.30
3	g	1469	C	O4'-C1'-N1	8.13	114.70	108.20
3	g	1277	C	O4'-C1'-N1	8.12	114.70	108.20
3	g	209	U	P-O3'-C3'	8.07	129.38	119.70
25	N	16	A	O4'-C1'-N9	8.06	114.65	108.20
18	l	80	ARG	NE-CZ-NH1	8.01	124.30	120.30
17	h	39	ARG	NE-CZ-NH1	7.98	124.29	120.30
4	P	39	ARG	NE-CZ-NH2	-7.98	116.31	120.30
3	g	1189	U	P-O3'-C3'	7.97	129.26	119.70
3	g	117	G	P-O3'-C3'	7.94	129.23	119.70
3	g	95	C	O4'-C1'-N1	7.94	114.55	108.20
3	g	1108	G	P-O3'-C3'	7.90	129.18	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	g	1412	C	O4'-C1'-N1	7.88	114.50	108.20
3	g	1537	U	P-O3'-C3'	7.87	129.14	119.70
3	g	1373	G	N1-C6-O6	7.86	124.62	119.90
8	s	56	ARG	NE-CZ-NH1	7.86	124.23	120.30
24	v	4	G	N1-C6-O6	7.85	124.61	119.90
3	g	1332	A	O4'-C1'-N9	7.83	114.47	108.20
24	v	4	G	C5-C6-O6	-7.83	123.90	128.60
3	g	1484	C	O4'-C1'-N1	7.81	114.45	108.20
23	o	108	ARG	NE-CZ-NH2	-7.80	116.40	120.30
3	g	1237	C	O4'-C1'-N1	7.78	114.43	108.20
12	1	50	TYR	CB-CG-CD2	7.77	125.66	121.00
7	t	8	ARG	NE-CZ-NH1	7.75	124.17	120.30
3	g	620	C	O4'-C1'-N1	7.73	114.38	108.20
18	l	25	ARG	NE-CZ-NH2	-7.73	116.44	120.30
23	o	129	ARG	NE-CZ-NH1	7.73	124.16	120.30
21	m	4	ARG	NE-CZ-NH2	-7.73	116.44	120.30
3	g	519	C	O4'-C1'-N1	7.72	114.38	108.20
3	g	758	C	O4'-C1'-N1	7.72	114.38	108.20
3	g	1234	C	O4'-C1'-N1	7.70	114.36	108.20
3	g	1279	G	C4-N9-C1'	7.70	136.51	126.50
3	g	403	C	O4'-C1'-N1	7.69	114.35	108.20
13	z	2	ARG	NE-CZ-NH1	7.68	124.14	120.30
24	v	41	C	O4'-C1'-N1	7.67	114.34	108.20
23	o	118	ARG	NE-CZ-NH1	7.66	124.13	120.30
3	g	412	A	O4'-C1'-N9	7.66	114.33	108.20
22	p	79	ARG	NE-CZ-NH1	7.65	124.13	120.30
16	2	44	ARG	NE-CZ-NH2	-7.63	116.48	120.30
23	o	123	ARG	NE-CZ-NH1	-7.63	116.49	120.30
12	1	60	ARG	NE-CZ-NH2	-7.61	116.49	120.30
3	g	311	C	O4'-C1'-N1	7.61	114.29	108.20
25	N	15	U	P-O3'-C3'	-7.58	110.60	119.70
3	g	132	C	O4'-C1'-N1	7.58	114.26	108.20
8	s	86	ARG	NE-CZ-NH2	-7.56	116.52	120.30
3	g	977	A	O4'-C1'-N9	7.56	114.25	108.20
3	g	1203	C	O4'-C1'-N1	7.55	114.24	108.20
16	2	16	ARG	NE-CZ-NH1	7.55	124.08	120.30
3	g	1142	G	C5-C6-O6	-7.54	124.08	128.60
3	g	872	A	O4'-C1'-N9	7.54	114.23	108.20
3	g	90	C	O4'-C1'-N1	7.54	114.23	108.20
3	g	1149	C	O4'-C1'-N1	7.53	114.22	108.20
12	1	42	ARG	NE-CZ-NH1	7.53	124.06	120.30
7	t	30	ARG	NE-CZ-NH2	-7.52	116.54	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	g	979	C	O4'-C1'-N1	7.52	114.21	108.20
3	g	136	C	O4'-C1'-N1	7.50	114.20	108.20
3	g	295	C	O4'-C1'-N1	7.50	114.20	108.20
3	g	215	C	O4'-C1'-N1	7.50	114.20	108.20
23	o	98	ARG	NE-CZ-NH1	7.49	124.04	120.30
17	h	171	ARG	NE-CZ-NH1	7.47	124.04	120.30
22	p	127	TYR	CB-CG-CD1	7.46	125.48	121.00
3	g	868	C	O4'-C1'-N1	7.46	114.17	108.20
3	g	214	C	O4'-C1'-N1	7.45	114.16	108.20
10	u	76	ARG	NE-CZ-NH2	-7.43	116.58	120.30
3	g	86	G	O4'-C1'-N9	7.43	114.15	108.20
17	h	178	ARG	NE-CZ-NH2	-7.42	116.59	120.30
3	g	764	C	O4'-C1'-N1	7.41	114.13	108.20
3	g	1509	C	O4'-C1'-N1	7.40	114.12	108.20
3	g	1402	C	O4'-C1'-N1	7.40	114.12	108.20
3	g	468	A	O4'-C1'-N9	7.39	114.11	108.20
3	g	23	C	O4'-C1'-N1	7.38	114.11	108.20
3	g	518	C	O4'-C1'-N1	7.38	114.10	108.20
3	g	564	C	O4'-C1'-N1	7.38	114.10	108.20
3	g	848	C	O4'-C1'-N1	7.38	114.10	108.20
3	g	1383	C	O4'-C1'-N1	7.37	114.10	108.20
3	g	1144	G	P-O3'-C3'	7.36	128.53	119.70
3	g	732	C	O4'-C1'-N1	7.35	114.08	108.20
3	g	381	C	O4'-C1'-N1	7.35	114.08	108.20
3	g	855	U	O4'-C1'-N1	7.34	114.07	108.20
3	g	1536	C	O4'-C1'-N1	7.34	114.07	108.20
9	w	61	ARG	NE-CZ-NH1	7.34	123.97	120.30
10	u	16	ARG	NE-CZ-NH1	7.34	123.97	120.30
3	g	175	C	O4'-C1'-N1	7.33	114.06	108.20
3	g	1045	C	O4'-C1'-N1	7.32	114.05	108.20
3	g	580	C	O4'-C1'-N1	7.31	114.05	108.20
7	t	109	ARG	NE-CZ-NH1	7.31	123.95	120.30
3	g	1347	G	C5-C6-O6	-7.30	124.22	128.60
3	g	1535	C	O4'-C1'-N1	7.30	114.04	108.20
24	v	76	C	O4'-C1'-N1	7.29	114.03	108.20
13	z	2	ARG	NE-CZ-NH2	-7.29	116.66	120.30
3	g	278	G	O4'-C1'-N9	7.28	114.03	108.20
8	s	97	ARG	NE-CZ-NH1	7.27	123.94	120.30
3	g	1338	G	O4'-C1'-N9	7.27	114.02	108.20
9	w	12	ARG	NE-CZ-NH2	-7.27	116.67	120.30
18	l	80	ARG	NE-CZ-NH2	-7.27	116.67	120.30
3	g	40	C	O4'-C1'-N1	7.26	114.01	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	g	169	C	O4'-C1'-N1	7.25	114.00	108.20
8	s	100	ARG	NE-CZ-NH1	7.25	123.92	120.30
24	v	22	A	C5'-C4'-C3'	7.24	127.59	116.00
3	g	1303	C	O4'-C1'-N1	7.24	113.99	108.20
3	g	1140	C	O4'-C1'-N1	7.22	113.98	108.20
3	g	549	C	O4'-C1'-N1	7.22	113.98	108.20
3	g	896	C	O4'-C1'-N1	7.20	113.96	108.20
3	g	248	C	O4'-C1'-N1	7.20	113.96	108.20
17	h	155	ARG	NE-CZ-NH1	7.19	123.89	120.30
3	g	439	U	O4'-C1'-N1	7.18	113.94	108.20
24	v	26	C	O4'-C1'-N1	7.17	113.94	108.20
5	r	9	ARG	NE-CZ-NH1	7.17	123.88	120.30
3	g	413	G	O4'-C1'-N9	7.16	113.93	108.20
5	r	5	ARG	NE-CZ-NH1	7.16	123.88	120.30
3	g	737	C	O4'-C1'-N1	7.15	113.92	108.20
24	v	29	C	O4'-C1'-N1	7.14	113.91	108.20
3	g	330	C	O4'-C1'-N1	7.13	113.91	108.20
3	g	489	C	O4'-C1'-N1	7.13	113.91	108.20
3	g	1384	C	O4'-C1'-N1	7.13	113.91	108.20
3	g	1262	C	O4'-C1'-N1	7.13	113.91	108.20
8	s	86	ARG	NE-CZ-NH1	7.13	123.87	120.30
3	g	866	C	O4'-C1'-N1	7.13	113.91	108.20
3	g	857	C	O4'-C1'-N1	7.13	113.90	108.20
3	g	1443	C	O4'-C1'-N1	7.13	113.90	108.20
23	o	105	ARG	NE-CZ-NH1	7.12	123.86	120.30
24	v	67	C	O4'-C1'-N1	7.12	113.90	108.20
3	g	1107	C	O4'-C1'-N1	7.12	113.90	108.20
3	g	501	C	O4'-C1'-N1	7.11	113.89	108.20
3	g	810	C	O4'-C1'-N1	7.11	113.89	108.20
3	g	853	C	O4'-C1'-N1	7.11	113.89	108.20
3	g	1201	A	O4'-C1'-N9	7.11	113.89	108.20
16	2	33	ARG	NE-CZ-NH1	7.11	123.85	120.30
19	k	28	ARG	NE-CZ-NH1	7.11	123.85	120.30
3	g	738	C	O4'-C1'-N1	7.10	113.88	108.20
3	g	490	C	O4'-C1'-N1	7.09	113.87	108.20
3	g	130	A	P-O3'-C3'	7.08	128.20	119.70
3	g	1460	C	O4'-C1'-N1	7.08	113.86	108.20
3	g	402	G	O4'-C1'-N9	7.08	113.86	108.20
3	g	1388	C	O4'-C1'-N1	7.07	113.86	108.20
3	g	1265	C	O4'-C1'-N1	7.07	113.86	108.20
9	w	69	ARG	NE-CZ-NH1	7.07	123.84	120.30
2	f	455	ARG	NE-CZ-NH2	7.07	123.83	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	g	962	C	O4'-C1'-N1	7.07	113.85	108.20
3	g	110	C	O4'-C1'-N1	7.06	113.85	108.20
3	g	1161	C	O4'-C1'-N1	7.06	113.85	108.20
3	g	418	C	O4'-C1'-N1	7.06	113.84	108.20
3	g	998	C	O4'-C1'-N1	7.05	113.84	108.20
3	g	58	C	O4'-C1'-N1	7.05	113.84	108.20
3	g	1069	C	O4'-C1'-N1	7.05	113.84	108.20
3	g	52	C	O4'-C1'-N1	7.04	113.83	108.20
15	3	59	ARG	NE-CZ-NH1	7.04	123.82	120.30
3	g	156	C	O4'-C1'-N1	7.02	113.82	108.20
3	g	1202	U	O4'-C1'-N1	7.01	113.81	108.20
3	g	1411	C	O4'-C1'-N1	7.01	113.81	108.20
4	P	39	ARG	NE-CZ-NH1	7.01	123.81	120.30
2	f	846	ARG	NE-CZ-NH1	-7.00	116.80	120.30
3	g	823	C	O4'-C1'-N1	7.00	113.80	108.20
3	g	177	G	O4'-C1'-N9	7.00	113.80	108.20
24	v	15	G	O4'-C1'-N9	6.99	113.79	108.20
3	g	637	C	O4'-C1'-N1	6.99	113.79	108.20
3	g	1096	C	O4'-C1'-N1	6.98	113.78	108.20
3	g	188	C	O4'-C1'-N1	6.98	113.78	108.20
24	v	68	C	O4'-C1'-N1	6.98	113.78	108.20
3	g	978	A	P-O3'-C3'	6.97	128.07	119.70
24	v	63	C	O4'-C1'-N1	6.97	113.78	108.20
18	l	25	ARG	NE-CZ-NH1	6.96	123.78	120.30
3	g	271	C	O4'-C1'-N1	6.96	113.77	108.20
3	g	1382	C	O4'-C1'-N1	6.96	113.77	108.20
3	g	284	C	O4'-C1'-N1	6.95	113.76	108.20
3	g	1074	G	O4'-C1'-N9	6.95	113.76	108.20
3	g	1389	C	O4'-C1'-N1	6.95	113.76	108.20
18	l	114	ARG	NE-CZ-NH2	-6.94	116.83	120.30
3	g	1114	C	O4'-C1'-N1	6.93	113.75	108.20
3	g	1501	C	O4'-C1'-N1	6.93	113.75	108.20
3	g	643	C	O4'-C1'-N1	6.92	113.74	108.20
24	v	16	C	O4'-C1'-N1	6.92	113.74	108.20
3	g	578	C	O4'-C1'-N1	6.92	113.74	108.20
3	g	1086	U	O4'-C1'-N1	6.92	113.74	108.20
7	t	13	ARG	NE-CZ-NH1	6.92	123.76	120.30
12	1	52	ARG	NE-CZ-NH1	6.92	123.76	120.30
3	g	779	C	O4'-C1'-N1	6.91	113.73	108.20
3	g	893	C	O4'-C1'-N1	6.91	113.72	108.20
3	g	211	G	O4'-C1'-N9	6.90	113.72	108.20
3	g	339	C	O4'-C1'-N1	6.90	113.72	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	g	936	C	O4'-C1'-N1	6.90	113.72	108.20
25	N	15	U	O4'-C1'-N1	6.88	113.70	108.20
3	g	352	C	O4'-C1'-N1	6.88	113.70	108.20
3	g	808	C	O4'-C1'-N1	6.87	113.69	108.20
17	h	142	ARG	NE-CZ-NH1	6.87	123.73	120.30
24	v	2	G	O4'-C1'-N9	6.86	113.69	108.20
3	g	846	G	O4'-C1'-N9	6.85	113.68	108.20
21	m	94	ARG	NE-CZ-NH1	6.85	123.72	120.30
3	g	1280	A	C5'-C4'-C3'	-6.85	105.04	116.00
3	g	89	U	O4'-C1'-N1	6.84	113.68	108.20
3	g	839	C	O4'-C1'-N1	6.84	113.67	108.20
3	g	1533	C	O4'-C1'-N1	6.84	113.67	108.20
3	g	1466	C	O4'-C1'-N1	6.84	113.67	108.20
3	g	221	C	O4'-C1'-N1	6.84	113.67	108.20
3	g	385	C	O4'-C1'-N1	6.83	113.67	108.20
3	g	17	U	O4'-C1'-N1	6.83	113.67	108.20
3	g	1100	C	O4'-C1'-N1	6.83	113.67	108.20
3	g	1148	U	O4'-C1'-N1	6.83	113.66	108.20
3	g	419	C	O4'-C1'-N1	6.82	113.66	108.20
3	g	1195	C	O4'-C1'-N1	6.82	113.66	108.20
10	u	76	ARG	NE-CZ-NH1	6.82	123.71	120.30
24	v	40	C	O4'-C1'-N1	6.82	113.65	108.20
24	v	72	C	O4'-C1'-N1	6.81	113.65	108.20
3	g	18	C	O4'-C1'-N1	6.81	113.65	108.20
3	g	178	C	O4'-C1'-N1	6.81	113.65	108.20
3	g	612	C	O4'-C1'-N1	6.81	113.65	108.20
3	g	613	C	O4'-C1'-N1	6.80	113.64	108.20
9	w	12	ARG	NE-CZ-NH1	6.80	123.70	120.30
3	g	879	C	O4'-C1'-N1	6.79	113.64	108.20
3	g	1142	G	N1-C6-O6	6.79	123.97	119.90
7	t	30	ARG	NE-CZ-NH1	6.79	123.69	120.30
23	o	44	ARG	NE-CZ-NH1	6.79	123.69	120.30
3	g	1267	C	O4'-C1'-N1	6.79	113.63	108.20
1	5	66	ARG	NE-CZ-NH2	-6.78	116.91	120.30
3	g	354	G	C5-C6-O6	-6.78	124.53	128.60
3	g	1065	U	O4'-C1'-N1	6.78	113.62	108.20
3	g	272	C	O4'-C1'-N1	6.78	113.62	108.20
3	g	1279	G	C8-N9-C1'	-6.77	118.20	127.00
3	g	370	C	O4'-C1'-N1	6.77	113.61	108.20
3	g	750	C	O4'-C1'-N1	6.76	113.61	108.20
3	g	316	C	O4'-C1'-N1	6.75	113.60	108.20
3	g	985	C	O4'-C1'-N1	6.75	113.60	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	g	1112	C	O4'-C1'-N1	6.75	113.60	108.20
3	g	206	C	O4'-C1'-N1	6.74	113.59	108.20
3	g	1223	C	O4'-C1'-N1	6.74	113.59	108.20
3	g	286	C	O4'-C1'-N1	6.73	113.59	108.20
3	g	1119	C	O4'-C1'-N1	6.73	113.58	108.20
3	g	569	C	O4'-C1'-N1	6.73	113.58	108.20
3	g	401	C	O4'-C1'-N1	6.72	113.58	108.20
3	g	970	C	O4'-C1'-N1	6.72	113.58	108.20
3	g	1409	C	O4'-C1'-N1	6.72	113.58	108.20
21	m	3	ARG	NE-CZ-NH1	6.72	123.66	120.30
3	g	1078	U	O4'-C1'-N1	6.71	113.57	108.20
3	g	1366	C	O4'-C1'-N1	6.71	113.57	108.20
3	g	1538	C	O4'-C1'-N1	6.71	113.57	108.20
23	o	122	ARG	NE-CZ-NH1	6.71	123.66	120.30
3	g	1367	C	O4'-C1'-N1	6.71	113.57	108.20
3	g	940	C	O4'-C1'-N1	6.71	113.56	108.20
3	g	660	C	O4'-C1'-N1	6.70	113.56	108.20
21	m	94	ARG	NE-CZ-NH2	-6.70	116.95	120.30
3	g	1404	C	O4'-C1'-N1	6.70	113.56	108.20
3	g	285	C	O4'-C1'-N1	6.70	113.56	108.20
3	g	341	C	O4'-C1'-N1	6.70	113.56	108.20
3	g	930	C	O4'-C1'-N1	6.70	113.56	108.20
20	n	2	ARG	NE-CZ-NH1	6.68	123.64	120.30
3	g	1282	C	O4'-C1'-N1	6.68	113.55	108.20
3	g	599	C	O4'-C1'-N1	6.68	113.54	108.20
3	g	277	C	O4'-C1'-N1	6.67	113.54	108.20
3	g	1273	C	O4'-C1'-N1	6.67	113.53	108.20
2	f	832	ARG	NE-CZ-NH1	6.66	123.63	120.30
3	g	470	C	O4'-C1'-N1	6.66	113.53	108.20
3	g	492	C	O4'-C1'-N1	6.66	113.53	108.20
23	o	10	ARG	NE-CZ-NH1	6.66	123.63	120.30
3	g	1462	C	O4'-C1'-N1	6.66	113.53	108.20
3	g	503	C	O4'-C1'-N1	6.66	113.52	108.20
3	g	107	G	C5-C6-O6	-6.64	124.61	128.60
3	g	1113	C	O4'-C1'-N1	6.64	113.51	108.20
24	v	69	C	O4'-C1'-N1	6.64	113.51	108.20
3	g	699	C	O4'-C1'-N1	6.64	113.51	108.20
24	v	62	C	O4'-C1'-N1	6.63	113.51	108.20
3	g	1120	C	O4'-C1'-N1	6.63	113.51	108.20
3	g	634	C	O4'-C1'-N1	6.63	113.50	108.20
3	g	862	C	O4'-C1'-N1	6.63	113.50	108.20
3	g	1521	C	O4'-C1'-N1	6.62	113.50	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	g	1281	C	O4'-C1'-N1	6.62	113.50	108.20
3	g	1128	C	O4'-C1'-N1	6.61	113.49	108.20
23	o	123	ARG	NE-CZ-NH2	6.61	123.61	120.30
3	g	1496	C	O4'-C1'-N1	6.61	113.49	108.20
3	g	1245	C	O4'-C1'-N1	6.61	113.49	108.20
3	g	536	C	O4'-C1'-N1	6.60	113.48	108.20
23	o	94	ARG	NE-CZ-NH1	6.60	123.60	120.30
3	g	488	C	O4'-C1'-N1	6.59	113.47	108.20
3	g	290	C	O4'-C1'-N1	6.59	113.47	108.20
3	g	96	U	O4'-C1'-N1	6.58	113.47	108.20
3	g	392	C	O4'-C1'-N1	6.58	113.47	108.20
3	g	1158	C	O4'-C1'-N1	6.58	113.46	108.20
3	g	163	C	O4'-C1'-N1	6.57	113.46	108.20
3	g	651	C	O4'-C1'-N1	6.57	113.46	108.20
14	j	136	ARG	NE-CZ-NH1	6.57	123.58	120.30
3	g	1134	G	O4'-C1'-N9	6.57	113.45	108.20
3	g	1467	C	O4'-C1'-N1	6.56	113.45	108.20
3	g	910	C	O4'-C1'-N1	6.56	113.45	108.20
24	v	70	C	O4'-C1'-N1	6.56	113.45	108.20
3	g	1347	G	N1-C6-O6	6.56	123.83	119.90
2	f	390	ARG	NE-CZ-NH1	-6.55	117.02	120.30
3	g	1326	U	O4'-C1'-N1	6.55	113.44	108.20
3	g	999	C	O4'-C1'-N1	6.54	113.44	108.20
3	g	797	C	O4'-C1'-N1	6.54	113.44	108.20
3	g	931	C	O4'-C1'-N1	6.53	113.42	108.20
3	g	631	C	O4'-C1'-N1	6.52	113.42	108.20
3	g	239	U	P-O3'-C3'	6.52	127.53	119.70
3	g	1314	C	O4'-C1'-N1	6.52	113.42	108.20
3	g	322	C	O4'-C1'-N1	6.52	113.41	108.20
3	g	1172	C	O4'-C1'-N1	6.52	113.41	108.20
3	g	266	G	C5-C6-O6	-6.51	124.69	128.60
20	n	25	TYR	CB-CG-CD1	6.50	124.90	121.00
3	g	283	U	O4'-C1'-N1	6.50	113.40	108.20
3	g	342	C	O4'-C1'-N1	6.50	113.40	108.20
3	g	1165	U	O4'-C1'-N1	6.50	113.40	108.20
7	t	11	ARG	NE-CZ-NH2	-6.50	117.05	120.30
3	g	997	U	O4'-C1'-N1	6.49	113.39	108.20
3	g	440	C	O4'-C1'-N1	6.49	113.39	108.20
15	3	24	ARG	NE-CZ-NH1	6.49	123.54	120.30
16	2	44	ARG	NE-CZ-NH1	6.49	123.54	120.30
24	v	33	C	O4'-C1'-N1	6.49	113.39	108.20
3	g	1403	C	O4'-C1'-N1	6.49	113.39	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	g	1485	U	O4'-C1'-N1	6.49	113.39	108.20
3	g	400	C	O4'-C1'-N1	6.48	113.39	108.20
24	v	8	U	C5'-C4'-O4'	6.48	116.88	109.10
3	g	334	C	O4'-C1'-N1	6.48	113.39	108.20
3	g	614	C	O4'-C1'-N1	6.48	113.38	108.20
24	v	8	U	O4'-C1'-C2'	6.48	113.43	107.60
24	v	53	G	O4'-C1'-N9	6.48	113.38	108.20
3	g	87	C	O4'-C1'-N1	6.48	113.38	108.20
3	g	409	U	O4'-C1'-N1	6.48	113.38	108.20
3	g	1208	C	O4'-C1'-N1	6.47	113.38	108.20
3	g	1217	C	O4'-C1'-N1	6.47	113.38	108.20
3	g	688	G	C5-C6-O6	-6.47	124.72	128.60
3	g	1136	C	P-O3'-C3'	6.47	127.46	119.70
3	g	943	U	O4'-C1'-N1	6.46	113.37	108.20
24	v	37	U	O4'-C1'-N1	6.46	113.37	108.20
3	g	522	C	O4'-C1'-N1	6.46	113.37	108.20
3	g	756	C	O4'-C1'-N1	6.46	113.37	108.20
3	g	961	U	O4'-C1'-N1	6.45	113.36	108.20
3	g	233	C	O4'-C1'-N1	6.44	113.35	108.20
3	g	576	C	O4'-C1'-N1	6.44	113.35	108.20
3	g	559	A	O4'-C1'-N9	6.44	113.35	108.20
3	g	680	C	O4'-C1'-N1	6.44	113.35	108.20
3	g	708	C	O4'-C1'-N1	6.44	113.35	108.20
7	t	53	ARG	NE-CZ-NH2	-6.44	117.08	120.30
3	g	1230	C	O4'-C1'-N1	6.44	113.35	108.20
3	g	99	C	O4'-C1'-N1	6.43	113.35	108.20
3	g	744	C	O4'-C1'-N1	6.43	113.34	108.20
3	g	264	C	O4'-C1'-N1	6.43	113.34	108.20
22	p	76	ARG	NE-CZ-NH2	-6.43	117.09	120.30
24	v	71	G	C5-C6-O6	-6.42	124.75	128.60
3	g	826	C	O4'-C1'-N1	6.41	113.33	108.20
3	g	899	C	O4'-C1'-N1	6.41	113.33	108.20
2	f	824	ARG	NE-CZ-NH1	6.41	123.50	120.30
3	g	624	C	O4'-C1'-N1	6.41	113.32	108.20
3	g	793	U	P-O3'-C3'	6.41	127.39	119.70
22	p	12	ARG	NE-CZ-NH1	6.41	123.50	120.30
3	g	876	C	O4'-C1'-N1	6.40	113.32	108.20
24	v	52	C	O4'-C1'-N1	6.40	113.32	108.20
3	g	1209	C	O4'-C1'-N1	6.40	113.32	108.20
3	g	504	C	O4'-C1'-N1	6.39	113.31	108.20
3	g	153	C	O4'-C1'-N1	6.39	113.31	108.20
3	g	882	C	O4'-C1'-N1	6.39	113.31	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	g	1474	U	O4'-C1'-N1	6.39	113.31	108.20
3	g	980	C	O4'-C1'-N1	6.39	113.31	108.20
3	g	1378	C	O4'-C1'-N1	6.39	113.31	108.20
3	g	186	C	O4'-C1'-N1	6.39	113.31	108.20
3	g	1228	C	O4'-C1'-N1	6.38	113.31	108.20
2	f	832	ARG	NE-CZ-NH2	-6.38	117.11	120.30
3	g	1328	C	O4'-C1'-N1	6.37	113.30	108.20
18	l	69	ARG	NE-CZ-NH1	6.36	123.48	120.30
3	g	880	C	O4'-C1'-N1	6.36	113.29	108.20
13	z	77	ARG	NE-CZ-NH1	6.36	123.48	120.30
3	g	1517	G	O4'-C1'-N9	6.35	113.28	108.20
25	N	16	A	P-O5'-C5'	6.35	131.06	120.90
9	w	8	ARG	NE-CZ-NH1	6.35	123.47	120.30
24	v	57	C	O4'-C1'-N1	6.35	113.28	108.20
3	g	658	C	O4'-C1'-N1	6.34	113.27	108.20
3	g	475	C	O4'-C1'-N1	6.34	113.27	108.20
3	g	1530	G	O4'-C1'-N9	6.34	113.27	108.20
3	g	1051	C	O4'-C1'-N1	6.34	113.27	108.20
3	g	770	C	O4'-C1'-N1	6.33	113.26	108.20
3	g	34	C	O4'-C1'-N1	6.32	113.26	108.20
8	s	69	ARG	NE-CZ-NH2	-6.32	117.14	120.30
3	g	43	C	O4'-C1'-N1	6.32	113.25	108.20
3	g	841	C	O4'-C1'-N1	6.32	113.25	108.20
9	w	75	ARG	NE-CZ-NH1	6.32	123.46	120.30
3	g	67	C	O4'-C1'-N1	6.31	113.25	108.20
3	g	795	C	O4'-C1'-N1	6.30	113.24	108.20
3	g	437	U	O4'-C1'-N1	6.30	113.24	108.20
3	g	124	C	O4'-C1'-N1	6.29	113.24	108.20
3	g	726	C	O4'-C1'-N1	6.29	113.23	108.20
3	g	1147	C	O4'-C1'-N1	6.29	113.23	108.20
3	g	1304	G	O4'-C1'-N9	6.28	113.23	108.20
3	g	1449	C	O4'-C1'-N1	6.28	113.22	108.20
24	v	24	C	C5'-C4'-O4'	-6.28	101.56	109.10
3	g	120	A	P-O3'-C3'	6.28	127.23	119.70
24	v	47	A	O4'-C1'-N9	6.28	113.22	108.20
3	g	354	G	N1-C6-O6	6.27	123.67	119.90
21	m	110	ARG	NE-CZ-NH1	6.27	123.44	120.30
24	v	55	U	O4'-C1'-N1	6.27	113.22	108.20
3	g	1158	C	C2-N1-C1'	6.27	125.70	118.80
3	g	923	A	N1-C6-N6	6.27	122.36	118.60
3	g	1066	C	O4'-C1'-N1	6.26	113.21	108.20
3	g	840	C	O4'-C1'-N1	6.26	113.21	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	g	1325	C	O4'-C1'-N1	6.26	113.21	108.20
3	g	1427	C	O4'-C1'-N1	6.25	113.20	108.20
3	g	611	C	O4'-C1'-N1	6.25	113.20	108.20
3	g	945	G	C5-C6-O6	-6.24	124.85	128.60
3	g	355	C	O4'-C1'-N1	6.24	113.19	108.20
3	g	736	C	O4'-C1'-N1	6.24	113.19	108.20
3	g	993	G	O4'-C1'-N9	6.24	113.19	108.20
3	g	1453	G	O4'-C1'-N9	6.24	113.19	108.20
3	g	1395	C	O4'-C1'-N1	6.23	113.19	108.20
3	g	222	C	O4'-C1'-N1	6.23	113.19	108.20
3	g	166	U	O4'-C1'-N1	6.23	113.18	108.20
3	g	106	C	O4'-C1'-N1	6.23	113.18	108.20
3	g	307	C	O4'-C1'-N1	6.23	113.18	108.20
3	g	1266	G	O4'-C1'-N9	6.23	113.18	108.20
21	m	4	ARG	NE-CZ-NH1	6.22	123.41	120.30
24	v	56	U	C2'-C3'-O3'	6.22	123.65	113.70
3	g	582	C	O4'-C1'-N1	6.22	113.18	108.20
24	v	66	C	O4'-C1'-N1	6.22	113.18	108.20
3	g	806	C	O4'-C1'-N1	6.22	113.17	108.20
3	g	1390	U	O4'-C1'-N1	6.22	113.17	108.20
3	g	1352	C	O4'-C1'-N1	6.21	113.17	108.20
3	g	1539	C	O4'-C1'-N1	6.21	113.17	108.20
14	j	31	PHE	CB-CG-CD2	6.21	125.15	120.80
3	g	193	C	O4'-C1'-N1	6.20	113.16	108.20
3	g	665	A	N1-C6-N6	-6.20	114.88	118.60
3	g	751	U	O4'-C1'-N1	6.20	113.16	108.20
3	g	1416	G	O4'-C1'-N9	6.20	113.16	108.20
3	g	556	C	O4'-C1'-N1	6.20	113.16	108.20
3	g	521	G	O4'-C1'-N9	6.20	113.16	108.20
3	g	477	C	O4'-C1'-N1	6.19	113.15	108.20
3	g	1054	C	O4'-C1'-N1	6.19	113.15	108.20
13	z	54	ARG	NE-CZ-NH1	6.19	123.40	120.30
3	g	194	C	O4'-C1'-N1	6.18	113.15	108.20
3	g	528	C	O4'-C1'-N1	6.18	113.15	108.20
24	v	3	C	O4'-C1'-N1	6.18	113.14	108.20
3	g	1141	C	O4'-C1'-N1	6.18	113.14	108.20
3	g	332	G	C5-C6-O6	-6.17	124.90	128.60
3	g	1132	C	O4'-C1'-N1	6.17	113.13	108.20
24	v	50	G	C5-C6-O6	-6.16	124.90	128.60
3	g	340	U	O4'-C1'-N1	6.16	113.13	108.20
3	g	1136	C	O4'-C1'-N1	6.16	113.13	108.20
3	g	897	C	O4'-C1'-N1	6.16	113.13	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	v	5	G	O4'-C1'-N9	6.16	113.13	108.20
3	g	231	U	O4'-C1'-N1	6.16	113.12	108.20
3	g	1038	C	O4'-C1'-N1	6.16	113.12	108.20
3	g	1227	A	O4'-C1'-N9	6.16	113.12	108.20
3	g	513	C	O4'-C1'-N1	6.15	113.12	108.20
3	g	308	C	O4'-C1'-N1	6.15	113.12	108.20
9	w	41	ARG	NE-CZ-NH1	6.14	123.37	120.30
3	g	783	C	O4'-C1'-N1	6.14	113.11	108.20
3	g	24	U	O4'-C1'-N1	6.13	113.11	108.20
14	j	31	PHE	CB-CG-CD1	-6.13	116.51	120.80
3	g	984	C	O4'-C1'-N1	6.13	113.10	108.20
3	g	1059	C	O4'-C1'-N1	6.12	113.10	108.20
3	g	697	U	O4'-C1'-N1	6.12	113.09	108.20
3	g	948	C	O4'-C1'-N1	6.12	113.09	108.20
3	g	1448	C	O4'-C1'-N1	6.12	113.09	108.20
2	f	887	ARG	NE-CZ-NH2	6.11	123.36	120.30
3	g	818	G	O4'-C1'-N9	6.11	113.08	108.20
23	o	118	ARG	NH1-CZ-NH2	-6.11	112.68	119.40
3	g	1162	C	O4'-C1'-N1	6.10	113.08	108.20
25	N	18	G	C5-C6-O6	-6.10	124.94	128.60
3	g	218	U	O4'-C1'-N1	6.10	113.08	108.20
3	g	150	U	O4'-C1'-N1	6.10	113.08	108.20
3	g	217	C	O4'-C1'-N1	6.10	113.08	108.20
20	n	79	ARG	NE-CZ-NH1	6.10	123.35	120.30
3	g	1037	C	O4'-C1'-N1	6.09	113.08	108.20
3	g	102	G	O4'-C1'-N9	6.09	113.07	108.20
20	n	25	TYR	CB-CG-CD2	-6.09	117.34	121.00
3	g	1167	A	O4'-C1'-N9	6.09	113.07	108.20
3	g	68	G	N1-C6-O6	6.08	123.55	119.90
3	g	647	C	O4'-C1'-N1	6.08	113.07	108.20
3	g	805	C	O4'-C1'-N1	6.08	113.07	108.20
3	g	210	C	O4'-C1'-N1	6.08	113.06	108.20
3	g	312	C	O4'-C1'-N1	6.08	113.06	108.20
3	g	990	C	O4'-C1'-N1	6.08	113.06	108.20
3	g	3	A	P-O3'-C3'	-6.07	112.41	119.70
3	g	21	G	O4'-C1'-N9	6.07	113.06	108.20
3	g	1103	C	O4'-C1'-N1	6.07	113.06	108.20
3	g	1351	U	O4'-C1'-N1	6.07	113.06	108.20
3	g	796	C	O4'-C1'-N1	6.07	113.05	108.20
21	m	43	TYR	CB-CG-CD2	-6.07	117.36	121.00
3	g	379	C	O4'-C1'-N1	6.06	113.05	108.20
3	g	955	U	O4'-C1'-N1	6.06	113.05	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	g	996	A	O4'-C1'-N9	6.06	113.05	108.20
3	g	20	U	O4'-C1'-N1	6.06	113.05	108.20
3	g	836	G	O4'-C1'-N9	6.05	113.04	108.20
24	v	35	C	O4'-C1'-N1	6.05	113.04	108.20
23	o	121	ARG	NE-CZ-NH2	-6.05	117.28	120.30
3	g	37	U	O4'-C1'-N1	6.05	113.04	108.20
1	5	52	ARG	NE-CZ-NH1	6.04	123.32	120.30
3	g	25	C	O4'-C1'-N1	6.04	113.03	108.20
3	g	1188	A	P-O3'-C3'	6.04	126.95	119.70
3	g	1524	C	O4'-C1'-N1	6.04	113.03	108.20
3	g	788	U	O4'-C1'-N1	6.03	113.03	108.20
18	l	153	ARG	NE-CZ-NH1	6.03	123.32	120.30
3	g	1083	U	O4'-C1'-N1	6.03	113.02	108.20
3	g	1001	C	O4'-C1'-N1	6.03	113.02	108.20
3	g	410	G	N1-C6-O6	6.03	123.52	119.90
14	j	138	ARG	NE-CZ-NH1	6.02	123.31	120.30
3	g	309	A	O4'-C1'-N9	6.02	113.01	108.20
3	g	177	G	C5-C6-O6	-6.01	124.99	128.60
3	g	1520	C	O4'-C1'-N1	6.01	113.00	108.20
3	g	623	C	O4'-C1'-N1	6.00	113.00	108.20
3	g	739	C	O4'-C1'-N1	6.00	113.00	108.20
3	g	443	C	O4'-C1'-N1	5.99	112.99	108.20
4	P	67	SER	N-CA-CB	5.99	119.48	110.50
3	g	1243	C	O4'-C1'-N1	5.99	112.99	108.20
22	p	14	ARG	NE-CZ-NH1	5.98	123.29	120.30
3	g	953	G	O4'-C1'-N9	5.98	112.99	108.20
3	g	1413	A	O4'-C1'-N9	5.98	112.98	108.20
9	w	90	ARG	NE-CZ-NH1	5.98	123.29	120.30
3	g	1097	C	O4'-C1'-N1	5.98	112.98	108.20
9	w	59	ARG	NE-CZ-NH2	-5.98	117.31	120.30
1	5	64	ARG	NE-CZ-NH1	5.98	123.29	120.30
3	g	507	C	O4'-C1'-N1	5.97	112.98	108.20
3	g	754	C	C2-N1-C1'	5.97	125.37	118.80
3	g	1010	U	O4'-C1'-N1	5.97	112.97	108.20
3	g	1320	C	O4'-C1'-N1	5.97	112.97	108.20
3	g	1316	G	C5-C6-O6	-5.96	125.02	128.60
7	t	113	ARG	NE-CZ-NH1	5.96	123.28	120.30
18	l	103	ARG	NE-CZ-NH2	-5.96	117.32	120.30
20	n	86	ARG	NE-CZ-NH1	5.96	123.28	120.30
3	g	405	U	O4'-C1'-N1	5.96	112.96	108.20
3	g	811	C	O4'-C1'-N1	5.95	112.96	108.20
3	g	1109	C	O4'-C1'-N1	5.95	112.96	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
6	q	36	ARG	NE-CZ-NH1	5.95	123.28	120.30
3	g	269	C	O4'-C1'-N1	5.95	112.96	108.20
3	g	719	C	O4'-C1'-N1	5.95	112.96	108.20
3	g	662	U	O4'-C1'-N1	5.94	112.95	108.20
3	g	883	C	O4'-C1'-N1	5.93	112.95	108.20
3	g	225	C	O4'-C1'-N1	5.93	112.94	108.20
3	g	361	G	C5-C6-O6	-5.93	125.04	128.60
3	g	319	G	O4'-C1'-N9	5.93	112.94	108.20
3	g	1031	C	O4'-C1'-N1	5.93	112.94	108.20
3	g	1098	C	O4'-C1'-N1	5.93	112.94	108.20
3	g	514	C	O4'-C1'-N1	5.92	112.94	108.20
13	z	36	ARG	NE-CZ-NH2	-5.92	117.34	120.30
3	g	674	G	C5-C6-O6	-5.92	125.05	128.60
3	g	483	C	O4'-C1'-N1	5.91	112.93	108.20
5	r	72	ARG	NE-CZ-NH1	5.91	123.26	120.30
3	g	1481	U	O4'-C1'-N1	5.91	112.93	108.20
3	g	235	C	O4'-C1'-N1	5.91	112.93	108.20
3	g	834	U	O4'-C1'-N1	5.91	112.92	108.20
3	g	332	G	O4'-C1'-N9	5.90	112.92	108.20
3	g	210	C	C2-N1-C1'	5.90	125.29	118.80
3	g	684	U	O4'-C1'-N1	5.90	112.92	108.20
9	w	61	ARG	NE-CZ-NH2	-5.90	117.35	120.30
3	g	904	U	O4'-C1'-N1	5.90	112.92	108.20
24	v	71	G	N1-C6-O6	5.90	123.44	119.90
3	g	107	G	N1-C6-O6	5.90	123.44	119.90
3	g	85	U	O4'-C1'-N1	5.89	112.91	108.20
3	g	428	G	O4'-C1'-N9	5.88	112.91	108.20
24	v	17	C	O4'-C1'-N1	5.88	112.90	108.20
3	g	986	U	O4'-C1'-N1	5.87	112.90	108.20
3	g	358	U	O4'-C1'-N1	5.86	112.89	108.20
3	g	924	C	O4'-C1'-N1	5.86	112.89	108.20
3	g	956	U	O4'-C1'-N1	5.86	112.89	108.20
3	g	436	C	O4'-C1'-N1	5.86	112.89	108.20
21	m	43	TYR	CB-CG-CD1	5.86	124.52	121.00
3	g	525	C	O4'-C1'-N1	5.85	112.88	108.20
3	g	1263	C	O4'-C1'-N1	5.85	112.88	108.20
3	g	847	G	O4'-C1'-N9	5.85	112.88	108.20
3	g	688	G	N1-C6-O6	5.84	123.41	119.90
3	g	1210	C	O4'-C1'-N1	5.84	112.88	108.20
24	v	8	U	C2-N1-C1'	5.84	124.71	117.70
2	f	605	ARG	NE-CZ-NH1	-5.84	117.38	120.30
3	g	679	C	O4'-C1'-N1	5.84	112.87	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	g	335	C	O4'-C1'-N1	5.84	112.87	108.20
5	r	37	ARG	NE-CZ-NH1	5.84	123.22	120.30
3	g	838	G	O4'-C1'-N9	5.84	112.87	108.20
3	g	404	G	C5-C6-O6	-5.83	125.10	128.60
3	g	1327	C	O4'-C1'-N1	5.83	112.86	108.20
3	g	176	C	O4'-C1'-N1	5.82	112.86	108.20
3	g	1027	C	O4'-C1'-N1	5.82	112.85	108.20
3	g	29	U	O4'-C1'-N1	5.81	112.85	108.20
3	g	798	U	O4'-C1'-N1	5.81	112.85	108.20
3	g	245	U	O4'-C1'-N1	5.81	112.85	108.20
3	g	362	G	O4'-C1'-N9	5.81	112.85	108.20
3	g	677	U	O4'-C1'-N1	5.81	112.85	108.20
3	g	1372	U	O4'-C1'-N1	5.81	112.85	108.20
17	h	130	ARG	NE-CZ-NH2	5.81	123.21	120.30
19	k	68	ARG	NE-CZ-NH1	5.81	123.21	120.30
3	g	220	G	O4'-C1'-N9	5.81	112.85	108.20
3	g	976	G	O4'-C1'-N9	5.81	112.85	108.20
3	g	247	G	O4'-C1'-N9	5.80	112.84	108.20
3	g	1407	C	O4'-C1'-N1	5.80	112.84	108.20
3	g	1347	G	O4'-C1'-N9	5.80	112.84	108.20
12	1	56	ARG	NE-CZ-NH1	5.80	123.20	120.30
3	g	1331	G	O4'-C1'-N9	5.80	112.84	108.20
3	g	545	C	O4'-C1'-N1	5.80	112.84	108.20
12	1	60	ARG	NE-CZ-NH1	5.79	123.20	120.30
24	v	2	G	C5-C6-O6	-5.79	125.12	128.60
3	g	971	G	O4'-C1'-N9	5.79	112.83	108.20
3	g	463	U	O4'-C1'-N1	5.78	112.83	108.20
3	g	154	U	O4'-C1'-N1	5.78	112.83	108.20
24	v	6	G	O4'-C1'-N9	5.78	112.82	108.20
3	g	120	A	O4'-C1'-N9	5.77	112.82	108.20
3	g	230	G	O4'-C1'-N9	5.77	112.82	108.20
3	g	1322	C	C2-N1-C1'	5.77	125.15	118.80
3	g	234	C	O4'-C1'-N1	5.77	112.81	108.20
23	o	17	ARG	NE-CZ-NH2	-5.76	117.42	120.30
3	g	48	C	O4'-C1'-N1	5.76	112.81	108.20
3	g	375	U	O4'-C1'-N1	5.76	112.81	108.20
20	n	91	ARG	NE-CZ-NH1	5.76	123.18	120.30
11	y	56	ARG	NE-CZ-NH1	5.76	123.18	120.30
3	g	1330	U	O4'-C1'-N1	5.76	112.81	108.20
3	g	1342	C	O4'-C1'-N1	5.76	112.81	108.20
24	v	60	A	O4'-C1'-N9	5.75	112.80	108.20
2	f	587	ARG	NE-CZ-NH2	5.75	123.18	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
17	h	178	ARG	NE-CZ-NH1	5.75	123.18	120.30
1	5	8	ARG	NE-CZ-NH1	5.75	123.18	120.30
3	g	822	U	O4'-C1'-N1	5.75	112.80	108.20
3	g	333	U	O4'-C1'-N1	5.74	112.80	108.20
3	g	480	U	O4'-C1'-N1	5.74	112.80	108.20
3	g	932	C	O4'-C1'-N1	5.74	112.80	108.20
3	g	1073	U	C5'-C4'-C3'	-5.74	106.81	116.00
3	g	219	U	O4'-C1'-N1	5.74	112.79	108.20
3	g	320	A	O4'-C1'-N9	5.74	112.79	108.20
3	g	1510	C	O4'-C1'-N1	5.73	112.78	108.20
3	g	1136	C	C2-N1-C1'	5.73	125.10	118.80
3	g	1406	U	O4'-C1'-N1	5.73	112.78	108.20
24	v	43	G	C5-C6-O6	-5.73	125.16	128.60
3	g	1259	C	O4'-C1'-N1	5.72	112.78	108.20
3	g	115	G	P-O3'-C3'	5.72	126.57	119.70
3	g	1506	U	O4'-C1'-N1	5.72	112.78	108.20
3	g	376	G	O4'-C1'-N9	5.72	112.78	108.20
3	g	672	U	O4'-C1'-N1	5.72	112.78	108.20
3	g	742	G	O4'-C1'-N9	5.72	112.78	108.20
23	o	108	ARG	NE-CZ-NH1	5.71	123.16	120.30
3	g	972	C	O4'-C1'-N1	5.71	112.77	108.20
3	g	1471	U	O4'-C1'-N1	5.71	112.77	108.20
3	g	1238	A	O4'-C1'-N9	5.71	112.77	108.20
2	f	766	ARG	NE-CZ-NH1	-5.71	117.45	120.30
3	g	426	U	O4'-C1'-N1	5.71	112.76	108.20
23	o	129	ARG	NE-CZ-NH2	-5.69	117.45	120.30
3	g	1283	U	O4'-C1'-N1	5.69	112.75	108.20
3	g	1064	G	C5-C6-O6	-5.68	125.19	128.60
3	g	1019	A	O4'-C1'-N9	5.68	112.74	108.20
24	v	50	G	N1-C6-O6	5.68	123.31	119.90
3	g	280	C	O4'-C1'-N1	5.68	112.74	108.20
3	g	1424	U	O4'-C1'-N1	5.68	112.74	108.20
3	g	636	U	O4'-C1'-N1	5.67	112.74	108.20
3	g	735	C	O4'-C1'-N1	5.67	112.74	108.20
3	g	975	A	O4'-C1'-N9	5.67	112.73	108.20
3	g	1023	U	O4'-C1'-N1	5.67	112.73	108.20
3	g	395	C	O4'-C1'-N1	5.66	112.72	108.20
3	g	678	U	O4'-C1'-N1	5.66	112.72	108.20
3	g	476	U	O4'-C1'-N1	5.65	112.72	108.20
24	v	19	G	N1-C6-O6	5.64	123.28	119.90
3	g	1291	U	O4'-C1'-N1	5.64	112.71	108.20
3	g	1494	G	O4'-C1'-N9	5.64	112.71	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	g	731	G	O4'-C1'-N9	5.64	112.71	108.20
3	g	314	C	O4'-C1'-N1	5.63	112.71	108.20
3	g	361	G	O4'-C1'-N9	5.63	112.70	108.20
3	g	1106	G	O4'-C1'-N9	5.63	112.70	108.20
3	g	407	U	O4'-C1'-N1	5.63	112.70	108.20
3	g	590	U	O4'-C1'-N1	5.63	112.70	108.20
3	g	551	U	O4'-C1'-N1	5.62	112.70	108.20
3	g	1492	A	P-O3'-C3'	5.62	126.45	119.70
23	o	118	ARG	NE-CZ-NH2	5.62	123.11	120.30
24	v	19	G	C5-C6-O6	-5.61	125.23	128.60
3	g	361	G	N1-C6-O6	5.61	123.26	119.90
3	g	952	U	O4'-C1'-N1	5.61	112.69	108.20
3	g	398	U	O4'-C1'-N1	5.61	112.69	108.20
17	h	64	ARG	NE-CZ-NH1	5.60	123.10	120.30
3	g	586	C	O4'-C1'-N1	5.60	112.68	108.20
24	v	31	G	O4'-C1'-N9	5.60	112.68	108.20
3	g	36	C	O4'-C1'-N1	5.60	112.68	108.20
3	g	267	C	O4'-C1'-N1	5.60	112.68	108.20
3	g	1071	C	O4'-C1'-N1	5.60	112.68	108.20
3	g	801	U	O4'-C1'-N1	5.59	112.68	108.20
3	g	1495	U	O4'-C1'-N1	5.59	112.68	108.20
3	g	68	G	C5-C6-O6	-5.59	125.25	128.60
3	g	605	U	O4'-C1'-N1	5.59	112.67	108.20
3	g	665	A	O4'-C1'-N9	5.58	112.67	108.20
3	g	571	U	O4'-C1'-N1	5.58	112.67	108.20
3	g	177	G	N1-C6-O6	5.58	123.25	119.90
3	g	830	G	O4'-C1'-N9	5.58	112.66	108.20
3	g	47	C	O4'-C1'-N1	5.57	112.65	108.20
3	g	1284	C	O4'-C1'-N1	5.57	112.65	108.20
3	g	674	G	N1-C6-O6	5.56	123.24	119.90
13	z	36	ARG	NE-CZ-NH1	5.56	123.08	120.30
3	g	421	U	C5'-C4'-C3'	-5.56	107.11	116.00
3	g	1121	U	O4'-C1'-N1	5.56	112.64	108.20
3	g	1400	C	O4'-C1'-N1	5.55	112.64	108.20
3	g	604	G	O4'-C1'-N9	5.55	112.64	108.20
3	g	97	G	N1-C6-O6	5.55	123.23	119.90
3	g	207	C	O4'-C1'-N1	5.55	112.64	108.20
17	h	58	ARG	NE-CZ-NH1	5.54	123.07	120.30
8	s	112	ARG	NE-CZ-NH2	-5.54	117.53	120.30
3	g	1425	U	O4'-C1'-N1	5.54	112.63	108.20
3	g	346	G	O4'-C1'-N9	5.53	112.62	108.20
3	g	1199	U	O4'-C1'-N1	5.53	112.62	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	g	183	C	O4'-C1'-N1	5.53	112.62	108.20
3	g	850	U	O4'-C1'-N1	5.52	112.62	108.20
3	g	682	G	O4'-C1'-N9	5.52	112.62	108.20
3	g	1194	U	O4'-C1'-N1	5.52	112.62	108.20
10	u	71	ARG	NE-CZ-NH1	5.52	123.06	120.30
3	g	1060	U	O4'-C1'-N1	5.52	112.62	108.20
3	g	135	C	O4'-C1'-N1	5.52	112.61	108.20
3	g	1529	G	O4'-C1'-N9	5.52	112.61	108.20
3	g	54	C	O4'-C1'-N1	5.51	112.61	108.20
3	g	842	U	O4'-C1'-N1	5.51	112.61	108.20
7	t	35	ARG	NE-CZ-NH1	5.51	123.05	120.30
24	v	43	G	N1-C6-O6	5.51	123.20	119.90
3	g	386	C	O4'-C1'-N1	5.50	112.60	108.20
3	g	1192	C	O4'-C1'-N1	5.50	112.60	108.20
3	g	950	U	O4'-C1'-N1	5.50	112.60	108.20
3	g	266	G	N1-C6-O6	5.50	123.20	119.90
3	g	654	G	O4'-C1'-N9	5.50	112.60	108.20
3	g	1235	U	O4'-C1'-N1	5.50	112.60	108.20
3	g	1477	U	O4'-C1'-N1	5.50	112.60	108.20
3	g	432	A	N1-C6-N6	-5.50	115.30	118.60
3	g	1344	C	O4'-C1'-N1	5.50	112.60	108.20
3	g	740	U	O4'-C1'-N1	5.49	112.59	108.20
3	g	471	U	O4'-C1'-N1	5.49	112.59	108.20
3	g	171	A	O4'-C1'-N9	5.49	112.59	108.20
3	g	93	U	O4'-C1'-N1	5.48	112.59	108.20
3	g	995	C	O4'-C1'-N1	5.48	112.58	108.20
3	g	1293	C	O4'-C1'-N1	5.48	112.58	108.20
3	g	891	U	O4'-C1'-N1	5.48	112.58	108.20
3	g	1307	U	O4'-C1'-N1	5.48	112.58	108.20
25	N	15	U	C5'-C4'-C3'	-5.47	107.24	116.00
3	g	116	A	O4'-C1'-N9	5.47	112.58	108.20
3	g	1368	A	O4'-C1'-N9	5.47	112.58	108.20
3	g	1463	U	O4'-C1'-N1	5.47	112.58	108.20
3	g	123	U	O4'-C1'-N1	5.47	112.58	108.20
3	g	709	U	O4'-C1'-N1	5.47	112.57	108.20
3	g	593	U	O4'-C1'-N1	5.47	112.57	108.20
3	g	1401	G	O4'-C1'-N9	5.47	112.57	108.20
3	g	933	G	C5-C6-O6	-5.46	125.32	128.60
23	o	94	ARG	NE-CZ-NH2	-5.46	117.57	120.30
3	g	346	G	C5-C6-O6	-5.46	125.33	128.60
3	g	410	G	C5-C6-O6	-5.46	125.33	128.60
3	g	607	A	O4'-C1'-N9	5.46	112.56	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	g	1089	G	O4'-C1'-N9	5.46	112.56	108.20
3	g	710	G	O4'-C1'-N9	5.45	112.56	108.20
3	g	1295	U	O4'-C1'-N1	5.45	112.56	108.20
3	g	251	G	C5-C6-O6	-5.45	125.33	128.60
3	g	813	U	O4'-C1'-N1	5.45	112.56	108.20
23	o	40	ARG	NE-CZ-NH1	5.45	123.03	120.30
5	r	45	ARG	NE-CZ-NH1	5.45	123.03	120.30
3	g	690	G	O4'-C1'-N9	5.45	112.56	108.20
3	g	1322	C	C6-N1-C1'	-5.45	114.27	120.80
3	g	1322	C	O4'-C1'-N1	5.44	112.56	108.20
7	t	11	ARG	NE-CZ-NH1	5.44	123.02	120.30
11	y	70	ARG	NE-CZ-NH1	5.44	123.02	120.30
3	g	638	U	O4'-C1'-N1	5.44	112.55	108.20
3	g	1043	G	O4'-C1'-N9	5.44	112.55	108.20
3	g	472	U	O4'-C1'-N1	5.44	112.55	108.20
3	g	1247	U	O4'-C1'-N1	5.44	112.55	108.20
3	g	23	C	C6-N1-C2	-5.43	118.13	120.30
3	g	304	U	O4'-C1'-N1	5.43	112.54	108.20
3	g	618	C	O4'-C1'-N1	5.43	112.54	108.20
3	g	372	C	O4'-C1'-N1	5.42	112.54	108.20
3	g	1118	U	O4'-C1'-N1	5.42	112.54	108.20
8	s	112	ARG	NE-CZ-NH1	5.42	123.01	120.30
15	3	28	ARG	NE-CZ-NH1	5.42	123.01	120.30
3	g	657	U	O4'-C1'-N1	5.42	112.53	108.20
3	g	1125	U	O4'-C1'-N1	5.42	112.53	108.20
3	g	915	A	O4'-C1'-N9	5.41	112.53	108.20
3	g	543	U	O4'-C1'-N1	5.41	112.53	108.20
7	t	98	ARG	NE-CZ-NH1	5.41	123.00	120.30
3	g	423	G	C5-C6-O6	-5.41	125.36	128.60
8	s	69	ARG	NE-CZ-NH1	5.41	123.00	120.30
3	g	1164	G	O4'-C1'-N9	5.40	112.52	108.20
3	g	1264	U	O4'-C1'-N1	5.40	112.52	108.20
18	l	74	TYR	CB-CG-CD2	-5.40	117.76	121.00
3	g	84	U	O4'-C1'-N1	5.40	112.52	108.20
10	u	63	ARG	NE-CZ-NH1	5.40	123.00	120.30
3	g	327	A	O4'-C1'-N9	5.40	112.52	108.20
3	g	469	C	O4'-C1'-N1	5.40	112.52	108.20
3	g	530	G	O4'-C1'-N9	5.40	112.52	108.20
3	g	835	U	O4'-C1'-N1	5.39	112.52	108.20
3	g	1444	U	O4'-C1'-N1	5.39	112.52	108.20
3	g	886	G	O4'-C1'-N9	5.39	112.52	108.20
2	f	846	ARG	NE-CZ-NH2	5.39	123.00	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	g	129	A	P-O3'-C3'	5.39	126.17	119.70
3	g	1008	U	O4'-C1'-N1	5.39	112.51	108.20
3	g	112	G	O4'-C1'-N9	5.39	112.51	108.20
3	g	232	G	O4'-C1'-N9	5.39	112.51	108.20
17	h	10	ARG	NE-CZ-NH1	5.39	122.99	120.30
3	g	1052	U	O4'-C1'-N1	5.38	112.51	108.20
3	g	1026	G	O4'-C1'-N9	5.38	112.50	108.20
24	v	10	G	C5-C6-O6	-5.38	125.37	128.60
3	g	967	C	O4'-C1'-N1	5.38	112.50	108.20
3	g	1061	G	O4'-C1'-N9	5.38	112.50	108.20
3	g	1025	U	P-O3'-C3'	-5.37	113.25	119.70
3	g	1417	G	P-O3'-C3'	5.36	126.13	119.70
3	g	42	G	O4'-C1'-N9	5.36	112.49	108.20
3	g	1420	U	O4'-C1'-N1	5.36	112.49	108.20
3	g	1472	U	O4'-C1'-N1	5.36	112.49	108.20
24	v	51	U	P-O5'-C5'	5.36	129.48	120.90
3	g	183	C	C2-N1-C1'	5.36	124.69	118.80
3	g	988	G	O4'-C1'-N9	5.35	112.48	108.20
3	g	1178	G	O4'-C1'-N9	5.35	112.48	108.20
3	g	417	G	O4'-C1'-N9	5.34	112.48	108.20
3	g	1255	G	O4'-C1'-N9	5.34	112.48	108.20
3	g	754	C	C6-N1-C1'	-5.34	114.39	120.80
3	g	1336	C	O4'-C1'-N1	5.34	112.47	108.20
3	g	1214	C	O4'-C1'-N1	5.34	112.47	108.20
6	q	97	ARG	NE-CZ-NH1	5.34	122.97	120.30
3	g	664	G	O4'-C1'-N9	5.34	112.47	108.20
3	g	1464	U	O4'-C1'-N1	5.34	112.47	108.20
3	g	1360	A	O4'-C1'-N9	5.33	112.47	108.20
18	l	114	ARG	NE-CZ-NH1	5.33	122.97	120.30
3	g	844	G	O4'-C1'-N9	5.33	112.47	108.20
3	g	1355	G	O4'-C1'-N9	5.33	112.47	108.20
3	g	625	U	O4'-C1'-N1	5.33	112.47	108.20
18	l	43	ARG	NE-CZ-NH1	5.33	122.97	120.30
3	g	396	C	P-O3'-C3'	5.33	126.10	119.70
3	g	837	U	O4'-C1'-N1	5.33	112.46	108.20
3	g	954	G	O4'-C1'-N9	5.33	112.46	108.20
11	y	56	ARG	NE-CZ-NH2	-5.33	117.64	120.30
22	p	12	ARG	NE-CZ-NH2	-5.33	117.64	120.30
3	g	294	U	O4'-C1'-N1	5.33	112.46	108.20
3	g	347	G	O4'-C1'-N9	5.33	112.46	108.20
7	t	53	ARG	NE-CZ-NH1	5.33	122.96	120.30
3	g	1490	U	O4'-C1'-N1	5.32	112.46	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	g	666	G	O4'-C1'-N9	5.32	112.46	108.20
3	g	128	G	O4'-C1'-N9	5.32	112.46	108.20
3	g	354	G	O4'-C1'-N9	5.31	112.45	108.20
3	g	1015	G	O4'-C1'-N9	5.31	112.45	108.20
3	g	1175	G	O4'-C1'-N9	5.31	112.45	108.20
24	v	17	C	P-O3'-C3'	5.30	126.06	119.70
3	g	671	G	O4'-C1'-N9	5.30	112.44	108.20
3	g	31	G	O4'-C1'-N9	5.29	112.44	108.20
3	g	296	U	O4'-C1'-N1	5.29	112.44	108.20
3	g	9	G	O4'-C1'-N9	5.29	112.43	108.20
3	g	491	G	O4'-C1'-N9	5.29	112.43	108.20
3	g	328	C	C2-N1-C1'	5.29	124.62	118.80
3	g	1018	G	O4'-C1'-N9	5.29	112.43	108.20
6	q	52	ARG	NE-CZ-NH1	5.29	122.94	120.30
15	3	17	ARG	NE-CZ-NH1	5.29	122.94	120.30
3	g	306	A	O4'-C1'-N9	5.29	112.43	108.20
3	g	568	G	C5-C6-O6	-5.29	125.43	128.60
3	g	1341	U	O4'-C1'-N1	5.28	112.43	108.20
3	g	591	U	O4'-C1'-N1	5.28	112.42	108.20
3	g	1115	U	O4'-C1'-N1	5.28	112.42	108.20
3	g	1483	A	O4'-C1'-N9	5.28	112.42	108.20
3	g	966	G	O4'-C1'-N9	5.28	112.42	108.20
3	g	1470	U	O4'-C1'-N1	5.28	112.42	108.20
3	g	792	A	O4'-C1'-N9	5.27	112.42	108.20
3	g	1030	U	O4'-C1'-N1	5.27	112.42	108.20
3	g	1034	G	O4'-C1'-N9	5.27	112.42	108.20
3	g	786	G	O4'-C1'-N9	5.27	112.42	108.20
3	g	889	A	N1-C6-N6	-5.27	115.44	118.60
3	g	1090	U	O4'-C1'-N1	5.27	112.42	108.20
3	g	473	U	O4'-C1'-N1	5.26	112.41	108.20
3	g	1232	U	O4'-C1'-N1	5.26	112.41	108.20
4	P	5	ARG	NE-CZ-NH1	5.26	122.93	120.30
2	f	610	ARG	NE-CZ-NH1	-5.26	117.67	120.30
3	g	555	U	O4'-C1'-N1	5.26	112.41	108.20
3	g	912	C	O4'-C1'-N1	5.25	112.40	108.20
3	g	577	G	O4'-C1'-N9	5.25	112.40	108.20
3	g	793	U	O4'-C1'-N1	5.24	112.39	108.20
6	q	121	ARG	NE-CZ-NH2	-5.24	117.68	120.30
3	g	323	U	O4'-C1'-N1	5.24	112.39	108.20
24	v	8	U	C2'-C3'-O3'	5.24	122.08	113.70
3	g	757	U	O4'-C1'-N1	5.24	112.39	108.20
3	g	748	G	O4'-C1'-N9	5.23	112.38	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	g	1250	A	O4'-C1'-N9	5.23	112.39	108.20
24	v	21	U	O4'-C1'-N1	5.23	112.38	108.20
2	f	766	ARG	NE-CZ-NH2	5.23	122.91	120.30
3	g	1316	G	N1-C6-O6	5.23	123.03	119.90
3	g	1348	U	O4'-C1'-N1	5.22	112.38	108.20
3	g	38	G	C5-C6-O6	-5.22	125.47	128.60
3	g	138	G	O4'-C1'-N9	5.22	112.38	108.20
3	g	773	G	O4'-C1'-N9	5.22	112.38	108.20
3	g	1479	C	O4'-C1'-N1	5.22	112.38	108.20
3	g	69	G	O4'-C1'-N9	5.22	112.38	108.20
3	g	875	U	O4'-C1'-N1	5.22	112.38	108.20
24	v	24	C	O4'-C1'-N1	5.22	112.38	108.20
3	g	1354	U	O4'-C1'-N1	5.22	112.38	108.20
3	g	3	A	O4'-C1'-N9	5.21	112.37	108.20
3	g	916	U	O4'-C1'-N1	5.21	112.37	108.20
3	g	133	U	O4'-C1'-N1	5.21	112.37	108.20
3	g	762	U	O4'-C1'-N1	5.21	112.37	108.20
3	g	420	U	P-O3'-C3'	5.20	125.94	119.70
24	v	2	G	N1-C6-O6	5.20	123.02	119.90
9	w	53	ARG	NE-CZ-NH1	5.19	122.90	120.30
24	v	16	C	P-O5'-C5'	5.19	129.21	120.90
3	g	396	C	O4'-C1'-N1	5.19	112.35	108.20
21	m	142	ARG	NE-CZ-NH1	5.19	122.90	120.30
3	g	1040	U	O4'-C1'-N1	5.19	112.35	108.20
3	g	683	G	O4'-C1'-N9	5.18	112.35	108.20
24	v	8	U	N1-C2-O2	-5.18	119.17	122.80
3	g	1300	G	C5-C6-O6	-5.18	125.49	128.60
3	g	654	G	C5-C6-O6	-5.18	125.49	128.60
24	v	15	G	C5-C6-O6	-5.18	125.49	128.60
24	v	64	G	C5-C6-O6	-5.18	125.49	128.60
3	g	203	G	O4'-C1'-N9	5.18	112.34	108.20
3	g	526	C	O4'-C1'-N1	5.18	112.34	108.20
3	g	373	A	N1-C6-N6	5.17	121.70	118.60
3	g	626	G	C5-C6-O6	-5.17	125.50	128.60
3	g	741	G	O4'-C1'-N9	5.17	112.34	108.20
3	g	1095	U	O4'-C1'-N1	5.17	112.34	108.20
3	g	1221	G	O4'-C1'-N9	5.17	112.34	108.20
3	g	434	U	O4'-C1'-N1	5.17	112.34	108.20
3	g	755	G	O4'-C1'-N9	5.16	112.33	108.20
23	o	102	PHE	CB-CG-CD2	-5.16	117.19	120.80
3	g	1028	C	O4'-C1'-N1	5.15	112.32	108.20
3	g	644	U	O4'-C1'-N1	5.15	112.32	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	g	446	G	O4'-C1'-N9	5.15	112.32	108.20
19	k	156	ARG	NE-CZ-NH1	5.15	122.87	120.30
3	g	500	G	O4'-C1'-N9	5.15	112.32	108.20
18	l	96	ARG	NE-CZ-NH1	5.15	122.87	120.30
3	g	1029	U	O4'-C1'-N1	5.15	112.32	108.20
3	g	1207	G	O4'-C1'-N9	5.14	112.31	108.20
5	r	72	ARG	NE-CZ-NH2	-5.14	117.73	120.30
3	g	1108	G	N1-C6-O6	5.13	122.98	119.90
3	g	345	C	O4'-C1'-N1	5.13	112.31	108.20
3	g	1183	U	P-O3'-C3'	5.13	125.86	119.70
3	g	1033	G	P-O5'-C5'	5.13	129.11	120.90
3	g	1365	G	C5-C6-O6	-5.12	125.53	128.60
24	v	51	U	O4'-C1'-N1	5.12	112.30	108.20
3	g	1073	U	O4'-C1'-N1	5.12	112.30	108.20
3	g	927	G	O4'-C1'-N9	5.12	112.30	108.20
3	g	1005	A	O4'-C1'-N9	5.12	112.30	108.20
24	v	64	G	O4'-C1'-N9	5.12	112.30	108.20
2	f	605	ARG	NE-CZ-NH2	5.12	122.86	120.30
3	g	633	G	O4'-C1'-N9	5.12	112.29	108.20
3	g	1516	G	N1-C6-O6	5.12	122.97	119.90
3	g	1337	G	P-O3'-C3'	5.11	125.84	119.70
3	g	552	U	O4'-C1'-N1	5.11	112.29	108.20
23	o	40	ARG	NE-CZ-NH2	-5.10	117.75	120.30
3	g	977	A	P-O3'-C3'	5.10	125.82	119.70
3	g	1108	G	C5-C6-O6	-5.10	125.54	128.60
3	g	1430	A	O4'-C1'-N9	5.10	112.28	108.20
3	g	1077	G	O4'-C1'-N9	5.10	112.28	108.20
5	r	89	ARG	NE-CZ-NH2	-5.09	117.75	120.30
20	n	79	ARG	NE-CZ-NH2	-5.09	117.75	120.30
3	g	332	G	N1-C6-O6	5.09	122.95	119.90
23	o	11	ARG	NE-CZ-NH1	5.09	122.84	120.30
3	g	155	A	O4'-C1'-N9	5.09	112.27	108.20
3	g	567	G	O4'-C1'-N9	5.09	112.27	108.20
3	g	859	G	O4'-C1'-N9	5.09	112.27	108.20
3	g	588	G	O4'-C1'-N9	5.09	112.27	108.20
3	g	1379	G	O4'-C1'-N9	5.09	112.27	108.20
3	g	1173	U	O4'-C1'-N1	5.08	112.26	108.20
24	v	42	C	C6-N1-C2	-5.08	118.27	120.30
3	g	922	G	O4'-C1'-N9	5.07	112.26	108.20
24	v	8	U	C6-N1-C1'	-5.07	114.10	121.20
3	g	1094	G	O4'-C1'-N9	5.07	112.25	108.20
3	g	428	G	C5-C6-O6	-5.07	125.56	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	g	209	U	O4'-C1'-N1	5.06	112.25	108.20
3	g	603	U	O4'-C1'-N1	5.06	112.25	108.20
3	g	144	G	O4'-C1'-N9	5.06	112.25	108.20
3	g	229	U	O4'-C1'-N1	5.06	112.25	108.20
3	g	925	G	O4'-C1'-N9	5.06	112.25	108.20
3	g	550	G	O4'-C1'-N9	5.05	112.24	108.20
3	g	785	G	O4'-C1'-N9	5.05	112.24	108.20
3	g	420	U	O4'-C1'-N1	5.05	112.24	108.20
21	m	142	ARG	NE-CZ-NH2	-5.05	117.77	120.30
3	g	1140	C	P-O3'-C3'	5.05	125.76	119.70
3	g	714	G	O4'-C1'-N9	5.04	112.23	108.20
24	v	10	G	O4'-C1'-N9	5.04	112.23	108.20
3	g	111	G	C5-C6-O6	-5.04	125.58	128.60
3	g	1146	A	O4'-C1'-N9	5.04	112.23	108.20
3	g	56	U	O4'-C1'-N1	5.04	112.23	108.20
3	g	62	U	O4'-C1'-N1	5.04	112.23	108.20
3	g	140	U	O4'-C1'-N1	5.04	112.23	108.20
3	g	305	G	O4'-C1'-N9	5.04	112.23	108.20
3	g	594	U	O4'-C1'-N1	5.03	112.22	108.20
3	g	1024	G	O4'-C1'-N9	5.03	112.22	108.20
3	g	1371	G	O4'-C1'-N9	5.03	112.22	108.20
3	g	1009	U	O4'-C1'-N1	5.03	112.22	108.20
3	g	653	U	O4'-C1'-N1	5.02	112.22	108.20
3	g	833	G	O4'-C1'-N9	5.02	112.22	108.20
3	g	1473	G	O4'-C1'-N9	5.02	112.22	108.20
3	g	960	U	O4'-C1'-N1	5.02	112.22	108.20
3	g	765	G	C5-C6-O6	-5.02	125.59	128.60
3	g	900	A	N1-C6-N6	5.02	121.61	118.60
3	g	945	G	N1-C6-O6	5.02	122.91	119.90
3	g	659	U	O4'-C1'-N1	5.01	112.21	108.20
3	g	911	U	O4'-C1'-N1	5.01	112.21	108.20
14	j	48	MET	CG-SD-CE	-5.01	92.18	100.20
3	g	713	G	O4'-C1'-N9	5.01	112.21	108.20
3	g	824	G	O4'-C1'-N9	5.01	112.21	108.20
3	g	1313	U	O4'-C1'-N1	5.01	112.21	108.20
3	g	1497	G	O4'-C1'-N9	5.01	112.21	108.20
3	g	92	U	O4'-C1'-N1	5.01	112.21	108.20
3	g	1391	U	O4'-C1'-N1	5.01	112.21	108.20
3	g	1414	U	O4'-C1'-N1	5.01	112.21	108.20
3	g	1438	G	O4'-C1'-N9	5.01	112.21	108.20
3	g	1457	G	O4'-C1'-N9	5.01	112.21	108.20
3	g	711	G	O4'-C1'-N9	5.01	112.21	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	g	1218	C	O4'-C1'-N1	5.01	112.21	108.20
3	g	512	U	O4'-C1'-N1	5.01	112.20	108.20
24	v	18	U	O4'-C1'-N1	5.01	112.20	108.20
3	g	1386	G	O4'-C1'-N9	5.00	112.20	108.20
2	f	872	ARG	NE-CZ-NH1	5.00	122.80	120.30
3	g	692	U	O4'-C1'-N1	5.00	112.20	108.20

There are no chirality outliers.

All (163) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
12	1	42	ARG	Sidechain
12	1	56	ARG	Sidechain
16	2	34	ARG	Sidechain
16	2	37	TYR	Peptide
16	2	46	ARG	Sidechain
25	N	15	U	Sidechain
25	N	16	A	Sidechain
4	P	30	HIS	Peptide
2	f	607	ARG	Sidechain
2	f	610	ARG	Sidechain
2	f	772	TYR	Sidechain
3	g	1007	U	Sidechain
3	g	1008	U	Sidechain
3	g	1014	A	Sidechain
3	g	1018	G	Sidechain
3	g	1027	C	Sidechain
3	g	1035	A	Sidechain
3	g	1065	U	Sidechain
3	g	1077	G	Sidechain
3	g	108	G	Sidechain
3	g	1092	A	Sidechain
3	g	110	C	Sidechain
3	g	1101	A	Sidechain
3	g	1144	G	Sidechain
3	g	115	G	Sidechain
3	g	1158	C	Sidechain
3	g	1179	A	Sidechain
3	g	1207	G	Sidechain
3	g	1222	G	Sidechain
3	g	1226	C	Sidechain
3	g	1256	A	Sidechain

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Mol	Chain	Res	Type	Group
3	g	1258	G	Sidechain
3	g	1266	G	Sidechain
3	g	1278	G	Sidechain
3	g	1279	G	Sidechain
3	g	1296	C	Sidechain
3	g	1316	G	Sidechain
3	g	1317	C	Sidechain
3	g	1326	U	Sidechain
3	g	1331	G	Sidechain
3	g	1338	G	Sidechain
3	g	1346	A	Sidechain
3	g	1357	A	Sidechain
3	g	1363	A	Sidechain
3	g	1370	G	Sidechain
3	g	1417	G	Sidechain
3	g	1431	A	Sidechain
3	g	1432	G	Sidechain
3	g	1442	G	Sidechain
3	g	1483	A	Sidechain
3	g	1491	G	Sidechain
3	g	1494	G	Sidechain
3	g	1504	G	Sidechain
3	g	1505	G	Sidechain
3	g	1506	U	Sidechain
3	g	1516	G	Sidechain
3	g	1517	G	Sidechain
3	g	1518	A	Sidechain
3	g	170	U	Sidechain
3	g	184	G	Sidechain
3	g	187	G	Sidechain
3	g	197	A	Sidechain
3	g	203	G	Sidechain
3	g	244	U	Sidechain
3	g	251	G	Sidechain
3	g	262	A	Sidechain
3	g	263	A	Sidechain
3	g	266	G	Sidechain
3	g	297	G	Sidechain
3	g	3	A	Sidechain
3	g	346	G	Sidechain
3	g	352	C	Sidechain
3	g	362	G	Sidechain

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Mol	Chain	Res	Type	Group
3	g	363	A	Sidechain
3	g	367	U	Sidechain
3	g	380	G	Sidechain
3	g	389	A	Sidechain
3	g	411	A	Sidechain
3	g	42	G	Sidechain
3	g	438	U	Sidechain
3	g	476	U	Sidechain
3	g	481	G	Sidechain
3	g	50	A	Sidechain
3	g	519	C	Sidechain
3	g	520	A	Sidechain
3	g	536	C	Sidechain
3	g	553	A	Sidechain
3	g	561	U	Sidechain
3	g	566	G	Sidechain
3	g	571	U	Sidechain
3	g	575	G	Sidechain
3	g	594	U	Sidechain
3	g	635	A	Sidechain
3	g	641	U	Sidechain
3	g	659	U	Sidechain
3	g	674	G	Sidechain
3	g	695	A	Sidechain
3	g	722	G	Sidechain
3	g	727	G	Sidechain
3	g	740	U	Sidechain
3	g	794	A	Sidechain
3	g	80	A	Sidechain
3	g	813	U	Sidechain
3	g	82	G	Sidechain
3	g	864	A	Sidechain
3	g	865	A	Sidechain
3	g	872	A	Sidechain
3	g	874	G	Sidechain
3	g	883	C	Sidechain
3	g	899	C	Sidechain
3	g	916	U	Sidechain
3	g	938	A	Sidechain
3	g	94	G	Sidechain
3	g	949	A	Sidechain
3	g	958	A	Sidechain

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Mol	Chain	Res	Type	Group
3	g	960	U	Sidechain
3	g	973	G	Sidechain
3	g	982	U	Sidechain
3	g	991	U	Sidechain
17	h	183	TYR	Sidechain
17	h	41	TYR	Sidechain
17	h	58	ARG	Peptide
14	j	94	ARG	Sidechain
19	k	111	ARG	Sidechain
19	k	53	ARG	Sidechain
19	k	67	ARG	Sidechain
19	k	68	ARG	Sidechain
18	l	137	SER	Peptide
18	l	164	ARG	Sidechain
18	l	187	ARG	Sidechain
18	l	55	ARG	Sidechain
18	l	69	ARG	Sidechain
21	m	137	ARG	Sidechain
23	o	11	ARG	Sidechain
23	o	122	ARG	Sidechain
23	o	17	ARG	Sidechain
23	o	6	TYR	Sidechain
22	p	64	TYR	Sidechain
22	p	76	ARG	Sidechain
6	q	126	ARG	Sidechain
6	q	127	ARG	Sidechain
5	r	62	ARG	Sidechain
8	s	70	ARG	Sidechain
8	s	86	ARG	Sidechain
8	s	89	ARG	Sidechain
7	t	109	ARG	Sidechain
7	t	11	ARG	Sidechain
24	v	14	A	Sidechain
24	v	15	G	Sidechain
24	v	22	A	Sidechain
24	v	24	C	Sidechain
24	v	3	C	Sidechain
24	v	30	G	Sidechain
24	v	47	A	Sidechain
24	v	48	U	Sidechain
24	v	50	G	Sidechain
24	v	59	A	Sidechain

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Mol	Chain	Res	Type	Group
24	v	63	C	Sidechain
24	v	65	G	Sidechain
24	v	73	A	Sidechain
24	v	74	A	Sidechain
24	v	8	U	Sidechain
11	y	35	ARG	Sidechain

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	5	570	0	598	0	0
2	f	3847	0	3896	0	0
3	g	33012	0	16618	0	0
4	P	649	0	691	0	0
5	r	787	0	828	0	0
6	q	877	0	887	0	0
7	t	955	0	1018	0	0
8	s	884	0	944	0	0
9	w	774	0	827	0	0
10	u	714	0	737	0	0
11	y	649	0	666	0	0
12	1	456	0	478	0	0
13	z	638	0	665	0	0
14	j	1705	0	1732	0	0
15	3	665	0	714	0	0
16	2	426	0	449	0	0
17	h	1625	0	1699	0	0
18	l	1643	0	1710	0	0
19	k	1106	0	1148	0	0
20	n	818	0	808	0	0
21	m	1182	0	1240	0	0
22	p	979	0	1034	0	0
23	o	1022	0	1070	0	0
24	v	1639	0	837	0	0
25	N	126	0	66	0	0
All	All	57748	0	41360	0	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). Clashscore could not be calculated for this entry.

There are no clashes within the asymmetric unit.

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	5	69/71 (97%)	64 (93%)	4 (6%)	1 (1%)	9 40
2	f	507/509 (100%)	465 (92%)	33 (6%)	9 (2%)	7 36
4	P	78/80 (98%)	69 (88%)	8 (10%)	1 (1%)	10 42
5	r	96/98 (98%)	80 (83%)	11 (12%)	5 (5%)	1 18
6	q	115/117 (98%)	105 (91%)	9 (8%)	1 (1%)	14 50
7	t	121/123 (98%)	111 (92%)	7 (6%)	3 (2%)	4 29
8	s	112/114 (98%)	106 (95%)	5 (4%)	1 (1%)	14 50
9	w	92/100 (92%)	82 (89%)	10 (11%)	0	100 100
10	u	86/88 (98%)	81 (94%)	5 (6%)	0	100 100
11	y	80/82 (98%)	73 (91%)	4 (5%)	3 (4%)	2 22
12	1	53/55 (96%)	52 (98%)	1 (2%)	0	100 100
13	z	77/79 (98%)	71 (92%)	6 (8%)	0	100 100
14	j	216/218 (99%)	200 (93%)	12 (6%)	4 (2%)	6 35
15	3	83/85 (98%)	82 (99%)	1 (1%)	0	100 100
16	2	49/51 (96%)	37 (76%)	9 (18%)	3 (6%)	1 16
17	h	204/206 (99%)	196 (96%)	6 (3%)	2 (1%)	13 48
18	l	203/205 (99%)	190 (94%)	10 (5%)	3 (2%)	8 40
19	k	148/150 (99%)	136 (92%)	8 (5%)	4 (3%)	4 28
20	n	98/100 (98%)	92 (94%)	3 (3%)	3 (3%)	3 25
21	m	149/151 (99%)	142 (95%)	7 (5%)	0	100 100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
22	p	127/129 (98%)	123 (97%)	4 (3%)	0	100 100
23	o	125/127 (98%)	114 (91%)	6 (5%)	5 (4%)	2 21
All	All	2888/2938 (98%)	2671 (92%)	169 (6%)	48 (2%)	10 37

All (48) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	f	674	LEU
2	f	685	GLU
5	r	57	VAL
7	t	33	CYS
16	2	39	LYS
19	k	100	GLU
1	5	70	ARG
2	f	673	LYS
7	t	47	ALA
11	y	79	ASN
14	j	148	GLY
19	k	122	VAL
20	n	85	ILE
23	o	41	GLU
2	f	403	GLY
2	f	746	PHE
2	f	848	PHE
4	P	67	SER
5	r	89	ARG
8	s	9	PRO
14	j	67	LEU
16	2	8	ASN
17	h	173	PRO
23	o	11	ARG
2	f	591	LEU
2	f	857	ASN
5	r	36	VAL
11	y	31	ARG
14	j	20	ARG
14	j	22	TRP
16	2	24	LYS
18	l	166	LYS
19	k	77	ASN
23	o	55	ASP

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Mol	Chain	Res	Type
23	o	57	VAL
23	o	90	ASP
2	f	387	ALA
5	r	75	ASP
11	y	43	ALA
20	n	54	LEU
20	n	98	GLU
5	r	6	ILE
6	q	88	PRO
7	t	101	LEU
17	h	190	THR
18	l	174	ALA
19	k	137	ARG
18	l	36	ALA

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	5	62/62 (100%)	60 (97%)	2 (3%)	34 55
2	f	409/409 (100%)	384 (94%)	25 (6%)	15 39
4	P	74/74 (100%)	72 (97%)	2 (3%)	40 60
5	r	86/86 (100%)	85 (99%)	1 (1%)	67 78
6	q	90/90 (100%)	87 (97%)	3 (3%)	33 54
7	t	103/103 (100%)	102 (99%)	1 (1%)	73 81
8	s	92/92 (100%)	88 (96%)	4 (4%)	25 48
9	w	79/83 (95%)	78 (99%)	1 (1%)	65 76
10	u	76/76 (100%)	75 (99%)	1 (1%)	65 76
11	y	65/65 (100%)	64 (98%)	1 (2%)	60 74
12	1	48/48 (100%)	47 (98%)	1 (2%)	48 66
13	z	70/70 (100%)	68 (97%)	2 (3%)	37 58
14	j	180/180 (100%)	176 (98%)	4 (2%)	47 65

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
15	3	65/65 (100%)	65 (100%)	0	100 100
16	2	44/44 (100%)	43 (98%)	1 (2%)	45 64
17	h	170/170 (100%)	168 (99%)	2 (1%)	67 78
18	l	172/172 (100%)	168 (98%)	4 (2%)	45 64
19	k	113/113 (100%)	112 (99%)	1 (1%)	75 83
20	n	87/87 (100%)	87 (100%)	0	100 100
21	m	124/124 (100%)	123 (99%)	1 (1%)	79 84
22	p	104/104 (100%)	100 (96%)	4 (4%)	28 50
23	o	105/105 (100%)	101 (96%)	4 (4%)	28 50
All	All	2418/2422 (100%)	2353 (97%)	65 (3%)	41 60

All (65) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	5	32	ILE
1	5	40	MET
2	f	404	LYS
2	f	414	THR
2	f	555	LEU
2	f	615	GLN
2	f	619	GLU
2	f	649	LYS
2	f	652	GLU
2	f	657	ARG
2	f	658	GLN
2	f	660	LYS
2	f	663	GLU
2	f	665	LYS
2	f	668	ARG
2	f	669	GLN
2	f	671	LYS
2	f	673	LYS
2	f	674	LEU
2	f	675	GLU
2	f	677	MET
2	f	678	PHE
2	f	680	ASN
2	f	681	MET
2	f	696	ASP

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Mol	Chain	Res	Type
2	f	792	GLN
2	f	872	ARG
4	P	27	PHE
4	P	49	ASN
5	r	59	LYS
6	q	14	GLN
6	q	21	HIS
6	q	120	CYS
7	t	35	ARG
8	s	2	ARG
8	s	24	VAL
8	s	65	GLU
8	s	82	LEU
9	w	20	PHE
10	u	19	ASN
11	y	1	MET
12	1	47	ARG
13	z	4	LEU
13	z	64	GLU
14	j	18	GLN
14	j	22	TRP
14	j	31	PHE
14	j	88	GLN
16	2	34	ARG
17	h	187	GLU
17	h	190	THR
18	l	14	GLU
18	l	69	ARG
18	l	176	LYS
18	l	205	LYS
19	k	53	ARG
21	m	14	ASP
22	p	2	MET
22	p	30	LYS
22	p	53	ASP
22	p	55	LYS
23	o	26	LYS
23	o	87	MET
23	o	98	ARG
23	o	122	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. There are no such sidechains identified.

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
24	v	76/77 (98%)	26 (34%)	0
25	N	5/6 (83%)	5 (100%)	2 (40%)
3	g	1538/1539 (99%)	202 (13%)	0
All	All	1619/1622 (99%)	233 (14%)	2 (0%)

All (233) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
3	g	4	U
3	g	5	U
3	g	9	G
3	g	31	G
3	g	32	A
3	g	39	G
3	g	47	C
3	g	48	C
3	g	50	A
3	g	51	A
3	g	52	C
3	g	70	U
3	g	71	A
3	g	72	A
3	g	74	A
3	g	83	C
3	g	84	U
3	g	86	G
3	g	87	C
3	g	88	U
3	g	97	G
3	g	116	A
3	g	118	U
3	g	120	A
3	g	121	U
3	g	130	A
3	g	131	A
3	g	136	C
3	g	144	G
3	g	155	A
3	g	159	G
3	g	182	A
3	g	183	C

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Mol	Chain	Res	Type
3	g	204	G
3	g	209	U
3	g	210	C
3	g	211	G
3	g	212	G
3	g	245	U
3	g	247	G
3	g	251	G
3	g	266	G
3	g	267	C
3	g	289	G
3	g	326	G
3	g	328	C
3	g	329	A
3	g	330	C
3	g	332	G
3	g	347	G
3	g	352	C
3	g	354	G
3	g	364	A
3	g	367	U
3	g	372	C
3	g	406	G
3	g	411	A
3	g	412	A
3	g	413	G
3	g	414	A
3	g	421	U
3	g	423	G
3	g	424	G
3	g	429	U
3	g	438	U
3	g	439	U
3	g	451	A
3	g	466	A
3	g	468	A
3	g	469	C
3	g	479	U
3	g	481	G
3	g	485	U
3	g	497	G
3	g	511	C

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Mol	Chain	Res	Type
3	g	518	C
3	g	524	G
3	g	527	G
3	g	532	A
3	g	547	A
3	g	563	A
3	g	572	A
3	g	573	A
3	g	576	C
3	g	577	G
3	g	596	A
3	g	620	C
3	g	633	G
3	g	650	G
3	g	665	A
3	g	722	G
3	g	731	G
3	g	734	G
3	g	747	A
3	g	755	G
3	g	777	A
3	g	794	A
3	g	815	A
3	g	817	C
3	g	819	A
3	g	821	G
3	g	828	U
3	g	829	G
3	g	832	G
3	g	842	U
3	g	843	U
3	g	846	G
3	g	914	A
3	g	926	G
3	g	927	G
3	g	934	C
3	g	935	A
3	g	960	U
3	g	969	A
3	g	975	A
3	g	976	G
3	g	977	A

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Mol	Chain	Res	Type
3	g	983	A
3	g	993	G
3	g	1004	A
3	g	1008	U
3	g	1018	G
3	g	1022	A
3	g	1027	C
3	g	1028	C
3	g	1031	C
3	g	1033	G
3	g	1034	G
3	g	1043	G
3	g	1065	U
3	g	1073	U
3	g	1080	A
3	g	1086	U
3	g	1093	A
3	g	1094	G
3	g	1095	U
3	g	1101	A
3	g	1102	A
3	g	1109	C
3	g	1125	U
3	g	1132	C
3	g	1133	G
3	g	1134	G
3	g	1137	C
3	g	1139	G
3	g	1142	G
3	g	1145	A
3	g	1159	U
3	g	1160	G
3	g	1161	C
3	g	1167	A
3	g	1168	U
3	g	1189	U
3	g	1190	G
3	g	1196	A
3	g	1197	A
3	g	1201	A
3	g	1202	U
3	g	1212	U

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Mol	Chain	Res	Type
3	g	1213	A
3	g	1226	C
3	g	1227	A
3	g	1239	A
3	g	1240	U
3	g	1241	G
3	g	1253	G
3	g	1258	G
3	g	1275	A
3	g	1278	G
3	g	1279	G
3	g	1280	A
3	g	1286	U
3	g	1287	A
3	g	1300	G
3	g	1302	C
3	g	1304	G
3	g	1305	G
3	g	1317	C
3	g	1318	A
3	g	1320	C
3	g	1362	A
3	g	1363	A
3	g	1364	U
3	g	1370	G
3	g	1379	G
3	g	1419	G
3	g	1441	A
3	g	1446	A
3	g	1492	A
3	g	1493	A
3	g	1497	G
3	g	1503	A
3	g	1505	G
3	g	1517	G
3	g	1529	G
3	g	1530	G
3	g	1531	A
3	g	1533	C
3	g	1534	A
3	g	1535	C
3	g	1536	C

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Mol	Chain	Res	Type
3	g	1538	C
24	v	2	G
24	v	8	U
24	v	9	G
24	v	16	C
24	v	17	C
24	v	18	U
24	v	20	G
24	v	22	A
24	v	23	G
24	v	24	C
24	v	43	G
24	v	47	A
24	v	49	C
24	v	55	U
24	v	56	U
24	v	57	C
24	v	58	A
24	v	59	A
24	v	60	A
24	v	61	U
24	v	62	C
24	v	72	C
24	v	74	A
24	v	75	C
24	v	76	C
24	v	77	A
25	N	14	A
25	N	15	U
25	N	16	A
25	N	17	U
25	N	18	G

All (2) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
25	N	14	A
25	N	16	A

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

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

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

There are no ligands in this entry.

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

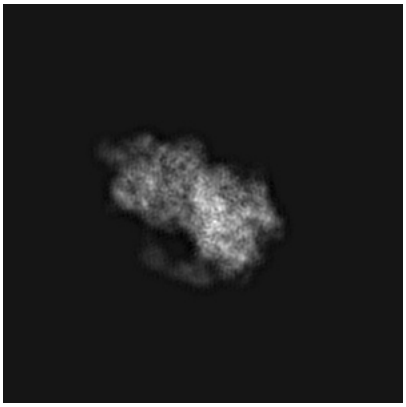
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-0643. These allow visual inspection of the internal detail of the map and identification of artifacts.

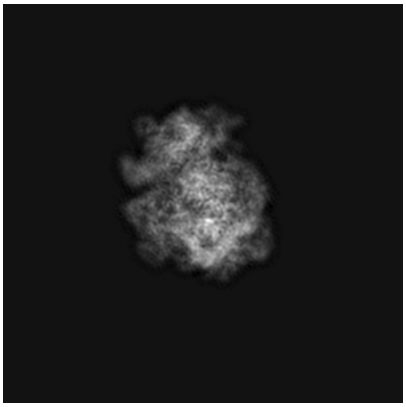
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

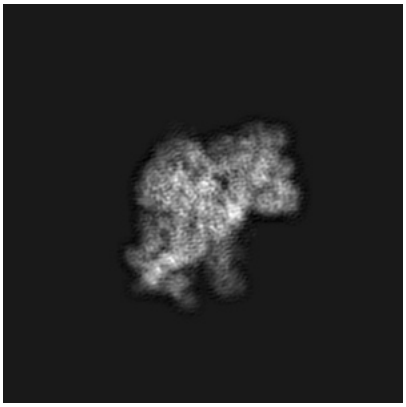
6.1.1 Primary map



X



Y



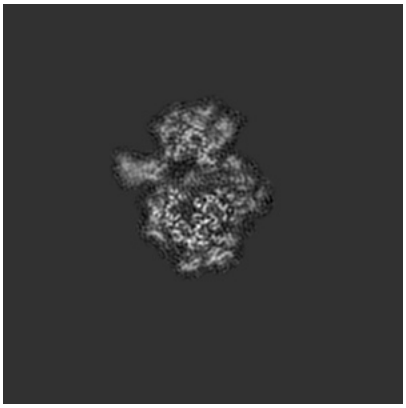
Z

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

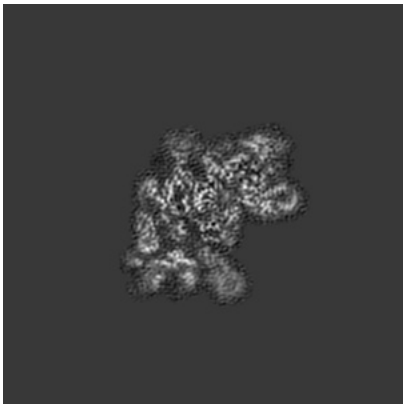
6.2 Central slices

6.2.1 Primary map

X Index: 128



Y Index: 128

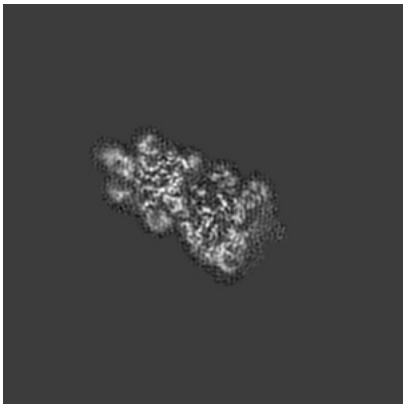


Z Index: 128

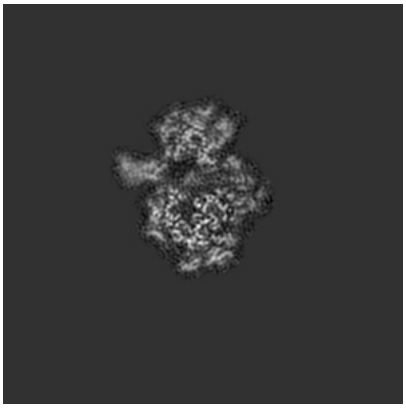
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

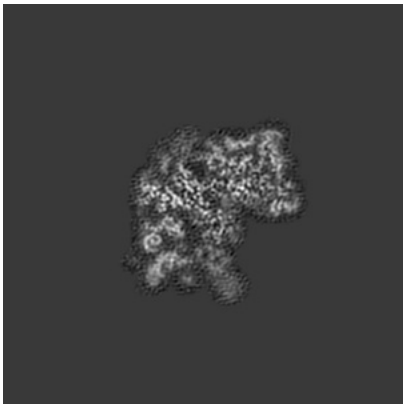
6.3.1 Primary map



X Index: 112



Y Index: 128

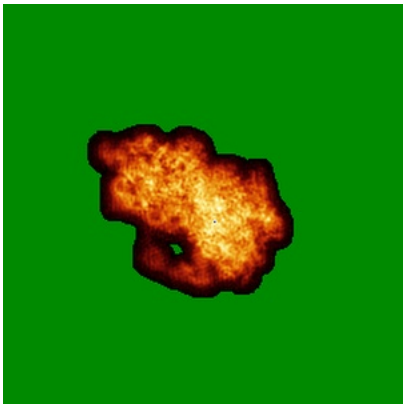


Z Index: 124

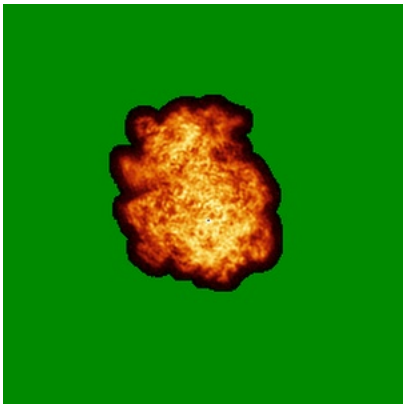
The images above show the largest variance slices of the map in three orthogonal directions.

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

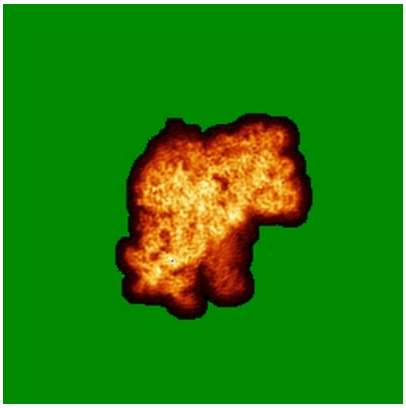
6.4.1 Primary map



X



Y

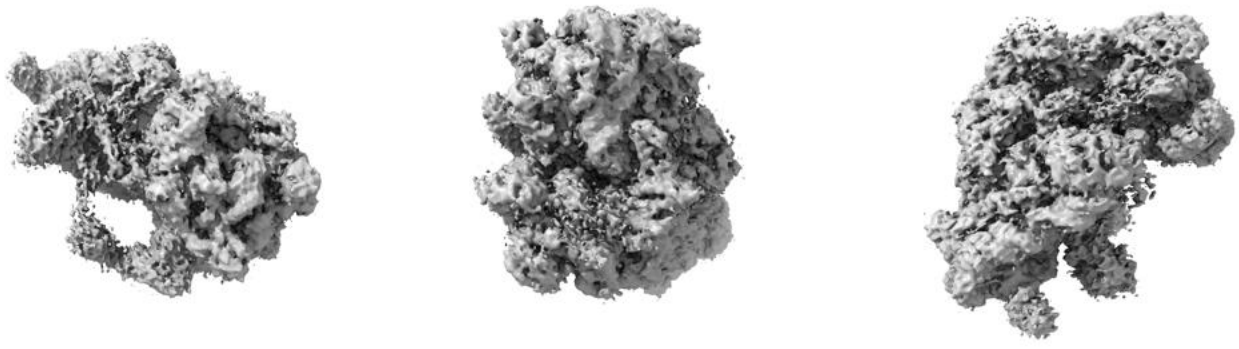


Z

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



X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.03. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

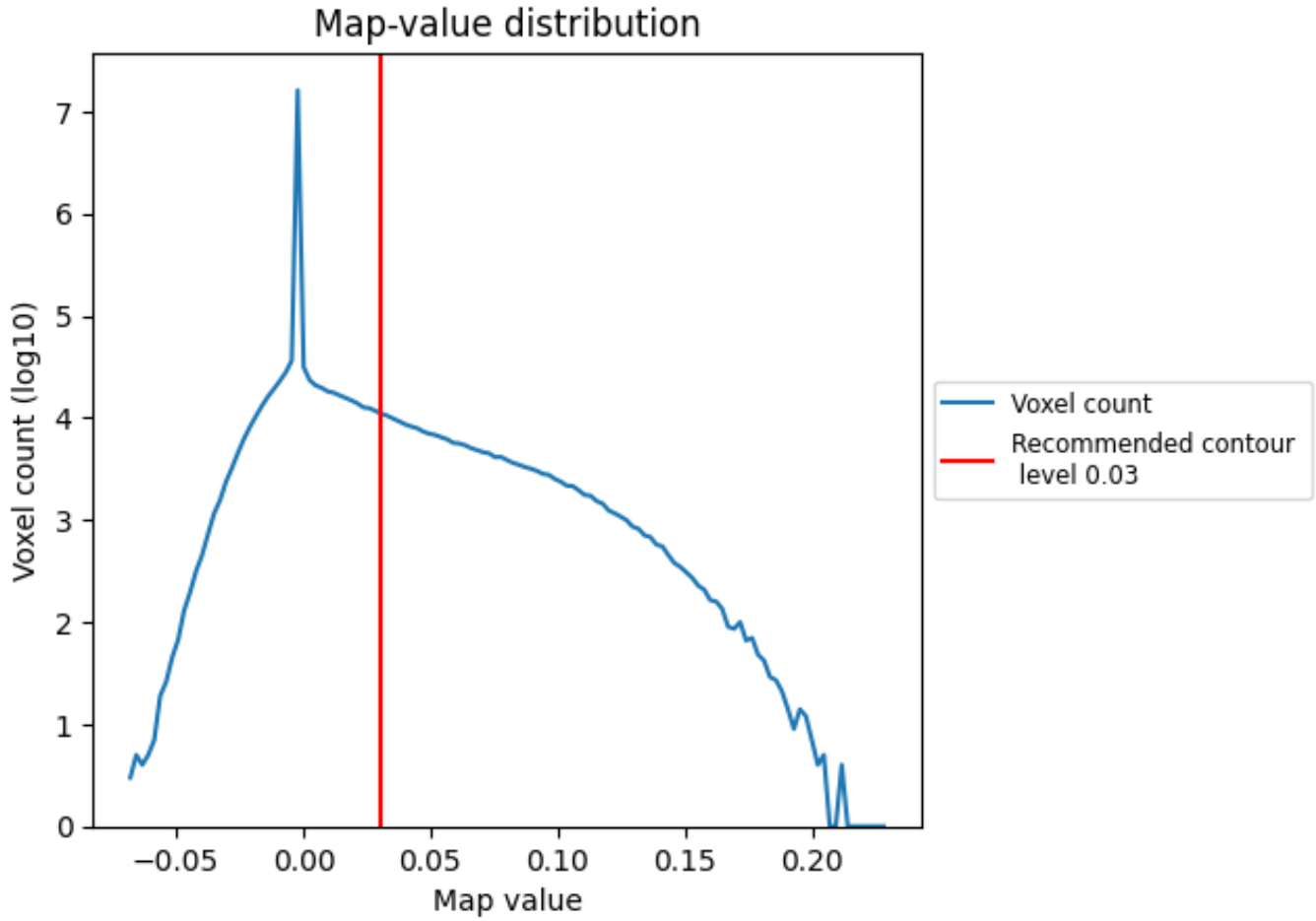
6.6 Mask visualisation (i)

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

7 Map analysis

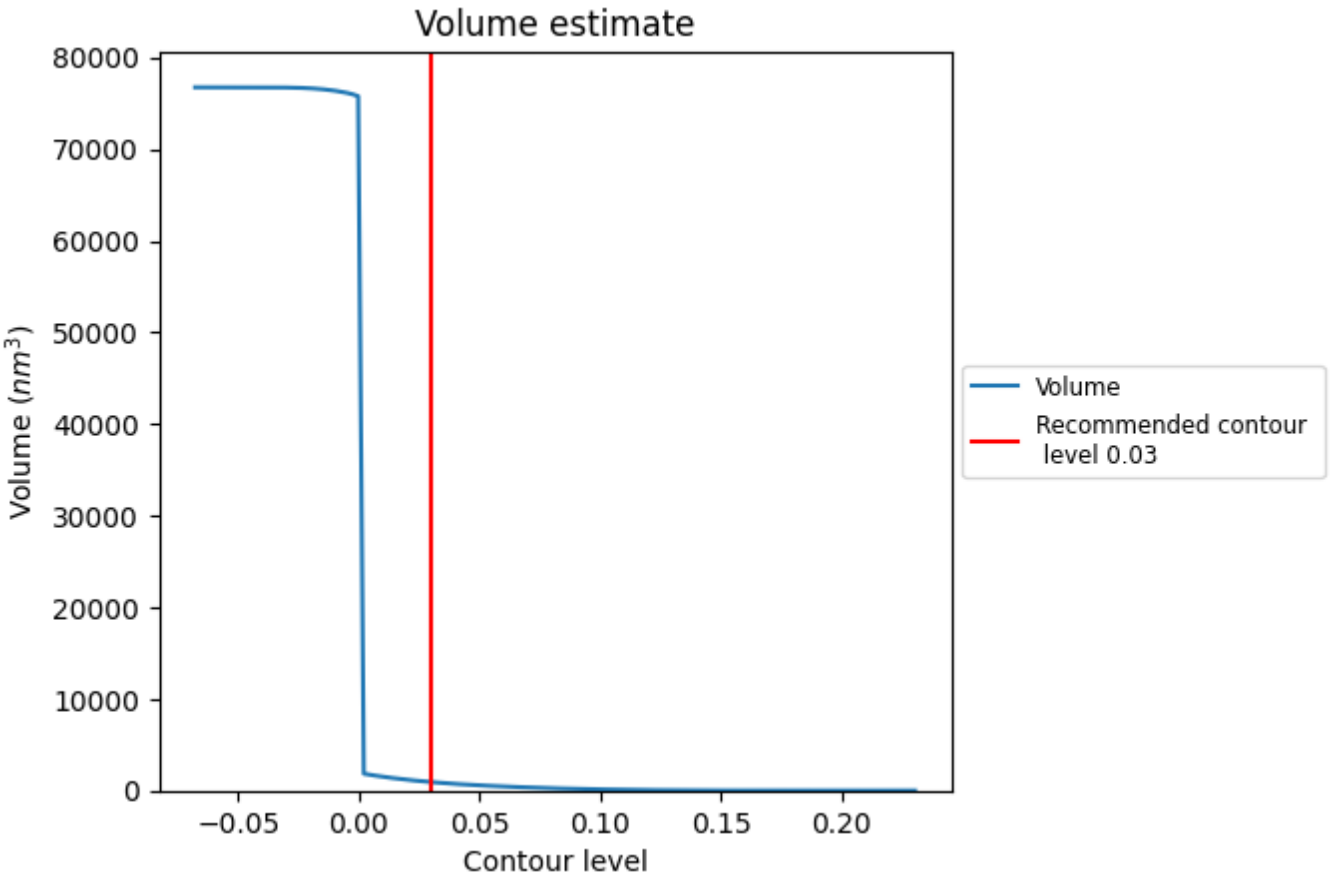
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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

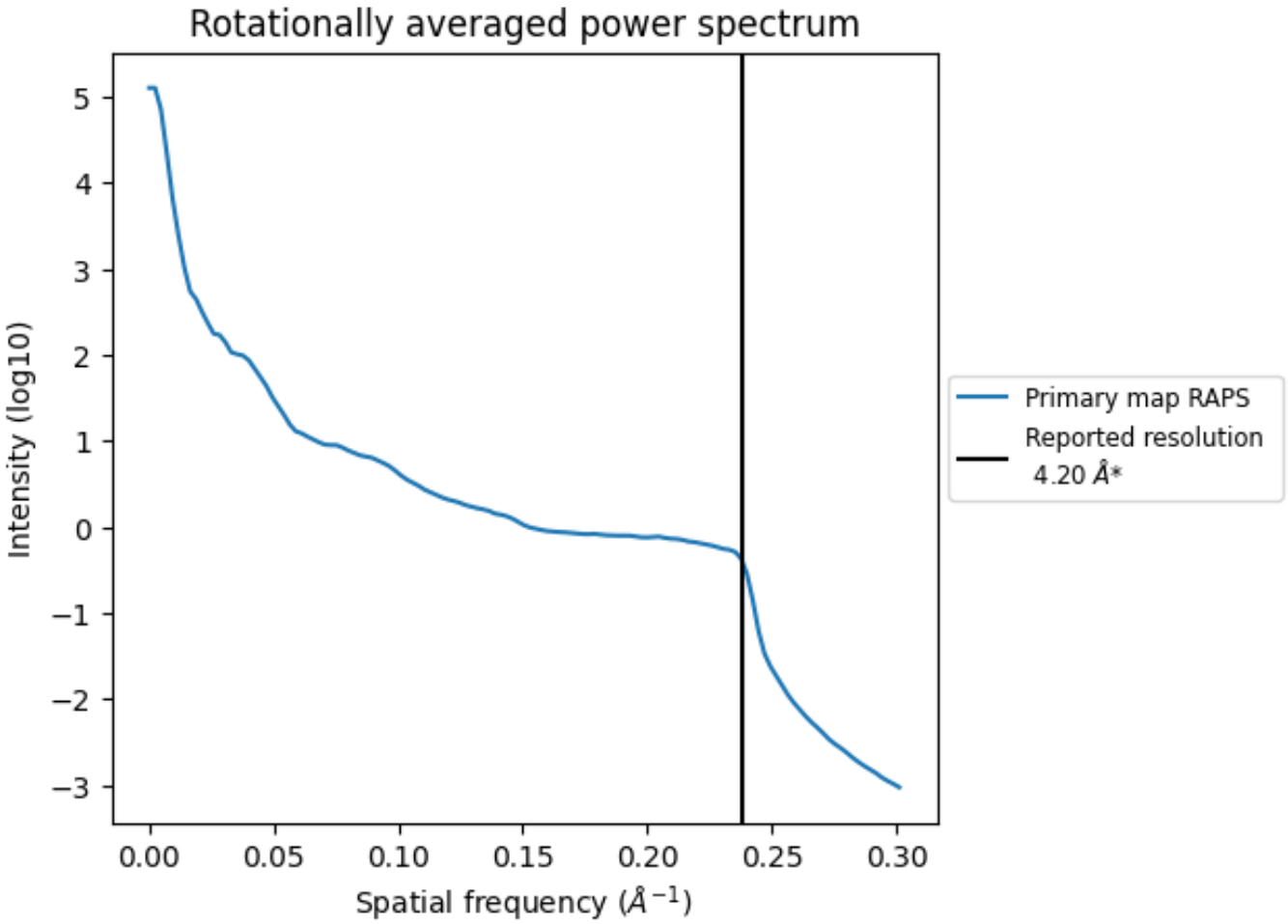
7.2 Volume estimate



The volume at the recommended contour level is 925 nm^3; this corresponds to an approximate mass of 836 kDa.

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

7.3 Rotationally averaged power spectrum (i)

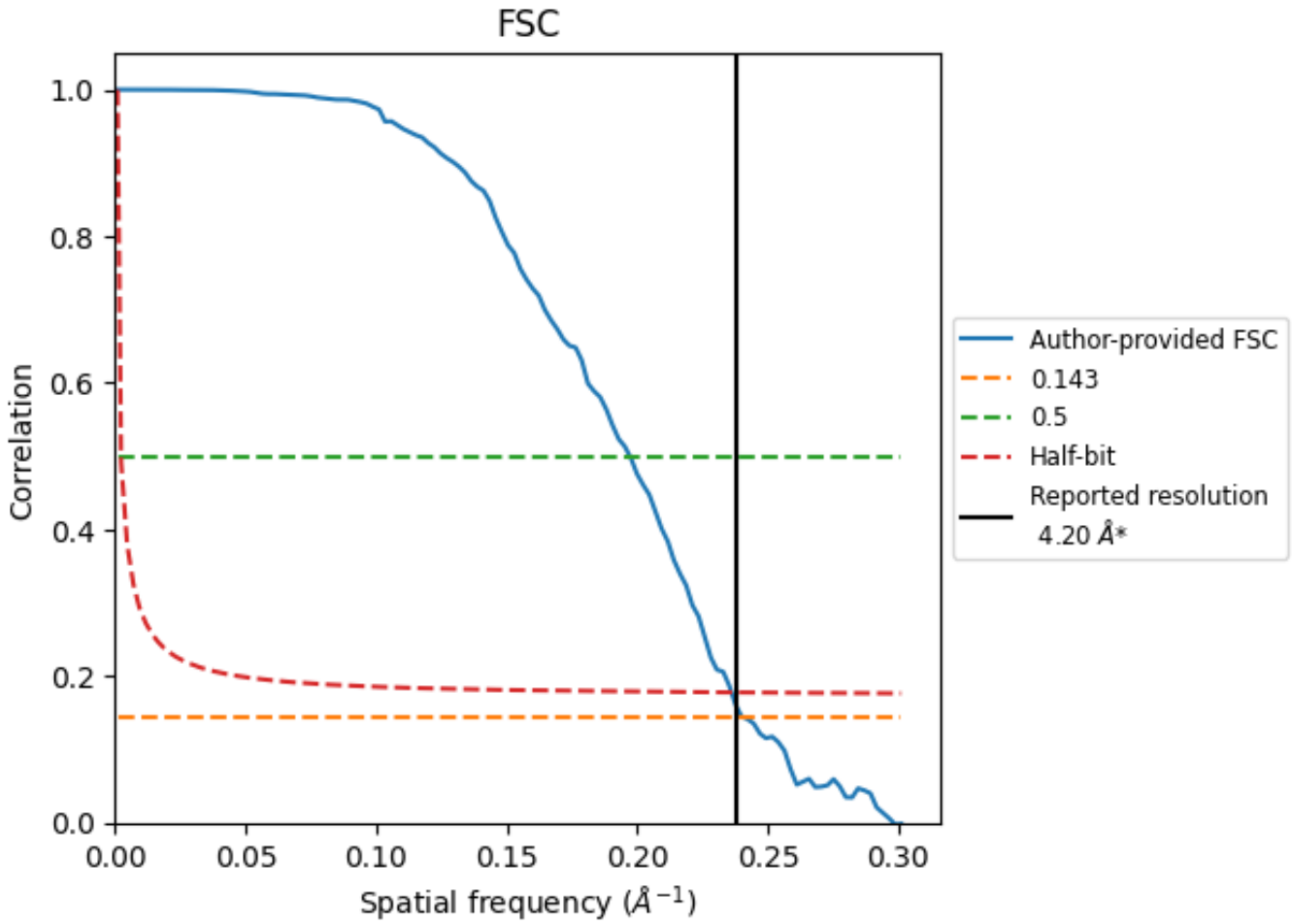


*Reported resolution corresponds to spatial frequency of 0.238 Å^{-1}

8 Fourier-Shell correlation

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

8.1 FSC



*Reported resolution corresponds to spatial frequency of 0.238 Å^{-1}

8.2 Resolution estimates (i)

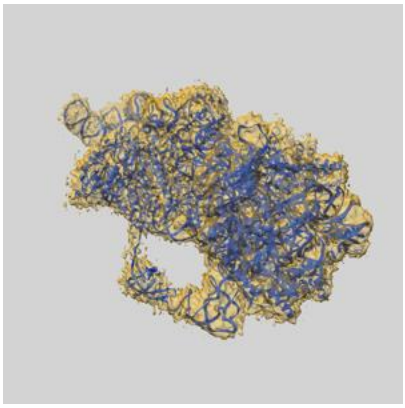
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	4.20	-	-
Author-provided FSC curve	4.15	5.07	4.23
Unmasked-calculated*	-	-	-

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

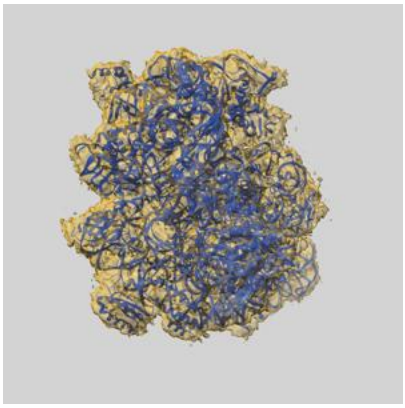
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-0643 and PDB model 6O7K. Per-residue inclusion information can be found in section 3 on page 8.

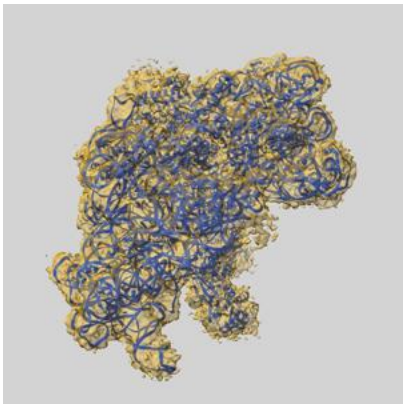
9.1 Map-model overlay



X



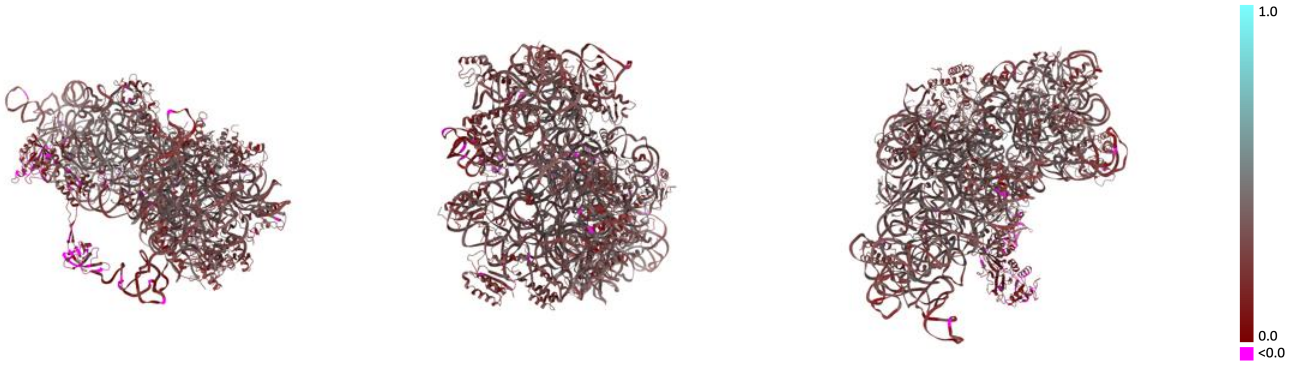
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.03 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

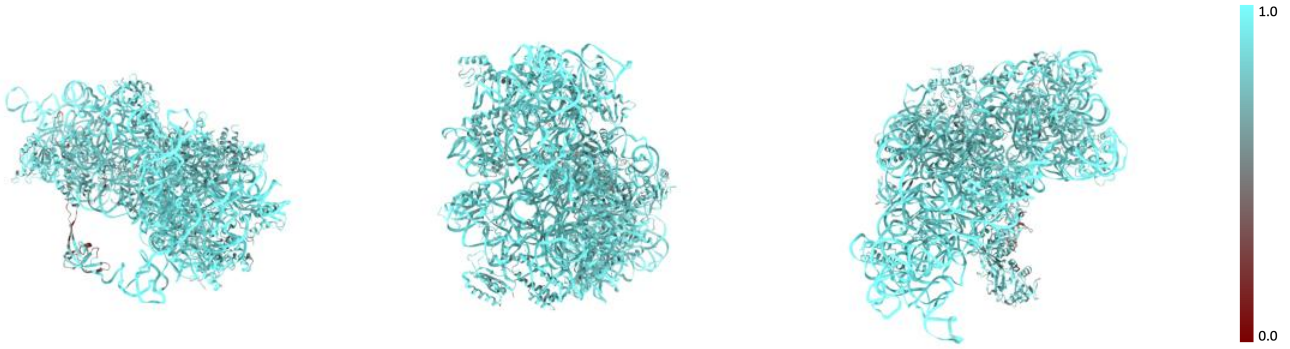
9.2 Q-score mapped to coordinate model (i)



X Y Z

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

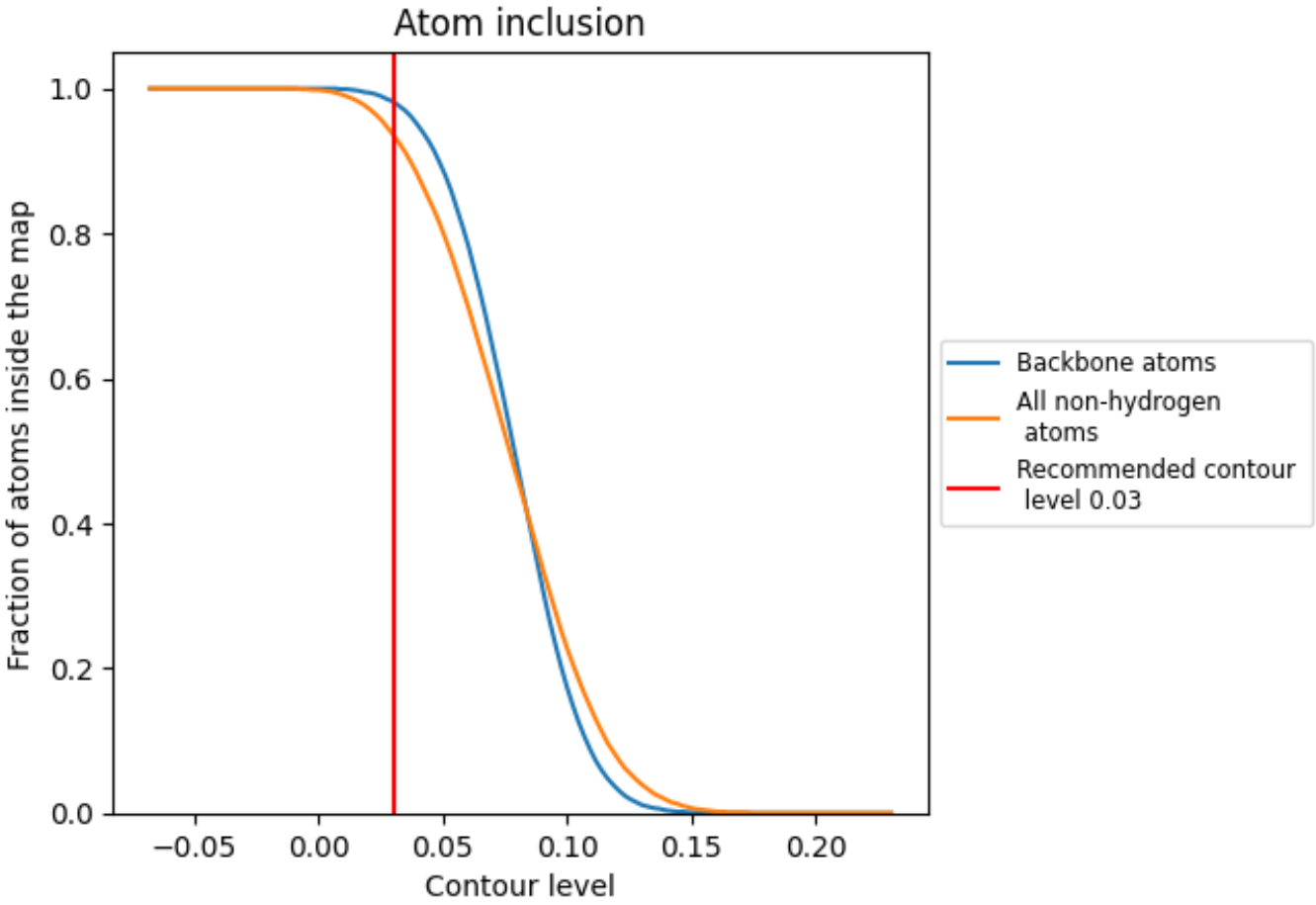
9.3 Atom inclusion mapped to coordinate model (i)



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.03).

9.4 Atom inclusion (i)



At the recommended contour level, 98% 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 (0.03) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.9360	0.3060
1	0.8720	0.2680
2	0.8310	0.2120
3	0.9010	0.2790
5	0.7910	0.2650
N	0.9600	0.3340
P	0.8880	0.3280
f	0.7610	0.1710
g	0.9930	0.3370
h	0.8830	0.3220
j	0.8250	0.2530
k	0.8680	0.3330
l	0.8740	0.2830
m	0.8510	0.2690
n	0.8510	0.2380
o	0.8880	0.2880
p	0.8650	0.3180
q	0.8780	0.2790
r	0.8620	0.2870
s	0.8910	0.2510
t	0.8590	0.3610
u	0.8710	0.2660
v	0.9660	0.1950
w	0.8900	0.3000
y	0.8870	0.3290
z	0.9120	0.2640