



Full wwPDB EM Validation Report ⓘ

Oct 1, 2024 – 11:04 am BST

PDB ID : 8QRI
EMDB ID : EMD-18619
Title : TRRAP and EP400 in the human Tip60 complex
Authors : Li, C.; Smirnova, E.; Schnitzler, C.; Crucifix, C.; Concordet, J.P.; Brion, A.; Poterszman, A.; Schultze, P.; Papai, G.; Ben-Shem, A.
Deposited on : 2023-10-09
Resolution : 3.50 Å(reported)

This is a Full wwPDB EM Validation 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

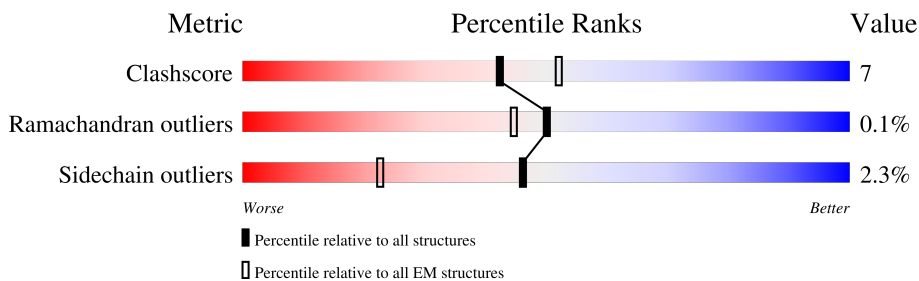
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.50 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	C	3859	
2	A	3159	

2 Entry composition [i](#)

There are 2 unique types of molecules in this entry. The entry contains 55049 atoms, of which 27845 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 Transformation/transcription domain-associated protein.

Mol	Chain	Residues	Atoms						AltConf	Trace
			Total	C	H	N	O	S		
1	C	3246	52887	16810	26759	4496	4634	188	0	0

- Molecule 2 is a protein called E1A-binding protein p400.

Mol	Chain	Residues	Atoms						AltConf	Trace
			Total	C	H	N	O	S		
2	A	134	2162	674	1086	197	201	4	0	0

T2509	ASP	A2528	T2388	L2389	E2390	R2391	L2395	L2396	M2399	M2400	I2403	A2404	K2405	R2406	E2409	D2410	L2411	E2412	L2413	N2414	A2415	V2421	N2422	Y2423	V2424	Y2425	R2426	D2427	L2435	L2436	A2442	F2443	L2444	N2464	R2468	R2473	A2485	N2486	G2487	E2497	L2498	L2499	V2502														
S909	LYS	I1221	R1383	I1386	L1390	M1395	E1509	E1510	M1511	M1512	I1513	I1517	I1518	I1524	K1533	P1534	T1542	E1543	R1544	I1547	R1548	E1549	P1557	L1558	L1562	H1565	T1569	V1570	E1571	L1572	M1574	M1575	E1576	N1580	F1588	L1592	L1614	L1615	L1616	PRO	GLY	ALA	GLN														
L1221	LYS	ASP	GLU	E1225	E1229	D1244	E1248	R1410	S1251	P1252	R1257	L1264	Q1265	V1266	V1270	S1274	V1275	T1276	V1277	M1279	M1289	V1290	P1291	N1303	A1304	Q1305	M1309	E1310	N1312	Q1319	P1320	E1346	D1347	L1350	S1358	L1359	P1360	R1366	L1379	M1215	S1382																
R1383	I1386	L1390	M1395	E1406	M1409	R1410	K1411	F1412	I1423	H1424	T1425	P1429	L1430	M1433	R1447	T1452	R1452	R1453	L1454	D1461	K1462	M1467	M1468	M1475	E1476	V1477	V1478	V1479	K1483	GLY	GLY	GLN	ARG	ASP	GLY	ASN	GLU	SER	ILE	SER	ILE	SER	GLU	CYS	GLY	ARG	CYS										
PRO	LEU	SER	PRO	PHE	GLN	PHE	E1509	PHE	M1511	K1512	I1513	I1517	I1518	I1524	K1533	P1534	T1542	E1543	R1544	I1547	R1548	E1549	P1557	L1558	L1562	H1565	T1569	V1570	E1571	L1572	M1574	M1575	E1576	N1580	F1588	L1592	L1614	L1615	L1616	PRO	GLY	ALA	GLN														
THR	ALA	VAL	ARG	PRO	GLY	SER	PRO	THR	THR	THR	THR	R1635	L1636	D1637	L1657	E1678	R1679	HIS	ARG	LYS	GLY	ASN	R1706	L1714	F1715	R1719	A1720	R1724	L1732	K1733	E1734	Y1735	M1736	F1741	LYS	ASN	TYR	SER	ILE	SER	ALA	Q1748	F1753	F1756													
V1757	K1769	Q1774	M1778	S1784	PHE	GLU	LYS	GLY	GLU	GLY	GLU	L1806	L1807	L1808	L1809	V1810	F1811	I1812	D1823	M1824	L1825	L1838	L1839	V1840	E1841	H1842	A1843	HIS	HIS	ILE	HIS	ASN	ASP	ASN	LYS	ASN	ASN	ASN	ASN	ASN	ASN	ASN	ASN	ASN													
SER	K1857	L1858	R1859	M1862	T1863	F1864	A1865	M1866	P1867	C1868	L1869	L1870	S1871	K1872	A1873	C1874	H1884	I1890	I1891	A1892	K1893	F1894	A1895	I1896	H1897	K1898	L1899	I1900	V1901	A1911	H1912	A1913	M1914	E1915	A1916	R1917	A1918	A1923	M1924	A1925	I1926	L1927	T1928	P1932	A1933	R1934	M1935	E1936	D1937	G1938	H1939	Q1940	M1941				
L1942	T1943	H1944	R1947	K1948	I1949	L1950	V1951	E1952	E1953	GLY	HIS	THR	VAL	PRO	GLN	L1960	I1963	L1964	H1965	H1970	H1971	LYS	VAL	TYR	TYR	VAL	VAL	ARG	ARG	H1979	V1982	M1989	Q1990	R1991	F1994	THR	PRO	SER	VAL	THR	ILE	E2001	Q2002	R2003	L2009	V2013	R2020	ILE	LYS	ASP	GLN						
GLN	PRO	ASP	SER	MET	ASP	PRO	ASN	SER	GLY	GLY	VAL	THR	VAL	VAL	SER	SER	ILE	LYS	ARG	GLY	LEU	SER	VAL	ASP	SER	ALA	GLN	GLU	VAL	LYS	TRP	GLY	ILE	SER	ALA	VAL	PHE	GLY	ARG	SER	GLN	SER	SER	LEU	PRO	GLY	ALA	ASP	SER	SER	LEU						
LEU	ALA	LYS	PRO	ILE	D2090	H2093	T2094	D2095	T2096	V2097	N2098	N2099	I2102	V2108	ASN	ASN	THR	ASN	THR	THR	THR	ALA	GLY	SER	VAL	PRO	ALA	G2119	L2129	L2130	R2131	T2132	M2133	LEU	ARG	PRO	ASP	ASP	MET	TRP	PRO	PRO	LYS	S2142	E2143	Q2147	W2148	K2151	P2265	D2287	R2288	V2292	M2300	V2301	L2305	N2306	V2162
N2163	Y2164	G2165	N2166	I2167	S2175	F2176	K2191	R2195	T2202	K2207	P2224	THR	GLU	PRO	SER	THR	THR	THR	ALA	GLY	SER	VAL	ALA	ALA	SER	LYS	Y2236	L2239	E2240	Y2243	Y2251	T2255	T2255	ASN	TRP	GLU	LYS	ALA	ALA	ASN	ALA	ASN	P2265	D2287	R2288	V2292	M2300	V2301	L2305	N2306	V2162						
F2307	GLN	ALA	ALA	SER	GLY	SER	THR	THR	ALA	THR	S2318	S2321	V2324	M2325	T2333	R2334	V2337	M2338	S2339	M2340	E2341	M2342	R2343	T2350	S2353	K2357	S2358	P2359	D2360	L2364	R2365	R2366	V2367	V2368	V2371	E2372	V2375	R2376	ASN	ASN	PRO	PRO	LYS	N2485	N2486	G2487	E2497	L2498	L2499	F2387							
T2388	L2389	E2390	L2395	L2396	M2399	M2400	I2403	A2404	K2405	R2406	E2409	D2410	L2411	E2412	L2413	N2414	A2415	V2421	N2422	Y2423	V2424	Y2425	R2426	D2427	L2435	L2436	A2442	F2443	L2444	N2464	R2468	R2473	A2485	N2486	G2487	E2497	L2498	L2499	V2502																		
T2509	G2510	T2511	A2528	SER	HIS	ASP	ARG	ALA	ALA	PHE	ALA	MET	VAL	THR	HIS	VAL	GLN	GLU	PRO	ARG	GLU	ARG	GLU	GLU	LYS	GLU	LEU	SER	GLY	VAL	GLU	ILE	ASP	ILE	GLU	LEU	ALA	PRO	GLY	GLN	THR	SER	THR	PRO	LYS	THR	LYS	GLU	LEU	SER	GLU	LYS					

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4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	181210	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 ($e^-/\text{\AA}^2$)	52	Depositor
Minimum defocus (nm)	1500	Depositor
Maximum defocus (nm)	3200	Depositor
Magnification	Not provided	
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	42.128	Depositor
Minimum map value	-11.918	Depositor
Average map value	0.003	Depositor
Map value standard deviation	1.005	Depositor
Recommended contour level	9.5	Depositor
Map size (\AA)	482.72, 482.72, 482.72	wwPDB
Map dimensions	560, 560, 560	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (\AA)	0.862, 0.862, 0.862	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	C	0.27	0/26668	0.49	1/36065 (0.0%)
2	A	0.25	0/1096	0.49	0/1485
All	All	0.27	0/27764	0.49	1/37550 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	C	0	2

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed($^{\circ}$)	Ideal($^{\circ}$)
1	C	1868	CYS	CA-CB-SG	5.62	124.12	114.00

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	C	1290	VAL	Peptide
1	C	1866	TRP	Peptide

5.2 Too-close contacts [i](#)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	C	26128	26759	26729	349	0
2	A	1076	1086	1084	17	0
All	All	27204	27845	27813	360	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.

All (360) 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:C:1248:GLU:OE2	1:C:1248:GLU:N	2.01	0.94
1:C:2641:SER:OG	1:C:2644:GLN:OE1	1.97	0.82
1:C:2711:GLU:OE2	1:C:2752:TYR:OH	1.99	0.80
1:C:3543:GLU:OE2	1:C:3582:ARG:NH1	2.17	0.78
1:C:3146:VAL:O	2:A:2521:ARG:NH1	2.17	0.77
1:C:700:MET:O	1:C:756:TYR:OH	2.00	0.77
1:C:2925:VAL:HG21	1:C:3667:THR:HG21	1.65	0.76
1:C:3574:VAL:HG22	1:C:3584:VAL:HG23	1.68	0.75
1:C:3617:ASP:OD1	1:C:3618:ARG:N	2.20	0.74
1:C:2677:GLU:OE1	1:C:2705:ARG:NH1	2.22	0.72
1:C:627:GLU:N	1:C:627:GLU:OE1	2.21	0.72
1:C:2143:GLU:O	1:C:2147:GLN:NE2	2.23	0.72
1:C:2338:MET:SD	1:C:2339:SER:N	2.63	0.71
1:C:2251:TYR:OH	1:C:2292:VAL:O	2.07	0.71
2:A:2429:ILE:HG22	2:A:2433:GLU:OE2	1.92	0.70
1:C:2410:ASP:OD2	1:C:2414:ASN:N	2.24	0.70
1:C:3701:ASP:OD2	1:C:3702:THR:N	2.25	0.70
1:C:3689:ASN:OD1	1:C:3690:ARG:N	2.24	0.69
1:C:1934:ARG:NH1	1:C:1937:ASP:OD2	2.23	0.69
1:C:3730:ARG:NH2	1:C:3859:LEU:OXT	2.25	0.69
1:C:1511:MET:SD	1:C:1512:LYS:N	2.67	0.68
1:C:3083:VAL:HG22	1:C:3128:PHE:HE2	1.60	0.67
1:C:634:HIS:O	1:C:638:VAL:HG13	1.95	0.67
1:C:2338:MET:SD	1:C:2343:ARG:NH2	2.68	0.67
1:C:3739:LEU:O	1:C:3740:THR:OG1	2.10	0.66
1:C:1229:GLU:N	1:C:1229:GLU:OE1	2.28	0.66
1:C:107:ARG:NH1	1:C:150:GLU:OE1	2.27	0.65
1:C:3502:ARG:NH1	1:C:3504:GLU:OE2	2.28	0.65
1:C:1081:GLU:OE1	1:C:1082:ASN:ND2	2.30	0.65
1:C:2239:LEU:HD12	1:C:2240:GLU:N	2.12	0.64
1:C:2743:GLU:OE1	1:C:2743:GLU:N	2.30	0.64
1:C:2410:ASP:OD1	1:C:2411:LEU:N	2.32	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:2300:MET:SD	1:C:2301:VAL:HG23	2.39	0.63
1:C:2421:VAL:O	1:C:2424:VAL:HG12	1.99	0.63
1:C:2404:GLU:OE1	1:C:2404:GLU:N	2.31	0.63
1:C:2388:THR:OG1	1:C:2391:GLU:OE1	2.10	0.62
1:C:3449:GLU:OE2	1:C:3453:LYS:NZ	2.32	0.62
1:C:454:LEU:O	1:C:458:THR:HG23	1.99	0.62
1:C:625:MET:SD	1:C:626:LYS:N	2.70	0.62
1:C:2435:LEU:O	1:C:2436:THR:OG1	2.14	0.62
1:C:3698:ILE:HG22	1:C:3705:LEU:CD2	2.30	0.61
1:C:1289:MET:SD	1:C:1290:VAL:N	2.73	0.61
1:C:313:MET:HE3	1:C:316:LEU:HD11	1.82	0.61
1:C:2637:TRP:CZ3	1:C:2686:ILE:HD11	2.36	0.60
1:C:2410:ASP:OD1	1:C:2412:GLU:N	2.32	0.60
1:C:285:ILE:HG23	1:C:327:LEU:HD13	1.82	0.60
1:C:120:PHE:HD2	1:C:132:CYS:HG	1.50	0.59
1:C:2396:LEU:HD12	1:C:2399:MET:SD	2.43	0.59
1:C:2945:GLU:OE1	1:C:2974:TRP:NE1	2.35	0.59
1:C:3162:TYR:CZ	1:C:3166:ILE:HD11	2.38	0.59
1:C:2300:MET:SD	1:C:2301:VAL:N	2.75	0.58
1:C:446:MET:SD	1:C:446:MET:N	2.76	0.58
1:C:1753:PHE:CE2	1:C:1757:VAL:HG21	2.38	0.58
2:A:2367:GLU:N	2:A:2367:GLU:OE1	2.36	0.58
1:C:974:MET:HE1	1:C:2511:THR:HG21	1.85	0.58
1:C:2690:PRO:CB	1:C:2744:ILE:HG22	2.34	0.58
1:C:2865:MET:SD	1:C:2865:MET:N	2.76	0.58
1:C:635:PHE:O	1:C:638:VAL:HG22	2.04	0.58
1:C:677:ALA:O	1:C:680:THR:OG1	2.15	0.57
1:C:2403:ILE:HD11	1:C:2413:LEU:HD21	1.86	0.57
1:C:3162:TYR:CE1	1:C:3166:ILE:HD11	2.40	0.57
1:C:865:ILE:HD11	1:C:872:LEU:CD2	2.35	0.57
1:C:2988:TRP:CD2	1:C:3047:ILE:HD13	2.39	0.57
1:C:2750:GLU:HA	1:C:2750:GLU:OE1	2.03	0.57
1:C:1475:MET:SD	1:C:1542:THR:HG21	2.45	0.56
1:C:3477:GLU:N	1:C:3477:GLU:OE2	2.36	0.56
1:C:316:LEU:HD12	1:C:317:LEU:N	2.21	0.56
1:C:397:LEU:HD12	1:C:398:ALA:N	2.20	0.56
1:C:2499:LEU:O	1:C:2502:VAL:HG22	2.05	0.56
2:A:2474:LYS:O	2:A:2476:SER:N	2.39	0.56
1:C:1736:MET:SD	1:C:1736:MET:N	2.79	0.56
1:C:641:MET:SD	1:C:641:MET:N	2.76	0.55
1:C:974:MET:CE	1:C:2511:THR:HG21	2.36	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:2954:GLN:O	1:C:2958:LEU:N	2.36	0.55
1:C:2009:LEU:O	1:C:2013:VAL:HG23	2.07	0.55
1:C:3544:ARG:NH1	1:C:3777:GLU:OE1	2.40	0.55
1:C:3681:PHE:CE1	1:C:3685:VAL:HG21	2.42	0.55
1:C:1054:VAL:HG21	1:C:1125:ILE:HD11	1.89	0.55
1:C:729:GLU:OE1	1:C:775:LEU:N	2.38	0.54
1:C:1588:PHE:CZ	1:C:1592:LEU:HD11	2.42	0.54
1:C:3242:LEU:HD12	1:C:3254:ILE:HD13	1.89	0.54
1:C:2097:VAL:HG21	1:C:2130:LEU:HD22	1.89	0.54
1:C:2360:ASP:OD1	1:C:2360:ASP:N	2.37	0.54
1:C:1423:ILE:HG22	1:C:1425:THR:H	1.71	0.54
1:C:2340:MET:SD	1:C:2343:ARG:NH2	2.80	0.54
2:A:2479:ILE:H	2:A:2479:ILE:HD12	1.73	0.54
1:C:2683:VAL:HG13	1:C:2684:PRO:HD3	1.88	0.54
1:C:3448:LEU:O	1:C:3452:THR:HG23	2.08	0.54
1:C:1461:ASP:OD2	1:C:1462:LYS:N	2.40	0.54
1:C:3732:THR:HG21	1:C:3859:LEU:OXT	2.07	0.54
1:C:3529:LEU:HD23	1:C:3586:ASP:CB	2.38	0.53
1:C:924:ILE:HD13	1:C:2511:THR:HG22	1.90	0.53
1:C:2342:MET:H	1:C:2342:MET:CE	2.22	0.53
1:C:313:MET:CE	1:C:316:LEU:HD11	2.38	0.53
1:C:604:GLN:O	1:C:604:GLN:NE2	2.41	0.53
1:C:3687:HIS:CE1	1:C:3818:ILE:HD13	2.43	0.53
1:C:2683:VAL:CG1	1:C:2684:PRO:HD3	2.39	0.53
1:C:3211:ASP:OD1	1:C:3212:LYS:N	2.40	0.53
1:C:3211:ASP:O	1:C:3213:ASN:ND2	2.41	0.53
1:C:718:PHE:O	1:C:721:VAL:HG12	2.09	0.52
1:C:442:ARG:HA	1:C:445:LEU:HD12	1.91	0.52
1:C:1382:SER:OG	1:C:1386:ILE:HD12	2.09	0.52
1:C:2410:ASP:OD2	1:C:2413:LEU:HB3	2.09	0.52
1:C:2372:GLU:O	1:C:2375:VAL:HG22	2.09	0.52
1:C:2095:ASP:OD1	1:C:2096:THR:N	2.43	0.51
1:C:1915:GLU:OE1	1:C:1915:GLU:N	2.40	0.51
1:C:3491:HIS:CG	1:C:3492:TYR:N	2.78	0.51
1:C:628:GLU:HA	1:C:631:VAL:HG12	1.91	0.51
1:C:3053:LEU:HD12	1:C:3053:LEU:N	2.25	0.51
1:C:445:LEU:HA	1:C:448:MET:HG2	1.93	0.51
1:C:3597:TYR:HB2	1:C:3859:LEU:HD21	1.92	0.51
1:C:877:TRP:CE3	1:C:2926:VAL:HG21	2.46	0.50
1:C:2422:ASN:OD1	1:C:2426:ARG:NH1	2.43	0.50
1:C:3099:MET:CE	1:C:3099:MET:H	2.24	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:3587:ASN:ND2	1:C:3588:PRO:O	2.43	0.50
1:C:161:ILE:HG22	1:C:162:TYR:N	2.27	0.50
1:C:1058:CYS:SG	1:C:1059:GLY:N	2.84	0.50
1:C:2727:GLN:OE1	1:C:2770:LYS:NZ	2.34	0.50
1:C:1054:VAL:HG21	1:C:1125:ILE:CD1	2.41	0.50
1:C:3491:HIS:CG	1:C:3492:TYR:H	2.29	0.50
1:C:2793:TYR:O	1:C:2797:MET:HG3	2.11	0.50
1:C:2873:GLU:OE2	1:C:2888:ARG:NE	2.43	0.50
1:C:1018:PHE:HE1	1:C:1049:TYR:HH	1.58	0.49
1:C:602:ILE:HA	1:C:605:VAL:HG23	1.93	0.49
1:C:1264:LEU:HD13	1:C:1279:MET:HE2	1.94	0.49
1:C:352:ASP:OD1	1:C:353:LYS:N	2.46	0.49
1:C:1756:PHE:CD1	1:C:1757:VAL:HG23	2.47	0.49
1:C:2148:TRP:HA	1:C:2151:LYS:HB3	1.93	0.49
1:C:2287:ASP:OD1	1:C:2288:ARG:N	2.45	0.49
1:C:2967:MET:SD	1:C:2968:LYS:N	2.85	0.49
1:C:3622:VAL:O	1:C:3627:THR:OG1	2.25	0.49
1:C:1454:LEU:H	1:C:1454:LEU:HD23	1.77	0.49
1:C:3148:MET:SD	1:C:3148:MET:N	2.80	0.49
1:C:3673:THR:HG22	1:C:3739:LEU:HD22	1.93	0.49
1:C:862:TYR:HA	1:C:865:ILE:HG22	1.95	0.48
1:C:2721:LEU:H	1:C:2721:LEU:HD22	1.77	0.48
1:C:3323:ASP:O	1:C:3326:VAL:HG22	2.13	0.48
1:C:383:VAL:HA	1:C:386:VAL:HG22	1.94	0.48
1:C:2748:LEU:HD21	1:C:2752:TYR:CE2	2.49	0.48
1:C:3686:LEU:HB2	1:C:3688:LEU:HD13	1.96	0.48
1:C:2389:LEU:HD22	1:C:2389:LEU:H	1.77	0.48
2:A:2467:LEU:O	2:A:2471:THR:HG23	2.13	0.48
2:A:2447:GLN:N	2:A:2447:GLN:OE1	2.45	0.48
1:C:75:ASP:OD1	1:C:76:GLY:N	2.42	0.48
1:C:2337:VAL:HG12	1:C:2337:VAL:O	2.14	0.48
1:C:336:LYS:O	1:C:340:THR:HG23	2.14	0.48
1:C:560:ILE:O	1:C:564:ILE:HG12	2.13	0.48
1:C:2648:LEU:HD11	1:C:2652:ILE:HD11	1.94	0.48
1:C:151:ILE:HG22	1:C:151:ILE:O	2.13	0.48
1:C:1452:THR:OG1	1:C:1524:ILE:HG22	2.14	0.48
1:C:1518:ILE:HG22	1:C:1557:PRO:HB2	1.94	0.47
1:C:1476:GLU:O	1:C:1479:VAL:HG22	2.13	0.47
1:C:1868:CYS:HB2	1:C:1874:CYS:HB2	1.67	0.47
1:C:3732:THR:HG21	1:C:3859:LEU:CA	2.44	0.47
1:C:625:MET:CE	1:C:625:MET:HA	2.44	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:690:VAL:HG13	1:C:717:VAL:HG21	1.95	0.47
1:C:1395:ASN:OD1	1:C:1447:ARG:NH2	2.42	0.47
1:C:3099:MET:SD	1:C:3100:GLN:OE1	2.72	0.47
1:C:3118:THR:HA	1:C:3121:PHE:CE2	2.50	0.47
2:A:2436:LYS:HD2	2:A:2436:LYS:N	2.29	0.47
1:C:793:LEU:HD11	1:C:1197:GLU:HB2	1.97	0.47
1:C:1274:SER:OG	1:C:1277:VAL:HG23	2.14	0.47
1:C:1518:ILE:HG21	1:C:1558:LEU:CD2	2.45	0.47
1:C:1562:LEU:HD12	1:C:1569:THR:CG2	2.45	0.47
1:C:1732:LEU:O	1:C:1736:MET:SD	2.73	0.47
1:C:3114:THR:OG1	1:C:3116:GLU:OE1	2.15	0.47
1:C:1264:LEU:HD13	1:C:1279:MET:CE	2.44	0.47
1:C:3707:VAL:HG11	1:C:3710:PHE:CE2	2.49	0.47
1:C:3615:TYR:CD2	1:C:3637:ILE:HD12	2.50	0.47
1:C:924:ILE:HA	1:C:2511:THR:HG22	1.96	0.47
1:C:1244:ASP:O	1:C:1248:GLU:OE2	2.33	0.47
1:C:2357:LYS:O	1:C:2358:SER:CB	2.62	0.47
1:C:2676:VAL:HA	1:C:2679:MET:HG2	1.97	0.47
1:C:3254:ILE:HD12	1:C:3254:ILE:H	1.80	0.47
1:C:3545:VAL:HG11	1:C:3710:PHE:O	2.15	0.47
2:A:2404:VAL:HA	2:A:2407:VAL:HG12	1.97	0.47
1:C:2325:MET:O	1:C:2325:MET:SD	2.73	0.46
1:C:3595:GLU:O	1:C:3595:GLU:OE1	2.32	0.46
1:C:924:ILE:HD13	1:C:2511:THR:CG2	2.45	0.46
1:C:885:ASP:OD2	1:C:886:SER:N	2.48	0.46
1:C:994:THR:OG1	1:C:995:GLU:OE1	2.30	0.46
1:C:1035:ARG:N	1:C:1036:PRO:CD	2.79	0.46
1:C:3491:HIS:O	1:C:3493:TYR:N	2.48	0.46
1:C:3083:VAL:HG22	1:C:3128:PHE:CE2	2.45	0.46
1:C:1290:VAL:O	1:C:1312:ASN:ND2	2.45	0.46
1:C:411:LEU:HD23	1:C:415:ILE:HB	1.98	0.46
1:C:1266:VAL:O	1:C:1270:VAL:HG23	2.16	0.46
1:C:3673:THR:CG2	1:C:3739:LEU:HD22	2.46	0.46
1:C:2412:GLU:O	1:C:2415:ALA:N	2.49	0.46
1:C:2648:LEU:O	1:C:2652:ILE:HG12	2.16	0.46
1:C:2690:PRO:HB3	1:C:2744:ILE:HG22	1.97	0.46
1:C:1774:GLN:NE2	1:C:1778:ASN:OD1	2.42	0.46
1:C:2648:LEU:CD1	1:C:2652:ILE:HD11	2.45	0.45
1:C:731:MET:SD	1:C:732:LEU:N	2.90	0.45
1:C:1562:LEU:HD12	1:C:1569:THR:HG21	1.98	0.45
1:C:3080:ARG:O	1:C:3083:VAL:HG12	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:655:VAL:N	1:C:656:PRO:HD2	2.32	0.45
1:C:408:ASP:OD2	1:C:1724:ARG:NH1	2.43	0.45
1:C:2395:LEU:O	1:C:2399:MET:HG3	2.17	0.45
1:C:3574:VAL:HG13	1:C:3583:LEU:O	2.17	0.45
1:C:449:LEU:O	1:C:453:VAL:HG23	2.16	0.45
1:C:1390:LEU:HD13	1:C:1409:MET:HE2	1.97	0.45
1:C:1897:HIS:O	1:C:1901:VAL:HG12	2.17	0.45
1:C:2880:MET:SD	1:C:2880:MET:O	2.75	0.45
1:C:1319:GLN:HB2	1:C:1320:PRO:HD3	1.98	0.45
1:C:2652:ILE:HG21	1:C:2679:MET:CE	2.47	0.45
1:C:2700:HIS:HB2	1:C:2702:LEU:HD23	1.98	0.45
1:C:3588:PRO:O	1:C:3589:SER:OG	2.22	0.45
1:C:424:LEU:O	1:C:427:VAL:HG22	2.16	0.45
1:C:969:CYS:SG	1:C:2610:LEU:HB2	2.57	0.44
1:C:1714:LEU:HD12	1:C:1757:VAL:O	2.17	0.44
1:C:3306:MET:SD	1:C:3306:MET:C	2.96	0.44
1:C:3426:PHE:O	1:C:3427:SER:OG	2.29	0.44
1:C:1511:MET:H	1:C:1511:MET:HE3	1.82	0.44
1:C:3732:THR:HG23	1:C:3857:PRO:O	2.17	0.44
1:C:1588:PHE:CE1	1:C:1592:LEU:HD11	2.53	0.44
1:C:2151:LYS:O	1:C:2154:MET:SD	2.76	0.44
1:C:2809:ALA:HB2	2:A:2454:ASN:HA	1.99	0.44
1:C:3375:VAL:O	1:C:3379:GLY:N	2.48	0.44
1:C:679:PRO:O	1:C:683:ALA:N	2.43	0.44
1:C:1756:PHE:CE1	1:C:1757:VAL:HG23	2.52	0.44
1:C:3147:GLN:O	2:A:2521:ARG:NH2	2.50	0.44
1:C:1467:MET:CE	1:C:1517:ILE:HD12	2.47	0.44
1:C:2833:GLN:O	1:C:2837:LEU:HD12	2.17	0.44
1:C:1678:GLU:OE1	1:C:1719:ARG:NH2	2.51	0.44
1:C:2367:VAL:O	1:C:2371:VAL:HG23	2.18	0.44
1:C:2881:ALA:HB3	1:C:2914:LEU:HD21	2.00	0.44
1:C:3008:MET:SD	1:C:3008:MET:N	2.84	0.44
1:C:232:VAL:HA	1:C:235:MET:SD	2.57	0.44
1:C:2509:ILE:HG22	1:C:2510:GLY:N	2.33	0.44
1:C:892:TYR:CZ	1:C:2937:ALA:HB2	2.52	0.43
1:C:3114:THR:O	1:C:3117:MET:SD	2.76	0.43
1:C:361:ILE:O	1:C:372:ARG:NH2	2.46	0.43
1:C:977:LEU:HB3	1:C:2599:LEU:HD11	2.00	0.43
1:C:2399:MET:SD	1:C:2400:MET:N	2.91	0.43
1:C:973:ALA:HB2	1:C:2509:ILE:HG21	2.01	0.43
1:C:2590:MET:SD	1:C:2590:MET:C	2.96	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:3822:LEU:O	1:C:3825:LEU:HD23	2.18	0.43
1:C:1941:MET:O	1:C:1941:MET:SD	2.76	0.43
1:C:3458:PHE:CE2	1:C:3502:ARG:HD2	2.53	0.43
1:C:853:VAL:HG22	1:C:861:LEU:HD21	2.01	0.43
1:C:1406:GLU:OE2	1:C:1410:ARG:NE	2.49	0.43
1:C:677:ALA:O	1:C:680:THR:HG23	2.19	0.43
1:C:1290:VAL:CG1	1:C:1291:PRO:HD3	2.49	0.43
1:C:1429:PRO:O	1:C:1433:MET:CE	2.67	0.43
1:C:3212:LYS:O	1:C:3214:THR:N	2.47	0.43
1:C:857:GLN:O	1:C:859:ASP:N	2.52	0.43
1:C:1074:THR:O	1:C:1074:THR:HG22	2.19	0.43
1:C:2925:VAL:CG2	1:C:3667:THR:HG21	2.44	0.43
1:C:3529:LEU:HD13	1:C:3529:LEU:HA	1.92	0.43
1:C:257:THR:O	1:C:258:ILE:HG22	2.19	0.43
1:C:1390:LEU:HD13	1:C:1409:MET:CE	2.48	0.43
1:C:2444:LEU:HD13	1:C:2485:ALA:HB3	2.01	0.43
1:C:1409:MET:HG2	1:C:1454:LEU:HD11	2.00	0.42
1:C:2243:TYR:N	1:C:2243:TYR:CD1	2.87	0.42
1:C:2305:LEU:HD12	1:C:2357:LYS:HD3	2.01	0.42
1:C:2870:VAL:HG23	1:C:2871:GLN:N	2.34	0.42
1:C:2358:SER:N	1:C:2359:PRO:CD	2.82	0.42
1:C:2637:TRP:CH2	1:C:2686:ILE:HD11	2.53	0.42
1:C:1346:GLU:OE1	1:C:1366:ARG:NH2	2.51	0.42
1:C:1347:ASP:OD1	1:C:1347:ASP:N	2.49	0.42
1:C:1574:MET:SD	1:C:1588:PHE:CD1	3.12	0.42
1:C:41:MET:HE3	1:C:42:MET:SD	2.59	0.42
1:C:308:GLN:HG2	1:C:309:MET:H	1.85	0.42
1:C:761:ARG:HB2	1:C:809:LEU:HD21	2.02	0.42
1:C:1257:ARG:NE	1:C:1310:GLU:OE1	2.51	0.42
1:C:1305:GLN:O	1:C:1309:MET:HG3	2.19	0.42
1:C:1774:GLN:OE1	1:C:1778:ASN:ND2	2.52	0.42
1:C:1032:LYS:O	1:C:1033:ASP:CG	2.58	0.42
1:C:1215:MET:SD	1:C:1215:MET:C	2.98	0.42
1:C:2365:ARG:O	1:C:2368:VAL:HG22	2.19	0.42
1:C:3634:LEU:O	1:C:3637:ILE:HG12	2.19	0.42
1:C:232:VAL:O	1:C:235:MET:SD	2.77	0.42
1:C:1379:LEU:O	1:C:1383:ARG:NH2	2.52	0.42
1:C:3031:MET:HE3	1:C:3031:MET:HA	2.00	0.42
1:C:158:VAL:HA	1:C:161:ILE:HD12	2.00	0.42
1:C:943:ILE:HD11	1:C:970:PHE:CG	2.53	0.42
1:C:1533:LYS:HB3	1:C:1534:PRO:HD3	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:2364:LEU:O	1:C:2367:VAL:HG22	2.19	0.42
1:C:3187:CYS:SG	1:C:3198:TYR:HB2	2.60	0.42
1:C:308:GLN:HG2	1:C:309:MET:N	2.34	0.42
1:C:827:LEU:HD12	1:C:827:LEU:C	2.40	0.42
1:C:1513:ILE:O	1:C:1517:ILE:HG12	2.19	0.42
1:C:2013:VAL:HG11	1:C:2093:HIS:CD2	2.54	0.42
1:C:2880:MET:SD	1:C:2883:LYS:HB2	2.60	0.42
1:C:161:ILE:HG22	1:C:162:TYR:H	1.82	0.42
1:C:445:LEU:O	1:C:448:MET:HG3	2.20	0.42
1:C:734:PRO:O	1:C:735:HIS:CG	2.73	0.42
1:C:1989:MET:SD	1:C:1990:GLN:N	2.93	0.42
1:C:2797:MET:SD	2:A:2468:MET:SD	3.18	0.42
1:C:2873:GLU:OE2	1:C:2888:ARG:NH2	2.51	0.42
1:C:3687:HIS:ND1	1:C:3818:ILE:HD13	2.35	0.42
1:C:437:GLU:O	1:C:439:GLY:N	2.53	0.41
1:C:2487:GLY:O	1:C:2664:GLN:NE2	2.52	0.41
1:C:2809:ALA:HB2	2:A:2458:THR:HG23	2.02	0.41
1:C:446:MET:O	1:C:449:LEU:HG	2.20	0.41
1:C:772:HIS:HB2	1:C:775:LEU:HB2	2.02	0.41
1:C:1113:VAL:O	1:C:1117:VAL:HG23	2.20	0.41
1:C:418:MET:SD	1:C:418:MET:C	2.98	0.41
1:C:442:ARG:O	1:C:446:MET:SD	2.78	0.41
1:C:788:GLN:C	1:C:788:GLN:OE1	2.59	0.41
1:C:2321:SER:O	1:C:2324:VAL:HG22	2.20	0.41
1:C:2864:ALA:O	1:C:2868:ALA:N	2.48	0.41
1:C:3542:GLU:O	1:C:3545:VAL:HG12	2.21	0.41
1:C:150:GLU:O	1:C:150:GLU:HG3	2.21	0.41
1:C:1478:VAL:HG13	1:C:1479:VAL:N	2.35	0.41
1:C:2412:GLU:O	1:C:2415:ALA:HB3	2.19	0.41
1:C:2637:TRP:NE1	1:C:2645:GLN:OE1	2.53	0.41
1:C:2893:ILE:HD11	1:C:2904:ILE:CD1	2.51	0.41
1:C:3424:PHE:CD1	1:C:3424:PHE:C	2.93	0.41
1:C:3460:LEU:N	1:C:3460:LEU:HD22	2.36	0.41
1:C:1248:GLU:HB2	1:C:1251:SER:HB3	2.02	0.41
1:C:1276:THR:HG21	1:C:1320:PRO:HD2	2.03	0.41
1:C:149:GLN:O	1:C:150:GLU:HG2	2.20	0.41
1:C:1511:MET:H	1:C:1511:MET:CE	2.34	0.41
1:C:1225:GLU:OE1	1:C:1225:GLU:N	2.54	0.41
1:C:1657:LEU:HD22	1:C:1706:ARG:HG3	2.02	0.41
1:C:1824:MET:N	1:C:1824:MET:SD	2.94	0.41
1:C:1866:TRP:O	1:C:1869:LEU:HD23	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:3539:SER:O	1:C:3543:GLU:OE1	2.39	0.41
1:C:161:ILE:CG2	1:C:162:TYR:H	2.34	0.41
1:C:2868:ALA:O	1:C:2872:VAL:HG23	2.20	0.41
1:C:3119:ALA:HB2	1:C:3148:MET:SD	2.60	0.41
1:C:3336:VAL:HG11	1:C:3448:LEU:CD1	2.51	0.41
1:C:3367:THR:O	1:C:3371:VAL:HG23	2.20	0.41
1:C:316:LEU:HD12	1:C:316:LEU:C	2.41	0.41
1:C:1257:ARG:NH2	1:C:1310:GLU:OE1	2.52	0.41
1:C:1386:ILE:HG21	1:C:1412:PHE:CE1	2.55	0.41
1:C:1511:MET:SD	1:C:1512:LYS:HG3	2.60	0.41
1:C:1614:LEU:HD23	1:C:1614:LEU:O	2.20	0.41
1:C:2900:GLN:O	1:C:2901:LEU:HG	2.21	0.41
1:C:2968:LYS:O	1:C:2971:VAL:HG12	2.21	0.41
1:C:3198:TYR:O	1:C:3202:VAL:HG23	2.21	0.41
1:C:3442:LYS:NZ	1:C:3609:ASP:OD2	2.53	0.41
1:C:3463:GLU:O	1:C:3464:LYS:HG2	2.21	0.41
1:C:3658:THR:HG23	1:C:3659:PHE:CD2	2.55	0.41
1:C:3741:THR:O	1:C:3744:VAL:HG22	2.20	0.41
1:C:144:ARG:HB3	1:C:145:PRO:HD3	2.03	0.41
1:C:644:PRO:HA	1:C:647:PHE:HB3	2.02	0.41
1:C:2338:MET:H	1:C:2338:MET:CE	2.34	0.41
1:C:3147:GLN:HB3	1:C:3148:MET:HE3	2.03	0.41
1:C:2676:VAL:O	1:C:2679:MET:HG3	2.21	0.40
1:C:2935:GLN:HG2	1:C:2987:HIS:CD2	2.56	0.40
1:C:2497:GLU:OE2	1:C:2619:HIS:NE2	2.46	0.40
2:A:2479:ILE:HD12	2:A:2479:ILE:N	2.34	0.40
1:C:708:ASN:O	1:C:712:LYS:HG2	2.22	0.40
1:C:1136:PRO:O	1:C:1139:SER:N	2.53	0.40
1:C:1252:PRO:CB	1:C:1303:ASN:OD1	2.70	0.40
1:C:2473:ARG:NH1	1:C:2498:LEU:HD12	2.37	0.40
1:C:2886:MET:HG2	1:C:2890:TYR:HE1	1.86	0.40
1:C:1823:ASP:N	1:C:1824:MET:SD	2.95	0.40
1:C:2099:ASN:O	1:C:2102:ILE:HG22	2.22	0.40
1:C:2400:MET:CG	1:C:2442:ALA:HB2	2.51	0.40
1:C:2936:ALA:O	1:C:2937:ALA:C	2.60	0.40
2:A:2517:LEU:HD21	2:A:2521:ARG:HH12	1.86	0.40
2:A:2517:LEU:HD21	2:A:2521:ARG:NH1	2.36	0.40
1:C:1637:ASP:N	1:C:1637:ASP:OD1	2.54	0.40
1:C:1734:GLU:N	1:C:1734:GLU:OE1	2.55	0.40
1:C:2350:ILE:O	1:C:2353:SER:OG	2.26	0.40
1:C:2850:TYR:CZ	2:A:2415:TYR:CE1	3.10	0.40

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	C	3180/3859 (82%)	2966 (93%)	211 (7%)	3 (0%)	48 79
2	A	128/3159 (4%)	114 (89%)	14 (11%)	0	100 100
All	All	3308/7018 (47%)	3080 (93%)	225 (7%)	3 (0%)	50 79

All (3) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	C	2358	SER
1	C	55	SER
1	C	1720	ALA

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	C	2903/3423 (85%)	2835 (98%)	68 (2%)	45 69
2	A	121/2663 (4%)	119 (98%)	2 (2%)	56 75
All	All	3024/6086 (50%)	2954 (98%)	70 (2%)	46 69

All (70) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	C	143	PHE
1	C	157	PHE
1	C	235	MET
1	C	236	TYR
1	C	239	TYR
1	C	355	PHE
1	C	431	ARG
1	C	442	ARG
1	C	448	MET
1	C	664	LYS
1	C	700	MET
1	C	714	PHE
1	C	754	TYR
1	C	909	SER
1	C	930	ASP
1	C	1051	MET
1	C	1135	LEU
1	C	1289	MET
1	C	1430	LEU
1	C	1433	MET
1	C	1462	LYS
1	C	1468	MET
1	C	1475	MET
1	C	1511	MET
1	C	1565	HIS
1	C	1573	PHE
1	C	1575	MET
1	C	1715	PHE
1	C	1769	LYS
1	C	1838	LEU
1	C	1862	MET
1	C	1872	LYS
1	C	1874	CYS
1	C	1884	HIS
1	C	1898	LYS
1	C	1942	LEU
1	C	2003	ARG
1	C	2148	TRP
1	C	2154	MET
1	C	2191	LYS
1	C	2195	ARG
1	C	2338	MET
1	C	2342	MET

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Mol	Chain	Res	Type
1	C	2406	ARG
1	C	2464	ASN
1	C	2468	ARG
1	C	2675	PHE
1	C	2741	GLN
1	C	2804	HIS
1	C	2806	ARG
1	C	2878	LYS
1	C	2887	TYR
1	C	3008	MET
1	C	3099	MET
1	C	3117	MET
1	C	3121	PHE
1	C	3148	MET
1	C	3149	HIS
1	C	3169	LYS
1	C	3173	LEU
1	C	3256	GLN
1	C	3329	ARG
1	C	3348	TYR
1	C	3424	PHE
1	C	3442	LYS
1	C	3486	MET
1	C	3492	TYR
1	C	3568	PHE
2	A	2368	TRP
2	A	2457	HIS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (17) such sidechains are listed below:

Mol	Chain	Res	Type
1	C	160	GLN
1	C	992	ASN
1	C	1082	ASN
1	C	1470	HIS
1	C	1897	HIS
1	C	2414	ASN
1	C	2464	ASN
1	C	2589	HIS
1	C	2593	ASN
1	C	2700	HIS
1	C	2804	HIS

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Mol	Chain	Res	Type
1	C	2846	HIS
1	C	2935	GLN
1	C	2976	ASN
1	C	2987	HIS
1	C	3149	HIS
2	A	2457	HIS

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](#)

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.

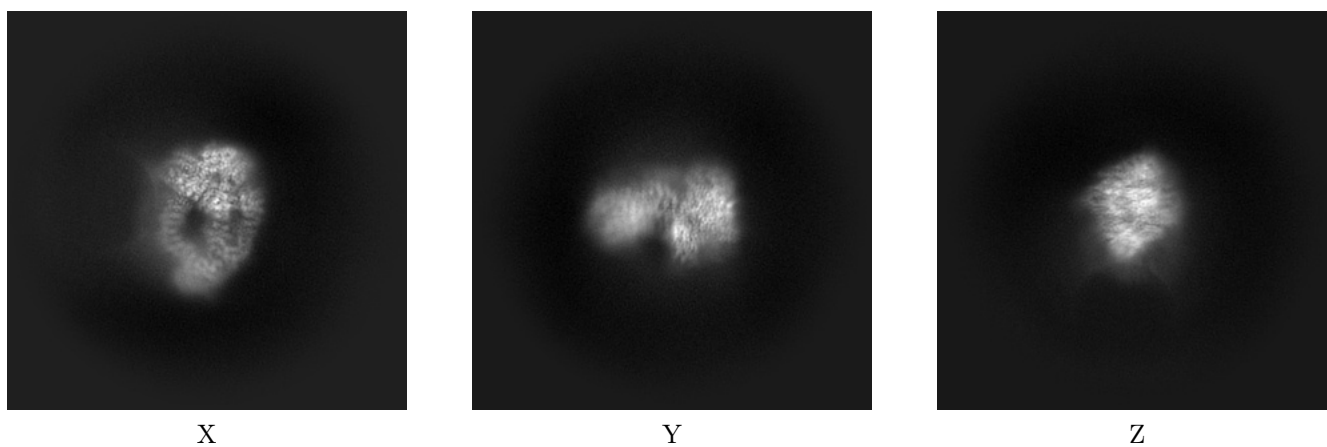
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-18619. These allow visual inspection of the internal detail of the map and identification of artifacts.

No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

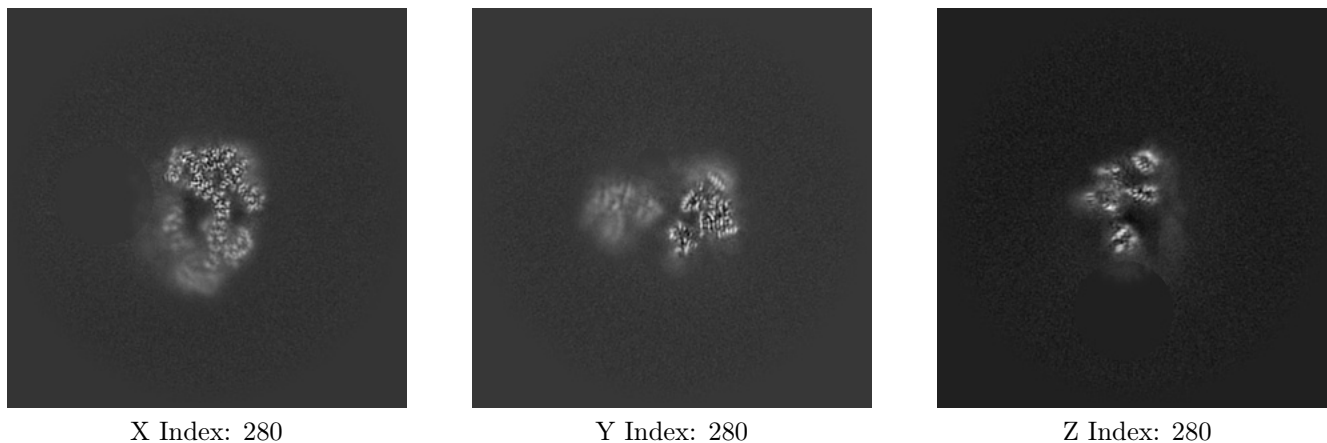
6.1.1 Primary map



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

6.2 Central slices [i](#)

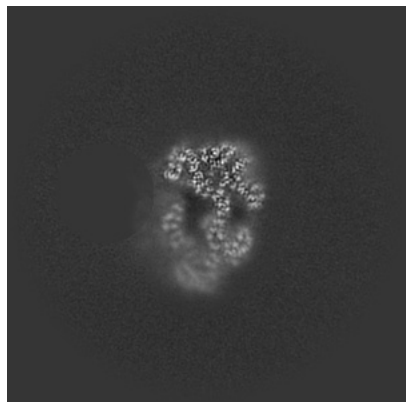
6.2.1 Primary map



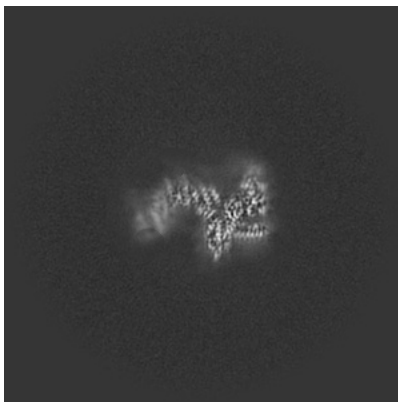
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

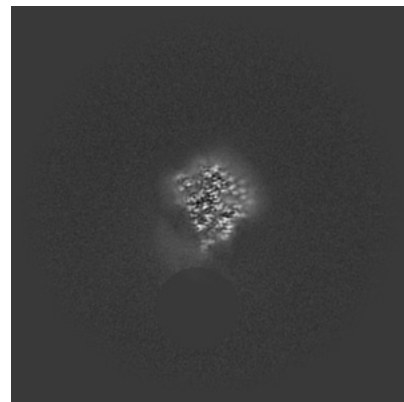
6.3.1 Primary map



X Index: 278



Y Index: 305

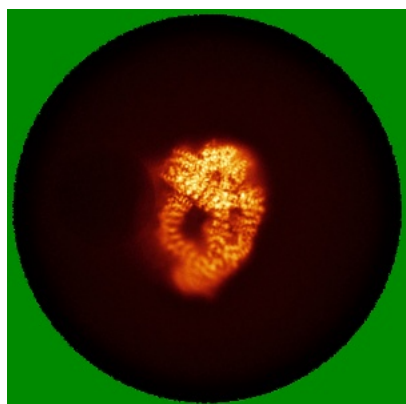


Z Index: 339

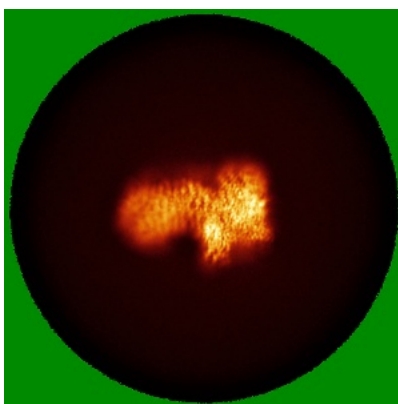
The images above show the largest variance slices of the map in three orthogonal directions.

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

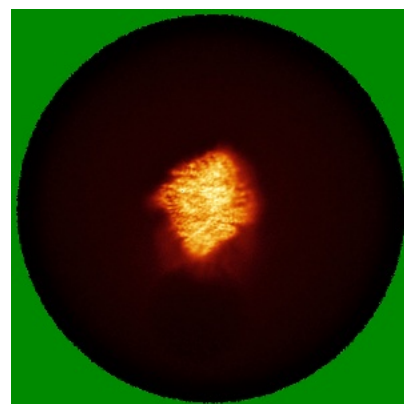
6.4.1 Primary map



X



Y



Z

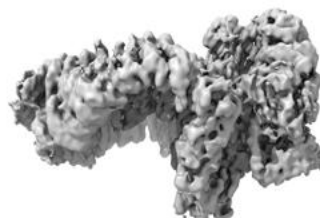
The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views [i](#)

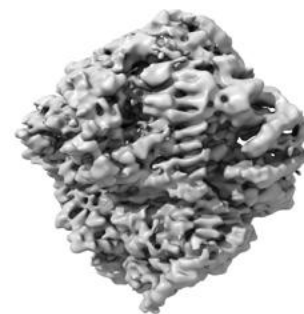
6.5.1 Primary map



X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 9.5. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

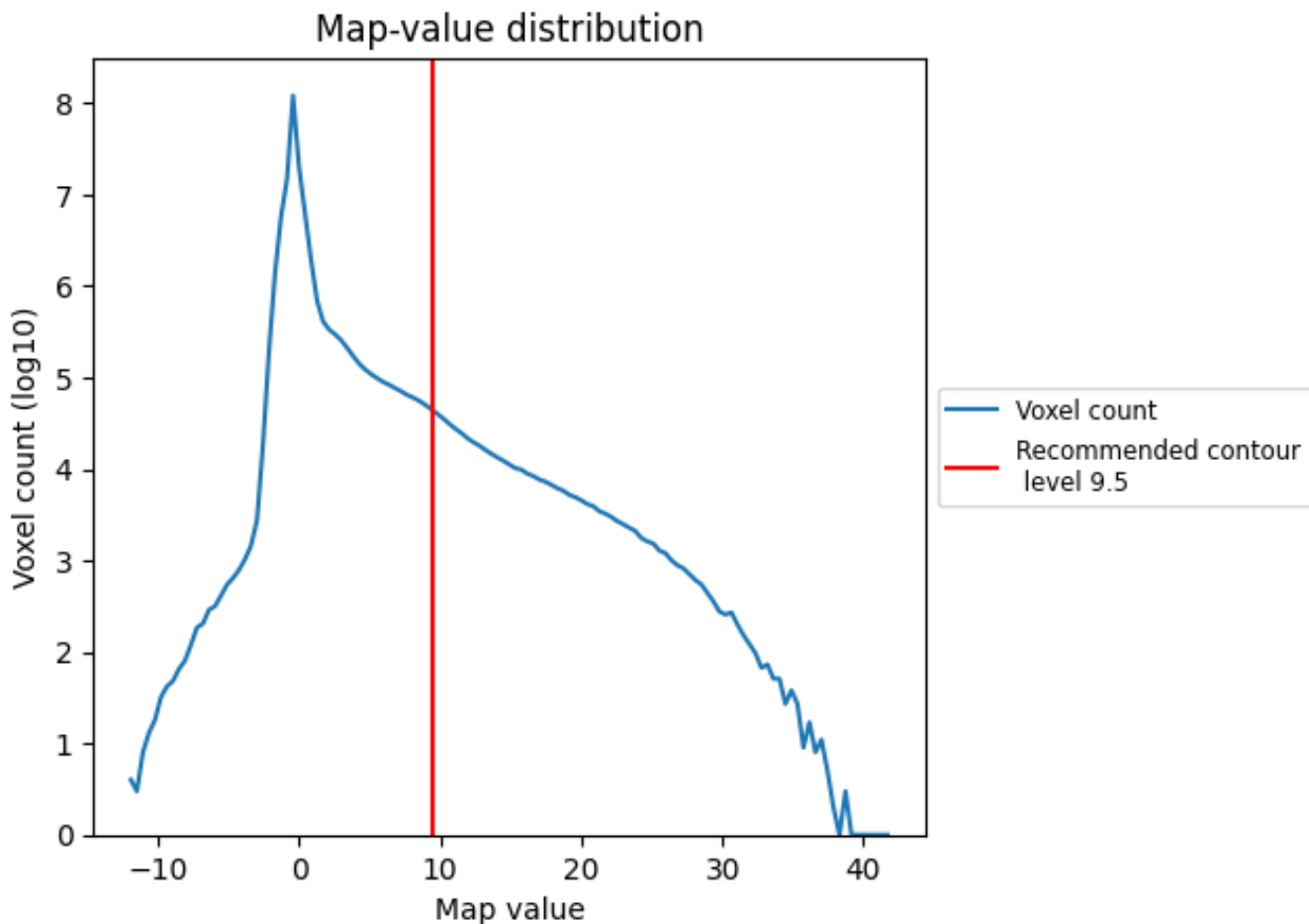
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

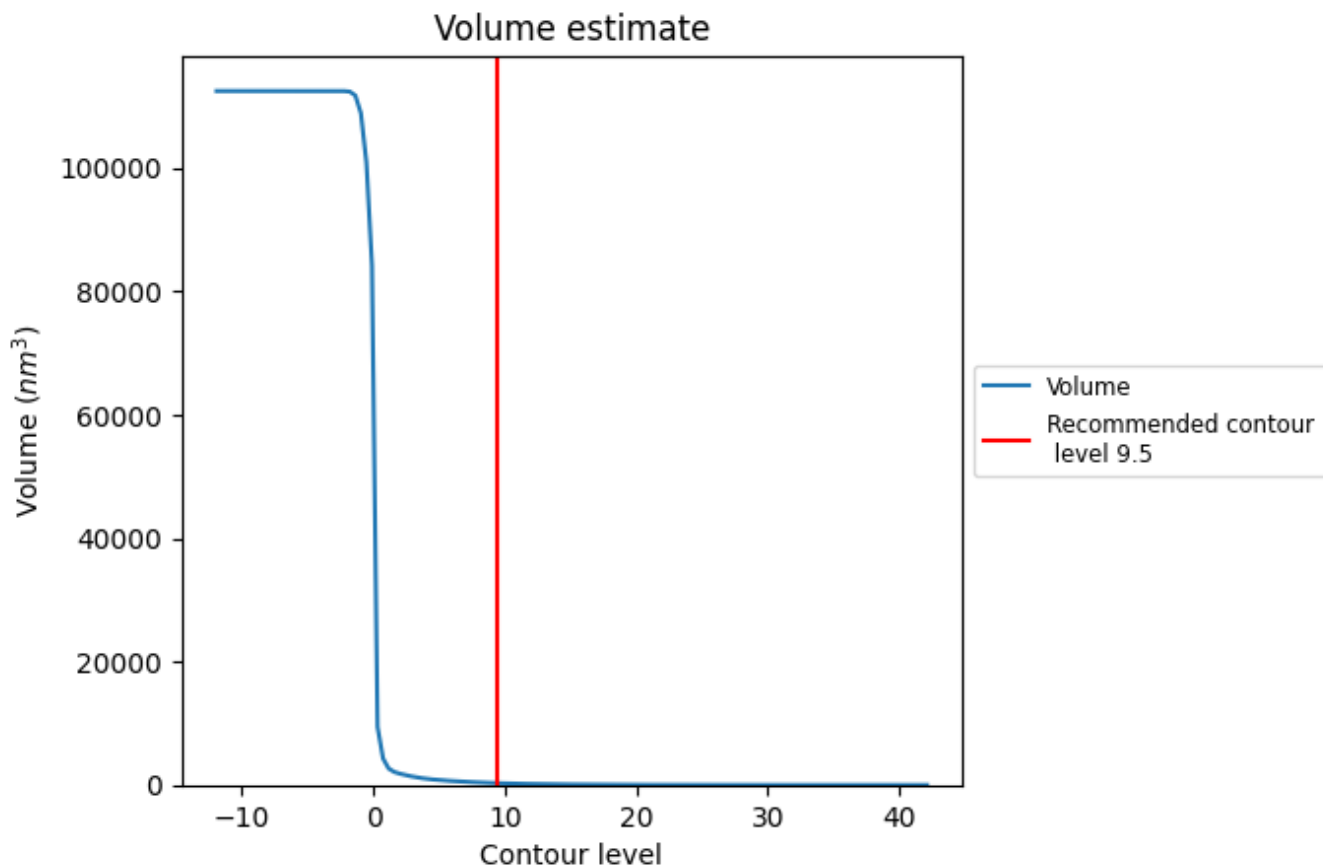
This section contains the results of statistical analysis of the map.

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.

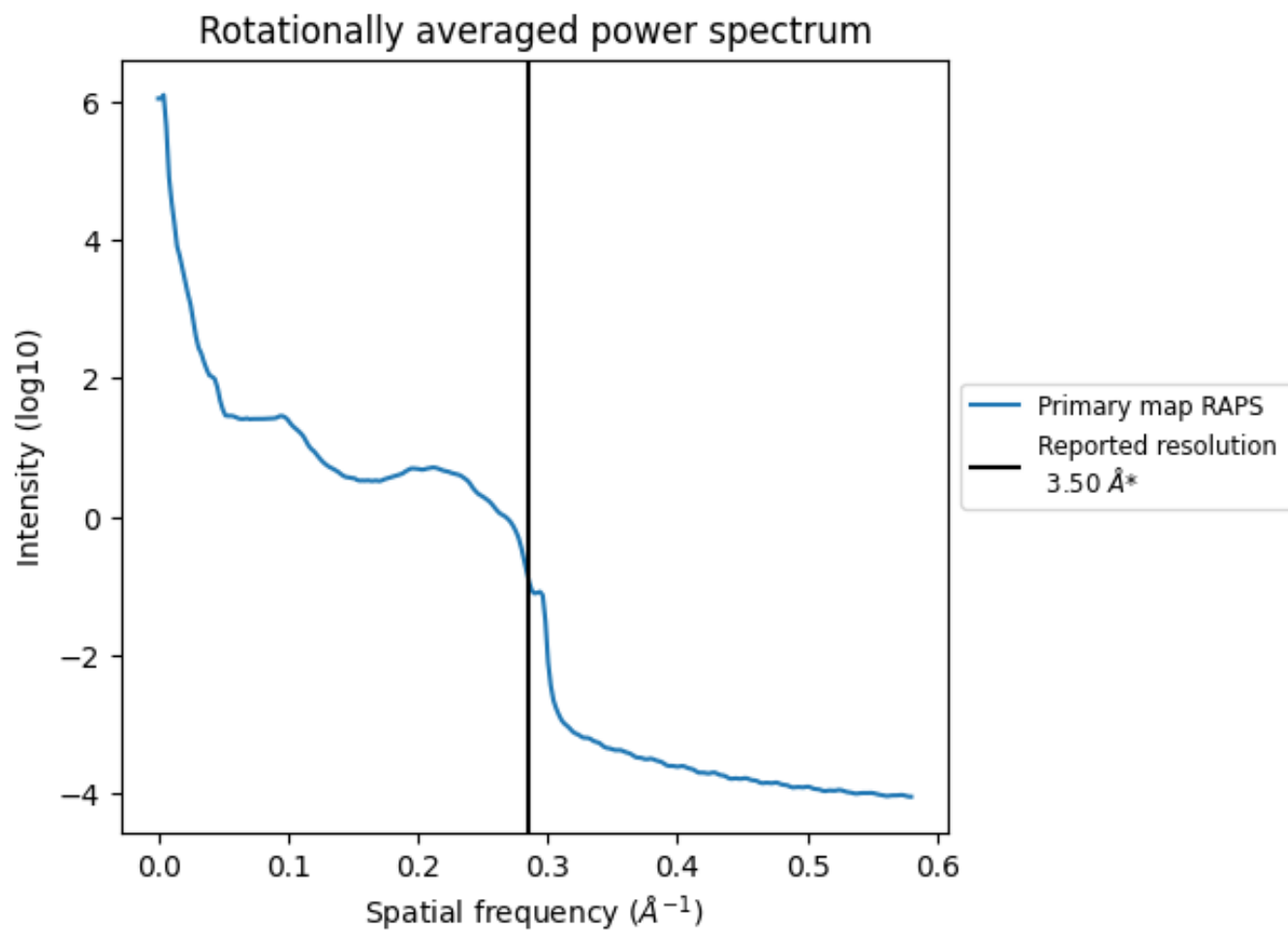
7.2 Volume estimate [\(i\)](#)



The volume at the recommended contour level is 285 nm^3 ; this corresponds to an approximate mass of 258 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 0.286\AA^{-1}

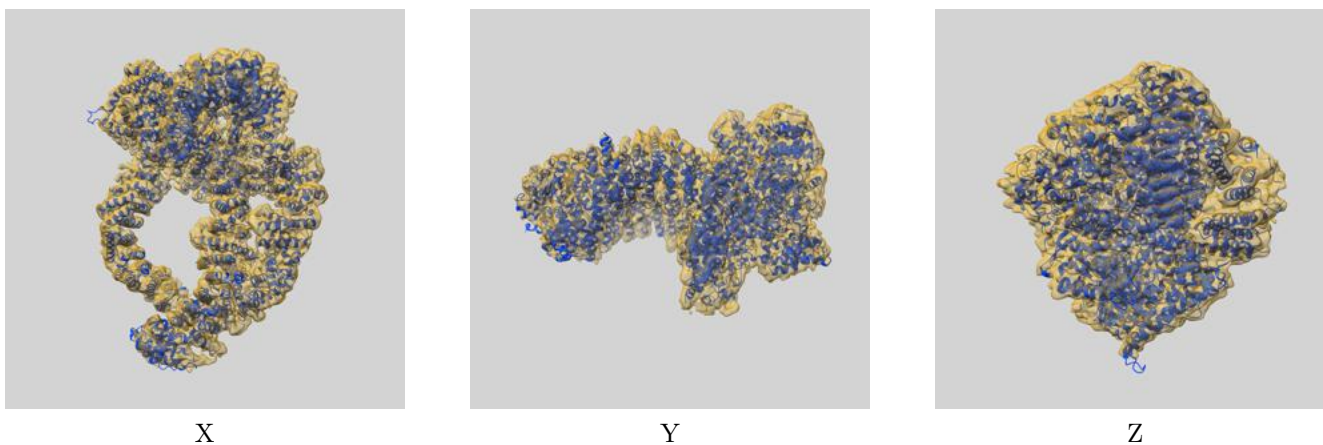
8 Fourier-Shell correlation

This section was not generated. No FSC curve or half-maps provided.

9 Map-model fit [i](#)

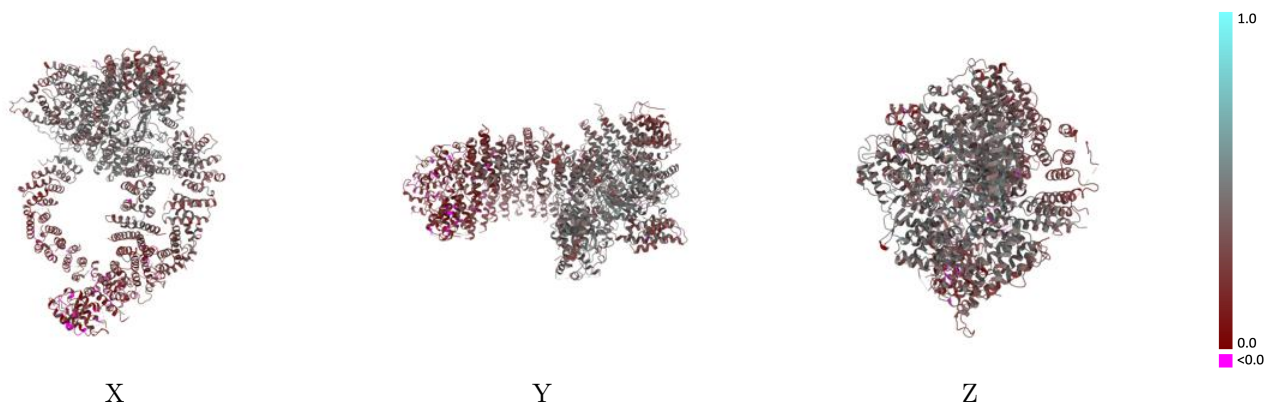
This section contains information regarding the fit between EMDB map EMD-18619 and PDB model 8QRI. Per-residue inclusion information can be found in section 3 on page 4.

9.1 Map-model overlay [i](#)



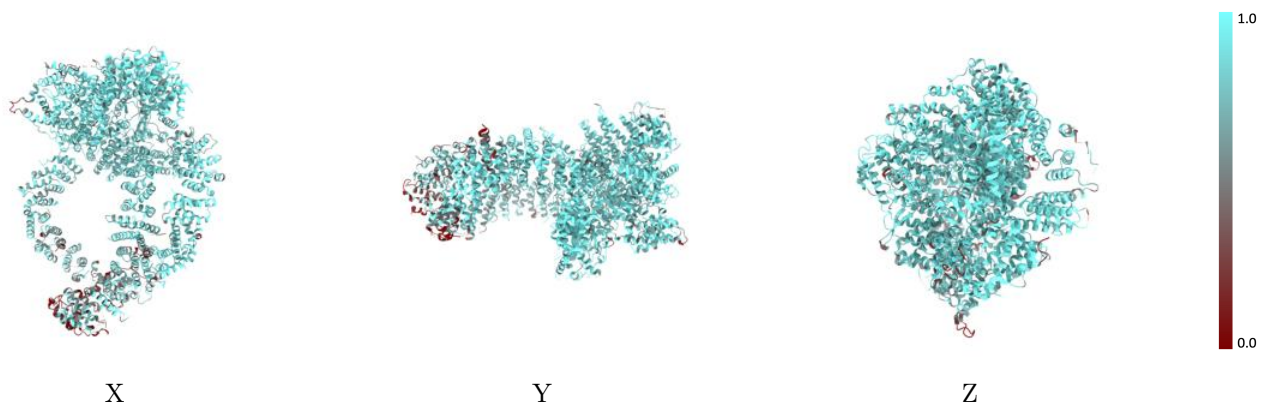
The images above show the 3D surface view of the map at the recommended contour level 9.5 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



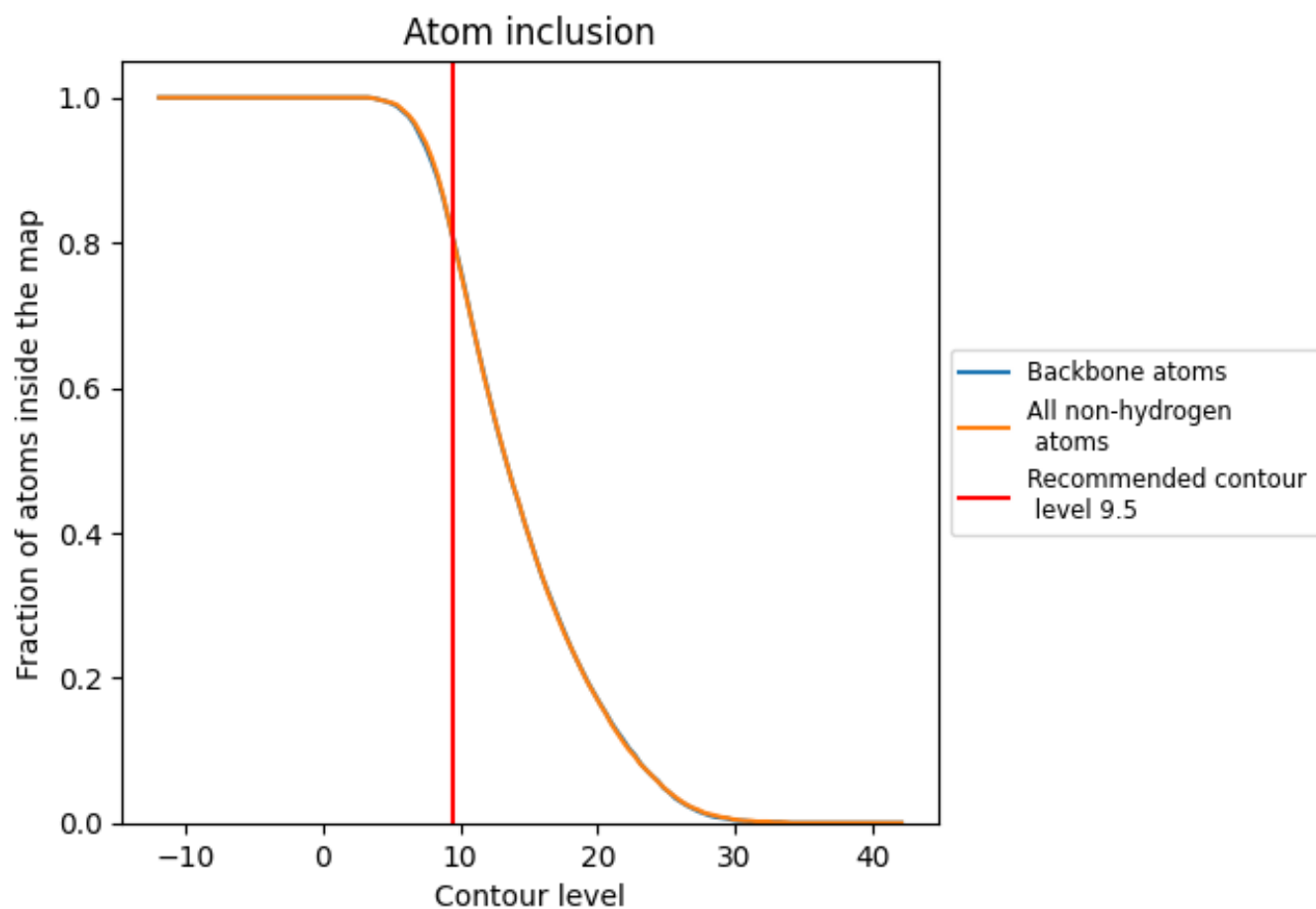
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (9.5).







9.4 Atom inclusion [i](#)



At the recommended contour level, 80% of all backbone atoms, 80% 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 (9.5) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.8040	 0.3490
A	 0.7320	 0.3490
C	 0.8140	 0.3490

