



## wwPDB EM Validation Summary Report ⓘ

Mar 28, 2026 – 05:21 AM UTC

PDB ID : 6TML / pdb\_00006tml  
EMDB ID : EMD-10525  
Title : Cryo-EM structure of Toxoplasma gondii mitochondrial ATP synthase hexamer, composite model  
Authors : Muhleip, A.; Kock Flygaard, R.; Amunts, A.  
Deposited on : 2019-12-04  
Resolution : 4.80 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.dev132  
MolProbity : **FAILED**  
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)  
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)  
MapQ : 1.9.13  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.49

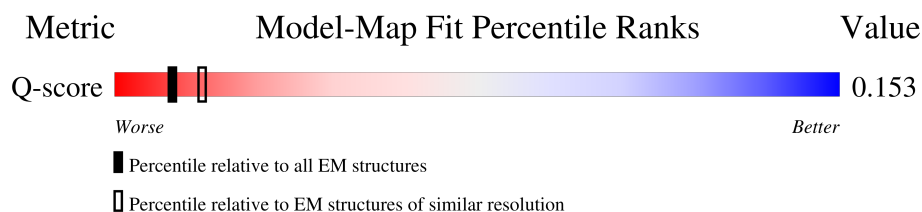
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*ELECTRON MICROSCOPY*

The reported resolution of this entry is 4.80 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	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Q-score	25397	1575 ( 4.30 - 5.30 )

MolProbity failed to run properly - the sequence quality summary graphics cannot be shown.

## 2 Entry composition [i](#)

There are 32 unique types of molecules in this entry. The entry contains 776906 atoms, of which 388256 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 ATPTG11.

Mol	Chain	Residues	Atoms						AltConf	Trace
1	q7	133	Total	C	H	N	O	S	0	0
			2119	674	1044	194	202	5		
1	Q7	133	Total	C	H	N	O	S	0	0
			2120	674	1045	194	202	5		
1	q8	133	Total	C	H	N	O	S	0	0
			2120	674	1045	194	202	5		
1	Q8	133	Total	C	H	N	O	S	0	0
			2119	674	1044	194	202	5		
1	q9	133	Total	C	H	N	O	S	0	0
			2119	674	1044	194	202	5		
1	Q9	133	Total	C	H	N	O	S	0	0
			2120	674	1045	194	202	5		

- Molecule 2 is a protein called ATPTG7.

Mol	Chain	Residues	Atoms						AltConf	Trace
2	i7	90	Total	C	H	N	O	S	0	0
			1386	433	678	136	129	10		
2	I7	90	Total	C	H	N	O	S	0	0
			1386	433	678	136	129	10		
2	i8	90	Total	C	H	N	O	S	0	0
			1386	433	678	136	129	10		
2	I8	90	Total	C	H	N	O	S	0	0
			1386	433	678	136	129	10		
2	i9	90	Total	C	H	N	O	S	0	0
			1386	433	678	136	129	10		
2	I9	90	Total	C	H	N	O	S	0	0
			1386	433	678	136	129	10		

- Molecule 3 is a protein called ATPTG14.

Mol	Chain	Residues	Atoms						AltConf	Trace
3	t7	92	Total	C	H	N	O	S	0	0
			1439	463	716	127	129	4		

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Mol	Chain	Residues	Atoms						AltConf	Trace
3	T7	92	Total	C	H	N	O	S	0	0
			1439	463	716	127	129	4		
3	t8	92	Total	C	H	N	O	S	0	0
			1439	463	716	127	129	4		
3	T8	92	Total	C	H	N	O	S	0	0
			1439	463	716	127	129	4		
3	t9	92	Total	C	H	N	O	S	0	0
			1439	463	716	127	129	4		
3	T9	92	Total	C	H	N	O	S	0	0
			1439	463	716	127	129	4		

- Molecule 4 is a protein called ATPTG5.

Mol	Chain	Residues	Atoms						AltConf	Trace
4	g7	112	Total	C	H	N	O	S	0	0
			1732	548	856	152	168	8		
4	G7	112	Total	C	H	N	O	S	0	0
			1731	548	855	152	168	8		
4	g8	112	Total	C	H	N	O	S	0	0
			1731	548	855	152	168	8		
4	G8	112	Total	C	H	N	O	S	0	0
			1732	548	856	152	168	8		
4	g9	112	Total	C	H	N	O	S	0	0
			1732	548	856	152	168	8		
4	G9	112	Total	C	H	N	O	S	0	0
			1731	548	855	152	168	8		

There are 24 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
g7	51	VAL	PHE	conflict	UNP S7WD71
g7	73	CYS	SER	conflict	UNP S7WD71
g7	110	LYS	GLU	conflict	UNP S7WD71
g7	233	THR	MET	conflict	UNP S7WD71
G7	51	VAL	PHE	conflict	UNP S7WD71
G7	73	CYS	SER	conflict	UNP S7WD71
G7	110	LYS	GLU	conflict	UNP S7WD71
G7	233	THR	MET	conflict	UNP S7WD71
g8	51	VAL	PHE	conflict	UNP S7WD71
g8	73	CYS	SER	conflict	UNP S7WD71
g8	110	LYS	GLU	conflict	UNP S7WD71
g8	233	THR	MET	conflict	UNP S7WD71

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Chain	Residue	Modelled	Actual	Comment	Reference
G8	51	VAL	PHE	conflict	UNP S7WD71
G8	73	CYS	SER	conflict	UNP S7WD71
G8	110	LYS	GLU	conflict	UNP S7WD71
G8	233	THR	MET	conflict	UNP S7WD71
g9	51	VAL	PHE	conflict	UNP S7WD71
g9	73	CYS	SER	conflict	UNP S7WD71
g9	110	LYS	GLU	conflict	UNP S7WD71
g9	233	THR	MET	conflict	UNP S7WD71
G9	51	VAL	PHE	conflict	UNP S7WD71
G9	73	CYS	SER	conflict	UNP S7WD71
G9	110	LYS	GLU	conflict	UNP S7WD71
G9	233	THR	MET	conflict	UNP S7WD71

- Molecule 5 is a protein called subunit k.

Mol	Chain	Residues	Atoms						AltConf	Trace
5	o7	149	Total	C	H	N	O	S	0	0
			2416	786	1196	210	219	5		
5	O7	149	Total	C	H	N	O	S	0	0
			2416	786	1196	210	219	5		
5	o8	149	Total	C	H	N	O	S	0	0
			2416	786	1196	210	219	5		
5	O8	149	Total	C	H	N	O	S	0	0
			2416	786	1196	210	219	5		
5	o9	149	Total	C	H	N	O	S	0	0
			2416	786	1196	210	219	5		
5	O9	149	Total	C	H	N	O	S	0	0
			2416	786	1196	210	219	5		

- Molecule 6 is a protein called subunit a.

Mol	Chain	Residues	Atoms						AltConf	Trace
6	k7	117	Total 1904	C 645	H 952	N 145	O 155	S 7	0	0
6	K7	117	Total 1904	C 645	H 952	N 145	O 155	S 7	0	0
6	k8	117	Total 1904	C 645	H 952	N 145	O 155	S 7	0	0
6	K8	117	Total 1904	C 645	H 952	N 145	O 155	S 7	0	0
6	k9	117	Total 1904	C 645	H 952	N 145	O 155	S 7	0	0

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Mol	Chain	Residues	Atoms						AltConf	Trace
6	K9	117	Total	C	H	N	O	S	0	0
			1904	645	952	145	155	7		

- Molecule 7 is a protein called subunit i/j.

Mol	Chain	Residues	Atoms						AltConf	Trace
7	j7	176	Total	C	H	N	O	S	0	0
			2981	1003	1469	261	244	4		
7	J7	176	Total	C	H	N	O	S	0	0
			2981	1003	1469	261	244	4		
7	j8	176	Total	C	H	N	O	S	0	0
			2981	1003	1469	261	244	4		
7	J8	176	Total	C	H	N	O	S	0	0
			2981	1003	1469	261	244	4		
7	j9	176	Total	C	H	N	O	S	0	0
			2981	1003	1469	261	244	4		
7	J9	176	Total	C	H	N	O	S	0	0
			2981	1003	1469	261	244	4		

- Molecule 8 is a protein called ATPTG13.

Mol	Chain	Residues	Atoms						AltConf	Trace
8	s7	95	Total	C	H	N	O	S	0	0
			1570	526	770	130	142	2		
8	S7	95	Total	C	H	N	O	S	0	0
			1570	526	770	130	142	2		
8	s8	95	Total	C	H	N	O	S	0	0
			1570	526	770	130	142	2		
8	S8	95	Total	C	H	N	O	S	0	0
			1570	526	770	130	142	2		
8	s9	95	Total	C	H	N	O	S	0	0
			1570	526	770	130	142	2		
8	S9	95	Total	C	H	N	O	S	0	0
			1570	526	770	130	142	2		

- Molecule 9 is a protein called ATPTG15.

Mol	Chain	Residues	Atoms						AltConf	Trace
9	u7	94	Total	C	H	N	O	S	0	0
			1492	482	741	132	133	4		
9	U7	94	Total	C	H	N	O	S	0	0
			1492	482	741	132	133	4		

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Mol	Chain	Residues	Atoms						AltConf	Trace
9	u8	94	Total	C	H	N	O	S	0	0
			1492	482	741	132	133	4		
9	U8	94	Total	C	H	N	O	S	0	0
			1492	482	741	132	133	4		
9	u9	94	Total	C	H	N	O	S	0	0
			1492	482	741	132	133	4		
9	U9	94	Total	C	H	N	O	S	0	0
			1492	482	741	132	133	4		

- Molecule 10 is a protein called ATPTG6.

Mol	Chain	Residues	Atoms						AltConf	Trace
10	h7	226	Total	C	H	N	O	S	0	0
			3589	1157	1741	334	348	9		
10	H7	226	Total	C	H	N	O	S	0	0
			3589	1157	1741	334	348	9		
10	h8	226	Total	C	H	N	O	S	0	0
			3589	1157	1741	334	348	9		
10	H8	226	Total	C	H	N	O	S	0	0
			3589	1157	1741	334	348	9		
10	h9	226	Total	C	H	N	O	S	0	0
			3589	1157	1741	334	348	9		
10	H9	226	Total	C	H	N	O	S	0	0
			3589	1157	1741	334	348	9		

There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
h7	89	ASN	HIS	conflict	UNP A0A125YL08
H7	89	ASN	HIS	conflict	UNP A0A125YL08
h8	89	ASN	HIS	conflict	UNP A0A125YL08
H8	89	ASN	HIS	conflict	UNP A0A125YL08
h9	89	ASN	HIS	conflict	UNP A0A125YL08
H9	89	ASN	HIS	conflict	UNP A0A125YL08

- Molecule 11 is a protein called ATPTG3.

Mol	Chain	Residues	Atoms						AltConf	Trace
11	e7	140	Total	C	H	N	O	S	0	0
			2179	719	1064	187	204	5		
11	E7	140	Total	C	H	N	O	S	0	0
			2179	719	1064	187	204	5		

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Mol	Chain	Residues	Atoms						AltConf	Trace
11	e8	140	Total	C	H	N	O	S	0	0
			2179	719	1064	187	204	5		
11	E8	140	Total	C	H	N	O	S	0	0
			2179	719	1064	187	204	5		
11	e9	140	Total	C	H	N	O	S	0	0
			2179	719	1064	187	204	5		
11	E9	140	Total	C	H	N	O	S	0	0
			2179	719	1064	187	204	5		

There are 24 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
e7	?	-	LYS	deletion	UNP A0A125YLR0
e7	63	PRO	SER	conflict	UNP A0A125YLR0
e7	99	LEU	PRO	conflict	UNP A0A125YLR0
e7	312	ALA	THR	conflict	UNP A0A125YLR0
E7	?	-	LYS	deletion	UNP A0A125YLR0
E7	63	PRO	SER	conflict	UNP A0A125YLR0
E7	99	LEU	PRO	conflict	UNP A0A125YLR0
E7	312	ALA	THR	conflict	UNP A0A125YLR0
e8	?	-	LYS	deletion	UNP A0A125YLR0
e8	63	PRO	SER	conflict	UNP A0A125YLR0
e8	99	LEU	PRO	conflict	UNP A0A125YLR0
e8	312	ALA	THR	conflict	UNP A0A125YLR0
E8	?	-	LYS	deletion	UNP A0A125YLR0
E8	63	PRO	SER	conflict	UNP A0A125YLR0
E8	99	LEU	PRO	conflict	UNP A0A125YLR0
E8	312	ALA	THR	conflict	UNP A0A125YLR0
e9	?	-	LYS	deletion	UNP A0A125YLR0
e9	63	PRO	SER	conflict	UNP A0A125YLR0
e9	99	LEU	PRO	conflict	UNP A0A125YLR0
e9	312	ALA	THR	conflict	UNP A0A125YLR0
E9	?	-	LYS	deletion	UNP A0A125YLR0
E9	63	PRO	SER	conflict	UNP A0A125YLR0
E9	99	LEU	PRO	conflict	UNP A0A125YLR0
E9	312	ALA	THR	conflict	UNP A0A125YLR0

- Molecule 12 is a protein called ATPTG17,ATPTG17,ATPTG17.

Mol	Chain	Residues	Atoms						AltConf	Trace
12	x7	82	Total	C	H	N	O	S	0	0
			1298	420	639	116	120	3		

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Mol	Chain	Residues	Atoms						AltConf	Trace
12	X7	82	Total	C	H	N	O	S	0	0
			1298	420	639	116	120	3		
12	x8	82	Total	C	H	N	O	S	0	0
			1298	420	639	116	120	3		
12	X8	82	Total	C	H	N	O	S	0	0
			1298	420	639	116	120	3		
12	x9	82	Total	C	H	N	O	S	0	0
			1298	420	639	116	120	3		
12	X9	82	Total	C	H	N	O	S	0	0
			1298	420	639	116	120	3		

- Molecule 13 is a protein called subunit b.

Mol	Chain	Residues	Atoms						AltConf	Trace
13	b7	484	Total	C	H	N	O	S	0	0
			7840	2525	3908	652	740	15		
13	B7	484	Total	C	H	N	O	S	0	0
			7839	2525	3907	652	740	15		
13	b8	484	Total	C	H	N	O	S	0	0
			7838	2525	3906	652	740	15		
13	B8	484	Total	C	H	N	O	S	0	0
			7840	2525	3908	652	740	15		
13	b9	484	Total	C	H	N	O	S	0	0
			7840	2525	3908	652	740	15		
13	B9	484	Total	C	H	N	O	S	0	0
			7839	2525	3907	652	740	15		

There are 12 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
b7	50	LEU	SER	conflict	UNP S7V2T0
b7	474	THR	ALA	conflict	UNP S7V2T0
B7	50	LEU	SER	conflict	UNP S7V2T0
B7	474	THR	ALA	conflict	UNP S7V2T0
b8	50	LEU	SER	conflict	UNP S7V2T0
b8	474	THR	ALA	conflict	UNP S7V2T0
B8	50	LEU	SER	conflict	UNP S7V2T0
B8	474	THR	ALA	conflict	UNP S7V2T0
b9	50	LEU	SER	conflict	UNP S7V2T0
b9	474	THR	ALA	conflict	UNP S7V2T0
B9	50	LEU	SER	conflict	UNP S7V2T0
B9	474	THR	ALA	conflict	UNP S7V2T0

- Molecule 14 is a protein called ATPTG12.

Mol	Chain	Residues	Atoms						AltConf	Trace
14	r7	133	Total	C	H	N	O	S	0	0
			2142	681	1071	182	202	6		
14	R7	133	Total	C	H	N	O	S	0	0
			2144	681	1073	182	202	6		
14	r8	133	Total	C	H	N	O	S	0	0
			2143	681	1072	182	202	6		
14	R8	133	Total	C	H	N	O	S	0	0
			2142	681	1071	182	202	6		
14	r9	133	Total	C	H	N	O	S	0	0
			2143	681	1072	182	202	6		
14	R9	133	Total	C	H	N	O	S	0	0
			2143	681	1072	182	202	6		

- Molecule 15 is a protein called ATPTG10.

Mol	Chain	Residues	Atoms						AltConf	Trace
15	p7	108	Total	C	H	N	O	S	0	0
			1711	553	847	148	157	6		
15	P7	108	Total	C	H	N	O	S	0	0
			1711	553	847	148	157	6		
15	p8	108	Total	C	H	N	O	S	0	0
			1711	553	847	148	157	6		
15	P8	108	Total	C	H	N	O	S	0	0
			1711	553	847	148	157	6		
15	p9	108	Total	C	H	N	O	S	0	0
			1711	553	847	148	157	6		
15	P9	108	Total	C	H	N	O	S	0	0
			1711	553	847	148	157	6		

- Molecule 16 is a protein called subunit f.

Mol	Chain	Residues	Atoms						AltConf	Trace
16	v7	110	Total	C	H	N	O	S	0	0
			1801	590	888	170	148	5		
16	V7	110	Total	C	H	N	O	S	0	0
			1801	590	888	170	148	5		
16	v8	110	Total	C	H	N	O	S	0	0
			1801	590	888	170	148	5		
16	V8	110	Total	C	H	N	O	S	0	0
			1801	590	888	170	148	5		
16	v9	110	Total	C	H	N	O	S	0	0
			1801	590	888	170	148	5		

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Mol	Chain	Residues	Atoms						AltConf	Trace
16	V9	110	Total	C	H	N	O	S	0	0
			1801	590	888	170	148	5		

There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
v7	54	ALA	VAL	conflict	UNP S7UQT7
V7	54	ALA	VAL	conflict	UNP S7UQT7
v8	54	ALA	VAL	conflict	UNP S7UQT7
V8	54	ALA	VAL	conflict	UNP S7UQT7
v9	54	ALA	VAL	conflict	UNP S7UQT7
V9	54	ALA	VAL	conflict	UNP S7UQT7

- Molecule 17 is a protein called ATPTG8.

Mol	Chain	Residues	Atoms						AltConf	Trace
17	17	207	Total	C	H	N	O	S	0	0
			3273	1013	1647	298	305	10		
17	L7	207	Total	C	H	N	O	S	0	0
			3273	1013	1647	298	305	10		
17	18	207	Total	C	H	N	O	S	0	0
			3273	1013	1647	298	305	10		
17	L8	207	Total	C	H	N	O	S	0	0
			3273	1013	1647	298	305	10		
17	19	207	Total	C	H	N	O	S	0	0
			3273	1013	1647	298	305	10		
17	L9	207	Total	C	H	N	O	S	0	0
			3273	1013	1647	298	305	10		

- Molecule 18 is a protein called ATPTG1.

Mol	Chain	Residues	Atoms						AltConf	Trace
18	c7	122	Total	C	H	N	O	S	0	0
			2029	656	999	189	184	1		
18	C7	122	Total	C	H	N	O	S	0	0
			2029	656	999	189	184	1		
18	c8	122	Total	C	H	N	O	S	0	0
			2029	656	999	189	184	1		
18	C8	122	Total	C	H	N	O	S	0	0
			2029	656	999	189	184	1		
18	c9	122	Total	C	H	N	O	S	0	0
			2029	656	999	189	184	1		

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Mol	Chain	Residues	Atoms						AltConf	Trace
18	C9	122	Total	C	H	N	O	S	0	0
			2029	656	999	189	184	1		

- Molecule 19 is a protein called ATPTG2.

Mol	Chain	Residues	Atoms						AltConf	Trace
19	d7	254	Total	C	H	N	O	S	0	0
			4046	1323	1970	365	380	8		
19	D7	254	Total	C	H	N	O	S	0	0
			4046	1323	1970	365	380	8		
19	d8	254	Total	C	H	N	O	S	0	0
			4046	1323	1970	365	380	8		
19	D8	254	Total	C	H	N	O	S	0	0
			4046	1323	1970	365	380	8		
19	d9	254	Total	C	H	N	O	S	0	0
			4046	1323	1970	365	380	8		
19	D9	254	Total	C	H	N	O	S	0	0
			4046	1323	1970	365	380	8		

- Molecule 20 is a protein called subunit 8.

Mol	Chain	Residues	Atoms						AltConf	Trace
20	m7	96	Total	C	H	N	O	S	0	0
			1509	501	744	126	131	7		
20	M7	96	Total	C	H	N	O	S	0	0
			1509	501	744	126	131	7		
20	m8	96	Total	C	H	N	O	S	0	0
			1509	501	744	126	131	7		
20	M8	96	Total	C	H	N	O	S	0	0
			1509	501	744	126	131	7		
20	m9	96	Total	C	H	N	O	S	0	0
			1509	501	744	126	131	7		
20	M9	96	Total	C	H	N	O	S	0	0
			1509	501	744	126	131	7		

- Molecule 21 is a protein called ATPTG9.

Mol	Chain	Residues	Atoms						AltConf	Trace
21	n7	160	Total	C	H	N	O	S	0	0
			2449	774	1202	227	235	11		
21	N7	160	Total	C	H	N	O	S	0	0
			2449	774	1202	227	235	11		

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Mol	Chain	Residues	Atoms						AltConf	Trace
21	n8	160	Total	C	H	N	O	S	0	0
			2449	774	1202	227	235	11		
21	N8	160	Total	C	H	N	O	S	0	0
			2449	774	1202	227	235	11		
21	n9	160	Total	C	H	N	O	S	0	0
			2449	774	1202	227	235	11		
21	N9	160	Total	C	H	N	O	S	0	0
			2449	774	1202	227	235	11		

There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
n7	140	SER	ALA	conflict	UNP A0A125YUZ2
N7	140	SER	ALA	conflict	UNP A0A125YUZ2
n8	140	SER	ALA	conflict	UNP A0A125YUZ2
N8	140	SER	ALA	conflict	UNP A0A125YUZ2
n9	140	SER	ALA	conflict	UNP A0A125YUZ2
N9	140	SER	ALA	conflict	UNP A0A125YUZ2

- Molecule 22 is a protein called ATPTG4.

Mol	Chain	Residues	Atoms						AltConf	Trace
22	f7	188	Total	C	H	N	O	S	0	0
			2867	919	1425	245	274	4		
22	F7	188	Total	C	H	N	O	S	0	0
			2867	919	1425	245	274	4		
22	f8	188	Total	C	H	N	O	S	0	0
			2867	919	1425	245	274	4		
22	F8	188	Total	C	H	N	O	S	0	0
			2867	919	1425	245	274	4		
22	f9	188	Total	C	H	N	O	S	0	0
			2867	919	1425	245	274	4		
22	F9	188	Total	C	H	N	O	S	0	0
			2867	919	1425	245	274	4		

- Molecule 23 is a protein called ATPTG16.

Mol	Chain	Residues	Atoms						AltConf	Trace
23	w7	96	Total	C	H	N	O	S	0	0
			1509	494	755	127	129	4		
23	W7	96	Total	C	H	N	O	S	0	0
			1509	494	755	127	129	4		

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Mol	Chain	Residues	Atoms						AltConf	Trace
23	w8	96	Total	C	H	N	O	S	0	0
			1509	494	755	127	129	4		
23	W8	96	Total	C	H	N	O	S	0	0
			1509	494	755	127	129	4		
23	w9	96	Total	C	H	N	O	S	0	0
			1509	494	755	127	129	4		
23	W9	96	Total	C	H	N	O	S	0	0
			1509	494	755	127	129	4		

- Molecule 24 is a protein called subunit d.

Mol	Chain	Residues	Atoms						AltConf	Trace
24	a7	467	Total	C	H	N	O	S	0	0
			7391	2405	3611	656	698	21		
24	A7	467	Total	C	H	N	O	S	0	0
			7392	2405	3612	656	698	21		
24	a8	467	Total	C	H	N	O	S	0	0
			7392	2405	3612	656	698	21		
24	A8	467	Total	C	H	N	O	S	0	0
			7390	2405	3610	656	698	21		
24	a9	467	Total	C	H	N	O	S	0	0
			7391	2405	3611	656	698	21		
24	A9	467	Total	C	H	N	O	S	0	0
			7393	2405	3613	656	698	21		

There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
a7	351	THR	ALA	conflict	UNP S7V493
A7	351	THR	ALA	conflict	UNP S7V493
a8	351	THR	ALA	conflict	UNP S7V493
A8	351	THR	ALA	conflict	UNP S7V493
a9	351	THR	ALA	conflict	UNP S7V493
A9	351	THR	ALA	conflict	UNP S7V493

- Molecule 25 is a protein called Oligomycin sensitivity conferring protein (OSCP).

Mol	Chain	Residues	Atoms						AltConf	Trace
25	G1	180	Total	C	H	N	O	S	0	0
			2895	895	1480	255	261	4		
25	G2	180	Total	C	H	N	O	S	0	0
			2894	895	1479	255	261	4		

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Mol	Chain	Residues	Atoms						AltConf	Trace
25	G3	180	Total	C	H	N	O	S	0	0
			2894	895	1479	255	261	4		
25	G4	180	Total	C	H	N	O	S	0	0
			2894	895	1479	255	261	4		
25	G5	180	Total	C	H	N	O	S	0	0
			2897	895	1482	255	261	4		
25	G6	180	Total	C	H	N	O	S	0	0
			2895	895	1480	255	261	4		

- Molecule 26 is a protein called Inhibitor of F1.

Mol	Chain	Residues	Atoms					AltConf	Trace	
26	i1	40	Total 660	C 213	H 324	N 56	O 66	S 1	0	0
26	i2	40	Total 660	C 213	H 324	N 56	O 66	S 1	0	0
26	i3	40	Total 659	C 213	H 323	N 56	O 66	S 1	0	0
26	i4	40	Total 660	C 213	H 324	N 56	O 66	S 1	0	0
26	i5	40	Total 660	C 213	H 324	N 56	O 66	S 1	0	0
26	i6	40	Total 660	C 213	H 324	N 56	O 66	S 1	0	0

- Molecule 27 is a protein called ATP synthase subunit alpha.

Mol	Chain	Residues	Atoms						AltConf	Trace
27	A1	512	Total	C	H	N	O	S	0	0
			7925	2464	4003	688	751	19		
27	E1	507	Total	C	H	N	O	S	0	0
			7848	2441	3962	682	744	19		
27	C1	507	Total	C	H	N	O	S	0	0
			7849	2442	3967	682	739	19		
27	A2	512	Total	C	H	N	O	S	0	0
			7925	2464	4003	688	751	19		
27	E2	507	Total	C	H	N	O	S	0	0
			7848	2441	3962	682	744	19		
27	C2	507	Total	C	H	N	O	S	0	0
			7849	2442	3967	682	739	19		
27	A3	512	Total	C	H	N	O	S	0	0
			7925	2464	4003	688	751	19		

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Mol	Chain	Residues	Atoms						AltConf	Trace
27	E3	507	Total	C	H	N	O	S	0	0
			7848	2441	3962	682	744	19		
27	C3	507	Total	C	H	N	O	S	0	0
			7849	2442	3967	682	739	19		
27	A4	512	Total	C	H	N	O	S	0	0
			7925	2464	4003	688	751	19		
27	E4	507	Total	C	H	N	O	S	0	0
			7848	2441	3962	682	744	19		
27	C4	507	Total	C	H	N	O	S	0	0
			7849	2442	3967	682	739	19		
27	A5	512	Total	C	H	N	O	S	0	0
			7925	2464	4003	688	751	19		
27	E5	507	Total	C	H	N	O	S	0	0
			7848	2441	3962	682	744	19		
27	C5	507	Total	C	H	N	O	S	0	0
			7849	2442	3967	682	739	19		
27	A6	512	Total	C	H	N	O	S	0	0
			7925	2464	4003	688	751	19		
27	E6	507	Total	C	H	N	O	S	0	0
			7848	2441	3962	682	744	19		
27	C6	507	Total	C	H	N	O	S	0	0
			7849	2442	3967	682	739	19		

- Molecule 28 is a protein called ATP synthase subunit beta.

Mol	Chain	Residues	Atoms						AltConf	Trace
28	B1	479	Total	C	H	N	O	S	0	0
			7314	2293	3676	628	703	14		
28	F1	475	Total	C	H	N	O	S	0	0
			7265	2278	3653	624	696	14		
28	D1	475	Total	C	H	N	O	S	0	0
			7265	2278	3653	624	696	14		
28	B2	479	Total	C	H	N	O	S	0	0
			7314	2293	3676	628	703	14		
28	F2	475	Total	C	H	N	O	S	0	0
			7265	2278	3653	624	696	14		
28	D2	475	Total	C	H	N	O	S	0	0
			7265	2278	3653	624	696	14		
28	B3	479	Total	C	H	N	O	S	0	0
			7314	2293	3676	628	703	14		
28	F3	475	Total	C	H	N	O	S	0	0
			7265	2278	3653	624	696	14		

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Mol	Chain	Residues	Atoms						AltConf	Trace
28	D3	475	Total	C	H	N	O	S	0	0
			7265	2278	3653	624	696	14		
28	B4	479	Total	C	H	N	O	S	0	0
			7314	2293	3676	628	703	14		
28	F4	475	Total	C	H	N	O	S	0	0
			7265	2278	3653	624	696	14		
28	D4	475	Total	C	H	N	O	S	0	0
			7265	2278	3653	624	696	14		
28	B5	479	Total	C	H	N	O	S	0	0
			7314	2293	3676	628	703	14		
28	F5	475	Total	C	H	N	O	S	0	0
			7265	2278	3653	624	696	14		
28	D5	475	Total	C	H	N	O	S	0	0
			7265	2278	3653	624	696	14		
28	B6	479	Total	C	H	N	O	S	0	0
			7314	2293	3676	628	703	14		
28	F6	475	Total	C	H	N	O	S	0	0
			7265	2278	3653	624	696	14		
28	D6	475	Total	C	H	N	O	S	0	0
			7265	2278	3653	624	696	14		

- Molecule 29 is a protein called ATP synthase subunit gamma.

Mol	Chain	Residues	Atoms						AltConf	Trace
29	g1	272	Total	C	H	N	O	S	0	0
			4289	1330	2173	376	394	16		
29	g2	272	Total	C	H	N	O	S	0	0
			4289	1330	2173	376	394	16		
29	g3	272	Total	C	H	N	O	S	0	0
			4289	1330	2173	376	394	16		
29	g4	272	Total	C	H	N	O	S	0	0
			4289	1330	2173	376	394	16		
29	g5	272	Total	C	H	N	O	S	0	0
			4289	1330	2173	376	394	16		
29	g6	272	Total	C	H	N	O	S	0	0
			4289	1330	2173	376	394	16		

- Molecule 30 is a protein called ATP synthase subunit delta.

Mol	Chain	Residues	Atoms						AltConf	Trace
30	d1	143	Total	C	H	N	O	S	0	0
			2145	667	1076	181	216	5		

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Mol	Chain	Residues	Atoms						AltConf	Trace
30	d2	143	Total	C	H	N	O	S	0	0
			2145	667	1076	181	216	5		
30	d3	143	Total	C	H	N	O	S	0	0
			2145	667	1076	181	216	5		
30	d4	143	Total	C	H	N	O	S	0	0
			2145	667	1076	181	216	5		
30	d5	143	Total	C	H	N	O	S	0	0
			2145	667	1076	181	216	5		
30	d6	143	Total	C	H	N	O	S	0	0
			2145	667	1076	181	216	5		

- Molecule 31 is a protein called ATP synthase subunit epsilon.

Mol	Chain	Residues	Atoms						AltConf	Trace
31	e1	65	Total 1077	C 337	H 539	N 99	O 98	S 4	0	0
31	e2	65	Total 1077	C 337	H 539	N 99	O 98	S 4	0	0
31	e3	65	Total 1077	C 337	H 539	N 99	O 98	S 4	0	0
31	e4	65	Total 1077	C 337	H 539	N 99	O 98	S 4	0	0
31	e5	65	Total 1077	C 337	H 539	N 99	O 98	S 4	0	0
31	e6	65	Total 1077	C 337	H 539	N 99	O 98	S 4	0	0

- Molecule 32 is a protein called subunit c.

Mol	Chain	Residues	Atoms						AltConf	Trace
32	H1	71	Total 1028	C 328	H 527	N 77	O 92	S 4	0	0
32	I1	71	Total 1028	C 328	H 527	N 77	O 92	S 4	0	0
32	J1	71	Total 1028	C 328	H 527	N 77	O 92	S 4	0	0
32	K1	71	Total 1028	C 328	H 527	N 77	O 92	S 4	0	0
32	L1	71	Total 1028	C 328	H 527	N 77	O 92	S 4	0	0
32	M1	71	Total 1028	C 328	H 527	N 77	O 92	S 4	0	0

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Mol	Chain	Residues	Atoms						AltConf	Trace
32	N1	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		
32	O1	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		
32	P1	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		
32	Q1	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		
32	H2	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		
32	I2	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		
32	J2	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		
32	K2	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		
32	L2	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		
32	M2	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		
32	N2	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		
32	O2	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		
32	P2	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		
32	Q2	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		
32	H3	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		
32	I3	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		
32	J3	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		
32	K3	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		
32	L3	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		
32	M3	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		
32	N3	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		

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Mol	Chain	Residues	Atoms						AltConf	Trace
32	O3	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		
32	P3	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		
32	Q3	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		
32	H4	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		
32	I4	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		
32	J4	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		
32	K4	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		
32	L4	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		
32	M4	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		
32	N4	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		
32	O4	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		
32	P4	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		
32	Q4	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		
32	H5	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		
32	I5	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		
32	J5	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		
32	K5	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		
32	L5	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		
32	M5	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		
32	N5	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		
32	O5	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		

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Mol	Chain	Residues	Atoms						AltConf	Trace
32	P5	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		
32	Q5	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		
32	H6	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		
32	I6	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		
32	J6	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		
32	K6	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		
32	L6	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		
32	M6	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		
32	N6	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		
32	O6	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		
32	P6	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		
32	Q6	71	Total	C	H	N	O	S	0	0
			1028	328	527	77	92	4		

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### 3 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C3	Depositor
Number of particles used	4532	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 ( $e^-/\text{\AA}^2$ )	32	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	130000	Depositor
Image detector	GATAN K2 QUANTUM (4k x 4k)	Depositor
Maximum map value	0.222	Depositor
Minimum map value	-0.148	Depositor
Average map value	0.004	Depositor
Map value standard deviation	0.006	Depositor
Recommended contour level	0.025	Depositor
Map size (Å)	630.0, 630.0, 630.0	wwPDB
Map dimensions	600, 600, 600	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.05, 1.05, 1.05	Depositor

## 4 Model quality [i](#)

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

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

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### 4.3 Torsion angles [i](#)

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

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

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#### 4.3.3 RNA [i](#)

MolProbity failed to run properly - this section is therefore empty.

### 4.4 Non-standard residues in protein, DNA, RNA chains [i](#)

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

### 4.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

### 4.6 Ligand geometry [i](#)

There are no ligands in this entry.

### 4.7 Other polymers [i](#)

There are no such residues in this entry.

## 4.8 Polymer linkage issues ⓘ

There are no chain breaks in this entry.



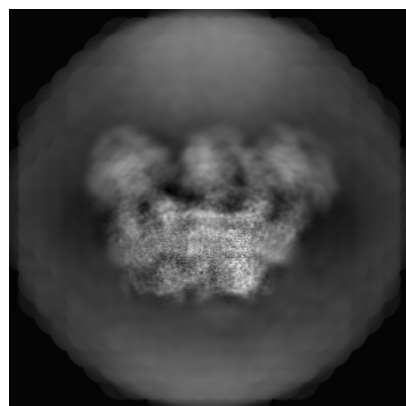
## 5 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-10525. These allow visual inspection of the internal detail of the map and identification of artifacts.

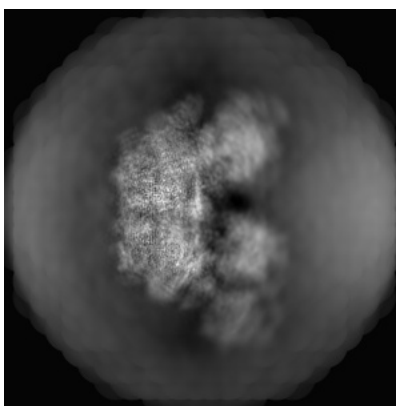
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

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

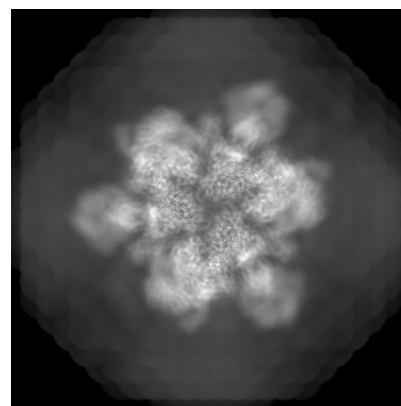
#### 5.1.1 Primary map



X

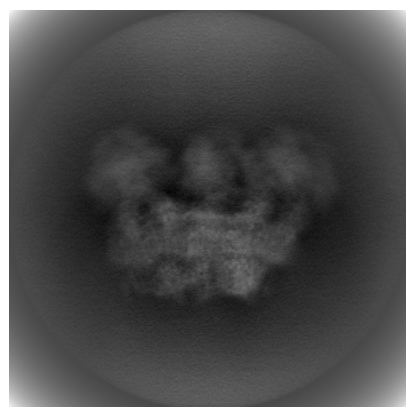


Y

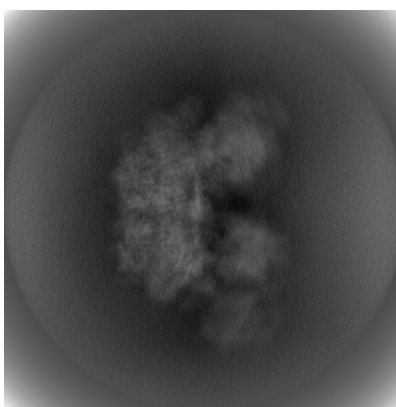


Z

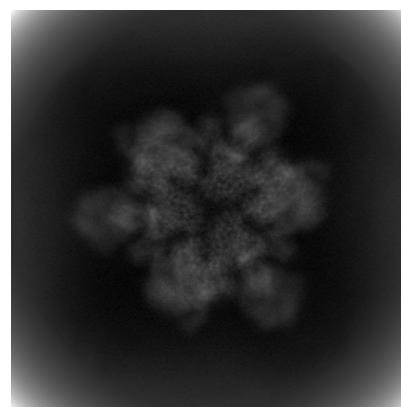
#### 5.1.2 Raw map



X



Y

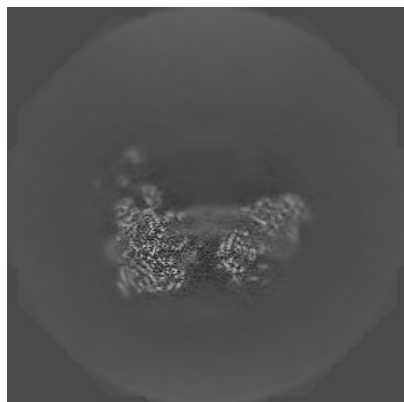


Z

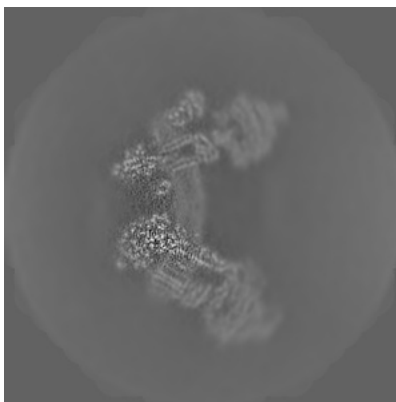
The images above show the map projected in three orthogonal directions.

## 5.2 Central slices [i](#)

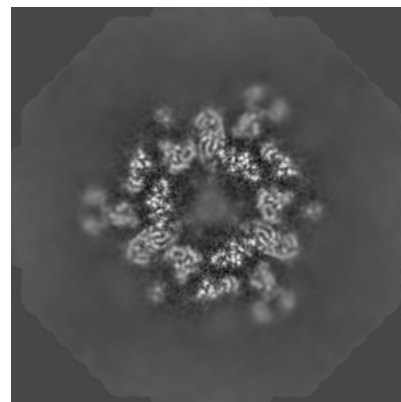
### 5.2.1 Primary map



X Index: 300

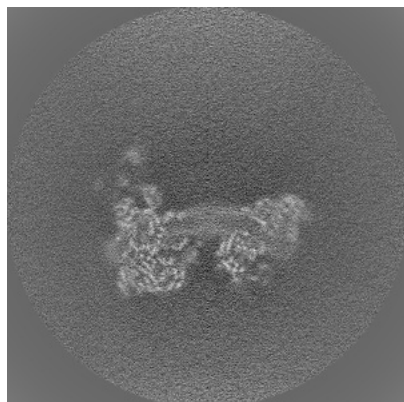


Y Index: 300

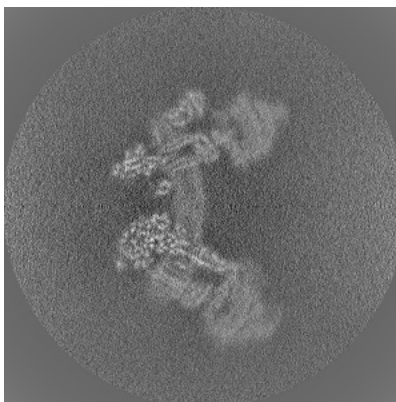


Z Index: 300

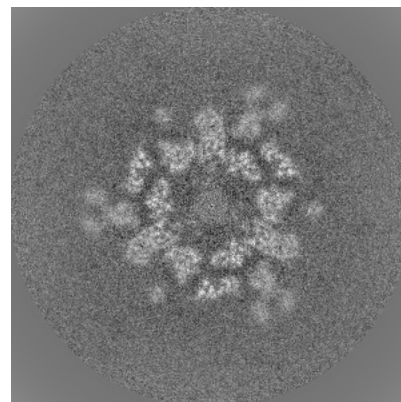
### 5.2.2 Raw map



X Index: 300



Y Index: 300

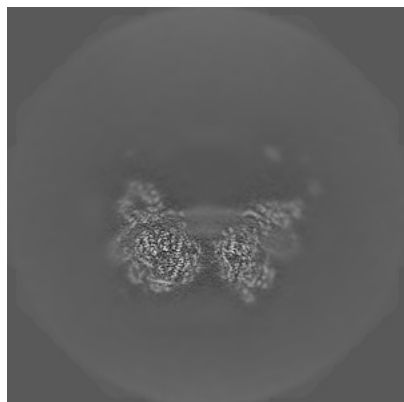


Z Index: 300

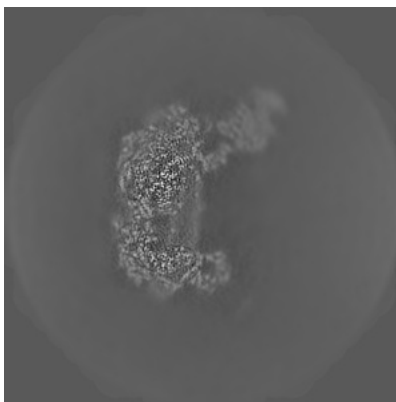
The images above show central slices of the map in three orthogonal directions.

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

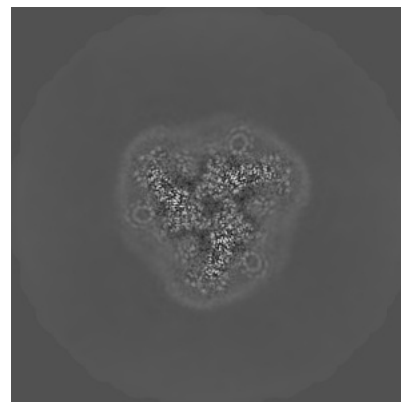
### 5.3.1 Primary map



X Index: 312

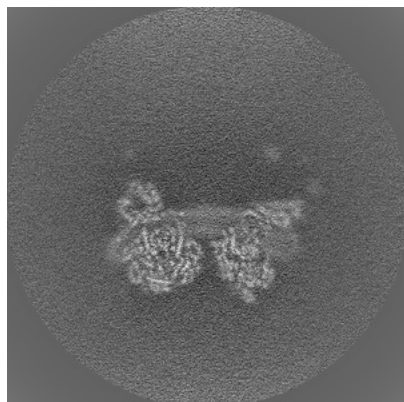


Y Index: 343

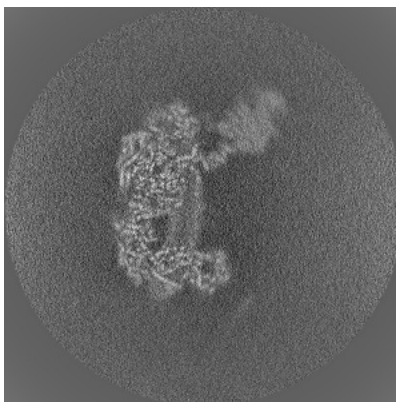


Z Index: 237

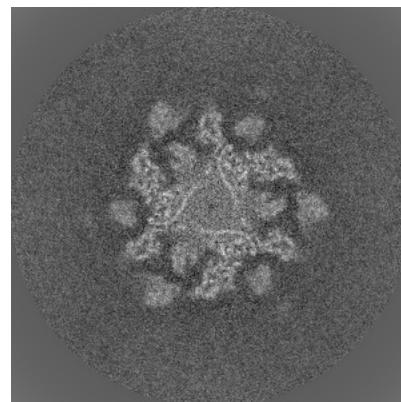
### 5.3.2 Raw map



X Index: 311



Y Index: 341

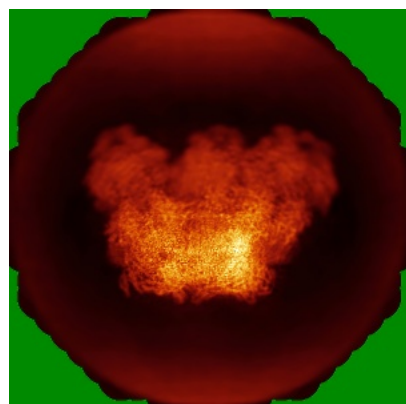


Z Index: 289

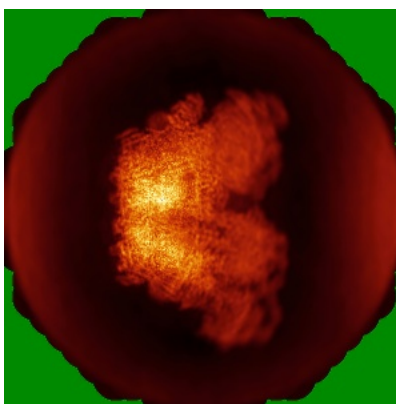
The images above show the largest variance slices of the map in three orthogonal directions.

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

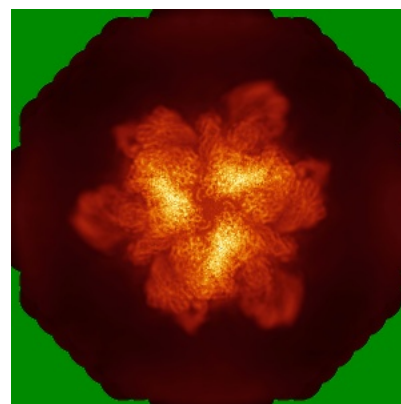
### 5.4.1 Primary map



X

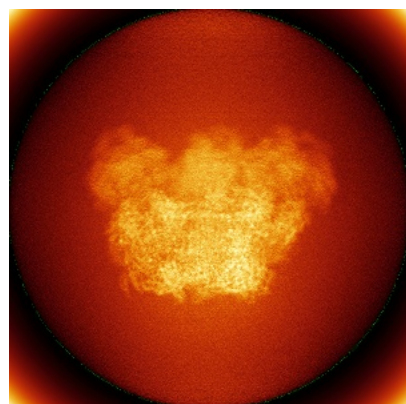


Y

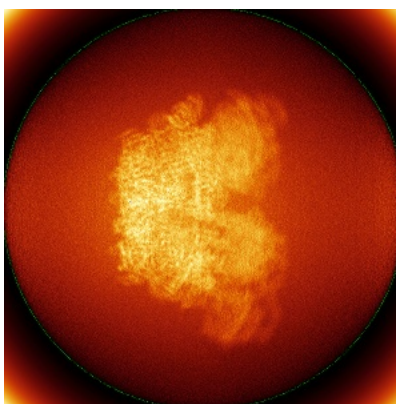


Z

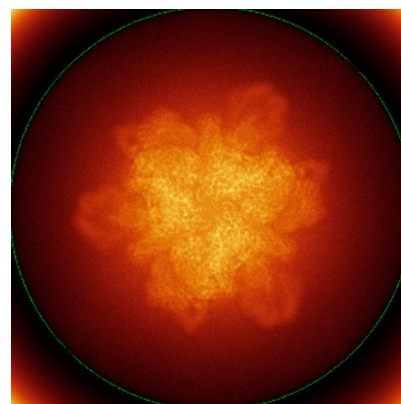
### 5.4.2 Raw map



X



Y



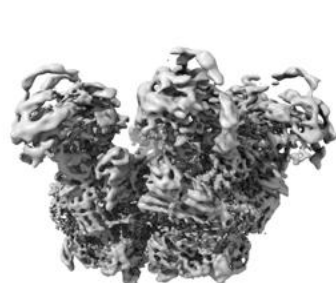
Z

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.

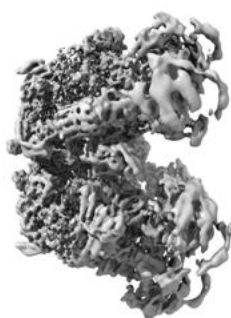


## 5.5 Orthogonal surface views [i](#)

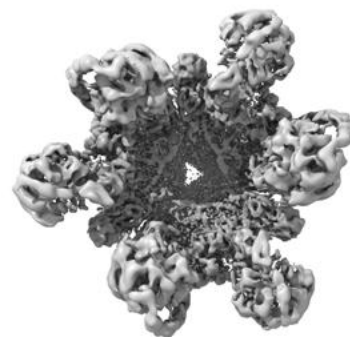
### 5.5.1 Primary map



X



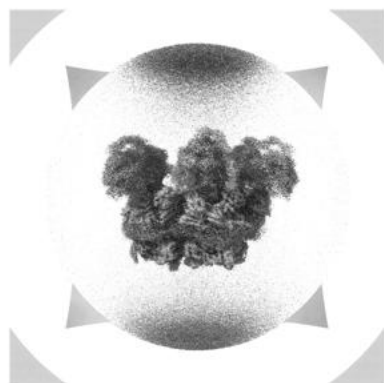
Y



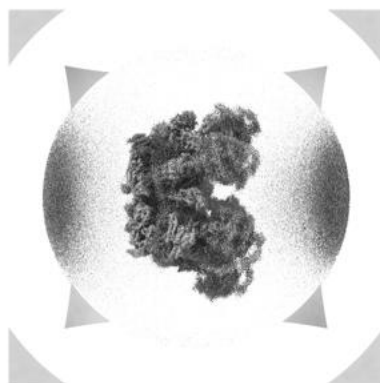
Z

The images above show the 3D surface view of the map at the recommended contour level 0.025. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

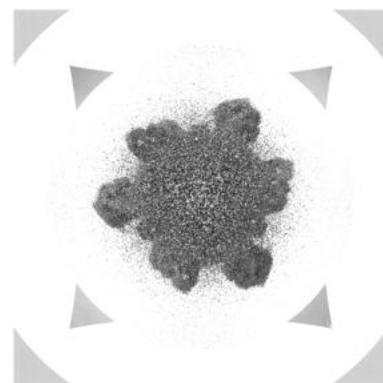
### 5.5.2 Raw map



X



Y



Z

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.

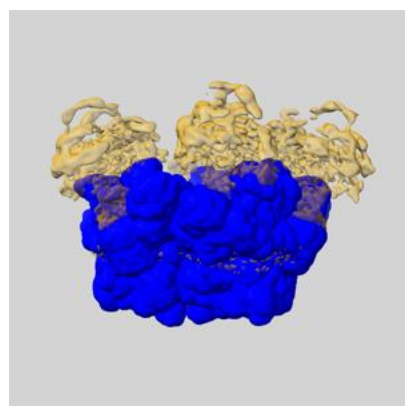
## 5.6 Mask visualisation [i](#)

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

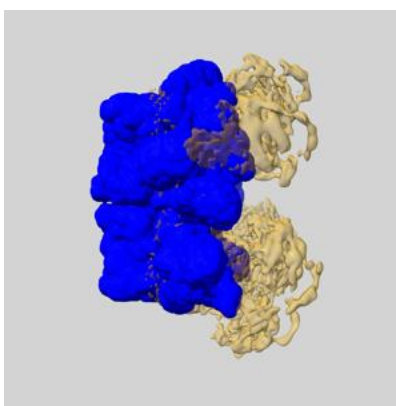
A mask typically either:

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

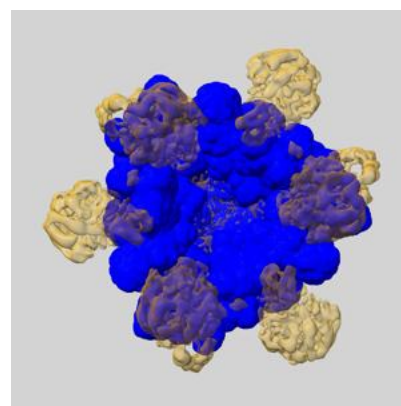
### 5.6.1 emd\_10525\_msk\_1.map [i](#)



X



Y

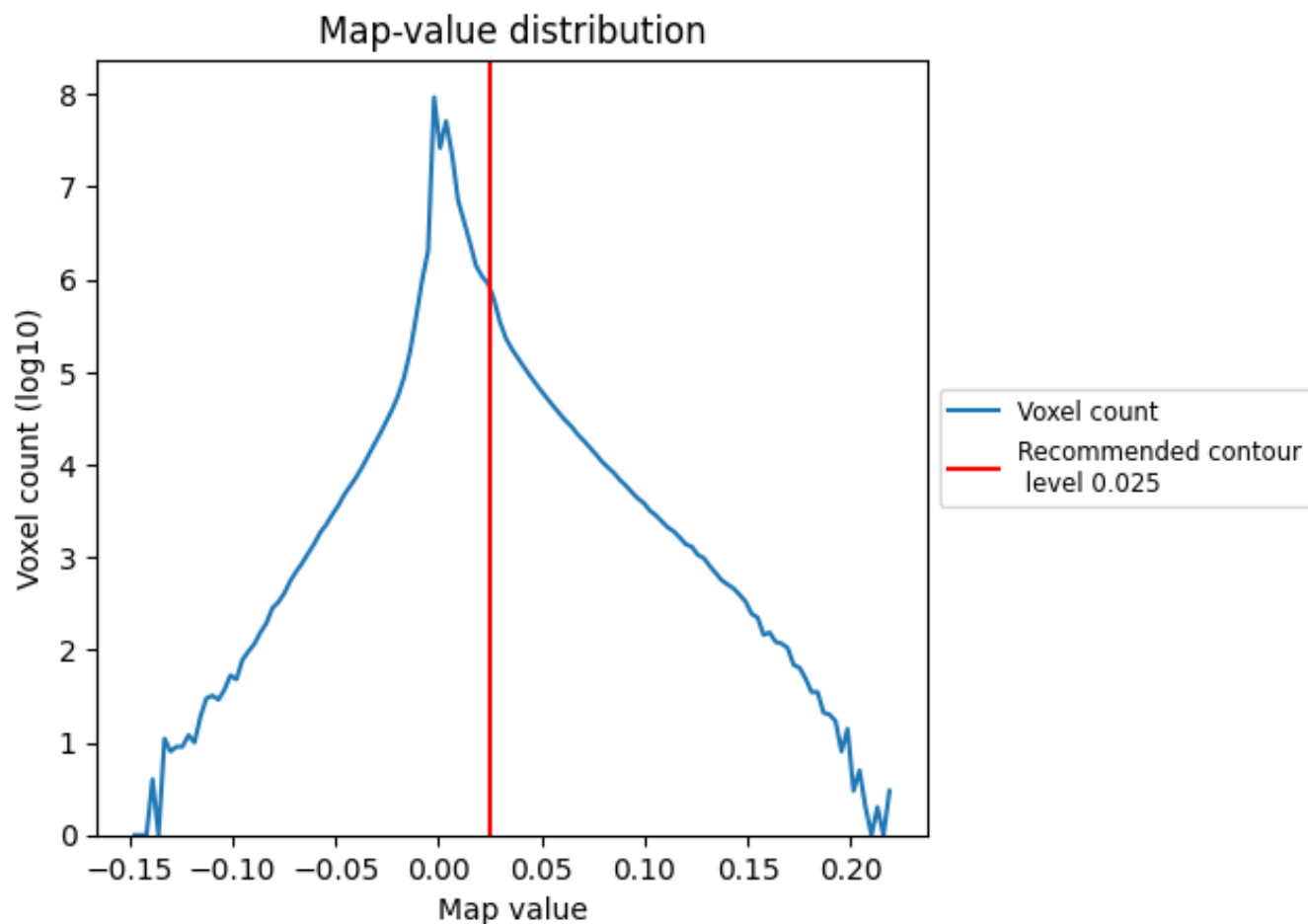


Z

## 6 Map analysis [i](#)

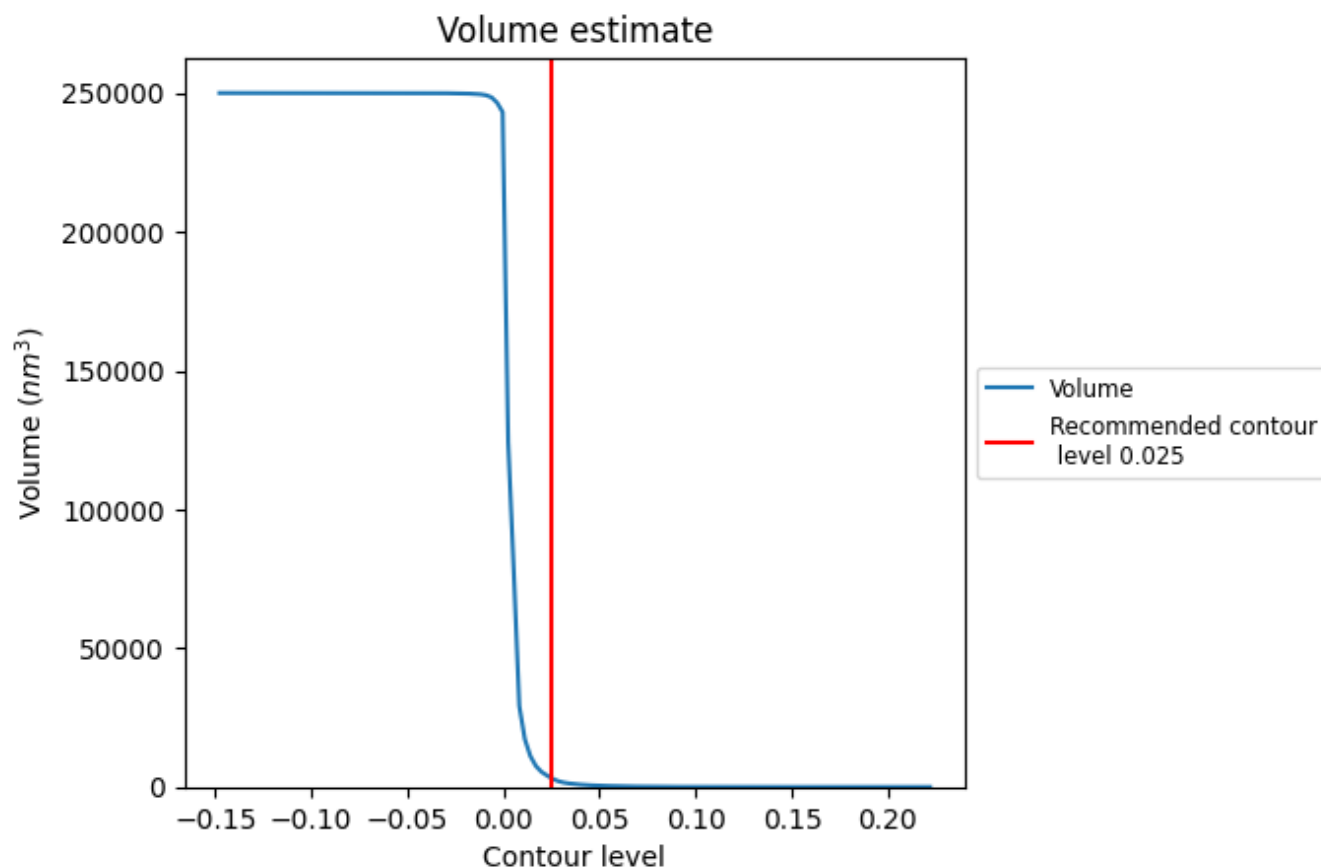
This section contains the results of statistical analysis of the map.

### 6.1 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.

## 6.2 Volume estimate [i](#)

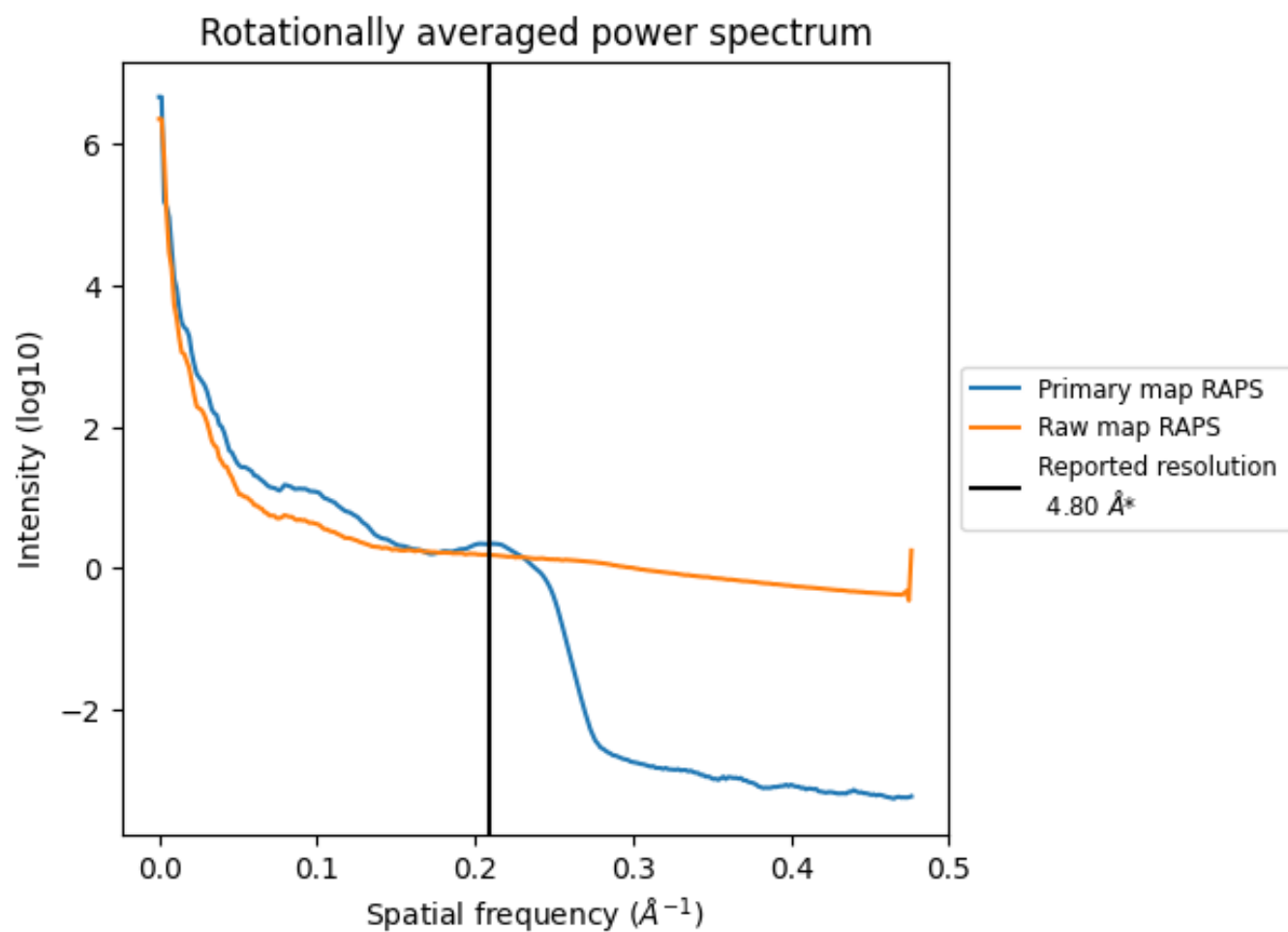


The volume at the recommended contour level is 3181  $\text{nm}^3$ ; this corresponds to an approximate mass of 2874 kDa.

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.



### 6.3 Rotationally averaged power spectrum ⓘ

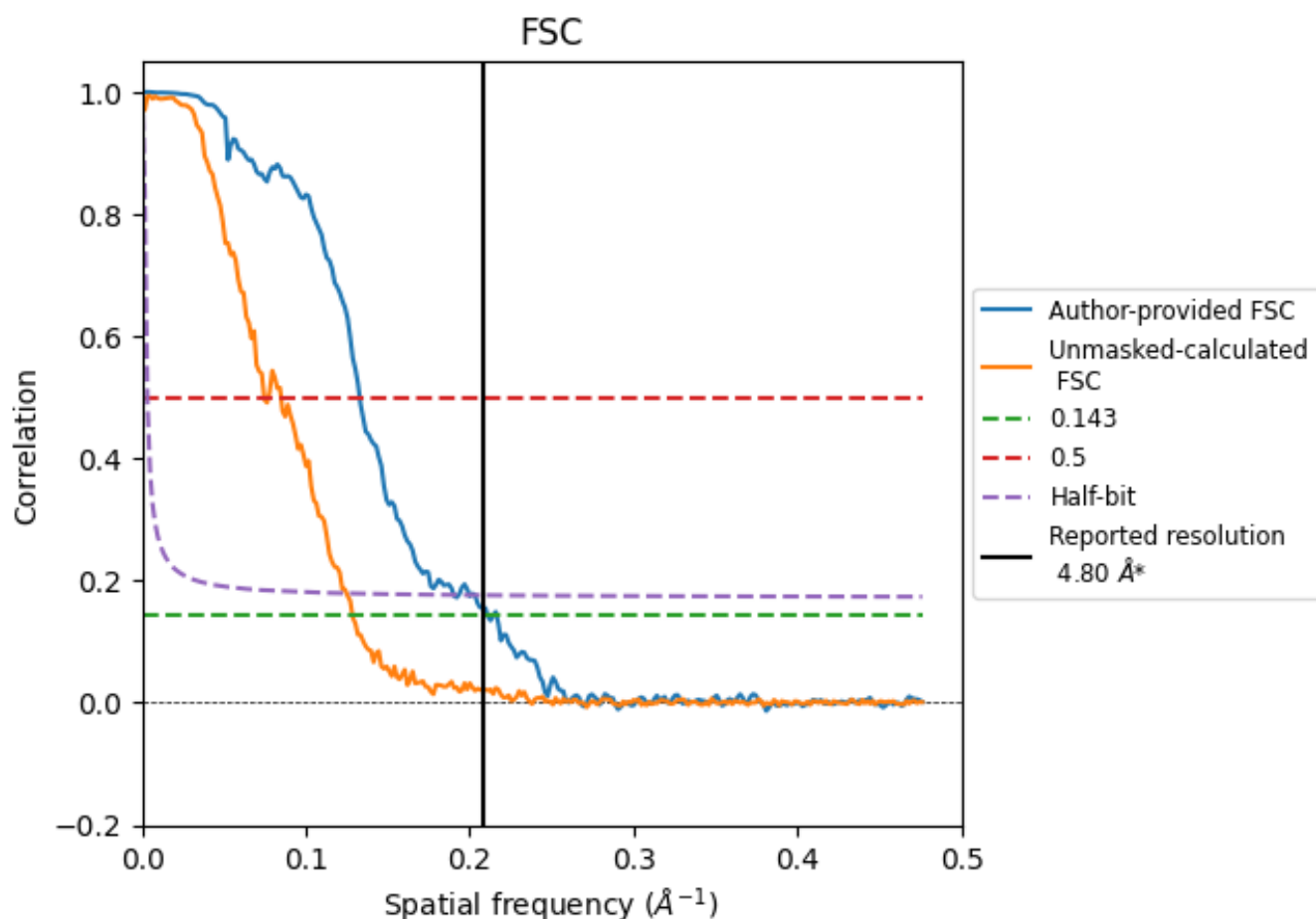


\*Reported resolution corresponds to spatial frequency of 0.208 Å<sup>-1</sup>

## 7 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.

### 7.1 FSC [i](#)



\*Reported resolution corresponds to spatial frequency of 0.208 Å<sup>-1</sup>

## 7.2 Resolution estimates [i](#)

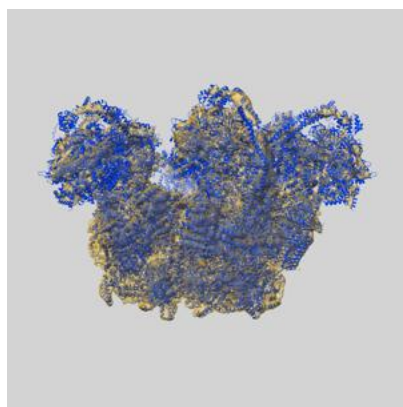
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	4.80	-	-
Author-provided FSC curve	4.74	7.53	5.26
Unmasked-calculated*	7.79	13.42	8.01

\*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 4.8 by more than 10 %

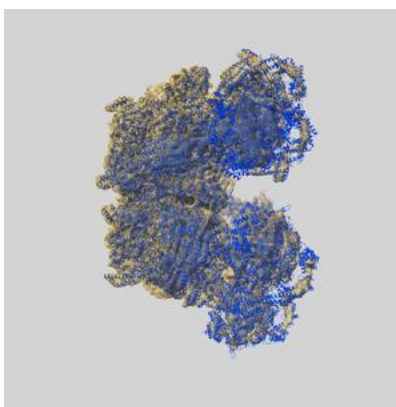
## 8 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-10525 and PDB model 6TML. Per-residue inclusion information can be found in section ?? on page ??.

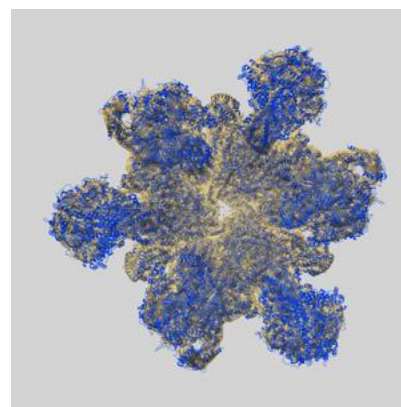
### 8.1 Map-model overlay [i](#)



X



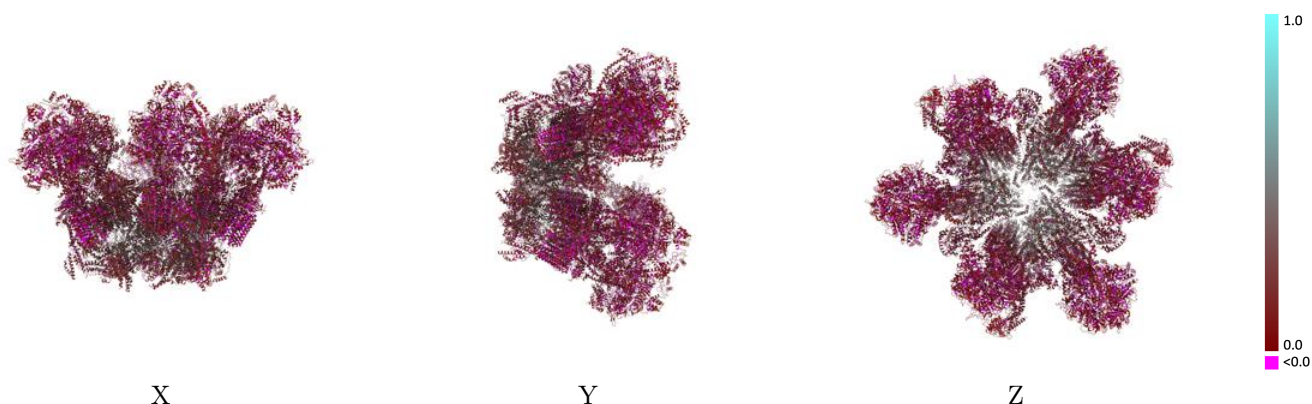
Y



Z

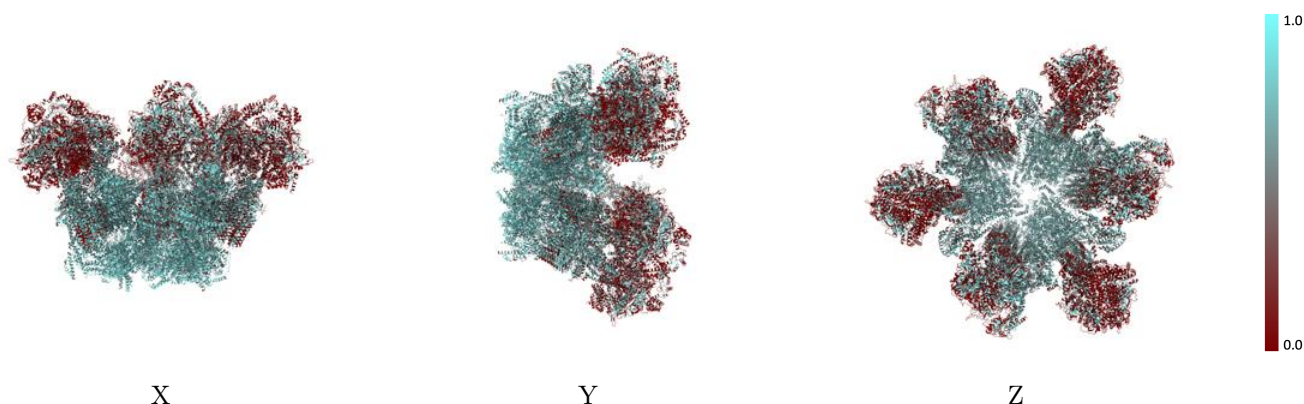
The images above show the 3D surface view of the map at the recommended contour level 0.025 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



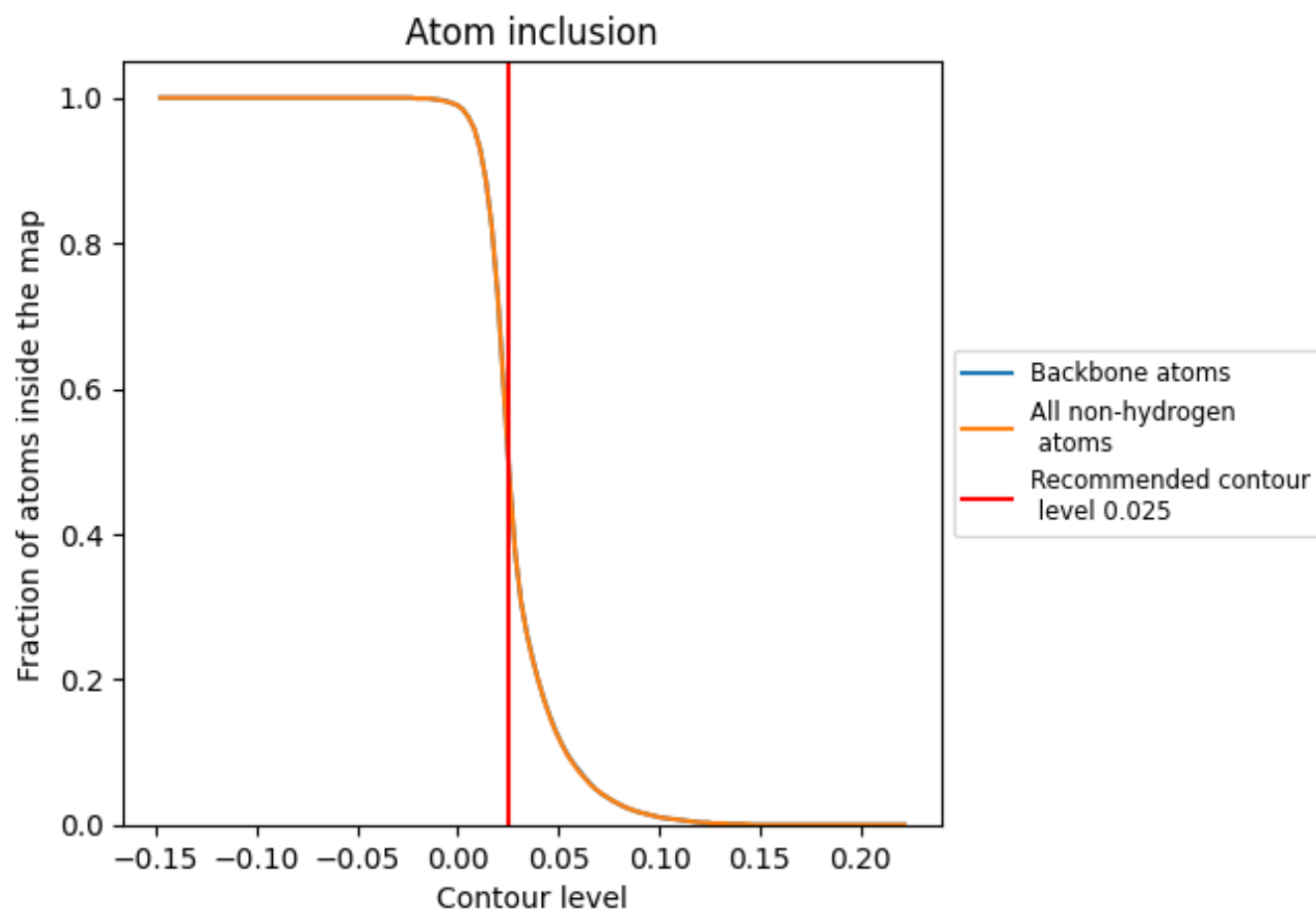
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

## 8.3 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 (0.025).







































































## 8.4 Atom inclusion [i](#)



At the recommended contour level, 51% of all backbone atoms, 51% of all non-hydrogen atoms, are inside the map.

## 8.5 Map-model fit summary





















































































The table lists the average atom inclusion at the recommended contour level (0.025) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.5070	 0.1530
A1	 0.2280	 0.0780
A2	 0.2860	 0.0940
A3	 0.2860	 0.0760
A4	 0.2670	 0.0920
A5	 0.2390	 0.0750
A6	 0.2890	 0.0950
A7	 0.6000	 0.1570
A8	 0.5920	 0.1250
A9	 0.6000	 0.1530
B1	 0.2800	 0.0910
B2	 0.4190	 0.0990
B3	 0.3200	 0.0850
B4	 0.4230	 0.0990
B5	 0.2950	 0.0870
B6	 0.4120	 0.1010
B7	 0.4960	 0.1580
B8	 0.5080	 0.1420
B9	 0.5030	 0.1590
C1	 0.2130	 0.0910
C2	 0.4360	 0.1020
C3	 0.2320	 0.0880
C4	 0.4100	 0.1000
C5	 0.2320	 0.0900
C6	 0.4400	 0.1010
C7	 0.6940	 0.2060
C8	 0.6870	 0.1370
C9	 0.6880	 0.1980
D1	 0.0940	 0.0700
D2	 0.3300	 0.0720
D3	 0.0880	 0.0660
D4	 0.3280	 0.0700
D5	 0.0940	 0.0710
D6	 0.3540	 0.0690
D7	 0.7850	 0.3060



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Chain	Atom inclusion	Q-score
D8	 0.7270	 0.2450
D9	 0.7840	 0.3000
E1	 0.2290	 0.0580
E2	 0.3300	 0.0660
E3	 0.2380	 0.0630
E4	 0.3310	 0.0560
E5	 0.2370	 0.0620
E6	 0.3470	 0.0620
E7	 0.8130	 0.3390
E8	 0.7630	 0.2460
E9	 0.8020	 0.3330
F1	 0.2360	 0.0650
F2	 0.3600	 0.0770
F3	 0.3030	 0.0640
F4	 0.3650	 0.0740
F5	 0.2570	 0.0660
F6	 0.3650	 0.0810
F7	 0.6450	 0.1880
F8	 0.6550	 0.1300
F9	 0.6490	 0.1900
G1	 0.1400	 0.0820
G2	 0.2150	 0.0810
G3	 0.1660	 0.0810
G4	 0.2160	 0.0780
G5	 0.1470	 0.0810
G6	 0.2350	 0.0810
G7	 0.7780	 0.2610
G8	 0.7780	 0.2260
G9	 0.7780	 0.2520
H1	 0.5010	 0.1340
H2	 0.5150	 0.1440
H3	 0.5070	 0.1370
H4	 0.5290	 0.1480
H5	 0.4970	 0.1310
H6	 0.5010	 0.1360
H7	 0.8120	 0.3320
H8	 0.7860	 0.2870
H9	 0.8100	 0.3220
I1	 0.4990	 0.1130
I2	 0.5670	 0.1550
I3	 0.5050	 0.1090
I4	 0.5650	 0.1590

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Chain	Atom inclusion	Q-score
I5	 0.4930	 0.1120
I6	 0.5510	 0.1500
I7	 0.7550	 0.2280
I8	 0.7980	 0.2440
I9	 0.7540	 0.2280
J1	 0.5350	 0.1070
J2	 0.5670	 0.1520
J3	 0.5570	 0.1150
J4	 0.5510	 0.1390
J5	 0.5350	 0.1130
J6	 0.5630	 0.1530
J7	 0.7930	 0.3450
J8	 0.7310	 0.2460
J9	 0.7890	 0.3410
K1	 0.5030	 0.0620
K2	 0.5330	 0.1360
K3	 0.4970	 0.0710
K4	 0.5190	 0.1240
K5	 0.5050	 0.0700
K6	 0.5230	 0.1420
K7	 0.6720	 0.2420
K8	 0.5820	 0.1860
K9	 0.6790	 0.2330
L1	 0.4160	 0.0400
L2	 0.5290	 0.1540
L3	 0.4060	 0.0360
L4	 0.5230	 0.1460
L5	 0.4180	 0.0340
L6	 0.5110	 0.1430
L7	 0.8200	 0.3210
L8	 0.7570	 0.2200
L9	 0.8110	 0.3140
M1	 0.3380	 0.0140
M2	 0.5210	 0.1550
M3	 0.3420	 0.0100
M4	 0.5330	 0.1530
M5	 0.3320	 0.0110
M6	 0.5290	 0.1540
M7	 0.7500	 0.2570
M8	 0.6700	 0.1940
M9	 0.7430	 0.2580
N1	 0.3840	 0.0540





















































































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Chain	Atom inclusion	Q-score
N2	 0.5730	 0.1790
N3	 0.3800	 0.0420
N4	 0.5900	 0.1850
N5	 0.3840	 0.0630
N6	 0.5880	 0.1790
N7	 0.7540	 0.2950
N8	 0.7010	 0.1870
N9	 0.7600	 0.2970
O1	 0.4590	 0.1170
O2	 0.6060	 0.2100
O3	 0.4630	 0.1150
O4	 0.6280	 0.2180
O5	 0.4550	 0.1180
O6	 0.6220	 0.2090
O7	 0.7500	 0.2850
O8	 0.6760	 0.1540
O9	 0.7400	 0.2740
P1	 0.5150	 0.1480
P2	 0.6180	 0.2010
P3	 0.5190	 0.1460
P4	 0.6180	 0.1970
P5	 0.5110	 0.1460
P6	 0.6060	 0.1950
P7	 0.7660	 0.2280
P8	 0.7680	 0.2460
P9	 0.7810	 0.2310
Q1	 0.5650	 0.1760
Q2	 0.5070	 0.1680
Q3	 0.5710	 0.1780
Q4	 0.5210	 0.1580
Q5	 0.5800	 0.1790
Q6	 0.5130	 0.1630
Q7	 0.7200	 0.2120
Q8	 0.7280	 0.2180
Q9	 0.7180	 0.2110
R7	 0.6040	 0.1410
R8	 0.6020	 0.1210
R9	 0.6020	 0.1420
S7	 0.7520	 0.2740
S8	 0.7020	 0.1500
S9	 0.7440	 0.2690
T7	 0.6850	 0.1790





















































































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Chain	Atom inclusion	Q-score
T8	 0.5810	 0.1210
T9	 0.6810	 0.1760
U7	 0.7860	 0.3120
U8	 0.7290	 0.1820
U9	 0.7880	 0.3100
V7	 0.7920	 0.2990
V8	 0.7850	 0.2730
V9	 0.7840	 0.2900
W7	 0.7600	 0.3330
W8	 0.6840	 0.2180
W9	 0.7580	 0.3300
X7	 0.7600	 0.3010
X8	 0.6810	 0.1480
X9	 0.7590	 0.2940
a7	 0.6020	 0.1310
a8	 0.6070	 0.1580
a9	 0.6040	 0.1270
b7	 0.5190	 0.1480
b8	 0.5040	 0.1550
b9	 0.5230	 0.1420
c7	 0.6880	 0.1390
c8	 0.7050	 0.2050
c9	 0.6880	 0.1380
d1	 0.5110	 0.0950
d2	 0.5180	 0.1300
d3	 0.5180	 0.0990
d4	 0.5210	 0.1300
d5	 0.5180	 0.0930
d6	 0.5220	 0.1330
d7	 0.7350	 0.2510
d8	 0.7870	 0.3060
d9	 0.7250	 0.2440
e1	 0.4690	 0.1310
e2	 0.5670	 0.1460
e3	 0.4750	 0.1300
e4	 0.5730	 0.1390
e5	 0.4830	 0.1250
e6	 0.5790	 0.1430
e7	 0.7640	 0.2480
e8	 0.8050	 0.3390
e9	 0.7530	 0.2450
f7	 0.6550	 0.1310





















































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Chain	Atom inclusion	Q-score
f8	 0.6450	 0.1920
f9	 0.6540	 0.1320
g1	 0.4360	 0.1230
g2	 0.4370	 0.1130
g3	 0.4550	 0.1250
g4	 0.4360	 0.1090
g5	 0.4500	 0.1280
g6	 0.4360	 0.1100
g7	 0.7910	 0.2340
g8	 0.7860	 0.2610
g9	 0.7810	 0.2300
h7	 0.7820	 0.2940
h8	 0.8210	 0.3330
h9	 0.7720	 0.2820
i1	 0.2740	 0.0560
i2	 0.4190	 0.1170
i3	 0.2550	 0.0500
i4	 0.4160	 0.1130
i5	 0.2680	 0.0470
i6	 0.4010	 0.1160
i7	 0.8010	 0.2540
i8	 0.7610	 0.2360
i9	 0.8040	 0.2500
j7	 0.7440	 0.2530
j8	 0.7980	 0.3430
j9	 0.7330	 0.2450
k7	 0.5790	 0.1960
k8	 0.6830	 0.2410
k9	 0.5820	 0.1910
l7	 0.7550	 0.2210
l8	 0.8140	 0.3160
l9	 0.7490	 0.2120
m7	 0.6810	 0.2070
m8	 0.7500	 0.2590
m9	 0.6690	 0.1950
n7	 0.7030	 0.1890
n8	 0.7520	 0.2940
n9	 0.7030	 0.1870
o7	 0.6770	 0.1650
o8	 0.7570	 0.2880
o9	 0.6760	 0.1560
p7	 0.7890	 0.2610

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Chain	Atom inclusion	Q-score
p8	 0.7770	 0.2340
p9	 0.7850	 0.2500
q7	 0.7280	 0.2150
q8	 0.7180	 0.2230
q9	 0.7260	 0.2120
r7	 0.5890	 0.1230
r8	 0.6110	 0.1440
r9	 0.6000	 0.1200
s7	 0.6930	 0.1490
s8	 0.7440	 0.2740
s9	 0.6950	 0.1450
t7	 0.5680	 0.1100
t8	 0.6790	 0.1910
t9	 0.5760	 0.1110
u7	 0.7250	 0.1850
u8	 0.7880	 0.3080
u9	 0.7140	 0.1830
v7	 0.7750	 0.2680
v8	 0.7790	 0.2930
v9	 0.7740	 0.2610
w7	 0.6940	 0.2300
w8	 0.7520	 0.3290
w9	 0.6770	 0.2210
x7	 0.6930	 0.1630
x8	 0.7600	 0.3020
x9	 0.6840	 0.1530