



wwPDB EM Validation Summary Report ⓘ

Oct 29, 2024 – 08:21 PM JST

PDB ID : 8YQZ
EMDB ID : EMD-39511
Title : African swine fever virus RNA Polymerase–DNA complex
Authors : Feng, X.Y.
Deposited on : 2024-03-20
Resolution : 2.78 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:

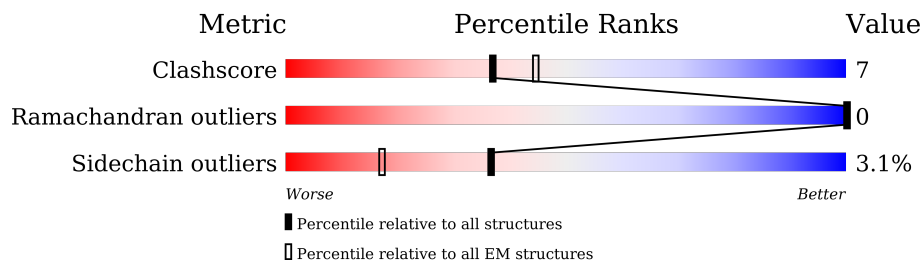
EMDB validation analysis : 0.0.1.dev113
MolProbity : 4.02b-467
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.39

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 2.78 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	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for ≥ 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	1450	
2	B	1242	
3	C	359	
4	D	205	
5	E	147	
6	F	339	
7	G	105	
8	H	80	

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Mol	Chain	Length	Quality of chain
9	X	8	
10	Y	7	

2 Entry composition [i](#)

There are 12 unique types of molecules in this entry. The entry contains 29943 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 DNA-directed RNA polymerase subunit.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	1375	10954	6958	1906	2030	60	0	0

- Molecule 2 is a protein called DNA-directed RNA polymerase subunit beta.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	B	1196	9459	5983	1653	1773	50	0	0

- Molecule 3 is a protein called DNA-directed RNA polymerase RPB3-11 homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	C	357	2897	1880	480	525	12	0	0

- Molecule 4 is a protein called DNA-directed RNA polymerase RPB5 homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	D	205	1668	1088	278	294	8	0	0

- Molecule 5 is a protein called C147L.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	E	106	829	528	143	153	5	0	0

- Molecule 6 is a protein called D339L.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	F	339	2727	1753	451	509	14	0	0

- Molecule 7 is a protein called C122R.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
7	G	59	468	295	80	85	8	0	0

- Molecule 8 is a protein called DNA-directed RNA polymerase RPB10 homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
8	H	80	630	411	102	110	7	0	0

- Molecule 9 is a DNA chain called DNA (5'-D(P*GP*CP*CP*GP*AP*GP*CP*A)-3').

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
9	X	8	165	77	34	46	8	0	0

- Molecule 10 is a DNA chain called DNA (5'-D(P*TP*CP*GP*GP*CP*TP*C)-3').

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
10	Y	7	141	67	23	44	7	0	0

- Molecule 11 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

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

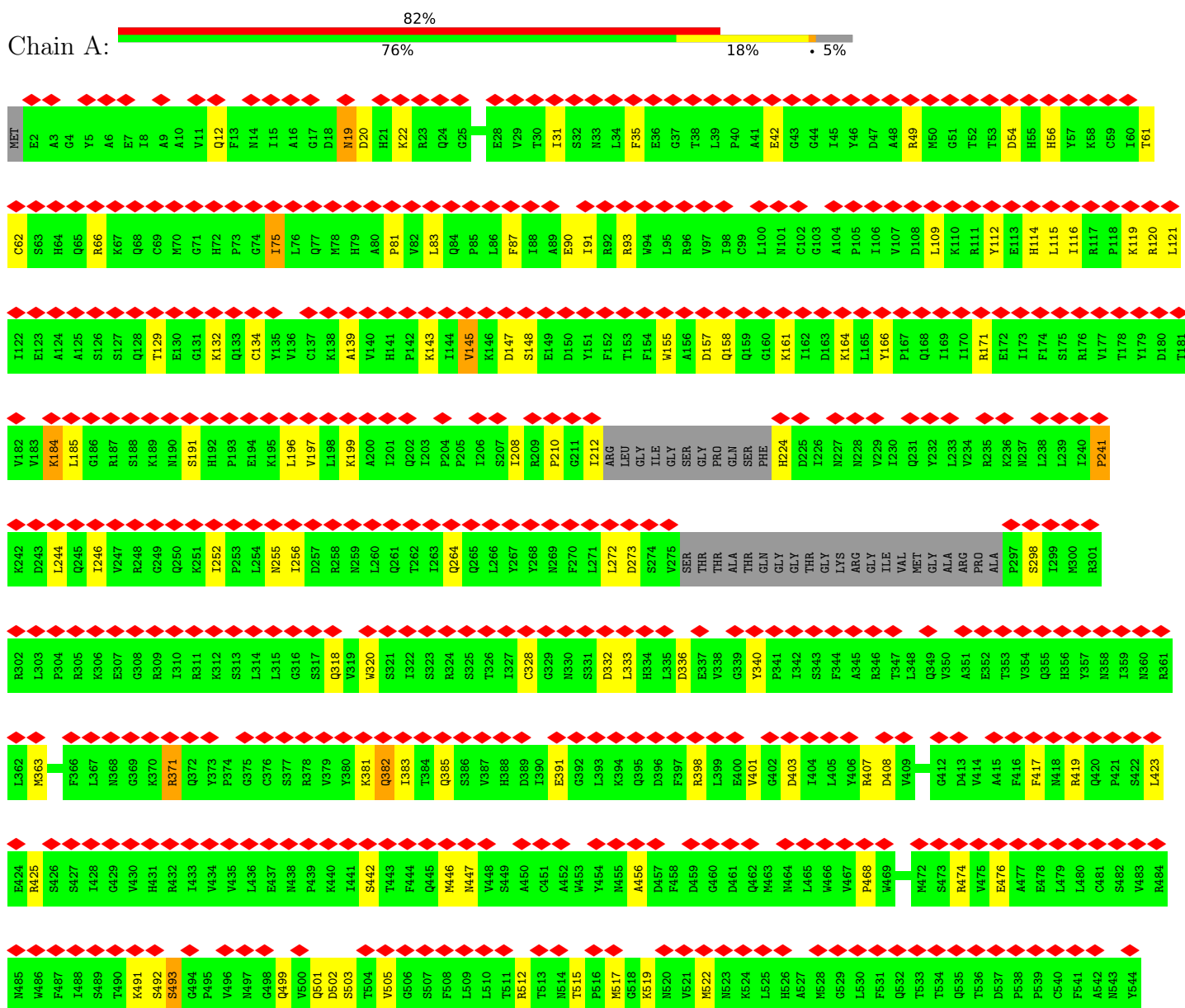
- Molecule 12 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
			Total	Zn	
12	A	1	1	1	0
12	B	1	1	1	0
12	G	1	1	1	0
12	H	1	1	1	0

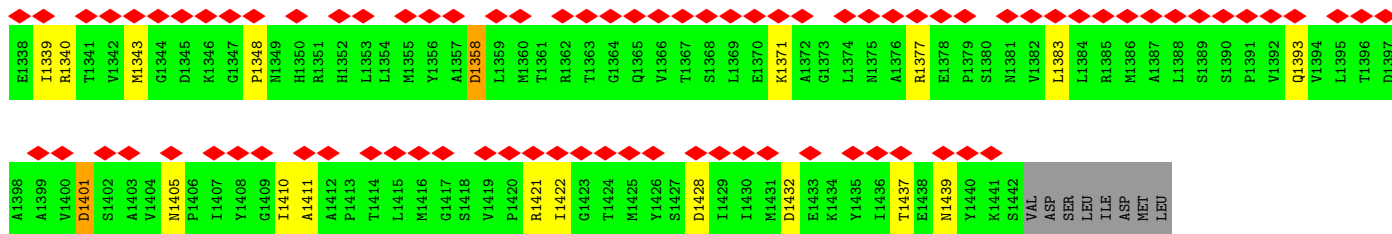
3 Residue-property plots

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

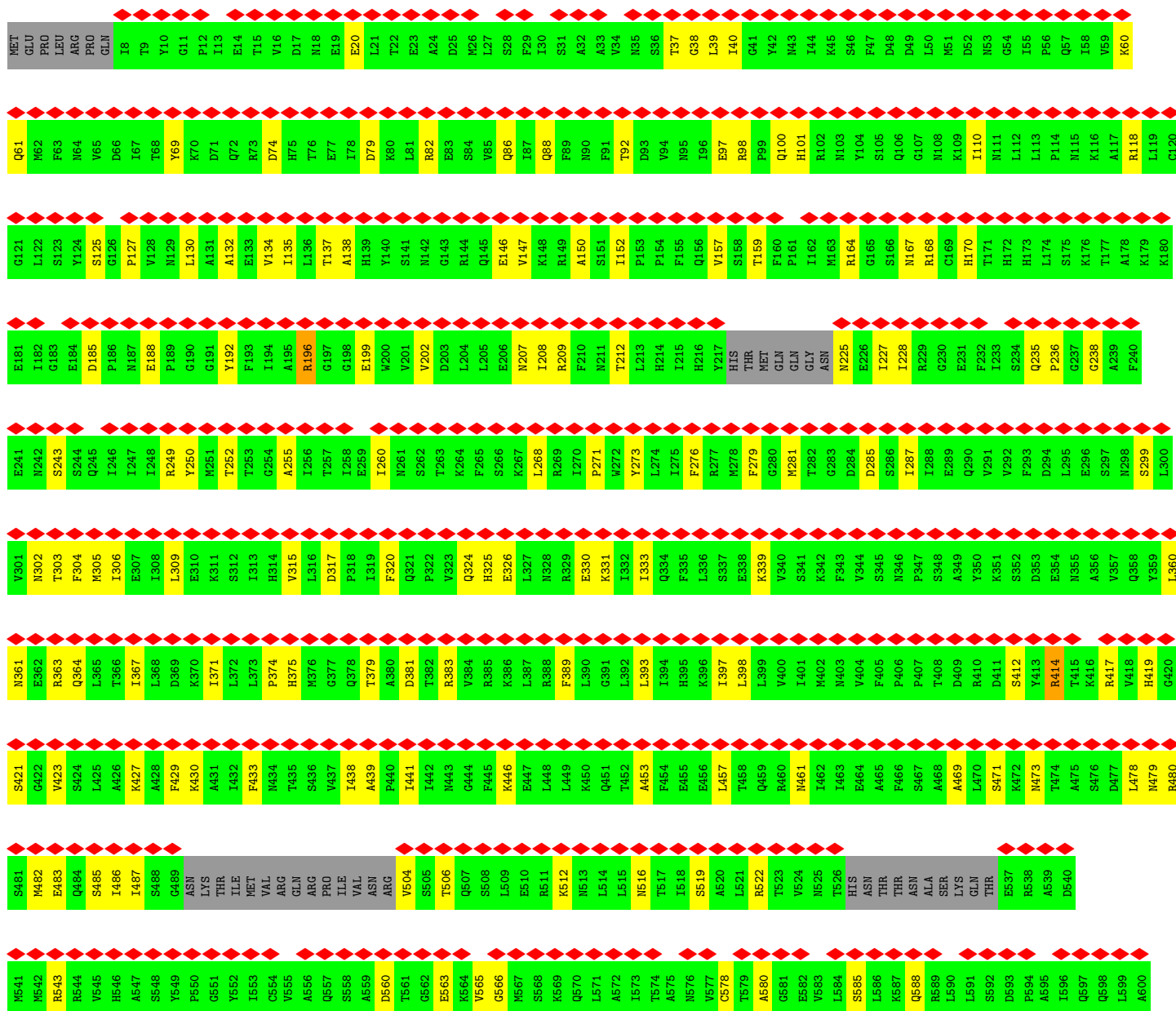
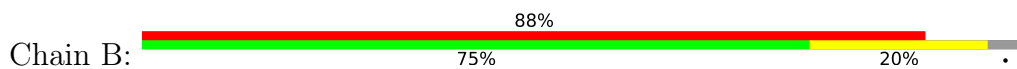
- Molecule 1: DNA-directed RNA polymerase subunit

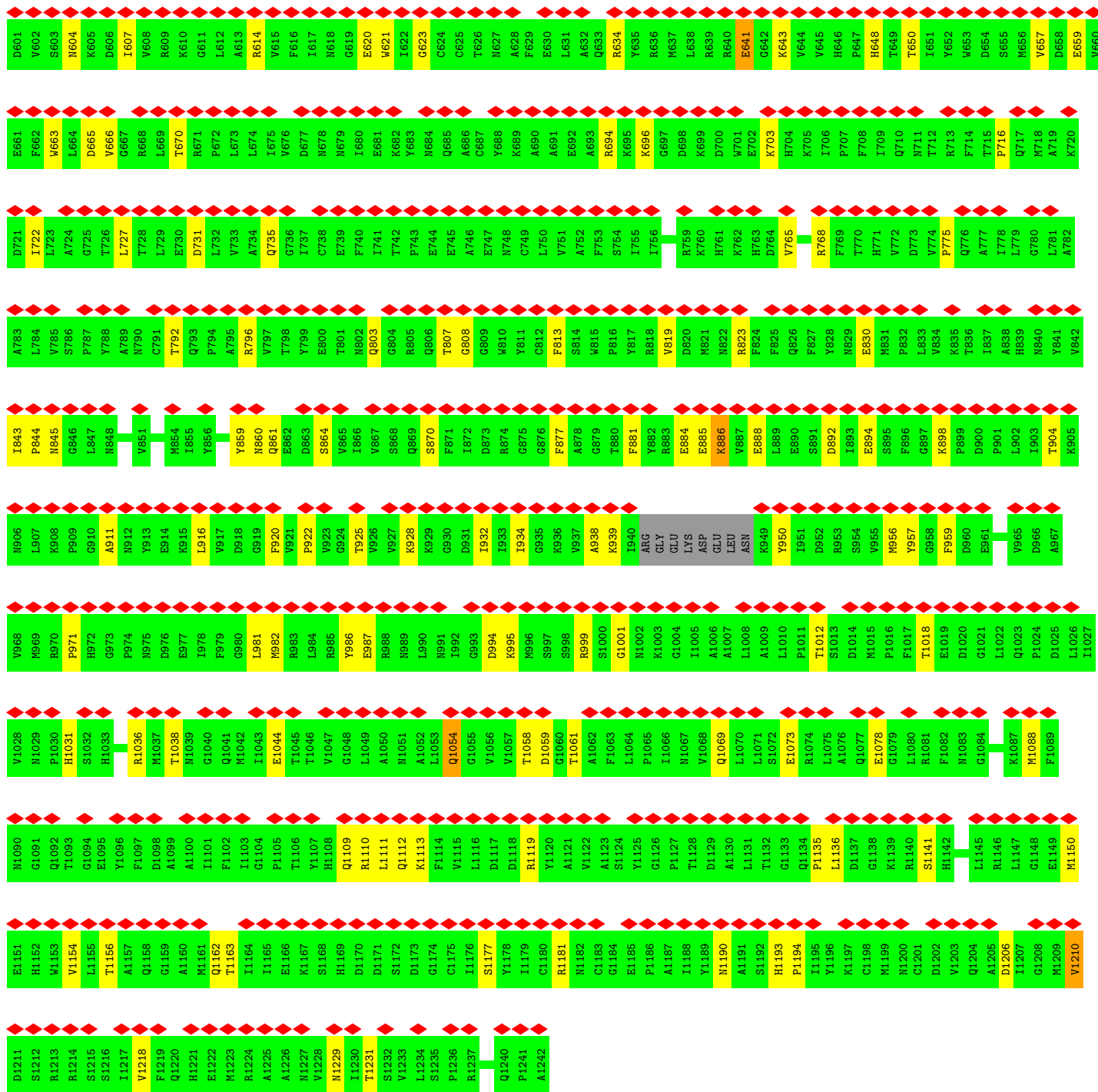


H1276	ALA	SER	GLY	ILE	PRO	I1221	I1222	I1223	I1224	I1225	Y1226	L1227	R1228	E1229	S1230	A1231	F1232	R1233	R1234	S1235	T1236	N1237	T1238	R1239	M1240	A1241	D1243	E1244	K1245	L1246	A1247	V1248	N1249	V1250	V1251	D1252	K1253	L1254	L1255	N1256	S1257	T1258	T1259	R1260	D1321	T1322	G1261	I1262	P1263	G1264	I1265	K1266	M1267	A1268	A1300	V1270	V1271	K1332	Q1333	K1334	I1335	R1275	GLU	ASN	THR															
M1155	T1156	D1157	F1158	L1159	E1160	N1161	H1162	P1163	L1164	L1165	Q1166	P1167	E1169	D1170	I1171	A1172	N1173	W1174	C1175	I1176	R1177	L1178	E1179	L1180	M1181	K1182	T1183	T1184	M1185	I1186	L1187	K1188	S1189	I1190	S1191	L1192	E1193	S1194	I1195	I1196	L1199	R1200	A1201	K1202	H1203	P1204	M1205	T1206	Y1207	I1208	M1209	H1210	S1211	V1212	GLU	ASN	THR																							
L1095	L1096	R1097	K1099	N1100	P1101	E1102	V1103	E1104	T1105	M1106	K1107	T1108	Y1109	A1110	Q1111	I1112	I1113	A1114	M1115	S1116	I1117	E1118	L1119	I1120	T1121	F1122	E1123	R1124	L1125	I1126	L1127	Q1128	W1129	H1130	L1131	L1132	TVR	GLU	THR	TVR	SER	SER	THR	LYS	ASN	V1143	M1144	Y1145	P1146	D1147	F1148	A1149	S1150	D1151	V1152	E1153	W1154																							
M1035	M1036	Y1037	G1038	E1039	V1040	V1041	G1042	I1043	L1044	A1045	A1046	Q1047	S1048	V1049	E1051	P1052	I1053	T1054	Q1055	V1056	MET	LEU	ASP	SER	HIS	HIS	ARG	SER	VAL	ALA	GLY	GLY	THR	ASN	LYS	SER	G1073	I1074	I1075	R1076	P1077	Q1078	E1079	I1080	F1081	S1082	A1083	K1084	P1085	V1086	E1087	A1088	E1089	Q1090	S1091	S1092	E1093	M1094																						
V974	F975	I976	N977	N978	I979	Q980	E981	R982	L983	Q984	T985	R986	I987	P988	Y989	L990	R991	K992	R993	A994	A995	S996	L997	M998	R999	M1000	I1001	I1002	R1003	I1004	E1005	L1006	V1009	K1010	T1011	L1012	M1013	I1014	T1015	C1016	E1017	Q1018	M1019	S1020	A1021	I1022	L1023	D1024	L1025	A1026	R1027	L1028	Q1029	Y1030	T1031	Q1032	R972	S1033	L1034																					
F912	L913	N914	V915	E916	N917	F918	N919	F920	S921	Q922	L923	R924	T925	D926	V927	R928	Q929	V930	F931	V932	N933	V934	A935	S936	I937	V938	K939	L943	S944	S945	T946	S947	Q948	V949	L950	P951	F952	D953	E954	K955	S956	F957	I958	L959	L968	Q959	K960	Y961	A962	N963	V964	K965	T966	F967	C968	K969	N970	L971	P972	V973																				
Q852	Q853	L854	Y855	G856	E857	D858	G859	L860	D861	A862	R863	Q864	L865	E866	T867	R869	F870	E871	T872	I873	N874	L875	S876	O877	Q878	E879	L880	E881	D882	K883	F884	K885	Y886	T887	G888	I889	Q890	S891	P892	L893	F894	E895	E896	E897	F898	S899	R900	L901	K902	K903	D904	R905	D906	K907	D908	T908	Y908	R909	Q910	I911																				
C789	N790	S791	V792	I793	G795	L796	L797	S798	F799	E900	F901	I902	F903	G904	E905	N906	N907	G908	R909	F910	D911	L912	I913	N914	K915	A916	L917	S918	T919	S920	S921	T922	G923	Y924	A925	N926	K928	A929	I930	F931	G932	L933	Q934	S935	C936	Y940	Y941	R942	R943	I946	D947	T948	R949	L951																										
K606	A607	V608	G609	A610	S612	S613	G614	G615	I616	Y617	H618	L619	I620	S621	R622	R623	Y624	Q627	Q628	A629	L630	K631	M632	I633	F634	A635	Q638	L639	A640	L641	N642	K643	V644	R645	R646	A647	G648	F649	T650	V651	S652	T653	A654	D655	M656	L657	L658	T659	P660	E661	A662	H663	Q664	E665	V666	Q667																								
S645	P646	T647	D648	L649	D651	G652	K653	S654	V655	V656	S657	M658	L659	L660	Q662	Q663	T664	I665	I666	I667	I668	I669	I670	I671	I672	I673	I674	I675	I676	I677	I678	I679	I680	I681	I682	I683	I684	I685	I686	I687	I688	I689	I690	I691	I692	I693	I694	I695	I696	I697	I698	I699	I700	I701	I702	I703	I704	I705	I706	I707	I708	I709	I710	I711	I712	I713	I714	I715	I716	I717	I718	I719	I720	I721	I722	I723	I724	I725	I726	I727
E668	I669	I670	N671	E672	L673	L674	E675	E676	S677	E678	E679	I680	M681	N682	R683	L684	L685	H686	G687	D688	I689	M690	P691	P692	I693	G694	L695	T696	T697	T698	T699	T700	T701	E702	K703	L704	Q705	L706	A707	L709	K710	F711	P712	S652	T653	A654	D655	M656	L657	L658	T659	P660	E661	A662	H663	Q664	E665	V666	Q667																					
N728	G729	L730	F731	Q732	N733	T736	G737	A738	K739	G740	S741	N742	F743	N744	M745	I746	H747	I748	M749	A750	G751	I752	G753	Q754	I755	E756	I757	N758	I759	Q760	R761	I762	Q763	P764	Q765	F766	S767	F768	G769	R770	T771	L772	P773	V774	Y775	P776	F777	R778	A779	L780	E781	A782	Q783	A784	Y785	G786	F787	I788																						

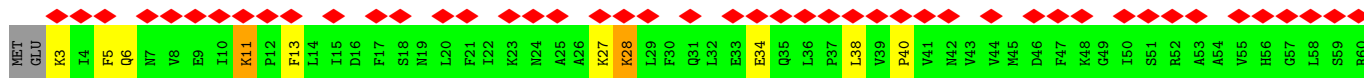
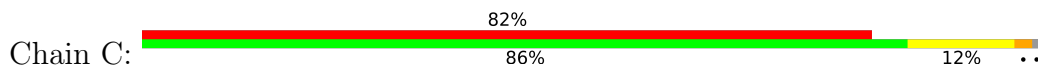


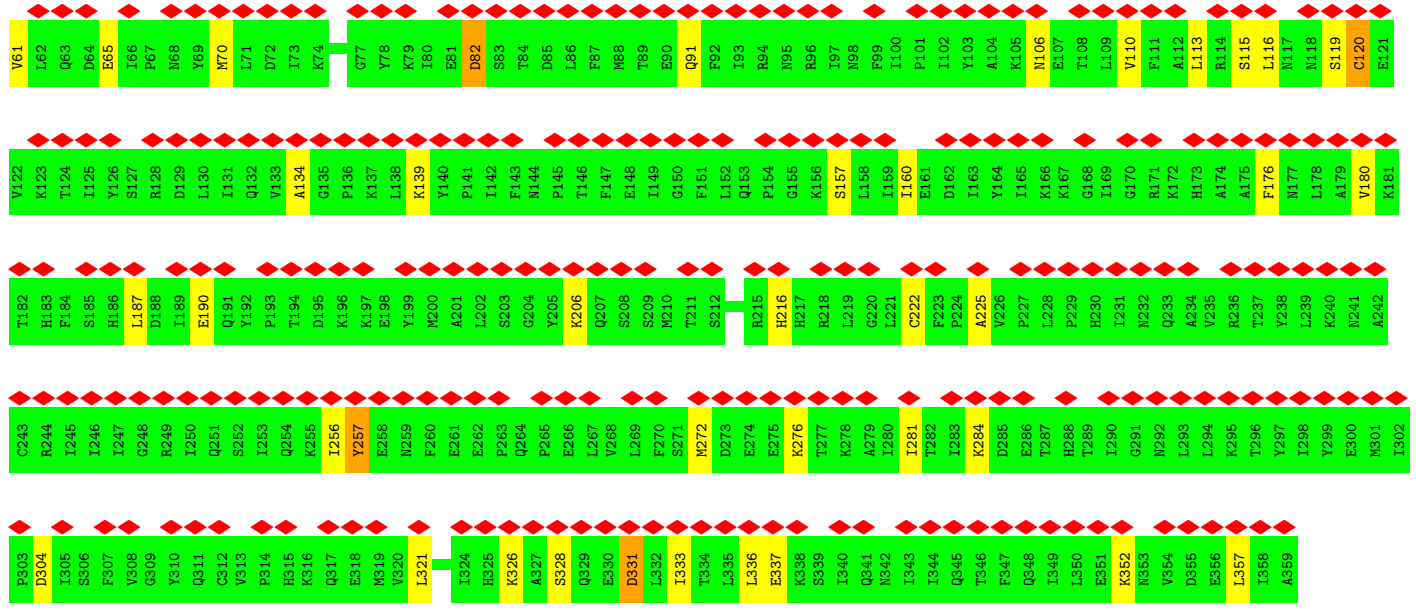
• Molecule 2: DNA-directed RNA polymerase subunit beta



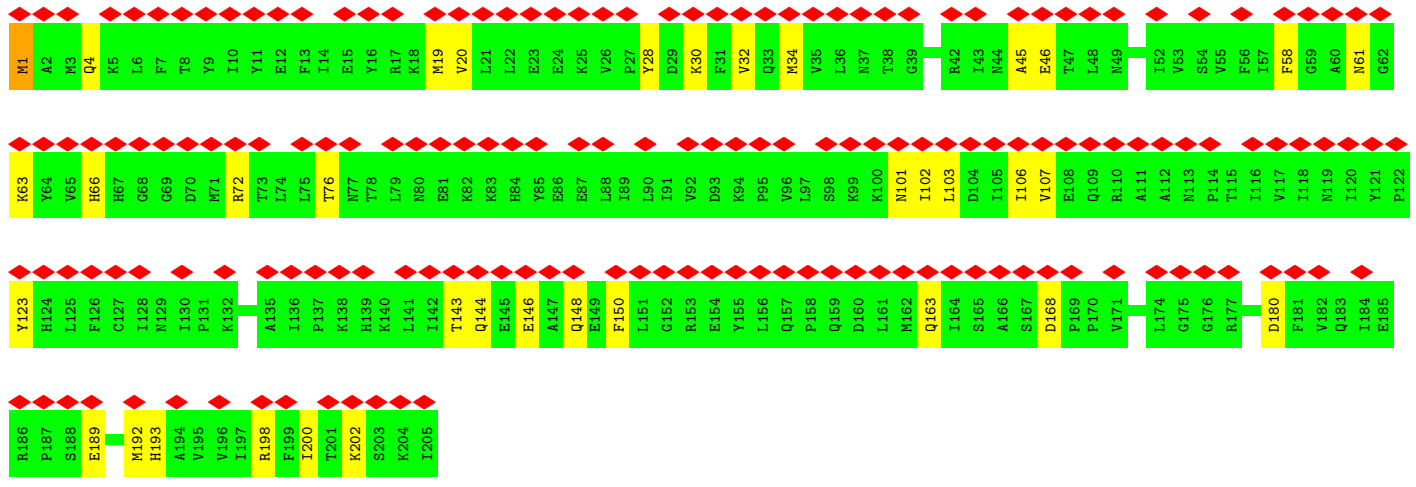
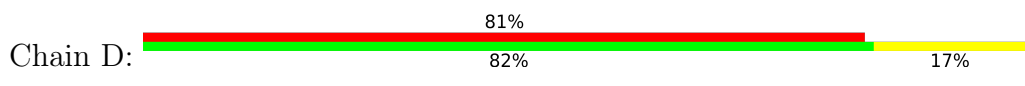


● Molecule 3: DNA-directed RNA polymerase RPB3-11 homolog

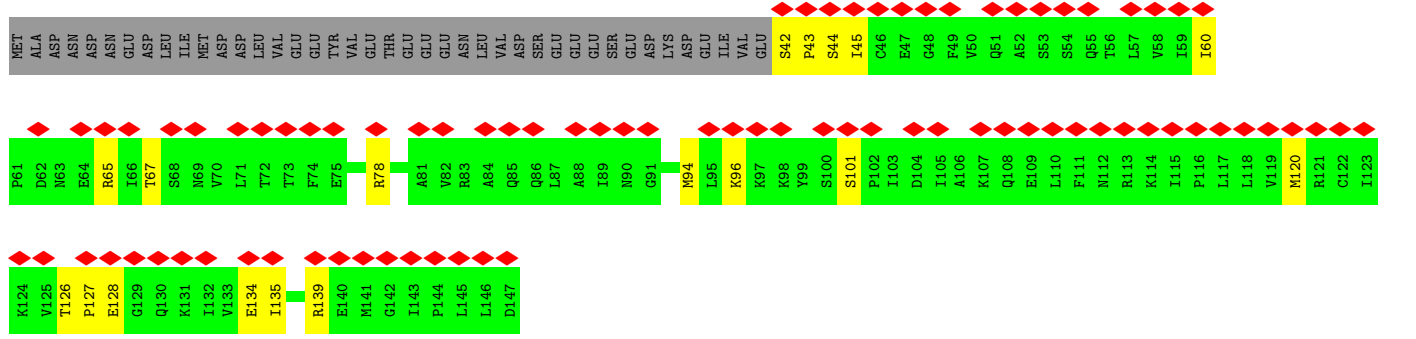




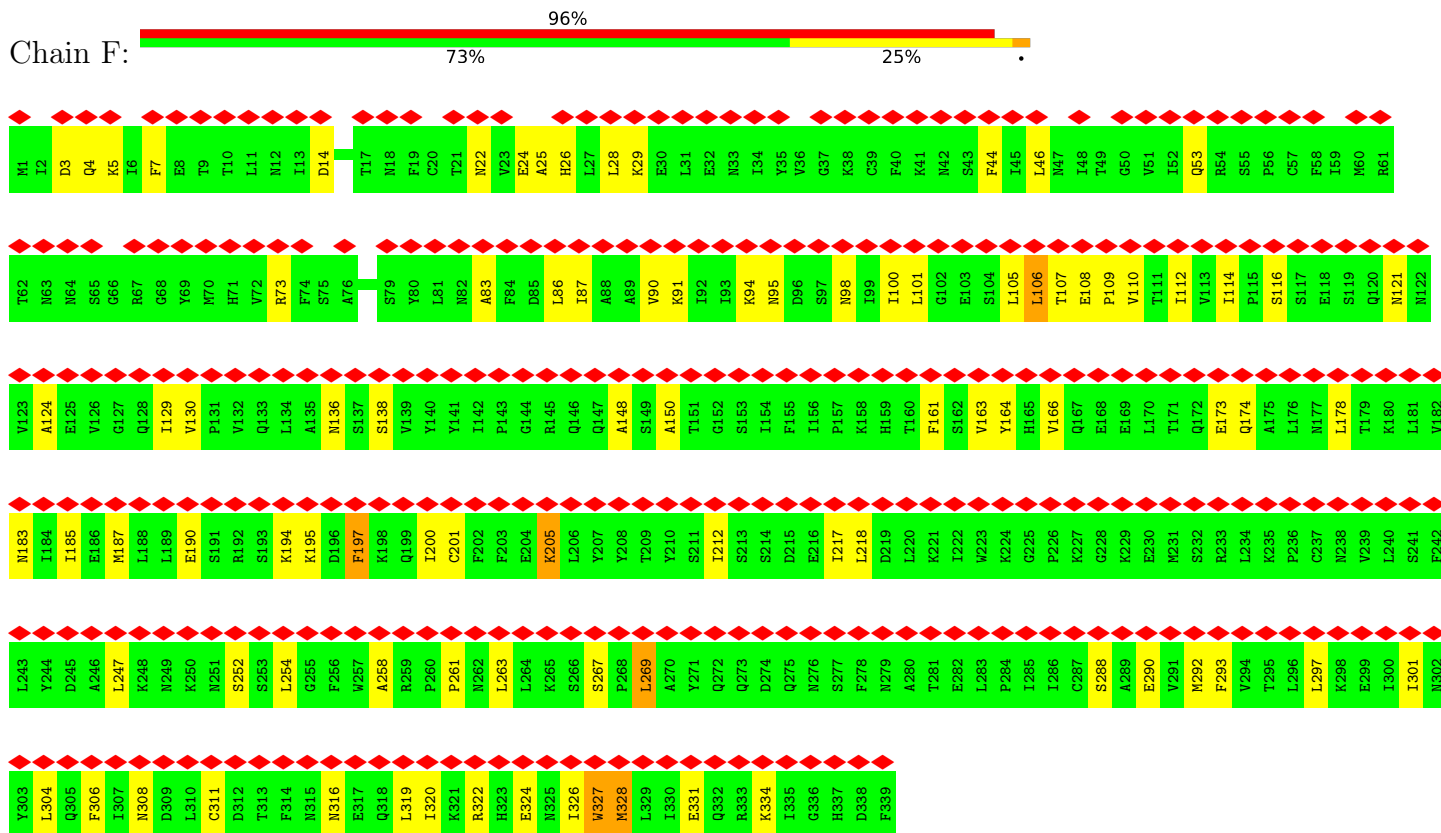
• Molecule 4: DNA-directed RNA polymerase RPB5 homolog



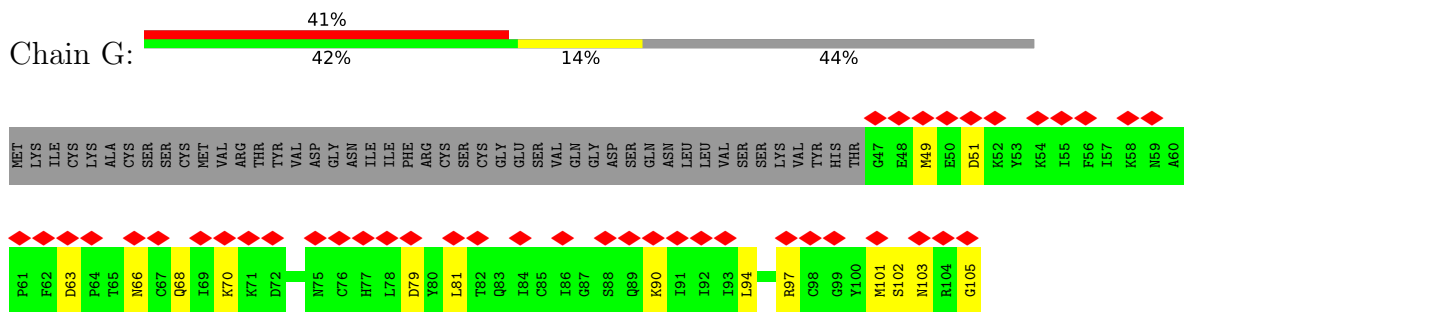
• Molecule 5: C147L



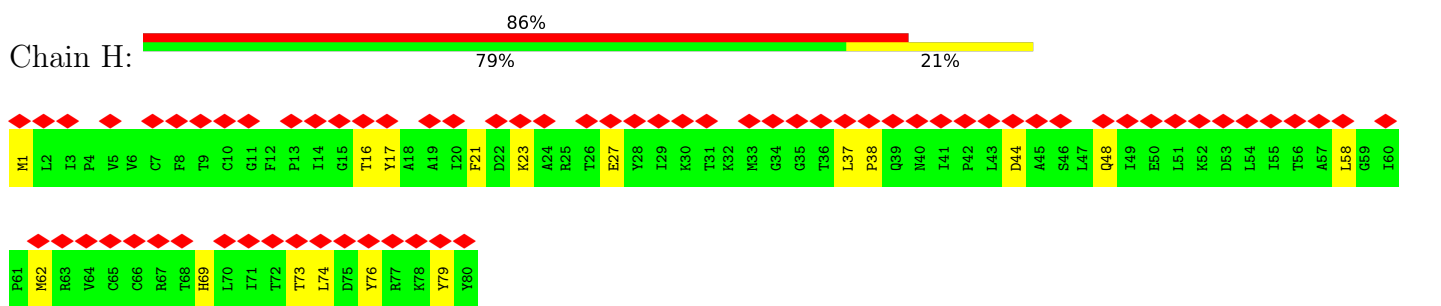
• Molecule 6: D339L



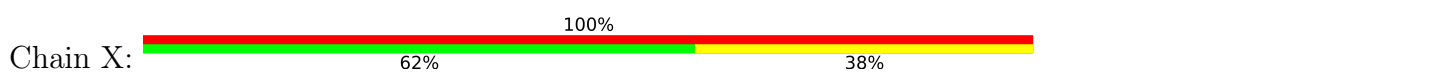
• Molecule 7: C122R

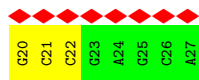


• Molecule 8: DNA-directed RNA polymerase RPB10 homolog

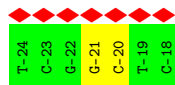
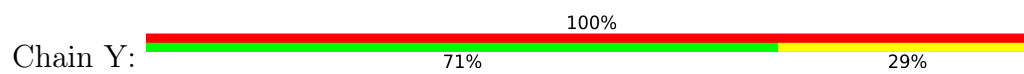


• Molecule 9: DNA (5'-D(P*GP*CP*CP*GP*AP*GP*CP*A)-3')





- Molecule 10: DNA (5'-D(P*TP*CP*GP*GP*CP*TP*C)-3')



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	266388	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 ($e^-/\text{\AA}^2$)	1.25	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	Not provided	
Image detector	FEI FALCON IV (4k x 4k)	Depositor
Maximum map value	0.148	Depositor
Minimum map value	-0.090	Depositor
Average map value	-0.000	Depositor
Map value standard deviation	0.005	Depositor
Recommended contour level	0.0129	Depositor
Map size (Å)	258.56, 258.56, 258.56	wwPDB
Map dimensions	320, 320, 320	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.80799997, 0.80799997, 0.80799997	Depositor

5 Model quality [i](#)

5.1 Standard geometry [i](#)

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

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	0.42	0/11163	0.56	2/15116 (0.0%)
2	B	0.38	0/9648	0.55	1/13055 (0.0%)
3	C	0.43	0/2959	0.51	0/4000
4	D	0.39	0/1707	0.52	0/2311
5	E	0.41	0/841	0.57	0/1139
6	F	0.30	0/2782	0.51	0/3767
7	G	0.35	0/476	0.50	0/638
8	H	0.46	0/643	0.56	0/872
9	X	0.49	0/185	0.79	0/283
10	Y	0.57	0/156	0.90	0/238
All	All	0.40	0/30560	0.55	3/41419 (0.0%)

There are no bond length outliers.

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1101	PRO	N-CD-CG	-8.09	91.07	103.20
2	B	971	PRO	N-CD-CG	-5.39	95.11	103.20
1	A	1101	PRO	CA-N-CD	-5.13	104.31	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	10954	0	11085	162	0
2	B	9459	0	9413	171	0
3	C	2897	0	2976	31	0
4	D	1668	0	1713	18	0
5	E	829	0	877	17	0
6	F	2727	0	2755	55	0
7	G	468	0	467	9	0
8	H	630	0	659	11	0
9	X	165	0	89	4	0
10	Y	141	0	80	3	0
11	A	1	0	0	0	0
12	A	1	0	0	0	0
12	B	1	0	0	0	0
12	G	1	0	0	0	0
12	H	1	0	0	0	0
All	All	29943	0	30114	443	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 7.

The worst 5 of 443 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)
2:B:807:THR:OG1	2:B:845:ASN:ND2	1.99	0.95
6:F:91:LYS:HG3	6:F:105:LEU:HD11	1.56	0.87
5:E:42:SER:OG	5:E:43:PRO:HD3	1.74	0.86
1:A:121:LEU:HD23	1:A:185:LEU:HG	1.58	0.84
1:A:83:LEU:H	1:A:264:GLN:HE22	1.28	0.81

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	1363/1450 (94%)	1314 (96%)	49 (4%)	0	100	100
2	B	1186/1242 (96%)	1143 (96%)	43 (4%)	0	100	100
3	C	355/359 (99%)	344 (97%)	11 (3%)	0	100	100
4	D	203/205 (99%)	196 (97%)	7 (3%)	0	100	100
5	E	104/147 (71%)	102 (98%)	2 (2%)	0	100	100
6	F	337/339 (99%)	321 (95%)	16 (5%)	0	100	100
7	G	57/105 (54%)	53 (93%)	4 (7%)	0	100	100
8	H	78/80 (98%)	76 (97%)	2 (3%)	0	100	100
All	All	3683/3927 (94%)	3549 (96%)	134 (4%)	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	1219/1279 (95%)	1176 (96%)	43 (4%)	31	62
2	B	1038/1081 (96%)	1014 (98%)	24 (2%)	45	75
3	C	326/328 (99%)	316 (97%)	10 (3%)	35	66
4	D	185/185 (100%)	179 (97%)	6 (3%)	34	65
5	E	96/136 (71%)	95 (99%)	1 (1%)	73	89
6	F	312/312 (100%)	301 (96%)	11 (4%)	31	62
7	G	54/96 (56%)	51 (94%)	3 (6%)	17	43
8	H	70/70 (100%)	67 (96%)	3 (4%)	25	54
All	All	3300/3487 (95%)	3199 (97%)	101 (3%)	37	66

5 of 101 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	B	703	LYS
3	C	82	ASP

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
8	H	27	GLU
2	B	765	VAL
2	B	1141	SER

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 49 such sidechains are listed below:

Mol	Chain	Res	Type
2	B	216	HIS
2	B	906	ASN
2	B	325	HIS
2	B	557	GLN
2	B	1112	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 oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 5 ligands modelled in this entry, 5 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

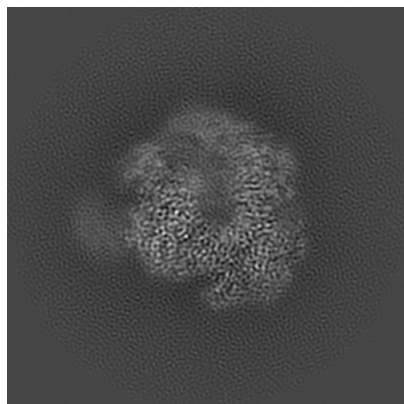
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-39511. These allow visual inspection of the internal detail of the map and identification of artifacts.

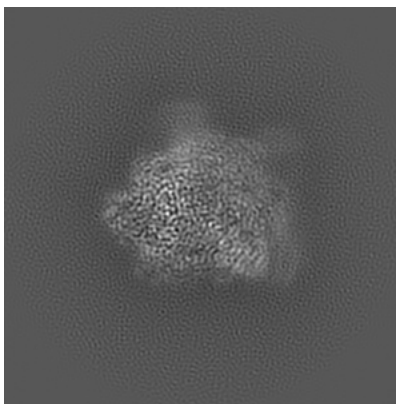
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

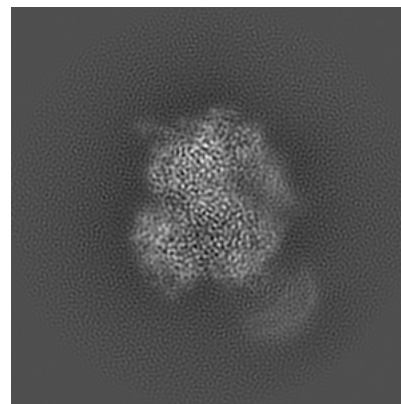
6.1.1 Primary map



X

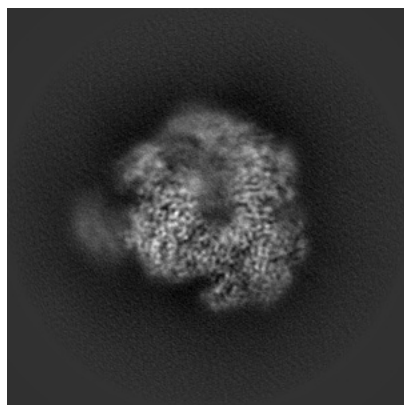


Y

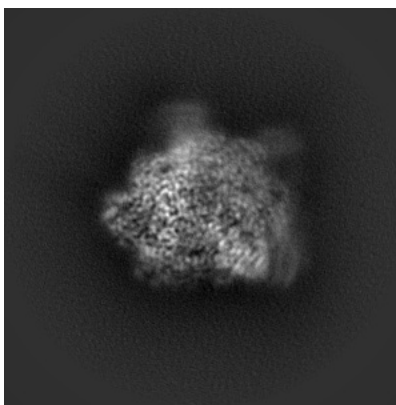


Z

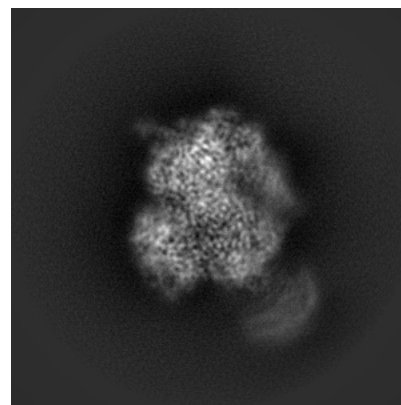
6.1.2 Raw map



X



Y

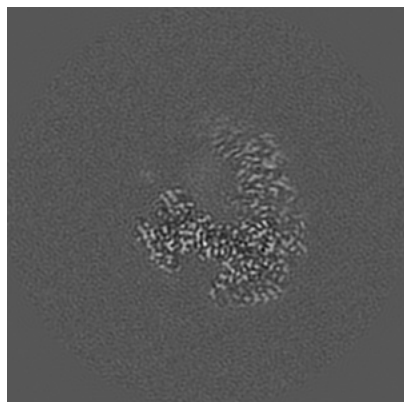


Z

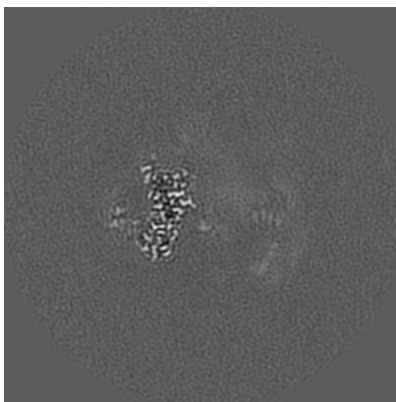
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

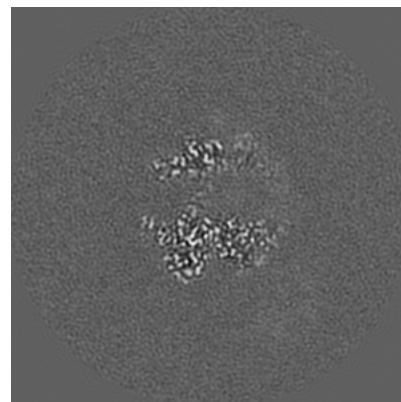
6.2.1 Primary map



X Index: 160

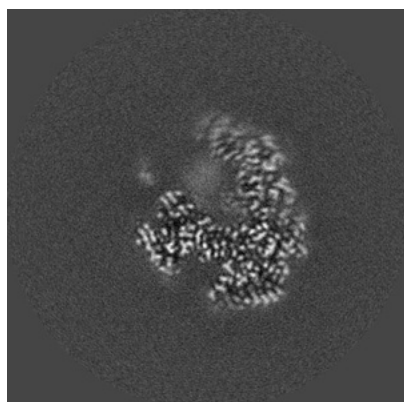


Y Index: 160

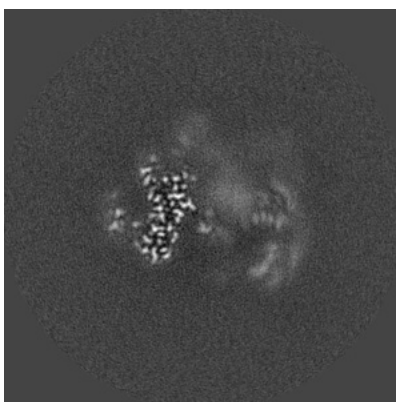


Z Index: 160

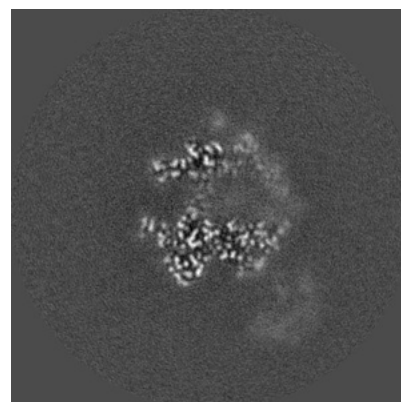
6.2.2 Raw map



X Index: 160



Y Index: 160

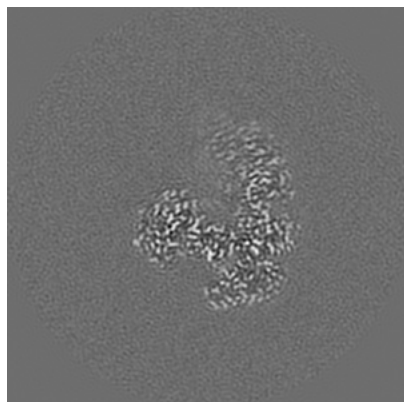


Z Index: 160

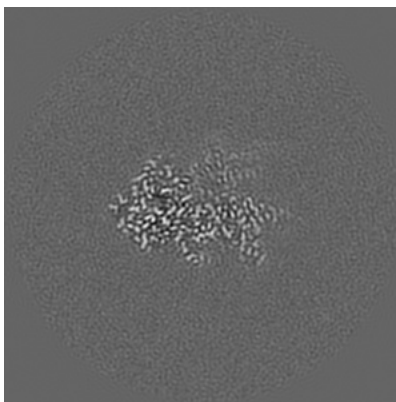
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

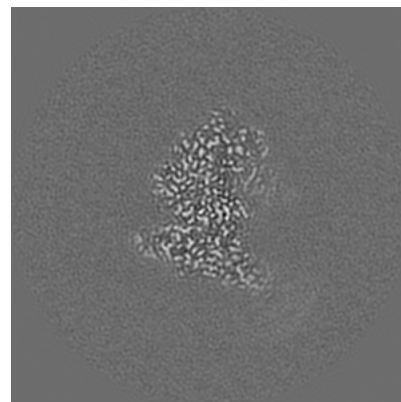
6.3.1 Primary map



X Index: 155

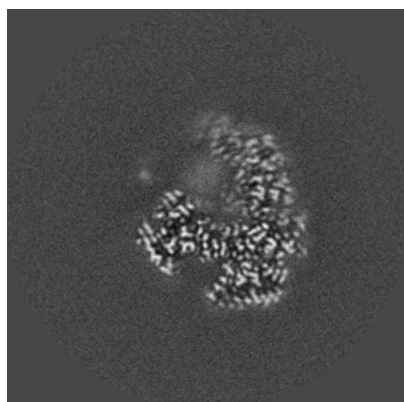


Y Index: 199

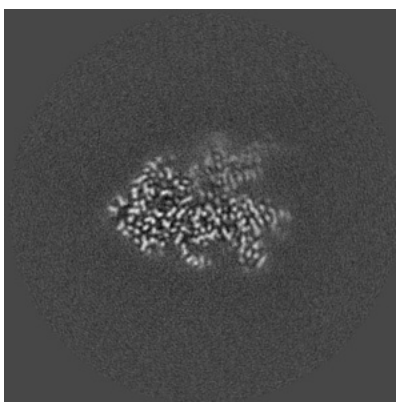


Z Index: 135

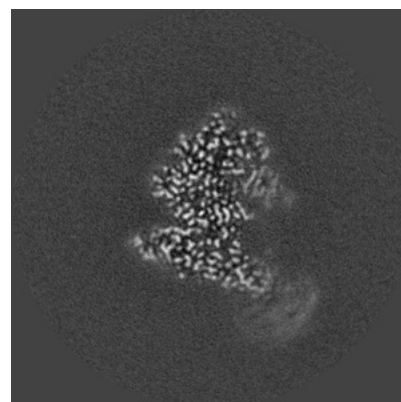
6.3.2 Raw map



X Index: 159



Y Index: 199

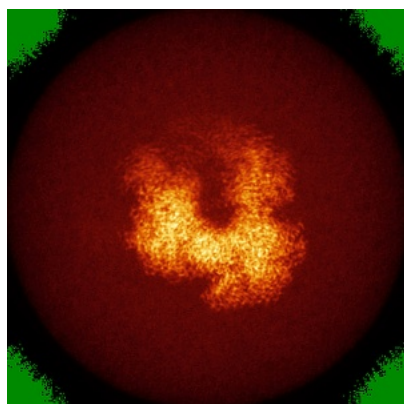


Z Index: 135

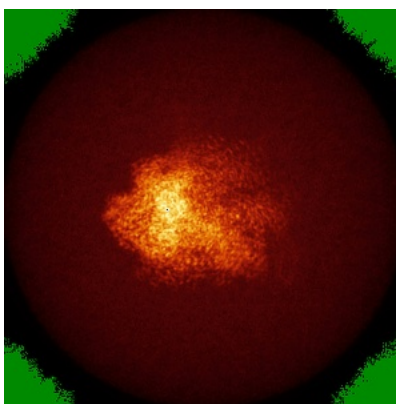
The images above show the largest variance slices of the map in three orthogonal directions.

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

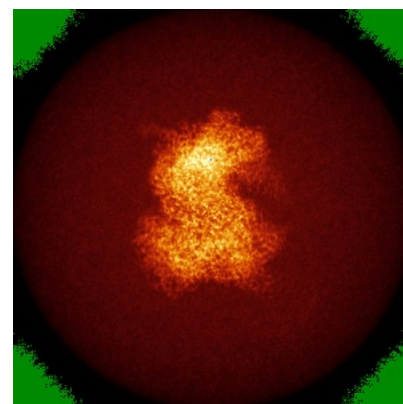
6.4.1 Primary map



X

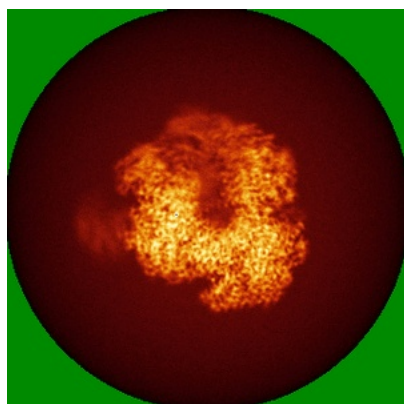


Y

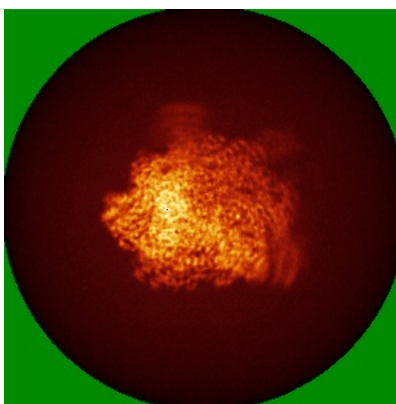


Z

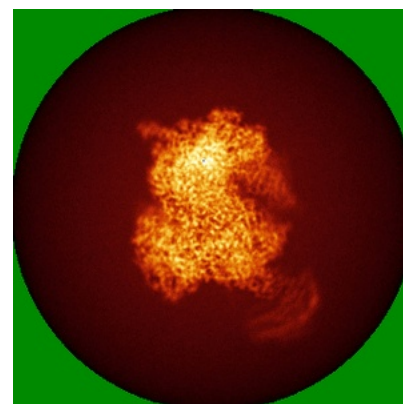
6.4.2 Raw map



X



Y

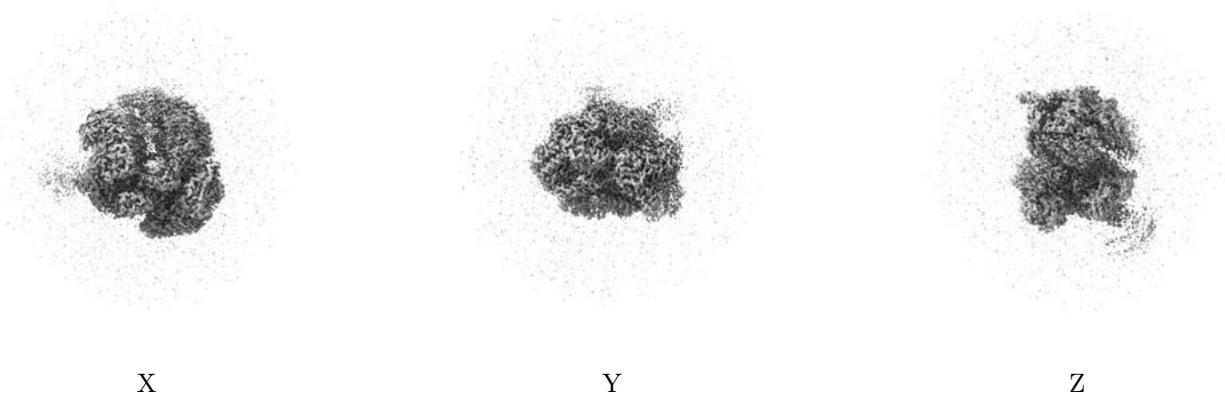


Z

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.

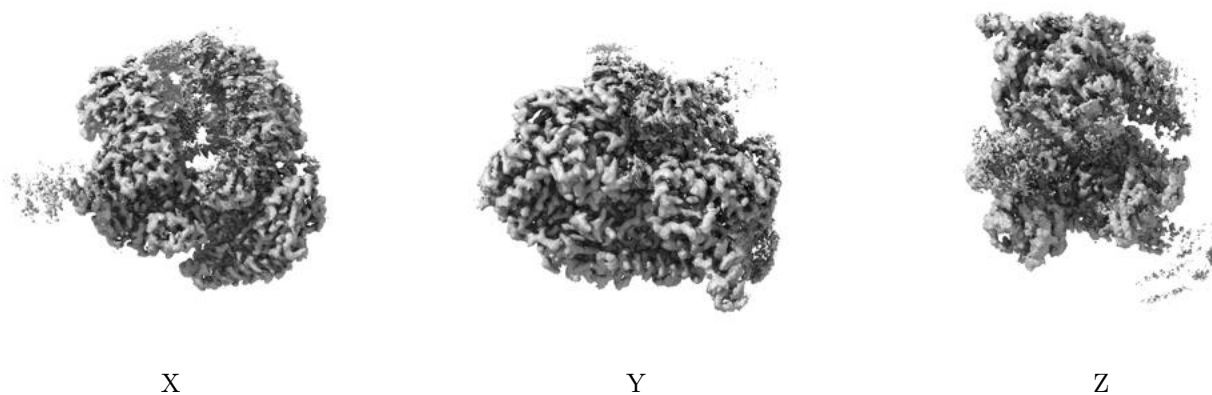
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.0129. 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.

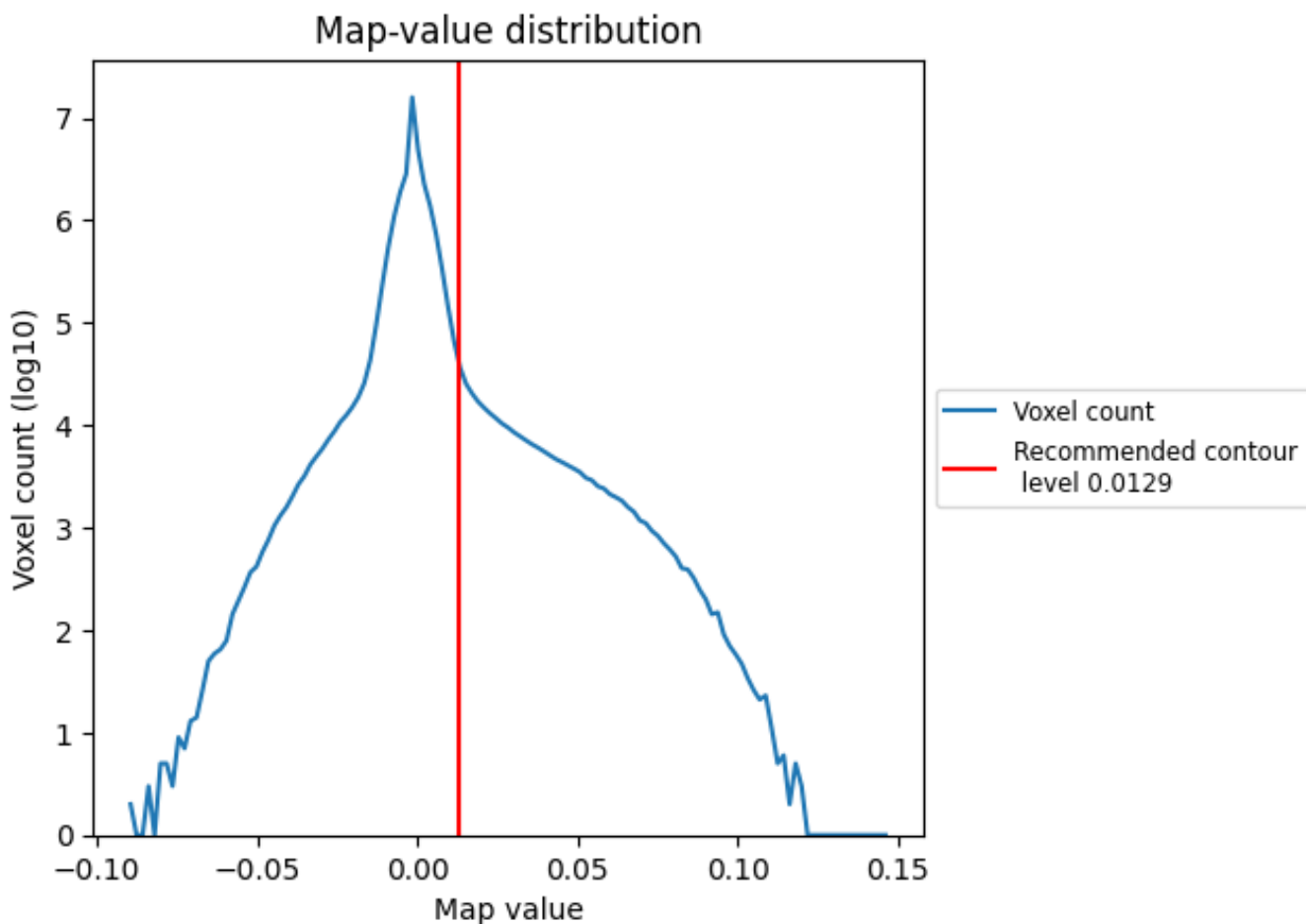
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

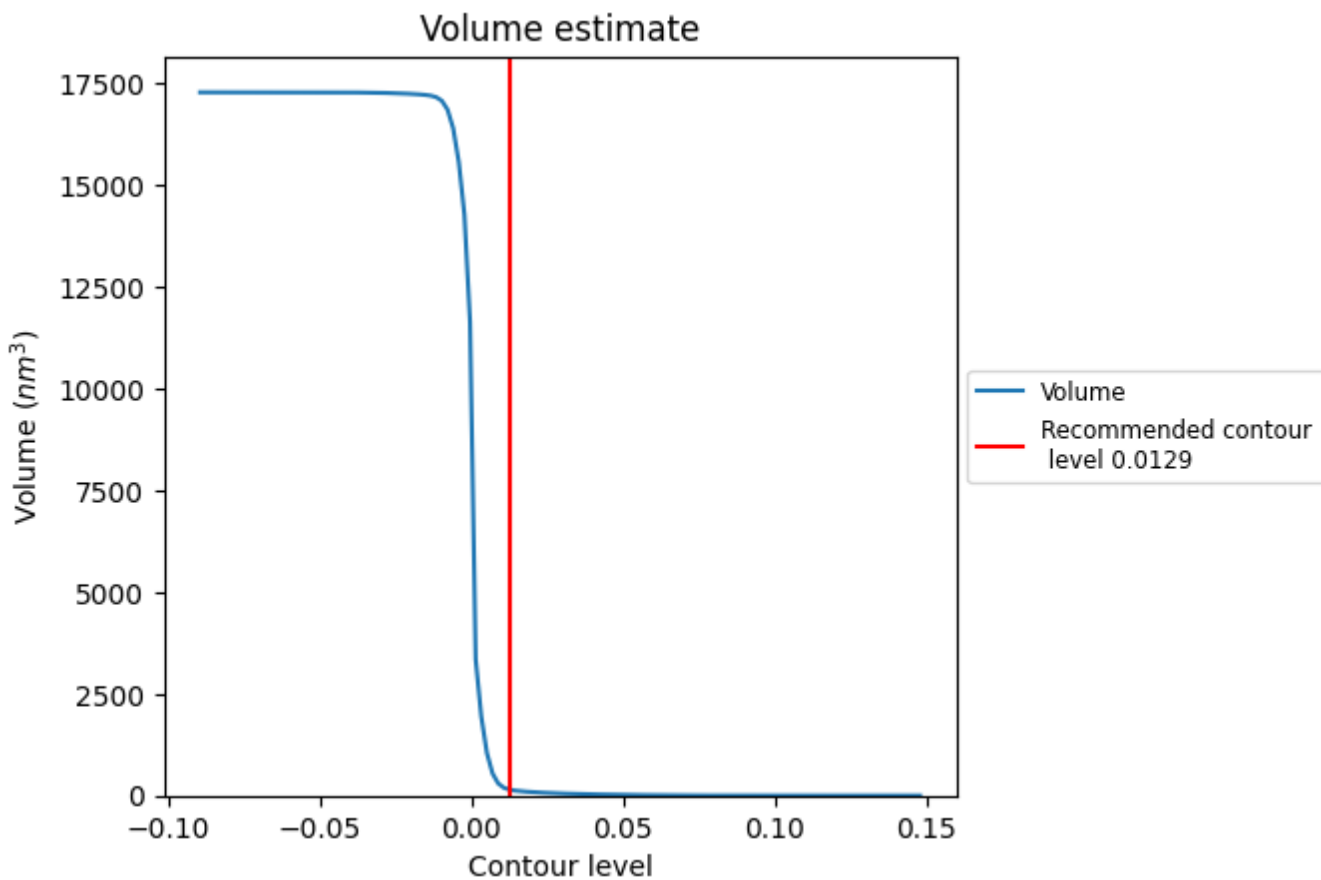
This section contains the results of statistical analysis of the map.

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.

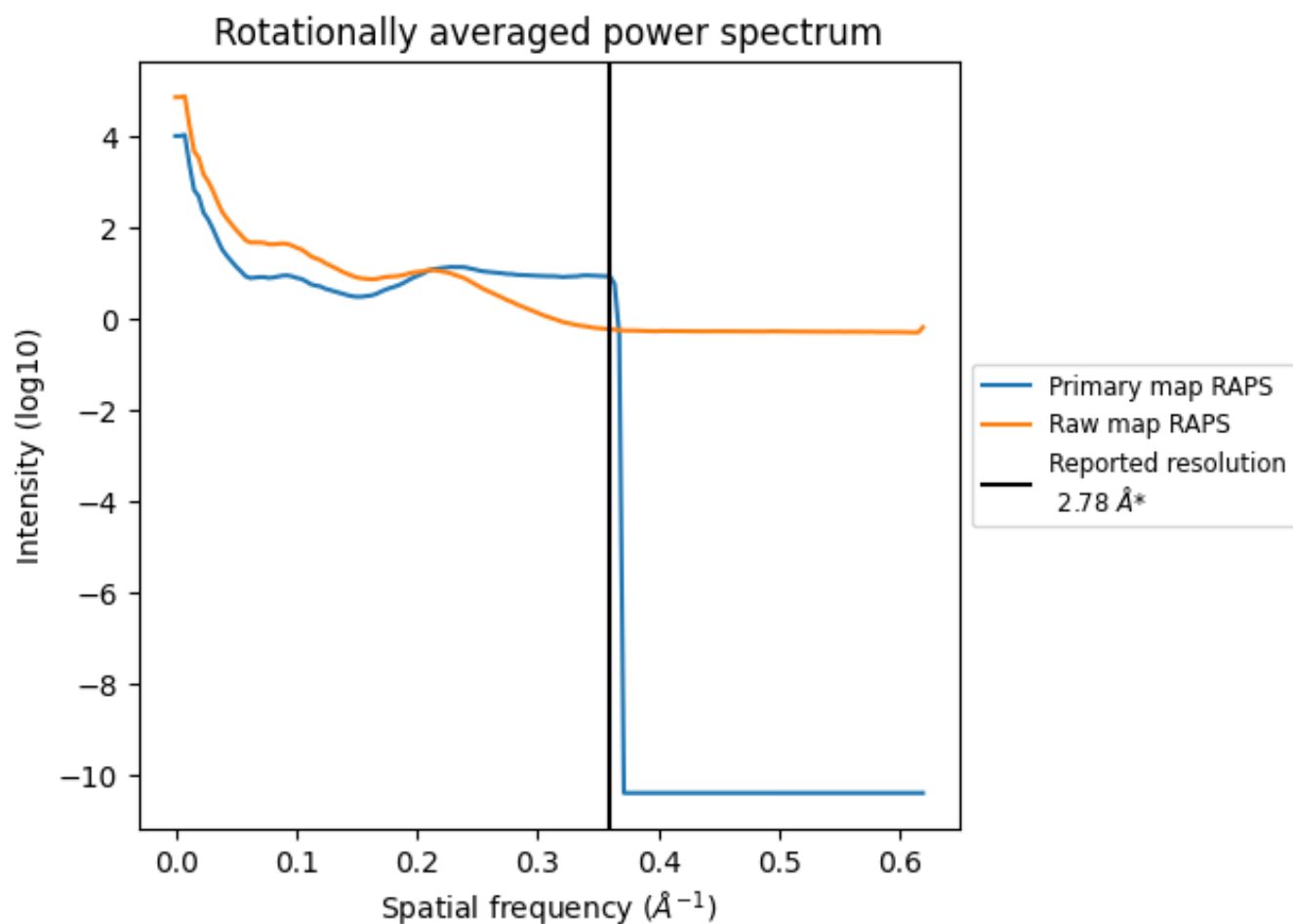
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 141 nm³; this corresponds to an approximate mass of 127 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](#)

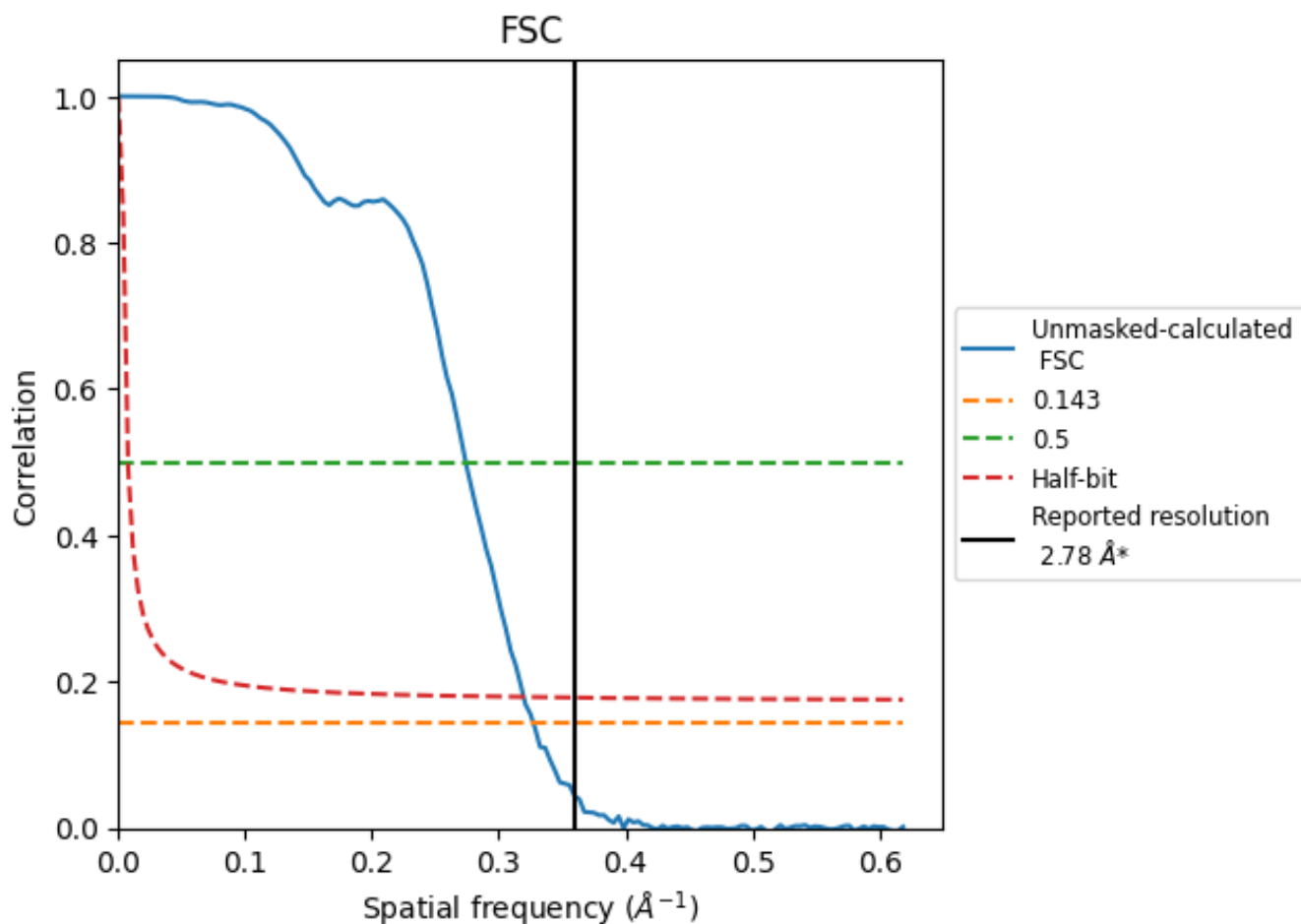


*Reported resolution corresponds to spatial frequency of 0.360 Å⁻¹

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 0.360 Å⁻¹

8.2 Resolution estimates [i](#)

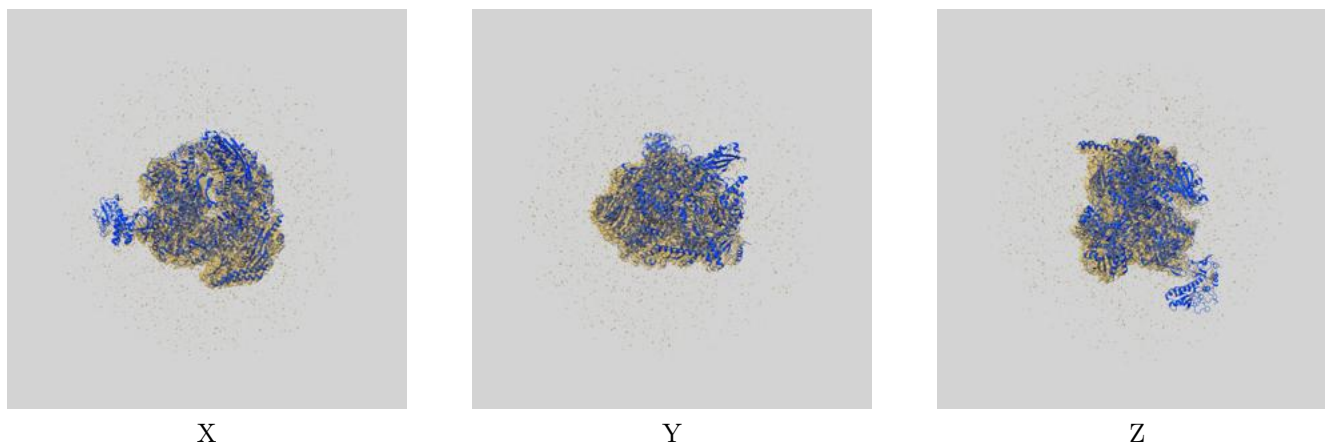
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.78	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	3.06	3.65	3.13

*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 3.06 differs from the reported value 2.78 by more than 10 %

9 Map-model fit [i](#)

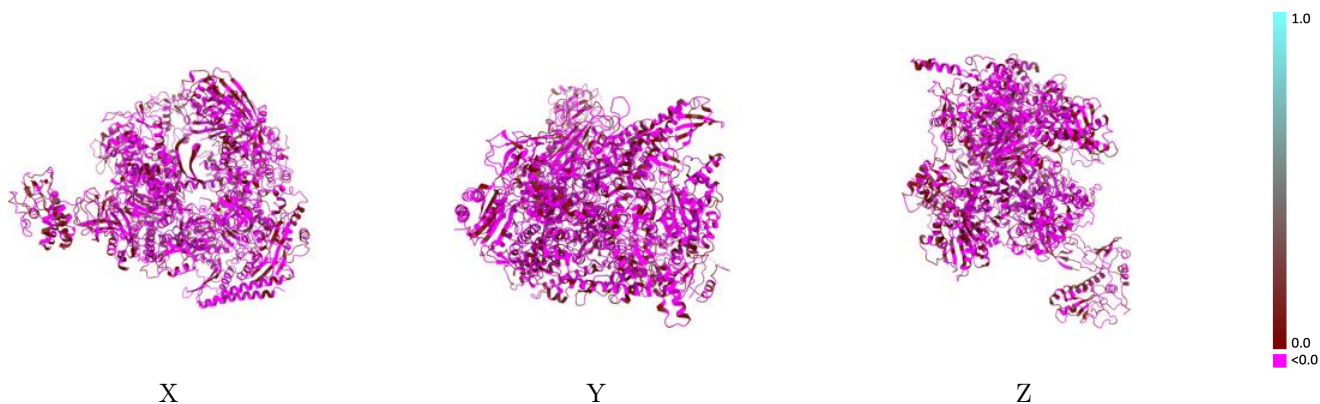
This section contains information regarding the fit between EMDB map EMD-39511 and PDB model 8YQZ. Per-residue inclusion information can be found in section 3 on page 6.

9.1 Map-model overlay [i](#)



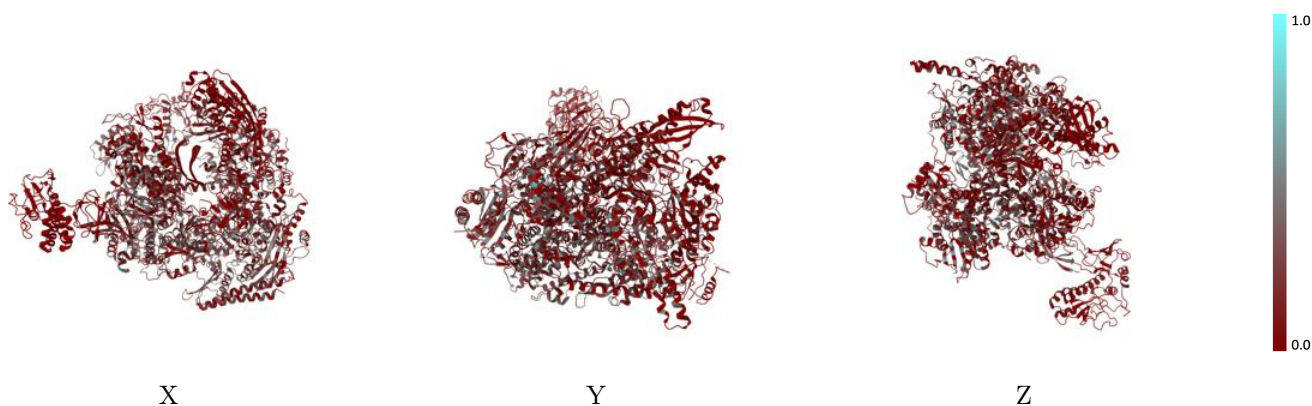
The images above show the 3D surface view of the map at the recommended contour level 0.0129 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



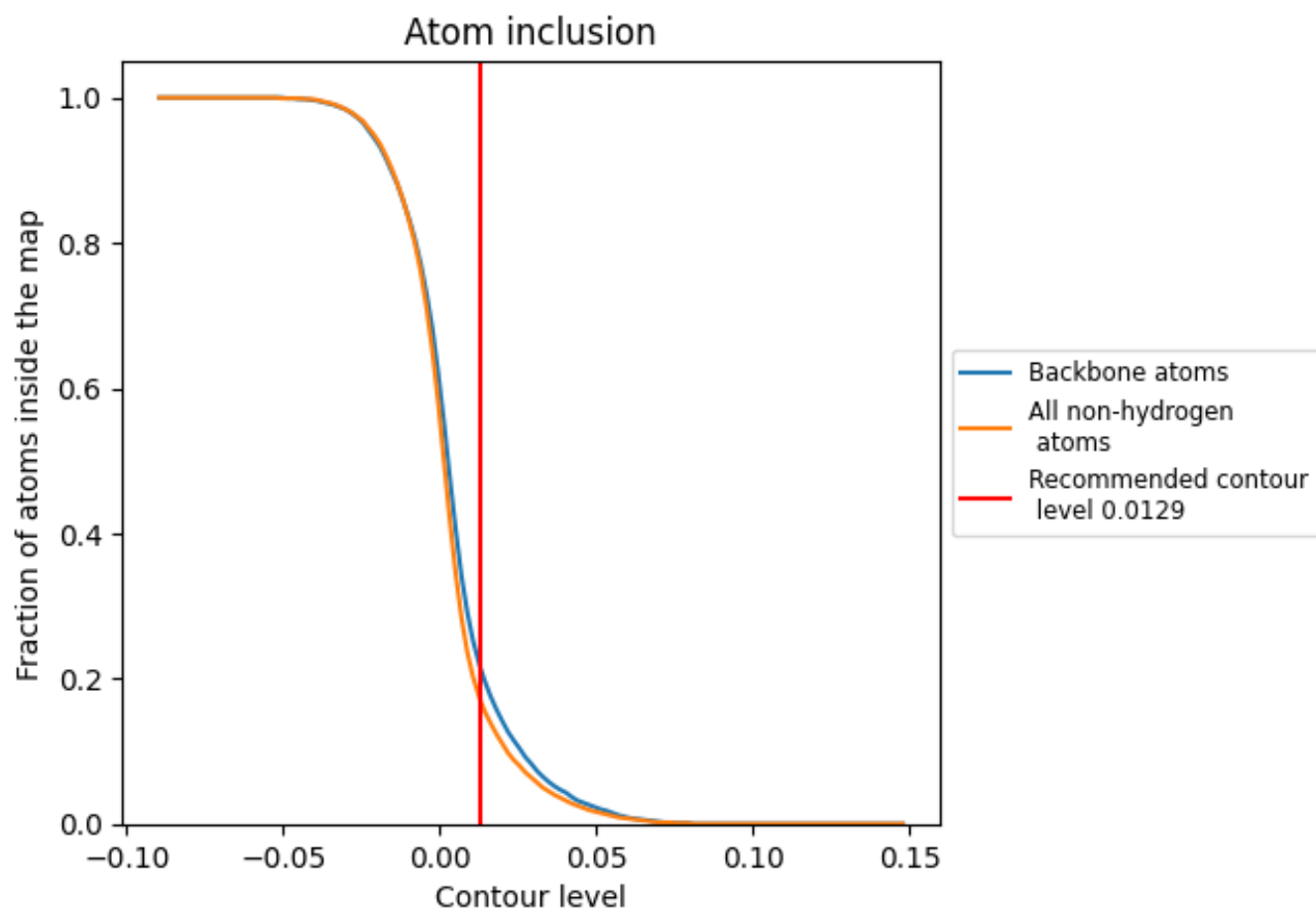
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.0129).























9.4 Atom inclusion [i](#)



At the recommended contour level, 22% of all backbone atoms, 17% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary [i](#)

The table lists the average atom inclusion at the recommended contour level (0.0129) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.1710	 -0.0810
A	 0.2010	 -0.0910
B	 0.1300	 -0.0990
C	 0.2320	 -0.0920
D	 0.2530	 -0.0250
E	 0.2540	 -0.0690
F	 0.0530	 -0.0120
G	 0.2230	 -0.0700
H	 0.1880	 -0.0890
X	 0.0360	 0.0190
Y	 0.0140	 -0.0090

