



wwPDB EM Validation Summary Report ⓘ

Jun 18, 2024 – 04:24 PM JST

PDB ID : 8ZJK
EMDB ID : EMD-60148
Title : Structure of DOCK5/ELMO1/Rac1 core (RhoG/DOCK5/ELMO1/Rac1 dataset, class 3)
Authors : Kukimoto-Niino, M.; Katsura, K.; Ishizuka-Katsura, Y.; Mishima-Tsumagari, C.; Yonemochi, M.; Inoue, M.; Nakagawa, R.; Kaushik, R.; Zhang, K.Y.J.; Shirouzu, M.
Deposited on : 2024-05-15
Resolution : 4.23 Å (reported)
Based on initial model : 7DPA

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:

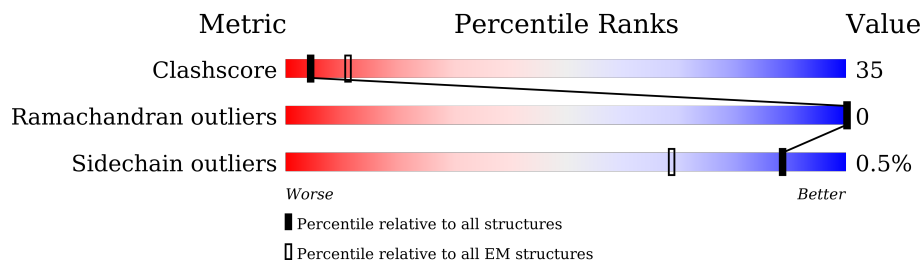
EMDB validation analysis : 0.0.1.dev92
MolProbity : 4.02b-467
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.37.1

1 Overall quality at a glance i

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

The reported resolution of this entry is 4.23 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 ≥ 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	733	 11% 16% 73%
1	D	733	 11% 16% 73%
2	B	1648	 7% 41% 58%
2	E	1648	 6% 40% 59%
3	C	184	 34% 62% ..
3	F	184	 32% 64% ..

2 Entry composition i

There are 3 unique types of molecules in this entry. The entry contains 32858 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 Engulfment and cell motility protein 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	198	Total	C	N	O	S	0	0
			1608	1018	277	303	10		
1	D	198	Total	C	N	O	S	0	0
			1608	1018	277	303	10		

There are 12 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-5	GLY	-	expression tag	UNP Q92556
A	-4	GLY	-	expression tag	UNP Q92556
A	-3	SER	-	expression tag	UNP Q92556
A	-2	GLY	-	expression tag	UNP Q92556
A	-1	GLY	-	expression tag	UNP Q92556
A	0	SER	-	expression tag	UNP Q92556
D	-5	GLY	-	expression tag	UNP Q92556
D	-4	GLY	-	expression tag	UNP Q92556
D	-3	SER	-	expression tag	UNP Q92556
D	-2	GLY	-	expression tag	UNP Q92556
D	-1	GLY	-	expression tag	UNP Q92556
D	0	SER	-	expression tag	UNP Q92556

- Molecule 2 is a protein called Deducator of cytokinesis protein 5.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	B	1642	Total	C	N	O	S	0	0
			13436	8618	2264	2484	70		
2	E	1642	Total	C	N	O	S	0	0
			13436	8618	2264	2484	70		

There are 14 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	-5	GLY	-	expression tag	UNP Q9H7D0

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Chain	Residue	Modelled	Actual	Comment	Reference
B	-4	GLY	-	expression tag	UNP Q9H7D0
B	-3	SER	-	expression tag	UNP Q9H7D0
B	-2	GLY	-	expression tag	UNP Q9H7D0
B	-1	GLY	-	expression tag	UNP Q9H7D0
B	0	SER	-	expression tag	UNP Q9H7D0
B	1285	ARG	LYS	variant	UNP Q9H7D0
E	-5	GLY	-	expression tag	UNP Q9H7D0
E	-4	GLY	-	expression tag	UNP Q9H7D0
E	-3	SER	-	expression tag	UNP Q9H7D0
E	-2	GLY	-	expression tag	UNP Q9H7D0
E	-1	GLY	-	expression tag	UNP Q9H7D0
E	0	SER	-	expression tag	UNP Q9H7D0
E	1285	ARG	LYS	variant	UNP Q9H7D0

- Molecule 3 is a protein called Ras-related C3 botulinum toxin substrate 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	C	177	1385	890	228	259	8	0	0
3	F	177	1385	890	228	259	8	0	0

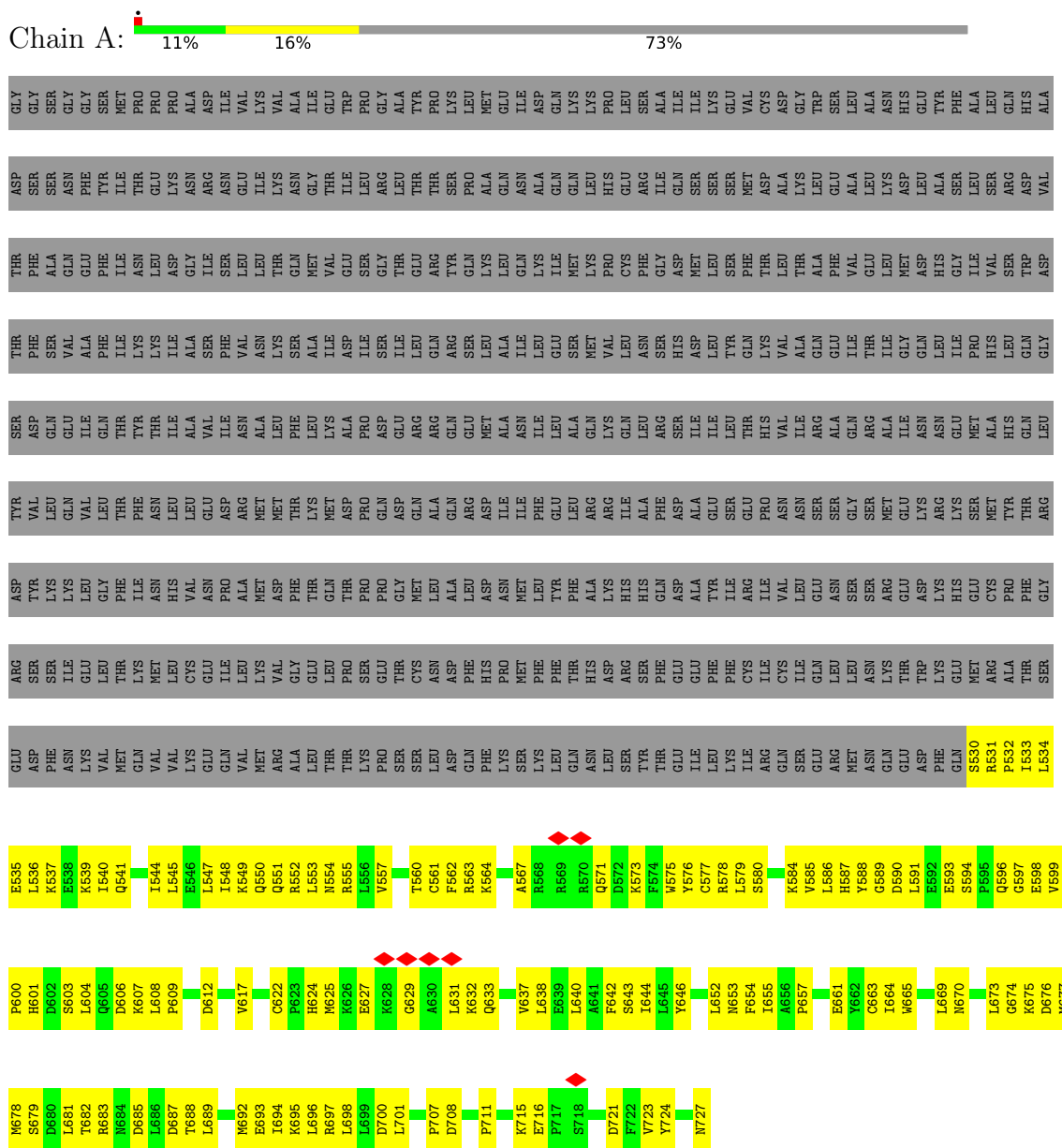
There are 16 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
C	-6	GLY	-	expression tag	UNP P63000
C	-5	SER	-	expression tag	UNP P63000
C	-4	SER	-	expression tag	UNP P63000
C	-3	GLY	-	expression tag	UNP P63000
C	-2	SER	-	expression tag	UNP P63000
C	-1	SER	-	expression tag	UNP P63000
C	0	GLY	-	expression tag	UNP P63000
C	15	ALA	GLY	engineered mutation	UNP P63000
F	-6	GLY	-	expression tag	UNP P63000
F	-5	SER	-	expression tag	UNP P63000
F	-4	SER	-	expression tag	UNP P63000
F	-3	GLY	-	expression tag	UNP P63000
F	-2	SER	-	expression tag	UNP P63000
F	-1	SER	-	expression tag	UNP P63000
F	0	GLY	-	expression tag	UNP P63000
F	15	ALA	GLY	engineered mutation	UNP P63000

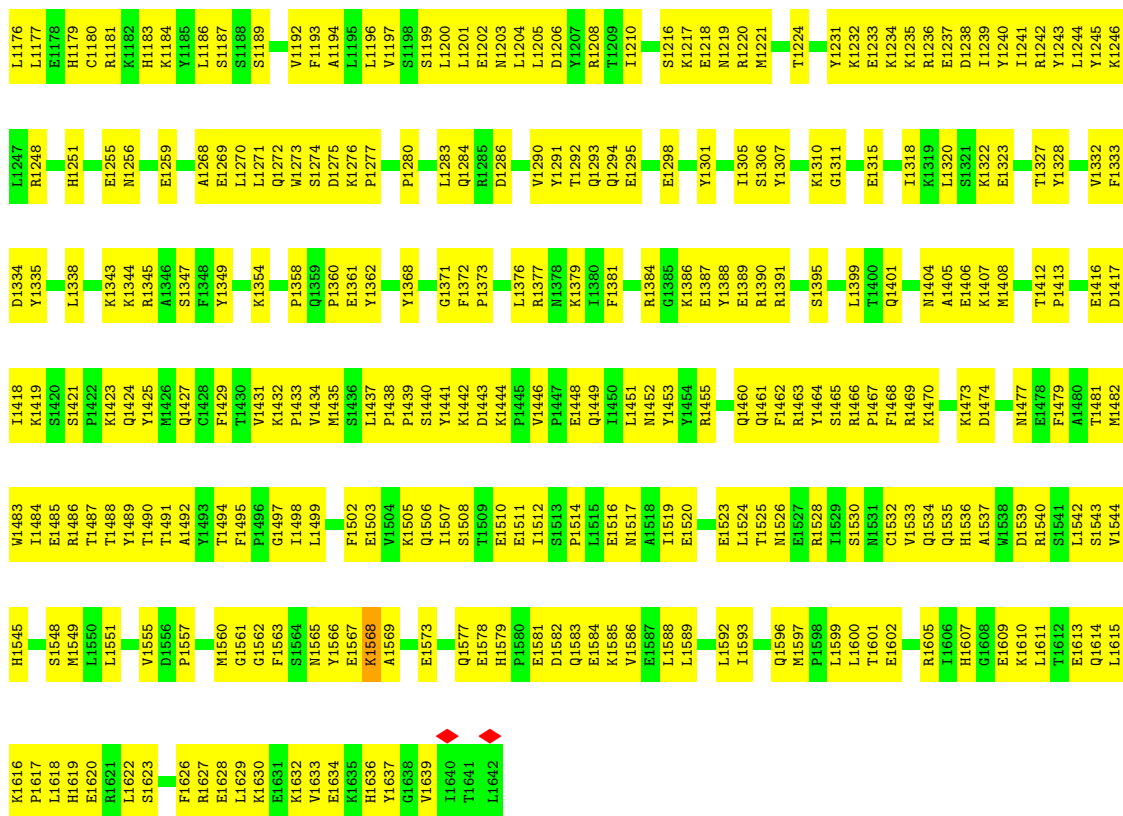
3 Residue-property plots

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.

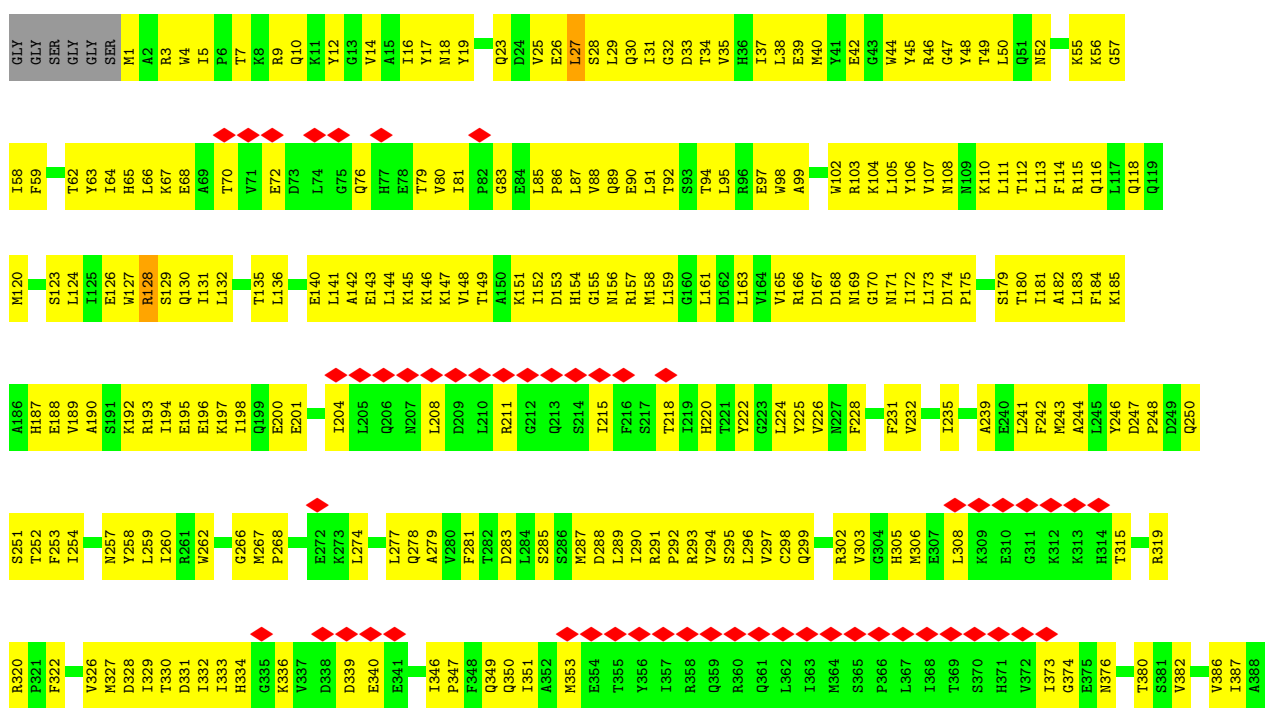
- Molecule 1: Engulfment and cell motility protein 1

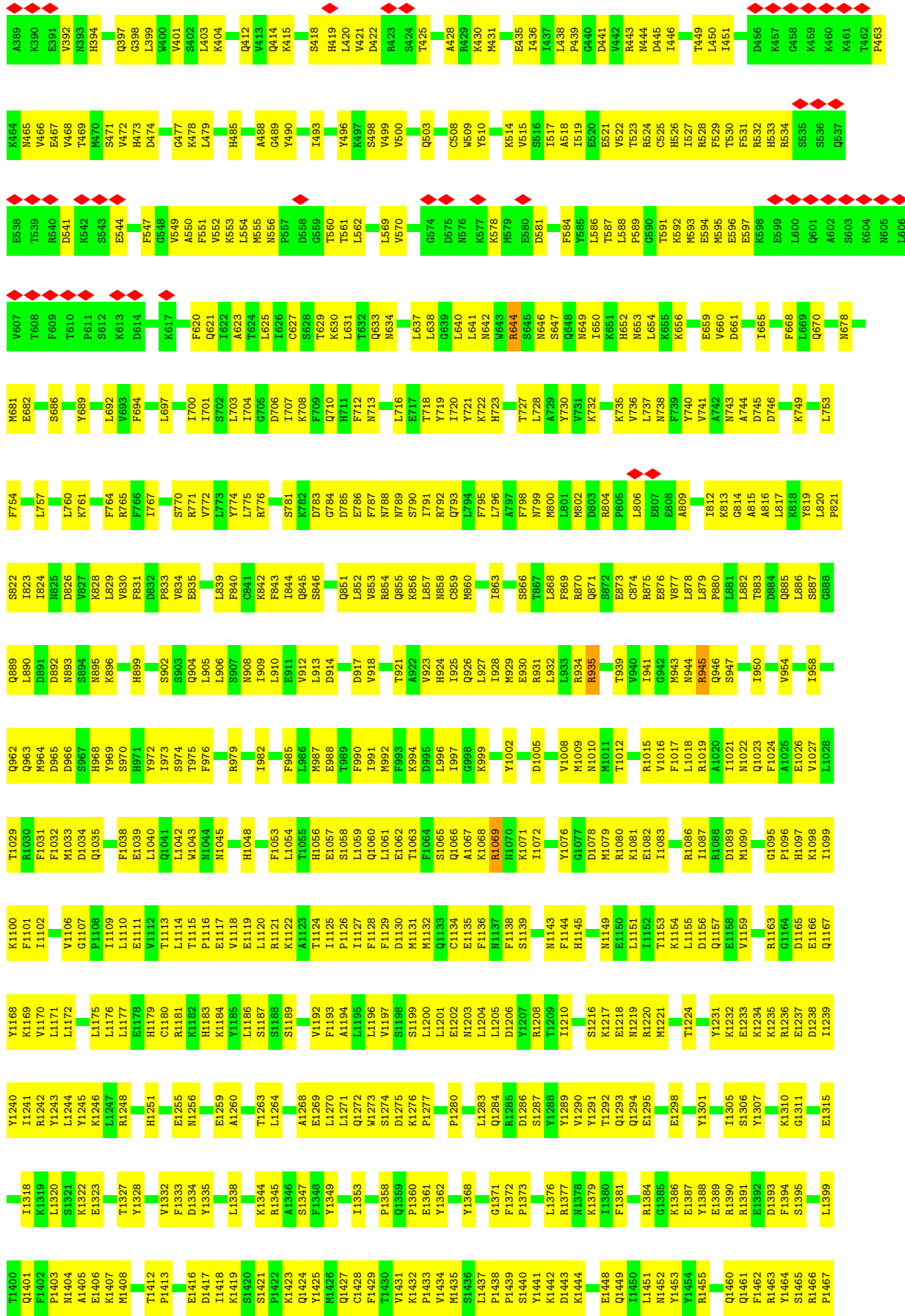


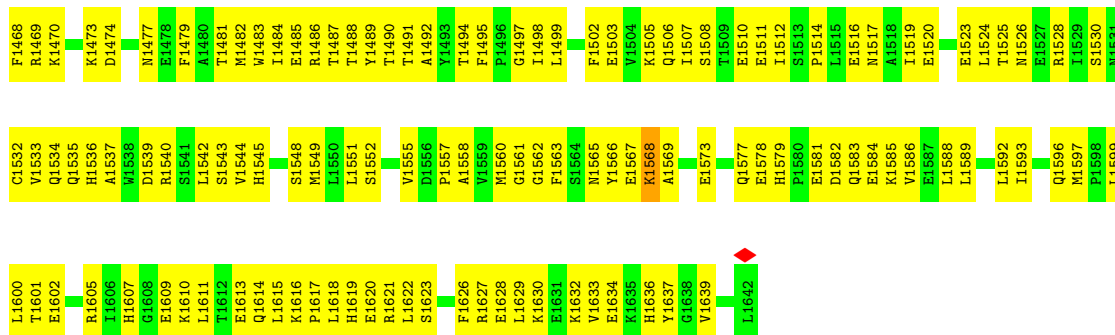
F1108	F1109	E1110	E1111	L1114	T1115	E1117	E1118	E1119	L1120	L1121	K1122	A1123	T1124	L1125	P1126	I1127	F1128	F1129	D1130	M1131	M1132	G1133	C1134	E1135	F1136	M1137	F1138	S1139	M1143	F1144	H1145	M1149	E1150	L1151	T1152	K1153	L1154	D1155	D1156	Q1157	E1158	V1159	R1163	G1164	E1166	Q1167	K1168	K1169	V1170	L1171	L1172	L1175								
D965	D966	S967	H968	Y969	S970	H971	Y972	S973	S974	T975	F976	R979	I982	F985	L986	M987	E988	F989	F990	I991	M992	F993	K994	D995	L996	I997	Y1002	D1005	V1008	M1009	M1010	M1011	T1012	R1015	V1016	F1017	L1018	R1019	A1020	I1021	N1022	Q1023	F1024	A1025	E1026	V1027	F1031	F1032	M1033	D1034	Q1035									
D892	M893	S894	M895	K896	H899	S902	S903	Q904	L905	L906	S907	N908	I909	L910	E911	Y912	L913	D914	D917	F918	Y919	M922	F923	H924	I925	Q926	L927	R928	E930	R931	L932	L933	R934	R935	T939	V940	I941	G942	N943	N944	R945	Q946	S947	I950	D9884	Y954	I958	Q962	N964											
D826	H827	K828	L829	V830	F831	D832	P833	H834	E835	L839	F840	C841	K842	F843	S844	O845	S846	Q851	L852	E853	M854	Q855	K856	L857	N858	C859	M860	L863	S866	T867	L868	F869	R870	K871	S872	C873	C874	R875	E876	V877	L878	P880	L881	L882	T883	D884	Q885	L886	S887	G888	Q889	L890	D891							
F1038	E1039	L1040	Q1041	L1042	H1043	N1044	T1045	H1048	F1053	L1054	T1055	H1056	E1057	S1058	L1059	Q1060	E1061	E1062	T1063	F1064	S1065	Q1066	A1067	K1068	R1069	K1071	I1072	K1075	Y1076	G1077	D1078	M1079	R1080	K1081	E1082	I1083	R1086	I1087	R1088	D1089	M1090	G1095	F1096	H1097	K1098	I1099	K1100	F1101	I1102	V1106	G1107									
A186	H187	E188	V189	A190	S191	K192	R193	I194	E195	E196	K197	L198	Q199	E200	E201	L204	Q205	Q206	N207	L208	D209	L210	R211	Q212	Q213	S214	I215	F216	S217	T218	I219	H220	L224	Y225	V226	N227	F228	F231	V232	I235	A239	E240	L241	F242	M243	A244	Y246	D247	P248	Q249	Q250	S251	T252							
F253	L254	S255	E256	N257	Y258	L259	R261	W262	G266	M267	P268	E272	K273	L274	L277	Q278	A279	V280	F281	T282	Q283	L284	R285	S286	M287	D288	L289	I290	R291	P292	R293	V294	S295	L296	V297	C298	Q299	R302	G304	H305	M306	E307	L308	K309	E310	G311	K312	L313	H314	T315	R319	R320								
P321	F322	V326	M327	D328	I329	T330	D331	I332	I333	H334	G335	K336	V337	D338	D339	E340	E341	T346	P347	F348	Q349	Q350	I351	A352	M353	E354	T355	Y356	I357	R358	Q359	R360	Q361	L362	I363	M364	S365	P366	L367	I368	S370	H371	V372	I373	G374	E375	N376	T380	S381	V382	K385	V386	I387	A388						
A389	K390	E391	V392	M393	H394	K395	S396	Q397	G398	L399	V400	V401	S402	L403	K404	Q412	V413	Q414	K415	S418	H419	L420	V421	D422	T425	A428	R429	K430	M431	E435	I436	L437	L438	P439	G440	D441	V442	R443	M444	D445	I446	Y447	V448	T449	L480	F529	T530	F531	R532	H533	R534	S535	S536	D456	K457	G458	K459	K460	K461	T462
P463	K464	V465	V466	E467	V468	T469	M470	S471	V472	H473	D474	G477	K478	L479	H485	A488	G489	Y490	I493	Y496	K497	S498	V499	V500	Q503	C508	W509	Y510	K514	V515	I517	A518	I519	E520	E521	V522	T523	R524	C525	H526	I527	R528	F529	T530	F531	R532	H533	R534	S535	S536	D456	K457	G458	K459	K460	K461	T462			
Q537	E538	T539	R540	D541	K542	S543	E544	F547	G548	V549	A550	F551	V552	K553	L554	M555	N556	P557	D558	G559	T560	V561	L562	L569	V570	V571	Y572	K573	G574	D575	K578	D581	F584	V585	L586	T587	L588	P589	G590	T591	K592	M593	E594	M595	E596	E597	K598	E599	L600	Q601	A602	S603	K604	M605						
L606	V607	T608	F609	T610	P611	S612	D614	K617	R620	G621	A623	L625	L626	C627	S628	T629	K630	L631	T632	Q633	M634	L637	L638	G639	L640	L641	N642	M643	R644	S645	M646	S647	Q648	M649	L650	K651	H652	N653	L654	M655	K656	E659	V660	D661	I665	F668	L669	Q670	M678											
M681	E682	L692	M693	F694	L697	I700	R701	L703	I704	G705	D706	I707	K708	F709	Q710	H711	N713	L716	E717	L718	Y719	I720	Q721	Y722	K723	H723	T727	L728	A729	Y730	Y731	K732	K735	V736	L737	N738	F739	Y740	V741	N743	A744	D745	D746	K749	L753	F754	L757													
L760	K761	F764	R765	F766	I767	S770	R771	V772	L773	V774	L775	R776	S781	K782	D783	G784	D785	E786	F787	M788	N789	S790	L791	T792	F793	F795	L796	A797	F798	M800	M801	M802	D803	R804	P805	L806	E807	E808	A809	T812	K813	C814	A815	L816	L817	R818	L820	P821	S822	L824										
D826	H827	K828	L829	V830	F831	D832	P833	H834	E835	L839	F840	C841	K842	F843	S844	O845	S846	Q851	L852	E853	M854	Q855	K856	L857	N858	C859	M860	L863	S866	T867	L868	F869	R870	K871	S872	C873	C874	R875	E876	V877	L878	P880	L881	L882	T883	D884	Q885	L886	S887	G888	Q889	L890	D891							
D892	M893	S894	M895	K896	H899	S902	S903	Q904	L905	L906	S907	N908	I909	L910	E911	Y912	L913	D914	D917	F918	Y919	M922	F923	H924	I925	Q926	L927	R928	E930	R931	L932	L933	R934	R935	T939	V940	I941	G942	N943	N944	R945	Q946	S947	I950	D9884	Y954	I958	Q962	N964											
F1038	E1039	L1040	Q1041	L1042	H1043	N1044	T1045	H1048	F1053	L1054	T1055	H1056	E1057	S1058	L1059	Q1060	E1061	E1062	T1063	F1064	S1065	Q1066	A1067	K1068	R1069	K1071	I1072	K1075	Y1076	G1077	D1078	M1079	R1080	K1081	E1082	I1083	R1086	I1087	R1088	D1089	M1090	G1095	F1096	H1097	K1098	I1099	K1100	F1101	I1102	V1106	G1107									



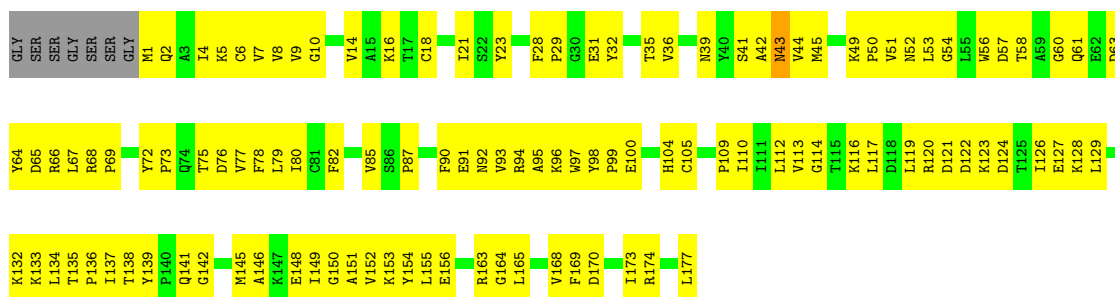
● Molecule 2: Dedicator of cytokinesis protein 5



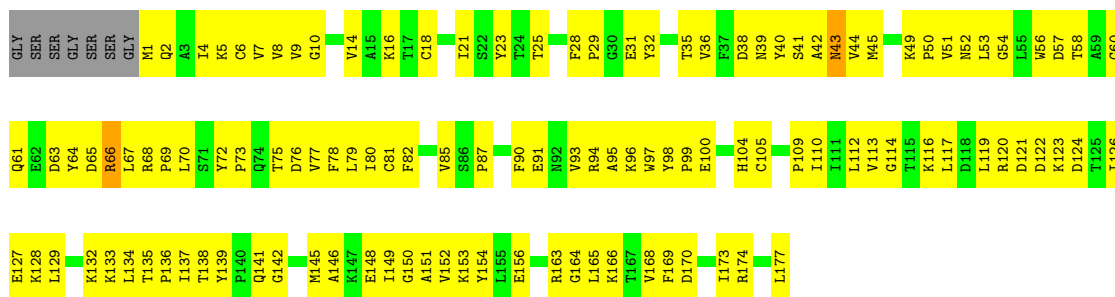
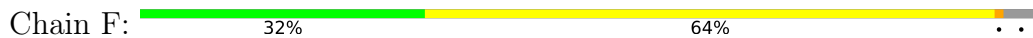




• Molecule 3: Ras-related C3 botulinum toxin substrate 1



• Molecule 3: Ras-related C3 botulinum toxin substrate 1



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C2	Depositor
Number of particles used	120707	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	50	Depositor
Minimum defocus (nm)	800	Depositor
Maximum defocus (nm)	2000	Depositor
Magnification	64000	Depositor
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	0.060	Depositor
Minimum map value	-0.022	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.002	Depositor
Recommended contour level	0.01	Depositor
Map size (\AA)	452.2, 452.2, 452.2	wwPDB
Map dimensions	340, 340, 340	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (\AA)	1.33, 1.33, 1.33	Depositor

5 Model quality [i](#)

5.1 Standard geometry [i](#)

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	0/1641	0.52	0/2218
1	D	0.30	0/1641	0.52	0/2218
2	B	0.37	1/13722 (0.0%)	0.54	5/18514 (0.0%)
2	E	0.37	1/13722 (0.0%)	0.54	5/18514 (0.0%)
3	C	0.34	0/1415	0.49	0/1924
3	F	0.34	0/1415	0.49	0/1924
All	All	0.36	2/33556 (0.0%)	0.53	10/45312 (0.0%)

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	E	463	PRO	CG-CD	-14.33	1.03	1.50
2	B	463	PRO	CG-CD	-14.29	1.03	1.50

The worst 5 of 10 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	463	PRO	N-CD-CG	-17.32	77.21	103.20
2	E	463	PRO	N-CD-CG	-17.30	77.25	103.20
2	B	463	PRO	CA-CB-CG	-11.62	81.93	104.00
2	E	463	PRO	CA-CB-CG	-11.60	81.96	104.00
2	B	463	PRO	CA-N-CD	-7.71	100.70	111.50

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	1608	0	1617	133	0
1	D	1608	0	1617	138	0
2	B	13436	0	13516	927	0
2	E	13436	0	13516	952	0
3	C	1385	0	1407	106	0
3	F	1385	0	1407	120	0
All	All	32858	0	33080	2301	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 35.

The worst 5 of 2301 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:D:697:ARG:HH21	2:E:30:GLN:HB2	1.33	0.91
1:D:670:ASN:ND2	1:D:676:ASP:O	2.06	0.88
2:E:1579:HIS:HB3	2:E:1582:ASP:HB2	1.56	0.88
1:A:670:ASN:ND2	1:A:676:ASP:O	2.06	0.87
1:D:625:MET:HE1	1:D:638:LEU:HA	1.57	0.86

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	196/733 (27%)	179 (91%)	17 (9%)	0	100	100
1	D	196/733 (27%)	179 (91%)	17 (9%)	0	100	100
2	B	1640/1648 (100%)	1512 (92%)	128 (8%)	0	100	100
2	E	1640/1648 (100%)	1512 (92%)	128 (8%)	0	100	100
3	C	175/184 (95%)	164 (94%)	11 (6%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
3	F	175/184 (95%)	165 (94%)	10 (6%)	0	100	100
All	All	4022/5130 (78%)	3711 (92%)	311 (8%)	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	183/664 (28%)	183 (100%)	0	100	100
1	D	183/664 (28%)	183 (100%)	0	100	100
2	B	1495/1497 (100%)	1489 (100%)	6 (0%)	91	94
2	E	1495/1497 (100%)	1489 (100%)	6 (0%)	91	94
3	C	153/157 (98%)	150 (98%)	3 (2%)	55	73
3	F	153/157 (98%)	150 (98%)	3 (2%)	55	73
All	All	3662/4636 (79%)	3644 (100%)	18 (0%)	89	93

5 of 18 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	E	1568	LYS
3	F	123	LYS
3	F	66	ARG
3	C	123	LYS
2	E	1069	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 33 such sidechains are listed below:

Mol	Chain	Res	Type
2	E	1203	ASN
2	E	1401	GLN
3	F	39	ASN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	B	1203	ASN
2	B	1035	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](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

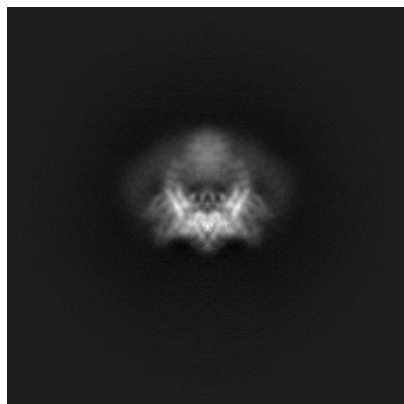
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-60148. These allow visual inspection of the internal detail of the map and identification of artifacts.

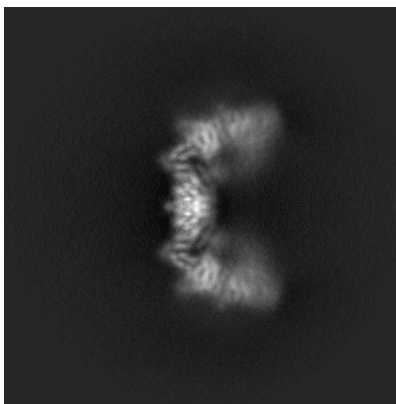
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

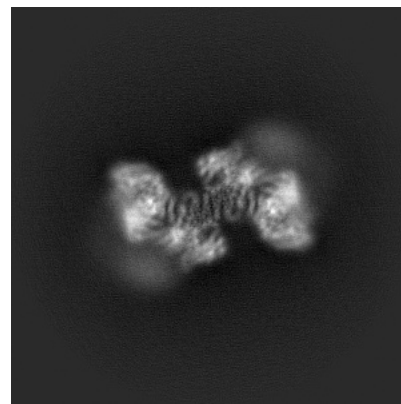
6.1.1 Primary map



X

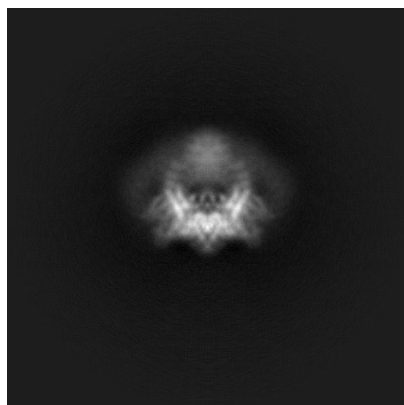


Y

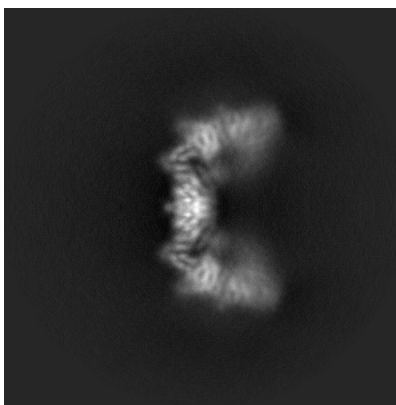


Z

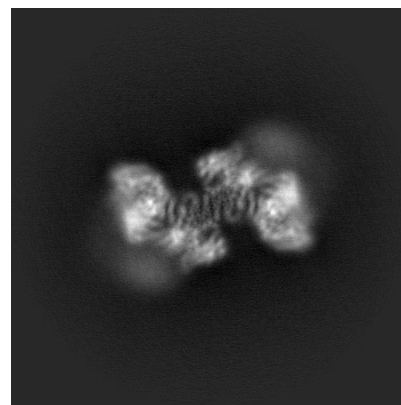
6.1.2 Raw map



X



Y

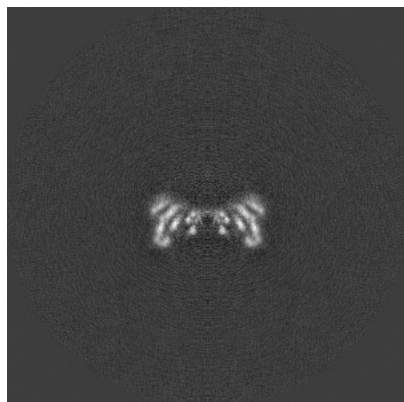


Z

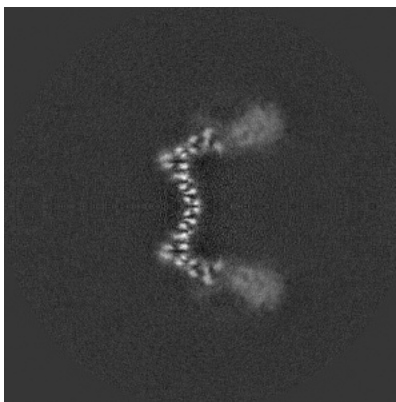
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

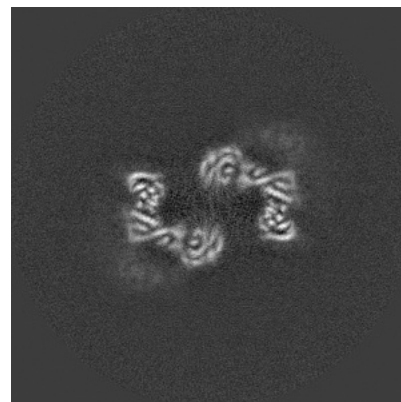
6.2.1 Primary map



X Index: 170

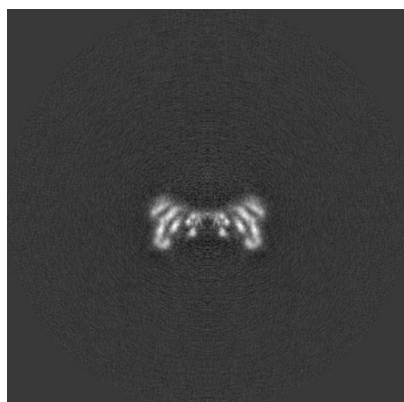


Y Index: 170

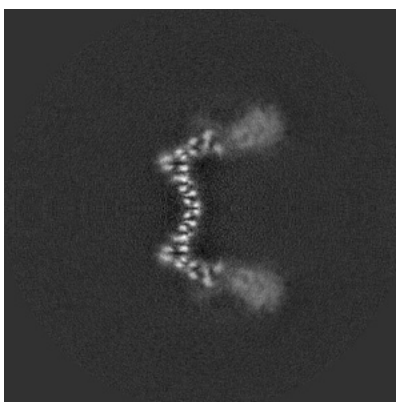


Z Index: 170

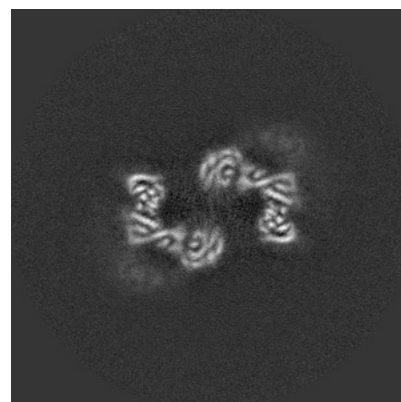
6.2.2 Raw map



X Index: 170



Y Index: 170

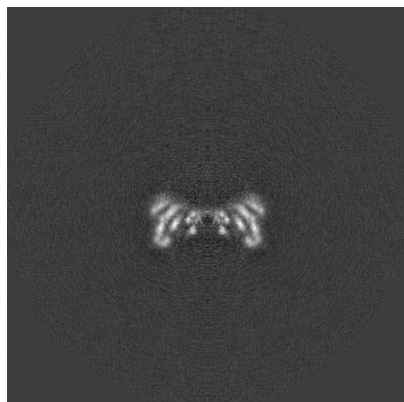


Z Index: 170

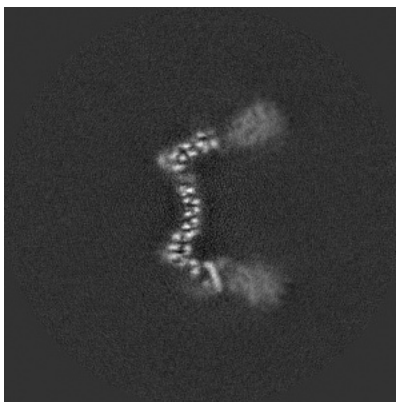
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

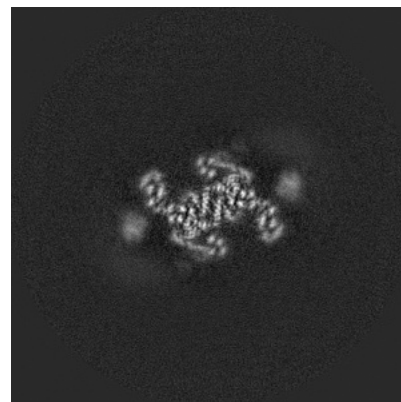
6.3.1 Primary map



X Index: 170

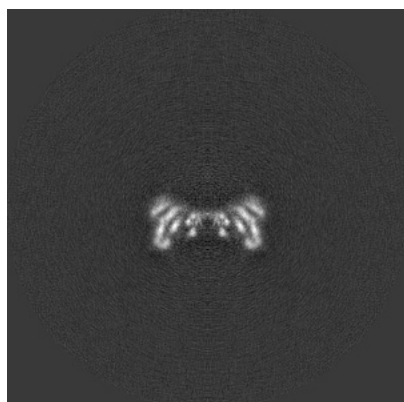


Y Index: 166

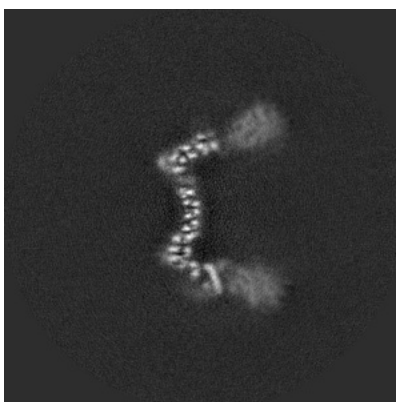


Z Index: 155

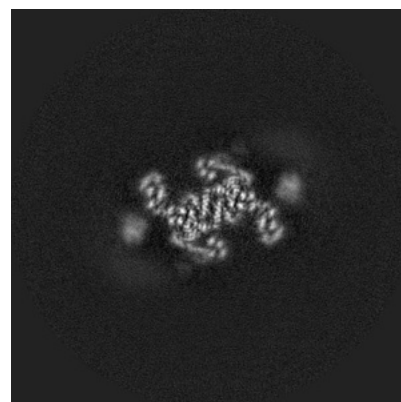
6.3.2 Raw map



X Index: 170



Y Index: 166

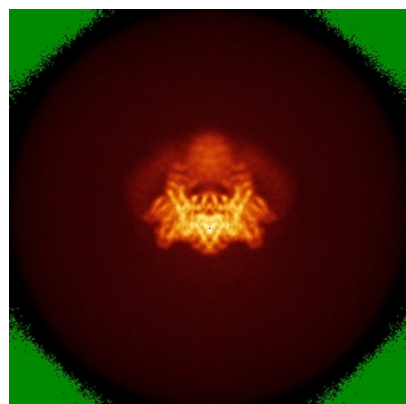


Z Index: 155

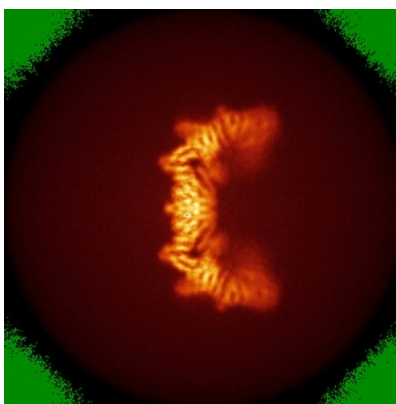
The images above show the largest variance slices of the map in three orthogonal directions.

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

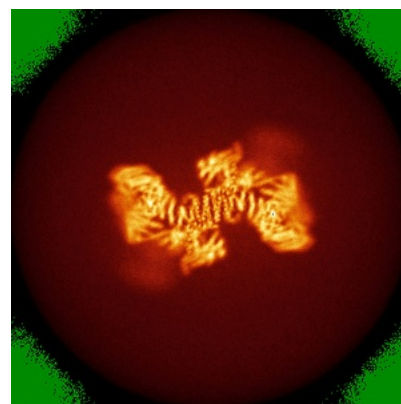
6.4.1 Primary map



X



Y



Z

6.4.2 Raw map



X



Y

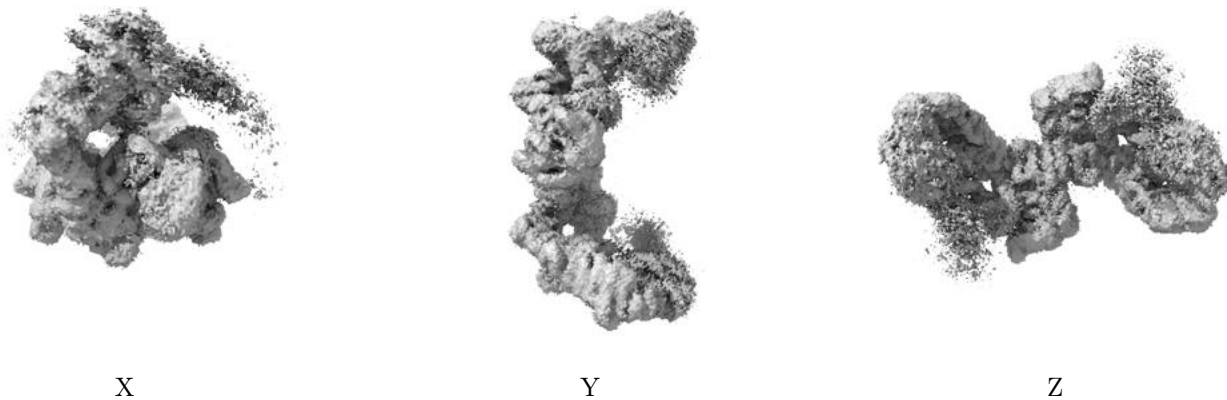


Z

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.

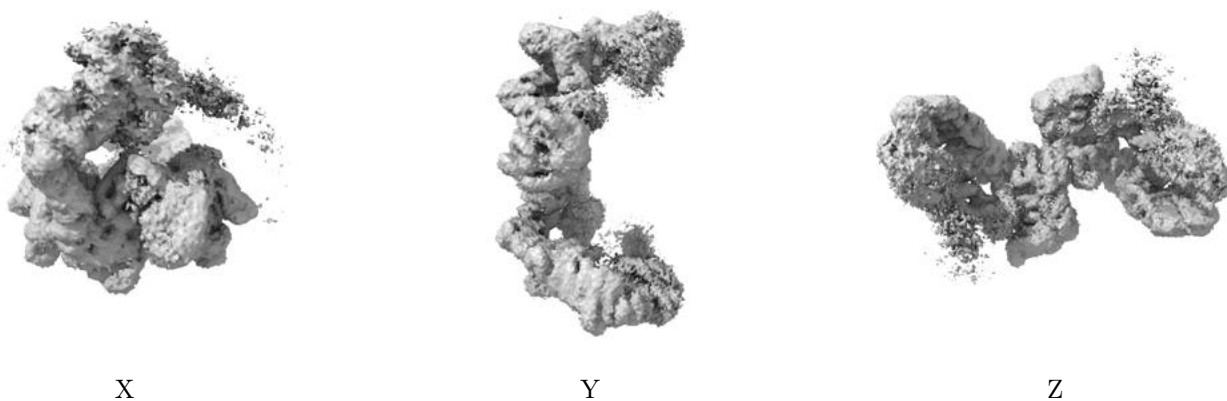
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.01. 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.

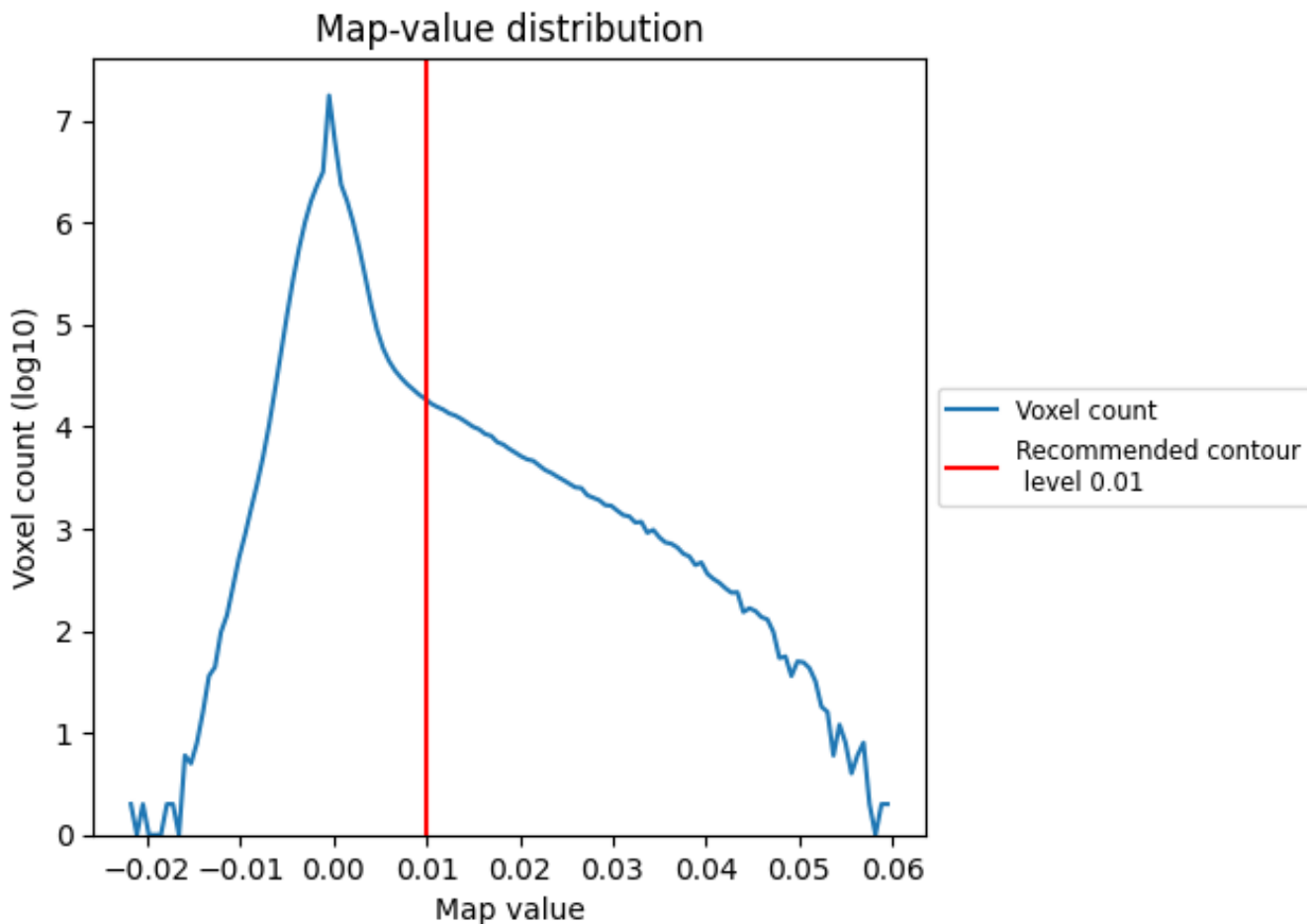
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

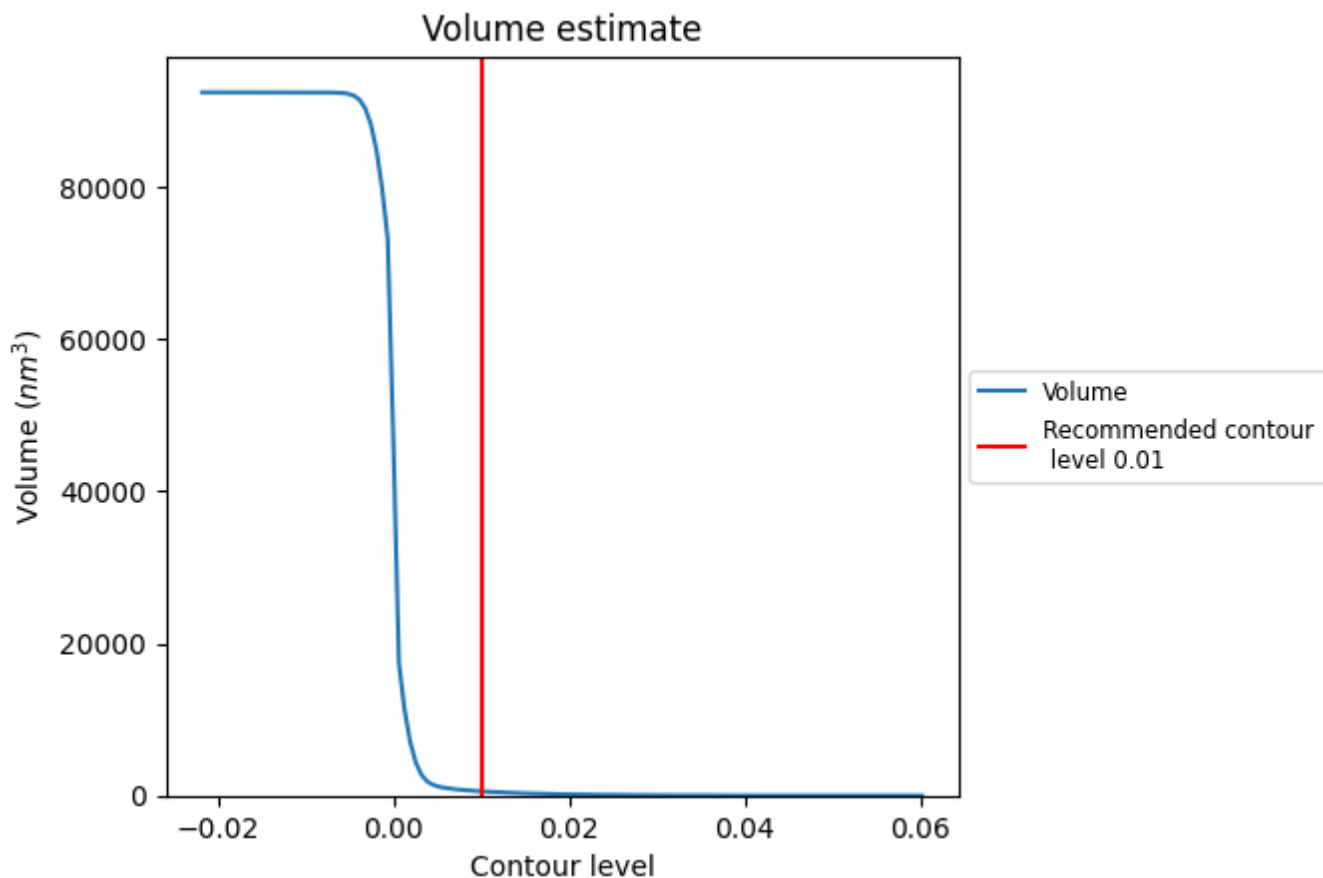
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

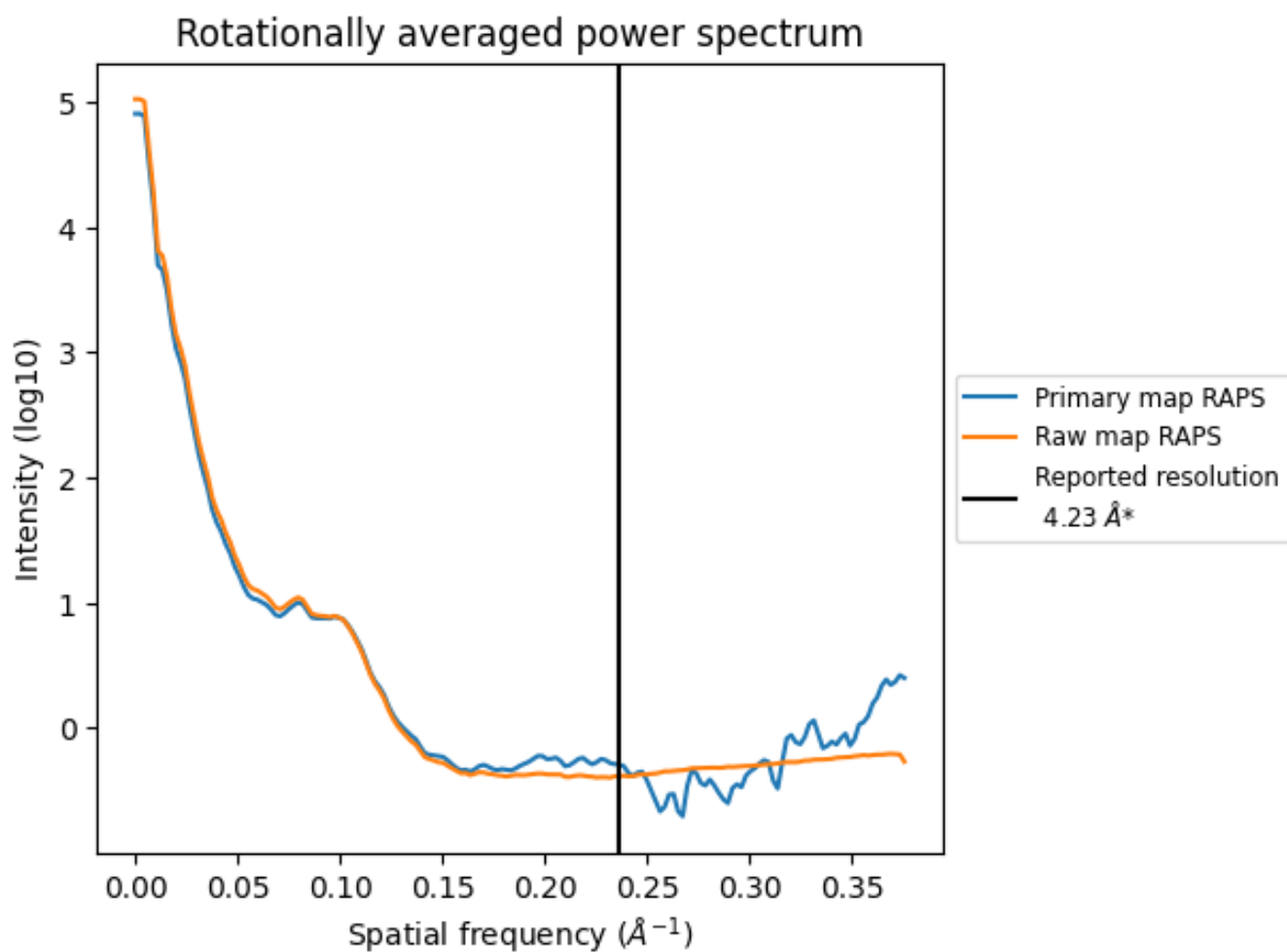
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 558 nm^3 ; this corresponds to an approximate mass of 504 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](#)

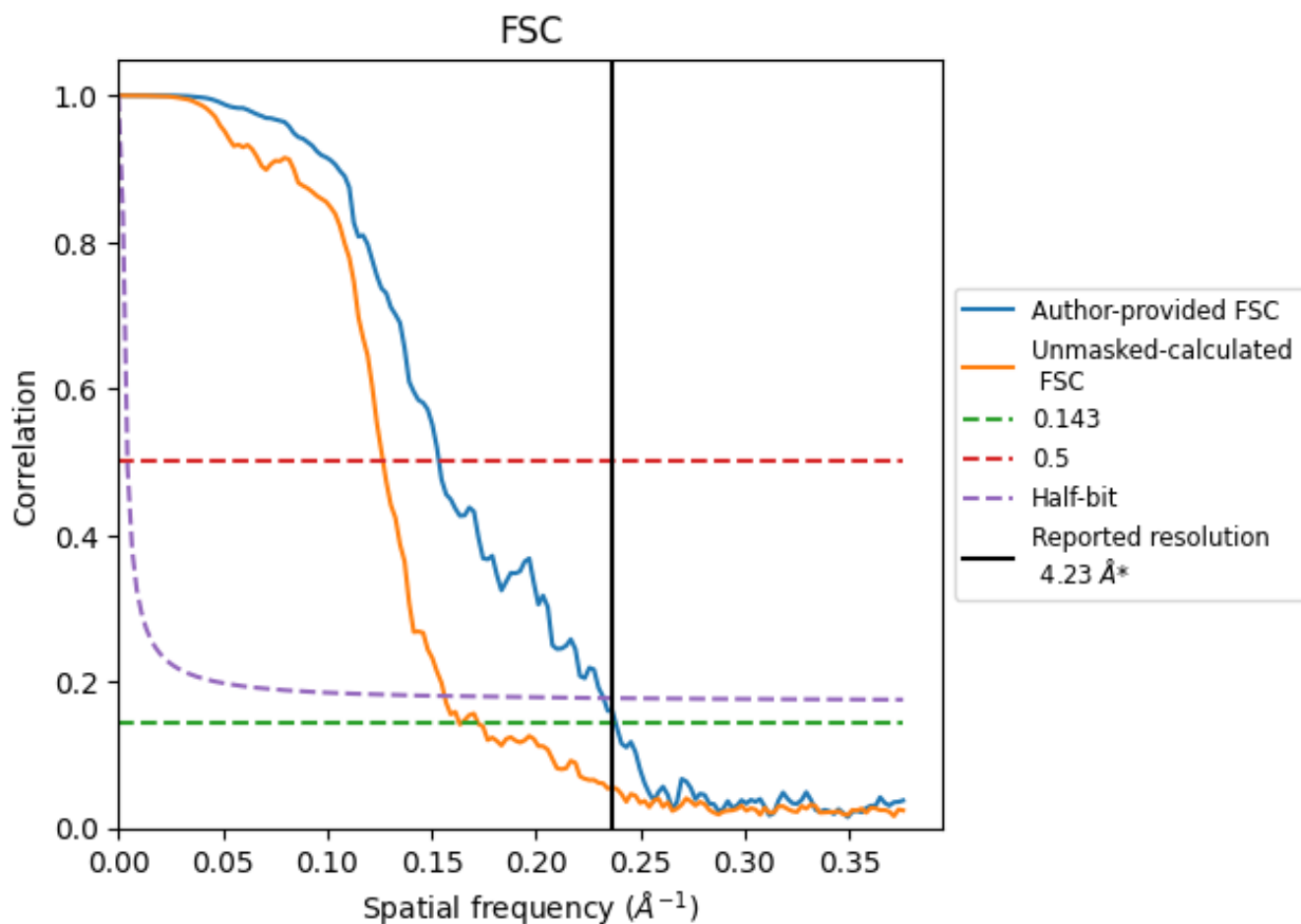


*Reported resolution corresponds to spatial frequency of 0.236 Å⁻¹

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 0.236 Å⁻¹

8.2 Resolution estimates [i](#)

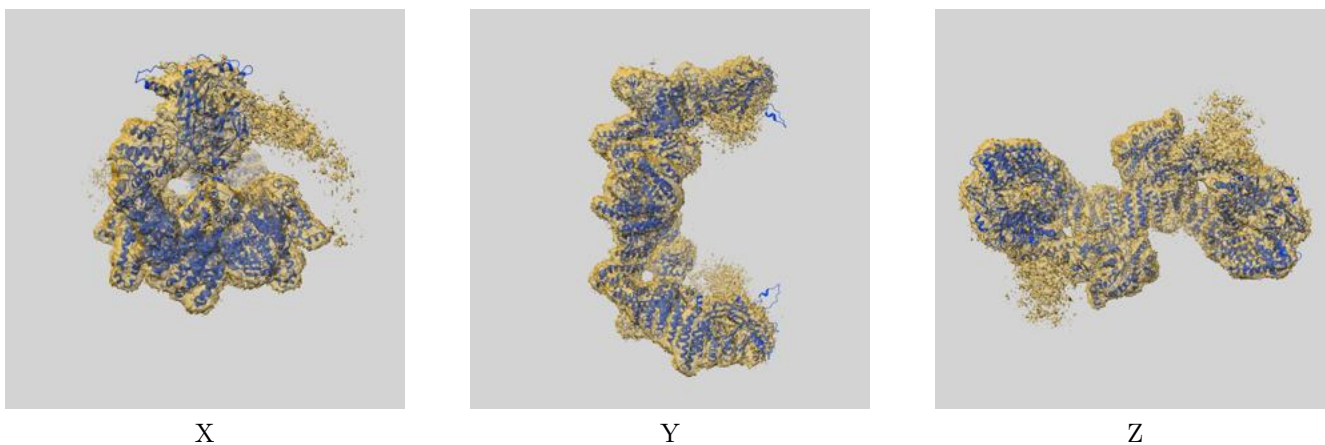
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	4.23	-	-
Author-provided FSC curve	4.20	6.51	4.30
Unmasked-calculated*	6.12	7.89	6.40

*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 6.12 differs from the reported value 4.23 by more than 10 %

9 Map-model fit [i](#)

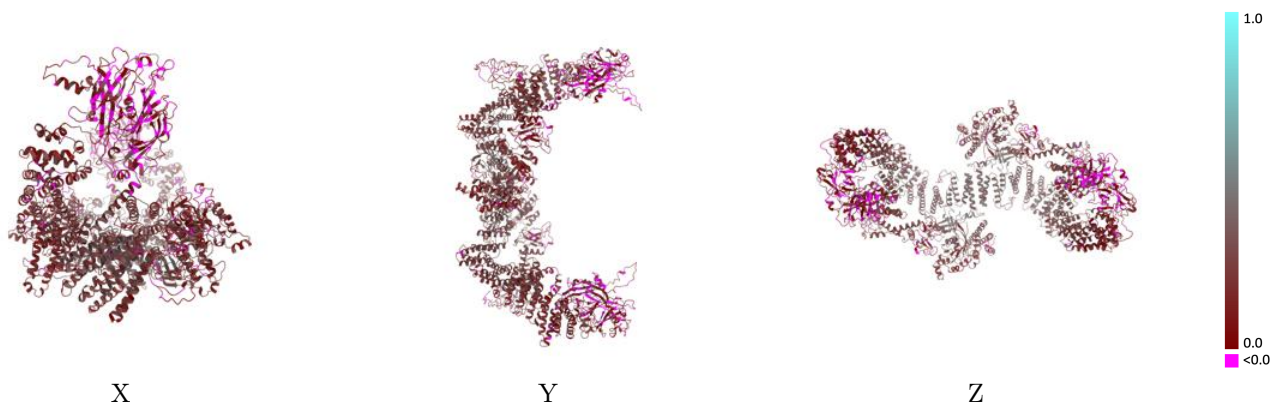
This section contains information regarding the fit between EMDB map EMD-60148 and PDB model 8ZJK. Per-residue inclusion information can be found in section [3](#) on page [5](#).

9.1 Map-model overlay [i](#)



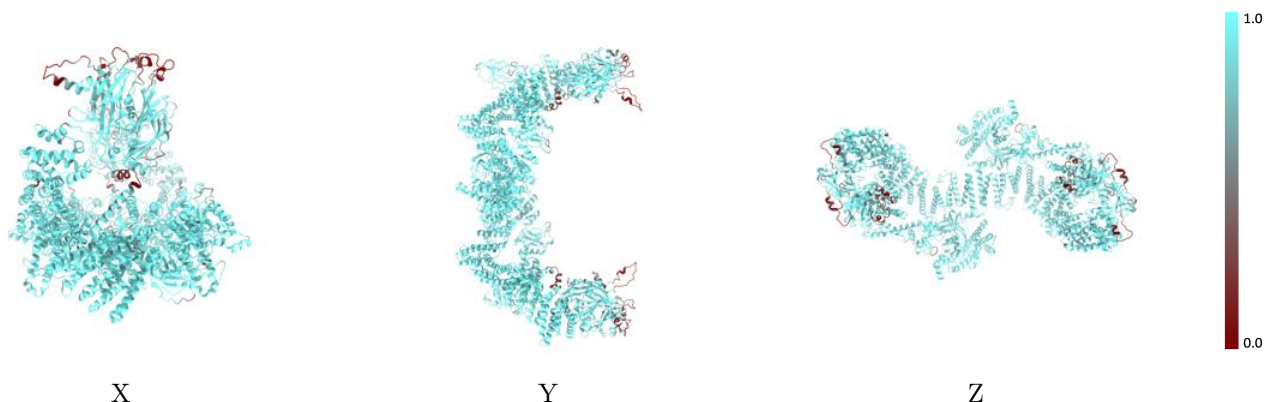
The images above show the 3D surface view of the map at the recommended contour level 0.01 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



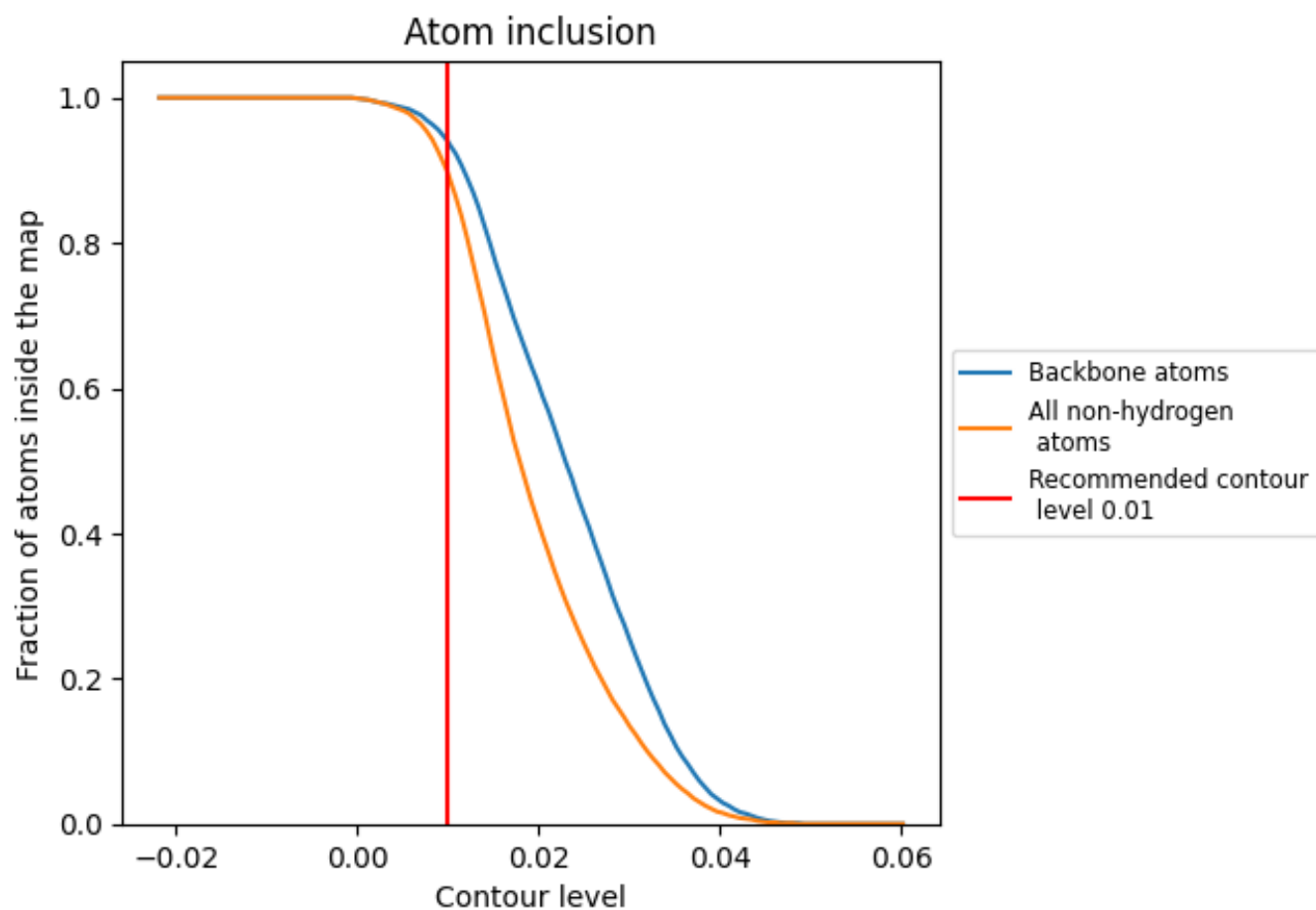
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.01).















9.4 Atom inclusion [i](#)



At the recommended contour level, 94% of all backbone atoms, 90% 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 (0.01) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.8970	 0.2030
A	 0.8970	 0.1680
B	 0.8870	 0.2030
C	 0.9560	 0.2450
D	 0.9070	 0.1610
E	 0.8930	 0.2040
F	 0.9600	 0.2420

