W O R L D W I D E

wwPDB

P R O T E I N   D A T A   B A N K

wwPDB EM Validation Summary Report (i)

Mar 3, 2024 – 07:54 AM EST

PDB ID	:	6C06
EMDB ID	:	EMD-7323
Title	:	Mycobacterium tuberculosis RNAP Holo/RbpA/Fidaxomicin
Authors	:	Darst, S.A.; Campbell, E.A.; Boyaci Selcuk, H.; Chen, J.; Lilic, M.
Deposited on	:	2017-12-27
Resolution	:	5.15 Å(reported)

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

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/EMValidationReportHelp
with specific help available everywhere you see the (i) 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 (i)) were used in the production of this report:

|		
EMDB validation analysis	:	0.0.1.dev70
Mogul	:	1.8.5 (274361), CSD as541be (2020)
MolProbity	:	4.02b-467
buster-report	:	1.1.7 (2018)
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)	:	2.36

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 5.15 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.
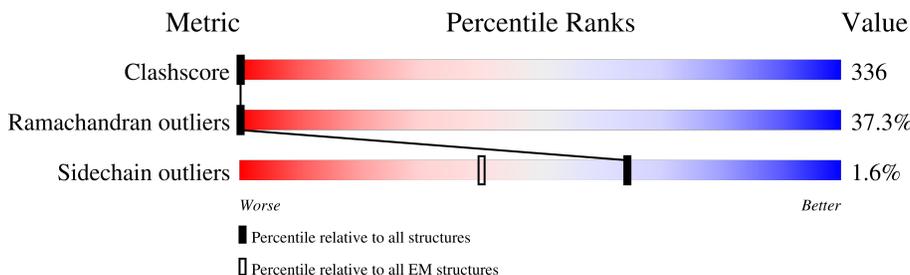
Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826

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 >=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	347	37% 28% • 35%
1	B	347	• 48% 19% • 32%
2	C	1181	• 58% 33% • 6%
3	D	1324	• 54% 37% • 5%
4	E	110	37% 35% • 25%
5	F	531	• 39% 19% • 39%
6	J	111	9% 63% 31% •

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard

residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
9	FI8	D	1404	X	-	-	-

2 Entry composition ⓘ

There are 9 unique types of molecules in this entry. The entry contains 26170 atoms, of which 74 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 DNA-directed RNA polymerase subunit alpha.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	226	Total 1724	C 1085	N 297	O 339	S 3	0	0
1	B	237	Total 1775	C 1120	N 304	O 348	S 3	0	0

- Molecule 2 is a protein called DNA-directed RNA polymerase subunit beta.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	C	1111	Total 8556	C 5361	N 1504	O 1652	S 39	0	0

There are 9 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
C	1179	LEU	-	expression tag	UNP V9Z879
C	1180	ALA	-	expression tag	UNP V9Z879
C	1181	ARG	-	expression tag	UNP V9Z879
C	1182	HIS	-	expression tag	UNP V9Z879
C	1183	GLY	-	expression tag	UNP V9Z879
C	1184	GLY	-	expression tag	UNP V9Z879
C	1185	SER	-	expression tag	UNP V9Z879
C	1186	GLY	-	expression tag	UNP V9Z879
C	1187	ALA	-	expression tag	UNP V9Z879

- Molecule 3 is a protein called DNA-directed RNA polymerase subunit beta'.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	D	1263	Total 9857	C 6175	N 1791	O 1850	S 41	0	0

There are 8 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
D	1317	HIS	-	expression tag	UNP A0A045J9E2
D	1318	HIS	-	expression tag	UNP A0A045J9E2
D	1319	HIS	-	expression tag	UNP A0A045J9E2
D	1320	HIS	-	expression tag	UNP A0A045J9E2
D	1321	HIS	-	expression tag	UNP A0A045J9E2
D	1322	HIS	-	expression tag	UNP A0A045J9E2
D	1323	HIS	-	expression tag	UNP A0A045J9E2
D	1324	HIS	-	expression tag	UNP A0A045J9E2

- Molecule 4 is a protein called DNA-directed RNA polymerase subunit omega.

Mol	Chain	Residues	Atoms				AltConf	Trace
4	E	83	Total 649	C 414	N 108	O 127	0	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
E	1	GLY	-	expression tag	UNP A0A0T9N9K3

- Molecule 5 is a protein called RNA polymerase sigma factor SigA.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	F	326	Total 2588	C 1617	N 467	O 495	S 9	0	0

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
F	-2	GLY	-	expression tag	UNP A0A045HD00
F	-1	PRO	-	expression tag	UNP A0A045HD00
F	0	HIS	-	expression tag	UNP A0A045HD00

- Molecule 6 is a protein called RNA polymerase-binding protein RbpA.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	J	107	Total 872	C 539	N 162	O 168	S 3	0	0

- Molecule 7 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
7	D	2	Total 2	Zn 2	0

- Molecule 8 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
8	D	1	Total 1	Mg 1	0

- Molecule 9 is Fidaxomicin (three-letter code: FI8) (formula: $C_{52}H_{74}Cl_2O_{18}$).

FI8

Mol	Chain	Residues	Atoms					AltConf
9	D	1	Total 146	C 52	Cl 2	H 74	O 18	0

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: DNA-directed RNA polymerase subunit alpha

Chain A:

• Molecule 1: DNA-directed RNA polymerase subunit alpha

Chain B:

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

● Molecule 2: DNA-directed RNA polymerase subunit beta

Chain C:

58% 33% 6%

• Molecule 3: DNA-directed RNA polymerase subunit beta'

Chain D:

54% 37% 5%

• Molecule 4: DNA-directed RNA polymerase subunit omega

Chain E:

| 37% | 35% | • | 25% |

• Molecule 5: RNA polymerase sigma factor SigA

Chain F:

| 39% | 19% | • | 39% |

ALA PRO GLY GLN THR ALA ASP ASP ASP GLU GLU ILE ALA GLU PRO THR GLU LYS ASP LYS ALA SER GLY ASP F202 V203 W204 D205 D206 D207 E208 S209 E210 A211 L212 R213 Q214 A215 R216 K217 D218 A219 E220 L221 T222 A223 S224 A225 D226 S227 V228 R229 A230 Y231 L232 K233 Q234 I235 G236 K237

V238 A239 L240 L241 N242 A243 E244 E245 E246 V247 E248 L249 A250 K251 R252 I253 E254 A255 G256 L257 Y258 A259 T260 Q261 L262 M263 T264 E265 L266 S267 E268 R269 G270 E271 K272 L273 P274 A275 A276 Q277 R278 R279 D280 M281 M282 W283 I284 C285 R286 D287 G288 D289 R290 A291 K292 N293 H294 L295 L296 E297

A298 N299 L300 R301 L302 V303 V304 S305 L306 A307 K308 R309 Y310 T311 G312 R313 G314 M315 A316 F317 L318 D319 L320 I321 Q322 E323 G324 N325 L326 G327 L328 I329 R330 A331 V332 E333 K334 F335 D336 Y337 T338 K339 G340 Y341 K342 F343 S344 T345 Y346 A347 T348 W349 W350 I351 R352 Q353 A354 I355 T356 R357

A358 M359 A360 D361 Q362 A363 R364 T365 I366 R367 I368 P369 V370 H371 M372 V373 E374 V375 I376 N377 K378 L379 G380 R381 I382 Q383 R384 E385 L386 L387 Q388 D389 L390 G391 R392 E393 P394 T395 P396 E397 E398 L399 A400 K401 E402 M403 D404 I405 T406 P407 E408 K409 V410 L411 E412 I413 Q414 Q415 Y416 A417

R418 E419 P420 I421 S422 L423 D424 Q425 T426 I427 G428 D429 E430 G431 D432 S433 Q434 L435 G436 D437 F438 I439 E440 D441 S442 V446 A447 V448 D449 A450 V451 S452 F453 T454 L455 L456 Q457 D458 Q459 L460 Q461 S462 V463 L464 D465 T466 L467 S468 E469 R470 E471 A472 G473 V474 V475 R476 L477 R478 F479

G480 L481 T482 D483 D484 Q485 P486 R487 T488 L489 D490 E491 I492 G493 Q494 V495 Y496 G497 V498 T499 R500 E501 R502 I503 R504 Q505 I506 E507 S508 K509 T510 M511 S512 K513 L514 R515 H516 P517 S518 R519 S520 Q521 V522 L523 R524 D525 Y526 L527 ASP

• Molecule 6: RNA polymerase-binding protein RbpA

Chain J:

9%

63% 31%

MET A2 D3 R4 V5 L6 R7 G8 S9 R10 L11 G12 A13 V14 S15 Y16 E17 T18 D19 R20 N21 H22 D23 L24 A25 P26 R27 Q28 I29 A30 R31 Y32 R33 T34 D35 N36 G37 E38 E39 F40 E41 V42 P43 F44 A45 D46 D47 A48 E49 I50 P51 G52 T53 W54 L55 C56 R57 N58 G59 M60

E61 G62 T63 L64 I65 E66 G67 D68 L69 P70 E71 P72 K73 K74 V75 K76 P77 P78 R79 T80 H81 W82 D83 M84 L85 L86 E87 R88 R89 S90 I91 E92 E93 L94 E95 E96 L97 L98 K99 E100 R101 L102 E103 L104 I105 R106 S107 R108 ARG ARG GLY

4 Experimental information ⓘ

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	171547	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 $(e^-/Å^2)$	6.7	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	0.069	Depositor
Minimum map value	-0.019	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.004	Depositor
Recommended contour level	0.0201	Depositor
Map size (Å)	330.0, 330.0, 330.0	wwPDB
Map dimensions	220, 220, 220	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.5, 1.5, 1.5	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: MG, FI8, ZN

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	0.51	0/1750	0.70	1/2380 (0.0%)
1	B	0.49	0/1802	0.69	0/2454
2	C	0.56	1/8714 (0.0%)	0.73	12/11824 (0.1%)
3	D	0.55	0/10021	0.73	11/13549 (0.1%)
4	E	0.53	0/662	0.71	0/901
5	F	0.46	0/2622	0.62	1/3538 (0.0%)
6	J	0.48	0/888	0.63	0/1199
All	All	0.54	1/26459 (0.0%)	0.71	25/35845 (0.1%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	3
1	B	0	2
2	C	0	32
3	D	0	36
4	E	0	4
5	F	0	5
6	J	0	1
All	All	0	83

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	C	723	ILE	C-N	-5.45	1.21	1.34

The worst 5 of 25 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	C	723	ILE	C-N-CA	-11.72	92.40	121.70
3	D	114	LEU	CA-CB-CG	-7.88	97.17	115.30
2	C	237	LEU	CA-CB-CG	-7.35	98.40	115.30
3	D	374	LEU	CA-CB-CG	-7.30	98.52	115.30
1	A	78	LEU	CA-CB-CG	-7.17	98.81	115.30

There are no chirality outliers.

5 of 83 planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	220	GLY	Peptide
1	A	42	LEU	Peptide
1	A	69	VAL	Peptide
1	B	204	PRO	Peptide
1	B	214	THR	Peptide

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	1724	0	1768	1333	0
1	B	1775	0	1809	1380	0
2	C	8556	0	8459	5988	0
3	D	9857	0	9923	7031	0
4	E	649	0	645	424	0
5	F	2588	0	2602	1573	0
6	J	872	0	852	560	0
7	D	2	0	0	0	0
8	D	1	0	0	0	0
9	D	72	74	0	16	0
All	All	26096	74	26058	17506	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 336.

The worst 5 of 17506 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)
5:F:279:ARG:O	5:F:283:TRP:HB3	1.25	1.34
1:B:39:ARG:O	1:B:43:LEU:HB3	1.26	1.33
2:C:1099:ARG:O	2:C:1103:TYR:HB2	1.25	1.32
3:D:162:VAL:O	3:D:166:ARG:HB2	1.28	1.31
2:C:424:VAL:O	2:C:428:LYS:HB3	1.30	1.27

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	224/347 (65%)	80 (36%)	52 (23%)	92 (41%)	0	0
1	B	235/347 (68%)	98 (42%)	68 (29%)	69 (29%)	0	0
2	C	1109/1181 (94%)	394 (36%)	323 (29%)	392 (35%)	0	0
3	D	1257/1324 (95%)	396 (32%)	355 (28%)	506 (40%)	0	0
4	E	81/110 (74%)	14 (17%)	25 (31%)	42 (52%)	0	0
5	F	324/531 (61%)	109 (34%)	104 (32%)	111 (34%)	0	0
6	J	105/111 (95%)	45 (43%)	29 (28%)	31 (30%)	0	0
All	All	3335/3951 (84%)	1136 (34%)	956 (29%)	1243 (37%)	0	0

5 of 1243 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	2	LEU
1	A	5	GLN
1	A	16	ASP
1	A	17	ASN
1	A	20	GLN

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	195/297 (66%)	190 (97%)	5 (3%)	46	66
1	B	197/297 (66%)	195 (99%)	2 (1%)	76	86
2	C	924/997 (93%)	910 (98%)	14 (2%)	65	80
3	D	1041/1103 (94%)	1026 (99%)	15 (1%)	67	80
4	E	69/89 (78%)	67 (97%)	2 (3%)	42	64
5	F	272/429 (63%)	269 (99%)	3 (1%)	73	84
6	J	93/97 (96%)	90 (97%)	3 (3%)	39	61
All	All	2791/3309 (84%)	2747 (98%)	44 (2%)	64	79

5 of 44 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	D	500	ARG
3	D	1268	ARG
3	D	733	MET
3	D	1085	ARG
4	E	65	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 64 such sidechains are listed below:

Mol	Chain	Res	Type
5	F	234	GLN
5	F	325	ASN
2	C	751	HIS
2	C	729	HIS
5	F	353	GLN

5.3.3 RNA ⓘ

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)

Of 4 ligands modelled in this entry, 3 are monoatomic - leaving 1 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#|Z| > 2$	Counts	RMSZ	$\#|Z| > 2$
9	FI8	D	1404	-	74,75,75	1.90	19 (25%)	88,109,109	2.08	24 (27%)

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
9	FI8	D	1404	-	2/2/29/29	34/75/118/118	0/3/4/4

The worst 5 of 19 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
9	D	1404	FI8	C1-C3	5.59	1.57	1.50
9	D	1404	FI8	C14-C15	4.48	1.54	1.45
9	D	1404	FI8	O1-C18	-3.96	1.39	1.46
9	D	1404	FI8	C14-C13	3.88	1.39	1.33
9	D	1404	FI8	O17-C49	3.83	1.43	1.34

The worst 5 of 24 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
9	D	1404	FI8	C5-C4-C3	-7.51	117.97	127.00
9	D	1404	FI8	C29-O10-C33	-5.38	108.61	117.21
9	D	1404	FI8	C26-C27-C28	4.91	118.83	110.38
9	D	1404	FI8	C7-C6-C5	-4.62	119.45	125.41
9	D	1404	FI8	C31-C30-C29	-4.58	106.42	113.41

All (2) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
9	D	1404	FI8	C19
9	D	1404	FI8	C27

5 of 34 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
9	D	1404	FI8	C9-C10-C11-C12
9	D	1404	FI8	C9-C10-C11-C22
9	D	1404	FI8	C15-C16-C17-C18
9	D	1404	FI8	C16-C17-C18-C19
9	D	1404	FI8	C17-C18-C19-O5A

There are no ring outliers.

1 monomer is involved in 16 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
9	D	1404	FI8	16	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 FI8 D 1404

Bond lengths

Bond angles

Torsions

Rings
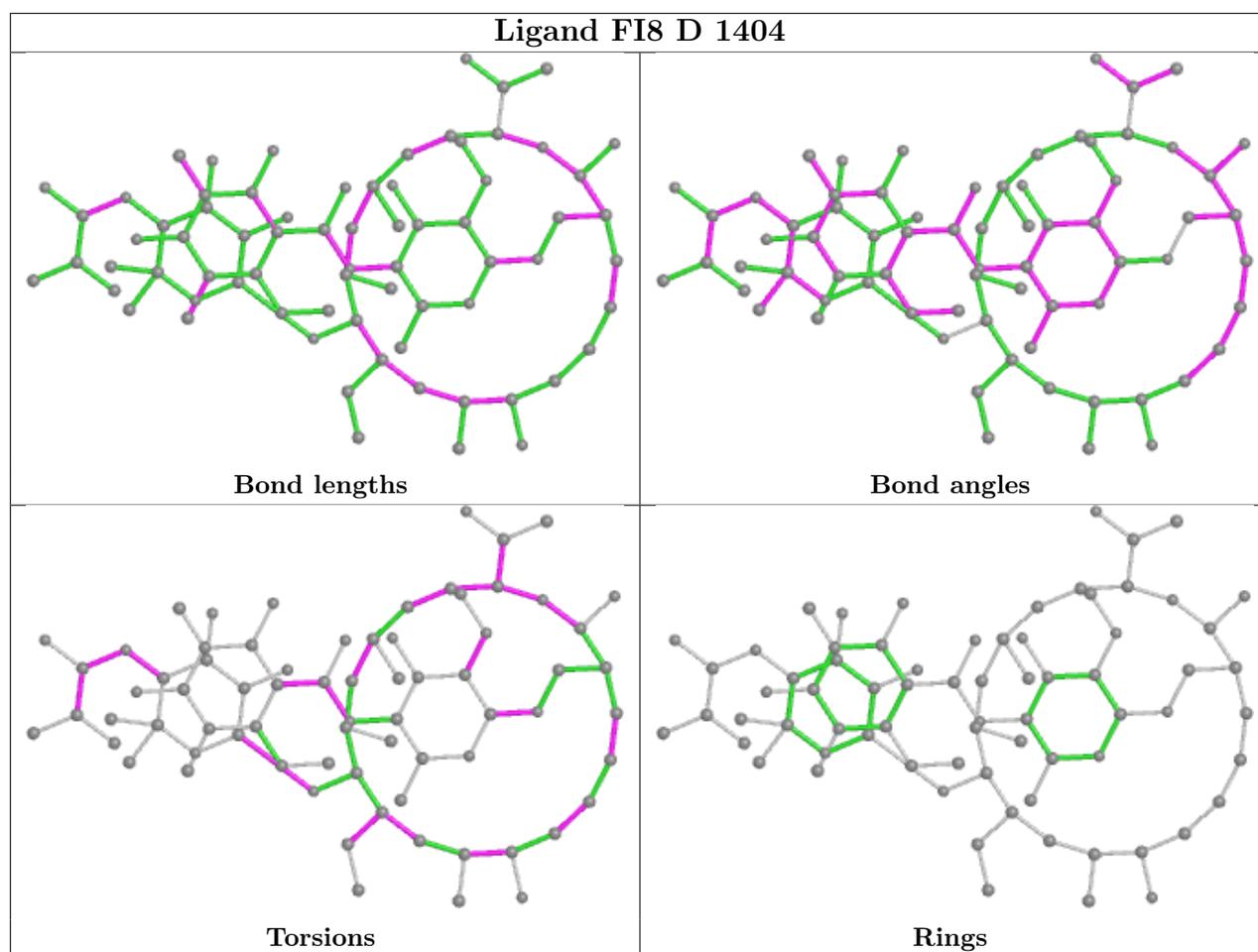
5.7 Other polymers ⓘ

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-7323. 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
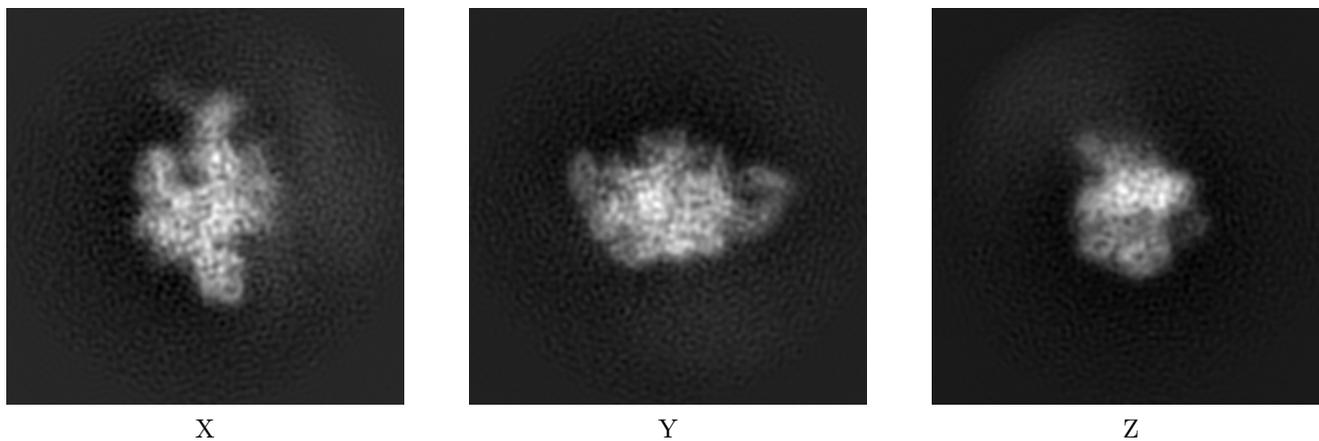
The images above show the map projected in three orthogonal directions.

6.2   Central slices ⓘ

6.2.1   Primary map

X Index: 110	Y Index: 110	Z Index: 110
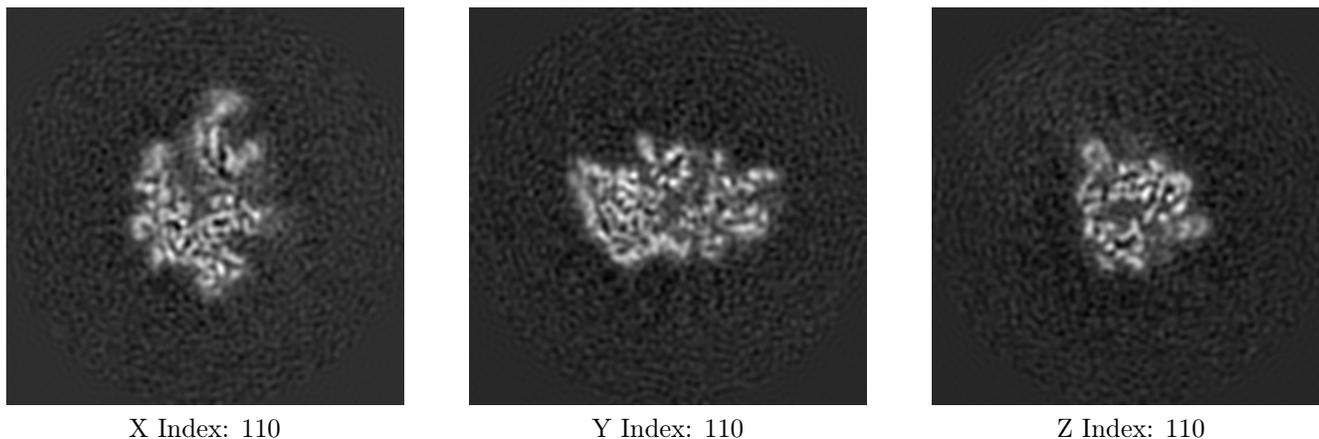
The images above show central slices of the map in three orthogonal directions.
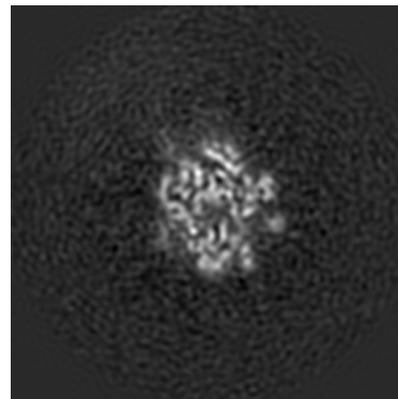
6.3 Largest variance slices ⓘ
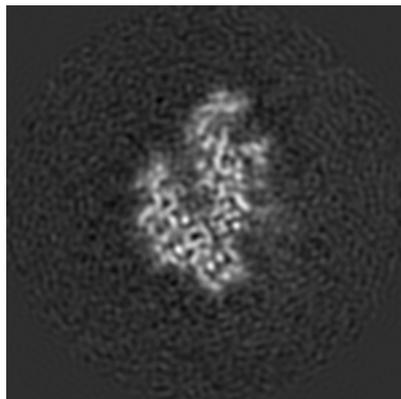
6.3.1 Primary map
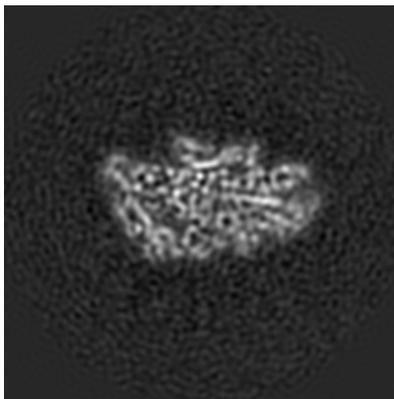
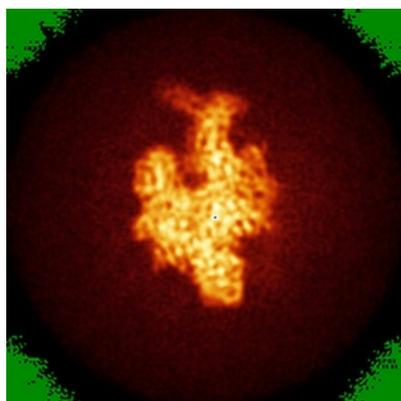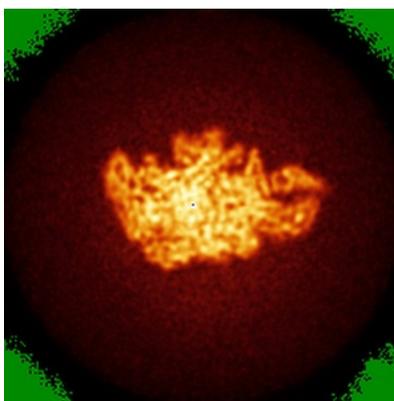| X Index: 105 | Y Index: 114 | Z Index: 104 |

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

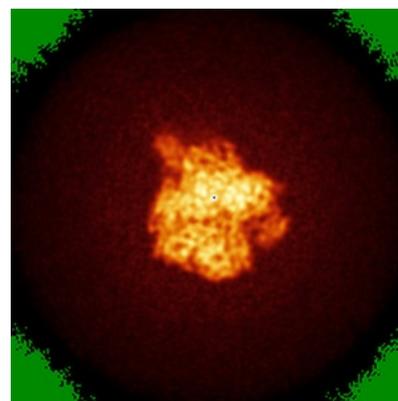## 6.4 Orthogonal standard-deviation projections (False-color) ⓘ
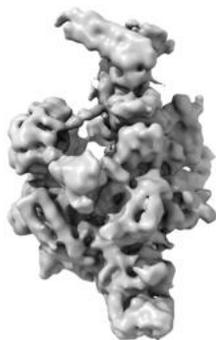
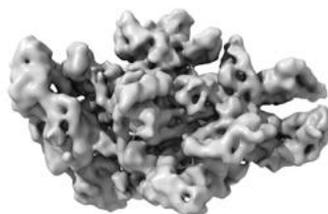### 6.4.1 Primary map

| 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.
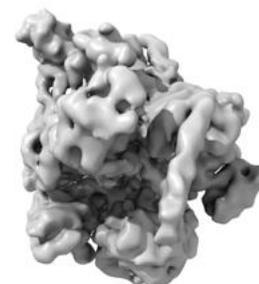
6.5   Orthogonal surface views   ⓘ

6.5.1   Primary map

| X | Y | Z |

The images above show the 3D surface view of the map at the recommended contour level 0.0201. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.
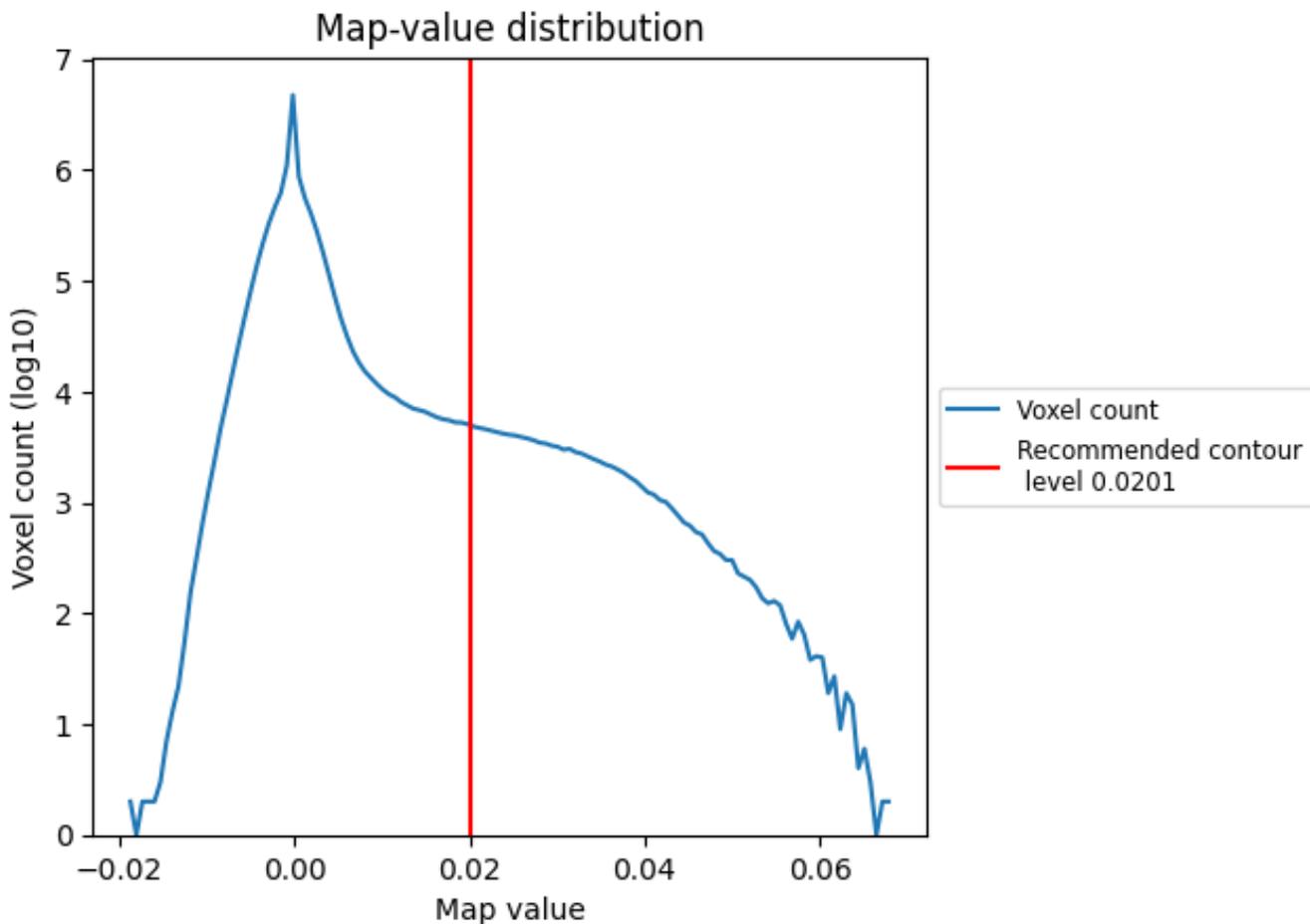
6.6   Mask visualisation   ⓘ

This section was not generated. No masks/segmentation were deposited.
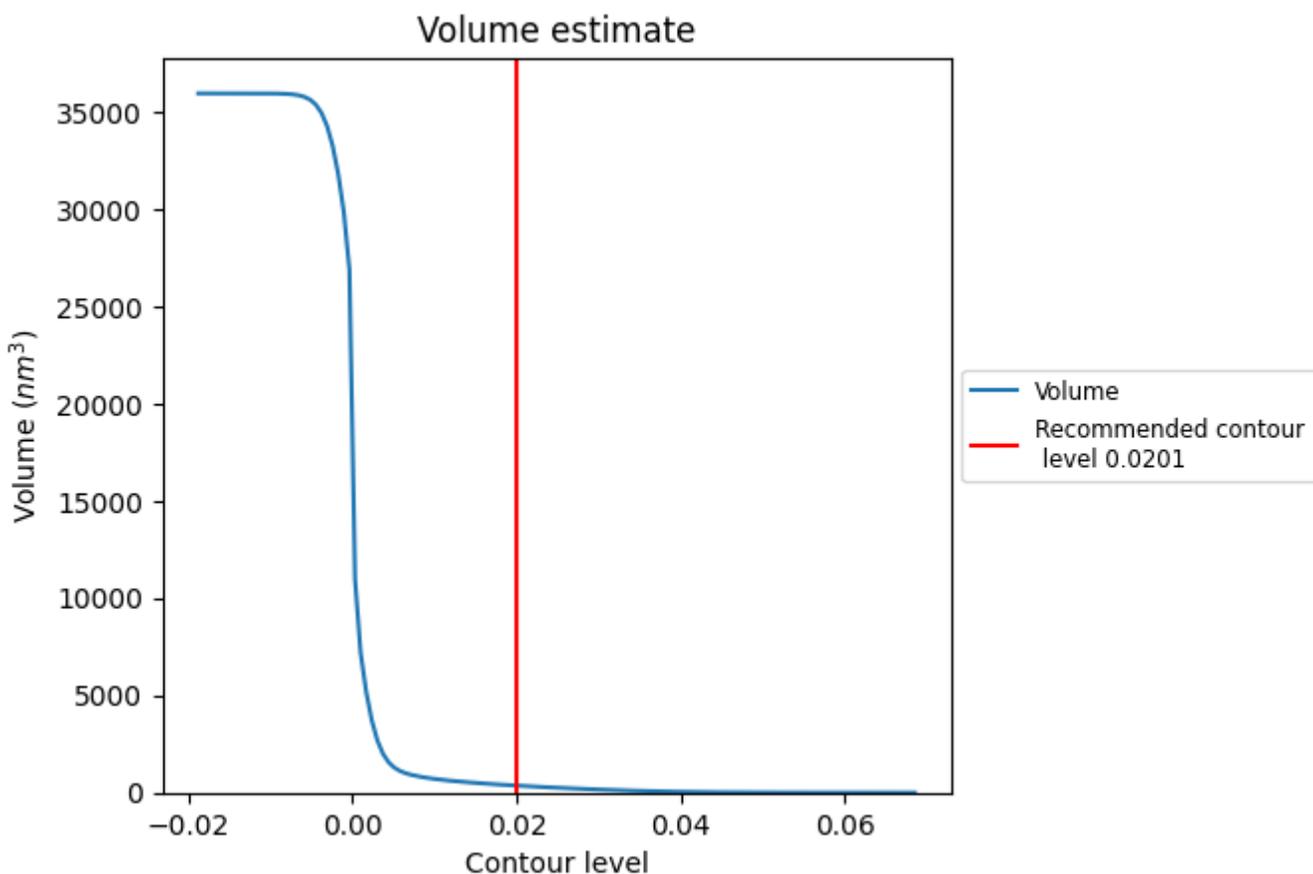
7 Map analysis (i)

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 ⓘ

The volume at the recommended contour level is 358 nm^3; this corresponds to an approximate mass of 323 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　ⓘ
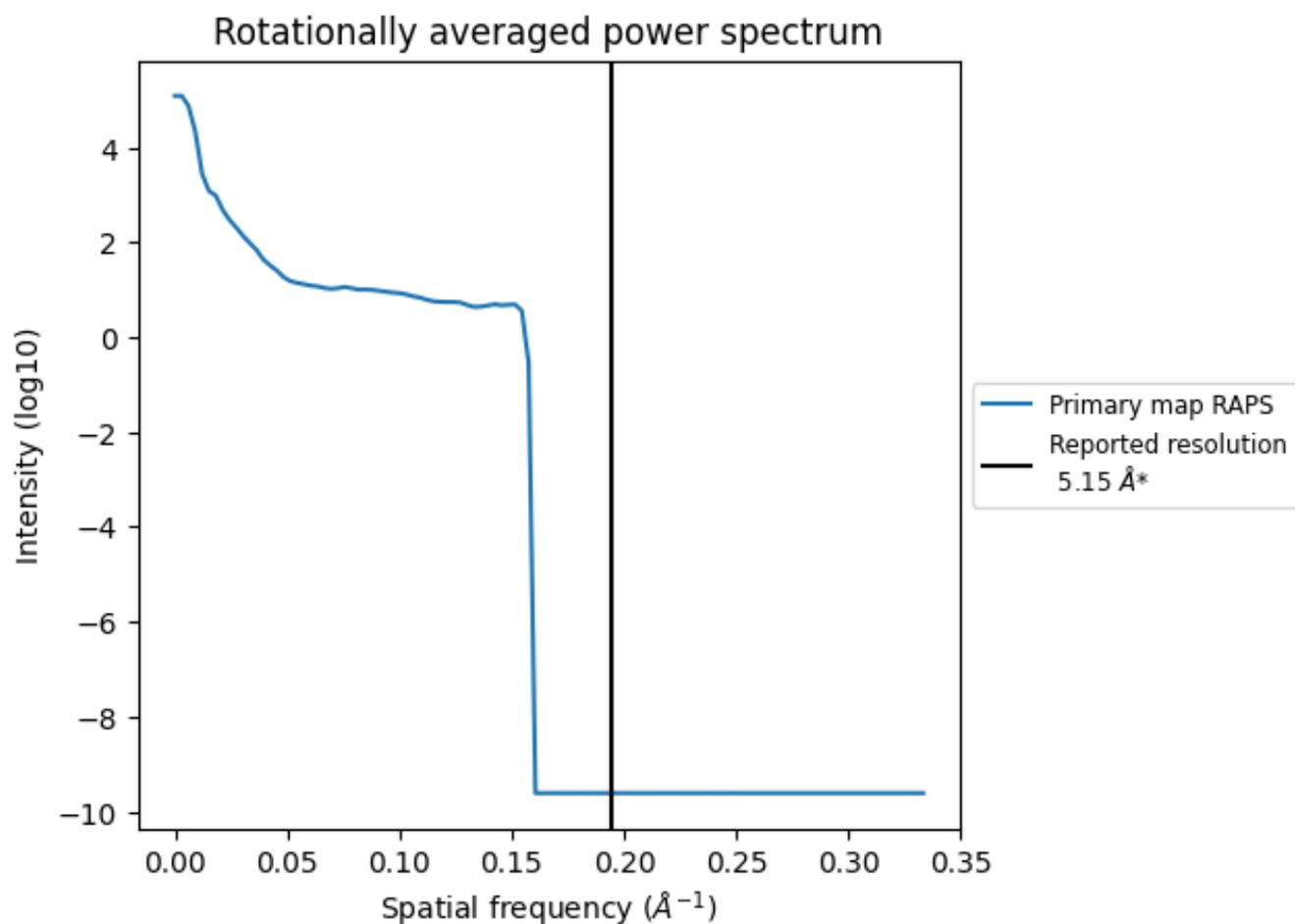
*Reported resolution corresponds to spatial frequency of 0.194 Å^{-1}
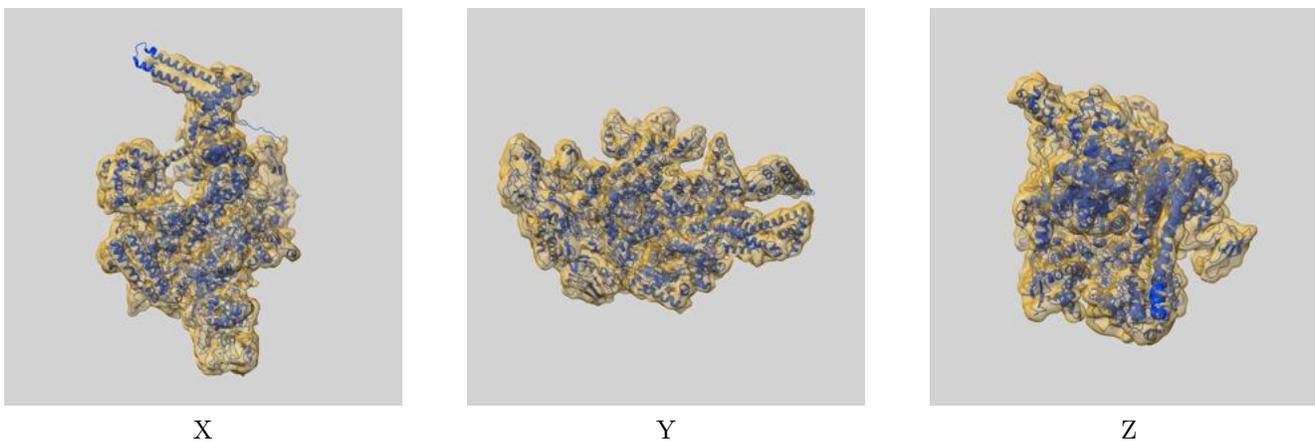
8 Fourier-Shell correlation (i)

This section was not generated. No FSC curve or half-maps provided.

9   Map-model fit ⓘ

This section contains information regarding the fit between EMDB map EMD-7323 and PDB model 6C06. Per-residue inclusion information can be found in section 3 on page 7.

9.1   Map-model overlay ⓘ

X   Y   Z

The images above show the 3D surface view of the map at the recommended contour level 0.0201 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 ⓘ
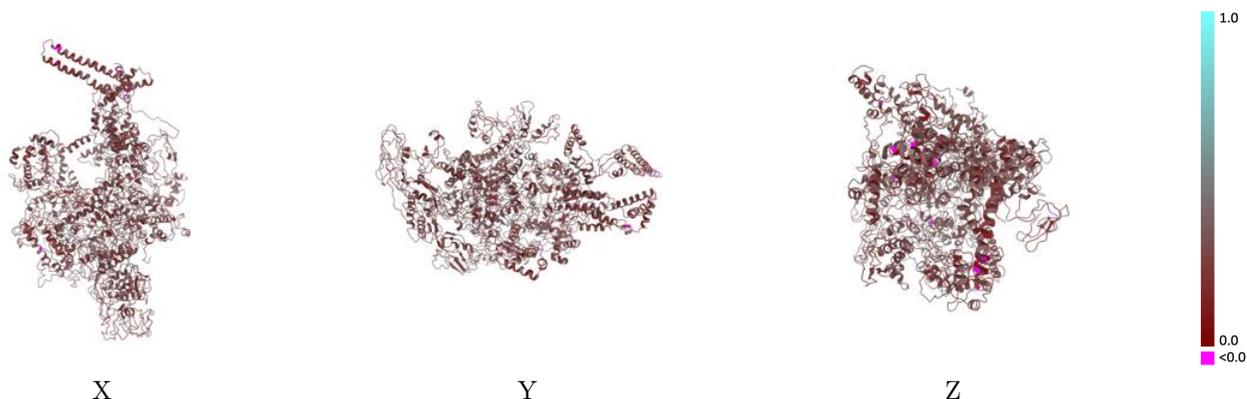
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 ⓘ
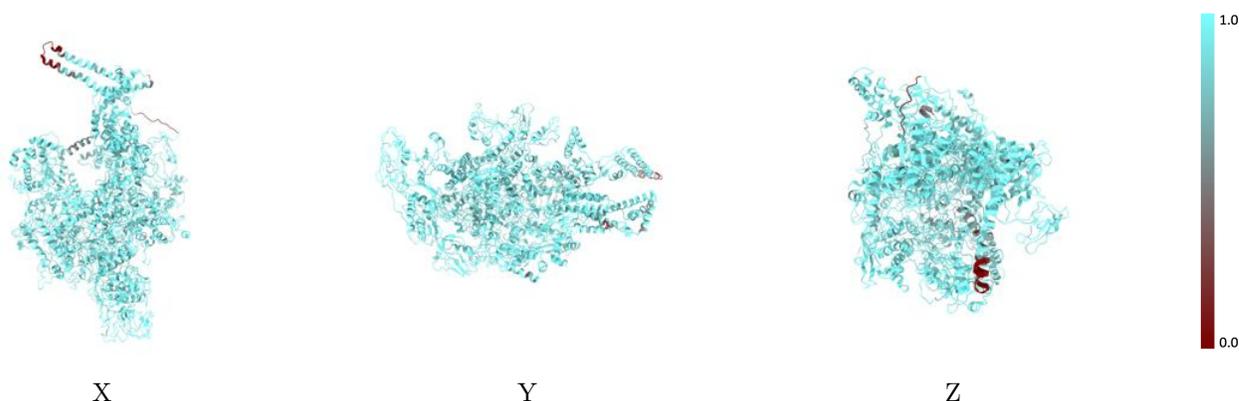
The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.0201).

WORLDWIDE
wwPDB
PROTEIN DATA BANK
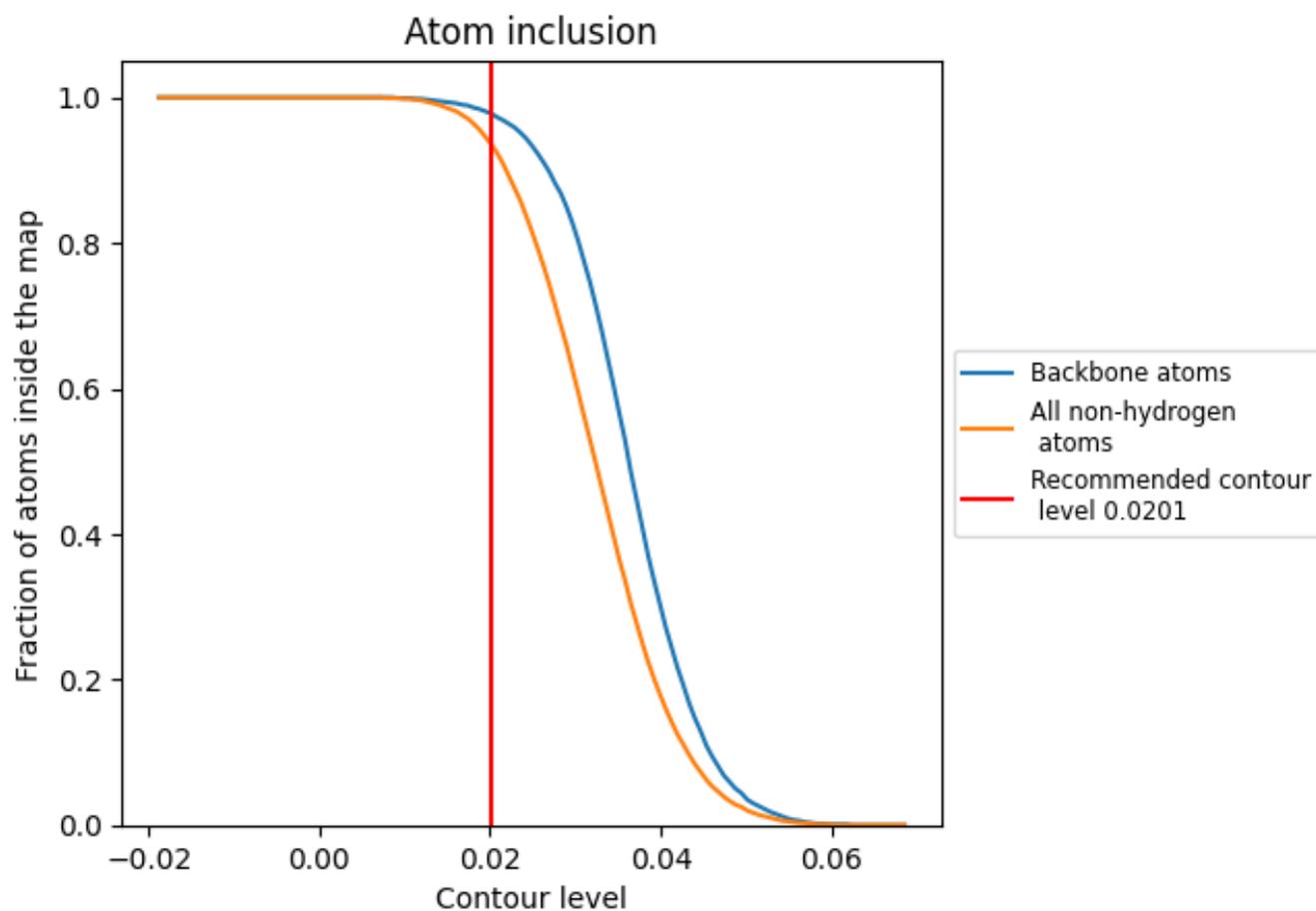
9.4   Atom inclusion ⓘ

At the recommended contour level, 98% of all backbone atoms, 94% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary ⓘ

The table lists the average atom inclusion at the recommended contour level (0.0201) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.9360	0.2870
A	0.9610	0.2950
B	0.9660	0.2850
C	0.9500	0.2920
D	0.9300	0.2860
E	0.9430	0.2960
F	0.9060	0.2730
J	0.8620	0.2810