

wwPDB EM Validation Summary Report (i)

Mar 25, 2024 – 02:28 PM JST

PDB ID : 8XB8

EMDB ID : EMD-38214

Title : The structure of ASFV A137R Authors : Li, C.; Song, H.; Gao, G.F.

Deposited on : 2023-12-06

Resolution : 3.40 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 (1)) 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)

 $MapQ \quad : \quad 1.9.13$

Ideal geometry (proteins) : Engh & Huber (2001) Ideal geometry (DNA, RNA) : Parkinson et al. (1996)

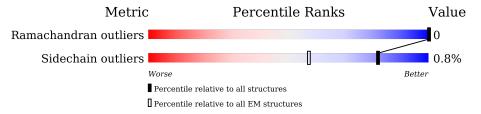
Validation Pipeline (wwPDB-VP) : 2.36

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 3.40 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 $(\# \mathrm{Entries})$	${ m EM\ structures} \ (\#{ m Entries})$
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 <=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	0	137	72%	•	28%
1	1	137	72%	•	28%
1	2	137	72%	•	28%
1	3	137	72%		28%
1	4	137	72%	2	8%
1	5	137	72%	2	8%
1	6	137	72%		28%
1	7	137	72%	2	8%
1	A	137	72%	2	8%



Mol	Chain	Length	Quality of chain				
1	В	137	72%	•	28%		
1	С	137	72%	•	28%		
1	D	137	72%	•	28%		
1	Е	137	72%		28%		
1	F	137	72%		28%		
1	G	137	71%		28%		
1	Н	137	72%		28%		
1	I	137	72%		28%		
1	J	137	72%		28%		
1	K	137	72%		28%		
1	L	137	72%		28%		
1	M	137	72%		28%		
1	N	137	72%		28%		
1	О	137	72%		28%		
1	Р	137	71%	•	28%		
1	Q	137	72%		28%		
1	R	137	72%		28%		
1	S	137	70%	•	28%		
1	Т	137	72%		28%		
1	U	137	72%		28%		
1	V	137	72%		28%		
1	W	137	72%		28%		
1	X	137	72%	•	28%		
1	Y	137	72%		28%		
1	Z	137	70%	•	28%		



Mol	Chain	Length	Quality of chain				
1	a	137	72%		28%		
1	b	137	72%	•	28%		
1	c	137	72%	_	28%		
1	d	137	72%	•	28%		
1	е	137	72%	_	28%		
1	f	137	72%	•	28%		
1	g	137	71%	•	28%		
1	h	137	72%		28%		
1	i	137	72%		28%		
1	j	137	72%		28%		
1	k	137	71%	•	28%		
1	1	137	72%	•	28%		
1	m	137	72%	•	28%		
1	n	137	72%		28%		
1	0	137	72%	•	28%		
1	p	137	72%	•	28%		
1	q	137	72%	_	28%		
1	r	137	72%		28%		
1	S	137	72%		28%		
1	t	137	70%	•	28%		
1	u	137	72%		28%		
1	V	137	72%	•	28%		
1	W	137	72%	•	28%		
1	X	137	72%	•	28%		
1	у	137	72%		28%		



Mol	Chain	Length	Quality of chain	
1	Z	137	72%	28%



2 Entry composition (i)

There is only 1 type of molecule in this entry. The entry contains 50400 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 A137R.

Mol	Chain	Residues		At	oms			AltConf	Trace
1	A	99	Total	С	N	О	S	0	0
1	A	99	840	545	140	150	5	0	
1	В	99	Total	С	N	О	S	0	0
1	Б	99	840	545	140	150	5	0	U
1	С	99	Total	С	N	О	S	0	0
1		99	840	545	140	150	5	0	
1	D	99	Total	С	N	Ο	S	0	0
1	D	99	840	545	140	150	5	0	0
1	E	99	Total	С	N	О	S	0	0
1	П	33	840	545	140	150	5	0	0
1	F	99	Total	С	N	O	S	0	0
	1	33	840	545	140	150	5	0	0
1	G	99	Total	С	N	О	S	0	0
	G .	33	840	545	140	150	5	0	0
1	Н	99	Total	С	N	Ο	S	0	0
	11	33	840	545	140	150	5	0	0
1	I	99	Total	С	N	Ο	S	0	0
	1	99	840	545	140	150	5	O	0
1	J	99	Total	С	N	О	S	0	0
		99	840	545	140	150	5	O	0
1	K	99	Total	С	N	О	S	0	0
1	11	33	840	545	140	150	5	0	0
1	L	99	Total	С	N	Ο	S	0	0
1	П	33	840	545	140	150	5	O	0
1	M	99	Total	С	N	О	S	0	0
	1/1	33	840	545	140	150	5	0	0
1	N	99	Total	С	N	О	S	0	0
1	11	55	840	545	140	150	5	O	
1	О	99	Total	С	N	Ο	S	0	0
1	· ·	55	840	545	140	150	5	U	0
1	Р	99	Total	С	N	Ο	S	0	0
1	1		840	545	140	150	5	U	0
1	Q	99	Total	С	N	О	S	0	0
1	~	55	840	545	140	150	5		



Mol	Chain	$rac{ ext{Residues} \ pa}{ ext{Residues}}$	<u> </u>	At	oms			AltConf	Trace
1	D	00	Total	С	N	О	S	0	0
1	R	99	840	545	140	150	5	0	0
1	C	00	Total	С	N	О	S	0	0
1	S	99	840	545	140	150	5	0	0
1	Т	99	Total	С	N	О	S	0	0
1	1	99	840	545	140	150	5	0	U
1	U	99	Total	С	N	О	S	0	0
1	U	99	840	545	140	150	5	U	U
1	V	99	Total	С	N	Ο	S	0	0
1	v	33	840	545	140	150	5	0	U
1	W	99	Total	\mathbf{C}	N	Ο	S	0	0
	**	99	840	545	140	150	5	O	0
1	X	99	Total	\mathbf{C}	N	Ο	S	0	0
	11		840	545	140	150	5	Ü	
1	Y	99	Total	С	N	О	S	0	0
	-		840	545	140	150	5	0	
1	Z	99	Total	С	N	0	S	0	0
			840	545	140	150	5		_
1	a	99	Total	С	N	0	S	0	0
			840	545	140	150	5		
1	b	99	Total	С	N	0	S	0	0
			840	545	140	150	5		
1	c	99	Total	С	N	0	S	0	0
			840	$\frac{545}{C}$	140 N	$\frac{150}{O}$	$\frac{5}{S}$		
1	d	99	Total 840	545	N 140	150	5 5	0	0
			Total	C	N	O	$\frac{s}{S}$		
1	e	99	840	545	140	150	5	0	0
			Total	C	N	O	$\frac{s}{S}$		
1	f	99	840	545	140	150	5	0	0
			Total	C	N	O	$\frac{3}{S}$		
1	g	99	840	545	140	150	5	0	0
			Total	C	N	O	$\frac{\sigma}{S}$		
1	h	99	840	545	140	150	5	0	0
	_		Total	\overline{C}	N	O	S		_
1	i	99	840	545	140	150	5	0	0
		0.0	Total	C	N	O	S	6	6
1	j	99	840	545	140	150	5	0	0
	1	0.0	Total	С	N	O	S	6	6
1	k	99	840	545	140	150	5	0	0
1	1	00	Total	С	N	О	S	0	0
1	1	99	840	545	140	150	5	0	0
	1						·	1	



Mol	Chain	$oxed{ ext{Residues}}$		At	oms			AltConf	Trace
1		00	Total	С	N	О	S	0	0
1	m	99	840	545	140	150	5	0	0
1		00	Total	С	N	О	S	0	0
1	n	99	840	545	140	150	5	0	0
1		99	Total	С	N	О	S	0	0
1	О	99	840	545	140	150	5	0	U
1	n	99	Total	С	N	О	S	0	0
1	p	99	840	545	140	150	5	U	U
1	a	99	Total	С	N	Ο	S	0	0
1	q	33	840	545	140	150	5	0	0
1	r	99	Total	\mathbf{C}	N	Ο	S	0	0
	1	33	840	545	140	150	5	0	0
1	s	99	Total	\mathbf{C}	N	Ο	S	0	0
	Б	33	840	545	140	150	5	· ·	0
1	t	99	Total	С	N	Ο	S	0	0
	· ·	00	840	545	140	150	5	Ü	
1	u	99	Total	С	N	O	S	0	0
_			840	545	140	150	5	0	
1	V	99	Total	С	N	O	S	0	0
	,		840	545	140	150	5	0	
1	W	99	Total	С	N	0	S	0	0
			840	545	140	150	5		
1	X	99	Total	С	N	0	S	0	0
			840	545	140	150	5		_
1	у	99	Total	С	N	0	S	0	0
	,		840	545	140	150	5		
1	Z	99	Total	С	N	0	S	0	0
			840	545	140	150	5		
1	0	99	Total	C	N	0	S	0	0
			840	545	140	150	5		
1	1	99	Total	С	N	0	S	0	0
			840	545	140	150	5		
1	2	99	Total 840	C 545	N 140	O 150	S 5	0	0
							$\frac{s}{S}$		
1	3	99	Total 840	C 545	N 140	O 150	5 5	0	0
			Total	C C	140 N	O	$\frac{s}{S}$		
1	4	99	840	545	140	150	5 5	0	0
			Total	C	N	O	$\frac{s}{S}$		
1	5	99	840	545	140	150	5	0	0
			Total	C	N	O	$\frac{s}{S}$		
1	6	99	840	545	140	150	5	0	0
			040	040	140	100	, , , , , , , , , , , , , , , , , , , 	7	



Mol	Chain	Residues		At	oms			AltConf	Trace
1	7	99	Total 840	C 545	N 140	O 150	S 5	0	0



3 Residue-property plots (i)

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: A137R Chain A: 28% • Molecule 1: A137R Chain B: 28% 11.E
4 ASP
11.E
6 GLV
6 GLV
7 ASP
7 • Molecule 1: A137R Chain C: 72% 28% ASSN SEE ASS • Molecule 1: A137R Chain D: 72% 28% • Molecule 1: A137R Chain E: 72% 28% • Molecule 1: A137R Chain F: 72%



M1 E99 LIVS LIVE LIVE LIVE LIVE LIVE LIVE LIVE LIVE	PHE GLN ASN ILE GLU ASN MET ASP ILEU GLY GLY ASP ILEU GLY ASN ILEU GLY ASN ILEU GLY ASN ILEU GLY ASN ILEU GLY ASN ILE GLY ASN ILE GLU ASN ILE GLU ASN ILE GLU ASN ILE ASN ILE ASN ILE ASN ILE ILE GLU ASN ILE ASN ILE ILE GLU ASN ILE ILE ILE ILE ILE ILE ILE ILE ILE ILE	I LYS GLU GLY
• Molecule 1: A137R		
Chain G:	71%	• 28%
K28 K28 K90 E99 IIE I YS ASN I LEU GLY GLY GLY THR	ILE VASN VASN PHE PHE GLN ASN ASN ASN ASN ASN ASN ASN ASN CLV CLVS GLN LEU LEU LEU LEU LEU LEU	GLYS MET ASN ASN GLU GLV
• Molecule 1: A137R		
Chain H:	72%	28%
M1 E99 ILE LYS ASN ILE PRO SER THR THR ASN ASP	PHE ALA ASN ASN ASN ASN ASN ASN ASP	ILE GLU GLU
• Molecule 1: A137R		
Chain I:	72%	• 28%
M1 E99 LYS LYS ASN LEU GLY GLY THR THR ASN VAL	PHE ALIA ASN ASN CLIL GLU GLU ASP ASP ASP ASP CLN	1112 617 617 617
• Molecule 1: A137R		
Chain J:	72%	28%
M1 E9 9 LIS LYS ASN LEU GLY GLY TLE PRO SER THR THR VAL ASP	PHE ALA ALA ALA ALA ASN ASN GLU GLU GLU GLU GLN	GLV GLV GLV
• Molecule 1: A137R		
Chain K:	72%	28%
M1 E99 LYS ASN LEU GLY ILE ILE ASN ASP	PHE AAN ASN ASN ASN ASN ASN ASN ASN ASP	11.78 GLU GLU
• Molecule 1: A137R		
Chain L:	72%	• 28%
MI PRO CALL THE LITE PRO CALL THE LITE PRO CALL THE LITE PRO CALL THE LITE CALL THE LITE CALL THE LITE CALL THE LITE CALL THE CAL	VAL PRE CLN CLN ASP ASP ASP ASP CLU CLU CLU CLU CLU CLU CLU CLU	ASN ASN GLU GLU
• Molecule 1: A137R		
Chain M:	72%	• 28%



M1 ILE ITE ITE INC INC INC INC INC INC INC IN	ILEU LLEU LLEU LLEU LLEU LLEU LLEU LLEU	
• Molecule 1: A137R		
Chain N:	72% ·	28%
M1 E99 ILVS ILVS ILVS ILVS ILVS ILVS ILVS ILVS	11.6 (1.7) (1.7) (1.7) (1.7) (1.7) (1.7) (1.7) (1.7) (1.7) (1.7) (1.7) (1.7) (1.7) (1.7) (1.7) (1.7) (1.7) (1.7) (1.7) (1.7) (1.7) (1.7) (1.7) (1.7) (1.7) (1.7) (1.7) (1.7) (1.7) (1.7)	
• Molecule 1: A137R		
Chain O:	72%	28%
M1 E99 ILE LYS ASN GLY	LLE GLU ASN MET ASP ASP GLN GLN GLN GLY ASN HET HEU LLE GLY GLY GLY GLY GLY GLY GLY GLY GLY GLY	
• Molecule 1: A137R		
Chain P:	71%	28%
W1 K90 K90	ALLA ASN ASN ASN ASN ASP ASP ASP ASN CLY ASN CLY ASN CLY ASN CLY CLE CLY CLY CLY CLY CLY CLY CLY CLY CLY CLY	
• Molecule 1: A137R		
Chain Q:	72%	28%
K90 E99 ILE ITE ILE ILE ILE ILE ILE ILE ILE ILE ILE IL	A GLAN A SNA	
• Molecule 1: A137R		
Chain R:	72%	28%
M1 E99 11.2 ASN ASN GLY	LLE GLU ASN MET ASP ASP GLN GLN GLN GLN ILE GLY ASN MET ASN GLY GLY GLY GLY GLY	
• Molecule 1: A137R		
Chain S:	70%	28%
K14 K90 K90 K90 L1E L1E L1YS ASN L1E PRO PRO SER ASN AND AND AND AND AND AND AND AND AND AN	PHE GLN ASN ASP ASP ASP ASP ASP GLN GLN GLN ILEU ILEU ILEU ILE ILEU GLY GLY GLY GLY GLY GLY GLY GLY GLY GLY	
• Molecule 1: A137R		
Chain T:	72%	28%



MI ILE ILE ILEU GLY ILE PRO SER ILE	ASN ASN ASP PHE GLN ALA ASN MET ASP ASP ASP ASP ASP CLV CLV CLV CLV CLV CLV CLV CLV CLV CLV	
• Molecule 1: A13	7R	
Chain U:	72%	28%
M1 11E 17S ASIN LEU GLY GLY THE PRO SER THR	ASN ASP BHE GIN ALA ASN ALA ASN ALA ASN ASN ASN ASN ASN ASP LEU LEU LYS GILV ASN	
• Molecule 1: A13	7R	
Chain V:	72%	• 28%
M1 K90 L1/S L1/S ASN LEU LLEU LLE PRO	111	ATD
• Molecule 1: A13	7R	
Chain W:	72%	28%
M1 E99 LICE LESN LEU GLY GLY THE THE	ASN VAL ASP PHE CLN ALA ALA ASN MET CLV CLV CLV CLV CLV CLV CLV CLV	
• Molecule 1: A13	7R	
Chain X:	72%	• 28%
M1 E29 ILE ILY ILE ILY GLY GLY GLY TLE TRE TRE TRE TRE TRE TRE TRE TRE TRE TR	ASN ASP ASP PHE GLN ALA ALA ASP ASP ASP ASP ASP ASP ASP AS	
• Molecule 1: A13	7R	
Chain Y:	72%	28%
M1 E99 LICE LEN LEU GLY GLY THE THE	ASN VAL ASP ASP ALA ALA ALA ALA ASN MET CLV CLV CLV CLV CLV CLV CLV CLV	
• Molecule 1: A13	7R	
Chain Z:	70%	28%
MS3 NS3 NS3 NS3 NS3 NS3 NS3 NS3 NS3 NS3 N	GLY THE	ASN 11.E 11.YS GLU GLU
• Molecule 1: A13	7R	
Chain a:	72%	28%



MESON TO THE TIME TO THE TIME TIME THE	GLN ALA ASN ILE GLU GLU GLU GLU GLN ILY GLN ILX GLN IL	ASN ILE LIYS GLY GLY
• Molecule 1: A137R		
Chain b:	72%	• 28%
M1 Page 1999 LYS ASN ASN LILE LILE LYS ASN ASN ASN TILE ASN PRO PRO PRO PRO PRO PRO PRO PR	GGLM A ANA A ANA A ANA MET A ASP A SP GGLM GGLM I LE LYS GGLY GGLY GGLY GGLY GGLY GGLY GGLY	ASN ASN LYS GLU GLY
• Molecule 1: A137R		
Chain c:	72%	28%
M1 E99 1.12 1.75 ASN GLY GLY GLY THR THR TILE ASN ASN ASN AND PHE	GLN ALA ASN ASN ASP ASP ASP ASP ASP ASP CLU GLN	ASN ITE LYS GLU GLY
• Molecule 1: A137R		
Chain d:	72%	• 28%
M1 M53 E99 E10	ASP PHE GLN AIA AIA ASP ASP CUU ASP ASP CUU CUU CUU CUU CUU CUU CUU CUU CUU CU	MET ASN MET ASN OF LYS GLU
• Molecule 1: A137R		
Chain e:	72%	28%
M1 E99 ILE IVS GLY GLY GLY ILE PRO SER ILE ASN ASN ASN ASP	GLN ALA ASN GLU GLU GLU ASP ASP ASP GLY GLN GLN GLY	ASN ILYS GLU GLY
• Molecule 1: A137R		
Chain f:	72%	• 28%
MAS3 E B B B B B B B B B B B B B B B B B B B	ASP PHE GLN ALA ASN ILE GLU ASN MET ASP GLN LEU ILE ILE ILE ILE ILE	MET ASN MET ASN
• Molecule 1: A137R		
Chain g:	71%	• 28%
KSOO KSOO KSOO KSOO KSOO KSOO KSOO KSOO	ASP PHE GLM ALA ALA ASN CLU ASN WET LEB CLN	MET MET TIE LYS GLU GLY
• Molecule 1: A137R		
Chain h:	72%	28%

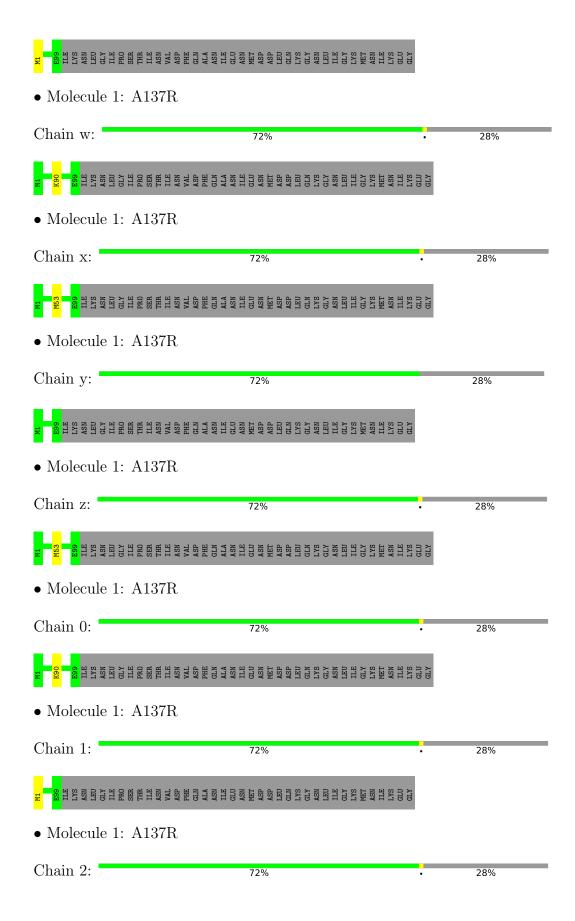


M1 1LE 1YS ASN 1EU GLY ILE PRO SER THR	11.E 4S.N 4AS.N 4AS.P 4AS.P 6C.N 6C.D 6C.D 6C.D 6C.D 6C.D 6C.D 6C.D 6C.D	
• Molecule 1: A	137R	
Chain i:	72%	28%
M1 E99 ILE LYS ASN LEU GLY ILE PRO SER THR	11.E ASN ASN VAL ASN ASP CLIN ALA ALA ASN MET ASN	
• Molecule 1: A	137R	
Chain j:	72%	28%
M1 E99 LYS ASN LEU GLY GLY ILE PRO SER THR	ILE ASN VAL ASN PHE GLIN ALA ASN ILE GLIN ALA ASN GLU GLU GLU GLU GLU GLN	
• Molecule 1: A	137R	
Chain k:	71%	28%
M1 K90 K90 I.E I.YS ASN LEU GLY	ILE PRO SER SER THR THR THR TILE ASN VAL ASP PHE GLU GLU ASP	GLY GLY
• Molecule 1: A	137R	
Chain 1:	72%	28%
M1 E99 ILE LVS ASN LEU GLY ILE PRO SER THR	ILE ASN VAL ASN VAL ASP ASP CLN CLN CLU	
• Molecule 1: A	137R	
Chain m:	72%	• 28%
M1 E99 ILE ILS ASN ILE PRO SER THR	11.E 48.N 48.N 48.N 48.N 48.N 48.N 48.N 48.N	
• Molecule 1: A	137R	
Chain n:	72%	28%
M1 E99 ILE LYS ASN LEU GLY ILE PRO SER	ILE ASN VAL ASN VAL ASP PHE GLN ALN ALN ASN HE HE GLU	
• Molecule 1: A	137R	
Chain o:	72%	• 28%

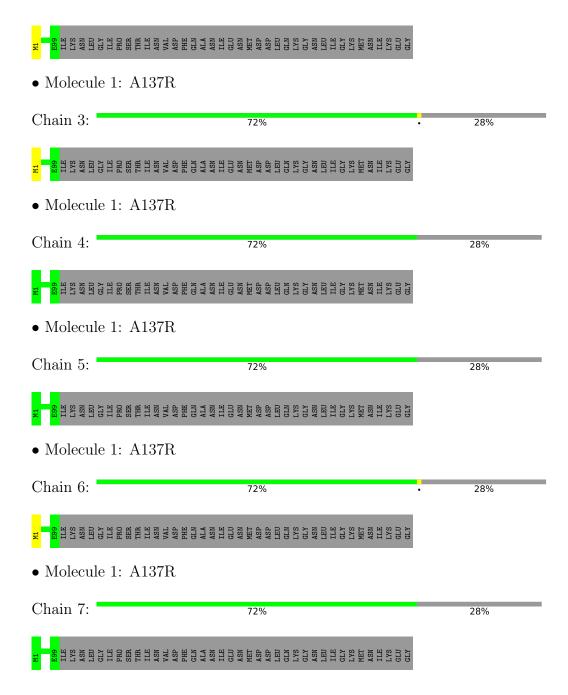


M1 E99 ILE CYS ASN CLY CLEU CRY CRY CHE CRY CRY CRY CRY CRY CRY CRY CR	ASP ALA ALA ASN ILLE GLU ASN MET ASP ASP GLU GLU GLU GLU GLU GLN GLN GLN GLN ASN GLN GLN GLN GLN GLN GLN GLN GLN GLN GL	
• Molecule 1: A137R		
Chain p:	72%	• 28%
MATERIAL SERVICES OF SERVICES	ASN ASN ASP CLN ASP ASN ASN ASN ASN ASN ASN ASN CLC CLU CLU CLU CLU CLU CLU CLU CLU CLU	7.12 0.13
• Molecule 1: A137R		
Chain q:	72%	28%
M1 1099 1116 1718 1718 1718 1718 1718 1718 1718	ASP PHE GLN ASN ILE CUU ASN MET ASP GLN GLN GLN ILE GLN ILE GLN GLN GLN GLN GLN GLN GLN GLN GLN GLN	
• Molecule 1: A137R	t	
Chain r:	72%	28%
M1 E99 ILE IYS ASN ILE PRO SER ILE PRO YAL	ASP AASP ALA ALA ALA ALA ALA ALA ALA ALA ASN ASN ASN ASP ASP ASN ASP ASP ASP ASN	
• Molecule 1: A137R		
Chain s:	72%	28%
M1 E99 ILE LYS ASN GEV GEV GEV TEE PRO SER ASN THR	ASP ASP ALA ALA ALA ALA ALA ALA ASP CLU	
• Molecule 1: A137R		
Chain t:	70%	28%
M1 K28 K30 K90 K90 L1LE L1/S ASN L1LE L1/E L1/E L1/E L1/E L1/E L1/E L1/E	PRO SER THR TILE ASN VAL ASP PHE GLN ALA ASN ASN ASN GLU GLU GLU GLU GLU GLU GLN GLY GLN GLY GLN GLY GLN GLY GLN GLY GLN GLY GLY GLY GLY GLY GLY GLY	MET MET ILE ILYS GLU GLV
• Molecule 1: A137R	t	
Chain u:	72%	28%
M1 E99 ILE LYS ASN LEU GLY GLY THE THR THR THR THR THR THR THR THR THR THR	ASP ASP CLIA ALA ALA ALA ALA ALA ALA ASN ASN ASN ASN CLYS CLYS CLYS CLYS CLYS CLYS ASN ASN ASN ASN ASN ASN CLYS CLYS CLYS CLYS CLYS CLYS CLYS CLYS	
• Molecule 1: A137R		
Chain v:	72%	• 28%











4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	130876	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE	Depositor
	CORRECTION	
Microscope	FEI TITAN	Depositor
Voltage (kV)	300	Depositor
Electron dose $(e^-/\text{Å}^2)$	60	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.132	Depositor
Minimum map value	-0.085	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.003	Depositor
Recommended contour level	0.01	Depositor
Map size (Å)	374.4, 374.4, 374.4	wwPDB
Map dimensions	360, 360, 360	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.04, 1.04, 1.04	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
IVIOI	Chain	RMSZ	# Z > 5	RMSZ	# Z > 5
1	0	0.26	0/862	0.48	0/1162
1	1	0.26	0/862	0.46	0/1162
1	2	0.26	0/862	0.46	0/1162
1	3	0.26	0/862	0.46	0/1162
1	4	0.26	0/862	0.44	0/1162
1	5	0.26	0/862	0.46	0/1162
1	6	0.26	0/862	0.46	0/1162
1	7	0.26	0/862	0.44	0/1162
1	A	0.26	0/862	0.47	0/1162
1	В	0.26	0/862	0.45	0/1162
1	С	0.26	0/862	0.46	0/1162
1	D	0.26	0/862	0.46	0/1162
1	Е	0.26	0/862	0.45	0/1162
1	F	0.26	0/862	0.47	0/1162
1	G	0.26	0/862	0.45	0/1162
1	Н	0.26	0/862	0.46	0/1162
1	I	0.26	0/862	0.46	0/1162
1	J	0.26	0/862	0.45	0/1162
1	K	0.26	0/862	0.47	0/1162
1	L	0.26	0/862	0.45	0/1162
1	M	0.26	0/862	0.45	0/1162
1	N	0.26	0/862	0.46	0/1162
1	О	0.26	0/862	0.45	0/1162
1	Р	0.26	0/862	0.46	0/1162
1	Q	0.26	0/862	0.45	0/1162
1	R	0.26	0/862	0.46	0/1162
1	S	0.26	0/862	0.45	0/1162
1	Т	0.26	0/862	0.46	0/1162
1	U	0.26	0/862	0.46	0/1162
1	V	0.26	0/862	0.44	0/1162
1	W	0.26	0/862	0.46	0/1162
1	X	0.26	0/862	0.47	0/1162
1	Y	0.26	0/862	0.45	0/1162
1	Z	0.26	0/862	0.46	0/1162



Mal Chain		Bond	lengths	Bond angles		
Mol	Chain	RMSZ	# Z > 5	RMSZ	# Z >5	
1	a	0.26	0/862	0.45	0/1162	
1	b	0.26	0/862	0.45	0/1162	
1	С	0.26	0/862	0.46	0/1162	
1	d	0.26	0/862	0.45	0/1162	
1	е	0.26	0/862	0.47	0/1162	
1	f	0.26	0/862	0.45	0/1162	
1	g	0.27	0/862	0.49	0/1162	
1	h	0.26	0/862	0.46	0/1162	
1	i	0.26	0/862	0.45	0/1162	
1	j	0.26	0/862	0.46	0/1162	
1	k	0.27	0/862	0.46	0/1162	
1	1	0.26	0/862	0.46	0/1162	
1	m	0.26	0/862	0.46	0/1162	
1	n	0.26	0/862	0.45	0/1162	
1	0	0.26	0/862	0.46	0/1162	
1	p	0.26	0/862	0.44	0/1162	
1	q	0.26	0/862	0.46	0/1162	
1	r	0.26	0/862	0.46	0/1162	
1	S	0.26	0/862	0.45	0/1162	
1	t	0.26	0/862	0.46	0/1162	
1	u	0.26	0/862	0.45	0/1162	
1	V	0.26	0/862	0.46	0/1162	
1	W	0.26	0/862	0.46	0/1162	
1	X	0.26	0/862	0.45	0/1162	
1	у	0.26	0/862	0.47	0/1162	
1	Z	0.26	0/862	0.45	0/1162	
All	All	0.26	0/51720	0.46	0/69720	

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	Perce	\mathbf{ntiles}
1	0	97/137~(71%)	96 (99%)	1 (1%)	0	100	100
1	1	97/137~(71%)	95 (98%)	2 (2%)	0	100	100
1	2	97/137 (71%)	94 (97%)	3 (3%)	0	100	100
1	3	97/137 (71%)	95 (98%)	2 (2%)	0	100	100
1	4	97/137 (71%)	94 (97%)	3 (3%)	0	100	100
1	5	97/137 (71%)	96 (99%)	1 (1%)	0	100	100
1	6	97/137 (71%)	95 (98%)	2 (2%)	0	100	100
1	7	97/137 (71%)	94 (97%)	3 (3%)	0	100	100
1	A	97/137 (71%)	95 (98%)	2 (2%)	0	100	100
1	В	97/137 (71%)	97 (100%)	0	0	100	100
1	С	97/137 (71%)	94 (97%)	3 (3%)	0	100	100
1	D	97/137 (71%)	95 (98%)	2 (2%)	0	100	100
1	Е	97/137 (71%)	94 (97%)	3 (3%)	0	100	100
1	F	97/137 (71%)	95 (98%)	2 (2%)	0	100	100
1	G	97/137 (71%)	97 (100%)	0	0	100	100
1	Н	97/137 (71%)	95 (98%)	2 (2%)	0	100	100
1	I	97/137 (71%)	95 (98%)	2 (2%)	0	100	100
1	J	97/137 (71%)	94 (97%)	3 (3%)	0	100	100
1	K	97/137 (71%)	95 (98%)	2 (2%)	0	100	100
1	L	97/137 (71%)	97 (100%)	0	0	100	100
1	M	97/137 (71%)	95 (98%)	2 (2%)	0	100	100
1	N	97/137 (71%)	95 (98%)	2 (2%)	0	100	100
1	О	97/137 (71%)	94 (97%)	3 (3%)	0	100	100
1	Р	97/137 (71%)	94 (97%)	3 (3%)	0	100	100
1	Q	97/137 (71%)	96 (99%)	1 (1%)	0	100	100



Mol	Chain	Analysed	Favoured	Allowed	Outliers	Perce	ntiles
1	R	97/137~(71%)	96 (99%)	1 (1%)	0	100	100
1	S	97/137~(71%)	96 (99%)	1 (1%)	0	100	100
1	${ m T}$	97/137~(71%)	94 (97%)	3 (3%)	0	100	100
1	U	97/137 (71%)	94 (97%)	3 (3%)	0	100	100
1	V	97/137~(71%)	94 (97%)	3 (3%)	0	100	100
1	W	97/137 (71%)	96 (99%)	1 (1%)	0	100	100
1	X	97/137~(71%)	96 (99%)	1 (1%)	0	100	100
1	Y	97/137 (71%)	95 (98%)	2 (2%)	0	100	100
1	Z	97/137 (71%)	96 (99%)	1 (1%)	0	100	100
1	a	97/137 (71%)	94 (97%)	3 (3%)	0	100	100
1	b	97/137 (71%)	95 (98%)	2 (2%)	0	100	100
1	c	97/137 (71%)	96 (99%)	1 (1%)	0	100	100
1	d	97/137 (71%)	95 (98%)	2 (2%)	0	100	100
1	е	97/137 (71%)	95 (98%)	2 (2%)	0	100	100
1	f	97/137 (71%)	95 (98%)	2 (2%)	0	100	100
1	g	97/137 (71%)	96 (99%)	1 (1%)	0	100	100
1	h	97/137 (71%)	95 (98%)	2 (2%)	0	100	100
1	i	97/137 (71%)	94 (97%)	3 (3%)	0	100	100
1	j	97/137 (71%)	95 (98%)	2 (2%)	0	100	100
1	k	97/137 (71%)	97 (100%)	0	0	100	100
1	1	97/137 (71%)	95 (98%)	2 (2%)	0	100	100
1	m	97/137 (71%)	95 (98%)	2 (2%)	0	100	100
1	n	97/137 (71%)	94 (97%)	3 (3%)	0	100	100
1	0	97/137 (71%)	94 (97%)	3 (3%)	0	100	100
1	р	97/137 (71%)	94 (97%)	3 (3%)	0	100	100
1	q	97/137 (71%)	96 (99%)	1 (1%)	0	100	100
1	r	97/137 (71%)	95 (98%)	2 (2%)	0	100	100
1	S	97/137 (71%)	96 (99%)	1 (1%)	0	100	100
1	t	97/137 (71%)	96 (99%)	1 (1%)	0	100	100
1	u	97/137 (71%)	94 (97%)	3 (3%)	0	100	100
1	v	97/137 (71%)	95 (98%)	2 (2%)	0	100	100



Continued	trom	mmoninonic	maaa
COHABABACA		DIEUIUU	DUIUE
0 0 1000100000			

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Perce	ntiles
1	W	97/137 (71%)	96 (99%)	1 (1%)	0	100	100
1	X	97/137 (71%)	95 (98%)	2 (2%)	0	100	100
1	У	97/137 (71%)	95 (98%)	2 (2%)	0	100	100
1	Z	97/137 (71%)	95 (98%)	2 (2%)	0	100	100
All	All	5820/8220 (71%)	5705 (98%)	115 (2%)	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	Perce	ntiles
1	0	93/126~(74%)	92 (99%)	1 (1%)	73	86
1	1	93/126~(74%)	92 (99%)	1 (1%)	73	86
1	2	93/126~(74%)	92 (99%)	1 (1%)	73	86
1	3	93/126~(74%)	92 (99%)	1 (1%)	73	86
1	4	93/126~(74%)	93 (100%)	0	100	100
1	5	93/126~(74%)	93 (100%)	0	100	100
1	6	93/126~(74%)	92 (99%)	1 (1%)	73	86
1	7	93/126~(74%)	93 (100%)	0	100	100
1	A	93/126~(74%)	93 (100%)	0	100	100
1	В	93/126~(74%)	92 (99%)	1 (1%)	73	86
1	С	93/126~(74%)	92 (99%)	1 (1%)	73	86
1	D	93/126 (74%)	92 (99%)	1 (1%)	73	86
1	E	93/126~(74%)	93 (100%)	0	100	100
1	F	93/126~(74%)	93 (100%)	0	100	100
1	G	93/126 (74%)	91 (98%)	2 (2%)	52	75
1	Н	93/126 (74%)	93 (100%)	0	100	100
1	I	93/126~(74%)	92 (99%)	1 (1%)	73	86



Mol	Chain	Analysed	Rotameric	Outliers	Perce	ntiles
1	J	93/126~(74%)	93 (100%)	0	100	100
1	K	93/126~(74%)	93 (100%)	0	100	100
1	L	93/126 (74%)	92 (99%)	1 (1%)	73	86
1	M	93/126 (74%)	92 (99%)	1 (1%)	73	86
1	N	93/126 (74%)	92 (99%)	1 (1%)	73	86
1	О	93/126 (74%)	93 (100%)	0	100	100
1	Р	93/126 (74%)	91 (98%)	2 (2%)	52	75
1	Q	93/126~(74%)	92 (99%)	1 (1%)	73	86
1	R	93/126 (74%)	92 (99%)	1 (1%)	73	86
1	S	93/126~(74%)	90 (97%)	3 (3%)	39	67
1	Т	93/126 (74%)	93 (100%)	0	100	100
1	U	93/126 (74%)	93 (100%)	0	100	100
1	V	93/126 (74%)	92 (99%)	1 (1%)	73	86
1	W	93/126 (74%)	93 (100%)	0	100	100
1	X	93/126 (74%)	92 (99%)	1 (1%)	73	86
1	Y	93/126 (74%)	93 (100%)	0	100	100
1	Z	93/126 (74%)	90 (97%)	3 (3%)	39	67
1	a	93/126~(74%)	93 (100%)	0	100	100
1	b	93/126 (74%)	92 (99%)	1 (1%)	73	86
1	c	93/126~(74%)	93 (100%)	0	100	100
1	d	93/126 (74%)	92 (99%)	1 (1%)	73	86
1	e	93/126~(74%)	93 (100%)	0	100	100
1	f	93/126 (74%)	92 (99%)	1 (1%)	73	86
1	g	93/126~(74%)	91 (98%)	2 (2%)	52	75
1	h	93/126 (74%)	93 (100%)	0	100	100
1	i	93/126~(74%)	93 (100%)	0	100	100
1	j	93/126 (74%)	93 (100%)	0	100	100
1	k	93/126 (74%)	91 (98%)	2 (2%)	52	75
1	1	93/126 (74%)	92 (99%)	1 (1%)	73	86
1	m	93/126 (74%)	92 (99%)	1 (1%)	73	86
1	n	93/126 (74%)	93 (100%)	0	100	100



Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Perce	ntiles
1	О	93/126 (74%)	92 (99%)	1 (1%)	73	86
1	p	93/126 (74%)	92 (99%)	1 (1%)	73	86
1	q	93/126 (74%)	93 (100%)	0	100	100
1	r	93/126 (74%)	93 (100%)	0	100	100
1	S	93/126 (74%)	93 (100%)	0	100	100
1	t	93/126 (74%)	90 (97%)	3 (3%)	39	67
1	u	93/126 (74%)	93 (100%)	0	100	100
1	V	93/126 (74%)	92 (99%)	1 (1%)	73	86
1	W	93/126 (74%)	92 (99%)	1 (1%)	73	86
1	X	93/126 (74%)	92 (99%)	1 (1%)	73	86
1	У	93/126 (74%)	93 (100%)	0	100	100
1	Z	93/126 (74%)	92 (99%)	1 (1%)	73	86
All	All	5580/7560 (74%)	5536 (99%)	44 (1%)	82	91

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

Mol	Chain	Res	Type
1	1	1	MET
1	V	1	MET
1	m	1	MET
1	t	28	LYS
1	X	53	MET

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

5.3.3 RNA (i)

There are no RNA molecules in this entry.

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

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



5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

There are no ligands in this entry.

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.



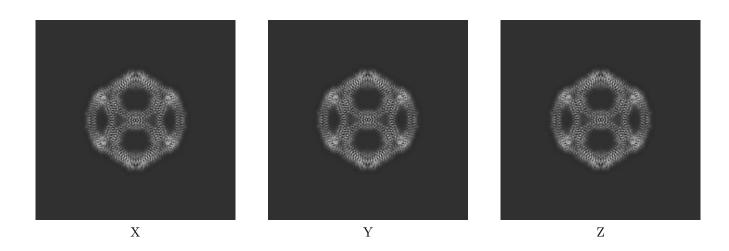
6 Map visualisation (i)

This section contains visualisations of the EMDB entry EMD-38214. These allow visual inspection of the internal detail of the map and identification of artifacts.

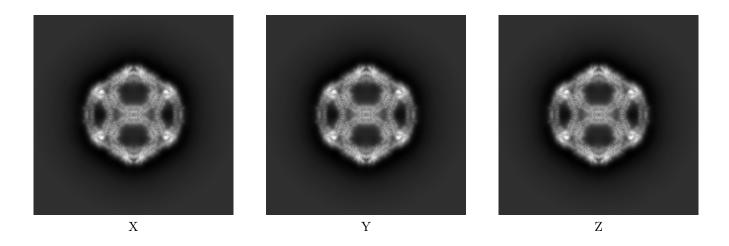
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections (i)

6.1.1 Primary map



6.1.2 Raw map

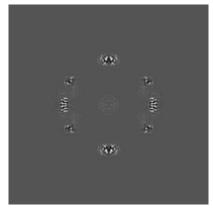


The images above show the map projected in three orthogonal directions.

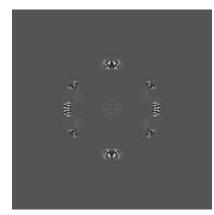


6.2 Central slices (i)

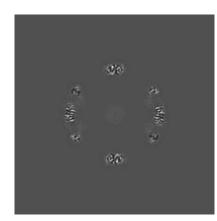
6.2.1 Primary map





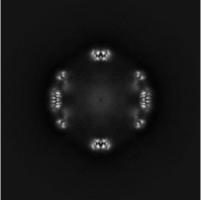


Y Index: 180

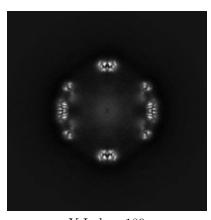


Z Index: 180

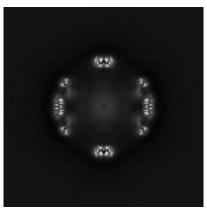
6.2.2 Raw map



X Index: 180



Y Index: 180



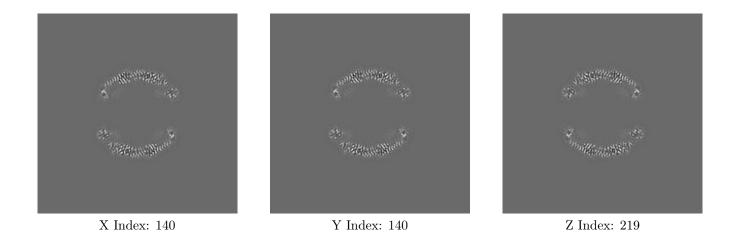
Z Index: 180

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

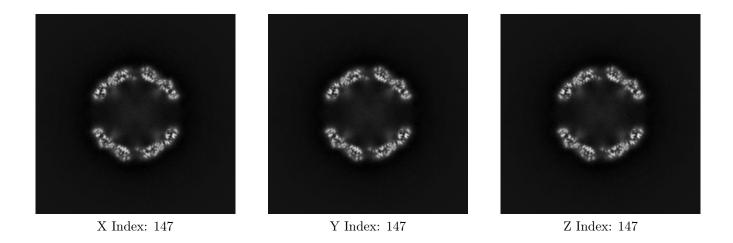


6.3 Largest variance slices (i)

6.3.1 Primary map



6.3.2 Raw map

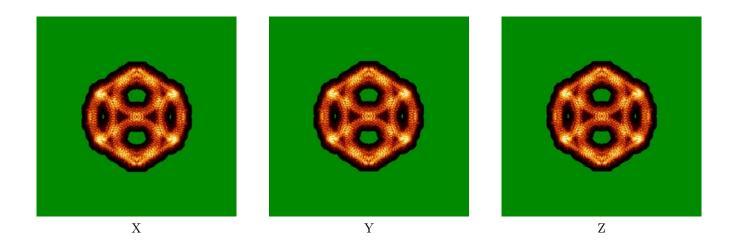


The images above show the largest variance slices of the map in three orthogonal directions.

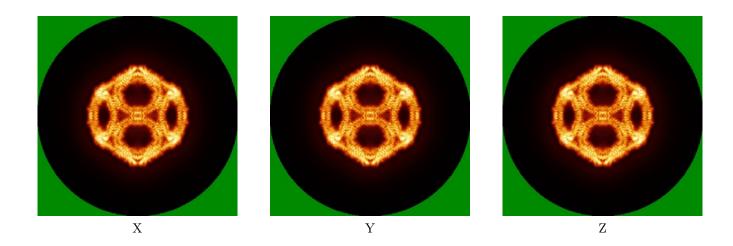


6.4 Orthogonal standard-deviation projections (False-color) (i)

6.4.1 Primary map



6.4.2 Raw map

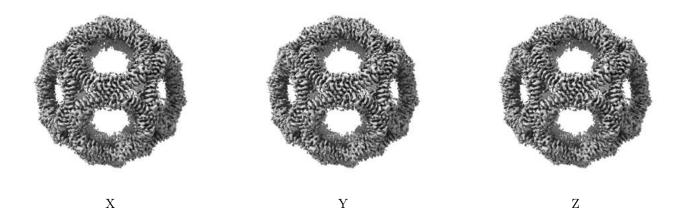


The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.



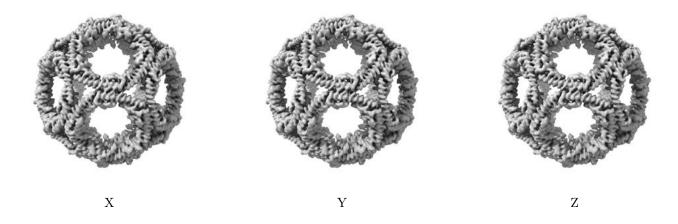
6.5 Orthogonal surface views (i)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.01. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



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

6.6 Mask visualisation (i)

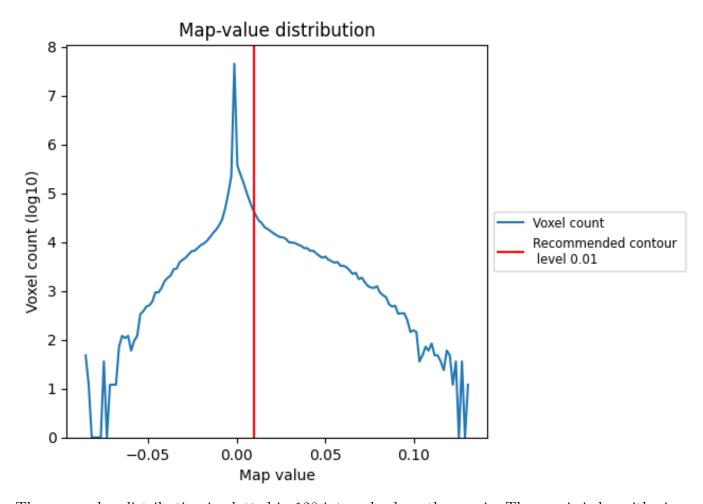
This section was not generated. No masks/segmentation were deposited.



7 Map analysis (i)

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

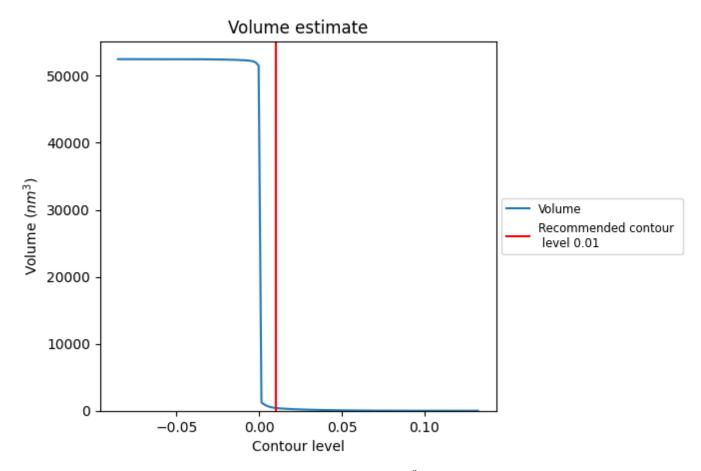
7.1 Map-value distribution (i)



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



7.2 Volume estimate (i)

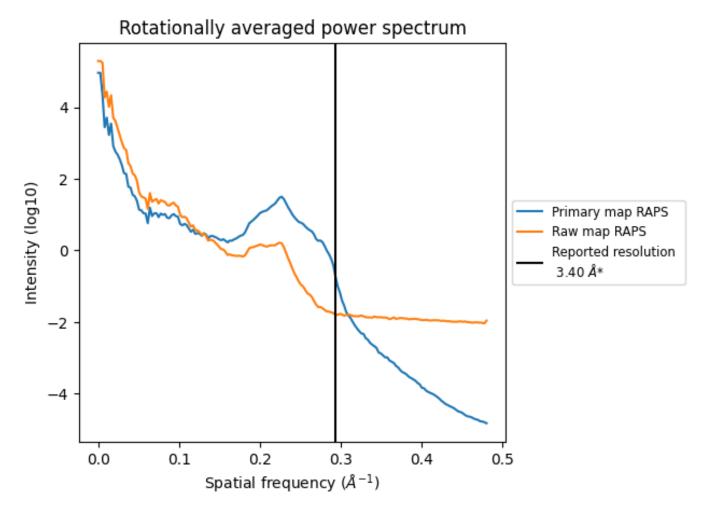


The volume at the recommended contour level is $420~\mathrm{nm}^3$; this corresponds to an approximate mass of $379~\mathrm{kDa}$.

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)



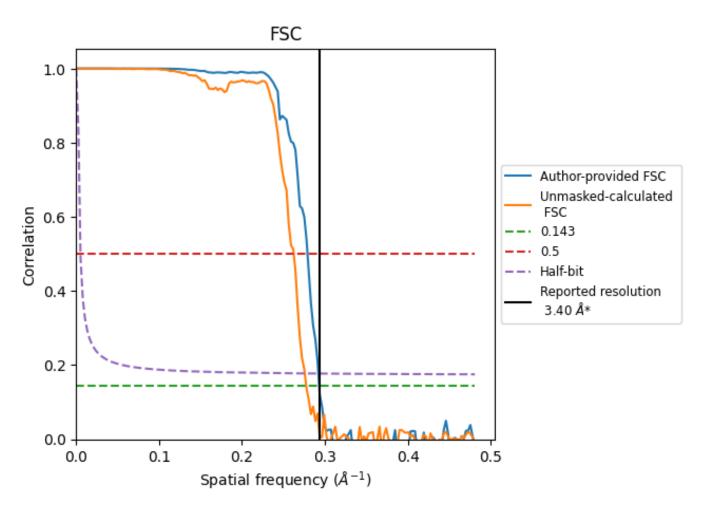
^{*}Reported resolution corresponds to spatial frequency of 0.294 $\rm \mathring{A}^{-1}$



8 Fourier-Shell correlation (i)

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

8.1 FSC (i)



*Reported resolution corresponds to spatial frequency of 0.294 $\rm \mathring{A}^{-1}$



8.2 Resolution estimates (i)

Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
resolution estimate (A)	0.143	0.5	Half-bit
Reported by author	3.40	-	-
Author-provided FSC curve	3.41	3.58	3.42
Unmasked-calculated*	3.60	3.81	3.63

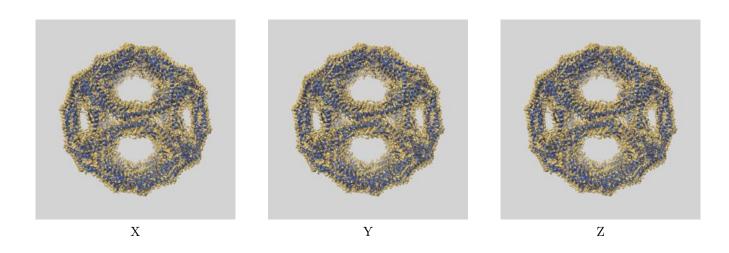
^{*}Resolution estimate based on FSC curve calculated by comparison of deposited half-maps.



9 Map-model fit (i)

This section contains information regarding the fit between EMDB map EMD-38214 and PDB model 8XB8. Per-residue inclusion information can be found in section 3 on page 10.

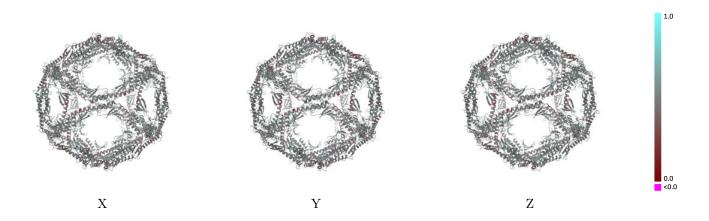
9.1 Map-model overlay (i)



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.

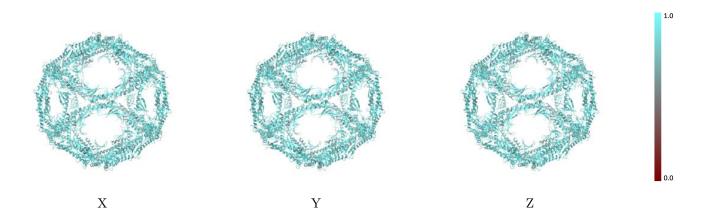


9.2 Q-score mapped to coordinate model (i)



The images above show the model with each residue coloured according 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.

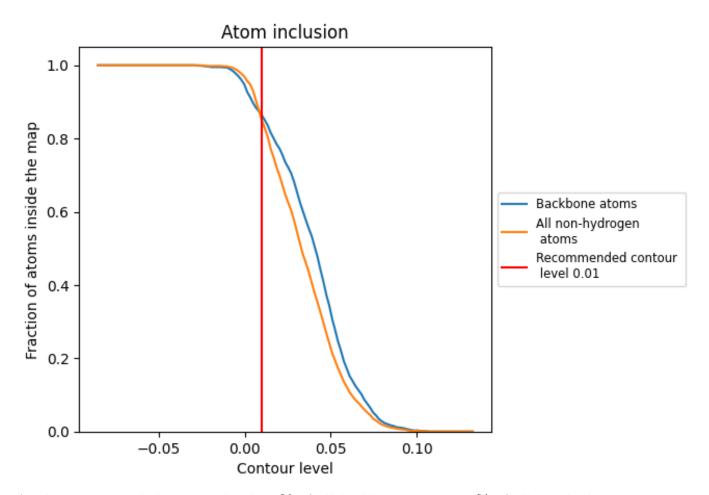
9.3 Atom inclusion mapped to coordinate model (i)



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, 86% of all backbone atoms, 85% 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 (0.01) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.8490	0.4900
0	0.8500	0.4890
1	0.8510	0.4860
2	0.8490	0.4900
3	0.8540	0.4880
4	0.8500	0.4920
5	0.8490	0.4930
6	0.8500	0.4940
7	0.8520	0.4910
A	0.8450	0.4900
В	0.8520	0.4930
С	0.8490	0.4920
D	0.8490	0.4890
Е	0.8510	0.4940
F	0.8440	0.4860
G	0.8520	0.4910
Н	0.8490	0.4920
I	0.8500	0.4890
J	0.8520	0.4930
K	0.8440	0.4930
L	0.8520	0.4890
M	0.8490	0.4900
N	0.8490	0.4890
О	0.8510	0.4940
P	0.8460	0.4850
Q	0.8490	0.4900
R	0.8460	0.4860
S	0.8570	0.4900
Т	0.8480	0.4850
U	0.8490	0.4870
V	0.8500	0.4910
W	0.8490	0.4890
X	0.8520	0.4890
Y	0.8510	0.4900
Z	0.8440	0.4910





Chain	Atom inclusion	Q-score
a	0.8510	0.4880
b	0.8490	0.4890
С	0.8560	0.4930
d	0.8430	0.4930
e	0.8480	0.4880
f	0.8480	0.4890
g	0.8500	0.4920
h	0.8510	0.4890
i	0.8490	0.4930
j	0.8430	0.4890
k	0.8540	0.4880
1	0.8490	0.4870
m	0.8490	0.4890
n	0.8510	0.4940
0	0.8510	0.4870
p	0.8500	0.4930
q	0.8480	0.4870
r	0.8520	0.4890
S	0.8500	0.4930
t	0.8460	0.4900
u	0.8540	0.4910
V	0.8490	0.4860
W	0.8550	0.4930
X	0.8410	0.4910
У	0.8480	0.4860
Z	0.8480	0.4930

