



## Full wwPDB EM Validation Report ⓘ

Jul 15, 2024 – 10:35 pm BST

PDB ID : 8B59  
EMDB ID : EMD-15859  
Title : Rosellinia necatrix megabirnavirus 1-W779 Crown protein  
Authors : Wang, H.; Okamoto, K.; Miyazaki, N.; Suzuki, N.  
Deposited on : 2022-09-22  
Resolution : 3.30 Å (reported)

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.dev92  
MolProbity : 4.02b-467  
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)  
MapQ : 1.9.13  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.37.1

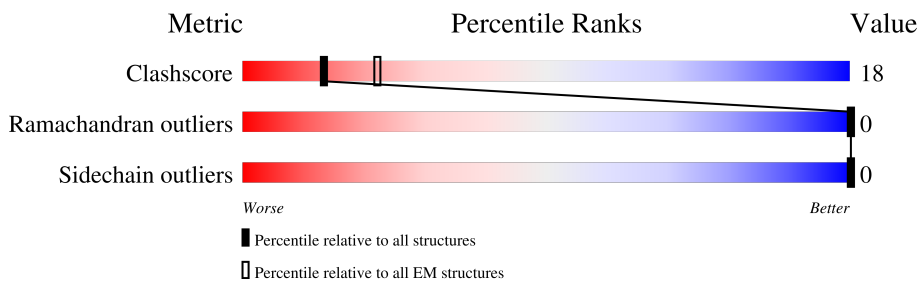
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*ELECTRON MICROSCOPY*

The reported resolution of this entry is 3.30 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



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

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for  $\geq 3$ , 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	C	1426	91%
1	D	1426	91%
1	E	1426	91%

## 2 Entry composition

There is only 1 type of molecule in this entry. The entry contains 2988 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 RnMBV1 Crown protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	D	135	Total 996	628	175	186	7	0	0
1	E	135	Total 996	628	175	186	7	0	0
1	C	135	Total 996	628	175	186	7	0	0









VAL	VAL	ASP	ASP	ASP	ASP	GLN	SER	ALA	ALA	GLY	PRO	PRO	MET	GLY	ALA	ALA	VAL	VAL	LEU	THR	VAL	VAL	THR	GLU	ALA	ALA	LYS	ASP	GLN	LYS	PHE	LYS	ILE	VAL	ASN	THR	ASP	ASP	ARG	ASP	ASP	VAL	ALA	ALA	LEU	SER	TRP																
ASP	SER	VAL	VAL	ASP	GLY	PHE	ALA	ALA	PRO	GLY	GLY	SER	MET	LEU	LEU	LEU	TYR	GLN	ALA	PRO	VAL	VAL	SER	ALA	GLY	THR	GLN	SER	LEU	LEU	PHE	GLY	SER	THR	KI292	Y1293	A1294	M1295	A1296	V1297	A1298	I1299	G1300	G1301	S1302	L1303	G1304	S1305	Q1306	L1307	S1308	E1309	A1310	Q1311	V1312	S1313	A1314	A1315	R1316	V1317	W1318	L1319	G1320
M1321	G1322	V1323	W1324	R1325	D1326	A1327	V1328	I1329	D1330	V1331	L1332	R1333	K1334	M1339	G1342	K1343	Y1344	G1345	R1346	I1347	D1348	D1349	I1350	A1351	A1352	M1353	R1354	L1357	M1358	D1359	G1360	T1361	G1362	L1363	L1364	P1365	G1366	S1367	E1368	P1369	I1370	V1371	D1372	V1373	G1374	G1375	A1376	E1377	G1378	M1379	A1380	C1381	A1382	R1383	A1384	T1385							
I1386	L1387	L1388	R1389	G1390	F1391	S1392	S1393	T1394	M1395	V1396	G1397	V1398	D1399	L1400	K1401	I1402	Q1403	M1404	L1405	V1406	E1407	L1408	Y1409	G1410	A1411	E1412	P1413	A1414	T1415	A1416	A1417	L1418	L1419	Y1420	R1421	G1422	W1423	T1424	M1425	Q1426																							



## 4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	244609	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING ONLY	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ( $e^-/\text{\AA}^2$ )	48	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	2750	Depositor
Magnification	Not provided	
Image detector	FEI FALCON III (4k x 4k)	Depositor
Maximum map value	0.463	Depositor
Minimum map value	-0.330	Depositor
Average map value	-0.000	Depositor
Map value standard deviation	0.030	Depositor
Recommended contour level	0.134	Depositor
Map size ( $\text{\AA}$ )	649.6, 649.6, 649.6	wwPDB
Map dimensions	580, 580, 580	wwPDB
Map angles ( $^\circ$ )	90.0, 90.0, 90.0	wwPDB
Pixel spacing ( $\text{\AA}$ )	1.12, 1.12, 1.12	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	C	0.29	0/1010	0.48	0/1366
1	D	0.29	0/1010	0.48	0/1366
1	E	0.29	0/1010	0.48	0/1366
All	All	0.29	0/3030	0.48	0/4098

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	C	996	0	1010	58	0
1	D	996	0	1010	57	0
1	E	996	0	1010	58	0
All	All	2988	0	3030	109	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 18.

All (109) 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:D:1322:GLY:O	1:C:1426:GLN:HG3	1.66	0.95

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:1426:GLN:HG3	1:E:1322:GLY:O	1.66	0.94
1:E:1423:TRP:HE1	1:C:1358:ASN:HB3	1.32	0.93
1:E:1426:GLN:NE2	1:C:1321:ASN:O	2.02	0.93
1:D:1426:GLN:NE2	1:E:1321:ASN:O	2.02	0.92
1:D:1423:TRP:HE1	1:E:1358:ASN:HB3	1.32	0.92
1:E:1426:GLN:HG3	1:C:1322:GLY:O	1.68	0.92
1:D:1358:ASN:HB3	1:C:1423:TRP:HE1	1.31	0.91
1:D:1321:ASN:O	1:C:1426:GLN:NE2	2.02	0.91
1:D:1321:ASN:O	1:C:1424:THR:OG1	1.91	0.88
1:D:1424:THR:OG1	1:E:1321:ASN:O	1.92	0.87
1:E:1424:THR:OG1	1:C:1321:ASN:O	1.94	0.85
1:E:1423:TRP:HE1	1:C:1358:ASN:CB	1.90	0.84
1:D:1358:ASN:CB	1:C:1423:TRP:HE1	1.91	0.82
1:D:1423:TRP:HE1	1:E:1358:ASN:CB	1.92	0.82
1:D:1299:ILE:HD11	1:C:1293:TYR:HD2	1.47	0.79
1:D:1325:ARG:O	1:D:1354:ARG:NH2	2.16	0.79
1:C:1325:ARG:O	1:C:1354:ARG:NH2	2.16	0.79
1:E:1293:TYR:HD2	1:C:1299:ILE:HD11	1.49	0.78
1:E:1325:ARG:O	1:E:1354:ARG:NH2	2.16	0.77
1:D:1310:ALA:HB2	1:C:1398:VAL:HG22	1.67	0.77
1:D:1293:TYR:HD2	1:E:1299:ILE:HD11	1.49	0.76
1:D:1398:VAL:HG22	1:E:1310:ALA:HB2	1.68	0.75
1:E:1398:VAL:HG22	1:C:1310:ALA:HB2	1.69	0.74
1:E:1391:PHE:O	1:E:1401:LYS:NZ	2.22	0.72
1:D:1324:TRP:CD2	1:C:1426:GLN:HB3	2.25	0.72
1:D:1391:PHE:O	1:D:1401:LYS:NZ	2.22	0.71
1:D:1325:ARG:HG3	1:D:1326:ASP:H	1.56	0.70
1:D:1426:GLN:HB3	1:E:1324:TRP:CD2	2.26	0.70
1:C:1325:ARG:HG3	1:C:1326:ASP:H	1.56	0.70
1:C:1391:PHE:O	1:C:1401:LYS:NZ	2.22	0.70
1:E:1325:ARG:HG3	1:E:1326:ASP:H	1.56	0.69
1:E:1426:GLN:HB3	1:C:1324:TRP:CD2	2.29	0.68
1:E:1357:LEU:O	1:E:1383:ARG:NH1	2.28	0.67
1:E:1426:GLN:CG	1:C:1322:GLY:O	2.42	0.66
1:D:1357:LEU:O	1:D:1383:ARG:NH1	2.28	0.65
1:C:1357:LEU:O	1:C:1383:ARG:NH1	2.28	0.65
1:D:1426:GLN:CG	1:E:1322:GLY:O	2.41	0.65
1:D:1322:GLY:O	1:C:1426:GLN:CG	2.42	0.65
1:D:1299:ILE:CD1	1:C:1293:TYR:HD2	2.12	0.62
1:D:1299:ILE:HD11	1:C:1293:TYR:CD2	2.35	0.59
1:E:1293:TYR:HD2	1:C:1299:ILE:CD1	2.14	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1359:ASP:OD1	1:C:1360:GLY:N	2.35	0.59
1:D:1293:TYR:HD2	1:E:1299:ILE:CD1	2.14	0.59
1:D:1359:ASP:OD1	1:D:1360:GLY:N	2.35	0.58
1:D:1299:ILE:CD1	1:C:1293:TYR:CD2	2.86	0.58
1:E:1359:ASP:OD1	1:E:1360:GLY:N	2.35	0.58
1:D:1293:TYR:CD2	1:E:1299:ILE:CD1	2.89	0.56
1:E:1293:TYR:CD2	1:C:1299:ILE:CD1	2.88	0.56
1:E:1423:TRP:NE1	1:C:1358:ASN:HA	2.22	0.54
1:D:1358:ASN:HA	1:C:1423:TRP:NE1	2.22	0.54
1:D:1423:TRP:NE1	1:E:1358:ASN:HA	2.23	0.53
1:C:1319:LEU:HD21	1:C:1408:LEU:HD22	1.92	0.52
1:D:1319:LEU:HD21	1:D:1408:LEU:HD22	1.91	0.51
1:E:1319:LEU:HD21	1:E:1408:LEU:HD22	1.92	0.51
1:D:1423:TRP:NE1	1:E:1358:ASN:CB	2.70	0.50
1:D:1293:TYR:CD2	1:E:1299:ILE:HD11	2.38	0.50
1:D:1324:TRP:CE2	1:C:1426:GLN:HG2	2.47	0.49
1:D:1316:ARG:O	1:C:1418:LEU:CD1	2.60	0.49
1:E:1423:TRP:NE1	1:C:1358:ASN:CB	2.69	0.49
1:D:1310:ALA:HB3	1:C:1401:LYS:HE3	1.94	0.48
1:E:1293:TYR:CD2	1:C:1299:ILE:HD11	2.37	0.48
1:E:1401:LYS:HE3	1:C:1310:ALA:HB3	1.95	0.48
1:D:1426:GLN:HG2	1:E:1324:TRP:CE2	2.48	0.48
1:D:1418:LEU:CD1	1:E:1316:ARG:O	2.62	0.48
1:D:1316:ARG:CD	1:C:1422:GLY:O	2.62	0.48
1:D:1358:ASN:CB	1:C:1423:TRP:NE1	2.70	0.47
1:D:1358:ASN:OD1	1:D:1359:ASP:N	2.47	0.47
1:E:1423:TRP:HE1	1:C:1358:ASN:CA	2.28	0.47
1:D:1324:TRP:NE1	1:C:1426:GLN:HG2	2.29	0.47
1:E:1418:LEU:CD1	1:C:1316:ARG:O	2.63	0.47
1:E:1333:ARG:HG3	1:E:1347:ILE:HG13	1.97	0.46
1:D:1401:LYS:HE3	1:E:1310:ALA:HB3	1.96	0.46
1:E:1329:ILE:HG13	1:E:1354:ARG:HE	1.81	0.46
1:D:1333:ARG:HG3	1:D:1347:ILE:HG13	1.97	0.46
1:E:1358:ASN:OD1	1:E:1359:ASP:N	2.47	0.46
1:D:1358:ASN:CA	1:C:1423:TRP:HE1	2.29	0.46
1:D:1316:ARG:O	1:C:1418:LEU:HD11	2.16	0.46
1:D:1422:GLY:O	1:E:1316:ARG:CD	2.64	0.46
1:E:1426:GLN:HG2	1:C:1324:TRP:CE2	2.51	0.46
1:D:1329:ILE:HG13	1:D:1354:ARG:HE	1.81	0.46
1:D:1426:GLN:HG2	1:E:1324:TRP:NE1	2.31	0.46
1:C:1333:ARG:HG3	1:C:1347:ILE:HG13	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:1418:LEU:HD11	1:E:1316:ARG:O	2.17	0.45
1:E:1422:GLY:O	1:C:1316:ARG:CD	2.65	0.44
1:C:1329:ILE:HG13	1:C:1354:ARG:HE	1.80	0.44
1:D:1423:TRP:HE1	1:E:1358:ASN:CA	2.29	0.44
1:E:1375:GLY:O	1:E:1379:ASN:HB2	2.18	0.43
1:C:1358:ASN:OD1	1:C:1359:ASP:N	2.47	0.43
1:D:1375:GLY:O	1:D:1379:ASN:HB2	2.19	0.43
1:E:1426:GLN:HG2	1:C:1324:TRP:NE1	2.34	0.43
1:E:1418:LEU:HD11	1:C:1316:ARG:O	2.18	0.43
1:C:1313:SER:HA	1:C:1381:CYS:SG	2.59	0.43
1:D:1313:SER:HA	1:D:1381:CYS:SG	2.59	0.43
1:E:1313:SER:HA	1:E:1381:CYS:SG	2.59	0.43
1:E:1421:ARG:H	1:E:1421:ARG:HG3	1.66	0.42
1:C:1375:GLY:O	1:C:1379:ASN:HB2	2.18	0.42
1:C:1418:LEU:HD23	1:C:1418:LEU:H	1.84	0.42
1:D:1418:LEU:H	1:D:1418:LEU:HD23	1.84	0.42
1:E:1418:LEU:H	1:E:1418:LEU:HD23	1.84	0.42
1:C:1368:GLU:HB2	1:C:1369:PRO:HD2	2.02	0.42
1:D:1368:GLU:HB2	1:D:1369:PRO:HD2	2.02	0.42
1:E:1399:ASP:OD1	1:E:1400:LEU:N	2.54	0.41
1:D:1399:ASP:OD1	1:D:1400:LEU:N	2.54	0.41
1:C:1399:ASP:OD1	1:C:1400:LEU:N	2.54	0.41
1:C:1344:TYR:O	1:C:1363:LEU:HB3	2.22	0.40
1:E:1344:TYR:O	1:E:1363:LEU:HB3	2.22	0.40
1:D:1344:TYR:O	1:D:1363:LEU:HB3	2.22	0.40
1:E:1418:LEU:HB2	1:C:1316:ARG:NH2	2.35	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	C	133/1426 (9%)	117 (88%)	16 (12%)	0	100	100
1	D	133/1426 (9%)	117 (88%)	16 (12%)	0	100	100
1	E	133/1426 (9%)	117 (88%)	16 (12%)	0	100	100
All	All	399/4278 (9%)	351 (88%)	48 (12%)	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	C	100/1103 (9%)	100 (100%)	0	100	100
1	D	100/1103 (9%)	100 (100%)	0	100	100
1	E	100/1103 (9%)	100 (100%)	0	100	100
All	All	300/3309 (9%)	300 (100%)	0	100	100

There are no protein residues with a non-rotameric sidechain to report.

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. There are no such sidechains identified.

### 5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

## 5.4 Non-standard residues in protein, DNA, RNA chains [i](#)

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

### 5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

## 5.6 Ligand geometry [i](#)

There are no ligands in this entry.

## 5.7 Other polymers [i](#)

There are no such residues in this entry.

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

There are no chain breaks in this entry.

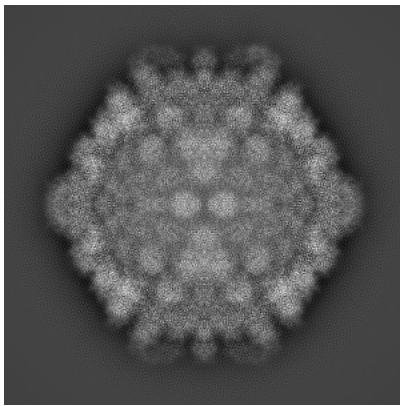
## 6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-15859. These allow visual inspection of the internal detail of the map and identification of artifacts.

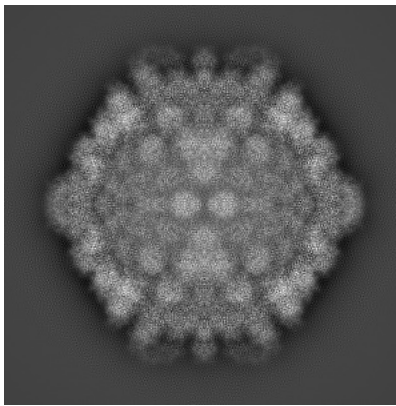
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

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

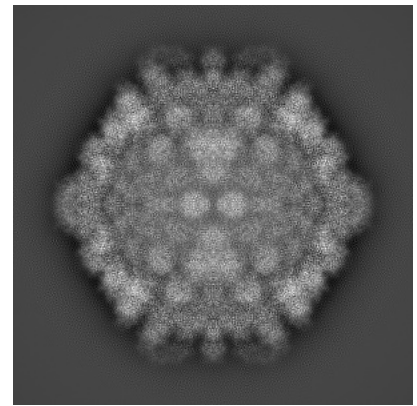
#### 6.1.1 Primary map



X

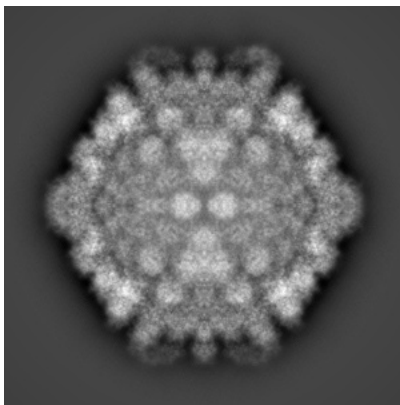


Y

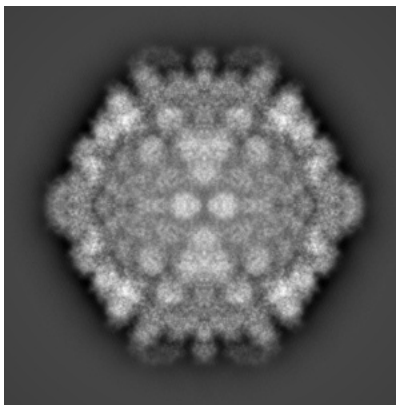


Z

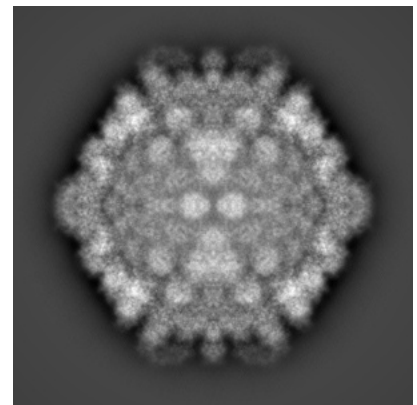
#### 6.1.2 Raw map



X



Y



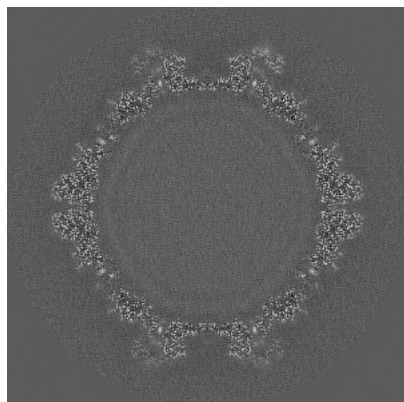
Z

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

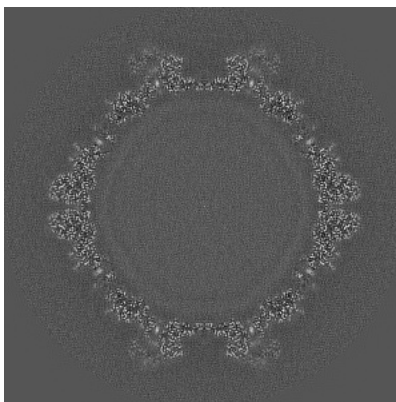


## 6.2 Central slices [i](#)

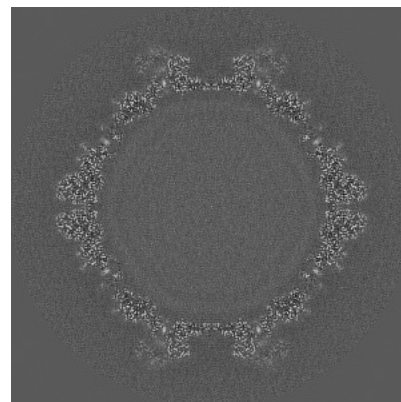
### 6.2.1 Primary map



X Index: 290

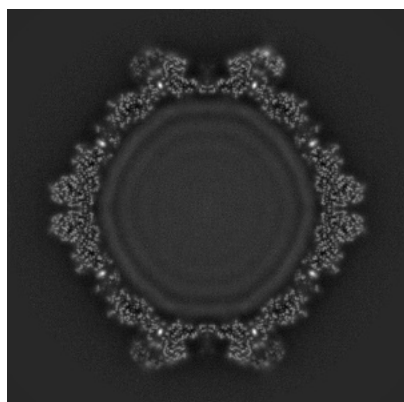


Y Index: 290

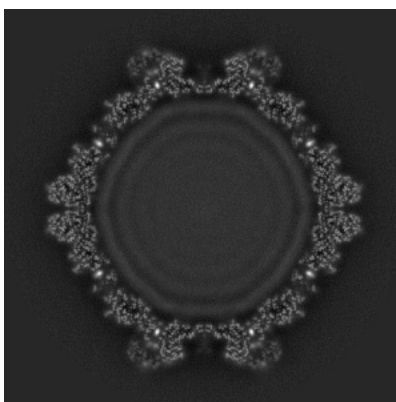


Z Index: 290

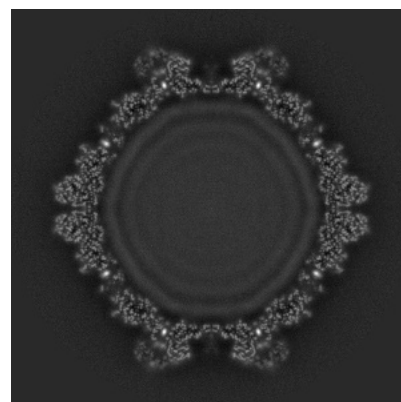
### 6.2.2 Raw map



X Index: 290



Y Index: 290

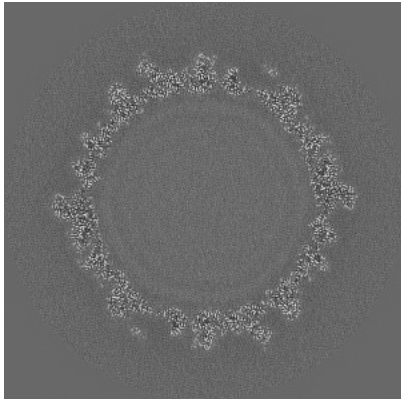


Z Index: 290

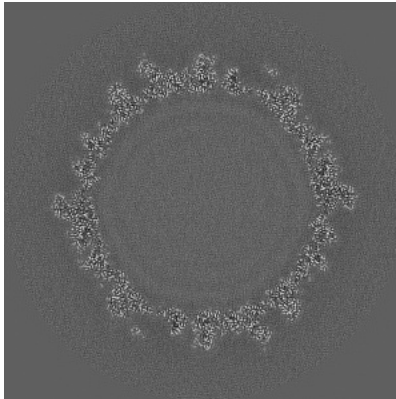
The images above show central slices of the map in three orthogonal directions.

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

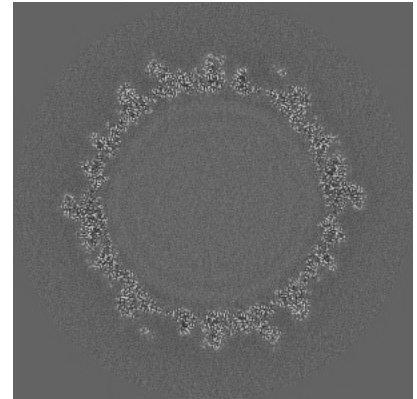
### 6.3.1 Primary map



X Index: 330

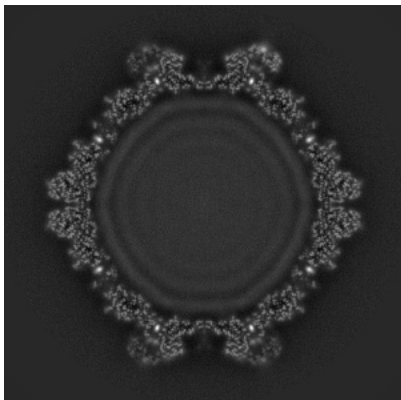


Y Index: 330

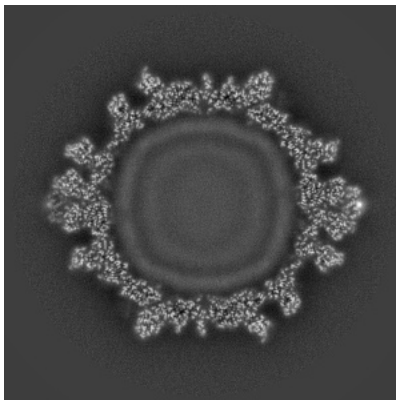


Z Index: 330

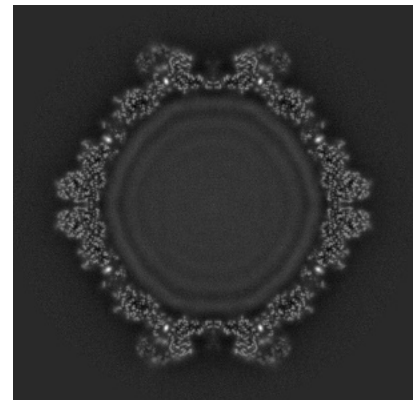
### 6.3.2 Raw map



X Index: 290



Y Index: 376

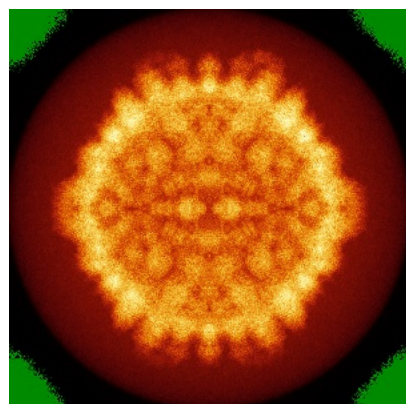


Z Index: 290

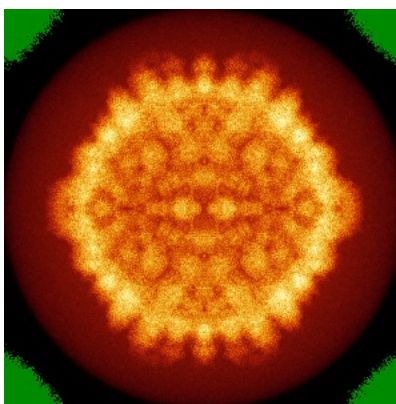
The images above show the largest variance slices of the map in three orthogonal directions.

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

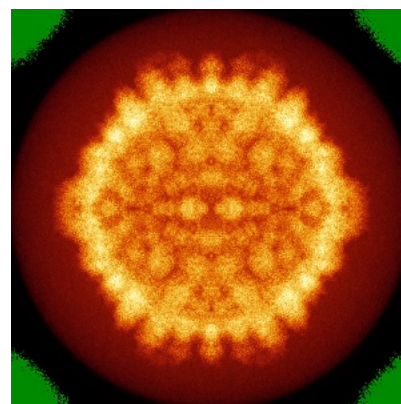
### 6.4.1 Primary map



X

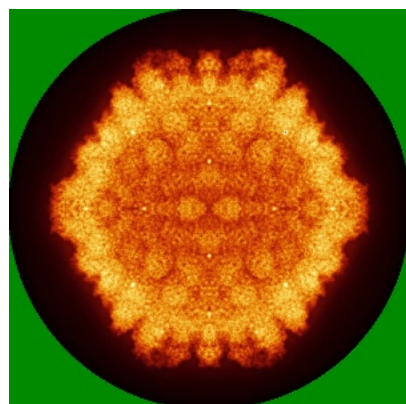


Y

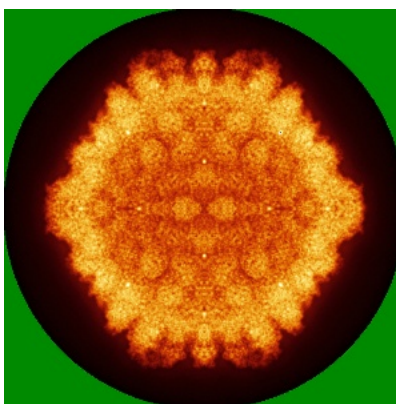


Z

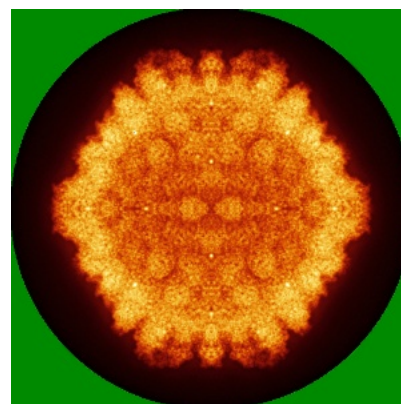
### 6.4.2 Raw map



X



Y

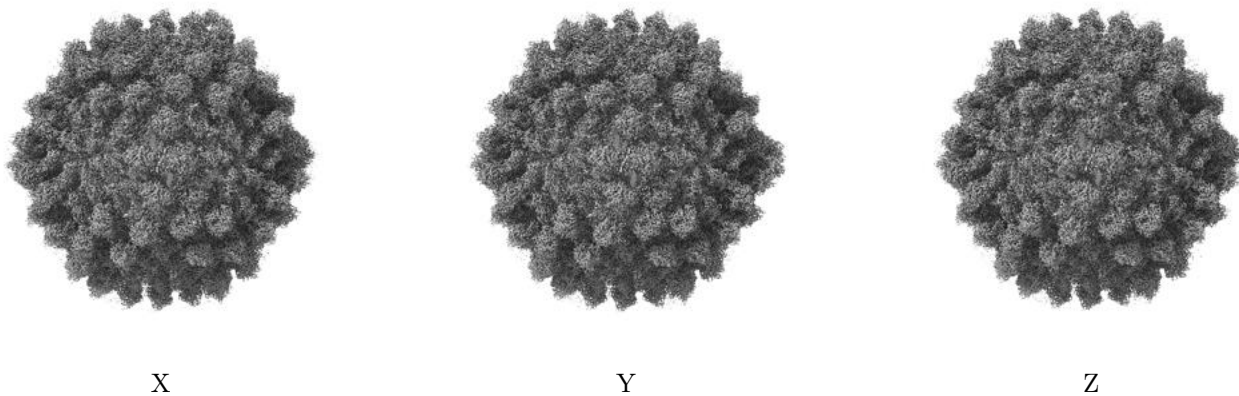


Z

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.

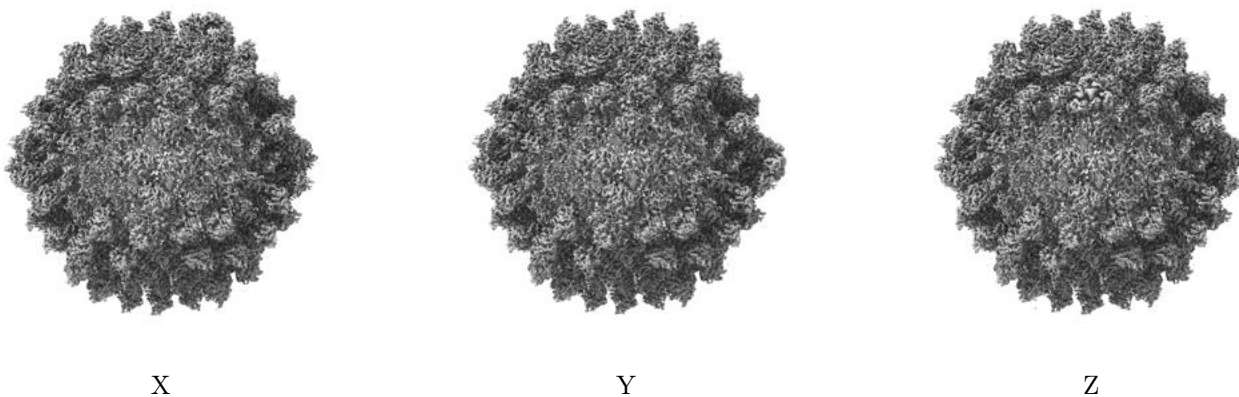
## 6.5 Orthogonal surface views [i](#)

### 6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.134. 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.

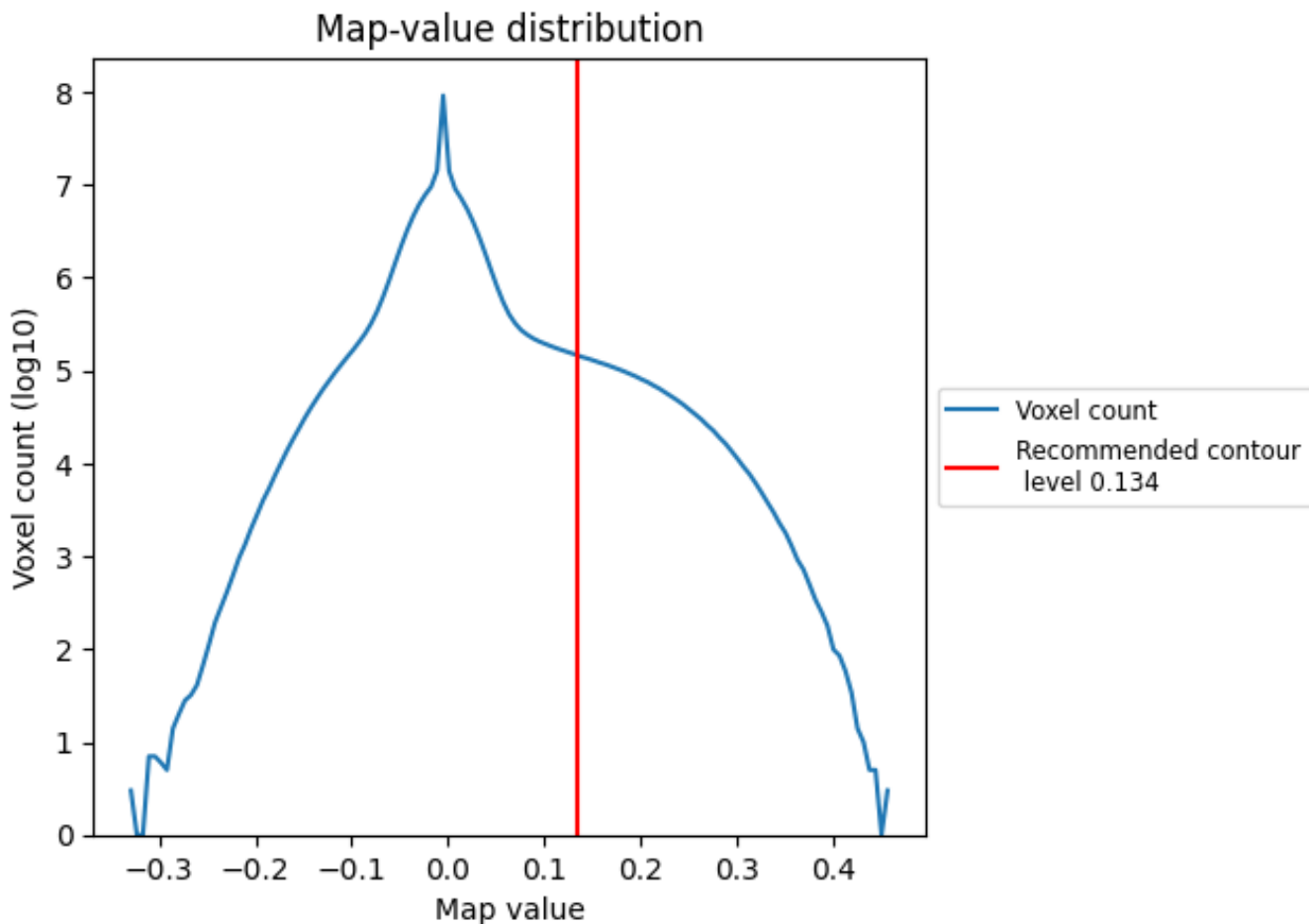
## 6.6 Mask visualisation [i](#)

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

## 7 Map analysis [i](#)

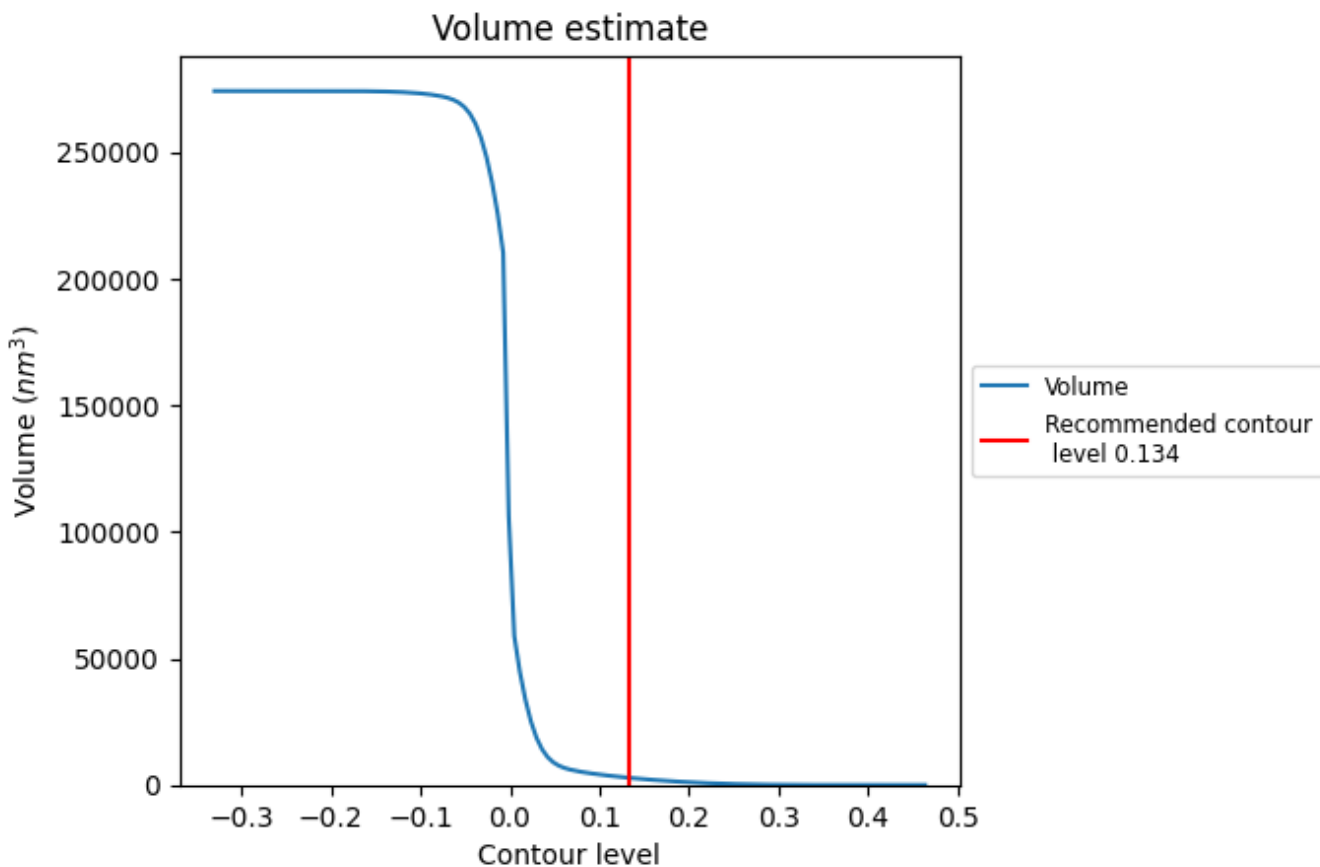
This section contains the results of statistical analysis of the map.

### 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.

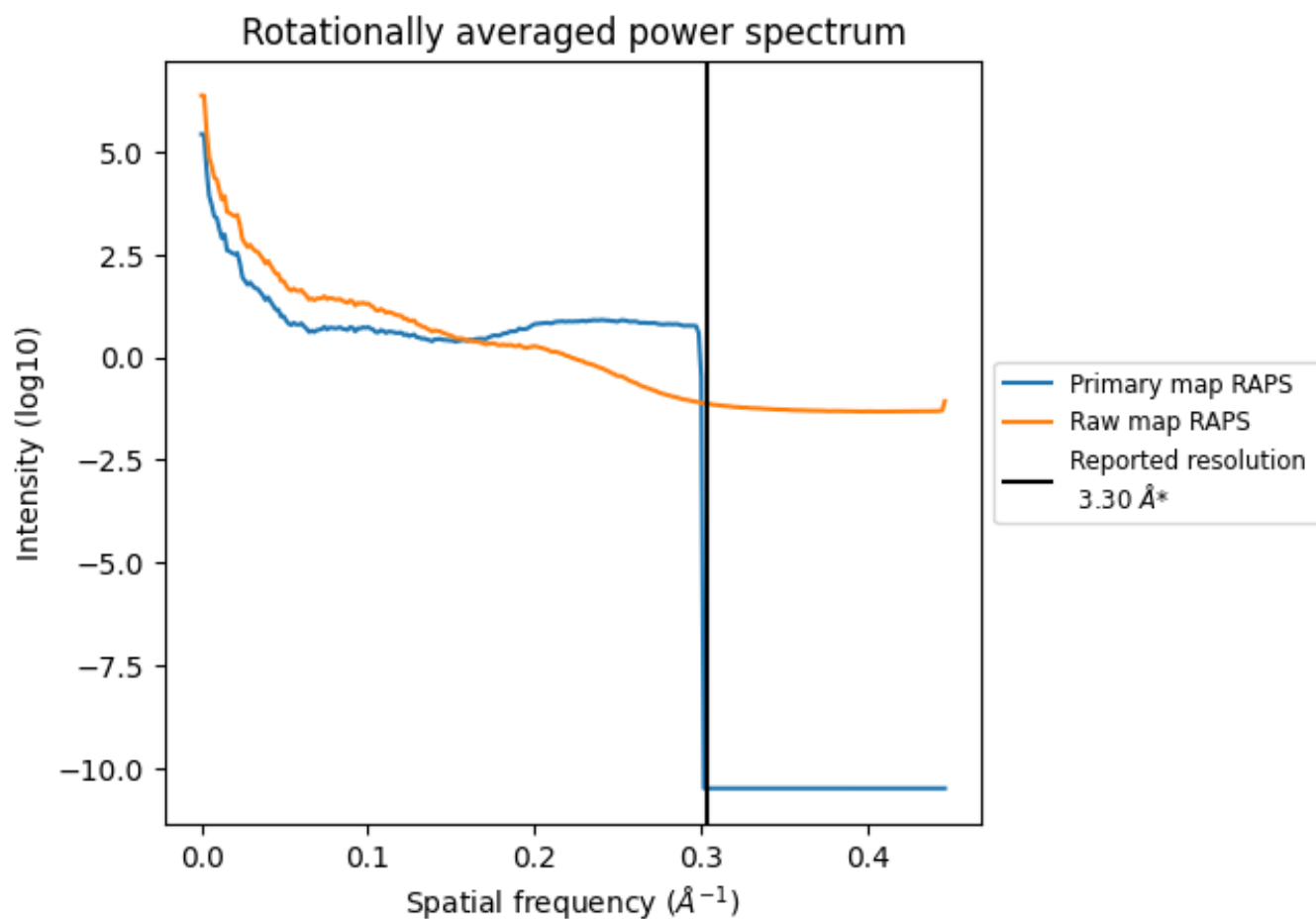
## 7.2 Volume estimate [i](#)



The volume at the recommended contour level is 2791  $\text{nm}^3$ ; this corresponds to an approximate mass of 2521 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](#)

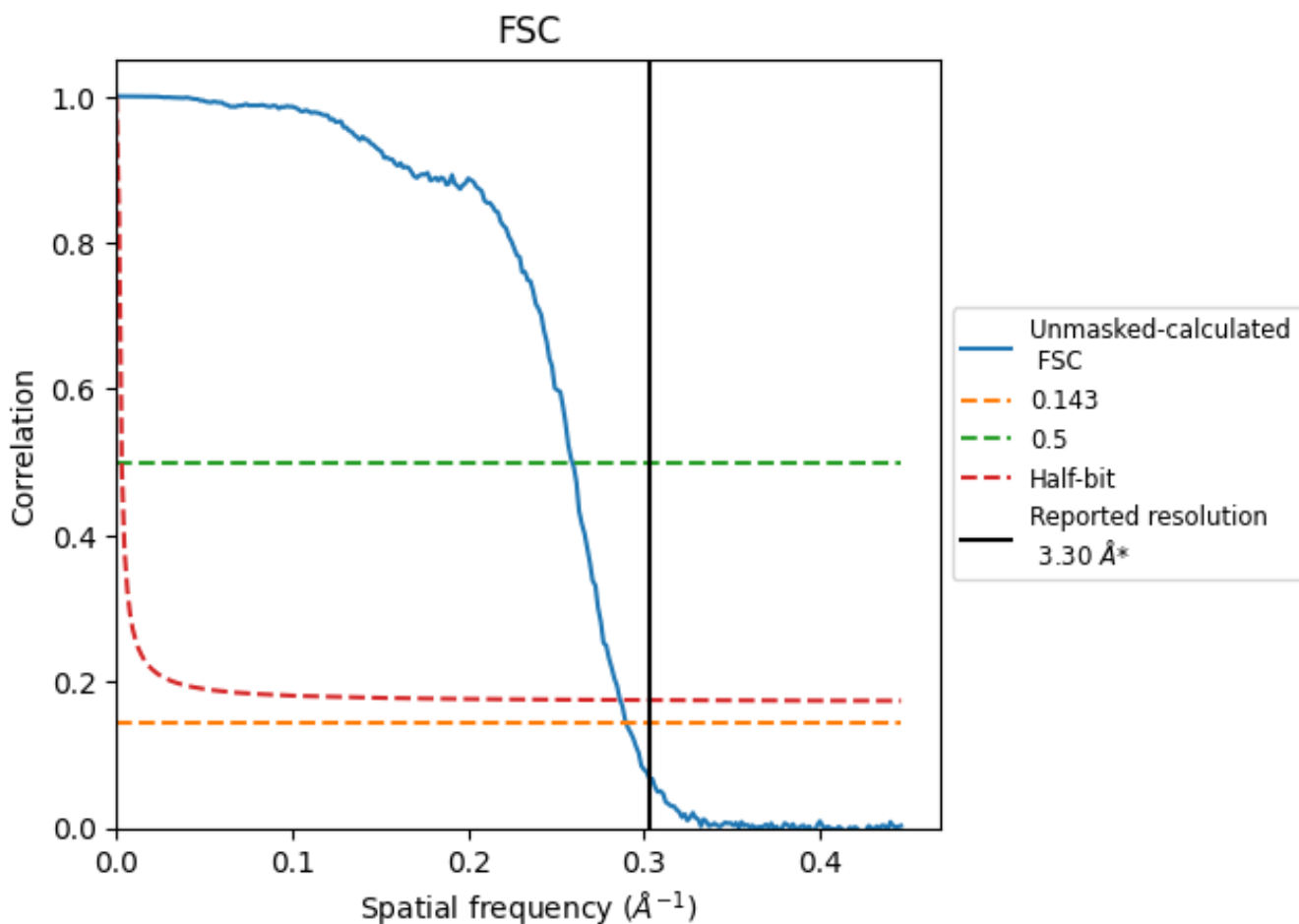


\*Reported resolution corresponds to spatial frequency of 0.303 Å<sup>-1</sup>

## 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 0.303 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	3.30	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	3.45	3.86	3.49

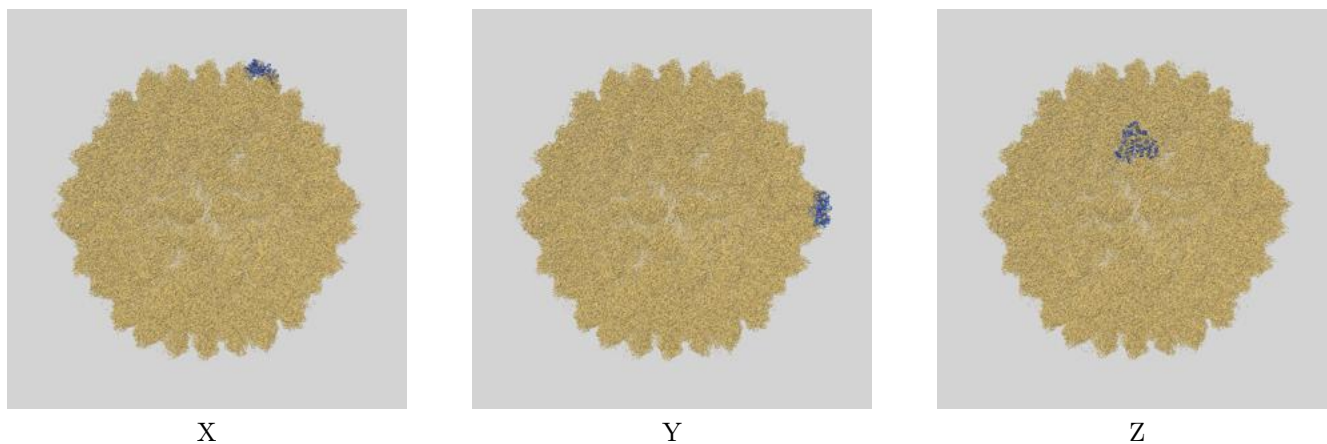
\*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps.

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

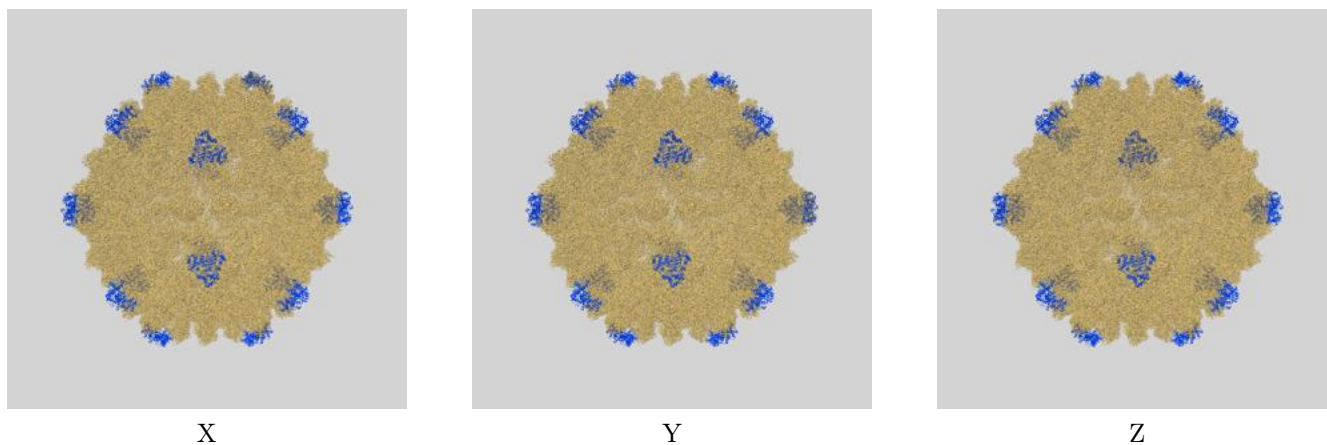
This section contains information regarding the fit between EMDB map EMD-15859 and PDB model 8B59. Per-residue inclusion information can be found in section 3 on page 4.

### 9.1 Map-model overlays

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

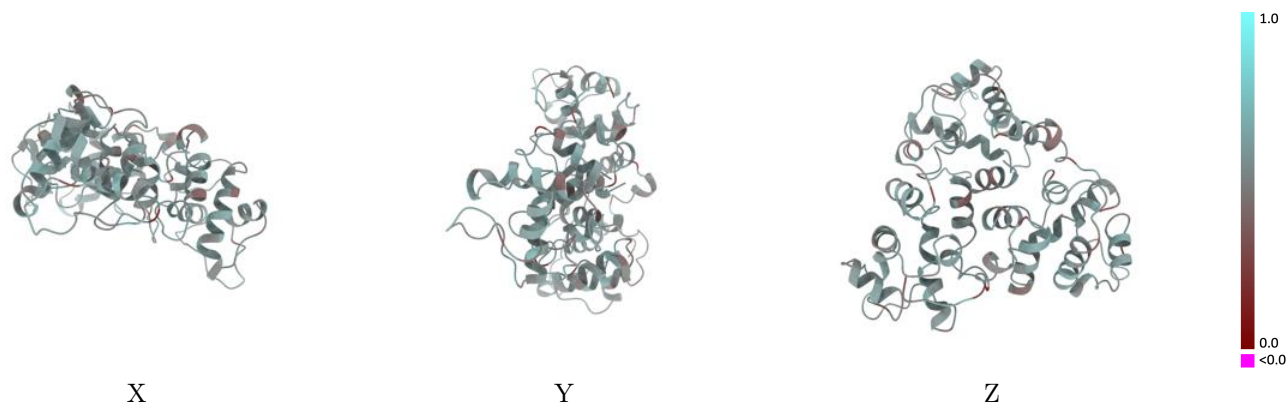


#### 9.1.2 Map-model assembly overlay [i](#)



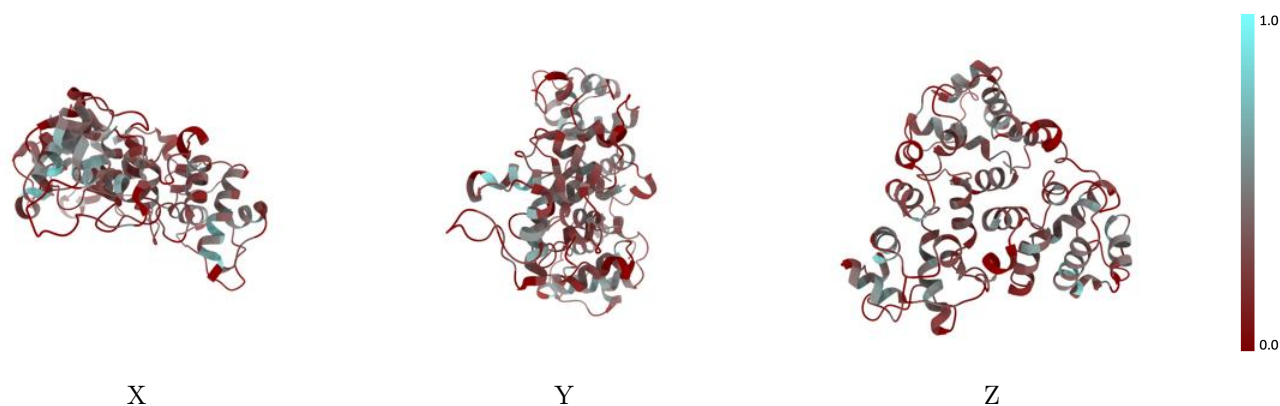
The images above show the 3D surface view of the map at the recommended contour level 0.134 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



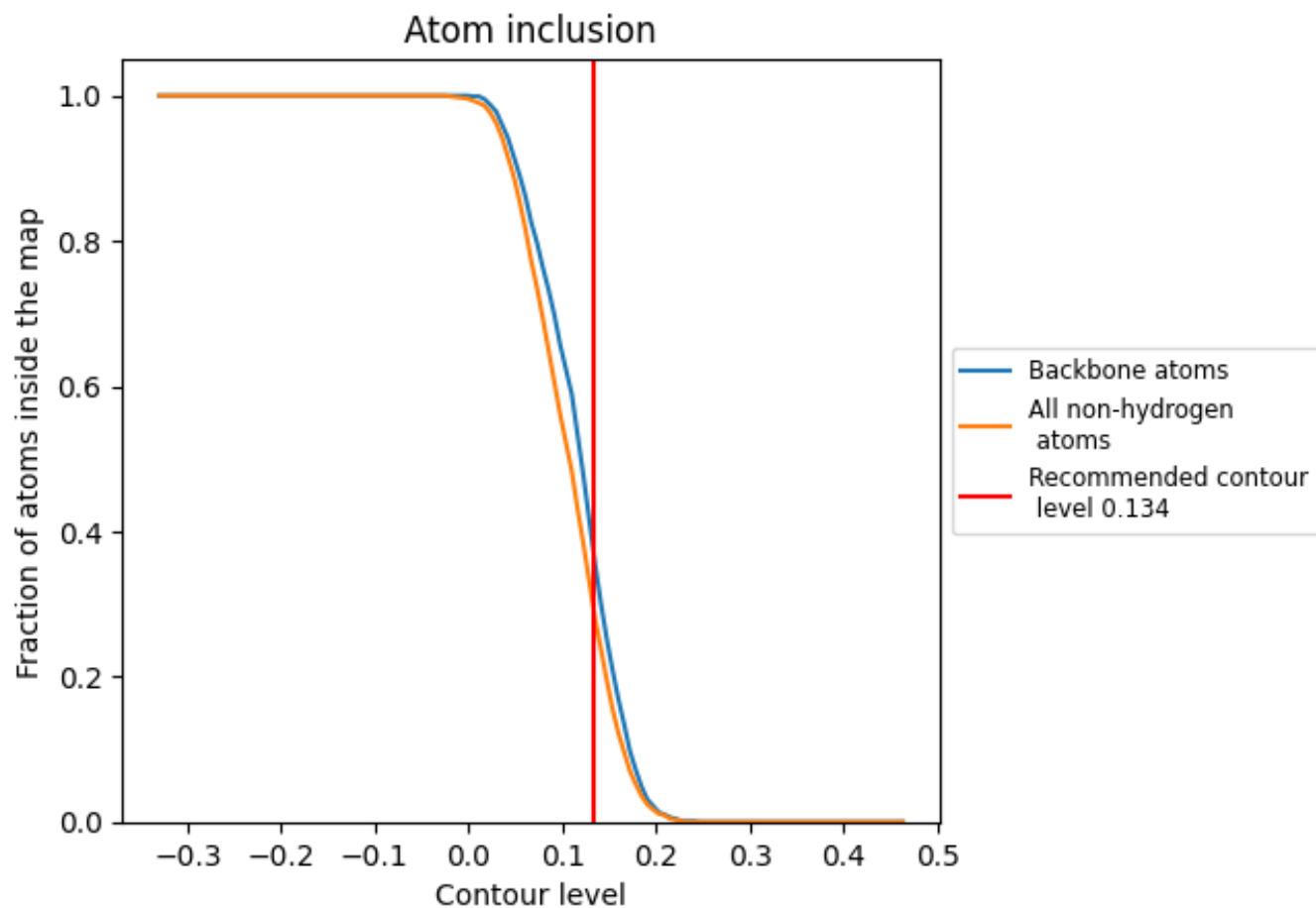
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.134).









## 9.4 Atom inclusion [i](#)



At the recommended contour level, 37% of all backbone atoms, 29% 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 (0.134) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.2890	 0.5290
C	 0.2860	 0.5270
D	 0.2870	 0.5300
E	 0.2940	 0.5290

