



wwPDB EM Validation Summary Report ⓘ

Apr 5, 2026 – 10:33 PM UTC

PDB ID : 9YNF / pdb_00009ynf
EMDB ID : EMD-73176
Title : Motor domain of human dynein-1 in post1 state
Authors : Yang, J.; Rao, Q.; Chai, P.; Zhang, K.
Deposited on : 2025-10-10
Resolution : 3.92 Å(reported)

This is a wwPDB EM Validation Summary Report for a publicly released PDB entry.

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

EMDB validation analysis : 0.0.1.dev132
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4-5-2 with Phenix2.0
Buster-report : wwPDB partial adaption of 1.1.7 (2018)
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

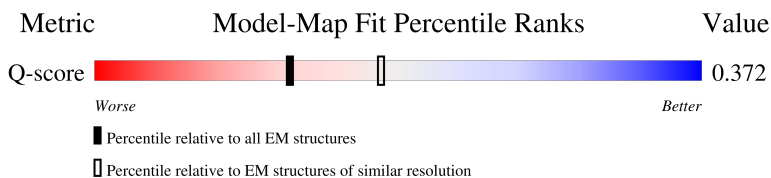
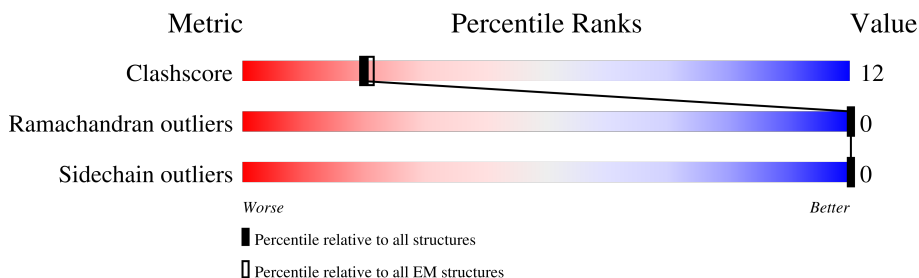
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.92 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)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
Q-score	-	25397	7862 (3.42 - 4.42)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. 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	4646	 47% 19% 35%

2 Entry composition [i](#)

There are 5 unique types of molecules in this entry. The entry contains 24588 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 Cytoplasmic dynein 1 heavy chain 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	3038	Total	C	N	O	S	0	0
			24471	15586	4225	4538	122		

- Molecule 2 is ADENOSINE-5'-DIPHOSPHATE (CCD ID: ADP) (formula: $C_{10}H_{15}N_5O_{10}P_2$) (labeled as "Ligand of Interest" by depositor).



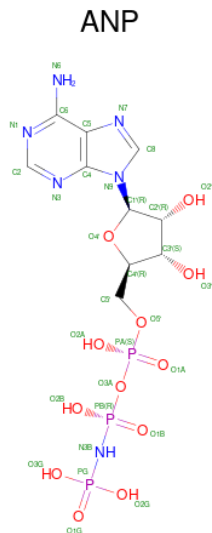
Mol	Chain	Residues	Atoms					AltConf
2	A	1	Total	C	N	O	P	0
			27	10	5	10	2	
2	A	1	Total	C	N	O	P	0
			27	10	5	10	2	

- Molecule 3 is ADENOSINE-5'-TRIPHOSPHATE (CCD ID: ATP) (formula: $C_{10}H_{16}N_5O_{13}P_3$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					AltConf
3	A	1	Total 31	C 10	N 5	O 13	P 3	0

- Molecule 4 is PHOSPHOAMINOPHOSPHONIC ACID-ADENYLATE ESTER (CCD ID: ANP) (formula: $\text{C}_{10}\text{H}_{17}\text{N}_6\text{O}_{12}\text{P}_3$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					AltConf
4	A	1	Total 31	C 10	N 6	O 12	P 3	0

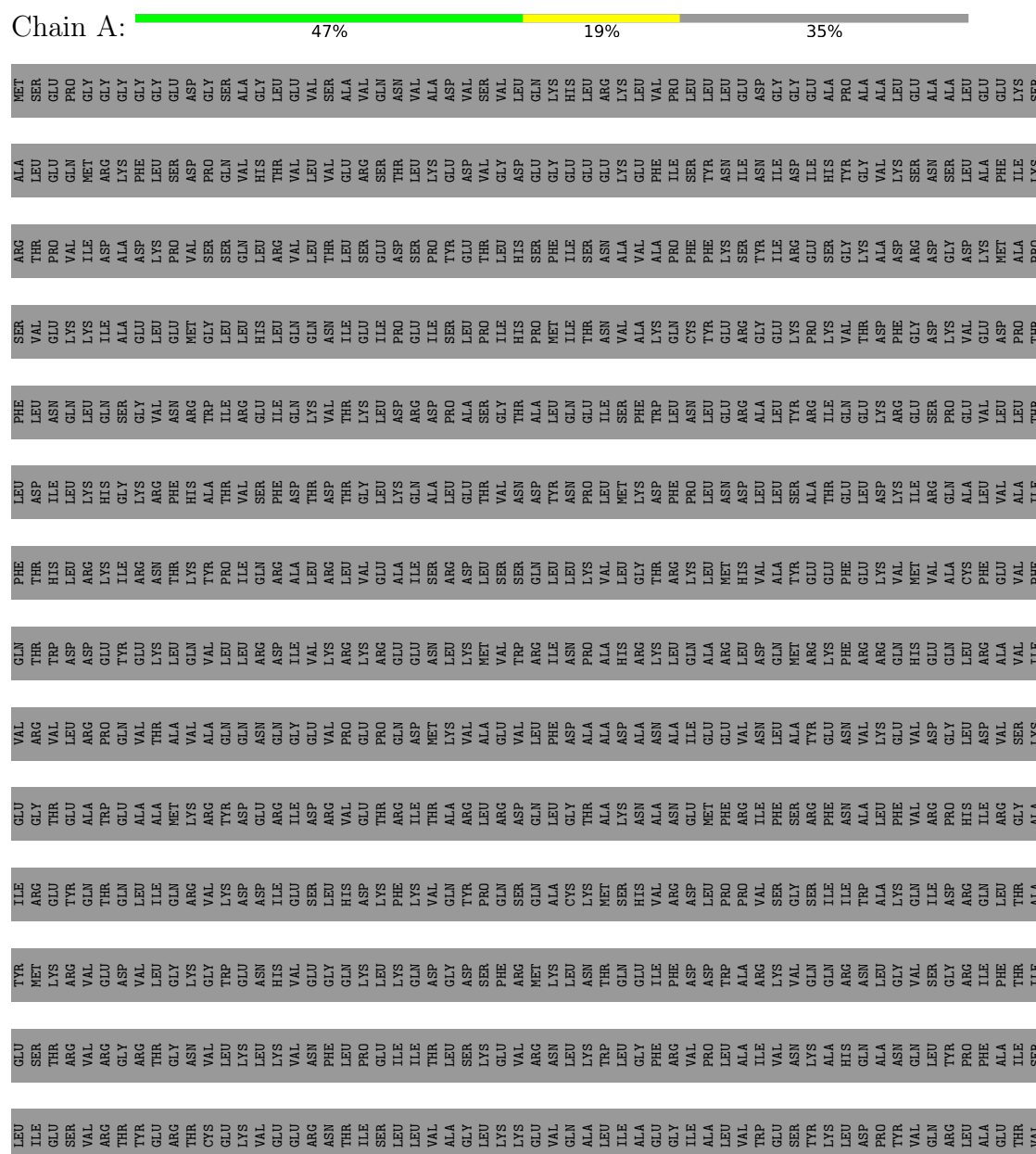
- Molecule 5 is MAGNESIUM ION (CCD ID: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		AltConf
5	A	1	Total	Mg	0
			1	1	

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: Cytoplasmic dynein 1 heavy chain 1



E2248	Y2086	E1984	W1838	Y1738	I1611	H1495	L1399	VAL	TRP	ARG	GLU	ALA	ASN	GLU	ASN	PHE
G2278	L2090	H1985	R1843	W1741	Y1618	K1496	V1400	ALA	GLU	PHE	PHE	LEU	LYS	LEU	LYS	ASN
H2282	L2093	S1986	F1844	Q1748	R1621	V1497	I1401	LEU	THR	GLN	THR	GLU	ASP	GLN	GLY	PHE
V2283	L2097	N1987	I1859	L1749	F1626	S1503	L1403	LEU	LYS	PRO	GLN	ARG	THR	MET	GLY	LYS
I2287	K2115	T1997	Q1860	V1750	P1627	W1504	K1404	GLU	VAL	PRO	ILE	ARG	PRO	ASN	ILE	VAL
Q2299	R2118	T1998	M1861	L1751	F1628	M1507	A1407	Q1327	THR	TRP	LYS	LYS	ASP	GLY	GLY	ASP
W2300	V2122	C1999	N1863	S1753	P1627	L1509	K1409	L1328	GLY	TYR	SER	GLY	ASP	ILE	LEU	ASP
D2306	G2125	V2006	I1872	A1754	E1635	K1514	D1410	V1332	ILE	ILE	GLN	GLY	VAL	LEU	LEU	LEU
V2307	E2129	K2007	Y1876	L1756	L1638	F1516	R1411	E1335	ARG	ASP	GLU	THR	ALA	ASN	GLY	ILE
W2311	E2133	V2008	Q1876	A1757	Q1651	E1517	K1414	L1336	PRO	ASN	LEU	ASP	LEU	VAL	VAL	ILE
V2312	E2157	P2010	D1877	W1758	Q1651	E1517	K1414	L1336	GLU	ILE	GLU	ASP	GLU	PRO	ARG	GLU
L2315	L2149	D2011	K1878	W1758	A1659	E1517	M1417	L1337	GLU	GLY	GLN	ASN	GLU	ILE	LEU	GLY
K2323	R2172	M2012	L1879	E1763	S1522	L1521	V1422	K1338	ALA	GLY	GLU	GLY	GLU	GLY	ALA	LYS
L2324	G2173	A2013	T1882	A1765	W1523	W1339	N1423	V1339	GLN	GLU	TRP	THR	GLY	GLY	ALA	ILE
R2332	L2157	F2014	T1882	L1766	E1524	E1524	V1424	E1341	LEU	GLY	ALA	VAL	ASP	ASP	LEU	GLY
L2335	L2161	T2016	T1885	M1769	D1525	K1526	V1426	D1344	THR	PHE	THR	GLY	VAL	ARG	GLU	GLY
P2336	L2179	T2017	C1888	G1770	L1527	L1527	S1427	K1347	ILE	ASN	THR	GLY	THR	TRP	TRP	VAL
P2337	R2189	M2018	F1905	G1771	V1673	L1674	E1428	P1350	GLY	ILE	ASP	VAL	GLY	GLN	GLY	GLY
P2338	M2189	G2021	E1914	A1776	G1675	M1530	L1429	P1350	LYS	ARG	ALA	VAL	GLY	GLU	GLU	GLU
P2339	G2200	TRP	E1914	P1777	I1676	M1531	T1430	V1354	PHE	ARG	VAL	ILE	VAL	VAL	LEU	THR
R2340	G2209	ALA	E1914	Q1778	S1677	A1532	L1431	Q1355	GLY	LYS	THR	ASP	GLY	GLY	GLY	CYS
I2341	L2210	GLY	E1914	W1785	L1678	L1533	G1432	Q1356	ARG	LYS	PHE	THR	GLN	GLN	GLY	GLY
M2342	T2214	ARG	K1917	L1785	R1679	F1534	Q1433	R1357	ILE	ASP	THR	GLY	GLN	ALA	ALA	TYR
V2345	M2222	S2026	L1923	L1789	E1680	Q1541	W1435	R1367	LYS	ILE	THR	LYS	VAL	VAL	VAL	GLY
A2354	S2228	D2030	F1926	E1789	G1681	H1559	W1435	R1360	ASP	ILE	THR	LYS	VAL	VAL	VAL	LYS
R2358	G2229	K2033	V1926	L1792	E1682	I1550	D1438	Q1361	ASP	GLN	VAL	LYS	VAL	VAL	VAL	THR
W2363	G2230	F2036	V1927	A1793	K1687	L1561	L1439	L1362	ARG	GLN	GLN	LYS	GLY	GLY	GLY	PHE
F2364	S2231	D2041	E1934	Q1800	V1690	H1559	Q1440	L1363	GLU	LYS	LEU	LYS	VAL	VAL	VAL	GLY
L2369	S2232	M2046	F1938	L1803	T1698	L1560	K1441	L1367	CYS	ILE	LYS	ASN	GLN	PRO	ASP	ILE
S2370	T2214	R2046	E1938	R1804	T1698	L1561	M1457	A1375	LYS	LYS	LYS	LYS	GLN	GLN	MET	LEU
M2373	M2222	I2049	V1946	R1806	W1701	E1564	E1460	R1378	GLU	LYS	GLN	ASP	ALA	ALA	ALA	ASN
I2374	G2228	G2060	R1962	L1810	M1709	I1571	E1461	A1380	ALA	ILE	PHE	TRP	GLN	GLN	GLN	LYS
M2377	G2229	R2063	L1963	L1811	M1709	K1580	K1464	A1381	GLU	VAL	LYS	TRP	VAL	VAL	VAL	VAL
L2382	S2232	L2054	E1964	L1812	T1712	K1581	V1469	S1382	LEU	GLU	GLN	GLY	SER	SER	SER	ASP
P2386	M2232	L2054	E1964	T1813	L1713	V1582	V1582	E1384	THR	ASP	VAL	VAL	GLY	GLY	GLY	GLY
L2387	A2233	S2056	G1953	E1814	A1714	S1583	W1470	F1385	ASP	ARG	GLU	LEU	ILE	ILE	LYS	LYS
Q2395	M2234	G2079	W1954	L1815	K1715	K1584	Y1473	V1386	THR	ALA	LEU	SER	TYR	PRO	ASN	ASN
R2396	R2235	L2080	I1978	Q1818	E1719	M1589	E1474	Q1387	GLY	VAL	TYR	LYS	ASN	GLY	GLY	GLY
R2397	K2239	S2081	I1978	E1836	S1720	D1590	E1474	R1388	LEU	GLU	ARG	PHE	ARG	GLY	GLY	GLY
		S2082	A1981	E1837	V1721	V1591	L1475	K1391	LEU	SER	THR	GLY	GLY	GLY	PRO	GLY
					V1721	L1592	V1478	G1392	GLY	ARG	THR	GLN	GLY	GLY	LYS	THR
					V1724	H1593	Y1478	G1392	SER	THR	THR	ARG	LEU	GLY	ILE	ILE
					E1725	I1594	L1486	G1395	GLU	ASP	ASP	LEU	GLY	LYS	LYS	LYS
					D1734	L1604	T1487	K1395	GLU	LEU	LEU	SER	GLY	ASN	ASN	PRO
					T1737	L1608	R1488	I1396	VAL	LEU	GLY	ASN	LYS	VAL	VAL	ILE
							F1494	M1398	ARG	THR	THR	MET	TRP	VAL	VAL	THR
										ASP	GLN	THR	GLN	ARG	HIS	HIS





4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	326895	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS GLACIOS	Depositor
Voltage (kV)	200	Depositor
Electron dose ($e^-/\text{\AA}^2$)	40	Depositor
Minimum defocus (nm)	1200	Depositor
Maximum defocus (nm)	2600	Depositor
Magnification	45000	Depositor
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	1.624	Depositor
Minimum map value	-1.305	Depositor
Average map value	-0.003	Depositor
Map value standard deviation	0.037	Depositor
Recommended contour level	0.15	Depositor
Map size (\AA)	444.416, 444.416, 444.416	wwPDB
Map dimensions	256, 256, 256	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (\AA)	1.736, 1.736, 1.736	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: MG, ANP, ADP, ATP

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	0.13	0/24989	0.34	0/33856

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	1

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	2597	PRO	Peptide

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	24471	0	24528	609	0
2	A	54	0	24	7	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	A	31	0	12	6	0
4	A	31	0	13	4	0
5	A	1	0	0	0	0
All	All	24588	0	24577	609	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 12.

The worst 5 of 609 close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3194:LEU:HD22	1:A:3500:MET:HE3	1.57	0.87
1:A:2603:MET:HE2	4:A:4703:ANP:H5'2	1.60	0.82
1:A:2387:LEU:HB3	1:A:2467:ARG:HH21	1.44	0.80
1:A:3817:SER:HB3	1:A:4349:LEU:HD21	1.63	0.80
1:A:2386:PRO:HA	1:A:2416:GLN:HE22	1.47	0.79

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	3028/4646 (65%)	2937 (97%)	91 (3%)	0	100	100

There are no Ramachandran outliers to report.

5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	2703/4125 (66%)	2703 (100%)	0	100	100

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

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

Mol	Chain	Res	Type
1	A	3837	HIS
1	A	4078	ASN
1	A	4532	ASN
1	A	3931	GLN
1	A	4098	ASN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates ⓘ

There are no oligosaccharides in this entry.

5.6 Ligand geometry ⓘ

Of 5 ligands modelled in this entry, 1 is monoatomic - leaving 4 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. 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 $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
4	ANP	A	4703	-	33,33,33	2.34	6 (18%)	45,52,52	1.44	6 (13%)
2	ADP	A	4701	-	28,29,29	1.42	5 (17%)	43,45,45	1.79	9 (20%)
3	ATP	A	4702	5	32,33,33	0.42	0	48,52,52	0.32	0
2	ADP	A	4704	-	28,29,29	1.41	4 (14%)	43,45,45	1.82	9 (20%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	ANP	A	4703	-	-	7/18/38/38	0/3/3/3
2	ADP	A	4701	-	-	4/16/32/32	0/3/3/3
3	ATP	A	4702	5	-	7/22/38/38	0/3/3/3
2	ADP	A	4704	-	-	4/16/32/32	0/3/3/3

The worst 5 of 15 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	A	4703	ANP	PB-O3A	9.14	1.70	1.59
4	A	4703	ANP	PG-N3B	6.20	1.79	1.63
4	A	4703	ANP	PG-O1G	4.80	1.53	1.46
2	A	4704	ADP	C5-C4	4.65	1.47	1.39
2	A	4701	ADP	C5-C4	4.65	1.47	1.39

The worst 5 of 24 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A	4704	ADP	C5-C4-N3	-5.93	118.55	126.72
2	A	4701	ADP	C5-C4-N3	-5.64	118.94	126.72
2	A	4704	ADP	N3-C4-N9	4.58	134.96	127.17
4	A	4703	ANP	O2B-PB-O1B	4.52	119.57	109.87
2	A	4701	ADP	N3-C4-N9	4.50	134.82	127.17

There are no chirality outliers.

5 of 22 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	4701	ADP	O4'-C4'-C5'-O5'
2	A	4704	ADP	C5'-O5'-PA-O3A

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Mol	Chain	Res	Type	Atoms
3	A	4702	ATP	PB-O3B-PG-O3G
3	A	4702	ATP	C5'-O5'-PA-O3A
4	A	4703	ANP	PB-N3B-PG-O1G

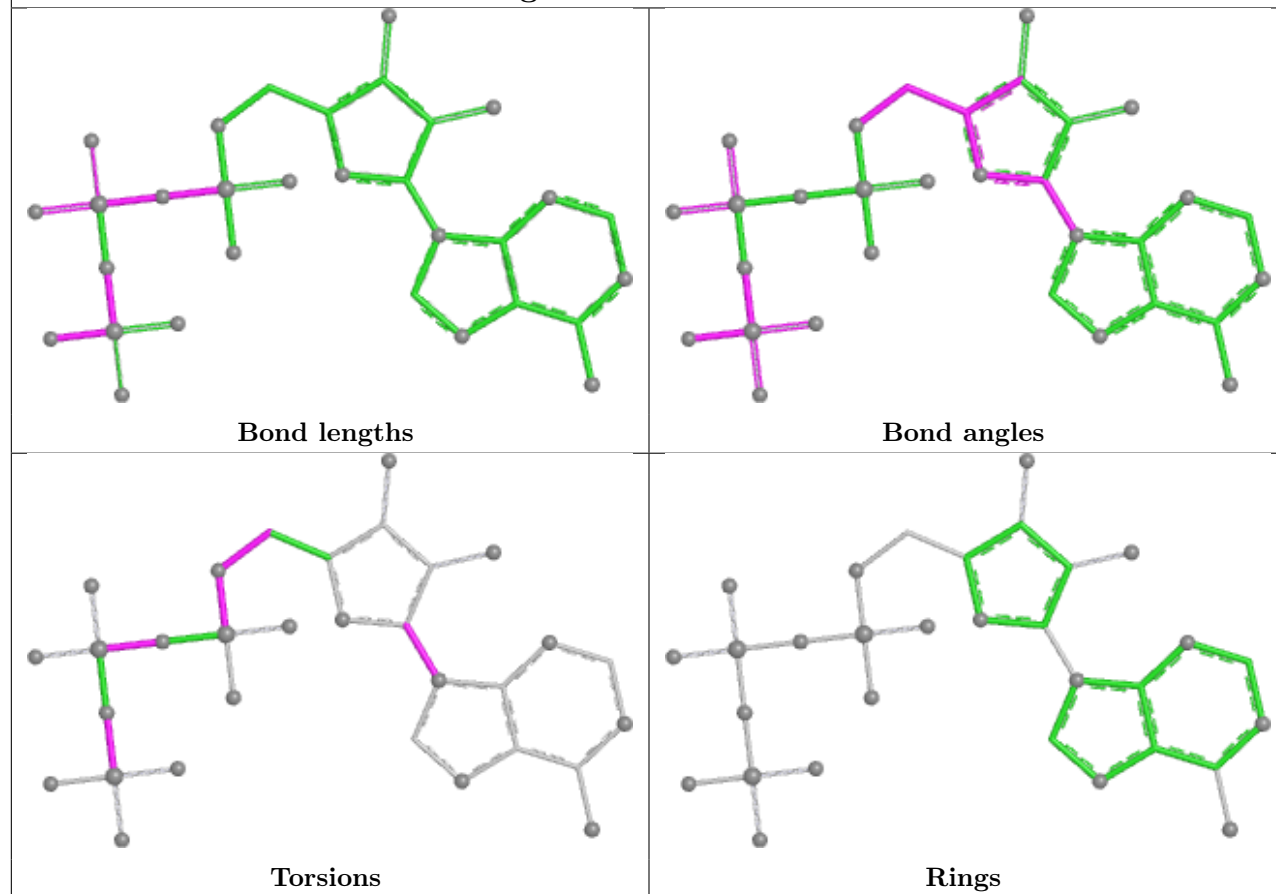
There are no ring outliers.

4 monomers are involved in 17 short contacts:

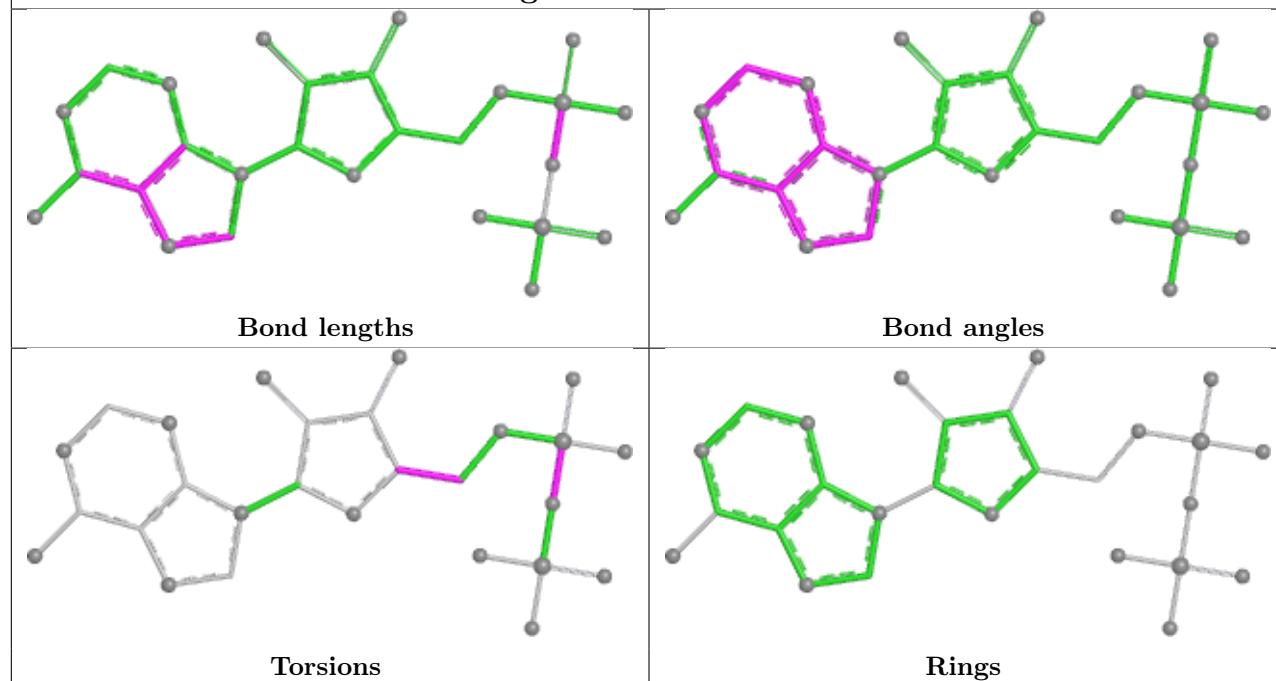
Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	A	4703	ANP	4	0
2	A	4701	ADP	4	0
3	A	4702	ATP	6	0
2	A	4704	ADP	3	0

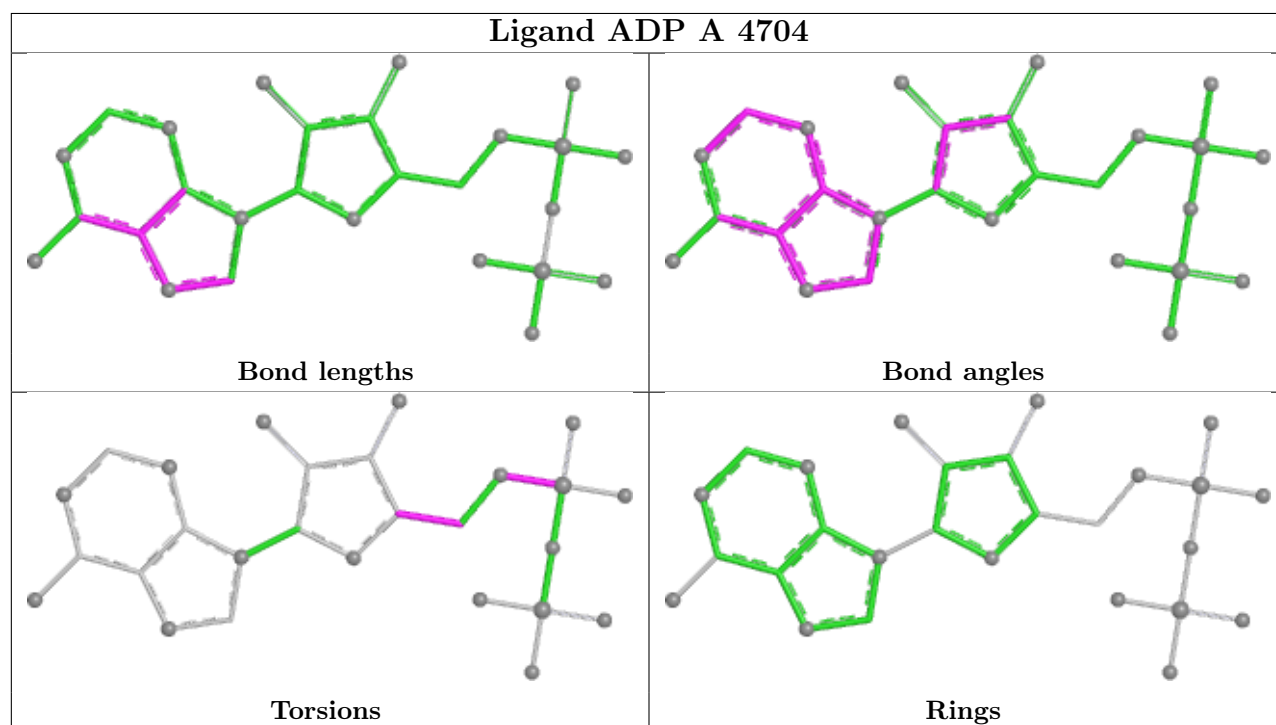
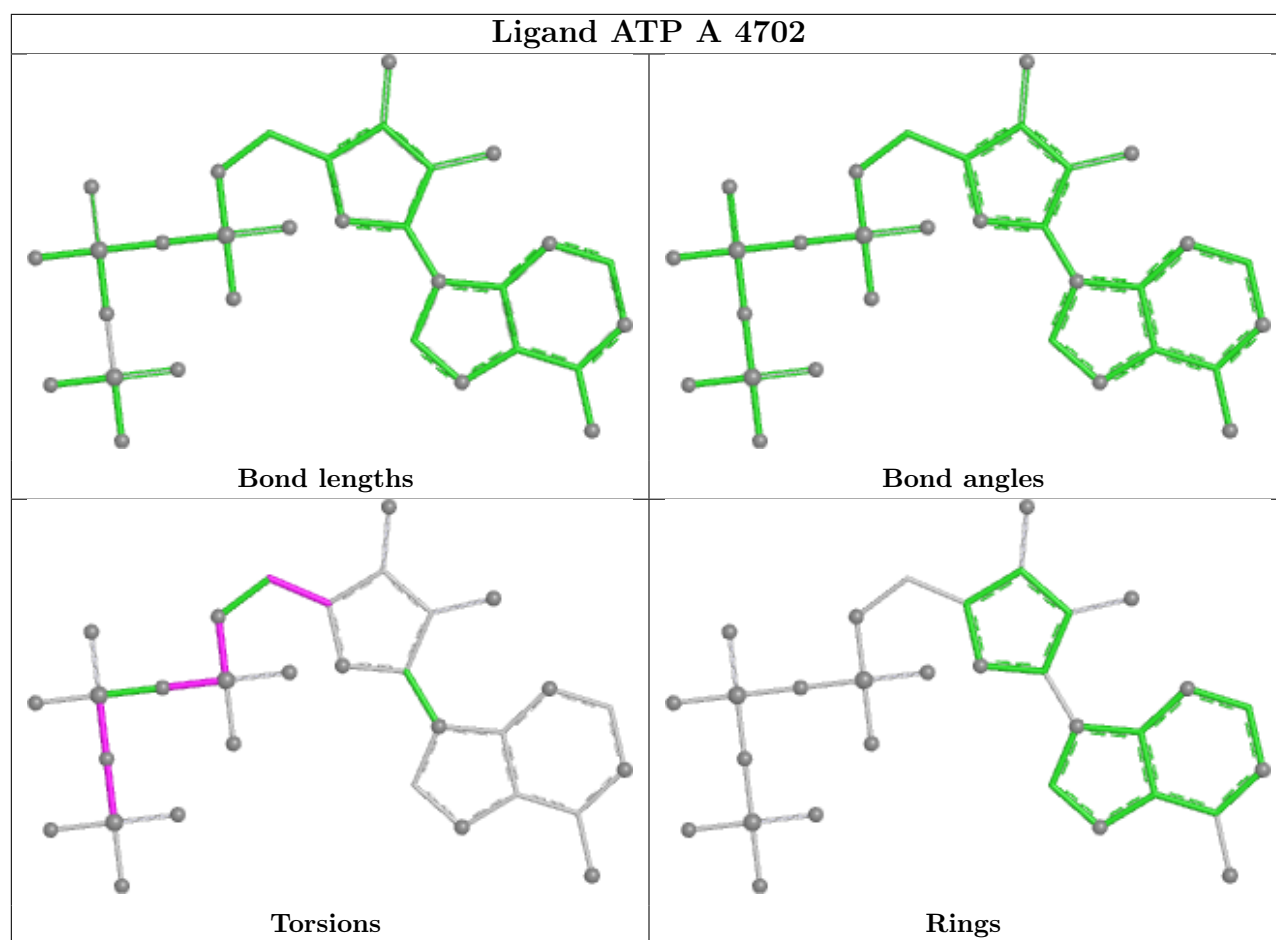
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

Ligand ANP A 4703



Ligand ADP A 4701





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.

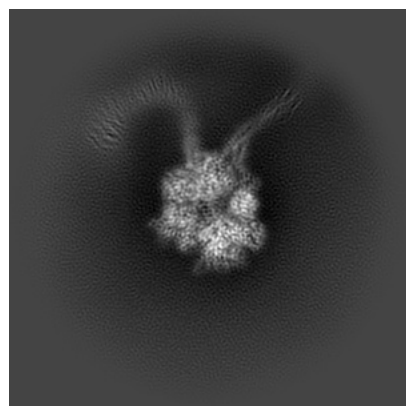
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-73176. These allow visual inspection of the internal detail of the map and identification of artifacts.

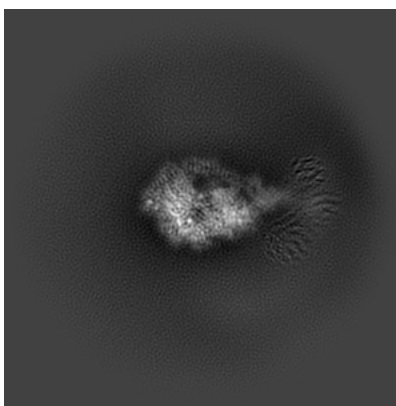
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

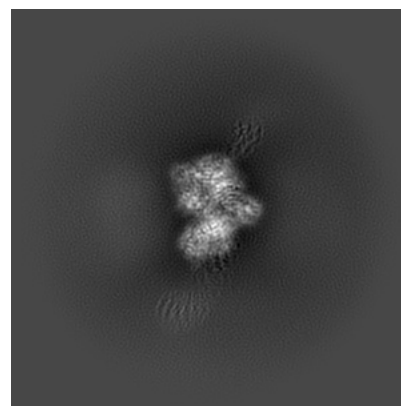
6.1.1 Primary map



X

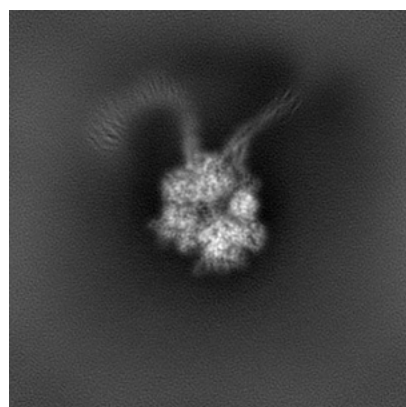


Y

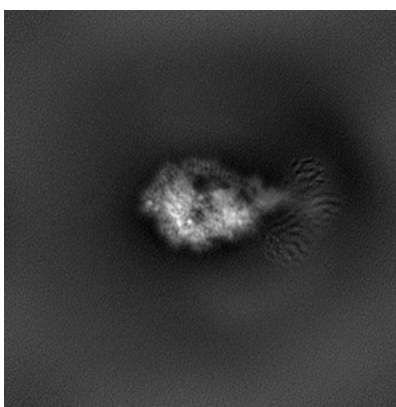


Z

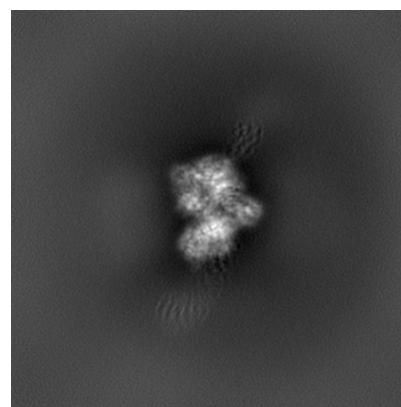
6.1.2 Raw map



X



Y

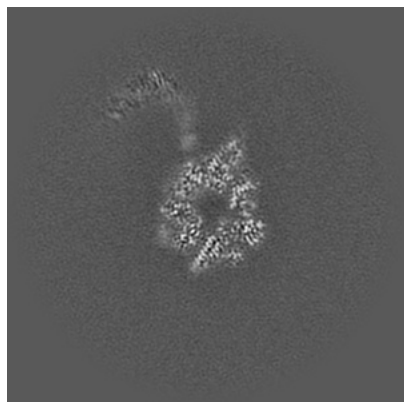


Z

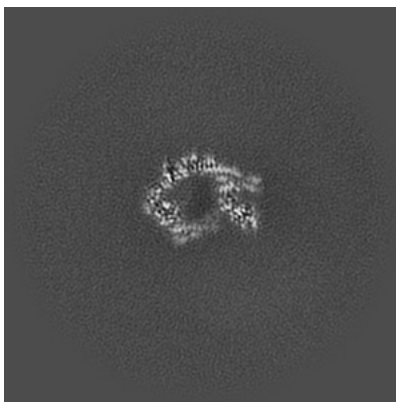
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

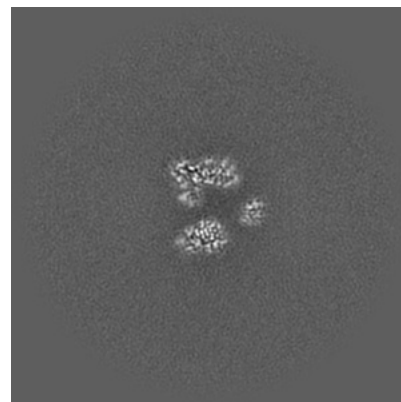
6.2.1 Primary map



X Index: 128

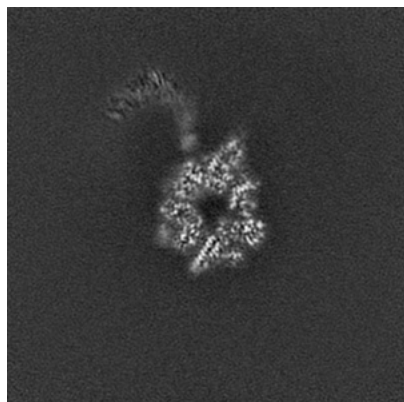


Y Index: 128

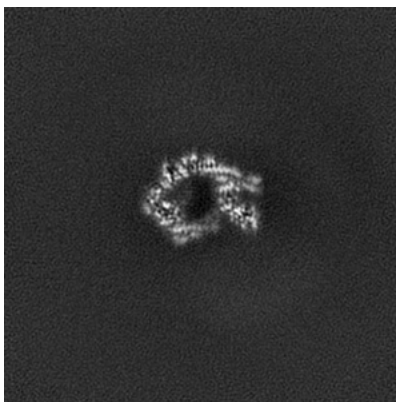


Z Index: 128

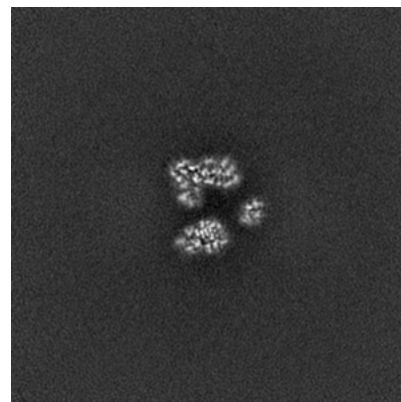
6.2.2 Raw map



X Index: 128



Y Index: 128

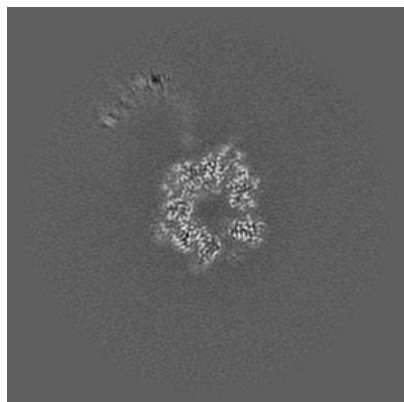


Z Index: 128

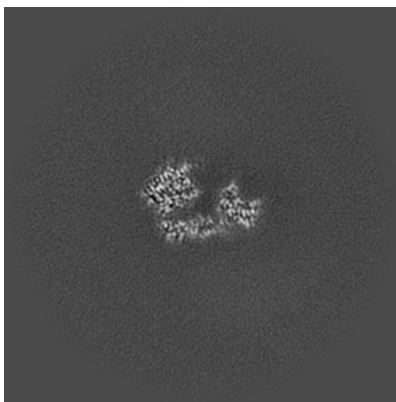
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

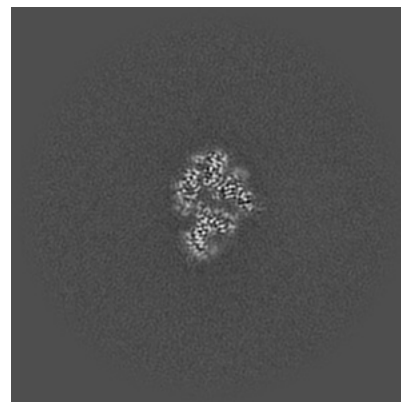
6.3.1 Primary map



X Index: 125

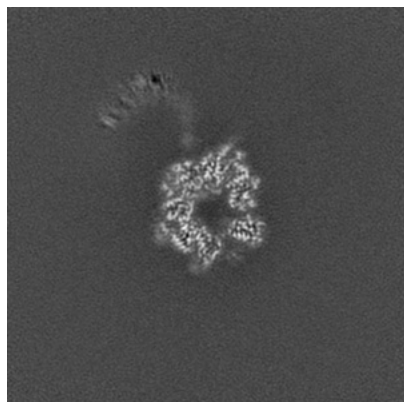


Y Index: 135

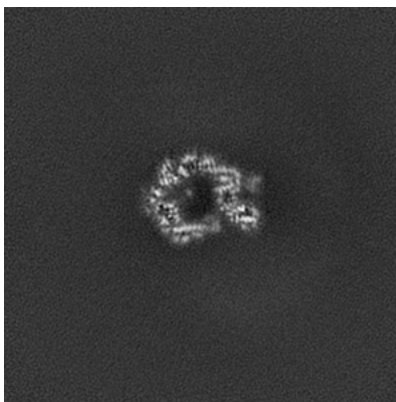


Z Index: 112

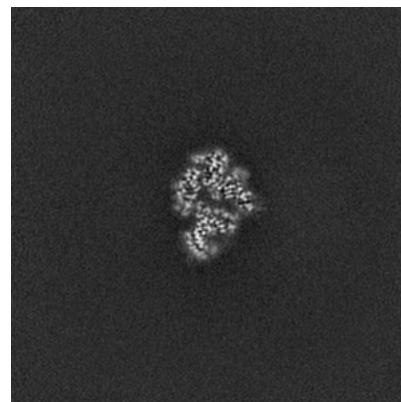
6.3.2 Raw map



X Index: 125



Y Index: 129

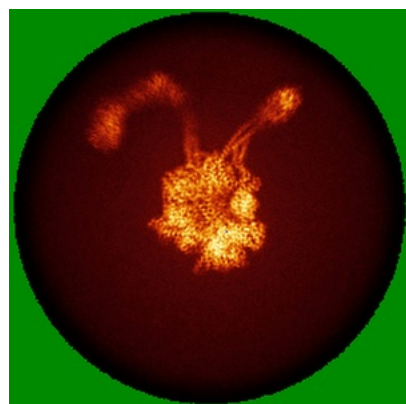


Z Index: 112

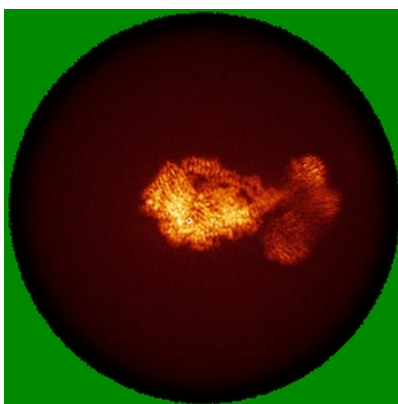
The images above show the largest variance slices of the map in three orthogonal directions.

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

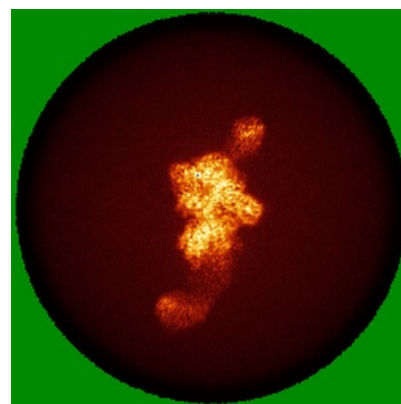
6.4.1 Primary map



X

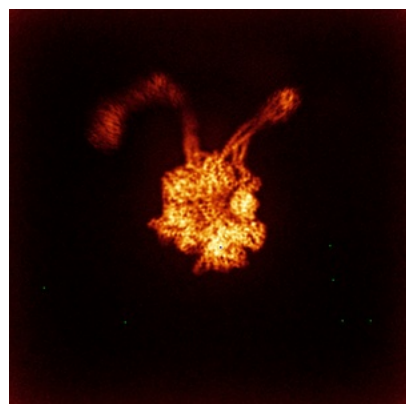


Y

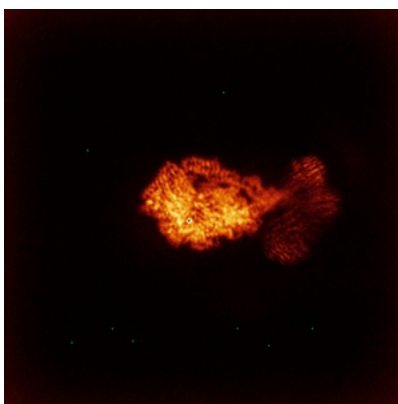


Z

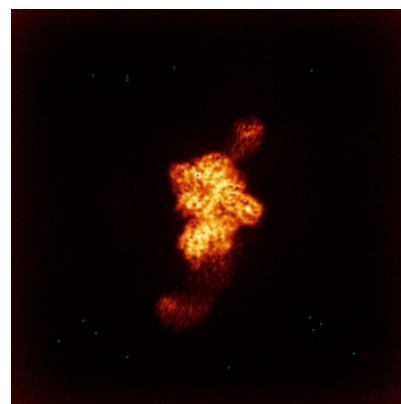
6.4.2 Raw map



X



Y

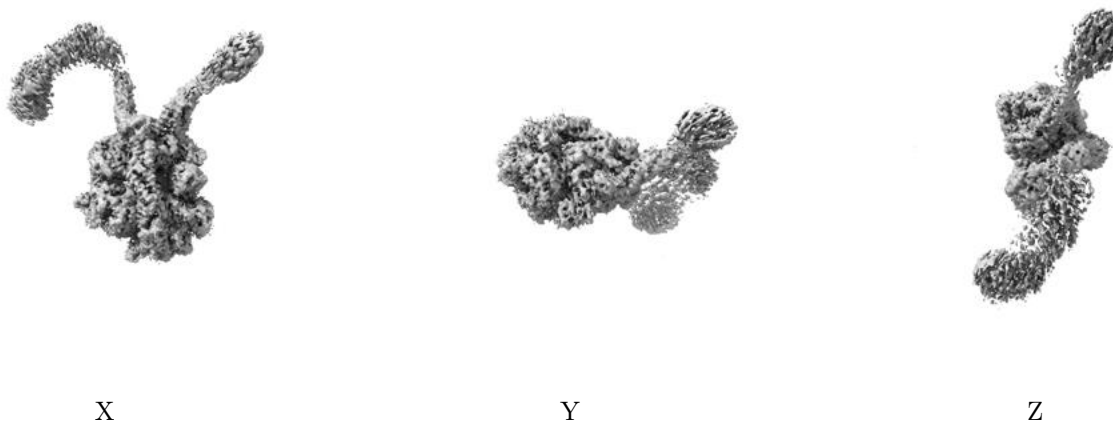


Z

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

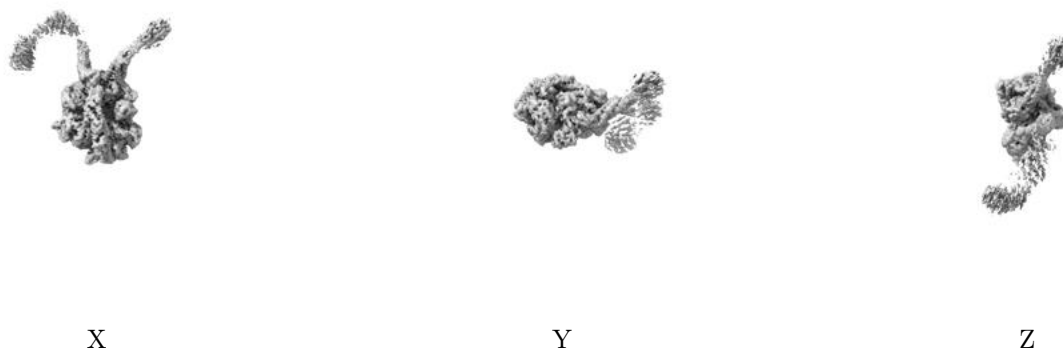
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.15. 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.

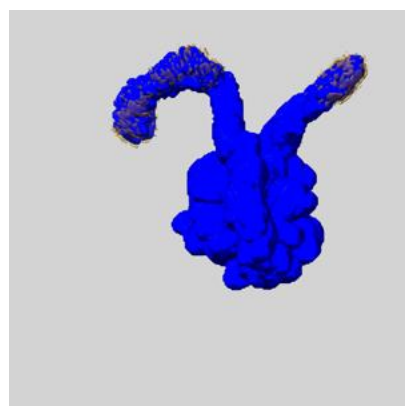
6.6 Mask visualisation [i](#)

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

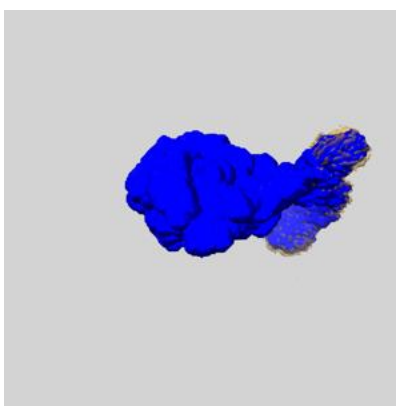
A mask typically either:

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

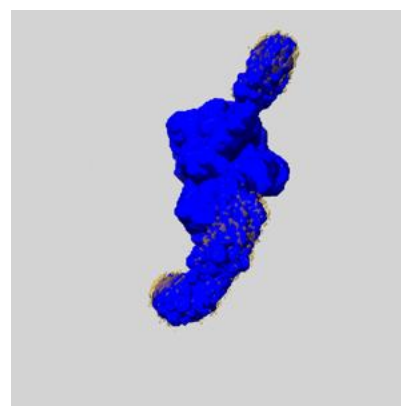
6.6.1 emd_73176_msk_1.map [i](#)



X



Y

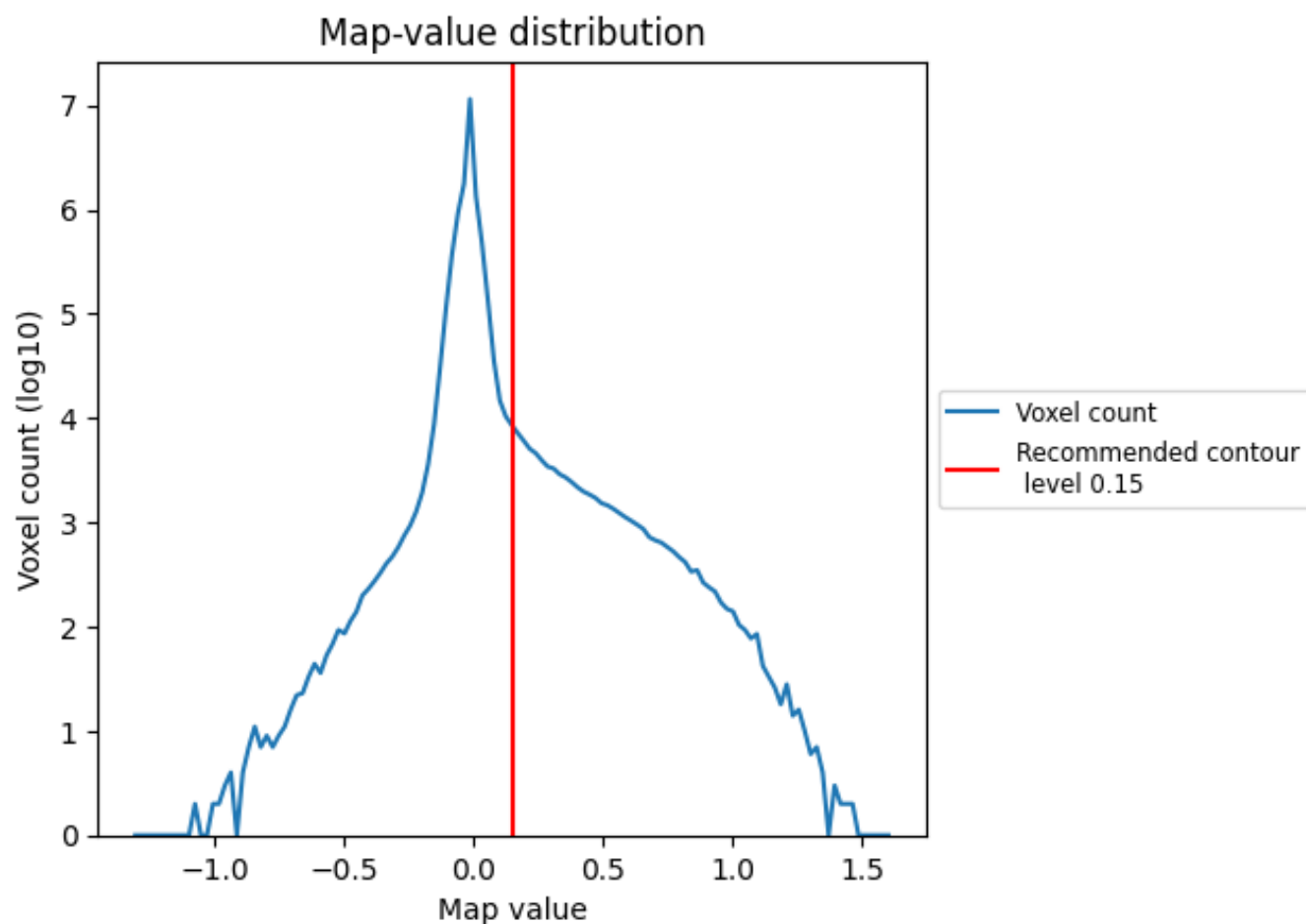


Z

7 Map analysis [i](#)

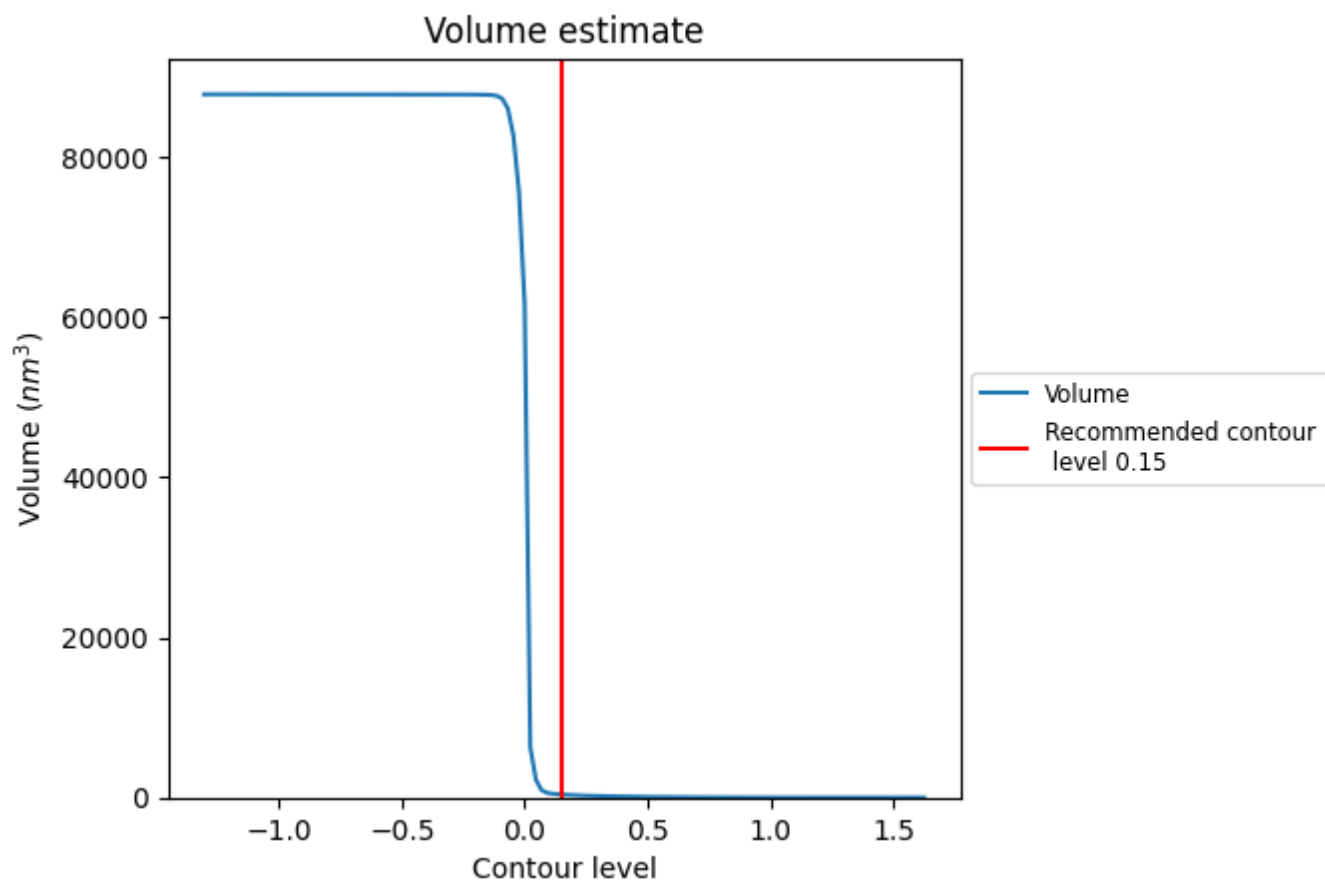
This section contains the results of statistical analysis of the map.

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.

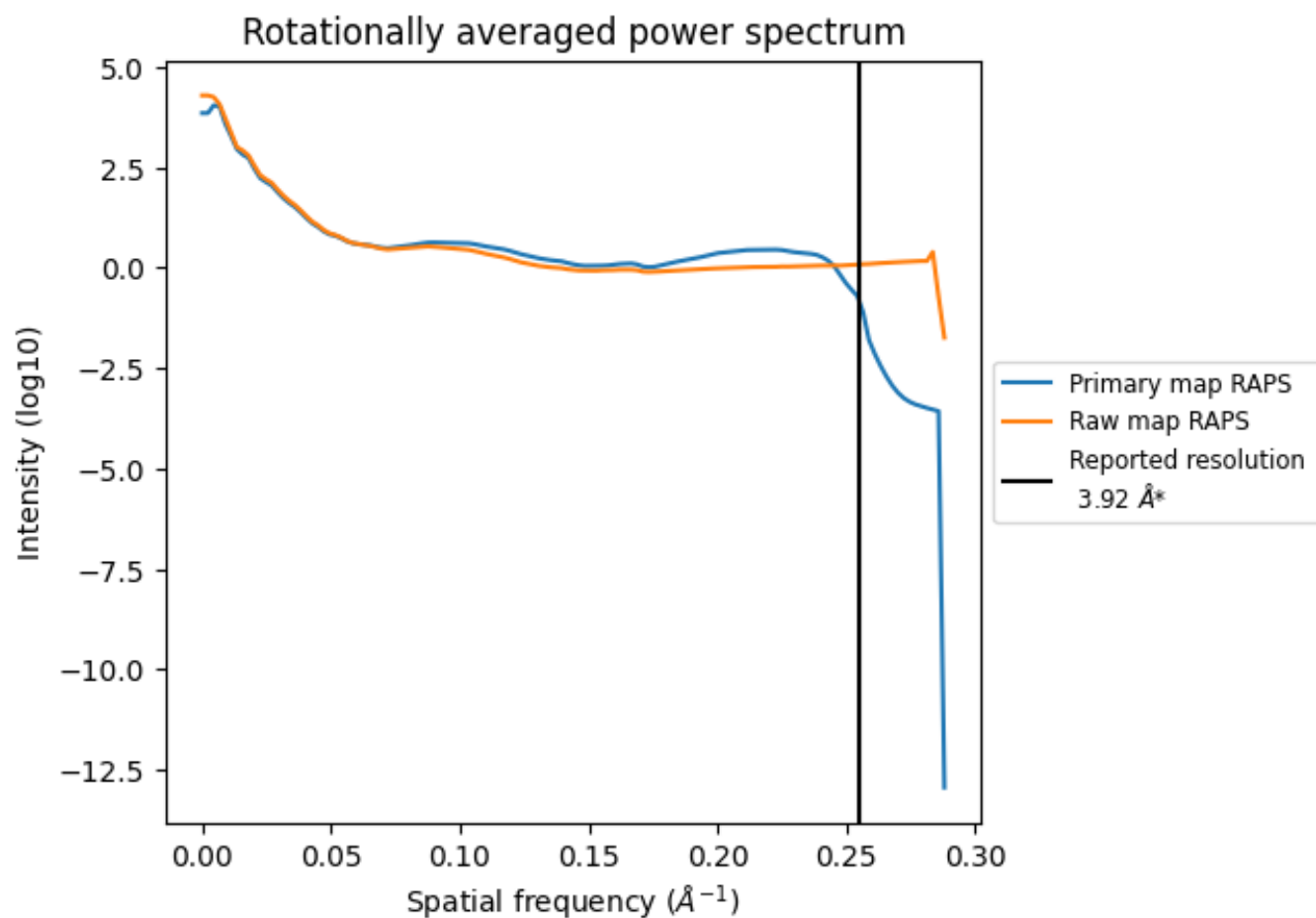
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 383 nm³; this corresponds to an approximate mass of 346 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 ⓘ

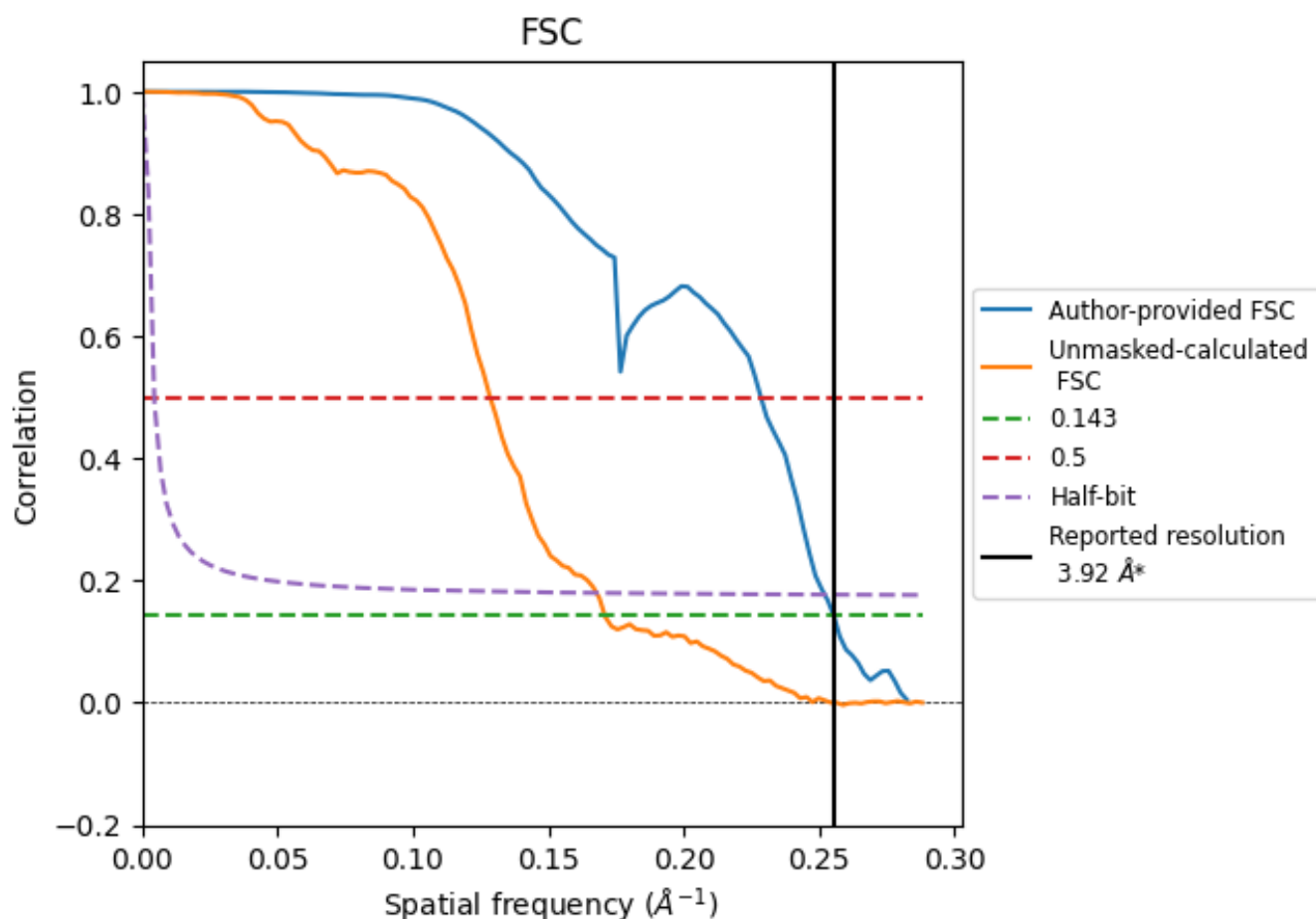


*Reported resolution corresponds to spatial frequency of 0.255 Å⁻¹

8 Fourier-Shell correlation [i](#)

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

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.255 \AA^{-1}

8.2 Resolution estimates [i](#)

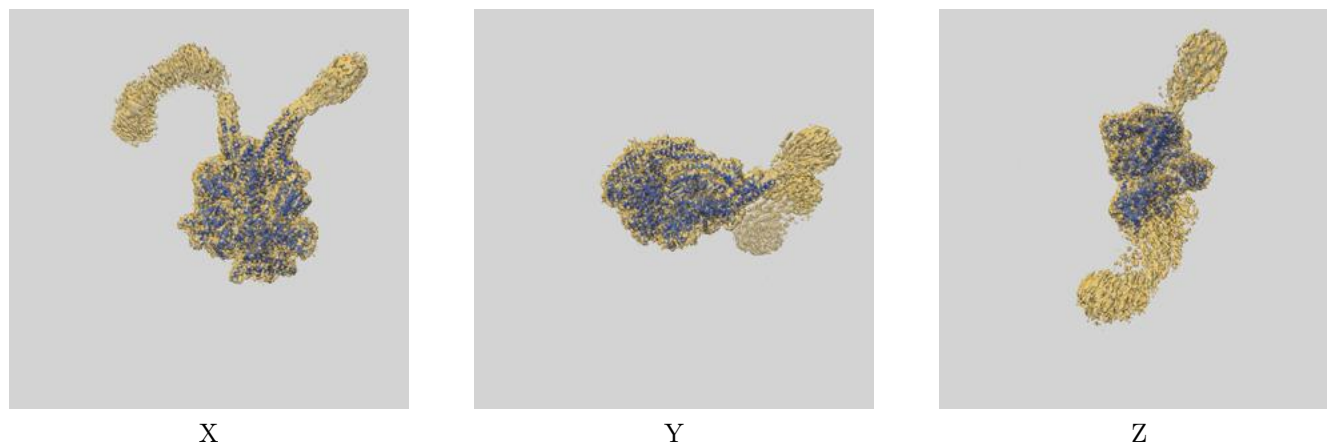
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.92	-	-
Author-provided FSC curve	3.92	4.38	3.97
Unmasked-calculated*	5.85	7.79	5.96

*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 5.85 differs from the reported value 3.92 by more than 10 %

9 Map-model fit [i](#)

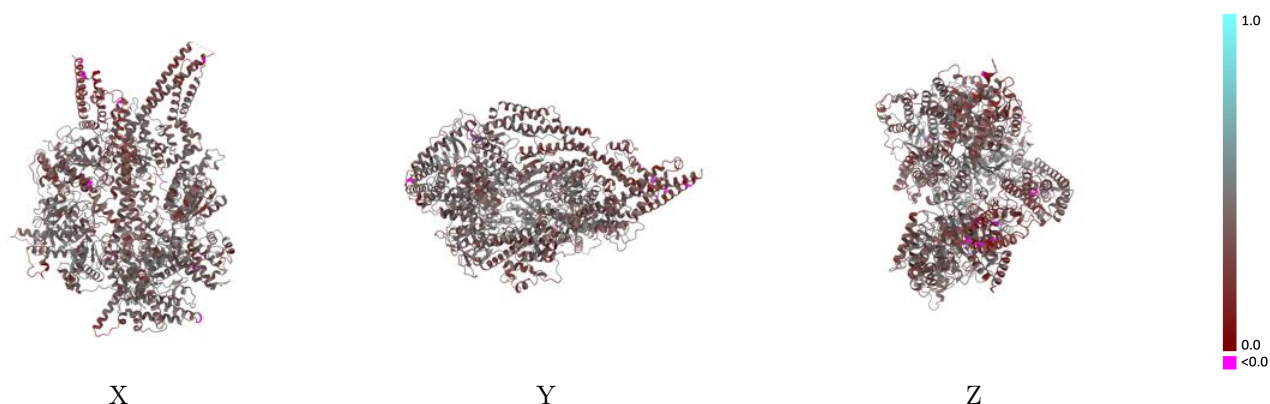
This section contains information regarding the fit between EMDB map EMD-73176 and PDB model 9YNF. Per-residue inclusion information can be found in section [3](#) on page [6](#).

9.1 Map-model overlay [i](#)



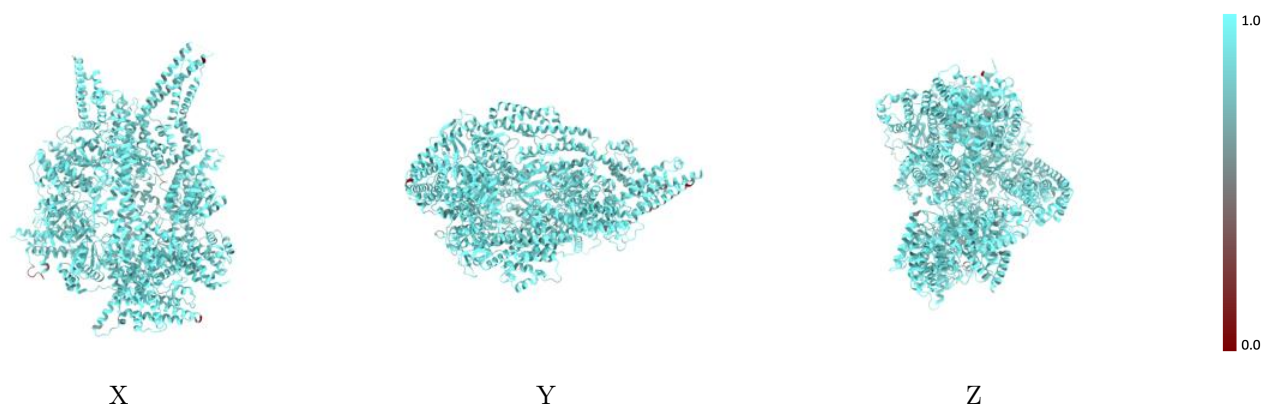
The images above show the 3D surface view of the map at the recommended contour level 0.15 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



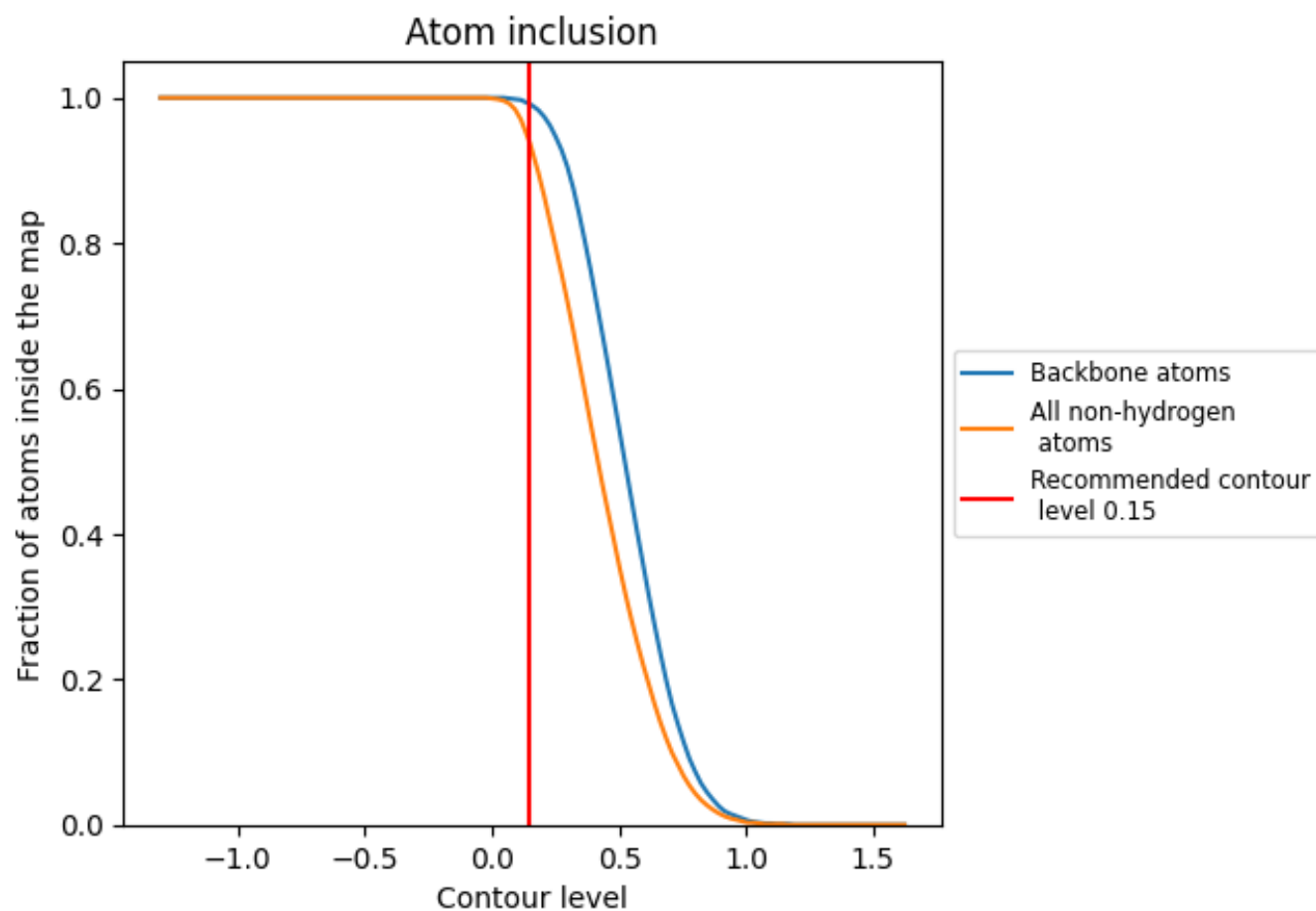
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.15).

9.4 Atom inclusion [i](#)



At the recommended contour level, 99% of all backbone atoms, 94% 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 (0.15) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	<div><div></div></div> 0.9370	<div><div></div></div> 0.3720
A	<div><div></div></div> 0.9370	<div><div></div></div> 0.3720

