WORLDWIDE wwPDB PROTEIN DATA BANK

Full wwPDB EM Validation Report (i)

Nov 19, 2022 – 02:34 PM EST

|		
PDB ID	:	7TPQ
EMDB ID	:	EMD-26061
Title	:	Cryo-em structure of human prothrombinase on a nanodisc at 5.3 Angstrom resolution
Authors	:	Di Cera, E.; Ruben, E.A.
Deposited on	:	2022-01-25
Resolution	:	5.30 Å(reported)

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 5.30 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.
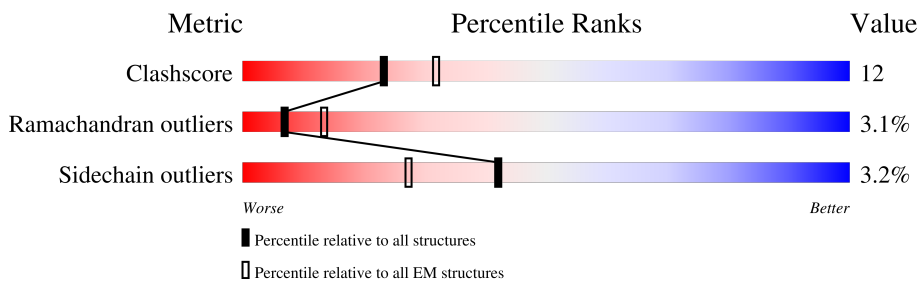
Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826

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 <=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	139	
2	C	709	
3	D	651	
4	B	254	

2 Entry composition ⓘ

There are 4 unique types of molecules in this entry. The entry contains 14020 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 Factor X light chain.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	139	Total 1089	C 657	N 184	O 231	S 17	0	0

- Molecule 2 is a protein called Coagulation factor Va.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	C	709	Total 5715	C 3619	N 966	O 1100	S 30	0	0

- Molecule 3 is a protein called Coagulation factor Va.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	D	641	Total 5217	C 3325	N 896	O 971	S 25	0	0

- Molecule 4 is a protein called Activated factor Xa heavy chain.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	B	254	Total 1999	C 1260	N 351	O 374	S 14	0	0

There is a discrepancy between the modelled and reference sequences:

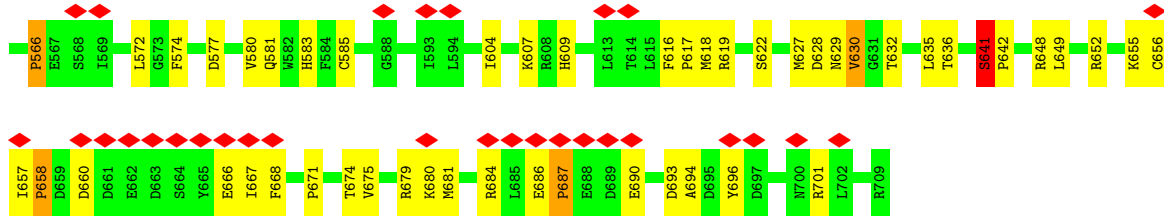| Chain	Residue	Modelled	Actual	Comment	Reference
B	379	ALA	SER	engineered mutation	UNP P00742

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.
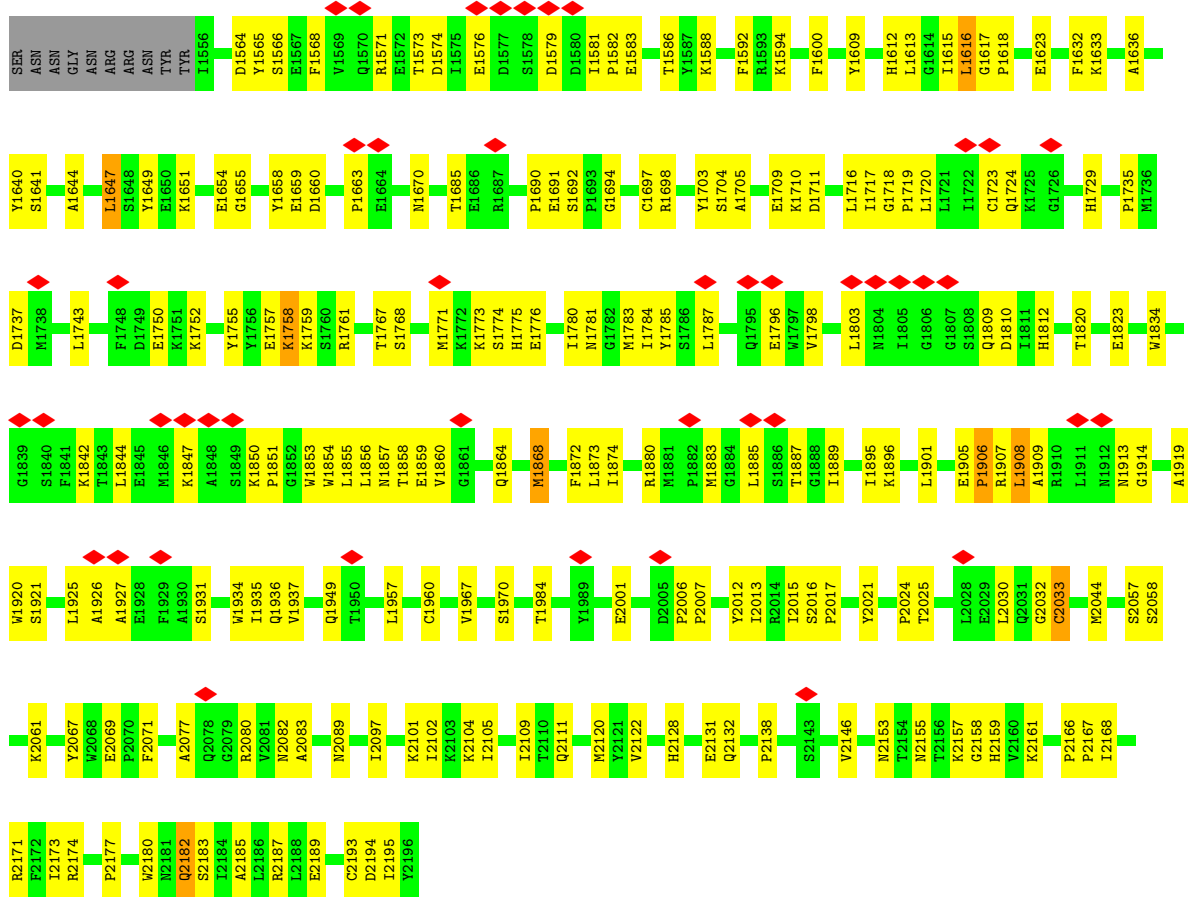
• Molecule 1: Factor X light chain

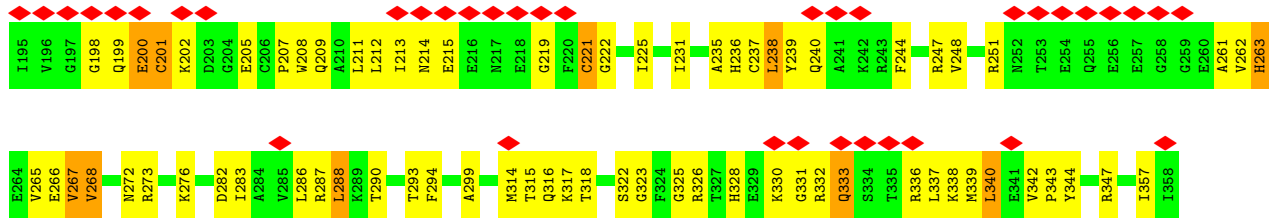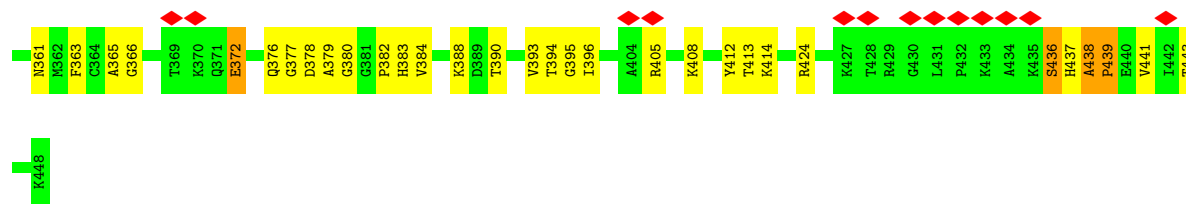

• Molecule 2: Coagulation factor Va

P566 E567 S568 I569 L572 G573 F574 D577 V580 Q581 W582 H583 F584 C585 G588 I593 L594 I604 K607 R608 H609 L613 T614 L615 F616 P617 M618 R619 S622 M627 D628 N629 V630 G631 T632 L635 T636 S641 P642 R648 L649 R652 K655 C656

I657 P658 D659 D660 D661 E662 D663 S664 Y665 E666 I667 F668 P671 T674 V675 R679 K680 M681 R684 L685 E686 P687 E688 D689 E690 D693 A694 D695 Y696 D697 N700 R701 L702 R709

• Molecule 3: Coagulation factor Va

Chain D:

7%

67%

30%

SER ASN ASN GLY ASN ARG ARG ASN TYR TYR I1556 D1564 Y1565 S1566 E1567 F1568 V1569 Q1570 R1571 E1572 T1573 D1574 I1575 E1576 D1577 S1578 D1579 D1580 I1581 P1582 E1583 T1586 Y1587 K1588 F1592 R1593 K1594 F1600 Y1609 H1612 L1613 G1614 I1615 L1616 G1617 P1618 E1623 F1632 K1633 A1636

Y1640 S1641 A1644 L1647 S1648 Y1649 E1650 K1651 E1654 G1655 Y1658 E1659 D1660 P1663 E1664 N1670 T1685 E1686 R1687 P1690 E1691 S1692 P1693 G1694 C1697 R1698 Y1703 S1704 A1705 E1709 K1710 D1711 L1716 I1717 G1718 P1719 L1720 L1721 I1722 C1723 Q1724 K1725 G1726 H1729 P1735 M1736

D1737 M1738 L1743 F1748 D1749 E1750 K1751 K1752 Y1755 Y1756 E1757 K1758 K1759 S1760 R1761 T1767 S1768 M1771 K1772 K1773 S1774 H1775 E1776 I1780 N1781 G1782 M1783 I1784 Y1785 S1786 L1787 Q1795 E1796 W1797 V1798 L1803 N1804 I1805 G1806 G1807 S1808 Q1809 D1810 I1811 H1812 T1820 E1823 W1834

G1839 S1840 F1841 K1842 T1843 L1844 M1846 K1847 A1848 S1849 K1850 P1851 G1852 W1853 W1854 L1855 L1856 N1857 T1858 V1860 G1861 Q1864 M1868 F1872 L1873 I1874 R1880 M1881 P1882 M1883 L1884 L1885 S1886 T1887 G1888 I1889 I1895 K1896 L1901 E1905 P1906 R1907 L1908 A1909 R1910 L1911 N1912 N1913 G1914 A1919

W1920 S1921 L1925 A1926 A1927 E1928 F1929 A1930 S1931 W1934 I1935 Q1936 V1937 Q1949 T1950 L1957 C1960 V1967 S1970 T1984 Y1989 E2001 D2005 P2006 P2007 Y2012 I2013 R2014 I2015 S2016 P2017 Y2021 P2024 T2025 L2028 E2029 L2030 Q2031 G2032 C2033 M2044 S2057 S2058

K2061 Y2067 W2068 E2069 P2070 F2071 A2077 Q2078 G2079 R2080 V2081 N2082 A2083 N2089 I2097 K2101 I2102 K2103 K2104 I2105 I2109 T2110 Q2111 M2120 Y2121 V2122 H2128 E2131 Q2132 P2138 S2143 V2146 N2153 T2154 N2155 T2156 K2157 G2158 H2159 V2160 K2161 P2166 P2167 I2168

R2171 F2172 I2173 R2174 P2177 W2180 N2181 Q2182 S2183 I2184 A2185 L2186 R2187 L2188 E2189 C2193 D2194 I2195 Y2196

• Molecule 4: Activated factor Xa heavy chain

Chain B:

20%

59%

35%

6%

I195 V196 G197 G198 Q199 E200 C201 K202 D203 G204 E205 C206 P207 W208 Q209 A210 L211 L212 I213 N214 E215 E216 N217 E218 G219 F220 C221 G222 I225 I231 A235 H236 C237 L238 Y239 Q240 A241 K242 R243 F244 R247 V248 R251 N252 T253 E254 Q255 E256 E257 G258 G259 E260 A261 V262 H263

E264 V265 E266 V267 V268 N272 R273 K276 D282 I283 A284 V285 L286 R287 L288 K289 T290 T293 F294 A299 M314 T315 Q316 K317 T318 S322 G323 F324 G325 R326 T327 H328 E329 K330 G331 R332 Q333 S334 T335 R336 L337 K338 M339 L340 E341 V342 P343 Y344 R347 I357 I358

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	16835	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	TFS GLACIOS	Depositor
Voltage (kV)	200	Depositor
Electron dose $(e^-/\text{Å}^2)$	51.28	Depositor
Minimum defocus (nm)	800	Depositor
Maximum defocus (nm)	2400	Depositor
Magnification	Not provided	
Image detector	FEI FALCON IV (4k x 4k)	Depositor
Maximum map value	1.071	Depositor
Minimum map value	-0.504	Depositor
Average map value	0.003	Depositor
Map value standard deviation	0.030	Depositor
Recommended contour level	0.2	Depositor
Map size (Å)	381.63998, 381.63998, 381.63998	wwPDB
Map dimensions	406, 406, 406	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.93999994, 0.93999994, 0.93999994	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	0.24	0/1107	0.43	0/1483
2	C	0.24	0/5861	0.43	0/7945
3	D	0.24	0/5358	0.43	0/7249
4	B	0.24	0/2041	0.45	0/2751
All	All	0.24	0/14367	0.43	0/19428

There are no bond length outliers.

There are no bond angle outliers.

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	1089	0	983	23	0
2	C	5715	0	5531	137	0
3	D	5217	0	5078	125	0
4	B	1999	0	1971	66	0
All	All	14020	0	13563	339	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.

All (339) 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)
4:B:437:HIS:HB3	4:B:438:ALA:HB3	1.60	0.82
4:B:380:GLY:HA2	4:B:396:ILE:HG23	1.62	0.81
2:C:313:ARG:HB3	2:C:701:ARG:HH22	1.53	0.74
2:C:325:PHE:HB2	2:C:371:TYR:HB2	1.70	0.73
2:C:37:VAL:HG12	2:C:157:GLY:HA3	1.71	0.71
4:B:318:THR:HA	4:B:343:PRO:HA	1.74	0.69
3:D:2128:HIS:HB2	3:D:2174:ARG:HB3	1.74	0.67
3:D:1612:HIS:HA	3:D:1781:ASN:HD21	1.60	0.66
2:C:420:HIS:HB3	2:C:475:ARG:HB3	1.78	0.66
4:B:436:SER:HA	4:B:439:PRO:HB3	1.76	0.66
2:C:581:GLN:NE2	2:C:622:SER:OG	2.28	0.66
3:D:2104:LYS:HB3	3:D:2193:CYS:HB3	1.77	0.65
2:C:628:ASP:OD2	4:B:347:ARG:NH2	2.30	0.65
3:D:1609:TYR:HB2	3:D:1984:THR:HG22	1.77	0.65
4:B:236:HIS:HE1	4:B:379:ALA:HB1	1.61	0.64
2:C:480:ASP:OD1	2:C:480:ASP:N	2.30	0.64
2:C:101:LEU:HD12	2:C:103:HIS:HE1	1.62	0.63
2:C:405:ILE:HG21	2:C:417:ILE:HG21	1.81	0.62
3:D:2193:CYS:SG	3:D:2194:ASP:N	2.72	0.62
4:B:283:ILE:HG12	4:B:396:ILE:HD12	1.81	0.62
3:D:1885:LEU:HD21	3:D:2030:LEU:H	1.65	0.62
3:D:1883:MET:HG3	3:D:2032:GLY:H	1.65	0.62
4:B:361:ASN:ND2	4:B:413:THR:OG1	2.33	0.62
3:D:1780:ILE:HG21	3:D:1868:MET:HB3	1.82	0.62
4:B:211:LEU:HD22	4:B:326:ARG:HH12	1.64	0.61
2:C:244:ASN:ND2	2:C:418:TYR:OH	2.32	0.61
2:C:472:CYS:HA	2:C:498:CYS:HA	1.81	0.61
2:C:316:ARG:NH1	2:C:500:SER:OG	2.34	0.61
2:C:23:ASN:HA	2:C:26:LEU:HD23	1.81	0.61
4:B:384:VAL:HA	4:B:393:VAL:HA	1.83	0.61
3:D:1564:ASP:HA	3:D:1586:THR:HA	1.82	0.61
4:B:396:ILE:H	4:B:413:THR:H	1.49	0.61
4:B:332:ARG:HH12	4:B:377:GLY:H	1.49	0.60
3:D:1970:SER:HB3	3:D:2012:TYR:HB2	1.82	0.60
2:C:604:ILE:HG13	2:C:609:HIS:HD1	1.67	0.60
4:B:221:CYS:SG	4:B:222:GLY:N	2.74	0.60
2:C:278:TRP:HB2	2:C:296:ILE:HB	1.84	0.59
3:D:1690:PRO:O	3:D:1724:GLN:NE2	2.35	0.59
3:D:1757:GLU:O	3:D:1759:LYS:N	2.34	0.59
4:B:199:GLN:NE2	4:B:339:MET:O	2.35	0.59
4:B:200:GLU:HA	4:B:338:LYS:HA	1.85	0.59
2:C:641:SER:H	2:C:642:PRO:HD2	1.67	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:2077:ALA:O	3:D:2082:ASN:ND2	2.35	0.59
2:C:675:VAL:HG21	4:B:273:ARG:HH21	1.68	0.59
4:B:328:HIS:HB3	4:B:332:ARG:HE	1.68	0.59
3:D:1616:LEU:HD21	3:D:1718:GLY:HA2	1.85	0.58
2:C:58:LEU:HB2	2:C:186:LEU:HD22	1.85	0.58
3:D:1949:GLN:HA	3:D:2001:GLU:HA	1.85	0.58
2:C:2:GLN:OE1	2:C:4:ARG:NH2	2.35	0.58
4:B:405:ARG:O	4:B:408:LYS:NZ	2.36	0.58
4:B:207:PRO:HG3	4:B:299:ALA:HB3	1.86	0.58
2:C:155:ASN:ND2	2:C:194:LYS:O	2.37	0.57
2:C:420:HIS:HD2	2:C:475:ARG:HD2	1.68	0.57
4:B:231:ILE:HB	4:B:286:LEU:HB2	1.84	0.57
4:B:342:VAL:HB	4:B:366:GLY:HA2	1.85	0.57
3:D:2111:GLN:HB3	3:D:2187:ARG:HD2	1.87	0.57
3:D:1880:ARG:NH1	3:D:2033:CYS:SG	2.78	0.56
1:A:1:ALA:N	1:A:6:GLU:OE1	2.36	0.56
2:C:185:LEU:HD11	2:C:227:TRP:HE3	1.70	0.56
3:D:1937:VAL:N	3:D:2013:ILE:O	2.38	0.56
2:C:277:LYS:HB3	2:C:435:PHE:HB2	1.87	0.56
2:C:316:ARG:NH2	2:C:693:ASP:OD2	2.39	0.56
2:C:326:ILE:HD13	2:C:405:ILE:HG23	1.87	0.56
1:A:6:GLU:HA	1:A:9:LYS:HE2	1.87	0.56
2:C:132:PRO:O	2:C:134:HIS:ND1	2.34	0.56
2:C:142:HIS:N	2:C:162:LEU:O	2.33	0.55
3:D:2120:MET:HG3	3:D:2183:SER:HB3	1.87	0.55
2:C:89:ILE:HB	3:D:1820:THR:HG23	1.88	0.55
3:D:1647:LEU:HG	3:D:1649:TYR:HD1	1.71	0.55
4:B:212:LEU:HD23	4:B:237:CYS:HB3	1.88	0.55
2:C:54:ILE:HD13	2:C:215:PRO:HG2	1.89	0.55
2:C:229:LEU:HD13	2:C:258:ILE:HG12	1.88	0.55
3:D:1565:TYR:HE1	3:D:1615:ILE:HD12	1.72	0.55
2:C:656:CYS:H	2:C:660:ASP:HB2	1.72	0.55
3:D:2128:HIS:HA	3:D:2138:PRO:HA	1.89	0.55
2:C:636:THR:HB	2:C:648:ARG:HG2	1.87	0.55
2:C:144:TYR:HD1	2:C:162:LEU:HB2	1.72	0.55
3:D:2083:ALA:HB2	3:D:2187:ARG:HG2	1.89	0.55
2:C:205:THR:HG22	2:C:210:VAL:HG22	1.88	0.55
2:C:572:LEU:HD13	2:C:649:LEU:HD21	1.89	0.55
3:D:1758:LYS:HG3	3:D:1759:LYS:HG3	1.89	0.55
2:C:485:ARG:NH2	2:C:528:SER:O	2.41	0.54
3:D:1690:PRO:HG3	3:D:1698:ARG:HB2	1.88	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:325:GLY:N	4:B:378:ASP:OD1	2.39	0.54
3:D:1588:LYS:HE2	3:D:1755:TYR:HD1	1.72	0.54
3:D:1901:LEU:HA	3:D:1925:LEU:HB3	1.89	0.54
3:D:1750:GLU:HB3	3:D:1775:HIS:HB3	1.89	0.54
3:D:1594:LYS:HB2	3:D:1618:PRO:HG3	1.88	0.54
3:D:1641:SER:OG	3:D:1670:ASN:ND2	2.41	0.54
3:D:1773:LYS:HB3	3:D:1776:GLU:HB3	1.88	0.54
2:C:95:SER:O	2:C:124:TRP:NE1	2.39	0.54
3:D:1581:ILE:HD12	3:D:1582:PRO:HD2	1.89	0.54
2:C:153:ASP:HA	2:C:158:LEU:HD12	1.89	0.53
2:C:680:LYS:HD3	2:C:681:MET:HG3	1.89	0.53
2:C:316:ARG:NH1	2:C:500:SER:O	2.35	0.53
4:B:363:PHE:HE2	4:B:414:LYS:HB2	1.72	0.53
3:D:2111:GLN:HE21	3:D:2157:LYS:HD2	1.74	0.53
3:D:1649:TYR:HE2	3:D:1654:GLU:HG3	1.73	0.53
3:D:1655:GLY:O	3:D:1670:ASN:ND2	2.35	0.53
1:A:74:GLU:OE1	1:A:75:GLY:N	2.42	0.53
4:B:323:GLY:HA3	4:B:378:ASP:H	1.74	0.53
2:C:675:VAL:H	4:B:424:ARG:HH22	1.56	0.53
3:D:1857:ASN:ND2	3:D:1859:GLU:OE1	2.42	0.52
2:C:301:CYS:SG	2:C:303:LYS:NZ	2.82	0.52
2:C:428:GLU:HG2	2:C:456:LYS:H	1.73	0.52
3:D:1709:GLU:HB3	3:D:1752:LYS:HE3	1.90	0.52
2:C:616:PHE:HD2	2:C:619:ARG:HH11	1.57	0.52
2:C:313:ARG:O	2:C:701:ARG:NH2	2.43	0.52
3:D:1644:ALA:O	3:D:1649:TYR:OH	2.25	0.52
3:D:1697:CYS:HA	3:D:1723:CYS:HA	1.91	0.52
3:D:1592:PHE:HB2	3:D:1617:GLY:HA3	1.92	0.52
3:D:1967:VAL:HG13	3:D:2015:ILE:HG22	1.90	0.52
1:A:110:SER:HA	1:A:117:LEU:HD21	1.92	0.52
2:C:400:ARG:N	2:C:459:ILE:O	2.42	0.52
3:D:2061:LYS:HG3	3:D:2067:TYR:HB3	1.92	0.52
4:B:365:ALA:HB3	4:B:412:TYR:CD1	2.45	0.52
1:A:50:CYS:SG	1:A:61:CYS:N	2.84	0.51
1:A:72:CYS:SG	1:A:73:LEU:N	2.83	0.51
2:C:227:TRP:O	2:C:267:THR:OG1	2.24	0.51
2:C:351:HIS:O	2:C:363:TYR:OH	2.23	0.51
3:D:1780:ILE:HD13	3:D:1868:MET:HA	1.92	0.51
4:B:198:GLY:HA2	4:B:340:LEU:HB3	1.91	0.51
2:C:232:MET:HG3	2:C:262:SER:HA	1.91	0.51
1:A:89:CYS:O	1:A:91:LEU:N	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:1571:ARG:HE	3:D:1574:ASP:HB3	1.76	0.51
3:D:1771:MET:HB2	3:D:1774:SER:HB3	1.92	0.51
4:B:328:HIS:HD2	4:B:330:LYS:HD3	1.76	0.51
1:A:133:GLY:HA3	4:B:390:THR:HA	1.93	0.51
2:C:684:ARG:NH2	4:B:272:ASN:O	2.42	0.51
2:C:484:MET:SD	2:C:484:MET:N	2.84	0.50
3:D:1581:ILE:HD11	3:D:1583:GLU:HG2	1.93	0.50
3:D:1851:PRO:HA	3:D:1874:ILE:HB	1.93	0.50
3:D:2132:GLN:HA	3:D:2171:ARG:HD2	1.93	0.50
2:C:18:ARG:NH1	2:C:211:ASN:OD1	2.41	0.50
3:D:1640:TYR:OH	3:D:1755:TYR:OH	2.20	0.50
2:C:334:ASP:HB3	2:C:347:TYR:HE2	1.75	0.50
3:D:1600:PHE:HE1	3:D:1633:LYS:HB3	1.76	0.50
2:C:139:CYS:HA	2:C:165:CYS:HA	1.94	0.50
1:A:76:PHE:HB2	1:A:81:CYS:HB2	1.93	0.50
2:C:574:PHE:HB2	2:C:627:MET:HB3	1.93	0.50
2:C:14:SER:HA	2:C:34:LYS:HA	1.93	0.49
2:C:36:ILE:HG22	2:C:158:LEU:HD21	1.94	0.49
2:C:58:LEU:HD11	2:C:161:PRO:HD3	1.94	0.49
3:D:1757:GLU:C	3:D:1759:LYS:H	2.15	0.49
2:C:100:TYR:CZ	3:D:1855:LEU:HB2	2.48	0.49
2:C:398:GLN:H	2:C:401:ASP:HB2	1.77	0.49
2:C:655:LYS:HA	2:C:660:ASP:HB2	1.94	0.49
4:B:202:LYS:HD2	4:B:205:GLU:HB3	1.94	0.49
4:B:383:HIS:HB3	4:B:395:GLY:HA3	1.94	0.49
2:C:629:ASN:OD1	2:C:630:VAL:N	2.44	0.49
3:D:1887:THR:HA	3:D:2159:HIS:HB2	1.94	0.49
1:A:89:CYS:SG	1:A:90:SER:N	2.86	0.49
2:C:693:ASP:OD1	2:C:694:ALA:N	2.45	0.49
3:D:1810:ASP:OD1	3:D:1812:HIS:NE2	2.46	0.49
4:B:225:ILE:HD11	4:B:248:VAL:HB	1.95	0.49
1:A:47:GLY:HA2	1:A:48:ASP:HA	1.52	0.49
3:D:2044:MET:HB2	3:D:2189:GLU:HG2	1.95	0.49
3:D:2120:MET:SD	3:D:2120:MET:N	2.86	0.49
2:C:96:GLU:HG3	2:C:98:ALA:H	1.78	0.48
2:C:346:LYS:NZ	2:C:555:SER:OG	2.46	0.48
2:C:40:GLU:HB2	2:C:60:PRO:HB3	1.96	0.48
2:C:476:PRO:HA	2:C:494:LEU:HA	1.96	0.48
3:D:1823:GLU:HA	3:D:1844:LEU:HD11	1.95	0.48
4:B:247:ARG:HB2	4:B:261:ALA:HB1	1.96	0.48
3:D:1710:LYS:HZ2	3:D:1752:LYS:HA	1.79	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:1856:LEU:HB2	3:D:1872:PHE:HD1	1.78	0.48
2:C:632:THR:HB	2:C:652:ARG:HG2	1.95	0.48
4:B:214:ASN:OD1	4:B:215:GLU:N	2.44	0.48
2:C:63:TYR:HA	2:C:163:LEU:HB2	1.96	0.48
2:C:181:LYS:HB2	2:C:225:ILE:HA	1.96	0.48
2:C:617:PRO:O	2:C:619:ARG:N	2.43	0.48
3:D:1729:HIS:ND1	3:D:1737:ASP:OD1	2.47	0.48
3:D:1632:PHE:HZ	3:D:1640:TYR:HD2	1.62	0.48
2:C:315:GLN:HG3	2:C:316:ARG:H	1.78	0.47
4:B:372:GLU:O	4:B:376:GLN:NE2	2.47	0.47
2:C:635:LEU:HD12	2:C:649:LEU:HD23	1.95	0.47
3:D:1896:LYS:O	3:D:1936:GLN:N	2.47	0.47
3:D:2131:GLU:OE1	3:D:2131:GLU:N	2.46	0.47
4:B:239:TYR:HE2	4:B:276:LYS:HG3	1.79	0.47
4:B:322:SER:HB3	4:B:382:PRO:HG2	1.95	0.47
3:D:1925:LEU:HD22	3:D:2024:PRO:HD2	1.97	0.47
2:C:92:SER:HB3	3:D:1850:LYS:HE2	1.97	0.47
2:C:525:GLU:H	2:C:556:ASN:HB3	1.79	0.47
2:C:76:ASN:ND2	2:C:80:LYS:O	2.48	0.47
2:C:359:ILE:HD13	2:C:534:ASN:HD22	1.79	0.47
2:C:73:HIS:NE2	2:C:119:GLU:HB3	2.28	0.47
4:B:238:LEU:HD22	4:B:268:VAL:HG11	1.95	0.47
4:B:438:ALA:HB1	4:B:441:VAL:H	1.80	0.47
2:C:96:GLU:N	2:C:111:ASP:OD2	2.48	0.47
2:C:137:PRO:HD3	2:C:251:ASN:HA	1.97	0.47
3:D:1834:TRP:NE1	3:D:1842:LYS:HD3	2.30	0.47
4:B:201:CYS:HB2	4:B:337:LEU:HG	1.97	0.47
3:D:1651:LYS:NZ	3:D:1660:ASP:HB3	2.30	0.47
2:C:55:SER:OG	2:C:58:LEU:O	2.33	0.46
3:D:2122:VAL:O	3:D:2153:ASN:N	2.48	0.46
2:C:657:ILE:HB	2:C:658:PRO:HD3	1.97	0.46
3:D:1864:GLN:NE2	3:D:1868:MET:O	2.47	0.46
2:C:8:VAL:HA	2:C:40:GLU:HA	1.98	0.46
3:D:1960:CYS:SG	3:D:2025:THR:OG1	2.60	0.46
3:D:1780:ILE:N	3:D:1783:MET:O	2.49	0.46
2:C:519:VAL:HG23	2:C:561:ILE:HA	1.98	0.46
3:D:1703:TYR:HB2	3:D:1716:LEU:O	2.15	0.46
2:C:80:LYS:NZ	2:C:152:GLU:OE2	2.46	0.46
2:C:161:PRO:HB3	2:C:230:LEU:HD13	1.98	0.46
3:D:2097:ILE:HB	3:D:2173:ILE:HG23	1.98	0.46
3:D:2104:LYS:HG2	3:D:2167:PRO:HB3	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:1568:PHE:HE2	3:D:1579:ASP:HB2	1.79	0.45
1:A:9:LYS:HB3	1:A:31:PHE:HD2	1.81	0.45
2:C:284:THR:OG1	2:C:287:HIS:O	2.28	0.45
2:C:398:GLN:NE2	2:C:505:ARG:O	2.50	0.45
2:C:220:CYS:HB3	2:C:299:LYS:HB2	1.98	0.45
2:C:690:GLU:OE2	4:B:357:ILE:N	2.49	0.45
3:D:2122:VAL:HG23	3:D:2185:ALA:H	1.82	0.45
4:B:317:LYS:O	4:B:344:TYR:N	2.38	0.45
1:A:77:GLU:O	1:A:82:GLU:N	2.50	0.45
2:C:101:LEU:HD23	2:C:101:LEU:H	1.81	0.45
3:D:1913:ASN:OD1	3:D:1914:GLY:N	2.49	0.45
4:B:263:HIS:CE1	4:B:288:LEU:HD13	2.52	0.45
3:D:2089:ASN:ND2	3:D:2182:GLN:O	2.49	0.45
4:B:326:ARG:HG2	4:B:333:GLN:HE22	1.81	0.45
1:A:115:TYR:HE1	1:A:134:LYS:HE2	1.82	0.45
2:C:445:ARG:HD3	2:C:445:ARG:H	1.82	0.45
2:C:519:VAL:HG12	2:C:585:CYS:HB3	1.99	0.44
3:D:1780:ILE:HD11	3:D:1785:TYR:H	1.80	0.44
3:D:1906:PRO:HA	3:D:1920:TRP:HA	1.99	0.44
3:D:2101:LYS:NZ	3:D:2102:ILE:O	2.51	0.44
3:D:2122:VAL:HG11	3:D:2177:PRO:HB3	1.99	0.44
4:B:209:GLN:HB3	4:B:251:ARG:HH21	1.81	0.44
2:C:35:LYS:NZ	2:C:155:ASN:O	2.40	0.44
2:C:222:HIS:HA	2:C:306:ARG:HH22	1.82	0.44
2:C:513:ASP:HB3	2:C:580:VAL:HG12	1.99	0.44
3:D:1640:TYR:HH	3:D:1755:TYR:HH	1.60	0.44
2:C:482:ASP:OD2	2:C:485:ARG:N	2.51	0.44
2:C:474:THR:OG1	2:C:622:SER:HB2	2.18	0.44
2:C:319:MET:HB2	2:C:400:ARG:HD3	1.99	0.44
3:D:1579:ASP:N	3:D:1579:ASP:OD1	2.51	0.44
4:B:363:PHE:CE2	4:B:414:LYS:HB2	2.53	0.44
2:C:38:TYR:HB2	2:C:59:GLY:HA3	2.00	0.43
2:C:111:ASP:HB2	2:C:122:TYR:HE1	1.84	0.43
3:D:2104:LYS:HB2	3:D:2195:ILE:HD11	1.99	0.43
2:C:191:ASP:OD1	2:C:193:SER:OG	2.32	0.43
2:C:547:ARG:HE	2:C:547:ARG:HA	1.83	0.43
3:D:1743:LEU:HD11	3:D:1787:LEU:HD22	2.01	0.43
3:D:1901:LEU:HD11	3:D:2017:PRO:HG3	2.00	0.43
3:D:1935:ILE:N	3:D:2015:ILE:O	2.47	0.43
3:D:2155:ASN:HD21	3:D:2158:GLY:HA3	1.83	0.43
2:C:90:ARG:HE	2:C:127:SER:HA	1.82	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:240:SER:H	2:C:284:THR:HG22	1.84	0.43
3:D:1568:PHE:O	3:D:1571:ARG:NH1	2.51	0.43
3:D:1905:GLU:HB2	3:D:1908:LEU:HB3	2.01	0.43
3:D:1960:CYS:HA	3:D:2021:TYR:HB3	2.01	0.43
4:B:265:VAL:HG23	4:B:287:ARG:O	2.18	0.43
2:C:92:SER:HA	3:D:1854:TRP:HH2	1.83	0.43
3:D:1568:PHE:HB3	3:D:1785:TYR:HB2	2.01	0.43
2:C:186:LEU:HD12	2:C:231:GLY:HA2	2.01	0.43
2:C:323:GLU:HB3	2:C:404:LYS:HE2	2.00	0.43
1:A:101:HIS:O	1:A:101:HIS:ND1	2.51	0.43
2:C:72:VAL:HG13	2:C:122:TYR:HB2	2.01	0.43
2:C:666:GLU:HG2	2:C:668:PHE:HD2	1.83	0.43
1:A:9:LYS:HD2	1:A:31:PHE:HA	2.00	0.43
2:C:629:ASN:H	2:C:655:LYS:HZ3	1.67	0.43
2:C:192:GLU:HB3	2:C:201:SER:HB3	1.99	0.42
2:C:342:ASN:HD21	2:C:566:PRO:HB2	1.84	0.42
4:B:437:HIS:H	4:B:438:ALA:C	2.22	0.42
1:A:62:LYS:NZ	1:A:64:GLY:HA3	2.34	0.42
2:C:141:THR:HG22	2:C:163:LEU:HG	2.02	0.42
2:C:310:LYS:HG2	2:C:460:LEU:HD13	2.00	0.42
2:C:686:GLU:HB3	2:C:687:PRO:HD3	2.01	0.42
4:B:248:VAL:HG22	4:B:263:HIS:HB2	2.00	0.42
1:A:48:ASP:N	1:A:48:ASP:OD1	2.53	0.42
2:C:409:ASN:ND2	2:C:413:ARG:O	2.50	0.42
4:B:248:VAL:H	4:B:263:HIS:HB2	1.85	0.42
4:B:314:MET:HG3	4:B:315:THR:HG23	2.01	0.42
2:C:607:LYS:HE2	2:C:607:LYS:HB2	1.91	0.42
3:D:1719:PRO:HB3	3:D:1803:LEU:HD22	2.02	0.42
4:B:328:HIS:CD2	4:B:330:LYS:HB2	2.54	0.42
3:D:1623:GLU:HG3	3:D:1735:PRO:HG3	2.01	0.42
3:D:1812:HIS:CD2	3:D:1860:VAL:HG11	2.54	0.42
3:D:1812:HIS:HB3	3:D:1858:THR:HB	2.02	0.42
3:D:2105:ILE:HB	3:D:2168:ILE:HD12	2.00	0.42
3:D:2109:ILE:HG22	3:D:2189:GLU:HB3	2.02	0.42
3:D:1907:ARG:O	3:D:1909:ALA:N	2.53	0.42
3:D:2057:SER:OG	3:D:2058:SER:N	2.52	0.42
3:D:2069:GLU:HB3	3:D:2071:PHE:CE1	2.55	0.42
4:B:213:ILE:HA	4:B:219:GLY:HA2	2.02	0.42
4:B:293:THR:OG1	4:B:294:PHE:N	2.52	0.42
2:C:64:ALA:N	2:C:163:LEU:O	2.52	0.42
3:D:1616:LEU:HD23	3:D:1617:GLY:N	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:1934:TRP:HA	3:D:2016:SER:HB2	2.01	0.42
2:C:76:ASN:O	2:C:117:GLY:N	2.50	0.42
2:C:160:GLY:HA2	2:C:161:PRO:HD3	1.86	0.42
3:D:1566:SER:HA	3:D:1784:ILE:HD12	2.02	0.42
3:D:1796:GLU:HB3	3:D:1798:VAL:HG13	2.02	0.42
2:C:675:VAL:HG22	2:C:679:ARG:HG3	2.01	0.42
3:D:2122:VAL:HA	3:D:2180:TRP:HA	2.01	0.42
1:A:113:ARG:H	1:A:113:ARG:HG3	1.71	0.41
4:B:209:GLN:HE22	4:B:323:GLY:HA2	1.85	0.41
2:C:515:GLU:OE2	2:C:583:HIS:ND1	2.53	0.41
3:D:1889:ILE:HG13	3:D:2161:LYS:H	1.84	0.41
2:C:9:ALA:HB1	2:C:77:LYS:HE2	2.01	0.41
2:C:139:CYS:HB2	2:C:267:THR:HG21	2.01	0.41
2:C:170:LEU:HD13	2:C:176:GLN:HA	2.02	0.41
3:D:1647:LEU:HD23	3:D:1647:LEU:H	1.85	0.41
3:D:1895:ILE:HD11	3:D:1935:ILE:HG22	2.02	0.41
3:D:2166:PRO:HA	3:D:2167:PRO:HD3	1.91	0.41
4:B:336:ARG:NH1	4:B:337:LEU:HB3	2.35	0.41
4:B:221:CYS:HB2	4:B:379:ALA:HB3	2.01	0.41
4:B:288:LEU:HD23	4:B:288:LEU:H	1.85	0.41
1:A:90:SER:N	1:A:100:CYS:SG	2.93	0.41
2:C:233:SER:HB3	2:C:239:PHE:HE2	1.85	0.41
2:C:351:HIS:HB3	2:C:359:ILE:HD12	2.03	0.41
2:C:577:ASP:H	4:B:347:ARG:HH12	1.66	0.41
3:D:1704:SER:HB3	3:D:1711:ASP:HB3	2.03	0.41
3:D:1920:TRP:CH2	3:D:1935:ILE:HG12	2.56	0.41
4:B:240:GLN:HE22	4:B:276:LYS:HD3	1.85	0.41
2:C:144:TYR:CD1	2:C:162:LEU:HB2	2.55	0.41
4:B:235:ALA:N	4:B:282:ASP:OD1	2.37	0.41
3:D:1757:GLU:HB3	3:D:1761:ARG:HH12	1.86	0.41
2:C:283:LEU:HD22	2:C:483:ILE:HG21	2.03	0.41
2:C:425:SER:HB2	2:C:457:TRP:HE3	1.86	0.41
3:D:1704:SER:OG	3:D:1705:ALA:N	2.54	0.41
1:A:61:CYS:HB3	1:A:68:TYR:HB2	2.03	0.41
2:C:280:ILE:H	2:C:295:TYR:HA	1.86	0.41
3:D:2069:GLU:N	3:D:2069:GLU:OE1	2.53	0.41
4:B:267:VAL:HG12	4:B:268:VAL:H	1.86	0.41
1:A:56:GLN:H	1:A:56:GLN:HG3	1.74	0.41
2:C:417:ILE:HG23	2:C:430:GLU:HG3	2.03	0.41
4:B:326:ARG:NH1	4:B:378:ASP:OD2	2.53	0.41
2:C:157:GLY:HA2	2:C:190:PHE:HE1	1.86	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:1600:PHE:CE1	3:D:1633:LYS:HB3	2.55	0.40
2:C:235:GLY:N	2:C:237:GLU:OE1	2.55	0.40
3:D:1906:PRO:HA	3:D:1921:SER:H	1.86	0.40
1:A:97:ASP:HA	4:B:388:LYS:HD3	2.03	0.40
3:D:1857:ASN:OD1	3:D:1857:ASN:N	2.54	0.40
2:C:526:ASN:HA	2:C:531:LEU:HD13	2.03	0.40
3:D:1658:TYR:HD2	3:D:1659:GLU:HG3	1.87	0.40
3:D:1853:TRP:CD1	3:D:1873:LEU:HD13	2.57	0.40
3:D:1925:LEU:O	3:D:1927:ALA:N	2.54	0.40
3:D:2006:PRO:HA	3:D:2007:PRO:HD3	1.97	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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	137/139 (99%)	106 (77%)	26 (19%)	5 (4%)	3	27
2	C	707/709 (100%)	545 (77%)	139 (20%)	23 (3%)	4	29
3	D	639/651 (98%)	483 (76%)	139 (22%)	17 (3%)	5	33
4	B	252/254 (99%)	191 (76%)	52 (21%)	9 (4%)	3	27
All	All	1735/1753 (99%)	1325 (76%)	356 (20%)	54 (3%)	7	30

All (54) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	C	658	PRO
3	D	1663	PRO
3	D	1758	LYS
4	B	439	PRO
1	A	90	SER

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Mol	Chain	Res	Type
1	A	131	PRO
2	C	383	PRO
2	C	566	PRO
2	C	687	PRO
3	D	1926	ALA
4	B	208	TRP
2	C	51	GLN
2	C	641	SER
3	D	1636	ALA
3	D	1768	SER
3	D	1906	PRO
3	D	1957	LEU
4	B	333	GLN
1	A	17	CYS
1	A	81	CYS
2	C	265	SER
2	C	379	HIS
2	C	465	PRO
3	D	1692	SER
3	D	1931	SER
3	D	2080	ARG
3	D	2182	GLN
4	B	266	GLU
1	A	34	SER
2	C	148	GLU
2	C	393	PRO
2	C	499	LYS
2	C	618	MET
3	D	1767	THR
3	D	1847	LYS
3	D	1908	LEU
3	D	1919	ALA
4	B	263	HIS
4	B	438	ALA
2	C	263	ALA
2	C	339	ILE
2	C	432	ASN
4	B	436	SER
2	C	86	PRO
2	C	89	ILE
4	B	331	GLY
2	C	132	PRO

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Mol	Chain	Res	Type
2	C	514	ILE
3	D	2146	VAL
3	D	1694	GLY
4	B	262	VAL
2	C	116	PRO
2	C	667	ILE
2	C	671	PRO

5.3.2   Protein sidechains ⓘ

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	122/122 (100%)	116 (95%)	6 (5%)	25	51
2	C	637/637 (100%)	619 (97%)	18 (3%)	43	65
3	D	567/576 (98%)	555 (98%)	12 (2%)	53	72
4	B	215/215 (100%)	201 (94%)	14 (6%)	17	43
All	All	1541/1550 (99%)	1491 (97%)	50 (3%)	42	61

All (50) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	17	CYS
1	A	23	SER
1	A	61	CYS
1	A	62	LYS
1	A	71	THR
1	A	100	CYS
2	C	31	THR
2	C	34	LYS
2	C	47	LYS
2	C	101	LEU
2	C	206	VAL
2	C	306	ARG
2	C	313	ARG
2	C	338	VAL

Continued on next page...

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Mol	Chain	Res	Type
2	C	358	GLN
2	C	379	HIS
2	C	445	ARG
2	C	480	ASP
2	C	506	ARG
2	C	551	LYS
2	C	630	VAL
2	C	641	SER
2	C	674	THR
2	C	696	TYR
3	D	1573	THR
3	D	1576	GLU
3	D	1613	LEU
3	D	1616	LEU
3	D	1647	LEU
3	D	1685	THR
3	D	1691	GLU
3	D	1717	ILE
3	D	1720	LEU
3	D	1809	GLN
3	D	1868	MET
3	D	2033	CYS
4	B	200	GLU
4	B	201	CYS
4	B	221	CYS
4	B	238	LEU
4	B	244	PHE
4	B	267	VAL
4	B	268	VAL
4	B	288	LEU
4	B	290	THR
4	B	316	GLN
4	B	340	LEU
4	B	372	GLU
4	B	394	THR
4	B	443	THR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (27) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	105	ASN
2	C	5	GLN

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Mol	Chain	Res	Type
2	C	244	ASN
2	C	300	ASN
2	C	315	GLN
2	C	398	GLN
2	C	420	HIS
2	C	534	ASN
2	C	581	GLN
2	C	597	HIS
3	D	1670	ASN
3	D	1724	GLN
3	D	1781	ASN
3	D	1804	ASN
3	D	1809	GLN
3	D	1815	HIS
3	D	1817	HIS
3	D	1824	ASN
3	D	1940	GLN
3	D	2031	GLN
3	D	2089	ASN
3	D	2128	HIS
4	B	236	HIS
4	B	240	GLN
4	B	316	GLN
4	B	328	HIS
4	B	361	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 monosaccharides in this entry.

5.6　Ligand geometry　ⓘ

There are no ligands in this entry.

5.7　Other polymers　ⓘ

There are no such residues in this entry.

5.8　Polymer linkage issues　ⓘ

There are no chain breaks in this entry.

6　Map visualisation ⓘ

This section contains visualisations of the EMDB entry EMD-26061. 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 ⓘ
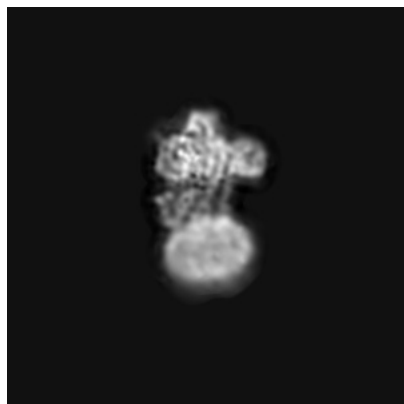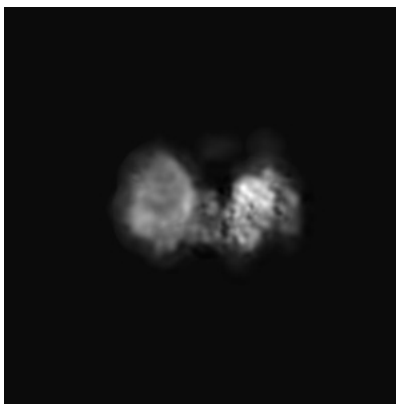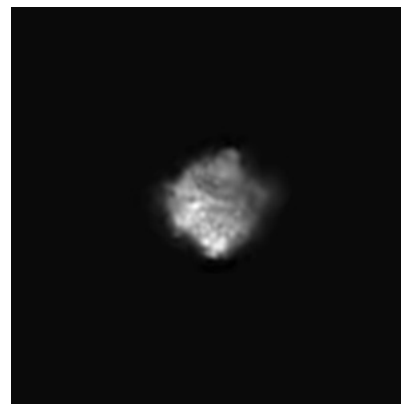
6.1.1　Primary map

X　　　　　　　　　　　Y　　　　　　　　　　　Z

6.1.2　Raw map

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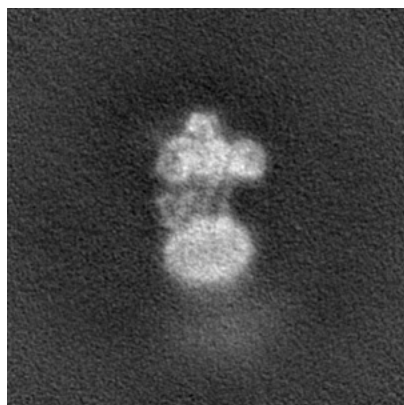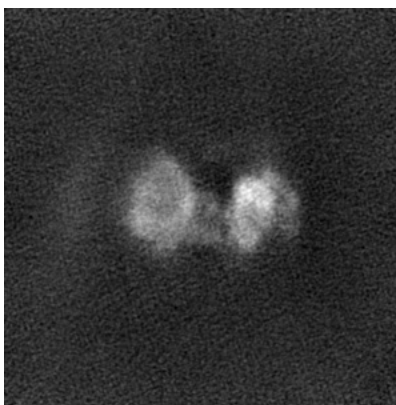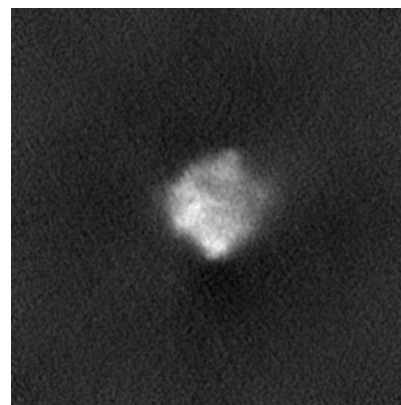
The images above show the map projected in three orthogonal directions.

6.2　Central slices (i)

6.2.1　Primary map
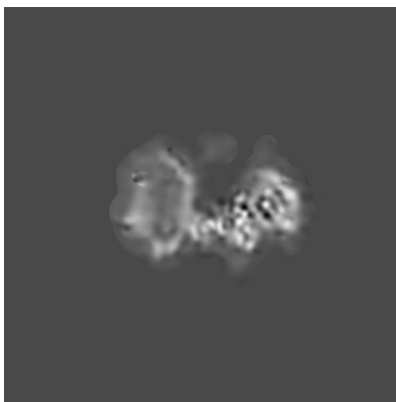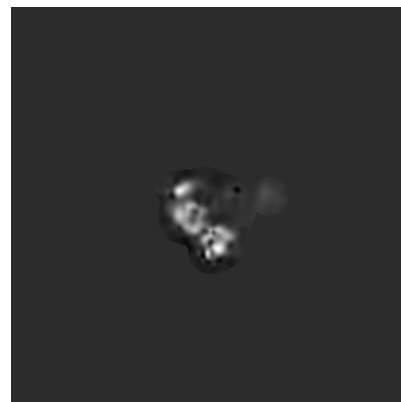
| X Index: 203 | Y Index: 203 | Z Index: 203 |

6.2.2　Raw map
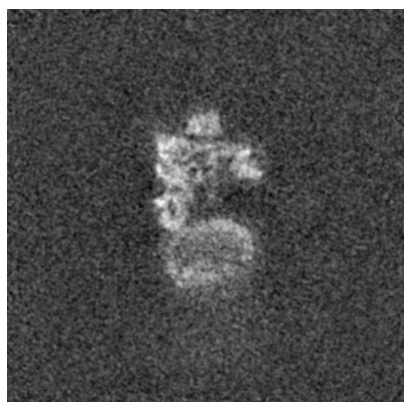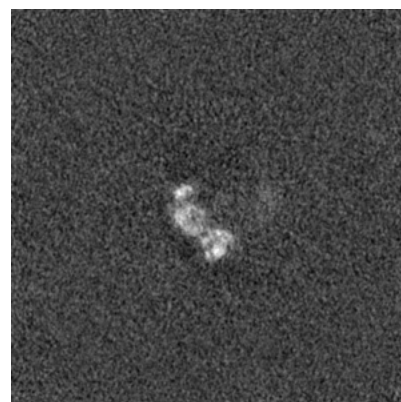
| X Index: 203 | Y Index: 203 | Z Index: 203 |

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

6.3 Largest variance slices (i)

6.3.1 Primary map
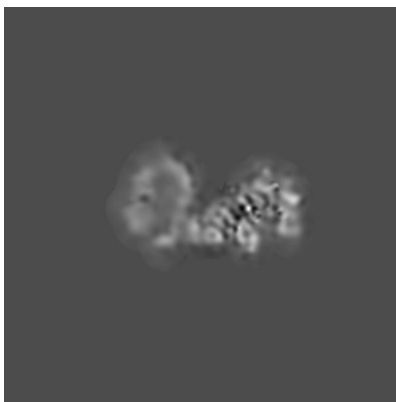
X Index: 213   Y Index: 188   Z Index: 242

6.3.2 Raw map
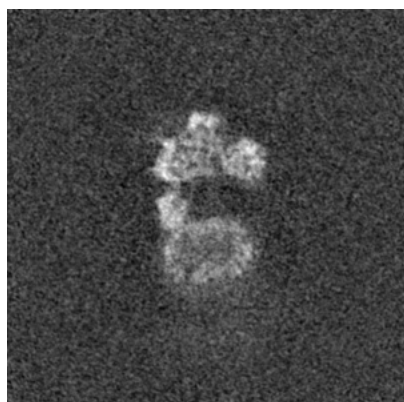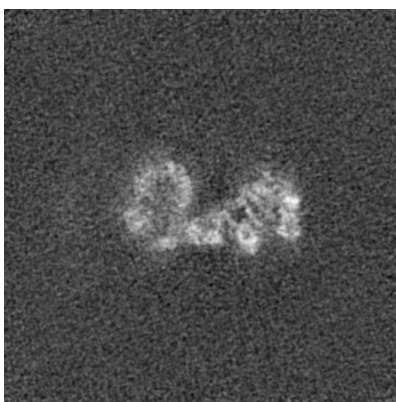
X Index: 212   Y Index: 189   Z Index: 243
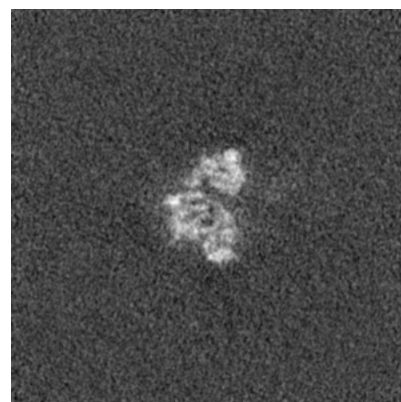
The images above show the largest variance slices of the map in three orthogonal directions.

6.4　Orthogonal surface views ⓘ

6.4.1　Primary map

| X | Y | Z |
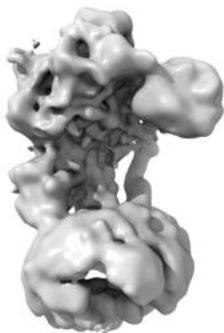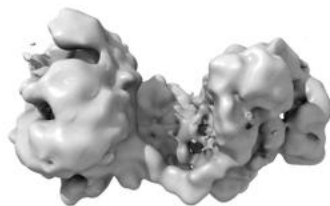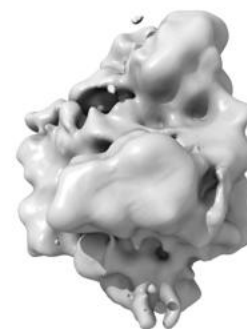
The images above show the 3D surface view of the map at the recommended contour level 0.2. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.4.2　Raw map
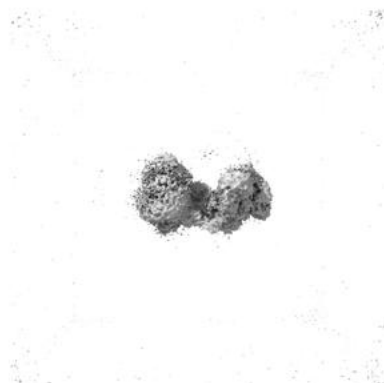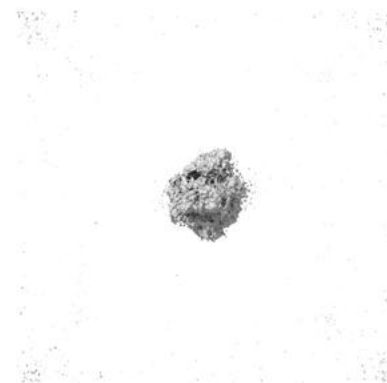
| X | Y | Z |

These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

6.5 Mask visualisation ⓘ

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

6.5.1 emd_26061_msk_1.map ⓘ

X   Y   Z
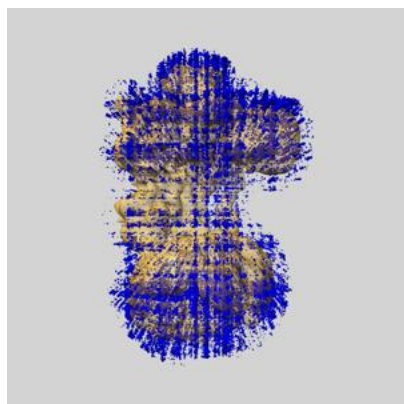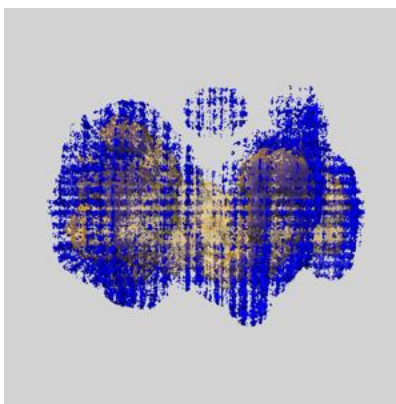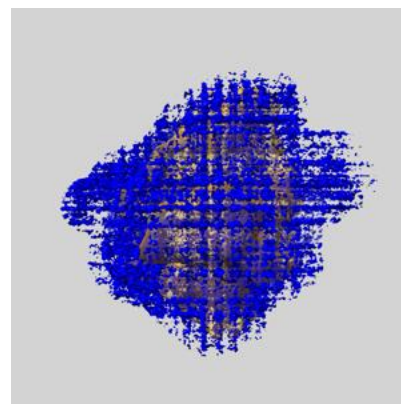
7　Map analysis ⓘ

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

7.1　Map-value distribution ⓘ

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 ⓘ
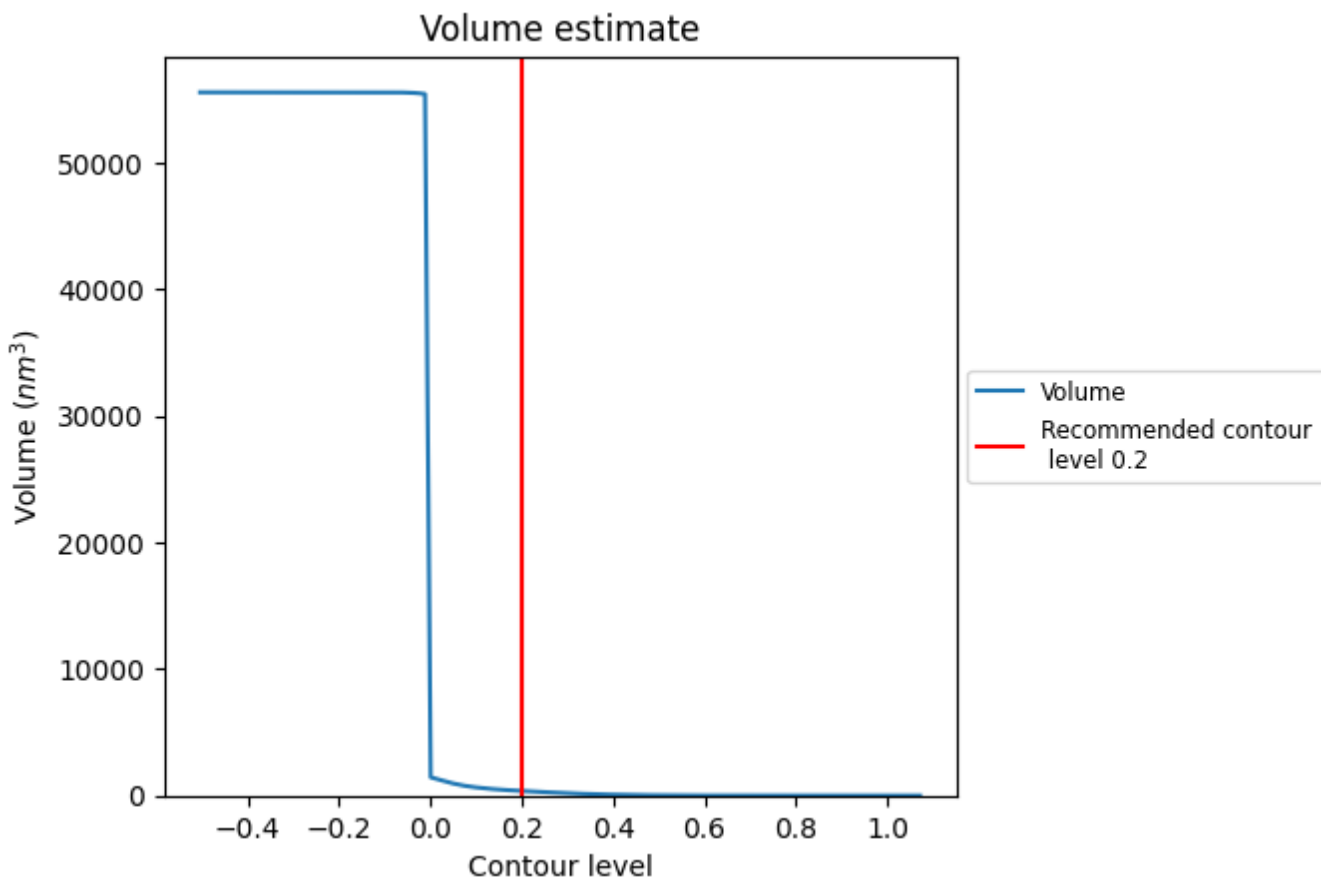
The volume at the recommended contour level is 365 nm^3; this corresponds to an approximate mass of 330 kDa.

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)
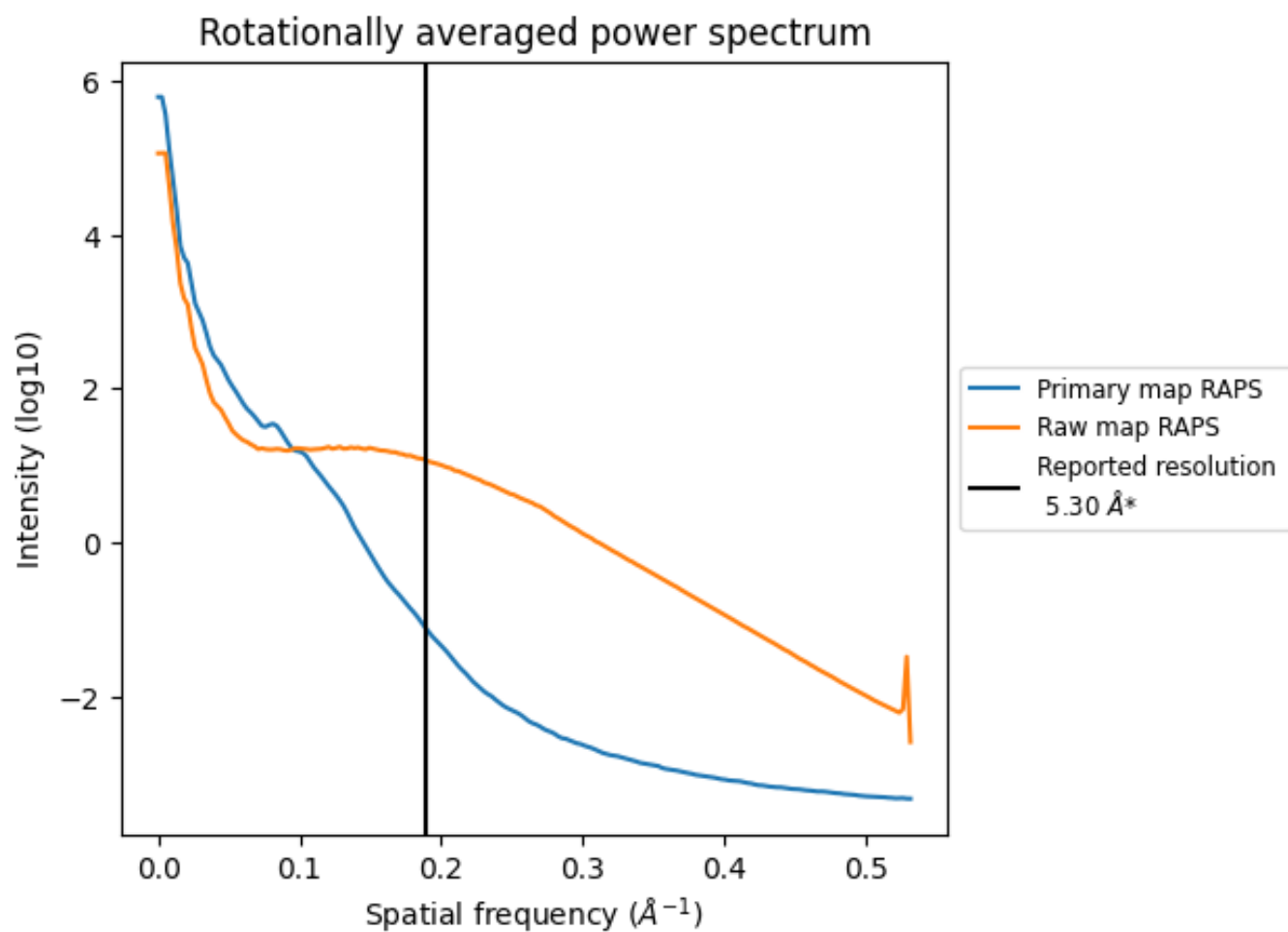
*Reported resolution corresponds to spatial frequency of 0.189 Å^{-1}

8 Fourier-Shell correlation ⓘ

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 ⓘ
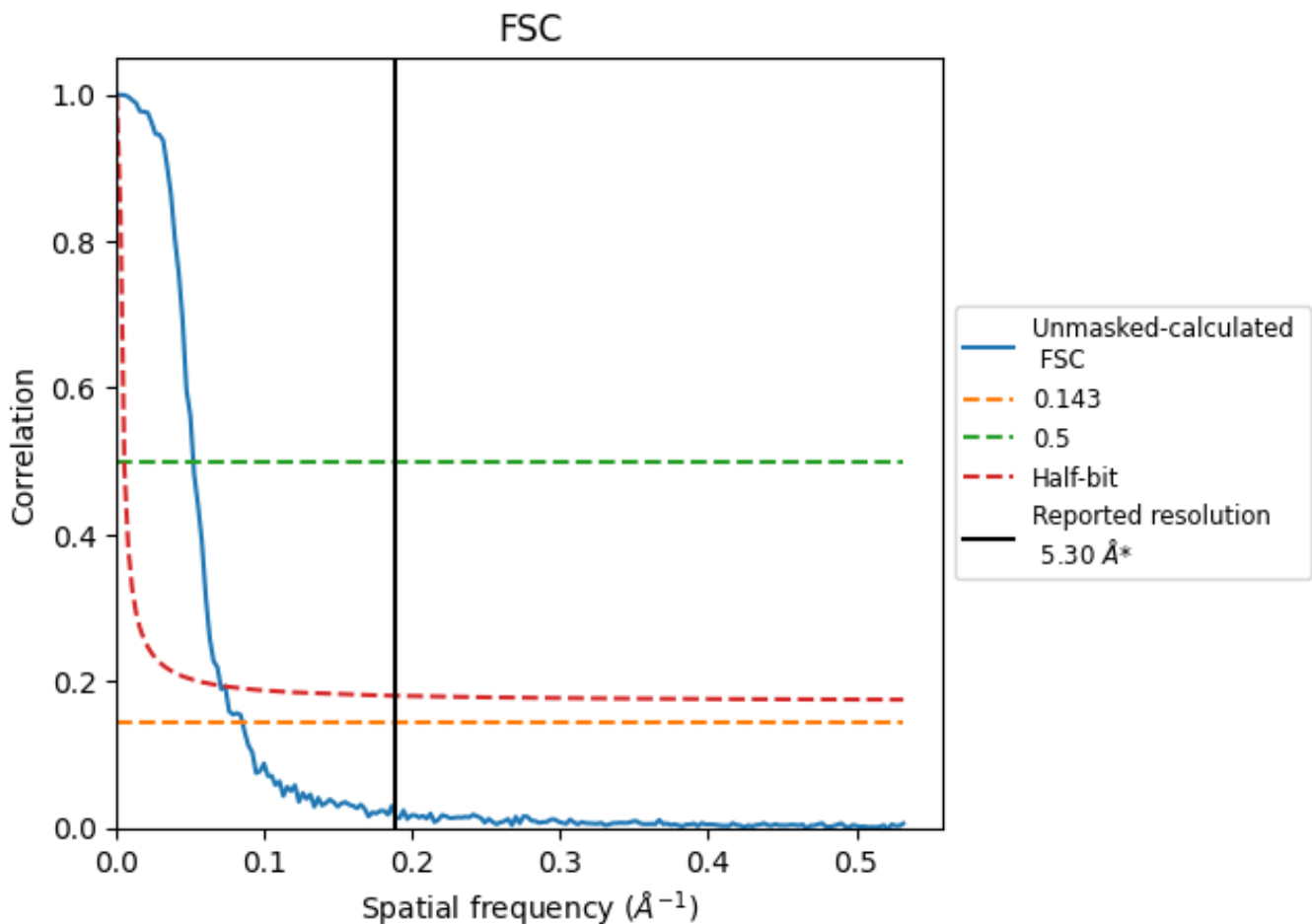
*Reported resolution corresponds to spatial frequency of 0.189 Å^{-1}

8.2   Resolution estimates ⓘ

Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	5.30	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	11.75	19.31	14.22

*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 11.75 differs from the reported value 5.3 by more than 10 %

9   Map-model fit ⓘ

This section contains information regarding the fit between EMDB map EMD-26061 and PDB model 7TPQ. Per-residue inclusion information can be found in section 3 on page 4.

9.1   Map-model overlay ⓘ

X   Y   Z
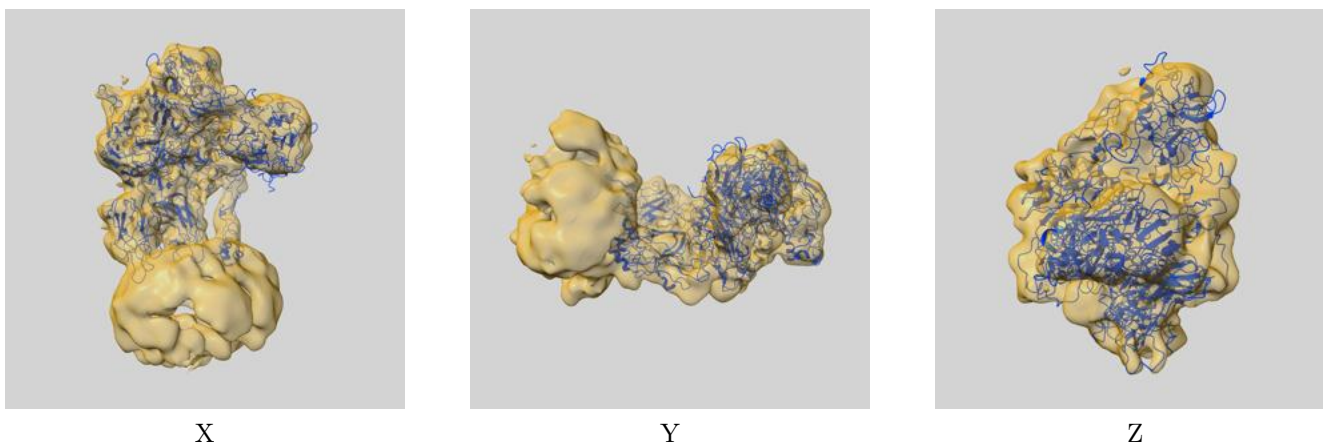
The images above show the 3D surface view of the map at the recommended contour level 0.2 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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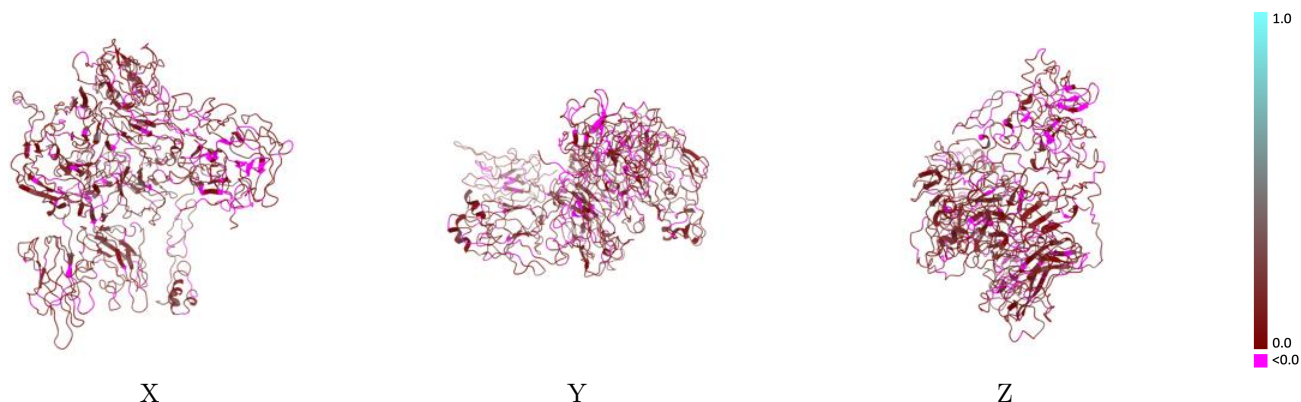
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

9.3　Atom inclusion mapped to coordinate model ⓘ
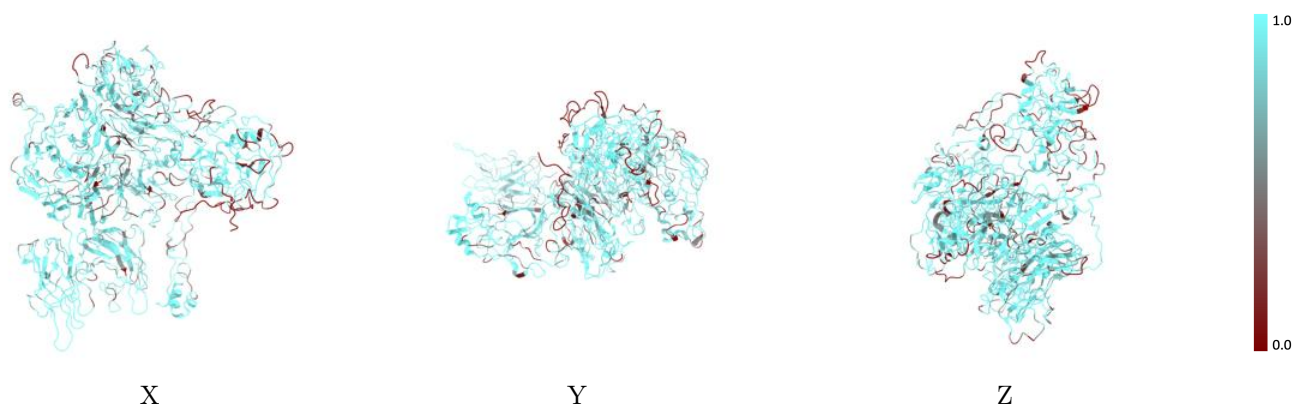
The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.2).

9.4 Atom inclusion (i)
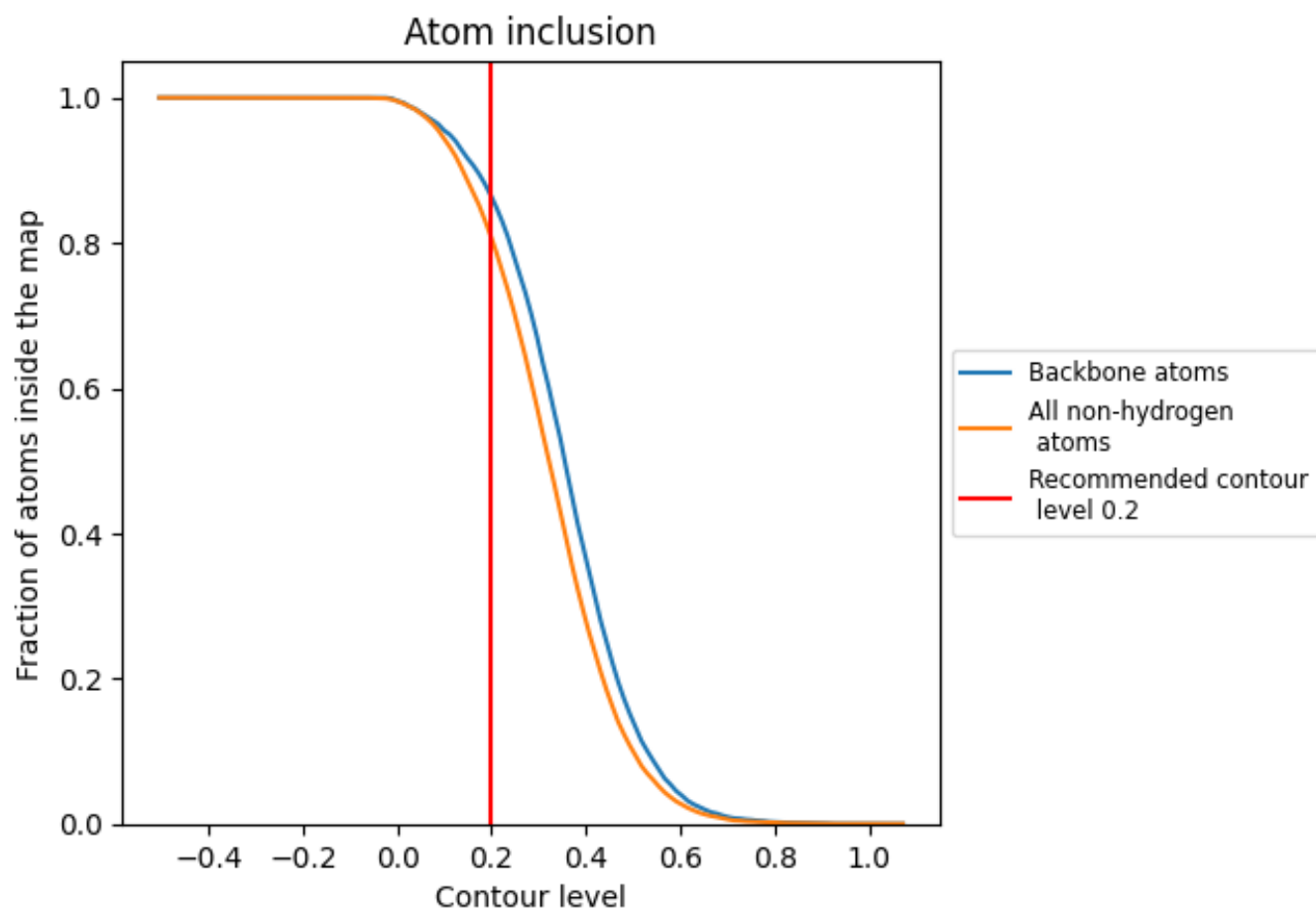
At the recommended contour level, 86% of all backbone atoms, 81% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary ⓘ

The table lists the average atom inclusion at the recommended contour level (0.2) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.8064	0.1090
A	0.6794	0.0990
B	0.7731	0.0660
C	0.8023	0.1070
D	0.8503	0.1300

1.0

0.0

<0.0