



# wwPDB EM Validation Summary Report ⓘ

May 15, 2023 – 05:12 pm BST

PDB ID : 8AUW  
EMDB ID : EMD-15675  
Title : Cryo-EM structure of human BIRC6 in complex with SMAC.  
Authors : Ehrmann, J.F.; Grabarczyk, D.B.; Clausen, T.  
Deposited on : 2022-08-25  
Resolution : 7.20 Å(reported)  
Based on initial models : 1G73, 8ATU

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.dev50  
MolProbity : 4.02b-467  
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)  
MapQ : 1.9.9  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.32.2

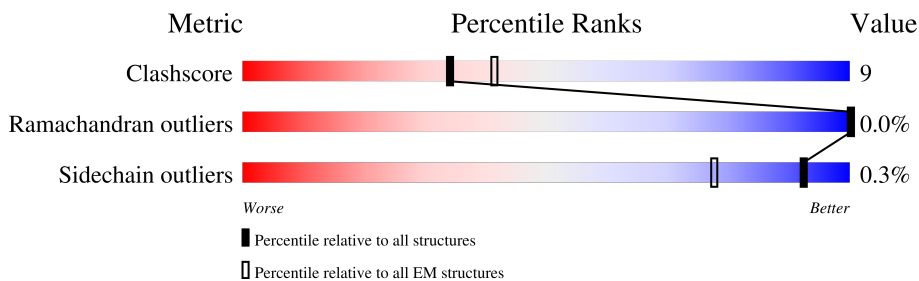
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*ELECTRON MICROSCOPY*

The reported resolution of this entry is 7.20 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



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

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for  $\geq 3$ , 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	4867	
1	B	4867	
2	C	184	
2	D	184	

## 2 Entry composition

There are 3 unique types of molecules in this entry. The entry contains 46869 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 Baculoviral IAP repeat-containing protein 6.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	2900	22469	14359	3812	4146	152	0	0
1	B	2830	21887	13991	3697	4048	151	0	0

There are 22 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	1332	VAL	LEU	conflict	UNP Q9NR09
A	4858	SER	-	expression tag	UNP Q9NR09
A	4859	ALA	-	expression tag	UNP Q9NR09
A	4860	TRP	-	expression tag	UNP Q9NR09
A	4861	SER	-	expression tag	UNP Q9NR09
A	4862	HIS	-	expression tag	UNP Q9NR09
A	4863	PRO	-	expression tag	UNP Q9NR09
A	4864	GLN	-	expression tag	UNP Q9NR09
A	4865	PHE	-	expression tag	UNP Q9NR09
A	4866	GLU	-	expression tag	UNP Q9NR09
A	4867	LYS	-	expression tag	UNP Q9NR09
B	1332	VAL	LEU	conflict	UNP Q9NR09
B	4858	SER	-	expression tag	UNP Q9NR09
B	4859	ALA	-	expression tag	UNP Q9NR09
B	4860	TRP	-	expression tag	UNP Q9NR09
B	4861	SER	-	expression tag	UNP Q9NR09
B	4862	HIS	-	expression tag	UNP Q9NR09
B	4863	PRO	-	expression tag	UNP Q9NR09
B	4864	GLN	-	expression tag	UNP Q9NR09
B	4865	PHE	-	expression tag	UNP Q9NR09
B	4866	GLU	-	expression tag	UNP Q9NR09
B	4867	LYS	-	expression tag	UNP Q9NR09

- Molecule 2 is a protein called Diablo IAP-binding mitochondrial protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	C	161	1269	792	214	258	5	0	0
2	D	157	1242	773	210	254	5	0	0

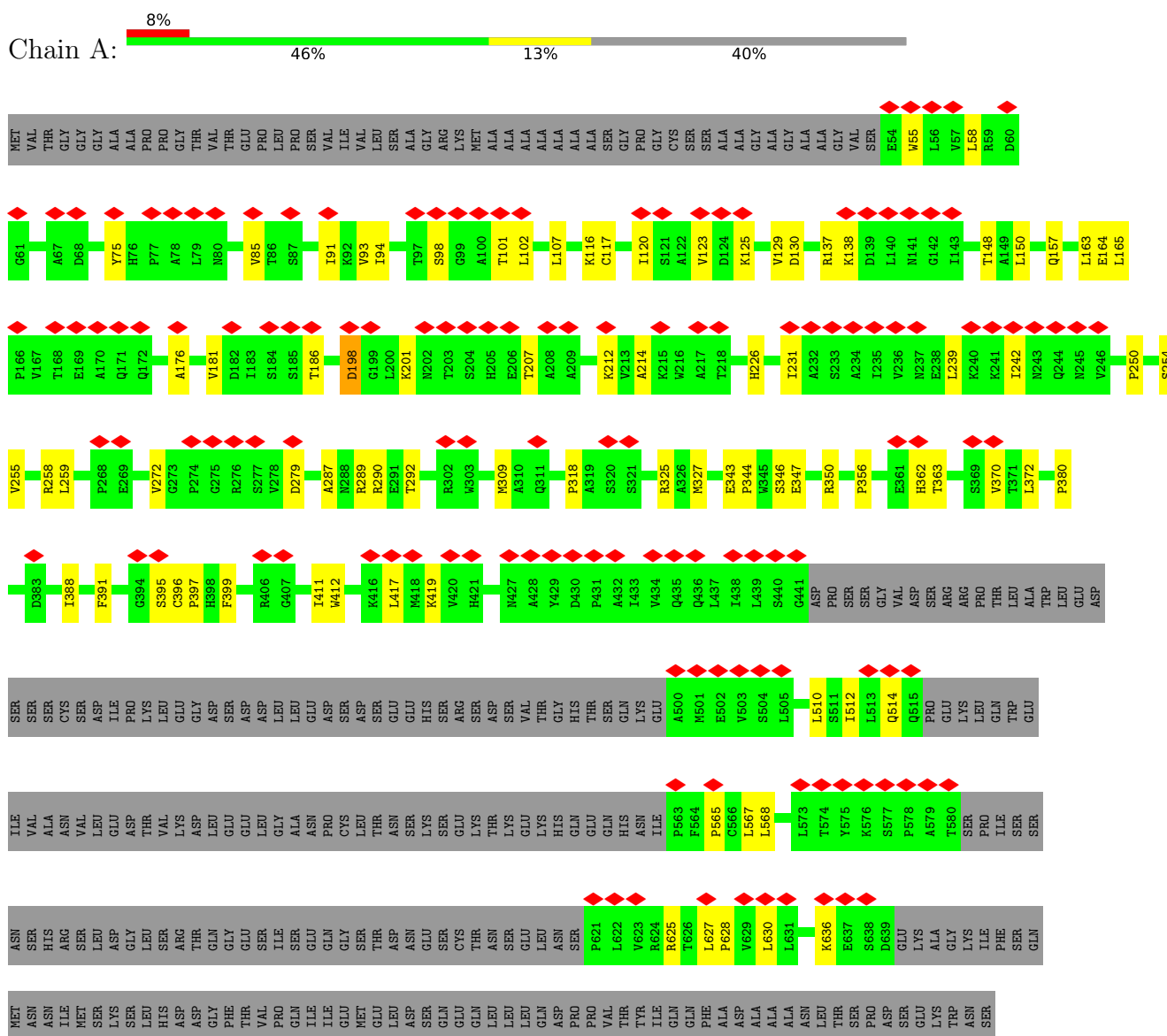
- Molecule 3 is ZINC ION (three-letter code: ZN) (formula: Zn).

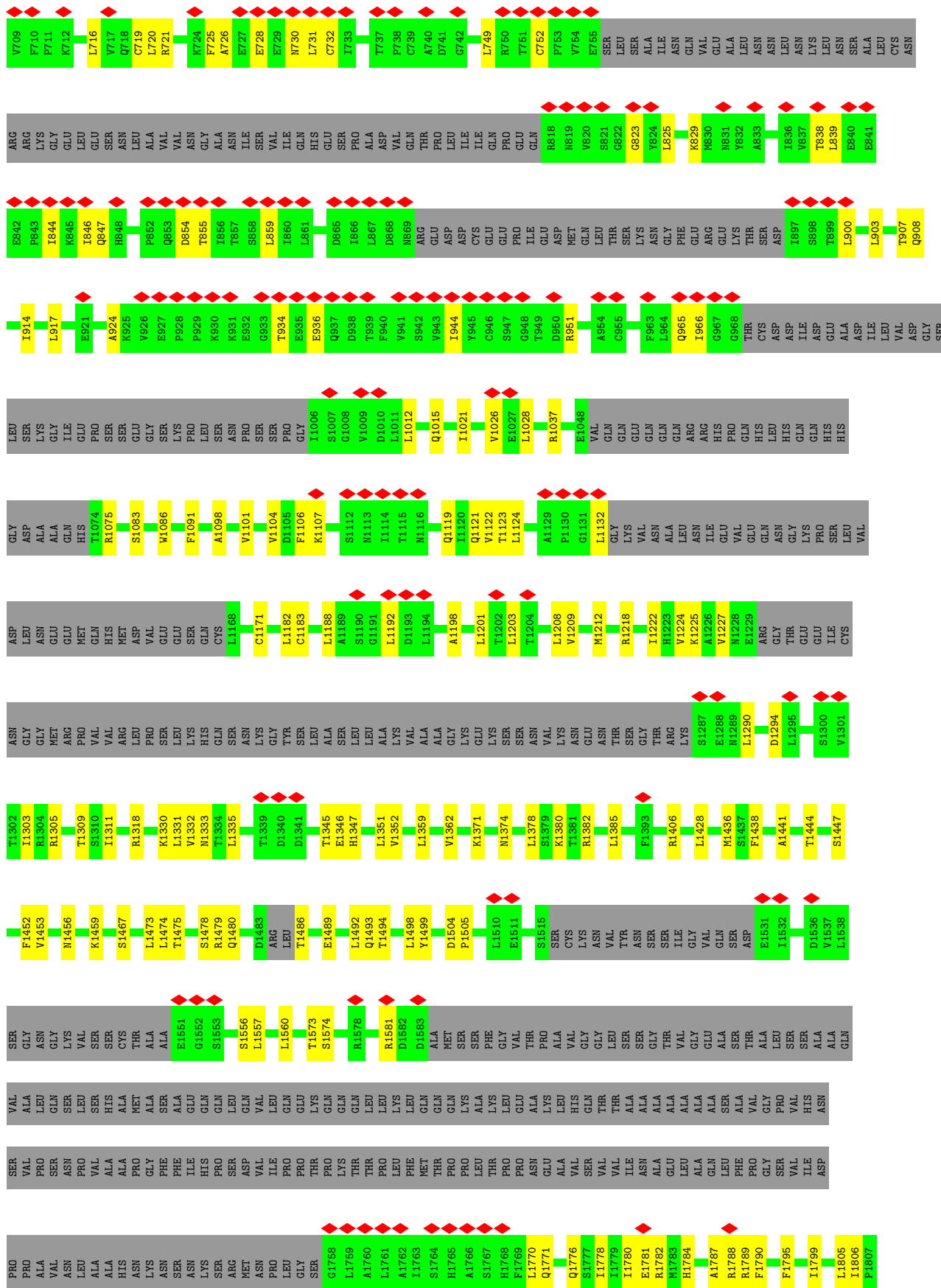
Mol	Chain	Residues	Atoms		AltConf
			Total	Zn	
3	A	1	1	1	0
3	B	1	1	1	0

### 3 Residue-property plots

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

- Molecule 1: Baculoviral IAP repeat-containing protein 6



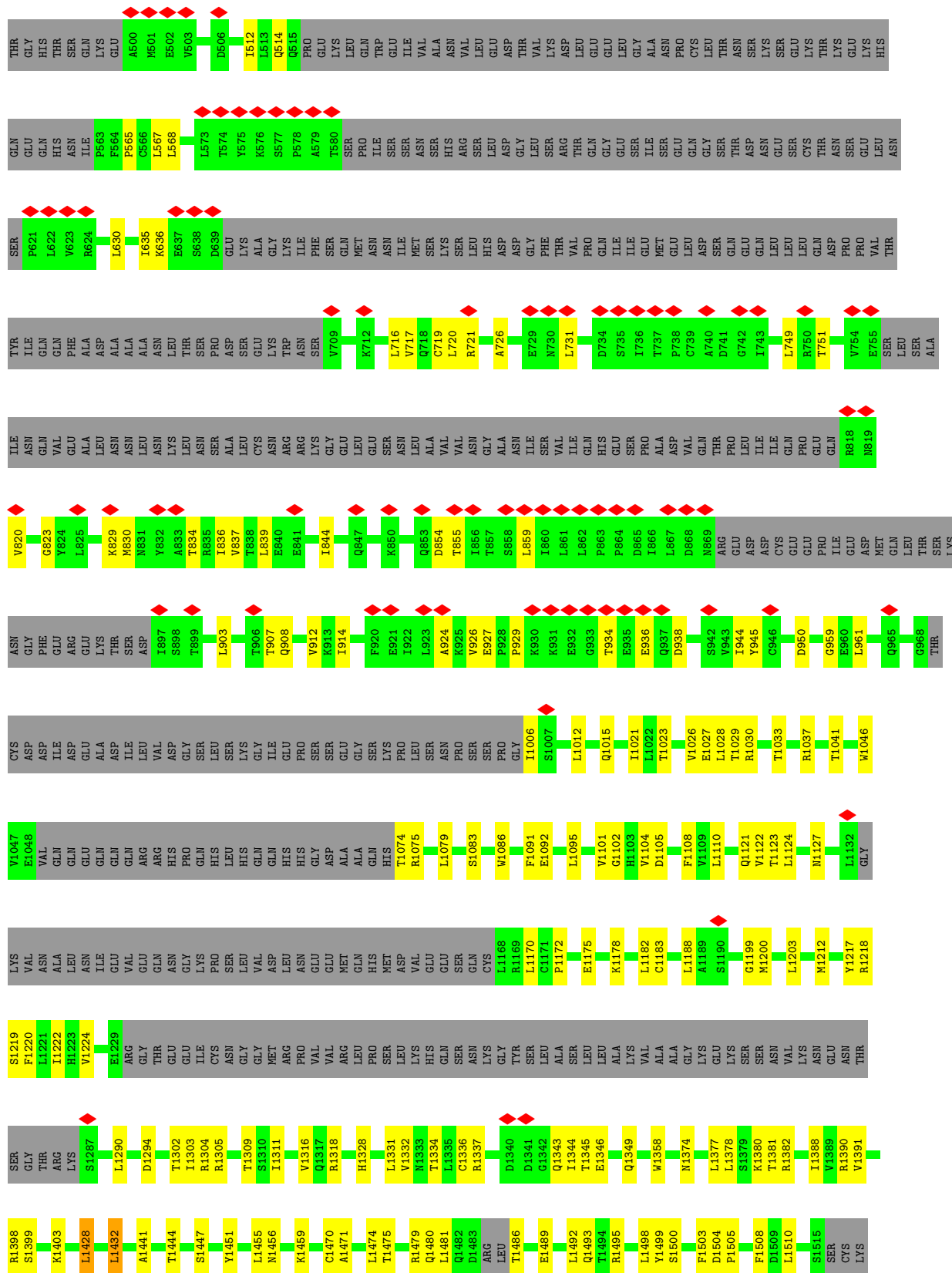














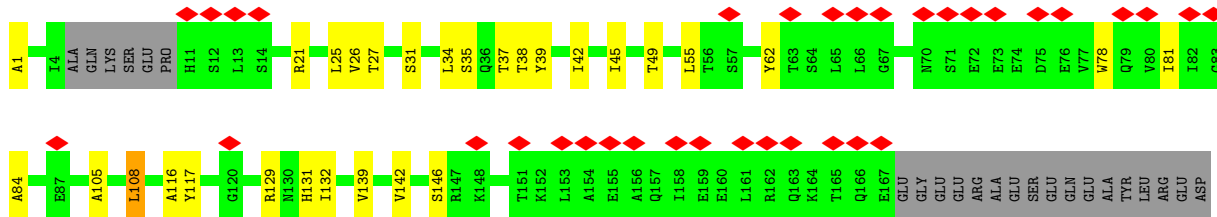
THR	SER	GLN	LEU	ILE	ILE	GLN	L2633	K2645	V2655	L2665	L2669	N2670	N2671	SER	SER	THR	GLY	ASN	GLY	LYS	GLU	ASN	GLY	ASN	GLY	ALA	ALA	ASP	PHE	L2685	Y2686	N2687	R2690	L2691	P2692	N2697	Q2698	T2714	L2715	L2716	R2717	T2718	H2719	C2720	L2721	H2724	S2725	L2726	T2727	L2728	H2729	L2730	N2731	N2732			
Q2783	L2734	N2735	SER	GLY	SER	SER	SER	ALA	GLY	THR	Q2745	A2749	H2750	L2751	L2752	V2753	S2754	L2758	V2761	N2775	Q2776	H2777	Q2787	E2791	F2792	L2793	Q2797	L2800	S2801	S2809	L2812	L2815	I2816	H2817	Q2827	T2828	D2834	V2837	K2838	L2925	V2926	N2927	L2844	E2845	Q2846												
N2847	F2848	V2859	V2867	C2873	S2874	D2875	N2878	S2879	R2880	S2881	GLY	SER	ASP	SER	SER	SER	VAL	VAL	GLY	ALA	ARG	ALA	ARG	VAL	CYS	PHE	GLY	GLY	GLY	LEU	PHE	ALA	ASN	GLY	LEU	ILE	ARG	PRO	GLY	ASP	VAL	S2809	L2812	L2815	I2816	H2817	Q2827	T2828	D2834	V2837	K2838	L2925	V2926	N2927	L2844	E2845	Q2846
S2935	Q2936	ASN	THR	TYR	SER	ALA	ARG	VAL	SER	THR	ASN	THR	THR	ASP	SER	VAL	ASP	GLU	GLU	LYS	VAL	SER	GLY	GLY	GLY	LYS	ASP	GLY	THR	SER	VAL	GLM	GLY	SER	P2977	A2978	L2985	I2994	L2995	S3004	ALA	MET	ALA	MET	MET	ILE	ILE	ALA	GLY	ALA	SER						
GLY	LEU	HIS	THR	LYS	HIS	GLY	GLY	LEU	ASP	ALA	I3030	D3034	I3039	S3240	L3040	M3052	K3053	L3054	L3058	G3064	TYR	MET	GLY	ARG	GLN	GLY	SER	THR	SER	LEU	ALA	T3074	C3075	Q3076	L3077	I3085	V3088	I3107	C3108	S3114	A3117	N3120	T3121	A3122	R3123	S3124											
M3125	I3129	M3130	K3131	D3134	SER	GLY	PRO	ASN	LYS	VAL	ASP	THR	LEU	LYS	THR	ARG	ILE	LEU	ALA	GLU	GLY	PRO	ASP	ALA	G3159	F3163	A3164	G3167	A3176	Q3177	P3178	A3179	E3180	V3181	L3182	L3183	Q3184	P3187	P3188	H3189	R3190	R3191	A3192	R3193	A3196	W3197	S3198	Y3199									
A3206	W3207	P3215	A3216	A3217	L3220	K3221	E3222	I3223	H3224	I3225	L3232	A3233	P3236	V3239	S3240	V3241	D3246	S3254	T3255	P3256	T3263	Y3264	I3265	K3266	I3267	Q3268	K3271	A3272	E3273	V3274	A3275	C3279	L3280	R3281	L3282	H3283	R3284	D3287	L3291	S3294	K3297	L3298	T3302														
A3303	F3304	G3305	THR	THR	SER	ALA	THR	VAL	ASN	ASN	PRO	PHE	LEU	PRO	SER	E3320	D3321	K3325	S3327	I3328	G3329	K3330	L3331	H3335	T3339	H3340	I3341	S3342	D3343	T3355	Y3370	C3371	G3372	N3373	H3374	Q3388	S3389	L3394	K3395	L3396	L3400	L3401	R3402	H3403	CYS	ALA	ALA	SER	GLY								
SER	ASP	PRO	THR	ASP	LEU	ASN	SER	PRO	LEU	LEU	GLY	LEU	SER	SER	SER	S3428	D3429	I3432	L3436	D3448	R3449	I3450	L3453	L3454	V3457	S3458	R3462	K3467	ARG	GLY	ARG	ASN	TYR	MET	CYS	PRO	PRO	VAL	GLN	CYS	HIS	HIS	ARG	LEU	SER	MET	THR	ALA	ASP	SER	LYS						
C3496	L3508	V3509	E3510	Y3511	D3512	L3516	L3517	L3518	Q3519	L3524	L3525	F3526	N3527	M3530	S3531	C3534	N3535	A3536	H3537	L3538	K3539	V3542	L3546	C3547	C3550	N3555	F3557	M3564	G3565	I3566	T3567	PRO	PRO	PRO	VAL	GLN	CYS	HIS	HIS	ARG	LEU	SER	MET	THR	ALA	ASP	SER	LYS									
LYS	GLN	ASP	LEU	SER	SER	SER	THR	ASP	ASP	ASP	SER	LYS	ASN	ALA	ALA	P3602	L3603	A3604	L3605	T3612	L3613	A3614	S3615	S3616	D3628	L3635	V3636	A3640	C3643	S3652	ILE	ALA	GLN	SER	ILE	ASP	ASN	LEU	GLY	ALA	GLN	THR	THR	SER	ALA	ARG	HIS	SER	VAL	PRO	GLN	GLN	CYS	N3674			
K3675	N3676	P3677	I3678	T3679	A3680	D3681	P3685	I3686	L3687	R3688	E3692	V3693	G3694	I3698	M3699	K3700	L3703	G3704	A3705	S3706	E3707	V3708	L3711	L3715	L3716	L3719	C3720	H3721	S3724	THR	SER	GLY	SER	HIS	ASN	LEU	GLY	ALA	GLN	GLN	THR	SER	ALA	ARG	ALA	ALA	SER	LEU	SER	GLY	THR	ALA					
ALA	THR	T3749	G3750	L3751	T3752	T3753	Q3754	Q3755	R3756	L3759	E3760	K3761	A3762	A3765	Q3769	Q3778	Q3794	ARG	GLY	ASN	LEU	PRO	THR	SER	G3802	F3807	R3810	L3813	Q3814	L3815	L3816	L3817	E3818	D3819	E3820	K3821	V3822	T3823	L3826	Q3827	S3828	F3829	C3830	Y3833	LYS	GLY	ARG	ILE	ASN								



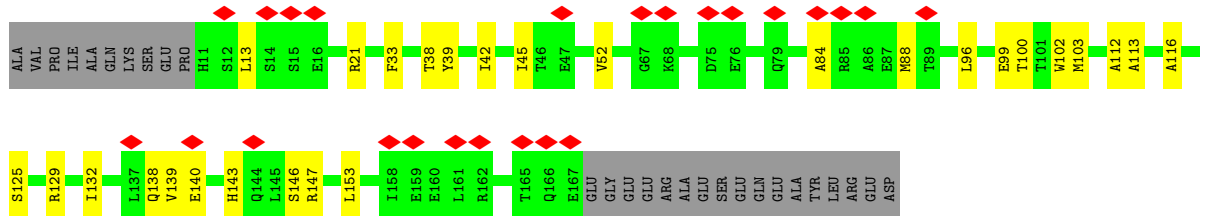
GLN LEU ARG GLU LEU LEU LEU LEU LEU PRO CYS PRO PRO GLU GLY LEU ASP ASP THR ASP ASP ALA PRO VAL VAL CYS ARG ALA THR GLY ALA GLU THR LEU MET HIS ASP VAL LYS PRO SER SER SER SER LEU LEU PRO SER SER PHE GLN LEU SER ALA THR SER

PRO  
GLN  
PHE  
GLU  
LYS

● Molecule 2: Diablo IAP-binding mitochondrial protein



● Molecule 2: Diablo IAP-binding mitochondrial protein



## 4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	56954	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 ( $e^-/\text{\AA}^2$ )	60	Depositor
Minimum defocus (nm)	500	Depositor
Maximum defocus (nm)	1500	Depositor
Magnification	Not provided	
Image detector	FEI FALCON IV (4k x 4k)	Depositor
Maximum map value	0.027	Depositor
Minimum map value	-0.013	Depositor
Average map value	-0.000	Depositor
Map value standard deviation	0.001	Depositor
Recommended contour level	0.005	Depositor
Map size (Å)	426.9999, 426.9999, 426.9999	wwPDB
Map dimensions	300, 300, 300	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.423333, 1.423333, 1.423333	Depositor

## 5 Model quality [i](#)

### 5.1 Standard geometry [i](#)

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

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
1	A	0.30	0/22884	0.67	20/31066 (0.1%)
1	B	0.31	0/22298	0.67	27/30292 (0.1%)
2	C	0.30	0/1284	0.65	1/1737 (0.1%)
2	D	0.31	0/1257	0.59	1/1700 (0.1%)
All	All	0.30	0/47723	0.67	49/64795 (0.1%)

There are no bond length outliers.

The worst 5 of 49 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	279	ASP	CB-CG-OD1	10.06	127.35	118.30
1	A	2922	LEU	CA-CB-CG	7.95	133.57	115.30
1	B	3487	LEU	CA-CB-CG	7.91	133.50	115.30
1	A	327	MET	CA-CB-CG	7.56	126.15	113.30
1	B	1432	LEU	CA-CB-CG	7.07	131.56	115.30

There are no chirality outliers.

There are no planarity outliers.

### 5.2 Too-close contacts [i](#)

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	22469	0	22943	408	0
1	B	21887	0	22291	415	0

*Continued on next page...*



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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	C	1269	0	1270	21	0
2	D	1242	0	1236	19	0
3	A	1	0	0	0	0
3	B	1	0	0	0	0
All	All	46869	0	47740	838	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 9.

The worst 5 of 838 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:B:1027:GLU:HA	1:B:1030:ARG:HE	1.46	0.81
1:B:3217:ALA:HA	1:B:3275:ALA:O	1.83	0.79
1:B:1378:LEU:HB3	1:B:1382:ARG:HH21	1.50	0.76
1:A:2817:HIS:HB2	1:A:2859:VAL:HG12	1.68	0.75
1:B:3821:LYS:HD3	1:B:3859:HIS:HB3	1.70	0.74

There are no symmetry-related clashes.

## 5.3 Torsion angles [i](#)

### 5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	2806/4867 (58%)	2734 (97%)	71 (2%)	1 (0%)	100	100
1	B	2738/4867 (56%)	2670 (98%)	68 (2%)	0	100	100
2	C	157/184 (85%)	156 (99%)	1 (1%)	0	100	100
2	D	155/184 (84%)	154 (99%)	1 (1%)	0	100	100
All	All	5856/10102 (58%)	5714 (98%)	141 (2%)	1 (0%)	100	100

All (1) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	2265	LYS

### 5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	2556/4225 (60%)	2546 (100%)	10 (0%)	91	94
1	B	2491/4225 (59%)	2487 (100%)	4 (0%)	93	96
2	C	138/157 (88%)	138 (100%)	0	100	100
2	D	135/157 (86%)	135 (100%)	0	100	100
All	All	5320/8764 (61%)	5306 (100%)	14 (0%)	92	95

5 of 14 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	3191	ARG
1	A	3993	ARG
1	B	4000	ARG
1	B	2116	ARG
1	B	3193	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 6 such sidechains are listed below:

Mol	Chain	Res	Type
1	B	1343	GLN
1	B	3224	HIS
1	B	3228	HIS
1	A	3224	HIS
1	A	1925	GLN

### 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](#)

Of 2 ligands modelled in this entry, 2 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

## 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.

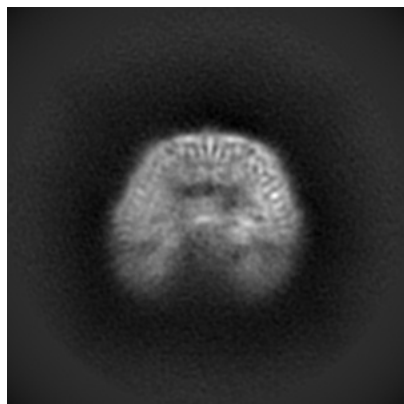
## 6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-15675. These allow visual inspection of the internal detail of the map and identification of artifacts.

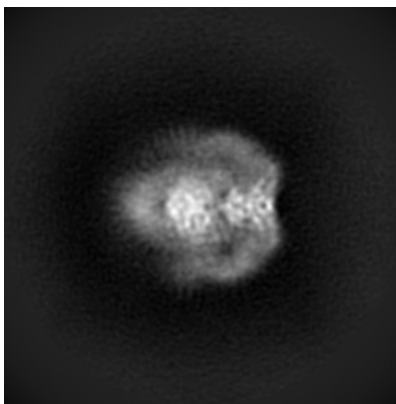
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

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

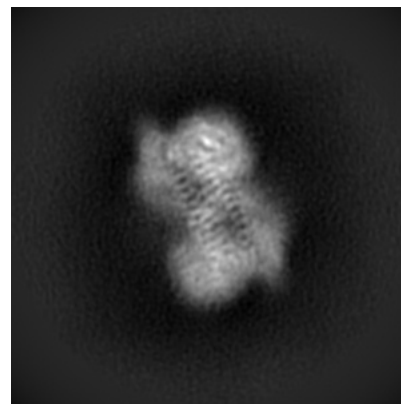
#### 6.1.1 Primary map



X

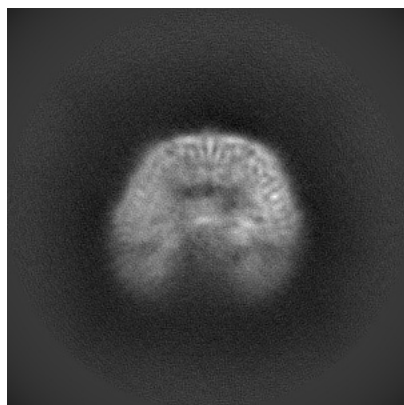


Y

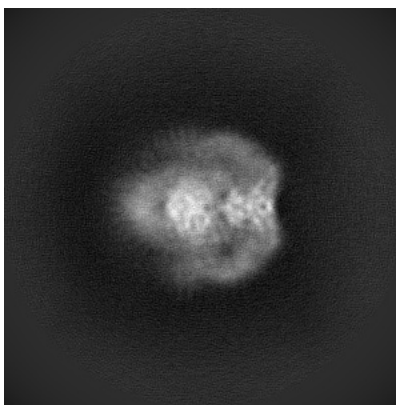


Z

#### 6.1.2 Raw map



X



Y

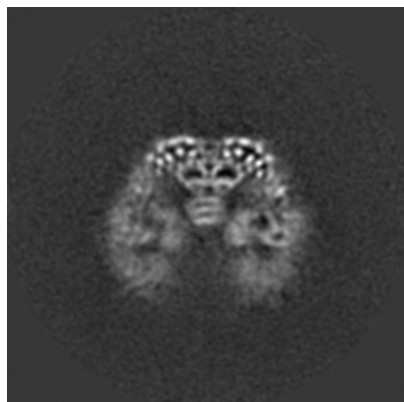


Z

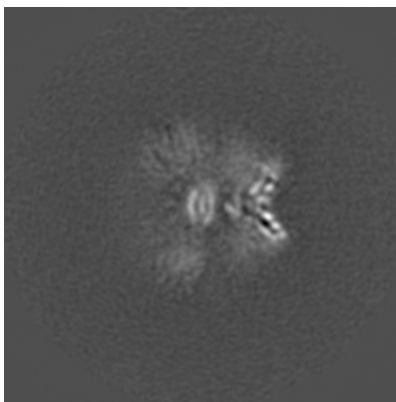
The images above show the map projected in three orthogonal directions.

## 6.2 Central slices [i](#)

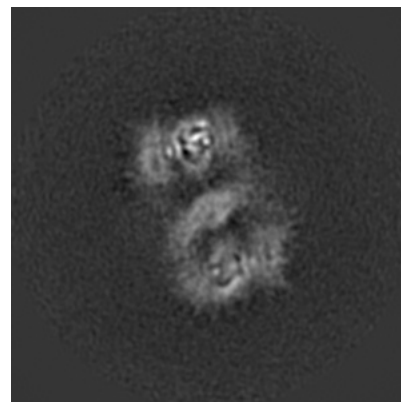
### 6.2.1 Primary map



X Index: 150

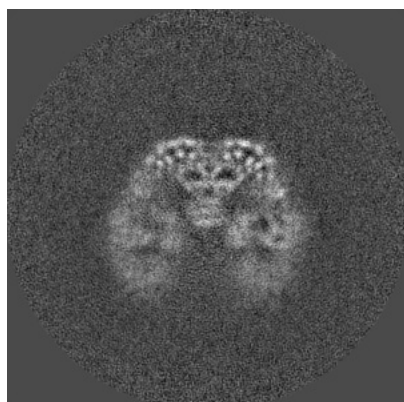


Y Index: 150

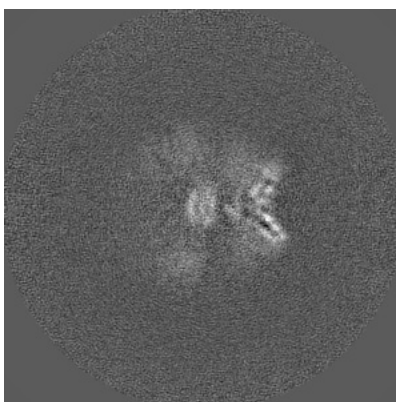


Z Index: 150

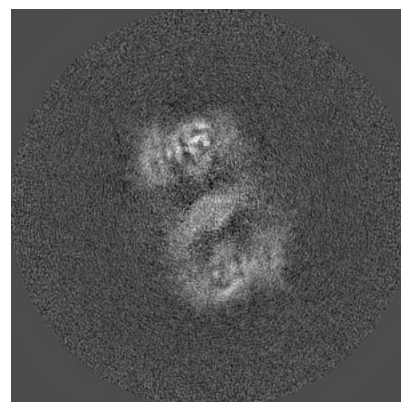
### 6.2.2 Raw map



X Index: 150



Y Index: 150

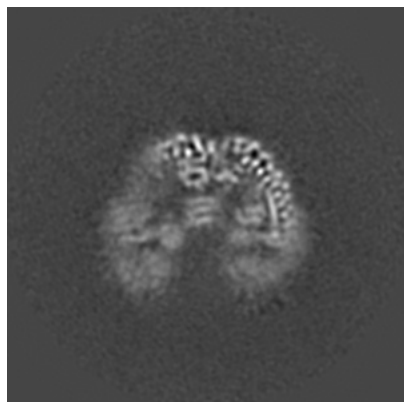


Z Index: 150

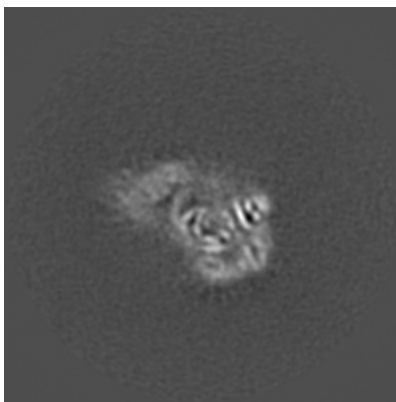
The images above show central slices of the map in three orthogonal directions.

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

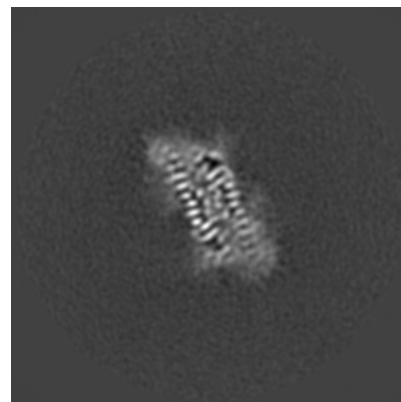
### 6.3.1 Primary map



X Index: 146

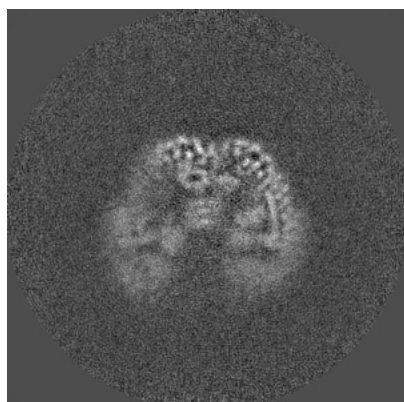


Y Index: 189

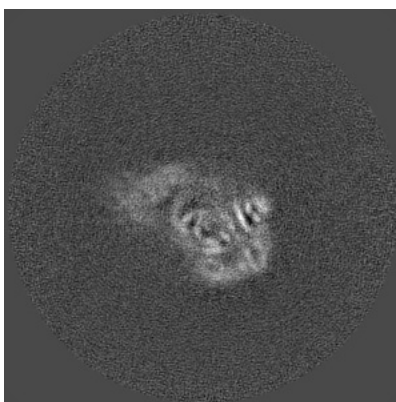


Z Index: 191

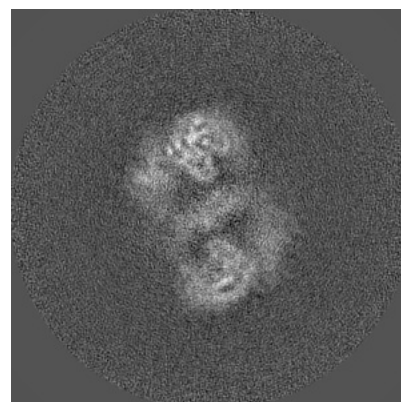
### 6.3.2 Raw map



X Index: 147



Y Index: 189

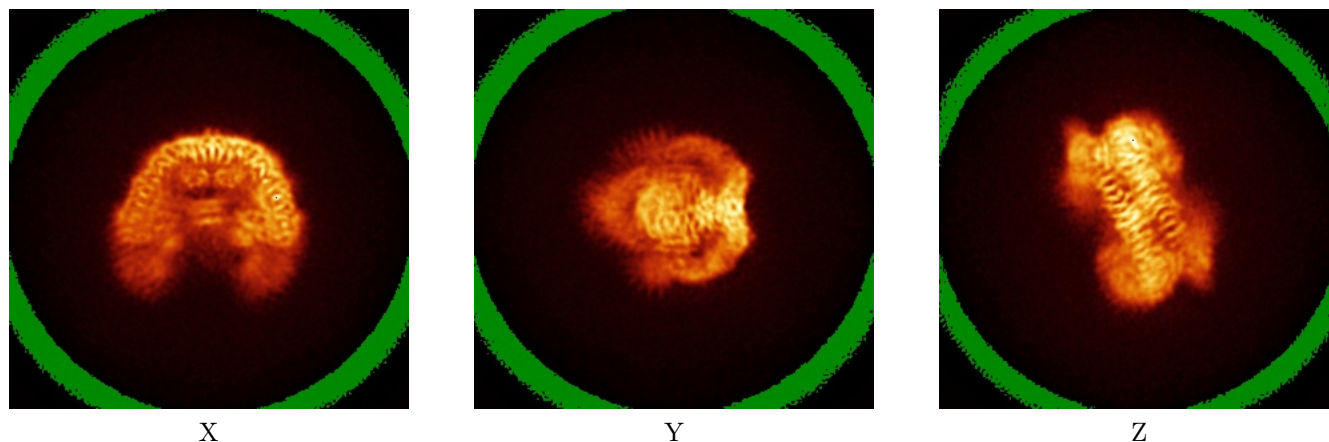


Z Index: 145

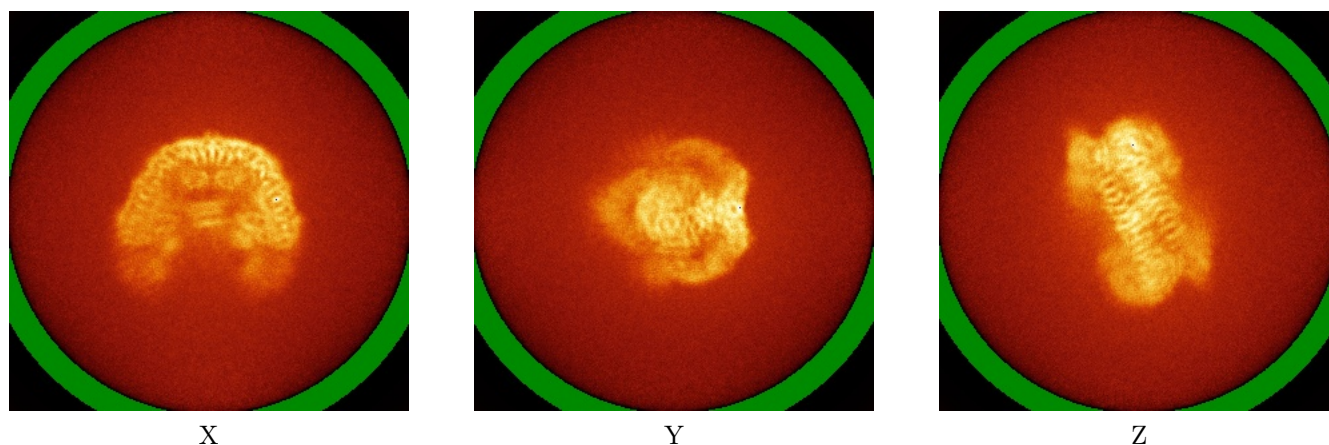
The images above show the largest variance slices of the map in three orthogonal directions.

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

### 6.4.1 Primary map



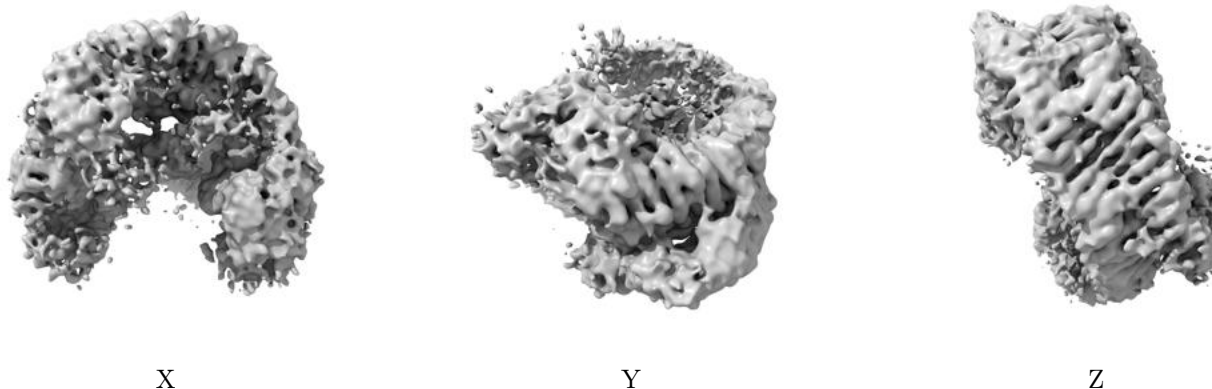
### 6.4.2 Raw map



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.

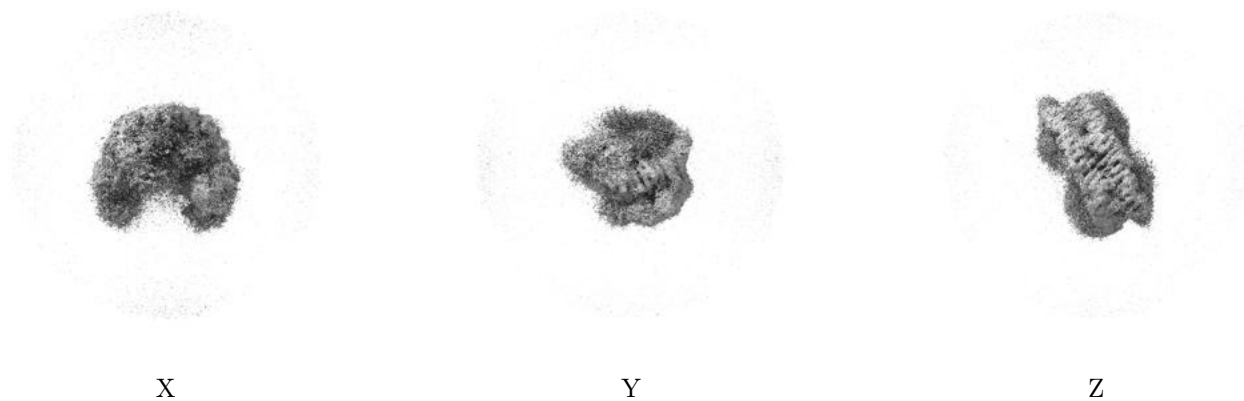
## 6.5 Orthogonal surface views [i](#)

### 6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.005. 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.



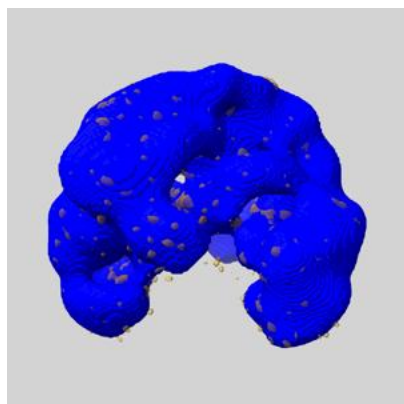
## 6.6 Mask visualisation [i](#)

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

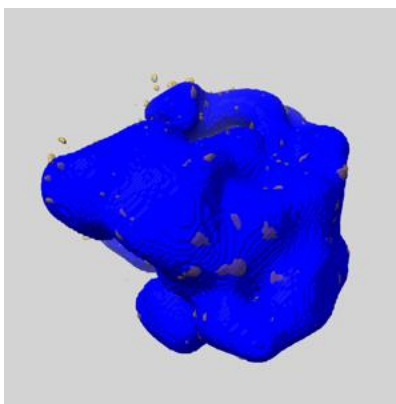
A mask typically either:

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

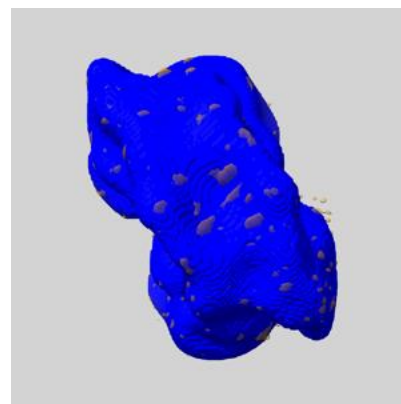
### 6.6.1 emd\_15675\_msk\_1.map [i](#)



X



Y

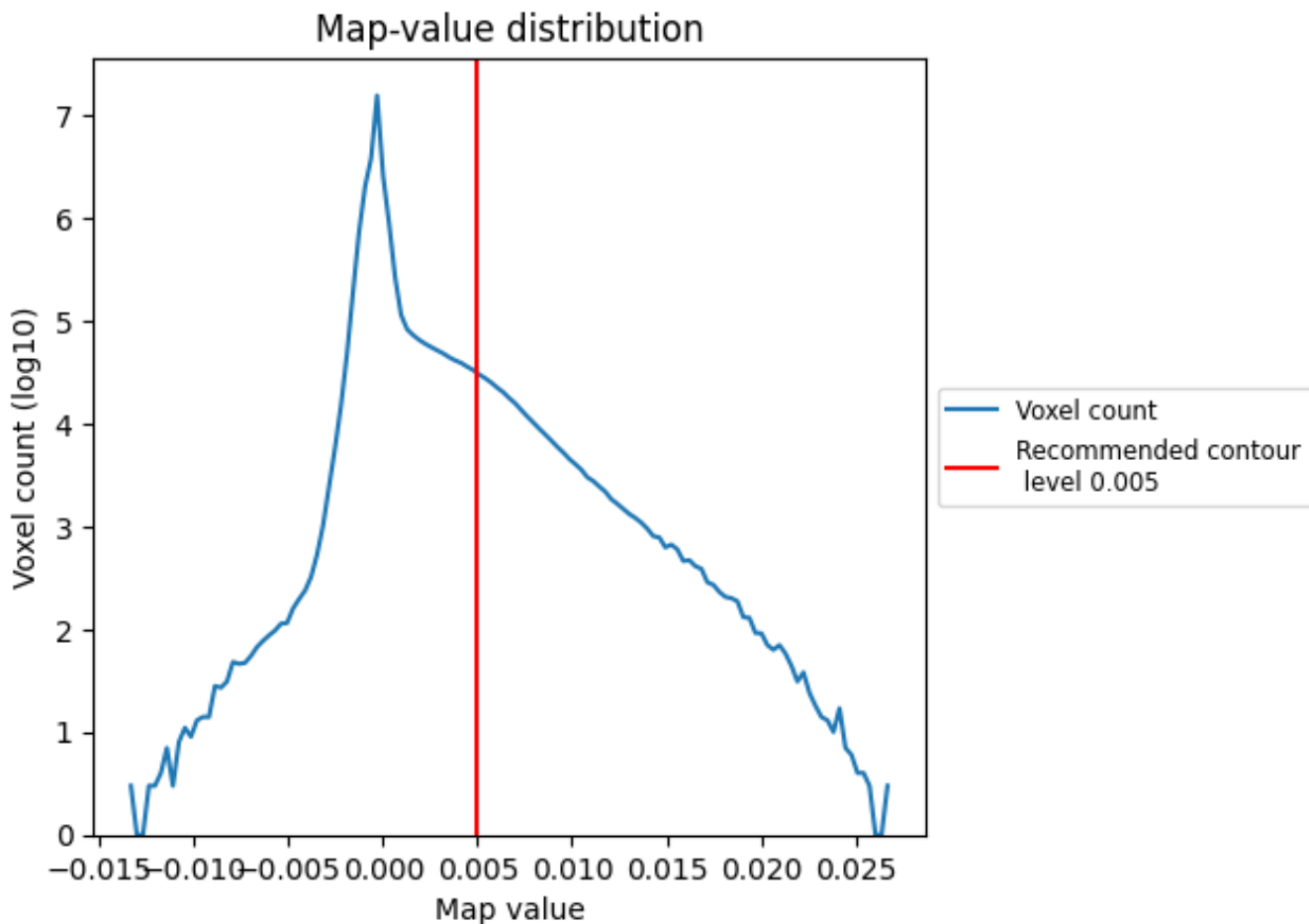


Z

## 7 Map analysis [i](#)

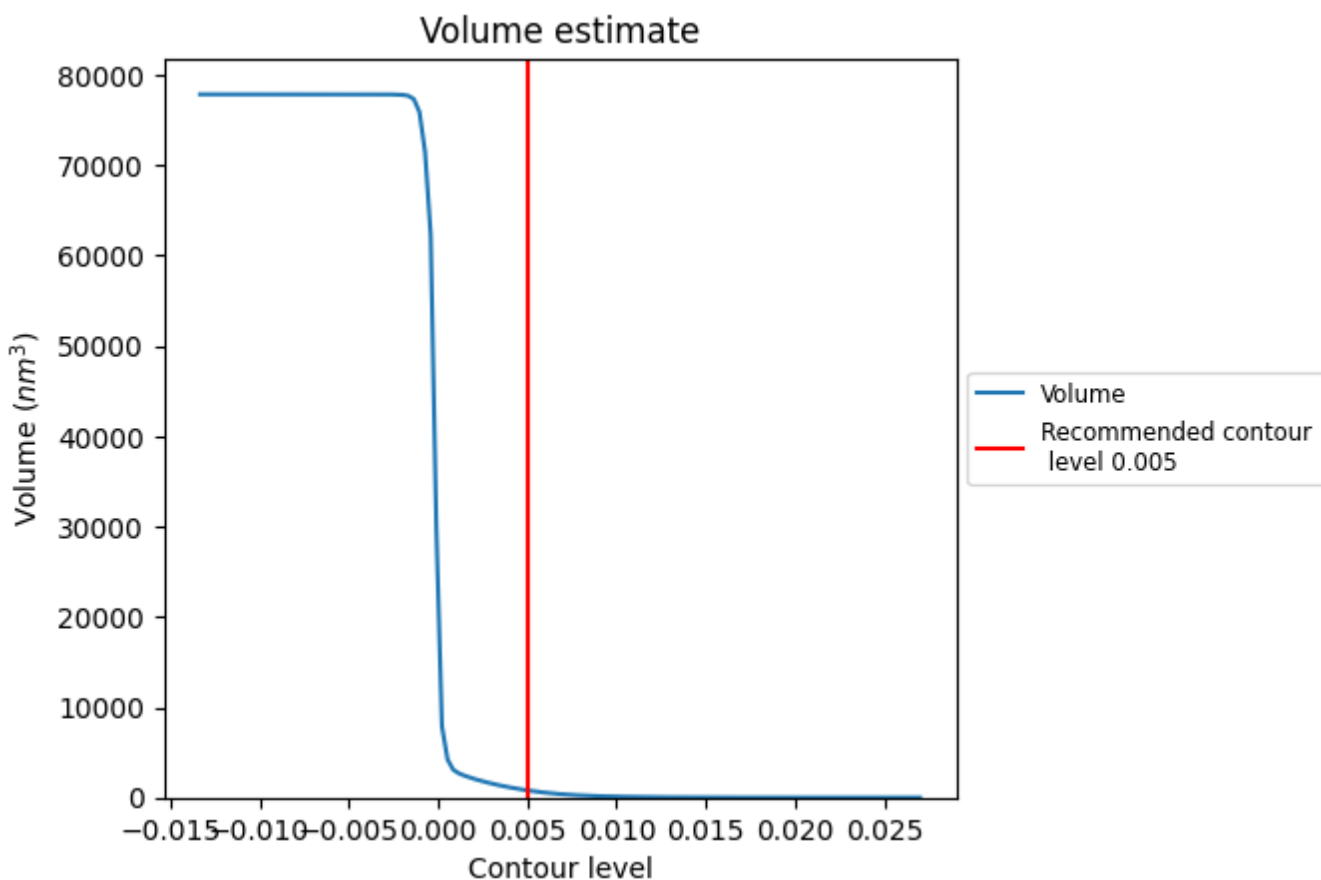
This section contains the results of statistical analysis of the map.

### 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.

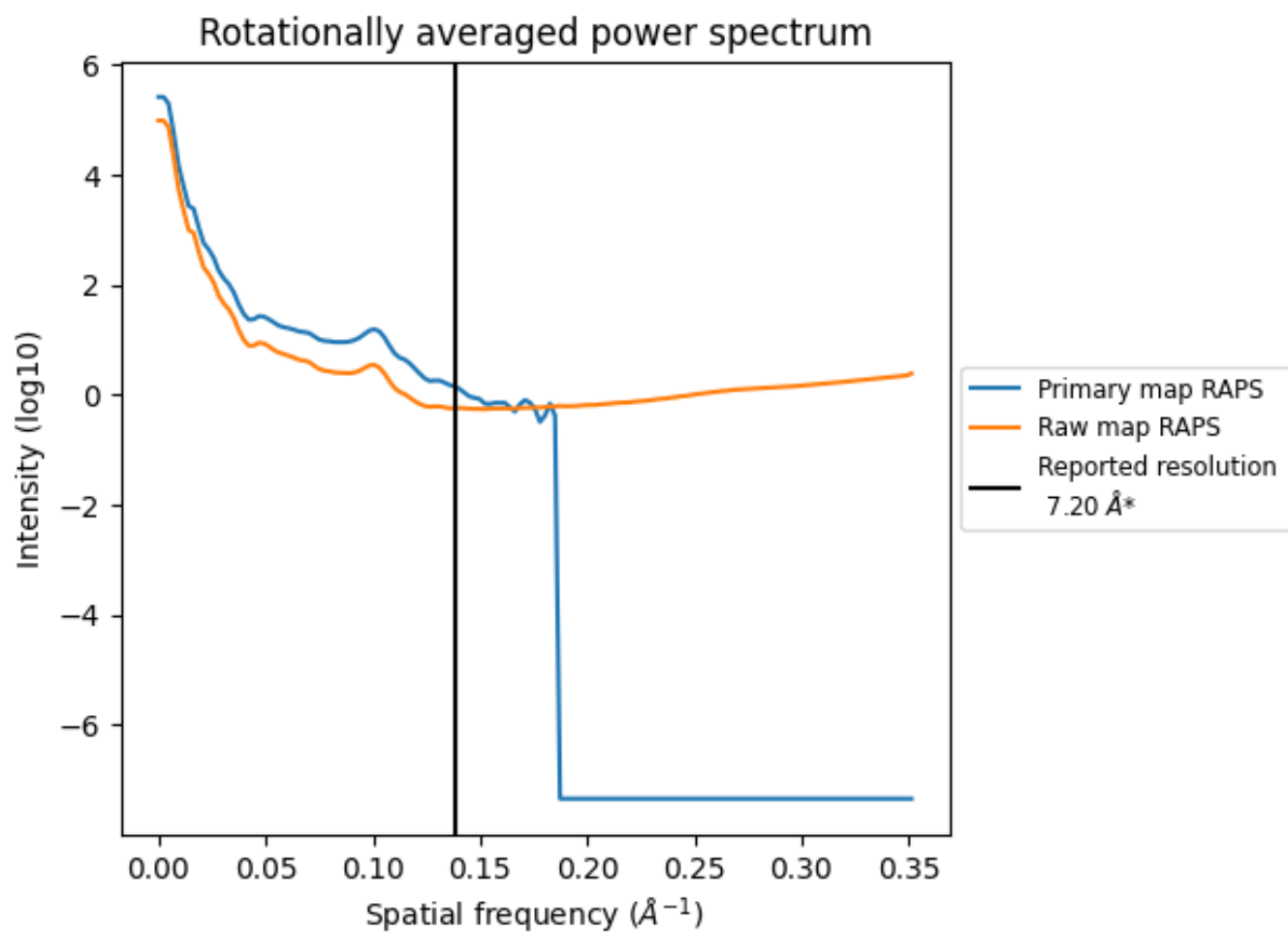
## 7.2 Volume estimate [\(i\)](#)



The volume at the recommended contour level is 800 nm<sup>3</sup>; this corresponds to an approximate mass of 723 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

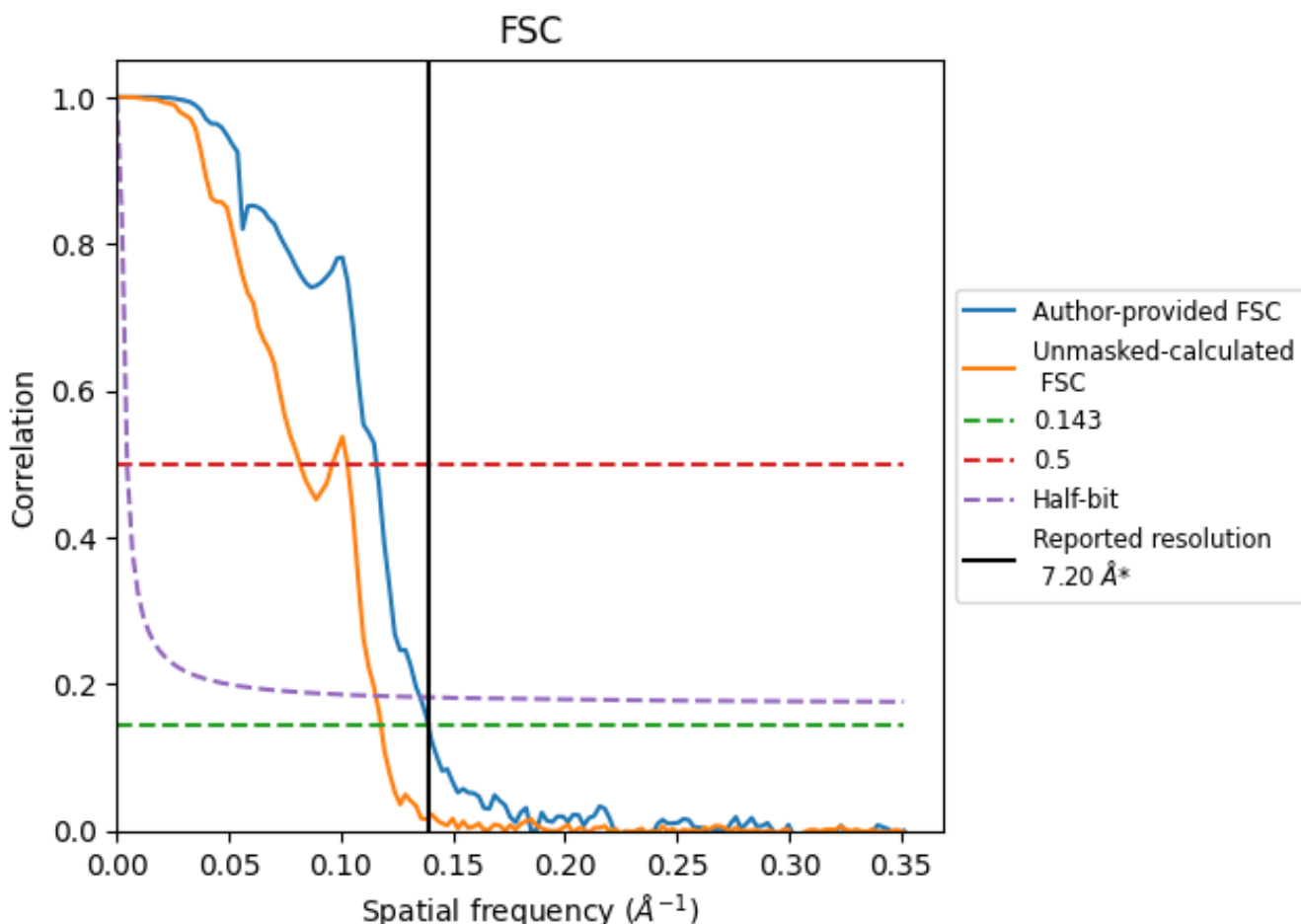


\*Reported resolution corresponds to spatial frequency of 0.139 Å<sup>-1</sup>

## 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 0.139 Å<sup>-1</sup>

## 8.2 Resolution estimates [i](#)

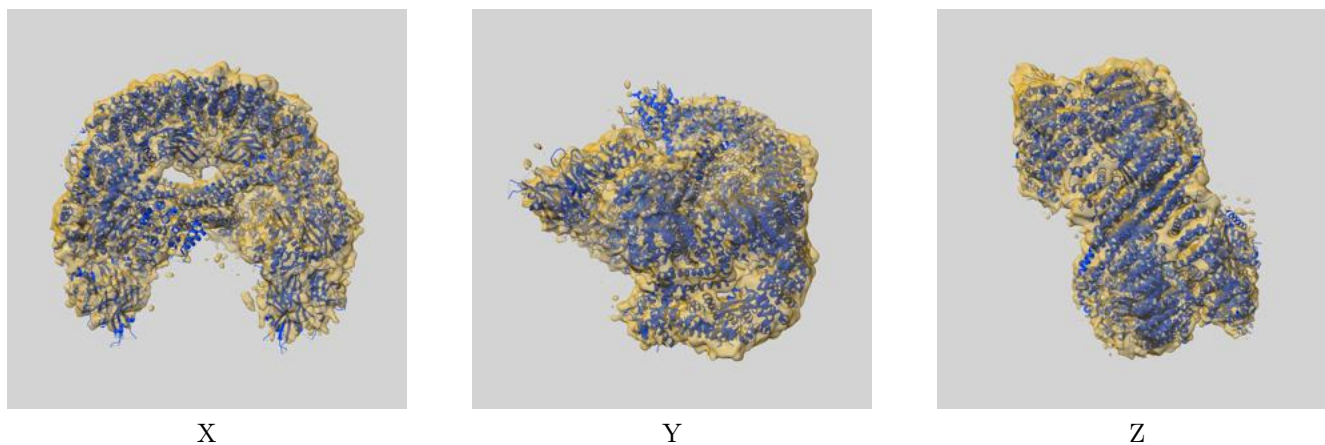
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	7.20	-	-
Author-provided FSC curve	7.19	8.64	7.39
Unmasked-calculated*	8.48	12.24	8.65

\*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 8.48 differs from the reported value 7.2 by more than 10 %

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

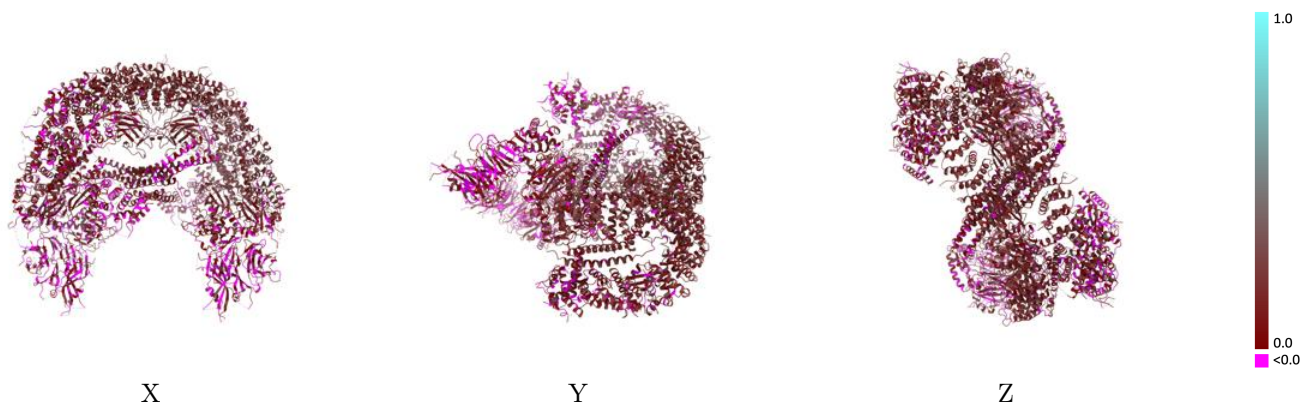
This section contains information regarding the fit between EMDB map EMD-15675 and PDB model 8AUW. Per-residue inclusion information can be found in section [3](#) on page [5](#).

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



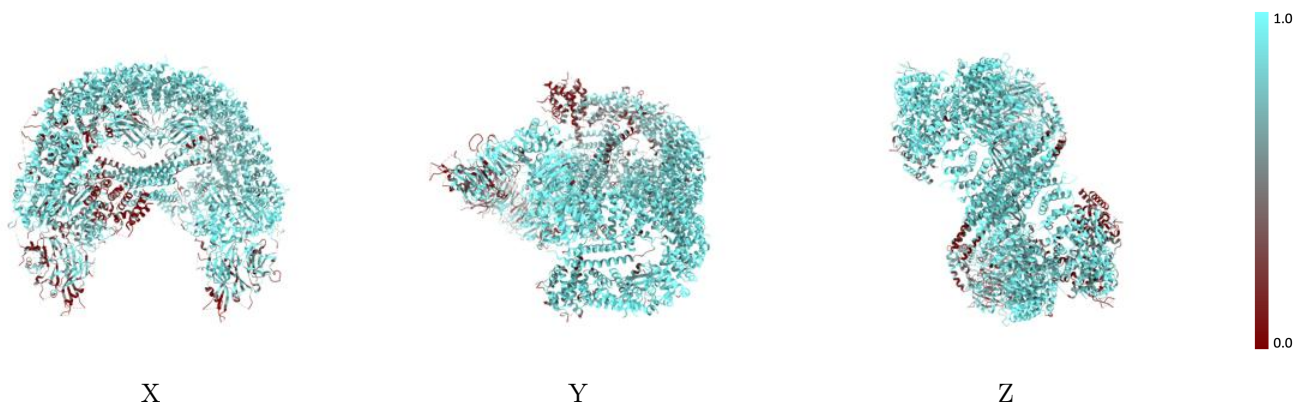
The images above show the 3D surface view of the map at the recommended contour level 0.005 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

## 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.

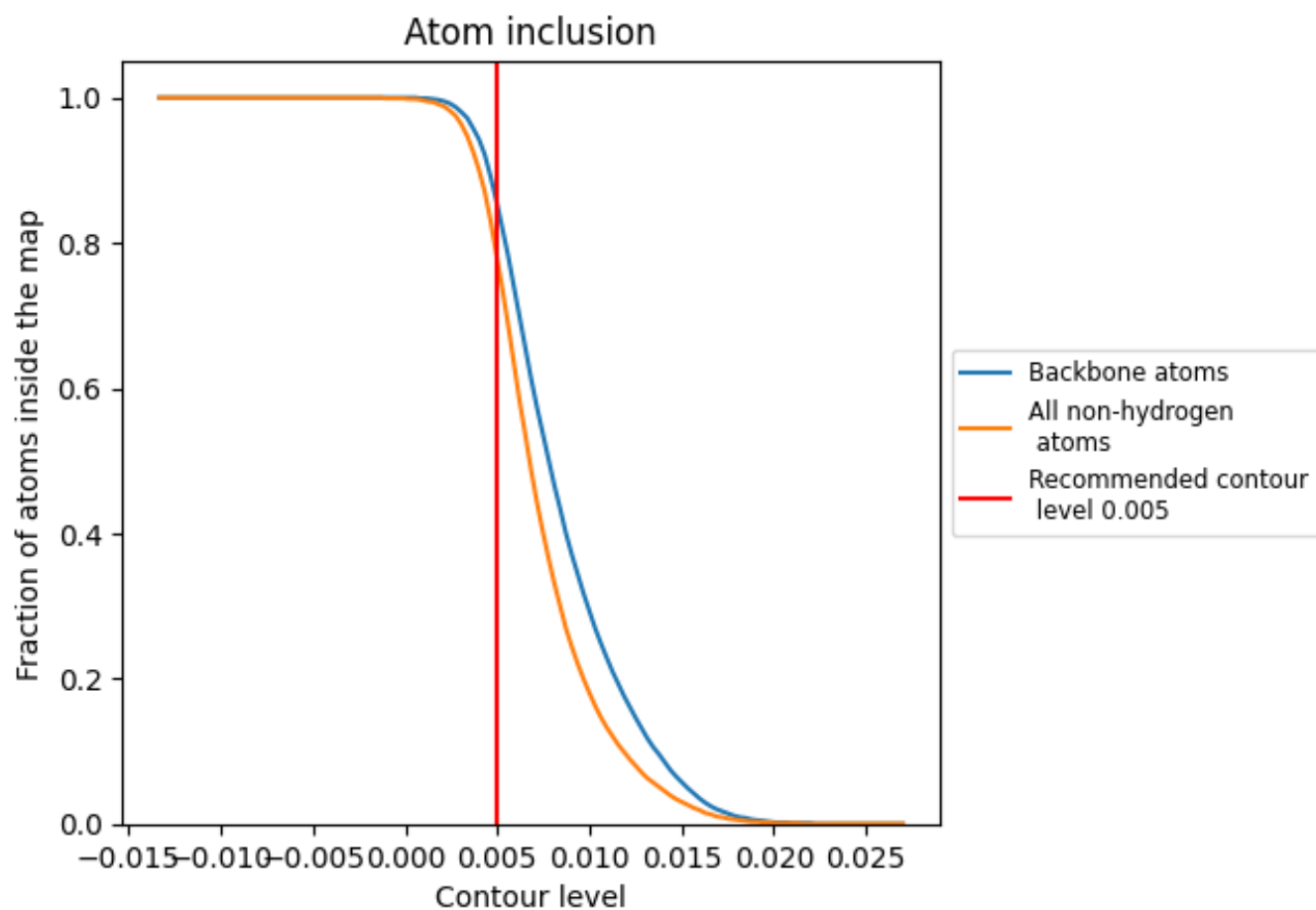
## 9.3 Atom inclusion mapped to coordinate model [i](#)



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 (0.005).











## 9.4 Atom inclusion [i](#)



At the recommended contour level, 85% of all backbone atoms, 78% 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 (0.005) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.7780	 0.1310
A	 0.7890	 0.1330
B	 0.7740	 0.1320
C	 0.6970	 0.1120
D	 0.7420	 0.0950

