



## Full wwPDB EM Validation Report ⓘ

Jan 21, 2025 – 03:05 PM EST

PDB ID : 9CQ9  
EMDB ID : EMD-45812  
Title : Modifying region of EcPKS1  
Authors : Schubert, H.L.; Hill, C.P.  
Deposited on : 2024-07-19  
Resolution : 3.50 Å (reported)  
Based on initial model : .

This is a Full wwPDB EM Validation 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.dev113  
MolProbity : 4.02b-467  
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) : 2.40

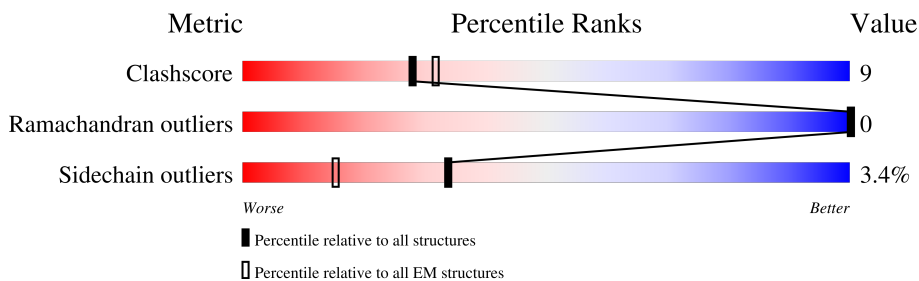
# 1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

*ELECTRON MICROSCOPY*

The reported resolution of this entry is 3.50 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  $\geq 3$ , 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	2272	
1	B	2272	

## 2 Entry composition

There is only 1 type of molecule in this entry. The entry contains 38874 atoms, of which 19370 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 Polyketide synthase 1.

Mol	Chain	Residues	Atoms					AltConf	Trace	
			Total	C	H	N	O			S
1	A	1256	19437	6164	9685	1709	1825	54	0	0
1	B	1256	19437	6164	9685	1709	1825	54	0	0







HIS	T1741	GLY
HIS	I1756	LEU
HIS	C1764	LYS
HIS	E1765	SER
	I1766	VAL
	F1767	SER
	I1768	GLY
	E1800	VAL
	V1803	PHE
	T1807	LEU
	N1817	ASP
	R1829	LEU
	A1841	ASP
	GLY	SER
	ARG	LEU
	GLY	MET
	SER	SER
	ASP	VAL
	ALA	GLU
	E1849	ILE
	D1859	LYS
	T1860	GLN
	S1861	GLY
	W1878	ILE
	L1881	GLN
	L1897	ALA
	A1898	LEU
	R1899	THR
	T1900	LYS
	V1901	VAL
	V1908	ASP
	D1909	ILE
	E1915	GLY
	K1926	PHE
	I1927	ALA
	E1930	GLN
	K1940	LEU
	K1941	GLN
	Y1957	ALA
	V1960	GLN
	L1963	LEU
	F1966	LYS
	G1967	ALA
	L1968	THR
	E1969	LYS
	V1979	VAL
	R1987	ASP
	I1990	ILE
	T1991	GLY
	T1992	LEU
	G1993	GLN
	K1998	LEU
	V2010	GLY
	V2011	LEU
	D2031	SER
	L2032	MET
	L2035	SER
	L2041	VAL
	N2044	GLU
	L2045	ILE
	R2046	LYS
	D2047	GLY
	Y2058	ILE
	T2061	GLN
	K2065	ALA
	I2066	LEU
	T2069	THR
	L2072	LYS
	D2073	VAL
	S2076	GLY
	L2081	PHE
	L2085	ALA
	D2086	GLN
	M2090	LEU
	F2091	GLN
	S2092	ILE
	S2093	LYS
	T2104	ALA
	M2105	VAL
	Y2106	LEU
	N2110	LYS
	S2111	ALA
	D2114	VAL
	R2115	LYS
	L2116	ASP
	G2124	ILE
	L2125	GLY
	Q2131	LEU
	I2135	GLN
	V2149	LEU
	T2150	GLY
	E2151	LEU
	W2154	ASP
	M2158	SER
	Y2167	LEU
	F2168	VAL
	Q2171	GLU
	N2172	ILE
	R2173	LYS
	V2176	GLN
	A2177	LEU
	C2178	GLY
	K2184	ILE
	VAL	GLN
	LYS	LEU
	ALA	ALA
	ALA	LEU
	ALA	GLY
	VAL	THR
	VAL	LYS
	GLU	VAL
	GLY	ASP
	GLY	ILE
	GLU	GLN
	GLU	MET
	THR	LEU
	VAL	THR
	GLY	PHE
	GLN	ALA
	GLN	GLN
	VAL	LEU
	ILE	GLN
	LYS	ALA
	LYS	LYS
	ALA	ALA
	VAL	MET
	VAL	VAL
	GLY	GLN
	ASN	HIS
	VAL	VAL
	LEU	HIS

## 4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C2	Depositor
Number of particles used	143694	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 ( $e^-/\text{\AA}^2$ )	40	Depositor
Minimum defocus (nm)	800	Depositor
Maximum defocus (nm)	2200	Depositor
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.226	Depositor
Minimum map value	-0.124	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.008	Depositor
Recommended contour level	0.0229	Depositor
Map size (Å)	271.36, 271.36, 271.36	wwPDB
Map dimensions	512, 512, 512	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.53, 0.53, 0.53	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	A	0.29	0/9950	0.51	0/13478
1	B	0.29	0/9950	0.51	0/13478
All	All	0.29	0/19900	0.51	0/26956

There are no bond length outliers.

There are no bond angle outliers.

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	9752	9685	9684	186	0
1	B	9752	9685	9684	184	0
All	All	19504	19370	19368	365	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 9.

All (365) 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:1311:ALA:HB2	1:A:1337:VAL:HG13	1.23	1.11
1:B:1311:ALA:HB2	1:B:1337:VAL:HG13	1.23	1.10

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1311:ALA:CB	1:A:1337:VAL:HG13	1.84	1.08
1:B:1311:ALA:CB	1:B:1337:VAL:HG13	1.84	1.05
1:A:1308:GLU:OE1	1:A:1335:TYR:OH	1.83	0.96
1:B:1308:GLU:OE1	1:B:1335:TYR:OH	1.83	0.96
1:B:1311:ALA:CB	1:B:1337:VAL:CG1	2.44	0.95
1:A:1311:ALA:CB	1:A:1337:VAL:CG1	2.44	0.94
1:B:1489:LEU:HD23	1:B:1489:LEU:O	1.71	0.91
1:A:1489:LEU:O	1:A:1489:LEU:HD23	1.71	0.89
1:B:1092:PRO:HG3	1:B:1099:VAL:HG23	1.61	0.82
1:B:2010:VAL:HG21	1:B:2032:LEU:HD21	1.62	0.82
1:A:1092:PRO:HG3	1:A:1099:VAL:HG23	1.61	0.82
1:A:2010:VAL:HG21	1:A:2032:LEU:HD21	1.62	0.81
1:B:2114:ASP:OD2	1:B:2131:GLN:NE2	2.17	0.78
1:B:1756:ILE:HD13	1:B:1766:ILE:HG21	1.67	0.77
1:A:2114:ASP:OD2	1:A:2131:GLN:NE2	2.17	0.77
1:B:2058:TYR:HH	1:B:2104:THR:HG1	1.30	0.77
1:A:1756:ILE:HD13	1:A:1766:ILE:HG21	1.67	0.76
1:A:1192:LEU:HD11	1:A:1198:LEU:HD12	1.70	0.74
1:A:1022:LEU:HD21	1:A:2158:MET:HG2	1.70	0.73
1:A:1861:SER:OG	1:B:1733:ARG:NH2	2.23	0.72
1:B:1192:LEU:HD11	1:B:1198:LEU:HD12	1.70	0.72
1:B:1022:LEU:HD21	1:B:2158:MET:HG2	1.70	0.72
1:A:905:ASP:OD2	1:A:1130:ARG:N	2.23	0.71
1:B:905:ASP:OD2	1:B:1130:ARG:N	2.23	0.71
1:A:1733:ARG:NH2	1:B:1861:SER:OG	2.24	0.71
1:B:1709:GLN:O	1:B:1710:HIS:ND1	2.25	0.69
1:A:1709:GLN:O	1:A:1710:HIS:ND1	2.25	0.69
1:B:1598:GLU:OE2	1:B:1940:LYS:NZ	2.18	0.68
1:B:1302:HIS:NE2	1:B:1332:ASP:OD1	2.27	0.68
1:B:1960:VAL:HG21	1:B:2072:LEU:HD11	1.76	0.68
1:A:1960:VAL:HG21	1:A:2072:LEU:HD11	1.76	0.67
1:A:1302:HIS:NE2	1:A:1332:ASP:OD1	2.27	0.66
1:A:1897:LEU:O	1:A:1899:ARG:NH1	2.29	0.66
1:A:2058:TYR:HH	1:A:2104:THR:HG1	1.36	0.66
1:B:1897:LEU:O	1:B:1899:ARG:NH1	2.29	0.66
1:B:2061:THR:HG21	1:B:2105:ASN:HB2	1.78	0.66
1:A:2061:THR:HG21	1:A:2105:ASN:HB2	1.78	0.65
1:B:1633:GLU:OE2	1:B:1701:ARG:NH2	2.29	0.65
1:A:1633:GLU:OE2	1:A:1701:ARG:NH2	2.29	0.64
1:B:1800:GLU:OE2	1:B:1829:ARG:NH1	2.30	0.64
1:A:1800:GLU:OE2	1:A:1829:ARG:NH1	2.30	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1969:GLU:OE2	1:A:1998:LYS:NZ	2.20	0.64
1:A:1598:GLU:OE2	1:A:1940:LYS:NZ	2.18	0.64
1:A:1337:VAL:CG1	1:A:1343:MET:SD	2.88	0.62
1:A:1456:GLU:N	1:A:1456:GLU:OE1	2.30	0.62
1:B:1337:VAL:CG1	1:B:1343:MET:SD	2.88	0.62
1:B:1587:THR:OG1	1:B:1590:GLN:OE1	2.18	0.62
1:A:1587:THR:OG1	1:A:1590:GLN:OE1	2.17	0.62
1:A:1638:TYR:HD2	1:A:1713:LEU:HD13	1.64	0.61
1:B:1638:TYR:HD2	1:B:1713:LEU:HD13	1.64	0.61
1:A:1337:VAL:HG11	1:A:1343:MET:SD	2.40	0.61
1:B:1003:GLN:OE1	1:B:1036:ARG:NE	2.34	0.61
1:B:1337:VAL:HG11	1:B:1343:MET:SD	2.40	0.61
1:B:1494:LEU:HD13	1:B:2058:TYR:CE2	2.36	0.61
1:A:1003:GLN:OE1	1:A:1036:ARG:NE	2.34	0.61
1:A:1494:LEU:HD13	1:A:2058:TYR:CE2	2.36	0.60
1:B:1456:GLU:N	1:B:1456:GLU:OE1	2.31	0.60
1:B:1678:ASP:OD1	1:B:1679:THR:N	2.33	0.60
1:B:1311:ALA:HB3	1:B:1337:VAL:CG1	2.31	0.60
1:A:1311:ALA:HB2	1:A:1337:VAL:CG1	2.08	0.60
1:A:1756:ILE:HD11	1:A:1768:ILE:HG12	1.84	0.60
1:B:1690:PRO:O	1:B:1692:ALA:N	2.34	0.60
1:B:2044:ASN:O	1:B:2061:THR:HG23	2.03	0.59
1:A:2044:ASN:O	1:A:2061:THR:HG23	2.03	0.59
1:B:1417:LEU:CD1	1:B:1436:LEU:HD13	2.33	0.59
1:A:1417:LEU:CD1	1:A:1436:LEU:HD13	2.33	0.59
1:A:2167:TYR:OH	1:A:2173:ARG:NH2	2.36	0.58
1:B:1756:ILE:HD11	1:B:1768:ILE:HG12	1.84	0.58
1:B:1523:GLY:O	1:B:2111:SER:OG	2.17	0.58
1:B:1969:GLU:OE2	1:B:1998:LYS:NZ	2.20	0.58
1:B:2167:TYR:OH	1:B:2173:ARG:NH2	2.36	0.58
1:A:1417:LEU:HD23	1:A:1417:LEU:O	2.04	0.58
1:B:1457:VAL:HG21	1:B:1568:LEU:HD11	1.86	0.58
1:B:1417:LEU:O	1:B:1417:LEU:HD23	2.04	0.57
1:B:1457:VAL:HG13	1:B:1458:ILE:HG13	1.87	0.57
1:B:1276:ASP:OD1	1:B:1278:LEU:N	2.37	0.57
1:B:1927:ILE:O	1:B:1941:LYS:NZ	2.38	0.57
1:A:1678:ASP:OD1	1:A:1679:THR:N	2.33	0.57
1:A:1927:ILE:O	1:A:1941:LYS:NZ	2.38	0.57
1:A:1518:LYS:O	1:A:1518:LYS:HG3	2.05	0.57
1:B:1139:GLU:OE2	1:B:1583:HIS:ND1	2.38	0.57
1:A:1311:ALA:HB3	1:A:1337:VAL:CG1	2.31	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1457:VAL:HG13	1:A:1458:ILE:HG13	1.86	0.56
1:A:1139:GLU:OE2	1:A:1583:HIS:ND1	2.38	0.56
1:B:1518:LYS:O	1:B:1518:LYS:HG3	2.05	0.56
1:A:1276:ASP:OD1	1:A:1278:LEU:N	2.37	0.56
1:A:1457:VAL:HG21	1:A:1568:LEU:HD11	1.86	0.56
1:A:1523:GLY:O	1:A:2111:SER:OG	2.17	0.56
1:A:906:GLY:N	1:A:1026:GLU:OE2	2.39	0.56
1:B:1658:GLU:OE1	1:B:1658:GLU:O	2.23	0.56
1:B:1992:THR:OG1	1:B:1993:GLY:N	2.38	0.55
1:A:1992:THR:OG1	1:A:1993:GLY:N	2.38	0.55
1:B:899:LEU:HD21	1:B:910:PHE:HE1	1.71	0.55
1:A:1658:GLU:O	1:A:1658:GLU:OE1	2.23	0.55
1:B:1756:ILE:HD11	1:B:1768:ILE:CG1	2.37	0.55
1:A:1690:PRO:O	1:A:1692:ALA:N	2.34	0.55
1:B:906:GLY:N	1:B:1026:GLU:OE2	2.39	0.55
1:B:1291:CYS:CB	1:B:1470:LEU:HD12	2.37	0.55
1:A:1291:CYS:CB	1:A:1470:LEU:HD12	2.37	0.54
1:B:1688:CYS:SG	1:B:1697:VAL:HG11	2.47	0.54
1:A:1096:GLU:N	1:A:1096:GLU:OE1	2.41	0.54
1:A:1756:ILE:HD11	1:A:1768:ILE:CG1	2.37	0.54
1:A:1688:CYS:SG	1:A:1697:VAL:HG11	2.47	0.54
1:B:2010:VAL:CG2	1:B:2032:LEU:HD21	2.36	0.54
1:B:2124:GLY:O	1:B:2125:LEU:HD12	2.08	0.54
1:A:1604:THR:HG22	1:A:1613:LEU:HG	1.89	0.54
1:B:1687:LEU:HD13	1:B:1878:TRP:HH2	1.73	0.54
1:B:1291:CYS:HB3	1:B:1470:LEU:HD12	1.90	0.54
1:B:1515:LEU:HB3	1:B:1524:MET:SD	2.47	0.54
1:A:899:LEU:HD21	1:A:910:PHE:HE1	1.71	0.54
1:A:1291:CYS:HB3	1:A:1470:LEU:HD12	1.90	0.54
1:A:2124:GLY:O	1:A:2125:LEU:HD12	2.08	0.54
1:A:1634:LEU:HD23	1:A:1634:LEU:O	2.08	0.54
1:A:1515:LEU:HB3	1:A:1524:MET:SD	2.47	0.54
1:B:1096:GLU:OE1	1:B:1096:GLU:N	2.41	0.54
1:A:899:LEU:HD21	1:A:910:PHE:CE1	2.43	0.53
1:A:1056:MET:HE1	1:A:1083:ILE:HD11	1.91	0.53
1:B:899:LEU:HD21	1:B:910:PHE:CE1	2.43	0.53
1:A:1687:LEU:HD13	1:A:1878:TRP:HH2	1.73	0.53
1:B:1604:THR:HG22	1:B:1613:LEU:HG	1.89	0.53
1:B:1634:LEU:HD23	1:B:1634:LEU:O	2.08	0.53
1:B:1337:VAL:HG12	1:B:1343:MET:SD	2.50	0.52
1:A:1803:VAL:O	1:A:1807:THR:HG22	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1353:THR:O	1:B:1354:LEU:HD23	2.09	0.52
1:A:1990:ILE:CD1	1:A:2011:VAL:HG21	2.40	0.52
1:B:1990:ILE:CD1	1:B:2011:VAL:HG21	2.40	0.52
1:A:1494:LEU:HD22	1:A:2058:TYR:CD2	2.45	0.52
1:B:2171:GLN:O	1:B:2171:GLN:NE2	2.43	0.52
1:A:1344:ASP:OD1	1:A:1344:ASP:N	2.43	0.51
1:B:1494:LEU:HD22	1:B:2058:TYR:CD2	2.45	0.51
1:B:1344:ASP:N	1:B:1344:ASP:OD1	2.43	0.51
1:B:1803:VAL:O	1:B:1807:THR:HG22	2.10	0.51
1:A:1967:GLY:HA2	1:A:2041:LEU:HD22	1.93	0.51
1:A:2076:SER:OG	1:A:2085:LEU:HD22	2.11	0.51
1:A:1353:THR:O	1:A:1354:LEU:HD23	2.09	0.51
1:A:1337:VAL:HG12	1:A:1343:MET:SD	2.50	0.51
1:B:1417:LEU:HD12	1:B:1436:LEU:HD13	1.93	0.51
1:A:1469:PHE:HB3	1:A:1471:LEU:HD21	1.92	0.51
1:B:1510:ASP:OD1	1:B:1510:ASP:C	2.49	0.51
1:B:1469:PHE:HB3	1:B:1471:LEU:HD21	1.92	0.51
1:B:1967:GLY:HA2	1:B:2041:LEU:HD22	1.93	0.51
1:A:2168:PHE:CD1	1:A:2176:VAL:HG21	2.46	0.50
1:B:1311:ALA:CB	1:B:1337:VAL:HG11	2.38	0.50
1:B:1720:PRO:O	1:B:1722:ALA:N	2.44	0.50
1:A:1990:ILE:HD11	1:A:2011:VAL:HG21	1.92	0.50
1:B:2168:PHE:CD1	1:B:2176:VAL:HG21	2.46	0.50
1:B:1990:ILE:HD11	1:B:2011:VAL:HG21	1.92	0.50
1:A:1510:ASP:C	1:A:1510:ASP:OD1	2.49	0.50
1:A:2171:GLN:O	1:A:2171:GLN:NE2	2.43	0.50
1:A:1337:VAL:HG12	1:A:1338:GLY:N	2.27	0.49
1:A:2035:LEU:HD23	1:A:2081:ILE:HG21	1.94	0.49
1:A:2069:THR:HG23	1:A:2090:MET:HE2	1.94	0.49
1:B:1643:VAL:HG12	1:B:1644:SER:N	2.27	0.49
1:A:1417:LEU:HD12	1:A:1436:LEU:HD13	1.93	0.49
1:A:1733:ARG:NH1	1:B:1859:ASP:OD1	2.36	0.49
1:A:1311:ALA:CB	1:A:1337:VAL:HG11	2.38	0.49
1:A:1391:MET:HB3	1:A:1452:HIS:CD2	2.47	0.49
1:B:1688:CYS:SG	1:B:1692:ALA:HB2	2.53	0.49
1:B:2076:SER:OG	1:B:2085:LEU:HD22	2.10	0.49
1:A:1101:LEU:HD23	1:A:1115:GLY:HA3	1.95	0.49
1:B:1101:LEU:HD23	1:B:1115:GLY:HA3	1.95	0.49
1:B:1337:VAL:HG12	1:B:1338:GLY:N	2.27	0.49
1:B:1279:MET:SD	1:B:1416:LEU:HD11	2.53	0.49
1:B:1391:MET:HB3	1:B:1452:HIS:CD2	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1643:VAL:HG12	1:A:1644:SER:N	2.27	0.49
1:A:1901:VAL:HG11	1:A:1926:LYS:HE3	1.94	0.49
1:A:2092:SER:OG	1:A:2093:SER:N	2.46	0.49
1:A:1881:LEU:HD23	1:A:1881:LEU:O	2.13	0.48
1:B:1881:LEU:O	1:B:1881:LEU:HD23	2.13	0.48
1:A:1533:GLN:NE2	1:A:2151:GLU:OE2	2.45	0.48
1:A:1688:CYS:SG	1:A:1692:ALA:HB2	2.53	0.48
1:B:1533:GLN:NE2	1:B:2151:GLU:OE2	2.45	0.48
1:B:1881:LEU:HD23	1:B:1881:LEU:C	2.34	0.48
1:A:1415:THR:O	1:A:1416:LEU:HB2	2.13	0.48
1:B:1488:ASP:OD2	1:B:1489:LEU:N	2.47	0.48
1:B:2035:LEU:HD23	1:B:2081:ILE:HG21	1.94	0.48
1:A:1097:ASP:OD1	1:A:1098:VAL:N	2.47	0.48
1:A:1720:PRO:O	1:A:1722:ALA:N	2.44	0.48
1:A:1957:TYR:HD2	1:A:1979:VAL:HG13	1.79	0.48
1:B:1901:VAL:HG11	1:B:1926:LYS:HE3	1.94	0.48
1:B:1957:TYR:HD2	1:B:1979:VAL:HG13	1.79	0.48
1:A:1488:ASP:OD2	1:A:1489:LEU:N	2.47	0.48
1:B:1415:THR:O	1:B:1416:LEU:HB2	2.13	0.48
1:A:2010:VAL:CG2	1:A:2032:LEU:HD21	2.36	0.48
1:B:2069:THR:HG23	1:B:2090:MET:HE2	1.95	0.48
1:A:992:THR:HG21	1:A:1113:SER:HB3	1.95	0.48
1:B:2092:SER:OG	1:B:2093:SER:N	2.46	0.47
1:A:1881:LEU:HD23	1:A:1881:LEU:C	2.34	0.47
1:A:1279:MET:SD	1:A:1416:LEU:HD11	2.53	0.47
1:A:1859:ASP:OD1	1:B:1733:ARG:NH1	2.34	0.47
1:B:992:THR:HG21	1:B:1113:SER:HB3	1.95	0.47
1:B:1679:THR:O	1:B:1680:LYS:HB2	2.15	0.47
1:B:1242:LEU:N	1:B:1276:ASP:OD2	2.39	0.47
1:B:1056:MET:CE	1:B:1083:ILE:HD11	2.45	0.47
1:B:1111:ILE:HD11	1:B:1118:GLU:CG	2.45	0.47
1:A:1056:MET:CE	1:A:1083:ILE:HD11	2.45	0.46
1:B:1097:ASP:OD1	1:B:1098:VAL:N	2.47	0.46
1:A:1111:ILE:HD11	1:A:1118:GLU:CG	2.45	0.46
1:A:1679:THR:O	1:A:1680:LYS:HB2	2.15	0.46
1:B:1057:ASP:OD2	1:B:1061:GLN:NE2	2.49	0.46
1:B:1248:LEU:HD23	1:B:1248:LEU:C	2.36	0.46
1:B:1311:ALA:HB2	1:B:1337:VAL:CG1	2.09	0.46
1:A:2047:ASP:OD1	1:A:2047:ASP:N	2.48	0.46
1:A:1248:LEU:C	1:A:1248:LEU:HD23	2.36	0.46
1:A:1280:SER:O	1:A:1280:SER:OG	2.25	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1534:GLU:O	1:B:1537:SER:OG	2.26	0.46
1:A:1306:VAL:HG22	1:A:1374:LEU:HB3	1.98	0.46
1:A:1410:VAL:HG11	1:A:1442:ALA:HB2	1.98	0.46
1:B:1683:ARG:NH1	1:B:1930:GLU:OE2	2.49	0.46
1:A:1489:LEU:HD21	1:A:2066:ILE:HG21	1.98	0.46
1:B:1280:SER:O	1:B:1280:SER:OG	2.25	0.46
1:B:1306:VAL:HG22	1:B:1374:LEU:HB3	1.98	0.46
1:B:1657:ASP:OD2	1:B:1658:GLU:N	2.50	0.46
1:A:1057:ASP:OD2	1:A:1061:GLN:NE2	2.49	0.45
1:B:1489:LEU:HD21	1:B:2066:ILE:HG21	1.98	0.45
1:A:1683:ARG:NH1	1:A:1930:GLU:OE2	2.49	0.45
1:B:1410:VAL:HG11	1:B:1442:ALA:HB2	1.98	0.45
1:A:1657:ASP:OD2	1:A:1658:GLU:N	2.50	0.45
1:B:1963:LEU:HD12	1:B:1968:LEU:HD21	1.97	0.45
1:B:1493:TRP:O	1:B:1497:VAL:HG13	2.17	0.45
1:B:2047:ASP:OD1	1:B:2047:ASP:N	2.48	0.45
1:B:1056:MET:HE1	1:B:1083:ILE:HD11	1.98	0.45
1:B:1227:ARG:O	1:B:1231:GLN:HG3	2.17	0.45
1:A:957:VAL:HG23	1:A:957:VAL:O	2.16	0.45
1:A:1493:TRP:O	1:A:1497:VAL:HG13	2.17	0.45
1:A:2086:ASP:N	1:A:2086:ASP:OD1	2.50	0.45
1:B:1721:VAL:CG2	1:B:1722:ALA:N	2.80	0.45
1:B:2086:ASP:OD1	1:B:2086:ASP:N	2.50	0.45
1:A:1963:LEU:HD12	1:A:1968:LEU:HD21	1.97	0.45
1:A:1721:VAL:CG2	1:A:1722:ALA:N	2.80	0.44
1:B:1081:ILE:HG23	1:B:1119:ILE:HG12	1.99	0.44
1:A:1081:ILE:HG23	1:A:1119:ILE:HG12	1.99	0.44
1:B:1700:LEU:O	1:B:1701:ARG:HB3	2.17	0.44
1:A:1410:VAL:O	1:A:1413:LEU:HD21	2.18	0.44
1:A:969:GLN:HG3	1:A:976:LEU:HD13	1.99	0.44
1:B:957:VAL:O	1:B:957:VAL:HG23	2.16	0.44
1:B:2124:GLY:C	1:B:2125:LEU:HD12	2.38	0.44
1:A:1227:ARG:O	1:A:1231:GLN:HG3	2.17	0.44
1:A:1663:MET:SD	1:A:1690:PRO:HG3	2.58	0.44
1:B:1067:ARG:NH2	1:B:1110:ASP:OD2	2.50	0.44
1:A:2124:GLY:C	1:A:2125:LEU:HD12	2.38	0.44
1:B:918:LEU:CD2	1:B:957:VAL:HG21	2.48	0.44
1:B:1663:MET:SD	1:B:1690:PRO:HG3	2.58	0.44
1:B:1671:GLY:O	1:B:1692:ALA:HB3	2.18	0.44
1:A:918:LEU:CD2	1:A:957:VAL:HG21	2.48	0.43
1:A:1700:LEU:O	1:A:1701:ARG:HB3	2.17	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1701:ARG:O	1:A:1701:ARG:HG3	2.18	0.43
1:A:1225:LEU:HD13	1:A:1243:PHE:CD1	2.54	0.43
1:A:1369:ALA:O	1:A:1396:GLY:O	2.37	0.43
1:A:923:LEU:HD22	1:A:982:VAL:HG22	2.00	0.43
1:A:1709:GLN:O	1:A:1710:HIS:CG	2.70	0.43
1:A:1307:LEU:HB2	1:A:1372:HIS:NE2	2.34	0.43
1:A:1225:LEU:HD13	1:A:1243:PHE:HD1	1.83	0.43
1:B:969:GLN:HG3	1:B:976:LEU:HD13	1.99	0.43
1:B:1144:VAL:HG11	1:B:1290:LEU:HD22	2.00	0.43
1:B:1701:ARG:HG3	1:B:1701:ARG:O	2.18	0.43
1:B:891:SER:OG	1:B:892:ALA:N	2.52	0.43
1:B:1410:VAL:O	1:B:1413:LEU:HD21	2.18	0.43
1:A:976:LEU:HD11	1:A:978:ALA:O	2.19	0.43
1:A:1067:ARG:NH2	1:A:1110:ASP:OD2	2.50	0.43
1:A:1417:LEU:HD13	1:A:1436:LEU:HD13	2.01	0.43
1:A:1144:VAL:HG11	1:A:1290:LEU:HD22	2.00	0.43
1:A:1671:GLY:O	1:A:1692:ALA:HB3	2.18	0.43
1:B:923:LEU:HD22	1:B:982:VAL:HG22	2.00	0.43
1:B:1046:ILE:HD13	1:B:1114:ALA:HB1	2.01	0.43
1:B:1225:LEU:HD13	1:B:1243:PHE:HD1	1.83	0.43
1:A:1311:ALA:HB3	1:A:1343:MET:SD	2.59	0.43
1:B:1225:LEU:HD13	1:B:1243:PHE:CD1	2.54	0.43
1:B:1311:ALA:HB3	1:B:1343:MET:SD	2.59	0.43
1:B:1489:LEU:O	1:B:1489:LEU:CD2	2.55	0.43
1:B:1494:LEU:HD22	1:B:2058:TYR:HD2	1.84	0.43
1:A:1046:ILE:HD13	1:A:1114:ALA:HB1	2.01	0.43
1:B:1372:HIS:HB2	1:B:1397:PHE:O	2.19	0.43
1:B:2149:VAL:HG12	1:B:2154:TRP:CE3	2.54	0.43
1:A:1372:HIS:HB2	1:A:1397:PHE:O	2.19	0.42
1:B:1059:VAL:HG21	1:B:1117:VAL:CG2	2.50	0.42
1:B:1073:MET:SD	1:B:1124:THR:HG21	2.59	0.42
1:B:1383:GLN:O	1:B:1427:LEU:HD11	2.19	0.42
1:A:1383:GLN:O	1:A:1427:LEU:HD11	2.19	0.42
1:A:2149:VAL:HG12	1:A:2154:TRP:CE3	2.54	0.42
1:B:1192:LEU:HD23	1:B:1195:LYS:CB	2.49	0.42
1:B:1224:ALA:HA	1:B:1227:ARG:HE	1.84	0.42
1:B:1369:ALA:O	1:B:1396:GLY:O	2.37	0.42
1:B:1671:GLY:O	1:B:1690:PRO:O	2.37	0.42
1:A:1059:VAL:HG21	1:A:1117:VAL:CG2	2.49	0.42
1:A:1637:VAL:HG22	1:A:1674:PHE:CD2	2.54	0.42
1:A:2168:PHE:CE1	1:A:2176:VAL:HG21	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1307:LEU:HB2	1:B:1372:HIS:NE2	2.34	0.42
1:B:1637:VAL:HG22	1:B:1674:PHE:CD2	2.54	0.42
1:B:1709:GLN:O	1:B:1710:HIS:CG	2.70	0.42
1:A:891:SER:OG	1:A:892:ALA:N	2.52	0.42
1:A:1534:GLU:O	1:A:1537:SER:OG	2.26	0.42
1:A:2171:GLN:OE1	1:A:2173:ARG:NE	2.42	0.42
1:B:2168:PHE:CE1	1:B:2176:VAL:HG21	2.54	0.42
1:A:1192:LEU:HD23	1:A:1195:LYS:CB	2.50	0.42
1:B:976:LEU:HD11	1:B:978:ALA:O	2.19	0.42
1:B:2150:ILE:N	1:B:2150:ILE:HD12	2.35	0.42
1:A:1073:MET:SD	1:A:1124:THR:HG21	2.59	0.42
1:A:1671:GLY:O	1:A:1690:PRO:O	2.37	0.42
1:B:1345:ASP:OD1	1:B:1345:ASP:N	2.53	0.42
1:A:1562:TYR:CZ	1:A:1566:MET:CE	3.03	0.42
1:A:1720:PRO:O	1:A:1721:VAL:HG22	2.20	0.42
1:B:1528:PHE:HE2	1:B:1540:VAL:HG12	1.85	0.42
1:B:1741:THR:HG22	1:B:1765:GLU:HB3	2.01	0.42
1:A:1673:GLU:HB3	1:A:1721:VAL:HG13	2.01	0.42
1:A:1528:PHE:HE2	1:A:1540:VAL:HG12	1.85	0.42
1:A:889:ASP:O	1:A:896:ASP:HB2	2.21	0.41
1:B:1225:LEU:O	1:B:1228:ILE:HG22	2.20	0.41
1:B:1440:TYR:CD2	1:B:1444:GLN:HB3	2.55	0.41
1:A:1637:VAL:HG22	1:A:1674:PHE:HD2	1.85	0.41
1:B:1637:VAL:HG22	1:B:1674:PHE:HD2	1.85	0.41
1:A:1345:ASP:N	1:A:1345:ASP:OD1	2.53	0.41
1:A:1494:LEU:HD22	1:A:2058:TYR:HD2	1.84	0.41
1:A:2045:LEU:HD23	1:A:2045:LEU:HA	1.94	0.41
1:B:1720:PRO:O	1:B:1721:VAL:HG22	2.20	0.41
1:A:1133:HIS:NE2	1:A:2157:ARG:HG2	2.35	0.41
1:A:1440:TYR:CD2	1:A:1444:GLN:HB3	2.55	0.41
1:A:989:VAL:HG13	1:A:990:LEU:N	2.36	0.41
1:A:1224:ALA:HA	1:A:1227:ARG:HE	1.84	0.41
1:B:1562:TYR:CZ	1:B:1566:MET:CE	3.03	0.41
1:B:1647:LEU:HD21	1:B:1915:GLU:HB2	2.02	0.41
1:B:1337:VAL:CG1	1:B:1338:GLY:N	2.84	0.41
1:A:1646:ASP:OD1	1:A:1671:GLY:N	2.46	0.41
1:A:2150:ILE:HD12	1:A:2150:ILE:N	2.35	0.41
1:B:1270:ARG:HA	1:B:1273:MET:HB3	2.03	0.41
1:A:1000:SER:O	1:A:1001:SER:HB3	2.21	0.41
1:A:1735:HIS:NE2	1:B:1735:HIS:NE2	2.69	0.41
1:A:1741:THR:HG22	1:A:1765:GLU:HB3	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1191:VAL:HG21	1:B:1254:LEU:O	2.21	0.41
1:B:1673:GLU:HB3	1:B:1721:VAL:HG13	2.01	0.41
1:A:1191:VAL:HG21	1:A:1254:LEU:O	2.21	0.41
1:A:1690:PRO:N	1:A:1691:PRO:HD2	2.35	0.41
1:A:1699:CYS:SG	1:A:1703:SER:OG	2.74	0.41
1:A:2135:ILE:H	1:A:2135:ILE:HD12	1.85	0.41
1:B:1000:SER:O	1:B:1001:SER:HB3	2.21	0.41
1:B:1308:GLU:O	1:B:1308:GLU:HG2	2.21	0.41
1:B:1646:ASP:OD1	1:B:1671:GLY:N	2.46	0.41
1:B:2171:GLN:OE1	1:B:2173:ARG:NE	2.42	0.41
1:A:1178:GLN:OE1	1:A:1218:PHE:HA	2.21	0.41
1:B:1178:GLN:OE1	1:B:1218:PHE:HA	2.21	0.41
1:B:1689:ALA:HB1	1:B:1690:PRO:HD2	2.03	0.41
1:A:1189:ASP:OD1	1:A:1189:ASP:N	2.52	0.40
1:A:1719:VAL:N	1:A:1720:PRO:HD2	2.36	0.40
1:B:889:ASP:O	1:B:896:ASP:HB2	2.20	0.40
1:B:1908:VAL:HG23	1:B:1909:ASP:N	2.36	0.40
1:A:1225:LEU:O	1:A:1228:ILE:HG22	2.20	0.40
1:A:1908:VAL:HG23	1:A:1909:ASP:N	2.36	0.40
1:B:2065:LYS:HE2	1:B:2110:ASN:ND2	2.36	0.40
1:A:1337:VAL:CG1	1:A:1338:GLY:N	2.84	0.40
1:A:1424:ASP:OD1	1:A:1425:HIS:N	2.54	0.40
1:A:1689:ALA:HB1	1:A:1690:PRO:HD2	2.03	0.40
1:A:976:LEU:HD12	1:A:977:LEU:N	2.36	0.40
1:A:1046:ILE:HG21	1:A:1055:PHE:CE1	2.57	0.40
1:A:1082:ASN:OD1	1:A:1082:ASN:N	2.55	0.40
1:A:1933:GLU:HG3	1:A:1935:ILE:H	1.87	0.40
1:B:986:ASP:O	1:B:987:LYS:C	2.60	0.40
1:B:1690:PRO:N	1:B:1691:PRO:HD2	2.35	0.40
1:B:2073:ASP:OD2	1:B:2116:LEU:HD11	2.22	0.40
1:B:2135:ILE:HD12	1:B:2135:ILE:H	1.85	0.40
1:A:1647:LEU:HD21	1:A:1915:GLU:HB2	2.02	0.40
1:B:989:VAL:HG13	1:B:990:LEU:N	2.36	0.40
1:B:1095:ASP:OD1	1:B:1095:ASP:N	2.54	0.40
1:B:2045:LEU:HD23	1:B:2045:LEU:HA	1.94	0.40

There are no symmetry-related clashes.

## 5.3 Torsion angles [i](#)

### 5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	1240/2272 (55%)	1137 (92%)	103 (8%)	0	100	100
1	B	1240/2272 (55%)	1137 (92%)	103 (8%)	0	100	100
All	All	2480/4544 (55%)	2274 (92%)	206 (8%)	0	100	100

There are no Ramachandran outliers to report.

### 5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	1050/1892 (56%)	1014 (97%)	36 (3%)	32	60
1	B	1050/1892 (56%)	1014 (97%)	36 (3%)	32	60
All	All	2100/3784 (56%)	2028 (97%)	72 (3%)	34	60

All (72) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	931	PHE
1	A	972	GLU
1	A	1054	SER
1	A	1140	GLU
1	A	1164	ASP
1	A	1240	PHE
1	A	1254	LEU
1	A	1328	PHE

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	1363	ASN
1	A	1368	GLN
1	A	1391	MET
1	A	1397	PHE
1	A	1440	TYR
1	A	1441	SER
1	A	1446	ARG
1	A	1520	ASP
1	A	1530	CYS
1	A	1534	GLU
1	A	1542	CYS
1	A	1560	PHE
1	A	1588	ASP
1	A	1699	CYS
1	A	1702	SER
1	A	1721	VAL
1	A	1764	CYS
1	A	1817	ASN
1	A	1899	ARG
1	A	1966	PHE
1	A	1987	ARG
1	A	2031	ASP
1	A	2058	TYR
1	A	2105	ASN
1	A	2106	TYR
1	A	2115	ARG
1	A	2158	MET
1	A	2178	CYS
1	B	931	PHE
1	B	972	GLU
1	B	1054	SER
1	B	1140	GLU
1	B	1164	ASP
1	B	1240	PHE
1	B	1254	LEU
1	B	1328	PHE
1	B	1363	ASN
1	B	1368	GLN
1	B	1391	MET
1	B	1397	PHE
1	B	1440	TYR
1	B	1441	SER

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type
1	B	1446	ARG
1	B	1520	ASP
1	B	1530	CYS
1	B	1534	GLU
1	B	1542	CYS
1	B	1560	PHE
1	B	1588	ASP
1	B	1699	CYS
1	B	1702	SER
1	B	1721	VAL
1	B	1764	CYS
1	B	1817	ASN
1	B	1899	ARG
1	B	1966	PHE
1	B	1987	ARG
1	B	2031	ASP
1	B	2058	TYR
1	B	2105	ASN
1	B	2106	TYR
1	B	2115	ARG
1	B	2158	MET
1	B	2178	CYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (2) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	1452	HIS
1	B	1452	HIS

### 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](#)

There are no ligands in this entry.

## 5.7 Other polymers [i](#)

There are no such residues in this entry.

## 5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

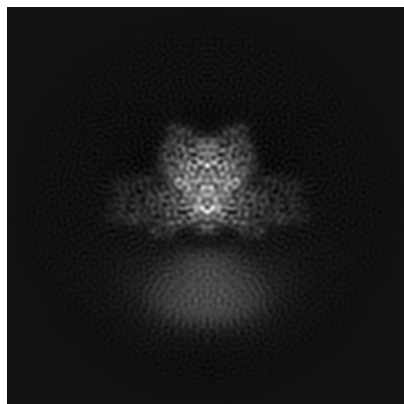
## 6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-45812. These allow visual inspection of the internal detail of the map and identification of artifacts.

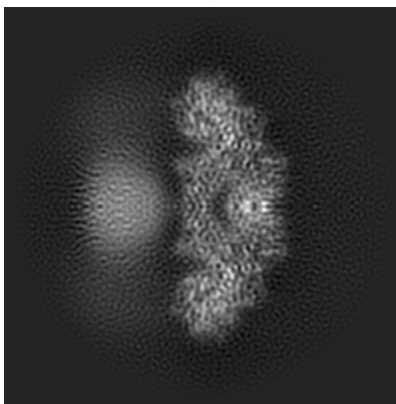
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

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

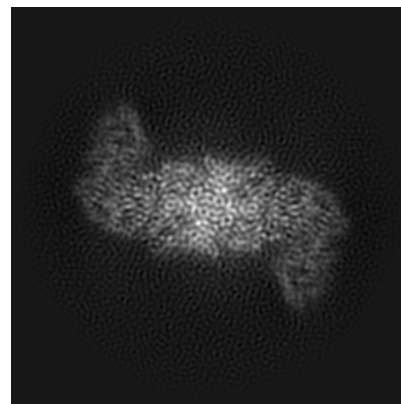
#### 6.1.1 Primary map



X

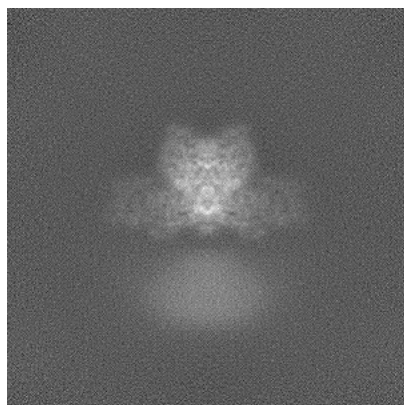


Y

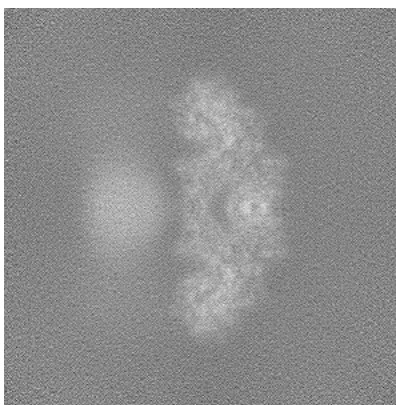


Z

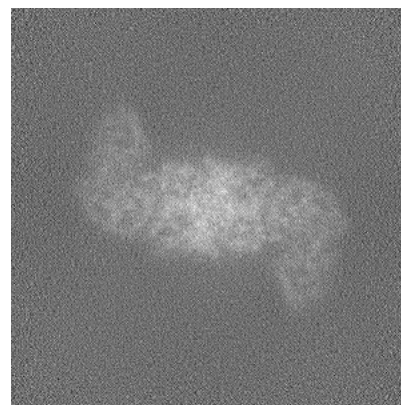
#### 6.1.2 Raw map



X



Y

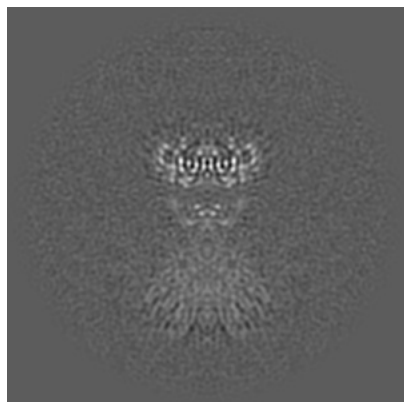


Z

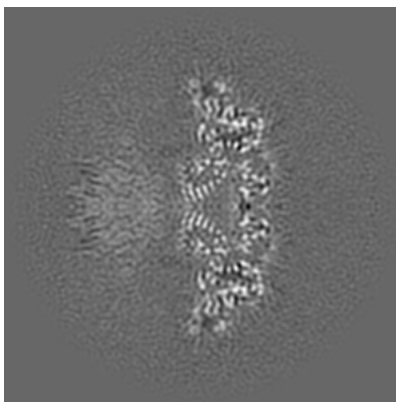
The images above show the map projected in three orthogonal directions.

## 6.2 Central slices [i](#)

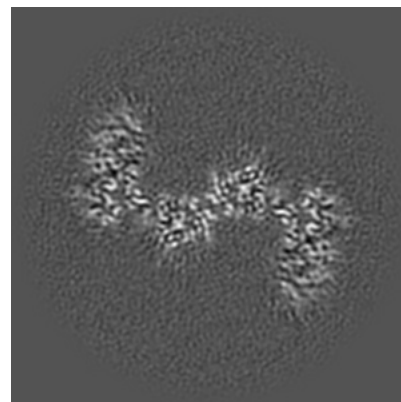
### 6.2.1 Primary map



X Index: 256

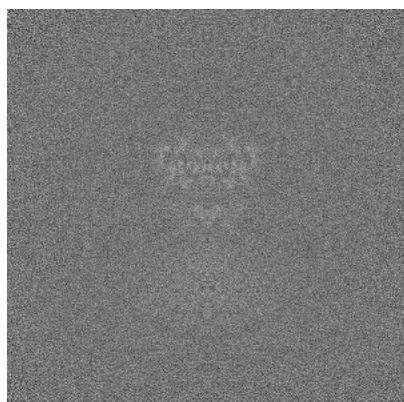


Y Index: 256

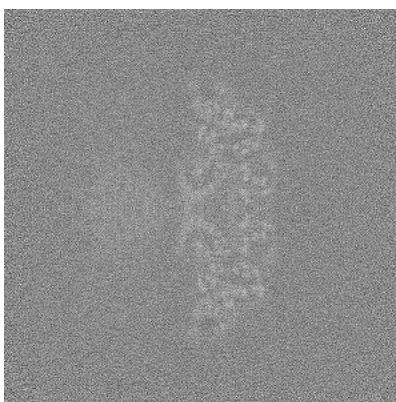


Z Index: 256

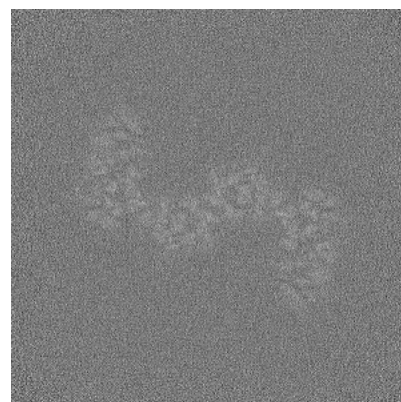
### 6.2.2 Raw map



X Index: 256



Y Index: 256



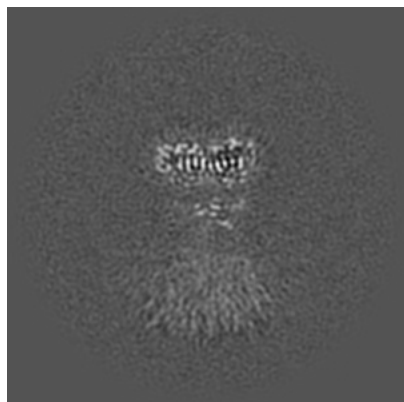
Z Index: 256

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

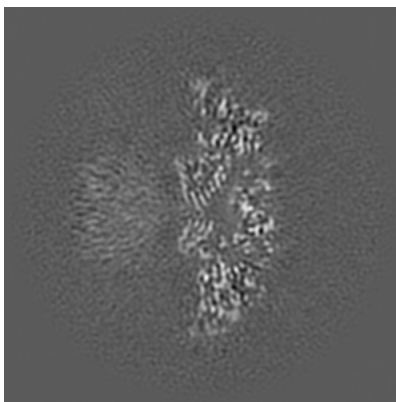


## 6.3 Largest variance slices [i](#)

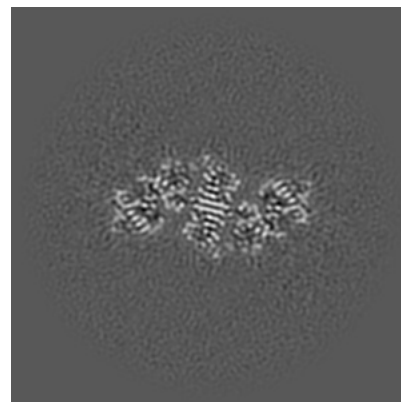
### 6.3.1 Primary map



X Index: 259

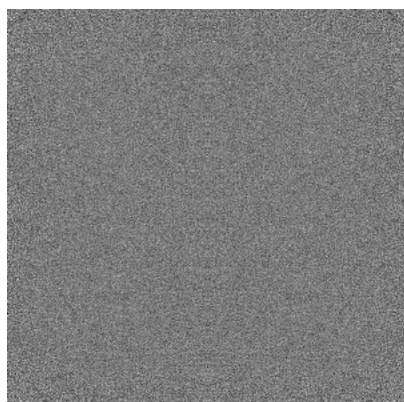


Y Index: 261

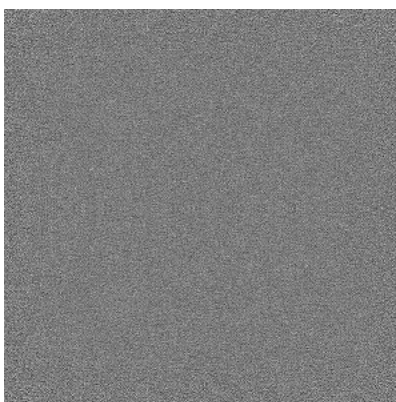


Z Index: 309

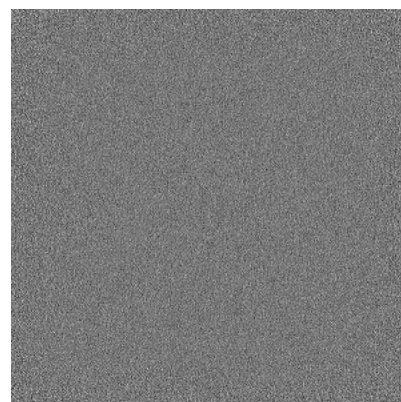
### 6.3.2 Raw map



X Index: 0



Y Index: 0

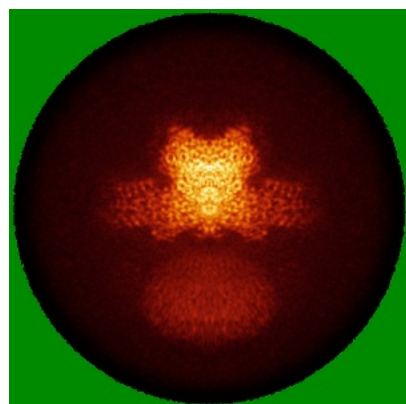


Z Index: 0

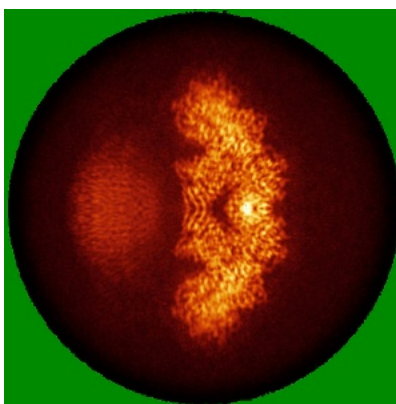
The images above show the largest variance slices of the map in three orthogonal directions.

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

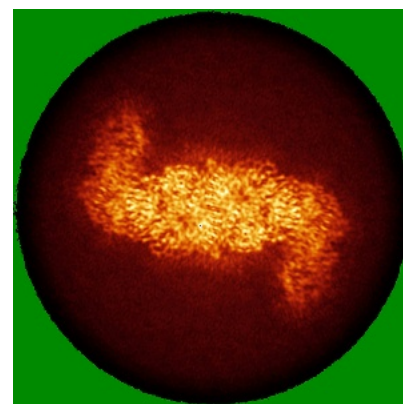
### 6.4.1 Primary map



X

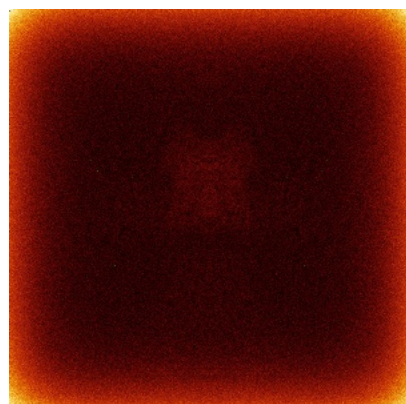


Y

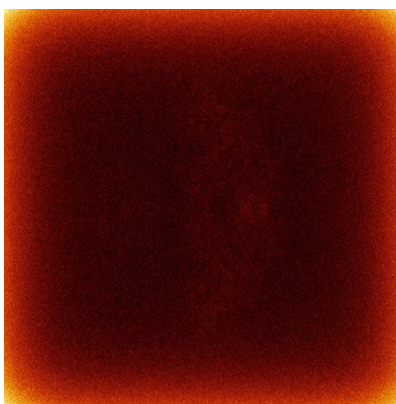


Z

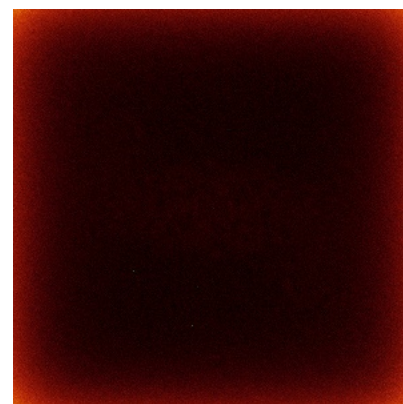
### 6.4.2 Raw map



X



Y

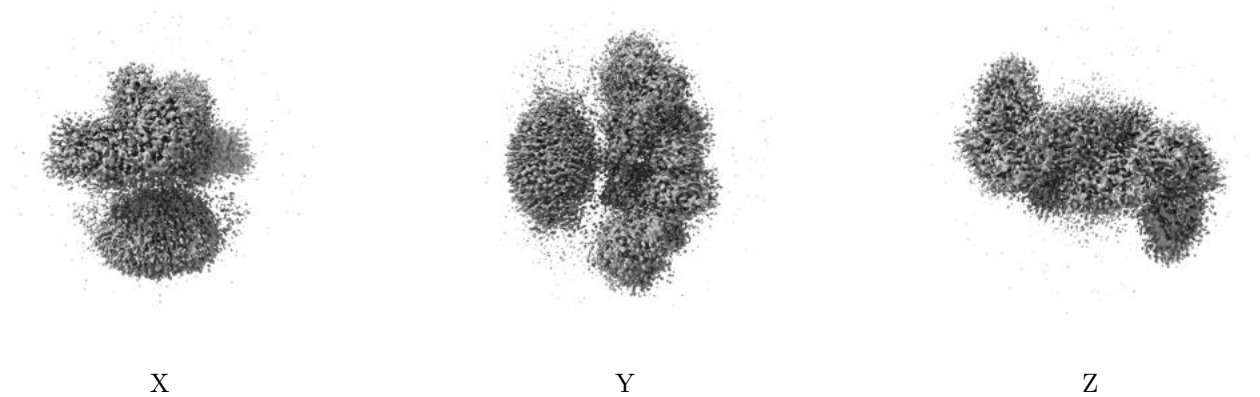


Z

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.

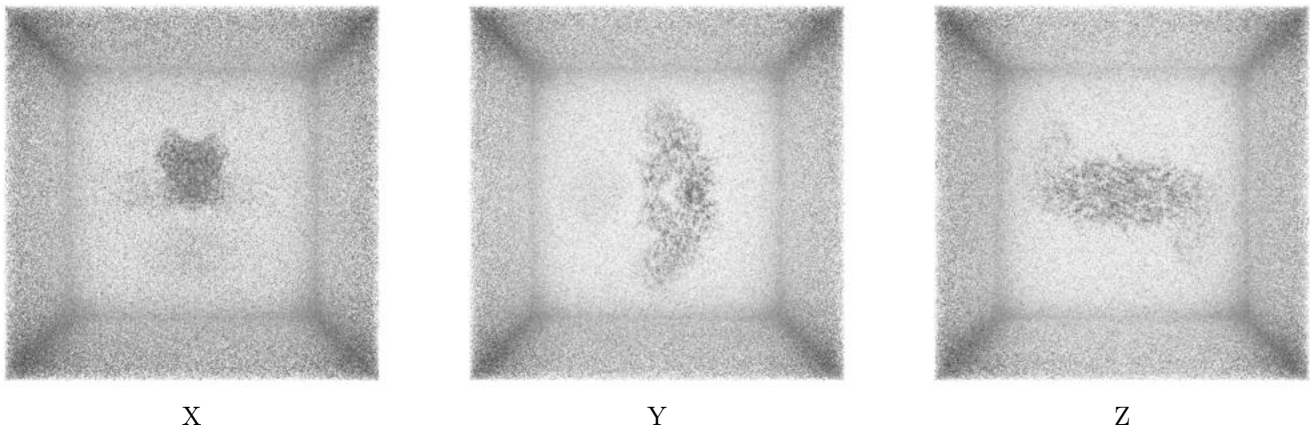
## 6.5 Orthogonal surface views [i](#)

### 6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.0229. 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.

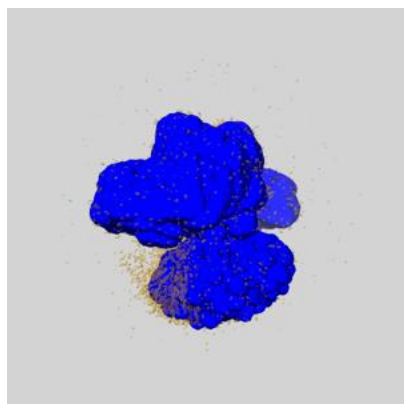
## 6.6 Mask visualisation [i](#)

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

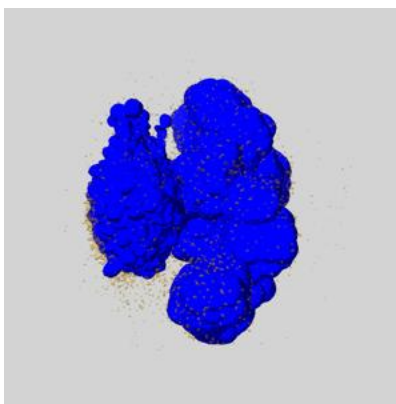
A mask typically either:

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

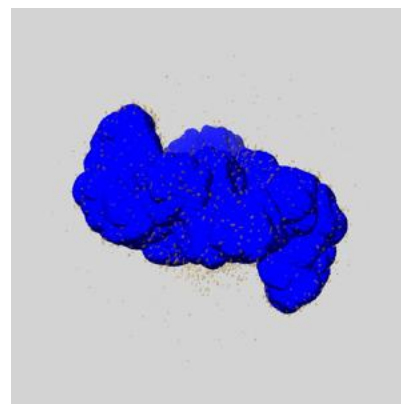
### 6.6.1 emd\_45812\_msk\_1.map [i](#)



X



Y

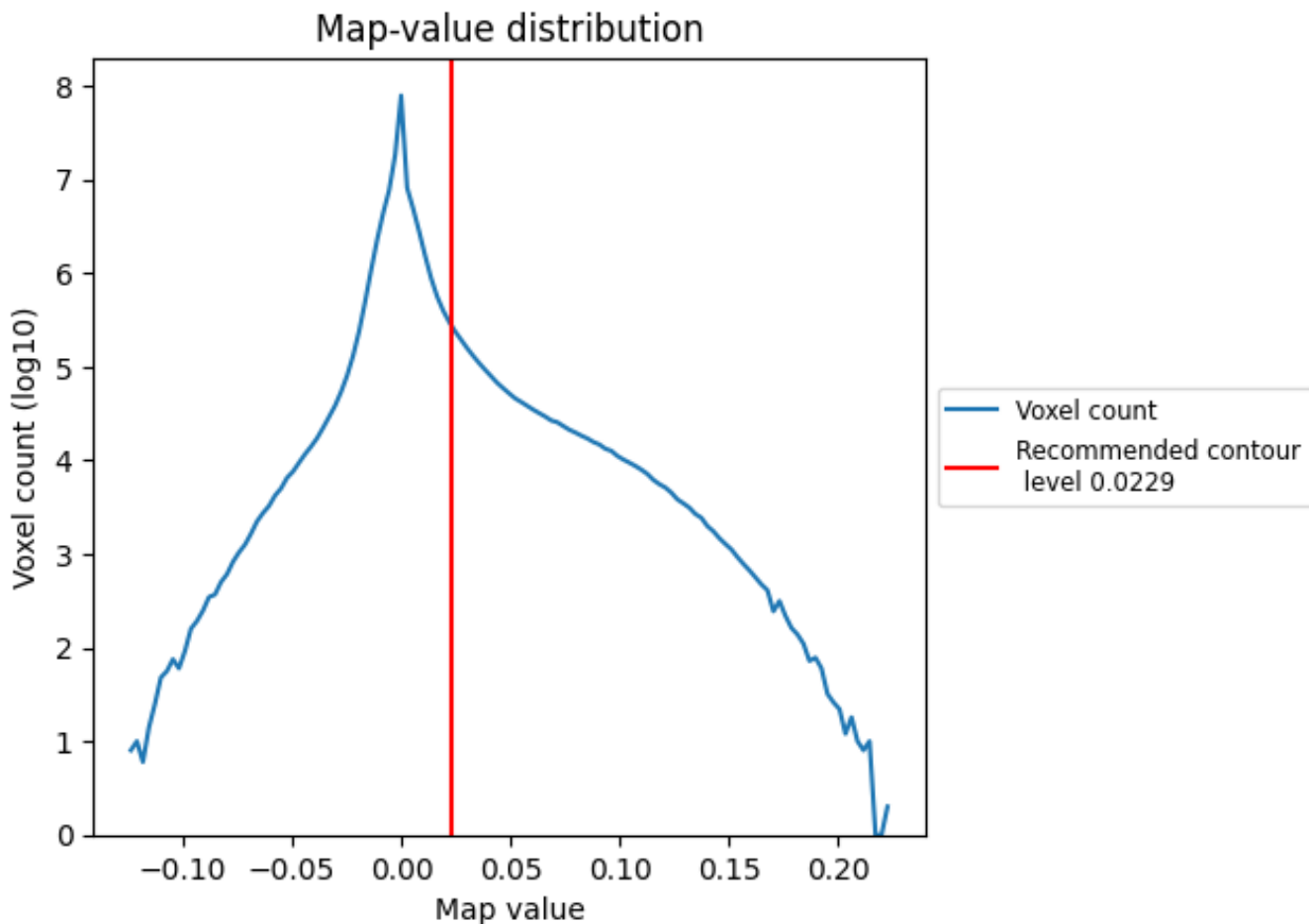


Z

## 7 Map analysis [i](#)

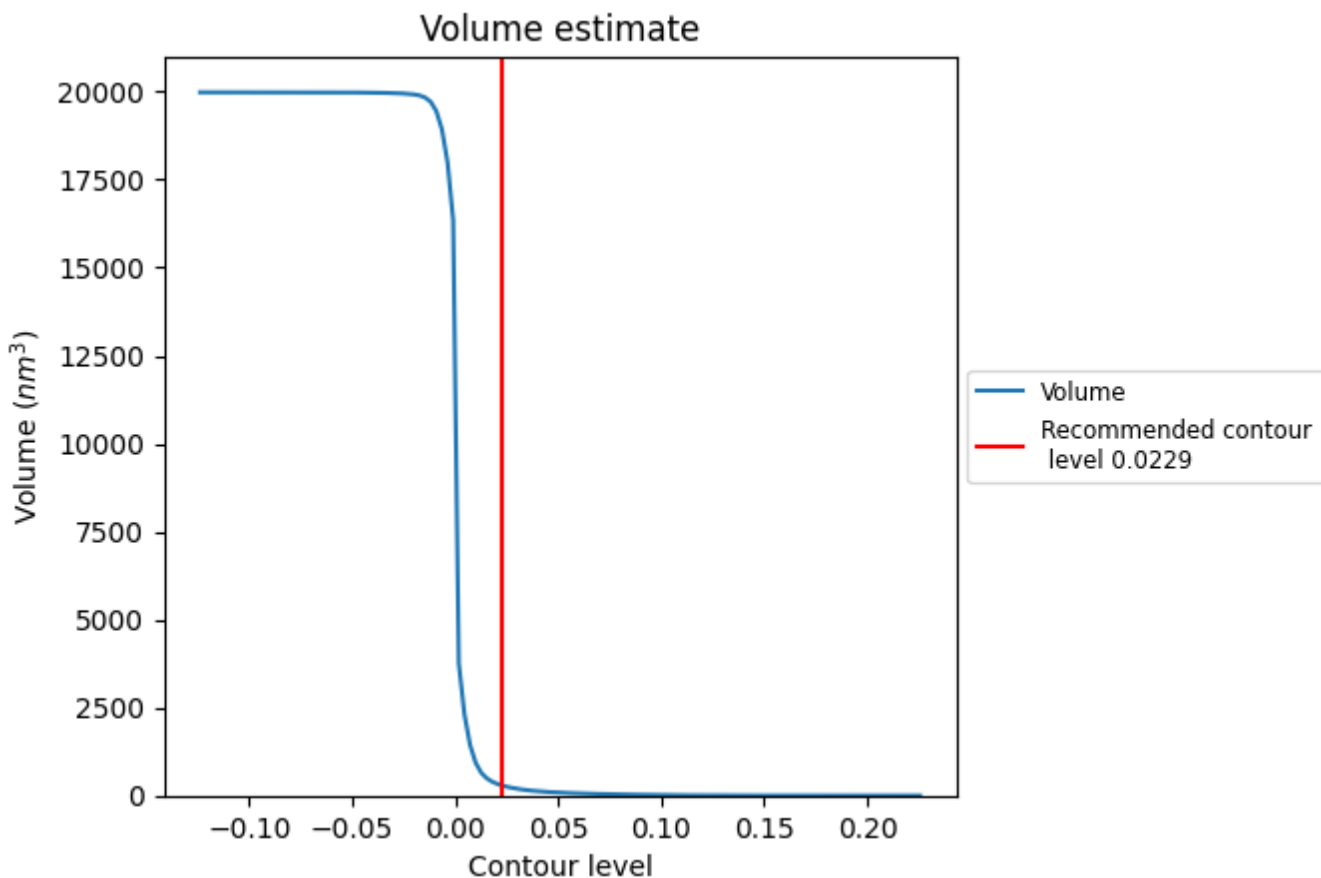
This section contains the results of statistical analysis of the map.

### 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.

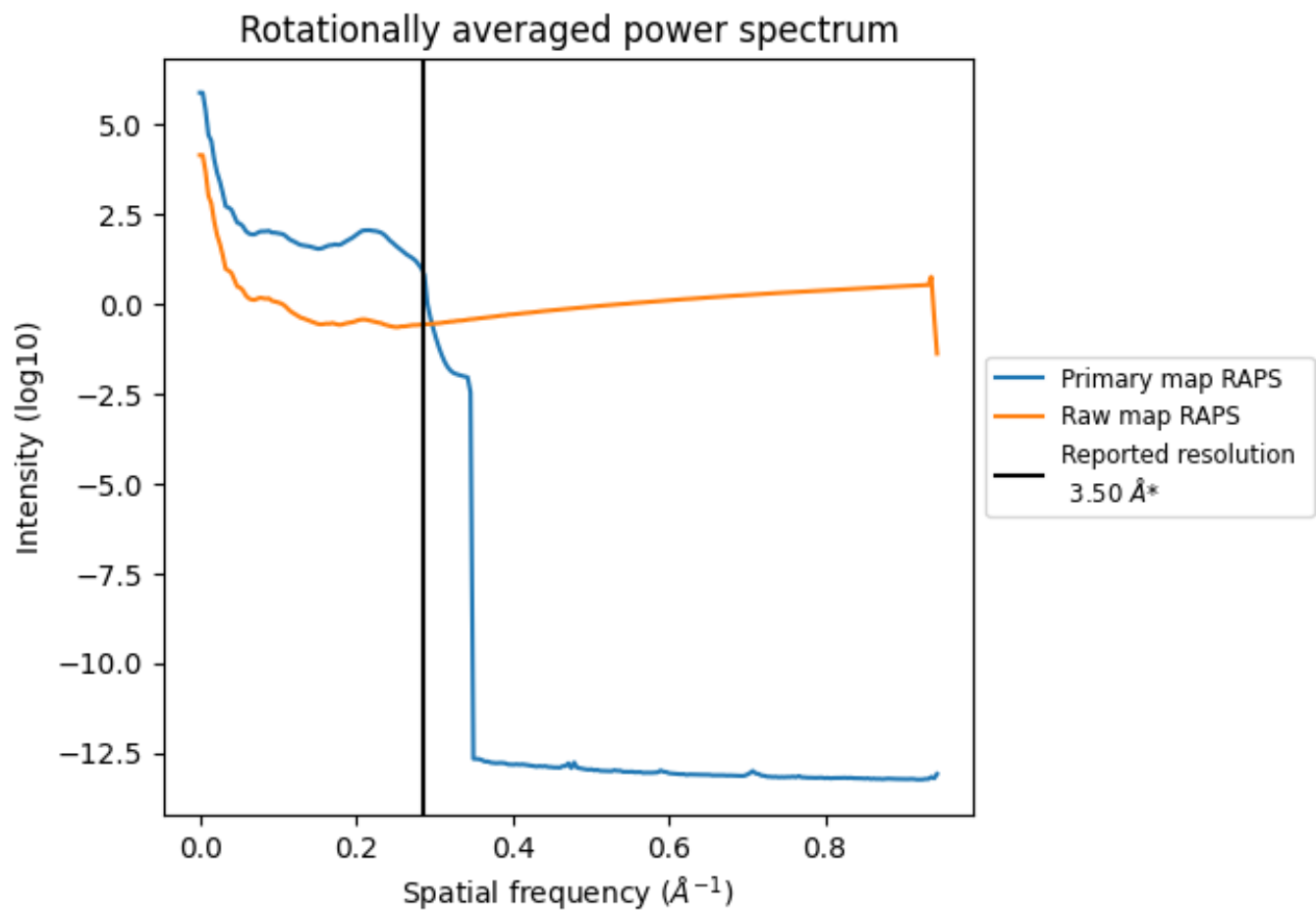
## 7.2 Volume estimate [i](#)



The volume at the recommended contour level is 284 nm<sup>3</sup>; this corresponds to an approximate mass of 256 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](#)

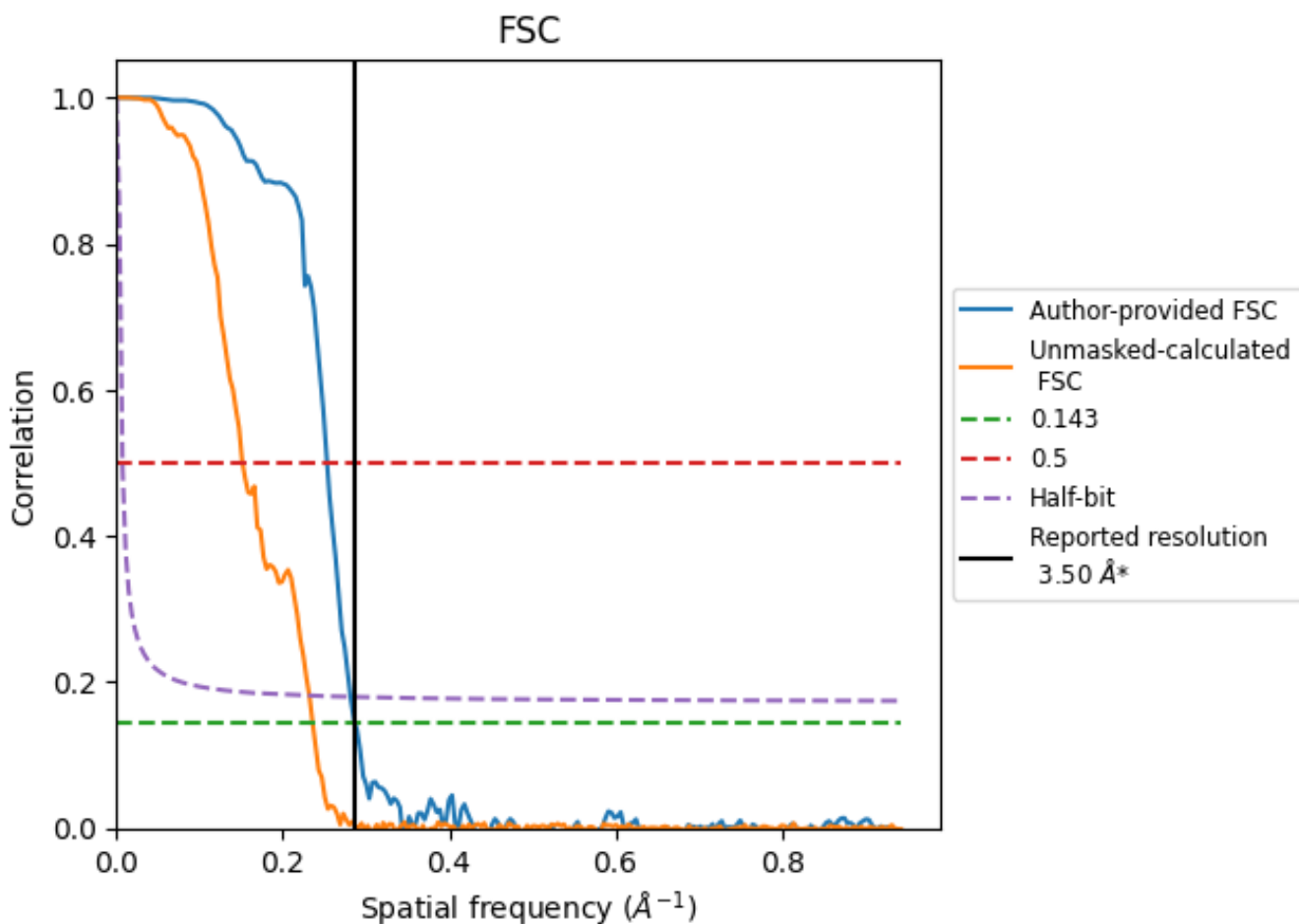


\*Reported resolution corresponds to spatial frequency of 0.286 Å<sup>-1</sup>

## 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 0.286 Å<sup>-1</sup>



## 8.2 Resolution estimates [i](#)

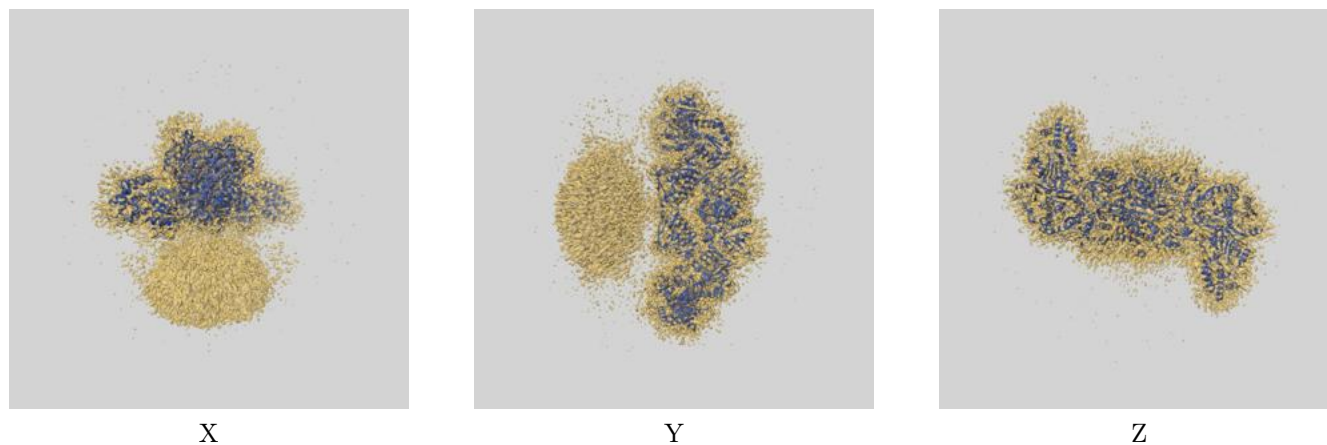
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.50	-	-
Author-provided FSC curve	3.49	3.95	3.55
Unmasked-calculated*	4.24	6.60	4.31

\*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 4.24 differs from the reported value 3.5 by more than 10 %

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

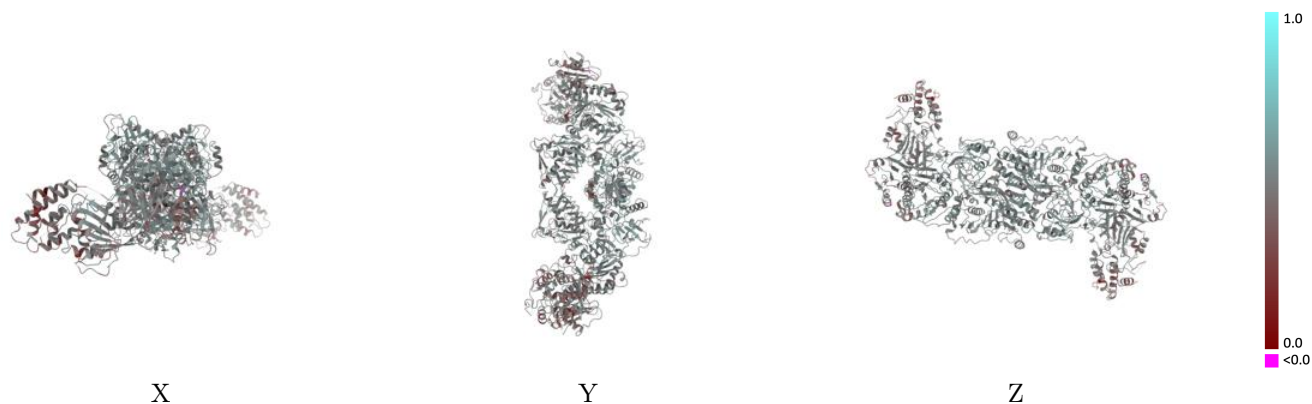
This section contains information regarding the fit between EMDB map EMD-45812 and PDB model 9CQ9. Per-residue inclusion information can be found in section [3](#) on page [4](#).

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



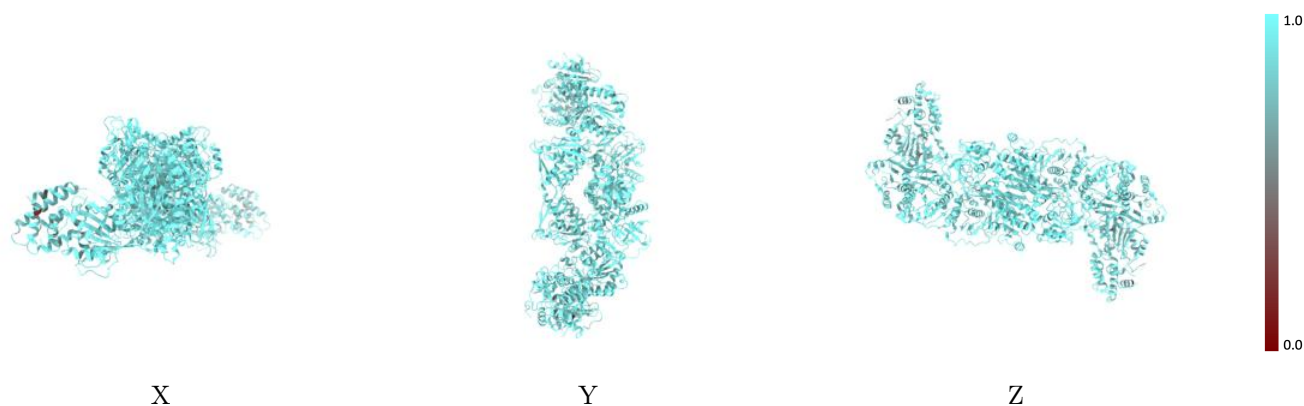
The images above show the 3D surface view of the map at the recommended contour level 0.0229 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



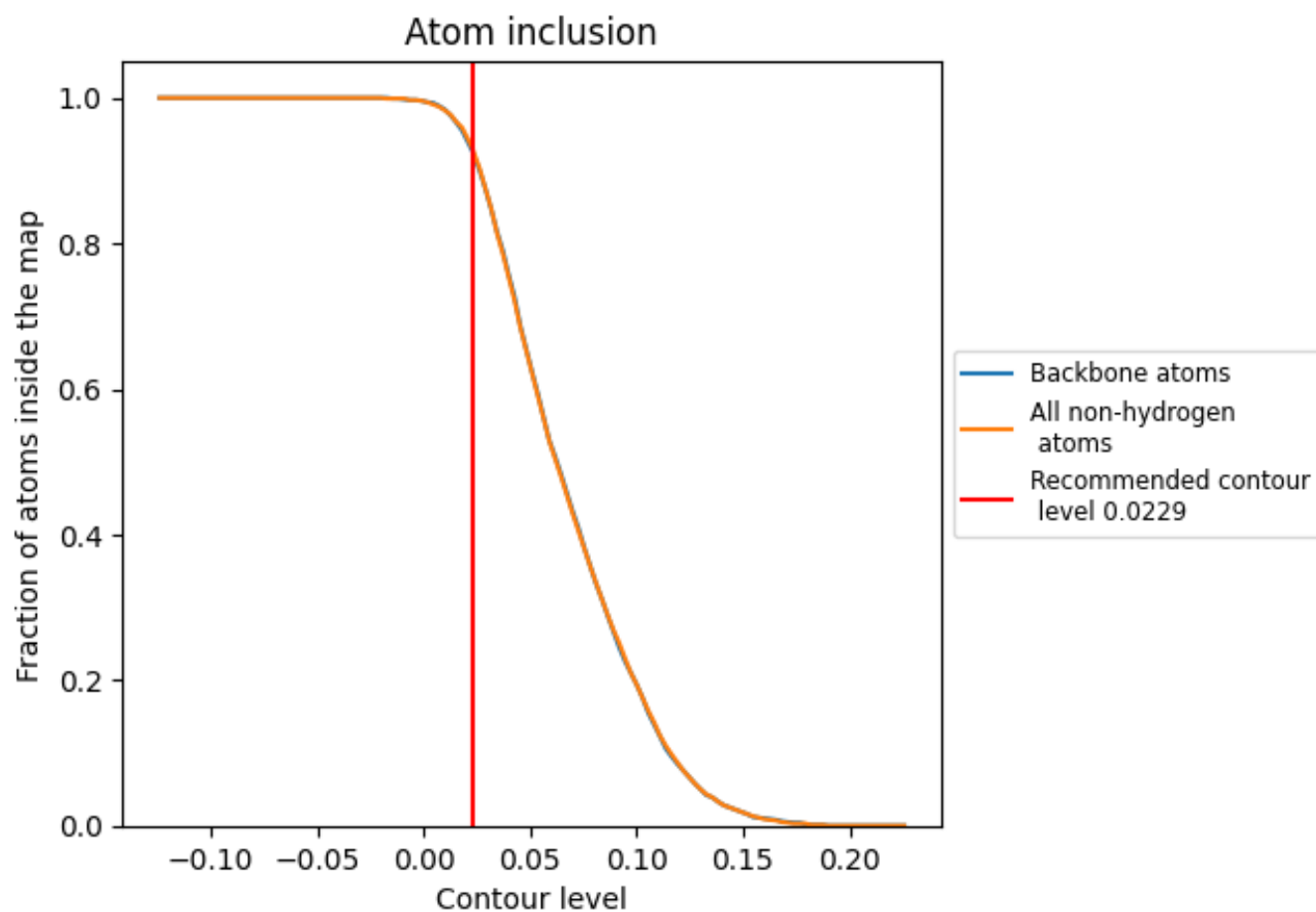
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.0229).



## 9.4 Atom inclusion [i](#)



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

## 9.5 Map-model fit summary [i](#)

The table lists the average atom inclusion at the recommended contour level (0.0229) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9310	 0.4880
A	 0.9290	 0.4880
B	 0.9290	 0.4890

