



## wwPDB EM Validation Summary Report ⓘ

May 14, 2025 – 03:00 AM EDT

PDB ID : 9COD / pdb\_00009cod  
EMDB ID : EMD-45776  
Title : C15 symmetrized DEV collar  
Authors : Iglesias, S.M.; Hou, C.F.D.; Li, F.; Cingolani, G.  
Deposited on : 2024-07-16  
Resolution : 4.70 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](mailto:validation@mail.wwpdb.org)

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

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

EMDB validation analysis : 0.0.1.dev118  
MolProbity : 4-5-2 with Phenix2.0rc1  
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)  
MapQ : 1.9.13  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.43.1

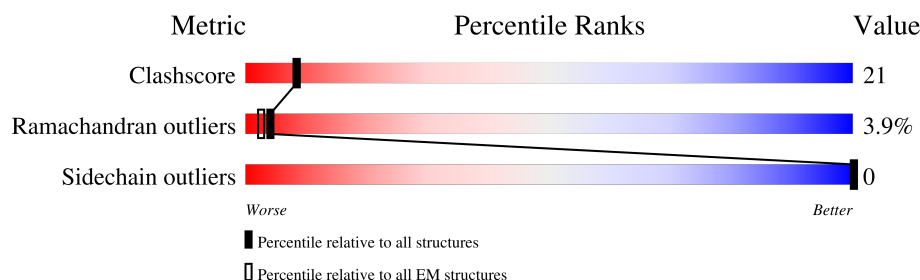
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*ELECTRON MICROSCOPY*

The reported resolution of this entry is 4.70 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	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415

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

Mol	Chain	Length	Quality of chain
1	A	1090	
1	B	1090	
1	C	1090	
1	D	1090	
1	E	1090	
1	F	1090	
1	G	1090	
1	H	1090	

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Mol	Chain	Length	Quality of chain
1	I	1090	 6% • 90%
1	J	1090	 6% • 90%
1	K	1090	 6% • 90%
1	L	1090	 6% • 90%
1	M	1090	 6% • 90%
1	N	1090	 6% • 90%
1	O	1090	 6% • 90%

## 2 Entry composition

There is only 1 type of molecule in this entry. The entry contains 12405 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 SGNH hydrolase-type esterase domain-containing protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	105	Total	C	N	O	S	0	0
			827	520	126	175	6		
1	B	105	Total	C	N	O	S	0	0
			827	520	126	175	6		
1	C	105	Total	C	N	O	S	0	0
			827	520	126	175	6		
1	D	105	Total	C	N	O	S	0	0
			827	520	126	175	6		
1	E	105	Total	C	N	O	S	0	0
			827	520	126	175	6		
1	F	105	Total	C	N	O	S	0	0
			827	520	126	175	6		
1	G	105	Total	C	N	O	S	0	0
			827	520	126	175	6		
1	H	105	Total	C	N	O	S	0	0
			827	520	126	175	6		
1	I	105	Total	C	N	O	S	0	0
			827	520	126	175	6		
1	J	105	Total	C	N	O	S	0	0
			827	520	126	175	6		
1	K	105	Total	C	N	O	S	0	0
			827	520	126	175	6		
1	L	105	Total	C	N	O	S	0	0
			827	520	126	175	6		
1	M	105	Total	C	N	O	S	0	0
			827	520	126	175	6		
1	N	105	Total	C	N	O	S	0	0
			827	520	126	175	6		
1	O	105	Total	C	N	O	S	0	0
			827	520	126	175	6		

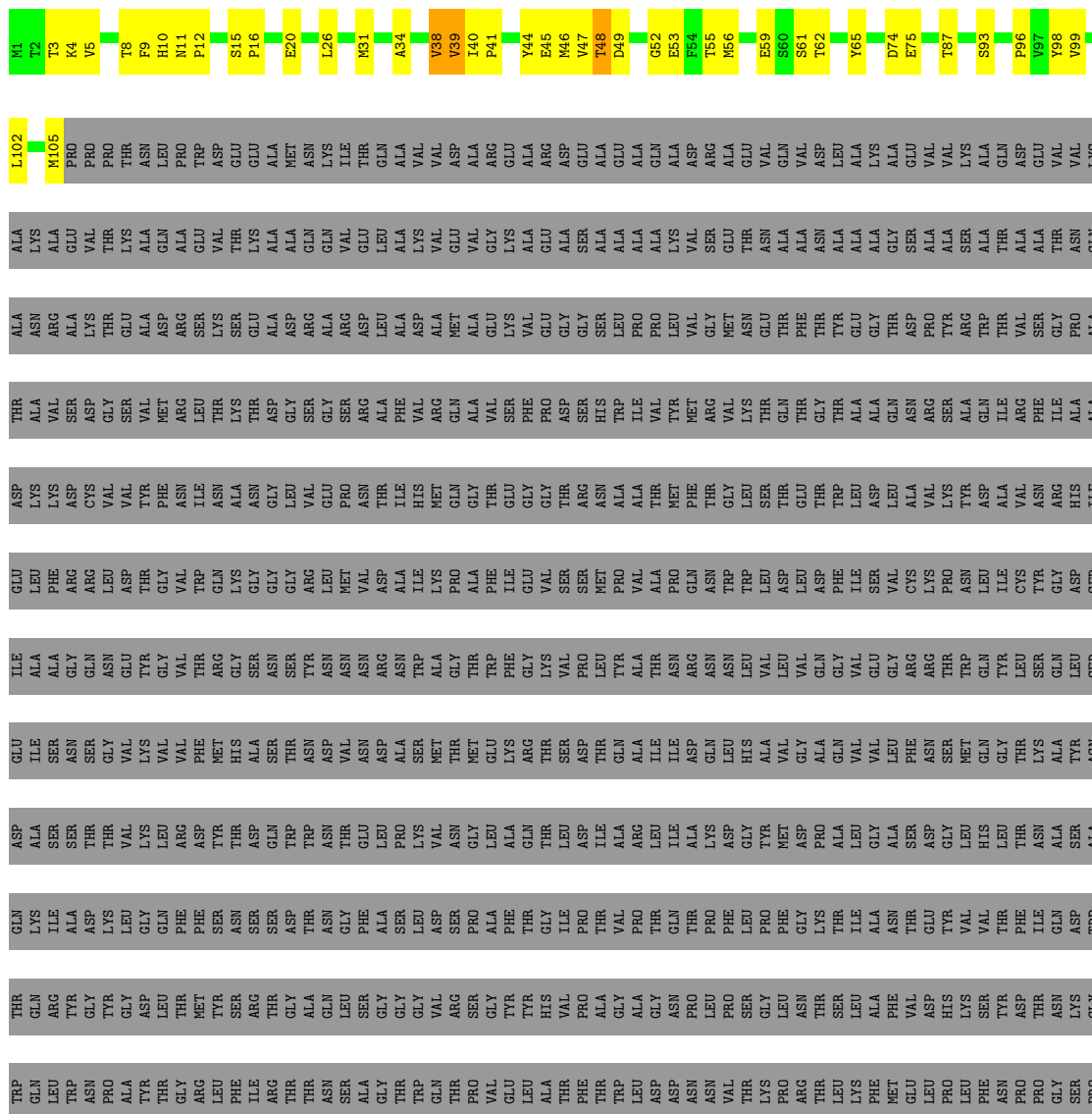






- Molecule 1: SGNH hydrolase-type esterase domain-containing protein

Chain D:  6% . 90%





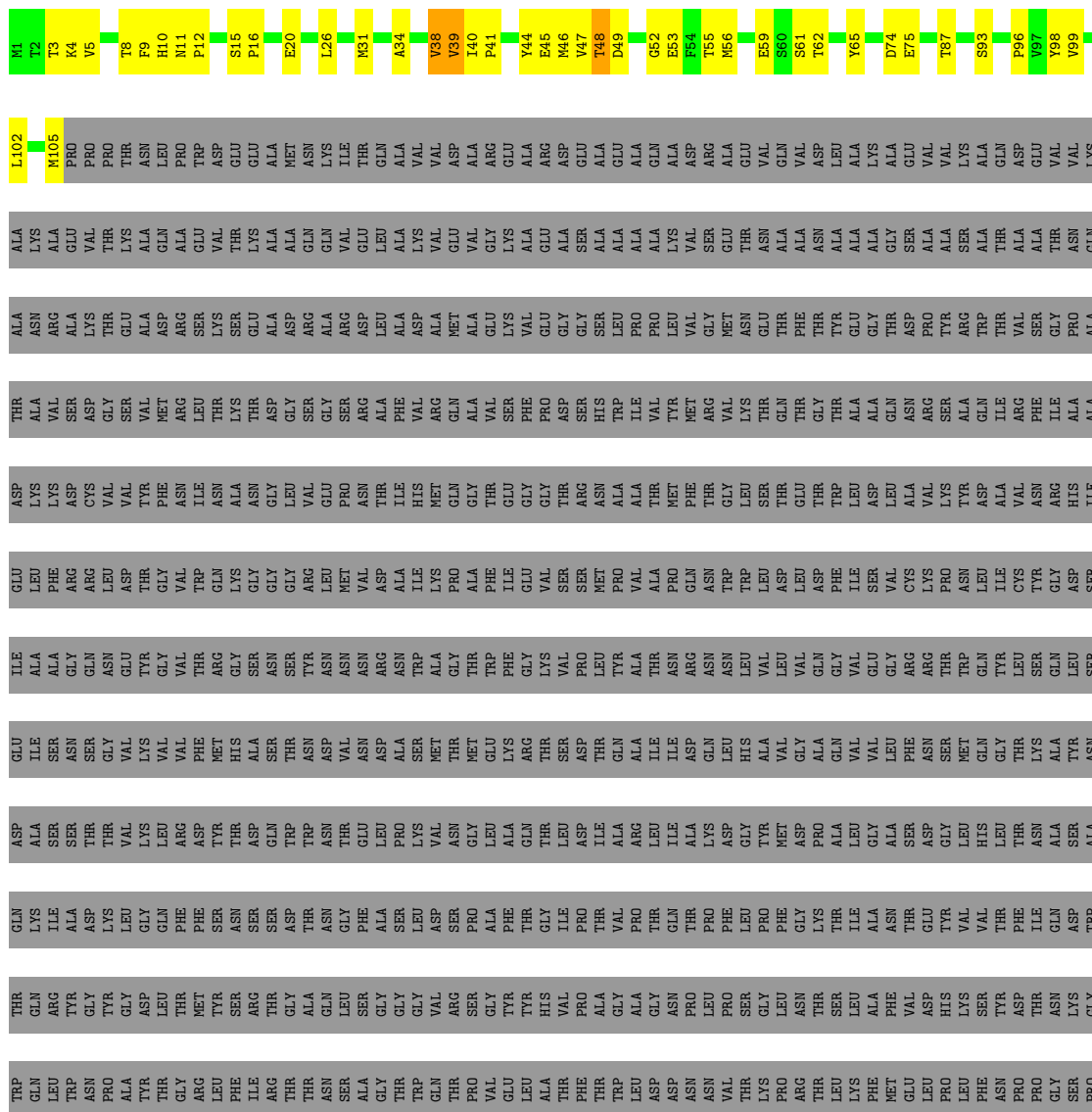




[illegible]

- Molecule 1: SGNH hydrolase-type esterase domain-containing protein

Chain G:  6% 1% 90%

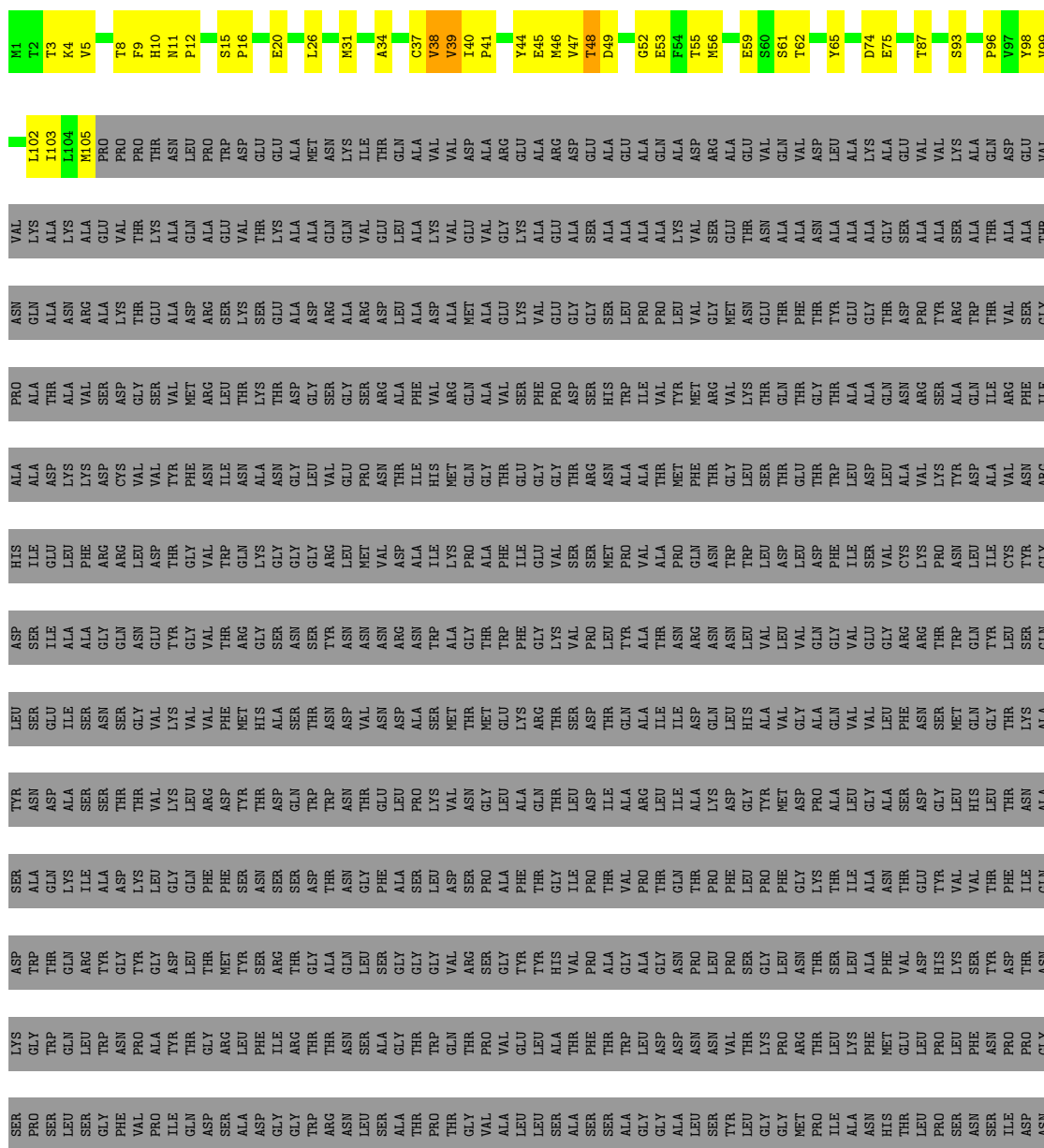




ILE	TYR	THR	SER	ALA
ARG	SER	TYR	ASN	LEU
VAL	ALA	VAL	GLY	ASN
ALA	VAL	ASP	TRP	PHE
GLY	TYR	VAL	GLU	TYR
TYR	THR	VAL	SER	SER
ALA	ALA	LEU	TRP	VAL
ALA	GLN	VAL	VAL	PRO
HIS	TYR	THR	ARG	SER
SER	THR	THR	LEU	GLY
PHE	THR	THR	LEU	THR
ALA	THR	THR	ALA	ALA
SER	TYR	TYR	SER	GLY
THR	THR	PRO	ASN	LEU
SER	SER	MET	GLN	PRO
PHE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

- Molecule 1: SGNH hydrolase-type esterase domain-containing protein

Chain I:  6% 1% 90%

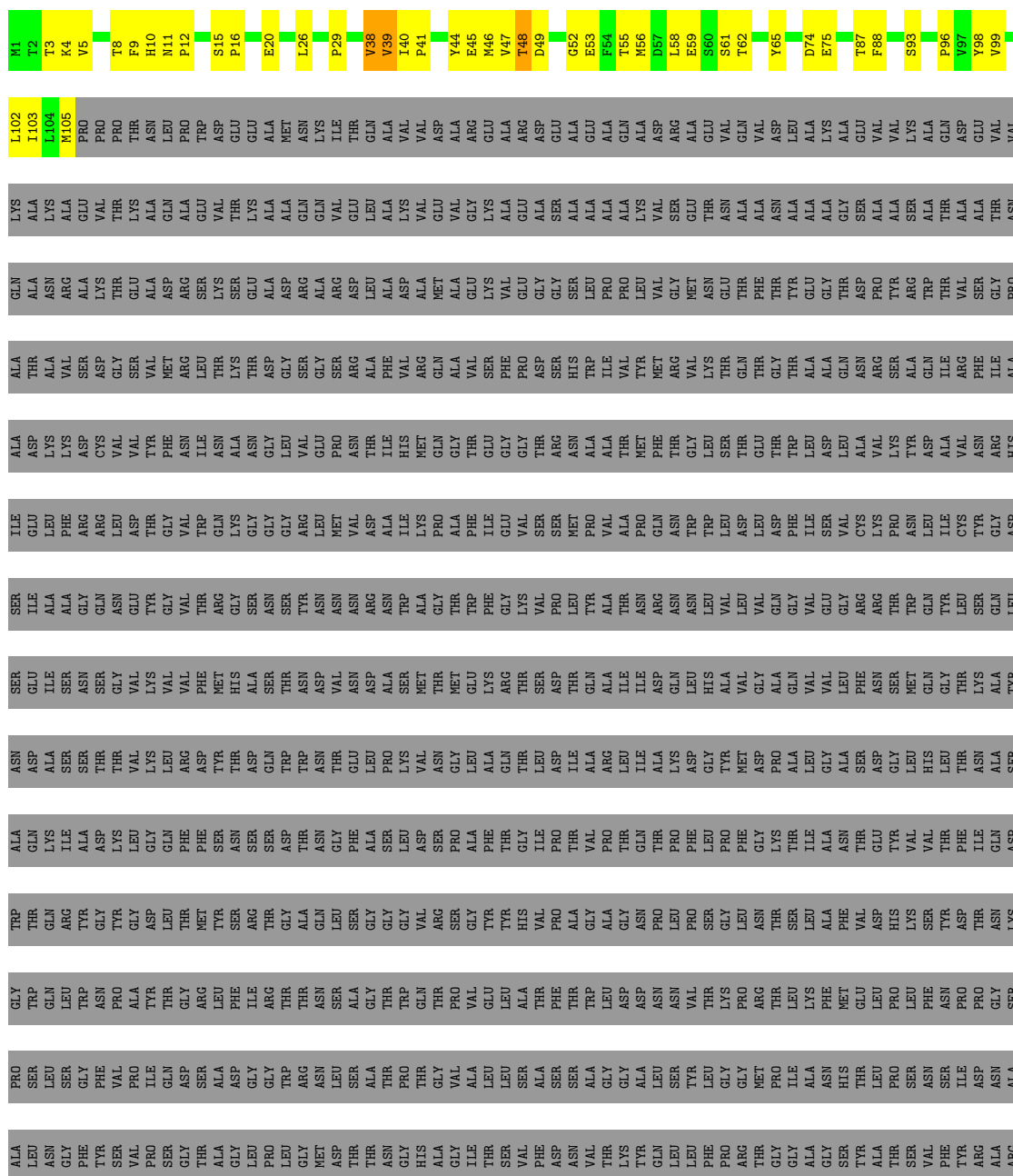




LEU	VAL	GLN	ILE	TYR	ARG	VAL	ALA	GLY	TYR	THR	HIS	ALA	ALA	THR	SER	SER	THR	SER	PHE	ILE	ILE	CYS	ALA	VAL	VAL	VAL	GLY	ARG	TRP	LYS		
ASP	ASN	ALA	ALA	ASN	ASN	GLY	PHE	TYR	SER	VAL	PRO	SER	GLY	LEU	PRO	GLN	LEU	GLY	GLY	MET	ASP	THR	THR	THR	ASN	HIS	ALA	GLY	ILE	THR	SER	ASP
ARG	ALA	ARG	SER	ASN	ASN	GLY	TRP	GLU	GLY	TRP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

- Molecule 1: SGNH hydrolase-type esterase domain-containing protein

Chain K:  6% . 90%



SER	THR	ILE
ASN	TYR	TYR
ASN	SER	ARG
GLY	ALA	VAL
TRP	VAL	ALA
GLU	ASP	GLY
SER	VAL	TYR
TRP	LEU	THR
VAL	GLN	ALA
ARG	TYR	HIS
LEU	THR	SER
LEU	TYR	PHE
ALA	THR	ALA
SER	TYR	SER
ASN	PRO	THR
GLN	MET	SER
LEU	GLY	PHE
GLY	PHE	ILE
GLY	VAL	ASN
SER	ALA	CYS
VAL	PRO	ALA
THR	PRO	VAL
THR	THR	VAL
PRO	THR	ALA
PRO	ILE	VAL
LEU	THR	VAL
LEU	VAL	GLY
THR	GLN	ARG
THR	PRO	THR
ALA	ILE	ALA
ILE	LEU	ILE
ILE	GLY	PHE
GLN	ALA	GLN
ASN	ASN	ASN
ASN	ASP	ASP
GLN	MET	GLN
ASN	PRO	ASN
VAL	TYR	VAL
GLY	PHE	GLY
ARG	ALA	SER
SER	VAL	VAL
THR	THR	THR
ARG	SER	ARG
PHE	PRO	PHE
ALA	PHE	ALA
ASP	THR	ASP
GLY	TYR	GLY
THR	ASN	THR
GLN	VAL	GLN
ILE	GLY	ILE
VAL	ASN	VAL
VAL	GLN	VAL
THR	ASN	THR
ALA	ALA	ALA
THR	THR	THR
ILE	ILE	ILE
ARG	ARG	ARG
LEU	LEU	LEU

● Molecule 1: SGNH hydrolase-type esterase domain-containing protein

Chain L: 6% 90%

M1	M2	T3	K4	V5	T8	F9	H10	N11	P12	S15	P16	E20	L26	V38	V39	I40	P41	Y44	E45	M46	V47	T48	D49	G52	E53	F54	T55	M56	E59	S60	S61	T62	Y65	I70	D74	E75	T87	S93	P96	V97	Y98	V99	L102	I103		
L104	M105	PRO	PRO	THR	ASN	LEU	PRO	TRP	ASP	GLU	ALA	MET	GLN	LYS	ILE	THR	GLN	ALA	ARG	GLU	ALA	ARG	ASP	GLU	ALA	ALA	GLN	VAL	ASP	ARG	ALA	GLU	THR	ASN	VAL	ASP	LEU	ALA	LYS	THR	GLN	ASP	GLU	VAL	VAL	ALA
LYS	ALA	GLU	VAL	THR	LYS	ALA	GLN	ALA	VAL	THR	LYS	ALA	ALA	GLN	VAL	GLU	VAL	VAL	GLY	LYS	VAL	GLU	ALA	ASP	GLU	ALA	ALA	GLN	VAL	SER	THR	VAL	ASN	ALA	ASP	ALA	THR	ALA	GLY	SER	VAL	THR	ALA	GLN	THR	ALA
ASN	ARG	ALA	LYS	THR	GLU	ALA	ASP	ARG	LYS	SER	GLU	ALA	ASP	ARG	ALA	LEU	GLU	ALA	GLU	LYS	VAL	GLU	GLY	GLY	SER	ALA	PRO	ALA	LEU	GLY	MET	ASN	THR	GLU	PHE	THR	TYR	GLU	GLY	THR	ARG	TRP	THR	GLY	PRO	THR
ALA	VAL	SER	ASP	GLY	SER	VAL	MET	ARG	THR	LYS	THR	ASP	ARG	ALA	PHE	VAL	ARG	GLN	VAL	SER	PHE	PRO	ASP	SER	HIS	THR	ILE	VAL	THR	VAL	VAL	LYS	THR	GLY	THR	GLY	ALA	GLY	ALA	GLY	THR	ALA	GLN	ILE	ASP	
LYS	LYS	ASP	CYS	VAL	VAL	TYR	PHE	ASN	ALA	ASN	GLY	VAL	GLU	THR	HIS	LYS	GLN	GLY	THR	GLY	GLY	GLY	THR	ASN	ALA	ALA	THR	ALA	THR	THR	THR	GLY	THR	TRP	LEU	LEU	SER	VAL	VAL	VAL	ASN	ARG	HIS	GLU		
LEU	PHE	ARG	ARG	LEU	ASP	THR	GLY	VAL	LYS	GLY	GLY	ARG	LEU	MET	ASP	ILE	PRO	ALA	PHE	ILE	GLY	VAL	SER	SER	MET	PRO	VAL	ALA	THR	TRP	TRP	THR	LEU	ASP	LEU	ILE	THR	VAL	CYS	THR	GLY	ASP	SER	ILE		
ALA	ALA	GLN	GLY	ASN	GLY	TYR	GLY	ASN	THR	SER	ASN	TYR	ASN	ARG	ALA	THR	GLY	THR	PHE	GLY	PHE	THR	LEU	TYR	PRO	VAL	ALA	THR	THR	ASN	ASN	VAL	GLN	GLY	VAL	VAL	GLN	VAL	THR	THR	GLN	LEU	SER	GLU		
ILE	SER	ASN	SER	VAL	LYS	VAL	VAL	VAL	THR	HIS	SER	THR	VAL	ASN	ASP	ALA	GLY	GLY	GLU	LYS	ARG	THR	THR	ILE	GLN	LEU	ALA	ILE	ILE	GLN	LEU	HIS	VAL	GLY	GLN	VAL	VAL	ASP	THR	SER	THR	GLN	ASP			
ALA	SER	THR	THR	VAL	LYS	LEU	ARG	ASP	THR	GLN	GLN	TRP	THR	ASN	PRO	LYS	LEU	LEU	ALA	GLY	GLY	GLN	LEU	ILE	ALA	PRO	ARG	LEU	ILE	LYS	GLY	THR	TYR	ALA	GLY	VAL	GLY	VAL	THR	THR	THR	GLN				
LYS	ILE	ALA	ASP	LEU	GLY	GLN	PHE	SER	SER	SER	SER	ASP	PHE	ALA	SER	ALA	ALA	ALA	PHE	THR	THR	THR	ILE	PRO	THR	PHE	THR	GLN	THR	PRO	PHE	LEU	PRO	GLY	THR	ILE	ASN	THR	THR	THR	THR	THR				
GLN	ARG	TYR	GLY	TYR	GLY	ASP	THR	TYR	THR	GLY	GLY	THR	SER	GLY	GLY	VAL	VAL	GLY	TYR	THR	THR	THR	GLY	ALA	PRO	GLY	ALA	THR	ASN	LEU	PRO	GLY	THR	ASN	THR	LEU	VAL	LYS	HIS	THR	THR	THR	TRP			
GLN	LEU	TRP	ASN	PRO	ALA	TYR	THR	ARG	THR	ILE	ARG	THR	LEU	SER	ALA	GLY	VAL	PRO	VAL	GLY	LEU	THR	THR	THR	THR	VAL	ASP	ALA	PHE	VAL	VAL	LYS	THR	THR	GLY	THR	THR	THR	THR	THR	THR	THR	SER			
LEU	SER	PHE	GLY	PRO	ILE	GLN	ASP	SER	GLY	GLY	THR	TRP	LEU	SER	ALA	THR	ALA	ALA	LEU	LEU	LEU	THR	THR	THR	THR	TYR	LEU	GLY	GLY	THR	ILE	PRO	GLY	ILE	ALA	ALA	HIS	THR	THR	THR	THR	THR	LEU			
ASN	GLY	TYR	THR	VAL	VAL	PRO	GLY	ALA	GLY	LEU	PRO	LEU	THR	THR	ASN	GLY	GLY	ILE	ASN	ASN	THR	PHE	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	ASN			
ASN	GLY	TRP	GLU	SER	VAL	TRP	VAL	LEU	GLN	ASN	GLN	LEU	VAL	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	TYR		



SER	VAL	ALA	ALA	ASP	VAL	LEU	GLN	THR	THR	THR	THR	PRO	MET	GLY	PHE	VAL	ALA	ALA	PRO	PRO	THR	THR	THR	VAL	GLN	ILE	ILE	GLY	ALA	ARG	ALA	ALA	ASP	ASP	ASN	ASP	MET	PRO	PRO	THR	TYR	PHE	PHE	VAL	THR	THR	ASN	VAL	GLY	ASN	GLY	ALA	ILE	THR																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
ARG	VAL	ALA	ALA	GLY	TYR	THR	ALA	HIS	THR	SER	SER	PHE	PHE	ILE	ASN	CYS	ALA	VAL	VAL	VAL	ALA	ALA	VAL	GLY	ARG	TRP	LYS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										

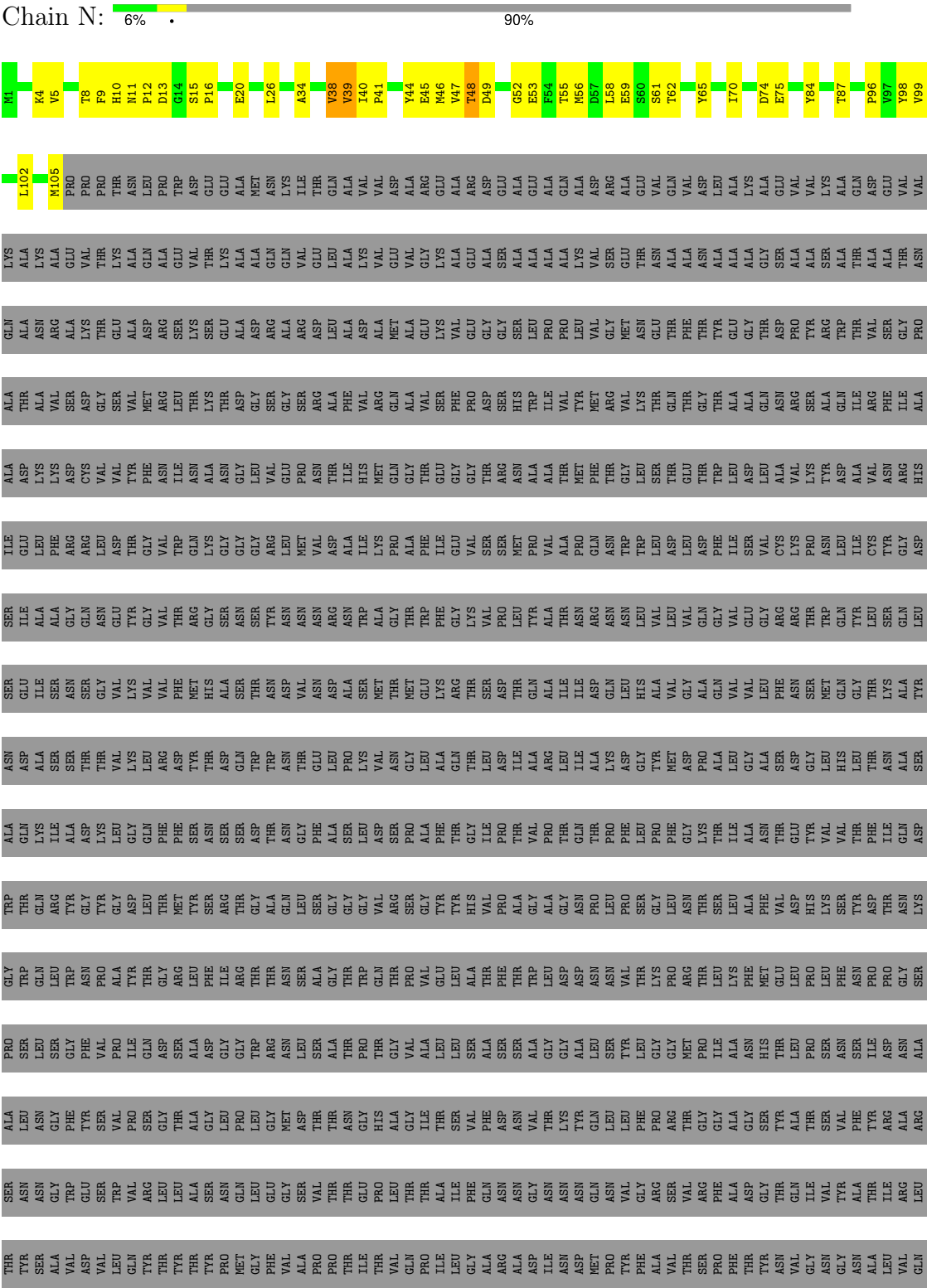
- Molecule 1: SGNH hydrolase-type esterase domain-containing protein

Chain M:  6% 90%

ALA	VAL	TRP	GLY	GLY	SER	LEU	ARG	TLE	SER	SER	SER	ASN	ALA	PHE	LYS	VAL	ARG	ALA	M105
VAL	ASP	PHE	TYR	GLY	THR	TRP	TYR	ALA	SER	SER	ASN	GLY	GLY	ARG	ASP	CYS	SER	GLU	PRO
VAL	VAL	SER	TYR	GLY	THR	PRO	GLY	LYS	VAL	THR	VAL	GLY	ASN	ARG	VAL	VAL	THR	VAL	PRO
GLN	LEU	VAL	GLY	ASP	LYS	TYR	ASP	GLY	VAL	VAL	VAL	LYS	TYR	THR	PHE	TYR	ALA	ASN	THR
TYR	ARG	SER	GLN	LEU	THR	THR	LEU	GLN	VAL	GLY	VAL	GLY	VAL	GLY	THR	ASN	ASP	GLN	LEU
THR	THR	GLY	THR	THR	THR	ARG	THR	PHE	VAL	ARG	VAL	THR	THR	THR	ASN	ASN	ALA	ALA	PRO
ALA	THR	THR	THR	ALA	ALA	LEU	TYR	SER	THR	THR	THR	THR	THR	GLN	ILE	THR	SER	GLU	TRP
PRO	TYR	GLY	THR	ALA	ASP	PHE	THR	ASN	HIS	THR	VAL	GLY	GLY	GLN	ALA	ASN	VAL	GLU	ASP
PRO	ASN	LEU	ILE	GLY	THR	THR	ILE	SER	ALA	THR	VAL	ASN	SER	GLY	ASN	GLY	LYS	THR	GLU
MET	MET	GLY	ARG	SER	ASP	ARG	GLN	SER	ASN	ASP	VAL	ASN	ASN	GLY	GLY	ASP	ALA	ALA	ALA
GLY	GLY	PRO	THR	SER	GLN	ARG	THR	SER	SER	SER	ASN	ASN	THR	ARG	THR	VAL	ALA	ALA	MET
PHE	PHE	THR	THR	ARG	TRP	THR	ALA	THR	THR	THR	PRO	ALA	ASN	ILE	PHE	ALA	ALA	ALA	GLY
VAL	VAL	THR	ALA	THR	TRP	THR	GLY	LEU	SER	GLY	GLY	THR	THR	THR	VAL	MET	VAL	VAL	LYS
ALA	ALA	THR	VAL	VAL	VAL	VAL	VAL	ASP	THR	THR	GLY	ALA	ALA	PRO	GLN	ARG	ALA	VAL	VAL
VAL	VAL	GLY	ARG	SER	ASN	THR	ARG	SER	THR	GLY	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASP
PRO	PRO	LEU	THR	THR	THR	THR	THR	GLY	VAL	GLY	VAL	ASN	ASN	PHE	PRO	PRO	ARG	LYS	GLU
ASN	ASN	THR	THR	THR	THR	THR	THR	PHE	GLY	GLY	GLY	ASN	ASN	VAL	ASN	ASN	THR	LYS	THR
MET	MET	THR	THR	THR	THR	THR	THR	ALA	GLY	LEU	LEU	ASN	ASN	ASP	THR	THR	ASP	ALA	ALA
GLY	GLY	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	GLY	GLU
PHE	PHE	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	LYS	ALA
VAL	VAL	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
ALA	ALA	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
PRO	PRO	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	GLN	GLN
THR	THR	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ASP
LEU	LEU	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	GLU
VAL	VAL	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	GLU
ALA	ALA	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
LEU	LEU	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
VAL	VAL	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
ALA	ALA	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
PRO	PRO	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
THR	THR	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
LEU	LEU	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
VAL	VAL	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
ALA	ALA	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
PRO	PRO	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
THR	THR	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
LEU	LEU	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
VAL	VAL	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
ALA	ALA	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
PRO	PRO	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
THR	THR	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
LEU	LEU	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
VAL	VAL	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
ALA	ALA	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
PRO	PRO	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
THR	THR	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
LEU	LEU	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
VAL	VAL	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
ALA	ALA	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
PRO	PRO	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
THR	THR	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
LEU	LEU	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
VAL	VAL	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
ALA	ALA	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
PRO	PRO	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
THR	THR	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
LEU	LEU	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
VAL	VAL	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
ALA	ALA	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
PRO	PRO	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
THR	THR	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
LEU	LEU	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
VAL	VAL	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
ALA	ALA	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
PRO	PRO	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
THR	THR	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
LEU	LEU	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
VAL	VAL	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
ALA	ALA	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
PRO	PRO	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
THR	THR	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
LEU	LEU	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
VAL	VAL	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
ALA	ALA	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
PRO	PRO	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
THR	THR	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
LEU	LEU	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
VAL	VAL	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
ALA	ALA	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
PRO	PRO	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
THR	THR	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
LEU	LEU	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
VAL	VAL	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
ALA	ALA	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
PRO	PRO	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
THR	THR	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
LEU	LEU	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
VAL	VAL	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
ALA	ALA	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
PRO	PRO	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
THR	THR	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
LEU	LEU	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
VAL	VAL	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
ALA	ALA	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
PRO	PRO	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR	ALA	ALA
THR	THR	THR	THR	THR	THR	THR	THR	ALA	GLY	GLY	GLY	ASN	ASN	THR	THR	THR	THR		

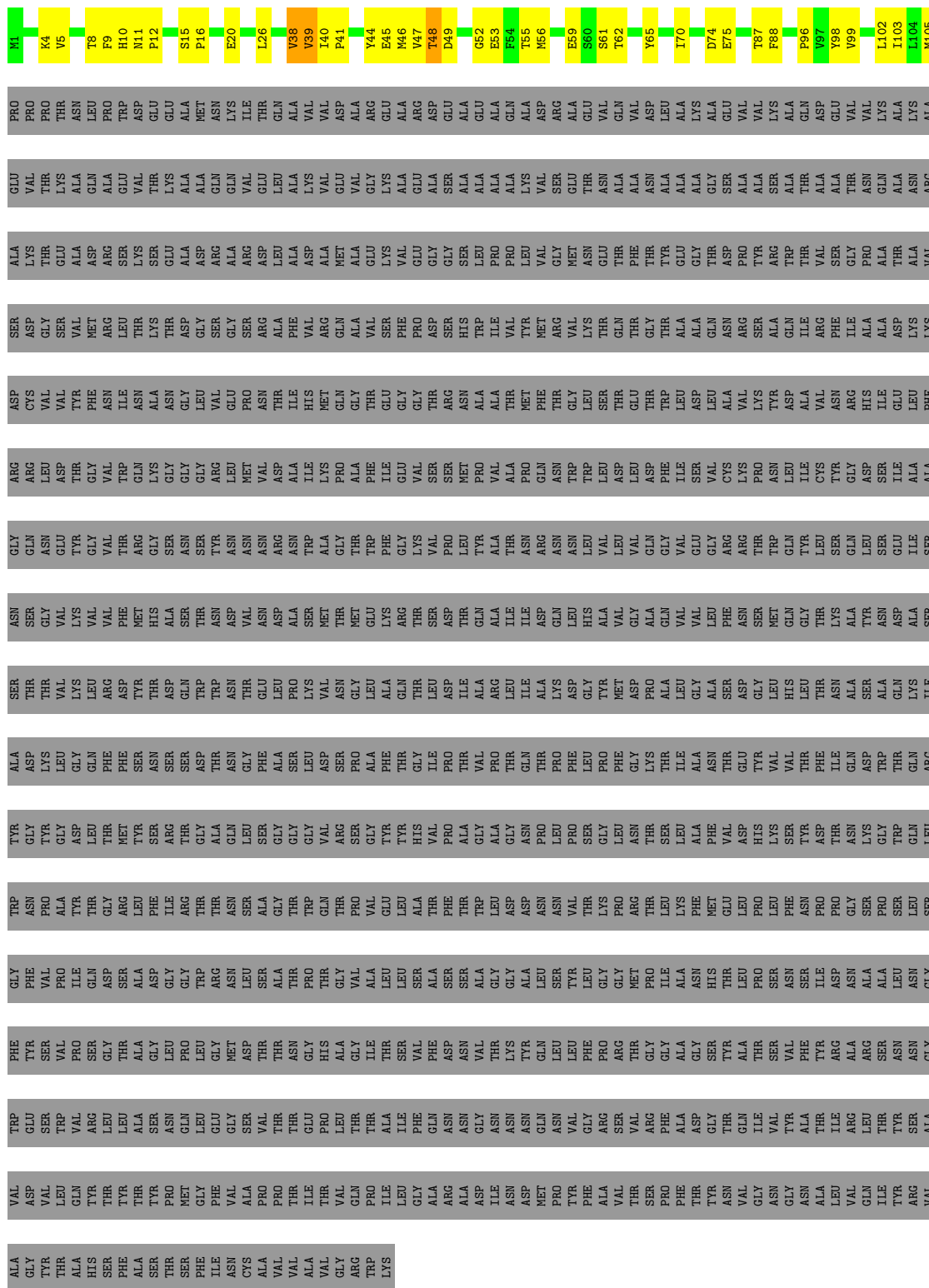
VAL	ALA	GLY	TYR	THR	ALA	HIS	SER	PHE	ALA	SER	THR	SER	PHE	ILE	ASN	CYS	ALA	VAL	VAL	ALA	VAL	GLY	GLY	ARG	TRP	TRP	LYS
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

- Molecule 1: SGNH hydrolase-type esterase domain-containing protein



- Molecule 1: SGNH hydrolase-type esterase domain-containing protein

Chain 0:  6% 90%



## 4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	3200	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ( $e^-/\text{\AA}^2$ )	50	Depositor
Minimum defocus (nm)	800	Depositor
Maximum defocus (nm)	1600	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	0.035	Depositor
Minimum map value	-0.017	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.001	Depositor
Recommended contour level	0.0018	Depositor
Map size (Å)	573.44, 573.44, 573.44	wwPDB
Map dimensions	512, 512, 512	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.12, 1.12, 1.12	Depositor

## 5 Model quality

### 5.1 Standard geometry

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	0.21	0/847	0.67	2/1156 (0.2%)
1	B	0.21	0/847	0.67	2/1156 (0.2%)
1	C	0.21	0/847	0.67	2/1156 (0.2%)
1	D	0.21	0/847	0.67	2/1156 (0.2%)
1	E	0.21	0/847	0.67	2/1156 (0.2%)
1	F	0.21	0/847	0.67	2/1156 (0.2%)
1	G	0.21	0/847	0.68	2/1156 (0.2%)
1	H	0.21	0/847	0.68	2/1156 (0.2%)
1	I	0.21	0/847	0.67	2/1156 (0.2%)
1	J	0.21	0/847	0.67	2/1156 (0.2%)
1	K	0.21	0/847	0.67	2/1156 (0.2%)
1	L	0.21	0/847	0.67	2/1156 (0.2%)
1	M	0.21	0/847	0.67	2/1156 (0.2%)
1	N	0.21	0/847	0.67	2/1156 (0.2%)
1	O	0.21	0/847	0.68	2/1156 (0.2%)
All	All	0.21	0/12705	0.67	30/17340 (0.2%)

There are no bond length outliers.

The worst 5 of 30 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	C	48	THR	CA-C-N	6.15	133.28	121.54
1	C	48	THR	C-N-CA	6.15	133.28	121.54
1	M	48	THR	CA-C-N	6.15	133.28	121.54
1	M	48	THR	C-N-CA	6.15	133.28	121.54
1	F	48	THR	CA-C-N	6.14	133.28	121.54

There are no chirality outliers.

There are no planarity outliers.

## 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	827	0	763	40	0
1	B	827	0	763	45	0
1	C	827	0	763	40	0
1	D	827	0	763	36	0
1	E	827	0	763	39	0
1	F	827	0	763	37	0
1	G	827	0	763	38	0
1	H	827	0	763	39	0
1	I	827	0	763	40	0
1	J	827	0	763	43	0
1	K	827	0	763	47	0
1	L	827	0	763	39	0
1	M	827	0	763	37	0
1	N	827	0	763	42	0
1	O	827	0	763	38	0
All	All	12405	0	11445	506	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 21.

The worst 5 of 506 close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:38:VAL:HG13	1:A:39:VAL:H	1.34	0.93
1:F:38:VAL:HG13	1:F:39:VAL:H	1.34	0.93
1:D:38:VAL:HG13	1:D:39:VAL:H	1.34	0.93
1:K:38:VAL:HG13	1:K:39:VAL:H	1.34	0.92
1:J:38:VAL:HG13	1:J:39:VAL:H	1.34	0.92

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	103/1090 (9%)	74 (72%)	25 (24%)	4 (4%)	2	19
1	B	103/1090 (9%)	74 (72%)	25 (24%)	4 (4%)	2	19
1	C	103/1090 (9%)	74 (72%)	25 (24%)	4 (4%)	2	19
1	D	103/1090 (9%)	74 (72%)	25 (24%)	4 (4%)	2	19
1	E	103/1090 (9%)	74 (72%)	25 (24%)	4 (4%)	2	19
1	F	103/1090 (9%)	74 (72%)	25 (24%)	4 (4%)	2	19
1	G	103/1090 (9%)	74 (72%)	25 (24%)	4 (4%)	2	19
1	H	103/1090 (9%)	74 (72%)	25 (24%)	4 (4%)	2	19
1	I	103/1090 (9%)	74 (72%)	25 (24%)	4 (4%)	2	19
1	J	103/1090 (9%)	74 (72%)	25 (24%)	4 (4%)	2	19
1	K	103/1090 (9%)	74 (72%)	25 (24%)	4 (4%)	2	19
1	L	103/1090 (9%)	74 (72%)	25 (24%)	4 (4%)	2	19
1	M	103/1090 (9%)	74 (72%)	25 (24%)	4 (4%)	2	19
1	N	103/1090 (9%)	74 (72%)	25 (24%)	4 (4%)	2	19
1	O	103/1090 (9%)	74 (72%)	25 (24%)	4 (4%)	2	19
All	All	1545/16350 (9%)	1110 (72%)	375 (24%)	60 (4%)	4	19

5 of 60 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	38	VAL
1	A	47	VAL
1	B	38	VAL
1	B	47	VAL
1	C	38	VAL

### 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	94/882 (11%)	94 (100%)	0	100	100
1	B	94/882 (11%)	94 (100%)	0	100	100
1	C	94/882 (11%)	94 (100%)	0	100	100
1	D	94/882 (11%)	94 (100%)	0	100	100
1	E	94/882 (11%)	94 (100%)	0	100	100
1	F	94/882 (11%)	94 (100%)	0	100	100
1	G	94/882 (11%)	94 (100%)	0	100	100
1	H	94/882 (11%)	94 (100%)	0	100	100
1	I	94/882 (11%)	94 (100%)	0	100	100
1	J	94/882 (11%)	94 (100%)	0	100	100
1	K	94/882 (11%)	94 (100%)	0	100	100
1	L	94/882 (11%)	94 (100%)	0	100	100
1	M	94/882 (11%)	94 (100%)	0	100	100
1	N	94/882 (11%)	94 (100%)	0	100	100
1	O	94/882 (11%)	94 (100%)	0	100	100
All	All	1410/13230 (11%)	1410 (100%)	0	100	100

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

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 27 such sidechains are listed below:

Mol	Chain	Res	Type
1	J	10	HIS
1	K	11	ASN
1	N	17	GLN
1	K	10	HIS
1	L	11	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 oligosaccharides 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.

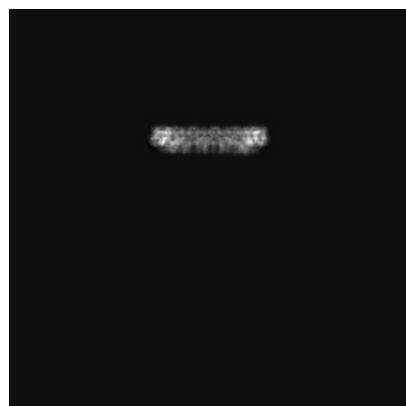
## 6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-45776. These allow visual inspection of the internal detail of the map and identification of artifacts.

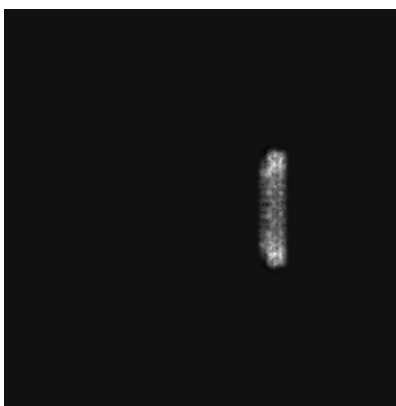
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

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

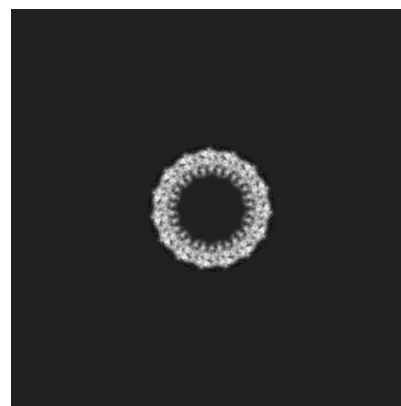
#### 6.1.1 Primary map



X

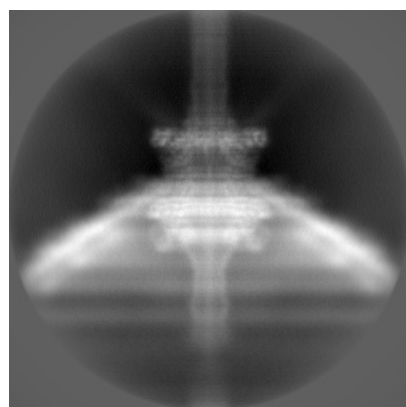


Y

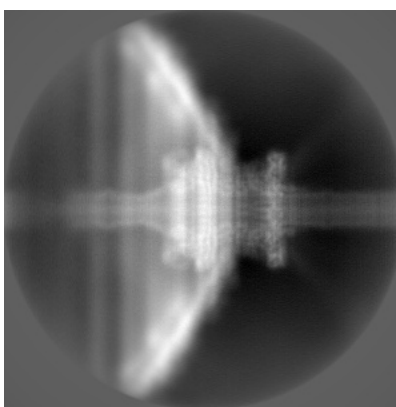


Z

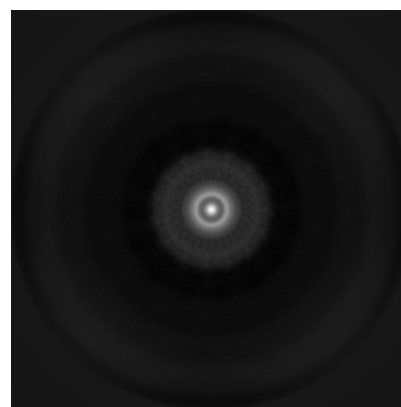
#### 6.1.2 Raw map



X



Y



Z

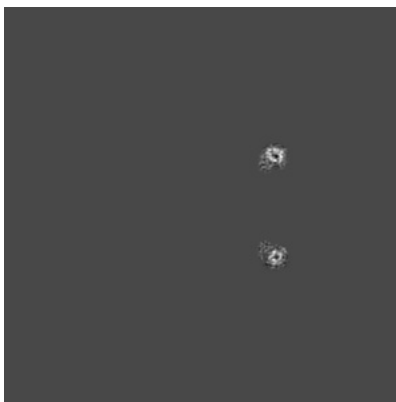
The images above show the map projected in three orthogonal directions.

## 6.2 Central slices [i](#)

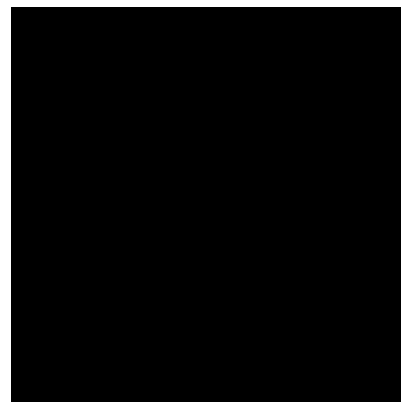
### 6.2.1 Primary map



X Index: 256

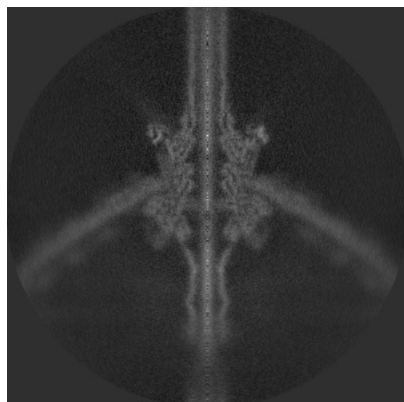


Y Index: 256

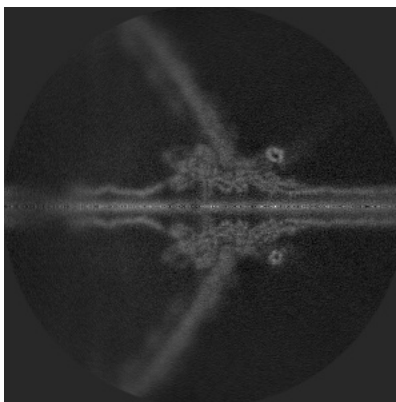


Z Index: 256

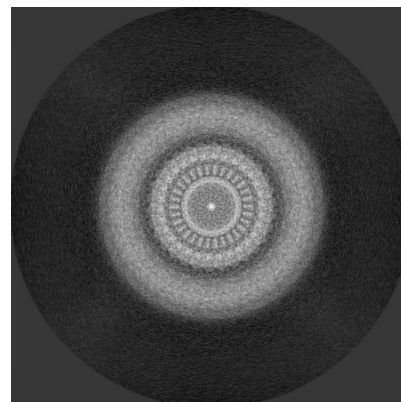
### 6.2.2 Raw map



X Index: 256



Y Index: 256

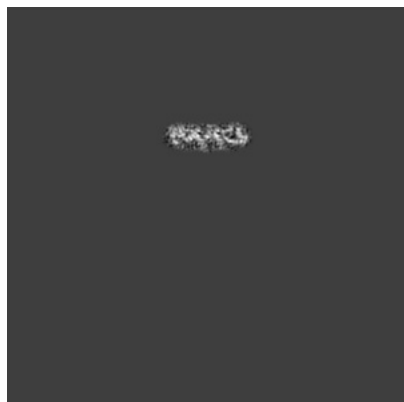


Z Index: 256

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

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

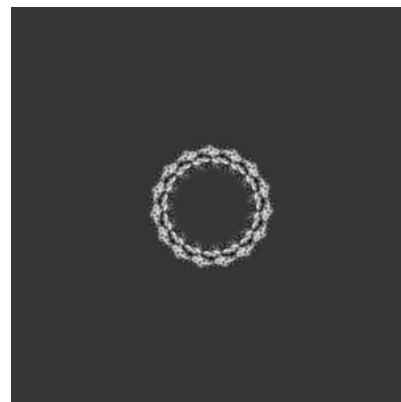
### 6.3.1 Primary map



X Index: 198

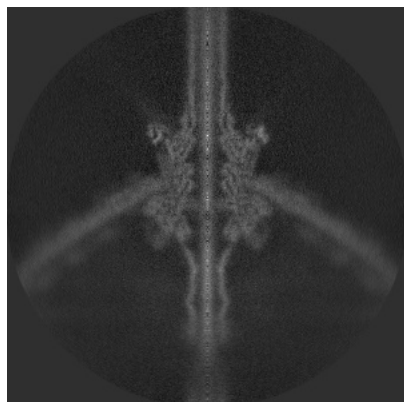


Y Index: 197

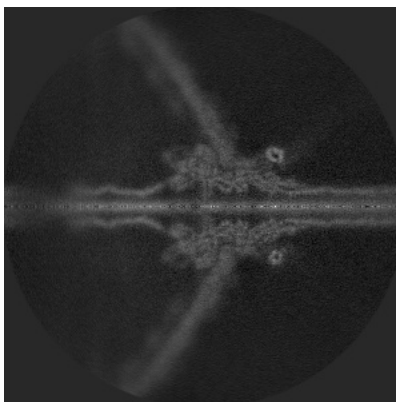


Z Index: 346

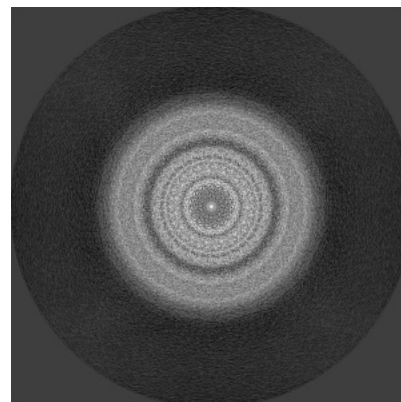
### 6.3.2 Raw map



X Index: 256



Y Index: 256

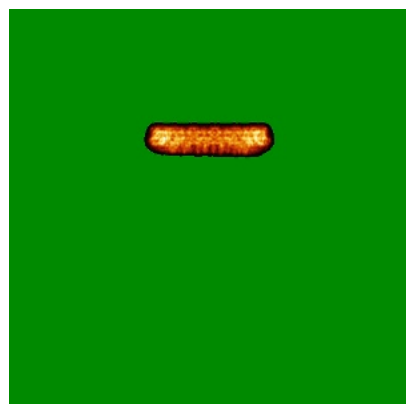


Z Index: 262

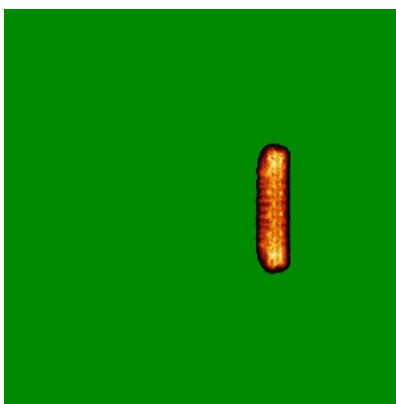
The images above show the largest variance slices of the map in three orthogonal directions.

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

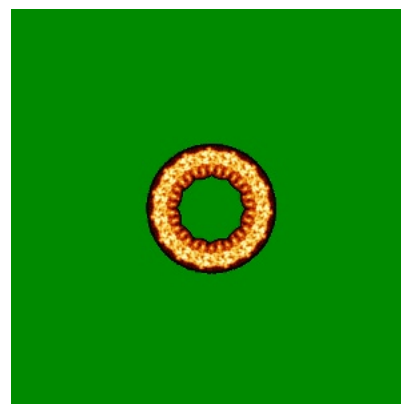
### 6.4.1 Primary map



X

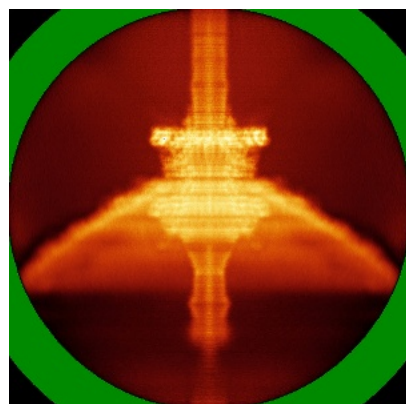


Y

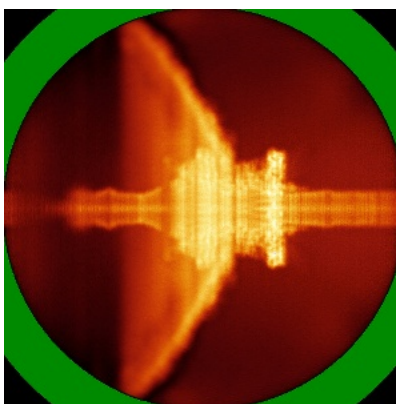


Z

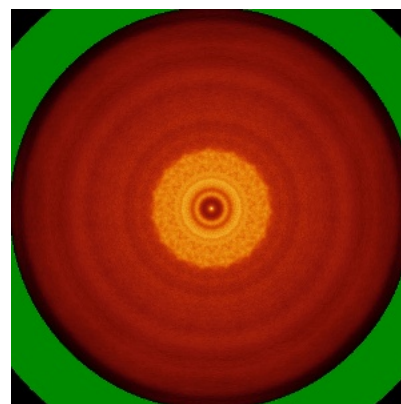
### 6.4.2 Raw map



X



Y



Z

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

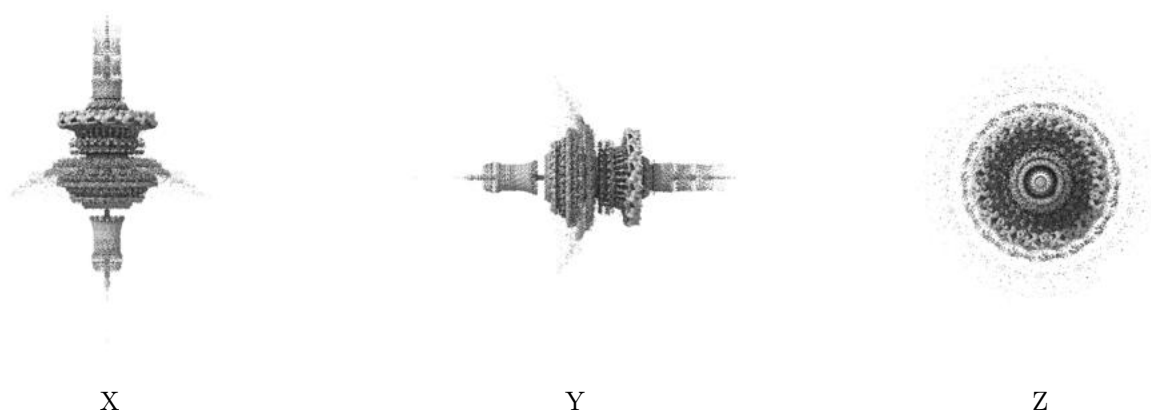
## 6.5 Orthogonal surface views [i](#)

### 6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.0018. 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.

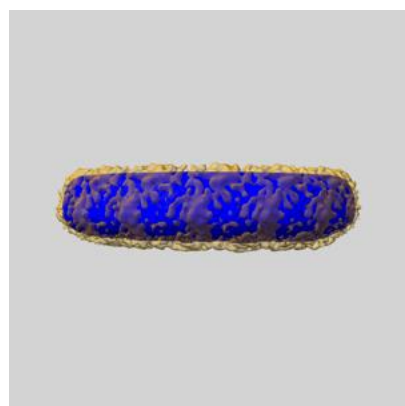
## 6.6 Mask visualisation [i](#)

This section shows the 3D surface view of the primary map at 50% transparency overlaid with the specified mask at 0% transparency

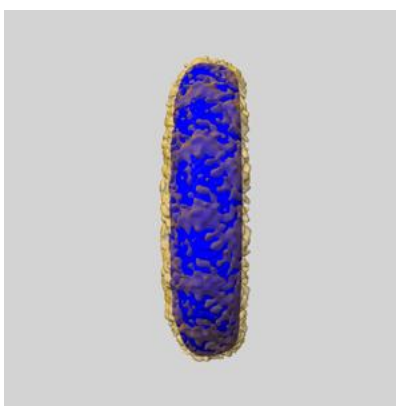
A mask typically either:

- Encompasses the whole structure
- Separates out a domain, a functional unit, a monomer or an area of interest from a larger structure

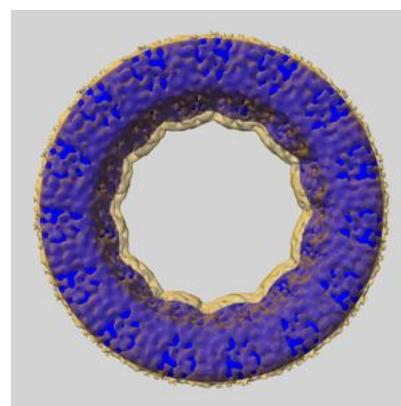
### 6.6.1 emd\_45776\_msk\_1.map [i](#)



X



Y

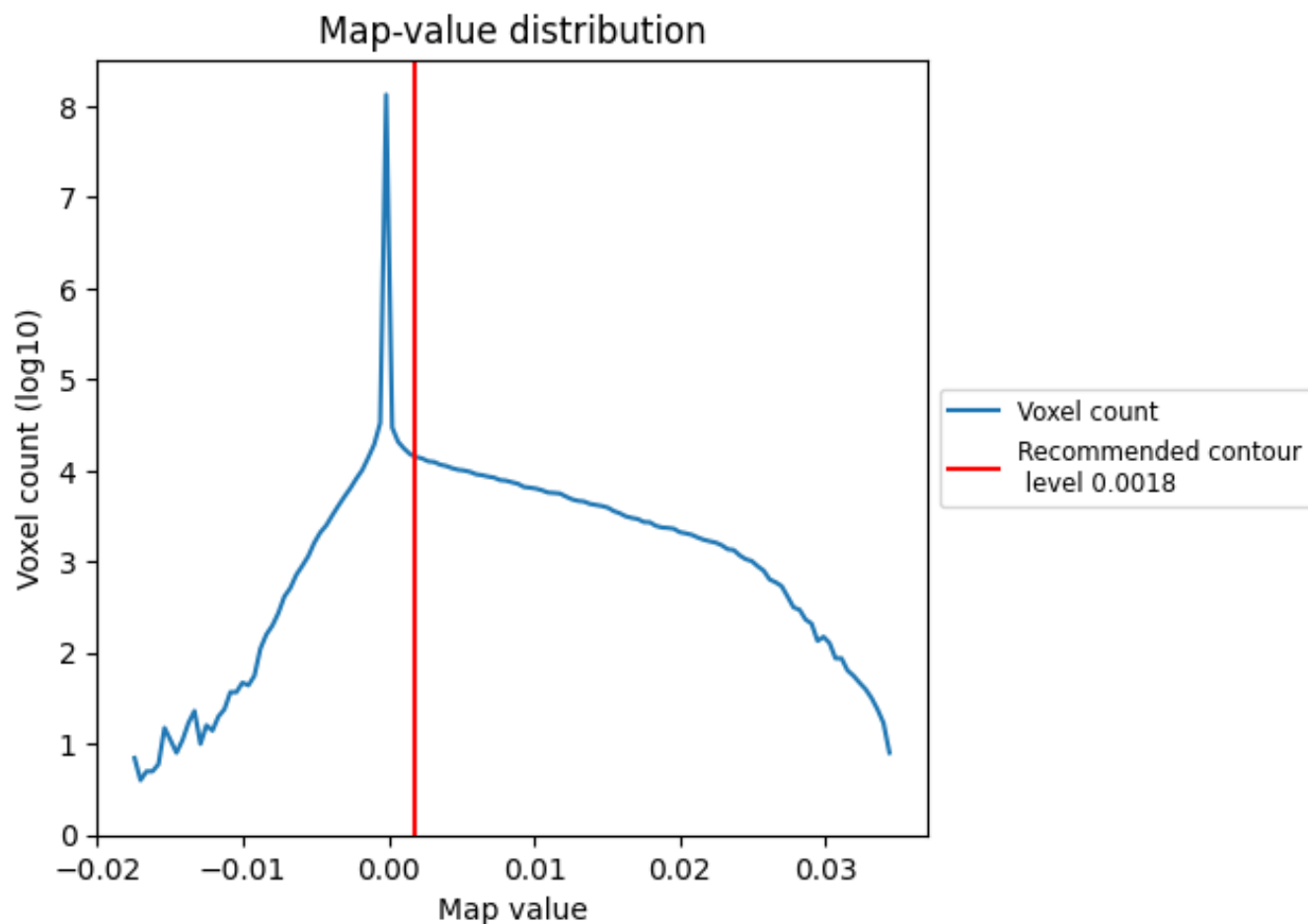


Z

## 7 Map analysis [i](#)

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

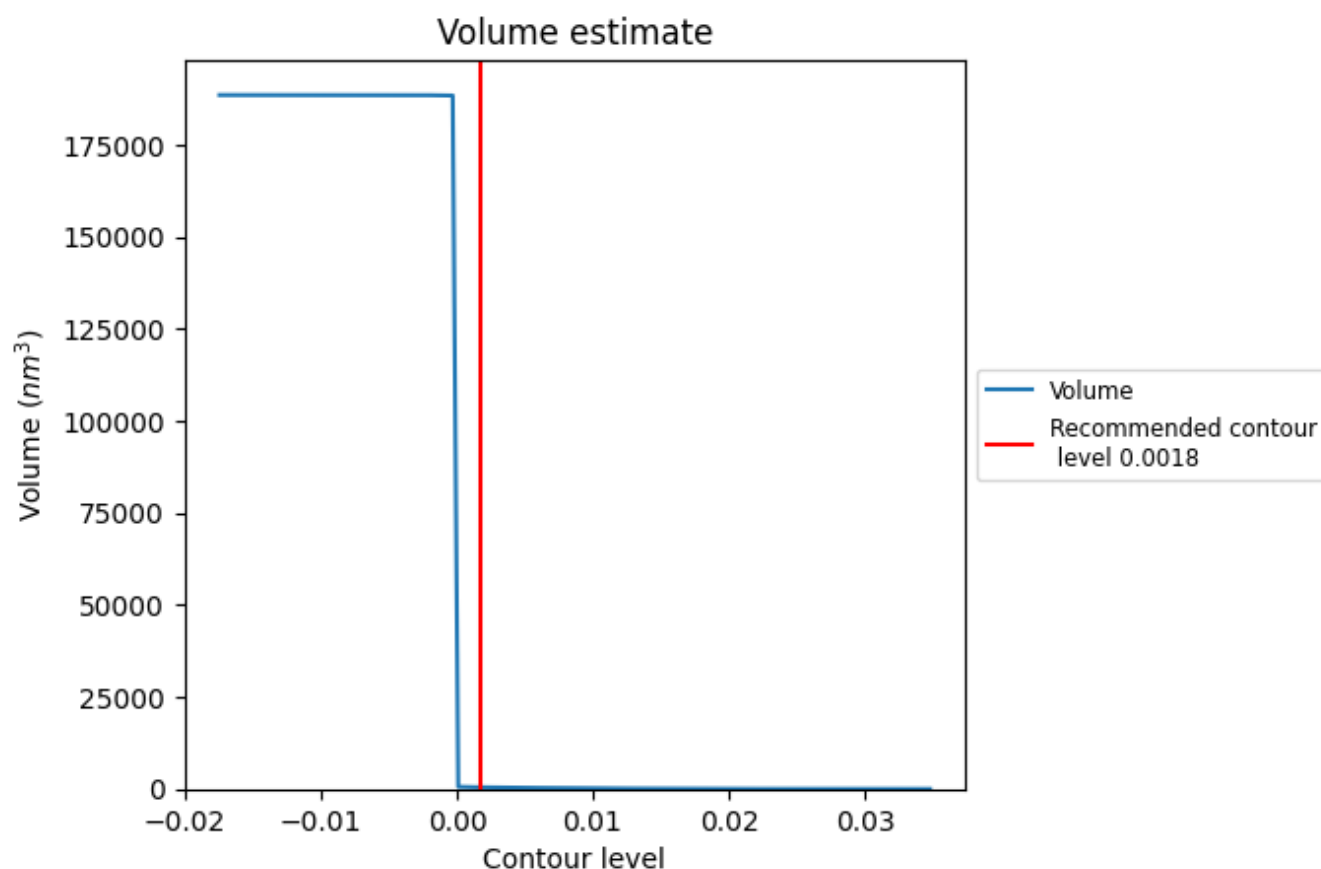
### 7.1 Map-value distribution [i](#)



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.



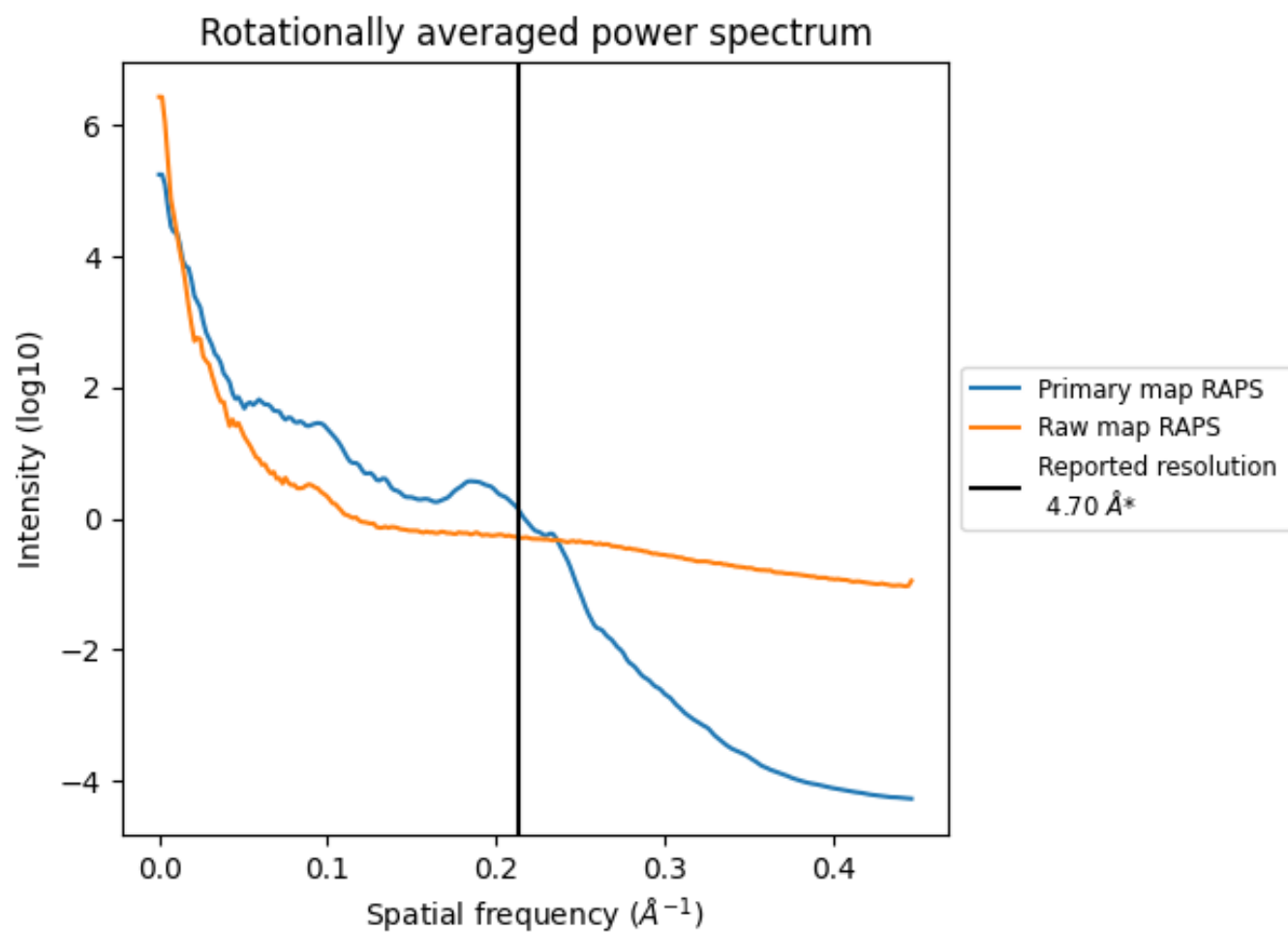
## 7.2 Volume estimate [i](#)



The volume at the recommended contour level is 451 nm<sup>3</sup>; this corresponds to an approximate mass of 407 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 ⓘ

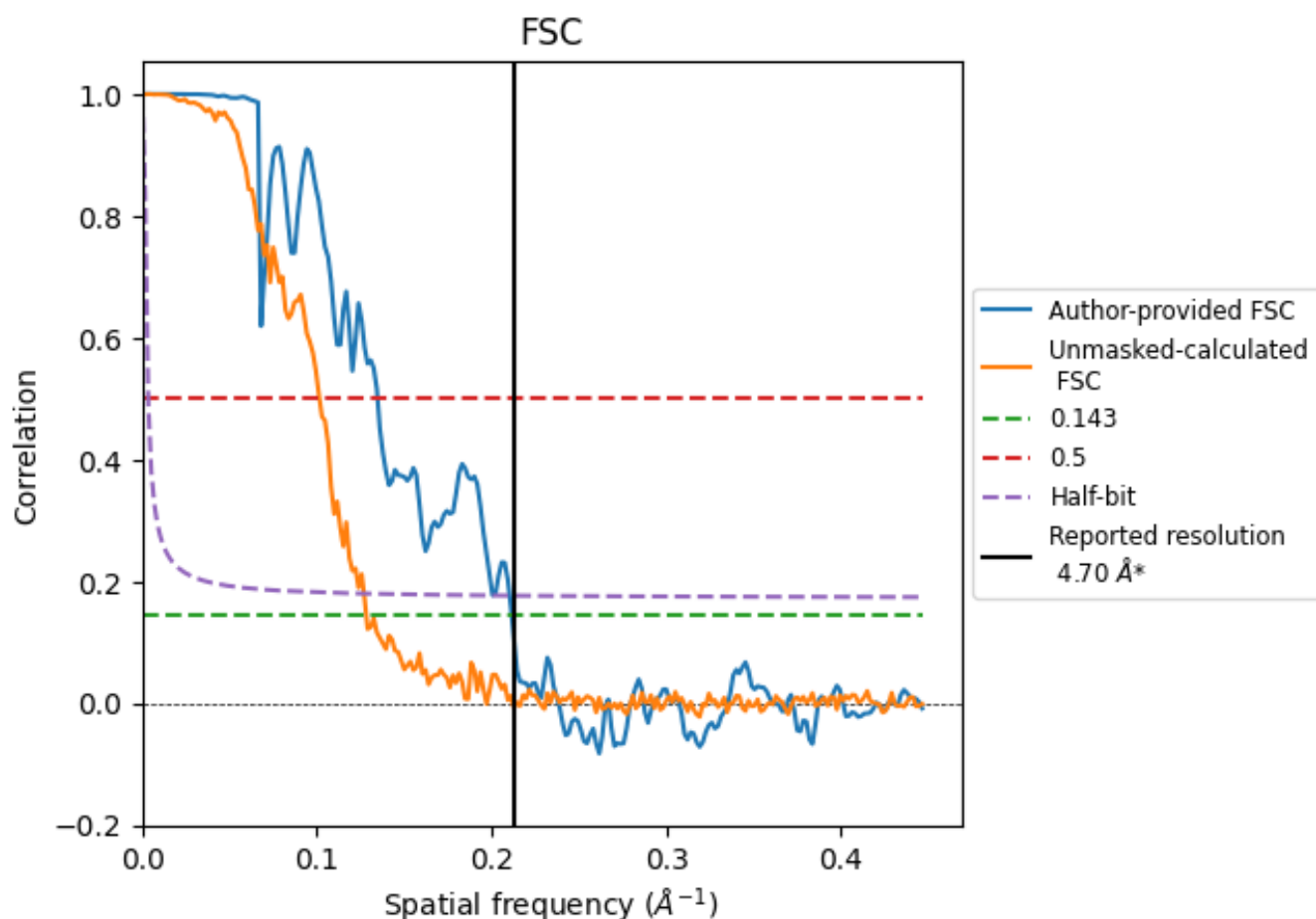


\*Reported resolution corresponds to spatial frequency of 0.213 Å<sup>-1</sup>

## 8 Fourier-Shell correlation [i](#)

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

### 8.1 FSC [i](#)



\*Reported resolution corresponds to spatial frequency of  $0.213 \text{ \AA}^{-1}$

## 8.2 Resolution estimates [i](#)

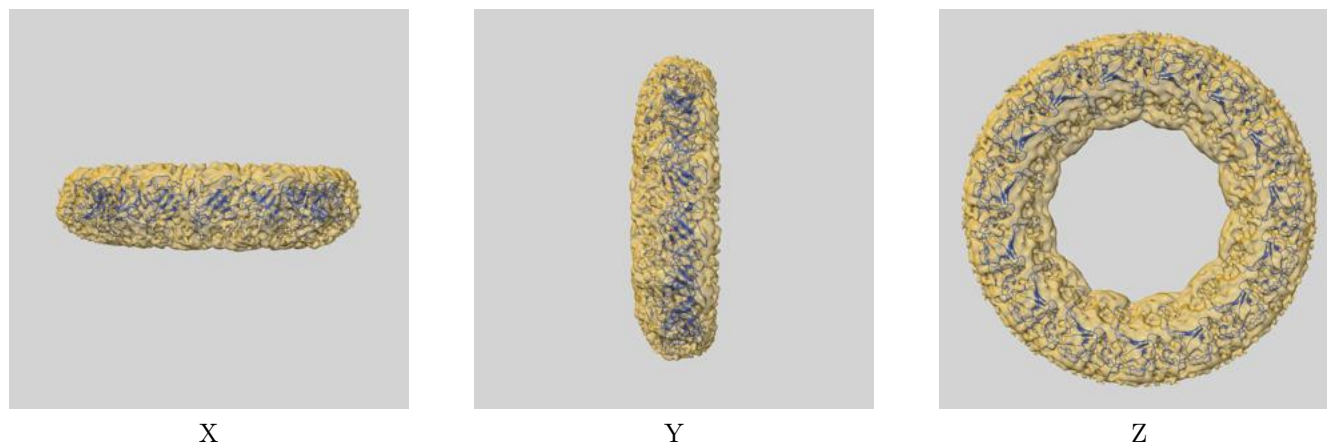
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	4.70	-	-
Author-provided FSC curve	4.73	7.42	4.76
Unmasked-calculated*	7.79	9.85	7.88

\*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 7.79 differs from the reported value 4.7 by more than 10 %

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

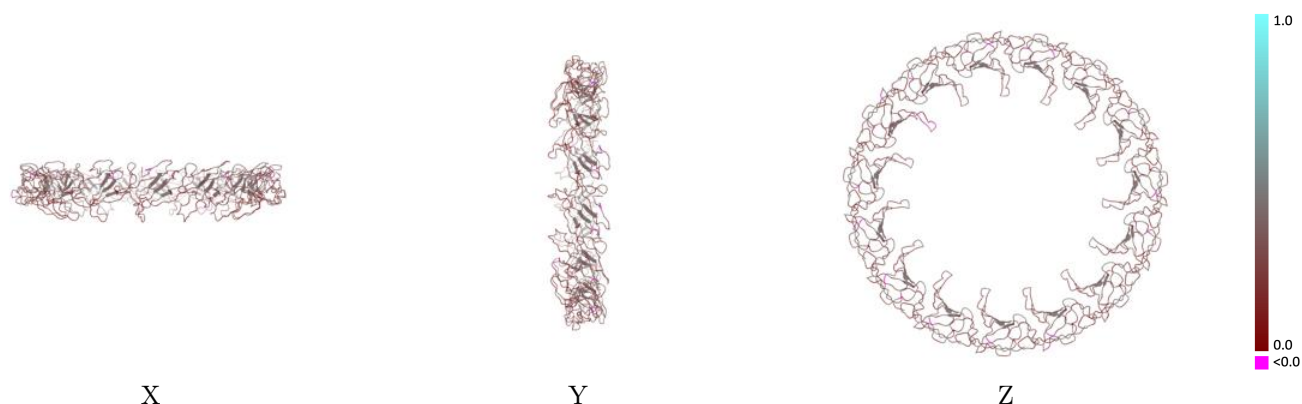
This section contains information regarding the fit between EMDB map EMD-45776 and PDB model 9COD. Per-residue inclusion information can be found in [section 3](#) on [page 5](#).

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



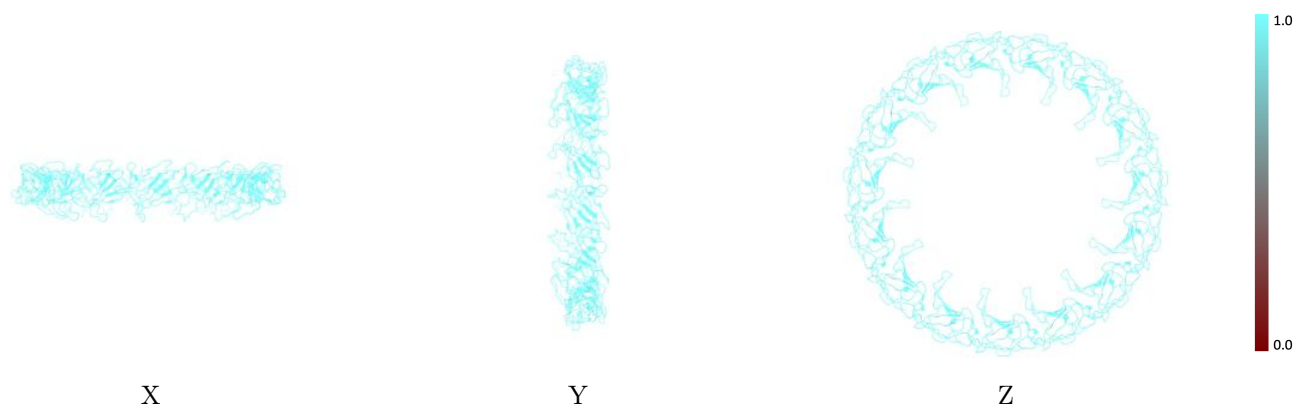
The images above show the 3D surface view of the map at the recommended contour level 0.0018 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



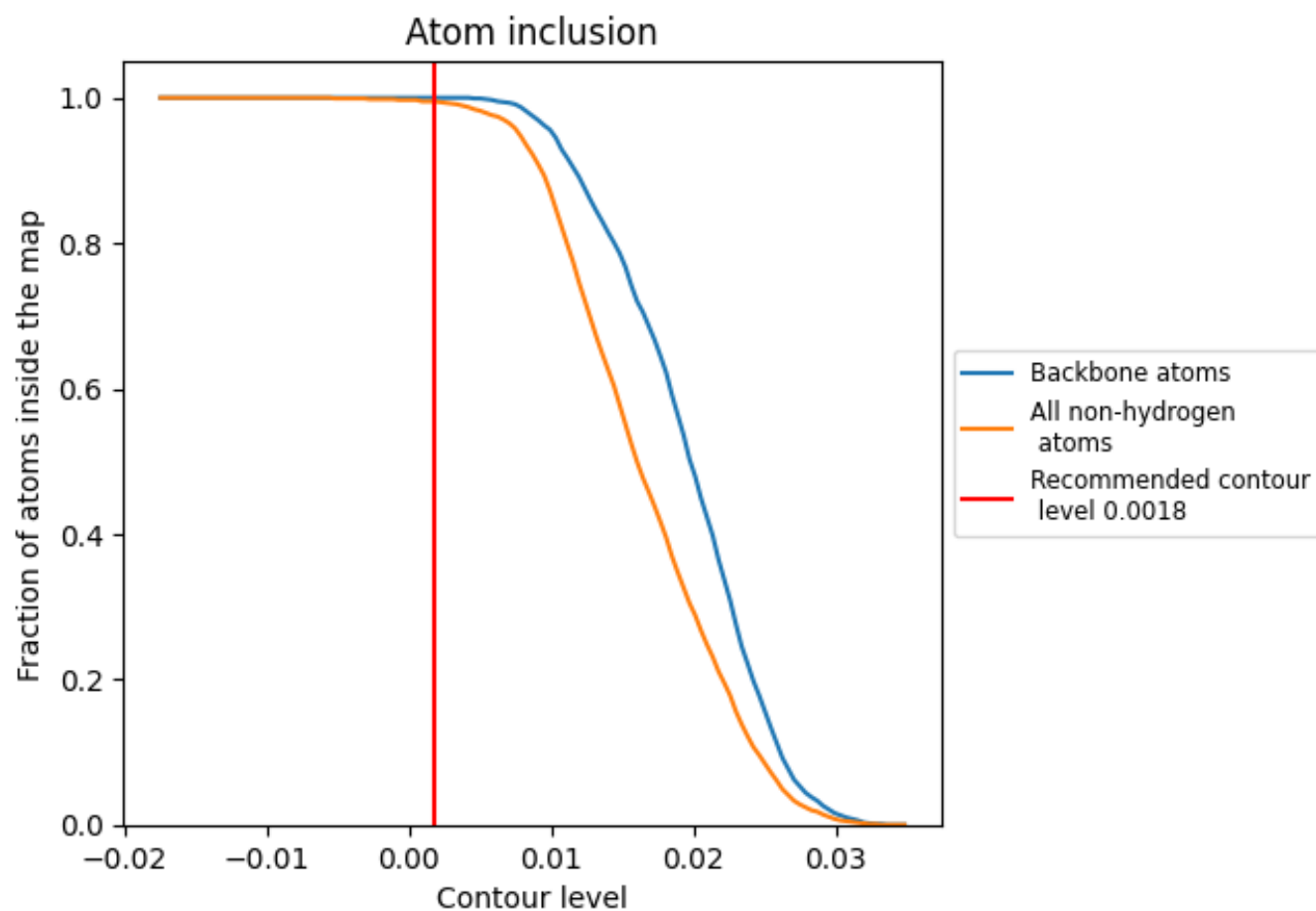
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.0018).

## 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 (0.0018) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	<div></div> 0.9950	<div></div> 0.2950
A	<div></div> 0.9950	<div></div> 0.2960
B	<div></div> 0.9950	<div></div> 0.2960
C	<div></div> 0.9950	<div></div> 0.2980
D	<div></div> 0.9950	<div></div> 0.2940
E	<div></div> 0.9950	<div></div> 0.2960
F	<div></div> 0.9950	<div></div> 0.2960
G	<div></div> 0.9950	<div></div> 0.3000
H	<div></div> 0.9950	<div></div> 0.2970
I	<div></div> 0.9950	<div></div> 0.2960
J	<div></div> 0.9950	<div></div> 0.2970
K	<div></div> 0.9940	<div></div> 0.2950
L	<div></div> 0.9950	<div></div> 0.2960
M	<div></div> 0.9950	<div></div> 0.2940
N	<div></div> 0.9940	<div></div> 0.2710
O	<div></div> 0.9950	<div></div> 0.2990

1.0

0.0

<0.0