



Full wwPDB EM Validation Report ⓘ

Aug 5, 2023 – 12:26 PM EDT

PDB ID : 8FFZ
EMDB ID : EMD-29071
Title : TFIIIA-TFIIC-Brf1-TBP complex bound to 5S rRNA gene
Authors : Talyzina, A.; He, Y.
Deposited on : 2022-12-11
Resolution : 3.80 Å (reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

EMDB validation analysis : 0.0.1.dev50
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) : 2.35

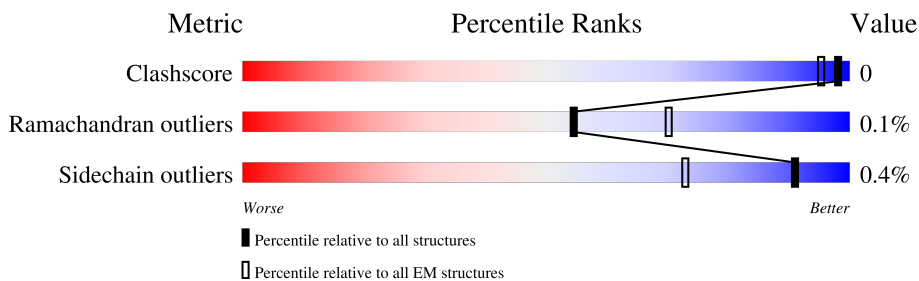
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.80 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.




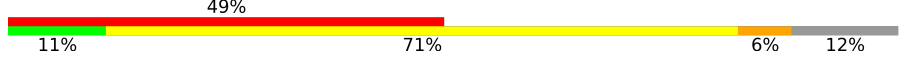
Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826

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	A	451	
2	B	1160	
3	C	1025	
4	D	649	
5	E	672	
6	F	588	
7	G	435	
8	H	736	

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Mol	Chain	Length	Quality of chain
9	I	171	
10	J	171	

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
11	ZN	A	505	-	-	X	-
11	ZN	A	506	-	-	X	-
11	ZN	A	507	-	-	X	-
11	ZN	A	508	-	-	X	-

2 Entry composition i

There are 11 unique types of molecules in this entry. The entry contains 38962 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 Transcription factor IIIA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	314	2597	1631	482	461	23	0	0

There are 22 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	430	ALA	-	expression tag	UNP P39933
A	431	ASP	-	expression tag	UNP P39933
A	432	PRO	-	expression tag	UNP P39933
A	433	ASN	-	expression tag	UNP P39933
A	434	SER	-	expression tag	UNP P39933
A	435	SER	-	expression tag	UNP P39933
A	436	SER	-	expression tag	UNP P39933
A	437	VAL	-	expression tag	UNP P39933
A	438	ASP	-	expression tag	UNP P39933
A	439	LYS	-	expression tag	UNP P39933
A	440	LEU	-	expression tag	UNP P39933
A	441	ALA	-	expression tag	UNP P39933
A	442	ALA	-	expression tag	UNP P39933
A	443	ALA	-	expression tag	UNP P39933
A	444	LEU	-	expression tag	UNP P39933
A	445	GLU	-	expression tag	UNP P39933
A	446	HIS	-	expression tag	UNP P39933
A	447	HIS	-	expression tag	UNP P39933
A	448	HIS	-	expression tag	UNP P39933
A	449	HIS	-	expression tag	UNP P39933
A	450	HIS	-	expression tag	UNP P39933
A	451	HIS	-	expression tag	UNP P39933

- Molecule 2 is a protein called Transcription factor tau 138 kDa subunit.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	B	905	7330	4685	1255	1366	24	0	0

- Molecule 3 is a protein called Transcription factor tau 131 kDa subunit.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	C	797	6627	4242	1121	1237	27	0	0

- Molecule 4 is a protein called Transcription factor tau 95 kDa subunit.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	D	262	2070	1318	346	400	6	0	0

- Molecule 5 is a protein called Transcription factor tau 91 kDa subunit.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	E	518	4097	2623	678	779	17	0	0

- Molecule 6 is a protein called Transcription factor tau 60 kDa subunit.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	F	585	4743	3048	773	899	23	0	0

- Molecule 7 is a protein called Transcription factor tau 55 kDa subunit.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
7	G	336	2705	1734	448	511	12	0	0

- Molecule 8 is a protein called Transcription factor IIIB 70 kDa subunit, TATA-box-binding protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
8	H	328	2593	1656	460	466	11	0	0

There are 16 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
H	383	ALA	-	linker	UNP P29056
H	384	MET	-	linker	UNP P29056
H	385	PRO	-	linker	UNP P29056
H	386	TRP	-	linker	UNP P29056
H	567	GLY	-	linker	UNP P13393
H	568	SER	-	linker	UNP P13393
H	569	GLY	-	linker	UNP P13393
H	570	SER	-	linker	UNP P13393
H	571	GLY	-	linker	UNP P13393
H	572	SER	-	linker	UNP P13393
H	573	GLY	-	linker	UNP P13393
H	574	SER	-	linker	UNP P13393
H	575	GLY	-	linker	UNP P13393
H	576	SER	-	linker	UNP P13393
H	577	GLY	-	linker	UNP P13393
H	578	SER	-	linker	UNP P13393

- Molecule 9 is a DNA chain called DNA (151-MER).

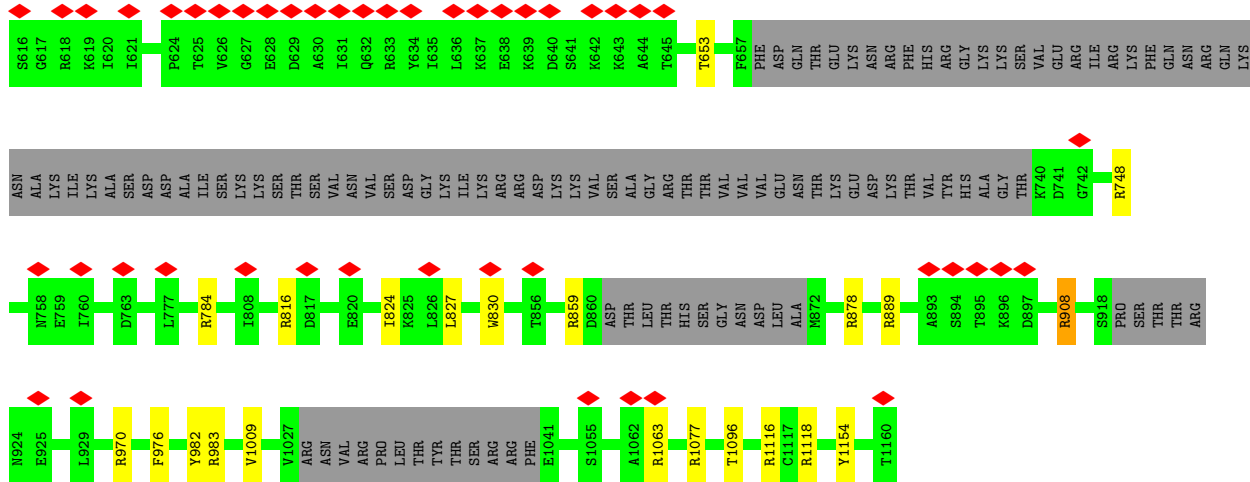
Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
9	I	151	3090	1471	560	908	151	0	0

- Molecule 10 is a DNA chain called DNA (151-MER).

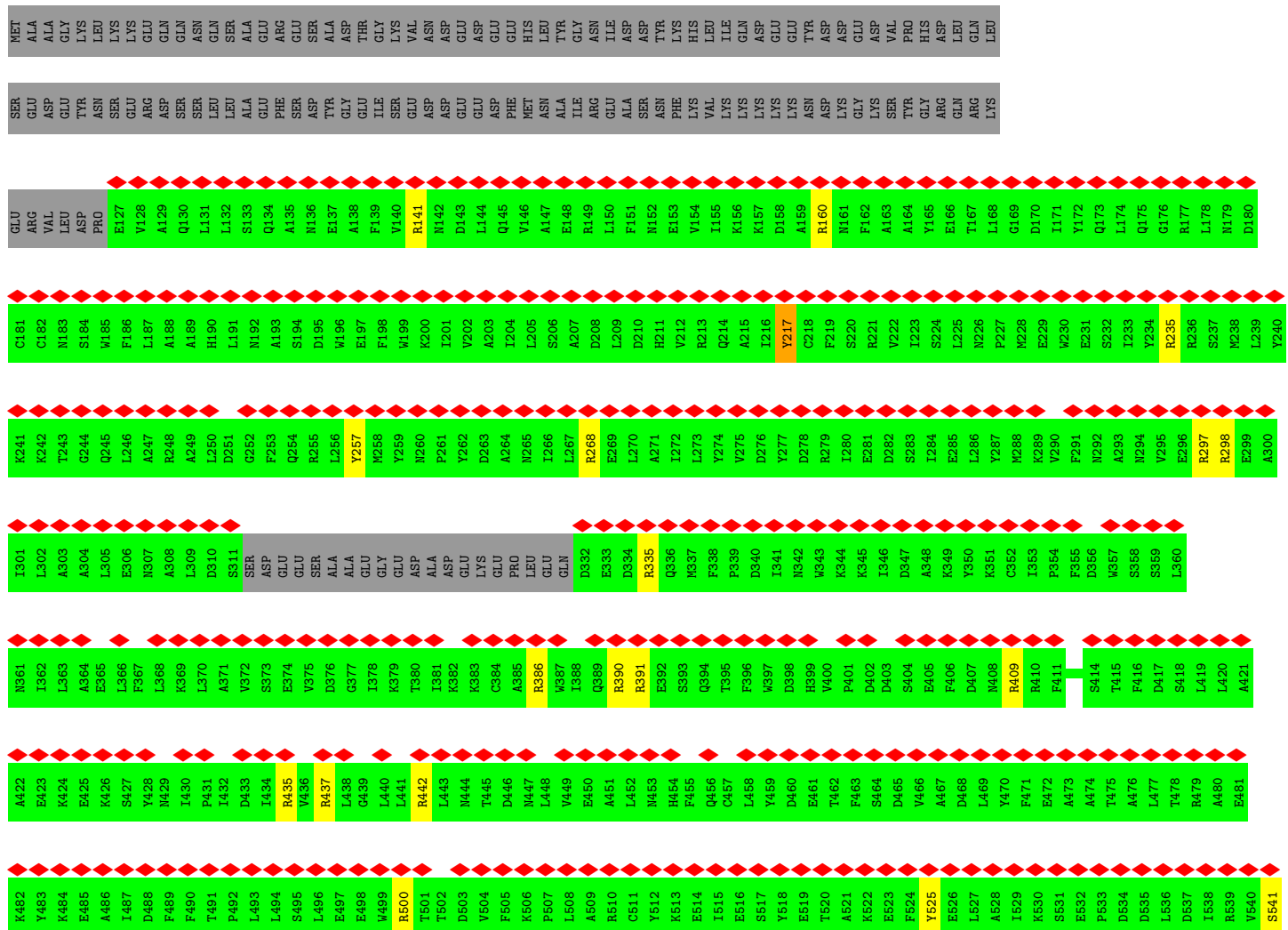
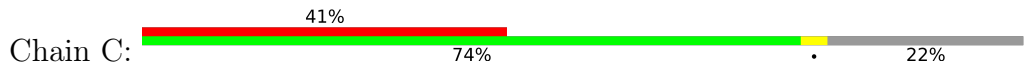
Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
10	J	151	3101	1474	572	904	151	0	0

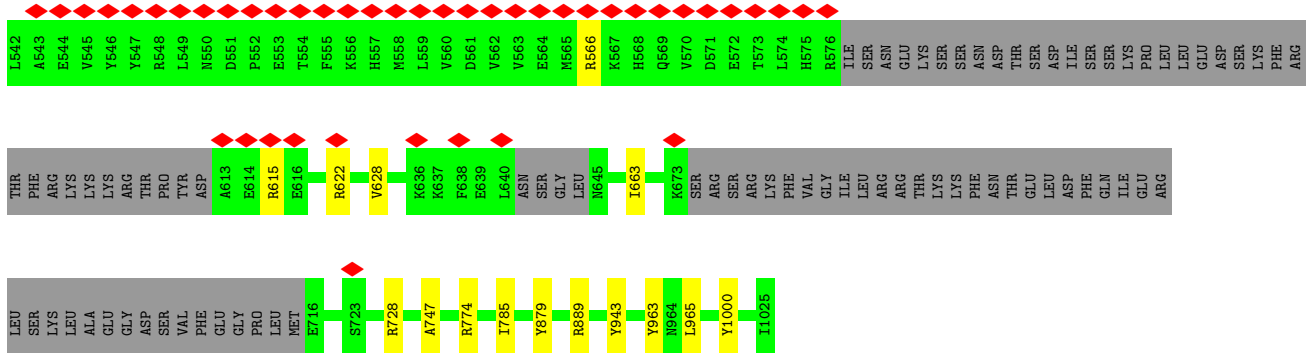
- Molecule 11 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
			Total	Zn	
11	A	9	9	9	0

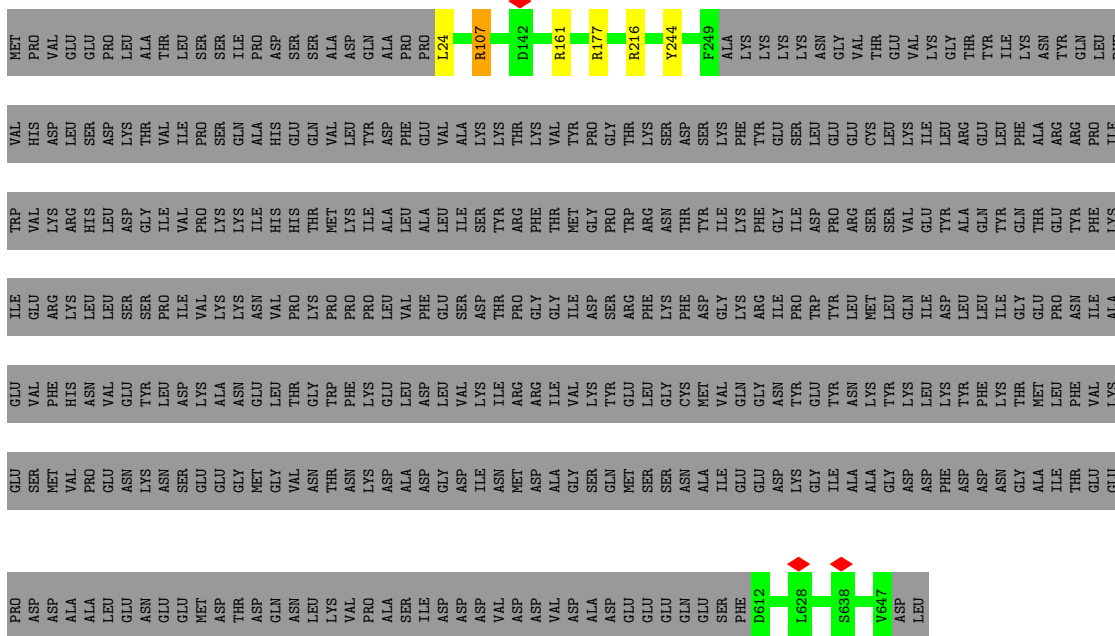


● Molecule 3: Transcription factor tau 131 kDa subunit

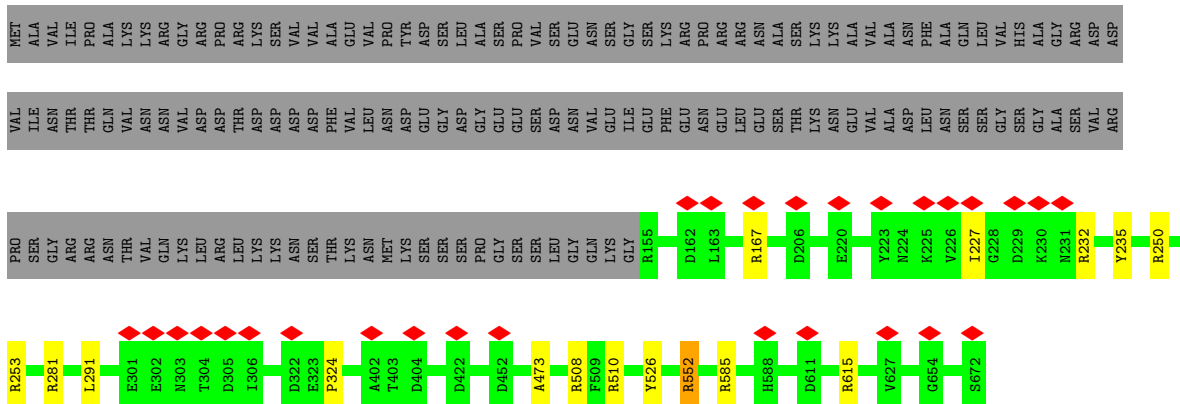


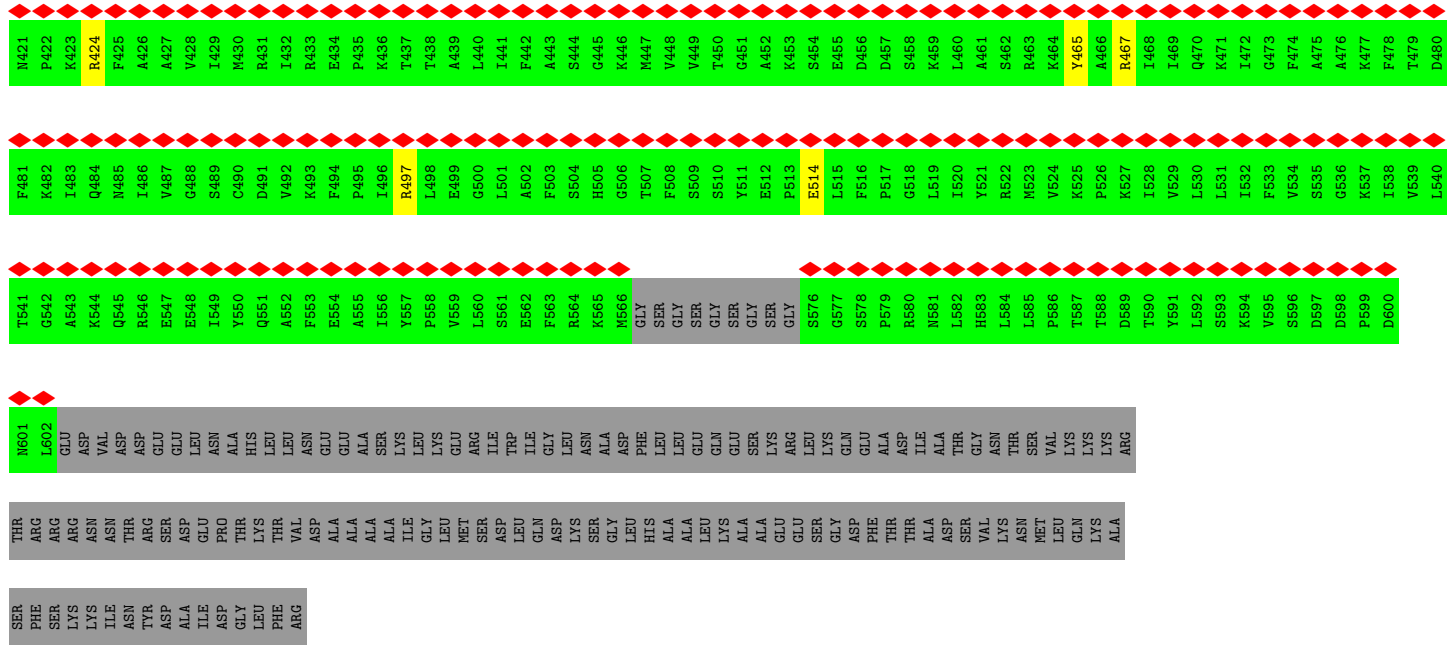


• Molecule 4: Transcription factor tau 95 kDa subunit

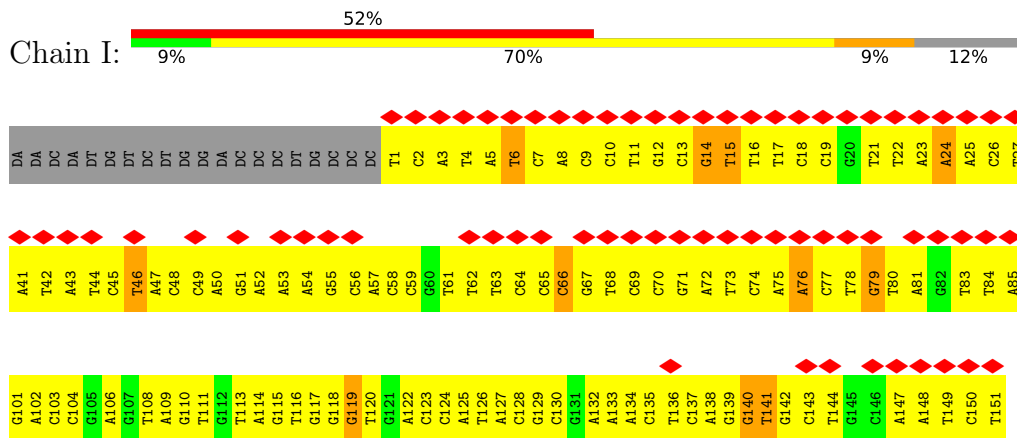


• Molecule 5: Transcription factor tau 91 kDa subunit

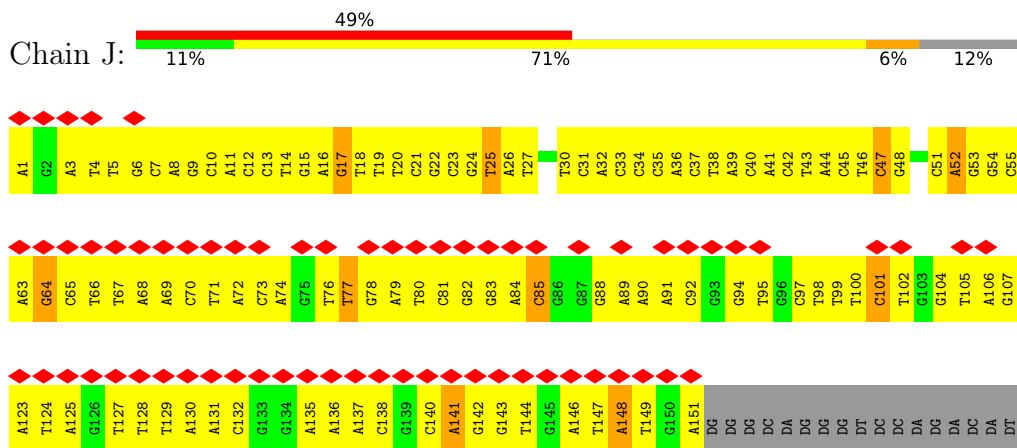




● Molecule 9: DNA (151-MER)



● Molecule 10: DNA (151-MER)



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	78512	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	60	Depositor
Minimum defocus (nm)	2000	Depositor
Maximum defocus (nm)	5000	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	0.102	Depositor
Minimum map value	-0.060	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.003	Depositor
Recommended contour level	0.016	Depositor
Map size (Å)	405.504, 405.504, 405.504	wwPDB
Map dimensions	384, 384, 384	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.056, 1.056, 1.056	Depositor

5 Model quality

5.1 Standard geometry

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

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	A	0.65	0/2665	0.97	11/3584 (0.3%)
2	B	0.64	0/7445	1.00	22/10016 (0.2%)
3	C	0.69	0/6761	1.03	22/9123 (0.2%)
4	D	0.59	0/2112	0.94	3/2851 (0.1%)
5	E	0.63	0/4190	1.02	10/5685 (0.2%)
6	F	0.64	0/4854	1.01	10/6585 (0.2%)
7	G	0.67	0/2773	1.04	11/3761 (0.3%)
8	H	0.71	0/2638	1.01	8/3549 (0.2%)
9	I	1.64	0/3464	2.42	284/5343 (5.3%)
10	J	1.64	0/3480	2.42	304/5370 (5.7%)
All	All	0.90	0/40382	1.39	685/55867 (1.2%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	2
2	B	0	3
3	C	0	4
4	D	0	3
5	E	0	2
6	F	0	1
8	H	0	1
9	I	0	17
10	J	0	12
All	All	0	45

There are no bond length outliers.

All (685) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	I	94	DA	N1-C6-N6	-11.51	111.69	118.60
10	J	136	DA	N1-C6-N6	-10.81	112.12	118.60
10	J	36	DA	N1-C6-N6	-10.80	112.12	118.60
10	J	44	DA	N1-C6-N6	-9.90	112.66	118.60
9	I	147	DA	N1-C6-N6	-9.86	112.69	118.60
9	I	132	DA	N1-C6-N6	-9.55	112.87	118.60
9	I	3	DA	N1-C6-N6	-9.54	112.87	118.60
3	C	391	ARG	NE-CZ-NH2	9.37	124.98	120.30
3	C	435	ARG	NE-CZ-NH2	9.36	124.98	120.30
9	I	148	DA	N1-C6-N6	-9.35	112.99	118.60
9	I	52	DA	N1-C6-N6	-9.26	113.04	118.60
9	I	57	DA	N1-C6-N6	-9.21	113.07	118.60
10	J	68	DA	N1-C6-N6	-9.20	113.08	118.60
10	J	1	DA	N1-C6-N6	-9.14	113.12	118.60
9	I	138	DA	N1-C6-N6	-9.09	113.14	118.60
10	J	31	DC	O4'-C1'-N1	9.07	114.35	108.00
10	J	30	DT	C6-C5-C7	-9.06	117.46	122.90
10	J	69	DA	N1-C6-N6	-8.99	113.21	118.60
10	J	41	DA	N1-C6-N6	-8.99	113.21	118.60
9	I	75	DA	N1-C6-N6	-8.98	113.21	118.60
10	J	131	DA	N1-C6-N6	-8.93	113.24	118.60
9	I	93	DA	N1-C6-N6	-8.90	113.26	118.60
9	I	76	DA	N1-C6-N6	-8.86	113.29	118.60
9	I	72	DA	N1-C6-N6	-8.83	113.30	118.60
9	I	109	DA	O4'-C1'-N9	8.80	114.16	108.00
6	F	353	ARG	NE-CZ-NH2	8.73	124.67	120.30
9	I	137	DC	N3-C2-O2	-8.70	115.81	121.90
9	I	23	DA	N1-C6-N6	-8.68	113.39	118.60
10	J	3	DA	N1-C6-N6	-8.65	113.41	118.60
10	J	74	DA	N1-C6-N6	-8.62	113.43	118.60
10	J	118	DA	N1-C6-N6	-8.60	113.44	118.60
9	I	81	DA	N1-C6-N6	-8.60	113.44	118.60
10	J	52	DA	C5-C6-N1	8.58	121.99	117.70
9	I	85	DA	N1-C6-N6	-8.56	113.46	118.60
10	J	11	DA	N1-C6-N6	-8.51	113.49	118.60
10	J	106	DA	O4'-C1'-N9	8.51	113.96	108.00
9	I	133	DA	C5-C6-N1	8.51	121.95	117.70
9	I	114	DA	C5-C6-N1	8.49	121.94	117.70
9	I	54	DA	N1-C6-N6	-8.47	113.52	118.60
10	J	125	DA	N1-C6-N6	-8.45	113.53	118.60
9	I	5	DA	N1-C6-N6	-8.42	113.55	118.60
10	J	146	DA	N1-C6-N6	-8.38	113.57	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
10	J	31	DC	N3-C2-O2	-8.37	116.04	121.90
10	J	44	DA	C5-C6-N1	8.35	121.88	117.70
10	J	60	DA	C5-C6-N1	8.31	121.86	117.70
10	J	151	DA	N1-C6-N6	-8.30	113.62	118.60
9	I	122	DA	N1-C6-N6	-8.24	113.65	118.60
9	I	134	DA	C5-C6-N1	8.23	121.81	117.70
10	J	91	DA	C5-C6-N1	8.21	121.81	117.70
10	J	91	DA	N1-C6-N6	-8.20	113.68	118.60
10	J	123	DA	N1-C6-N6	-8.19	113.69	118.60
10	J	97	DC	N3-C2-O2	-8.18	116.17	121.90
10	J	79	DA	N1-C6-N6	-8.13	113.72	118.60
10	J	121	DC	N3-C2-O2	-8.12	116.22	121.90
10	J	36	DA	C5-C6-N1	8.10	121.75	117.70
10	J	137	DA	N1-C6-N6	-8.05	113.77	118.60
9	I	76	DA	C5-C6-N1	8.04	121.72	117.70
10	J	89	DA	N1-C6-N6	-8.04	113.77	118.60
10	J	115	DC	N3-C2-O2	-8.03	116.28	121.90
10	J	119	DA	N1-C6-N6	-8.02	113.79	118.60
10	J	62	DC	N3-C2-O2	-8.00	116.30	121.90
9	I	103	DC	N3-C2-O2	-8.00	116.30	121.90
10	J	16	DA	N1-C6-N6	-8.00	113.80	118.60
9	I	40	DC	N3-C2-O2	-7.98	116.32	121.90
10	J	89	DA	C5-C6-N1	7.93	121.67	117.70
9	I	96	DA	C5-C6-N1	7.92	121.66	117.70
10	J	84	DA	N1-C6-N6	-7.92	113.85	118.60
10	J	146	DA	C5-C6-N1	7.91	121.66	117.70
2	B	405	ARG	NE-CZ-NH2	7.90	124.25	120.30
9	I	53	DA	N1-C6-N6	-7.90	113.86	118.60
10	J	32	DA	C5-C6-N1	7.89	121.65	117.70
10	J	34	DC	O4'-C1'-N1	7.88	113.52	108.00
10	J	63	DA	C5-C6-N1	7.81	121.61	117.70
9	I	116	DT	C6-C5-C7	-7.80	118.22	122.90
10	J	106	DA	N1-C6-N6	-7.80	113.92	118.60
10	J	90	DA	N1-C6-N6	-7.80	113.92	118.60
9	I	47	DA	C5-C6-N1	7.79	121.60	117.70
10	J	136	DA	C5-C6-N1	7.79	121.59	117.70
10	J	72	DA	C5-C6-N1	7.78	121.59	117.70
9	I	24	DA	C5-C6-N1	7.77	121.59	117.70
10	J	3	DA	C5-C6-N1	7.77	121.58	117.70
10	J	11	DA	C5-C6-N1	7.76	121.58	117.70
9	I	127	DA	N1-C6-N6	-7.76	113.95	118.60
10	J	135	DA	N1-C6-N6	-7.74	113.95	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	I	59	DC	N3-C2-O2	-7.74	116.48	121.90
7	G	142	ARG	NE-CZ-NH2	7.74	124.17	120.30
10	J	63	DA	N1-C6-N6	-7.72	113.97	118.60
10	J	69	DA	C5-C6-N1	7.71	121.56	117.70
9	I	132	DA	C5-C6-N1	7.71	121.55	117.70
10	J	1	DA	C5-C6-N1	7.71	121.55	117.70
9	I	66	DC	N3-C2-O2	-7.70	116.51	121.90
9	I	109	DA	C5-C6-N1	7.68	121.54	117.70
2	B	859	ARG	NE-CZ-NH2	7.66	124.13	120.30
3	C	335	ARG	NE-CZ-NH2	7.66	124.13	120.30
9	I	81	DA	C5-C6-N1	7.66	121.53	117.70
9	I	43	DA	N1-C6-N6	-7.65	114.01	118.60
10	J	39	DA	C5-C6-N1	7.63	121.52	117.70
6	F	89	ARG	NE-CZ-NH2	7.62	124.11	120.30
9	I	25	DA	C5-C6-N1	7.62	121.51	117.70
10	J	84	DA	C5-C6-N1	7.62	121.51	117.70
9	I	77	DC	N3-C2-O2	-7.62	116.57	121.90
9	I	41	DA	C5-C6-N1	7.61	121.50	117.70
9	I	123	DC	N3-C2-O2	-7.60	116.58	121.90
10	J	140	DC	N3-C2-O2	-7.60	116.58	121.90
9	I	132	DA	C4-C5-C6	-7.59	113.20	117.00
9	I	122	DA	C5-C6-N1	7.59	121.50	117.70
9	I	30	DC	N3-C2-O2	-7.59	116.58	121.90
10	J	47	DC	N3-C2-O2	-7.58	116.59	121.90
9	I	106	DA	C5-C6-N1	7.57	121.49	117.70
10	J	90	DA	C5-C6-N1	7.57	121.49	117.70
9	I	57	DA	C5-C6-N1	7.56	121.48	117.70
7	G	422	ARG	NE-CZ-NH2	7.56	124.08	120.30
9	I	86	DA	N1-C6-N6	-7.54	114.08	118.60
9	I	130	DC	N3-C2-O2	-7.53	116.63	121.90
9	I	8	DA	N1-C6-N6	-7.52	114.09	118.60
10	J	141	DA	N1-C6-N6	-7.52	114.09	118.60
10	J	51	DC	N3-C2-O2	-7.51	116.64	121.90
7	G	153	ARG	NE-CZ-NH2	7.51	124.06	120.30
10	J	123	DA	C5-C6-N1	7.51	121.45	117.70
10	J	21	DC	N3-C2-O2	-7.50	116.65	121.90
9	I	74	DC	N3-C2-O2	-7.49	116.66	121.90
9	I	8	DA	C5-C6-N1	7.49	121.45	117.70
3	C	386	ARG	NE-CZ-NH2	7.49	124.05	120.30
9	I	28	DA	C5-C6-N1	7.49	121.44	117.70
9	I	47	DA	N1-C6-N6	-7.46	114.12	118.60
10	J	137	DA	C5-C6-N1	7.45	121.43	117.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
10	J	39	DA	N1-C6-N6	-7.45	114.13	118.60
9	I	94	DA	C4-C5-C6	-7.45	113.28	117.00
9	I	50	DA	N1-C6-N6	-7.45	114.13	118.60
10	J	56	DT	O4'-C1'-N1	7.45	113.21	108.00
10	J	101	DC	N3-C2-O2	-7.44	116.69	121.90
10	J	106	DA	C5-C6-N1	7.44	121.42	117.70
9	I	5	DA	C5-C6-N1	7.41	121.41	117.70
9	I	147	DA	C4-C5-C6	-7.40	113.30	117.00
10	J	12	DC	N3-C2-O2	-7.39	116.72	121.90
10	J	118	DA	C5-C6-N1	7.38	121.39	117.70
10	J	79	DA	C5-C6-N1	7.38	121.39	117.70
9	I	18	DC	N3-C2-O2	-7.38	116.74	121.90
10	J	44	DA	C4-C5-C6	-7.37	113.32	117.00
10	J	33	DC	N3-C2-O2	-7.34	116.76	121.90
9	I	2	DC	N3-C2-O2	-7.34	116.76	121.90
9	I	23	DA	C4-C5-C6	-7.33	113.34	117.00
10	J	108	DA	N1-C6-N6	-7.33	114.20	118.60
10	J	68	DA	C5-C6-N1	7.33	121.36	117.70
9	I	72	DA	C5-C6-N1	7.32	121.36	117.70
9	I	13	DC	N3-C2-O2	-7.30	116.79	121.90
10	J	136	DA	C4-C5-C6	-7.30	113.35	117.00
10	J	60	DA	N1-C6-N6	-7.29	114.22	118.60
9	I	53	DA	C5-C6-N1	7.29	121.34	117.70
10	J	148	DA	C5-C6-N1	7.28	121.34	117.70
9	I	111	DT	O4'-C1'-N1	7.24	113.07	108.00
9	I	63	DT	N3-C2-O2	-7.24	117.96	122.30
10	J	61	DC	O4'-C1'-N1	7.23	113.06	108.00
9	I	143	DC	N3-C2-O2	-7.22	116.84	121.90
10	J	26	DA	C5-C6-N1	7.22	121.31	117.70
10	J	81	DC	N3-C2-O2	-7.22	116.84	121.90
10	J	110	DA	C5-C6-N1	7.22	121.31	117.70
10	J	92	DC	N3-C2-O2	-7.22	116.85	121.90
1	A	120	ARG	NE-CZ-NH2	7.18	123.89	120.30
9	I	48	DC	N3-C2-O2	-7.18	116.88	121.90
9	I	114	DA	N1-C6-N6	-7.17	114.30	118.60
10	J	55	DC	N3-C2-O2	-7.16	116.89	121.90
9	I	99	DC	N3-C2-O2	-7.16	116.89	121.90
10	J	57	DC	N3-C2-O2	-7.16	116.89	121.90
9	I	75	DA	C5-C6-N1	7.15	121.27	117.70
9	I	102	DA	C5-C6-N1	7.14	121.27	117.70
9	I	137	DC	N1-C2-O2	7.13	123.18	118.90
9	I	138	DA	C4-C5-C6	-7.12	113.44	117.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
10	J	34	DC	N3-C2-O2	-7.12	116.91	121.90
10	J	42	DC	N3-C2-O2	-7.12	116.91	121.90
9	I	100	DT	C6-C5-C7	-7.12	118.63	122.90
9	I	52	DA	C5-C6-N1	7.12	121.26	117.70
9	I	58	DC	N3-C2-O2	-7.11	116.92	121.90
9	I	93	DA	C5-C6-N1	7.11	121.25	117.70
9	I	70	DC	N3-C2-O2	-7.10	116.93	121.90
9	I	128	DC	N3-C2-O2	-7.10	116.93	121.90
9	I	138	DA	C5-C6-N1	7.10	121.25	117.70
9	I	3	DA	C5-C6-N1	7.09	121.25	117.70
10	J	97	DC	N1-C2-O2	7.08	123.15	118.90
9	I	97	DG	C1'-O4'-C4'	-7.07	103.03	110.10
9	I	19	DC	N3-C2-O2	-7.07	116.95	121.90
3	C	298	ARG	NE-CZ-NH2	7.07	123.83	120.30
10	J	151	DA	C5-C6-N1	7.07	121.23	117.70
9	I	43	DA	C5-C6-N1	7.06	121.23	117.70
10	J	26	DA	N1-C6-N6	-7.06	114.36	118.60
3	C	268	ARG	NE-CZ-NH2	7.05	123.83	120.30
10	J	148	DA	N1-C6-N6	-7.05	114.37	118.60
9	I	49	DC	O4'-C1'-N1	7.05	112.93	108.00
10	J	108	DA	C5-C6-N1	7.04	121.22	117.70
10	J	23	DC	N3-C2-O2	-7.03	116.98	121.90
9	I	148	DA	C5-C6-N1	7.02	121.21	117.70
9	I	69	DC	N3-C2-O2	-7.02	116.99	121.90
9	I	89	DT	O4'-C1'-N1	7.02	112.91	108.00
9	I	106	DA	N1-C6-N6	-7.01	114.39	118.60
10	J	114	DC	N3-C2-O2	-7.01	116.99	121.90
9	I	10	DC	N3-C2-O2	-7.00	117.00	121.90
9	I	41	DA	N1-C6-N6	-7.00	114.40	118.60
9	I	88	DC	N3-C2-O2	-7.00	117.00	121.90
9	I	127	DA	C5-C6-N1	7.00	121.20	117.70
9	I	23	DA	C5-C6-N1	6.99	121.20	117.70
9	I	26	DC	N3-C2-O2	-6.99	117.01	121.90
9	I	56	DC	N3-C2-O2	-6.99	117.01	121.90
9	I	25	DA	N1-C6-N6	-6.99	114.41	118.60
10	J	74	DA	C5-C6-N1	6.99	121.19	117.70
9	I	86	DA	C5-C6-N1	6.98	121.19	117.70
9	I	125	DA	C4-C5-C6	-6.96	113.52	117.00
9	I	85	DA	C5-C6-N1	6.95	121.18	117.70
9	I	128	DC	N1-C2-O2	6.95	123.07	118.90
9	I	122	DA	C4-C5-C6	-6.94	113.53	117.00
5	E	281	ARG	NE-CZ-NH2	6.93	123.77	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	E	585	ARG	NE-CZ-NH2	6.93	123.77	120.30
9	I	96	DA	O4'-C1'-N9	6.93	112.85	108.00
10	J	23	DC	O4'-C1'-N1	6.92	112.84	108.00
3	C	141	ARG	NE-CZ-NH2	6.91	123.76	120.30
10	J	111	DT	N3-C2-O2	-6.91	118.16	122.30
3	C	728	ARG	NE-CZ-NH2	6.90	123.75	120.30
10	J	16	DA	C5-C6-N1	6.90	121.15	117.70
2	B	204	ARG	NE-CZ-NH2	6.89	123.74	120.30
9	I	144	DT	N3-C2-O2	-6.88	118.17	122.30
10	J	119	DA	C5-C6-N1	6.88	121.14	117.70
10	J	119	DA	C4-C5-C6	-6.85	113.57	117.00
10	J	128	DT	N3-C2-O2	-6.85	118.19	122.30
9	I	127	DA	C4-C5-C6	-6.85	113.58	117.00
9	I	147	DA	C5-C6-N1	6.84	121.12	117.70
10	J	69	DA	C4-C5-C6	-6.84	113.58	117.00
10	J	7	DC	N3-C2-O2	-6.83	117.12	121.90
10	J	146	DA	O4'-C1'-N9	6.83	112.78	108.00
10	J	68	DA	C4-C5-C6	-6.82	113.59	117.00
10	J	90	DA	C4-C5-C6	-6.81	113.60	117.00
9	I	39	DC	N3-C2-O2	-6.79	117.15	121.90
10	J	130	DA	C5-C6-N1	6.79	121.09	117.70
9	I	64	DC	N3-C2-O2	-6.79	117.15	121.90
10	J	76	DT	N3-C2-O2	-6.79	118.23	122.30
10	J	37	DC	N3-C2-O2	-6.78	117.15	121.90
10	J	41	DA	C4-C5-C6	-6.78	113.61	117.00
10	J	41	DA	C5-C6-N1	6.77	121.09	117.70
10	J	135	DA	C5-C6-N1	6.75	121.08	117.70
2	B	555	ARG	NE-CZ-NH2	6.75	123.67	120.30
9	I	54	DA	C4-C5-C6	-6.75	113.63	117.00
10	J	125	DA	C4-C5-C6	-6.75	113.63	117.00
9	I	109	DA	N1-C6-N6	-6.74	114.56	118.60
10	J	15	DG	O4'-C1'-N9	6.74	112.72	108.00
9	I	125	DA	N1-C6-N6	-6.73	114.56	118.60
9	I	102	DA	C4-C5-C6	-6.72	113.64	117.00
9	I	54	DA	C5-C6-N1	6.72	121.06	117.70
9	I	98	DC	N3-C2-O2	-6.71	117.20	121.90
10	J	36	DA	C4-C5-C6	-6.70	113.65	117.00
10	J	43	DT	O4'-C1'-N1	6.70	112.69	108.00
10	J	118	DA	C4-C5-C6	-6.68	113.66	117.00
10	J	131	DA	C5-C6-N1	6.68	121.04	117.70
9	I	52	DA	C4-C5-C6	-6.68	113.66	117.00
10	J	8	DA	C5-C6-N1	6.68	121.04	117.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	F	227	ARG	NE-CZ-NH2	6.67	123.64	120.30
9	I	96	DA	N1-C6-N6	-6.67	114.60	118.60
9	I	3	DA	C4-C5-C6	-6.67	113.67	117.00
9	I	50	DA	C5-C6-N1	6.65	121.03	117.70
10	J	3	DA	C4-C5-C6	-6.64	113.68	117.00
7	G	234	ARG	NE-CZ-NH2	6.64	123.62	120.30
9	I	42	DT	C6-C5-C7	-6.63	118.92	122.90
9	I	45	DC	N3-C2-O2	-6.63	117.26	121.90
10	J	84	DA	C4-C5-C6	-6.62	113.69	117.00
10	J	101	DC	N1-C2-O2	6.62	122.87	118.90
9	I	36	DC	N3-C2-O2	-6.62	117.27	121.90
9	I	76	DA	C4-C5-C6	-6.62	113.69	117.00
9	I	14	DG	O4'-C1'-N9	6.60	112.62	108.00
10	J	138	DC	O4'-C1'-N1	6.60	112.62	108.00
10	J	144	DT	O4'-C1'-N1	6.60	112.62	108.00
9	I	28	DA	N1-C6-N6	-6.60	114.64	118.60
10	J	137	DA	C4-C5-C6	-6.60	113.70	117.00
9	I	75	DA	C4-C5-C6	-6.58	113.71	117.00
9	I	125	DA	C5-C6-N1	6.58	120.99	117.70
1	A	374	ARG	NE-CZ-NH2	6.58	123.59	120.30
9	I	81	DA	C4-C5-C6	-6.58	113.71	117.00
6	F	551	ARG	NE-CZ-NH2	6.57	123.58	120.30
9	I	72	DA	C4-C5-C6	-6.57	113.72	117.00
10	J	8	DA	N1-C6-N6	-6.56	114.66	118.60
10	J	54	DG	O4'-C1'-N9	6.56	112.59	108.00
10	J	144	DT	C6-C5-C7	-6.56	118.97	122.90
10	J	40	DC	N3-C2-O2	-6.55	117.31	121.90
3	C	409	ARG	NE-CZ-NH2	6.55	123.58	120.30
9	I	97	DG	O4'-C1'-N9	6.55	112.59	108.00
10	J	141	DA	C5-C6-N1	6.55	120.98	117.70
2	B	908	ARG	NE-CZ-NH2	6.54	123.57	120.30
3	C	235	ARG	NE-CZ-NH2	6.54	123.57	120.30
9	I	41	DA	C4-C5-C6	-6.54	113.73	117.00
3	C	774	ARG	NE-CZ-NH2	6.53	123.57	120.30
9	I	24	DA	C4-C5-C6	-6.53	113.74	117.00
10	J	56	DT	C6-C5-C7	-6.52	118.99	122.90
9	I	114	DA	C4-C5-C6	-6.52	113.74	117.00
10	J	79	DA	C4-C5-C6	-6.51	113.75	117.00
9	I	85	DA	C4-C5-C6	-6.50	113.75	117.00
1	A	97	ARG	NE-CZ-NH2	6.50	123.55	120.30
1	A	206	ARG	NE-CZ-NH2	6.48	123.54	120.30
10	J	110	DA	N1-C6-N6	-6.47	114.72	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
10	J	125	DA	C5-C6-N1	6.47	120.93	117.70
10	J	70	DC	N3-C2-O2	-6.45	117.38	121.90
1	A	363	ARG	NE-CZ-NH2	6.45	123.53	120.30
10	J	31	DC	N1-C2-O2	6.45	122.77	118.90
9	I	62	DT	C6-C5-C7	-6.44	119.03	122.90
10	J	108	DA	C4-C5-C6	-6.44	113.78	117.00
10	J	95	DT	C6-C5-C7	-6.43	119.04	122.90
9	I	5	DA	C4-C5-C6	-6.43	113.78	117.00
10	J	65	DC	P-O3'-C3'	6.43	127.42	119.70
10	J	65	DC	N3-C2-O2	-6.43	117.40	121.90
10	J	25	DT	N3-C2-O2	-6.42	118.45	122.30
10	J	26	DA	C4-C5-C6	-6.41	113.79	117.00
7	G	98	ARG	NE-CZ-NH2	6.40	123.50	120.30
9	I	58	DC	N1-C2-O2	6.40	122.74	118.90
9	I	49	DC	N3-C2-O2	-6.39	117.43	121.90
10	J	120	DC	N3-C2-O2	-6.39	117.43	121.90
6	F	226	ARG	NE-CZ-NH2	6.38	123.49	120.30
9	I	148	DA	C4-C5-C6	-6.37	113.82	117.00
10	J	98	DT	C6-C5-C7	-6.37	119.08	122.90
9	I	97	DG	N1-C6-O6	-6.37	116.08	119.90
9	I	63	DT	C6-C5-C7	-6.36	119.08	122.90
2	B	1063	ARG	NE-CZ-NH2	6.36	123.48	120.30
10	J	13	DC	N3-C2-O2	-6.35	117.45	121.90
9	I	68	DT	C6-C5-C7	-6.35	119.09	122.90
5	E	615	ARG	NE-CZ-NH2	6.35	123.47	120.30
9	I	13	DC	N1-C2-O2	6.35	122.71	118.90
10	J	61	DC	N3-C2-O2	-6.35	117.46	121.90
10	J	95	DT	N3-C2-O2	-6.34	118.50	122.30
10	J	35	DC	N3-C2-O2	-6.33	117.47	121.90
3	C	390	ARG	NE-CZ-NH2	6.33	123.47	120.30
10	J	85	DC	N3-C2-O2	-6.33	117.47	121.90
7	G	308	ARG	NE-CZ-NH2	6.33	123.46	120.30
9	I	57	DA	C4-C5-C6	-6.32	113.84	117.00
3	C	160	ARG	NE-CZ-NH2	6.32	123.46	120.30
10	J	80	DT	N3-C2-O2	-6.32	118.51	122.30
10	J	83	DG	N1-C6-O6	-6.32	116.11	119.90
9	I	89	DT	C6-C5-C7	-6.31	119.12	122.90
10	J	39	DA	C4-C5-C6	-6.30	113.85	117.00
10	J	149	DT	N3-C2-O2	-6.30	118.52	122.30
10	J	117	DC	N3-C2-O2	-6.29	117.49	121.90
9	I	109	DA	C4-C5-C6	-6.29	113.86	117.00
10	J	89	DA	C4-C5-C6	-6.29	113.86	117.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	I	88	DC	O4'-C1'-N1	6.27	112.39	108.00
9	I	11	DT	N3-C2-O2	-6.27	118.54	122.30
9	I	47	DA	C4-C5-C6	-6.26	113.87	117.00
10	J	91	DA	C4-C5-C6	-6.25	113.87	117.00
9	I	59	DC	N1-C2-O2	6.25	122.65	118.90
9	I	124	DC	N3-C2-O2	-6.25	117.53	121.90
9	I	126	DT	C1'-O4'-C4'	-6.25	103.85	110.10
10	J	149	DT	C6-C5-C7	-6.25	119.15	122.90
9	I	1	DT	C6-C5-C7	-6.24	119.15	122.90
10	J	45	DC	N3-C2-O2	-6.24	117.53	121.90
10	J	19	DT	C6-C5-C7	-6.24	119.16	122.90
10	J	74	DA	C4-C5-C6	-6.24	113.88	117.00
10	J	60	DA	C4-C5-C6	-6.24	113.88	117.00
10	J	141	DA	C4-C5-C6	-6.24	113.88	117.00
2	B	1118	ARG	NE-CZ-NH2	6.23	123.42	120.30
9	I	77	DC	N1-C2-O2	6.23	122.64	118.90
10	J	109	DT	C6-C5-C7	-6.22	119.17	122.90
3	C	437	ARG	NE-CZ-NH2	6.22	123.41	120.30
9	I	29	DT	C6-C5-C7	-6.21	119.18	122.90
9	I	117	DG	O4'-C1'-N9	6.19	112.34	108.00
10	J	129	DT	N3-C2-O2	-6.19	118.58	122.30
9	I	83	DT	C6-C5-C7	-6.19	119.19	122.90
9	I	75	DA	O4'-C1'-N9	6.18	112.33	108.00
9	I	139	DG	O4'-C1'-N9	6.18	112.33	108.00
10	J	11	DA	C4-C5-C6	-6.17	113.92	117.00
9	I	30	DC	N1-C2-O2	6.17	122.60	118.90
9	I	100	DT	N3-C2-O2	-6.17	118.60	122.30
9	I	12	DG	O4'-C1'-N9	6.16	112.31	108.00
9	I	7	DC	O4'-C1'-N1	6.16	112.31	108.00
10	J	147	DT	C6-C5-C7	-6.16	119.21	122.90
7	G	198	ARG	NE-CZ-NH2	6.15	123.38	120.30
9	I	24	DA	N1-C6-N6	-6.15	114.91	118.60
10	J	25	DT	C6-C5-C7	-6.15	119.21	122.90
10	J	77	DT	C6-C5-C7	-6.13	119.22	122.90
9	I	8	DA	C4-C5-C6	-6.13	113.94	117.00
9	I	22	DT	N3-C2-O2	-6.13	118.62	122.30
9	I	4	DT	C6-C5-C7	-6.13	119.22	122.90
10	J	62	DC	N1-C2-O2	6.12	122.57	118.90
10	J	105	DT	N3-C2-O2	-6.11	118.64	122.30
3	C	622	ARG	NE-CZ-NH2	6.10	123.35	120.30
10	J	18	DT	O4'-C1'-N1	6.10	112.27	108.00
6	F	219	ARG	NE-CZ-NH2	6.09	123.35	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
10	J	67	DT	C6-C5-C7	-6.09	119.24	122.90
2	B	1077	ARG	NE-CZ-NH2	6.09	123.34	120.30
10	J	123	DA	C4-C5-C6	-6.09	113.96	117.00
9	I	133	DA	C4-C5-C6	-6.08	113.96	117.00
10	J	66	DT	C6-C5-C7	-6.08	119.25	122.90
2	B	254	ARG	NE-CZ-NH2	6.07	123.34	120.30
9	I	142	DG	O4'-C1'-N9	6.07	112.25	108.00
9	I	6	DT	C6-C5-C7	-6.07	119.26	122.90
9	I	27	DT	C6-C5-C7	-6.06	119.26	122.90
10	J	82	DG	N1-C6-O6	-6.06	116.27	119.90
9	I	134	DA	C4-C5-C6	-6.05	113.97	117.00
9	I	93	DA	C4-C5-C6	-6.05	113.97	117.00
10	J	151	DA	C4-C5-C6	-6.05	113.98	117.00
9	I	11	DT	C6-C5-C7	-6.05	119.27	122.90
9	I	68	DT	N3-C2-O2	-6.04	118.68	122.30
9	I	73	DT	C6-C5-C7	-6.03	119.28	122.90
9	I	151	DT	C6-C5-C7	-6.03	119.28	122.90
9	I	139	DG	N3-C2-N2	-6.03	115.68	119.90
5	E	232	ARG	NE-CZ-NH2	6.03	123.31	120.30
9	I	15	DT	C6-C5-C7	-6.03	119.28	122.90
9	I	130	DC	N1-C2-O2	6.03	122.52	118.90
9	I	106	DA	C4-C5-C6	-6.02	113.99	117.00
9	I	135	DC	N3-C2-O2	-6.02	117.68	121.90
10	J	111	DT	C6-C5-C7	-6.02	119.29	122.90
10	J	14	DT	C6-C5-C7	-6.01	119.29	122.90
10	J	146	DA	C4-C5-C6	-6.01	113.99	117.00
10	J	63	DA	C4-C5-C6	-6.01	114.00	117.00
10	J	102	DT	P-O3'-C3'	6.01	126.91	119.70
9	I	48	DC	N1-C2-O2	6.01	122.50	118.90
9	I	61	DT	C6-C5-C7	-6.01	119.30	122.90
10	J	105	DT	C6-C5-C7	-6.01	119.30	122.90
9	I	84	DT	C6-C5-C7	-6.00	119.30	122.90
9	I	73	DT	N3-C2-O2	-6.00	118.70	122.30
9	I	44	DT	C6-C5-C7	-6.00	119.30	122.90
10	J	73	DC	O4'-C1'-N1	5.99	112.19	108.00
5	E	508	ARG	NE-CZ-NH2	5.99	123.29	120.30
9	I	9	DC	N3-C2-O2	-5.99	117.71	121.90
10	J	76	DT	C6-C5-C7	-5.99	119.31	122.90
10	J	18	DT	N3-C2-O2	-5.98	118.71	122.30
9	I	115	DG	O4'-C4'-C3'	5.98	109.59	106.00
9	I	150	DC	N3-C2-O2	-5.98	117.72	121.90
10	J	80	DT	P-O3'-C3'	5.98	126.87	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	I	21	DT	C6-C5-C7	-5.98	119.31	122.90
9	I	86	DA	C4-C5-C6	-5.97	114.01	117.00
9	I	108	DT	C6-C5-C7	-5.95	119.33	122.90
9	I	53	DA	C4-C5-C6	-5.95	114.03	117.00
9	I	25	DA	C4-C5-C6	-5.95	114.03	117.00
9	I	28	DA	C4-C5-C6	-5.94	114.03	117.00
9	I	126	DT	C6-C5-C7	-5.94	119.34	122.90
10	J	115	DC	N1-C2-O2	5.94	122.46	118.90
5	E	253	ARG	NE-CZ-NH2	5.93	123.27	120.30
10	J	58	DT	N3-C2-O2	-5.92	118.75	122.30
10	J	16	DA	C4-C5-C6	-5.92	114.04	117.00
10	J	143	DG	O4'-C4'-C3'	5.92	109.55	106.00
9	I	89	DT	N3-C2-O2	-5.92	118.75	122.30
7	G	88	ARG	NE-CZ-NH2	5.91	123.26	120.30
10	J	22	DG	C5-C6-N1	5.91	114.46	111.50
3	C	442	ARG	NE-CZ-NH2	5.91	123.25	120.30
9	I	102	DA	N1-C6-N6	-5.89	115.06	118.60
10	J	131	DA	C4-C5-C6	-5.89	114.05	117.00
10	J	1	DA	C4-C5-C6	-5.89	114.06	117.00
3	C	500	ARG	NE-CZ-NH2	5.88	123.24	120.30
9	I	40	DC	N1-C2-O2	5.88	122.43	118.90
10	J	63	DA	P-O3'-C3'	5.88	126.75	119.70
8	H	258	ARG	NE-CZ-NH2	5.88	123.24	120.30
9	I	111	DT	C6-C5-C7	-5.87	119.38	122.90
9	I	144	DT	C6-C5-C7	-5.87	119.38	122.90
9	I	59	DC	O4'-C1'-N1	5.86	112.10	108.00
5	E	552	ARG	NE-CZ-NH2	5.86	123.23	120.30
10	J	106	DA	C4-C5-C6	-5.85	114.07	117.00
10	J	71	DT	C6-C5-C7	-5.85	119.39	122.90
9	I	67	DG	O4'-C1'-N9	5.83	112.08	108.00
9	I	84	DT	O4'-C1'-N1	5.83	112.08	108.00
10	J	54	DG	N1-C6-O6	-5.82	116.41	119.90
9	I	110	DG	N1-C6-O6	-5.82	116.41	119.90
2	B	211	ARG	NE-CZ-NH2	5.81	123.21	120.30
10	J	121	DC	N1-C2-O2	5.81	122.38	118.90
10	J	22	DG	N1-C6-O6	-5.81	116.42	119.90
8	H	276	ARG	NE-CZ-NH2	5.80	123.20	120.30
9	I	16	DT	C6-C5-C7	-5.80	119.42	122.90
9	I	92	DT	C6-C5-C7	-5.80	119.42	122.90
10	J	73	DC	C4'-C3'-C2'	-5.80	97.88	103.10
10	J	132	DC	N3-C2-O2	-5.79	117.84	121.90
9	I	91	DG	N3-C2-N2	-5.78	115.86	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
10	J	5	DT	C6-C5-C7	-5.78	119.43	122.90
10	J	35	DC	O4'-C1'-N1	5.78	112.04	108.00
10	J	102	DT	C6-C5-C7	-5.78	119.44	122.90
10	J	100	DT	N3-C2-O2	-5.77	118.83	122.30
2	B	748	ARG	NE-CZ-NH2	5.77	123.19	120.30
9	I	22	DT	C6-C5-C7	-5.77	119.44	122.90
2	B	390	ARG	NE-CZ-NH2	5.76	123.18	120.30
10	J	20	DT	N3-C2-O2	-5.76	118.84	122.30
10	J	66	DT	N3-C2-O2	-5.76	118.84	122.30
4	D	177	ARG	NE-CZ-NH2	5.75	123.18	120.30
10	J	10	DC	N3-C2-O2	-5.75	117.87	121.90
10	J	30	DT	C4-C5-C7	5.75	122.45	119.00
9	I	19	DC	N1-C2-O2	5.74	122.35	118.90
9	I	55	DG	P-O3'-C3'	5.74	126.59	119.70
10	J	149	DT	P-O3'-C3'	5.74	126.58	119.70
5	E	167	ARG	NE-CZ-NH2	5.73	123.17	120.30
10	J	46	DT	C6-C5-C7	-5.73	119.46	122.90
10	J	99	DT	C6-C5-C7	-5.71	119.47	122.90
10	J	85	DC	N1-C2-O2	5.70	122.32	118.90
9	I	109	DA	C1'-O4'-C4'	-5.70	104.40	110.10
9	I	149	DT	C6-C5-C7	-5.70	119.48	122.90
9	I	16	DT	O4'-C1'-N1	5.69	111.99	108.00
4	D	216	ARG	NE-CZ-NH2	5.69	123.15	120.30
9	I	74	DC	P-O3'-C3'	5.69	126.53	119.70
10	J	32	DA	C4-C5-C6	-5.69	114.15	117.00
10	J	19	DT	N3-C2-O2	-5.69	118.89	122.30
9	I	33	DT	C6-C5-C7	-5.68	119.49	122.90
10	J	30	DT	N3-C2-O2	-5.68	118.89	122.30
9	I	17	DT	C6-C5-C7	-5.68	119.49	122.90
9	I	113	DT	N3-C2-O2	-5.68	118.89	122.30
10	J	128	DT	C6-C5-C7	-5.68	119.49	122.90
10	J	148	DA	C4-C5-C6	-5.68	114.16	117.00
3	C	217	TYR	CB-CG-CD2	-5.67	117.59	121.00
10	J	81	DC	N1-C2-O2	5.67	122.31	118.90
9	I	96	DA	C4-C5-C6	-5.66	114.17	117.00
9	I	10	DC	P-O3'-C3'	5.65	126.48	119.70
10	J	23	DC	C1'-O4'-C4'	-5.65	104.45	110.10
10	J	53	DG	N1-C6-O6	-5.65	116.51	119.90
10	J	37	DC	N3-C4-C5	5.65	124.16	121.90
9	I	80	DT	C6-C5-C7	-5.65	119.51	122.90
10	J	27	DT	C6-C5-C7	-5.64	119.52	122.90
1	A	176	TYR	CB-CG-CD2	-5.64	117.62	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	I	69	DC	N1-C2-O2	5.64	122.28	118.90
10	J	84	DA	O4'-C1'-N9	5.64	111.95	108.00
10	J	135	DA	C4-C5-C6	-5.63	114.18	117.00
9	I	66	DC	N1-C2-O2	5.63	122.28	118.90
9	I	33	DT	O4'-C1'-N1	5.62	111.94	108.00
8	H	467	ARG	NE-CZ-NH2	5.62	123.11	120.30
9	I	15	DT	N3-C2-O2	-5.62	118.93	122.30
9	I	4	DT	N3-C2-O2	-5.61	118.93	122.30
3	C	566	ARG	NE-CZ-NH2	5.61	123.11	120.30
10	J	52	DA	C4-C5-C6	-5.61	114.19	117.00
9	I	71	DG	N1-C6-O6	-5.60	116.54	119.90
9	I	90	DG	N1-C6-O6	-5.60	116.54	119.90
10	J	15	DG	N1-C6-O6	-5.60	116.54	119.90
10	J	20	DT	C6-C5-C7	-5.59	119.55	122.90
9	I	61	DT	N3-C2-O2	-5.58	118.95	122.30
9	I	88	DC	N1-C2-O2	5.58	122.25	118.90
9	I	74	DC	N1-C2-O2	5.58	122.25	118.90
10	J	4	DT	N3-C2-O2	-5.58	118.95	122.30
10	J	34	DC	N1-C2-O2	5.57	122.24	118.90
10	J	124	DT	C6-C5-C7	-5.57	119.56	122.90
8	H	497	ARG	NE-CZ-NH2	5.57	123.08	120.30
9	I	43	DA	C4-C5-C6	-5.57	114.22	117.00
9	I	91	DG	C5-C6-N1	5.57	114.28	111.50
9	I	94	DA	C5-C6-N1	5.56	120.48	117.70
10	J	17	DG	C5-C6-N1	5.56	114.28	111.50
9	I	50	DA	C4-C5-C6	-5.55	114.22	117.00
3	C	615	ARG	NE-CZ-NH2	5.55	123.07	120.30
10	J	38	DT	C6-C5-C7	-5.54	119.57	122.90
9	I	10	DC	N1-C2-O2	5.54	122.23	118.90
9	I	133	DA	N1-C6-N6	-5.54	115.28	118.60
10	J	138	DC	N3-C2-O2	-5.54	118.02	121.90
6	F	573	ARG	NE-CZ-NH2	5.53	123.06	120.30
10	J	55	DC	N1-C2-O2	5.53	122.22	118.90
10	J	4	DT	C6-C5-C7	-5.52	119.59	122.90
10	J	14	DT	N3-C2-O2	-5.52	118.99	122.30
2	B	970	ARG	NE-CZ-NH2	5.52	123.06	120.30
9	I	143	DC	O4'-C1'-N1	5.52	111.86	108.00
2	B	454	ARG	NE-CZ-NH2	5.52	123.06	120.30
9	I	120	DT	C6-C5-C7	-5.51	119.59	122.90
10	J	83	DG	O4'-C1'-N9	5.51	111.86	108.00
10	J	6	DG	C5-C6-N1	5.50	114.25	111.50
10	J	18	DT	C6-C5-C7	-5.50	119.60	122.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
10	J	21	DC	C1'-O4'-C4'	-5.50	104.60	110.10
9	I	2	DC	N1-C2-O2	5.49	122.19	118.90
10	J	107	DG	N1-C6-O6	-5.49	116.61	119.90
2	B	889	ARG	NE-CZ-NH2	5.49	123.04	120.30
9	I	123	DC	N1-C2-O2	5.48	122.19	118.90
10	J	147	DT	N3-C2-O2	-5.48	119.01	122.30
10	J	35	DC	N1-C2-O2	5.48	122.19	118.90
10	J	99	DT	N3-C2-O2	-5.48	119.01	122.30
10	J	62	DC	O4'-C1'-C2'	-5.47	101.52	105.90
10	J	100	DT	C6-C5-C7	-5.47	119.61	122.90
1	A	179	ARG	NE-CZ-NH2	5.47	123.03	120.30
9	I	138	DA	O4'-C1'-N9	5.47	111.83	108.00
2	B	220	ARG	NE-CZ-NH2	5.47	123.03	120.30
9	I	79	DG	C5-C6-N1	5.46	114.23	111.50
10	J	43	DT	N3-C2-O2	-5.46	119.02	122.30
9	I	7	DC	N3-C2-O2	-5.46	118.08	121.90
10	J	9	DG	O4'-C1'-N9	5.46	111.82	108.00
9	I	98	DC	N3-C4-C5	5.45	124.08	121.90
10	J	43	DT	C6-C5-C7	-5.45	119.63	122.90
10	J	59	DT	C6-C5-C7	-5.45	119.63	122.90
10	J	116	DG	N1-C6-O6	-5.45	116.63	119.90
2	B	784	ARG	NE-CZ-NH2	5.45	123.03	120.30
9	I	18	DC	N1-C2-O2	5.45	122.17	118.90
9	I	34	DT	C6-C5-C7	-5.44	119.64	122.90
10	J	88	DG	O4'-C1'-N9	5.44	111.81	108.00
9	I	94	DA	C6-C5-N7	5.44	136.10	132.30
5	E	250	ARG	NE-CZ-NH2	5.43	123.02	120.30
9	I	136	DT	C6-C5-C7	-5.43	119.64	122.90
7	G	342	ARG	NE-CZ-NH2	5.43	123.02	120.30
10	J	18	DT	C1'-O4'-C4'	-5.43	104.67	110.10
6	F	175	ARG	NE-CZ-NH2	5.42	123.01	120.30
10	J	61	DC	N3-C4-C5	5.42	124.07	121.90
9	I	78	DT	C6-C5-C7	-5.41	119.66	122.90
9	I	109	DA	O4'-C1'-C2'	-5.39	101.58	105.90
1	A	366	ARG	NE-CZ-NH2	5.39	122.99	120.30
10	J	56	DT	C1'-O4'-C4'	-5.39	104.71	110.10
10	J	71	DT	N3-C2-O2	-5.38	119.07	122.30
10	J	56	DT	N3-C2-O2	-5.38	119.07	122.30
10	J	143	DG	N1-C6-O6	-5.38	116.67	119.90
10	J	52	DA	N1-C6-N6	-5.38	115.37	118.60
10	J	6	DG	N1-C6-O6	-5.37	116.68	119.90
10	J	47	DC	N1-C2-O2	5.37	122.12	118.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
10	J	142	DG	N1-C6-O6	-5.37	116.68	119.90
10	J	129	DT	C6-C5-C7	-5.37	119.68	122.90
10	J	72	DA	C4-C5-C6	-5.37	114.31	117.00
9	I	126	DT	N3-C2-O2	-5.36	119.08	122.30
9	I	46	DT	C6-C5-C7	-5.35	119.69	122.90
10	J	21	DC	N3-C4-N4	-5.35	114.26	118.00
9	I	116	DT	N3-C2-O2	-5.35	119.09	122.30
9	I	92	DT	N3-C2-O2	-5.34	119.09	122.30
10	J	57	DC	N1-C2-O2	5.34	122.10	118.90
10	J	131	DA	O4'-C1'-N9	5.34	111.74	108.00
5	E	510	ARG	NE-CZ-NH2	5.33	122.97	120.30
9	I	70	DC	N1-C2-O2	5.33	122.10	118.90
9	I	143	DC	N1-C2-O2	5.33	122.10	118.90
10	J	51	DC	N1-C2-O2	5.33	122.10	118.90
10	J	63	DA	O4'-C1'-N9	5.33	111.73	108.00
9	I	101	DG	O4'-C1'-N9	5.33	111.73	108.00
10	J	36	DA	O4'-C4'-C3'	5.32	109.19	106.00
6	F	557	ARG	NE-CZ-NH2	5.32	122.96	120.30
7	G	187	ARG	NE-CZ-NH2	5.31	122.95	120.30
10	J	80	DT	C6-C5-C7	-5.31	119.71	122.90
10	J	32	DA	C5-N7-C8	-5.31	101.25	103.90
10	J	51	DC	N3-C4-C5	5.29	124.02	121.90
8	H	424	ARG	NE-CZ-NH2	5.29	122.94	120.30
4	D	107	ARG	NE-CZ-NH2	5.28	122.94	120.30
10	J	8	DA	C4-C5-C6	-5.28	114.36	117.00
8	H	239	ARG	NE-CZ-NH2	5.28	122.94	120.30
10	J	64	DG	C5-C6-N1	5.28	114.14	111.50
10	J	94	DG	C5-C6-N1	5.28	114.14	111.50
2	B	983	ARG	NE-CZ-NH2	5.28	122.94	120.30
3	C	889	ARG	NE-CZ-NH2	5.28	122.94	120.30
10	J	9	DG	N1-C6-O6	-5.27	116.74	119.90
10	J	92	DC	N1-C2-O2	5.26	122.06	118.90
9	I	119	DG	C5-C6-N1	5.26	114.13	111.50
2	B	816	ARG	NE-CZ-NH2	5.25	122.93	120.30
10	J	12	DC	N3-C4-C5	5.25	124.00	121.90
9	I	26	DC	N1-C2-O2	5.25	122.05	118.90
10	J	110	DA	C4-C5-C6	-5.25	114.38	117.00
9	I	27	DT	N3-C2-O2	-5.24	119.16	122.30
9	I	39	DC	N1-C2-O2	5.24	122.04	118.90
9	I	104	DC	N3-C2-O2	-5.23	118.24	121.90
10	J	113	DG	N1-C6-O6	-5.23	116.76	119.90
10	J	24	DG	O4'-C4'-C3'	5.23	109.14	106.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
10	J	60	DA	O4'-C1'-N9	5.22	111.65	108.00
9	I	51	DG	N1-C6-O6	-5.21	116.77	119.90
2	B	1116	ARG	NE-CZ-NH2	5.21	122.90	120.30
9	I	118	DG	N3-C4-C5	-5.20	126.00	128.60
10	J	78	DG	N1-C6-O6	-5.19	116.79	119.90
9	I	141	DT	O4'-C1'-N1	5.18	111.63	108.00
9	I	106	DA	O4'-C1'-N9	5.18	111.63	108.00
1	A	265	ARG	NE-CZ-NH2	5.18	122.89	120.30
9	I	65	DC	N3-C2-O2	-5.18	118.27	121.90
1	A	62	ARG	NE-CZ-NH2	5.18	122.89	120.30
10	J	127	DT	C6-C5-C7	-5.17	119.80	122.90
9	I	58	DC	N3-C4-C5	5.16	123.97	121.90
9	I	67	DG	N1-C6-O6	-5.15	116.81	119.90
9	I	94	DA	C5-C6-N6	5.14	127.82	123.70
9	I	37	DG	O4'-C1'-N9	5.14	111.60	108.00
10	J	43	DT	C1'-O4'-C4'	-5.14	104.96	110.10
8	H	416	ARG	NE-CZ-NH2	5.14	122.87	120.30
10	J	65	DC	N3-C4-C5	5.13	123.95	121.90
9	I	140	DG	N1-C6-O6	-5.13	116.82	119.90
2	B	878	ARG	NE-CZ-NH2	5.13	122.87	120.30
10	J	43	DT	C5-C6-N1	-5.13	120.62	123.70
10	J	59	DT	N3-C2-O2	-5.13	119.22	122.30
10	J	72	DA	N1-C6-N6	-5.13	115.53	118.60
10	J	33	DC	N3-C4-C5	5.12	123.95	121.90
10	J	32	DA	C4-C5-N7	5.12	113.26	110.70
9	I	16	DT	O4'-C1'-C2'	-5.12	101.80	105.90
9	I	17	DT	O4'-C1'-N1	5.12	111.58	108.00
10	J	140	DC	N1-C2-O2	5.12	121.97	118.90
3	C	297	ARG	NE-CZ-NH2	5.09	122.85	120.30
10	J	111	DT	O4'-C1'-N1	5.09	111.56	108.00
9	I	16	DT	N3-C2-O2	-5.08	119.25	122.30
10	J	149	DT	O4'-C4'-C3'	5.08	109.05	106.00
9	I	4	DT	O4'-C1'-N1	5.08	111.55	108.00
10	J	109	DT	N3-C2-O2	-5.07	119.25	122.30
9	I	6	DT	O4'-C1'-N1	5.07	111.55	108.00
10	J	45	DC	N3-C4-C5	5.06	123.93	121.90
9	I	71	DG	O4'-C1'-N9	5.06	111.54	108.00
10	J	129	DT	O4'-C1'-N1	5.06	111.54	108.00
10	J	58	DT	C6-C5-C7	-5.05	119.87	122.90
9	I	108	DT	N3-C2-O2	-5.05	119.27	122.30
2	B	596	ARG	NE-CZ-NH2	5.05	122.83	120.30
10	J	97	DC	O4'-C1'-N1	5.05	111.53	108.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	I	12	DG	N1-C6-O6	-5.05	116.87	119.90
1	A	346	ARG	NE-CZ-NH2	5.04	122.82	120.30
9	I	85	DA	O4'-C1'-N9	5.04	111.53	108.00
10	J	33	DC	N1-C2-O2	5.04	121.92	118.90
9	I	120	DT	N3-C2-O2	-5.04	119.28	122.30
7	G	142	ARG	NE-CZ-NH1	-5.03	117.78	120.30
10	J	58	DT	C5-C4-O4	5.03	128.42	124.90
8	H	233	ARG	NE-CZ-NH2	5.03	122.81	120.30
10	J	38	DT	N3-C2-O2	-5.03	119.28	122.30
10	J	102	DT	N3-C2-O2	-5.02	119.29	122.30
6	F	487	ARG	NE-CZ-NH2	5.01	122.80	120.30
10	J	51	DC	N3-C4-N4	-5.00	114.50	118.00
10	J	117	DC	N1-C2-O2	5.00	121.90	118.90

There are no chirality outliers.

All (45) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	45	ARG	Sidechain
1	A	62	ARG	Sidechain
2	B	1154	TYR	Sidechain
2	B	339	TYR	Sidechain
2	B	908	ARG	Sidechain
3	C	1000	TYR	Sidechain
3	C	257	TYR	Sidechain
3	C	879	TYR	Sidechain
3	C	963	TYR	Sidechain
4	D	107	ARG	Sidechain
4	D	161	ARG	Sidechain
4	D	244	TYR	Sidechain
5	E	235	TYR	Sidechain
5	E	552	ARG	Sidechain
6	F	529	ARG	Sidechain
8	H	465	TYR	Sidechain
9	I	119	DG	Sidechain
9	I	129	DG	Sidechain
9	I	14	DG	Sidechain
9	I	140	DG	Sidechain
9	I	141	DT	Sidechain
9	I	15	DT	Sidechain
9	I	24	DA	Sidechain
9	I	34	DT	Sidechain

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Mol	Chain	Res	Type	Group
9	I	39	DC	Sidechain
9	I	46	DT	Sidechain
9	I	6	DT	Sidechain
9	I	66	DC	Sidechain
9	I	76	DA	Sidechain
9	I	79	DG	Sidechain
9	I	90	DG	Sidechain
9	I	94	DA	Sidechain
9	I	97	DG	Sidechain
10	J	101	DC	Sidechain
10	J	104	DG	Sidechain
10	J	141	DA	Sidechain
10	J	148	DA	Sidechain
10	J	17	DG	Sidechain
10	J	25	DT	Sidechain
10	J	47	DC	Sidechain
10	J	48	DG	Sidechain
10	J	52	DA	Sidechain
10	J	64	DG	Sidechain
10	J	77	DT	Sidechain
10	J	85	DC	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	A	2597	0	2549	13	0
2	B	7330	0	7550	6	0
3	C	6627	0	6547	4	0
4	D	2070	0	2097	0	0
5	E	4097	0	4072	2	0
6	F	4743	0	4705	1	0
7	G	2705	0	2653	0	0
8	H	2593	0	2692	0	0
9	I	3090	0	1701	0	0
10	J	3101	0	1699	0	0
11	A	9	0	0	11	0
All	All	38962	0	36265	25	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 0.

All (25) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:255:CYS:HG	11:A:507:ZN:ZN	0.77	0.95
1:A:367:CYS:HG	11:A:508:ZN:ZN	0.85	0.80
1:A:168:CYS:HG	11:A:505:ZN:ZN	0.98	0.74
1:A:227:CYS:HG	11:A:506:ZN:ZN	1.03	0.71
1:A:113:CYS:SG	11:A:503:ZN:ZN	1.86	0.64
1:A:227:CYS:SG	11:A:506:ZN:ZN	1.86	0.64
1:A:168:CYS:SG	11:A:505:ZN:ZN	1.87	0.62
1:A:367:CYS:SG	11:A:508:ZN:ZN	1.88	0.62
1:A:258:CYS:SG	11:A:507:ZN:ZN	1.89	0.60
1:A:255:CYS:SG	11:A:507:ZN:ZN	1.87	0.59
1:A:258:CYS:HG	11:A:507:ZN:ZN	1.18	0.57
3:C:747:ALA:CB	3:C:785:ILE:HD12	2.40	0.52
1:A:227:CYS:HG	1:A:244:HIS:CE1	2.29	0.50
2:B:982:TYR:CD1	2:B:1009:VAL:HG21	2.47	0.49
2:B:359:ILE:HG22	2:B:360:THR:HG23	1.95	0.48
2:B:332:TYR:CD2	5:E:324:PRO:HA	2.52	0.45
6:F:235:VAL:HG22	6:F:272:PRO:HB3	1.98	0.45
2:B:824:ILE:HD12	2:B:824:ILE:H	1.82	0.45
2:B:976:PHE:CE1	2:B:1096:THR:HG23	2.54	0.43
1:A:85:CYS:HG	1:A:102:HIS:CE1	2.38	0.41
3:C:525:TYR:CZ	3:C:541:SER:HB3	2.56	0.41
3:C:943:TYR:CE1	3:C:965:LEU:HD21	2.56	0.41
5:E:473:ALA:HB2	5:E:526:TYR:CZ	2.56	0.41
2:B:827:LEU:HA	2:B:830:TRP:CD1	2.57	0.40
3:C:628:VAL:CG2	3:C:663:ILE:HG21	2.52	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

The Analysed column shows the number of residues for which the backbone conformation was

analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	310/451 (69%)	285 (92%)	25 (8%)	0	100	100
2	B	883/1160 (76%)	842 (95%)	40 (4%)	1 (0%)	51	83
3	C	787/1025 (77%)	760 (97%)	27 (3%)	0	100	100
4	D	258/649 (40%)	245 (95%)	13 (5%)	0	100	100
5	E	516/672 (77%)	484 (94%)	31 (6%)	1 (0%)	47	79
6	F	581/588 (99%)	541 (93%)	40 (7%)	0	100	100
7	G	328/435 (75%)	307 (94%)	19 (6%)	2 (1%)	25	62
8	H	322/736 (44%)	297 (92%)	24 (8%)	1 (0%)	41	74
All	All	3985/5716 (70%)	3761 (94%)	219 (6%)	5 (0%)	54	83

All (5) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	B	653	THR
7	G	122	GLU
8	H	514	GLU
5	E	227	ILE
7	G	90	ILE

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	A	297/422 (70%)	296 (100%)	1 (0%)	92	96
2	B	825/1049 (79%)	820 (99%)	5 (1%)	86	92
3	C	719/925 (78%)	718 (100%)	1 (0%)	93	97
4	D	243/588 (41%)	242 (100%)	1 (0%)	91	95
5	E	460/592 (78%)	459 (100%)	1 (0%)	93	97
6	F	541/544 (99%)	538 (99%)	3 (1%)	86	92
7	G	295/384 (77%)	295 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
8	H	282/623 (45%)	281 (100%)	1 (0%)	91	95
All	All	3662/5127 (71%)	3649 (100%)	13 (0%)	91	95

All (13) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	174	ARG
2	B	87	ILE
2	B	252	LYS
2	B	256	VAL
2	B	343	ASP
2	B	467	TRP
3	C	217	TYR
4	D	24	LEU
5	E	291	LEU
6	F	184	TRP
6	F	353	ARG
6	F	411	LYS
8	H	416	ARG

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

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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](#)

Of 9 ligands modelled in this entry, 9 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

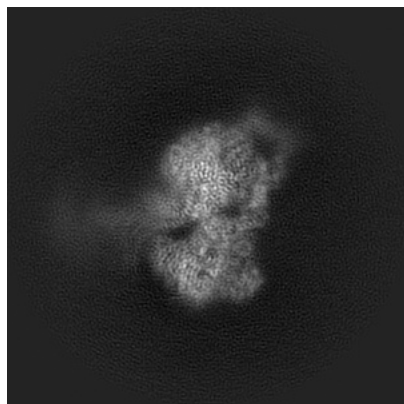
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-29071. These allow visual inspection of the internal detail of the map and identification of artifacts.

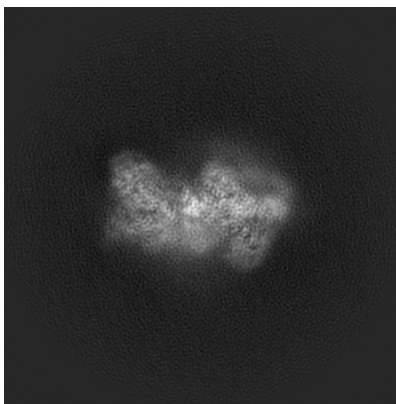
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

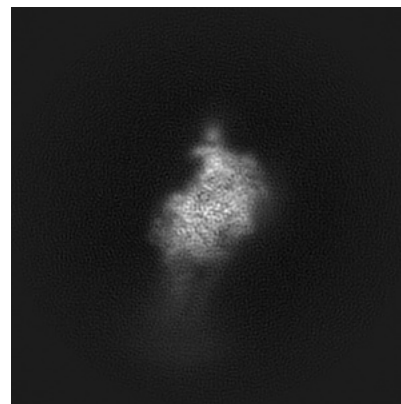
6.1.1 Primary map



X

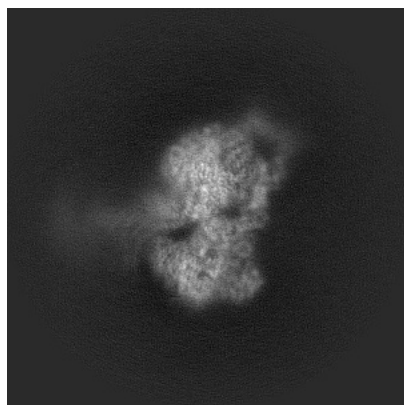


Y

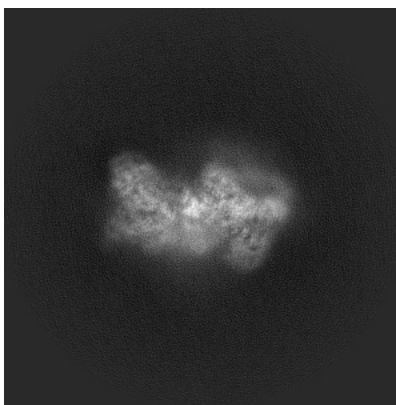


Z

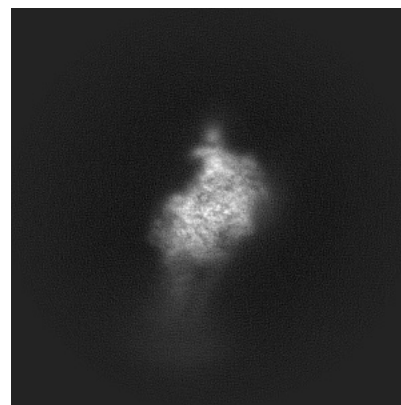
6.1.2 Raw map



X



Y

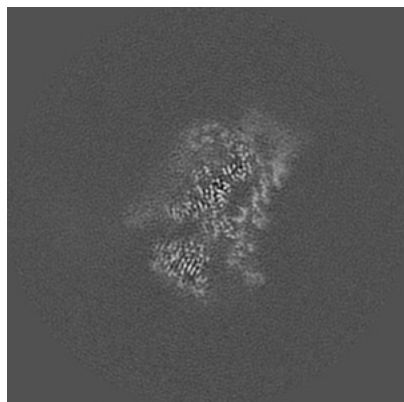


Z

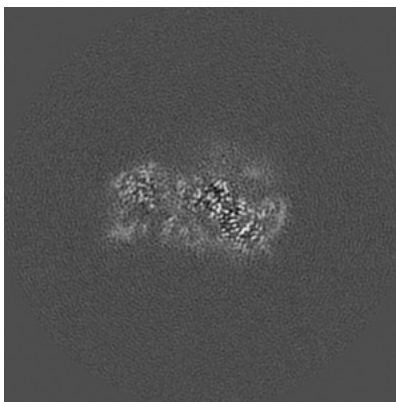
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

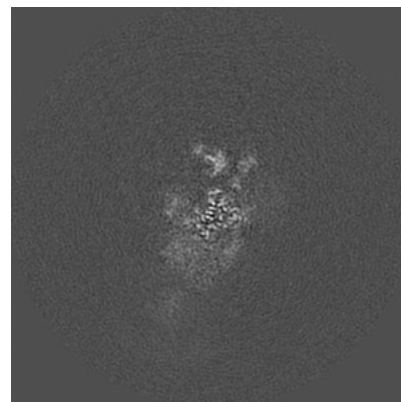
6.2.1 Primary map



X Index: 192

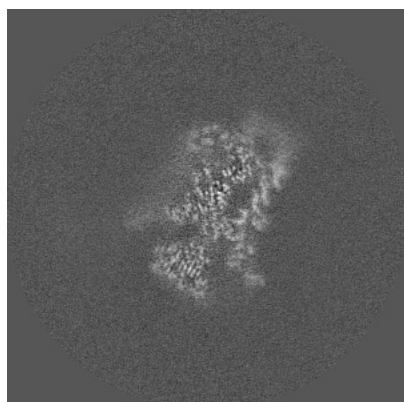


Y Index: 192

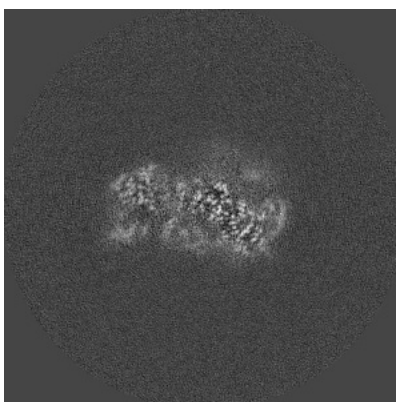


Z Index: 192

6.2.2 Raw map



X Index: 192



Y Index: 192

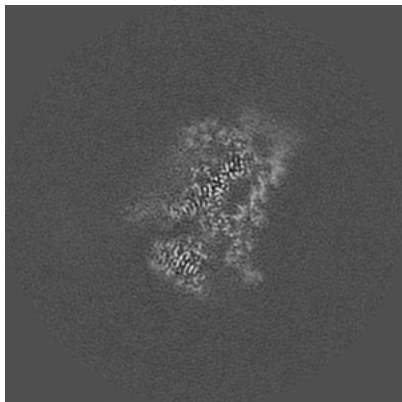


Z Index: 192

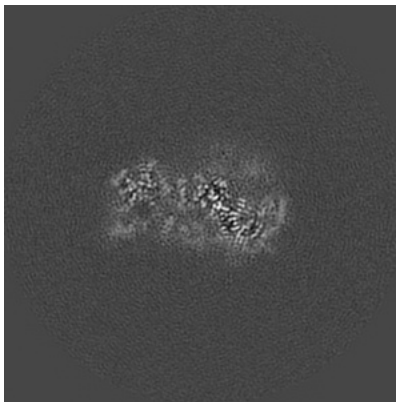
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

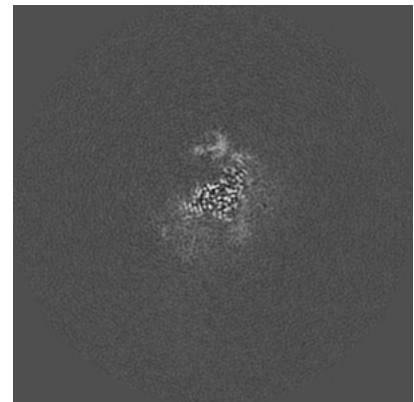
6.3.1 Primary map



X Index: 193

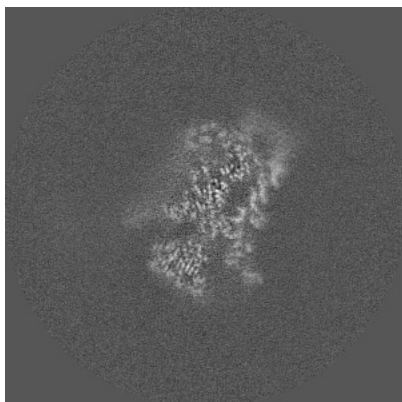


Y Index: 191

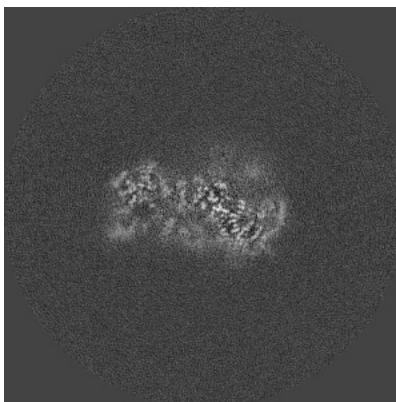


Z Index: 210

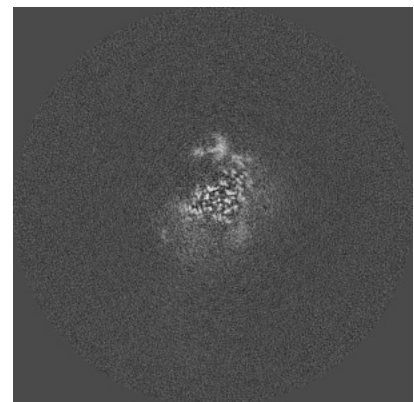
6.3.2 Raw map



X Index: 192



Y Index: 191

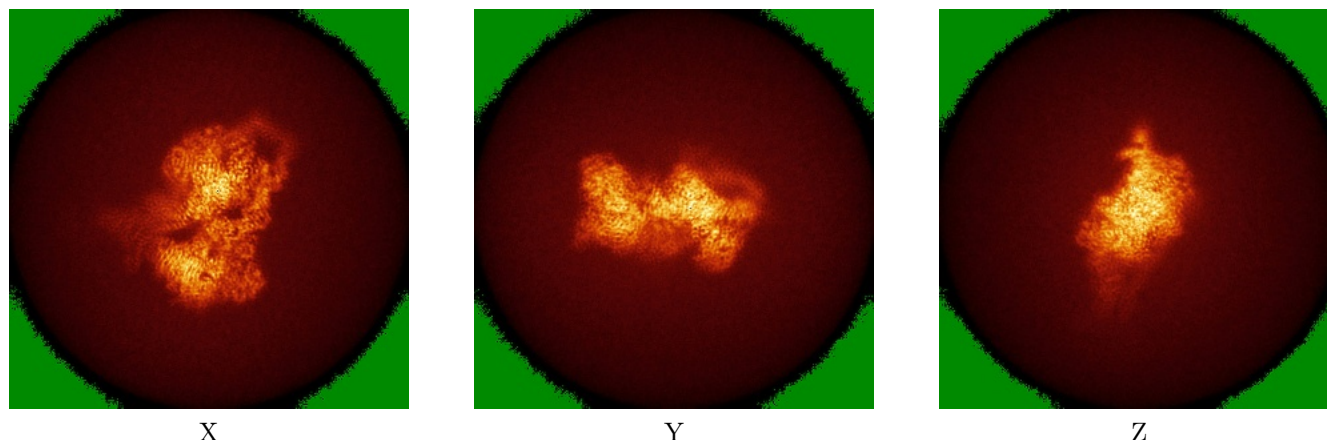


Z Index: 210

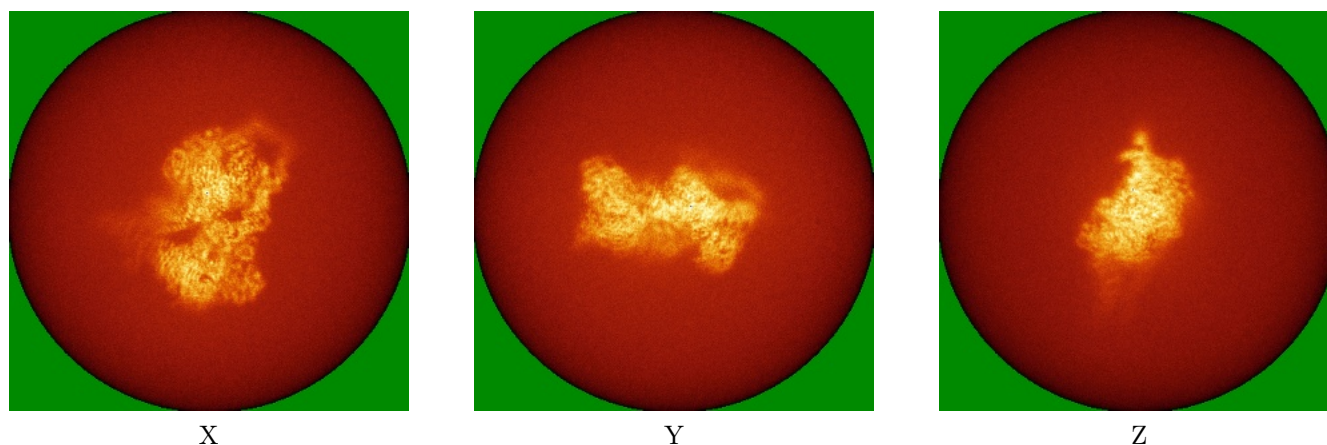
The images above show the largest variance slices of the map in three orthogonal directions.

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

6.4.1 Primary map



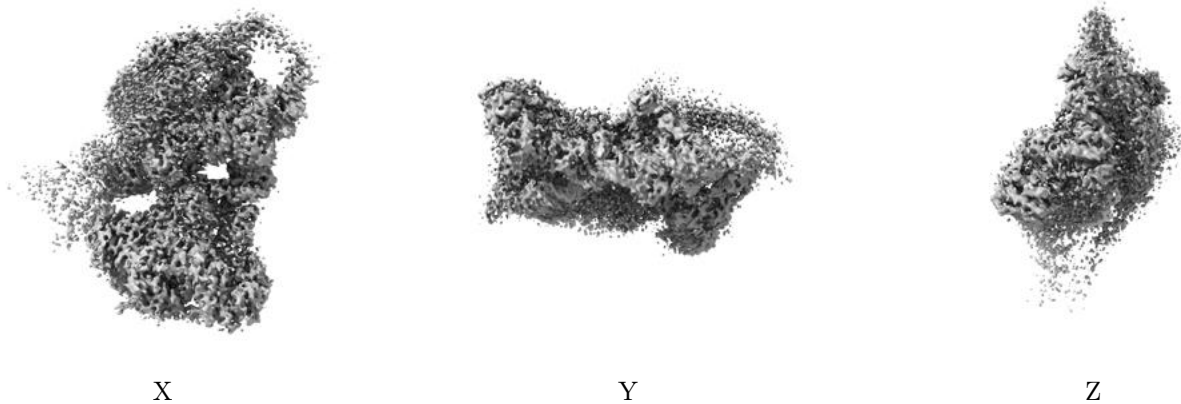
6.4.2 Raw map



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

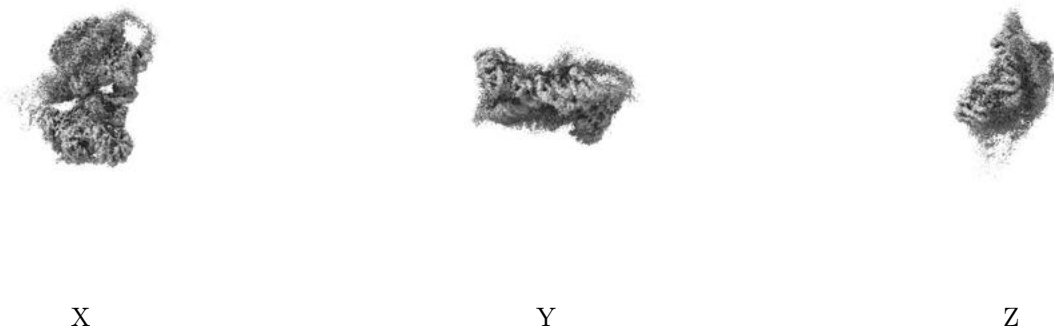
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.016. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

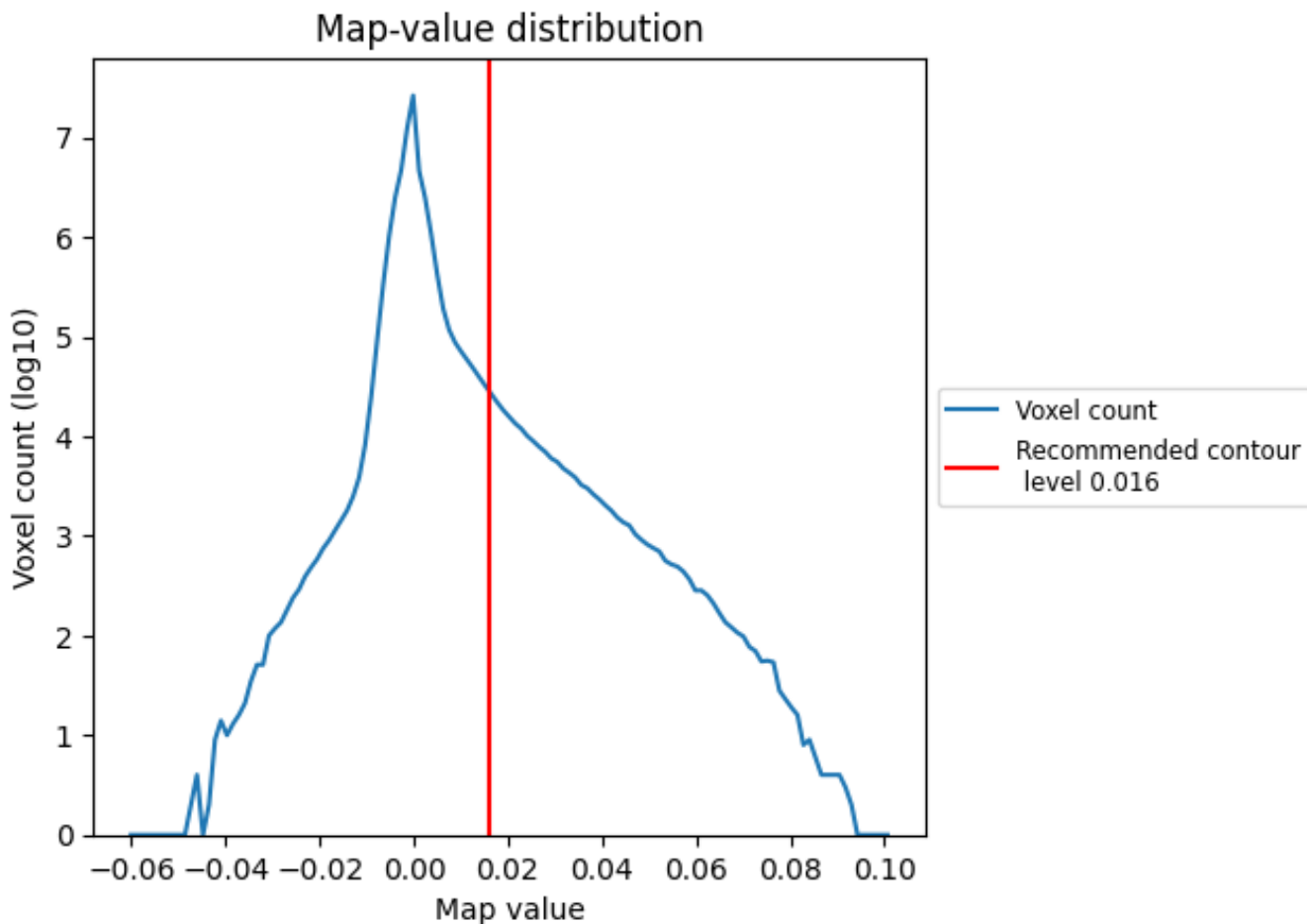
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

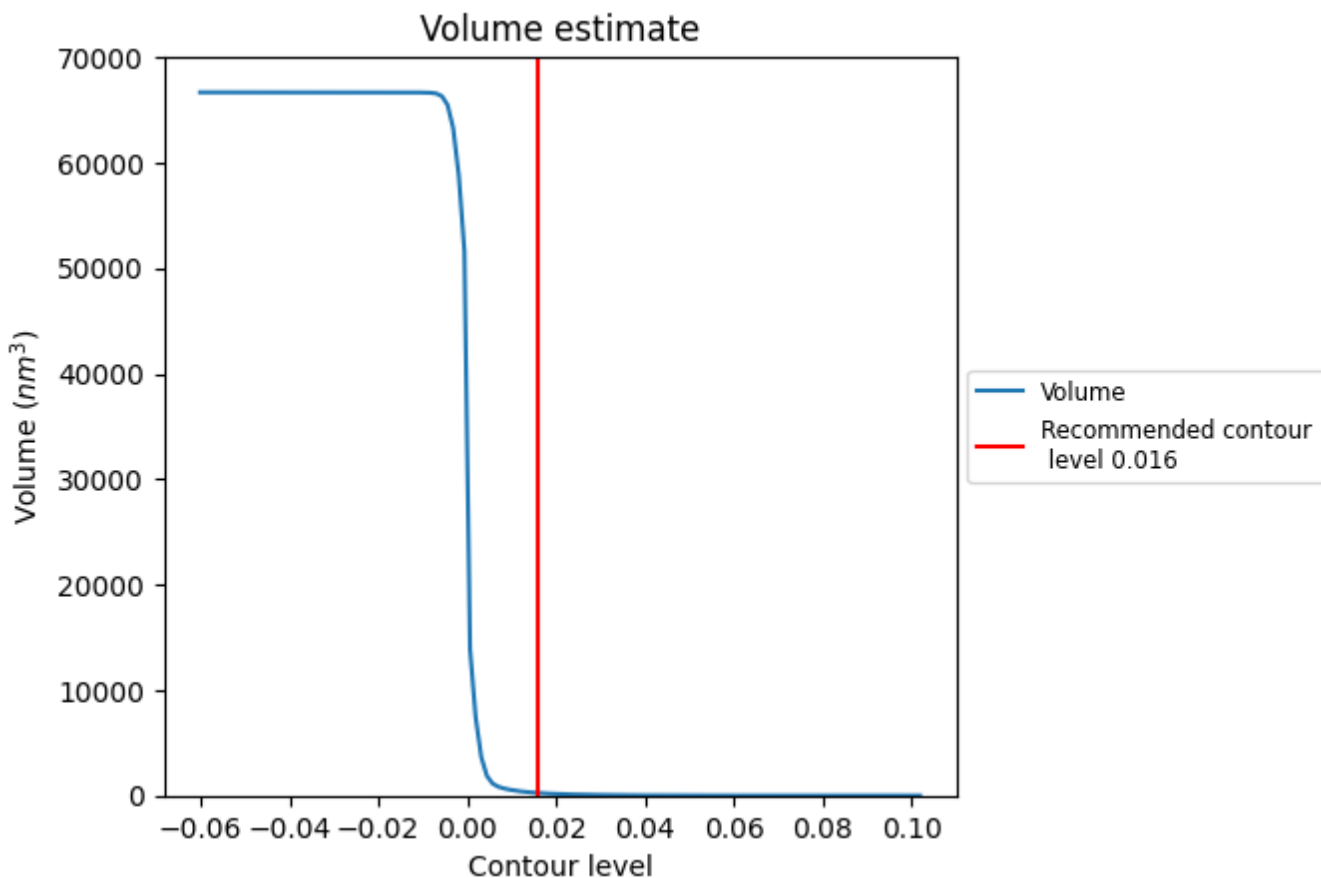
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

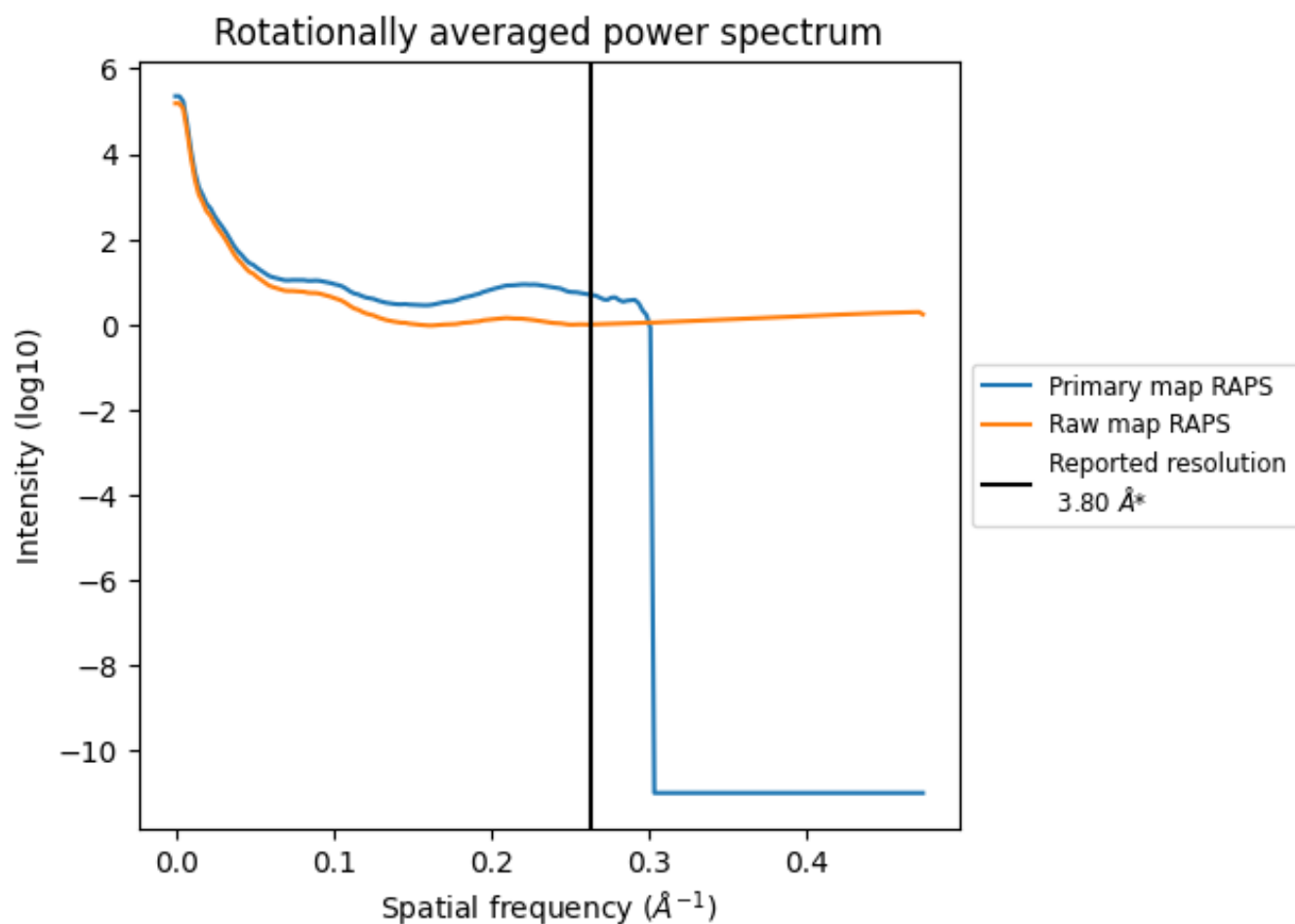
7.2 Volume estimate [\(i\)](#)



The volume at the recommended contour level is 242 nm³; this corresponds to an approximate mass of 219 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](#)

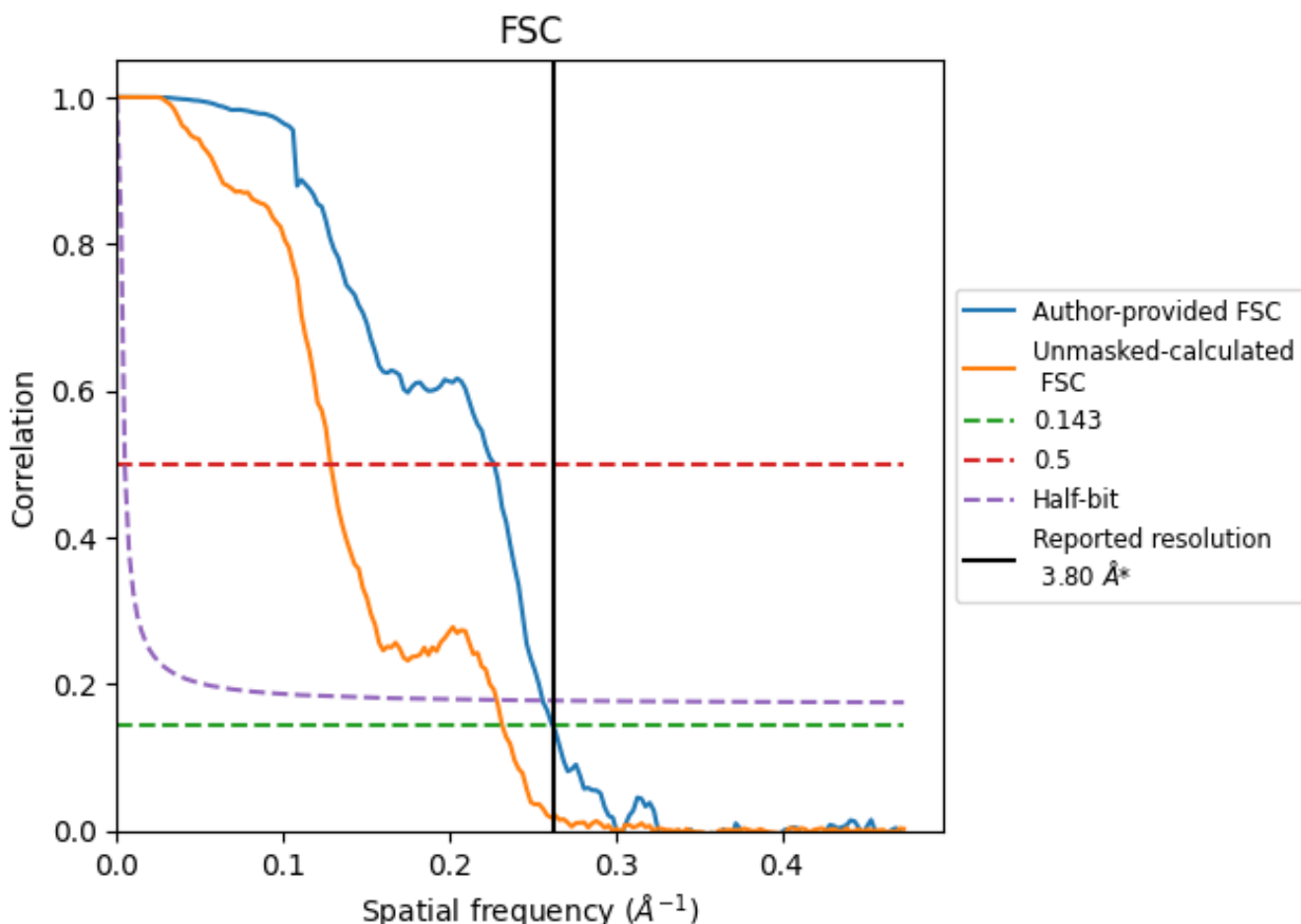


*Reported resolution corresponds to spatial frequency of 0.263 Å⁻¹

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 0.263 \AA^{-1}

8.2 Resolution estimates [i](#)

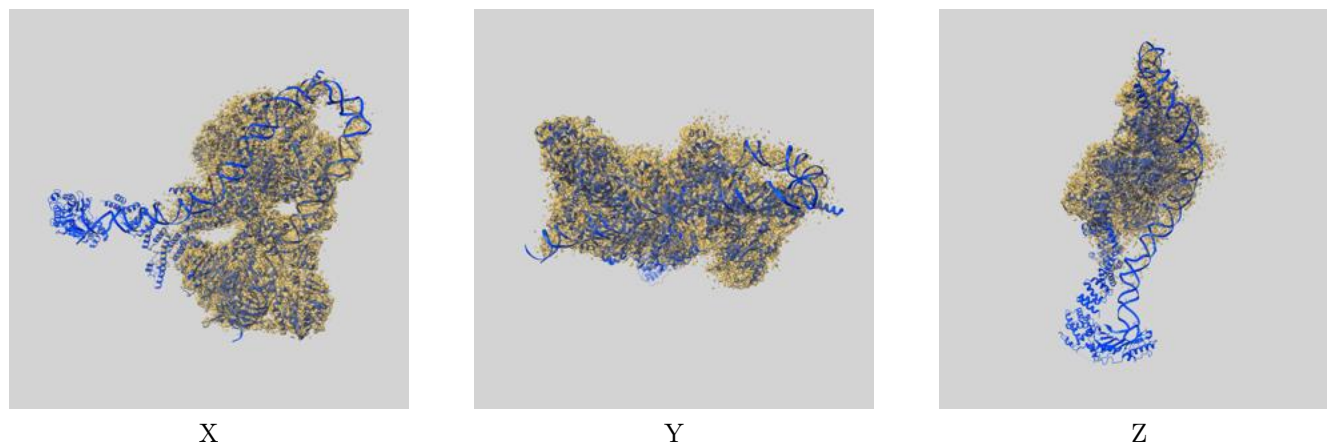
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.80	-	-
Author-provided FSC curve	3.81	4.41	3.90
Unmasked-calculated*	4.31	7.78	4.38

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 4.31 differs from the reported value 3.8 by more than 10 %

9 Map-model fit [i](#)

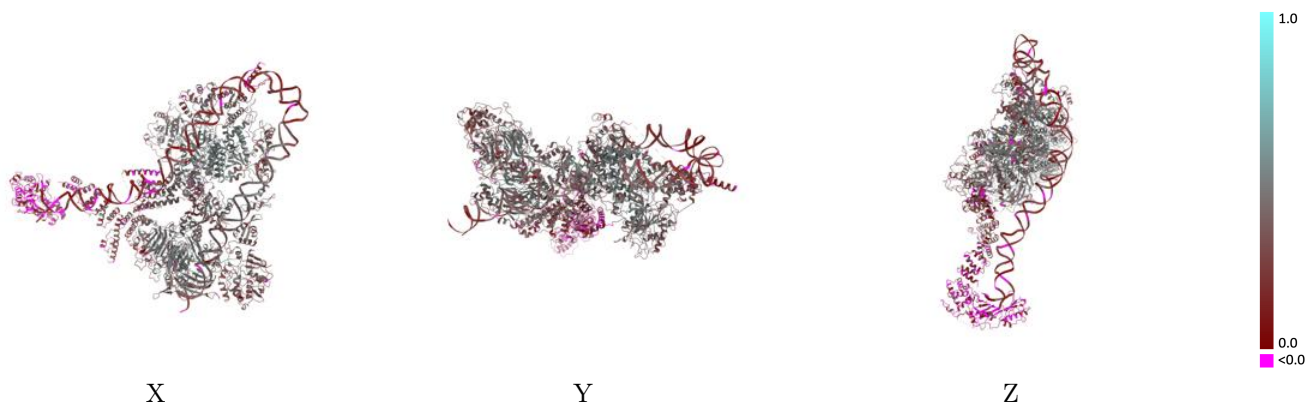
This section contains information regarding the fit between EMDB map EMD-29071 and PDB model 8FFZ. Per-residue inclusion information can be found in section 3 on page 7.

9.1 Map-model overlay [i](#)



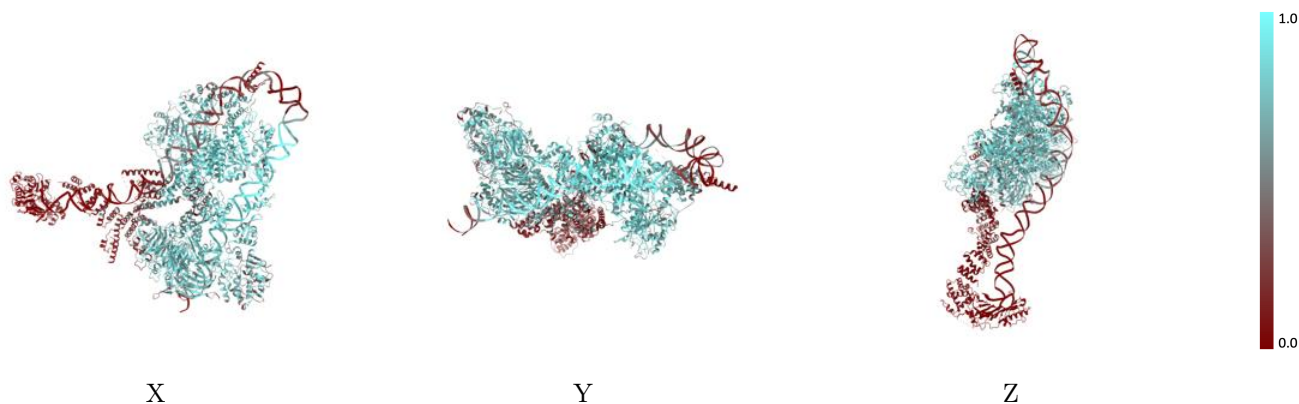
The images above show the 3D surface view of the map at the recommended contour level 0.016 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



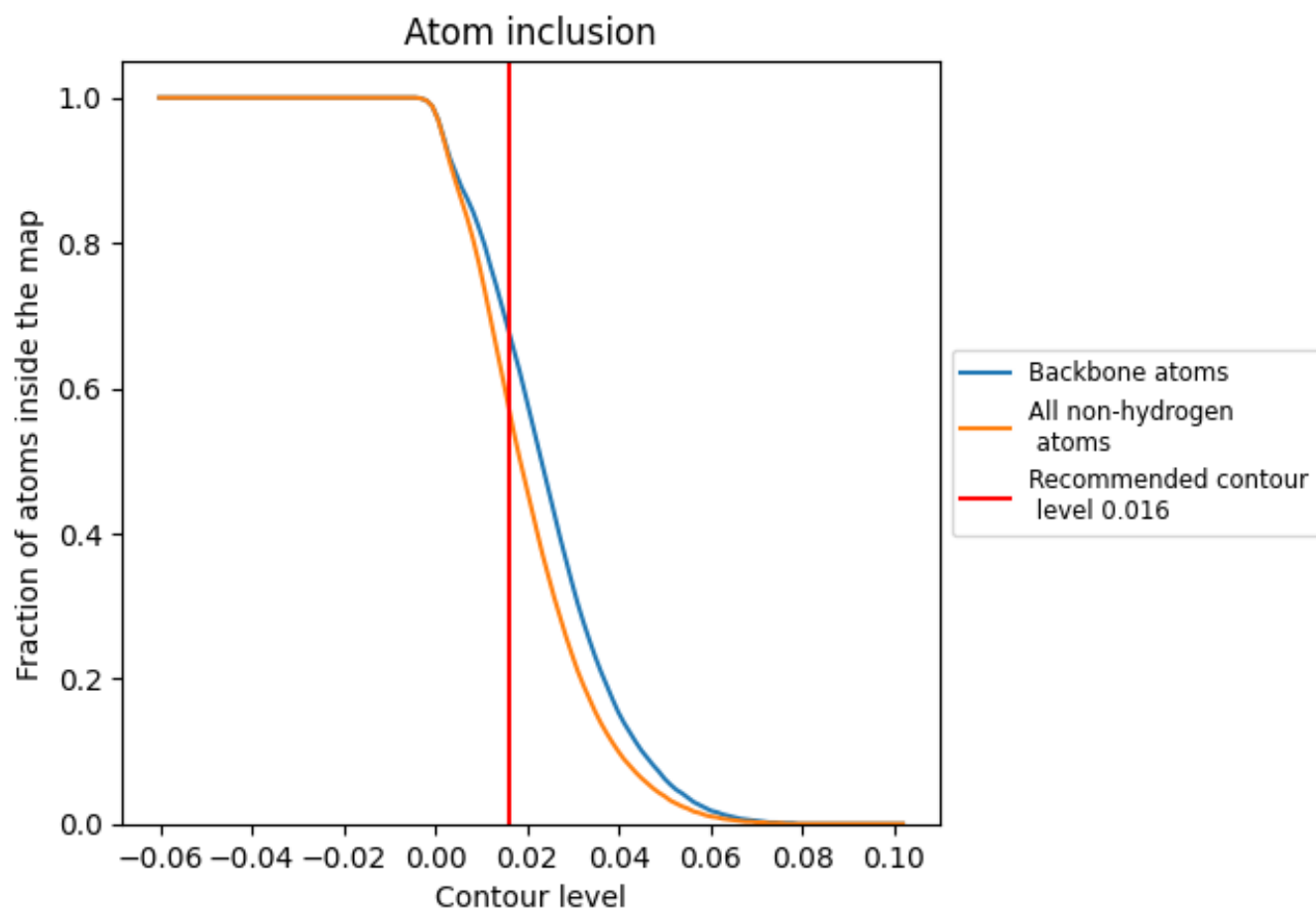
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.016).























9.4 Atom inclusion [i](#)



At the recommended contour level, 68% of all backbone atoms, 57% 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 (0.016) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.5740	 0.3330
A	 0.6860	 0.3460
B	 0.6810	 0.3740
C	 0.4290	 0.3050
D	 0.8220	 0.4710
E	 0.7600	 0.4400
F	 0.7160	 0.4110
G	 0.7440	 0.4030
H	 0.0000	 0.0300
I	 0.4050	 0.2330
J	 0.4080	 0.2290

