



## wwPDB EM Validation Summary Report ⓘ

Dec 29, 2024 – 10:30 PM EST

PDB ID : 7X30  
EMDB ID : EMD-32974  
Title : Capsid structure of Staphylococcus jumbo bacteriophage S6  
Authors : Koibuchi, W.; Uchiyama, J.; Matsuzaki, S.; Murata, K.; Iwasaki, K.; Miyazaki, N.  
Deposited on : 2022-02-27  
Resolution : 3.60 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:

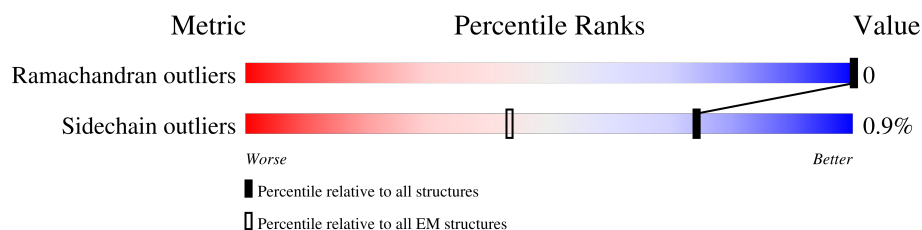
EMDB validation analysis : 0.0.1.dev113  
MolProbity : 4.02b-467  
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)  
MapQ : 1.9.13  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.40

# 1 Overall quality at a glance

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

The reported resolution of this entry is 3.60 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.















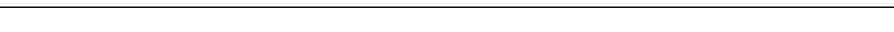

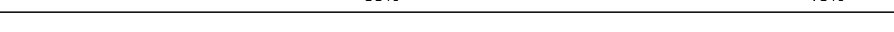

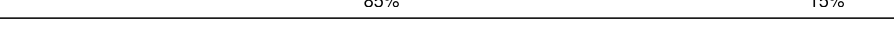





Metric	Whole archive (#Entries)	EM structures (#Entries)
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415

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	534	 81% 19%
1	a	534	 83% 17%
1	b	534	 85% 15%
1	c	534	 85% 15%
1	d	534	 85% 15%
1	e	534	 85% 15%
1	f	534	 85% 15%
1	g	534	 85% 15%
1	h	534	 85% 15%

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Mol	Chain	Length	Quality of chain
1	i	534	
1	j	534	
1	k	534	
1	l	534	
1	m	534	
1	n	534	
1	o	534	
1	p	534	
1	q	534	
1	r	534	
1	s	534	
1	t	534	
1	u	534	
1	v	534	
1	w	534	
1	x	534	
1	y	534	
1	z	534	
2	P	476	
2	Q	476	
2	R	476	
2	S	476	

## 2 Entry composition

There are 2 unique types of molecules in this entry. The entry contains 105389 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 Major structural protein ORF12.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	434	Total	C	N	O	S	0	0
			3394	2151	566	668	9		
1	a	444	Total	C	N	O	S	0	0
			3479	2207	581	682	9		
1	b	454	Total	C	N	O	S	0	0
			3550	2247	595	699	9		
1	c	454	Total	C	N	O	S	0	0
			3550	2247	595	699	9		
1	d	454	Total	C	N	O	S	0	0
			3550	2247	595	699	9		
1	e	454	Total	C	N	O	S	0	0
			3550	2247	595	699	9		
1	f	454	Total	C	N	O	S	0	0
			3549	2247	594	699	9		
1	g	454	Total	C	N	O	S	0	0
			3550	2247	595	699	9		
1	h	454	Total	C	N	O	S	0	0
			3550	2247	595	699	9		
1	i	454	Total	C	N	O	S	0	0
			3550	2247	595	699	9		
1	j	454	Total	C	N	O	S	0	0
			3550	2247	595	699	9		
1	k	454	Total	C	N	O	S	0	0
			3550	2247	595	699	9		
1	l	454	Total	C	N	O	S	0	0
			3550	2247	595	699	9		
1	m	454	Total	C	N	O	S	0	0
			3550	2247	595	699	9		
1	n	454	Total	C	N	O	S	0	0
			3550	2247	595	699	9		
1	o	454	Total	C	N	O	S	0	0
			3550	2247	595	699	9		
1	p	454	Total	C	N	O	S	0	0
			3550	2247	595	699	9		

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Mol	Chain	Residues	Atoms					AltConf	Trace
1	q	454	Total	C	N	O	S	0	0
			3549	2247	594	699	9		
1	r	454	Total	C	N	O	S	0	0
			3550	2247	595	699	9		
1	s	454	Total	C	N	O	S	0	0
			3550	2247	595	699	9		
1	t	454	Total	C	N	O	S	0	0
			3550	2247	595	699	9		
1	u	454	Total	C	N	O	S	0	0
			3550	2247	595	699	9		
1	v	454	Total	C	N	O	S	0	0
			3550	2247	595	699	9		
1	w	454	Total	C	N	O	S	0	0
			3550	2247	595	699	9		
1	x	454	Total	C	N	O	S	0	0
			3550	2247	595	699	9		
1	y	454	Total	C	N	O	S	0	0
			3550	2247	595	699	9		
1	z	454	Total	C	N	O	S	0	0
			3550	2247	595	699	9		

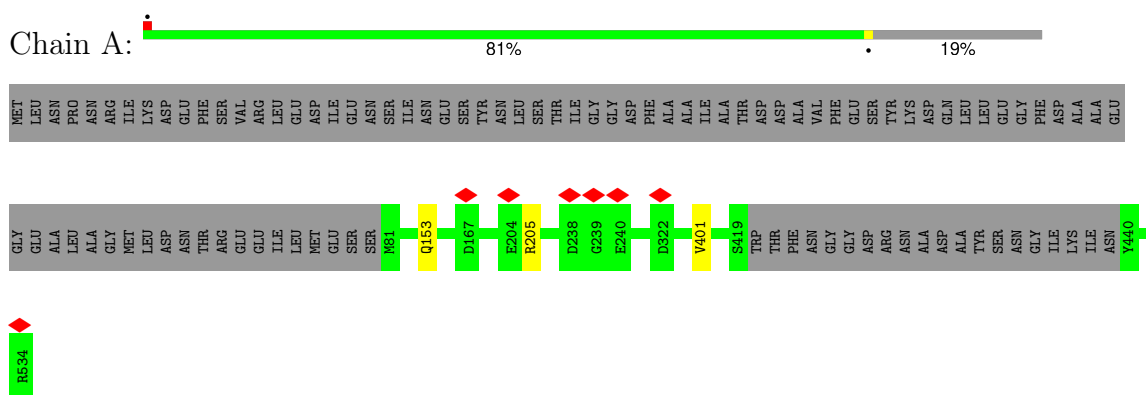
- Molecule 2 is a protein called Hoc-like protein ORF90.

Mol	Chain	Residues	Atoms				AltConf	Trace
2	P	301	Total	C	N	O	0	0
			2442	1572	395	475		
2	Q	301	Total	C	N	O	0	0
			2442	1572	395	475		
2	R	301	Total	C	N	O	0	0
			2442	1572	395	475		
2	S	301	Total	C	N	O	0	0
			2442	1572	395	475		

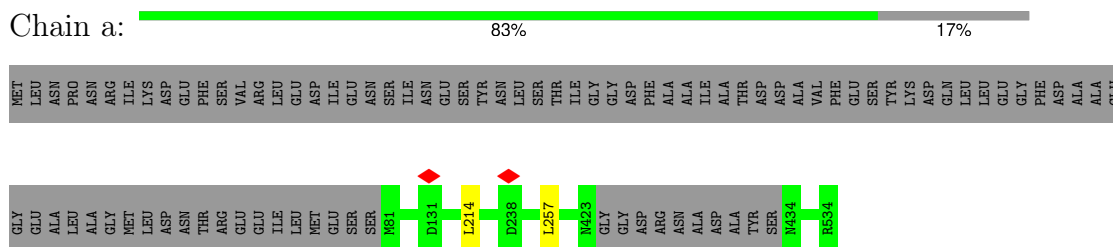
### 3 Residue-property plots [i](#)

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.

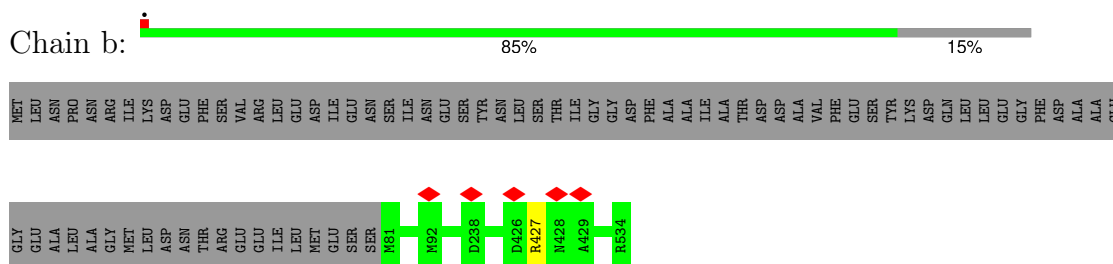
- Molecule 1: Major structural protein ORF12



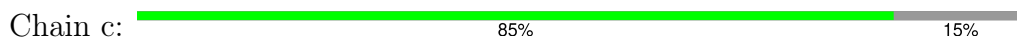
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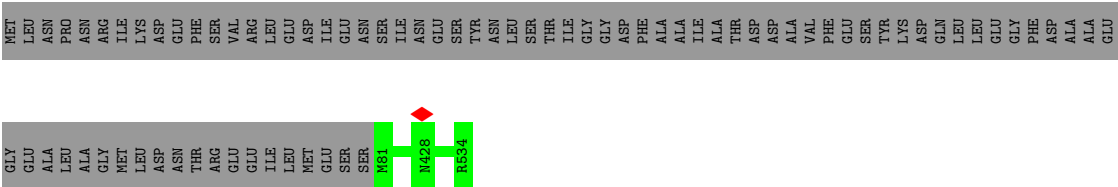


- Molecule 1: Major structural protein ORF12

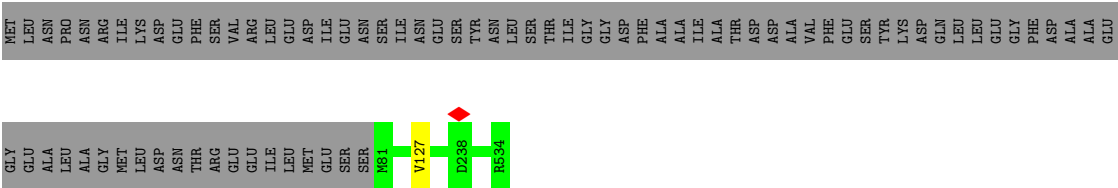
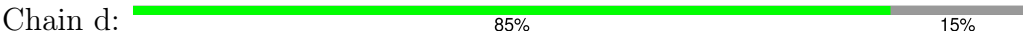


- Molecule 1: Major structural protein ORF12

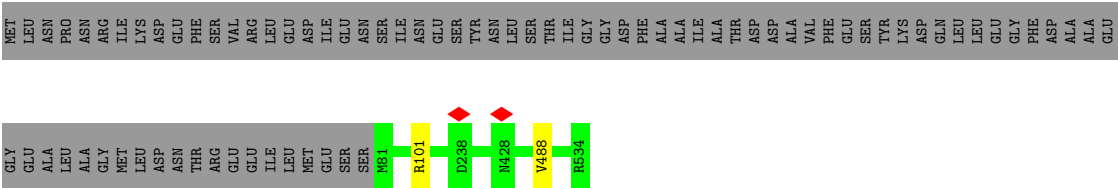
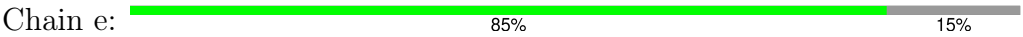




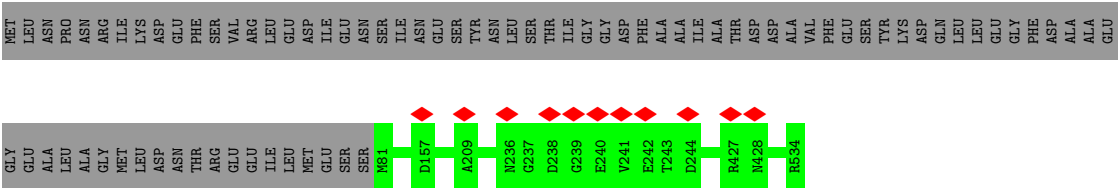
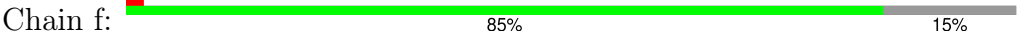
● Molecule 1: Major structural protein ORF12



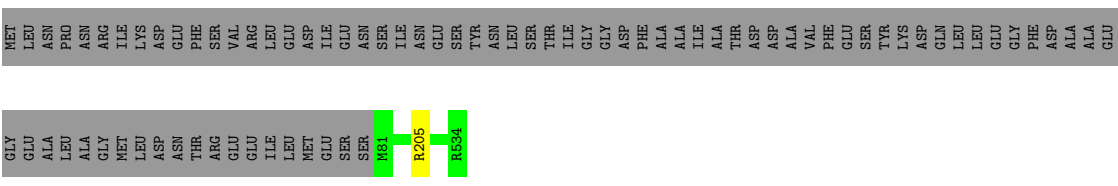
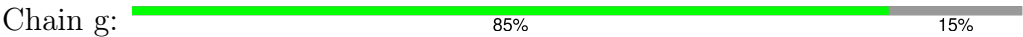
● Molecule 1: Major structural protein ORF12



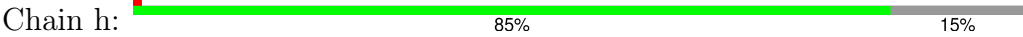
● Molecule 1: Major structural protein ORF12

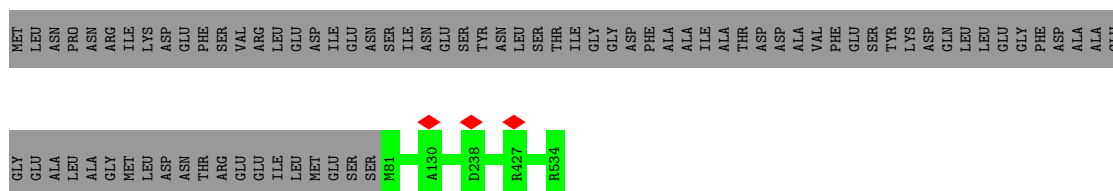


● Molecule 1: Major structural protein ORF12



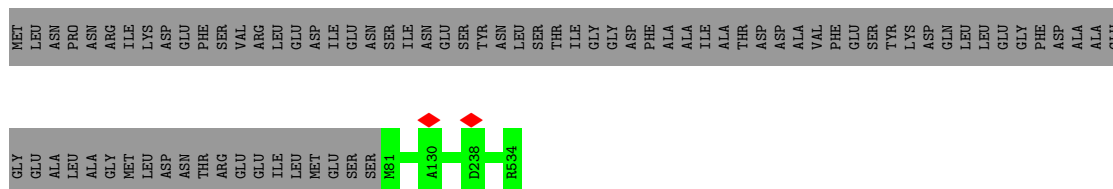
● Molecule 1: Major structural protein ORF12





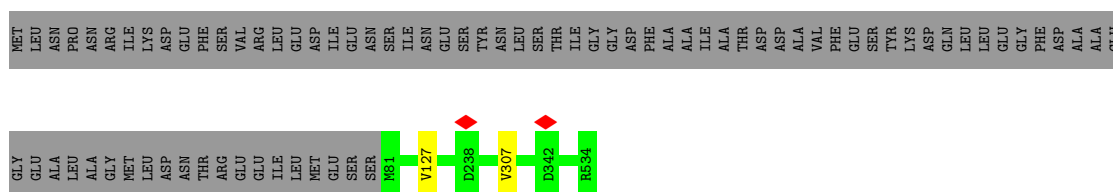
• Molecule 1: Major structural protein ORF12

Chain i: 85% 15%



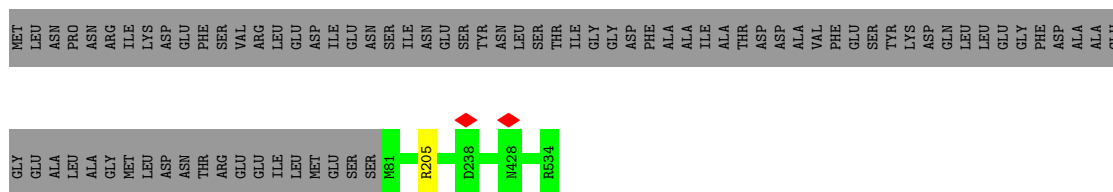
• Molecule 1: Major structural protein ORF12

Chain j: 85% 15%



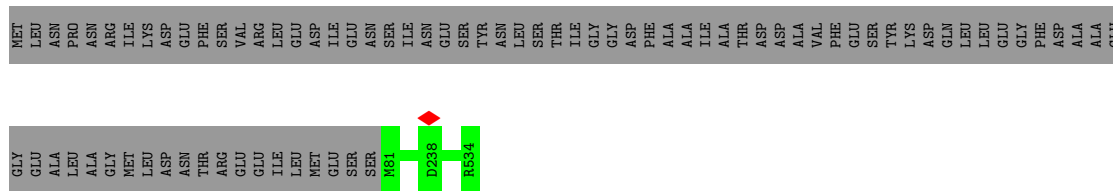
• Molecule 1: Major structural protein ORF12

Chain k: 85% 15%



• Molecule 1: Major structural protein ORF12

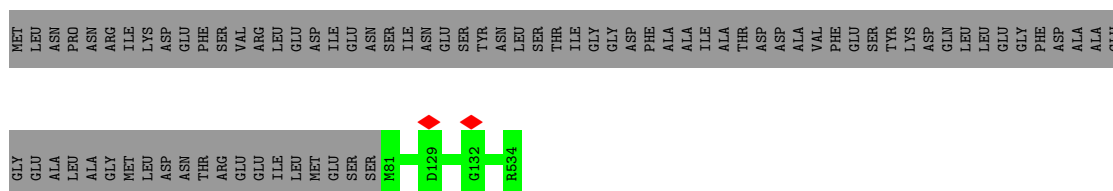
Chain l: 85% 15%



• Molecule 1: Major structural protein ORF12

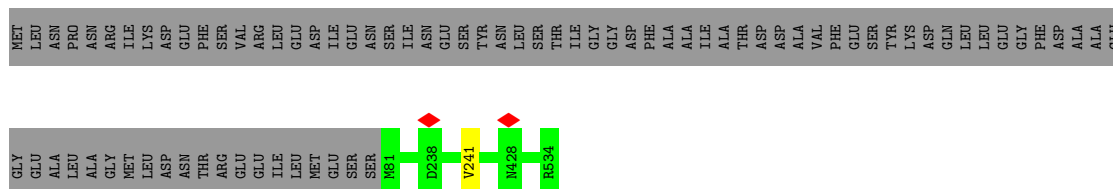
Chain m: 85% 15%





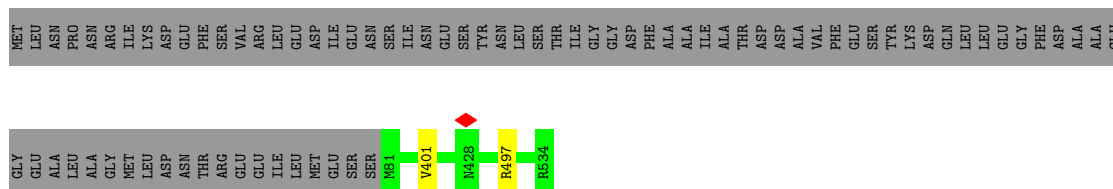
- Molecule 1: Major structural protein ORF12

Chain n: 85% 15%



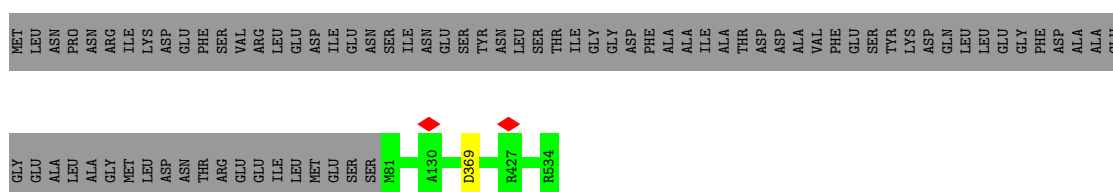
- Molecule 1: Major structural protein ORF12

Chain o: 85% 15%



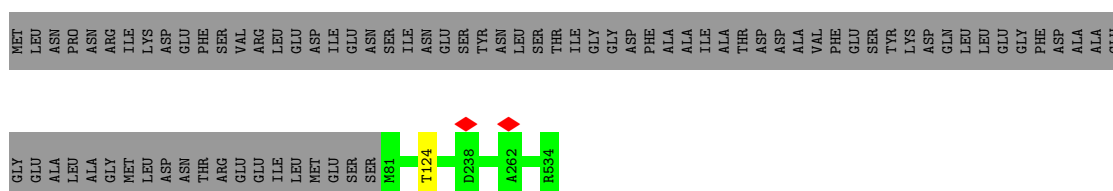
- Molecule 1: Major structural protein ORF12

Chain p: 85% 15%



- Molecule 1: Major structural protein ORF12

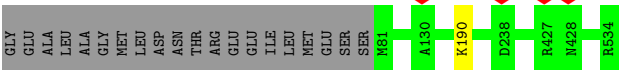
Chain q: 85% 15%



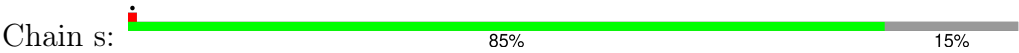
- Molecule 1: Major structural protein ORF12

Chain r: 85% 15%

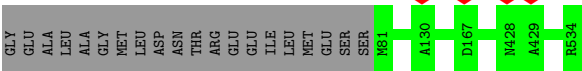
MET LEU ASN PRO ARG ILE LYS ASP PHE THR ASP VAL ARG LEU GLU ASP ILE GLU ASN SER ASN ILE ILE ASN GLU TYR SER ASN LEU SER THR ILE GLY ASP PHE ASP ALA ALA ILE ALA THR THR ASP ASP ASP VAL PHE GLU SER TYR LYS ASP GLN LEU LEU GLU GLY PHE ASP ALA ALA GLU



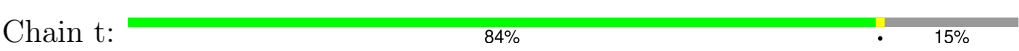
• Molecule 1: Major structural protein ORF12



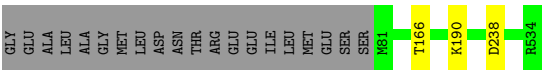
MET LEU ASN PRO ARG ILE LYS ASP PHE THR ASP VAL ARG LEU GLU ASP ILE GLU ASN SER ASN ILE ILE ASN GLU TYR SER ASN LEU SER THR ILE GLY ASP PHE ASP ALA ALA ILE ALA THR THR ASP ASP ASP VAL PHE GLU SER TYR LYS ASP GLN LEU LEU GLU GLY PHE ASP ALA ALA GLU



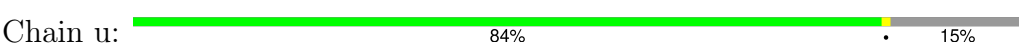
• Molecule 1: Major structural protein ORF12



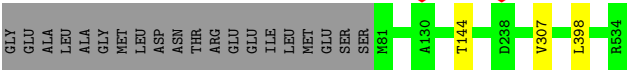
MET LEU ASN PRO ARG ILE LYS ASP PHE THR ASP VAL ARG LEU GLU ASP ILE GLU ASN SER ASN ILE ILE ASN GLU TYR SER ASN LEU SER THR ILE GLY ASP PHE ASP ALA ALA ILE ALA THR THR ASP ASP ASP VAL PHE GLU SER TYR LYS ASP GLN LEU LEU GLU GLY PHE ASP ALA ALA GLU



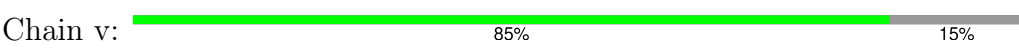
• Molecule 1: Major structural protein ORF12



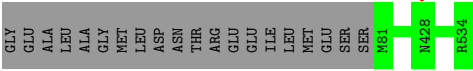
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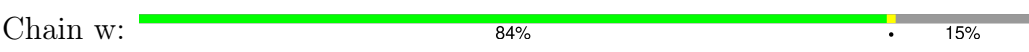
• Molecule 1: Major structural protein ORF12



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



• Molecule 1: Major structural protein ORF12





Chain Q:

59%

37%

Residue	Position	Color	Marker
MET	1	Grey	
ALA	2	Green	
T3	3	Green	
T57	4	Yellow	
S71	5	Yellow	
D89	6	Green	Red Diamond
S108	7	Yellow	
E156	8	Yellow	
V165	9	Yellow	
D189	10	Green	Red Diamond
S196	11	Yellow	
T215	12	Green	
P216	13	Green	
V217	14	Green	
K218	15	Green	
K219	16	Green	
E233	17	Yellow	
S249	18	Yellow	
E253	19	Yellow	
I267	20	Yellow	
E277	21	Yellow	
E278	22	Yellow	
K287	23	Green	Red Diamond
T288	24	Green	
E289	25	Green	Red Diamond
K296	26	Yellow	
K299	27	Yellow	
T303	28	Green	
ASN	29	Green	
GLN	30	Grey	
THR	31	Grey	
LYS	32	Grey	
VAL	33	Grey	
SER	34	Grey	
ILE	35	Grey	
THR	36	Grey	
ASP	37	Grey	
VAL	38	Grey	
GLY	39	Grey	
ASN	40	Grey	
THR	41	Grey	
VAL	42	Grey	
GLN	43	Grey	
ASP	44	Grey	
THR	45	Grey	
GLY	46	Grey	
VAL	47	Grey	
GLN	48	Grey	
ASP	49	Grey	
ALA	50	Grey	
THR	51	Grey	
GLY	52	Grey	
VAL	53	Grey	
GLN	54	Grey	
ASP	55	Grey	
THR	56	Grey	
GLY	57	Grey	
VAL	58	Grey	
GLN	59	Grey	
ASP	60	Grey	
THR	61	Grey	
GLY	62	Grey	
VAL	63	Grey	
GLN	64	Grey	
ASP	65	Grey	
THR	66	Grey	
GLY	67	Grey	
VAL	68	Grey	
GLN	69	Grey	
ASP	70	Grey	
THR	71	Grey	
GLY	72	Grey	
VAL	73	Grey	
GLN	74	Grey	
ASP	75	Grey	
THR	76	Grey	
GLY	77	Grey	
VAL	78	Grey	
GLN	79	Grey	
ASP	80	Grey	
THR	81	Grey	
GLY	82	Grey	
VAL	83	Grey	
GLN	84	Grey	
ASP	85	Grey	
THR	86	Grey	
GLY	87	Grey	
VAL	88	Grey	
GLN	89	Grey	
ASP	90	Grey	
THR	91	Grey	
GLY	92	Grey	
VAL	93	Grey	
GLN	94	Grey	
ASP	95	Grey	
THR	96	Grey	
GLY	97	Grey	
VAL	98	Grey	
GLN	99	Grey	
ASP	100	Grey	
THR	101	Grey	

[illegible]

Chain S:

6% 59% 37%

MET ALA T3 L22 G23 E24 T57 S71 E72 G73 D89 D92 D106 K107 S108 D129 D145 D151 E156 V165 D189 S196 D210 T215 P216 V217 A218 K219 Q224 E233 A240 D241 S249 E253 R261 D265 T267

VAL  
GLU  
GLU  
THR  
PRO  
GLU  
GLU  
THR  
THR  
GLU

## 4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, I	Depositor
Number of particles used	27164	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 ( $e^-/\text{\AA}^2$ )	40	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	3000	Depositor
Magnification	Not provided	
Image detector	FEI FALCON II (4k x 4k)	Depositor
Maximum map value	0.204	Depositor
Minimum map value	-0.095	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.009	Depositor
Recommended contour level	0.02	Depositor
Map size (Å)	1394.0, 1394.0, 1394.0	wwPDB
Map dimensions	820, 820, 820	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.7, 1.7, 1.7	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	0.31	0/3459	0.54	0/4701
1	a	0.33	0/3547	0.54	0/4821
1	b	0.33	0/3620	0.56	0/4921
1	c	0.34	0/3620	0.56	0/4921
1	d	0.33	0/3620	0.56	0/4921
1	e	0.33	0/3620	0.56	0/4921
1	f	0.31	0/3619	0.55	0/4919
1	g	0.34	0/3620	0.55	0/4921
1	h	0.32	0/3620	0.55	0/4921
1	i	0.32	0/3620	0.54	0/4921
1	j	0.32	0/3620	0.54	0/4921
1	k	0.33	0/3620	0.54	0/4921
1	l	0.32	0/3620	0.53	0/4921
1	m	0.34	0/3620	0.57	0/4921
1	n	0.34	0/3620	0.56	0/4921
1	o	0.33	0/3620	0.56	0/4921
1	p	0.33	0/3620	0.54	0/4921
1	q	0.34	0/3619	0.57	0/4919
1	r	0.34	0/3620	0.55	0/4921
1	s	0.33	0/3620	0.56	0/4921
1	t	0.35	0/3620	0.59	0/4921
1	u	0.33	0/3620	0.56	0/4921
1	v	0.34	0/3620	0.56	0/4921
1	w	0.34	0/3620	0.56	0/4921
1	x	0.34	0/3620	0.57	0/4921
1	y	0.33	0/3620	0.53	0/4921
1	z	0.31	0/3620	0.53	0/4921
2	P	0.33	0/2484	0.54	0/3353
2	Q	0.33	0/2484	0.54	0/3353
2	R	0.33	0/2484	0.54	0/3353
2	S	0.34	0/2484	0.54	0/3353
All	All	0.33	0/107440	0.55	0/145955

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 ⓘ

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

## 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	430/534 (80%)	394 (92%)	36 (8%)	0	100	100
1	a	440/534 (82%)	404 (92%)	36 (8%)	0	100	100
1	b	452/534 (85%)	409 (90%)	43 (10%)	0	100	100
1	c	452/534 (85%)	422 (93%)	30 (7%)	0	100	100
1	d	452/534 (85%)	420 (93%)	32 (7%)	0	100	100
1	e	452/534 (85%)	421 (93%)	31 (7%)	0	100	100
1	f	452/534 (85%)	421 (93%)	31 (7%)	0	100	100
1	g	452/534 (85%)	418 (92%)	34 (8%)	0	100	100
1	h	452/534 (85%)	413 (91%)	39 (9%)	0	100	100
1	i	452/534 (85%)	417 (92%)	35 (8%)	0	100	100
1	j	452/534 (85%)	414 (92%)	38 (8%)	0	100	100
1	k	452/534 (85%)	417 (92%)	35 (8%)	0	100	100
1	l	452/534 (85%)	423 (94%)	29 (6%)	0	100	100
1	m	452/534 (85%)	415 (92%)	37 (8%)	0	100	100
1	n	452/534 (85%)	415 (92%)	37 (8%)	0	100	100
1	o	452/534 (85%)	413 (91%)	39 (9%)	0	100	100
1	p	452/534 (85%)	410 (91%)	42 (9%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	q	452/534 (85%)	402 (89%)	50 (11%)	0	100	100
1	r	452/534 (85%)	420 (93%)	32 (7%)	0	100	100
1	s	452/534 (85%)	416 (92%)	36 (8%)	0	100	100
1	t	452/534 (85%)	412 (91%)	40 (9%)	0	100	100
1	u	452/534 (85%)	414 (92%)	38 (8%)	0	100	100
1	v	452/534 (85%)	409 (90%)	43 (10%)	0	100	100
1	w	452/534 (85%)	407 (90%)	45 (10%)	0	100	100
1	x	452/534 (85%)	420 (93%)	32 (7%)	0	100	100
1	y	452/534 (85%)	419 (93%)	33 (7%)	0	100	100
1	z	452/534 (85%)	416 (92%)	36 (8%)	0	100	100
2	P	299/476 (63%)	277 (93%)	22 (7%)	0	100	100
2	Q	299/476 (63%)	277 (93%)	22 (7%)	0	100	100
2	R	299/476 (63%)	277 (93%)	22 (7%)	0	100	100
2	S	299/476 (63%)	277 (93%)	22 (7%)	0	100	100
All	All	13366/16322 (82%)	12289 (92%)	1077 (8%)	0	100	100

There are no Ramachandran outliers to report.

### 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	379/461 (82%)	376 (99%)	3 (1%)	79	88
1	a	388/461 (84%)	386 (100%)	2 (0%)	86	93
1	b	394/461 (86%)	393 (100%)	1 (0%)	91	96
1	c	394/461 (86%)	394 (100%)	0	100	100
1	d	394/461 (86%)	393 (100%)	1 (0%)	91	96
1	e	394/461 (86%)	392 (100%)	2 (0%)	86	93
1	f	393/461 (85%)	393 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	g	394/461 (86%)	393 (100%)	1 (0%)	91	96
1	h	394/461 (86%)	394 (100%)	0	100	100
1	i	394/461 (86%)	394 (100%)	0	100	100
1	j	394/461 (86%)	392 (100%)	2 (0%)	86	93
1	k	394/461 (86%)	393 (100%)	1 (0%)	91	96
1	l	394/461 (86%)	394 (100%)	0	100	100
1	m	394/461 (86%)	394 (100%)	0	100	100
1	n	394/461 (86%)	393 (100%)	1 (0%)	91	96
1	o	394/461 (86%)	392 (100%)	2 (0%)	86	93
1	p	394/461 (86%)	393 (100%)	1 (0%)	91	96
1	q	393/461 (85%)	392 (100%)	1 (0%)	91	96
1	r	394/461 (86%)	393 (100%)	1 (0%)	91	96
1	s	394/461 (86%)	394 (100%)	0	100	100
1	t	394/461 (86%)	391 (99%)	3 (1%)	79	88
1	u	394/461 (86%)	391 (99%)	3 (1%)	79	88
1	v	394/461 (86%)	394 (100%)	0	100	100
1	w	394/461 (86%)	390 (99%)	4 (1%)	73	85
1	x	394/461 (86%)	394 (100%)	0	100	100
1	y	394/461 (86%)	394 (100%)	0	100	100
1	z	394/461 (86%)	394 (100%)	0	100	100
2	P	277/434 (64%)	258 (93%)	19 (7%)	13	40
2	Q	277/434 (64%)	258 (93%)	19 (7%)	13	40
2	R	277/434 (64%)	258 (93%)	19 (7%)	13	40
2	S	277/434 (64%)	258 (93%)	19 (7%)	13	40
All	All	11723/14183 (83%)	11618 (99%)	105 (1%)	74	87

5 of 105 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	Q	219	LYS
2	R	165	VAL
2	S	267	ILE
2	Q	249	SER
2	Q	296	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 123 such sidechains are listed below:

Mol	Chain	Res	Type
1	n	498	ASN
1	z	333	GLN
1	q	498	ASN
1	z	313	GLN
2	S	80	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.

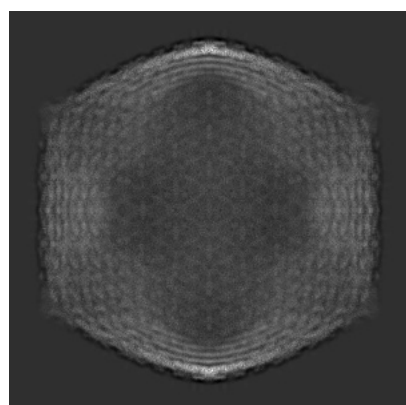
## 6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-32974. These allow visual inspection of the internal detail of the map and identification of artifacts.

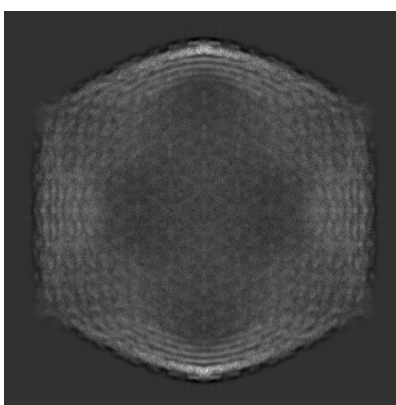
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

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

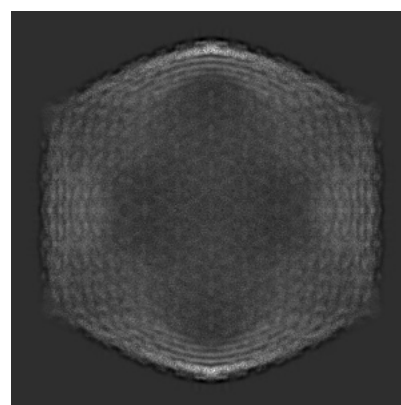
#### 6.1.1 Primary map



X



Y



Z

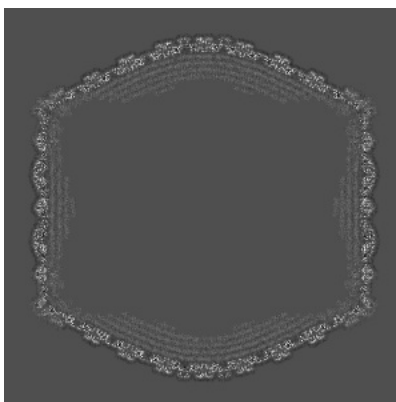
The images above show the map projected in three orthogonal directions.

### 6.2 Central slices [i](#)

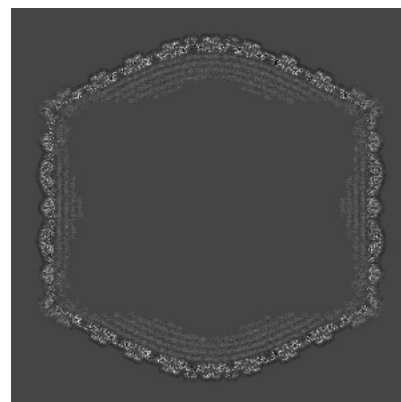
#### 6.2.1 Primary map



X Index: 410



Y Index: 410

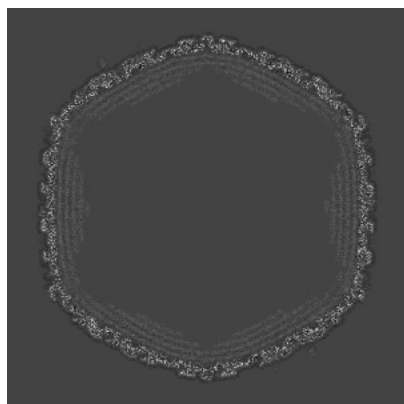


Z Index: 410

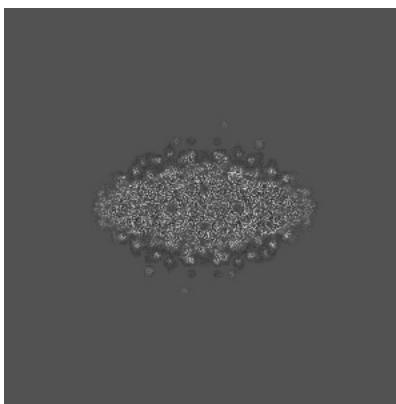
The images above show central slices of the map in three orthogonal directions.

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

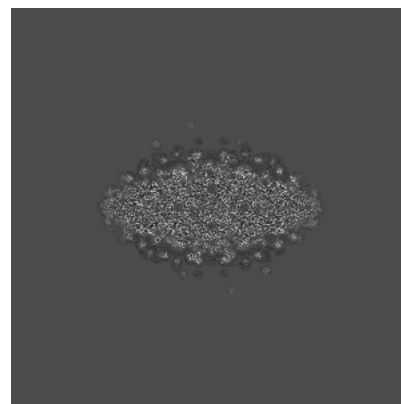
### 6.3.1 Primary map



X Index: 344



Y Index: 86

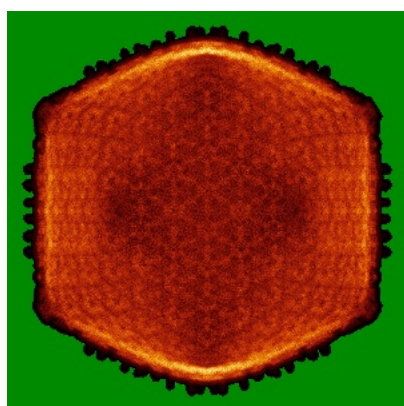


Z Index: 734

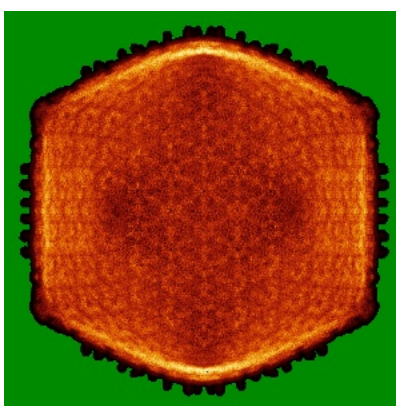
The images above show the largest variance slices of the map in three orthogonal directions.

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

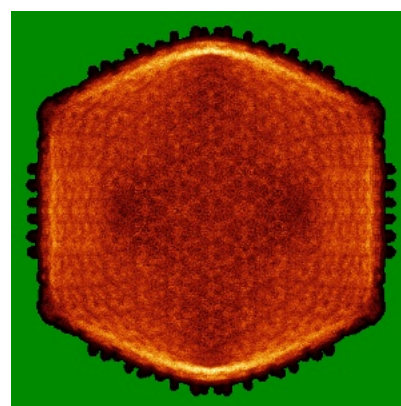
### 6.4.1 Primary map



X



Y

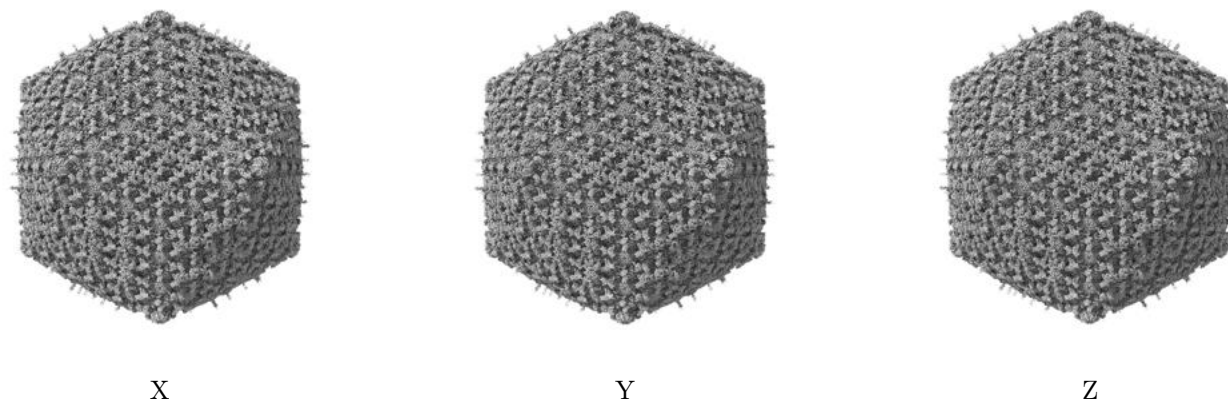


Z

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



The images above show the 3D surface view of the map at the recommended contour level 0.02. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

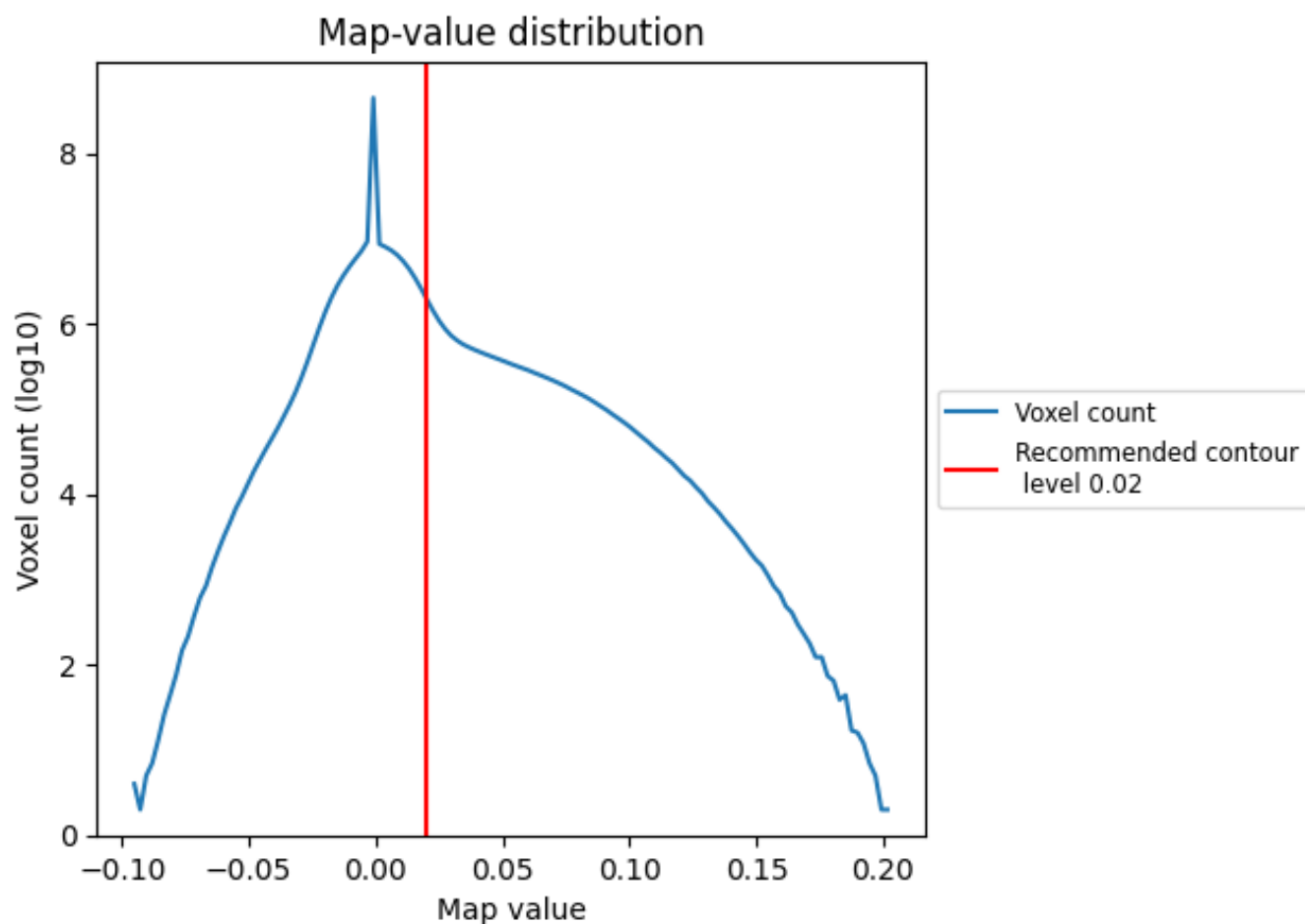
## 6.6 Mask visualisation [i](#)

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

## 7 Map analysis [i](#)

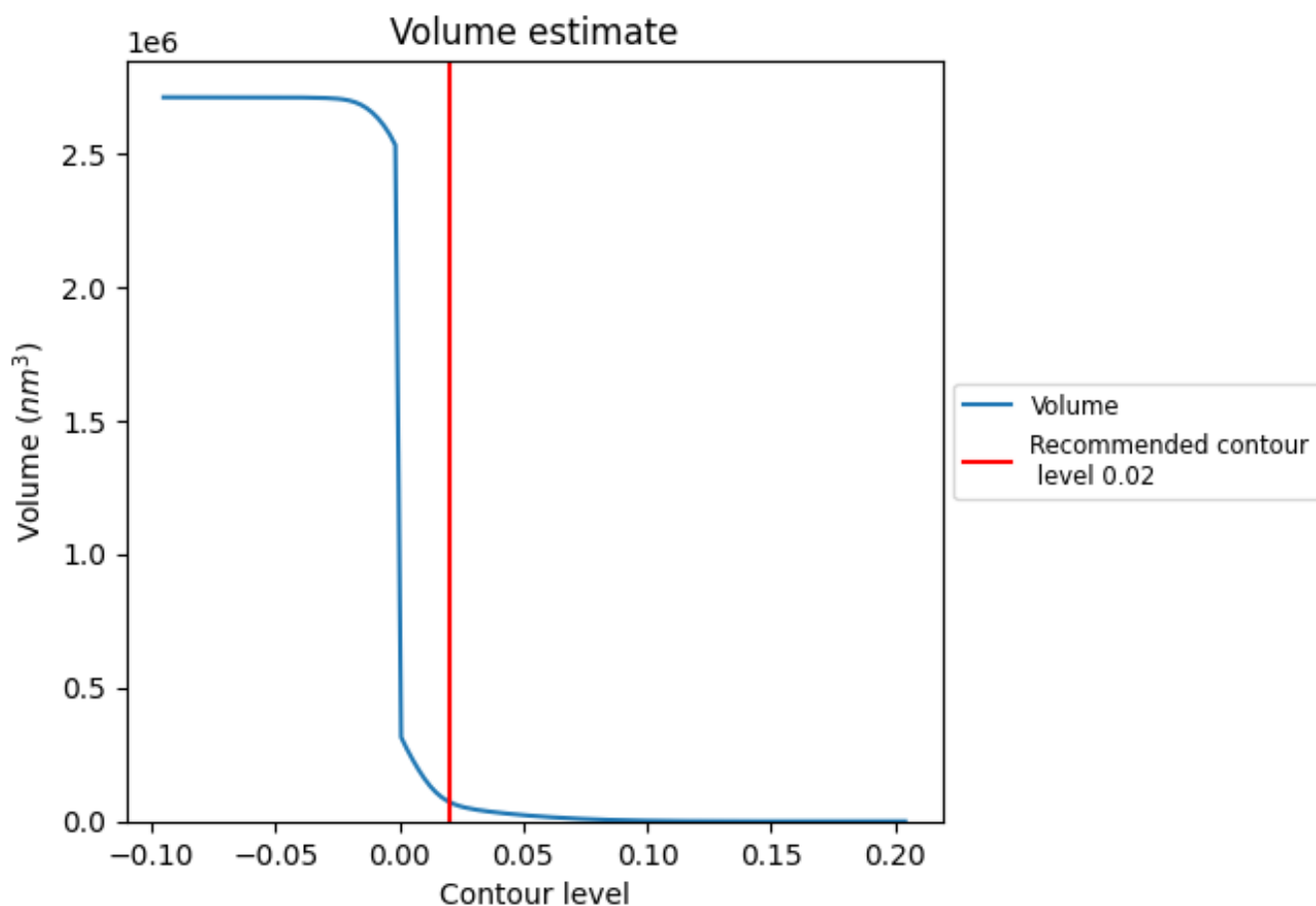
This section contains the results of statistical analysis of the map.

### 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](#)

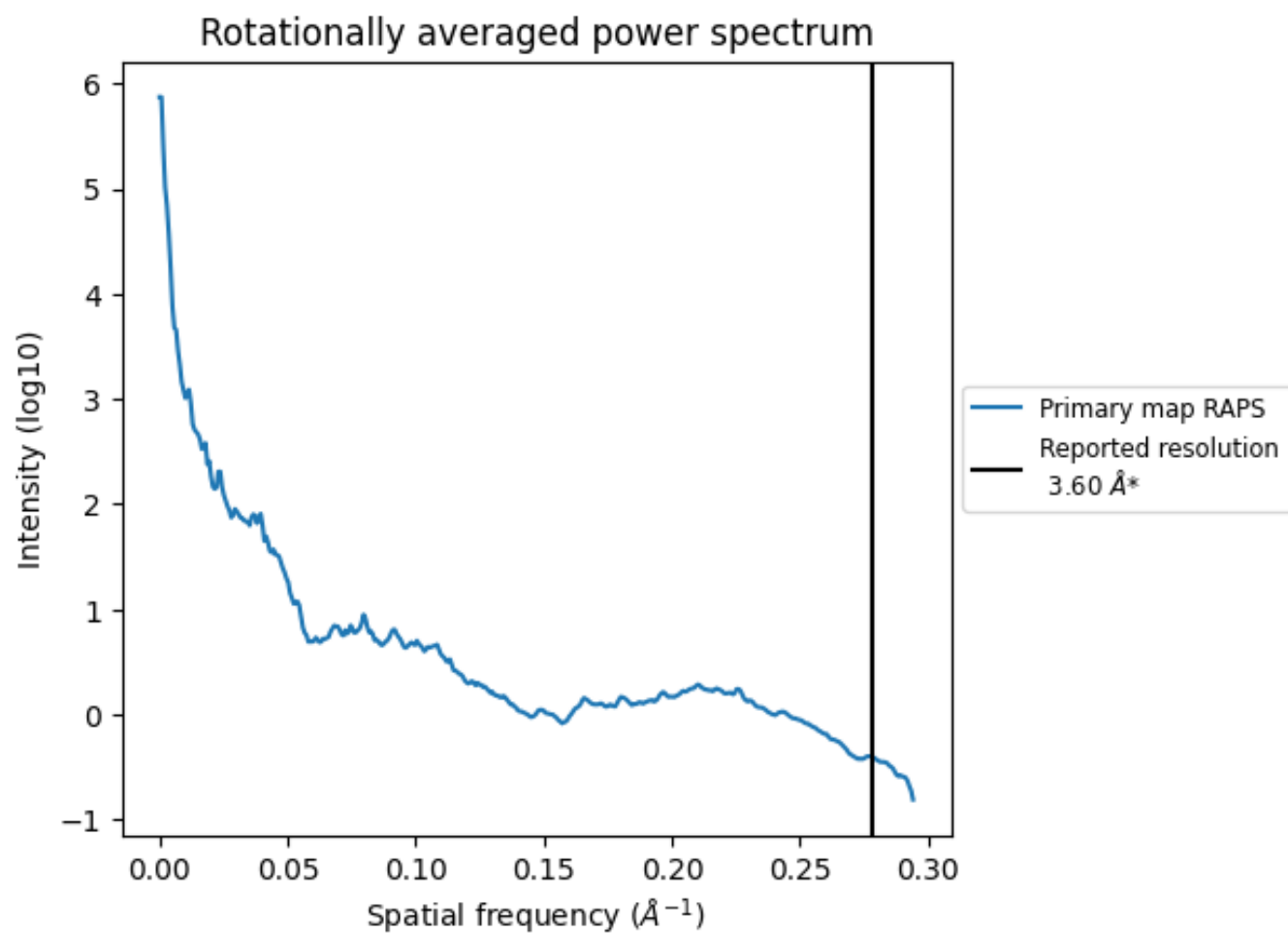


The volume at the recommended contour level is 73369 nm<sup>3</sup>; this corresponds to an approximate mass of 66276 kDa.

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 ⓘ

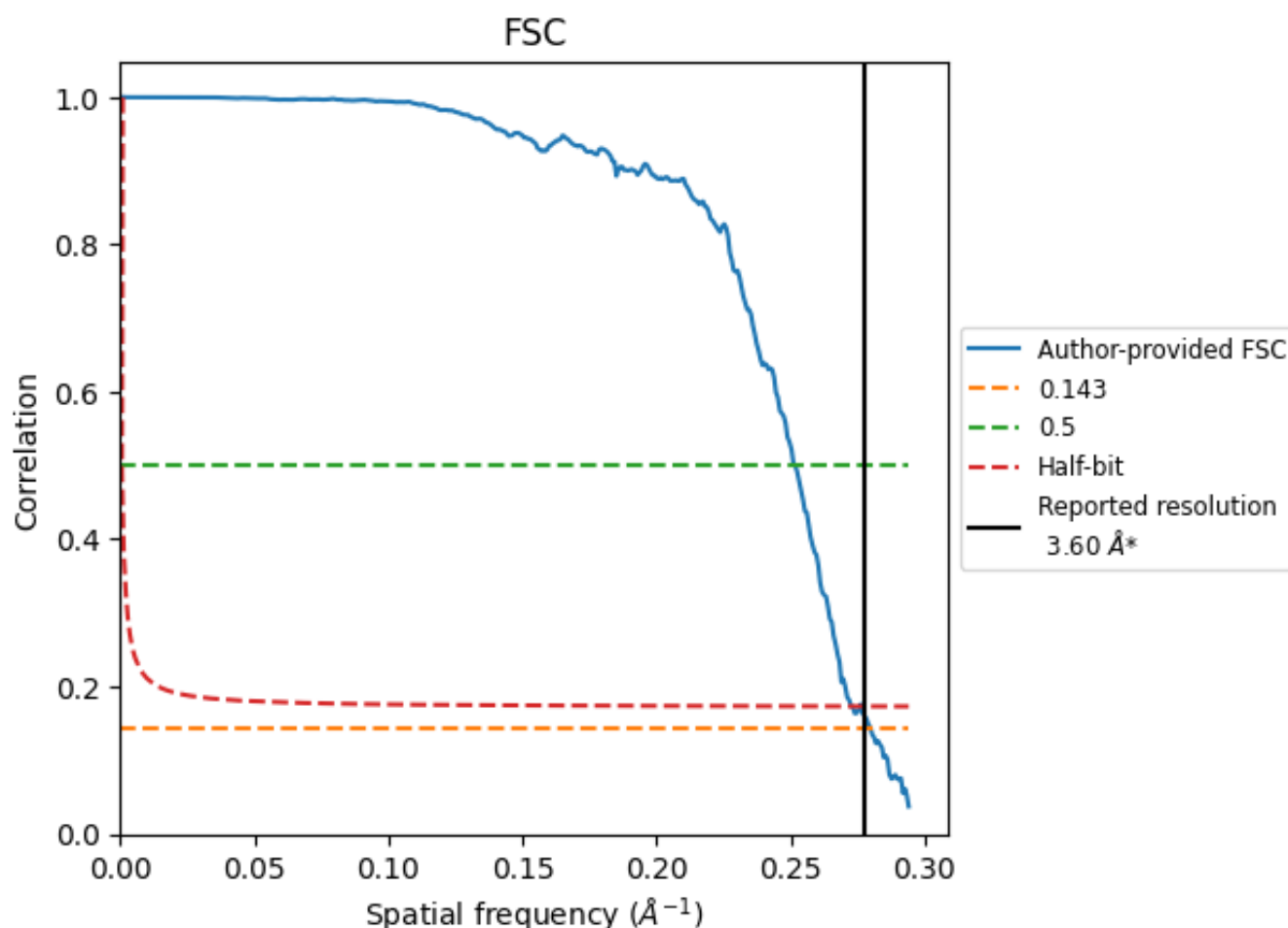


\*Reported resolution corresponds to spatial frequency of 0.278 Å<sup>-1</sup>

## 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 0.278 Å<sup>-1</sup>

## 8.2 Resolution estimates [i](#)

Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.60	-	-
Author-provided FSC curve	3.57	3.97	3.66
Unmasked-calculated*	-	-	-

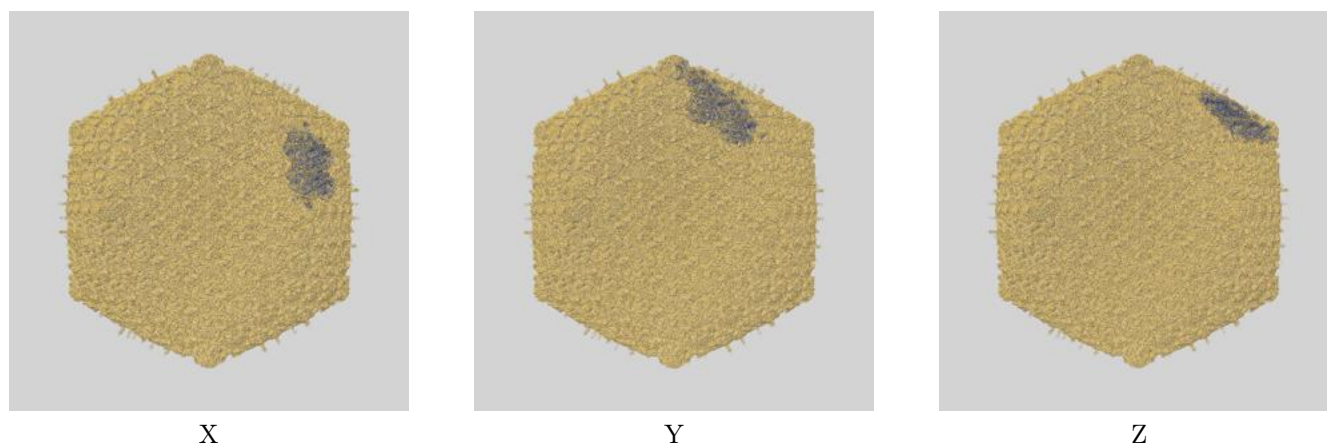
\*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps.

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

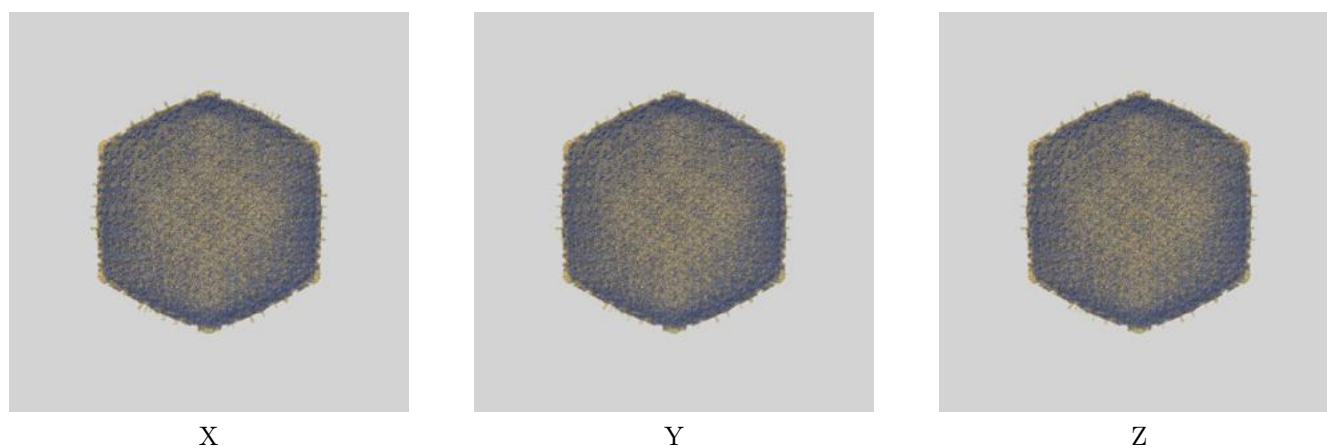
This section contains information regarding the fit between EMDB map EMD-32974 and PDB model 7X30. Per-residue inclusion information can be found in section [3](#) on page [6](#).

### 9.1 Map-model overlays

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

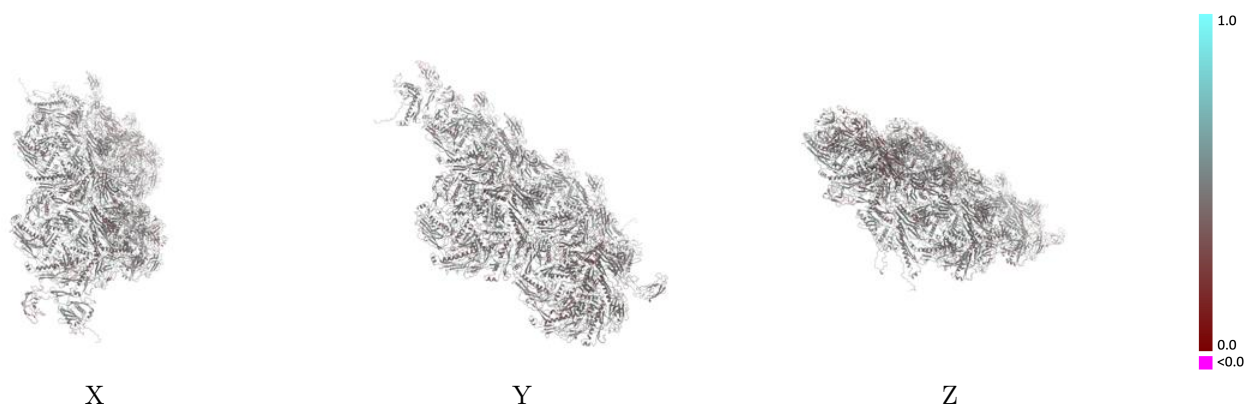


#### 9.1.2 Map-model assembly overlay [i](#)



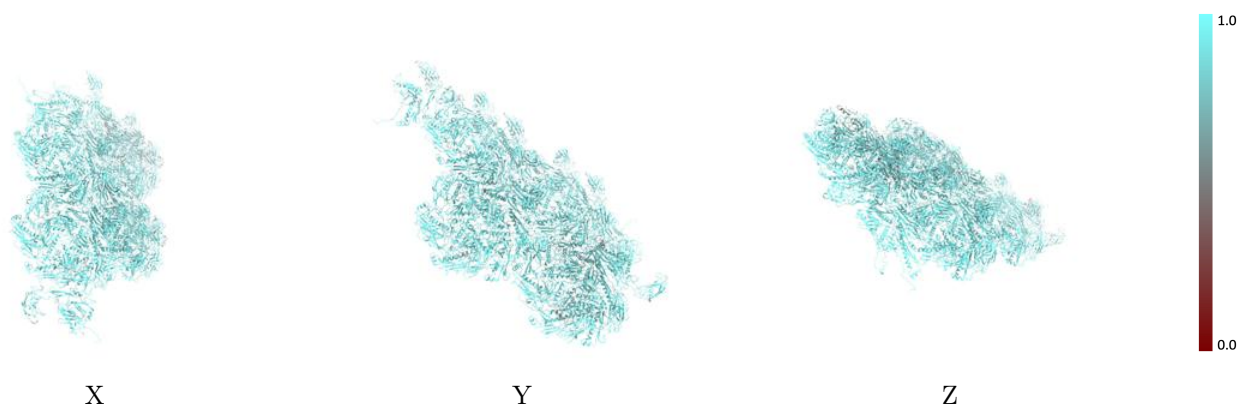
The images above show the 3D surface view of the map at the recommended contour level 0.02 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



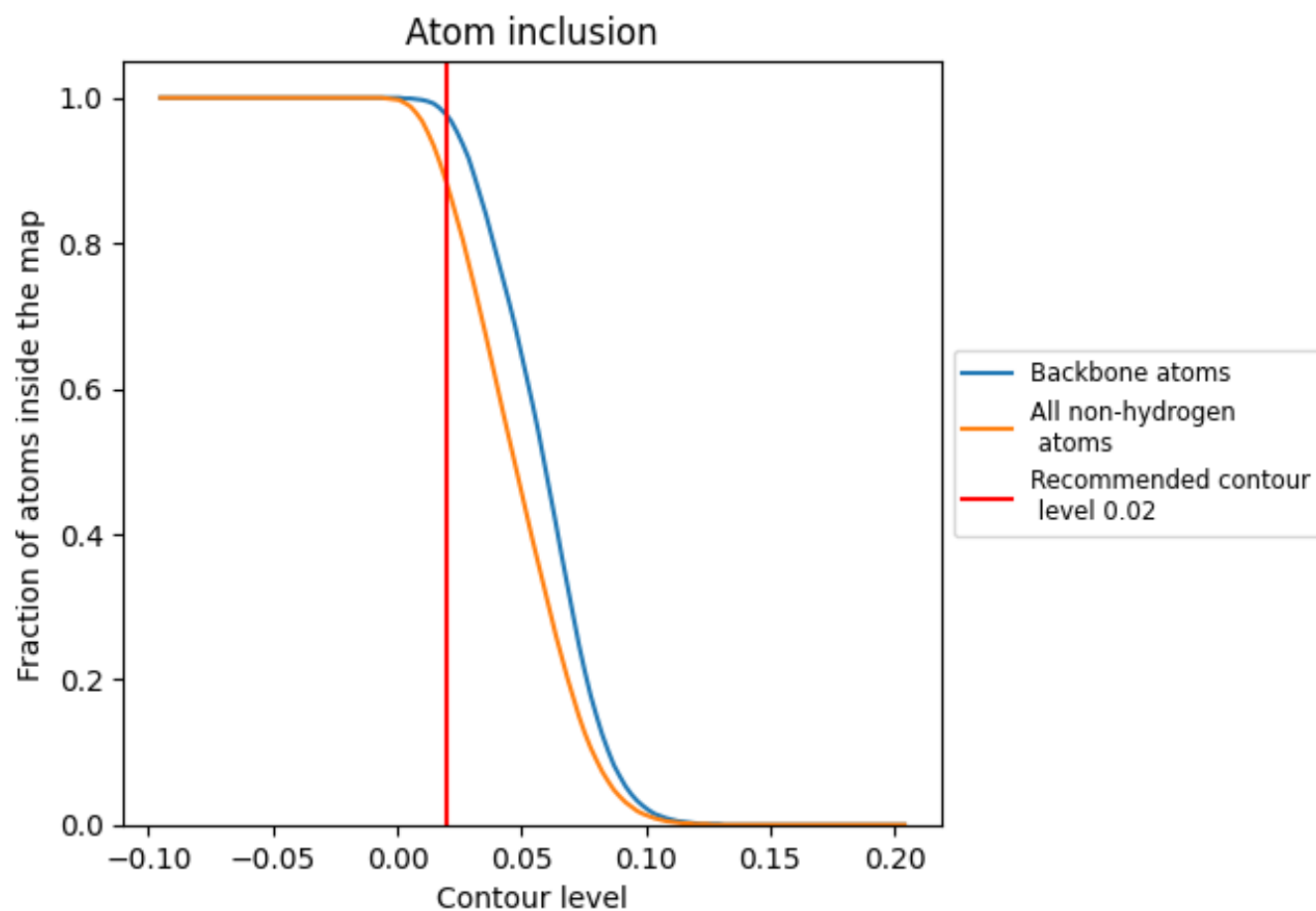
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.02).

































































## 9.4 Atom inclusion [i](#)



At the recommended contour level, 98% of all backbone atoms, 88% 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 (0.02) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.8820	 0.4580
A	 0.8320	 0.4430
P	 0.8520	 0.4280
Q	 0.8460	 0.4260
R	 0.7070	 0.3870
S	 0.6910	 0.3680
a	 0.8950	 0.4640
b	 0.8910	 0.4630
c	 0.8900	 0.4650
d	 0.8920	 0.4680
e	 0.8940	 0.4630
f	 0.8590	 0.4570
g	 0.9040	 0.4660
h	 0.9020	 0.4650
i	 0.8990	 0.4660
j	 0.9010	 0.4680
k	 0.9060	 0.4680
l	 0.9000	 0.4650
m	 0.8930	 0.4630
n	 0.8930	 0.4670
o	 0.8920	 0.4630
p	 0.8980	 0.4600
q	 0.8880	 0.4660
r	 0.8850	 0.4620
s	 0.8960	 0.4630
t	 0.8930	 0.4620
u	 0.8950	 0.4580
v	 0.9020	 0.4640
w	 0.8980	 0.4630
x	 0.8980	 0.4660
y	 0.9100	 0.4640
z	 0.9030	 0.4670

