WORLDWIDE wwPDB PROTEIN DATA BANK

Full wwPDB EM Validation Report ⓘ

Mar 10, 2026 – 04:22 PM EDT

PDB ID	:	9OHK / pdb_00009ohk
EMDB ID	:	EMD-70496
Title	:	Human P2X2 receptor channel in lipid nanodiscs with 0.5mM Suramin
Authors	:	Dhingra, S.; Swartz, K.J.
Deposited on	:	2025-05-05
Resolution	:	3.20 Å(reported)

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

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/EMValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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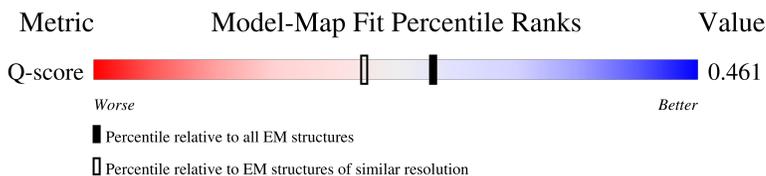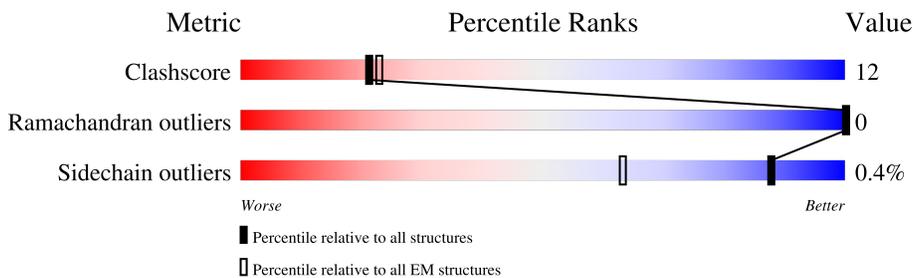The following versions of software and data (see references ⓘ) were used in the production of this report:

EMDB validation analysis	:	0.0.1.dev132
Mogul	:	2022.3.0, CSD as543be (2022)
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)	:	2.48.1

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 3.20 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	Percentile Ranks	Value
Clashscore		12
Ramachandran outliers		0
Sidechain outliers		0.4%

Worse   *Better*

▮ Percentile relative to all structures

▯ Percentile relative to all EM structures

Metric	Model-Map Fit Percentile Ranks	Value
Q-score		0.461

Worse   *Better*

▮ Percentile relative to all EM structures

▯ Percentile relative to EM structures of similar resolution

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	15020 (2.70 - 3.70)

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	471	55% 15% 30%
1	B	471	55% 15% 30%
1	C	471	55% 15% 30%

2 Entry composition ⓘ

There are 3 unique types of molecules in this entry. The entry contains 8124 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 P2X purinoceptor 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	329	Total	C	N	O	S	0	0
			2580	1663	431	472	14		
1	B	329	Total	C	N	O	S	0	0
			2580	1663	431	472	14		
1	C	329	Total	C	N	O	S	0	0
			2580	1663	431	472	14		

- Molecule 2 is 2-acetamido-2-deoxy-beta-D-glucopyranose (CCD ID: NAG) (formula: $C_8H_{15}NO_6$) (labeled as "Ligand of Interest" by depositor).
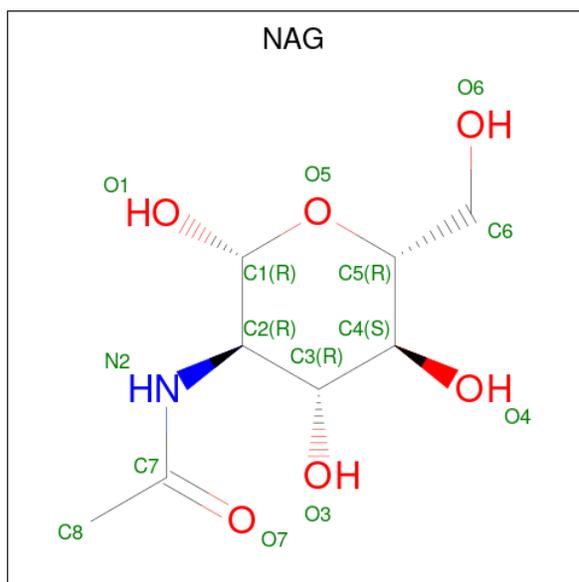
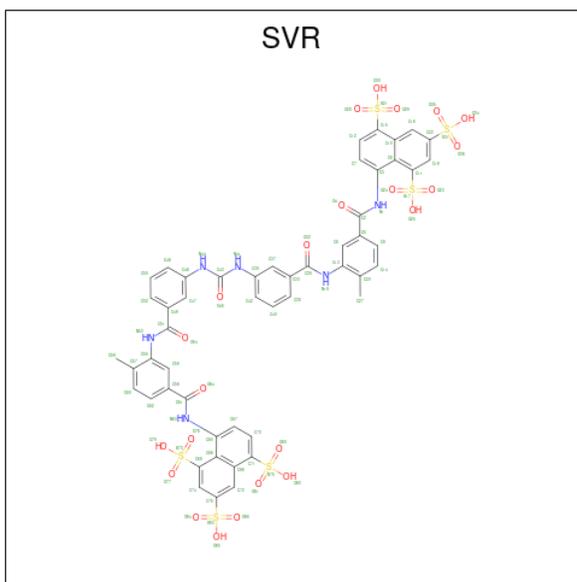

NAG

Mol	Chain	Residues	Atoms				AltConf
2	A	1	Total	C	N	O	0
			14	8	1	5	
2	A	1	Total	C	N	O	0
			14	8	1	5	
2	A	1	Total	C	N	O	0
			14	8	1	5	

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Mol	Chain	Residues	Atoms				AltConf
2	B	1	Total	C	N	O	0
			14	8	1	5	
2	B	1	Total	C	N	O	0
			14	8	1	5	
2	B	1	Total	C	N	O	0
			14	8	1	5	
2	C	1	Total	C	N	O	0
			14	8	1	5	
2	C	1	Total	C	N	O	0
			14	8	1	5	
2	C	1	Total	C	N	O	0
			14	8	1	5	

- Molecule 3 is 8,8'-[CARBONYLBIS[IMINO-3,1-PHENYLENECARBONYLIMINO(4-METHYL-3,1-PHENYLENE)CARBONYLIMINO]]BIS-1,3,5-NAPHTHALENETRISULFON IC ACID (CCD ID: SVR) (formula: $C_{51}H_{40}N_6O_{23}S_6$) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms					AltConf
3	A	1	Total	C	N	O	S	0
			86	51	6	23	6	
3	B	1	Total	C	N	O	S	0
			86	51	6	23	6	
3	C	1	Total	C	N	O	S	0
			86	51	6	23	6	

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: P2X purinoceptor 2

• Molecule 1: P2X purinoceptor 2

PRO PRO LEU ARG PRO CYS PRO ILE SER ALA PRO SER GLU GLN MET VAL ASP THR PRO ALA SER GLU PRO ALA GLN ALA SER THR PRO THR ASP PRO LYS GLY LEU ALA GLN LEU

● Molecule 1: P2X purinoceptor 2

Chain C:

55%   15%   30%

MET ALA ALA ALA GLN PRO LYS TYR PRO ALA GLY ALA THR ALA ARG LEU ALA ARG GLY CYS TRP SER ALA LEU TRP ASP TYR GLU THR PRO LYS VAL ILE VAL VAL ARG ASN R39 R40 L41 L44 Y45 R46 Q64 K65 S66 Y67 Q68 E75 I79 T80 T86 T87 S88

E89 H90 W93 D94 V95 E96 E97 Y98 V99 K100 P101 P102 E103 G104 F108 I111 T112 T117 T121 C125 P126 E127 L137 S138 D139 A140 D141 G153 V172 F173 C176 E179 G189 L198 N214 R218 T219 D220 K224 R225 K247 V261

V264 D271 L274 Y283 S284 F285 R286 D289 H292 A295 N300 F301 R302 T314 R315 T316 R324 Q332 F336 S337 L338 I339 I343 T347 A348 L349 V352 G353 V354 L358 W361 I362 L363 L364 T365 F366 M367 ASN LYS ASN LYS VAL TYR

SER HIS LYS LYS PHE ASP LYS VAL CYS THR PRO SER HIS PRO SER GLY SER TRP PRO VAL THR LEU ALA ARG VAL LEU GLY GLN ALA PRO PRO GLU PRO GLY HIS ARG SER GLU ASP GLN GLN HIS PRO SER PRO PRO SER GLY GLN GLU GLY GLN GLN GLY ALA GLU GLU CYS GLY PRO ALA PHE

PRO PRO LEU ARG PRO CYS PRO ILE SER ALA PRO SER GLU GLN MET VAL ASP THR PRO ALA SER GLU PRO ALA GLN ALA SER THR PRO THR ASP PRO LYS GLY LEU ALA GLN LEU

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C3	Depositor
Number of particles used	277497	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 $(e^-/Å^2)$	60.80	Depositor
Minimum defocus (nm)	800	Depositor
Maximum defocus (nm)	2400	Depositor
Magnification	Not provided	
Image detector	GATAN K3 BIOCONTINUUM (6k x 4k)	Depositor
Maximum map value	0.229	Depositor
Minimum map value	-0.087	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.006	Depositor
Recommended contour level	0.0503	Depositor
Map size (Å)	296.64, 296.64, 296.64	wwPDB
Map dimensions	360, 360, 360	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.82400006, 0.82400006, 0.82400006	Depositor

5   Model quality ⓘ

5.1   Standard geometry ⓘ

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

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	0.17	0/2646	0.37	0/3592
1	B	0.17	0/2646	0.37	0/3592
1	C	0.17	0/2646	0.37	0/3592
All	All	0.17	0/7938	0.37	0/10776

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 ⓘ

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	2580	0	2553	62	0
1	B	2580	0	2553	59	0
1	C	2580	0	2553	60	0
2	A	42	0	39	0	0
2	B	42	0	39	0	0
2	C	42	0	39	0	0
3	A	86	0	34	9	0
3	B	86	0	34	9	0
3	C	86	0	34	11	0
All	All	8124	0	7878	185	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 12.

All (185) 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)
3:C:504:SVR:H41	3:C:504:SVR:H47	1.45	0.81
3:A:504:SVR:H47	3:A:504:SVR:H41	1.45	0.81
3:B:504:SVR:H47	3:B:504:SVR:H41	1.45	0.80
1:A:64:GLN:HE22	1:C:339:ILE:HD13	1.49	0.76
1:B:339:ILE:HD13	1:C:64:GLN:HE22	1.51	0.75
1:A:339:ILE:HD13	1:B:64:GLN:HE22	1.52	0.73
3:C:504:SVR:H41	3:C:504:SVR:C47	2.03	0.71
3:A:504:SVR:H41	3:A:504:SVR:C47	2.03	0.71
1:A:261:VAL:HB	1:A:289:ASP:HB3	1.73	0.70
1:C:261:VAL:HB	1:C:289:ASP:HB3	1.73	0.70
3:B:504:SVR:H41	3:B:504:SVR:C47	2.03	0.70
1:B:349:LEU:HD13	1:C:354:VAL:HG21	1.73	0.69
1:B:261:VAL:HB	1:B:289:ASP:HB3	1.73	0.69
1:A:349:LEU:HD13	1:B:354:VAL:HG21	1.74	0.68
1:A:354:VAL:HG21	1:C:349:LEU:HD13	1.75	0.66
1:A:64:GLN:NE2	1:C:339:ILE:HD13	2.10	0.66
3:B:504:SVR:H47	3:B:504:SVR:N41	2.12	0.65
1:B:339:ILE:HD13	1:C:64:GLN:NE2	2.12	0.63
3:A:504:SVR:H47	3:A:504:SVR:N41	2.12	0.63
1:C:89:GLU:OE1	1:C:89:GLU:N	2.31	0.62
1:A:89:GLU:OE1	1:A:89:GLU:N	2.31	0.62
1:A:339:ILE:HD13	1:B:64:GLN:NE2	2.13	0.62
1:A:339:ILE:HD12	1:A:339:ILE:H	1.65	0.62
3:C:504:SVR:H47	3:C:504:SVR:N41	2.12	0.62
3:C:504:SVR:N63	3:C:504:SVR:O79	2.33	0.62
1:B:89:GLU:OE1	1:B:89:GLU:N	2.31	0.61
1:C:339:ILE:HD12	1:C:339:ILE:H	1.65	0.61
1:C:89:GLU:O	1:C:90:HIS:ND1	2.34	0.61
3:B:504:SVR:O79	3:B:504:SVR:N63	2.33	0.61
1:B:89:GLU:O	1:B:90:HIS:ND1	2.34	0.60
1:B:339:ILE:H	1:B:339:ILE:HD12	1.65	0.60
3:A:504:SVR:O79	3:A:504:SVR:N63	2.33	0.60
1:A:324:ARG:NH1	1:C:104:GLY:O	2.35	0.60
1:A:89:GLU:O	1:A:90:HIS:ND1	2.34	0.59
1:A:104:GLY:O	1:B:324:ARG:NH1	2.35	0.59
1:C:121:THR:HG22	1:C:314:THR:HG22	1.85	0.59
1:B:104:GLY:O	1:C:324:ARG:NH1	2.35	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:218:ARG:NH2	1:C:220:ASP:OD2	2.36	0.59
1:B:121:THR:HG22	1:B:314:THR:HG22	1.85	0.58
1:B:218:ARG:NH2	1:B:220:ASP:OD2	2.36	0.58
1:A:121:THR:HG22	1:A:314:THR:HG22	1.85	0.58
1:C:179:GLU:OE1	1:C:302:ARG:NH2	2.37	0.58
1:A:218:ARG:NH2	1:A:220:ASP:OD2	2.36	0.58
1:B:98:TYR:CD1	1:B:99:VAL:HG23	2.39	0.58
1:C:98:TYR:CD1	1:C:99:VAL:HG23	2.39	0.57
1:A:179:GLU:OE1	1:A:302:ARG:NH2	2.37	0.57
1:B:179:GLU:OE1	1:B:302:ARG:NH2	2.37	0.57
1:A:98:TYR:CD1	1:A:99:VAL:HG23	2.39	0.56
1:B:103:GLU:N	1:B:103:GLU:OE2	2.39	0.55
1:B:332:GLN:OE1	1:B:332:GLN:HA	2.07	0.55
1:A:103:GLU:N	1:A:103:GLU:OE2	2.39	0.55
1:C:332:GLN:HA	1:C:332:GLN:OE1	2.07	0.55
1:C:103:GLU:N	1:C:103:GLU:OE2	2.39	0.54
1:A:332:GLN:HA	1:A:332:GLN:OE1	2.07	0.54
1:A:286:ARG:NH2	1:C:75:GLU:OE1	2.42	0.53
3:B:504:SVR:C38	3:B:504:SVR:H67	2.39	0.53
3:A:504:SVR:H67	3:A:504:SVR:C38	2.39	0.53
1:B:75:GLU:OE1	1:C:286:ARG:NH2	2.42	0.52
1:C:65:LYS:HD2	1:C:68:GLN:HE22	1.74	0.52
1:C:139:ASP:OD1	1:C:140:ALA:N	2.43	0.52
1:A:218:ARG:HH21	1:A:220:ASP:CG	2.17	0.52
3:C:504:SVR:C38	3:C:504:SVR:H67	2.39	0.52
1:A:65:LYS:HD2	1:A:68:GLN:HE22	1.74	0.52
1:B:218:ARG:HH21	1:B:220:ASP:CG	2.17	0.52
1:B:139:ASP:OD1	1:B:140:ALA:N	2.43	0.52
1:C:95:VAL:O	1:C:96:GLU:HG3	2.11	0.51
1:B:65:LYS:HD2	1:B:68:GLN:HE22	1.74	0.51
1:A:75:GLU:OE1	1:B:286:ARG:NH2	2.43	0.51
1:C:218:ARG:HH21	1:C:220:ASP:CG	2.17	0.51
1:B:117:THR:HG21	1:B:179:GLU:HA	1.93	0.51
1:A:139:ASP:OD1	1:A:140:ALA:N	2.43	0.51
1:C:117:THR:HG21	1:C:179:GLU:HA	1.93	0.51
3:A:504:SVR:N63	3:A:504:SVR:S73	2.84	0.51
1:A:117:THR:HG21	1:A:179:GLU:HA	1.93	0.51
1:A:95:VAL:O	1:A:96:GLU:HG3	2.11	0.51
1:A:98:TYR:CE1	1:A:99:VAL:HG23	2.46	0.51
3:B:504:SVR:N63	3:B:504:SVR:S73	2.84	0.50
1:B:95:VAL:O	1:B:96:GLU:HG3	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:98:TYR:CE1	1:C:99:VAL:HG23	2.46	0.50
3:C:504:SVR:H8	3:C:504:SVR:O23	2.11	0.50
1:B:271:ASP:HB3	1:B:274:LEU:HD13	1.93	0.50
1:C:348:ALA:O	1:C:352:VAL:HG13	2.12	0.50
3:B:504:SVR:O23	3:B:504:SVR:H8	2.11	0.50
3:C:504:SVR:N63	3:C:504:SVR:S73	2.84	0.50
1:A:348:ALA:O	1:A:352:VAL:HG13	2.12	0.50
1:B:98:TYR:CE1	1:B:99:VAL:HG23	2.46	0.50
1:A:86:THR:HG23	1:A:93:TRP:HB2	1.94	0.50
1:A:271:ASP:HB3	1:A:274:LEU:HD13	1.93	0.50
3:A:504:SVR:H8	3:A:504:SVR:O23	2.11	0.50
1:C:86:THR:HG23	1:C:93:TRP:HB2	1.94	0.49
1:C:271:ASP:HB3	1:C:274:LEU:HD13	1.93	0.49
1:B:94:ASP:OD1	1:B:94:ASP:N	2.45	0.49
1:B:348:ALA:O	1:B:352:VAL:HG13	2.12	0.48
1:B:86:THR:HG23	1:B:93:TRP:HB2	1.94	0.48
1:A:80:THR:HG21	1:A:108:PHE:CE1	2.49	0.48
1:B:80:THR:HG21	1:B:108:PHE:CE1	2.49	0.48
1:B:343:ILE:HG12	1:C:347:THR:HG21	1.96	0.48
1:C:80:THR:HG21	1:C:108:PHE:CE1	2.49	0.48
1:A:88:SER:HB2	1:A:89:GLU:OE1	2.15	0.47
1:B:112:THR:HG23	1:B:189:GLY:HA3	1.98	0.46
1:C:88:SER:HB2	1:C:89:GLU:OE1	2.15	0.46
1:A:343:ILE:HG12	1:B:347:THR:HG21	1.97	0.46
1:A:112:THR:HG23	1:A:189:GLY:HA3	1.97	0.46
1:B:88:SER:HB2	1:B:89:GLU:OE1	2.15	0.46
1:A:347:THR:HG21	1:C:343:ILE:HG12	1.98	0.46
3:B:504:SVR:H8	3:B:504:SVR:S17	2.56	0.46
1:A:261:VAL:HG21	1:C:79:ILE:HD11	1.97	0.46
3:A:504:SVR:H8	3:A:504:SVR:S17	2.56	0.45
1:B:214:ASN:OD1	1:B:283:TYR:OH	2.35	0.45
1:C:46:ARG:HD3	1:C:46:ARG:HA	1.72	0.45
3:C:504:SVR:H8	3:C:504:SVR:S17	2.56	0.45
1:A:79:ILE:HD11	1:B:261:VAL:HG21	1.98	0.45
1:C:214:ASN:OD1	1:C:283:TYR:OH	2.35	0.45
1:B:95:VAL:HG12	1:B:96:GLU:H	1.82	0.45
1:C:95:VAL:HG12	1:C:96:GLU:H	1.82	0.45
1:C:112:THR:HG23	1:C:189:GLY:HA3	1.98	0.45
1:B:79:ILE:HD11	1:C:261:VAL:HG21	1.98	0.44
3:C:504:SVR:H47	3:C:504:SVR:H53	1.21	0.44
1:A:95:VAL:HG12	1:A:96:GLU:H	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:100:LYS:HD3	1:B:100:LYS:HA	1.72	0.44
1:C:261:VAL:HG22	1:C:324:ARG:HB3	2.00	0.44
1:A:67:TYR:HD1	1:A:336:PHE:HD1	1.66	0.43
1:A:296:SER:HB3	3:C:504:SVR:H593	1.99	0.43
1:A:338:LEU:HD12	1:A:338:LEU:HA	1.90	0.43
1:C:67:TYR:HD1	1:C:336:PHE:HD1	1.66	0.43
3:A:504:SVR:H593	1:B:296:SER:HB3	1.99	0.43
1:B:66:SER:O	1:B:66:SER:OG	2.36	0.43
1:A:214:ASN:OD1	1:A:283:TYR:OH	2.35	0.43
1:C:100:LYS:HA	1:C:100:LYS:HD3	1.73	0.43
1:A:46:ARG:HD3	1:A:46:ARG:HA	1.72	0.43
1:A:66:SER:O	1:A:66:SER:OG	2.36	0.43
1:A:95:VAL:C	1:A:97:GLU:H	2.27	0.43
1:C:343:ILE:O	1:C:347:THR:HG22	2.19	0.43
1:A:98:TYR:HA	1:A:111:ILE:HB	2.01	0.43
1:B:67:TYR:HD1	1:B:336:PHE:HD1	1.66	0.43
1:B:95:VAL:C	1:B:97:GLU:H	2.27	0.43
1:B:343:ILE:O	1:B:347:THR:HG22	2.19	0.43
1:B:127:GLU:HG2	1:B:172:VAL:HB	2.01	0.43
1:B:261:VAL:HG22	1:B:324:ARG:HB3	2.00	0.43
1:A:41:LEU:HD23	1:A:363:LEU:HD12	2.01	0.43
1:B:362:ILE:O	1:B:365:THR:OG1	2.36	0.43
1:C:127:GLU:HG2	1:C:172:VAL:HB	2.01	0.43
1:B:98:TYR:HA	1:B:111:ILE:HB	2.01	0.43
1:A:362:ILE:O	1:A:365:THR:OG1	2.36	0.42
1:B:41:LEU:HD23	1:B:363:LEU:HD12	2.01	0.42
1:C:66:SER:O	1:C:66:SER:OG	2.36	0.42
1:C:98:TYR:HA	1:C:111:ILE:HB	2.01	0.42
1:A:264:VAL:HG22	1:A:285:PHE:HD1	1.85	0.42
1:B:300:ASN:OD1	1:B:300:ASN:N	2.53	0.42
1:C:41:LEU:HD23	1:C:363:LEU:HD12	2.01	0.42
1:C:80:THR:HA	1:C:198:LEU:O	2.20	0.42
1:A:127:GLU:HG2	1:A:172:VAL:HB	2.01	0.42
1:A:261:VAL:HG22	1:A:324:ARG:HB3	2.00	0.42
1:B:100:LYS:O	1:B:102:PRO:HD3	2.20	0.42
1:A:80:THR:HA	1:A:198:LEU:O	2.20	0.42
1:B:153:GLY:HA3	1:B:173:PHE:O	2.20	0.42
1:B:264:VAL:HG22	1:B:285:PHE:HD1	1.85	0.42
1:C:100:LYS:O	1:C:102:PRO:HD3	2.20	0.42
1:A:224:LYS:C	1:A:225:ARG:HD3	2.45	0.42
1:A:300:ASN:OD1	1:A:300:ASN:N	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:224:LYS:C	1:B:225:ARG:HD3	2.45	0.42
1:C:362:ILE:O	1:C:365:THR:OG1	2.36	0.42
1:A:343:ILE:O	1:A:347:THR:HG22	2.19	0.42
1:C:264:VAL:HG22	1:C:285:PHE:HD1	1.85	0.42
1:B:316:THR:O	1:B:316:THR:OG1	2.36	0.41
1:B:80:THR:HA	1:B:198:LEU:O	2.20	0.41
1:A:175:TRP:NE1	1:C:97:GLU:OE2	2.52	0.41
3:B:504:SVR:H8	3:B:504:SVR:HN1	1.52	0.41
1:C:95:VAL:C	1:C:97:GLU:H	2.27	0.41
3:C:504:SVR:C47	3:C:504:SVR:N41	2.74	0.41
1:A:94:ASP:OD1	1:A:94:ASP:N	2.45	0.41
1:A:247:LYS:HB2	1:A:247:LYS:HE2	1.85	0.41
1:C:300:ASN:OD1	1:C:300:ASN:N	2.53	0.41
1:C:316:THR:O	1:C:316:THR:OG1	2.36	0.41
1:A:97:GLU:OE2	1:B:175:TRP:NE1	2.53	0.41
1:A:100:LYS:HA	1:A:100:LYS:HD3	1.72	0.41
1:A:100:LYS:O	1:A:102:PRO:HD3	2.20	0.41
1:A:153:GLY:HA3	1:A:173:PHE:O	2.20	0.41
1:C:125:CYS:HB3	1:C:176:CYS:HB3	1.96	0.41
1:C:153:GLY:HA3	1:C:173:PHE:O	2.20	0.41
1:C:247:LYS:HB2	1:C:247:LYS:HE2	1.85	0.40
1:C:224:LYS:C	1:C:225:ARG:HD3	2.45	0.40
1:A:65:LYS:HD2	1:A:68:GLN:NE2	2.37	0.40
1:B:145:GLY:N	1:B:155:ARG:O	2.50	0.40
1:C:338:LEU:HD12	1:C:338:LEU:HA	1.90	0.40

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	327/471 (69%)	306 (94%)	21 (6%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	B	327/471 (69%)	306 (94%)	21 (6%)	0	100	100
1	C	327/471 (69%)	306 (94%)	21 (6%)	0	100	100
All	All	981/1413 (69%)	918 (94%)	63 (6%)	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	283/398 (71%)	282 (100%)	1 (0%)	89	94
1	B	283/398 (71%)	282 (100%)	1 (0%)	89	94
1	C	283/398 (71%)	282 (100%)	1 (0%)	89	94
All	All	849/1194 (71%)	846 (100%)	3 (0%)	88	94

All (3) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	98	TYR
1	B	98	TYR
1	C	98	TYR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (7) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	68	GLN
1	A	120	GLN
1	B	49	GLN
1	B	68	GLN
1	B	120	GLN
1	C	68	GLN
1	C	120	GLN

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 ⓘ

12 ligands are modelled in this entry.

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	#$|Z| > 2$
3	SVR	A	504	-	89,93,93	0.57	0	133,145,145	1.28	16 (12%)
2	NAG	C	501	1	14,14,15	0.84	1 (7%)	17,19,21	1.04	1 (5%)
2	NAG	A	501	1	14,14,15	0.85	1 (7%)	17,19,21	1.05	1 (5%)
2	NAG	B	502	1	14,14,15	0.17	0	17,19,21	0.41	0
2	NAG	A	503	1	14,14,15	0.86	1 (7%)	17,19,21	1.10	1 (5%)
3	SVR	C	504	-	89,93,93	0.57	0	133,145,145	1.28	17 (12%)
3	SVR	B	504	-	89,93,93	0.57	0	133,145,145	1.28	16 (12%)
2	NAG	B	501	1	14,14,15	0.84	1 (7%)	17,19,21	1.05	1 (5%)
2	NAG	A	502	1	14,14,15	0.17	0	17,19,21	0.41	0
2	NAG	C	503	1	14,14,15	0.86	1 (7%)	17,19,21	1.10	1 (5%)
2	NAG	B	503	1	14,14,15	0.85	1 (7%)	17,19,21	1.11	1 (5%)
2	NAG	C	502	1	14,14,15	0.18	0	17,19,21	0.41	0

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
3	SVR	A	504	-	-	14/76/76/76	0/8/8/8
2	NAG	C	501	1	-	3/6/23/26	0/1/1/1
2	NAG	A	501	1	-	3/6/23/26	0/1/1/1
2	NAG	B	502	1	-	4/6/23/26	0/1/1/1
2	NAG	A	503	1	-	4/6/23/26	0/1/1/1
3	SVR	C	504	-	-	14/76/76/76	0/8/8/8
3	SVR	B	504	-	-	13/76/76/76	0/8/8/8
2	NAG	B	501	1	-	3/6/23/26	0/1/1/1
2	NAG	A	502	1	-	4/6/23/26	0/1/1/1
2	NAG	C	503	1	-	4/6/23/26	0/1/1/1
2	NAG	B	503	1	-	4/6/23/26	0/1/1/1
2	NAG	C	502	1	-	4/6/23/26	0/1/1/1

All (6) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	501	NAG	O5-C1	2.72	1.48	1.43
2	A	501	NAG	O5-C1	2.71	1.48	1.43
2	C	501	NAG	O5-C1	2.70	1.48	1.43
2	A	503	NAG	O5-C1	2.66	1.48	1.43
2	B	503	NAG	O5-C1	2.65	1.48	1.43
2	C	503	NAG	O5-C1	2.62	1.48	1.43

All (55) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	B	503	NAG	C1-O5-C5	4.10	117.68	112.19
2	C	503	NAG	C1-O5-C5	4.07	117.64	112.19
2	A	503	NAG	C1-O5-C5	4.07	117.64	112.19
2	A	501	NAG	C1-O5-C5	4.05	117.62	112.19
2	B	501	NAG	C1-O5-C5	4.05	117.61	112.19
2	C	501	NAG	C1-O5-C5	4.03	117.58	112.19
3	A	504	SVR	C20-C13-N19	3.77	124.83	118.82
3	B	504	SVR	C20-C13-N19	3.76	124.82	118.82
3	C	504	SVR	C20-C13-N19	3.76	124.81	118.82
3	C	504	SVR	C39-N41-C43	3.62	133.99	126.61
3	B	504	SVR	C39-N41-C43	3.61	133.98	126.61
3	A	504	SVR	C39-N41-C43	3.60	133.97	126.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	C	504	SVR	C49-C47-C46	3.31	124.70	120.44
3	B	504	SVR	C49-C47-C46	3.29	124.68	120.44
3	A	504	SVR	C49-C47-C46	3.28	124.66	120.44
3	B	504	SVR	C50-C52-C49	-2.92	117.49	120.36
3	A	504	SVR	C50-C52-C49	-2.92	117.50	120.36
3	B	504	SVR	C58-C61-N63	2.89	122.91	115.90
3	A	504	SVR	C58-C61-N63	2.88	122.89	115.90
3	C	504	SVR	C58-C61-N63	2.87	122.88	115.90
3	C	504	SVR	C50-C52-C49	-2.87	117.54	120.36
3	B	504	SVR	C48-C46-C47	-2.70	116.40	119.66
3	C	504	SVR	C48-C46-C47	-2.69	116.41	119.66
3	C	504	SVR	C49-C51-N53	-2.67	109.40	115.90
3	A	504	SVR	C48-C46-C47	-2.67	116.43	119.66
3	A	504	SVR	C49-C51-N53	-2.66	109.42	115.90
3	B	504	SVR	C49-C51-N53	-2.66	109.44	115.90
3	C	504	SVR	C52-C49-C51	2.64	129.16	120.60
3	A	504	SVR	C52-C49-C51	2.63	129.13	120.60
3	B	504	SVR	C52-C49-C51	2.63	129.12	120.60
3	B	504	SVR	C47-C49-C51	-2.62	111.73	120.40
3	A	504	SVR	C47-C49-C51	-2.62	111.73	120.40
3	C	504	SVR	C47-C49-C51	-2.62	111.74	120.40
3	A	504	SVR	C8-C13-N19	-2.62	115.09	121.95
3	C	504	SVR	C8-C13-N19	-2.62	115.10	121.95
3	A	504	SVR	C7-C3-N1	-2.61	116.20	123.50
3	B	504	SVR	C8-C13-N19	-2.61	115.12	121.95
3	B	504	SVR	C7-C3-N1	-2.61	116.22	123.50
3	C	504	SVR	C7-C3-N1	-2.60	116.23	123.50
3	C	504	SVR	C18-C11-S17	-2.50	111.16	118.42
3	B	504	SVR	C18-C11-S17	-2.49	111.17	118.42
3	A	504	SVR	C18-C11-S17	-2.48	111.20	118.42
3	A	504	SVR	C6-C3-N1	2.45	123.86	120.33
3	B	504	SVR	C6-C3-N1	2.43	123.83	120.33
3	C	504	SVR	C6-C3-N1	2.43	123.82	120.33
3	B	504	SVR	C46-N44-C43	2.21	131.13	126.61
3	A	504	SVR	C46-N44-C43	2.20	131.10	126.61
3	C	504	SVR	C46-N44-C43	2.19	131.08	126.61
3	B	504	SVR	C9-C5-C2	2.18	127.66	120.60
3	C	504	SVR	C9-C5-C2	2.17	127.63	120.60
3	A	504	SVR	C9-C5-C2	2.17	127.63	120.60
3	A	504	SVR	C8-C5-C2	-2.05	113.62	120.40
3	C	504	SVR	C8-C5-C2	-2.05	113.62	120.40
3	B	504	SVR	C8-C5-C2	-2.05	113.63	120.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	C	504	SVR	C62-C58-C61	2.01	127.10	120.60

There are no chirality outliers.

All (74) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	A	504	SVR	C58-C61-N63-C65
3	B	504	SVR	C58-C61-N63-C65
3	C	504	SVR	C58-C61-N63-C65
3	A	504	SVR	O64-C61-N63-C65
3	B	504	SVR	O64-C61-N63-C65
3	C	504	SVR	O64-C61-N63-C65
2	A	502	NAG	O5-C5-C6-O6
2	B	502	NAG	O5-C5-C6-O6
2	C	502	NAG	O5-C5-C6-O6
3	A	504	SVR	C42-C39-N41-C43
3	B	504	SVR	C42-C39-N41-C43
3	C	504	SVR	C42-C39-N41-C43
2	A	502	NAG	C4-C5-C6-O6
2	B	502	NAG	C4-C5-C6-O6
2	C	502	NAG	C4-C5-C6-O6
3	A	504	SVR	C37-C39-N41-C43
3	B	504	SVR	C37-C39-N41-C43
3	C	504	SVR	C37-C39-N41-C43
3	A	504	SVR	O45-C43-N44-C46
3	B	504	SVR	O45-C43-N44-C46
3	C	504	SVR	O45-C43-N44-C46
3	A	504	SVR	N41-C43-N44-C46
3	B	504	SVR	N41-C43-N44-C46
3	C	504	SVR	N41-C43-N44-C46
2	A	501	NAG	C8-C7-N2-C2
2	A	501	NAG	O7-C7-N2-C2
2	A	502	NAG	C8-C7-N2-C2
2	A	502	NAG	O7-C7-N2-C2
2	B	501	NAG	C8-C7-N2-C2
2	B	501	NAG	O7-C7-N2-C2
2	B	502	NAG	C8-C7-N2-C2
2	B	502	NAG	O7-C7-N2-C2
2	C	501	NAG	C8-C7-N2-C2
2	C	501	NAG	O7-C7-N2-C2
2	C	502	NAG	C8-C7-N2-C2
2	C	502	NAG	O7-C7-N2-C2

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Mol	Chain	Res	Type	Atoms
2	A	503	NAG	O5-C5-C6-O6
2	B	503	NAG	O5-C5-C6-O6
2	C	503	NAG	O5-C5-C6-O6
3	A	504	SVR	C68-C71-S75-O80
3	B	504	SVR	C68-C71-S75-O80
3	C	504	SVR	C68-C71-S75-O80
2	A	501	NAG	O5-C5-C6-O6
2	B	501	NAG	O5-C5-C6-O6
2	C	501	NAG	O5-C5-C6-O6
3	A	504	SVR	C56-C55-N53-C51
3	B	504	SVR	C56-C55-N53-C51
3	C	504	SVR	C56-C55-N53-C51
3	A	504	SVR	C57-C55-N53-C51
3	B	504	SVR	C57-C55-N53-C51
3	C	504	SVR	C57-C55-N53-C51
2	A	503	NAG	C1-C2-N2-C7
2	B	503	NAG	C1-C2-N2-C7
2	C	503	NAG	C1-C2-N2-C7
2	A	503	NAG	C4-C5-C6-O6
2	B	503	NAG	C4-C5-C6-O6
2	C	503	NAG	C4-C5-C6-O6
3	A	504	SVR	C68-C71-S75-O81
3	B	504	SVR	C68-C71-S75-O81
3	C	504	SVR	C68-C71-S75-O81
2	A	503	NAG	C3-C2-N2-C7
2	B	503	NAG	C3-C2-N2-C7
2	C	503	NAG	C3-C2-N2-C7
3	A	504	SVR	C67-C65-N63-C61
3	B	504	SVR	C67-C65-N63-C61
3	C	504	SVR	C67-C65-N63-C61
3	C	504	SVR	C8-C13-N19-C26
3	A	504	SVR	C8-C13-N19-C26
3	B	504	SVR	C8-C13-N19-C26
3	A	504	SVR	C70-C71-S75-O81
3	B	504	SVR	C20-C13-N19-C26
3	C	504	SVR	C70-C71-S75-O81
3	A	504	SVR	C20-C13-N19-C26
3	C	504	SVR	C20-C13-N19-C26

There are no ring outliers.

3 monomers are involved in 29 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	A	504	SVR	9	0
3	C	504	SVR	11	0
3	B	504	SVR	9	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 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 SVR A 504

Bond lengths

Bond angles

Torsions

Rings

Ligand NAG C 501

Bond lengths

Bond angles

Torsions

Rings

Ligand NAG A 501

Bond lengths

Bond angles

Torsions

Rings

Ligand NAG B 502

Bond lengths

Bond angles

Torsions

Rings

Ligand NAG A 503

Bond lengths

Bond angles

Torsions

Rings

Ligand SVR C 504

Bond lengths

Bond angles

Torsions

Rings

Ligand SVR B 504

Bond lengths

Bond angles

Torsions

Rings

Ligand NAG B 501

Bond lengths

Bond angles

Torsions

Rings

Ligand NAG A 502

Bond lengths

Bond angles

Torsions

Rings

Ligand NAG C 503

Bond lengths

Bond angles

Torsions

Rings

Ligand NAG B 503

Bond lengths

Bond angles

Torsions

Rings

Ligand NAG C 502

Bond lengths

Bond angles

Torsions

Rings

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-70496. 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 |
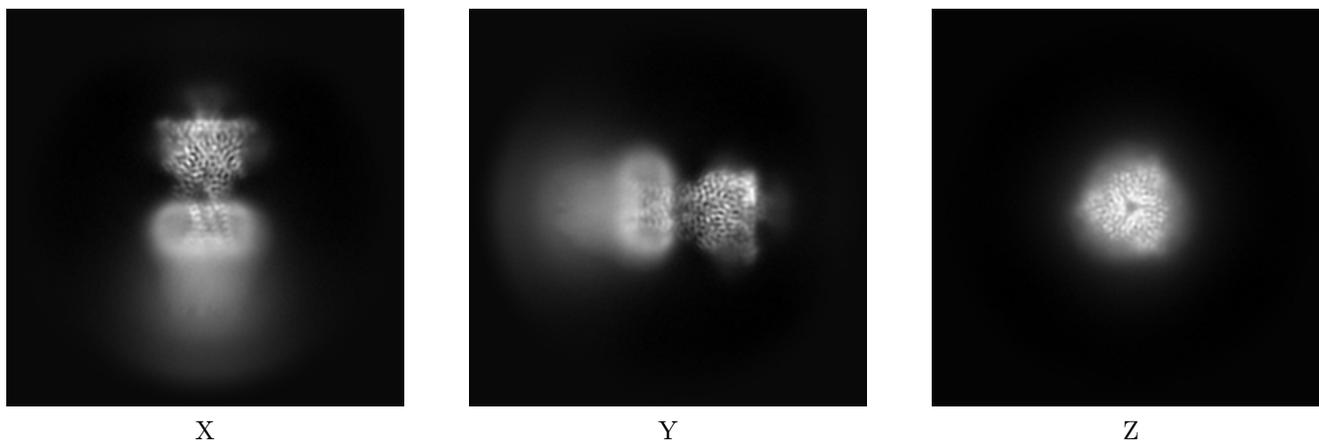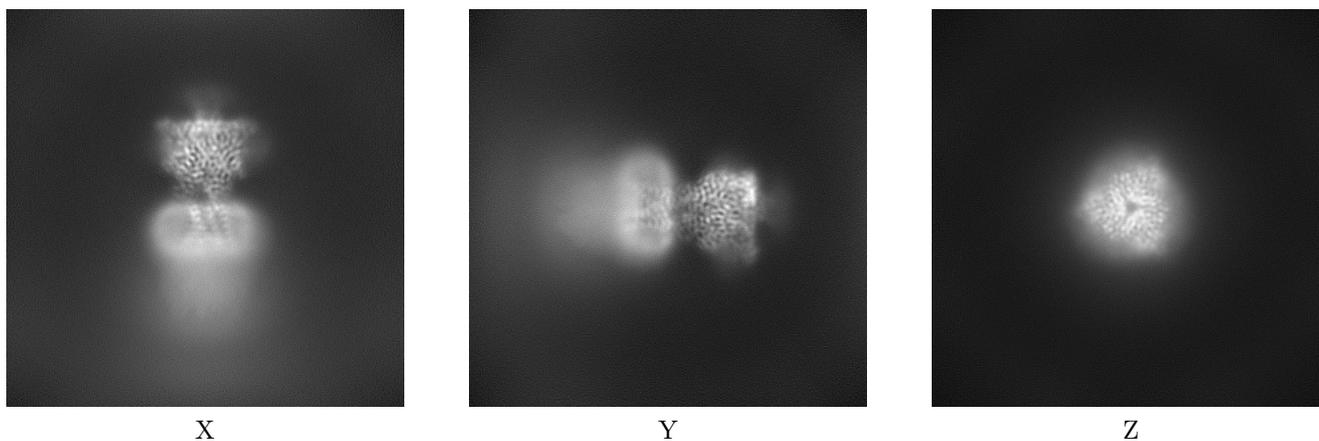
The images above show the map projected in three orthogonal directions.

6.2   Central slices ⓘ
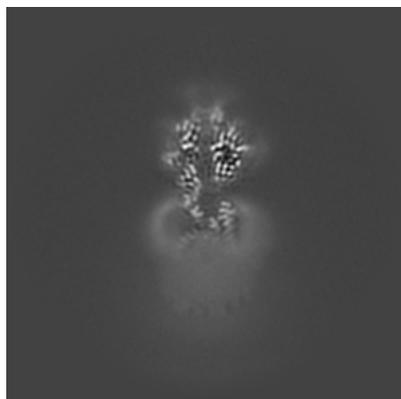
6.2.1   Primary map
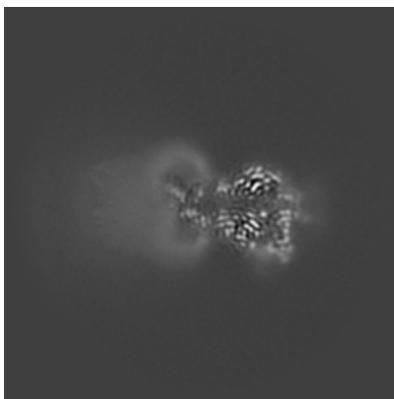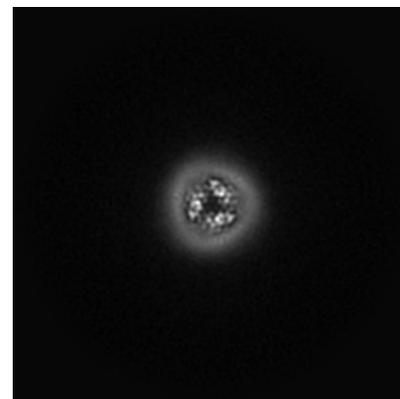
X Index: 180   Y Index: 180   Z Index: 180

6.2.2   Raw map
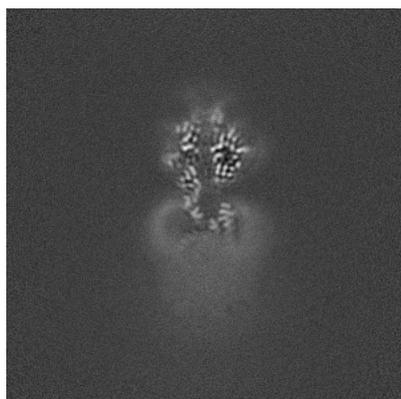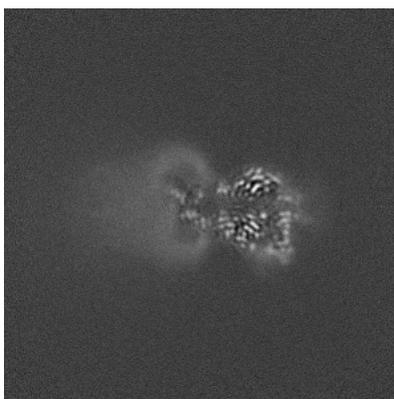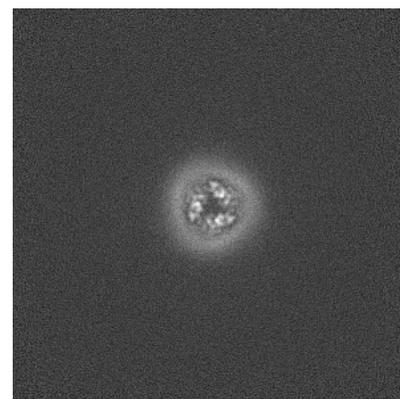
X Index: 180   Y Index: 180   Z Index: 180

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

6.3　Largest variance slices ⓘ

6.3.1　Primary map
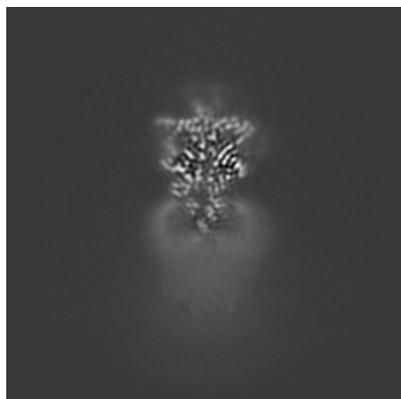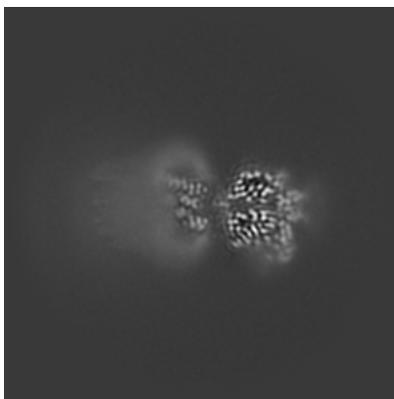
| X Index: 188 | Y Index: 174 | Z Index: 221 |
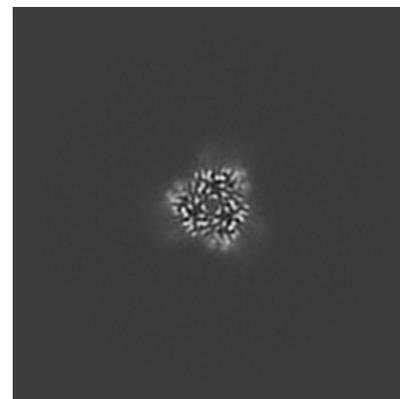
6.3.2　Raw map
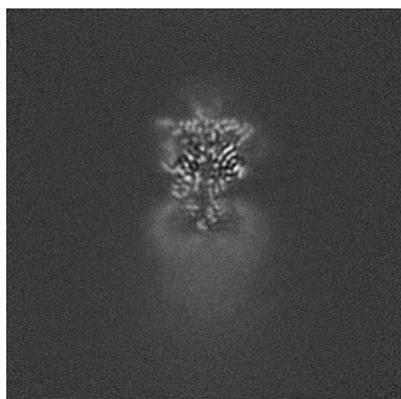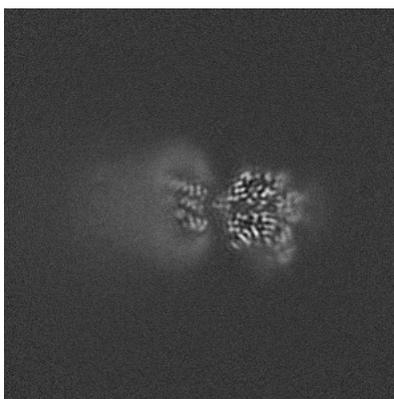
| X Index: 187 | Y Index: 173 | Z Index: 221 |
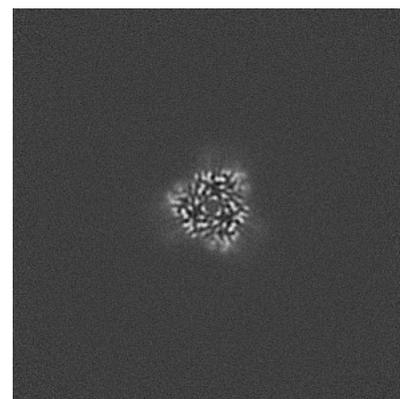
The images above show the largest variance slices of the map in three orthogonal directions.

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

6.4.1　Primary map

X　　　　　　　　　　　Y　　　　　　　　　　　Z

6.4.2　Raw map

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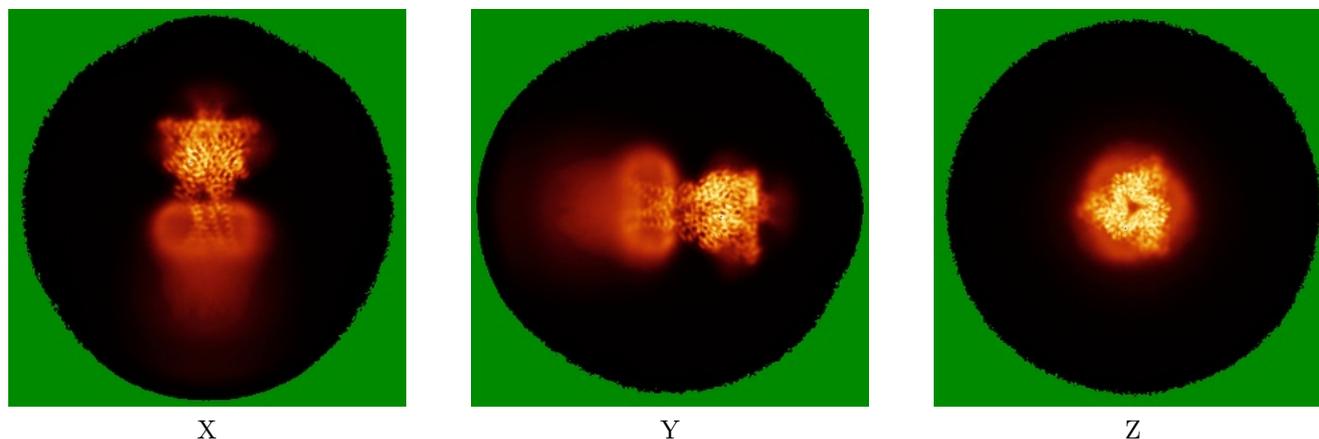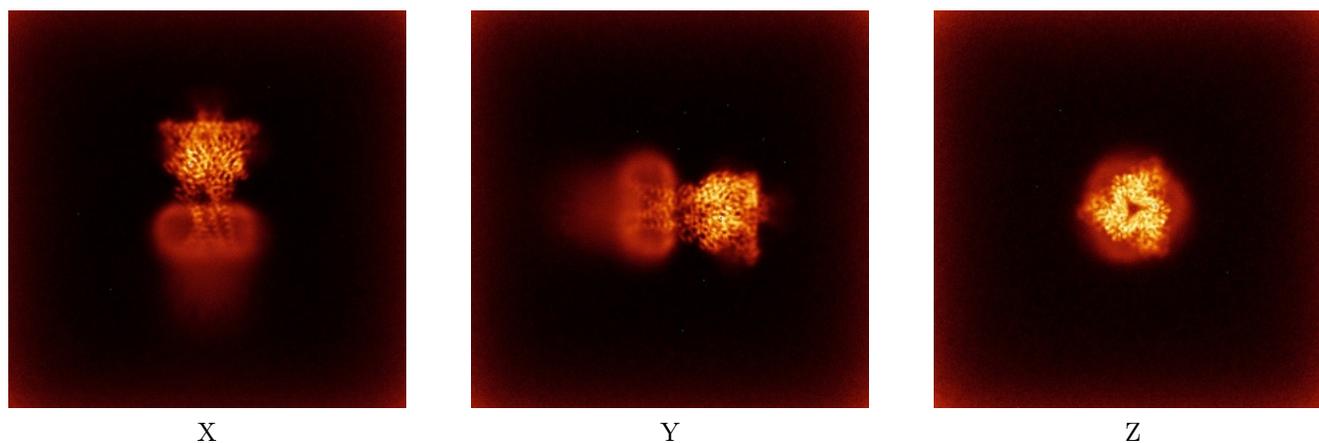
The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5　Orthogonal surface views (i)

6.5.1　Primary map

| X | Y | Z |
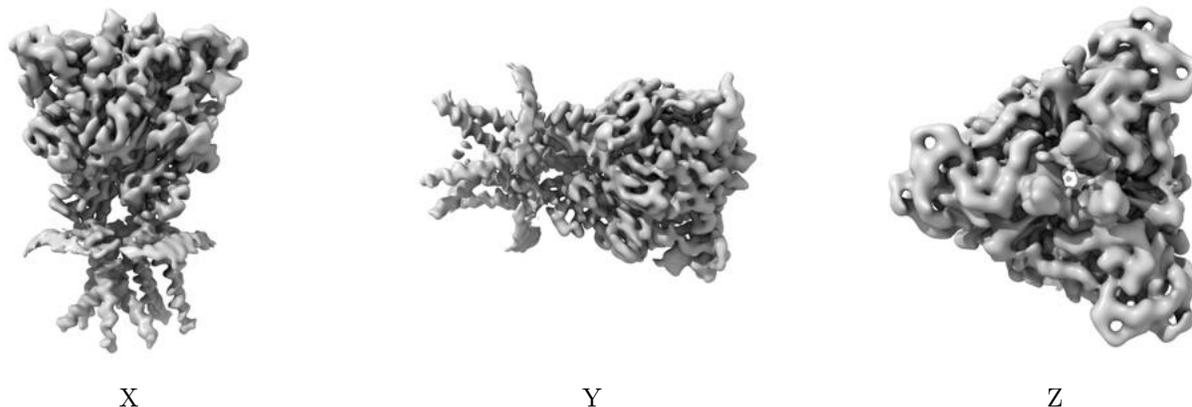
The images above show the 3D surface view of the map at the recommended contour level 0.0503. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2　Raw map

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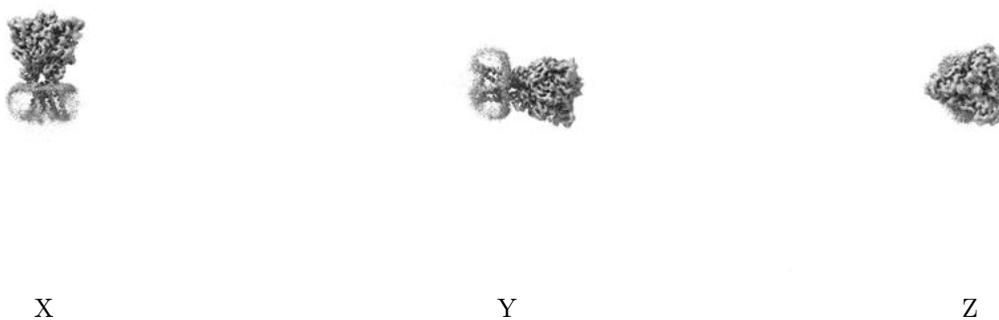
These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

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_70496_msk_1.map ⓘ

X   Y   Z
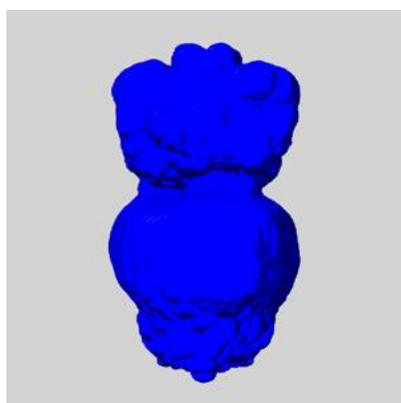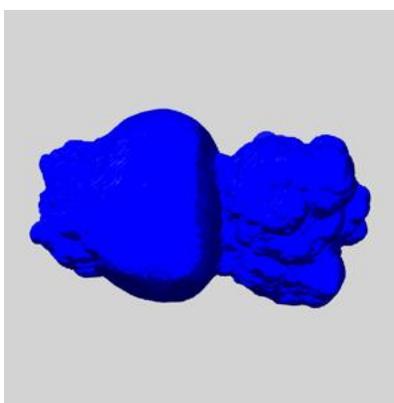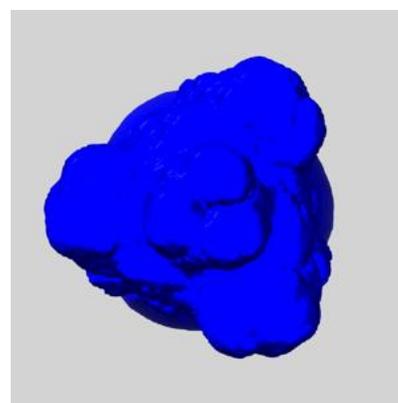
7   Map analysis ⓘ

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 (i)
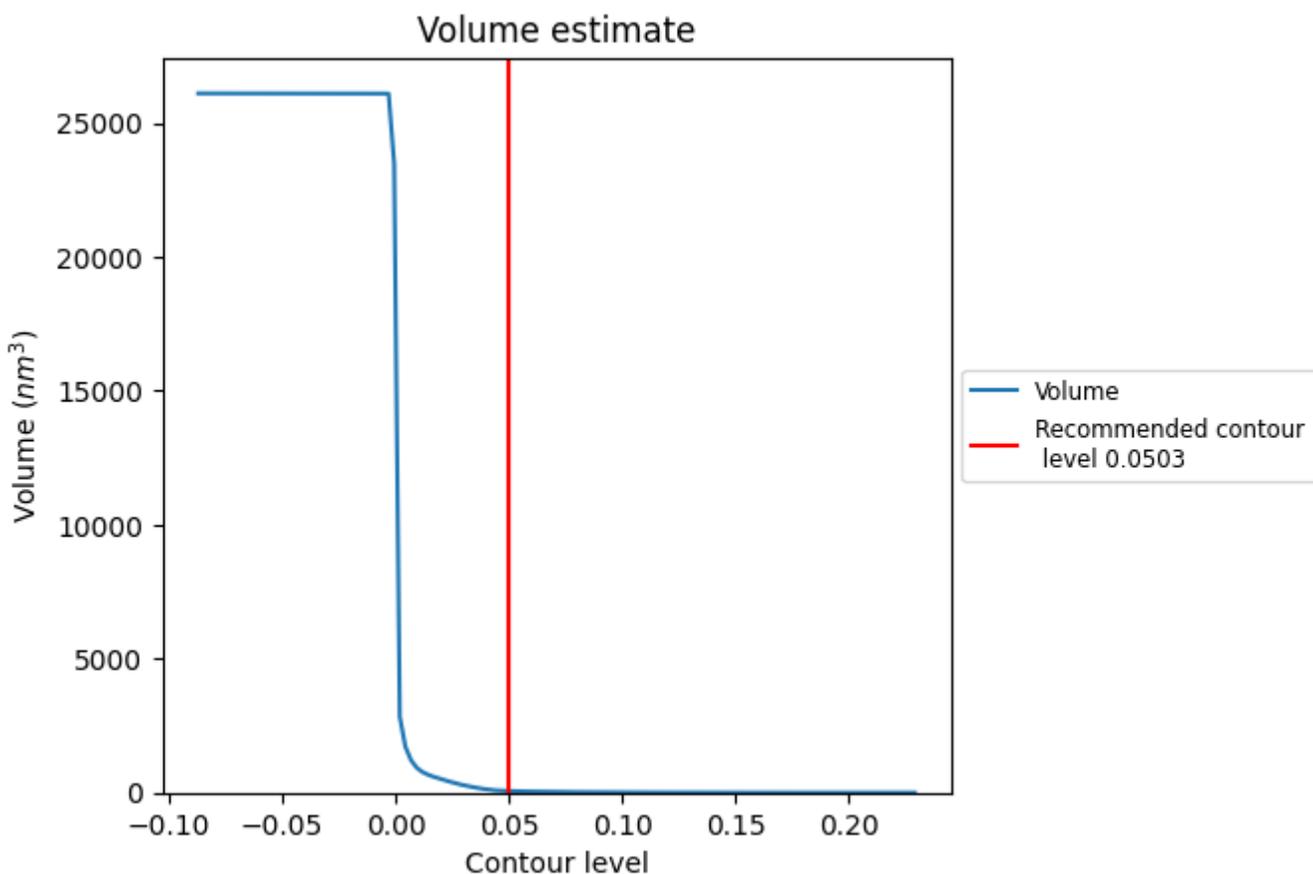
The volume at the recommended contour level is 60 nm^3; this corresponds to an approximate mass of 54 kDa.

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)
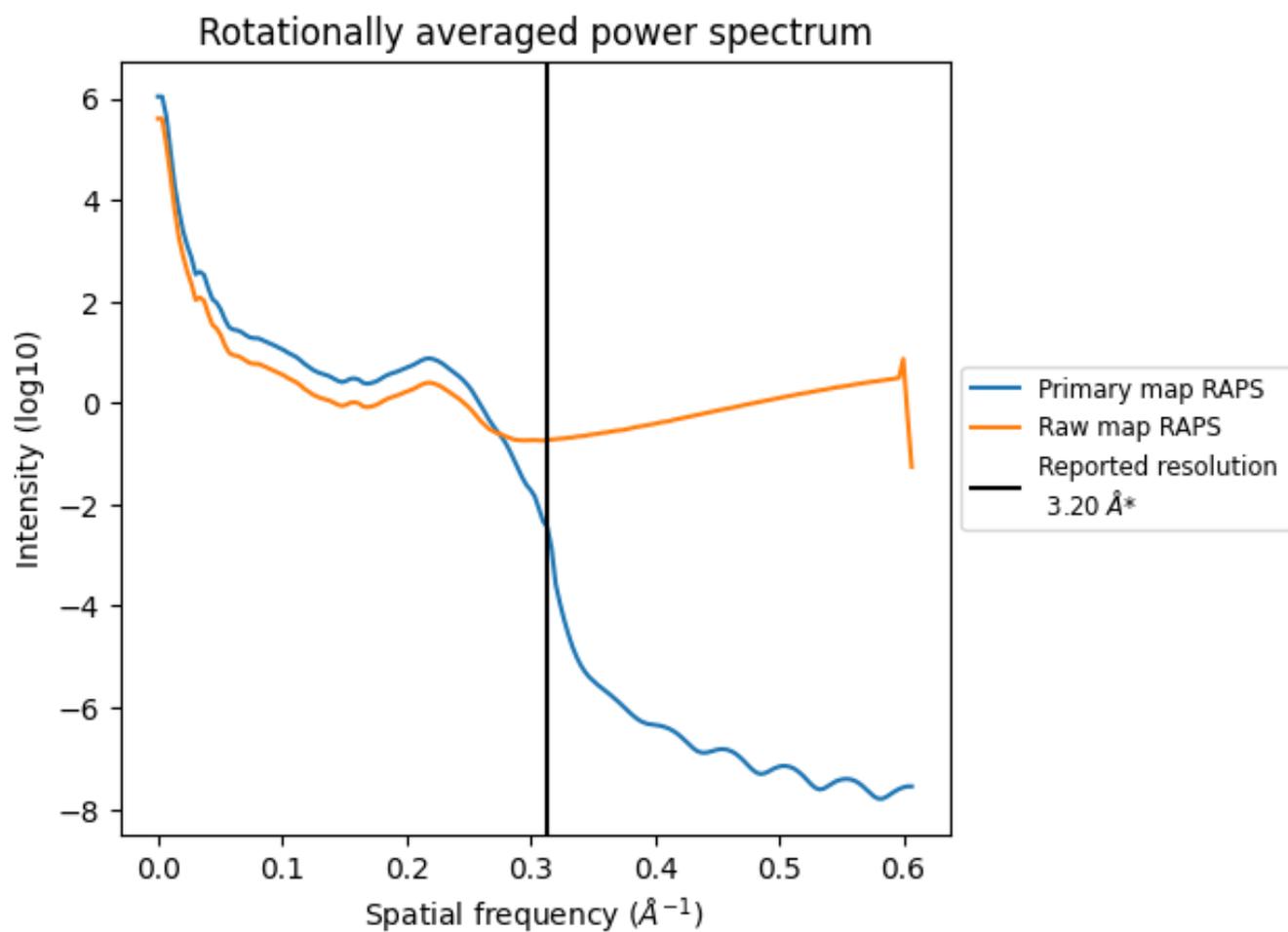
*Reported resolution corresponds to spatial frequency of 0.312 Å^{-1}

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 ⓘ
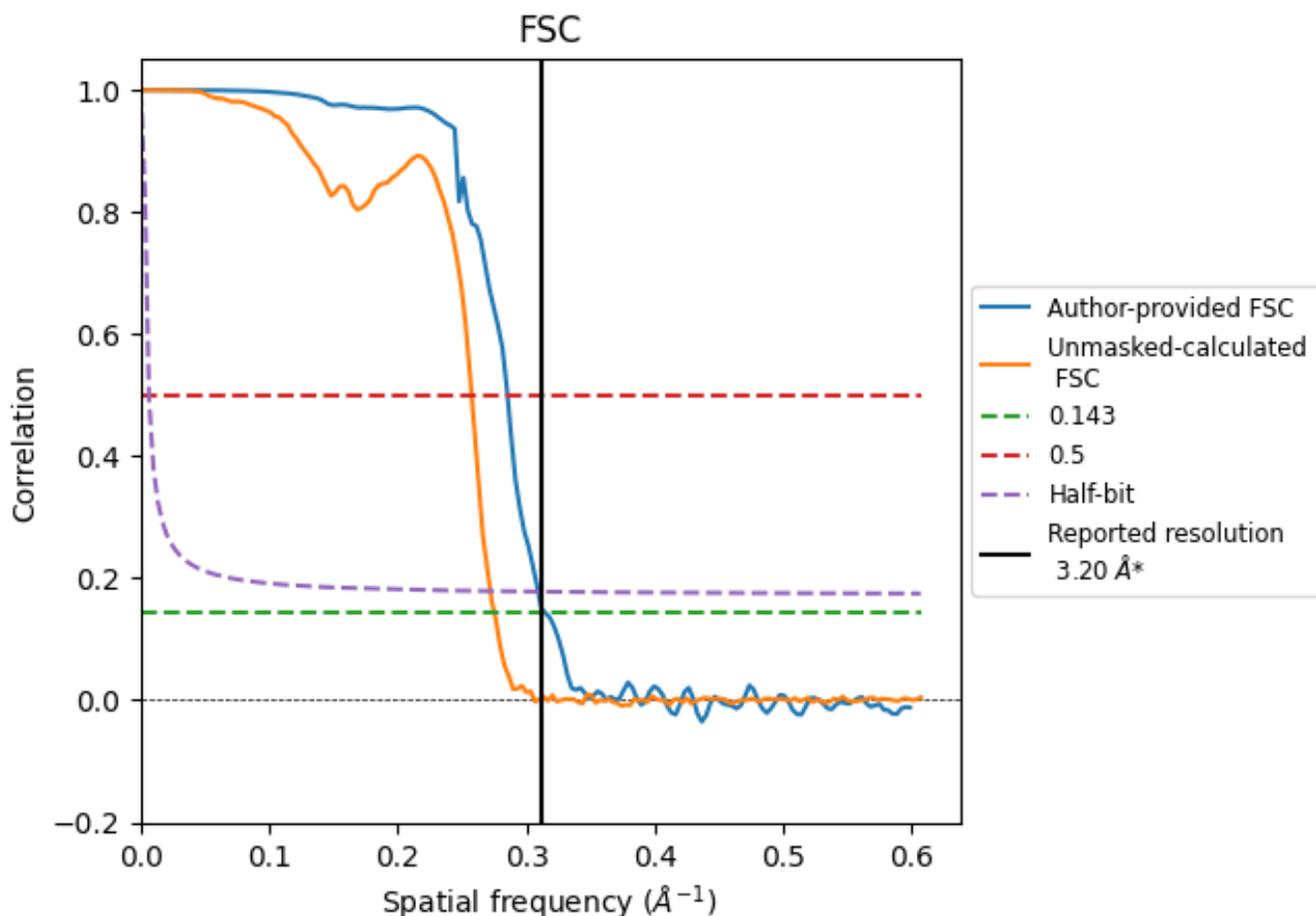
*Reported resolution corresponds to spatial frequency of 0.312 Å^{-1}

8.2 Resolution estimates (i)

Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.20	-	-
Author-provided FSC curve	3.18	3.50	3.23
Unmasked-calculated*	3.63	3.88	3.68

*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 3.63 differs from the reported value 3.2 by more than 10 %

9 Map-model fit (i)

This section contains information regarding the fit between EMDB map EMD-70496 and PDB model 9OHK. Per-residue inclusion information can be found in section 3 on page 5.

9.1 Map-model overlay (i)
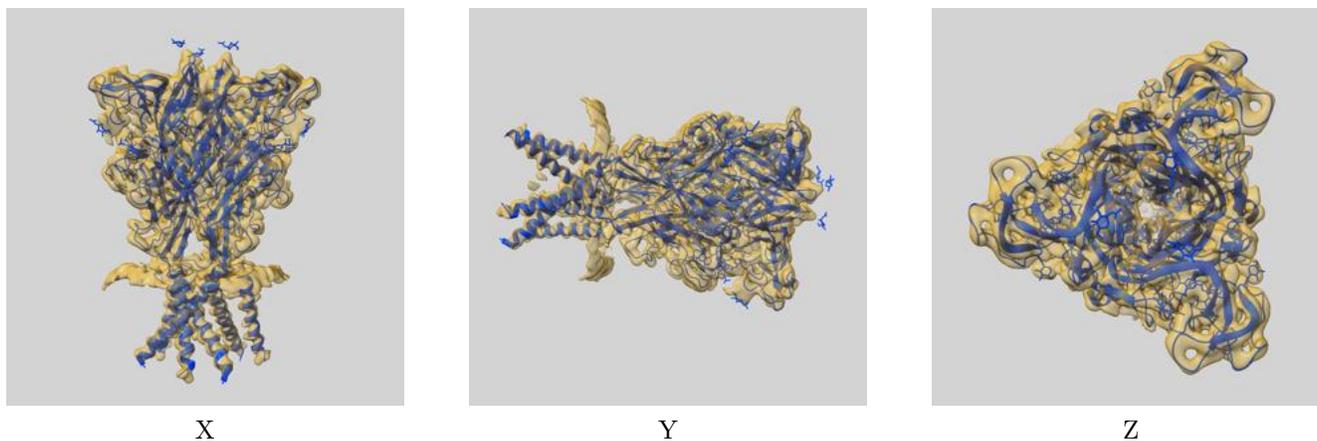

| X | Y | Z |

The images above show the 3D surface view of the map at the recommended contour level 0.0503 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 ⓘ

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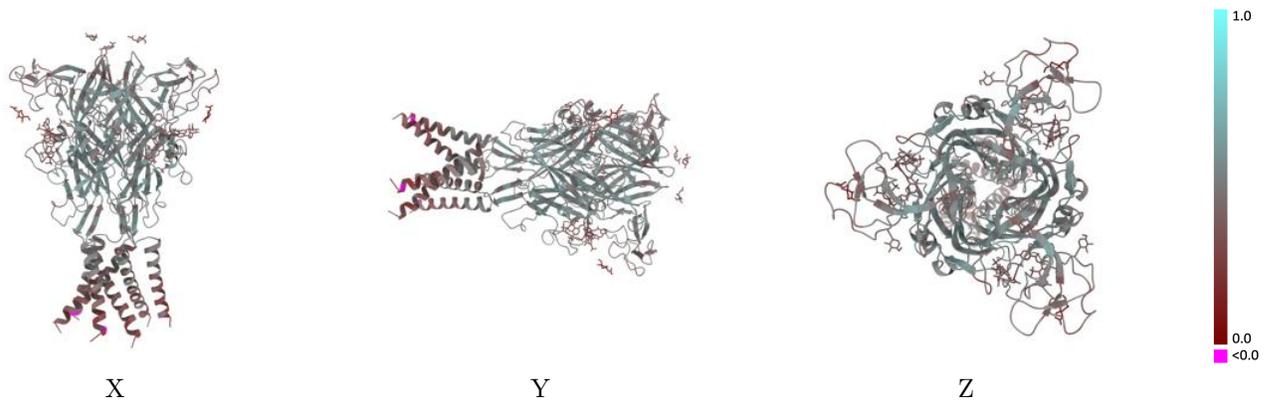
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

X　　　　　　　　　　　　　　Y　　　　　　　　　　　　　　Z
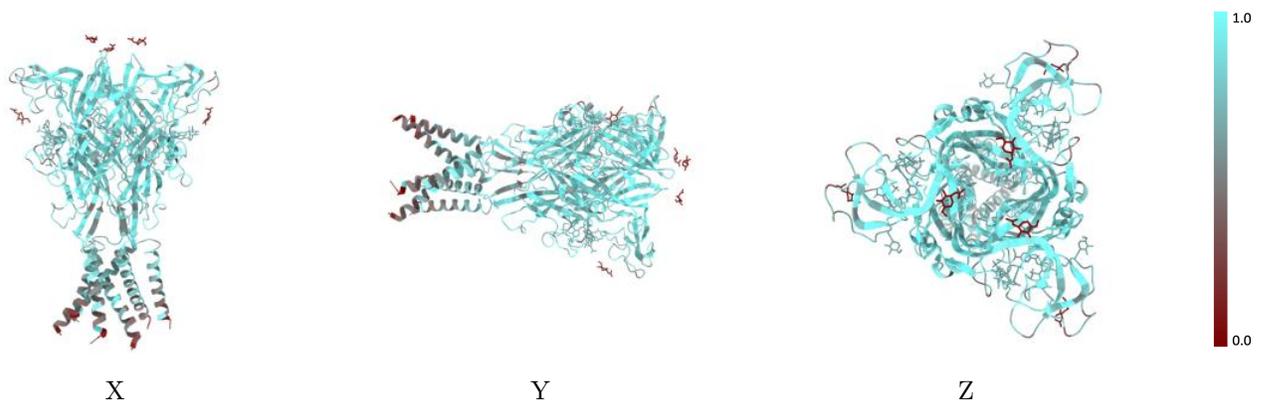
The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.0503).

9.4　Atom inclusion　ⓘ
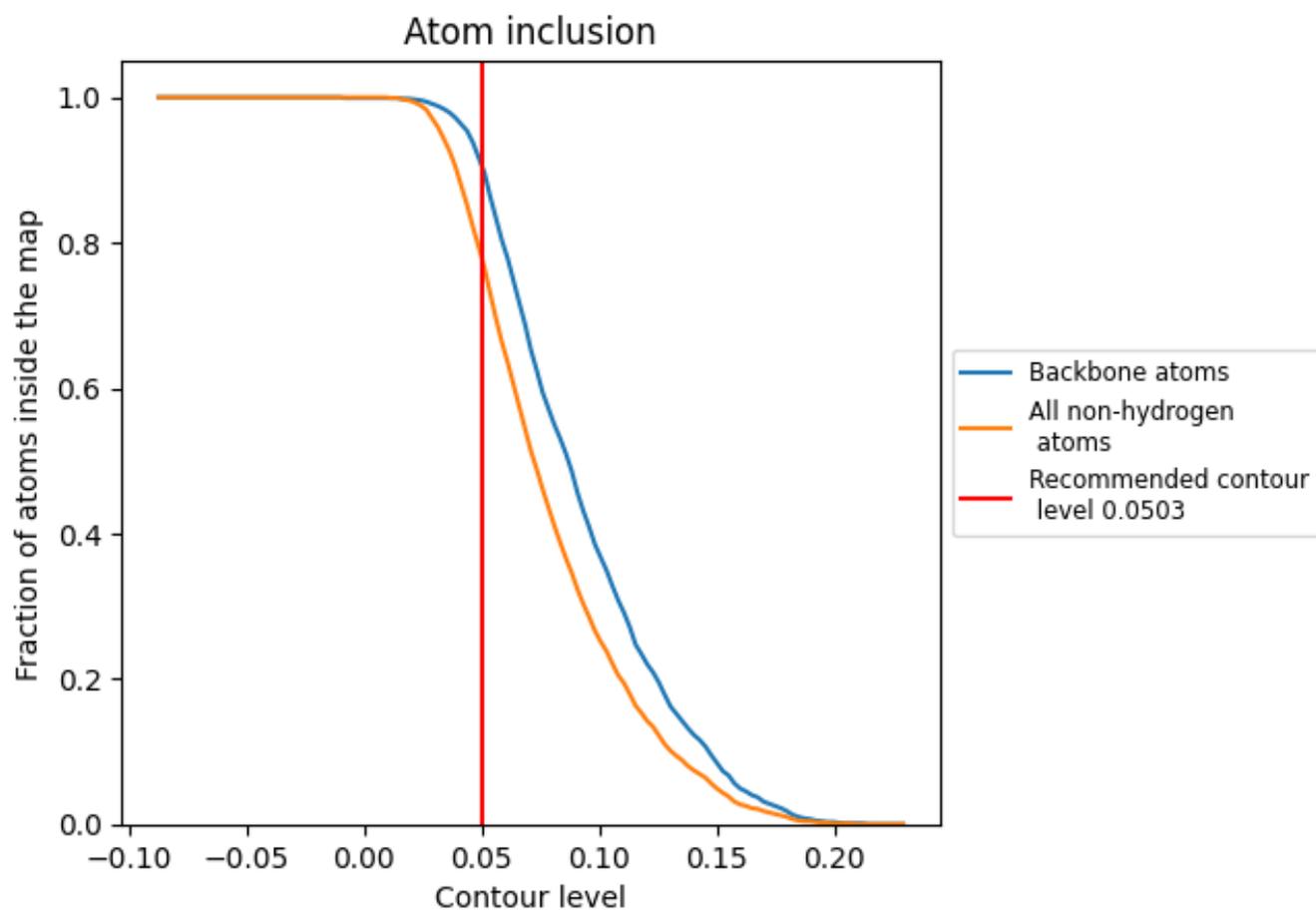
At the recommended contour level, 90% of all backbone atoms, 78% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary (i)

The table lists the average atom inclusion at the recommended contour level (0.0503) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.7780	0.4610
A	0.7780	0.4610
B	0.7790	0.4620
C	0.7780	0.4610

1.0

0.0
<0.0