



wwPDB EM Validation Summary Report ⓘ

Feb 19, 2024 – 10:31 AM EST

PDB ID : 8H40
EMDB ID : EMD-34476
Title : Cryo-EM structure of the transcription activation complex NtcA-TAC
Authors : Han, S.J.; Jiang, Y.L.; You, L.L.; Shen, L.Q.; Wu, X.X.; Yang, F.; Kong, W.W.; Chen, Z.P.; Zhang, Y.; Zhou, C.Z.
Deposited on : 2022-10-09
Resolution : 3.60 Å(reported)

This is a wwPDB EM Validation Summary 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.dev70
MolProbity : 4.02b-467
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.36

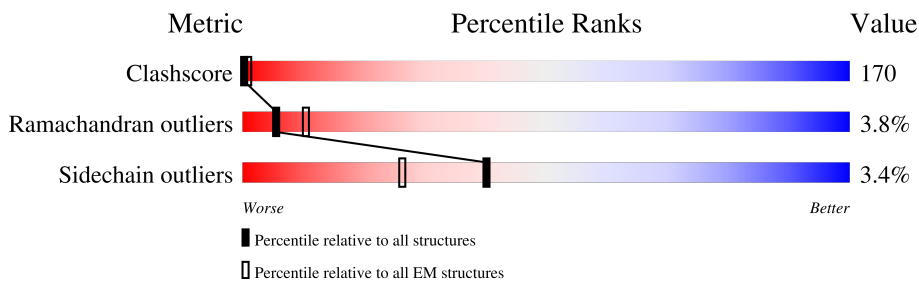
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.60 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.



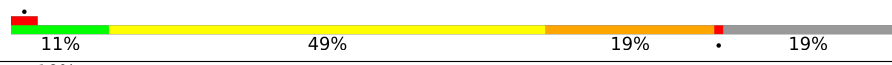

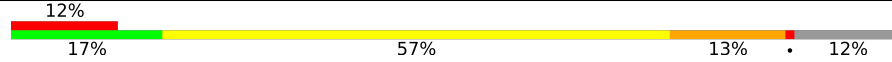
Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826

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	1	125	48% 47%
2	2	125	7% 35% 57%
3	A	1132	10% 24% 41% 42% 5%
4	B	1350	8% 54% 26% 10%
5	C	236	5% 7% 49% 37%
5	D	236	9% 5% 49% 39%
6	E	625	11% 46% 40%
7	F	78	6% 21% 36% 17% 26%

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Mol	Chain	Length	Quality of chain
8	G	390	 11% 49% 19% 19%
9	X	223	 10% 9% 65% 12% 12%
9	Y	223	 12% 17% 57% 13% 12%

2 Entry composition i

There are 9 unique types of molecules in this entry. The entry contains 34833 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 DNA chain called DNA (125-MER).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
1	1	66	1358	651	243	398	66	0	0

- Molecule 2 is a DNA chain called DNA (125-MER).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
2	2	54	1109	532	203	320	54	0	0

- Molecule 3 is a protein called DNA-directed RNA polymerase subunit beta.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	A	1077	8473	5326	1505	1618	24	0	0

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	0	MET	-	initiating methionine	UNP P22703
A	1	VAL	-	expression tag	UNP P22703

- Molecule 4 is a protein called DNA-directed RNA polymerase subunit beta'.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	B	1217	9292	5802	1639	1823	28	0	0

- Molecule 5 is a protein called DNA-directed RNA polymerase subunit alpha.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	C	226	1762	1106	305	346	5	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	D	226	1762	1106	305	346	5	0	0

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
C	0	MET	-	initiating methionine	UNP Q8YPK3
C	1	VAL	-	expression tag	UNP Q8YPK3
D	0	MET	-	initiating methionine	UNP Q8YPK3
D	1	VAL	-	expression tag	UNP Q8YPK3

- Molecule 6 is a protein called DNA-directed RNA polymerase subunit gamma.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	E	620	4923	3107	885	910	21	0	0

- Molecule 7 is a protein called DNA-directed RNA polymerase subunit omega.

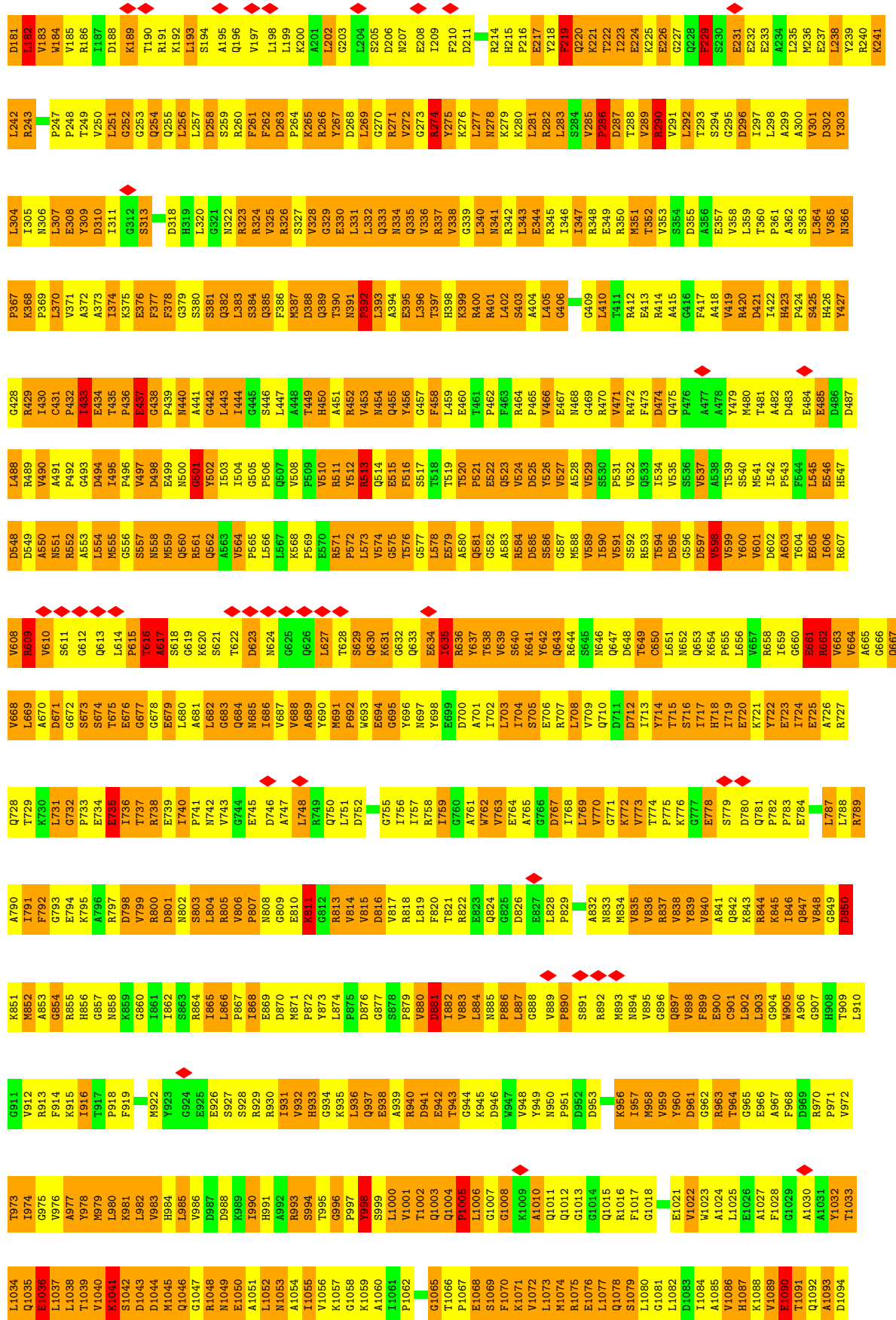
Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
7	F	58	474	290	90	90	4	0	0

- Molecule 8 is a protein called RNA polymerase sigma factor SigA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
8	G	314	2600	1628	482	484	6	0	0

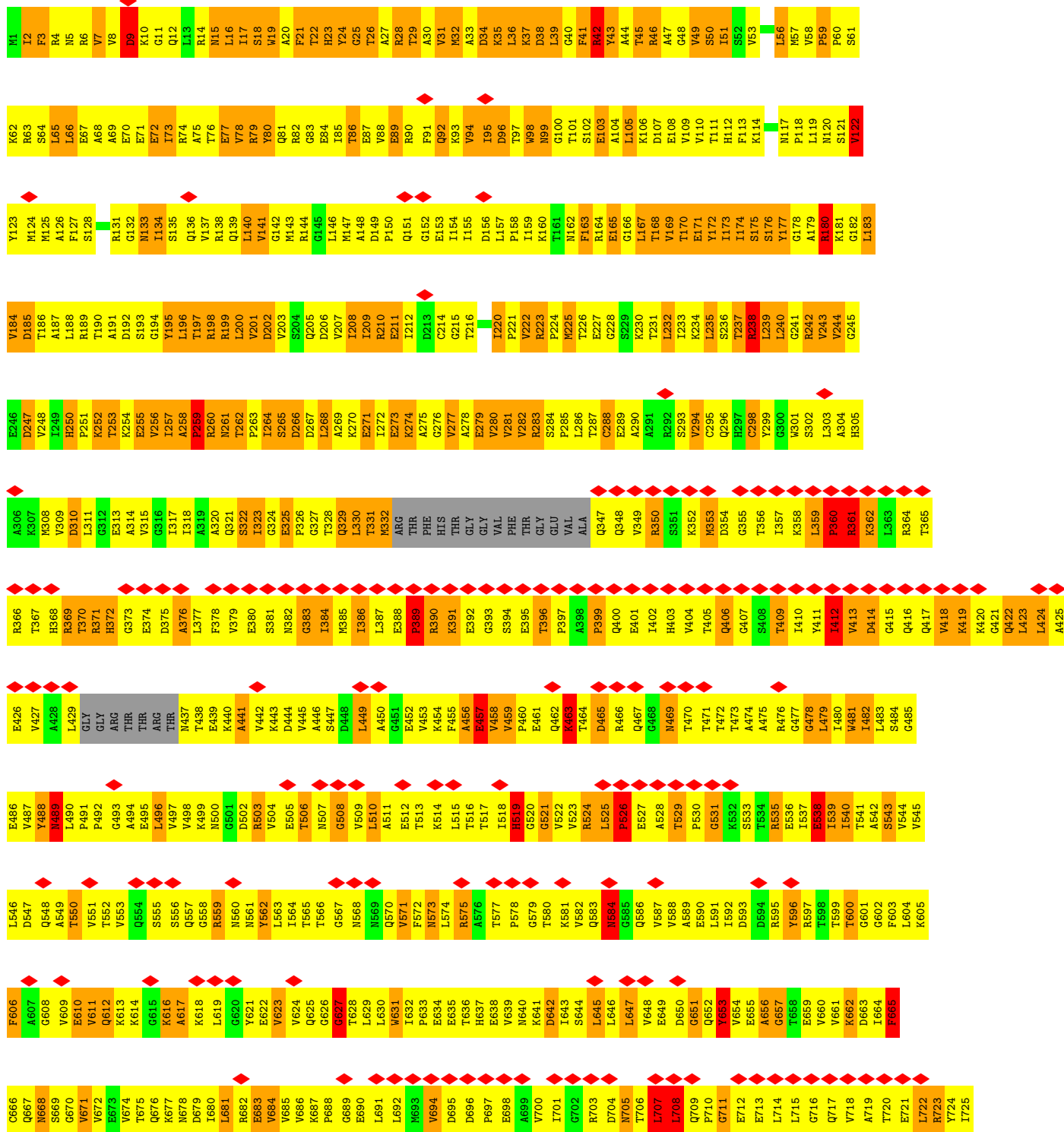
- Molecule 9 is a protein called NtcA.

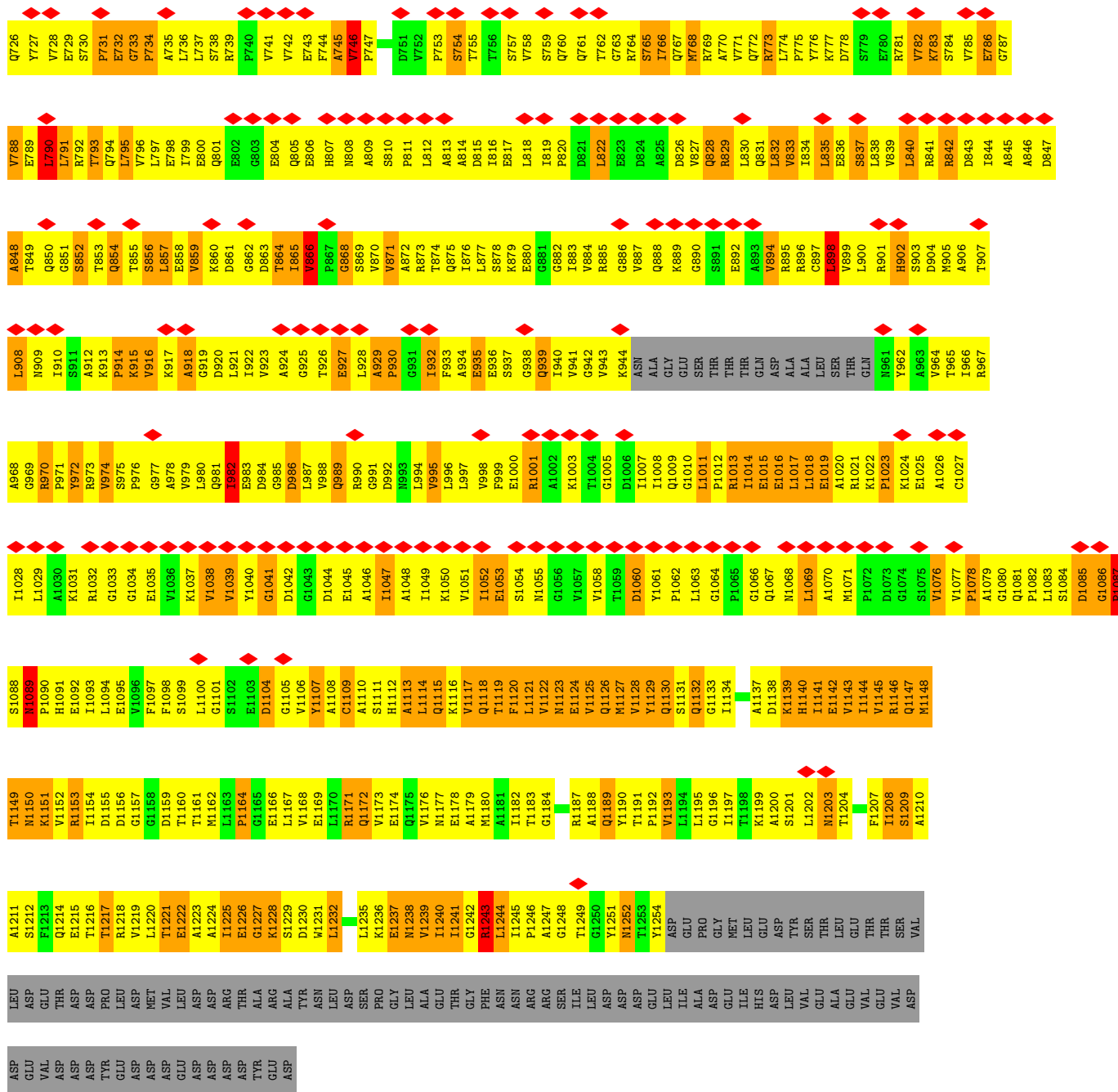
Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
9	X	196	1540	984	268	280	8	0	0
9	Y	196	1540	984	268	280	8	0	0



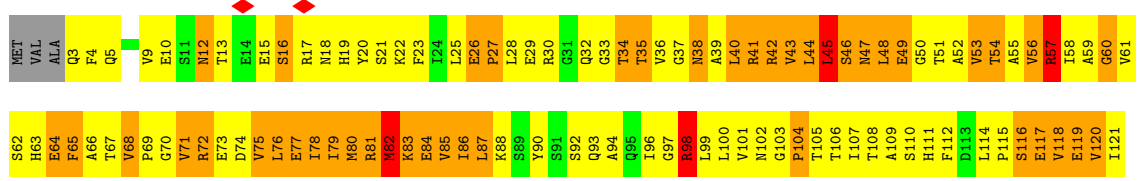
G1095	S1096	S1097	L1098	D1099	V1100	GLU	VAL	ASP	ASP	LEU	LEU	MET	LEU	ALA	ASP	GLN	LEU	LEU	ALA	ALA	ARG	ARG	ARG	ARG	PRO	PRO	A20	PRO	PRO	ARG	ARG	GLU	GLU	THR	TVR	THR	GLU	SER	SER	LEU	LEU	SER	ASP	ASP	ASP	GLU
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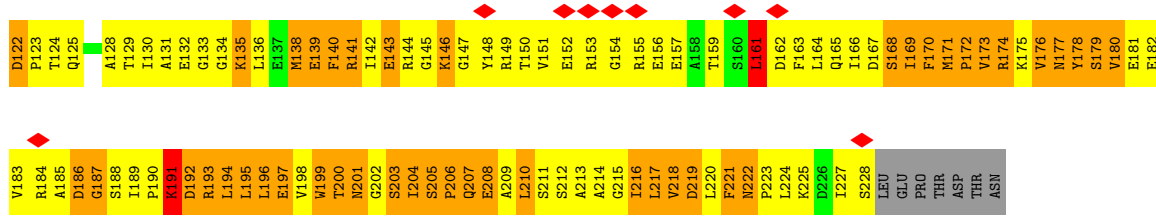
• Molecule 4: DNA-directed RNA polymerase subunit beta'



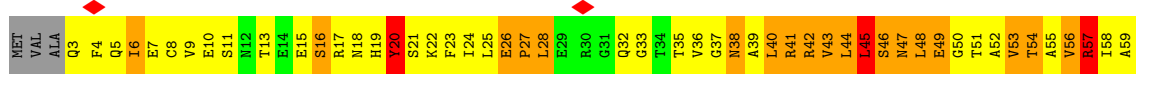


• Molecule 5: DNA-directed RNA polymerase subunit alpha

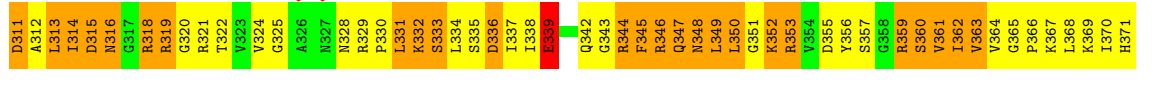
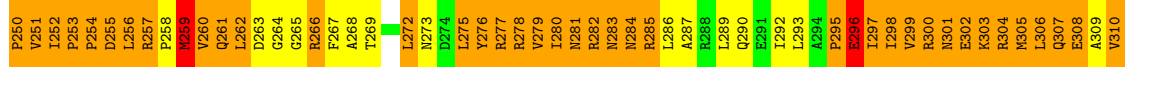
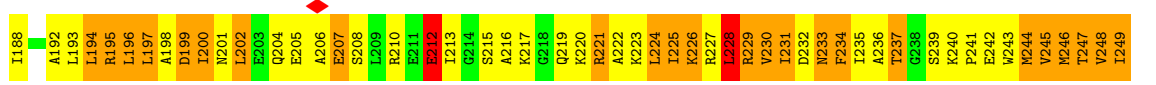
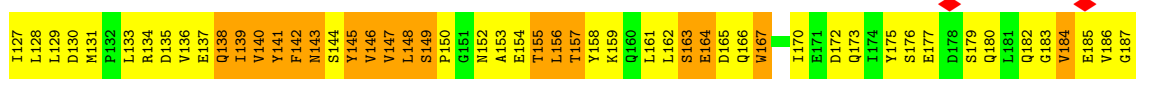
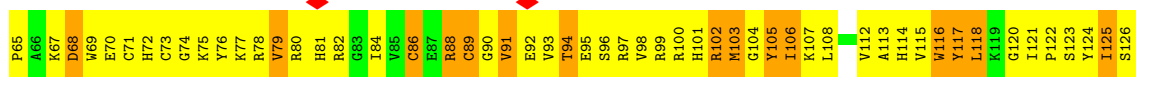


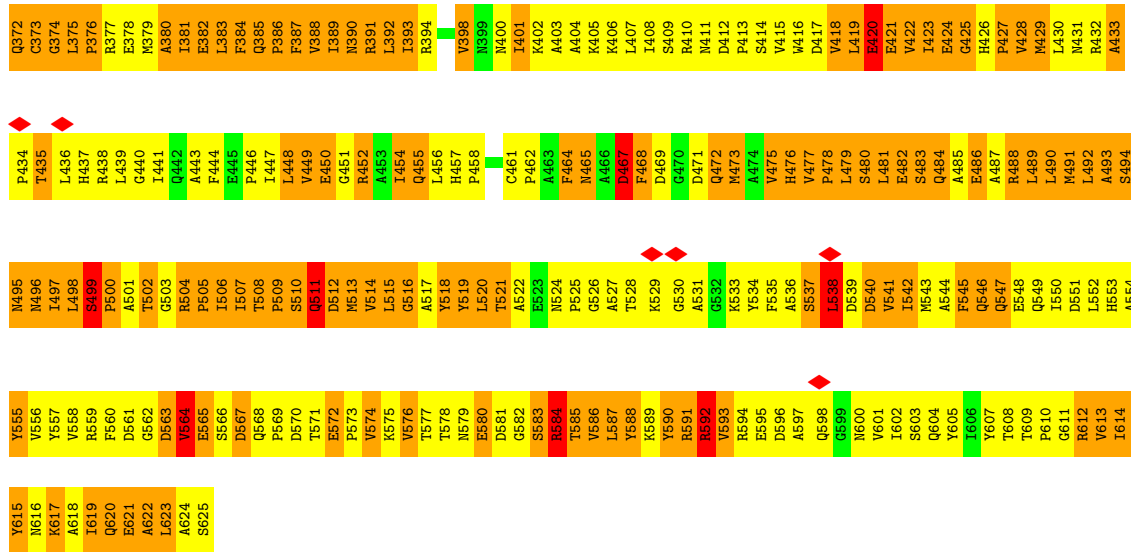


• Molecule 5: DNA-directed RNA polymerase subunit alpha

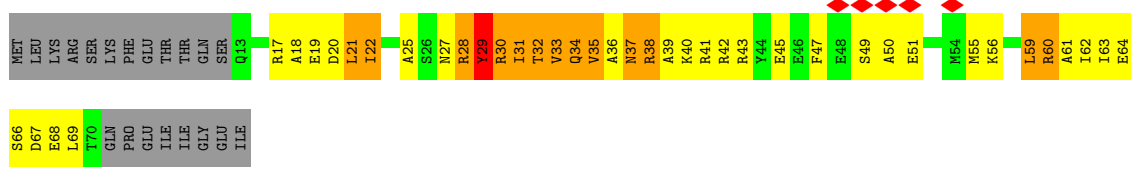
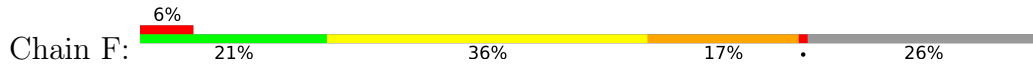


• Molecule 6: DNA-directed RNA polymerase subunit gamma

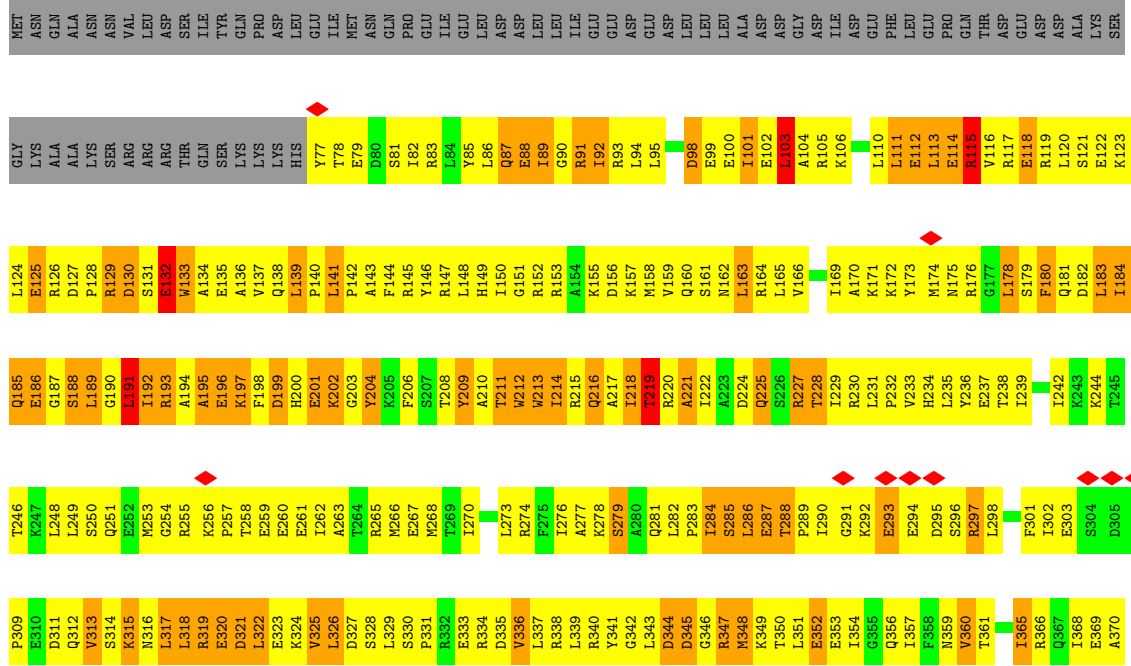


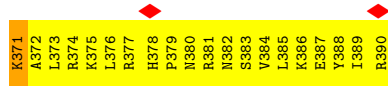


• Molecule 7: DNA-directed RNA polymerase subunit omega

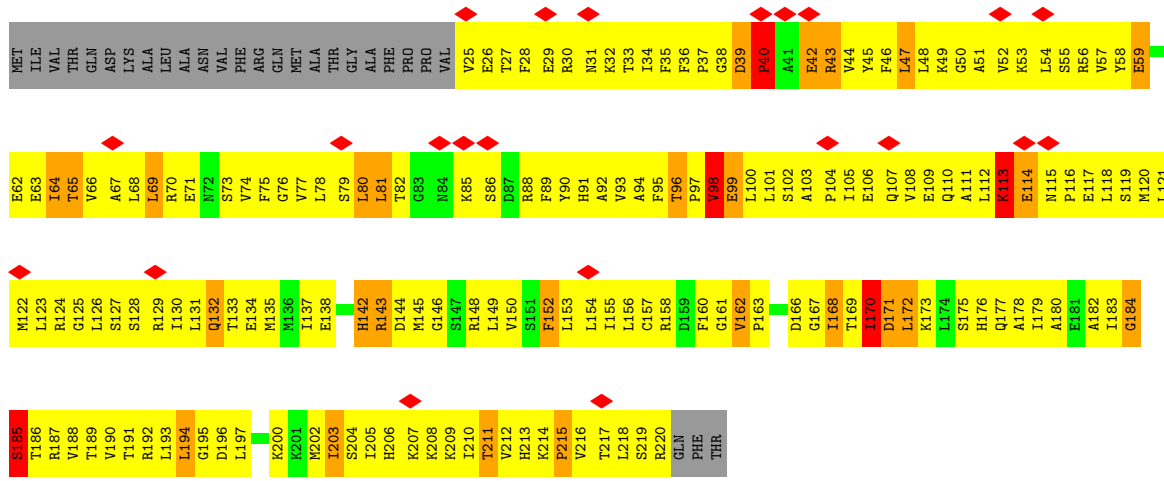
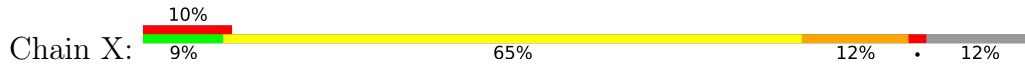


• Molecule 8: RNA polymerase sigma factor SigA

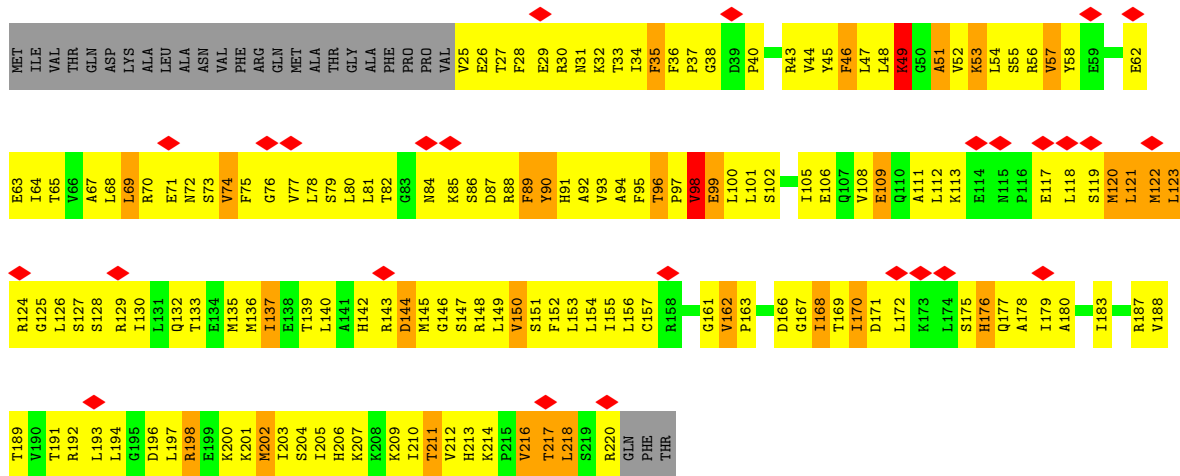
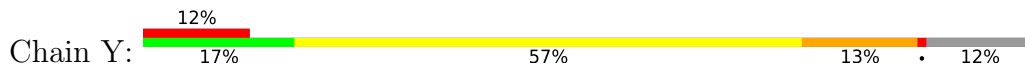




• Molecule 9: NtcA



• Molecule 9: NtcA



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	45239	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 ($e^-/\text{\AA}^2$)	50	Depositor
Minimum defocus (nm)	1200	Depositor
Maximum defocus (nm)	2200	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	0.045	Depositor
Minimum map value	-0.015	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.002	Depositor
Recommended contour level	0.01	Depositor
Map size (Å)	321.00003, 321.00003, 321.00003	wwPDB
Map dimensions	300, 300, 300	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.07, 1.07, 1.07	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	1	6.62	598/1523 (39.3%)	2.59	159/2350 (6.8%)
2	2	6.00	432/1244 (34.7%)	2.54	114/1915 (6.0%)
3	A	3.14	815/8632 (9.4%)	1.90	342/11688 (2.9%)
4	B	2.10	345/9414 (3.7%)	1.57	200/12760 (1.6%)
5	C	2.79	124/1788 (6.9%)	1.89	69/2420 (2.9%)
5	D	2.95	144/1788 (8.1%)	1.95	73/2420 (3.0%)
6	E	3.21	485/5014 (9.7%)	1.80	189/6789 (2.8%)
7	F	2.32	22/478 (4.6%)	1.46	12/639 (1.9%)
8	G	1.87	81/2635 (3.1%)	1.39	45/3533 (1.3%)
9	X	0.99	8/1563 (0.5%)	1.27	15/2107 (0.7%)
9	Y	0.94	6/1563 (0.4%)	1.27	20/2107 (0.9%)
All	All	3.06	3060/35642 (8.6%)	1.79	1238/48728 (2.5%)

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	1	0	1
2	2	0	1
3	A	0	48
4	B	0	87
5	C	0	10
5	D	0	13
6	E	0	17
7	F	0	1
8	G	0	6
9	X	0	5
9	Y	0	6
All	All	0	195

The worst 5 of 3060 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	1	62	DT	C1'-N1	-26.91	1.09	1.47
2	2	33	DA	N9-C4	-25.87	1.22	1.37
1	1	77	DA	N9-C4	-25.79	1.22	1.37
2	2	66	DA	N9-C4	-25.75	1.22	1.37
2	2	67	DA	O3'-P	24.28	1.90	1.61

The worst 5 of 1238 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
9	Y	120	MET	CA-CB-CG	-20.38	78.66	113.30
9	X	113	LYS	CD-CE-NZ	-20.09	65.49	111.70
4	B	1018	LEU	CA-CB-CG	-19.77	69.82	115.30
4	B	239	LEU	CA-CB-CG	-19.46	70.55	115.30
9	X	172	LEU	CB-CG-CD1	18.29	142.09	111.00

There are no chirality outliers.

5 of 195 planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	1	100	DA	Sidechain
2	2	67	DA	Sidechain
3	A	51	ASN	Peptide
3	A	52	SER	Mainchain
3	A	75	LYS	Peptide

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	1	1358	0	694	737	0
2	2	1109	0	574	622	0
3	A	8473	0	8480	2770	0
4	B	9292	0	9457	3586	0
5	C	1762	0	1772	621	0
5	D	1762	0	1772	616	0
6	E	4923	0	4987	1470	0
7	F	474	0	477	96	0
8	G	2600	0	2685	873	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
9	X	1540	0	1613	549	0
9	Y	1540	0	1616	480	0
All	All	34833	0	34127	11682	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 170.

The worst 5 of 11682 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)
4:B:125:MET:HG2	6:E:515:LEU:CD2	1.24	1.65
9:X:42:GLU:CB	9:X:78:LEU:HB3	1.25	1.64
9:Y:78:LEU:CD2	9:Y:88:ARG:HG2	1.15	1.62
3:A:74:LEU:HD21	3:A:95:MET:CG	1.14	1.60
6:E:28:ARG:NH2	6:E:102:ARG:CD	1.67	1.57

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	
3	A	1075/1132 (95%)	634 (59%)	407 (38%)	34 (3%)	4	31
4	B	1209/1350 (90%)	684 (57%)	466 (38%)	59 (5%)	2	21
5	C	224/236 (95%)	131 (58%)	84 (38%)	9 (4%)	3	26
5	D	224/236 (95%)	144 (64%)	72 (32%)	8 (4%)	3	29
6	E	618/625 (99%)	405 (66%)	195 (32%)	18 (3%)	4	33
7	F	56/78 (72%)	36 (64%)	19 (34%)	1 (2%)	8	43
8	G	312/390 (80%)	201 (64%)	100 (32%)	11 (4%)	3	30
9	X	194/223 (87%)	122 (63%)	61 (31%)	11 (6%)	1	18

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
9	Y	194/223 (87%)	124 (64%)	64 (33%)	6 (3%)	4	32
All	All	4106/4493 (91%)	2481 (60%)	1468 (36%)	157 (4%)	5	27

5 of 157 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	A	615	PRO
3	A	616	THR
3	A	636	ARG
3	A	778	GLU
3	A	890	PRO

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	
3	A	918/969 (95%)	889 (97%)	29 (3%)	39	70
4	B	1017/1132 (90%)	983 (97%)	34 (3%)	38	69
5	C	196/205 (96%)	189 (96%)	7 (4%)	35	67
5	D	196/205 (96%)	189 (96%)	7 (4%)	35	67
6	E	534/538 (99%)	510 (96%)	24 (4%)	27	62
7	F	50/69 (72%)	50 (100%)	0	100	100
8	G	282/351 (80%)	272 (96%)	10 (4%)	36	68
9	X	172/194 (89%)	167 (97%)	5 (3%)	42	72
9	Y	172/194 (89%)	167 (97%)	5 (3%)	42	72
All	All	3537/3857 (92%)	3416 (97%)	121 (3%)	40	69

5 of 121 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
4	B	1189	GLN
8	G	387	GLU

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Mol	Chain	Res	Type
5	D	95	GLN
8	G	371	LYS
9	Y	137	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 51 such sidechains are listed below:

Mol	Chain	Res	Type
5	C	93	GLN
5	D	125	GLN
8	G	378	HIS
5	C	125	GLN
5	D	18	ASN

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](#)

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](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
3	A	18
6	E	16
4	B	7
5	C	5
5	D	5
8	G	2
2	2	1

The worst 5 of 54 chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	2	67:DA	O3'	68:DT	P	1.90
1	A	144:SER	C	145:PRO	N	1.20
1	E	256:LEU	C	257:ARG	N	1.20
1	E	374:GLY	C	375:LEU	N	1.20
1	A	247:PRO	C	248:PRO	N	1.19

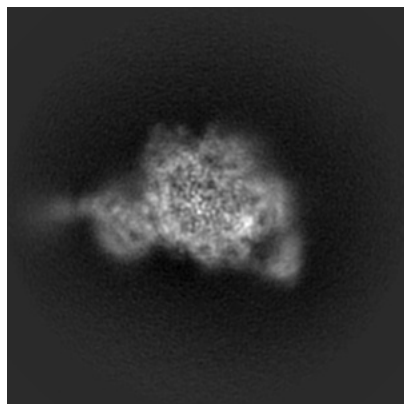
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-34476. These allow visual inspection of the internal detail of the map and identification of artifacts.

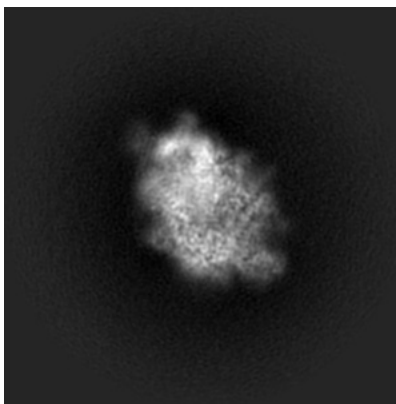
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

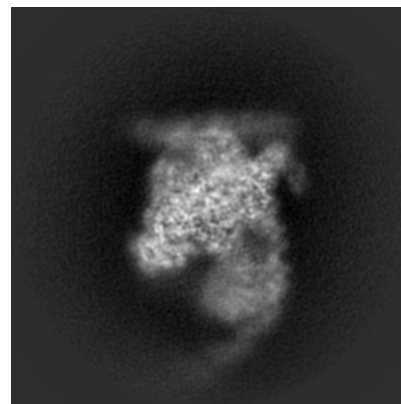
6.1.1 Primary map



X

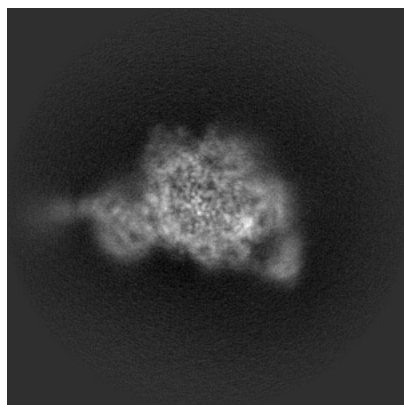


Y

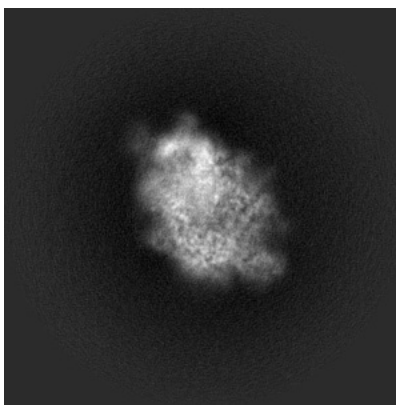


Z

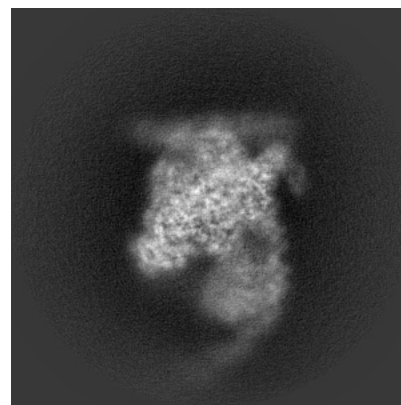
6.1.2 Raw map



X



Y

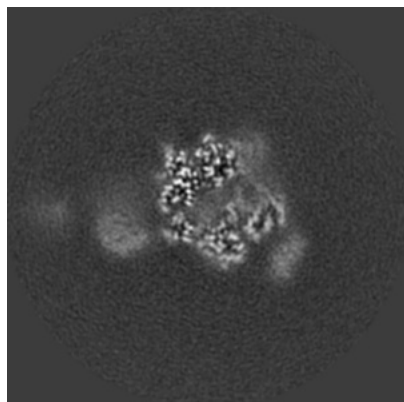


Z

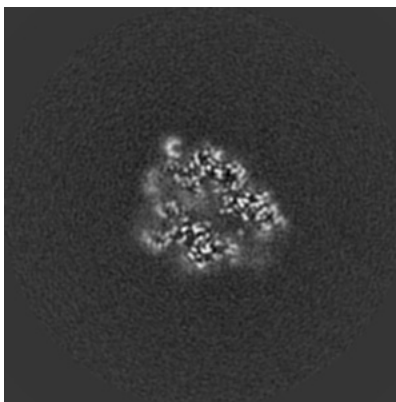
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

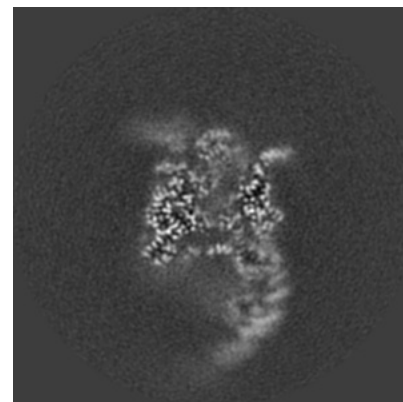
6.2.1 Primary map



X Index: 150

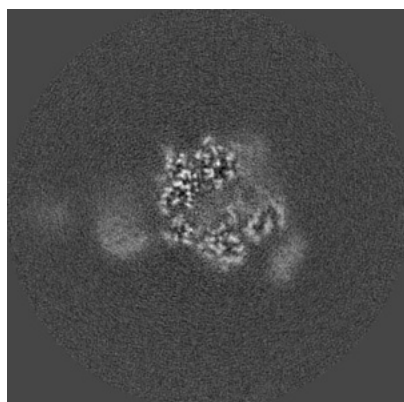


Y Index: 150

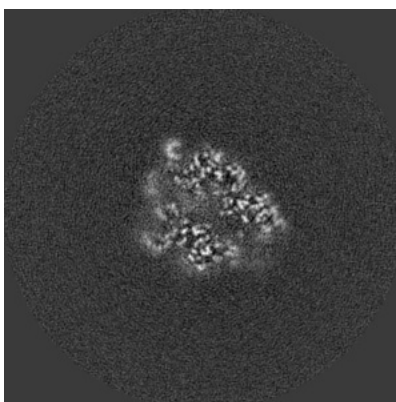


Z Index: 150

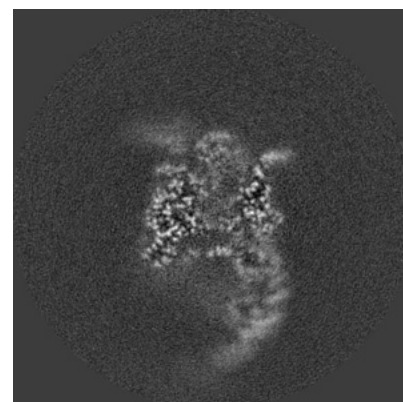
6.2.2 Raw map



X Index: 150



Y Index: 150

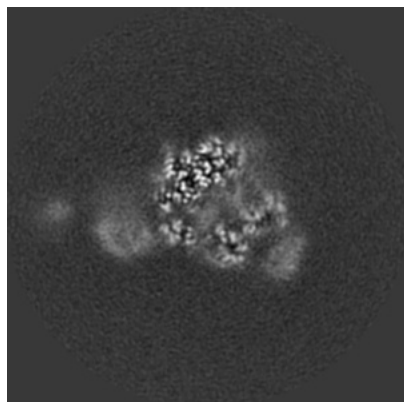


Z Index: 150

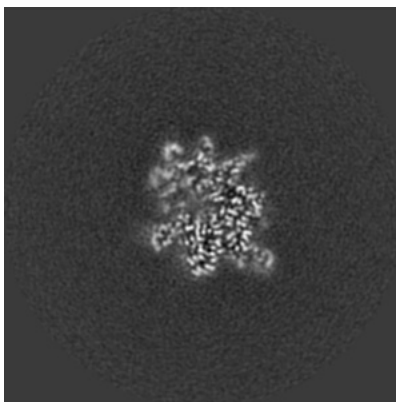
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

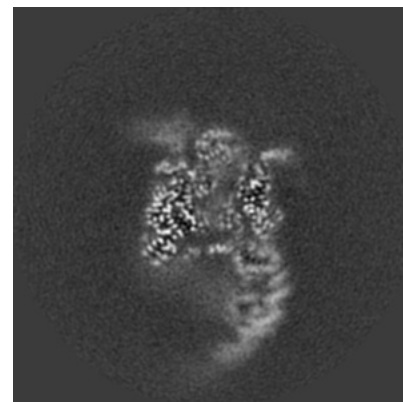
6.3.1 Primary map



X Index: 154

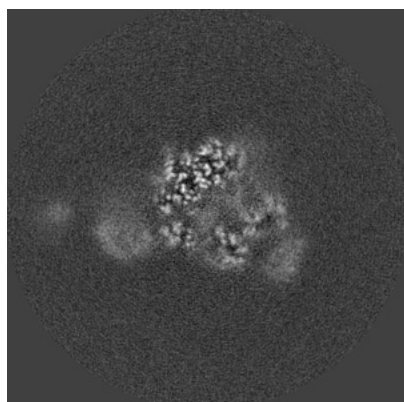


Y Index: 143

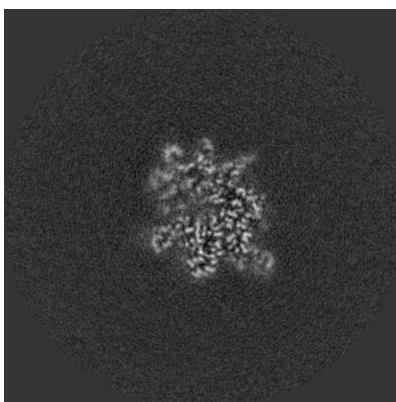


Z Index: 149

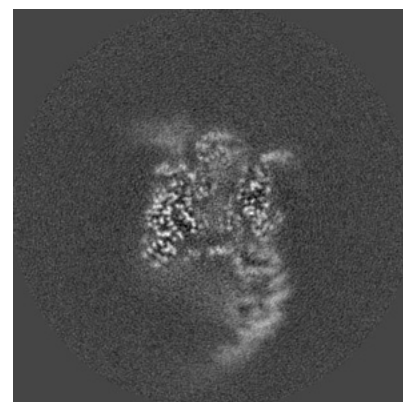
6.3.2 Raw map



X Index: 154



Y Index: 143

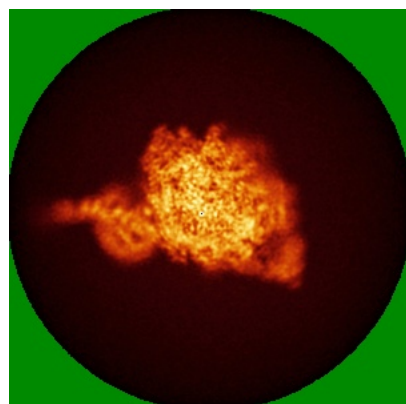


Z Index: 149

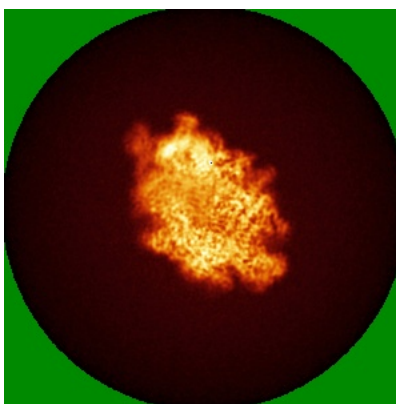
The images above show the largest variance slices of the map in three orthogonal directions.

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

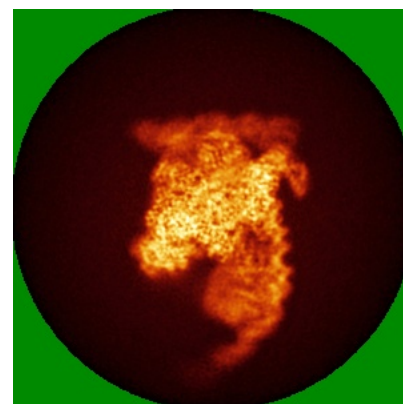
6.4.1 Primary map



X

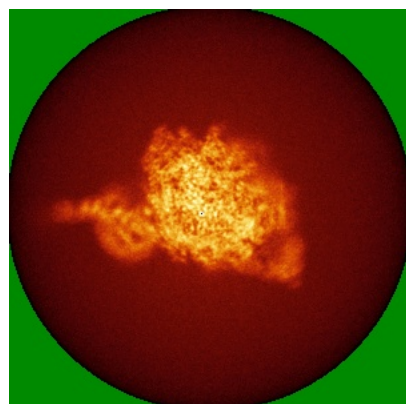


Y

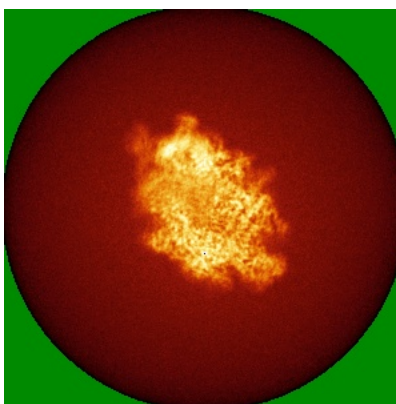


Z

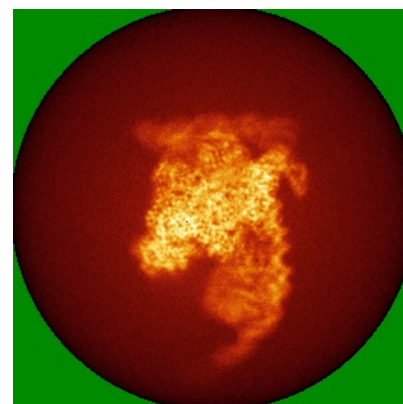
6.4.2 Raw map



X



Y



Z

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

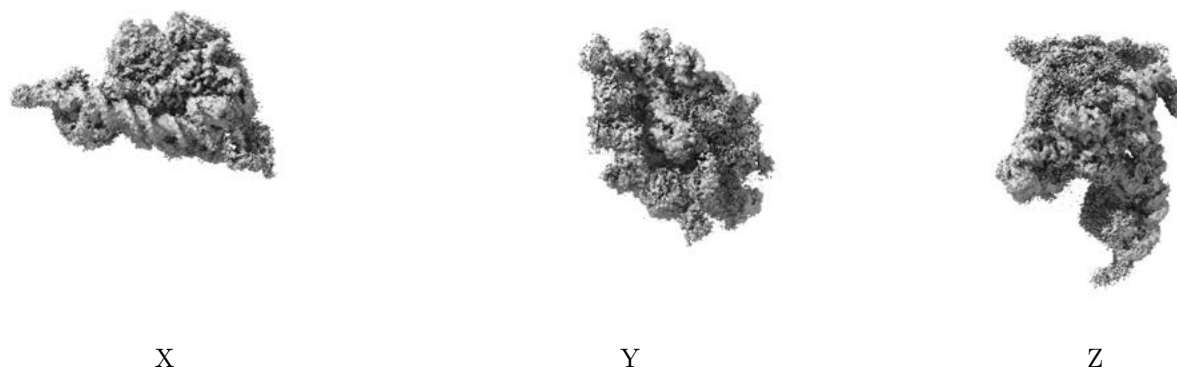
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.01. 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.

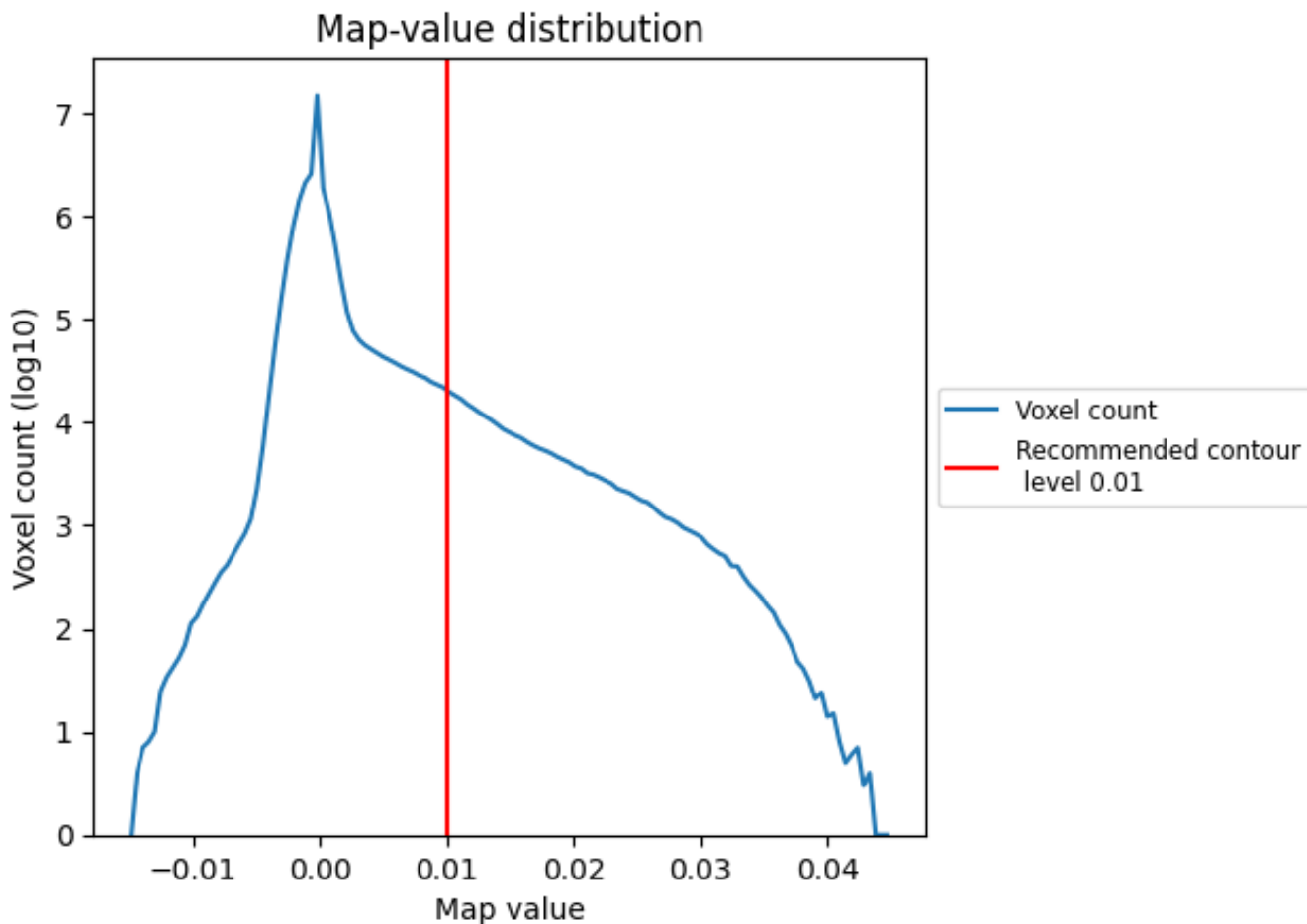
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

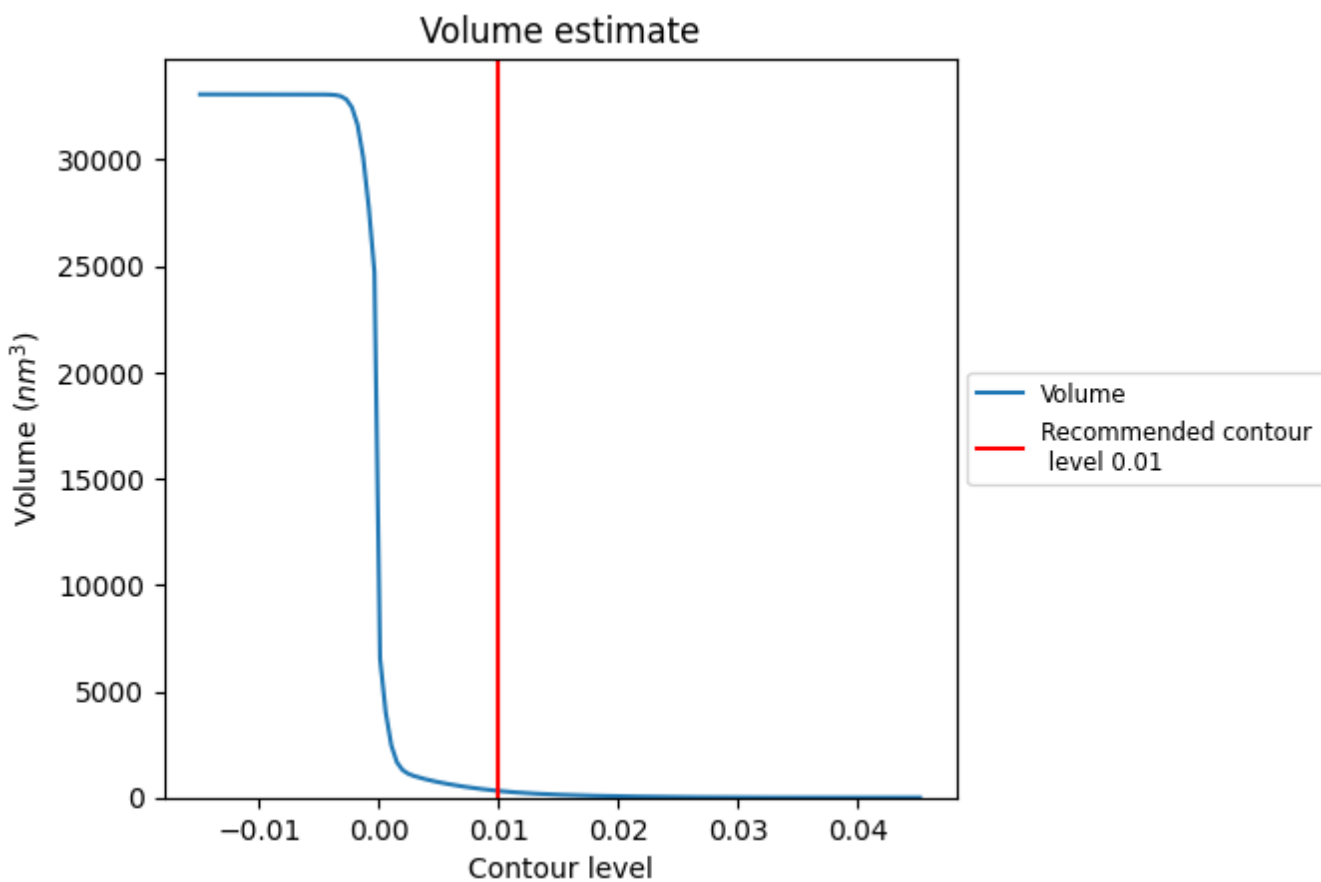
This section contains the results of statistical analysis of the map.

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.

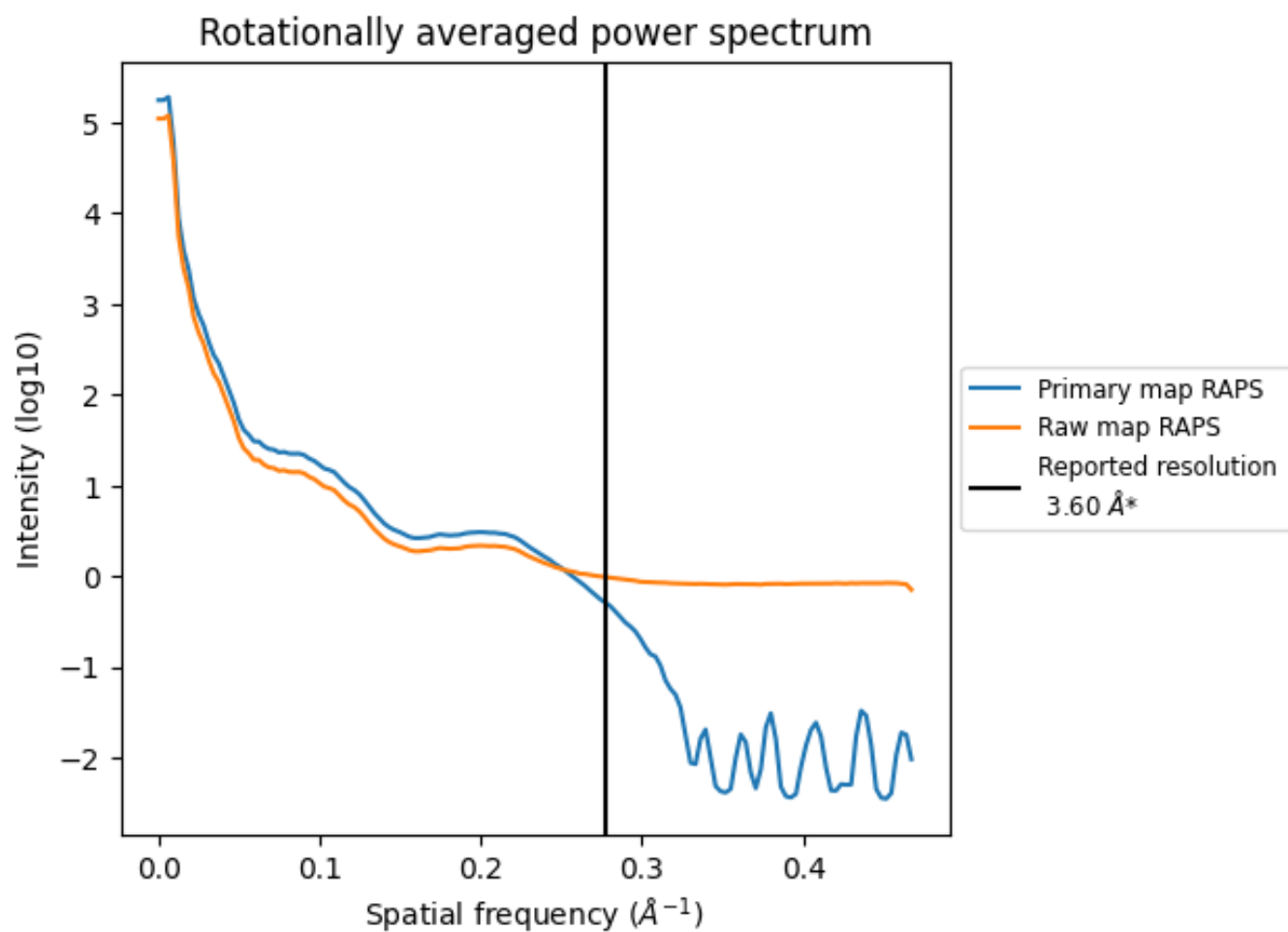
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 315 nm³; this corresponds to an approximate mass of 284 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](#)

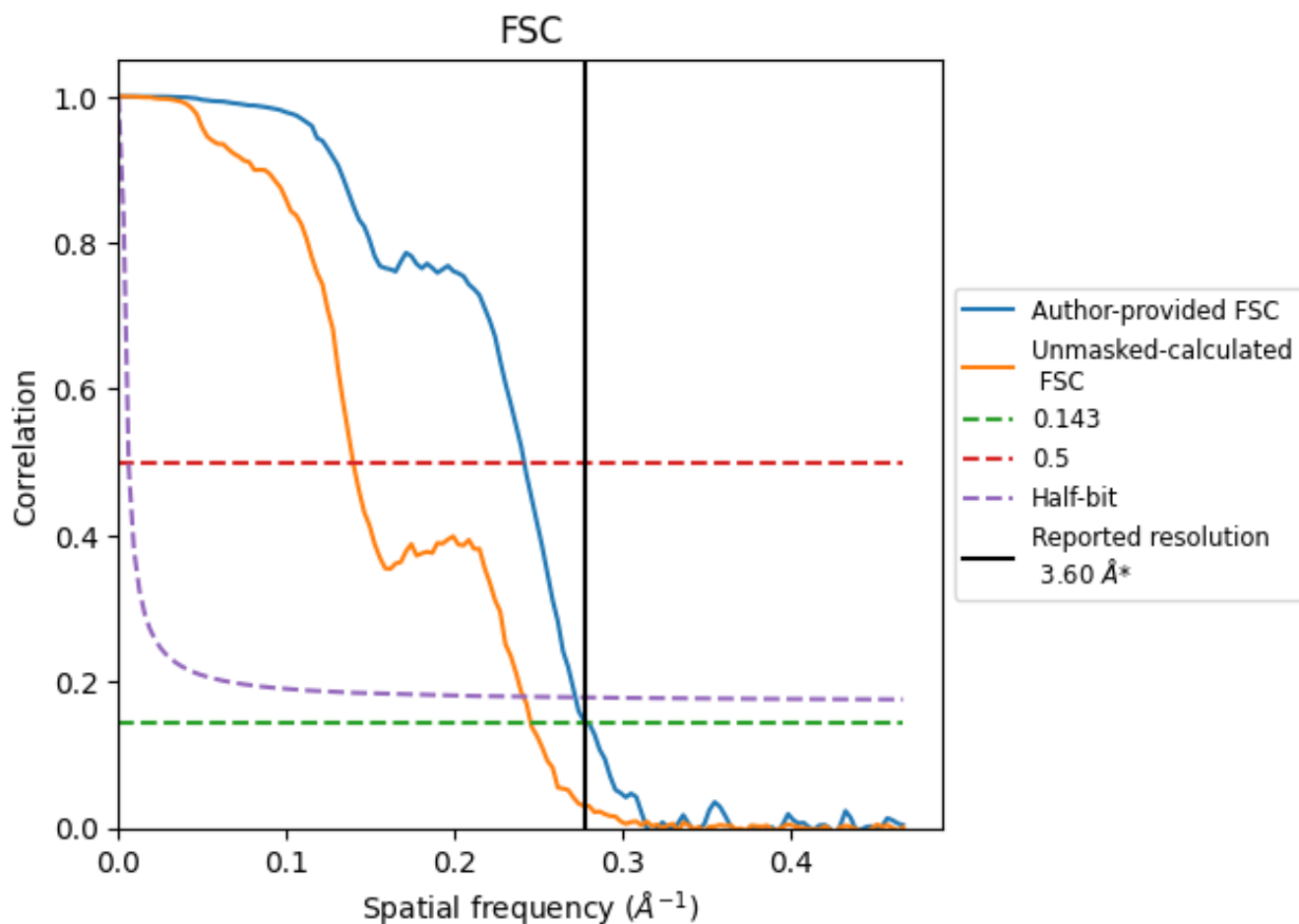


*Reported resolution corresponds to spatial frequency of 0.278 Å⁻¹

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 0.278 Å⁻¹

8.2 Resolution estimates [i](#)

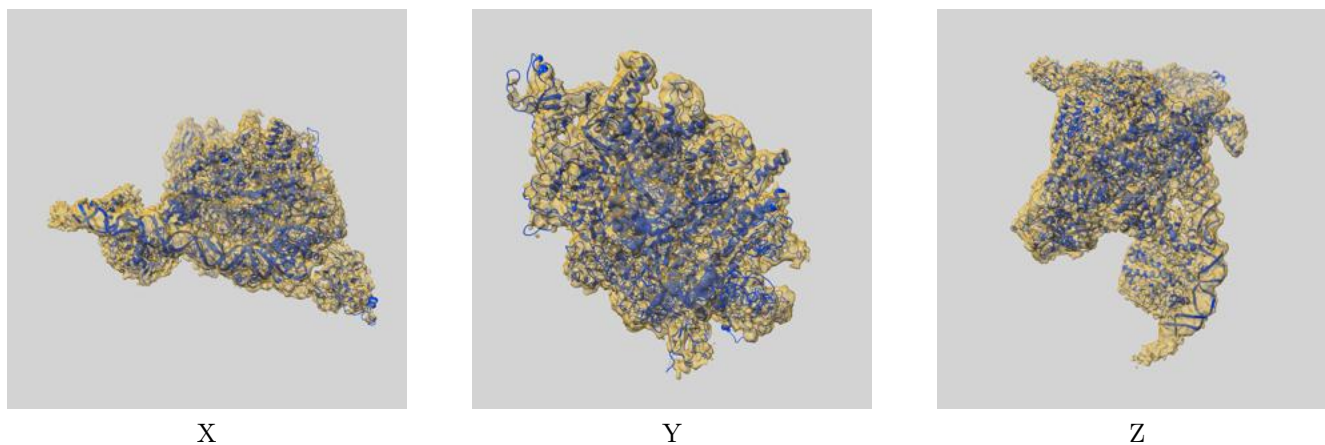
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.60	-	-
Author-provided FSC curve	3.57	4.14	3.67
Unmasked-calculated*	4.07	7.15	4.15

*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 4.07 differs from the reported value 3.6 by more than 10 %

9 Map-model fit [i](#)

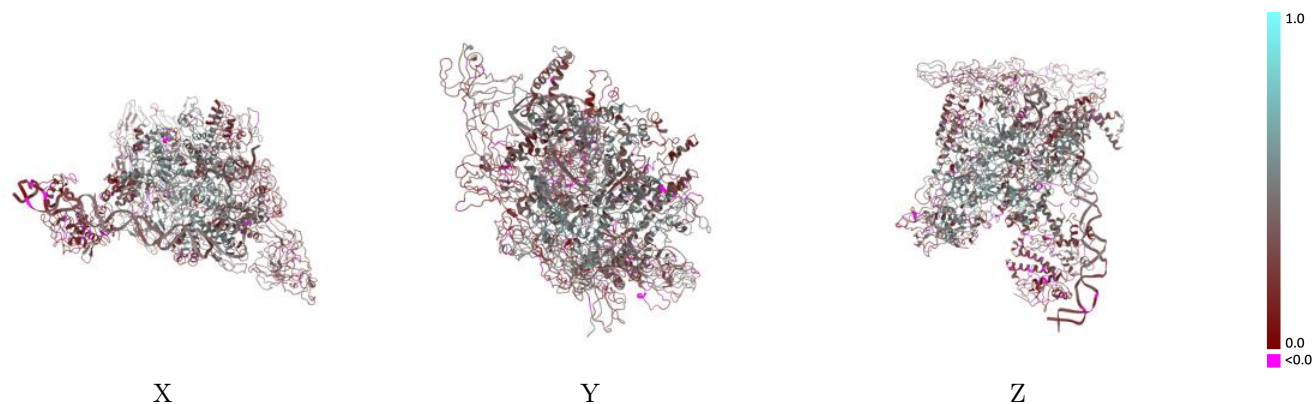
This section contains information regarding the fit between EMDB map EMD-34476 and PDB model 8H40. Per-residue inclusion information can be found in section 3 on page 6.

9.1 Map-model overlay [i](#)



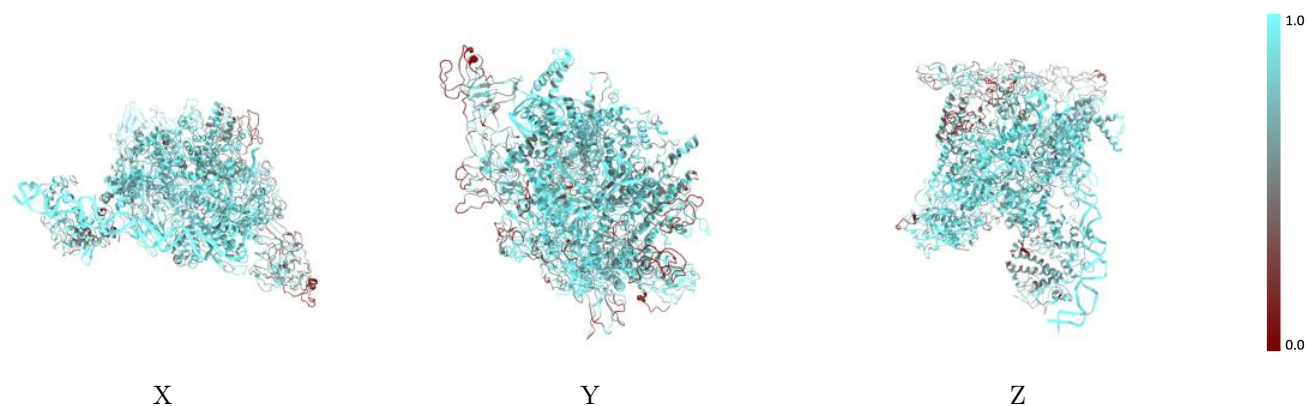
The images above show the 3D surface view of the map at the recommended contour level 0.01 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



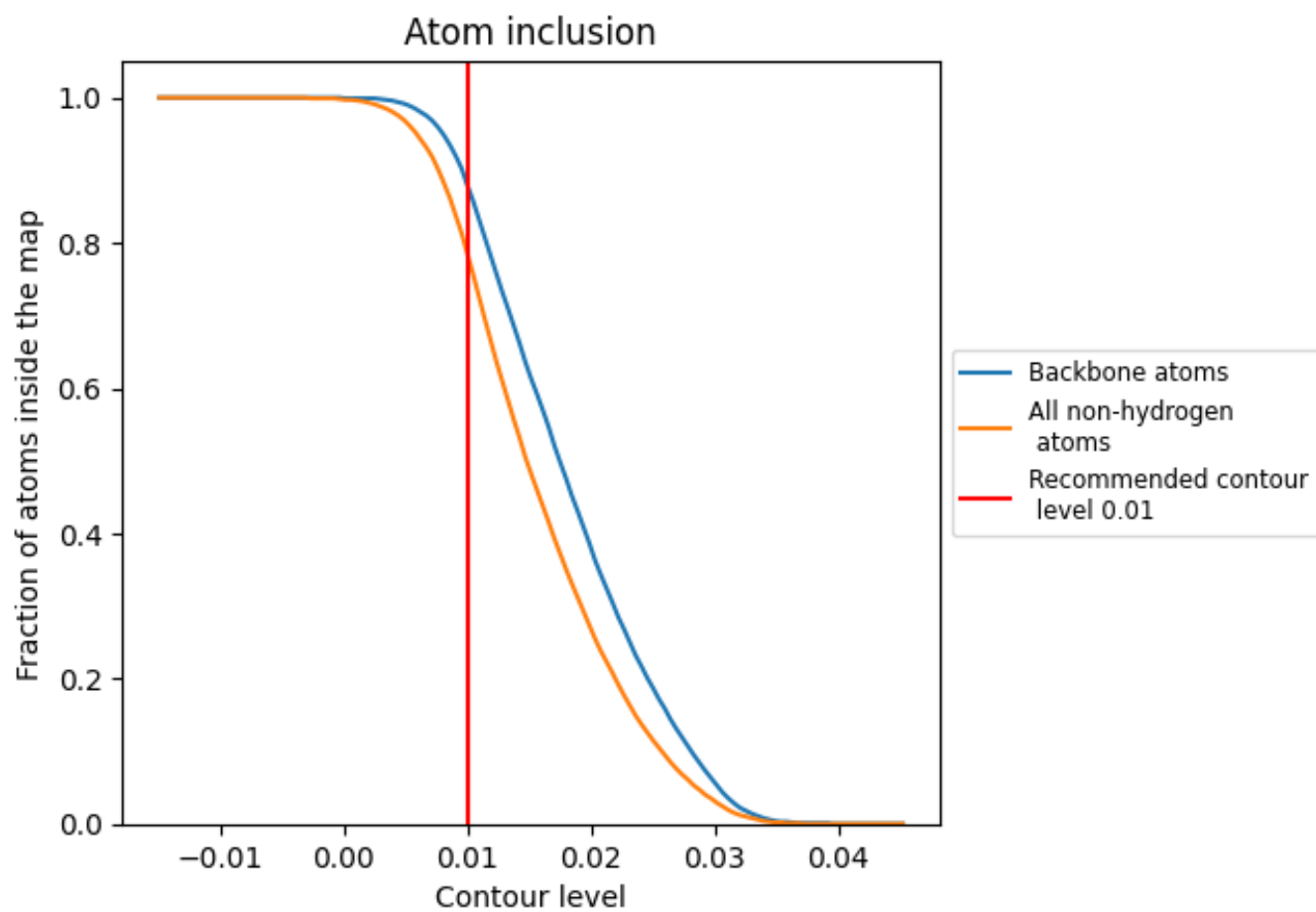
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.01).

























9.4 Atom inclusion [i](#)



At the recommended contour level, 88% of all backbone atoms, 78% 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 (0.01) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.7850	 0.3530
1	 0.9600	 0.3610
2	 0.9420	 0.3390
A	 0.8800	 0.4270
B	 0.6250	 0.3320
C	 0.8400	 0.3720
D	 0.8060	 0.3160
E	 0.8600	 0.4120
F	 0.7460	 0.3130
G	 0.8080	 0.3080
X	 0.7120	 0.2080
Y	 0.6830	 0.1450

