



wwPDB EM Validation Summary Report ⓘ

Mar 11, 2024 – 10:06 AM EDT

PDB ID : 6UPN
EMDB ID : EMD-20842
Title : Endophilin B1 helical scaffold
Authors : Bhatt, V.S.; Sundborger-Lunna, A.C.
Deposited on : 2019-10-17
Resolution : 10.00 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 ⓘ 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:

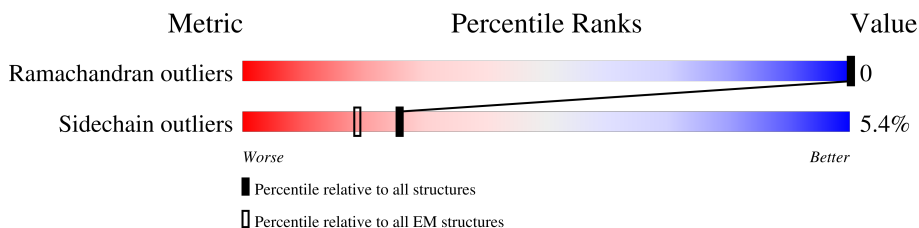
EMDB validation analysis : 0.0.1.dev70
MolProbity : 4.02b-467
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.36

1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:
ELECTRON MICROSCOPY

The reported resolution of this entry is 10.00 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.














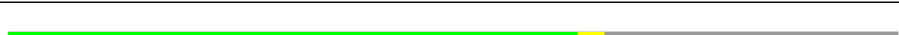

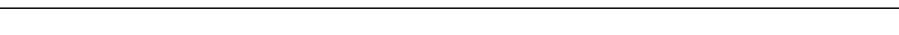
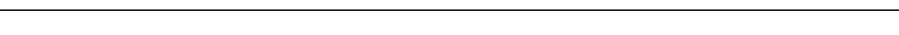
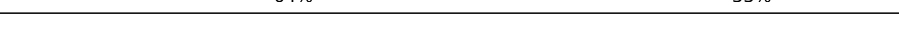

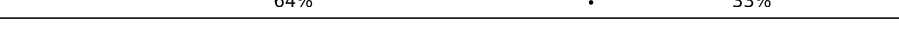







Metric	Whole archive (#Entries)	EM structures (#Entries)
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826

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 $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion $< 40\%$). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	365	64% 33%
1	B	365	64% 33%
1	C	365	64% 33%
1	D	365	64% 33%
1	E	365	64% 33%
1	F	365	64% 33%
1	G	365	64% 33%
1	H	365	64% 33%
1	I	365	64% 33%

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Mol	Chain	Length	Quality of chain
1	J	365	
1	K	365	
1	L	365	
1	M	365	
1	N	365	
1	O	365	
1	P	365	
1	Q	365	
1	R	365	
1	S	365	
1	T	365	
1	V	365	
1	W	365	
1	X	365	
1	Y	365	
1	a	365	
1	b	365	
1	c	365	
1	d	365	
1	e	365	
1	f	365	
1	g	365	
1	h	365	
1	i	365	
1	j	365	

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Mol	Chain	Length	Quality of chain
1	k	365	
1	l	365	
1	m	365	
1	n	365	
1	o	365	
1	p	365	
1	q	365	
1	r	365	
1	s	365	
1	t	365	
1	v	365	
1	w	365	
1	x	365	
1	y	365	

2 Entry composition [i](#)

There is only 1 type of molecule in this entry. The entry contains 94224 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 Endophilin-B1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	245	1963	1234	342	379	8	0	0
1	B	245	1963	1234	342	379	8	0	0
1	C	245	1963	1234	342	379	8	0	0
1	D	245	1963	1234	342	379	8	0	0
1	E	245	1963	1234	342	379	8	0	0
1	F	245	1963	1234	342	379	8	0	0
1	G	245	1963	1234	342	379	8	0	0
1	H	245	1963	1234	342	379	8	0	0
1	I	245	1963	1234	342	379	8	0	0
1	J	245	1963	1234	342	379	8	0	0
1	K	245	1963	1234	342	379	8	0	0
1	L	245	1963	1234	342	379	8	0	0
1	M	245	1963	1234	342	379	8	0	0
1	N	245	1963	1234	342	379	8	0	0
1	O	245	1963	1234	342	379	8	0	0
1	P	245	1963	1234	342	379	8	0	0
1	Q	245	1963	1234	342	379	8	0	0

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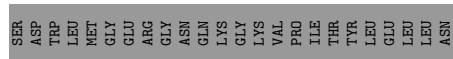
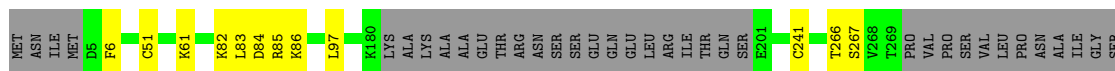
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Mol	Chain	Residues	Atoms					AltConf	Trace
1	R	245	Total 1963	C 1234	N 342	O 379	S 8	0	0
1	S	245	Total 1963	C 1234	N 342	O 379	S 8	0	0
1	T	245	Total 1963	C 1234	N 342	O 379	S 8	0	0
1	V	245	Total 1963	C 1234	N 342	O 379	S 8	0	0
1	W	245	Total 1963	C 1234	N 342	O 379	S 8	0	0
1	X	245	Total 1963	C 1234	N 342	O 379	S 8	0	0
1	Y	245	Total 1963	C 1234	N 342	O 379	S 8	0	0
1	a	245	Total 1963	C 1234	N 342	O 379	S 8	0	0
1	b	245	Total 1963	C 1234	N 342	O 379	S 8	0	0
1	c	245	Total 1963	C 1234	N 342	O 379	S 8	0	0
1	d	245	Total 1963	C 1234	N 342	O 379	S 8	0	0
1	e	245	Total 1963	C 1234	N 342	O 379	S 8	0	0
1	f	245	Total 1963	C 1234	N 342	O 379	S 8	0	0
1	g	245	Total 1963	C 1234	N 342	O 379	S 8	0	0
1	h	245	Total 1963	C 1234	N 342	O 379	S 8	0	0
1	i	245	Total 1963	C 1234	N 342	O 379	S 8	0	0
1	j	245	Total 1963	C 1234	N 342	O 379	S 8	0	0
1	k	245	Total 1963	C 1234	N 342	O 379	S 8	0	0
1	l	245	Total 1963	C 1234	N 342	O 379	S 8	0	0
1	m	245	Total 1963	C 1234	N 342	O 379	S 8	0	0
1	n	245	Total 1963	C 1234	N 342	O 379	S 8	0	0

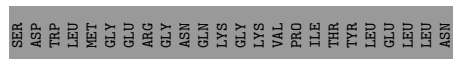
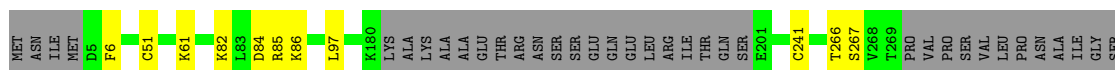
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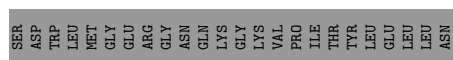
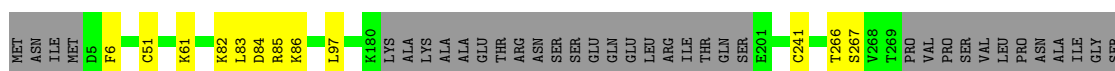
Mol	Chain	Residues	Atoms					AltConf	Trace
1	o	245	Total 1963	C 1234	N 342	O 379	S 8	0	0
1	p	245	Total 1963	C 1234	N 342	O 379	S 8	0	0
1	q	245	Total 1963	C 1234	N 342	O 379	S 8	0	0
1	r	245	Total 1963	C 1234	N 342	O 379	S 8	0	0
1	s	245	Total 1963	C 1234	N 342	O 379	S 8	0	0
1	t	245	Total 1963	C 1234	N 342	O 379	S 8	0	0
1	v	245	Total 1963	C 1234	N 342	O 379	S 8	0	0
1	w	245	Total 1963	C 1234	N 342	O 379	S 8	0	0
1	x	245	Total 1963	C 1234	N 342	O 379	S 8	0	0
1	y	245	Total 1963	C 1234	N 342	O 379	S 8	0	0



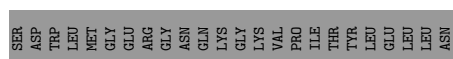
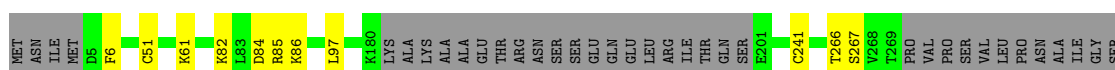
● Molecule 1: Endophilin-B1



● Molecule 1: Endophilin-B1



● Molecule 1: Endophilin-B1



● Molecule 1: Endophilin-B1



SER ASP TRP LEU MET MET MET GLY GLU ARG GLY GLN ASN GLN LYS LYS LYS VAL PRO ASN ILE THR TYR LEU LEU LEU LEU ASN

● Molecule 1: Endophilin-B1



MET ASN ILE MET D5 F6 C51 K61 K82 L83 D84 R85 R86 L97 K180 LYS ALA LYS ALA ALA GLU THR ARG LYS ASN ARG SER SER SER LEU GLN TYR E201 C241 T266 S267 V268 T269 PRO VAL PRO VAL PRO VAL PHE LEU SER PRO ASN VAL ALA ILE MET ASP

SER ALA MET ALA MET SER THR SER GLY LEU VAL ILE THR SER PRO SER ASN ILE THR ASP LEU LYS CYS GLY SER ARG LYS ALA VAL LEU TYR ASP ARG ALA THR SER THR LEU LEU LEU LEU ASN

SER ASP TRP LEU MET MET MET GLY GLU ARG GLY GLN ASN GLN LYS LYS VAL PRO ASN ILE THR TYR LEU LEU LEU ASN

● Molecule 1: Endophilin-B1



MET ASN MET MET F6 C51 K61 K82 L83 D84 R85 R86 L97 K180 LYS ALA LYS ALA ALA GLU THR ARG LYS ASN ARG SER SER SER LEU GLN TYR E201 C241 T266 S267 V268 T269 PRO VAL PRO VAL PRO VAL PHE LEU SER PRO ASN VAL ALA ILE MET ASP

SER ALA MET ALA MET SER THR SER GLY LEU VAL ILE THR SER PRO SER ASN ILE THR ASP LEU LYS CYS GLY SER ARG LYS ALA VAL LEU TYR ASP ARG ALA THR SER THR LEU LEU LEU LEU ASN

SER ASP TRP LEU MET MET MET GLY GLU ARG GLY GLN ASN GLN LYS LYS VAL PRO ASN ILE THR TYR LEU LEU LEU ASN

● Molecule 1: Endophilin-B1



MET ASN ILE MET MET MET F6 C51 K61 K82 L83 D84 R85 R86 L97 K180 LYS ALA LYS ALA ALA GLU THR ARG LYS ASN ARG SER SER SER LEU GLN TYR E201 C241 T266 S267 V268 T269 PRO VAL PRO VAL PRO VAL PHE LEU SER PRO ASN VAL ALA ILE MET ASP

SER ALA MET ALA MET SER THR SER GLY LEU VAL ILE THR SER PRO SER ASN ILE THR ASP LEU LYS CYS GLY SER ARG LYS ALA VAL LEU TYR ASP ARG ALA THR SER THR LEU LEU LEU LEU ASN

SER ASP TRP LEU MET MET MET GLY GLU ARG GLY GLN ASN GLN LYS LYS VAL PRO ASN ILE THR TYR LEU LEU LEU ASN

● Molecule 1: Endophilin-B1



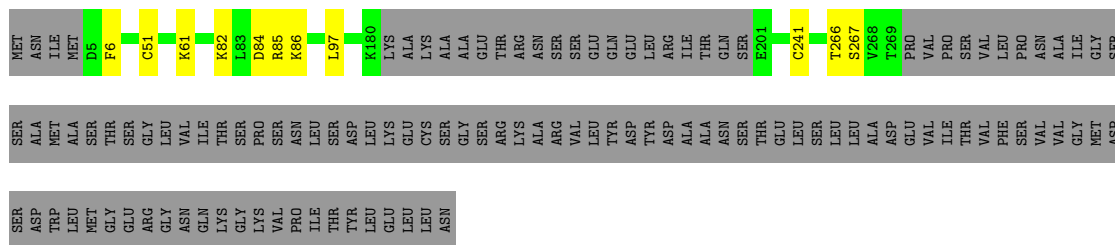
MET ASN MET MET F6 C51 K61 K82 L83 D84 R85 R86 L97 K180 LYS ALA LYS ALA ALA GLU THR ARG LYS ASN ARG SER SER SER LEU GLN TYR E201 C241 T266 S267 V268 T269 PRO VAL PRO VAL PRO VAL PHE LEU SER PRO ASN VAL ALA ILE MET ASP

SER ALA MET ALA MET SER THR SER GLY LEU VAL ILE THR SER PRO SER ASN ILE THR ASP LEU LYS CYS GLY SER ARG LYS ALA VAL LEU TYR ASP ARG ALA THR SER THR LEU LEU LEU LEU ASN

SER ASP TRP LEU MET MET MET GLY GLU ARG GLY GLN ASN GLN LYS LYS VAL PRO ASN ILE THR TYR LEU LEU LEU ASN

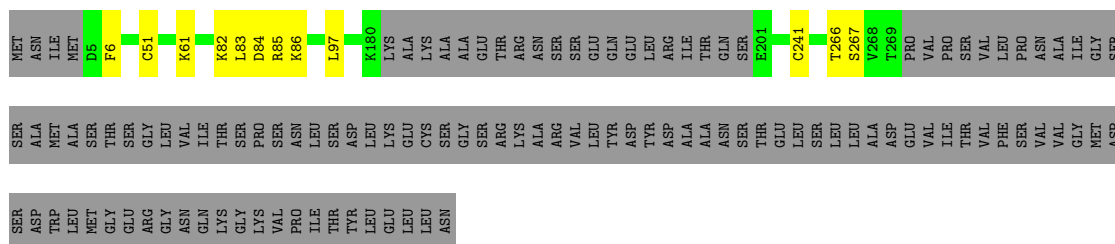
- Molecule 1: Endophilin-B1

Chain V: 64% 33%



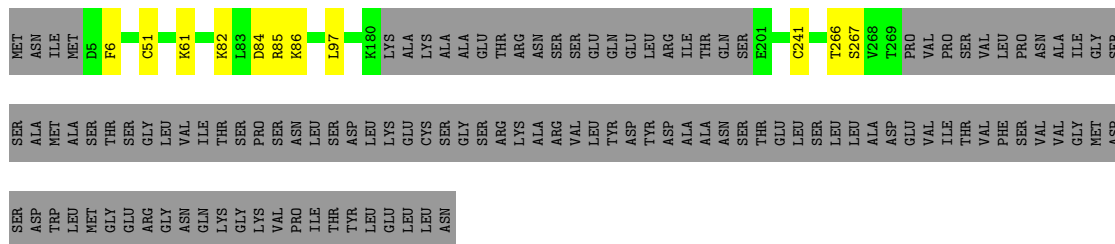
- Molecule 1: Endophilin-B1

Chain W: 64% 33%



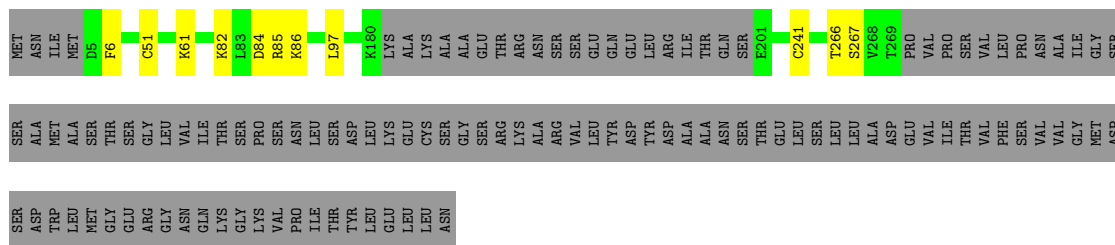
- Molecule 1: Endophilin-B1

Chain X: 64% 33%

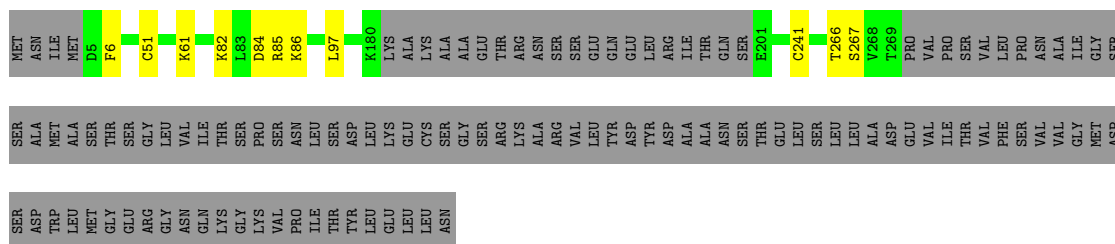


- Molecule 1: Endophilin-B1

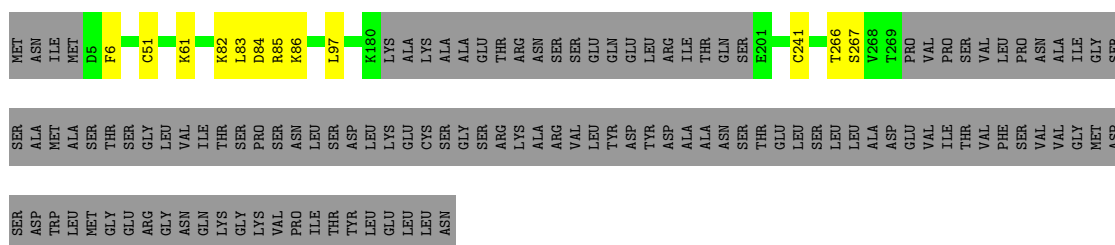
Chain Y: 64% 33%



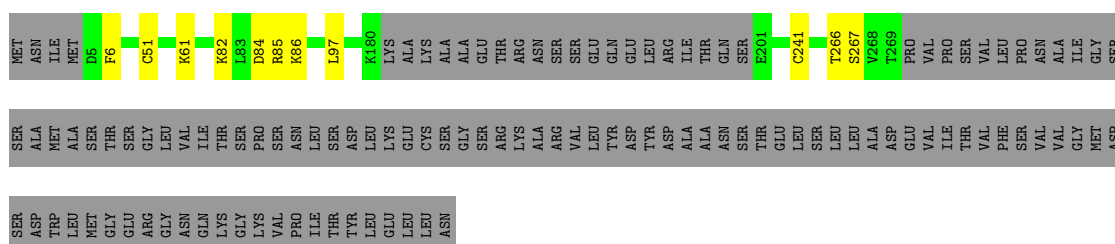
- Molecule 1: Endophilin-B1



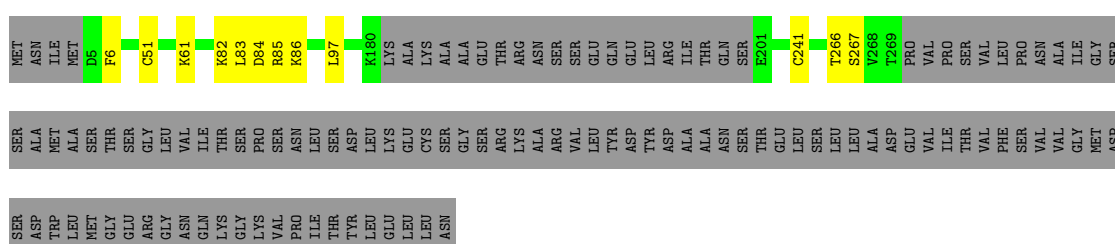
● Molecule 1: Endophilin-B1



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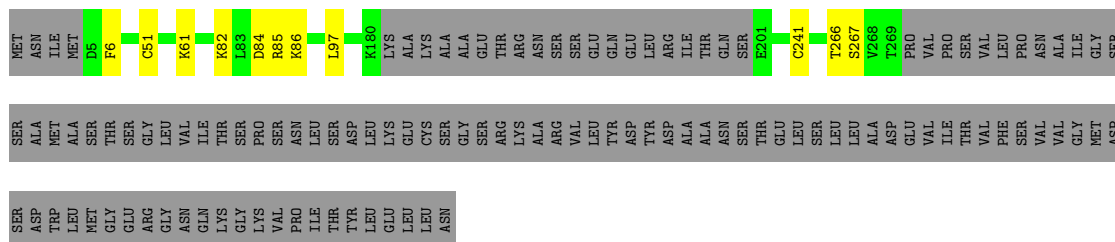


● Molecule 1: Endophilin-B1

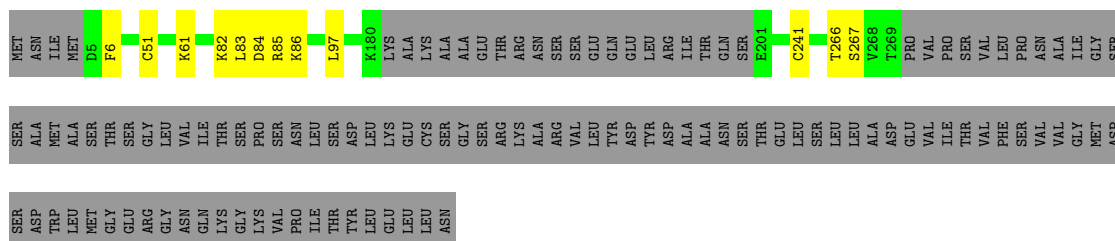


● Molecule 1: Endophilin-B1

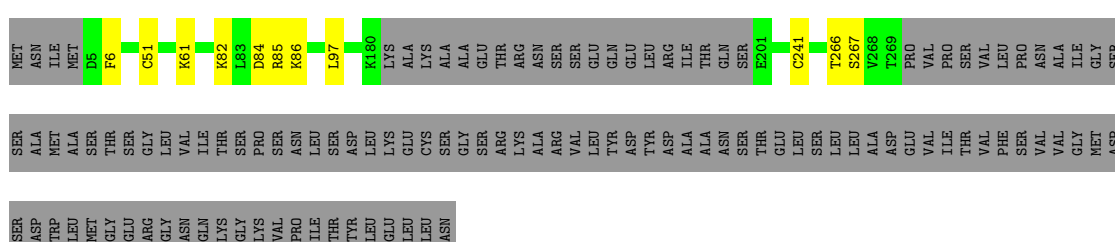




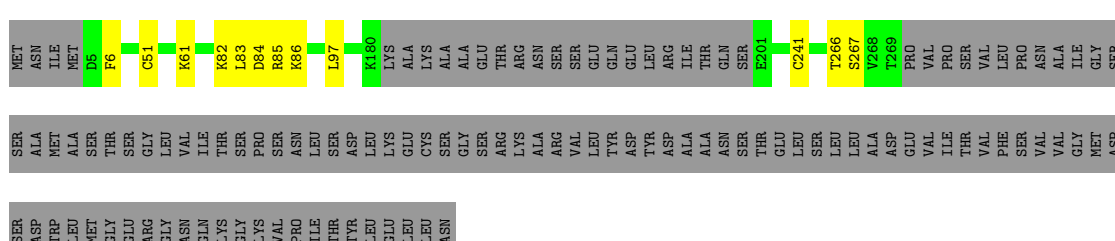
• Molecule 1: Endophilin-B1



• Molecule 1: Endophilin-B1



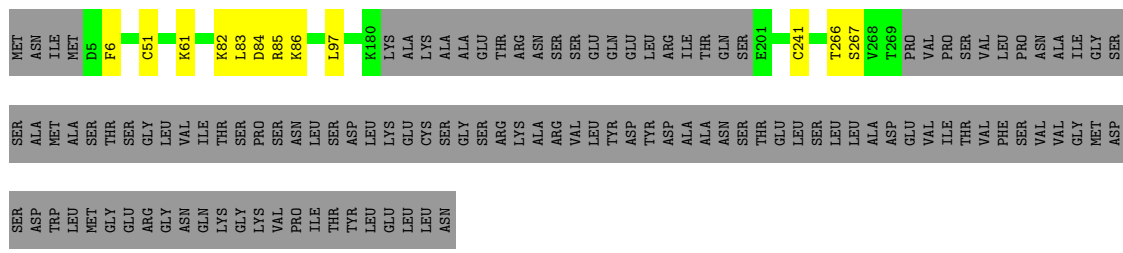
• Molecule 1: Endophilin-B1



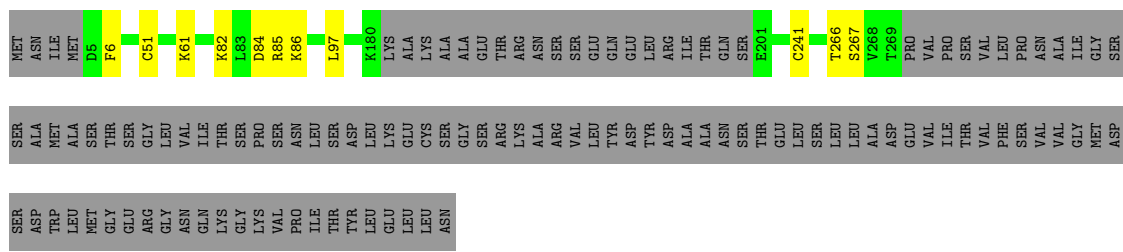
• Molecule 1: Endophilin-B1



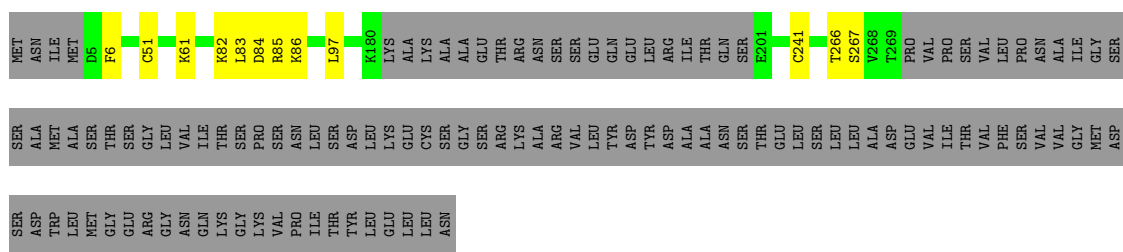
● Molecule 1: Endophilin-B1



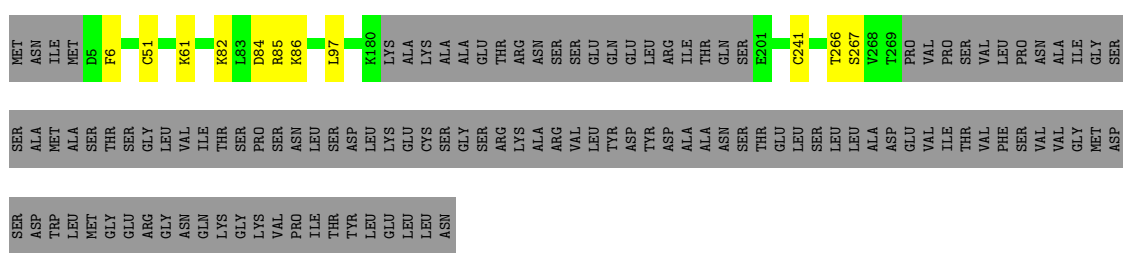
● Molecule 1: Endophilin-B1



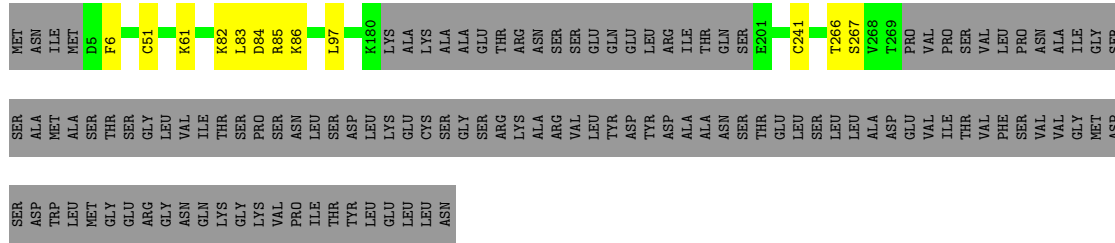
● Molecule 1: Endophilin-B1



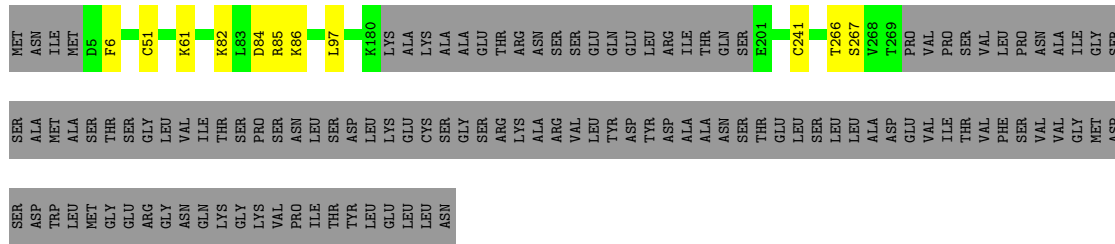
● Molecule 1: Endophilin-B1



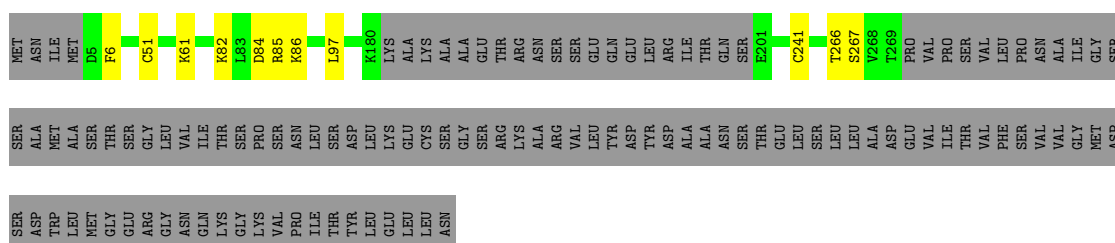
● Molecule 1: Endophilin-B1



• Molecule 1: Endophilin-B1



• Molecule 1: Endophilin-B1



4 Experimental information

Property	Value	Source
EM reconstruction method	HELICAL	Depositor
Imposed symmetry	HELICAL, twist=59.1°, rise=17.8 Å, axial sym=C1	Depositor
Number of segments used	21197	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{Å}^2$)	30	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	FEI FALCON III (4k x 4k)	Depositor
Maximum map value	0.062	Depositor
Minimum map value	-0.036	Depositor
Average map value	0.004	Depositor
Map value standard deviation	0.013	Depositor
Recommended contour level	0.01	Depositor
Map size (Å)	490.9588, 490.9588, 490.9588	wwPDB
Map dimensions	214, 214, 214	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	2.2942, 2.2942, 2.2942	Depositor

5 Model quality [i](#)

5.1 Standard geometry [i](#)

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	A	0.35	0/1993	0.58	0/2685
1	B	0.36	0/1993	0.58	0/2685
1	C	0.35	0/1993	0.58	0/2685
1	D	0.36	0/1993	0.58	0/2685
1	E	0.35	0/1993	0.58	0/2685
1	F	0.36	0/1993	0.59	0/2685
1	G	0.35	0/1993	0.58	0/2685
1	H	0.36	0/1993	0.58	0/2685
1	I	0.35	0/1993	0.58	0/2685
1	J	0.36	0/1993	0.58	0/2685
1	K	0.35	0/1993	0.58	0/2685
1	L	0.36	0/1993	0.59	0/2685
1	M	0.35	0/1993	0.58	0/2685
1	N	0.36	0/1993	0.58	0/2685
1	O	0.35	0/1993	0.58	0/2685
1	P	0.36	0/1993	0.59	0/2685
1	Q	0.35	0/1993	0.58	0/2685
1	R	0.36	0/1993	0.59	0/2685
1	S	0.35	0/1993	0.58	0/2685
1	T	0.36	0/1993	0.58	0/2685
1	V	0.35	0/1993	0.58	0/2685
1	W	0.36	0/1993	0.59	0/2685
1	X	0.35	0/1993	0.58	0/2685
1	Y	0.36	0/1993	0.59	0/2685
1	a	0.35	0/1993	0.58	0/2685
1	b	0.36	0/1993	0.58	0/2685
1	c	0.35	0/1993	0.58	0/2685
1	d	0.36	0/1993	0.59	0/2685
1	e	0.35	0/1993	0.58	0/2685
1	f	0.36	0/1993	0.59	0/2685
1	g	0.35	0/1993	0.58	0/2685
1	h	0.36	0/1993	0.58	0/2685
1	i	0.35	0/1993	0.58	0/2685
1	j	0.36	0/1993	0.59	0/2685

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	k	0.35	0/1993	0.59	0/2685
1	l	0.36	0/1993	0.59	0/2685
1	m	0.35	0/1993	0.58	0/2685
1	n	0.36	0/1993	0.58	0/2685
1	o	0.35	0/1993	0.58	0/2685
1	p	0.36	0/1993	0.59	0/2685
1	q	0.35	0/1993	0.58	0/2685
1	r	0.36	0/1993	0.58	0/2685
1	s	0.35	0/1993	0.58	0/2685
1	t	0.36	0/1993	0.58	0/2685
1	v	0.35	0/1993	0.58	0/2685
1	w	0.36	0/1993	0.59	0/2685
1	x	0.35	0/1993	0.58	0/2685
1	y	0.36	0/1993	0.59	0/2685
All	All	0.35	0/95664	0.58	0/128880

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](#)

Due to software issues we are unable to calculate clashes - this section is therefore empty.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	241/365 (66%)	215 (89%)	26 (11%)	0	100	100
1	B	241/365 (66%)	213 (88%)	28 (12%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	C	241/365 (66%)	215 (89%)	26 (11%)	0	100	100
1	D	241/365 (66%)	213 (88%)	28 (12%)	0	100	100
1	E	241/365 (66%)	215 (89%)	26 (11%)	0	100	100
1	F	241/365 (66%)	213 (88%)	28 (12%)	0	100	100
1	G	241/365 (66%)	215 (89%)	26 (11%)	0	100	100
1	H	241/365 (66%)	213 (88%)	28 (12%)	0	100	100
1	I	241/365 (66%)	215 (89%)	26 (11%)	0	100	100
1	J	241/365 (66%)	213 (88%)	28 (12%)	0	100	100
1	K	241/365 (66%)	215 (89%)	26 (11%)	0	100	100
1	L	241/365 (66%)	213 (88%)	28 (12%)	0	100	100
1	M	241/365 (66%)	215 (89%)	26 (11%)	0	100	100
1	N	241/365 (66%)	213 (88%)	28 (12%)	0	100	100
1	O	241/365 (66%)	215 (89%)	26 (11%)	0	100	100
1	P	241/365 (66%)	213 (88%)	28 (12%)	0	100	100
1	Q	241/365 (66%)	215 (89%)	26 (11%)	0	100	100
1	R	241/365 (66%)	213 (88%)	28 (12%)	0	100	100
1	S	241/365 (66%)	215 (89%)	26 (11%)	0	100	100
1	T	241/365 (66%)	213 (88%)	28 (12%)	0	100	100
1	V	241/365 (66%)	215 (89%)	26 (11%)	0	100	100
1	W	241/365 (66%)	213 (88%)	28 (12%)	0	100	100
1	X	241/365 (66%)	215 (89%)	26 (11%)	0	100	100
1	Y	241/365 (66%)	213 (88%)	28 (12%)	0	100	100
1	a	241/365 (66%)	215 (89%)	26 (11%)	0	100	100
1	b	241/365 (66%)	213 (88%)	28 (12%)	0	100	100
1	c	241/365 (66%)	215 (89%)	26 (11%)	0	100	100
1	d	241/365 (66%)	213 (88%)	28 (12%)	0	100	100
1	e	241/365 (66%)	215 (89%)	26 (11%)	0	100	100
1	f	241/365 (66%)	213 (88%)	28 (12%)	0	100	100
1	g	241/365 (66%)	215 (89%)	26 (11%)	0	100	100
1	h	241/365 (66%)	213 (88%)	28 (12%)	0	100	100
1	i	241/365 (66%)	215 (89%)	26 (11%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	j	241/365 (66%)	213 (88%)	28 (12%)	0	100	100
1	k	241/365 (66%)	215 (89%)	26 (11%)	0	100	100
1	l	241/365 (66%)	213 (88%)	28 (12%)	0	100	100
1	m	241/365 (66%)	215 (89%)	26 (11%)	0	100	100
1	n	241/365 (66%)	213 (88%)	28 (12%)	0	100	100
1	o	241/365 (66%)	215 (89%)	26 (11%)	0	100	100
1	p	241/365 (66%)	213 (88%)	28 (12%)	0	100	100
1	q	241/365 (66%)	215 (89%)	26 (11%)	0	100	100
1	r	241/365 (66%)	213 (88%)	28 (12%)	0	100	100
1	s	241/365 (66%)	215 (89%)	26 (11%)	0	100	100
1	t	241/365 (66%)	213 (88%)	28 (12%)	0	100	100
1	v	241/365 (66%)	215 (89%)	26 (11%)	0	100	100
1	w	241/365 (66%)	213 (88%)	28 (12%)	0	100	100
1	x	241/365 (66%)	215 (89%)	26 (11%)	0	100	100
1	y	241/365 (66%)	213 (88%)	28 (12%)	0	100	100
All	All	11568/17520 (66%)	10272 (89%)	1296 (11%)	0	100	100

There are no Ramachandran outliers to report.

5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	212/315 (67%)	201 (95%)	11 (5%)	23	48
1	B	212/315 (67%)	200 (94%)	12 (6%)	20	45
1	C	212/315 (67%)	201 (95%)	11 (5%)	23	48
1	D	212/315 (67%)	200 (94%)	12 (6%)	20	45
1	E	212/315 (67%)	201 (95%)	11 (5%)	23	48
1	F	212/315 (67%)	200 (94%)	12 (6%)	20	45

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	G	212/315 (67%)	201 (95%)	11 (5%)	23	48
1	H	212/315 (67%)	200 (94%)	12 (6%)	20	45
1	I	212/315 (67%)	201 (95%)	11 (5%)	23	48
1	J	212/315 (67%)	200 (94%)	12 (6%)	20	45
1	K	212/315 (67%)	201 (95%)	11 (5%)	23	48
1	L	212/315 (67%)	200 (94%)	12 (6%)	20	45
1	M	212/315 (67%)	201 (95%)	11 (5%)	23	48
1	N	212/315 (67%)	200 (94%)	12 (6%)	20	45
1	O	212/315 (67%)	201 (95%)	11 (5%)	23	48
1	P	212/315 (67%)	200 (94%)	12 (6%)	20	45
1	Q	212/315 (67%)	201 (95%)	11 (5%)	23	48
1	R	212/315 (67%)	200 (94%)	12 (6%)	20	45
1	S	212/315 (67%)	201 (95%)	11 (5%)	23	48
1	T	212/315 (67%)	200 (94%)	12 (6%)	20	45
1	V	212/315 (67%)	201 (95%)	11 (5%)	23	48
1	W	212/315 (67%)	200 (94%)	12 (6%)	20	45
1	X	212/315 (67%)	201 (95%)	11 (5%)	23	48
1	Y	212/315 (67%)	201 (95%)	11 (5%)	23	48
1	a	212/315 (67%)	201 (95%)	11 (5%)	23	48
1	b	212/315 (67%)	200 (94%)	12 (6%)	20	45
1	c	212/315 (67%)	201 (95%)	11 (5%)	23	48
1	d	212/315 (67%)	200 (94%)	12 (6%)	20	45
1	e	212/315 (67%)	201 (95%)	11 (5%)	23	48
1	f	212/315 (67%)	200 (94%)	12 (6%)	20	45
1	g	212/315 (67%)	201 (95%)	11 (5%)	23	48
1	h	212/315 (67%)	200 (94%)	12 (6%)	20	45
1	i	212/315 (67%)	201 (95%)	11 (5%)	23	48
1	j	212/315 (67%)	200 (94%)	12 (6%)	20	45
1	k	212/315 (67%)	201 (95%)	11 (5%)	23	48
1	l	212/315 (67%)	200 (94%)	12 (6%)	20	45
1	m	212/315 (67%)	201 (95%)	11 (5%)	23	48

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	n	212/315 (67%)	201 (95%)	11 (5%)	23	48
1	o	212/315 (67%)	201 (95%)	11 (5%)	23	48
1	p	212/315 (67%)	200 (94%)	12 (6%)	20	45
1	q	212/315 (67%)	201 (95%)	11 (5%)	23	48
1	r	212/315 (67%)	200 (94%)	12 (6%)	20	45
1	s	212/315 (67%)	201 (95%)	11 (5%)	23	48
1	t	212/315 (67%)	200 (94%)	12 (6%)	20	45
1	v	212/315 (67%)	201 (95%)	11 (5%)	23	48
1	w	212/315 (67%)	200 (94%)	12 (6%)	20	45
1	x	212/315 (67%)	201 (95%)	11 (5%)	23	48
1	y	212/315 (67%)	201 (95%)	11 (5%)	23	48
All	All	10176/15120 (67%)	9627 (95%)	549 (5%)	26	47

5 of 549 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	q	85	ARG
1	r	86	LYS
1	q	84	ASP
1	w	84	ASP
1	Q	267	SER

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 169 such sidechains are listed below:

Mol	Chain	Res	Type
1	i	116	ASN
1	q	72	ASN
1	j	116	ASN
1	m	251	GLN
1	s	72	ASN

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.

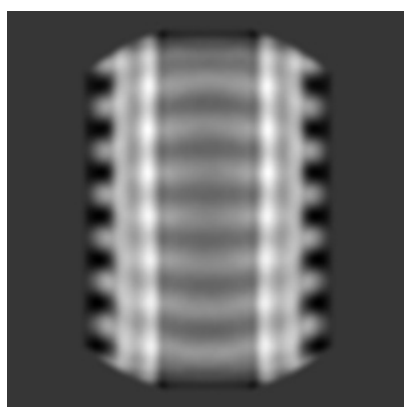
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-20842. These allow visual inspection of the internal detail of the map and identification of artifacts.

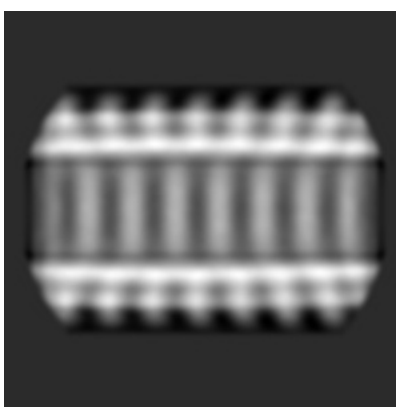
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

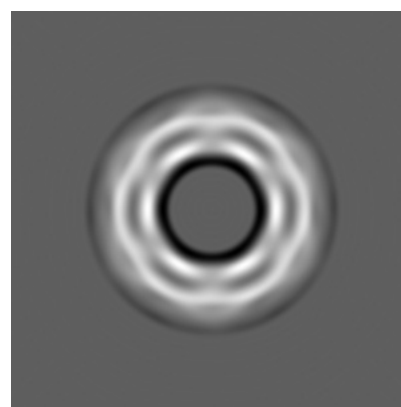
6.1.1 Primary map



X



Y



Z

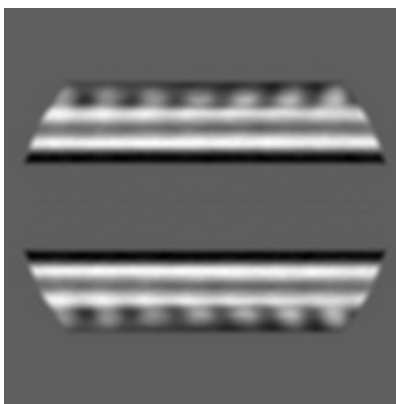
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

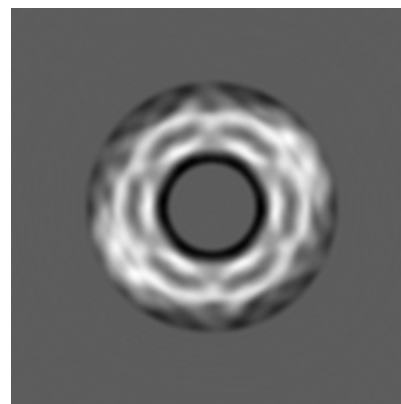
6.2.1 Primary map



X Index: 107



Y Index: 107

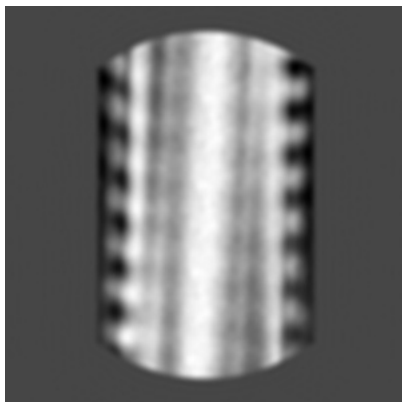


Z Index: 107

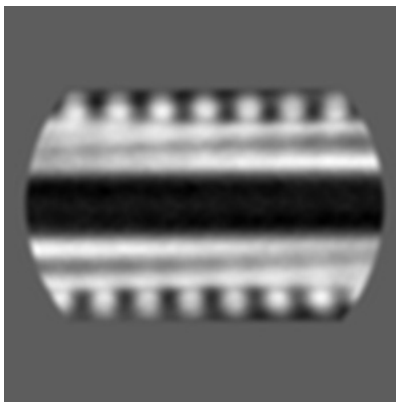
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

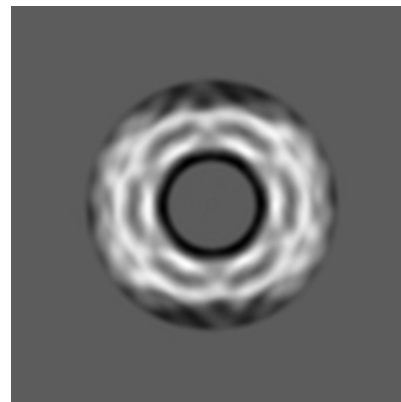
6.3.1 Primary map



X Index: 73



Y Index: 132

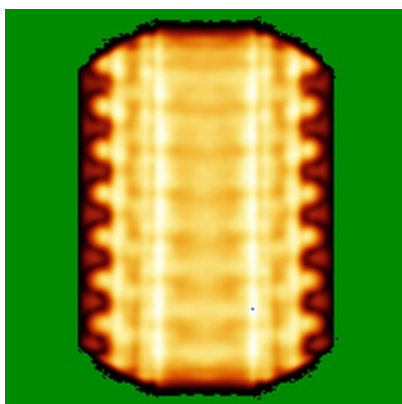


Z Index: 80

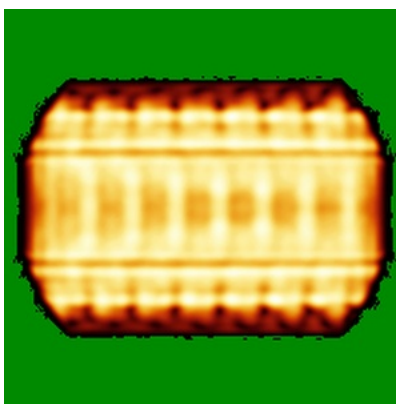
The images above show the largest variance slices of the map in three orthogonal directions.

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

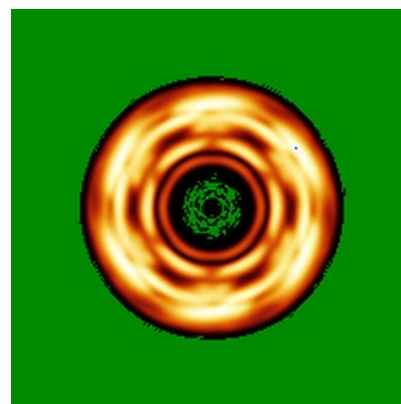
6.4.1 Primary map



X



Y

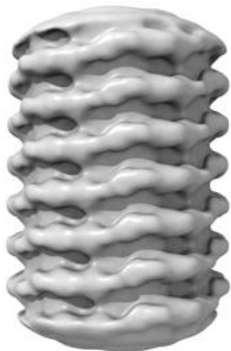


Z

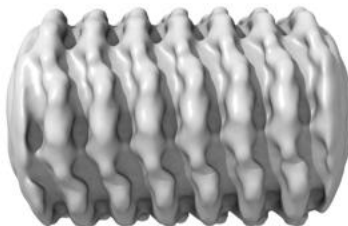
The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

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 0.01. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

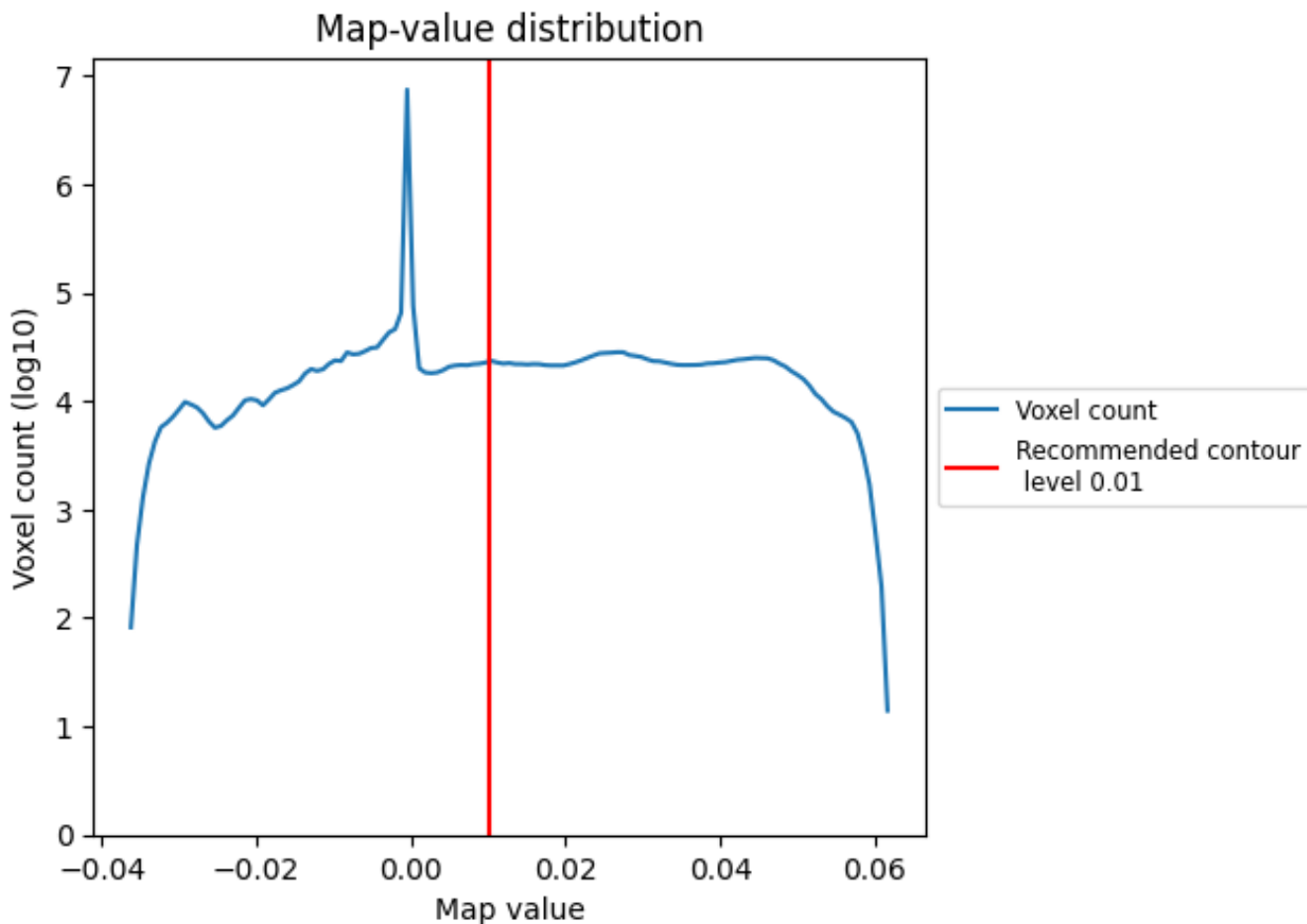
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

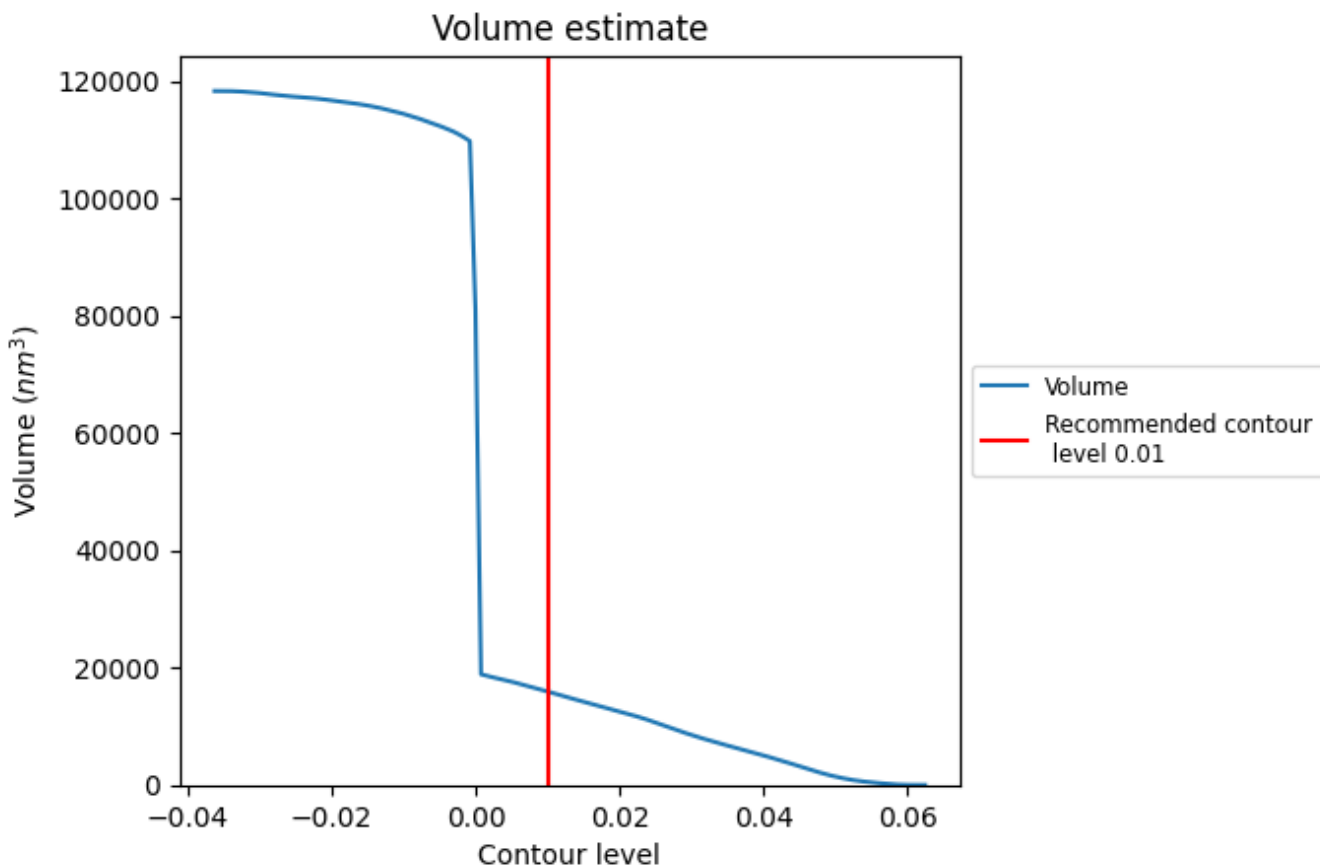
This section contains the results of statistical analysis of the map.

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.

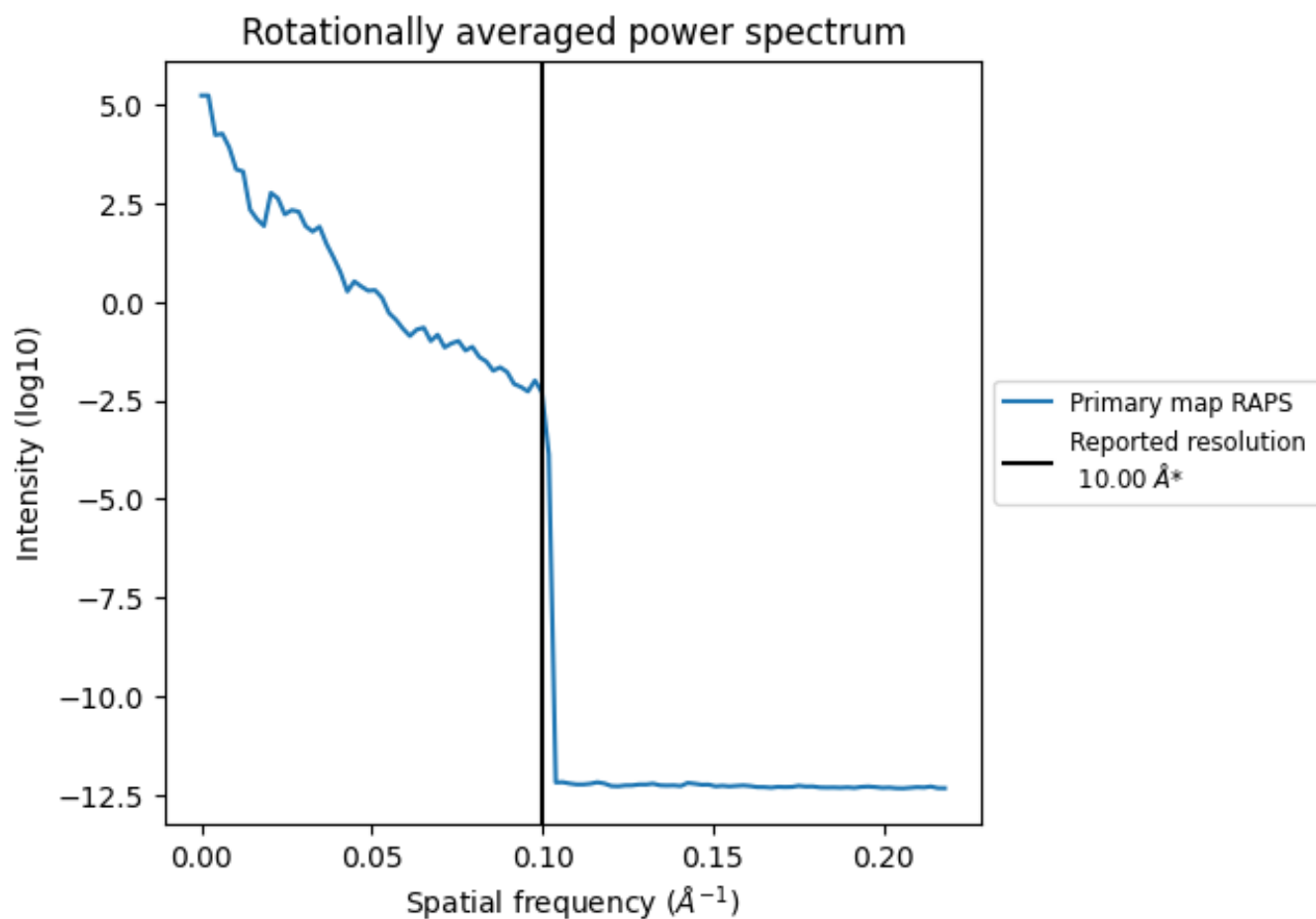
7.2 Volume estimate [\(i\)](#)



The volume at the recommended contour level is 15935 nm³; this corresponds to an approximate mass of 14395 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 0.100 Å⁻¹

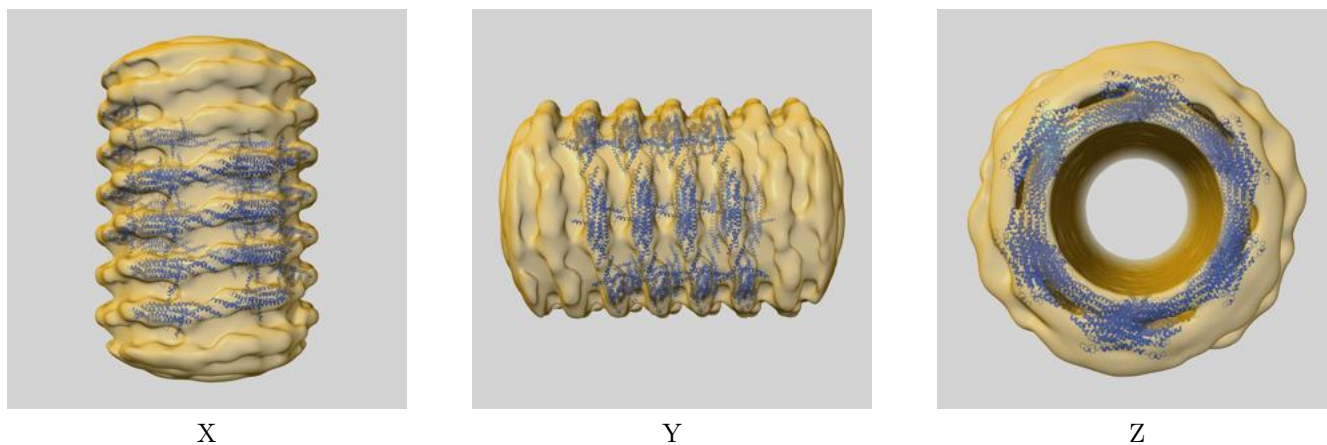
8 Fourier-Shell correlation

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

9 Map-model fit [i](#)

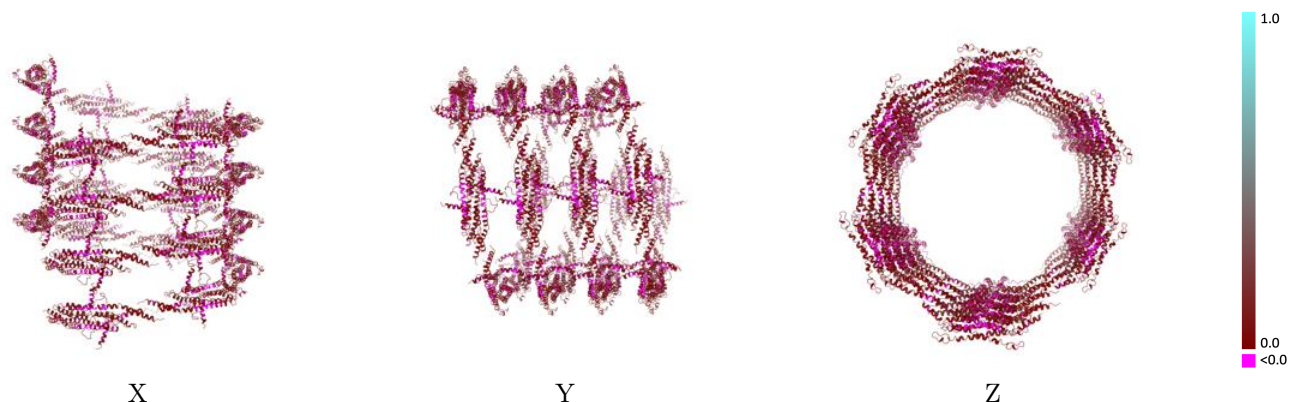
This section contains information regarding the fit between EMDB map EMD-20842 and PDB model 6UPN. Per-residue inclusion information can be found in section 3 on page 8.

9.1 Map-model overlay [i](#)



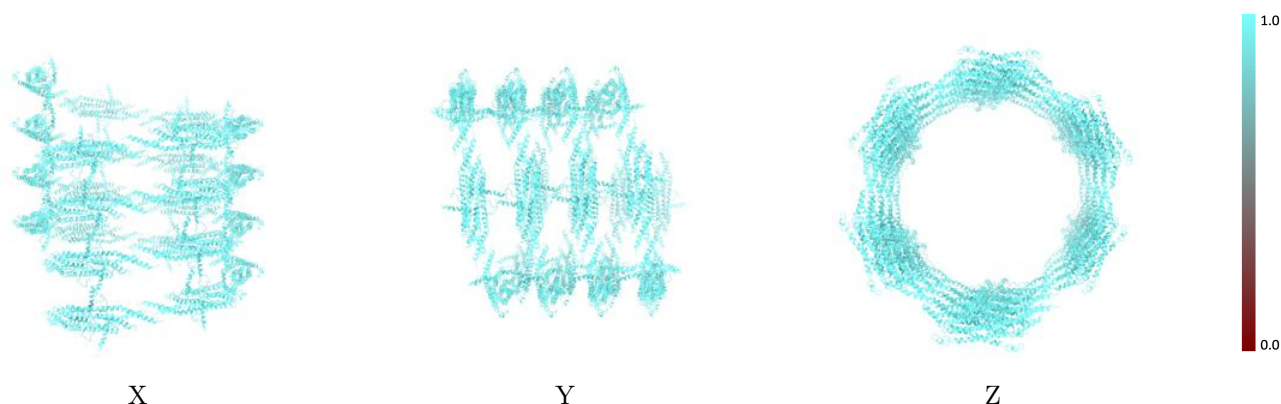
The images above show the 3D surface view of the map at the recommended contour level 0.01 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



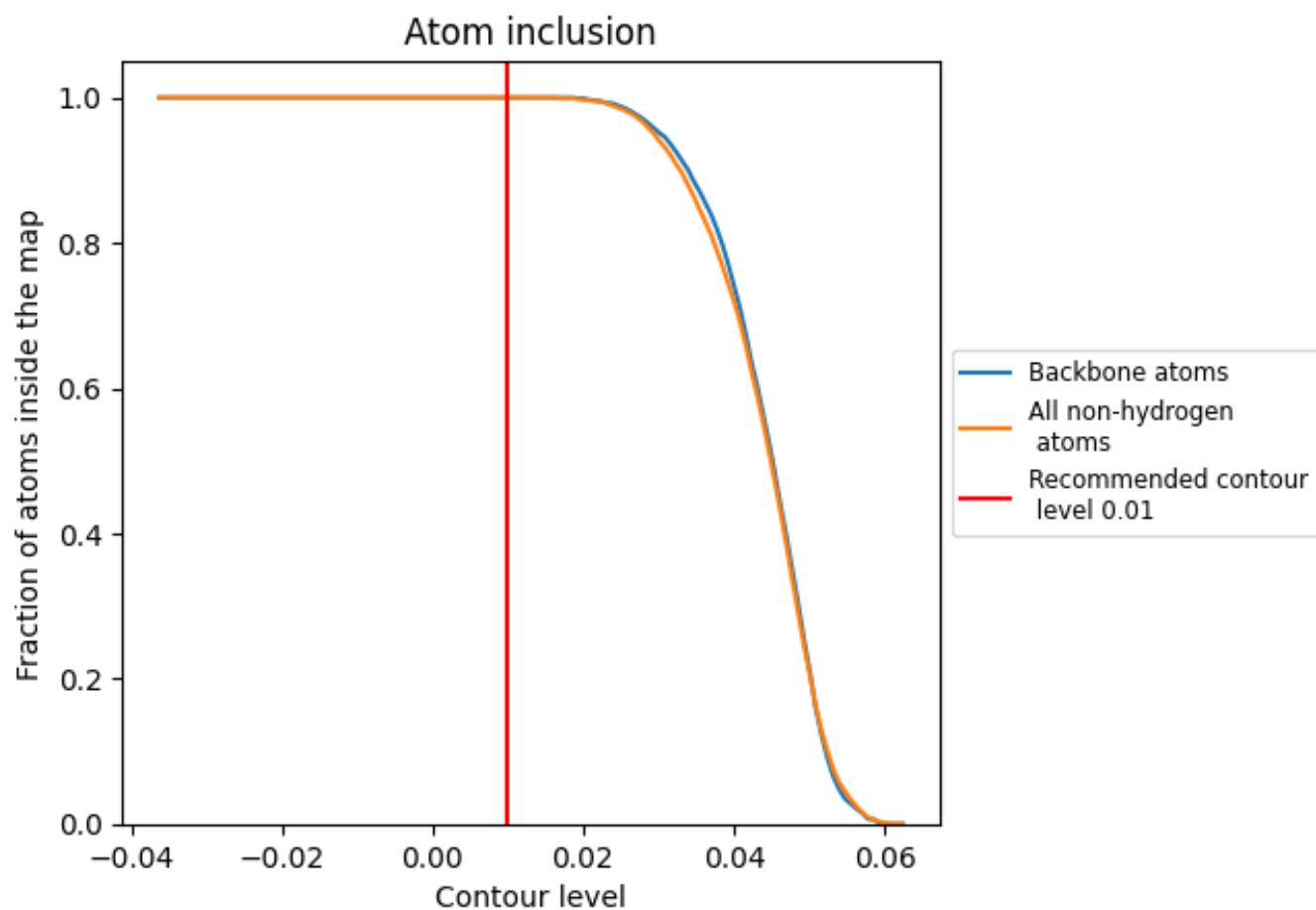
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.01).

9.4 Atom inclusion [i](#)



At the recommended contour level, 100% of all backbone atoms, 100% 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 (0.01) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	1.0000	0.0790
A	1.0000	0.0880
B	1.0000	0.0710
C	1.0000	0.0890
D	1.0000	0.0710
E	1.0000	0.0870
F	1.0000	0.0700
G	1.0000	0.0850
H	1.0000	0.0730
I	1.0000	0.0850
J	1.0000	0.0730
K	1.0000	0.0850
L	1.0000	0.0710
M	1.0000	0.0870
N	1.0000	0.0710
O	1.0000	0.0890
P	1.0000	0.0690
Q	1.0000	0.0880
R	1.0000	0.0700
S	1.0000	0.0870
T	1.0000	0.0720
V	1.0000	0.0850
W	1.0000	0.0730
X	1.0000	0.0860
Y	1.0000	0.0730
a	1.0000	0.0890
b	1.0000	0.0710
c	1.0000	0.0890
d	1.0000	0.0720
e	1.0000	0.0870
f	1.0000	0.0680
g	1.0000	0.0860
h	1.0000	0.0730
i	1.0000	0.0870
j	1.0000	0.0710



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Chain	Atom inclusion	Q-score
k	 1.0000	 0.0860
l	 1.0000	 0.0720
m	 1.0000	 0.0880
n	 1.0000	 0.0690
o	 1.0000	 0.0890
p	 1.0000	 0.0710
q	 1.0000	 0.0890
r	 1.0000	 0.0720
s	 1.0000	 0.0880
t	 1.0000	 0.0730
v	 1.0000	 0.0860
w	 1.0000	 0.0690
x	 1.0000	 0.0860
y	 1.0000	 0.0720