wwPDB EM Validation Summary Report ⓘ

Apr 21, 2025 – 12:56 PM JST

PDB ID	:	9JNX / pdb_00009jnx
EMDB ID	:	EMD-61630
Title	:	Structure of isw1-nucleosome complex in ADP*+ state
Authors	:	Sia, Y.; Pan, H.; Chen, Z.
Deposited on	:	2024-09-24
Resolution	:	3.00 Å(reported)

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

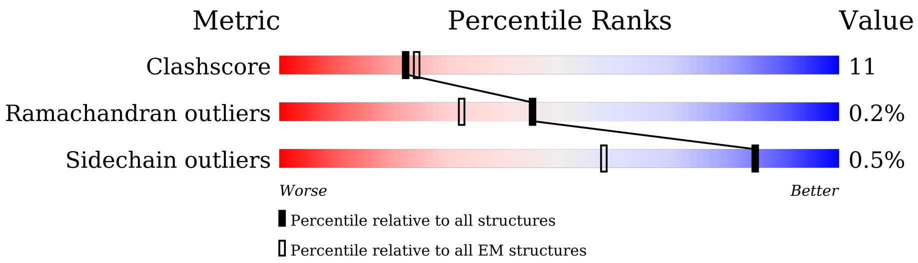
EMDB validation analysis	:	0.0.1.dev117
Mogul	:	1.8.5 (274361), CSD as541be (2020)
MolProbity	:	4.02b-467
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.42

1 Overall quality at a glance ⓘ

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

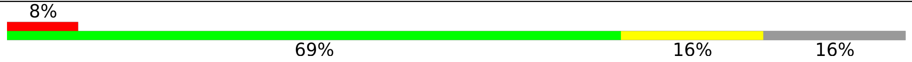
The reported resolution of this entry is 3.00 Å.

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	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415

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

Mol	Chain	Length	Quality of chain
1	A	135	 • 64% 9% 27%
1	E	135	 • 58% 13% 30%
2	B	102	 • 69% 17% • 14%
2	F	102	 8% 69% 16% 16%
3	C	129	 74% 9% 17%
3	G	129	 68% 15% 17%
4	D	122	 67% 9% 24%
4	H	122	 66% 11% 24%

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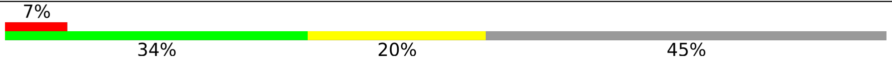
Mol	**Chain**	**Length**	**Quality of chain**
5	I	146	
6	J	146	
7	K	1061	

2 Entry composition ⓘ

There are 9 unique types of molecules in this entry. The entry contains 16809 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 Histone H3.

Mol	Chain	Residues	Atoms	AltConf	Trace
1	A	98	Total C N O S 801 506 153 139 3	0	0
1	E	95	Total C N O S 779 492 148 136 3	0	0

- Molecule 2 is a protein called Histone H4.

Mol	Chain	Residues	Atoms	AltConf	Trace
2	B	88	Total C N O S 707 445 143 118 1	0	0
2	F	86	Total C N O S 672 424 130 117 1	0	0

- Molecule 3 is a protein called Histone H2A.

Mol	Chain	Residues	Atoms	AltConf	Trace
3	C	107	Total C N O 811 510 158 143	0	0
3	G	107	Total C N O 815 513 159 143	0	0

- Molecule 4 is a protein called Histone H2B.

Mol	Chain	Residues	Atoms	AltConf	Trace
4	D	93	Total C N O S 718 451 128 137 2	0	0
4	H	93	Total C N O S 726 457 130 137 2	0	0

- Molecule 5 is a DNA chain called DNA (146-MER).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
5	I	146	2975	1413	540	876	146	0	0

- Molecule 6 is a DNA chain called DNA (146-MER).

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
6	J	146	3011	1425	564	876	146	0	0

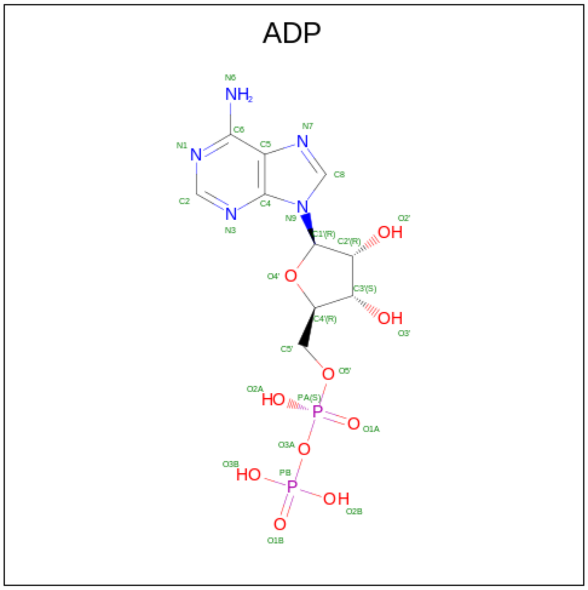
- Molecule 7 is a protein called ISWI chromatin-remodeling complex ATPase ISW1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
7	K	579	4766	3046	815	892	13	0	0

- Molecule 8 is MAGNESIUM ION (CCD ID: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		AltConf
			Total	Mg	
8	K	1	1	1	0

- Molecule 9 is ADENOSINE-5'-DIPHOSPHATE (CCD ID: ADP) (formula: $C_{10}H_{15}N_5O_{10}P_2$) (labeled as "Ligand of Interest" by depositor).

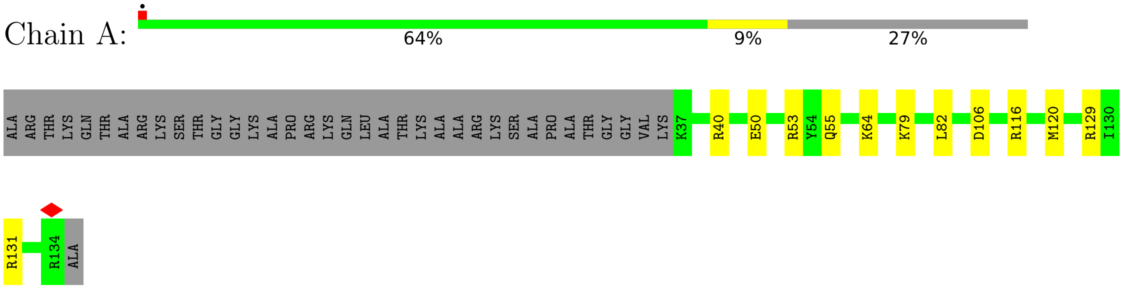


Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
9	K	1	27	10	5	10	2	0

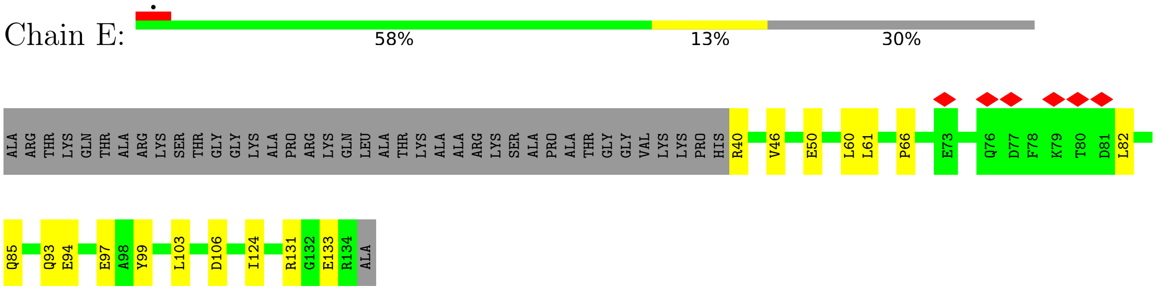
3 Residue-property plots ⓘ

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

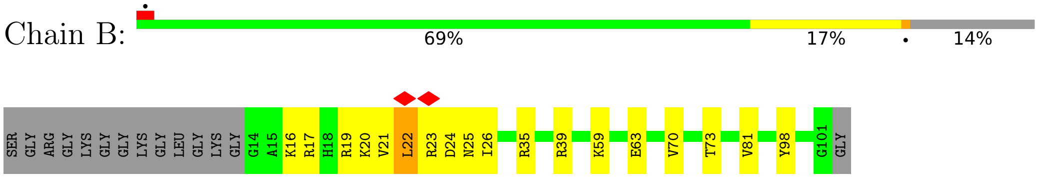
- Molecule 1: Histone H3



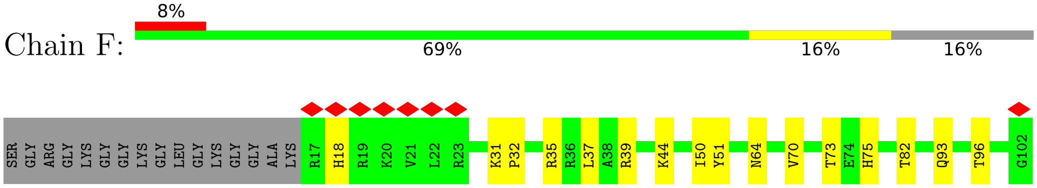
- Molecule 1: Histone H3



- Molecule 2: Histone H4

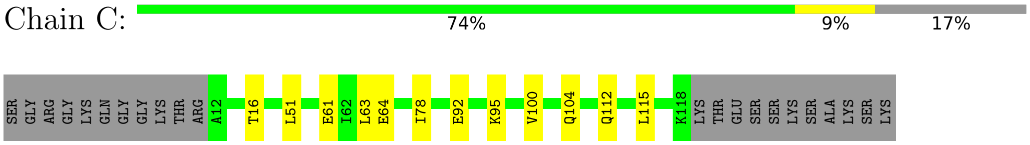


- Molecule 2: Histone H4



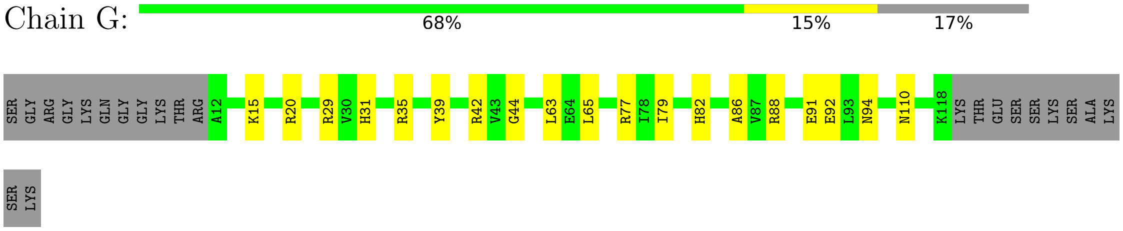
- Molecule 3: Histone H2A

Chain C:



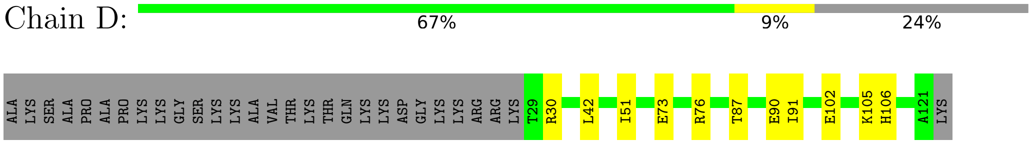
- Molecule 3: Histone H2A

Chain G:



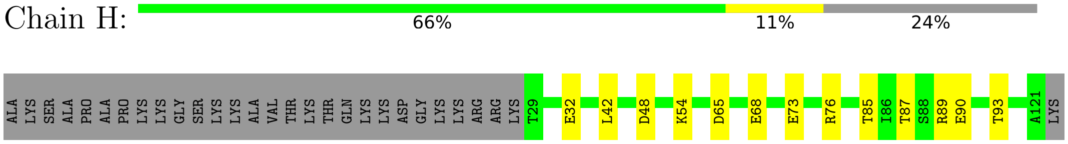
- Molecule 4: Histone H2B

Chain D:



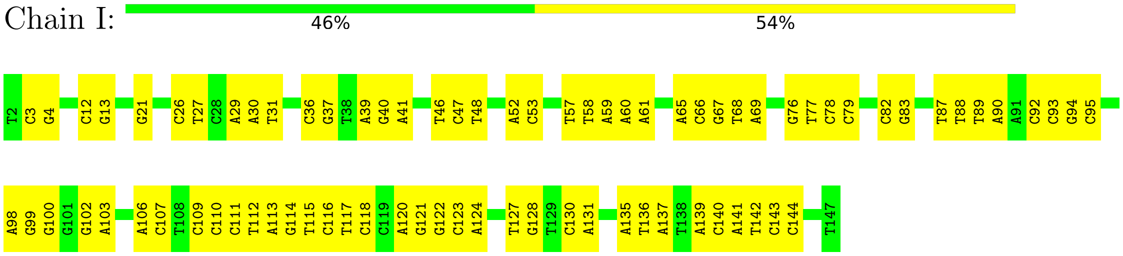
- Molecule 4: Histone H2B

Chain H:



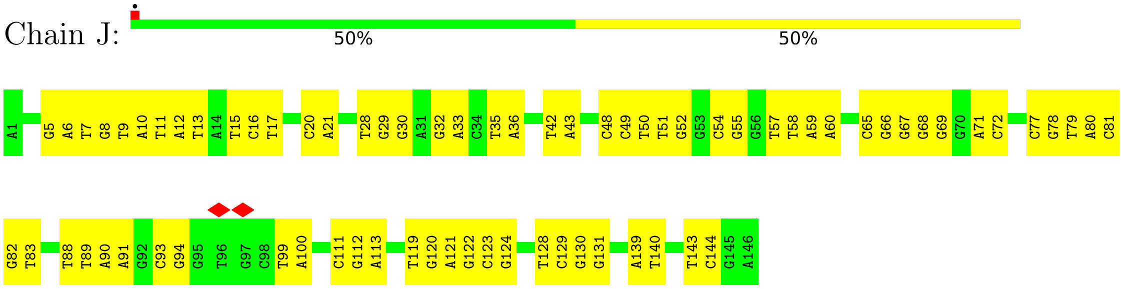
- Molecule 5: DNA (146-MER)

Chain I:



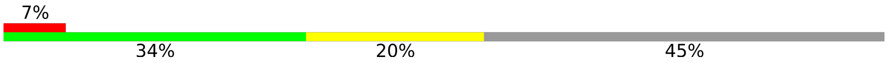
- Molecule 6: DNA (146-MER)

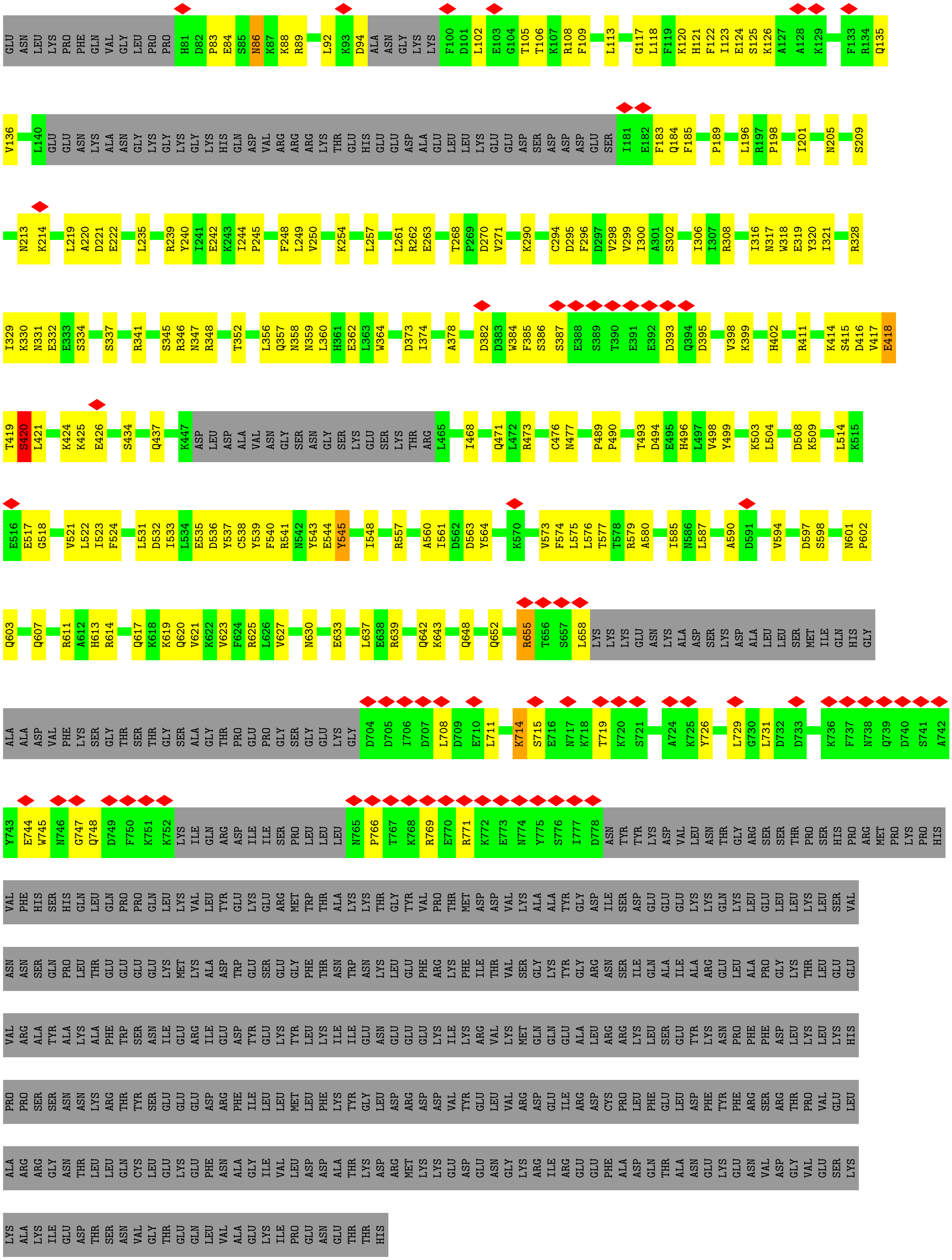
Chain J:



- Molecule 7: ISWI chromatin-remodeling complex ATPase ISW1

Chain K:


7%
34%
20%
45%


GLU ASN LEU LYS PRO PHE GLN VAL GLY LEU PRO PRO H81 D82 P83 E84 S85 N86 K87 K88 R89 L92 K93 D94 ALA ASN GLY LYS LYS F100 D101 L102 E103 G104 T105 T106 K107 R108 F109 L113 G117 L118 F119 K120 H121 F122 I123 E124 S125 K126 A127 A128 K129 F133 R134 Q135
V136 L140 GLU GLU ASN LYS ALA ASN GLY LYS GLY LYS GLY LYS HIS GLN ASP VAL ARG ARG ARG LYS THR GLU HIS GLU GLU ASP ALA GLU LEU LEU LYS GLU GLU ASP SER ASP ASP ASP GLU SER I181 E182 F183 Q184 F185 P189 L196 R197 P198 I201 N205 S209
N213 K214 L219 A220 D221 E222 L235 R239 Y240 I241 E242 K243 I244 P245 F248 L249 V250 K254 L257 L261 R262 E263 T268 P269 D270 V271 K290 C294 D295 F296 D297 V298 V299 I300 A301 S302 I306 I307 R308 I316 N317 W318 E319 Y320 I321 R328
I329 K330 N331 E332 E333 S334 S337 R341 S345 R346 N347 R348 T352 L356 Q357 N358 N359 L360 H361 E362 L363 W364 D373 I374 A378 D382 D383 W384 F385 S386 S387 E388 S389 T390 E391 E392 D393 Q394 D395 V398 K399 H402 R411 K414 S415 D416 V417 E418
T419 S420 L421 K424 K425 E426 S434 Q437 K447 ASP LEU ASP ALA VAL ASN GLY SER ASN GLY SER LYS GLU SER LYS THR ARG L465 I468 Q471 L472 R473 C476 N477 P489 P490 T493 D494 E495 H496 L497 V498 Y499 K503 L504 D508 K509 L514 K515
E516 E517 G518 V521 L522 I523 F524 L531 D532 I533 L534 E535 D536 Y537 C538 Y539 F540 R541 N542 Y543 E544 Y545 I548 R557 A560 I561 D562 D563 Y564 K570 V573 F574 L575 L576 T577 T578 R579 A580 I585 N586 L587 A590 D591 V594 D597 S598 N601 P602
Q603 Q607 R611 A612 H613 R614 Q617 K618 K619 Q620 V621 K622 V623 F624 R625 L626 V627 N630 E633 L637 E638 R639 Q642 K643 Q648 Q652 R655 T656 S657 L658 LYS LYS LYS GLU ASN LYS ALA ASP SER LYS ASP ALA LEU LEU SER MET ILE GLN HIS GLY
ALA ALA ASP VAL PHE LYS SER GLY THR SER THR GLY SER ALA GLY THR PRO GLU PRO GLY SER GLY GLU LYS GLY D704 D705 I706 D707 L708 D709 E710 L711 K714 S715 E716 N717 K718 T719 K720 S721 A724 K725 Y726 L729 G730 L731 D732 D733 K736 F737 N738 Q739 D740 S741 A742
Y743 E744 W745 N746 G747 Q748 D749 F750 K751 K752 LYS ILE GLN ARG ASP ILE ILE SER PRO LEU LEU LEU N765 P766 T767 K768 R769 E770 R771 K772 E773 N774 Y775 S776 I777 D778 ASN TYR TYR LYS ASP VAL LEU ASN THR GLY ARG SER SER THR PRO SER HIS PRO ARG MET PRO LYS PRO HIS
VAL PHE HIS SER HIS GLN LEU GLN PRO PRO GLN LEU LYS VAL LEU TYR GLU LYS GLU ARG MET TRP THR ALA LYS LYS THR GLY TYR VAL PRO THR MET ASP ASP VAL LYS ALA ALA TYR GLY ASP ILE SER ASP GLU GLU LYS LYS GLN LYS LEU GLU LEU LEU LYS LEU SER VAL
ASN ASN SER GLN PRO LEU THR GLU GLU GLU LYS MET LYS ALA ASP TRP GLU SER GLU GLY PHE THR ASN TRP ASN LYS LEU GLU PHE ARG LYS PHE ILE THR VAL SER GLY LYS TYR GLY ARG ASN SER ILE GLN ALA ILE ALA ARG GLU LEU ALA PRO GLY LYS THR LEU GLU GLU
VAL ARG ALA TYR ALA LYS ALA PHE TRP SER ASN ILE GLU ARG ILE GLU ASP TYR GLU LYS TYR LEU LYS ILE ILE GLU ASN GLU GLU LYS ILE LYS ARG VAL LYS MET GLN GLN GLU ALA LEU ARG ARG LYS LEU SER GLU TYR LYS ASN PRO PHE PHE ASP LEU LYS LEU LYS HIS
PRO PRO SER SER ASN ASN LYS ARG THR TYR SER GLU GLU ASP ARG PHE ILE LEU LEU MET LEU PHE LYS TYR GLY LEU ASP ARG ASP ASP VAL TYR GLU LEU VAL ARG ASP GLU ILE ARG ASP CYS PRO LEU PHE GLU LEU ASP PHE TYR PHE ARG SER ARG THR PRO VAL GLU LEU
ALA ARG ARG GLY ASN THR LEU LEU GLN CYS LEU GLU LYS GLU PHE ASN ALA GLY ILE VAL LEU ASP ASP ALA THR LYS ASP ARG MET LYS LYS GLU ASP GLU ASN GLY LYS ARG ILE ARG GLU GLU PHE ALA ASP GLN THR ALA ASN GLU LYS GLU ASN VAL ASP GLY VAL GLU SER LYS
LYS ALA LYS ILE GLU ASP THR SER ASN VAL GLY THR GLU GLN LEU VAL ALA GLU LYS ILE PRO GLU ASN GLU THR THR HIS

4 Experimental information ⓘ

Property	**Value**	**Source**
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	93305	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose $(e^-/\text{Å}^2)$	50	Depositor
Minimum defocus (nm)	1400	Depositor
Maximum defocus (nm)	1800	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	0.333	Depositor
Minimum map value	-0.119	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.008	Depositor
Recommended contour level	0.063	Depositor
Map size (Å)	346.4, 346.4, 346.4	wwPDB
Map dimensions	320, 320, 320	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.0825, 1.0825, 1.0825	Depositor

5 Model quality (i)

5.1 Standard geometry (i)

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

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	0.35	0/813	0.45	0/1093
1	E	0.33	0/789	0.42	0/1059
2	B	0.34	0/715	0.48	0/955
2	F	0.35	0/680	0.48	0/912
3	C	0.33	0/821	0.45	0/1112
3	G	0.32	0/825	0.46	0/1116
4	D	0.34	0/729	0.44	0/985
4	H	0.35	0/737	0.45	0/993
5	I	0.66	0/3333	0.96	0/5137
6	J	0.67	0/3381	0.92	0/5221
7	K	0.30	0/4855	0.48	0/6543
All	All	0.48	0/17678	0.70	0/25126

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
2	B	0	1
7	K	0	1
All	All	0	2

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	B	22	LEU	Peptide
7	K	545	TYR	Peptide

5.2 Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	801	0	831	7	0
1	E	779	0	815	12	0
2	B	707	0	760	14	0
2	F	672	0	698	13	0
3	C	811	0	849	12	0
3	G	815	0	860	13	0
4	D	718	0	725	8	0
4	H	726	0	747	11	0
5	I	2975	0	1639	67	0
6	J	3011	0	1639	61	0
7	K	4766	0	4801	162	0
8	K	1	0	0	0	0
9	K	27	0	12	0	0
All	All	16809	0	14376	346	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 11.

The worst 5 of 346 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)
7:K:531:LEU:HD11	7:K:575:LEU:HB3	1.53	0.89
5:I:113:DA:H2'	5:I:114:DG:C8	2.17	0.80
7:K:398:VAL:O	7:K:402:HIS:ND1	2.16	0.76
5:I:117:DT:H2"	5:I:118:DC:H5"	1.67	0.75
5:I:12:DC:H2'	5:I:13:DG:C8	2.23	0.73

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	96/135 (71%)	95 (99%)	1 (1%)	0	100	100
1	E	93/135 (69%)	91 (98%)	2 (2%)	0	100	100
2	B	86/102 (84%)	79 (92%)	7 (8%)	0	100	100
2	F	84/102 (82%)	80 (95%)	4 (5%)	0	100	100
3	C	105/129 (81%)	102 (97%)	3 (3%)	0	100	100
3	G	105/129 (81%)	104 (99%)	1 (1%)	0	100	100
4	D	91/122 (75%)	85 (93%)	6 (7%)	0	100	100
4	H	91/122 (75%)	89 (98%)	2 (2%)	0	100	100
7	K	567/1061 (53%)	495 (87%)	70 (12%)	2 (0%)	30	66
All	All	1318/2037 (65%)	1220 (93%)	96 (7%)	2 (0%)	45	77

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
7	K	418	GLU
7	K	420	SER

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	84/110 (76%)	83 (99%)	1 (1%)	67	86
1	E	82/110 (74%)	82 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
2	B	72/78 (92%)	72 (100%)	0	100	100
2	F	67/78 (86%)	67 (100%)	0	100	100
3	C	81/101 (80%)	81 (100%)	0	100	100
3	G	82/101 (81%)	82 (100%)	0	100	100
4	D	77/102 (76%)	76 (99%)	1 (1%)	65	85
4	H	79/102 (78%)	79 (100%)	0	100	100
7	K	530/958 (55%)	526 (99%)	4 (1%)	79	90
All	All	1154/1740 (66%)	1148 (100%)	6 (0%)	85	94

5 of 6 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
7	K	420	SER
7	K	655	ARG
7	K	714	LYS
4	D	105	LYS
1	A	129	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (1) such sidechains are listed below:

Mol	Chain	Res	Type
7	K	613	HIS

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates ⓘ

There are no oligosaccharides in this entry.

5.6 Ligand geometry ⓘ

Of 2 ligands modelled in this entry, 1 is monoatomic - leaving 1 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
9	ADP	K	1202	8	24,29,29	0.92	1 (4%)	29,45,45	1.37	3 (10%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
9	ADP	K	1202	8	-	7/12/32/32	0/3/3/3

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
9	K	1202	ADP	C5-C4	2.44	1.47	1.40

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
9	K	1202	ADP	PA-O3A-PB	-3.50	120.81	132.83
9	K	1202	ADP	N3-C2-N1	-2.90	124.15	128.68
9	K	1202	ADP	C4-C5-N7	-2.81	106.47	109.40

There are no chirality outliers.

5 of 7 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
9	K	1202	ADP	PB-O3A-PA-O5'
9	K	1202	ADP	C5'-O5'-PA-O2A
9	K	1202	ADP	O4'-C4'-C5'-O5'
9	K	1202	ADP	C3'-C4'-C5'-O5'

Continued on next page...

Continued from previous page...

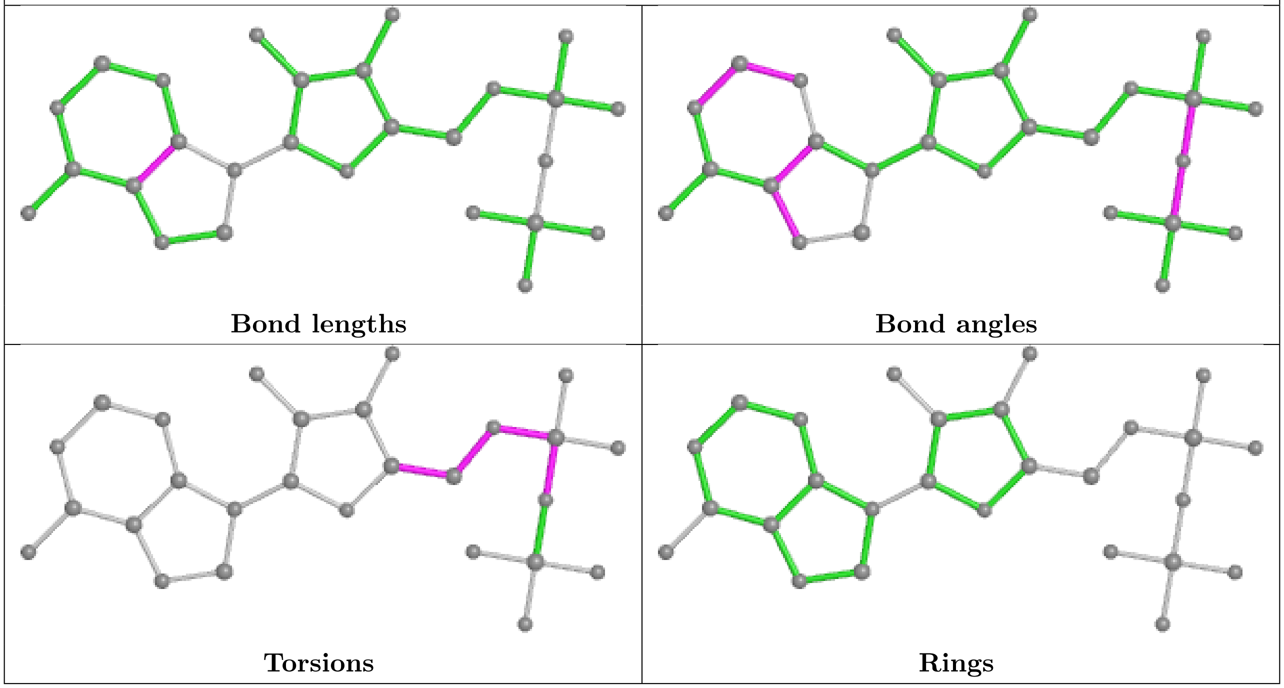
Mol	Chain	Res	Type	Atoms
9	K	1202	ADP	C5'-O5'-PA-O3A

There are no ring outliers.

No monomer is involved in short contacts.

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

Ligand ADP K 1202



5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

There are no chain breaks in this entry.

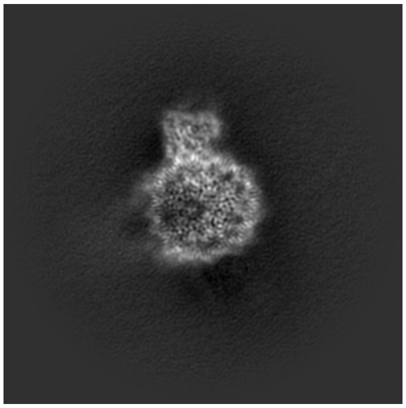
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-61630. These allow visual inspection of the internal detail of the map and identification of artifacts.

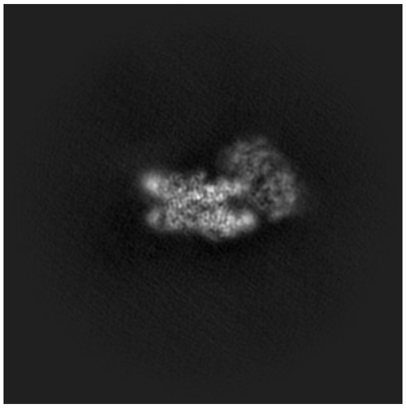
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

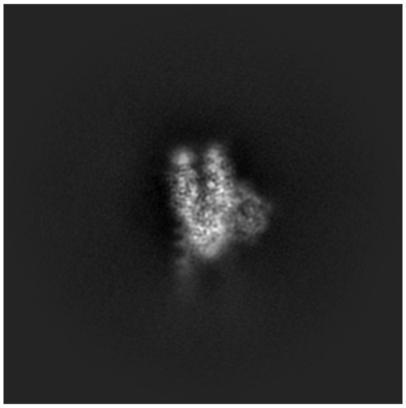
6.1.1 Primary map



X

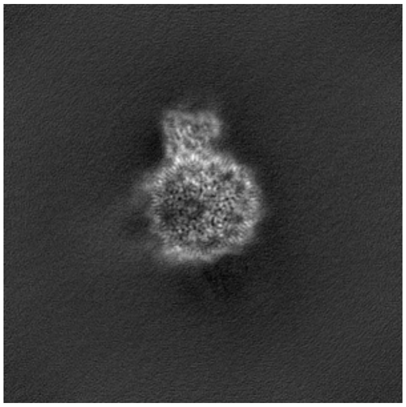


Y

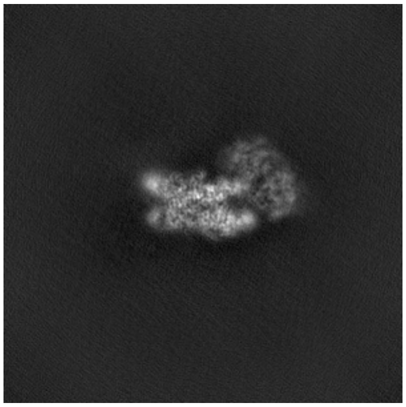


Z

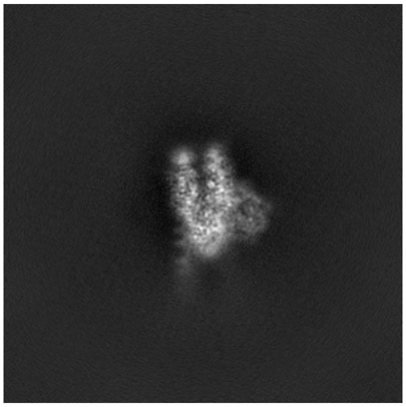
6.1.2 Raw map



X



Y

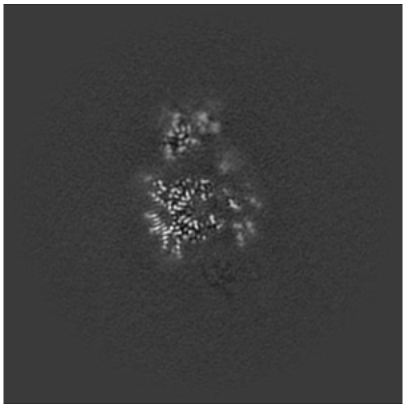


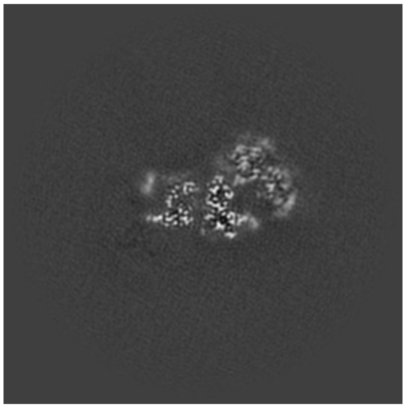
Z

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

6.2 Central slices

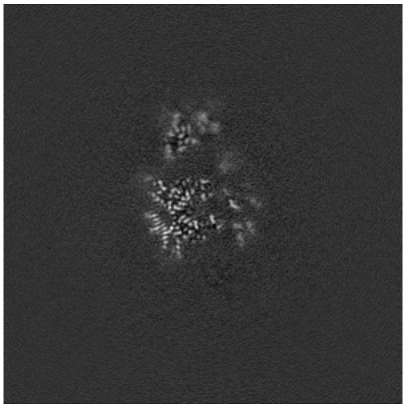
6.2.1 Primary map

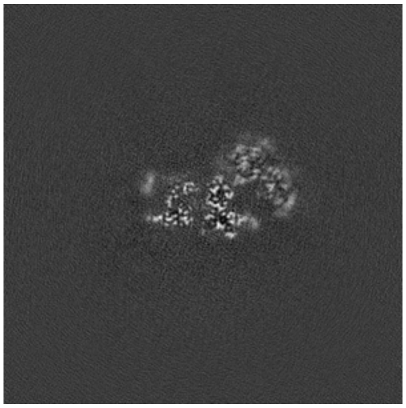

X Index: 160


Y Index: 160


Z Index: 160

6.2.2 Raw map


X Index: 160

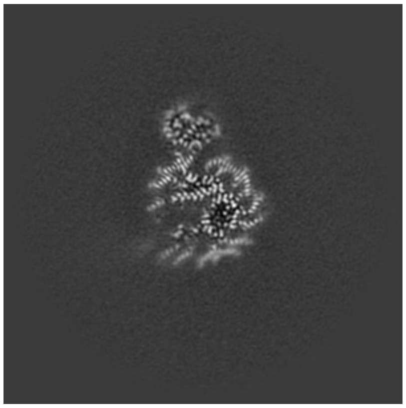

Y Index: 160


Z Index: 160

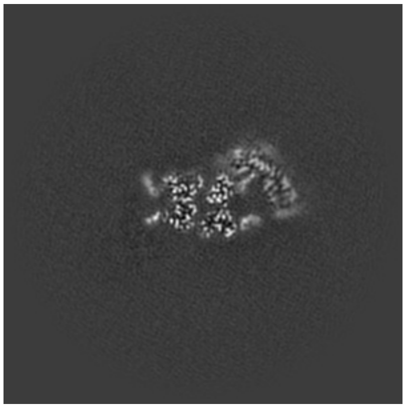
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices

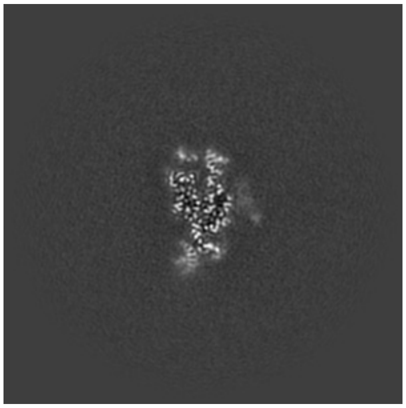
6.3.1 Primary map



X Index: 172

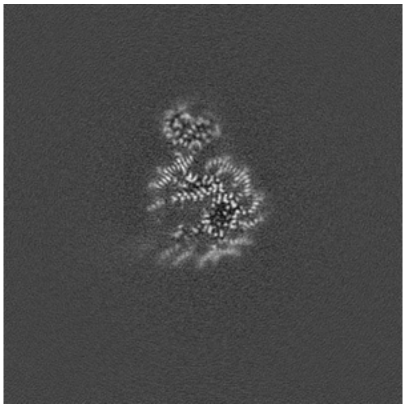


Y Index: 164

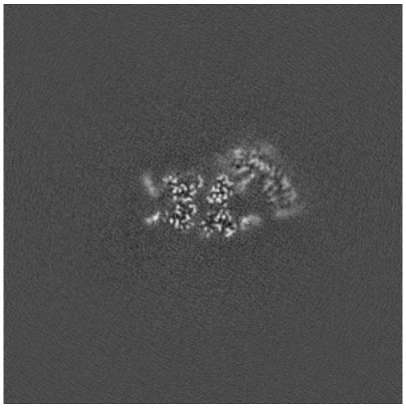


Z Index: 174

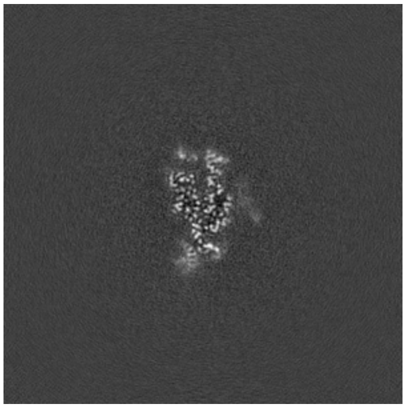
6.3.2 Raw map



X Index: 172



Y Index: 164

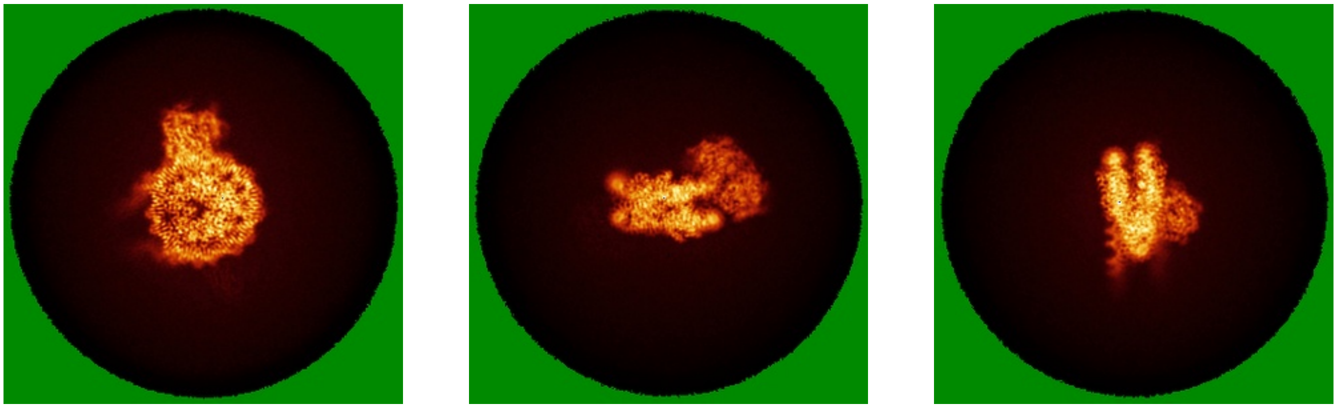


Z Index: 174

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

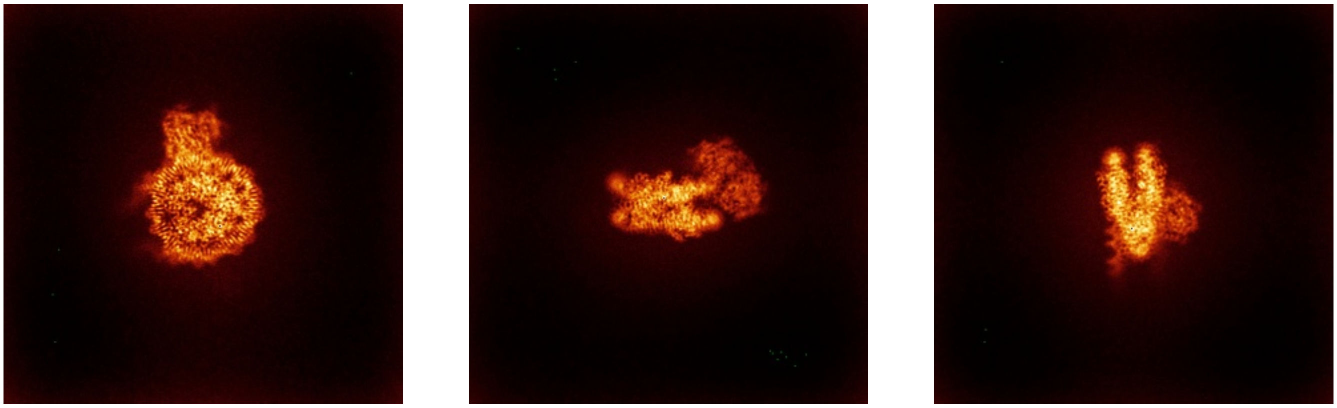
6.4 Orthogonal standard-deviation projections (False-color) ⓘ

6.4.1 Primary map



X Y Z

6.4.2 Raw map

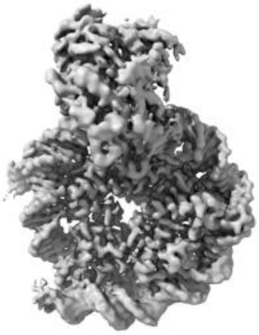


X Y Z

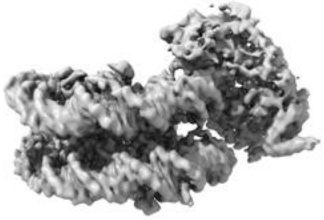
The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views

6.5.1 Primary map



X



Y

Z

The images above show the 3D surface view of the map at the recommended contour level 0.063. 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

X

Y

Z

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.

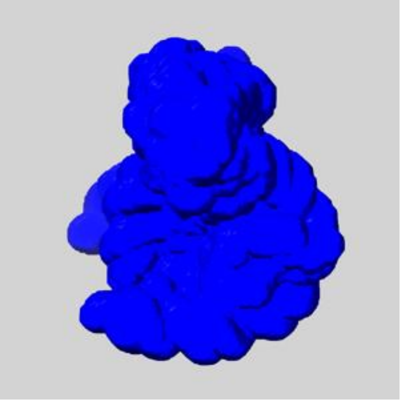
6.6 Mask visualisation

This section shows the 3D surface view of the primary map at 50% transparency overlaid with the specified mask at 0% transparency

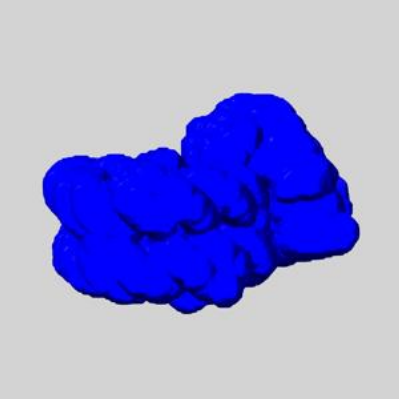
A mask typically either:

- Encompasses the whole structure
- Separates out a domain, a functional unit, a monomer or an area of interest from a larger structure

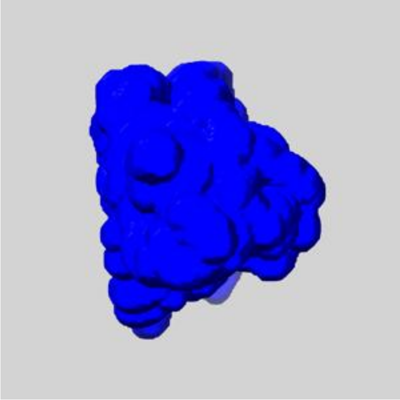
6.6.1 emd_61630_msk_1.map



X



Y

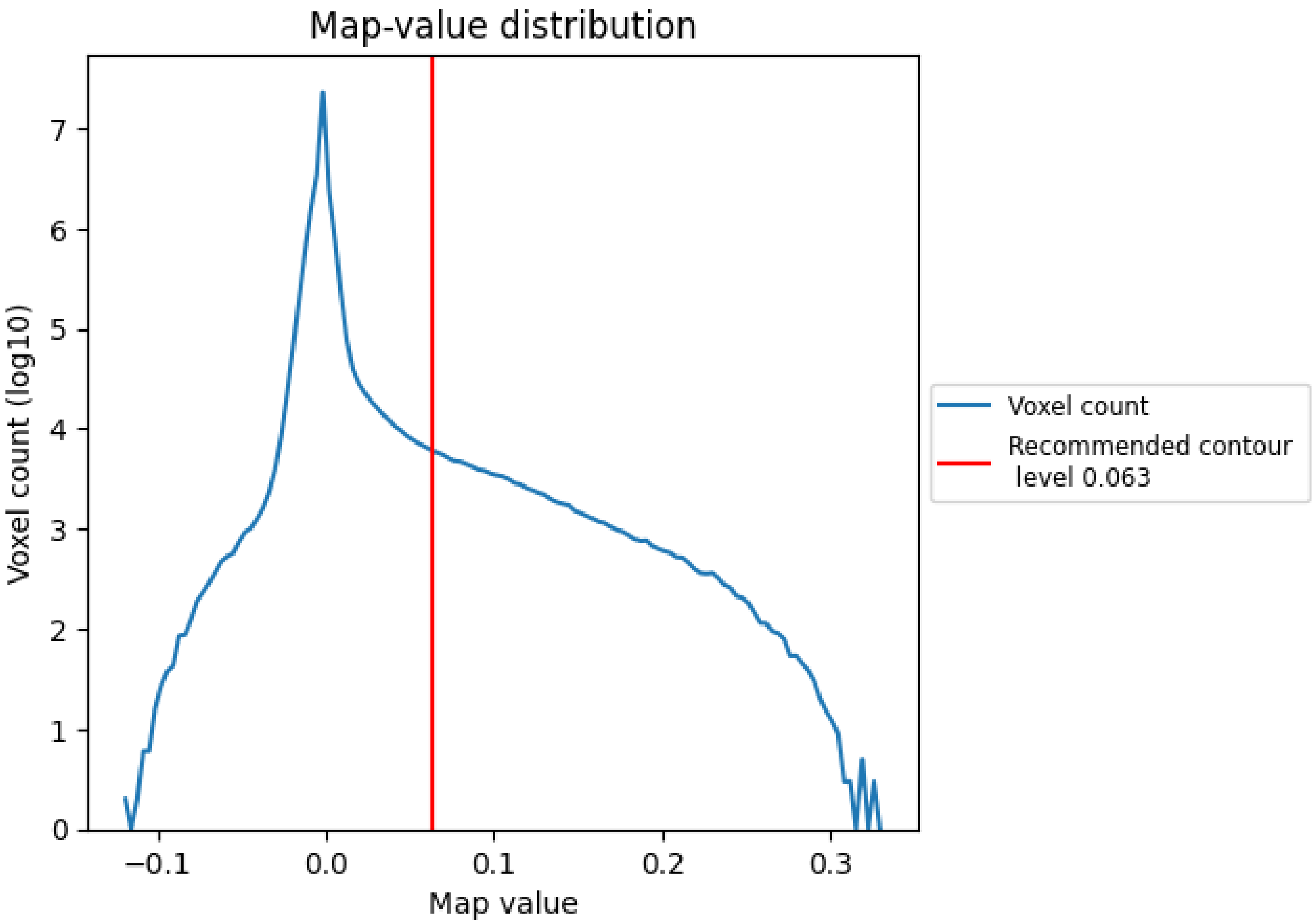


Z

7 Map analysis ⓘ

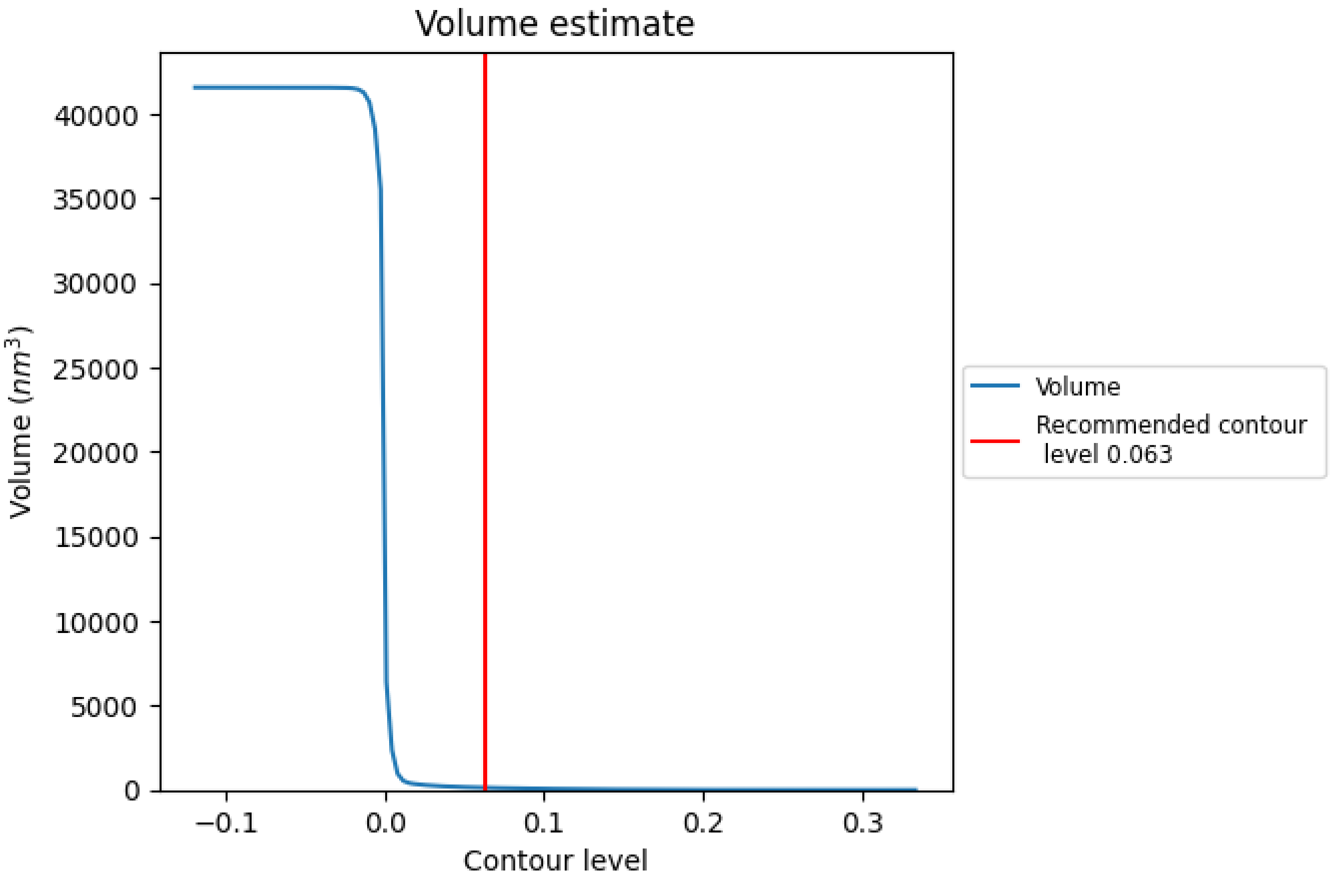
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution ⓘ



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

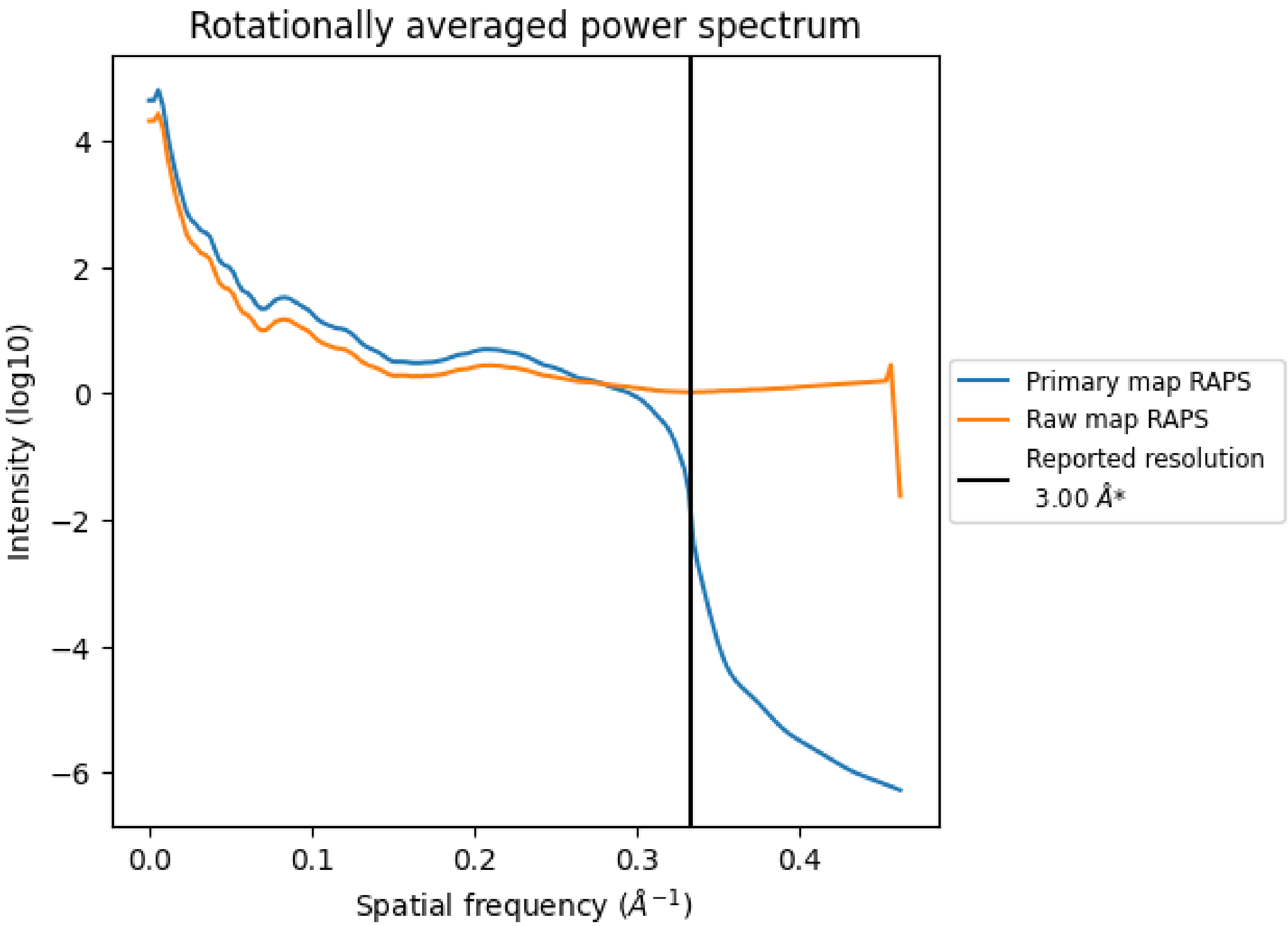
7.2 Volume estimate ⓘ



The volume at the recommended contour level is 134 nm^3; this corresponds to an approximate mass of 121 kDa.

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

7.3 Rotationally averaged power spectrum ⓘ

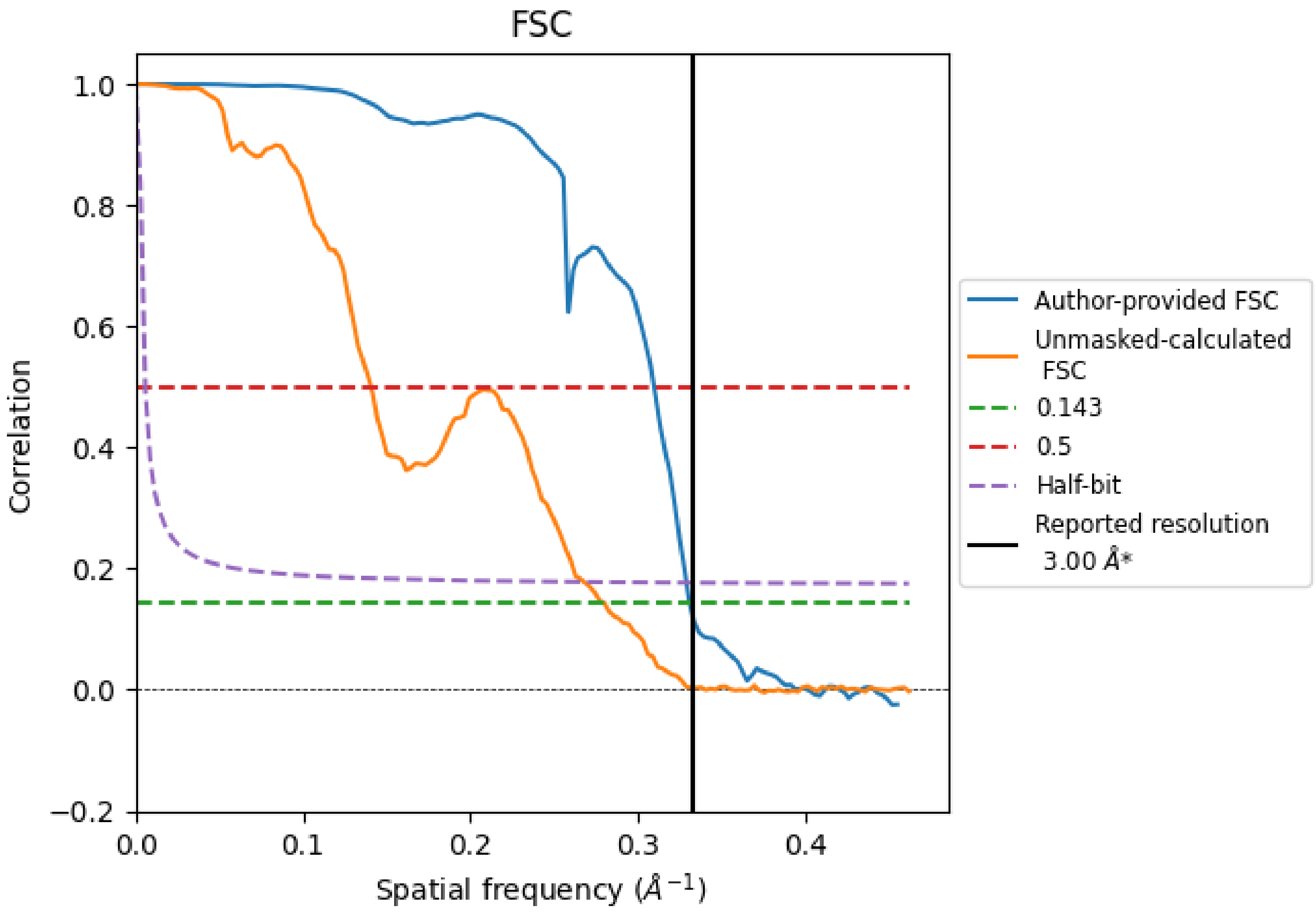


*Reported resolution corresponds to spatial frequency of 0.333 $Å^{-1}$

8 Fourier-Shell correlation ⓘ

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

8.1 FSC ⓘ



*Reported resolution corresponds to spatial frequency of 0.333 Å^{-1}

8.2 Resolution estimates ⓘ

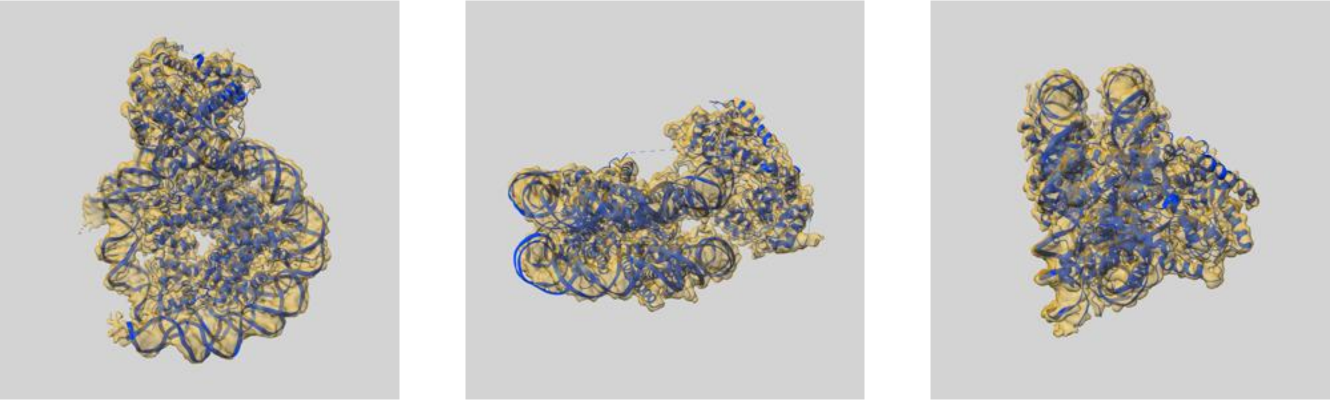
Resolution estimate (Å)	**Estimation criterion (FSC cut-off)**		
	0.143	0.5	Half-bit
Reported by author	3.00	-	-
Author-provided FSC curve	3.02	3.23	3.04
Unmasked-calculated*	3.57	7.12	3.74

*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 3.57 differs from the reported value 3.0 by more than 10 %

9 Map-model fit ⓘ

This section contains information regarding the fit between EMDB map EMD-61630 and PDB model 9JNX. Per-residue inclusion information can be found in section 3 on page 7.

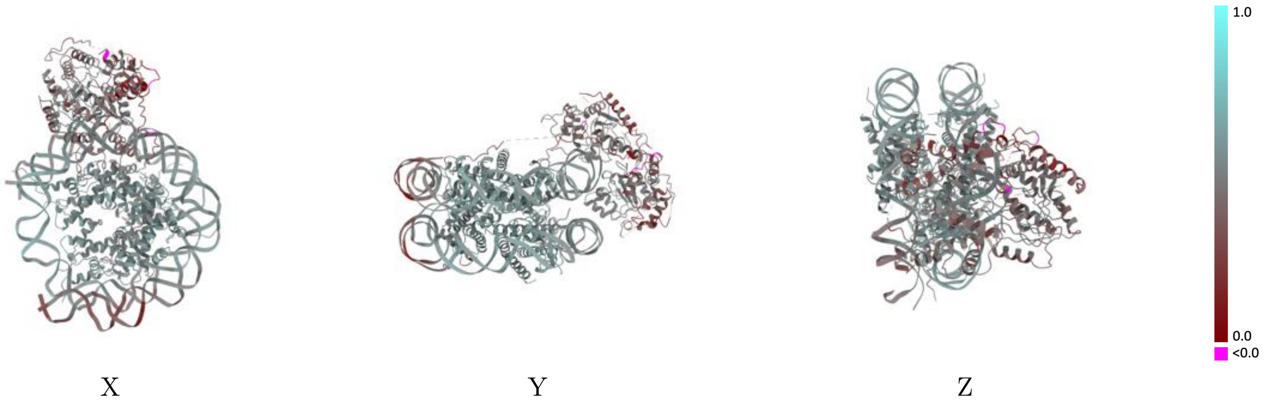
9.1 Map-model overlay ⓘ



X Y Z

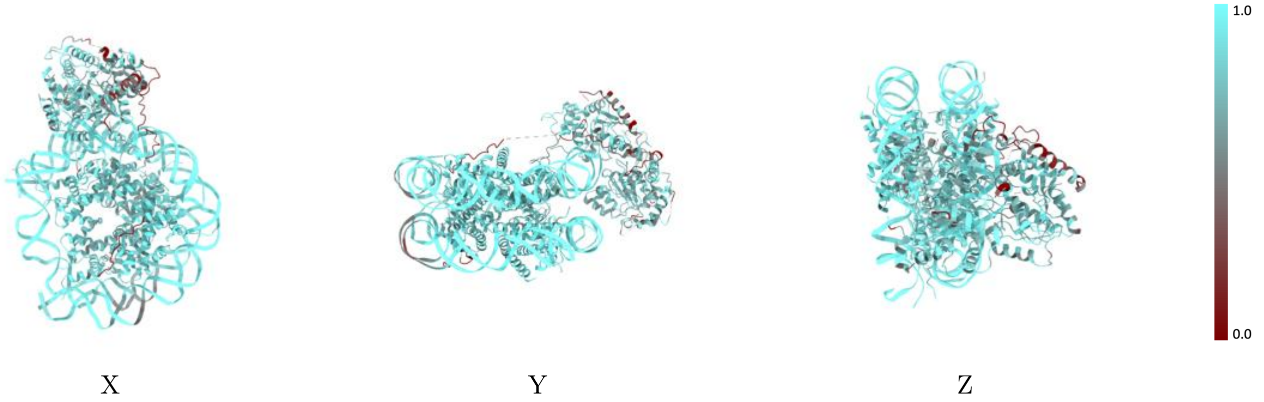
The images above show the 3D surface view of the map at the recommended contour level 0.063 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model ⓘ



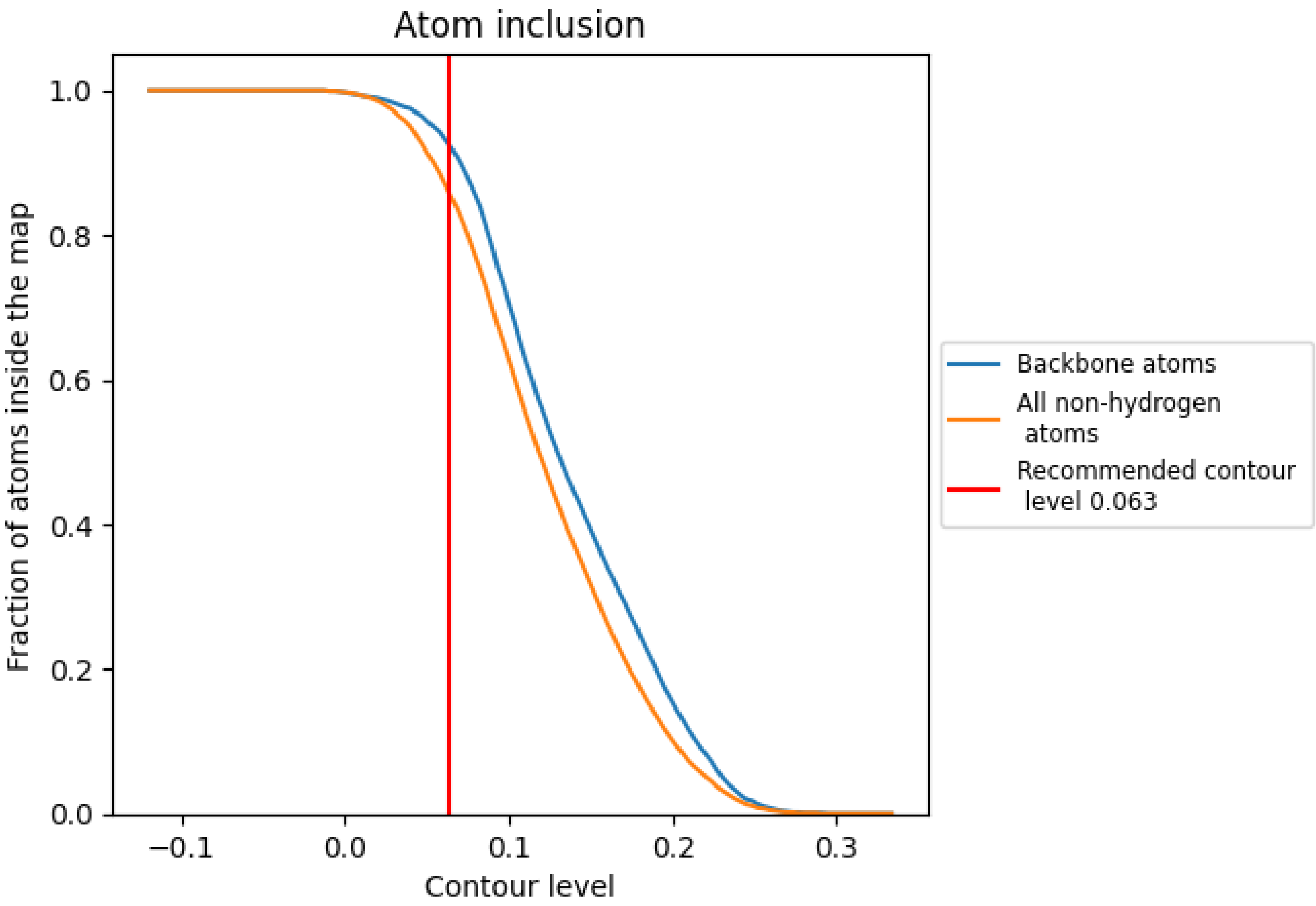
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

9.3 Atom inclusion mapped to coordinate model ⓘ



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 (0.063).

9.4 Atom inclusion ⓘ



At the recommended contour level, 93% of all backbone atoms, 86% 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 (0.063) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	▬ 0.8610	▬ 0.4970
A	▬ 0.9080	▬ 0.5570
B	▬ 0.9110	▬ 0.5570
C	▬ 0.9110	▬ 0.5650
D	▬ 0.9230	▬ 0.5520
E	▬ 0.8750	▬ 0.5580
F	▬ 0.8570	▬ 0.5430
G	▬ 0.9210	▬ 0.5640
H	▬ 0.9210	▬ 0.5500
I	▬ 0.9430	▬ 0.5120
J	▬ 0.9370	▬ 0.5070
K	▬ 0.7080	▬ 0.4060