



## wwPDB EM Validation Summary Report ⓘ

Oct 16, 2025 – 01:46 pm BST

PDB ID : 9SYU / pdb\_00009syu  
EMDB ID : EMD-55354  
Title : shutdown state non-muscle myosin 2A heads region  
Authors : Peckham, M.; Carrington, G.  
Deposited on : 2025-10-14  
Resolution : 2.98 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](mailto: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>.

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

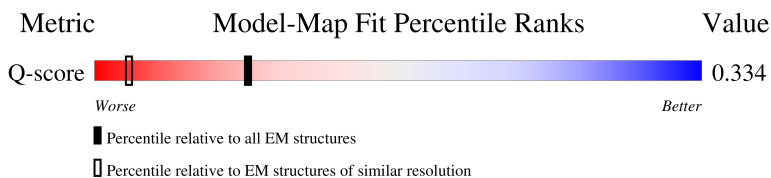
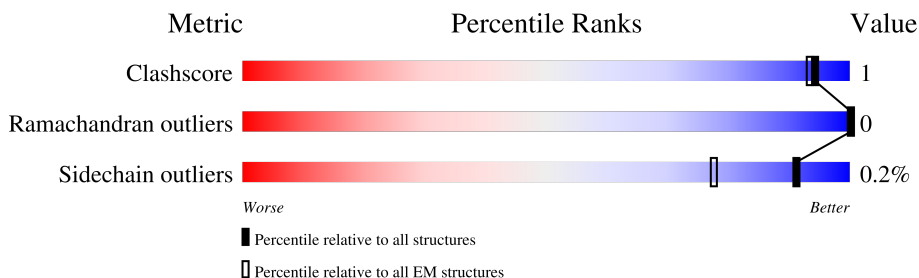
EMDB validation analysis : 0.0.1.dev129  
Mogul : 1.8.4, CSD as541be (2020)  
MolProbity : 4-5-2 with Phenix2.0  
buster-report : 1.1.7 (2018)  
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)  
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)  
MapQ : 1.9.13  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.46

# 1 Overall quality at a glance

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




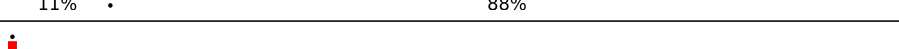
The reported resolution of this entry is 2.98 Å.

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)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	210492	15764	-
Ramachandran outliers	207382	16835	-
Sidechain outliers	206894	16415	-
Q-score	-	25397	13236 ( 2.48 - 3.48 )

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  $\geq 3$ , 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	1960	
1	B	1960	
1	G	1960	
1	H	1960	

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Mol	Chain	Length	Quality of chain
2	C	151	<div><div></div><div>93%</div><div>7%</div><div></div></div>
2	D	151	<div><div>11%</div><div>97%</div><div></div><div></div></div>
3	E	172	<div><div></div><div>85%</div><div></div><div>12%</div></div>
3	F	172	<div><div></div><div>89%</div><div></div><div>8%</div></div>

## 2 Entry composition [i](#)

There are 6 unique types of molecules in this entry. The entry contains 23539 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 Isoform 1 of Myosin-9.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	917	Total	C	N	O	S	0	0
			7435	4719	1289	1384	43		
1	B	915	Total	C	N	O	S	0	0
			7415	4708	1283	1381	43		
1	G	229	Total	C	N	O	S	0	0
			1881	1141	341	390	9		
1	H	229	Total	C	N	O	S	0	0
			1881	1141	341	390	9		

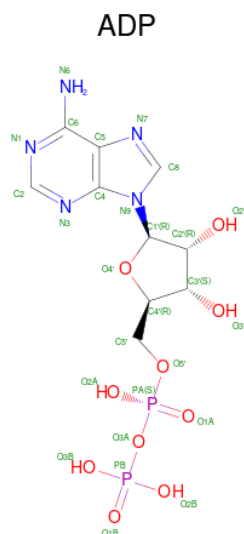
- Molecule 2 is a protein called Isoform 1 of Myosin light polypeptide 6.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	C	150	Total	C	N	O	S	0	0
			1174	729	195	238	12		
2	D	150	Total	C	N	O	S	0	0
			1175	729	195	239	12		

- Molecule 3 is a protein called Myosin regulatory light polypeptide 9.

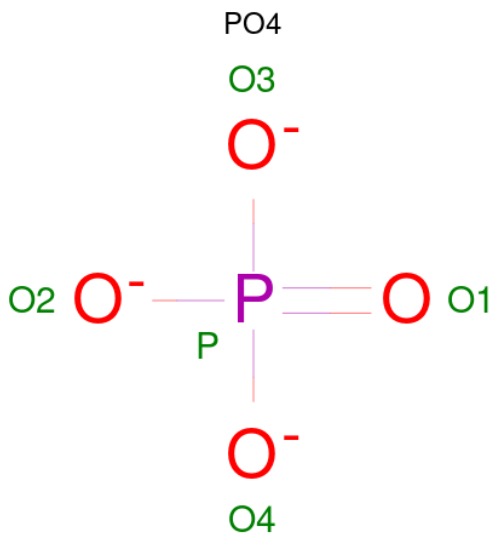
Mol	Chain	Residues	Atoms					AltConf	Trace
3	E	152	Total	C	N	O	S	0	0
			1229	771	200	249	9		
3	F	158	Total	C	N	O	S	0	0
			1281	803	212	257	9		

- Molecule 4 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
4	A	1	Total 27	C 10	N 5	O 10	P 2	0
4	B	1	Total 27	C 10	N 5	O 10	P 2	0

- Molecule 5 is PHOSPHATE ION (CCD ID: PO4) (formula:  $\text{O}_4\text{P}$ ) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms			AltConf
5	A	1	Total	O	P	0
			5	4	1	

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Mol	Chain	Residues	Atoms			AltConf
5	B	1	Total	O	P	0
			5	4	1	

- Molecule 6 is MAGNESIUM ION (CCD ID: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		AltConf
6	A	1	Total	Mg	0
			1	1	
6	B	1	Total	Mg	0
			1	1	
6	E	1	Total	Mg	0
			1	1	
6	F	1	Total	Mg	0
			1	1	

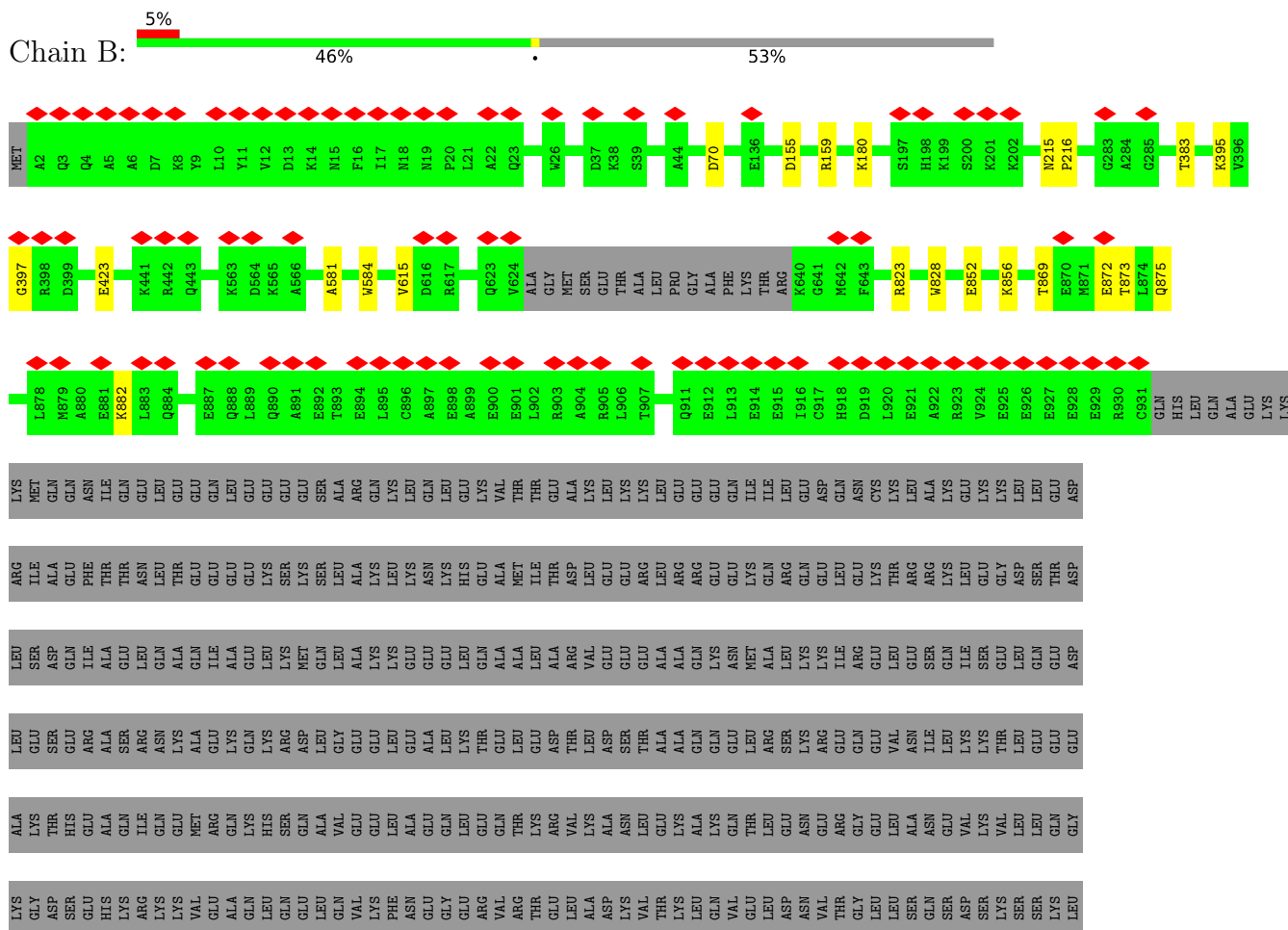


- Molecule 1: Isoform 1 of Myosin-9



LYS	GLY	ARG	ALA	LEU	ARG	ILE	ASP	GLY
GLY	GLN	GLN	GLN	GLN	GLN	LYS	GLU	LYS
ALA	LEU	LEU	ILE	ILE	ALA	GLN	GLN	GLN
GLY	GLU	GLU	GLU	GLN	GLN	GLN	GLU	VAL
ASP	GLU	GLU	GLN	ILE	GLU	LYS	GLU	GLU
GLY	ALA	GLU	LEU	ASN	ARG	LEU	LYS	LEU
SER	GLU	GLU	ASN	THR	ASP	GLN	LYS	GLU
ASP	GLU	ASP	THR	THR	ASP	GLN	LYS	GLU
GLU	GLU	GLU	ASN	ARG	ILE	CYS	GLN	LEU
GLU	GLU	GLU	ASN	SER	ALA	GLN	VAL	GLU
VAL	ALA	THR	THR	ALA	HIS	ASN	ARG	GLN
ASP	ARG	LYS	LYS	LEU	SER	GLU	GLU	VAL
GLY	ALA	GLU	GLU	GLU	GLU	ASP	ARG	ALA
LYS	ASN	ARG	ARG	ARG	ILE	CYS	GLN	LEU
ALA	ALA	ALA	GLN	SER	ALA	MET	VAL	GLU
ASP	SER	SER	ALA	HIS	ASN	ARG	GLN	GLN
GLY	ARG	ALA	ALA	ALA	SER	GLU	GLU	VAL
ALA	ARG	CYS	GLN	GLN	SER	LEU	MET	VAL
GLU	LYS	LYS	LYS	LYS	GLY	ASP	GLU	GLU
ALA	LEU	LEU	GLN	ASN	LYS	ASP	ALA	GLU
PRO	GLN	VAL	VAL	GLU	GLY	THR	GLU	MET
ALA	ARG	GLU	ARG	ALA	ALA	ALA	LEU	THR
GLU	LEU	THR	THR	ARG	LEU	SER	ARG	GLN
	GLU	GLU	GLU	GLN	GLU	ARG	GLU	LEU
	ASP	THR	ASP	GLN	ARG	ILE	SER	ASP
	ALA	VAL	VAL	LYS	ARG	ALA	ALA	GLY
	THR	THR	THR	THR	ARG	GLU	ARG	ASP
	ALA	ALA	VAL	VAL	LEU	GLN	LYS	GLU
	ASP	ASP	ASP	VAL	GLU	LYS	LYS	ASP
	VAL	VAL	GLU	GLU	GLU	LYS	ALA	GLU
	SER	SER	ARG	GLN	GLU	LEU	LEU	GLY
	SER	SER	LYS	LYS	GLU	LYS	LEU	ASP
	LEU	LEU	ASN	MET	GLU	SER	MET	ARG
	LYS	LYS	ALA	GLU	LEU	MET	ASP	LEU
	ASN	ASN	GLU	GLY	GLU	GLU	LEU	VAL
	LYS	LYS	GLN	THR	GLU	ALA	LYS	VAL
	GLU	GLU	TYR	VAL	GLU	ALA	ASN	GLN
	LEU	LEU	TYR	VAL	GLU	GLU	ASP	ASN
	ARG	ARG	LYS	LYS	GLN	MET	LEU	LEU
	ARG	ARG	LYS	SER	GLY	ILE	GLU	GLN
	GLY	GLY	GLN	LYS	ASN	GLN	ALA	ALA
	ASP	ASP	ALA	TYR	THR	LEU	HIS	MET
	LEU	LEU	ASP	LYS	GLU	GLN	ILE	LYS
	PRO	PRO	LYS	ALA	LEU	GLU	ASP	ALA
	PHE	PHE	ALA	SER	ILE	GLU	SER	GLN
	VAL	VAL	SER	ILE	ASN	LEU	ALA	PHE
	VAL	VAL	THR	THR	ASP	ALA	ASN	GLU
	PRO	PRO	ARG	ALA	ARG	ALA	LYS	ARG
	ARG	ARG	LEU	ALA	LEU	ALA	ASN	ASP
	ARG	LYS	GLU	GLU	LYS	ARG	ARG	GLN
	MET	MET	GLN	ALA	LYS	ARG	ASP	GLY
	ALA	ARG	LYS	ILE	ASN	LYS	GLU	ARG

- Molecule 1: Isoform 1 of Myosin-9





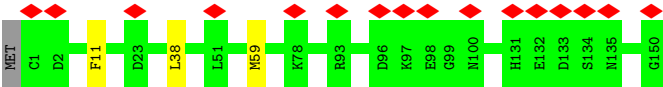


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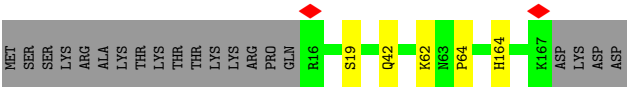
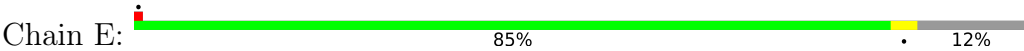
- Molecule 1: Isoform 1 of Myosin-9

[illegible]

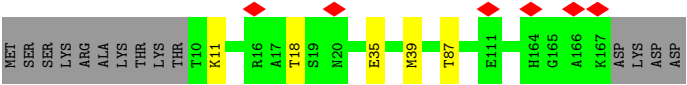
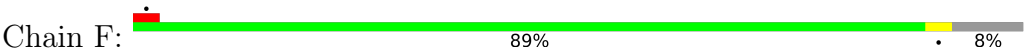




• Molecule 3: Myosin regulatory light polypeptide 9



• Molecule 3: Myosin regulatory light polypeptide 9



## 4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	186265	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ( $e^-/\text{\AA}^2$ )	36.94	Depositor
Minimum defocus (nm)	900	Depositor
Maximum defocus (nm)	3000	Depositor
Magnification	96000	Depositor
Image detector	FEI FALCON IV (4k x 4k)	Depositor
Maximum map value	2.110	Depositor
Minimum map value	-0.007	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.024	Depositor
Recommended contour level	0.03	Depositor
Map size ( $\text{\AA}$ )	393.6, 393.6, 393.6	wwPDB
Map dimensions	480, 480, 480	wwPDB
Map angles ( $^\circ$ )	90.0, 90.0, 90.0	wwPDB
Pixel spacing ( $\text{\AA}$ )	0.82, 0.82, 0.82	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, PO4, 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	0.27	0/7569	0.53	1/10184 (0.0%)
1	B	0.31	0/7549	0.56	0/10159
1	G	0.26	0/1888	0.52	0/2507
1	H	0.25	0/1888	0.51	0/2507
2	C	0.25	0/1189	0.45	0/1594
2	D	0.36	0/1190	0.57	0/1594
3	E	0.31	0/1252	0.64	0/1685
3	F	0.31	0/1305	0.58	0/1755
All	All	0.29	0/23830	0.54	1/31985 (0.0%)

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	537	ALA	N-CA-C	5.60	117.69	109.24

There are no chirality outliers.

There are no planarity outliers.

### 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	7435	0	7486	12	0
1	B	7415	0	7463	11	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	G	1881	0	1891	10	0
1	H	1881	0	1891	13	0
2	C	1174	0	1138	5	0
2	D	1175	0	1138	1	0
3	E	1229	0	1154	5	0
3	F	1281	0	1215	4	0
4	A	27	0	12	1	0
4	B	27	0	12	1	0
5	A	5	0	0	0	0
5	B	5	0	0	0	0
6	A	1	0	0	0	0
6	B	1	0	0	0	0
6	E	1	0	0	0	0
6	F	1	0	0	0	0
All	All	23539	0	23400	51	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 1.

The worst 5 of 51 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:776:ASP:O	1:A:780:THR:HG23	1.98	0.62
1:G:1591:VAL:HG21	1:H:1591:VAL:HG21	1.84	0.58
1:G:1494:GLU:OE1	1:G:1497:ARG:NH1	2.36	0.58
1:A:881:GLU:OE1	1:B:882:LYS:NZ	2.31	0.55
1:B:852:GLU:OE1	1:B:856:LYS:NZ	2.41	0.54

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	913/1960 (47%)	892 (98%)	21 (2%)	0	100	100
1	B	911/1960 (46%)	892 (98%)	19 (2%)	0	100	100
1	G	227/1960 (12%)	227 (100%)	0	0	100	100
1	H	227/1960 (12%)	225 (99%)	2 (1%)	0	100	100
2	C	148/151 (98%)	146 (99%)	2 (1%)	0	100	100
2	D	148/151 (98%)	146 (99%)	2 (1%)	0	100	100
3	E	150/172 (87%)	148 (99%)	2 (1%)	0	100	100
3	F	156/172 (91%)	151 (97%)	5 (3%)	0	100	100
All	All	2880/8486 (34%)	2827 (98%)	53 (2%)	0	100	100

There are no Ramachandran outliers to report.

### 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	803/1716 (47%)	802 (100%)	1 (0%)	92	97
1	B	801/1716 (47%)	798 (100%)	3 (0%)	89	95
1	G	203/1716 (12%)	203 (100%)	0	100	100
1	H	203/1716 (12%)	203 (100%)	0	100	100
2	C	129/130 (99%)	129 (100%)	0	100	100
2	D	129/130 (99%)	128 (99%)	1 (1%)	79	90
3	E	132/151 (87%)	132 (100%)	0	100	100
3	F	138/151 (91%)	138 (100%)	0	100	100
All	All	2538/7426 (34%)	2533 (100%)	5 (0%)	91	97

All (5) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	822	LEU
1	B	383	THR

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Mol	Chain	Res	Type
1	B	423	GLU
1	B	615	VAL
2	D	59	MET

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 28 such sidechains are listed below:

Mol	Chain	Res	Type
1	B	307	HIS
1	H	1540	GLN
1	B	493	GLN
3	F	42	GLN
1	B	372	GLN

### 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 oligosaccharides in this entry.

## 5.6 Ligand geometry [i](#)

Of 8 ligands modelled in this entry, 4 are monoatomic - leaving 4 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	$\# Z  > 2$
5	PO4	A	2002	6	4,4,4	1.46	1 (25%)	6,6,6	0.50	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
4	ADP	B	2001	6	24,29,29	0.98	1 (4%)	29,45,45	1.07	2 (6%)
5	PO4	B	2002	6	4,4,4	1.72	1 (25%)	6,6,6	0.41	0
4	ADP	A	2001	6	24,29,29	0.96	1 (4%)	29,45,45	1.17	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
4	ADP	B	2001	6	-	1/12/32/32	0/3/3/3
4	ADP	A	2001	6	-	0/12/32/32	0/3/3/3

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	B	2002	PO4	P-O1	2.92	1.57	1.50
4	B	2001	ADP	C5-C4	2.63	1.47	1.40
5	A	2002	PO4	P-O1	2.51	1.56	1.50
4	A	2001	ADP	C5-C4	2.43	1.47	1.40

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	B	2001	ADP	N3-C2-N1	-3.29	123.54	128.68
4	A	2001	ADP	N3-C2-N1	-3.17	123.73	128.68
4	A	2001	ADP	PA-O3A-PB	-2.57	124.01	132.83
4	B	2001	ADP	PA-O3A-PB	-2.08	125.70	132.83
4	A	2001	ADP	C4-C5-N7	-2.01	107.30	109.40

There are no chirality outliers.

All (1) torsion outliers are listed below:

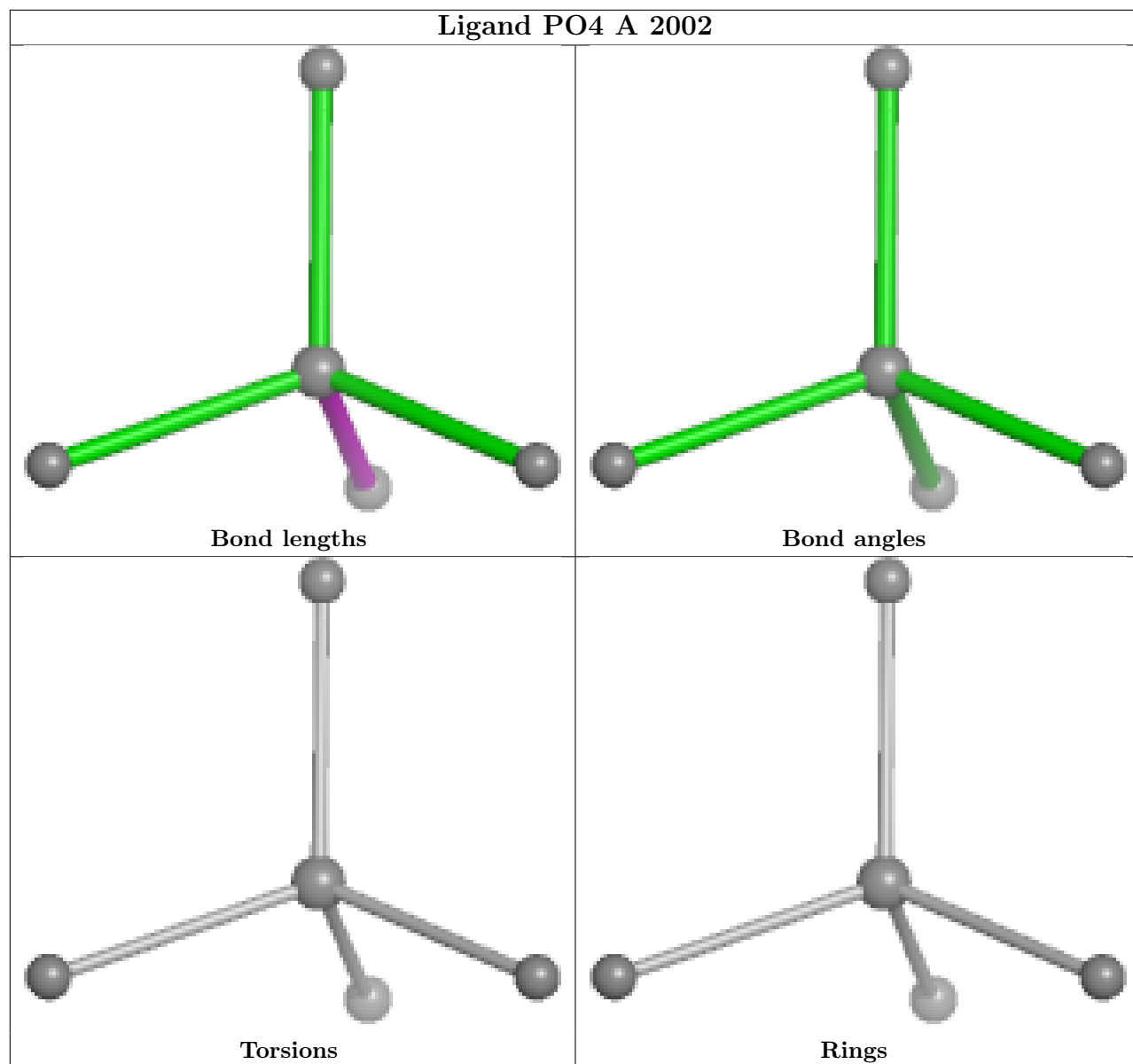
Mol	Chain	Res	Type	Atoms
4	B	2001	ADP	C4'-C5'-O5'-PA

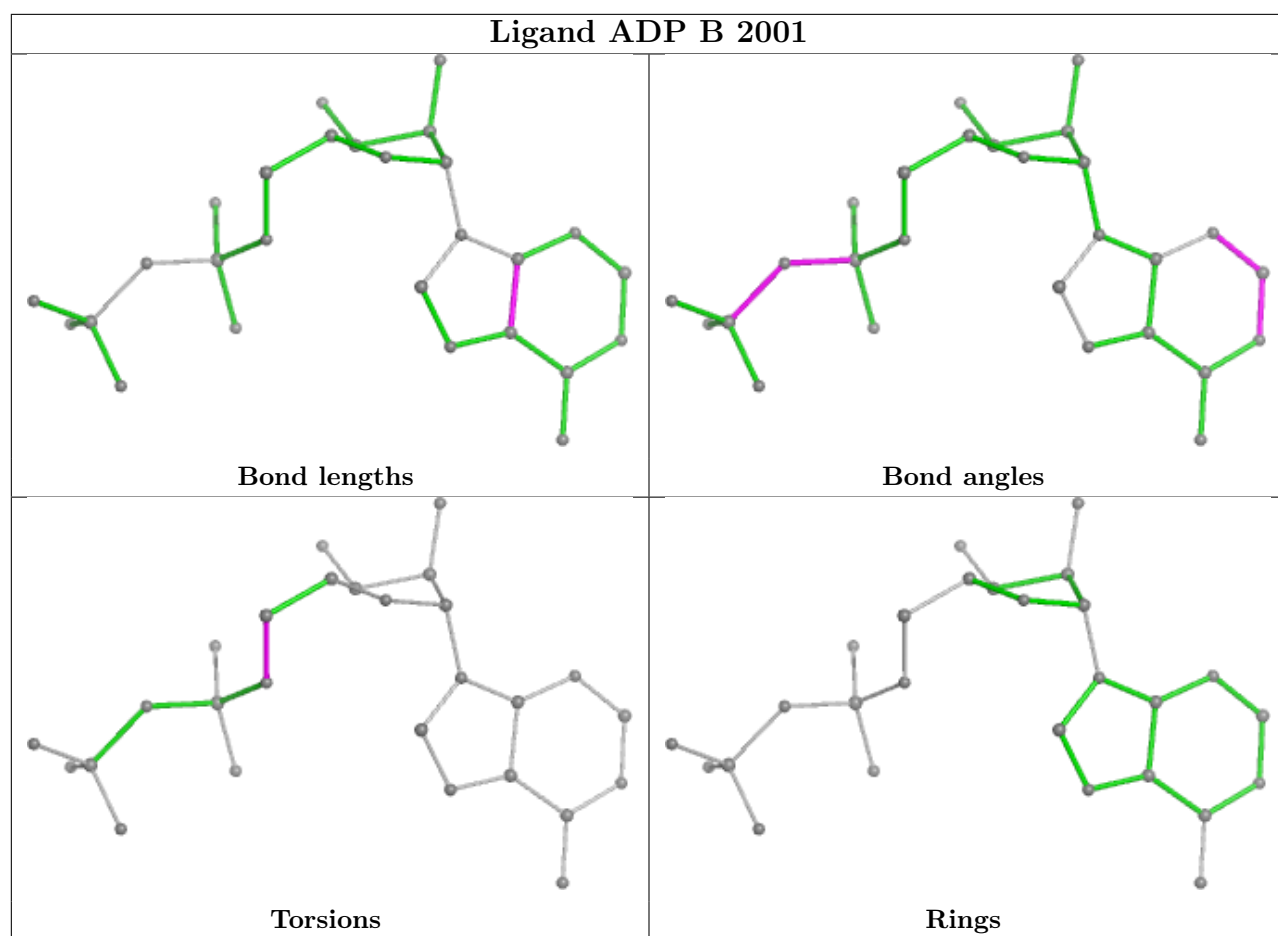
There are no ring outliers.

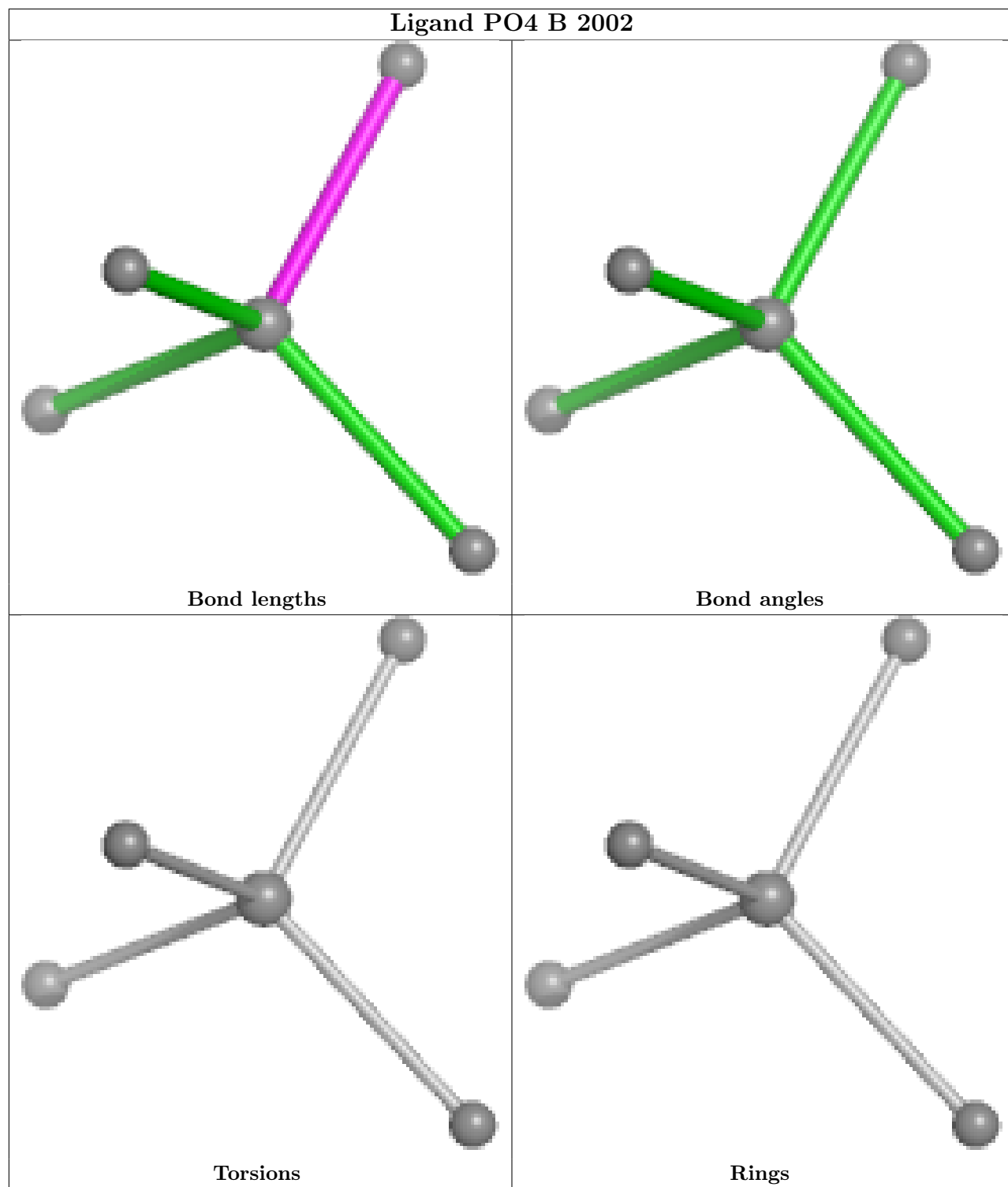
2 monomers are involved in 2 short contacts:

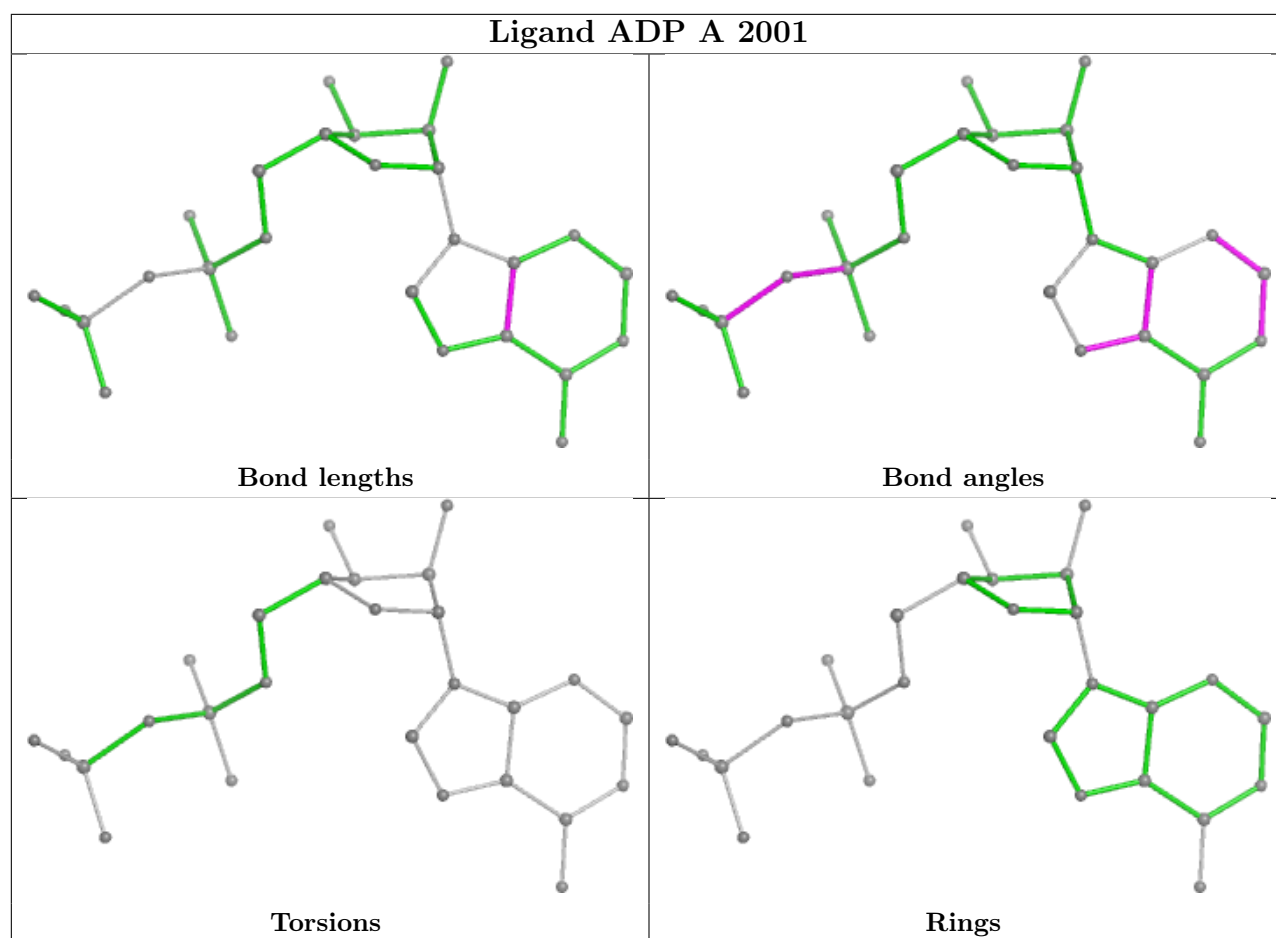
Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	B	2001	ADP	1	0
4	A	2001	ADP	1	0

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 than 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.









## 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.

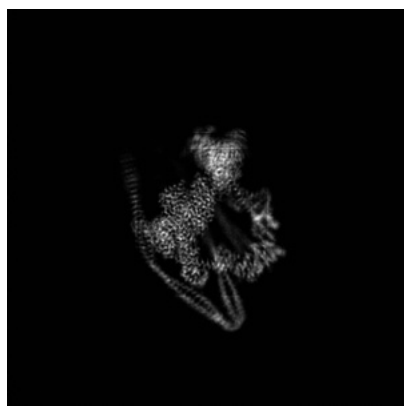
## 6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-55354. These allow visual inspection of the internal detail of the map and identification of artifacts.

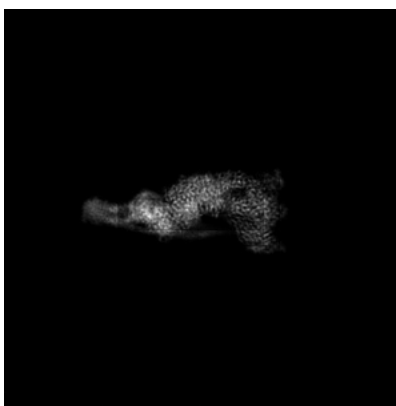
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

### 6.1 Orthogonal projections [i](#)

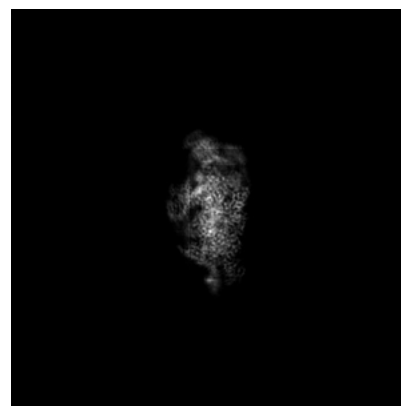
#### 6.1.1 Primary map



X

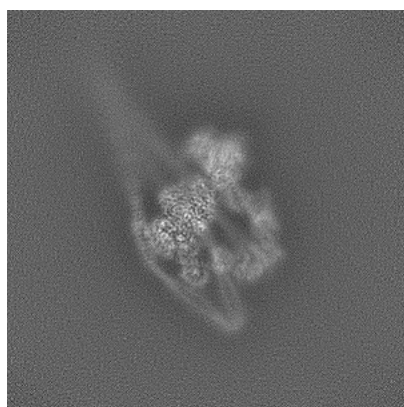


Y

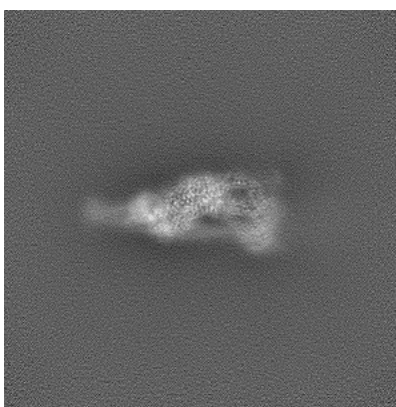


Z

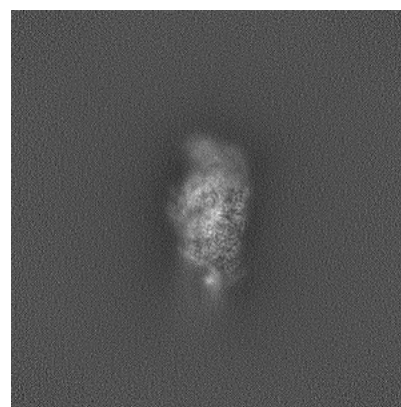
#### 6.1.2 Raw map



X



Y

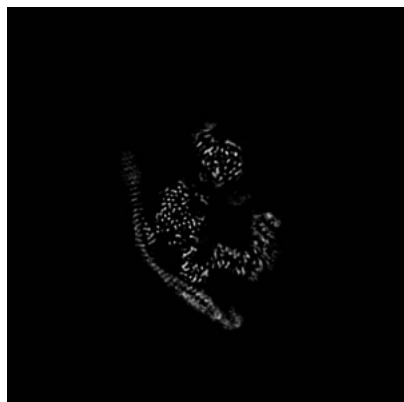


Z

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

## 6.2 Central slices [i](#)

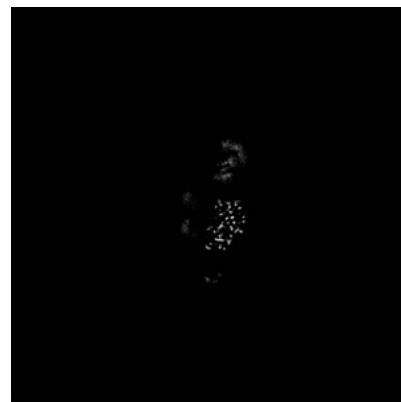
### 6.2.1 Primary map



X Index: 240

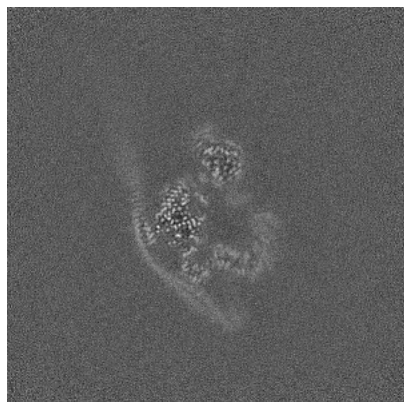


Y Index: 240

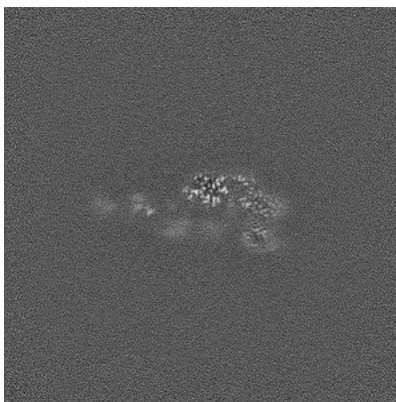


Z Index: 240

### 6.2.2 Raw map



X Index: 240



Y Index: 240



Z Index: 240

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: 238

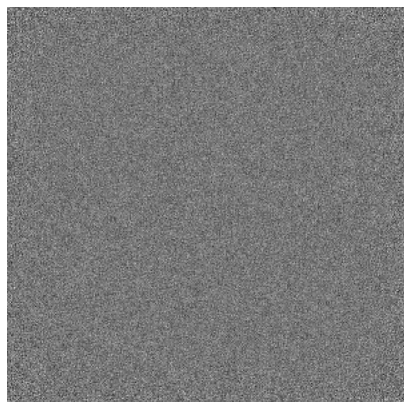


Y Index: 256

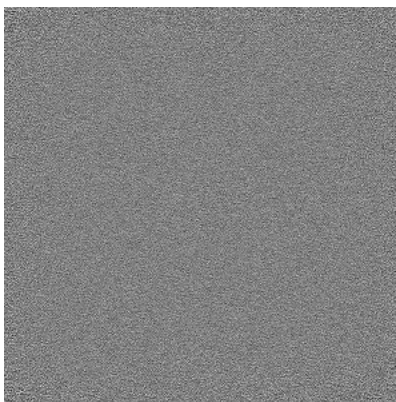


Z Index: 221

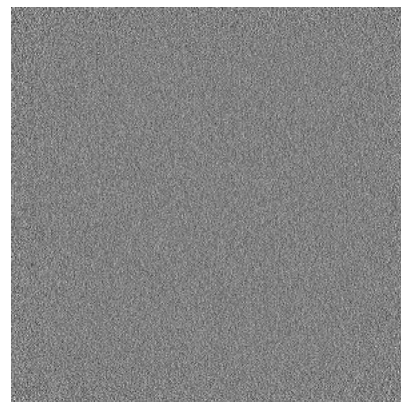
### 6.3.2 Raw map



X Index: 0



Y Index: 0



Z Index: 0

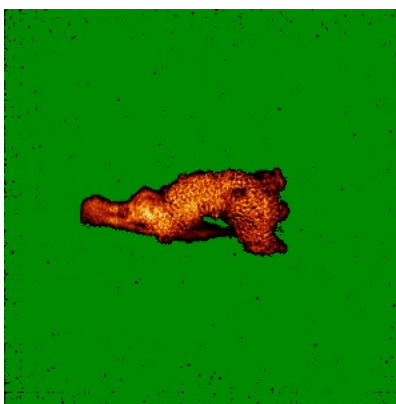
The images above show the largest variance slices of the map in three orthogonal directions.

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

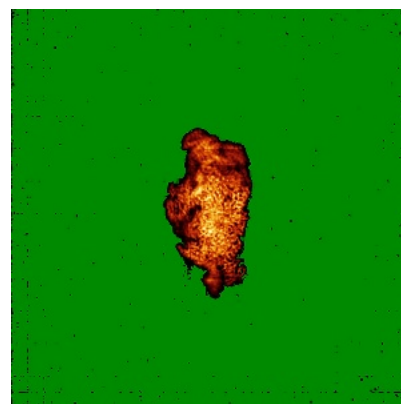
### 6.4.1 Primary map



X

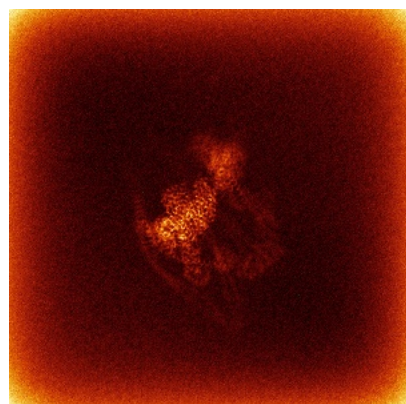


Y

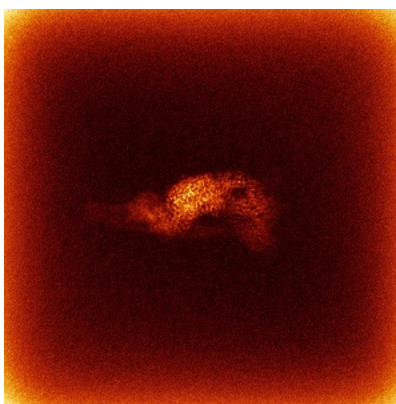


Z

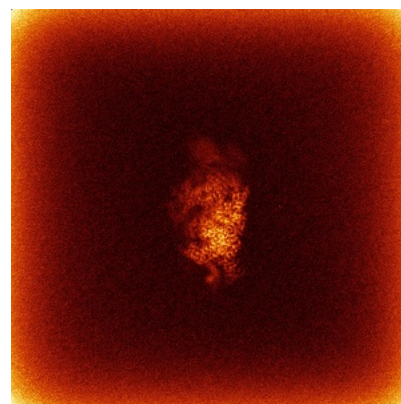
### 6.4.2 Raw map



X



Y

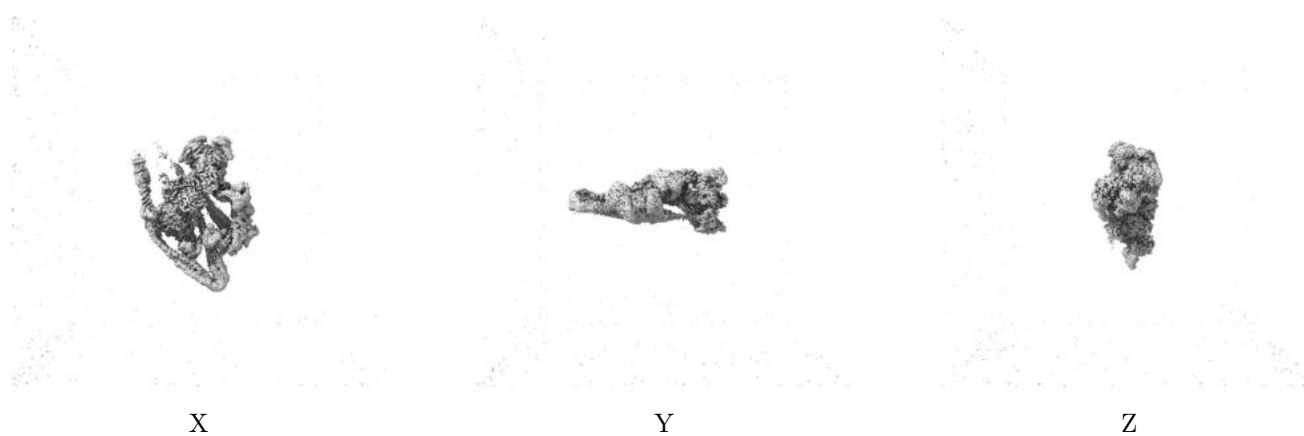


Z

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.

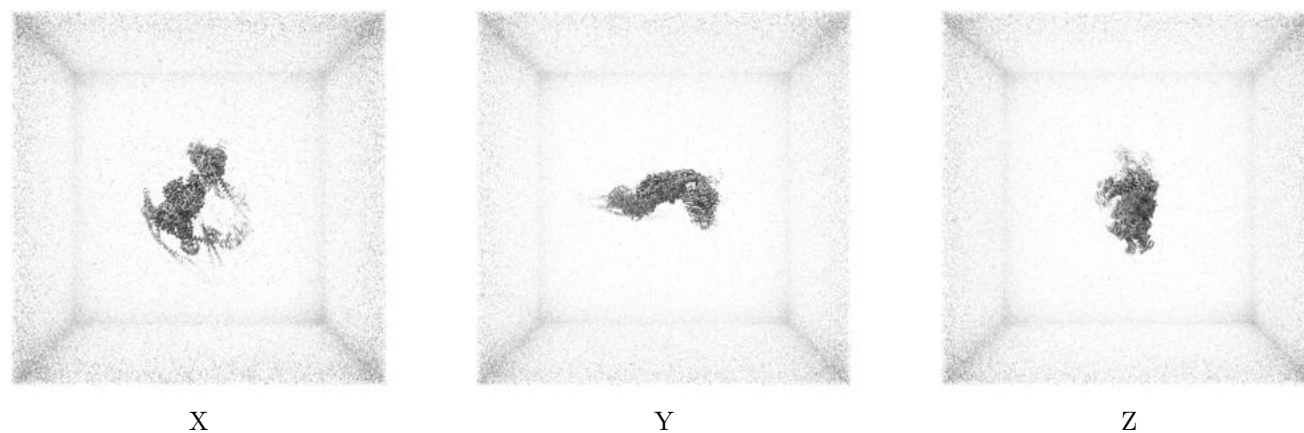
## 6.5 Orthogonal surface views [i](#)

### 6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.03. 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.

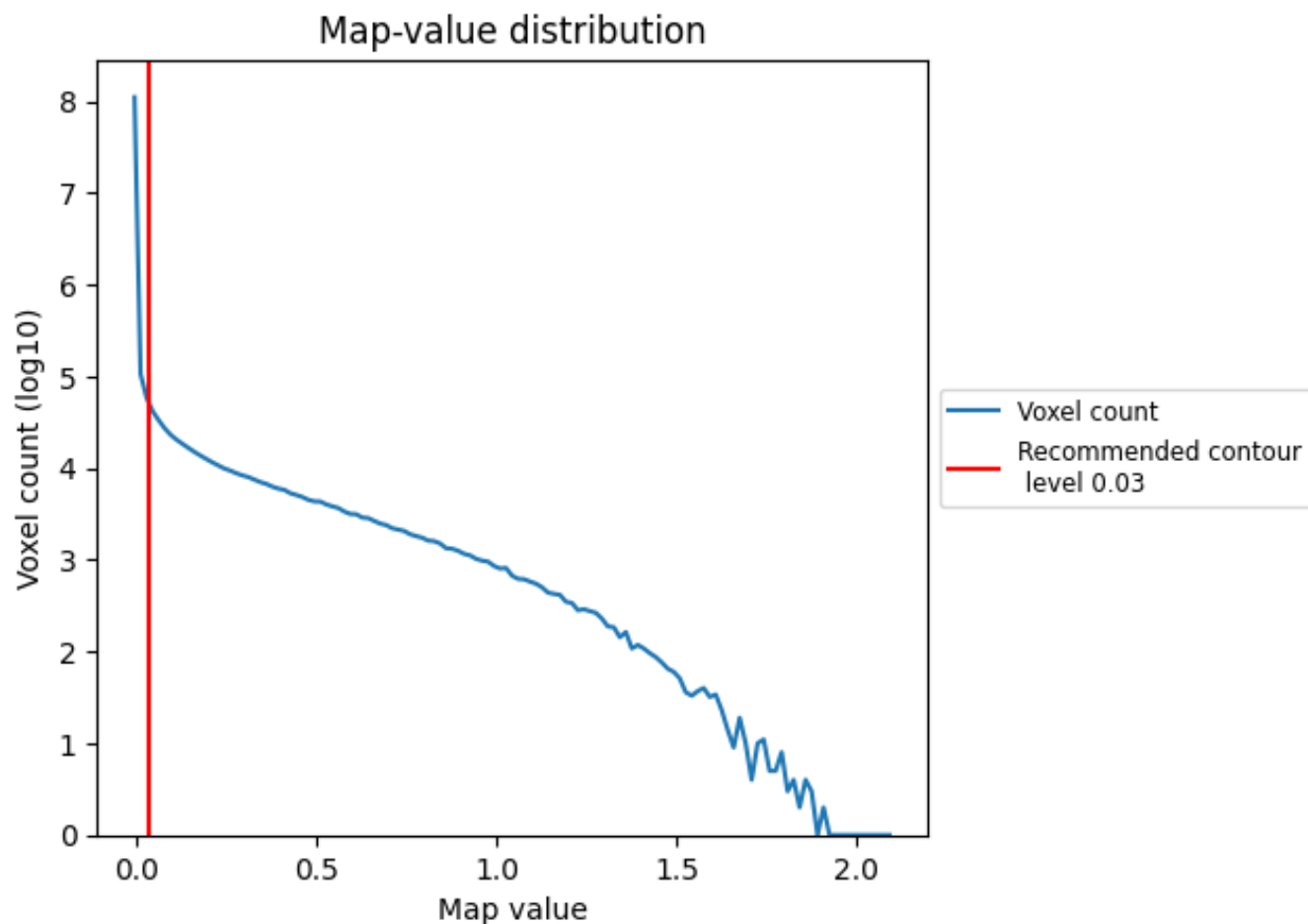
## 6.6 Mask visualisation [i](#)

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

## 7 Map analysis [i](#)

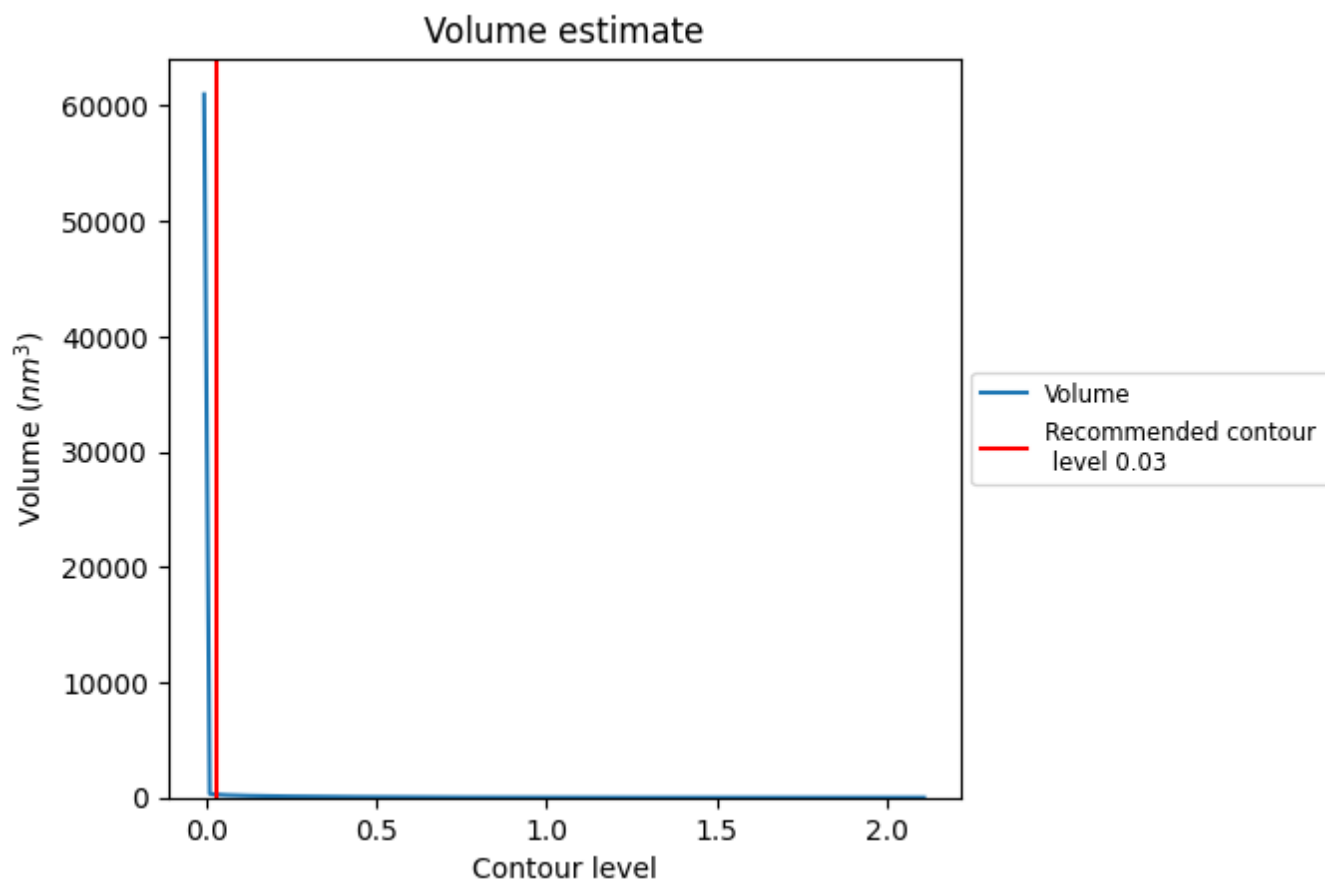
This section contains the results of statistical analysis of the map.

### 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.

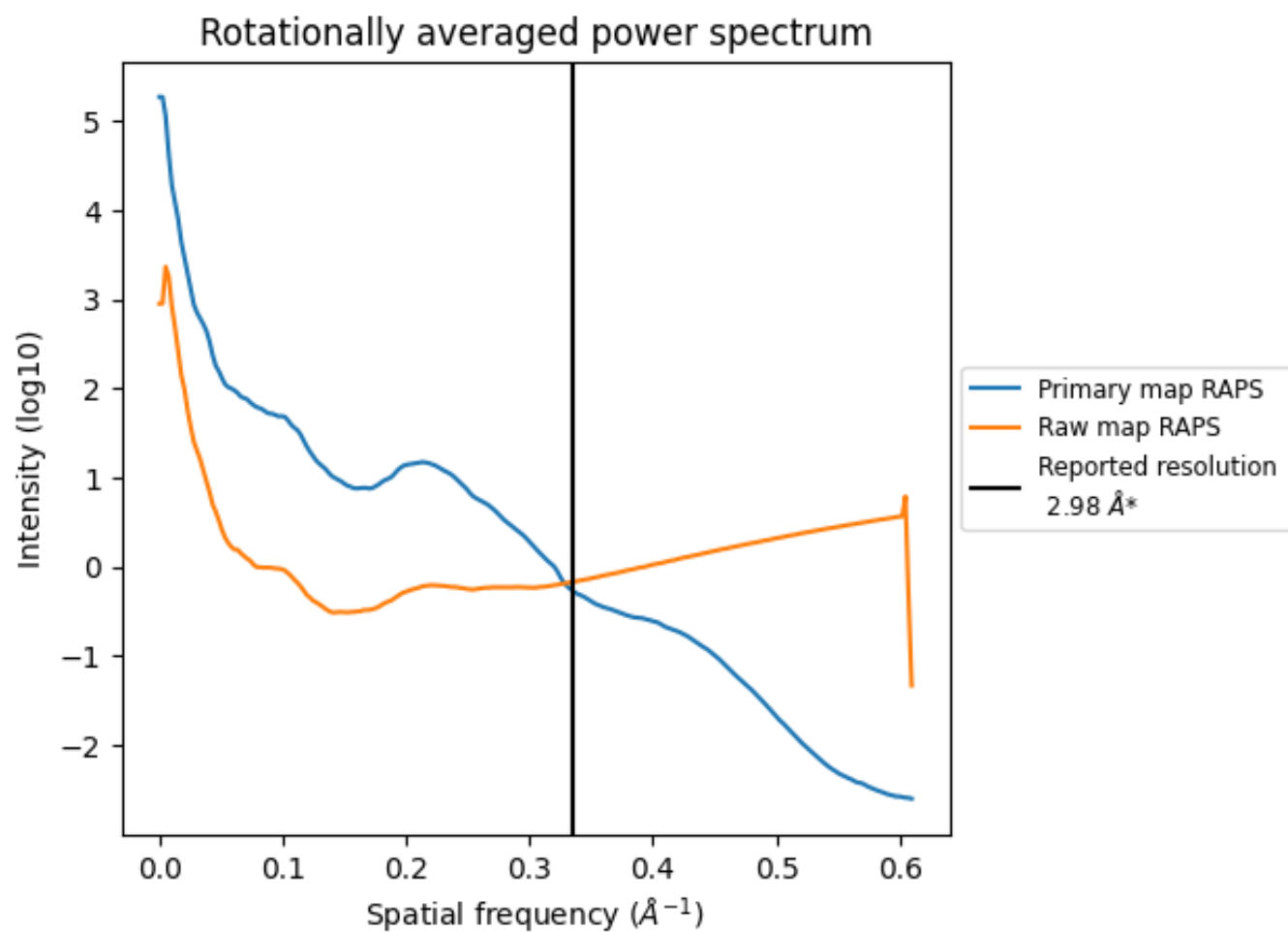
## 7.2 Volume estimate [i](#)



The volume at the recommended contour level is 260 nm<sup>3</sup>; this corresponds to an approximate mass of 235 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 ⓘ

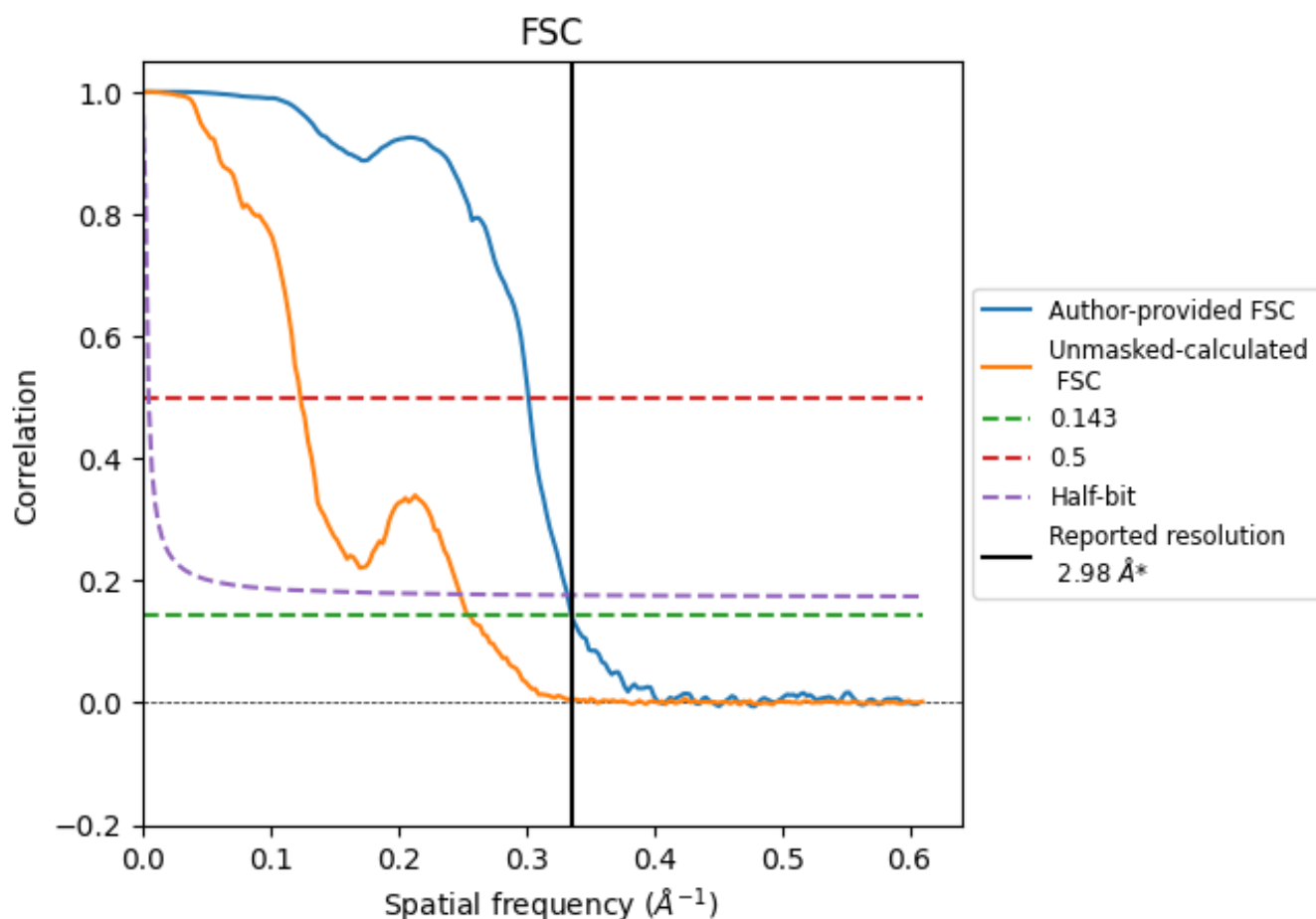


\*Reported resolution corresponds to spatial frequency of 0.336 Å<sup>-1</sup>

## 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 0.336  $\text{\AA}^{-1}$

## 8.2 Resolution estimates [i](#)

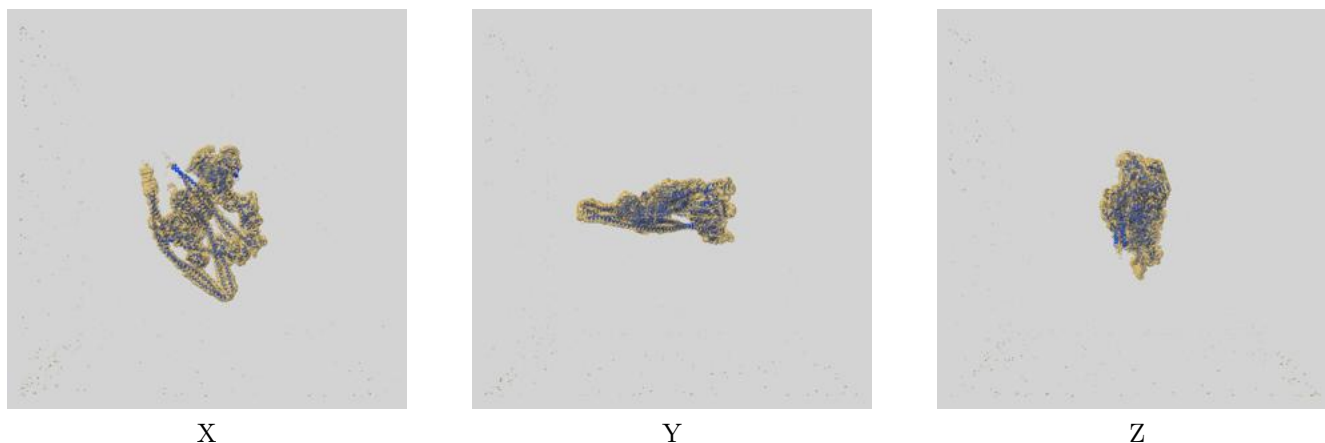
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.98	-	-
Author-provided FSC curve	2.98	3.31	3.01
Unmasked-calculated*	3.94	8.08	4.02

\*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 3.94 differs from the reported value 2.98 by more than 10 %

## 9 Map-model fit [i](#)

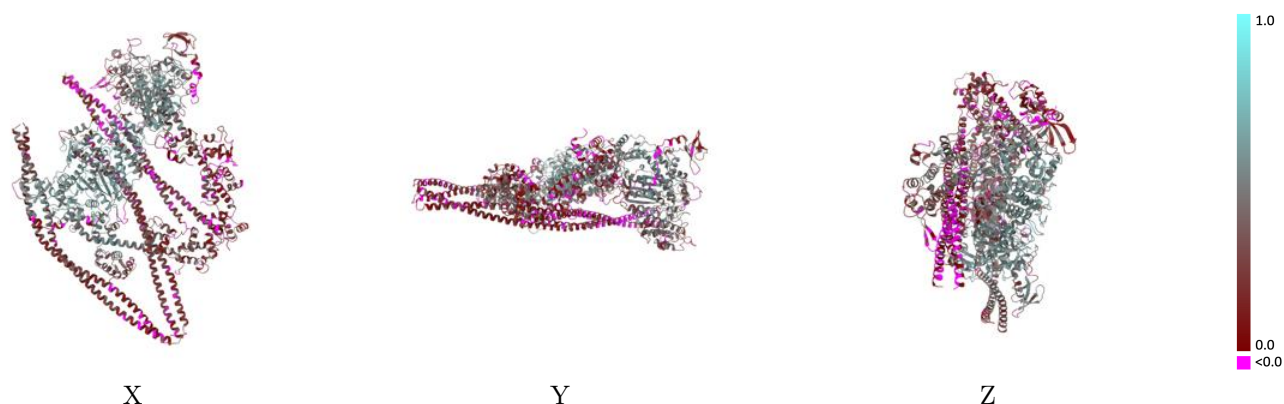
This section contains information regarding the fit between EMDB map EMD-55354 and PDB model 9SYU. Per-residue inclusion information can be found in [section 3](#) on [page 7](#).

### 9.1 Map-model overlay [i](#)



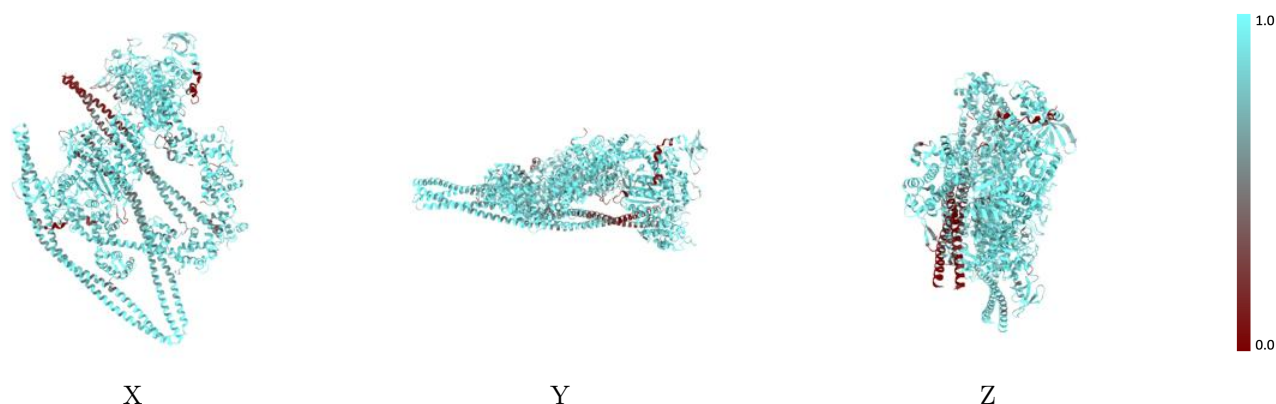
The images above show the 3D surface view of the map at the recommended contour level 0.03 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



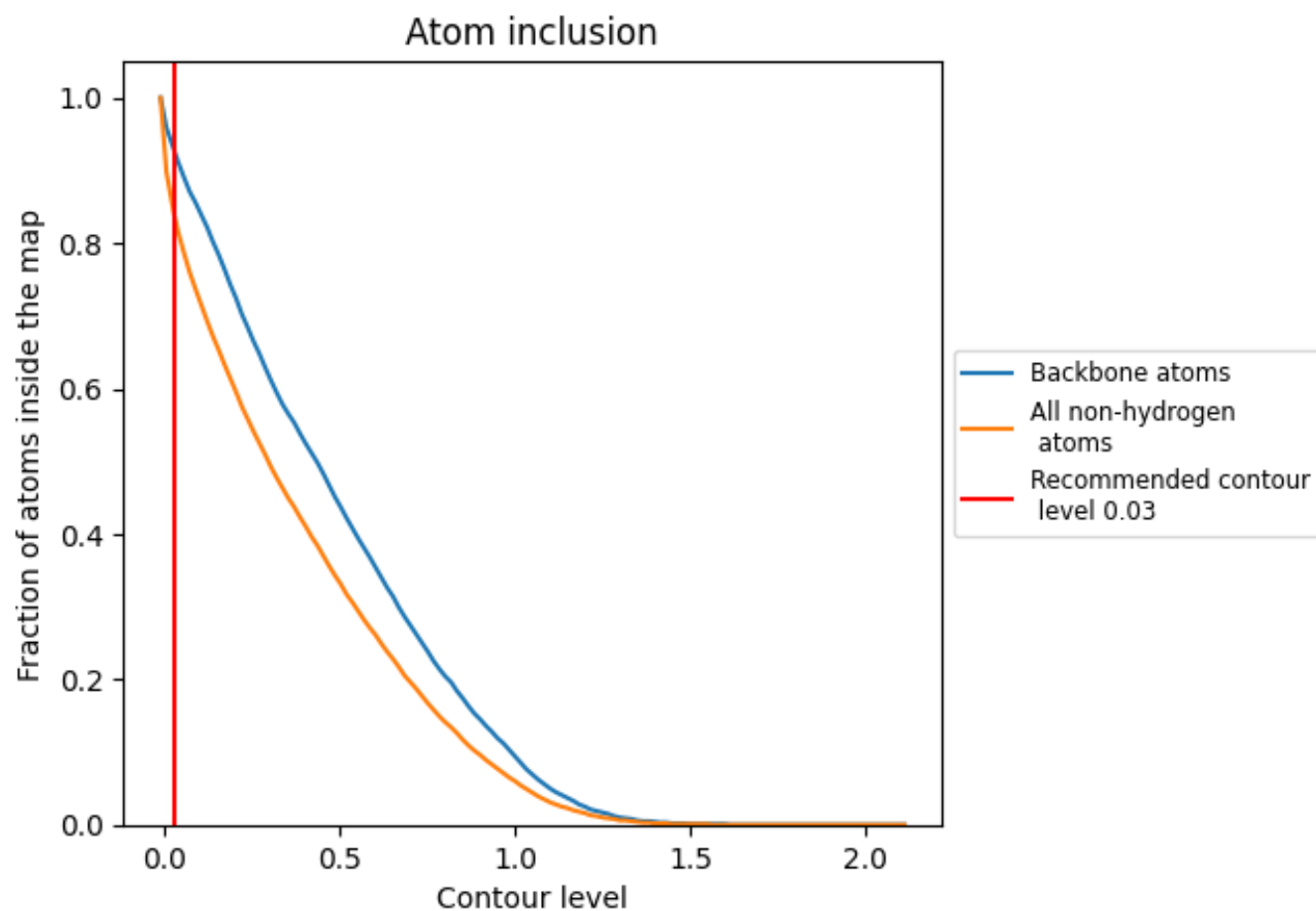
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

## 9.3 Atom inclusion mapped to coordinate model [i](#)



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

## 9.4 Atom inclusion ⓘ



At the recommended contour level, 93% of all backbone atoms, 84% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary ⓘ

The table lists the average atom inclusion at the recommended contour level (0.03) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	<div></div> 0.8420	<div></div> 0.3340
A	<div></div> 0.8750	<div></div> 0.4610
B	<div></div> 0.8250	<div></div> 0.3430
C	<div></div> 0.9000	<div></div> 0.3960
D	<div></div> 0.7600	<div></div> 0.1260
E	<div></div> 0.8720	<div></div> 0.2750
F	<div></div> 0.8590	<div></div> 0.1650
G	<div></div> 0.8460	<div></div> 0.2040
H	<div></div> 0.7570	<div></div> 0.1720

