



Full wwPDB EM Validation Report ⓘ

Nov 7, 2022 – 04:49 PM EST

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 ⓘ 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.dev43
MolProbity : 4.02b-467
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.9
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.31.2

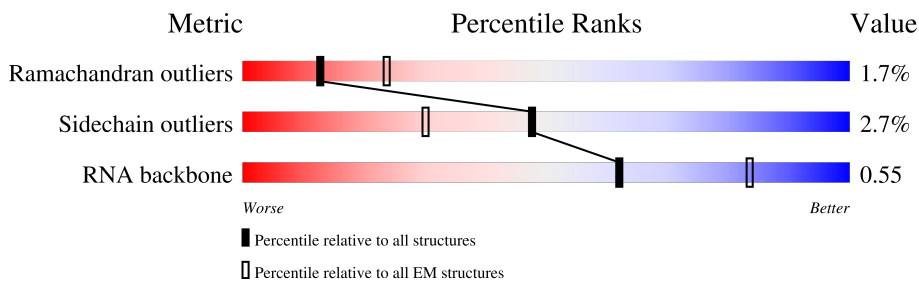
1 Overall quality at a glance i

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.




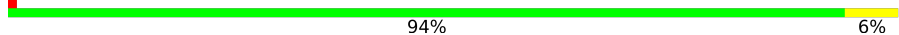




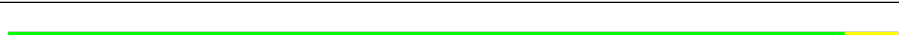
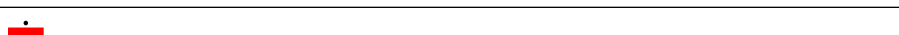
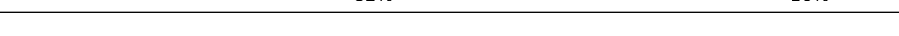
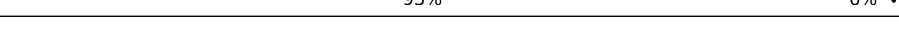
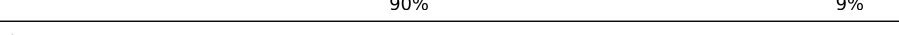
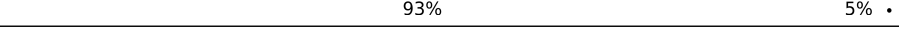

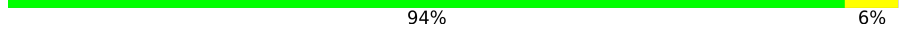
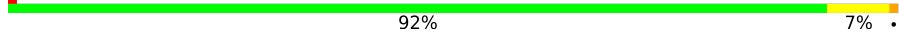

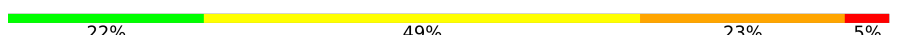
Metric	Whole archive (#Entries)	EM structures (#Entries)
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826
RNA backbone	4643	859

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	5	71	
2	f	509	
3	g	1539	
4	P	80	
5	r	98	
6	q	117	
7	t	123	
8	s	114	

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
9	w	100	 85% 11% .
10	u	88	 94% 6% .
11	y	82	 91% 9% .
12	1	55	 87% 9% .
13	z	79	 92% 8%
14	j	218	 95% . .
15	3	85	 94% 6%
16	2	51	 82% 16% .
17	h	206	 93% 6% .
18	l	205	 90% 9%
19	k	150	 93% 5% .
20	n	100	 92% 8%
21	m	151	 94% 6%
22	p	129	 92% 7% .
23	o	127	 83% 14% . .
24	v	77	 22% 49% 23% 5%
25	N	6	 17% 50% 33%

2 Entry composition

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
			Total	C	N	O	S		
1	5	71	570	362	103	103	2	0	0

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- 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		

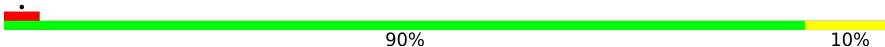
- Molecule 25 is a RNA chain called mRNA.

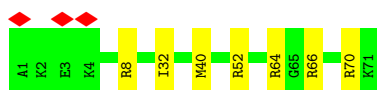
Mol	Chain	Residues	Atoms					AltConf	Trace
25	N	6	Total	C	N	O	P	0	0
			126	58	24	39	5		

3 Residue-property plots

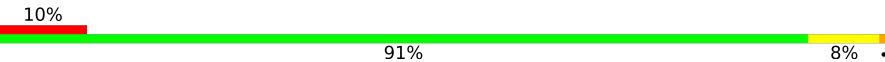
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion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

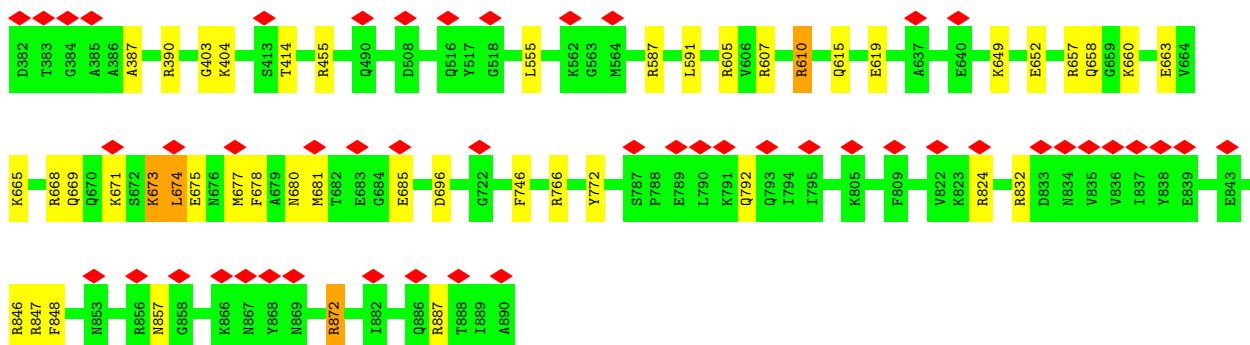
- Molecule 1: Translation initiation factor IF-1

Chain 5: 



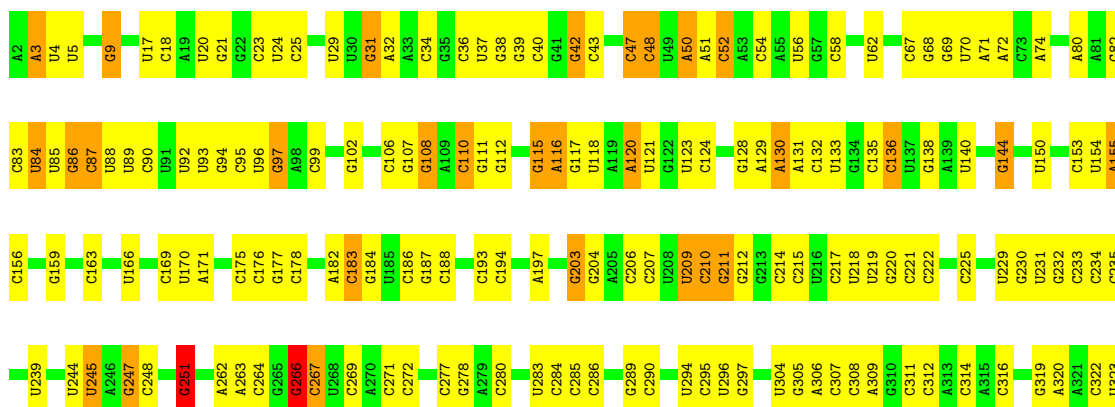
- Molecule 2: Translation initiation factor IF-2

Chain f: 

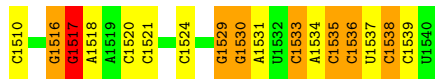
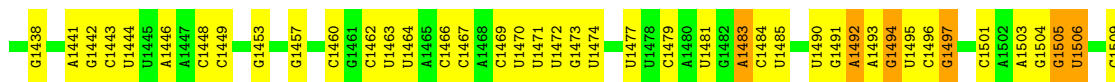


- Molecule 3: 16S ribosomal RNA

Chain g: 



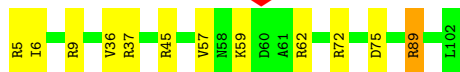
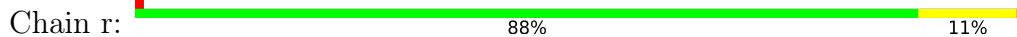
G1361	A1287	C1141	G1069	A994	C930	G766	C699	U625	A554	C477	C400	G324
A1362	U1070	G1142	U1070	C995	C931	A787	C699	U626	U555	A478	C401	A325
A1363	G1071	G1143	G1071	A996	C932	U788	U708	G626	C556	U479	G402	G326
A1364	G1072	G1144	G1072	A997	C933	U789	U709	C631	U480	U480	G403	A327
G1365	U1073	A1145	U1073	C998	C934	A792	G710	U633	A559	G481	G404	C328
G1366	C999	A1146	C999	A998	C935	U793	G711	U634	A560	A482	U405	A329
G1367	G1074	A1147	G1074	A999	C936	A794	A712	C634	U561	C483	G406	C330
A1368	C1077	C1148	C1077	C999	A997	C795	A712	A635	U562	G484	U407	G331
A1369	U1078	C1149	U1078	A998	A998	C796	G713	U636	U485	U485	A408	G332
G1370	G1079	A1004	G1079	C999	C939	C862	G714	U637	A563	C488	U409	U333
G1371	A1080	A1005	A1080	C940	C940	C797	C719	U638	U564	C489	G410	C334
C1302	U1083	G1006	U1083	U943	U943	C864	G722	U641	A411	A412	A411	A412
G1303	U1086	G1007	U1086	G944	G944	A865	G722	A632	A413	A413	G413	G413
G1304	U1086	A1009	U1086	G945	G945	C866	G726	U644	A414	A414	A414	A414
A1305	U1086	A1010	U1086	G946	G946	C868	G726	U644	U571	G417	G417	C342
A1306	G1089	A1014	G1089	C948	C948	A807	G731	C647	A572	G418	G418	C345
U1307	U1090	A1015	U1090	A949	A949	A808	G732	C647	A573	C419	C419	C346
U1313	U1091	G1015	U1091	U950	U950	G809	G733	G650	A574	C501	C501	C347
C1314	A1092	G1018	A1092	G951	G951	C810	G733	G650	A575	C501	U420	C348
G1315	A1093	G1019	A1093	U952	U952	C811	G734	G651	A576	A502	U421	G349
G1316	U1094	A1019	U1094	G953	G953	C812	G735	U652	C576	C503	G422	C352
G1317	C1095	A1019	C1095	G954	G954	C813	G736	U653	C577	C504	G423	C353
G1318	C1096	A1022	C1096	G955	G955	C814	G737	U654	C578	C504	G424	C354
G1319	C1097	A1023	C1097	U956	U956	C815	G738	U655	C579	C504	G425	C355
G1320	C1098	A1024	C1098	U957	U957	C816	G739	U657	C580	C507	G426	C356
U1321	G1099	A1025	G1099	A958	A958	A816	G739	U657	C580	C507	G426	C356
U1322	C1100	A1026	C1100	A959	A959	C817	U740	U659	G581	C511	U427	U358
C1325	A1101	A1027	A1101	U960	U960	C818	G741	U659	C582	U512	G428	U358
U1326	C1103	A1028	C1103	G962	G962	C819	G742	U660	C583	C513	U429	U359
C1327	G1106	A1030	G1106	C966	C966	C821	G744	U662	C586	C514	U430	G361
C1328	A1188	C1031	A1188	U966	U966	C822	G744	U662	C587	C514	U431	G362
G1329	U1189	G1032	U1189	C967	C967	C823	A747	U663	C588	C518	G432	G363
U1330	G1108	G1033	G1108	C968	C968	C824	G748	U664	C589	C519	G433	A364
G1331	C1109	G1034	C1109	A969	A969	C825	A748	U665	C590	A520	U434	A365
A1332	A1191	A1035	A1191	C970	C970	C826	G750	U666	C591	G521	C436	U367
U1333	C1192	A1036	C1192	C971	C971	C827	G751	U667	C592	C522	U437	U368
U1334	G1193	A1037	G1193	G971	G971	C828	U751	U667	C593	A523	U438	C370
G1335	U1194	C1037	U1194	C972	C972	C829	G754	U672	C594	G524	U439	A371
G1336	C1113	G1038	C1113	C973	C973	C830	G755	U673	C595	C525	C440	C372
G1337	U1115	G1039	U1115	C974	C974	C831	G756	U674	C596	C526	U443	A373
G1338	C1119	G1040	C1119	A975	A975	C832	U757	U675	C599	C527	C443	A374
U1341	C1120	A1043	C1120	C976	C976	C833	G758	U677	C600	C528	G446	U375
U1342	U1121	A1044	U1121	A977	A977	C834	G758	U678	G603	C529	G446	G376
U1343	U1122	C1045	U1122	C978	C978	C835	U762	U679	U604	G530	U446	C377
U1344	U1125	A1051	U1125	C979	C979	C836	G763	U680	G604	U531	A451	C378
U1345	C1128	G1053	C1128	C980	C980	C837	G763	U681	U605	A532	U463	G380
U1346	C1208	A1054	C1208	C981	C981	C838	G765	U682	U606	C536	U464	C381
U1347	C1209	C1054	C1209	C982	C982	C839	G765	U683	A607	C536	U465	C382
U1348	C1210	C1059	C1210	C983	C983	C840	G770	U684	C611	U543	A466	C383
U1349	G1212	G1061	G1212	C984	C984	C841	G773	U685	C612	G544	U467	C384
U1351	C1213	U1060	C1213	C985	C985	U942	G773	U686	C613	C545	A468	A389
G1352	G1133	U1061	G1133	C986	C986	U943	G777	U687	C614	C546	A469	A390
G1353	U1135	G1061	U1135	C987	C987	U944	A777	U688	A547	A547	C470	C392
U1354	C1137	G1064	C1137	C988	C988	C924	G778	U692	G548	G548	U471	U393
U1355	G1138	U1066	G1138	C989	C989	C925	G779	U692	G549	C549	U472	C394
U1356	C1217	U1066	C1217	C990	C990	C926	G779	U692	G550	G550	U473	C395
U1357	C1218	U1066	C1218	C991	C991	C927	G783	U696	C620	U551	U474	C396
A1360	C1410	U1066	C1410	C992	C992	C928	G783	U697	C623	U552	G474	U398
				C993	C993	C929	G785	U698	C624	U553	U476	G399



• Molecule 4: 30S ribosomal protein S17



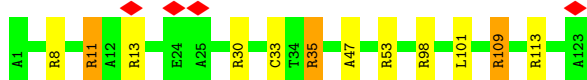
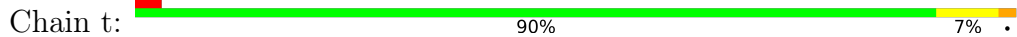
• Molecule 5: 30S ribosomal protein S10



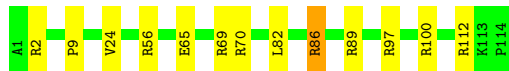
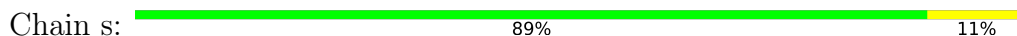
• Molecule 6: 30S ribosomal protein S11



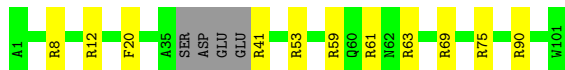
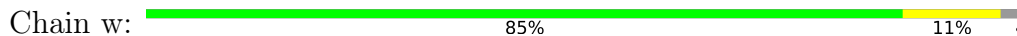
• Molecule 7: 30S ribosomal protein S12



• Molecule 8: 30S ribosomal protein S13

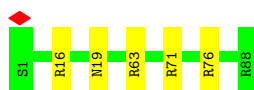


• Molecule 9: 30S ribosomal protein S14



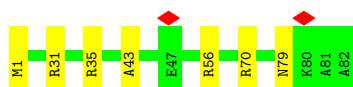
- Molecule 10: 30S ribosomal protein S15

Chain u:  94% 6%




- Molecule 11: 30S ribosomal protein S16

Chain y:  91% 9%



- Molecule 12: 30S ribosomal protein S18

Chain 1:  87% 9%



- Molecule 13: 30S ribosomal protein S19

Chain z:  92% 8%



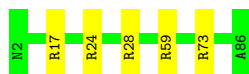
- Molecule 14: 30S ribosomal protein S2

Chain j:  95%




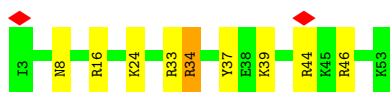
- Molecule 15: 30S ribosomal protein S20

Chain 3:  94% 6%



- Molecule 16: 30S ribosomal protein S21

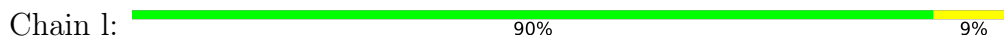
Chain 2:  82% 16%



- Molecule 17: 30S ribosomal protein S3



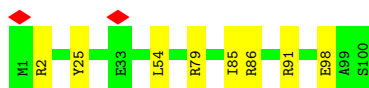
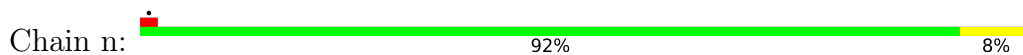
- Molecule 18: 30S ribosomal protein S4



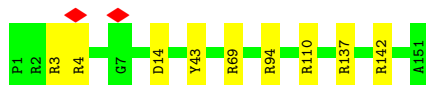
- Molecule 19: 30S ribosomal protein S5



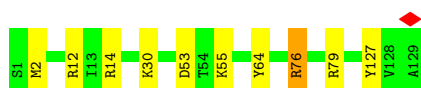
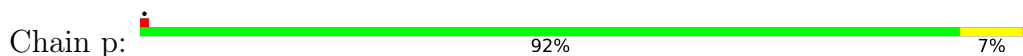
- Molecule 20: 30S ribosomal protein S6




- Molecule 21: 30S ribosomal protein S7

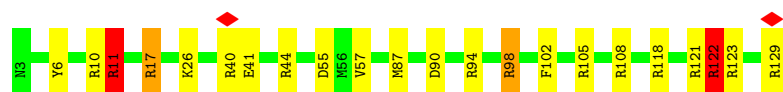


- Molecule 22: 30S ribosomal protein S8



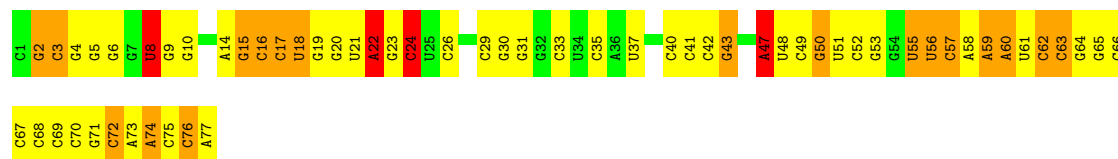
- Molecule 23: 30S ribosomal protein S9

Chain o:  83% 14%




- Molecule 24: tRNA

Chain v:  22% 49% 23% 5%



- Molecule 25: mRNA

Chain N:  17% 50% 33%



4 Experimental information

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 ($e^-/\text{\AA}^2$)	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 (\AA)	424.96, 424.96, 424.96	wwPDB
Map dimensions	256, 256, 256	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (\AA)	1.66, 1.66, 1.66	Depositor

5 Model quality i

5.1 Standard geometry i

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	l	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.

Continued on next page...

Continued from previous page...

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	l	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(°)	Ideal(°)
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	l	72	ARG	NE-CZ-NH1	9.97	125.29	120.30
6	q	121	ARG	NE-CZ-NH1	9.96	125.28	120.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
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

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
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	l	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	l	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	l	42	ARG	NE-CZ-NH1	7.53	124.06	120.30
7	t	30	ARG	NE-CZ-NH2	-7.52	116.54	120.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
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

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
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

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
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	l	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

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
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

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
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

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
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

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
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

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
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

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
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

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
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

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
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

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
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

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
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	l	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	l	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

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
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

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
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

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
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

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
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

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
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

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
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

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
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

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
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

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
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

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
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

Continued on next page...

Continued from previous page...

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

Continued on next page...

Continued from previous page...

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

Continued on next page...

Continued from previous page...

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

Continued on next page...

Continued from previous page...

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	l	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%)	11	47
2	f	507/509 (100%)	465 (92%)	33 (6%)	9 (2%)	8	42
4	P	78/80 (98%)	69 (88%)	8 (10%)	1 (1%)	12	48
5	r	96/98 (98%)	80 (83%)	11 (12%)	5 (5%)	2	22
6	q	115/117 (98%)	105 (91%)	9 (8%)	1 (1%)	17	56
7	t	121/123 (98%)	111 (92%)	7 (6%)	3 (2%)	5	35
8	s	112/114 (98%)	106 (95%)	5 (4%)	1 (1%)	17	56
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%)	3	27
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%)	8	41
15	3	83/85 (98%)	82 (99%)	1 (1%)	0	100	100
16	2	49/51 (96%)	37 (76%)	9 (18%)	3 (6%)	1	20
17	h	204/206 (99%)	196 (96%)	6 (3%)	2 (1%)	15	54
18	l	203/205 (99%)	190 (94%)	10 (5%)	3 (2%)	10	46
19	k	148/150 (99%)	136 (92%)	8 (5%)	4 (3%)	5	34
20	n	98/100 (98%)	92 (94%)	3 (3%)	3 (3%)	4	31
21	m	149/151 (99%)	142 (95%)	7 (5%)	0	100	100

Continued on next page...

Continued from previous page...

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%)	3	26
All	All	2888/2938 (98%)	2671 (92%)	169 (6%)	48 (2%)	13	44

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

Continued on next page...

Continued from previous page...

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%)	39	62
2	f	409/409 (100%)	384 (94%)	25 (6%)	18	46
4	P	74/74 (100%)	72 (97%)	2 (3%)	44	66
5	r	86/86 (100%)	85 (99%)	1 (1%)	71	83
6	q	90/90 (100%)	87 (97%)	3 (3%)	38	61
7	t	103/103 (100%)	102 (99%)	1 (1%)	76	86
8	s	92/92 (100%)	88 (96%)	4 (4%)	29	55
9	w	79/83 (95%)	78 (99%)	1 (1%)	69	82
10	u	76/76 (100%)	75 (99%)	1 (1%)	69	82
11	y	65/65 (100%)	64 (98%)	1 (2%)	65	80
12	l	48/48 (100%)	47 (98%)	1 (2%)	53	71
13	z	70/70 (100%)	68 (97%)	2 (3%)	42	64
14	j	180/180 (100%)	176 (98%)	4 (2%)	52	70

Continued on next page...

Continued from previous page...

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%)	50	70
17	h	170/170 (100%)	168 (99%)	2 (1%)	71	83
18	l	172/172 (100%)	168 (98%)	4 (2%)	50	70
19	k	113/113 (100%)	112 (99%)	1 (1%)	78	87
20	n	87/87 (100%)	87 (100%)	0	100	100
21	m	124/124 (100%)	123 (99%)	1 (1%)	81	89
22	p	104/104 (100%)	100 (96%)	4 (4%)	33	58
23	o	105/105 (100%)	101 (96%)	4 (4%)	33	58
All	All	2418/2422 (100%)	2353 (97%)	65 (3%)	48	66

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

Continued on next page...

Continued from previous page...

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	l	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 

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

Continued on next page...

Continued from previous page...

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

Continued on next page...

Continued from previous page...

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

Continued on next page...

Continued from previous page...

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

Continued on next page...

Continued from previous page...

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

Continued on next page...

Continued from previous page...

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 monosaccharides 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.

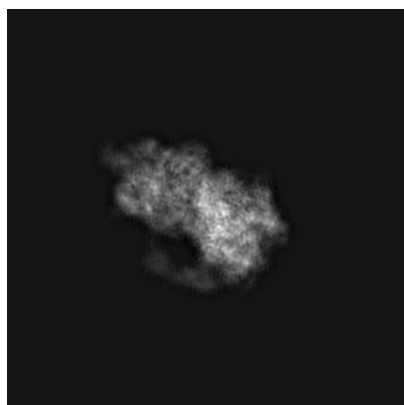
6 Map visualisation [i](#)

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.

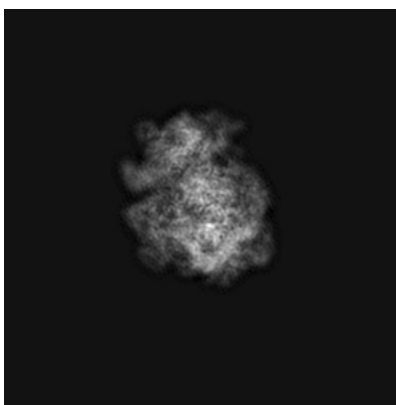
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

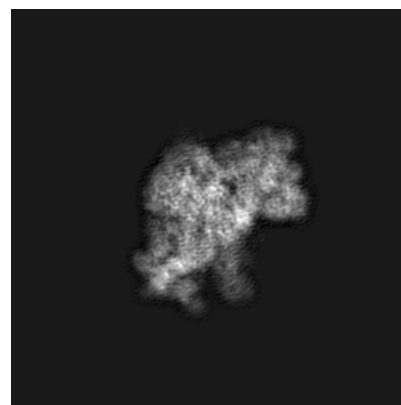
6.1.1 Primary map



X



Y

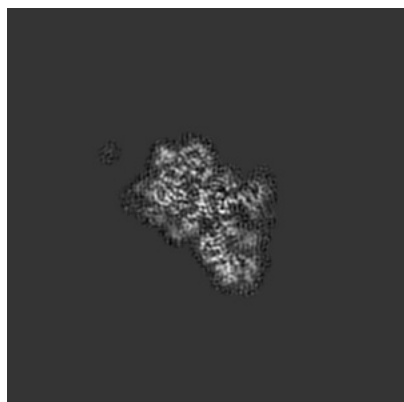


Z

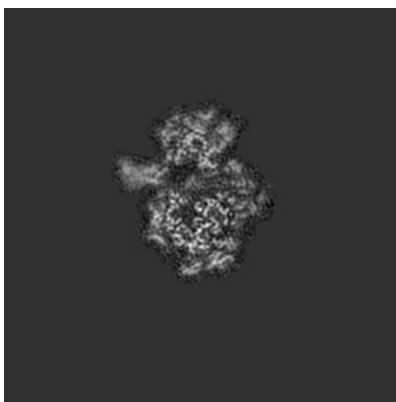
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

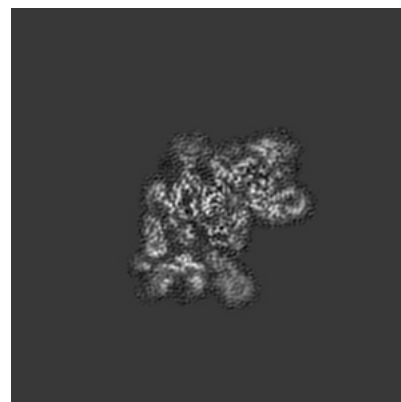
6.2.1 Primary map



X Index: 128



Y Index: 128

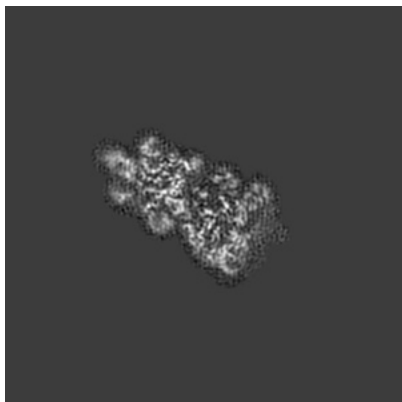


Z Index: 128

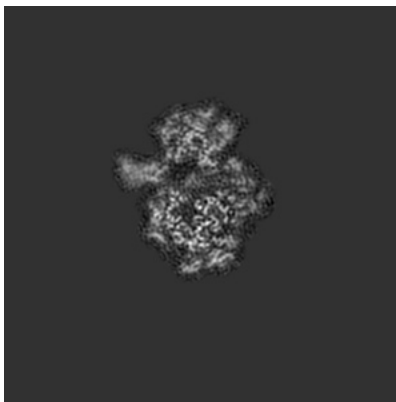
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

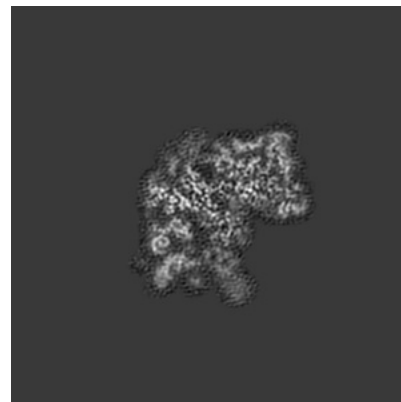
6.3.1 Primary map



X Index: 112



Y Index: 128

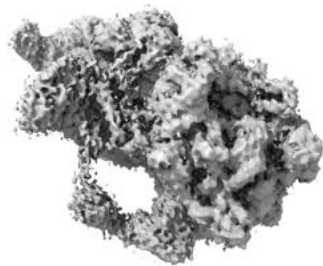


Z Index: 124

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

6.4 Orthogonal surface views [i](#)

6.4.1 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.

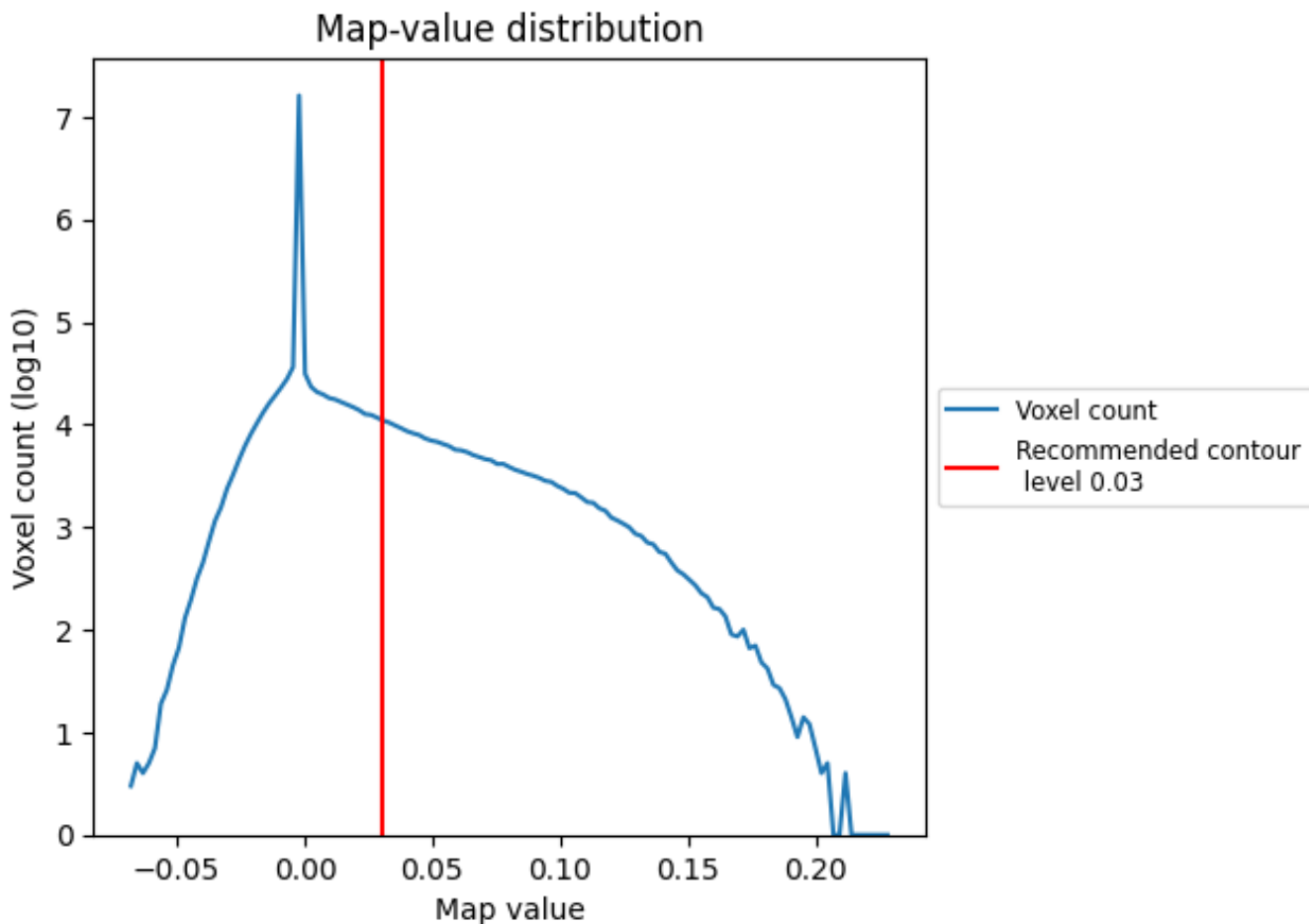
6.5 Mask visualisation

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

7 Map analysis [i](#)

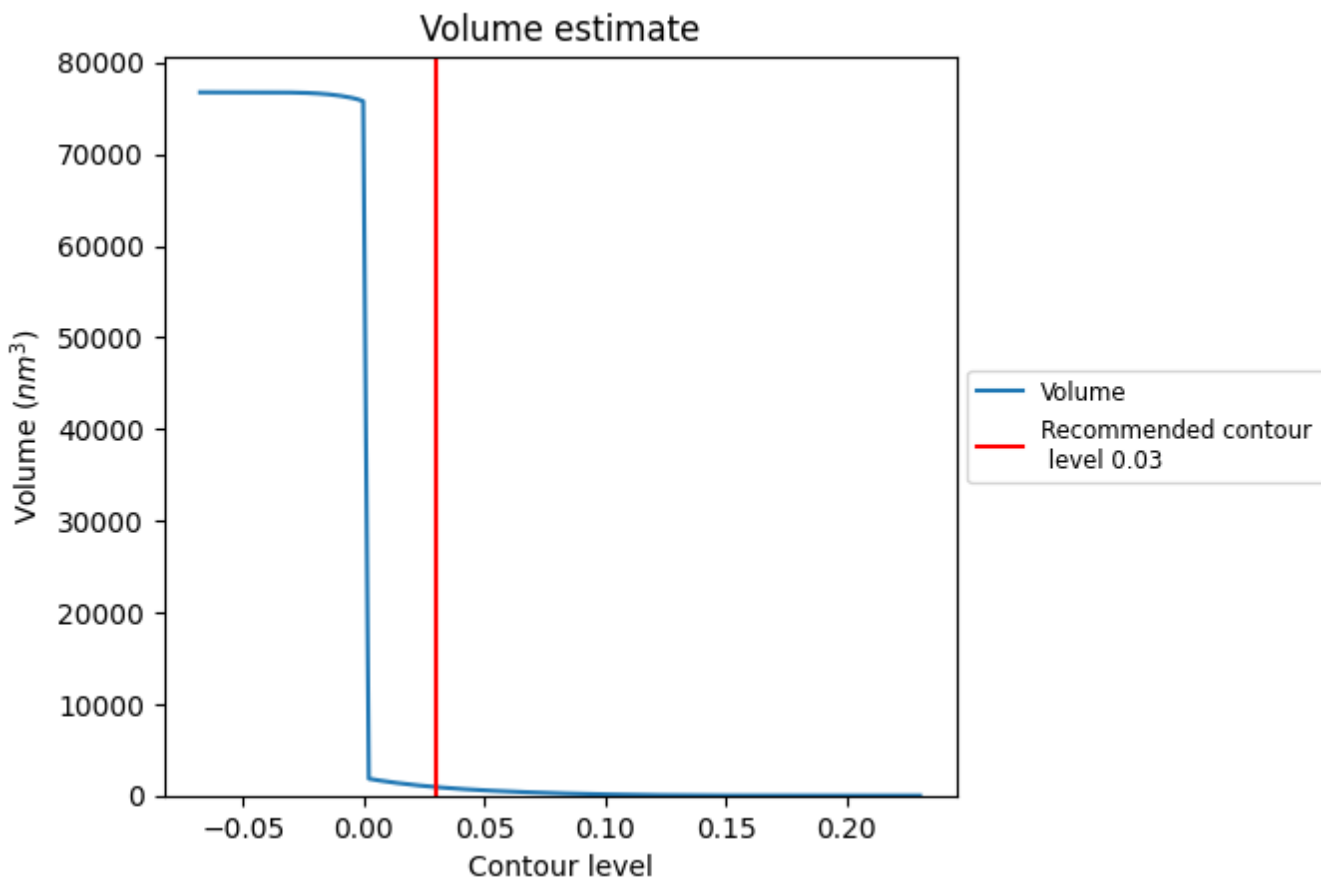
This section contains the results of statistical analysis of the map.

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.

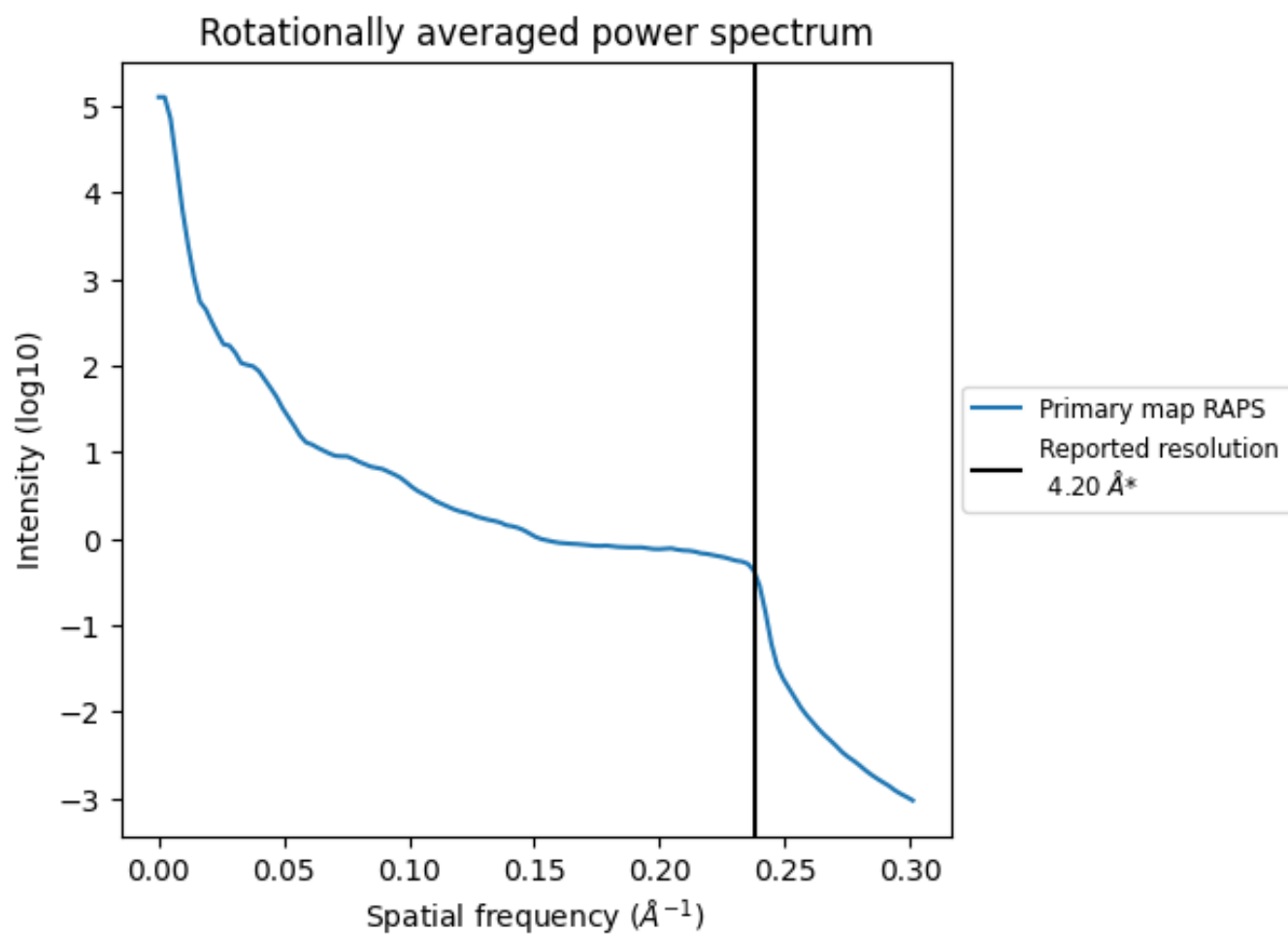
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 925 nm³; 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

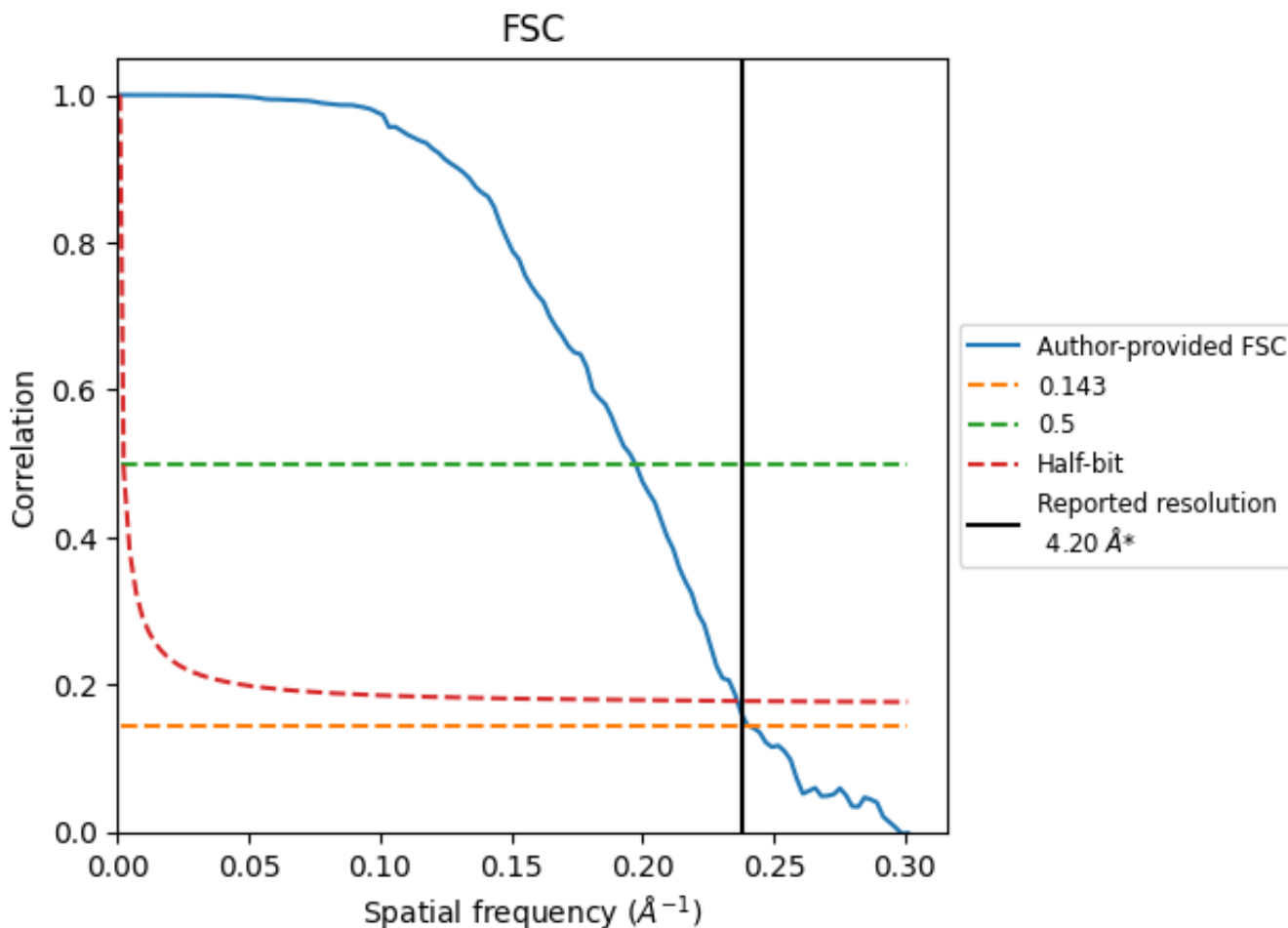


*Reported resolution corresponds to spatial frequency of 0.238 Å⁻¹

8 Fourier-Shell correlation [\(i\)](#)

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

8.1 FSC [\(i\)](#)



*Reported resolution corresponds to spatial frequency of 0.238 Å⁻¹

8.2 Resolution estimates [i](#)

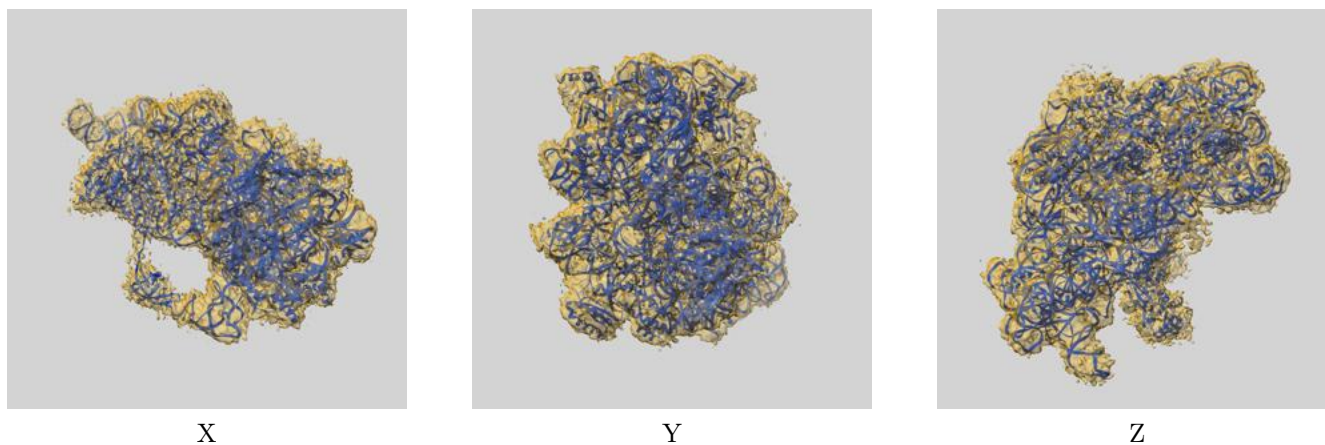
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	4.20	-	-
Author-provided FSC curve	4.15	5.07	4.23
Unmasked-calculated*	-	-	-

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

9 Map-model fit [i](#)

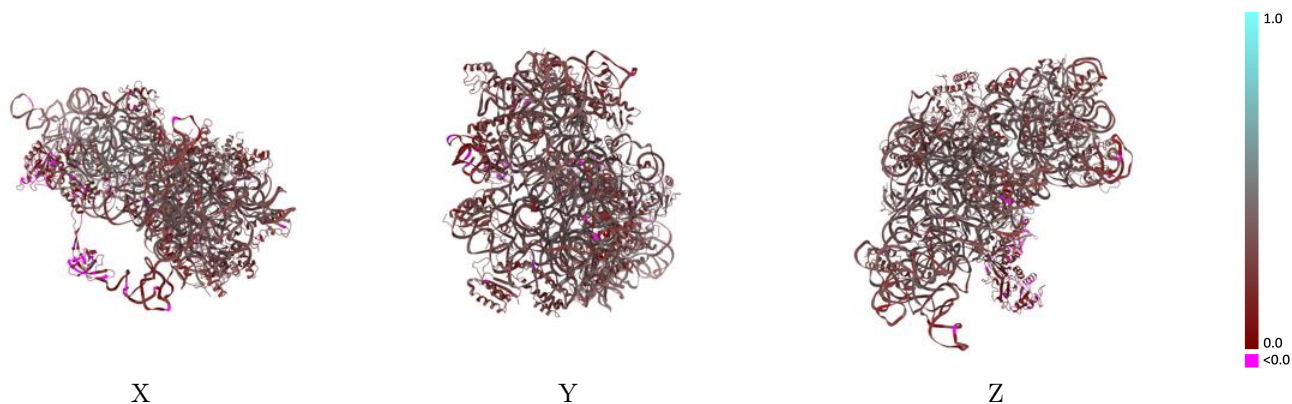
This section contains information regarding the fit between EMDB map EMD-0643 and PDB model 6O7K. Per-residue inclusion information can be found in section 3 on page 8.

9.1 Map-model overlay [i](#)



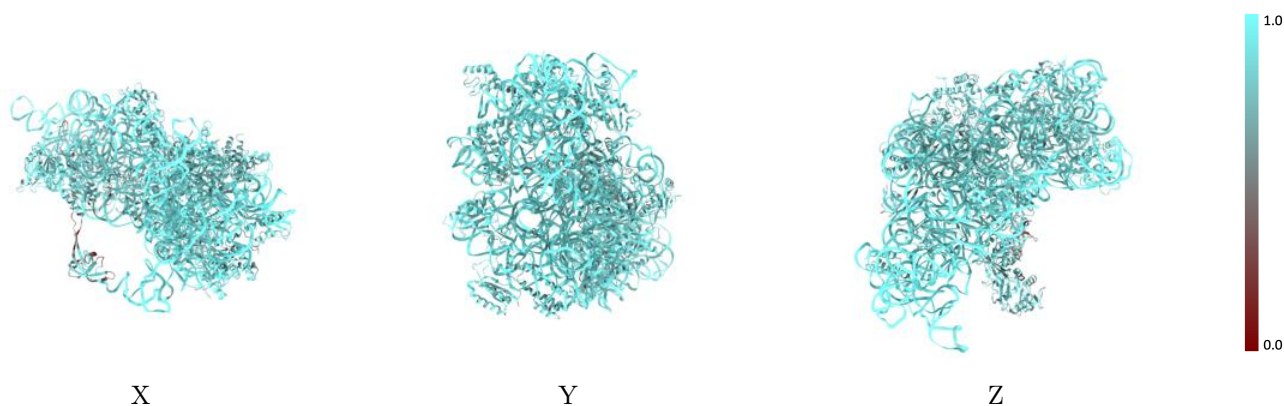
The images above show the 3D surface view of the map at the recommended contour level 0.03 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



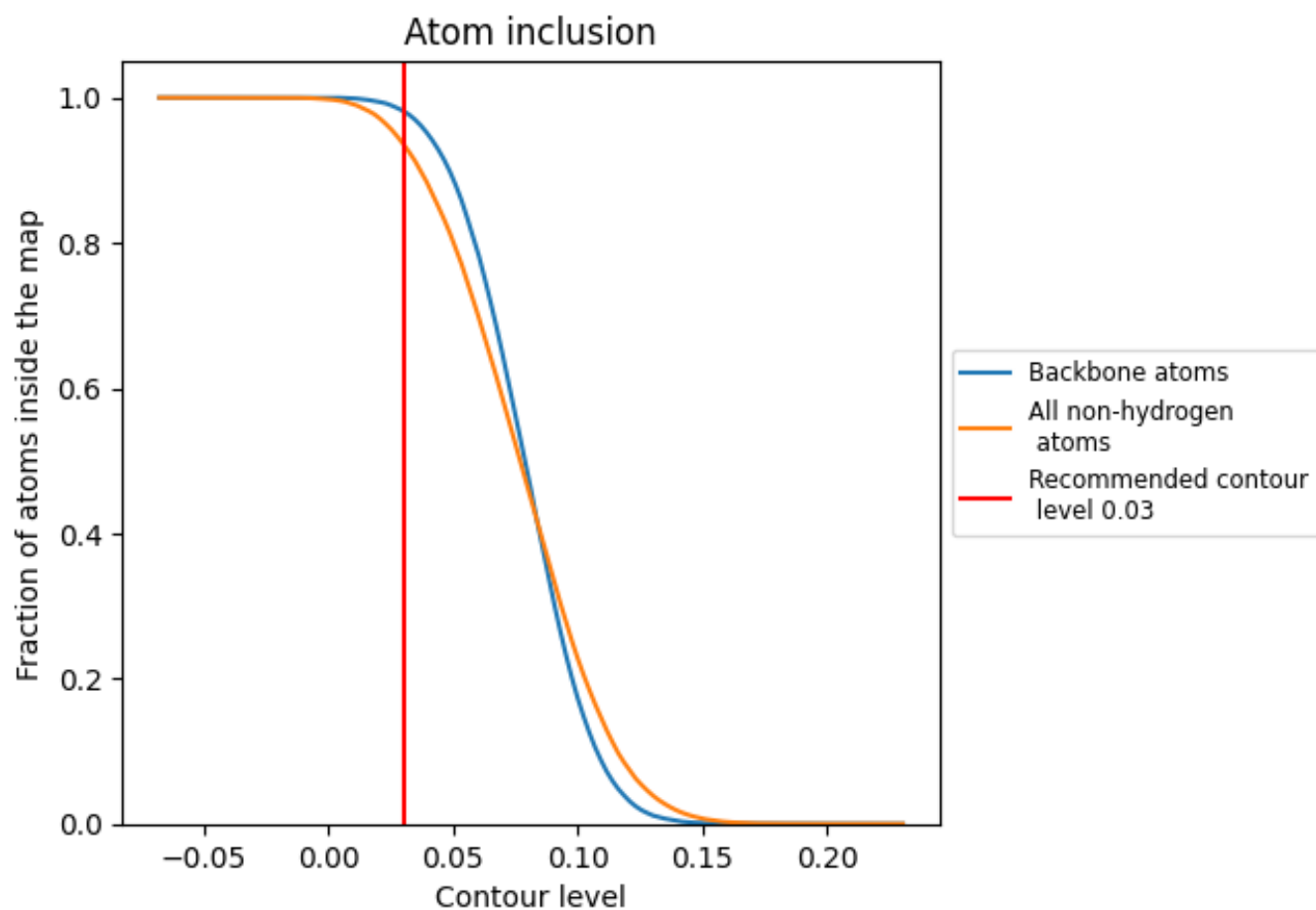
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.03).


















































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	 0.9359	 0.3060
1	 0.8719	 0.2680
2	 0.8305	 0.2120
3	 0.9015	 0.2790
5	 0.7909	 0.2650
N	 0.9603	 0.3340
P	 0.8878	 0.3280
f	 0.7614	 0.1710
g	 0.9925	 0.3370
h	 0.8835	 0.3220
j	 0.8246	 0.2530
k	 0.8681	 0.3330
l	 0.8742	 0.2830
m	 0.8507	 0.2690
n	 0.8507	 0.2380
o	 0.8876	 0.2880
p	 0.8646	 0.3180
q	 0.8781	 0.2790
r	 0.8622	 0.2870
s	 0.8908	 0.2510
t	 0.8588	 0.3610
u	 0.8710	 0.2660
v	 0.9664	 0.1950
w	 0.8896	 0.3000
y	 0.8868	 0.3290
z	 0.9116	 0.2640

