WORLDWIDE wwPDB PROTEIN DATA BANK

Full wwPDB EM Validation Report ⓘ

Jun 10, 2025 – 04:00 PM JST

PDB ID	:	7BZU / pdb_00007bzu
EMDB ID	:	EMD-30260
Title	:	Cryo-EM structure of mature Coxsackievirus A10 in complex with KRM1 at pH 5.5
Authors	:	Cui, Y.; Peng, R.; Song, H.; Tong, Z.; Gao, G.F.; Qi, J.
Deposited on	:	2020-04-28
Resolution	:	3.00 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*
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.

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

|		
EMDB validation analysis	:	0.0.1.dev118
Mogul	:	1.8.5 (274361), CSD as541be (2020)
MolProbity	:	4-5-2 with Phenix2.0rc1
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)	:	2.43.1

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 3.00 Å.

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

Metric	Percentile Ranks	Value
Clashscore		7
Ramachandran outliers		0.1%
Sidechain outliers		4.6%

Worse   *Better*

▮ Percentile relative to all structures
❘ Percentile relative to all EM structures
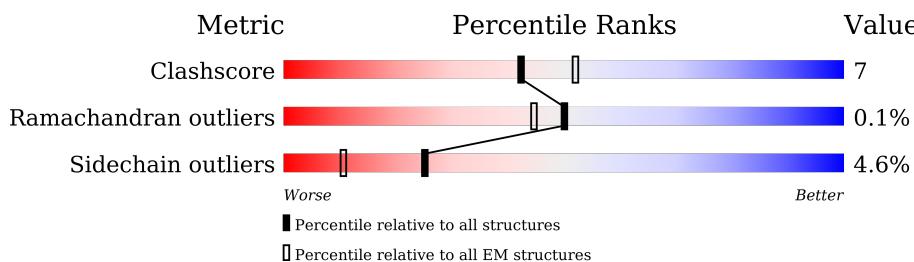
Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415

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

Mol	Chain	Length	Quality of chain
1	A	298	23% 74% 15% · 9%
2	B	255	11% 82% 15% ·
3	C	240	15% 76% 21% ·
4	D	69	43% 49% 12% · 38%
5	E	375	69% 63% 14% 22%
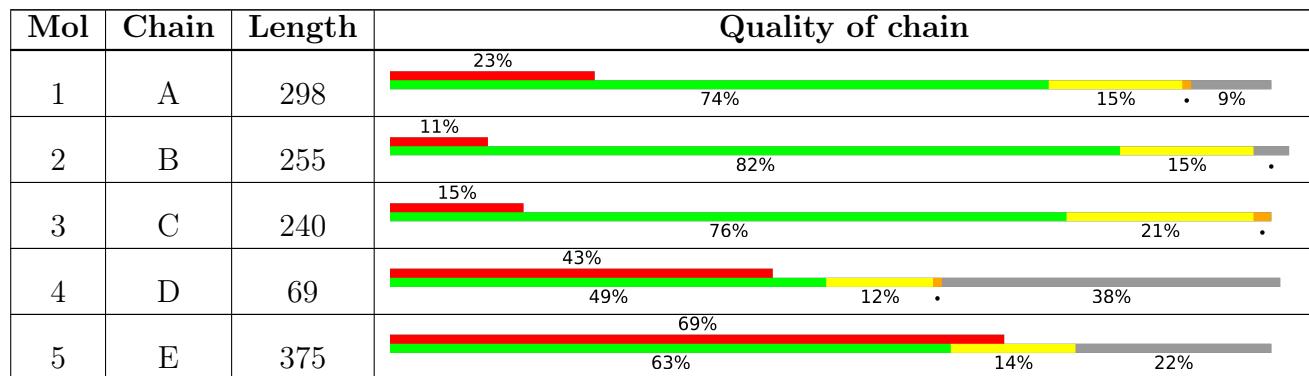
2 Entry composition (i)

There are 6 unique types of molecules in this entry. The entry contains 8557 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 Capsid protein VP1.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	272	Total 2142	C 1348	N 377	O 404	S 13	0	0

- Molecule 2 is a protein called Capsid protein VP2.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	B	246	Total 1902	C 1219	N 320	O 358	S 5	0	0

- Molecule 3 is a protein called Capsid protein VP3.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	C	239	Total 1832	C 1171	N 299	O 352	S 10	0	0

- Molecule 4 is a protein called Capsid protein VP4.

Mol	Chain	Residues	Atoms				AltConf	Trace
4	D	43	Total 338	C 216	N 52	O 70	0	0

- Molecule 5 is a protein called KRM1.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	E	293	Total 2301	C 1461	N 391	O 429	S 20	0	0

- Molecule 6 is 2-acetamido-2-deoxy-beta-D-glucopyranose (CCD ID: NAG) (formula: $C_8H_{15}NO_6$).

NAG
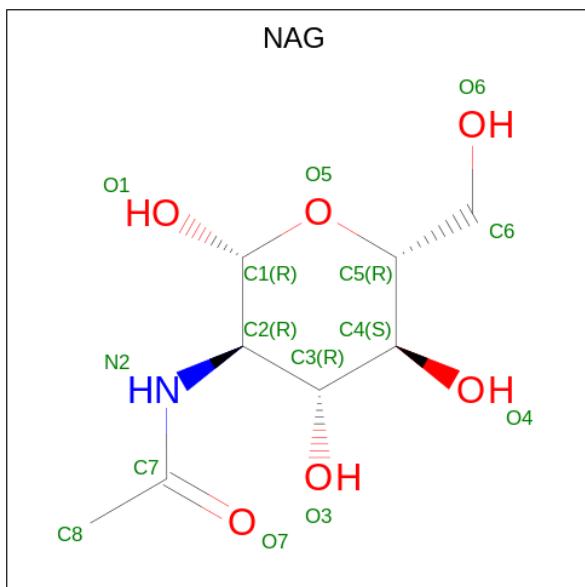
| Mol	Chain	Residues	Atoms				AltConf
6	E	1	Total	C	N	O	0
			14	8	1	5	
6	E	1	Total	C	N	O	0
			14	8	1	5	
6	E	1	Total	C	N	O	0
			14	8	1	5	

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: Capsid protein VP1

Chain A:

• Molecule 2: Capsid protein VP2

Chain B:

• Molecule 3: Capsid protein VP3

Chain C:

G111 K114 S122 F123 M124 M129 L130 V131 S138 A139 E145 W155 G158 L159 Q160 S161 S162 V163 S164 L165 I170 A178 K179 T180 G181 G182 N183 Y184 D185 L194 W195 N199 Y200 P203 P204 E205 E209 M215 Q219 D220 N221 F222 T223 L224

K225 I226 C227 K228 D229 T230 D231 E232 A237 V238 L239 GLN

• Molecule 4: Capsid protein VP4

Chain D:

43%
49% 12% 38%

MET GLY ALA GLN VAL SER THR GLN LYS SER GLY SER HIS GLU THR GLY ASN VAL ALA THR GLY SER THR ILE ASN F27 T28 N29 I30 N31 Y32 Y33 K34 D35 S40 A41 T42 R43 Q44 D45 F46 T47 Q48 D49 P50 K51 K52 D59 S60 I61 R62 E63 L64 S65 A66 P67 L68

N69

• Molecule 5: KRM1

Chain E:

69%
63% 14% 22%

ALA PRO SER PRO GLY LEU GLY PRO GLY P30 E31 C32 F33 T34 A35 N36 G37 A38 D39 Y40 R41 G42 T43 Q44 N45 W46 T47 A48 L49 Q50 G51 G52 K53 P54 C55 L56 F57 W58 N59 E60 T61 F62 Q63 H64 P65 Y66 N67 T68 L69 K70 Y71 P72 N73 G74 E75 G76 G77 L78 G79 E80

H81 N82 Y83 C84 R85 N86 P87 D88 G89 D90 V91 S92 Y96 V97 A98 E99 H100 E101 D102 G103 V104 Y105 W106 K107 Y108 C109 E110 I111 P112 A113 C114 Q115 M116 P117 G118 C122 D125 H126 G127 N128 P129 P130 P131 L132 T133 S136 K137 T138 S139 N140 K141 L142 T143 I144 Q145 T146

C147 F150 C151 R152 S153 Q154 R155 F156 K157 F158 A159 G160 M161 E162 S163 G164 Y165 A166 N171 N172 P173 D174 Y175 W176 K177 Y178 G179 E180 A181 A182 S183 T184 E185 C186 N187 F191 G192 D193 H194 T195 G199 G200 D201 G202 R203 I204 I205 L206 F207 D208 T209 L210 V211 G212 A213 C214

G215 G216 N217 Y218 S219 A220 M221 S222 S223 V224 V225 Y226 S227 P228 D229 F230 P231 D232 T233 Y234 A235 T236 G237 R238 V239 C240 Y241 W242 T243 I244 R245 V246 P247 G248 A249 S250 H251 I252 H253 F254 S255 F256 P257 L258 F259 D260 I261 R262 D263 S264 A265 D266 M267 V268 E269 L270 L271 D272 G273 Y274

T275 H276 R277 V278 L279 A280 R281 F282 H283 G284 R285 S286 R287 P288 P289 L290 S291 F292 N293 V294 S295 L296 D297 F298 V299 I300 L301 Y302 F303 F304 S305 D306 R307 I308 N309 Q310 A311 Q312 G313 F314 A315 V316 L317 Y318 Q319 A320 V321 K322 GLU GLU GLY SER GLU ASN LEU TYR PHE GLN GLY GLY

SER LEU PRO GLU ARG PRO ALA VAL ASN GLN THR VAL ALA GLU VAL ILE THR GLU GLN ALA ASN LEU SER VAL SER ALA ALA ARG SER SER LYS VAL LEU TYR VAL ILE THR THR SER PRO SER HIS PRO PRO GLN THR VAL PRO GLY THR HIS HIS HIS HIS HIS HIS HIS HIS

HIS

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	17659	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TALOS ARCTICA	Depositor
Voltage (kV)	200	Depositor
Electron dose $(e^-/\text{Å}^2)$	40	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.089	Depositor
Minimum map value	-0.046	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.005	Depositor
Recommended contour level	0.025	Depositor
Map size (Å)	528.0, 528.0, 528.0	wwPDB
Map dimensions	400, 400, 400	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.32, 1.32, 1.32	Depositor

5   Model quality (i)

5.1   Standard geometry (i)

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

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	0.16	0/2198	0.36	0/2993
2	B	0.13	0/1960	0.33	0/2689
3	C	0.18	0/1880	0.35	0/2577
4	D	0.14	0/346	0.33	0/472
5	E	0.14	0/2377	0.36	0/3234
All	All	0.15	0/8761	0.35	0/11965

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	2142	0	2081	30	0
2	B	1902	0	1836	22	0
3	C	1832	0	1799	38	0
4	D	338	0	313	6	0
5	E	2301	0	2108	29	0
6	E	42	0	39	2	0
All	All	8557	0	8176	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 7.

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)
3:C:114:LYS:HE2	3:C:219:GLN:OE1	1.88	0.74
1:A:56:SER:O	3:C:114:LYS:NZ	2.24	0.71
3:C:129:MET:HE2	3:C:194:LEU:HD21	1.73	0.71
2:B:61:ASN:ND2	2:B:241:PRO:O	2.26	0.69
1:A:280:SER:HB3	2:B:135:ARG:HB3	1.74	0.68
1:A:212:GLN:HE21	2:B:255:GLN:HE21	1.42	0.68
1:A:49:ALA:H	4:D:67:PRO:HG2	1.58	0.67
3:C:129:MET:HE2	3:C:194:LEU:CD2	2.27	0.65
1:A:266:ARG:NH2	1:A:277:ASN:O	2.29	0.65
1:A:78:THR:HG22	3:C:43:LEU:HB2	1.80	0.62
5:E:292:PHE:HA	6:E:403:NAG:H82	1.83	0.61
1:A:34:PRO:HG3	1:A:68:CYS:HB2	1.82	0.61
5:E:145:GLN:HG2	5:E:229:ASP:HA	1.85	0.59
3:C:129:MET:HG3	3:C:195:TRP:O	2.03	0.59
3:C:46:LEU:HD23	3:C:98:LEU:HD21	1.85	0.59
2:B:110:VAL:HG22	2:B:237:ILE:HG12	1.85	0.57
5:E:117:PRO:HG2	5:E:224:VAL:HG21	1.85	0.57
5:E:269:GLU:HB2	5:E:302:TYR:HB3	1.85	0.57
2:B:108:LEU:HD23	2:B:215:LEU:HD12	1.86	0.56
1:A:161:LYS:HE3	1:A:231:THR:HG21	1.88	0.56
2:B:199:ILE:HG12	3:C:37:PRO:HG2	1.88	0.56
5:E:162:GLU:H	5:E:166:ALA:HB3	1.71	0.55
1:A:86:ARG:NH1	3:C:227:CYS:SG	2.80	0.55
5:E:269:GLU:HG3	5:E:281:ARG:HG2	1.88	0.54
2:B:83:PRO:HG2	2:B:211:SER:HA	1.89	0.54
3:C:107:THR:HG23	3:C:108:GLN:HG3	1.89	0.54
5:E:308:ILE:HG12	5:E:309:ASN:ND2	2.22	0.54
2:B:107:CYS:HB3	2:B:240:ALA:HB3	1.90	0.54
3:C:131:VAL:HG12	3:C:165:LEU:HD22	1.90	0.54
3:C:155:TRP:CD1	3:C:163:VAL:HB	2.44	0.53
5:E:132:LEU:HD11	5:E:206:LEU:HD11	1.91	0.52
1:A:89:LEU:HD22	1:A:115:PHE:CE1	2.45	0.52
3:C:57:ASN:O	3:C:66:ARG:NH1	2.43	0.51
3:C:62:THR:HG22	3:C:63:GLY:H	1.75	0.51
5:E:223:SER:OG	5:E:224:VAL:N	2.44	0.51
5:E:227:SER:HB3	5:E:314:PHE:H	1.74	0.51
3:C:107:THR:HG22	3:C:226:ILE:HB	1.93	0.51
1:A:289:ASP:OD1	3:C:66:ARG:NH1	2.36	0.50

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:101:LEU:HB3	2:B:204:PHE:HB3	1.92	0.50
5:E:235:ALA:HB3	5:E:238:ARG:HE	1.75	0.50
3:C:229:ASP:OD1	3:C:230:THR:N	2.45	0.49
3:C:107:THR:CG2	3:C:226:ILE:HB	2.42	0.49
2:B:109:HIS:HD2	2:B:111:GLN:NE2	2.11	0.48
5:E:224:VAL:HG22	5:E:317:LEU:HD13	1.96	0.48
1:A:92:VAL:HG22	1:A:249:ARG:HG2	1.95	0.48
2:B:86:LEU:HD11	2:B:241:PRO:HG3	1.95	0.48
5:E:271:LEU:HB2	5:E:300:ILE:HB	1.97	0.47
3:C:89:GLY:HA3	3:C:178:ALA:HB1	1.96	0.47
4:D:42:THR:OG1	4:D:43:ARG:N	2.47	0.47
1:A:48:GLN:O	3:C:162:SER:HB2	2.15	0.47
2:B:187:ARG:NH1	3:C:158:GLY:O	2.46	0.47
3:C:53:LEU:HD23	3:C:97:THR:CG2	2.45	0.47
3:C:95:GLN:NE2	3:C:232:GLU:OE2	2.41	0.47
1:A:51:GLU:OE2	3:C:161:SER:OG	2.33	0.47
1:A:215:GLU:OE2	2:B:150:THR:HG23	2.15	0.46
5:E:131:PRO:HA	5:E:177:LYS:HD3	1.98	0.46
5:E:234:TYR:OH	5:E:266:ASP:OD1	2.29	0.46
3:C:62:THR:O	3:C:66:ARG:HB2	2.16	0.46
4:D:69:ASN:OD1	4:D:69:ASN:N	2.49	0.46
1:A:165:ARG:O	1:A:235:ARG:NH1	2.49	0.46
5:E:296:LEU:HD23	5:E:296:LEU:HA	1.77	0.46
3:C:106:TYR:CD2	3:C:224:LEU:HD13	2.51	0.45
3:C:111:GLY:HA3	3:C:222:PHE:HA	1.99	0.45
1:A:140:THR:HG22	1:A:141:LYS:H	1.80	0.45
5:E:110:GLU:HB2	5:E:184:THR:HG23	1.98	0.45
1:A:45:PRO:HB3	4:D:64:LEU:HD13	1.99	0.45
2:B:82:PHE:HA	2:B:85:VAL:HG22	1.98	0.45
3:C:129:MET:HG2	3:C:194:LEU:HD21	1.98	0.44
5:E:65:PRO:O	5:E:70:LYS:NZ	2.42	0.44
5:E:80:GLU:O	6:E:402:NAG:H62	2.17	0.44
3:C:183:ASN:HD22	3:C:183:ASN:HA	1.54	0.44
5:E:266:ASP:OD2	5:E:266:ASP:N	2.51	0.44
5:E:59:ASN:OD1	5:E:60:GLU:HG2	2.18	0.43
1:A:45:PRO:O	1:A:48:GLN:NE2	2.51	0.43
3:C:122:SER:OG	3:C:123:PHE:N	2.51	0.43
5:E:214:CYS:HB3	5:E:240:CYS:HB3	1.63	0.43
3:C:47:CYS:HB3	3:C:99:VAL:HG23	2.00	0.43
1:A:62:ASN:C	1:A:63:MET:HG2	2.43	0.43
2:B:85:VAL:HG12	2:B:155:GLY:O	2.19	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:262:ARG:C	5:E:285:ARG:HH12	2.27	0.43
3:C:199:ASN:ND2	3:C:200:TYR:H	2.17	0.43
1:A:132:ALA:HB3	1:A:191:VAL:HB	2.01	0.43
1:A:36:SER:OG	1:A:37:HIS:N	2.51	0.43
1:A:155:VAL:HB	1:A:231:THR:HG23	2.00	0.43
3:C:84:PHE:HB2	3:C:93:PRO:HG2	2.01	0.43
4:D:52:LYS:HB3	4:D:52:LYS:HE3	1.75	0.43
5:E:61:THR:HG21	5:E:96:TYR:CD2	2.54	0.43
1:A:264:PRO:HB2	2:B:171:VAL:HG13	2.01	0.42
2:B:30:ASN:OD1	2:B:30:ASN:N	2.52	0.42
1:A:140:THR:OG1	1:A:144:GLU:O	2.22	0.42
1:A:60:ASP:HB3	1:A:66:THR:HG21	2.02	0.42
2:B:85:VAL:HG23	2:B:86:LEU:H	1.83	0.42
2:B:64:TYR:CD2	2:B:86:LEU:HD12	2.54	0.42
3:C:80:LEU:HD13	3:C:195:TRP:CE2	2.54	0.42
5:E:241:TYR:HE1	5:E:302:TYR:HD1	1.67	0.42
3:C:225:LYS:O	3:C:226:ILE:C	2.63	0.42
4:D:30:ILE:HD12	4:D:30:ILE:O	2.19	0.41
1:A:266:ARG:HG2	1:A:268:GLN:H	1.85	0.41
3:C:124:MET:HB3	3:C:203:PRO:HG3	2.02	0.41
1:A:168:PHE:CD2	1:A:168:PHE:C	2.98	0.41
1:A:87:SER:HB2	3:C:15:THR:HG23	2.01	0.41
2:B:76:THR:HB	2:B:164:PRO:HG3	2.03	0.41
2:B:71:TRP:CZ3	2:B:122:LEU:HD11	2.56	0.41
5:E:143:THR:OG1	5:E:146:THR:HG23	2.21	0.41
1:A:112:ILE:HG21	1:A:252:MET:HE1	2.03	0.40
5:E:193:ASP:OD2	5:E:194:HIS:N	2.54	0.40
5:E:290:LEU:HD12	5:E:291:SER:N	2.36	0.40
5:E:129:PRO:HG2	5:E:178:TYR:OH	2.22	0.40
2:B:164:PRO:HG2	3:C:64:LEU:HD21	2.01	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	270/298 (91%)	251 (93%)	19 (7%)	0	100	100
2	B	244/255 (96%)	232 (95%)	12 (5%)	0	100	100
3	C	237/240 (99%)	219 (92%)	17 (7%)	1 (0%)	30	66
4	D	41/69 (59%)	35 (85%)	6 (15%)	0	100	100
5	E	291/375 (78%)	276 (95%)	15 (5%)	0	100	100
All	All	1083/1237 (88%)	1013 (94%)	69 (6%)	1 (0%)	50	81

All (1) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	C	226	ILE

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	234/255 (92%)	221 (94%)	13 (6%)	17	49
2	B	208/215 (97%)	201 (97%)	7 (3%)	32	66
3	C	201/202 (100%)	188 (94%)	13 (6%)	14	43
4	D	37/58 (64%)	34 (92%)	3 (8%)	9	34
5	E	245/314 (78%)	238 (97%)	7 (3%)	37	70
All	All	925/1044 (89%)	882 (95%)	43 (5%)	25	56

All (43) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	43	ARG
1	A	64	ILE
1	A	78	THR
1	A	80	ILE

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	A	140	THR
1	A	153	MET
1	A	168	PHE
1	A	190	SER
1	A	194	MET
1	A	231	THR
1	A	248	THR
1	A	253	LYS
1	A	274	ASN
2	B	33	LEU
2	B	37	GLU
2	B	58	VAL
2	B	73	GLU
2	B	95	ASN
2	B	124	VAL
2	B	250	ARG
3	C	29	THR
3	C	51	THR
3	C	91	ILE
3	C	114	LYS
3	C	129	MET
3	C	170	ILE
3	C	183	ASN
3	C	185	ASP
3	C	199	ASN
3	C	209	GLU
3	C	225	LYS
3	C	226	ILE
3	C	227	CYS
4	D	32	TYR
4	D	52	LYS
4	D	63	GLU
5	E	68	THR
5	E	111	ILE
5	E	203	ARG
5	E	208	ASP
5	E	222	SER
5	E	239	VAL
5	E	240	CYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (15) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	81	ASN
1	A	82	HIS
2	B	61	ASN
2	B	74	ASN
2	B	109	HIS
2	B	209	ASN
2	B	255	GLN
3	C	11	ASN
3	C	183	ASN
3	C	199	ASN
5	E	64	HIS
5	E	126	HIS
5	E	128	ASN
5	E	140	ASN
5	E	145	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 ⓘ

3 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	$\#|Z|>2$
6	NAG	E	403	5	14,14,15	0.22	0	17,19,21	0.41	0
6	NAG	E	401	5	14,14,15	0.22	0	17,19,21	0.46	0
6	NAG	E	402	5	14,14,15	0.20	0	17,19,21	0.44	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
6	NAG	E	403	5	-	2/6/23/26	0/1/1/1
6	NAG	E	401	5	-	2/6/23/26	0/1/1/1
6	NAG	E	402	5	-	0/6/23/26	0/1/1/1

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (4) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
6	E	401	NAG	C4-C5-C6-O6
6	E	403	NAG	O5-C5-C6-O6
6	E	401	NAG	O5-C5-C6-O6
6	E	403	NAG	C4-C5-C6-O6

There are no ring outliers.

2 monomers are involved in 2 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
6	E	403	NAG	1	0
6	E	402	NAG	1	0

5.7 Other polymers ⓘ

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 ⓘ

This section contains visualisations of the EMDB entry EMD-30260. These allow visual inspection of the internal detail of the map and identification of artifacts.

No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections ⓘ

6.1.1 Primary map

| X | Y | Z |
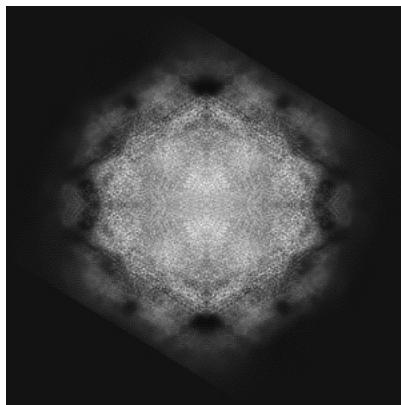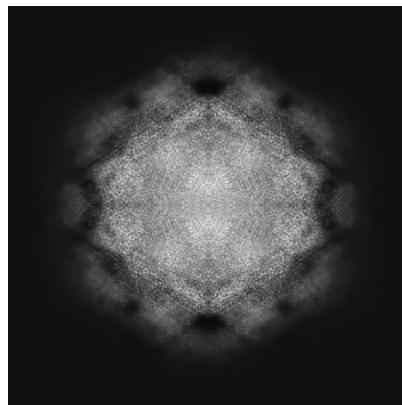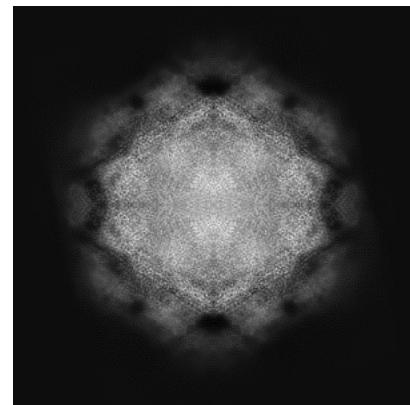
The images above show the map projected in three orthogonal directions.

6.2 Central slices ⓘ
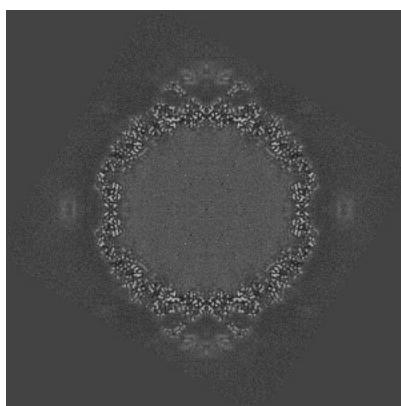
6.2.1 Primary map
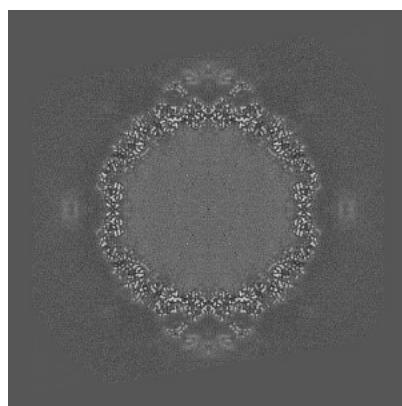
| X Index: 200 | Y Index: 200 | Z Index: 200 |
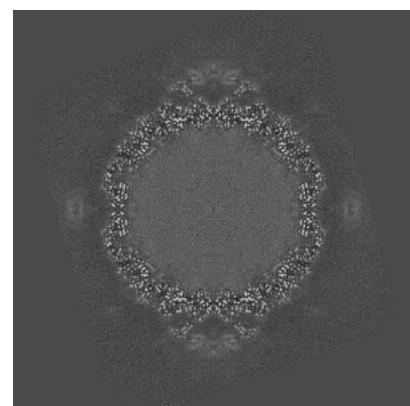
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices ⓘ
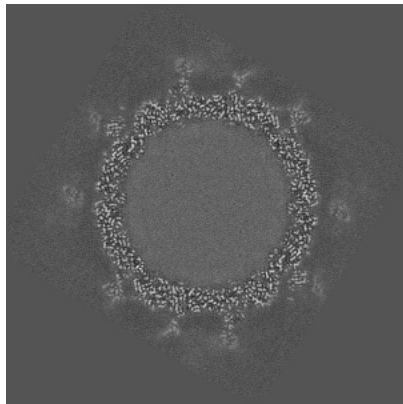
6.3.1 Primary map
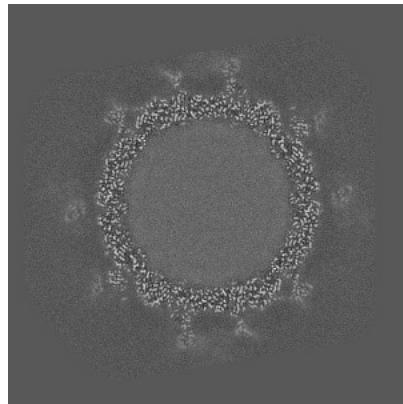
| X Index: 186 | Y Index: 214 | Z Index: 186 |
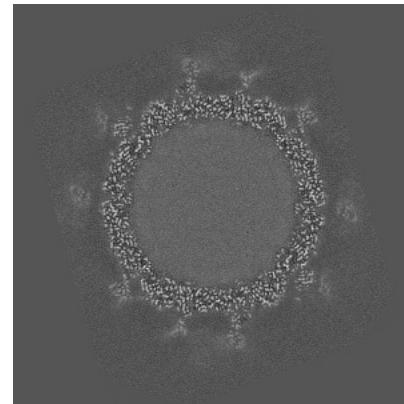
The images above show the largest variance slices of the map in three orthogonal directions.

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

6.4.1 Primary map

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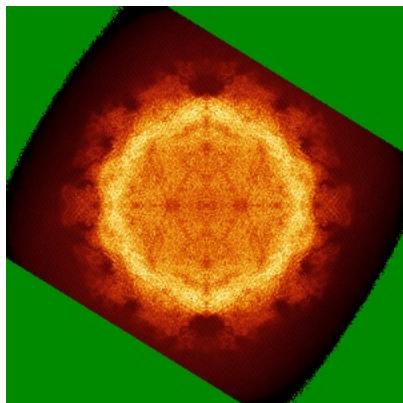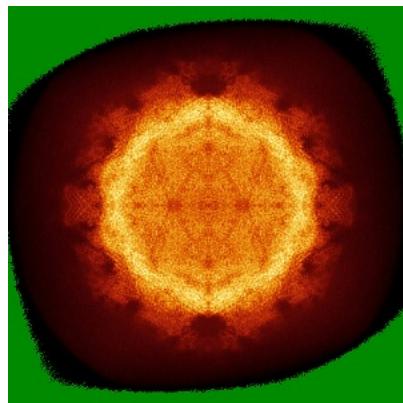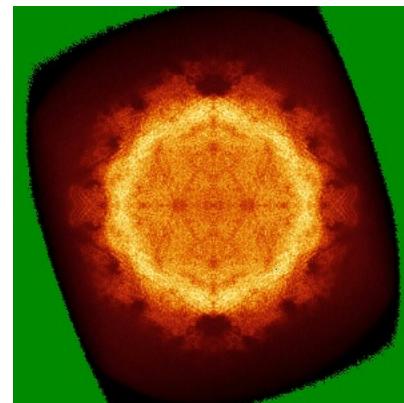
The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5　Orthogonal surface views ⓘ

6.5.1　Primary map

X　　　　　　　　　　　　　　Y　　　　　　　　　　　　　　Z
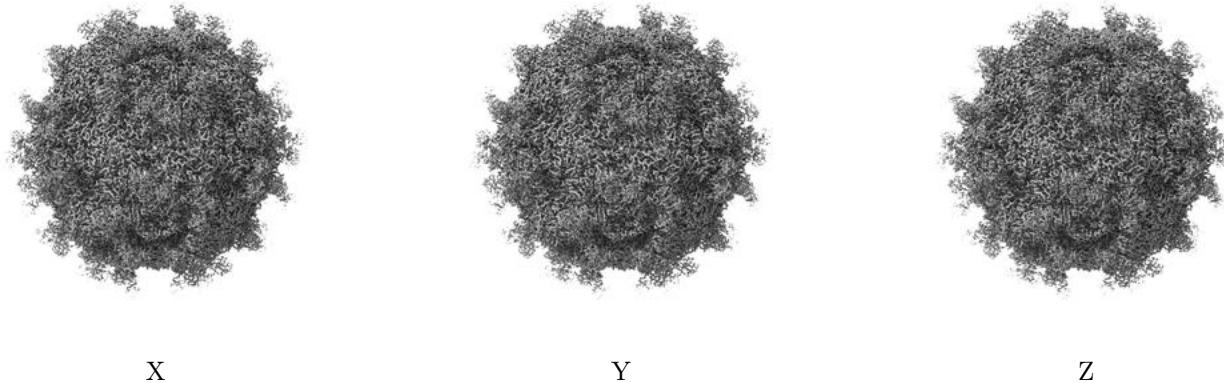
The images above show the 3D surface view of the map at the recommended contour level 0.025. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.6　Mask visualisation ⓘ

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

7   Map analysis ⓘ

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

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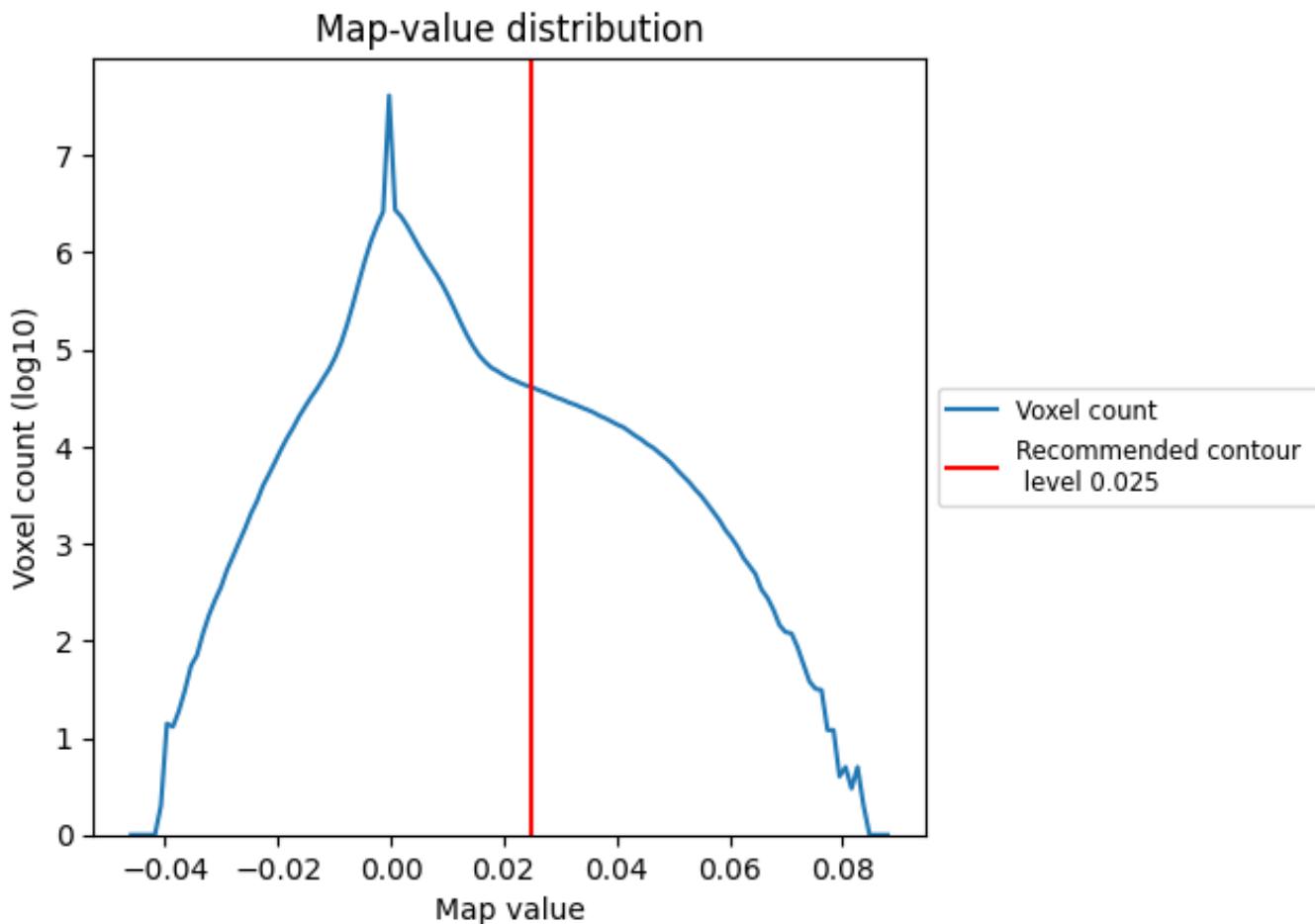
The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

7.2   Volume estimate ⓘ
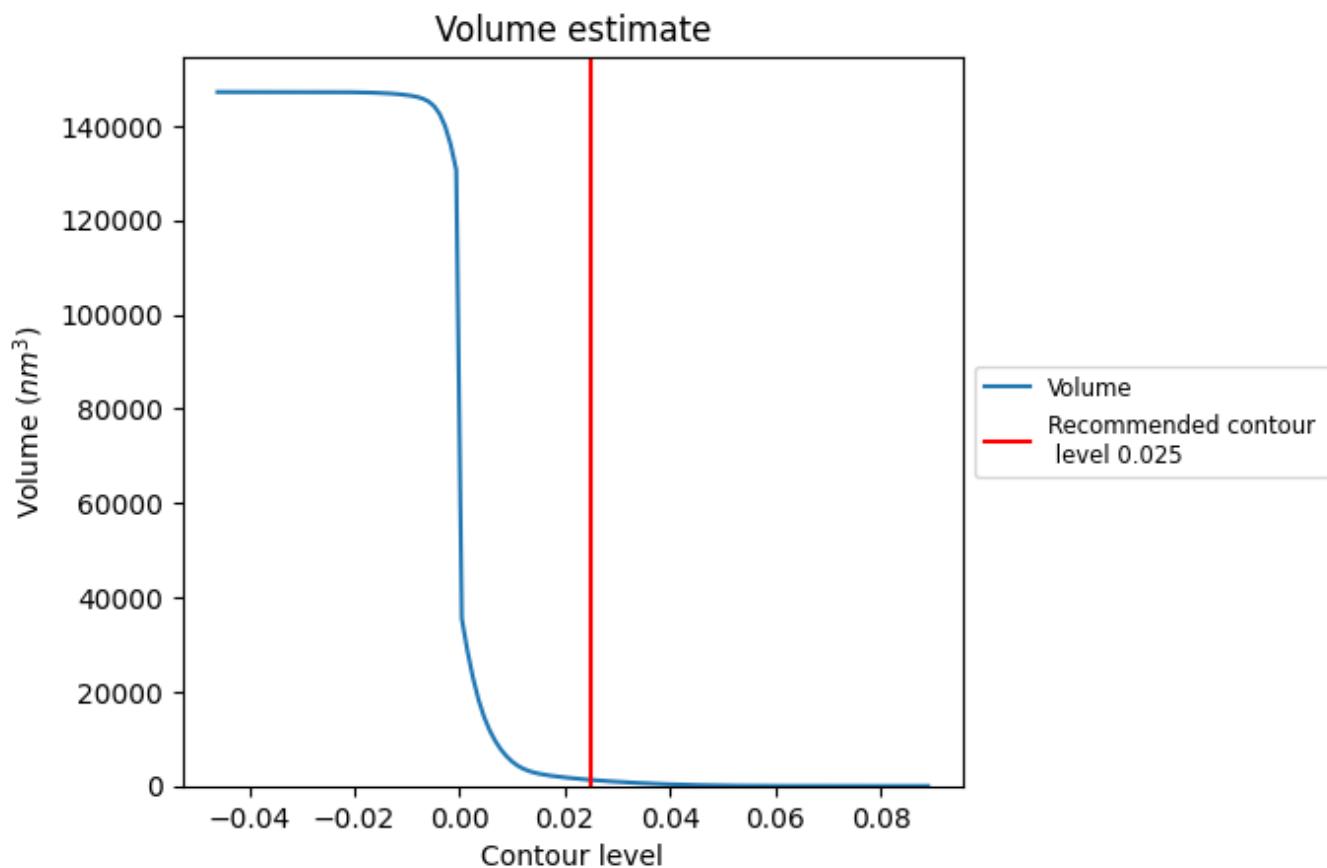
The volume at the recommended contour level is 1278 nm^3; this corresponds to an approximate mass of 1154 kDa.

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

7.3   Rotationally averaged power spectrum ⓘ
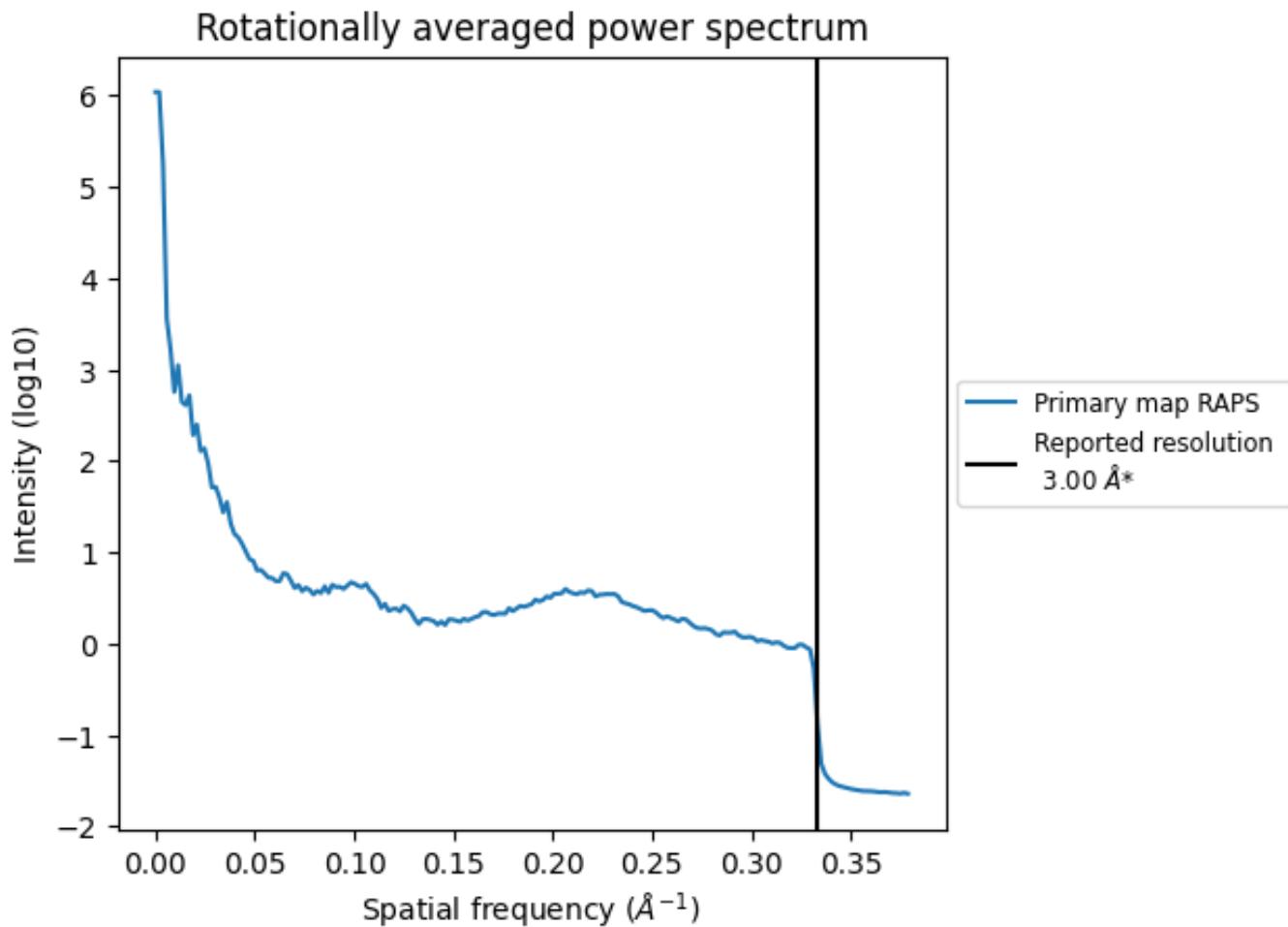
*Reported resolution corresponds to spatial frequency of 0.333 Å^{-1}

8 Fourier-Shell correlation ⓘ

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

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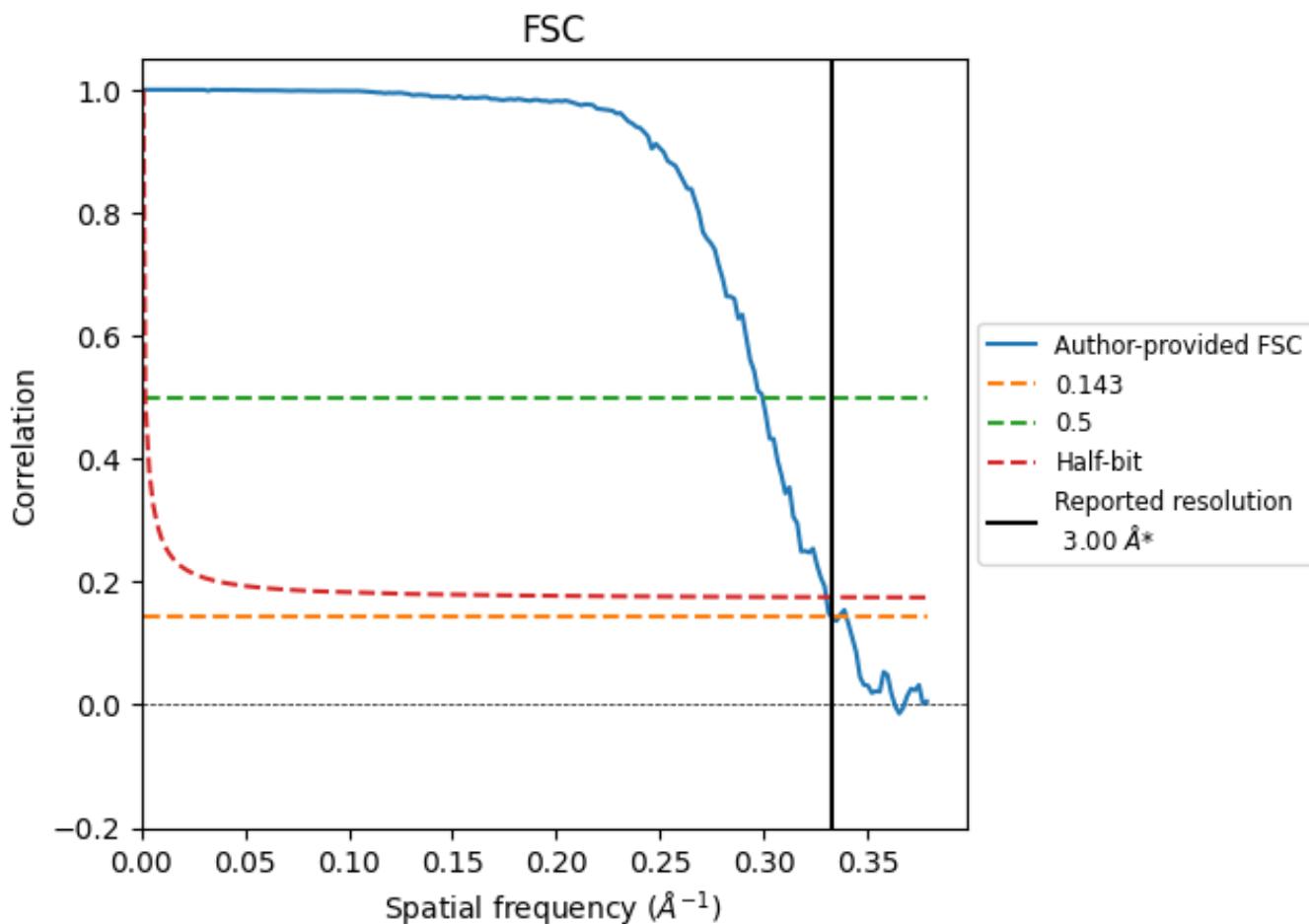
*Reported resolution corresponds to spatial frequency of 0.333 Å^{-1}

8.2   Resolution estimates ⓘ

Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.00	-	-
Author-provided FSC curve	3.01	3.34	3.03
Unmasked-calculated*	-	-	-

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

9 Map-model fit ⓘ

This section contains information regarding the fit between EMDB map EMD-30260 and PDB model 7BZU. Per-residue inclusion information can be found in section 3 on page 5.

9.1 Map-model overlays

9.1.1 Map-model overlay ⓘ
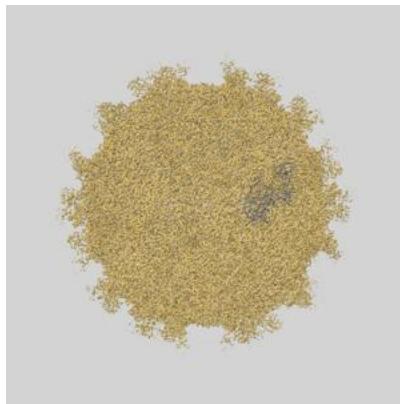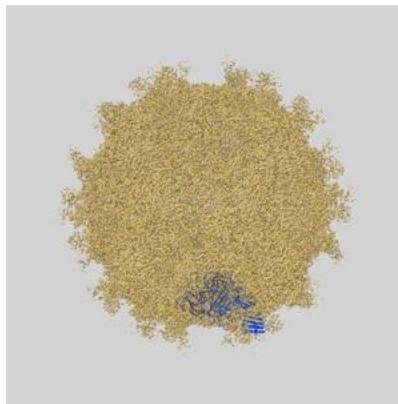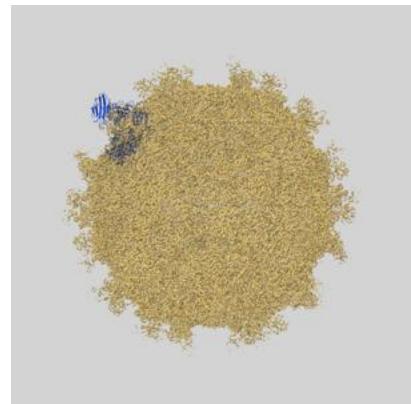
|		
X	Y	Z

9.1.2 Map-model assembly overlay ⓘ
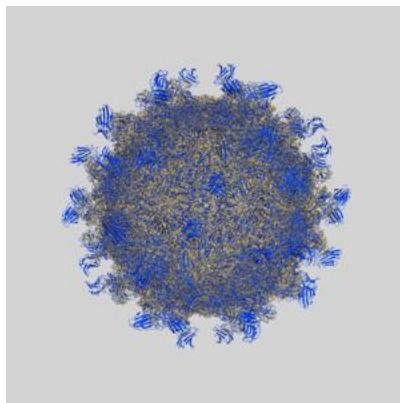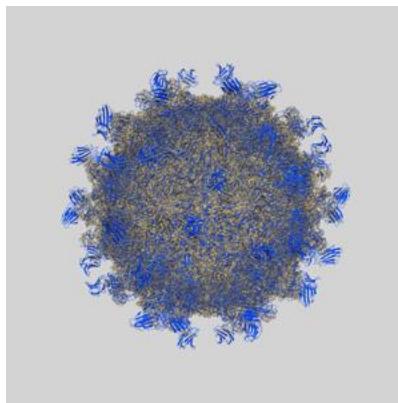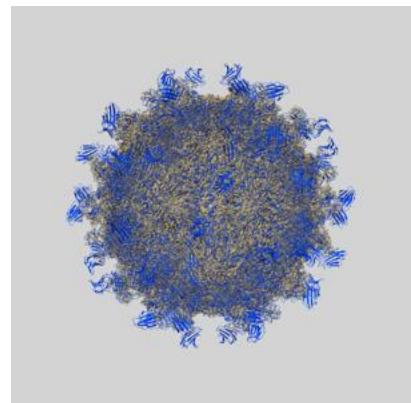
X	Y	Z

The images above show the 3D surface view of the map at the recommended contour level 0.025 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
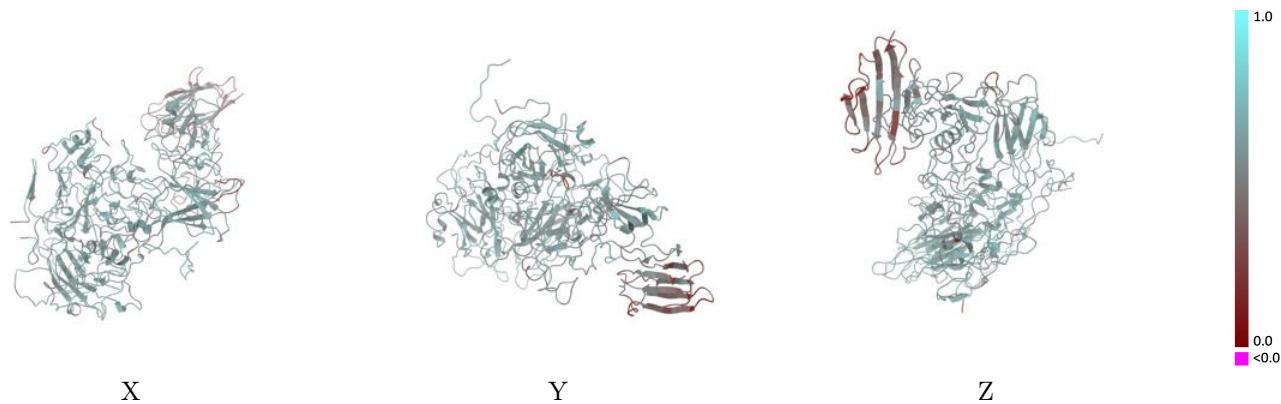
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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
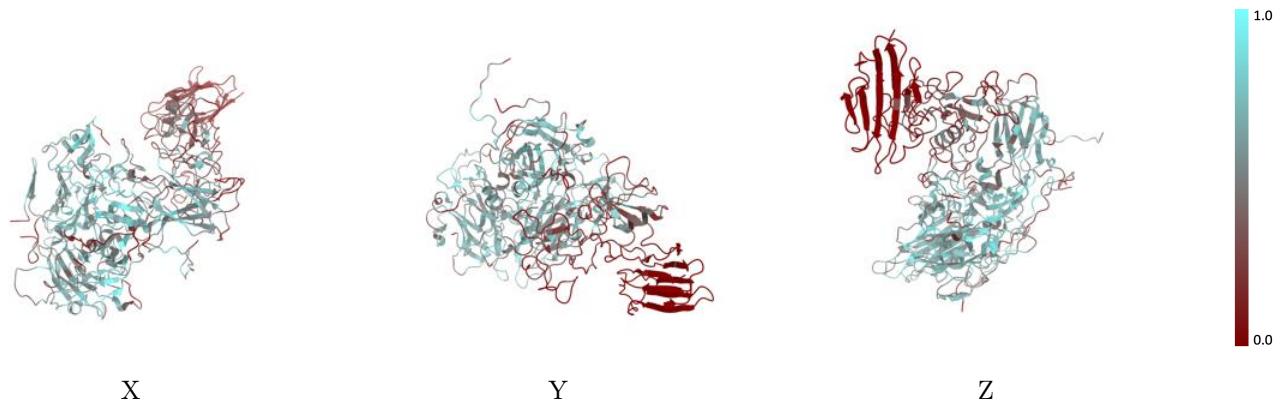
The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.025).

9.4 Atom inclusion ⓘ
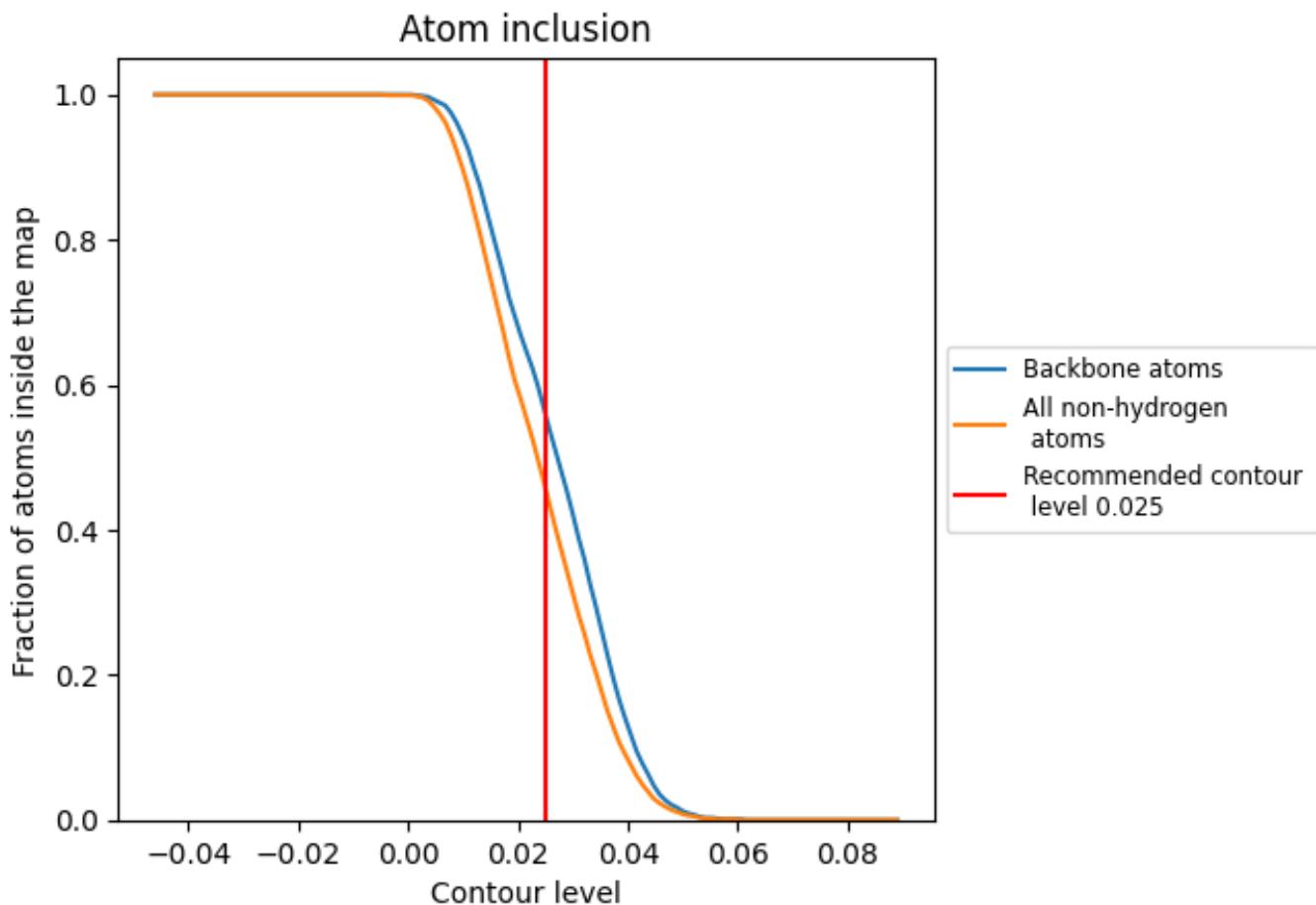
At the recommended contour level, 56% of all backbone atoms, 46% of all non-hydrogen atoms, are inside the map.

9.5　Map-model fit summary (i)

The table lists the average atom inclusion at the recommended contour level (0.025) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.4570	0.5480
A	0.5500	0.5690
B	0.6230	0.5820
C	0.5950	0.5790
D	0.2920	0.5100
E	0.1510	0.4810

1.0

0.0
<0.0