



Full wwPDB EM Validation Report ⓘ

Apr 17, 2025 – 02:43 PM EDT

PDB ID : 9BMB / pdb_00009bmb
EMDB ID : EMD-44694
Title : Post-1 motor domain from full-length human dynein-1 bound to microtubules
in 5mM ADP condition
Authors : Chai, P.; Zhang, K.
Deposited on : 2024-05-02
Resolution : 3.60 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.dev117
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4.02b-467
buster-report : 1.1.7 (2018)
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) : 2.42

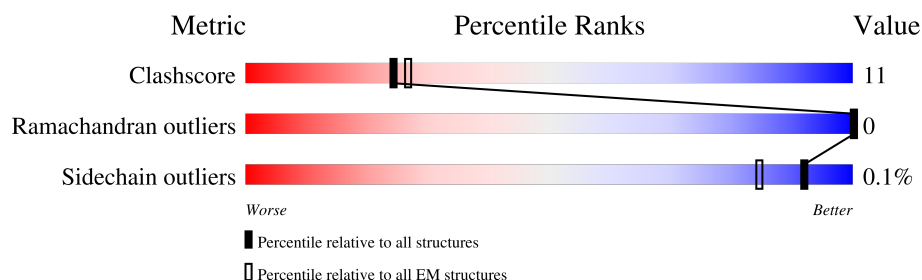
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.60 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	4646	

2 Entry composition [i](#)

There are 4 unique types of molecules in this entry. The entry contains 24617 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a protein called Cytoplasmic dynein 1 heavy chain 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	3043	24503	15606	4234	4541	122	0	0

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



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

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



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

- Molecule 4 is MAGNESIUM ION (CCD ID: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		AltConf
4	A	2	Total 2	Mg 2	0

I2069	W1954	L1811	K1652	L1521	K1441	A1381	VAL	ARG	GLU	ALA	ASN	GLU	ASN	PHE
F2072	E1959	L1815	K1655	L1527	N1442	S1382	ALA	PHE	PHE	LEU	LEU	LEU	PHE	PHE
C2076	N1961	V1816	F1658	V1536	E1443	Y1383	GLU	THR	GLN	GLU	GLU	GLU	GLN	GLY
Q2079	R1962	Q1841	V1661	V1536	I1445	E1384	LEU	PRO	PRO	PRO	PRO	PRO	GLY	LYS
Q2083	R1966	N1842	S1662	D1539	V1446	F1385	Q1327	TRP	TRP	TRP	TRP	TRP	ILE	VAL
Y2086	T1978	R1943	S1671	V1540	K1447	Q1387	D1328	GLY	GLY	GLY	GLY	GLY	ILE	GLY
D2087	Q1979	F1844	S1677	Q1541	D1448	R1388	L1329	ASN	TYR	TYR	TYR	TYR	ILE	LEU
F2088	E1980	Y1845	I1676	R1542	V1449	L1389	K1330	ILE	GLN	GLN	GLN	GLN	GLY	LEU
R2091	E1984	Q1855	S1677	R1543	L1450	L1390	G1331	ASN	GLU	THR	THR	THR	ALA	ILE
A2092	P1988	Q1856	S1678	W1544	L1451	K1391	V1332	ILE	GLU	ASP	GLU	GLU	VAL	ILE
L2093	N1989	L1857	R1679	L1547	V1452	G1392	W1333	GLY	GLU	ASN	ASN	ASN	ARG	GLU
K2094	Y1990	I1858	I1692	G1553	A1453	Y1393	S1334	GLY	GLY	GLY	GLY	GLY	ALA	LYS
L2097	D1991	I1859	I1698	S1554	M1457	K1394	E1335	GLN	LEU	THR	THR	THR	LEU	LEU
N2102	K1992	A1864	I1699	A1555	M1457	M1394	L1336	ALA	ALA	VAL	VAL	VAL	LEU	LEU
R2105	T1993	N1867	I1700	I1571	L1463	K1395	S1337	GLY	GLY	LYS	LYS	LYS	ARG	GLU
S1994	S1994	Y1868	W1701	S1572	L1463	M1396	I1338	THR	THR	ALA	ALA	ALA	ARG	GLU
A1995	T1993	Y1872	L1717	I1576	I1466	M1397	V1339	ILE	ILE	THR	THR	THR	LEU	LEU
E2116	E2000	V1875	V1721	M1579	R1467	M1398	W1340	GLY	GLY	VAL	VAL	VAL	GLY	ASP
E2117	L2001	Q1876	V1724	M1579	V1469	I1401	E1341	LYS	LYS	ALA	ALA	ALA	GLU	LEU
R2118	L2002	D1877	F1727	V1582	D1475	E1402	I1343	PHE	PHE	ILE	ILE	ILE	VAL	VAL
G2119	N2003	T1882	Y1738	L1587	D1476	L1403	D1344	ARG	ARG	THR	THR	THR	GLN	GLY
E2120	N2006	T1891	Y1738	Y1588	V1477	X1404	Q1345	LYS	LYS	ILE	ILE	ILE	LYS	ALA
A2121	K2007	M1892	Y1750	M1589	V1478	A1406	K1347	ASP	ASP	THR	THR	THR	VAL	VAL
V2122	D2011	E1897	V1750	D1590	Q1481	E1407	E1348	GLN	GLN	GLN	GLN	GLN	LEU	LEU
D2123	N2019	G1902	E1763	V1591	N1482	L1408	Q1349	VAL	VAL	VAL	VAL	VAL	VAL	VAL
E2124	P2020	G1911	M1769	Q1595	R1485	K1409	P1350	CYS	CYS	ASN	ASN	ASN	ASP	ASP
A2128	G2021	K1912	G1770	R1599	L1486	D1410	W1351	ALA	ALA	LEU	LEU	LEU	MET	LEU
N2130	ALA	T1913	G1771	S1600	I1487	R1411	V1352	LYS	LYS	ILE	ILE	ILE	THR	ASN
P2132	ARG	E1914	G1772	L1601	R1488	H1412	S1353	LYS	LYS	THR	THR	THR	ASP	ARG
Q2134	ALA	S1915	G1773	L1604	D1491	W1413	V1354	ASP	ASP	GLN	GLN	GLN	ALA	VAL
L2137	L2035	G1920	G1774	L1605	N1495	K1414	Q1355	PHE	PHE	TRP	TRP	TRP	PRO	LYS
I2138	L2039	R1925	A1775	D1606	K1498	L1416	R1357	VAL	VAL	GLN	GLN	GLN	VAL	VAL
L2149	A2040	F1926	D1774	L1607	E1499	M1417	K1358	GLU	GLU	ALA	ALA	ALA	VAL	VAL
L2160	L2048	V1927	A1775	L1608	H1500	K1418	L1359	ASP	ASP	GLY	GLY	GLY	HIS	ASP
L2161	L2048	E1934	V1785	Q1612	I1501	R1419	R1360	ARG	ARG	ILE	ILE	ILE	LYS	LEU
L2169	V2052	Q1939	L1792	R1623	S1505	L1420	Q1361	VAL	VAL	TYR	TYR	TYR	PRO	ASN
Q2169	N2053	V1946	L1797	S1624	A1506	H1421	N1362	GLU	GLU	ARG	ARG	ARG	GLY	GLY
Y2170	L2054	G1947	M1798	F1625	M1507	V1422	L1363	ASN	ASN	GLY	GLY	GLY	PRO	GLY
H2171	N2055	L1948	E1799	F1626	K1508	Y1423	D1364	LYS	LYS	VAL	VAL	VAL	LYS	LEU
E2174	S2056	C1949	Q1800	R1627	L1509	V1425	A1365	SER	SER	LEU	LEU	LEU	ILE	ILE
	L2065	R1803	L1803	P1627	S1510	V1426	L1366	THR	THR	GLY	GLY	GLY	LYS	LYS
	A2066	R1805	R1805	F1629	P1511	S1427	L1367	PHE	PHE	ASP	ASP	ASP	ASN	ASN
		Q1950	R1806	Y1512	Y1513	E1428	N1368	LEU	LEU	LEU	LEU	LEU	VAL	VAL
		V1951	R1806	V1514	V1515	L1429	Q1369	THR	THR	THR	THR	THR	TRP	TRP
				V1515	F1516	L1430	L1370	GLY	GLY	GLY	GLY	GLY	VAL	VAL
				F1516	E1517	L1431	K1371	ASN	ASN	ASN	ASN	ASN	VAL	VAL
				E1518		G1432	L1374	GLN	GLN	GLN	GLN	GLN	THR	THR
						Q1433	F1373	LYS	LYS	LYS	LYS	LYS	GLN	GLN
						I1434	P1374	ASP	ASP	ASP	ASP	ASP	ARG	ARG
						V1435	R1375	THR	THR	THR	THR	THR	THR	THR
						D1436	R1376	GLY	GLY	GLY	GLY	GLY	GLY	GLY
						V1437	L1377	LEU	LEU	LEU	LEU	LEU	LEU	LEU
						D1438	R1378	GLY	GLY	GLY	GLY	GLY	GLY	GLY
						L1439	Y1380	THR	THR	THR	THR	THR	THR	THR
						Q1440		ASP	ASP	ASP	ASP	ASP	ASP	ASP

SER	ALA	MET	H3182	E3073	D2995	R2890	F2784	Y2674	F2479	L2382	L2279	R2179
TYR	VAL	SER	T3183	G3074	E2996	K2894	D2787	G2675	P2480	P2386	F2280	E2180
ASN	LYS	GLN	A3184	L3075	S2997	L2897	Q2788	T2682	M2481	L2387	T2281	E2181
GLU	ALA	ILE	K3190	K3076	N2998	L2901	T2789	R2683	Q2482		R2285	L2182
ILE	LEU	GLN	Q3197	D3077	V2999	E2902	T2790	T2684	E2484			
VAL	GLU	GLN	R3078	R3078	L3000	E2902	T2791	L2591			L2288	K2203
ASN	SER	GLN	A3079	A3079	D3001	E2903	Y2792	V2592	E2487		D2289	V2204
ARG	ILE	HIS	A3080	A3080	S3002	E2904	H2689	L2593	R2488		S2290	E2205
ALA	CYS	ALA	V3203	V3203	S3002	E2905		P2596	Q2491		R2292	V2207
SER	LEU	LEU	G3204	T3081	F3004	L2905	Q2685		R2492		G2293	Q2209
LEU	LEU	GLN	L3205	S3082	L3005	M2799	Y2792		Y2493		E2294	L2210
ALA	LEU	GLN	R3206	P3083	E3006	T2800	H2689		L2499		Q2296	Y2211
CYS	GLY	GLU	K3207								K2297	T2214
GLY	GLU	VAL				L2909						
PRO	SER	ILE	E3210	R3088	K3008	V2910	F2807	E2704				L2220
MET	THR	ALA	T3211	G3089	N3009	L2911		R2705				W2221
VAL	THR	ASP	F3212	V3090	F2912	F2912		Q2707				N2222
LYS	ASP	LYS	D3213	L3091	V2915	V2915		V2709				G2224
TRP	TRP	GLN										G2227
ALA	LYS	MET										K2230
ILE	GLN	SER	E3216	G3095	L3020	L2920	L2821	C2712	M2510		V2307	S2231
ALA	ALA	VAL	F3217	D3096	F3021	R2924	T2716	L2514	L2514		D2304	W2311
GLN	ARG	LYS	L3218	W3097	E3022	L2925	D2717	Q2515			P2309	N2222
LEU	LEU	GLU	L3219		G3023	L2933	G2719					V2223
ASN	ILE	ASP	R3220		D3024	S2939	R2720					G2224
TYR	ILE	LEU	D3221		S3025	K2943	Q2834					E2227
ALA	MET	ASP			Y3026		Q2835					K2230
ASP	GLU	VAL				L2961	R2836					S2231
MET	GLU	VAL	ILE			K2962	L2837					W2234
LEU	ASN	GLU	ARG			V2963	E2839					R2235
LYS	PHE	PRO	ILE			H2964						W2236
LYS	ILE	ALA	Y3122			R2965	E2842					V2318
ARG	ILE	ALA	P3123			K2966	R2843					E2242
VAL	PRO	VAL	F3123			Y2967	R2844					R2243
GLU	PRO	THR	D3124			T2968	W2845					L2244
PRO	ILE	ILE	G3125			G2969	E2848					L2254
LEU	VAL	VAL	Y3130			E2970	E2849					E2248
ARG	ASN	GLN	D3131			D2971	N2850					L2253
ASN	PHE	ASN	Y3130			F2972	L2850					L2254
GLU	SER	ALA	K3132			D2973	L2855					A2258
LEU	ALA	VAL	P3136			E2974						L2262
GLN	GLU	LYS	ALA			L2975	D2862					H2263
LYS	GLU	SER	R3140			D2976	R2863					L2264
LEU	ILE	ILE	E3141			H3047						Y2265
GLU	SER	LYS	ASP			M3043						D2268
ASP	ASP	GLN	I3143			F2972						L2268
ALA	ILE	HIS	V3150			D2973						D2269
LYS	ARG	LEU	L3154			L2975						P2270
ASN	VAL	GLU	MET			L2976						N2271
GLN	MET	VAL	VAL			V2979						T2272
LYS	ARG	LYS	ASP			L2980						R2273
ALA	ASN	LYS	GLN			R2981						E2274
ASN	TYR	ASN	GLU			K2982						W2275
GLU	MET	ALA	ALA			S2983						T2276
VAL	PRO	ASN	A3170			N2987						R2277
PRO	PRO	ASN	T3171			E2988						G2278
GLN	ALA	GLN	H3175			K2989						
			VAL			L2990						



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	139709	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS GLACIOS	Depositor
Voltage (kV)	200	Depositor
Electron dose ($e^-/\text{\AA}^2$)	40	Depositor
Minimum defocus (nm)	1200	Depositor
Maximum defocus (nm)	3000	Depositor
Magnification	45000	Depositor
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	1.327	Depositor
Minimum map value	-0.840	Depositor
Average map value	-0.003	Depositor
Map value standard deviation	0.026	Depositor
Recommended contour level	0.2	Depositor
Map size (Å)	444.4032, 444.4032, 444.4032	wwPDB
Map dimensions	384, 384, 384	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.1573, 1.1573, 1.1573	Depositor

5 Model quality

5.1 Standard geometry

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

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	0.26	0/25022	0.49	0/33900

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

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	24503	0	24574	518	0
2	A	81	0	36	5	0
3	A	31	0	12	1	0
4	A	2	0	0	0	0
All	All	24617	0	24622	518	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 11.

All (518) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3618:ALA:O	1:A:3621:LYS:HB3	1.61	0.98
1:A:1698:ILE:HD13	1:A:1701:TRP:HE1	1.48	0.79
1:A:2593:LEU:HD12	1:A:2605:LEU:HD12	1.67	0.75
1:A:1857:LEU:HD22	1:A:1868:TYR:HB2	1.69	0.74
1:A:1978:ILE:HD11	1:A:2001:LEU:HD11	1.70	0.74
1:A:3659:ARG:HE	1:A:3661:LEU:HD11	1.52	0.74
1:A:3481:SER:HB2	1:A:3770:LEU:HD11	1.70	0.74
1:A:3103:TYR:OH	1:A:3141:GLU:OE1	2.06	0.73
1:A:1407:ALA:HA	1:A:1457:MET:HE3	1.71	0.73
1:A:3638:VAL:HG12	1:A:3681:THR:HB	1.70	0.73
1:A:2834:GLN:HA	1:A:2837:LEU:HD13	1.69	0.72
1:A:2593:LEU:HD23	1:A:2734:VAL:HB	1.72	0.71
1:A:3928:THR:OG1	1:A:3931:GLN:OE1	2.09	0.71
1:A:4193:ARG:NH2	1:A:4637:GLU:O	2.24	0.70
1:A:4574:LYS:HB3	1:A:4627:ALA:HB2	1.74	0.70
1:A:3576:ASN:ND2	1:A:3700:ASN:O	2.26	0.69
1:A:2112:LYS:HG3	1:A:2122:VAL:HG11	1.73	0.69
1:A:2290:SER:HB3	1:A:2295:LEU:HD23	1.74	0.68
1:A:1912:LYS:HG2	1:A:2041:MET:HG3	1.76	0.67
1:A:1332:VAL:HB	1:A:1377:LEU:HD22	1.76	0.66
1:A:3576:ASN:HA	1:A:3579:MET:HG3	1.78	0.66
1:A:2943:LYS:HE2	1:A:3067:THR:HB	1.77	0.66
1:A:2999:VAL:HG13	1:A:3005:LEU:HD21	1.77	0.65
1:A:3113:MET:O	1:A:3140:ARG:NH2	2.30	0.65
1:A:3622:ASN:HB3	1:A:3633:LEU:HD11	1.78	0.65
1:A:3763:ASP:OD2	1:A:3765:THR:OG1	2.14	0.65
1:A:4113:LEU:HD13	1:A:4116:LEU:HD13	1.78	0.65
1:A:1499:GLU:HA	1:A:3621:LYS:HE2	1.77	0.65
1:A:4595:GLN:NE2	1:A:4596:THR:O	2.29	0.65
1:A:3553:LEU:O	1:A:3582:ARG:NH1	2.30	0.65
1:A:4099:VAL:HB	1:A:4106:LEU:HD21	1.77	0.65
1:A:1406:GLU:HG3	1:A:3658:GLY:HA3	1.79	0.64
1:A:3601:MET:HE1	1:A:3611:ARG:HE	1.63	0.64
1:A:2933:LEU:HB3	1:A:3065:VAL:HG22	1.79	0.64
1:A:3546:ASP:O	1:A:3735:GLN:NE2	2.22	0.64
1:A:1798:MET:HG2	1:A:2124:GLU:HG3	1.81	0.63
1:A:2897:LEU:HD21	1:A:2909:LEU:HB2	1.80	0.63
1:A:2901:TYR:OH	1:A:2909:LEU:N	2.28	0.63
1:A:2453:ARG:NH1	1:A:2505:ASP:OD2	2.29	0.63
1:A:2590:PRO:HB2	1:A:2731:VAL:HG12	1.80	0.62
1:A:2620:LEU:HD12	1:A:2630:LEU:HD21	1.81	0.62
1:A:3074:GLY:O	1:A:3078:ARG:HG2	1.99	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2581:LEU:HD13	1:A:2591:LEU:HD13	1.81	0.62
1:A:2221:MET:HE1	1:A:2348:LEU:HD21	1.82	0.62
1:A:1979:GLN:HB3	1:A:2035:LEU:HD13	1.81	0.62
1:A:2830:LEU:HD22	1:A:2850:ILE:HD13	1.79	0.62
1:A:4031:VAL:O	1:A:4123:ARG:NH1	2.33	0.62
1:A:1939:GLN:N	1:A:1939:GLN:OE1	2.33	0.61
1:A:4168:ARG:NH2	1:A:4217:ASP:OD1	2.33	0.61
1:A:2790:PRO:HB3	1:A:3076:LYS:HE2	1.83	0.61
1:A:1959:GLU:OE2	1:A:2019:ASN:ND2	2.31	0.61
1:A:3204:GLY:HA2	1:A:3750:LEU:HD21	1.83	0.61
1:A:1800:GLN:OE1	1:A:1804:ARG:NH1	2.34	0.60
1:A:4528:VAL:HG11	1:A:4592:TRP:HB2	1.82	0.60
1:A:2387:LEU:HD21	1:A:2463:HIS:HB3	1.83	0.60
1:A:2684:ARG:HH12	1:A:2726:ARG:HE	1.49	0.60
1:A:2874:SER:HB3	1:A:2920:LEU:HD21	1.82	0.60
1:A:2671:MET:HB2	1:A:2675:GLY:HA2	1.83	0.60
1:A:3914:ILE:H	1:A:3937:ARG:HH12	1.49	0.60
1:A:2644:THR:OG1	1:A:2647:GLY:O	2.20	0.59
1:A:2536:ASP:OD1	1:A:2576:ARG:NH1	2.35	0.59
1:A:3044:LEU:HD22	1:A:3049:GLU:HG2	1.82	0.59
1:A:3508:LEU:HD23	1:A:3536:LEU:HD21	1.83	0.59
1:A:2816:LEU:HD12	1:A:2817:PRO:HD2	1.85	0.59
1:A:1415:GLN:O	1:A:1419:ARG:HG2	2.02	0.59
1:A:2910:VAL:N	2:A:4704:ADP:N1	2.44	0.59
1:A:2660:VAL:HG22	1:A:2707:GLN:HB2	1.84	0.59
1:A:2324:LEU:HD21	1:A:2332:ARG:HD3	1.84	0.58
1:A:3839:VAL:HG21	1:A:3863:LEU:HA	1.83	0.58
1:A:2413:LEU:HA	1:A:2416:GLN:HE21	1.67	0.58
1:A:4511:LEU:HD23	1:A:4560:VAL:HG13	1.86	0.58
1:A:2939:SER:OG	1:A:3069:ASN:OD1	2.20	0.58
1:A:4042:LEU:HD11	1:A:4138:LEU:HG	1.86	0.58
1:A:2419:ALA:O	1:A:2423:MET:HG2	2.03	0.58
1:A:2965:ARG:HD3	1:A:2966:LYS:H	1.69	0.58
1:A:4445:THR:O	1:A:4449:ARG:N	2.31	0.58
1:A:2983:SER:HB3	1:A:2990:ILE:HD12	1.85	0.58
1:A:3756:VAL:HG13	1:A:3757:LYS:H	1.68	0.57
1:A:2131:LEU:HD12	1:A:2132:PRO:HD2	1.86	0.57
1:A:2643:ARG:NH1	1:A:2644:THR:O	2.37	0.57
1:A:3511:ALA:HA	1:A:3514:ILE:HG22	1.85	0.57
1:A:4445:THR:H	1:A:4448:LEU:HB2	1.69	0.57
1:A:1403:LEU:HD23	1:A:1450:LEU:HD21	1.85	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2963:VAL:HB	1:A:2998:ASN:HB3	1.86	0.57
1:A:3736:GLY:O	1:A:3740:LEU:N	2.32	0.57
1:A:3755:GLU:OE2	1:A:3759:ARG:NH1	2.37	0.57
1:A:1652:LYS:O	1:A:1655:LYS:NZ	2.38	0.57
1:A:1678:SER:HB2	1:A:1872:TYR:HE2	1.69	0.57
1:A:3130:TYR:CZ	1:A:3132:LYS:HB2	2.39	0.57
1:A:1579:MET:HA	1:A:1582:VAL:HG12	1.86	0.57
1:A:1510:SER:O	1:A:1512:TYR:N	2.37	0.57
1:A:3489:TRP:NE1	1:A:3746:GLU:OE1	2.37	0.57
1:A:3739:GLN:O	1:A:3743:ARG:HD3	2.05	0.57
1:A:2083:GLN:HB2	1:A:2086:TYR:CD2	2.40	0.56
1:A:2297:LYS:O	1:A:2338:ASN:ND2	2.38	0.56
1:A:2465:ALA:HB2	1:A:2493:TYR:CE2	2.39	0.56
1:A:4460:LEU:HA	1:A:4475:VAL:HG22	1.86	0.56
1:A:2584:TRP:HB2	1:A:2591:LEU:HD12	1.86	0.56
1:A:1440:GLN:HA	1:A:1443:GLU:HG3	1.86	0.56
1:A:2325:LEU:HB3	1:A:2333:LEU:HB2	1.87	0.56
1:A:3835:ILE:HG23	1:A:3866:VAL:HG12	1.87	0.56
1:A:2325:LEU:HD23	1:A:2333:LEU:HD12	1.87	0.56
1:A:1351:TRP:H	1:A:1430:THR:HA	1.70	0.56
1:A:3525:ARG:NH1	1:A:3576:ASN:OD1	2.38	0.56
1:A:3767:ILE:O	1:A:3771:GLU:HG3	2.05	0.56
1:A:1498:LYS:HA	1:A:1501:ILE:HG12	1.88	0.56
1:A:1336:LEU:HD11	1:A:1386:VAL:HG21	1.88	0.56
1:A:1429:LEU:HD11	1:A:1434:ILE:HD11	1.86	0.56
1:A:1511:PRO:O	1:A:1514:LYS:HG2	2.06	0.56
1:A:2925:ILE:HD12	1:A:3090:VAL:HG11	1.86	0.56
1:A:1882:THR:HA	1:A:2048:LEU:HD23	1.88	0.55
1:A:2925:ILE:HG21	1:A:2933:LEU:HD13	1.87	0.55
1:A:3008:MET:HE2	1:A:3064:VAL:HG11	1.88	0.55
1:A:1625:SER:OG	1:A:1699:ASN:OD1	2.20	0.55
1:A:3154:LEU:HD22	1:A:3171:ILE:HG12	1.88	0.55
1:A:2039:LEU:HD23	1:A:2040:ALA:N	2.21	0.55
1:A:2308:ASP:HB2	1:A:2674:TYR:HD2	1.71	0.55
1:A:2666:ILE:HB	1:A:2712:CYS:SG	2.46	0.55
1:A:3043:MET:HA	1:A:3043:MET:HE2	1.87	0.55
1:A:3178:ASP:OD1	1:A:3585:ARG:NE	2.39	0.55
1:A:3761:LEU:HD22	1:A:3764:ASP:OD1	2.07	0.55
1:A:1927:VAL:HG22	1:A:1954:TRP:HB2	1.87	0.55
1:A:2491:GLN:HB3	1:A:2524:VAL:HG21	1.88	0.55
1:A:4564:LYS:HG3	1:A:4646:GLU:HG3	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2386:PRO:HG3	1:A:2413:LEU:HD21	1.89	0.55
1:A:2838:VAL:HG13	1:A:3093:TRP:CZ2	2.43	0.54
1:A:1959:GLU:OE1	1:A:1962:ARG:NH1	2.40	0.54
1:A:2174:GLU:HB2	1:A:2179:ARG:HH21	1.71	0.54
1:A:3096:ASP:OD2	1:A:3097:TRP:N	2.40	0.54
1:A:3661:LEU:HD23	1:A:3668:ASP:HB2	1.90	0.54
1:A:1405:SER:HB2	1:A:3658:GLY:HA2	1.89	0.54
1:A:3143:ILE:HD13	1:A:3541:ILE:HD13	1.88	0.54
1:A:3966:PRO:HD2	1:A:4000:ARG:HG3	1.88	0.54
1:A:2987:ASN:OD1	1:A:3057:GLN:NE2	2.28	0.54
1:A:3499:GLN:HA	1:A:3502:THR:HG22	1.89	0.54
1:A:1661:VAL:HG22	1:A:1676:ILE:HG21	1.88	0.54
1:A:1717:LEU:HB2	1:A:1749:LEU:HD22	1.90	0.54
1:A:2393:GLU:O	1:A:2397:ARG:NH1	2.40	0.54
1:A:3486:ARG:O	1:A:3490:GLU:HG2	2.08	0.53
1:A:3913:GLU:HG3	1:A:4476:ILE:HG21	1.90	0.53
1:A:2291:VAL:HG23	1:A:2292:ARG:HG2	1.89	0.53
1:A:2577:HIS:CE1	1:A:2736:VAL:HG22	2.44	0.53
1:A:2102:ASN:OD1	1:A:2105:ARG:NH2	2.37	0.53
1:A:3973:LEU:HB2	1:A:3992:LEU:HD11	1.90	0.53
1:A:2448:ASP:OD2	1:A:2725:HIS:NE2	2.41	0.53
1:A:2519:ARG:HH21	1:A:2534:ILE:HD11	1.73	0.53
1:A:4160:THR:HG23	1:A:4212:LEU:HD21	1.91	0.53
1:A:3481:SER:HB2	1:A:3770:LEU:CD1	2.38	0.53
1:A:3909:LEU:HB3	1:A:4344:LEU:HD13	1.90	0.52
1:A:2585:LEU:HD21	1:A:2709:VAL:HG21	1.92	0.52
1:A:2744:LEU:HA	1:A:2747:ILE:HG22	1.91	0.52
1:A:2386:PRO:HA	1:A:2416:GLN:HE22	1.74	0.52
1:A:2784:PHE:HB3	1:A:2792:TYR:CD1	2.44	0.52
1:A:1626:PHE:HB2	1:A:1699:ASN:ND2	2.24	0.52
1:A:1816:VAL:HG11	1:A:2052:VAL:HG22	1.92	0.52
1:A:3520:PHE:HB3	1:A:3524:MET:HB3	1.92	0.52
1:A:2464:GLN:HG3	1:A:2583:THR:HG23	1.91	0.52
1:A:2558:GLU:HA	1:A:2757:ARG:HH21	1.75	0.52
1:A:2789:GLN:HB2	1:A:2792:TYR:HE2	1.75	0.52
1:A:2461:MET:HG2	1:A:2493:TYR:HE2	1.75	0.52
1:A:3207:LYS:NZ	1:A:3210:GLU:OE1	2.42	0.52
1:A:3514:ILE:HD11	1:A:3582:ARG:HB2	1.92	0.52
1:A:1539:ASP:OD1	1:A:1542:ARG:NH2	2.43	0.52
1:A:2762:LEU:HD21	1:A:2821:LEU:HD22	1.91	0.52
1:A:2962:LYS:HD2	1:A:3647:PRO:HG3	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3731:LEU:HD21	1:A:3791:MET:HG2	1.92	0.52
1:A:4398:LEU:HG	1:A:4417:VAL:HG21	1.92	0.52
1:A:1536:VAL:HG12	1:A:1601:LEU:HG	1.91	0.52
1:A:2465:ALA:HB2	1:A:2493:TYR:CD2	2.44	0.52
1:A:2686:MET:HE2	1:A:2703:LEU:HD11	1.91	0.51
1:A:4324:PRO:HB3	1:A:4638:ARG:HH11	1.74	0.51
1:A:1914:GLU:HG3	2:A:4701:ADP:H3'	1.91	0.51
1:A:2623:SER:HA	1:A:2668:LEU:HB3	1.91	0.51
1:A:2258:ALA:HB1	1:A:2682:PHE:HD1	1.74	0.51
1:A:1452:VAL:HA	1:A:1512:TYR:CE1	2.46	0.51
1:A:1864:ALA:HB2	1:A:1897:GLU:HB2	1.92	0.51
1:A:1946:VAL:HG13	1:A:2006:VAL:HG21	1.93	0.51
1:A:3026:TYR:O	1:A:3030:MET:HG2	2.11	0.51
1:A:2309:PRO:HA	1:A:2312:VAL:HG12	1.92	0.51
1:A:2354:ALA:HB1	1:A:2358:ARG:HH21	1.75	0.51
1:A:2797:ARG:HA	1:A:2800:THR:HG22	1.93	0.51
1:A:2831:ARG:HH21	1:A:2921:ARG:HH21	1.58	0.51
1:A:3113:MET:SD	1:A:3184:ALA:HA	2.51	0.51
1:A:2965:ARG:HE	1:A:2965:ARG:HA	1.76	0.51
1:A:3650:ASN:OD1	1:A:3695:ARG:NH1	2.43	0.51
1:A:4183:LEU:HD11	1:A:4215:ALA:HB1	1.93	0.51
1:A:4541:LEU:HD11	1:A:4590:LEU:HB3	1.93	0.51
1:A:2265:TYR:CZ	1:A:2314:ASN:HB2	2.46	0.51
1:A:2527:PRO:HD3	1:A:2545:TRP:CE2	2.45	0.51
1:A:3865:GLN:NE2	1:A:3869:ASN:OD1	2.44	0.51
1:A:4030:ILE:HG21	1:A:4145:PHE:HZ	1.76	0.51
1:A:1451:LEU:HG	1:A:3673:PRO:HG2	1.93	0.51
1:A:3596:ALA:HB2	1:A:3701:PHE:CD2	2.46	0.51
1:A:1626:PHE:HB2	1:A:1699:ASN:HD22	1.76	0.50
1:A:1466:ILE:HD11	1:A:1527:LEU:HD11	1.91	0.50
1:A:1501:ILE:HG22	1:A:1527:LEU:HB3	1.93	0.50
1:A:1582:VAL:HG23	1:A:1591:VAL:HG22	1.92	0.50
1:A:2569:VAL:HB	1:A:2747:ILE:HD12	1.93	0.50
1:A:2789:GLN:HB2	1:A:2792:TYR:CE2	2.47	0.50
1:A:4609:VAL:HG22	1:A:4642:VAL:HB	1.93	0.50
1:A:2315:LEU:HA	1:A:2318:VAL:HG12	1.93	0.50
1:A:3967:GLU:HB2	1:A:4004:MET:HE2	1.94	0.50
1:A:4031:VAL:HG21	1:A:4058:LEU:HD21	1.93	0.50
1:A:3780:VAL:O	1:A:3784:VAL:HG23	2.11	0.50
1:A:4423:LEU:HD13	1:A:4466:HIS:CD2	2.47	0.50
1:A:2843:ARG:HH21	1:A:3093:TRP:HD1	1.60	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3910:ARG:NE	1:A:4344:LEU:HD11	2.27	0.49
1:A:2503:SER:HB3	1:A:2514:LEU:HD22	1.93	0.49
1:A:2623:SER:OG	1:A:3006:GLU:OE1	2.28	0.49
1:A:2646:ASN:OD1	1:A:2647:GLY:N	2.45	0.49
1:A:2296:GLN:N	1:A:2296:GLN:OE1	2.45	0.49
1:A:2961:ILE:HD13	1:A:2975:ASP:CG	2.33	0.49
1:A:3886:LEU:HD11	1:A:4346:MET:HG3	1.93	0.49
1:A:2995:ASP:OD1	1:A:3067:THR:OG1	2.28	0.49
1:A:4460:LEU:HD12	1:A:4461:PRO:HD2	1.94	0.49
1:A:1785:VAL:HG13	1:A:1815:LEU:HD12	1.95	0.49
1:A:3017:VAL:O	1:A:3020:LEU:HD22	2.12	0.49
1:A:3561:ARG:NH2	1:A:3603:GLU:OE2	2.46	0.49
1:A:3576:ASN:HB2	1:A:3701:PHE:HE1	1.77	0.49
1:A:2346:GLN:HB2	1:A:2726:ARG:HD2	1.94	0.49
1:A:3162:ALA:HB2	1:A:3168:THR:HG21	1.94	0.49
1:A:3620:ARG:HH21	1:A:3665:GLY:HA3	1.78	0.49
1:A:1469:VAL:HG21	1:A:1500:HIS:HE1	1.78	0.49
1:A:2254:ILE:HG23	1:A:2279:LEU:HD23	1.94	0.49
1:A:4050:ASP:OD1	1:A:4051:ALA:N	2.45	0.49
1:A:1812:ILE:HG21	1:A:2056:SER:HA	1.95	0.49
1:A:2720:ARG:NH2	1:A:3083:PRO:HG3	2.27	0.49
1:A:4381:HIS:HB2	1:A:4438:CYS:HB3	1.93	0.49
1:A:3594:GLY:HA3	1:A:3682:ARG:HH12	1.78	0.48
1:A:3828:SER:HB3	1:A:4140:ARG:HG2	1.94	0.48
1:A:4277:SER:HA	1:A:4282:PHE:CG	2.48	0.48
1:A:4596:THR:HG23	1:A:4598:THR:H	1.78	0.48
1:A:2242:GLU:HG3	1:A:2248:GLU:HA	1.95	0.48
1:A:2584:TRP:HE3	1:A:2591:LEU:HG	1.78	0.48
1:A:4087:ALA:O	1:A:4091:GLY:N	2.45	0.48
1:A:3525:ARG:HH22	1:A:3576:ASN:HD21	1.61	0.48
1:A:1721:VAL:HA	1:A:1724:VAL:HG12	1.95	0.48
1:A:1806:ARG:NH2	1:A:1877:ASP:OD1	2.42	0.48
1:A:2083:GLN:HB2	1:A:2086:TYR:HD2	1.78	0.48
1:A:4391:ILE:O	1:A:4428:ARG:NH2	2.47	0.48
1:A:2635:PHE:CZ	1:A:2650:LEU:HD22	2.48	0.48
1:A:3021:PHE:CD2	1:A:3029:LEU:HD22	2.48	0.48
1:A:3846:LEU:HD21	1:A:3859:ILE:HG13	1.96	0.48
1:A:2506:SER:OG	1:A:2507:ARG:N	2.46	0.48
1:A:3549:ARG:NH2	1:A:3575:GLU:OE2	2.38	0.48
1:A:3590:ILE:HD11	1:A:3700:ASN:ND2	2.28	0.48
1:A:1388:ARG:HA	1:A:1391:LYS:HE2	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1547:LEU:HD11	1:A:1612:GLN:HB2	1.94	0.48
1:A:1571:ILE:HG23	1:A:1604:LEU:HD22	1.96	0.48
1:A:1349:GLN:O	1:A:1430:THR:OG1	2.31	0.48
1:A:2203:TRP:CH2	1:A:2236:VAL:HG11	2.49	0.48
1:A:2631:LEU:O	1:A:2635:PHE:HB2	2.13	0.48
1:A:3756:VAL:HG13	1:A:3757:LYS:N	2.29	0.48
1:A:1920:GLY:HA3	1:A:1927:VAL:HG21	1.96	0.48
1:A:4247:MET:HA	1:A:4251:ILE:HB	1.94	0.48
1:A:1626:PHE:CE2	1:A:1628:ARG:HB2	2.49	0.47
1:A:1891:THR:HB	1:A:2039:LEU:HD12	1.96	0.47
1:A:2395:GLN:HB3	1:A:2398:ARG:HH22	1.79	0.47
1:A:1844:PHE:CD2	1:A:1859:ILE:HG12	2.49	0.47
1:A:3788:ASP:N	1:A:3788:ASP:OD1	2.47	0.47
1:A:1466:ILE:HG13	1:A:1500:HIS:ND1	2.28	0.47
1:A:1509:LEU:HB2	1:A:3608:LYS:NZ	2.30	0.47
1:A:2275:TRP:NE1	1:A:2277:ASP:OD1	2.47	0.47
1:A:3591:ASP:N	1:A:3591:ASP:OD1	2.47	0.47
1:A:2231:SER:HA	1:A:2234:TRP:CD1	2.49	0.47
1:A:2396:ARG:NH1	1:A:2406:GLU:OE2	2.48	0.47
1:A:2599:SER:OG	1:A:2737:ASP:O	2.32	0.47
1:A:2729:ARG:HE	1:A:2730:HIS:CD2	2.33	0.47
1:A:1356:PRO:HB3	1:A:1401:ILE:HG12	1.97	0.47
1:A:1571:ILE:HG21	1:A:1608:LEU:HG	1.97	0.47
1:A:2514:LEU:O	1:A:2518:ILE:HG12	2.15	0.47
1:A:2224:GLY:H	1:A:2230:LYS:HD3	1.79	0.47
1:A:1403:LEU:HD21	1:A:1446:VAL:HG13	1.96	0.46
1:A:2915:VAL:HG21	2:A:4704:ADP:HN61	1.80	0.46
1:A:3873:ARG:NH1	1:A:4025:LEU:HB3	2.30	0.46
1:A:4313:PRO:HB2	1:A:4315:THR:HG22	1.97	0.46
1:A:1374:PRO:HD2	1:A:1377:LEU:HD12	1.98	0.46
1:A:2912:PHE:CE1	1:A:2915:VAL:HG23	2.50	0.46
1:A:3009:ASN:HD21	1:A:3083:PRO:HD2	1.79	0.46
1:A:3190:LYS:HE3	1:A:3552:TYR:CE2	2.51	0.46
1:A:1599:ARG:HA	1:A:1599:ARG:NE	2.29	0.46
1:A:1892:MET:SD	1:A:1902:GLY:HA3	2.55	0.46
1:A:2591:LEU:HD23	1:A:2592:VAL:N	2.30	0.46
1:A:2683:ILE:HA	1:A:2686:MET:HG2	1.97	0.46
1:A:2921:ARG:O	1:A:2925:ILE:HG12	2.16	0.46
1:A:3211:THR:HG21	1:A:3753:LEU:HD21	1.96	0.46
1:A:3562:TRP:HZ2	1:A:3581:LYS:HD3	1.81	0.46
1:A:1477:LEU:HB3	1:A:1485:ARG:HG2	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2666:ILE:O	1:A:2669:PRO:HD2	2.15	0.46
1:A:4485:ARG:NH1	1:A:4513:GLY:O	2.48	0.46
1:A:1855:GLN:HG3	1:A:1867:ASN:HD21	1.81	0.46
1:A:2335:LEU:HD23	1:A:2336:PRO:O	2.16	0.46
1:A:2755:MET:SD	1:A:2807:PHE:HB2	2.56	0.46
1:A:2831:ARG:HB3	1:A:2924:ARG:NH2	2.31	0.46
1:A:2094:LYS:HE2	1:A:2094:LYS:HB3	1.78	0.46
1:A:3202:ASN:O	1:A:3206:ARG:HG3	2.15	0.46
1:A:3627:LEU:HD21	1:A:3662:ILE:HG21	1.98	0.46
1:A:3990:LEU:HA	1:A:4004:MET:HG2	1.97	0.46
1:A:1396:ILE:O	1:A:1400:VAL:HG23	2.16	0.46
1:A:2382:LEU:HD23	1:A:2420:ALA:HB2	1.98	0.46
1:A:3720:GLU:OE1	1:A:3855:ARG:HD3	2.15	0.46
1:A:3756:VAL:HG23	1:A:3760:ILE:HB	1.98	0.46
1:A:1408:LEU:HD12	1:A:1413:TRP:CE3	2.51	0.46
1:A:1587:LEU:HD23	1:A:1589:MET:H	1.81	0.46
1:A:2492:ARG:HD2	1:A:2545:TRP:CE2	2.51	0.46
1:A:3008:MET:HG2	1:A:3066:PHE:HZ	1.80	0.46
1:A:2488:ARG:O	1:A:2492:ARG:HG2	2.16	0.45
1:A:2652:PRO:HD2	1:A:2705:ARG:HH11	1.80	0.45
1:A:4042:LEU:HD12	1:A:4139:LEU:HD23	1.98	0.45
1:A:1507:MET:HG3	1:A:3629:PHE:CE1	2.52	0.45
1:A:2791:HIS:CD2	1:A:3091:LEU:HD11	2.52	0.45
1:A:2999:VAL:HG12	1:A:3078:ARG:NH1	2.30	0.45
1:A:3175:HIS:CE1	1:A:3585:ARG:HH12	2.35	0.45
1:A:2205:GLU:O	1:A:2209:GLN:HG3	2.17	0.45
1:A:2054:LEU:HD21	1:A:2097:LEU:HD12	1.99	0.45
1:A:2065:LEU:HD22	1:A:2137:LEU:HD23	1.98	0.45
1:A:3639:GLU:HB3	1:A:3686:VAL:HG21	1.98	0.45
1:A:2323:LYS:HB3	1:A:2335:LEU:HB3	1.99	0.45
1:A:3811:ILE:HD11	1:A:3864:PHE:CE1	2.52	0.45
1:A:3946:ASP:O	1:A:3950:LYS:HG2	2.16	0.45
1:A:3814:THR:O	1:A:3818:LEU:HG	2.16	0.45
1:A:4096:LEU:HD13	1:A:4105:TRP:HH2	1.82	0.45
1:A:2065:LEU:HD23	1:A:2065:LEU:HA	1.83	0.45
1:A:2221:MET:HG2	1:A:2343:PHE:HB2	1.98	0.45
1:A:3611:ARG:HH11	1:A:3636:GLN:HE22	1.64	0.45
1:A:4040:PRO:HB3	1:A:4124:LEU:HD23	1.97	0.45
1:A:1406:GLU:H	1:A:3658:GLY:HA3	1.82	0.45
1:A:2076:CYS:HB3	1:A:2088:PHE:CZ	2.51	0.45
1:A:2481:MET:SD	1:A:2481:MET:N	2.90	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3725:ASP:OD1	1:A:3728:ARG:NH2	2.50	0.45
1:A:4577:LEU:HD22	1:A:4638:ARG:HD2	1.99	0.45
1:A:2304:ASP:OD1	1:A:2726:ARG:NH2	2.50	0.45
1:A:2412:MET:O	1:A:2416:GLN:HG2	2.17	0.45
1:A:4393:GLN:OE1	1:A:4393:GLN:N	2.37	0.45
1:A:1724:VAL:HA	1:A:1727:PHE:HB2	1.99	0.44
1:A:2066:ALA:HA	1:A:2069:ILE:HG22	2.00	0.44
1:A:2666:ILE:HG22	1:A:2723:LEU:HD21	1.97	0.44
1:A:2845:TRP:O	1:A:2848:GLU:HG3	2.17	0.44
1:A:4038:ASN:HB3	1:A:4118:PRO:HG3	2.00	0.44
1:A:1431:LEU:HD21	1:A:1435:TRP:CZ2	2.52	0.44
1:A:2406:GLU:HG2	1:A:2409:ALA:HB2	2.00	0.44
1:A:2093:LEU:O	1:A:2097:LEU:HD23	2.17	0.44
1:A:4088:VAL:HG23	1:A:4118:PRO:HA	2.00	0.44
1:A:2224:GLY:N	1:A:2230:LYS:HD3	2.33	0.44
1:A:2798:GLU:OE1	1:A:2836:ARG:NH2	2.50	0.44
1:A:4470:PRO:HG3	1:A:4612:ASN:HD22	1.83	0.44
1:A:3627:LEU:HD11	1:A:3662:ILE:HG21	1.99	0.44
1:A:3824:LEU:HD11	1:A:4044:CYS:SG	2.58	0.44
1:A:2890:ARG:O	1:A:2894:LYS:HG2	2.18	0.44
1:A:3708:LEU:HD23	1:A:3809:SER:HA	1.99	0.44
1:A:1678:SER:OG	1:A:1679:ARG:N	2.50	0.44
1:A:1911:GLY:O	1:A:1915:SER:OG	2.29	0.44
1:A:2054:LEU:HD23	1:A:2054:LEU:HA	1.80	0.44
1:A:3945:LYS:HB2	1:A:3945:LYS:HE2	1.75	0.44
1:A:2307:VAL:HA	1:A:2311:TRP:CZ2	2.53	0.44
1:A:2684:ARG:HH11	1:A:2726:ARG:HB3	1.83	0.44
1:A:2793:ILE:O	1:A:2793:ILE:HG13	2.17	0.44
1:A:2823:ARG:HH12	1:A:2868:SER:HB3	1.83	0.44
1:A:3562:TRP:HB3	1:A:3567:LEU:HD22	1.99	0.44
1:A:4097:LYS:HA	1:A:4127:THR:OG1	2.17	0.44
1:A:4413:PHE:HD2	1:A:4504:LEU:HD13	1.83	0.44
1:A:1425:VAL:HB	1:A:1428:GLU:HB2	2.00	0.43
1:A:2222:MET:HG2	1:A:2364:PHE:HE1	1.81	0.43
1:A:2609:LEU:HD22	1:A:2617:VAL:HG23	1.99	0.43
1:A:3496:PHE:HE1	1:A:3743:ARG:NH2	2.15	0.43
1:A:3654:ARG:NH2	1:A:3661:LEU:HD22	2.33	0.43
1:A:4543:VAL:HG21	1:A:4622:VAL:HG12	2.00	0.43
1:A:2464:GLN:HG3	1:A:2583:THR:HA	1.98	0.43
1:A:2837:LEU:HD23	1:A:2842:GLU:CB	2.48	0.43
1:A:1539:ASP:HB3	1:A:1543:ARG:NH1	2.33	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1571:ILE:HD11	1:A:1607:LEU:HD12	1.99	0.43
1:A:1607:LEU:O	1:A:1611:ILE:HG12	2.18	0.43
1:A:2285:ARG:HA	1:A:2288:ILE:HG22	2.00	0.43
1:A:2605:LEU:HD11	1:A:2709:VAL:HG12	1.99	0.43
1:A:2818:VAL:O	1:A:2822:ILE:HG12	2.17	0.43
1:A:3097:TRP:HE3	1:A:3102:LEU:HD23	1.83	0.43
1:A:3175:HIS:CG	1:A:3585:ARG:HH12	2.36	0.43
1:A:1803:LEU:HD11	1:A:1875:VAL:HG21	2.00	0.43
1:A:2169:GLN:OE1	1:A:2171:HIS:NE2	2.50	0.43
1:A:1391:LYS:O	1:A:1395:LYS:HG2	2.18	0.43
1:A:1486:LEU:HB3	1:A:1541:GLN:NE2	2.34	0.43
1:A:1661:VAL:HG13	1:A:1676:ILE:HG23	2.00	0.43
1:A:1671:SER:O	1:A:1692:ILE:HG22	2.19	0.43
1:A:2943:LYS:HG2	1:A:3094:PHE:CZ	2.53	0.43
1:A:2976:LEU:HA	1:A:2979:VAL:HG12	2.00	0.43
1:A:1391:LYS:HE2	1:A:1391:LYS:HB3	1.82	0.43
1:A:1475:LEU:HD13	1:A:1487:ILE:HD13	2.01	0.43
1:A:1750:VAL:HG12	1:A:1811:LEU:HD21	2.00	0.43
1:A:2762:LEU:HD12	1:A:2765:TYR:CD2	2.53	0.43
1:A:3792:GLN:O	1:A:3796:THR:HG23	2.19	0.43
1:A:2478:ASP:OD1	1:A:2479:PHE:N	2.52	0.43
1:A:1463:LEU:O	1:A:1466:ILE:HG22	2.19	0.43
1:A:2138:ILE:HG13	1:A:2161:LEU:HD21	2.00	0.43
1:A:3614:PHE:HE2	1:A:3642:ASP:H	1.66	0.43
1:A:4480:SER:O	1:A:4483:SER:OG	2.22	0.43
1:A:1738:TYR:HE2	1:A:1792:LEU:HD21	1.84	0.42
1:A:2965:ARG:O	1:A:2966:LYS:HG3	2.19	0.42
1:A:2826:ALA:O	1:A:2830:LEU:HD23	2.19	0.42
1:A:2972:PHE:HD1	1:A:3004:PHE:CD1	2.37	0.42
1:A:4027:LEU:O	1:A:4031:VAL:HG22	2.19	0.42
1:A:1393:TYR:HA	1:A:1396:ILE:HG12	2.01	0.42
1:A:1925:ARG:HG2	1:A:1954:TRP:CD1	2.54	0.42
1:A:2123:ASP:O	1:A:2127:ILE:HG13	2.20	0.42
1:A:2499:LEU:HD21	1:A:2515:GLY:HA2	2.01	0.42
1:A:3597:THR:O	1:A:3601:MET:HG3	2.19	0.42
1:A:3944:PHE:CE1	1:A:3974:TRP:HB3	2.54	0.42
1:A:1769:MET:HE2	1:A:1775:ALA:HA	2.02	0.42
1:A:2834:GLN:HE21	1:A:2843:ARG:HB3	1.84	0.42
1:A:3044:LEU:HD13	1:A:3049:GLU:HG3	2.01	0.42
1:A:4288:VAL:O	1:A:4319:SER:OG	2.27	0.42
1:A:4611:LEU:HB2	1:A:4619:ILE:HD11	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2211:TYR:O	1:A:2214:THR:OG1	2.34	0.42
1:A:2484:GLU:O	1:A:2487:GLU:HG3	2.19	0.42
1:A:3122:VAL:HG11	1:A:3136:PRO:HB2	2.01	0.42
1:A:3872:ALA:O	1:A:3880:HIS:NE2	2.52	0.42
1:A:4205:TYR:HE2	1:A:4256:VAL:HA	1.84	0.42
1:A:4393:GLN:HG2	1:A:4394:THR:HG22	2.00	0.42
1:A:3608:LYS:HE2	1:A:3631:ASN:HB3	2.02	0.42
1:A:2265:TYR:OH	1:A:2315:LEU:HG	2.20	0.42
1:A:2522:THR:HG21	1:A:2526:LEU:HD11	2.02	0.42
1:A:2596:PRO:O	1:A:2601:LYS:NZ	2.53	0.42
1:A:3743:ARG:HA	1:A:3746:GLU:HG2	2.01	0.42
1:A:4189:ILE:O	1:A:4193:ARG:N	2.52	0.42
1:A:2091:ARG:NH2	2:A:4701:ADP:O3'	2.52	0.42
1:A:2437:LEU:HD21	1:A:2451:ARG:HG3	2.01	0.42
1:A:2534:ILE:HD12	1:A:2534:ILE:H	1.85	0.42
1:A:3916:LEU:HD12	1:A:3933:GLU:HG3	2.02	0.42
1:A:4174:ASN:N	1:A:4174:ASN:OD1	2.52	0.42
1:A:1662:SER:HB2	1:A:1679:ARG:HG3	2.01	0.42
1:A:3510:SER:HB3	1:A:3553:LEU:HD11	2.01	0.42
1:A:1544:TRP:HE1	1:A:1572:SER:HA	1.85	0.42
1:A:2065:LEU:HD21	1:A:2134:GLN:HG2	2.02	0.42
1:A:2079:GLN:HB2	1:A:2160:LEU:HD11	2.02	0.42
1:A:2461:MET:HG2	1:A:2493:TYR:CE2	2.54	0.42
1:A:4496:ALA:HB2	1:A:4504:LEU:HD21	2.01	0.42
1:A:1495:ASN:HA	1:A:1498:LYS:NZ	2.35	0.41
1:A:1658:PHE:HB2	1:A:1661:VAL:HB	2.02	0.41
1:A:2606:PHE:CE1	1:A:2617:VAL:HG21	2.55	0.41
1:A:2976:LEU:O	1:A:2980:LEU:HD23	2.20	0.41
1:A:4489:LEU:HA	1:A:4492:ILE:HG22	2.00	0.41
1:A:1949:CYS:HB3	1:A:2007:LYS:O	2.20	0.41
1:A:1980:GLU:O	1:A:1984:GLU:HG2	2.20	0.41
1:A:2308:ASP:OD1	1:A:2311:TRP:NE1	2.53	0.41
1:A:2718:PRO:HB2	1:A:3080:ALA:HB2	2.02	0.41
1:A:3772:ASN:HA	1:A:3775:ARG:HE	1.85	0.41
1:A:4269:LEU:HD23	1:A:4269:LEU:HA	1.90	0.41
1:A:1412:HIS:CE1	1:A:1453:ALA:HA	2.55	0.41
1:A:1499:GLU:HG2	1:A:3621:LYS:HD2	2.02	0.41
1:A:1623:ARG:HE	1:A:1637:LEU:HD22	1.85	0.41
1:A:1797:LEU:HD21	1:A:2128:ALA:HB2	2.01	0.41
1:A:1855:GLN:HG3	1:A:1867:ASN:ND2	2.35	0.41
1:A:3551:GLU:OE2	1:A:3559:ARG:NH2	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4332:LEU:HD23	1:A:4332:LEU:HA	1.87	0.41
1:A:2182:LEU:HD11	1:A:2207:VAL:HG11	2.02	0.41
1:A:2446:ILE:HG22	1:A:2505:ASP:HB3	2.02	0.41
1:A:3872:ALA:HA	1:A:3875:MET:HE2	2.02	0.41
1:A:4260:PHE:CE2	1:A:4608:PRO:HB3	2.55	0.41
1:A:4554:ASP:N	1:A:4557:SER:OG	2.52	0.41
1:A:2220:LEU:O	1:A:2342:MET:HA	2.20	0.41
1:A:2275:TRP:CZ2	1:A:2327:LEU:HD12	2.56	0.41
1:A:2395:GLN:HB3	1:A:2398:ARG:NH2	2.35	0.41
1:A:3197:GLN:HG2	1:A:3496:PHE:CZ	2.56	0.41
1:A:3596:ALA:HB2	1:A:3701:PHE:CE2	2.55	0.41
1:A:4628:THR:C	1:A:4629:LYS:HD2	2.41	0.41
1:A:1397:ASN:O	1:A:1401:ILE:HG13	2.21	0.41
1:A:2227:GLY:H	3:A:4702:ATP:PG	2.44	0.41
1:A:2387:LEU:HD23	1:A:2467:ARG:NH2	2.36	0.41
1:A:2839:GLU:HB2	1:A:2842:GLU:OE1	2.20	0.41
1:A:3782:ARG:O	1:A:3786:GLU:HG2	2.20	0.41
1:A:4423:LEU:HD13	1:A:4466:HIS:HD2	1.86	0.41
1:A:1486:LEU:HA	1:A:1579:MET:HE2	2.03	0.41
1:A:2253:ILE:HG21	1:A:2689:HIS:CE1	2.56	0.41
1:A:4594:LYS:HE3	1:A:4594:LYS:HB2	1.97	0.41
1:A:1509:LEU:HB2	1:A:3608:LYS:HZ1	1.86	0.41
1:A:1626:PHE:HB3	1:A:1629:PHE:CD2	2.56	0.41
1:A:1841:GLN:O	1:A:1843:ARG:HG3	2.21	0.41
1:A:1947:GLY:O	1:A:1951:VAL:HG12	2.21	0.41
1:A:2072:PHE:CZ	1:A:2161:LEU:HD13	2.56	0.41
1:A:2231:SER:HA	1:A:2234:TRP:NE1	2.36	0.41
1:A:2704:GLU:O	1:A:2706:ILE:HG12	2.21	0.41
1:A:2987:ASN:OD1	1:A:3061:ASN:ND2	2.54	0.41
1:A:4156:ASN:ND2	1:A:4188:ALA:HA	2.35	0.41
1:A:4308:TRP:CH2	1:A:4312:LEU:HD21	2.56	0.41
1:A:4482:PHE:CE2	1:A:4486:ILE:HG13	2.56	0.41
1:A:1407:ALA:O	1:A:1453:ALA:HB1	2.21	0.41
1:A:2086:TYR:OH	1:A:2149:LEU:HD13	2.22	0.41
1:A:2181:GLU:HG3	1:A:2244:LEU:HB2	2.03	0.41
1:A:2775:GLU:O	1:A:2778:THR:OG1	2.29	0.41
1:A:2784:PHE:HB3	1:A:2792:TYR:HD1	1.84	0.41
1:A:3009:ASN:HD21	1:A:3083:PRO:CD	2.33	0.41
1:A:3601:MET:HE1	1:A:3611:ARG:NE	2.35	0.41
1:A:3766:ILE:HD12	1:A:3766:ILE:HA	1.91	0.41
1:A:4264:LEU:O	1:A:4267:THR:OG1	2.32	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4266:ASN:O	1:A:4270:GLU:HG2	2.21	0.41
1:A:3150:VAL:HG22	1:A:3532:TRP:CD1	2.56	0.40
1:A:3652:GLU:O	1:A:3652:GLU:HG3	2.21	0.40
1:A:3972:TYR:O	1:A:3973:LEU:HD23	2.21	0.40
1:A:4194:LEU:HD11	1:A:4204:LYS:HA	2.03	0.40
1:A:1445:ILE:O	1:A:1449:VAL:HG23	2.22	0.40
1:A:3178:ASP:OD2	1:A:3182:HIS:ND1	2.54	0.40
1:A:2069:ILE:HD12	1:A:2069:ILE:HA	1.95	0.40
1:A:2584:TRP:CZ3	1:A:2732:PRO:HB2	2.56	0.40
1:A:1763:GLU:OE2	1:A:1845:TYR:OH	2.32	0.40
1:A:1961:ASN:ND2	1:A:2019:ASN:H	2.19	0.40
1:A:2220:LEU:HD11	1:A:2342:MET:SD	2.62	0.40
1:A:2797:ARG:HH12	1:A:3088:ARG:HH12	1.69	0.40
1:A:2982:ARG:HE	1:A:2988:GLU:CD	2.25	0.40
1:A:3008:MET:CE	1:A:3064:VAL:HG11	2.51	0.40
1:A:3016:GLU:N	1:A:3016:GLU:OE2	2.55	0.40
1:A:3474:ARG:HB3	1:A:3764:ASP:HB3	2.04	0.40
1:A:4324:PRO:HD3	1:A:4638:ARG:HG3	2.02	0.40
1:A:1414:LYS:HB2	1:A:1414:LYS:HE2	1.79	0.40
1:A:1424:TRP:NE1	1:A:1433:GLN:HB3	2.36	0.40
1:A:1478:VAL:HG21	1:A:1488:ARG:NH2	2.36	0.40
1:A:2281:THR:HG21	1:A:2327:LEU:HD11	2.02	0.40
1:A:2747:ILE:HD11	2:A:4703:ADP:N1	2.36	0.40
1:A:2965:ARG:HA	1:A:2965:ARG:NE	2.36	0.40
1:A:3169:MET:HB3	1:A:3693:CYS:SG	2.61	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	3035/4646 (65%)	2952 (97%)	83 (3%)	0	100	100

There are no Ramachandran outliers to report.

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	2706/4125 (66%)	2704 (100%)	2 (0%)	92 97

All (2) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	2671	MET
1	A	2966	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (6) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	1495	ASN
1	A	2416	GLN
1	A	3038	GLN
1	A	3535	HIS
1	A	3865	GLN
1	A	3869	ASN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates ⓘ

There are no oligosaccharides in this entry.

5.6 Ligand geometry

Of 6 ligands modelled in this entry, 2 are monoatomic - leaving 4 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
2	ADP	A	4701	4	24,29,29	0.89	0	29,45,45	1.20	2 (6%)
2	ADP	A	4704	-	24,29,29	0.84	0	29,45,45	1.24	2 (6%)
2	ADP	A	4703	-	24,29,29	0.87	0	29,45,45	1.24	2 (6%)
3	ATP	A	4702	4	28,33,33	0.72	0	34,52,52	0.59	1 (2%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	ADP	A	4701	4	-	3/12/32/32	0/3/3/3
2	ADP	A	4704	-	-	2/12/32/32	0/3/3/3
2	ADP	A	4703	-	-	5/12/32/32	0/3/3/3
3	ATP	A	4702	4	-	4/18/38/38	0/3/3/3

There are no bond length outliers.

All (7) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A	4703	ADP	N3-C2-N1	-3.76	123.57	128.67
2	A	4701	ADP	N3-C2-N1	-3.72	123.62	128.67
2	A	4704	ADP	N3-C2-N1	-3.59	123.80	128.67
2	A	4704	ADP	C4-C5-N7	-2.55	106.64	109.34
2	A	4703	ADP	C4-C5-N7	-2.40	106.81	109.34
3	A	4702	ATP	C5-C6-N6	2.35	123.89	120.31
2	A	4701	ADP	C4-C5-N7	-2.23	106.98	109.34

There are no chirality outliers.

All (14) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	4703	ADP	C5'-O5'-PA-O1A
2	A	4703	ADP	C5'-O5'-PA-O3A
2	A	4704	ADP	C5'-O5'-PA-O2A
2	A	4704	ADP	C5'-O5'-PA-O3A
2	A	4703	ADP	O4'-C4'-C5'-O5'
3	A	4702	ATP	PB-O3B-PG-O1G
2	A	4703	ADP	C3'-C4'-C5'-O5'
3	A	4702	ATP	PB-O3B-PG-O3G
3	A	4702	ATP	PA-O3A-PB-O1B
2	A	4703	ADP	C5'-O5'-PA-O2A
2	A	4701	ADP	O4'-C4'-C5'-O5'
2	A	4701	ADP	PB-O3A-PA-O2A
2	A	4701	ADP	PB-O3A-PA-O1A
3	A	4702	ATP	PA-O3A-PB-O2B

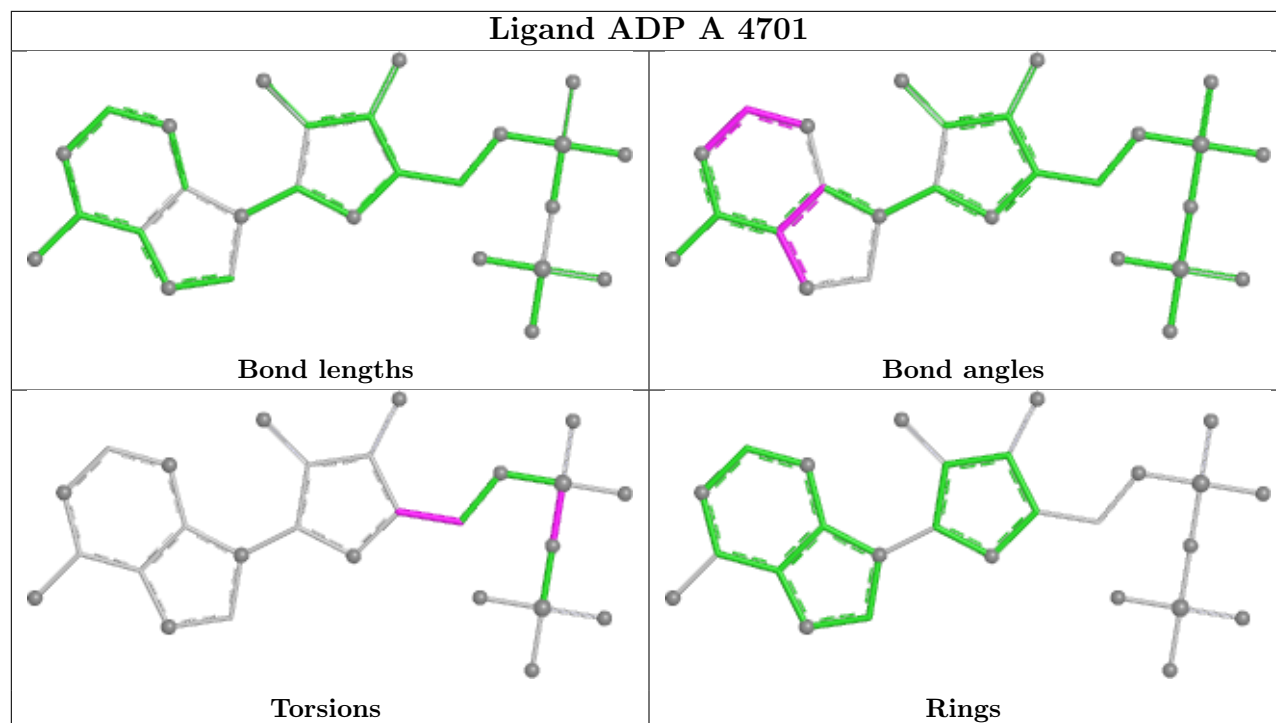
There are no ring outliers.

4 monomers are involved in 6 short contacts:

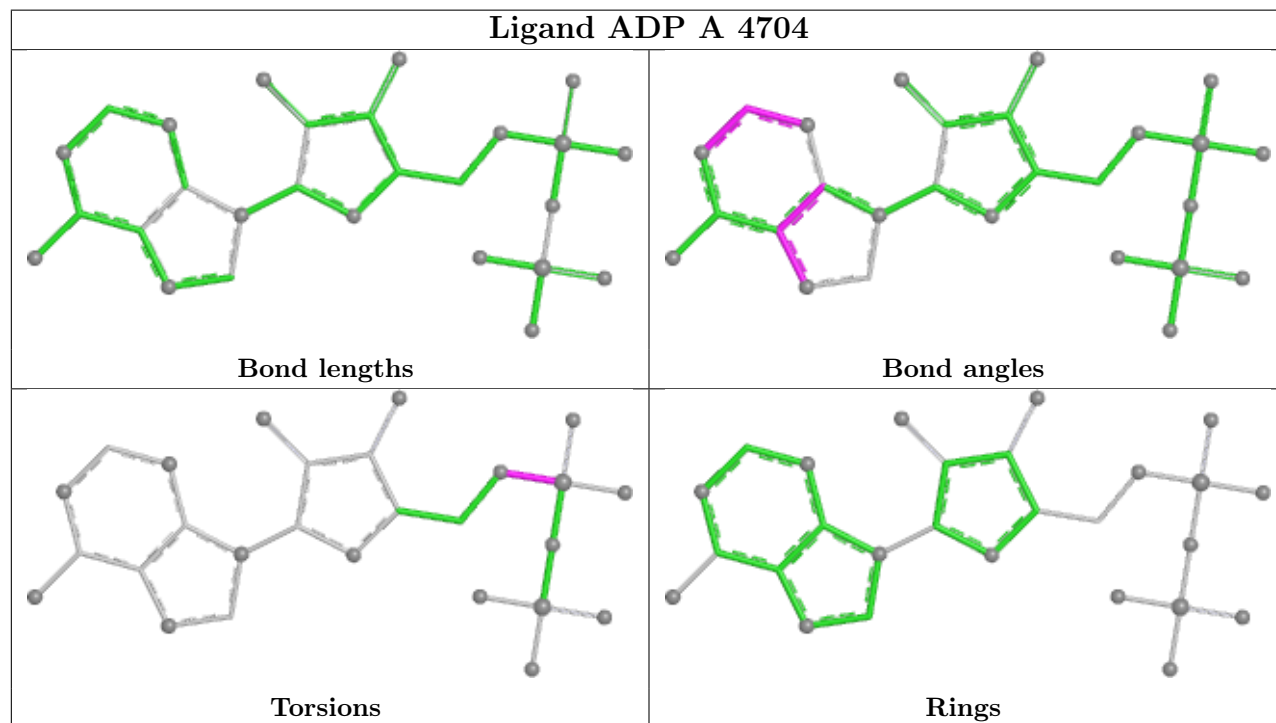
Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	A	4701	ADP	2	0
2	A	4704	ADP	2	0
2	A	4703	ADP	1	0
3	A	4702	ATP	1	0

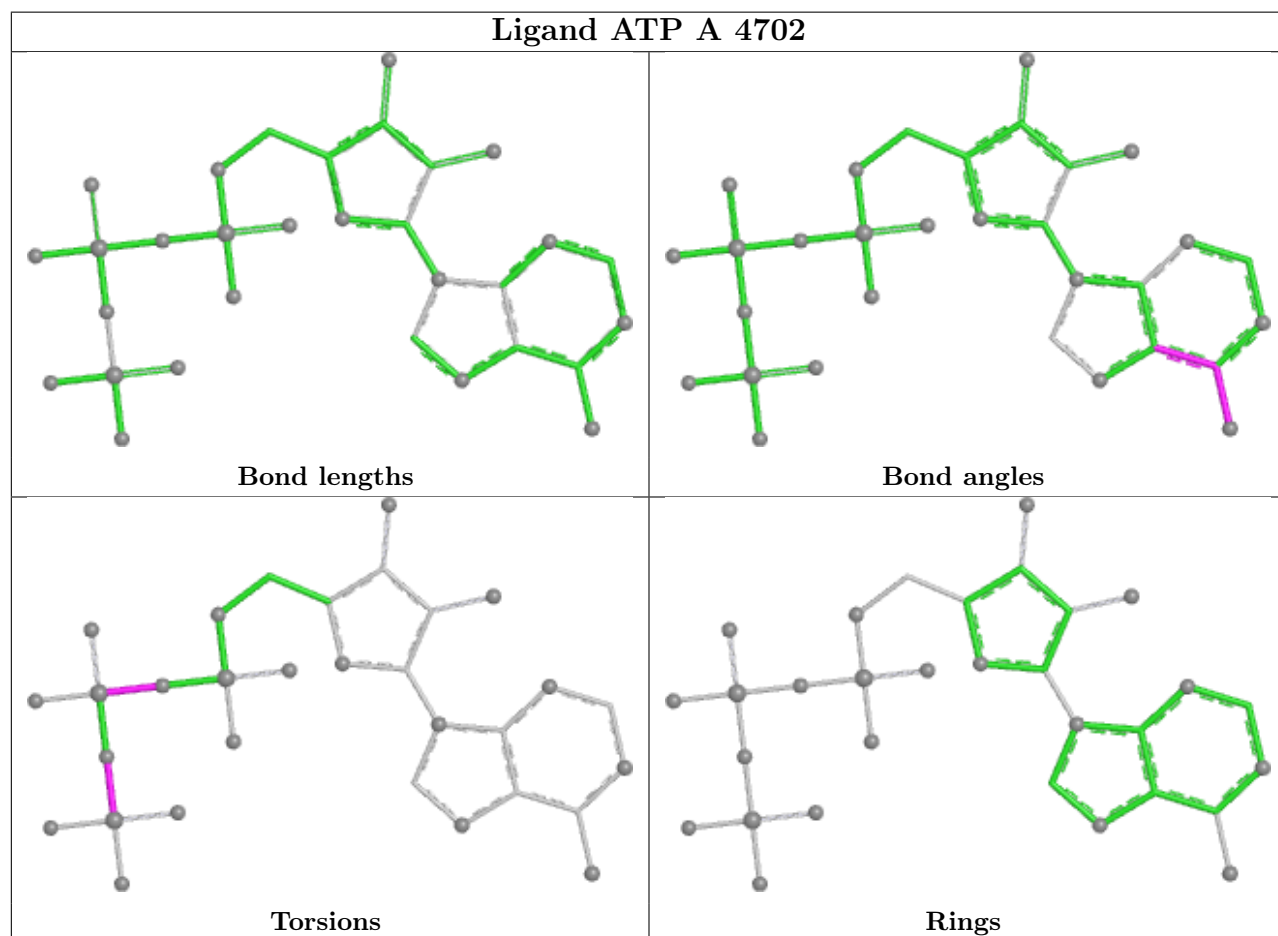
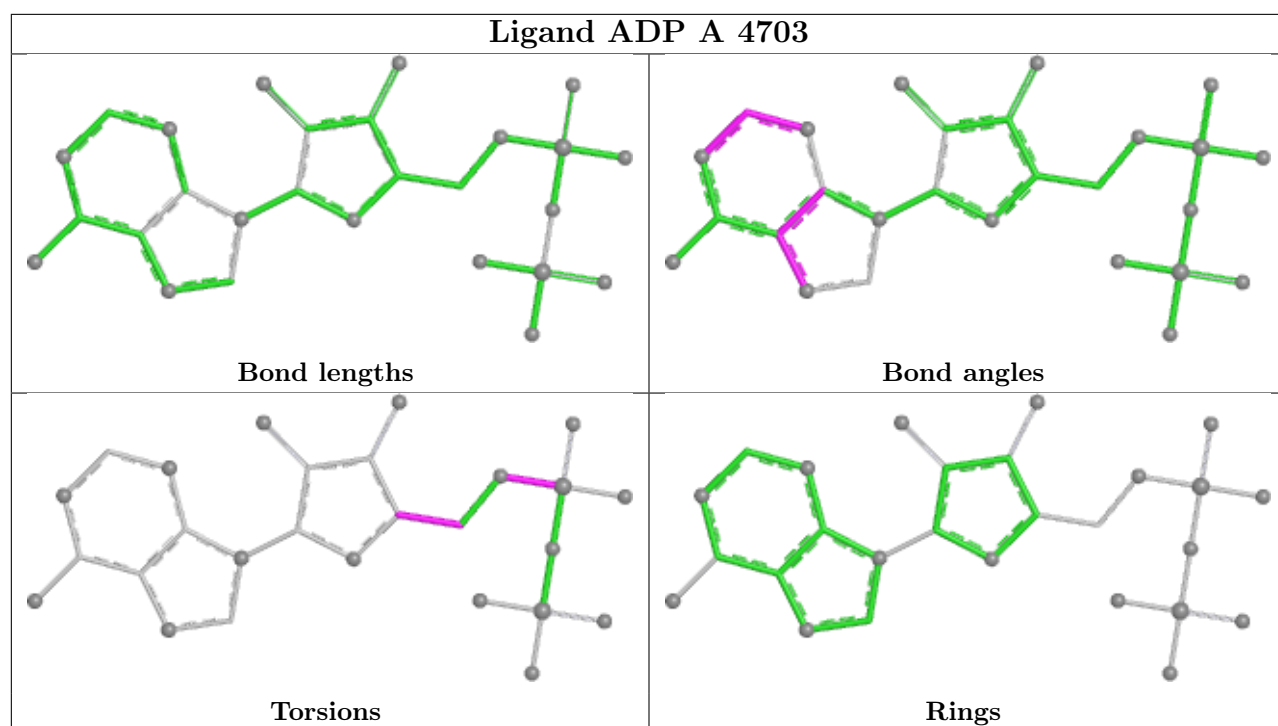
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included.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

Ligand ADP A 4701



Ligand ADP A 4704





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.

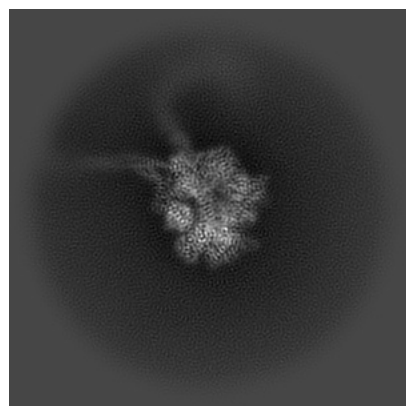
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-44694. These allow visual inspection of the internal detail of the map and identification of artifacts.

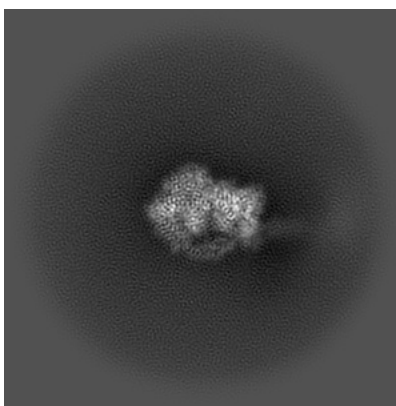
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

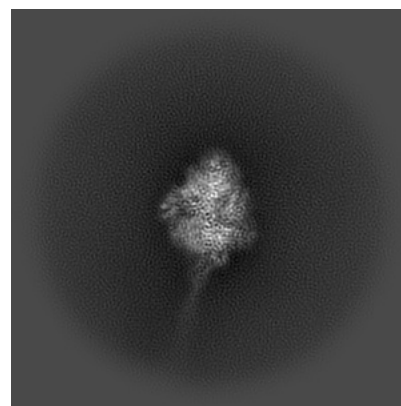
6.1.1 Primary map



X

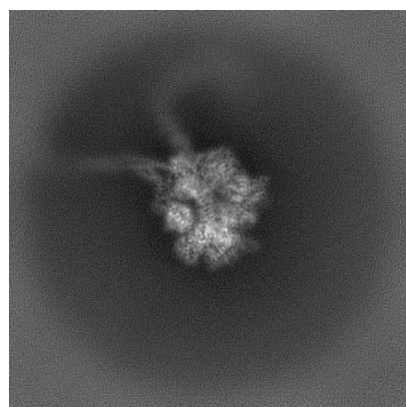


Y

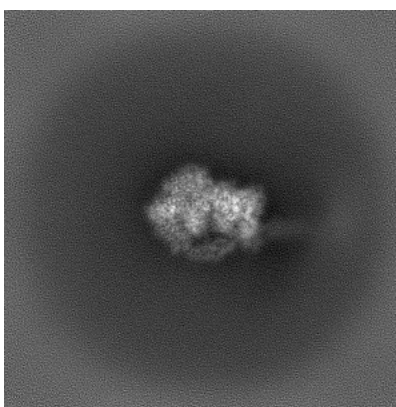


Z

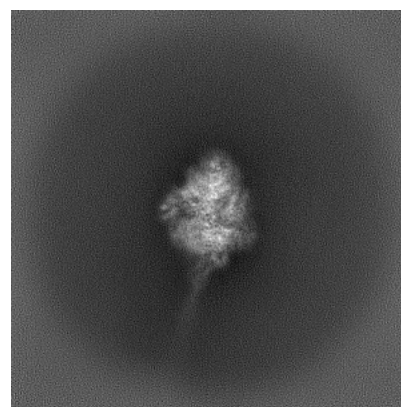
6.1.2 Raw map



X



Y

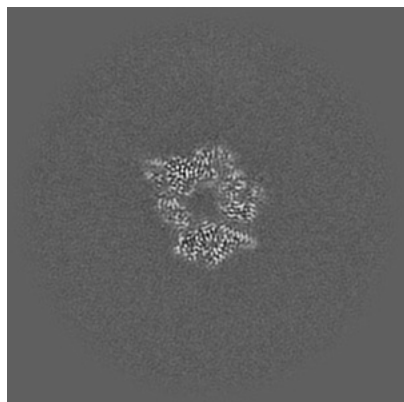


Z

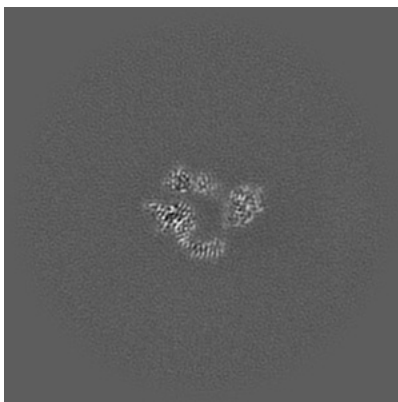
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

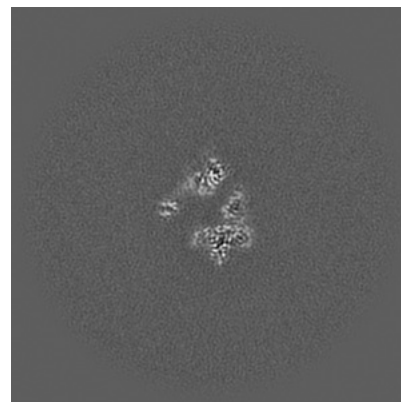
6.2.1 Primary map



X Index: 192



Y Index: 192

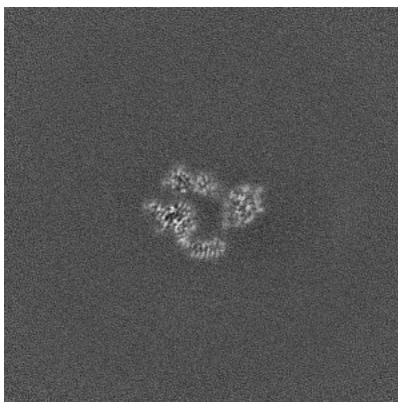


Z Index: 192

6.2.2 Raw map



X Index: 192



Y Index: 192

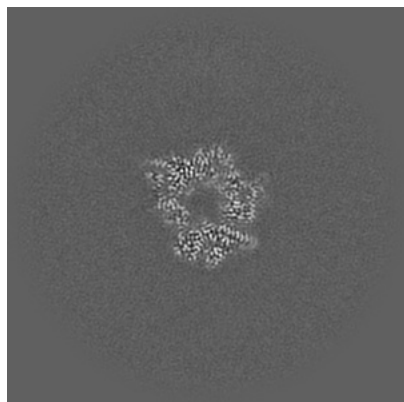


Z Index: 192

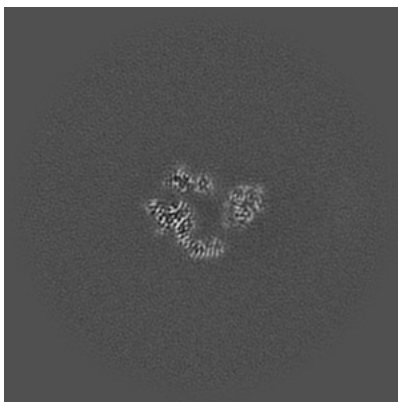
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

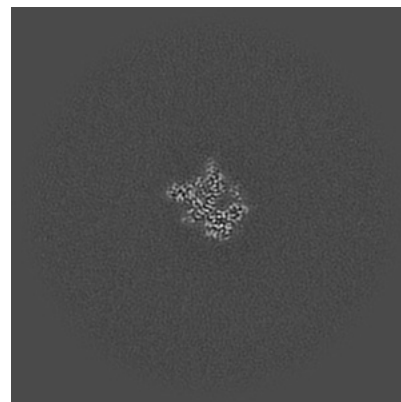
6.3.1 Primary map



X Index: 193

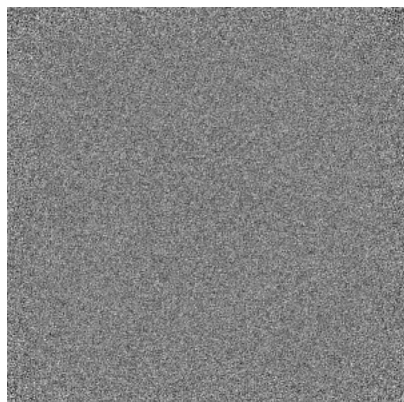


Y Index: 193

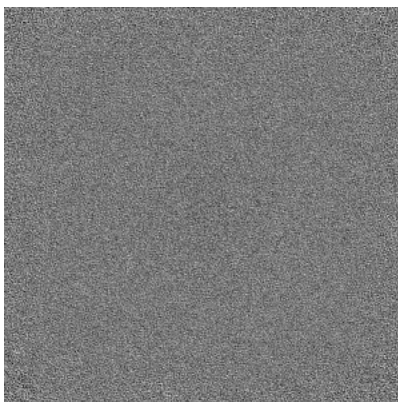


Z Index: 162

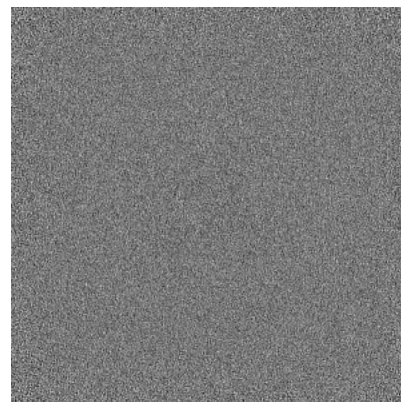
6.3.2 Raw map



X Index: 0



Y Index: 0

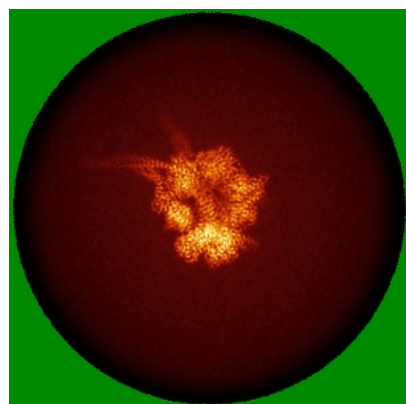


Z Index: 0

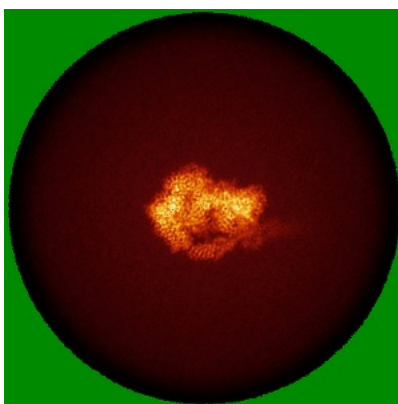
The images above show the largest variance slices of the map in three orthogonal directions.

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

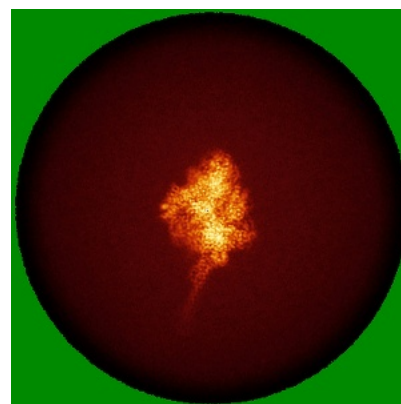
6.4.1 Primary map



X

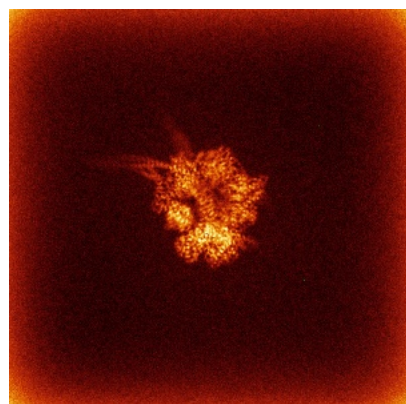


Y

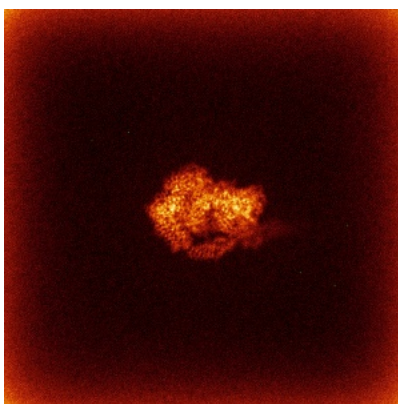


Z

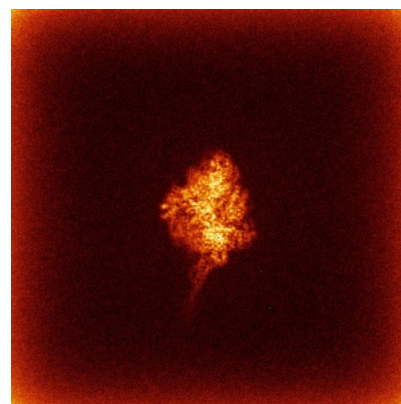
6.4.2 Raw map



X



Y

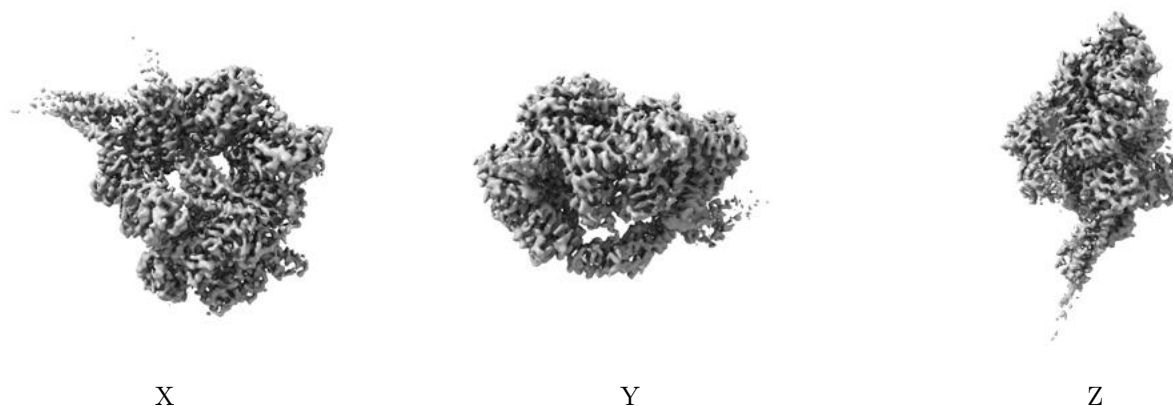


Z

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.

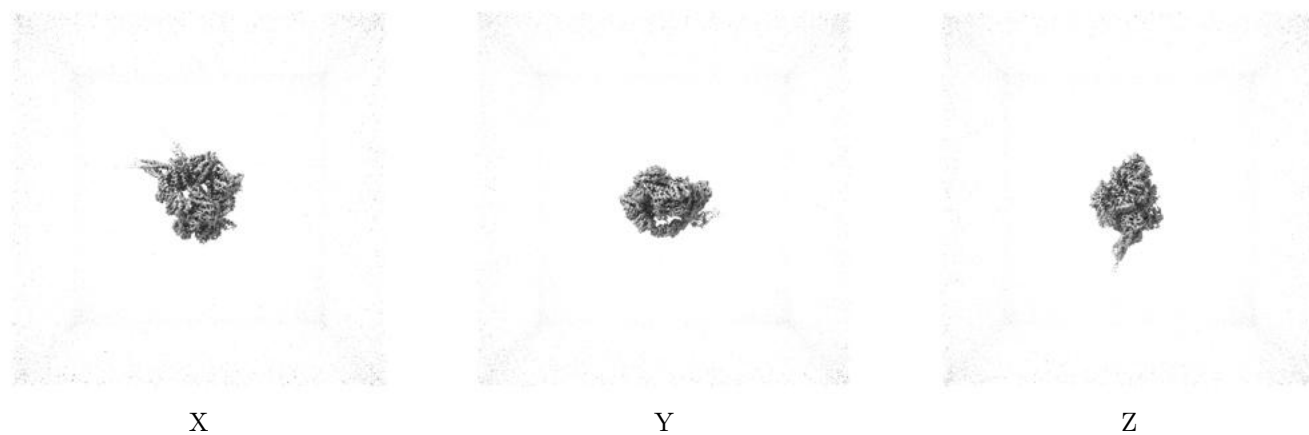
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



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

6.5.2 Raw map



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

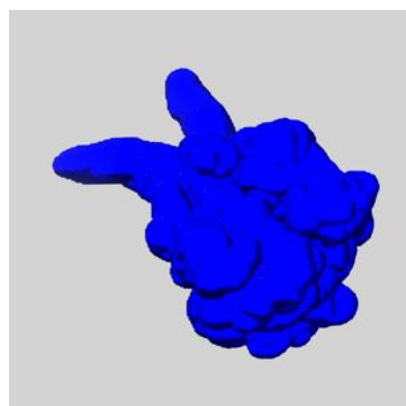
6.6 Mask visualisation [i](#)

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

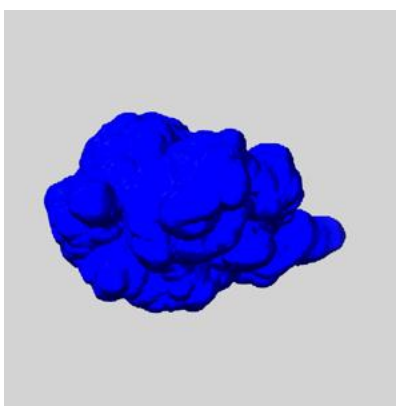
A mask typically either:

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

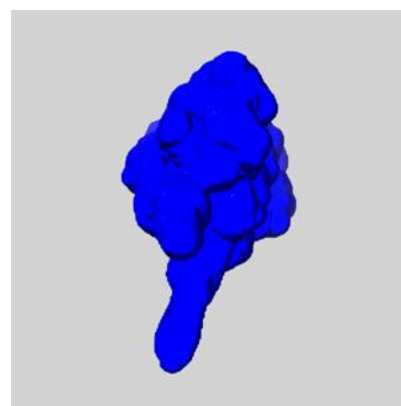
6.6.1 emd_44694_msk_1.map [i](#)



X



Y

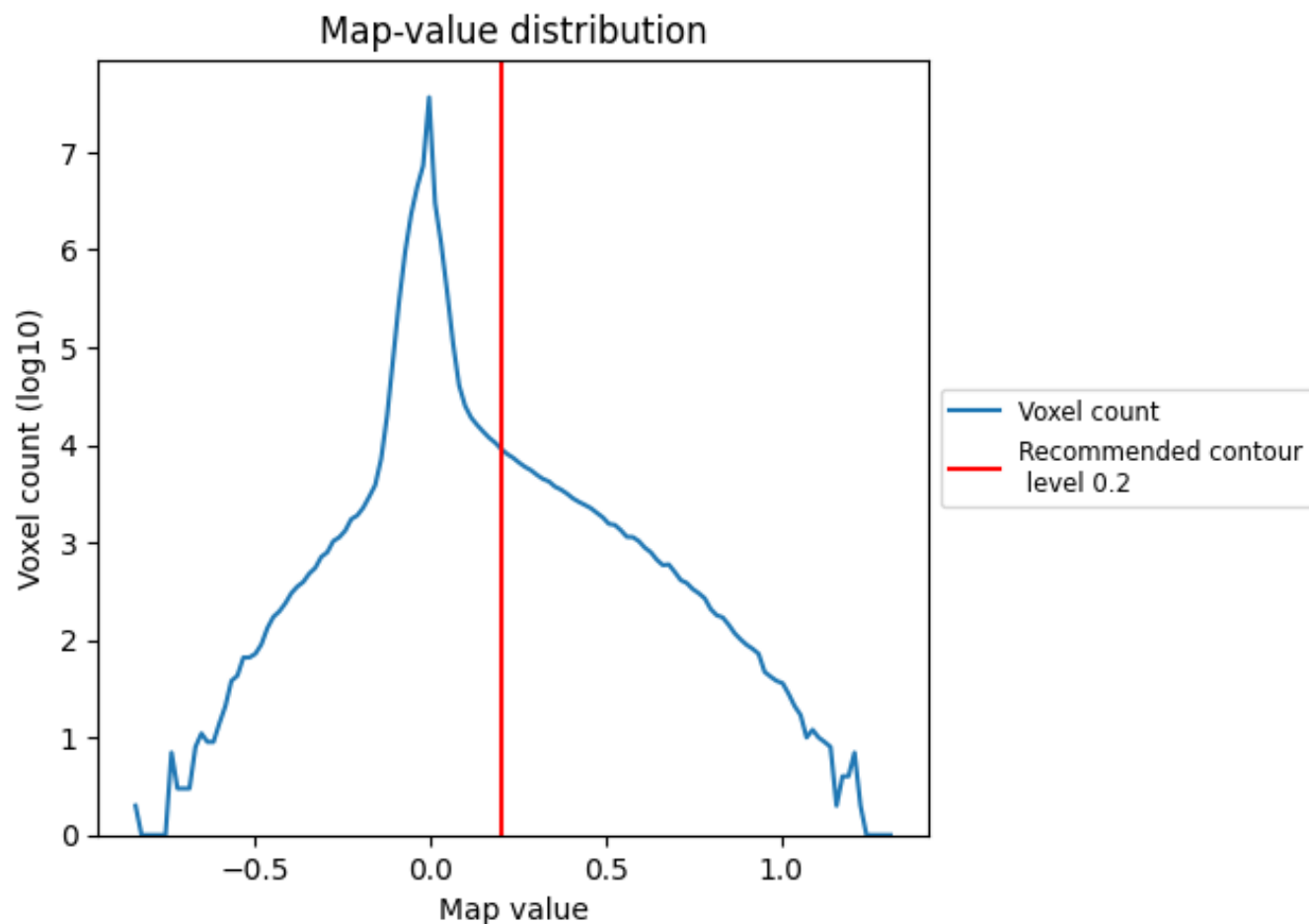


Z

7 Map analysis [i](#)

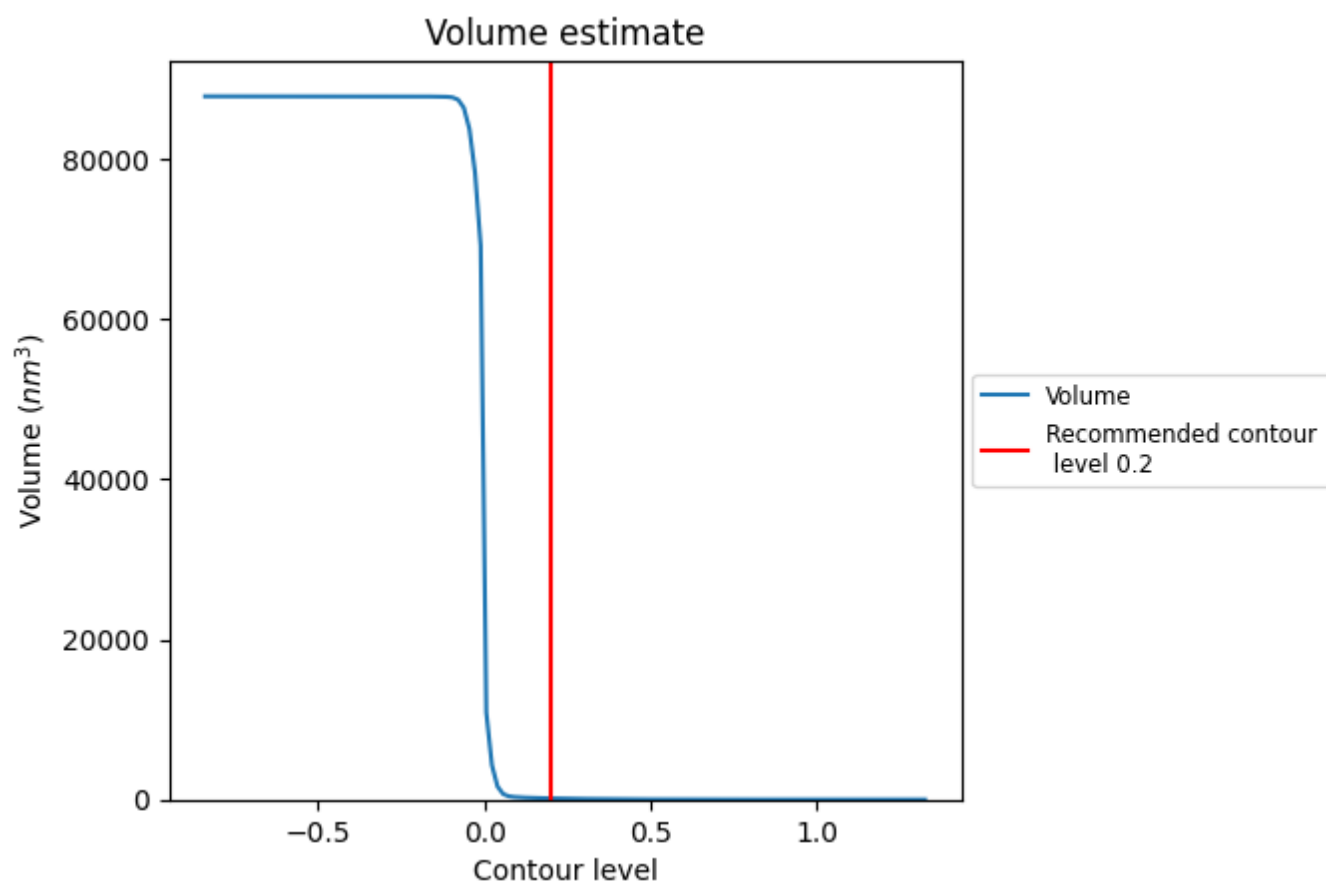
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

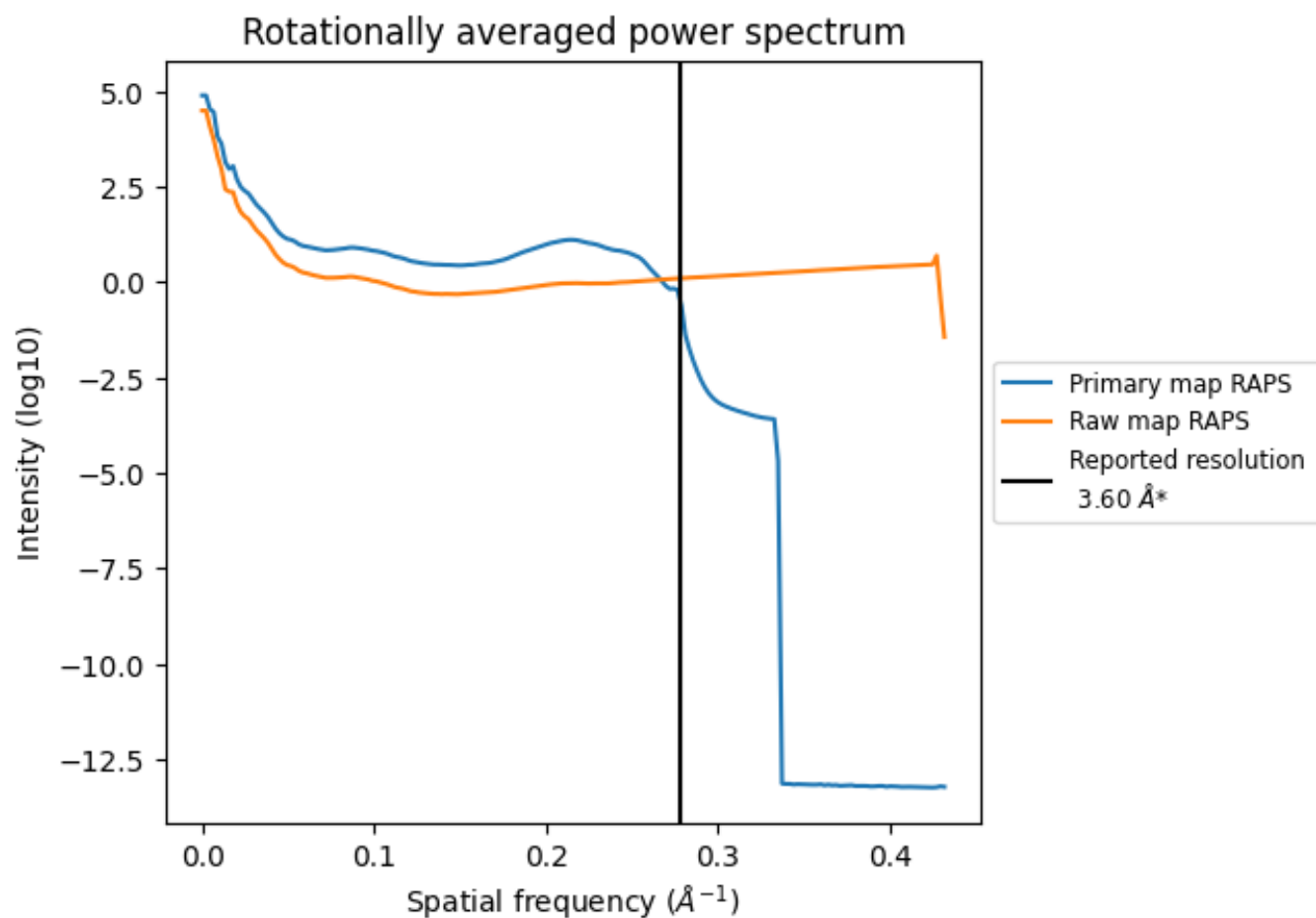
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 149 nm³; this corresponds to an approximate mass of 134 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum ⓘ

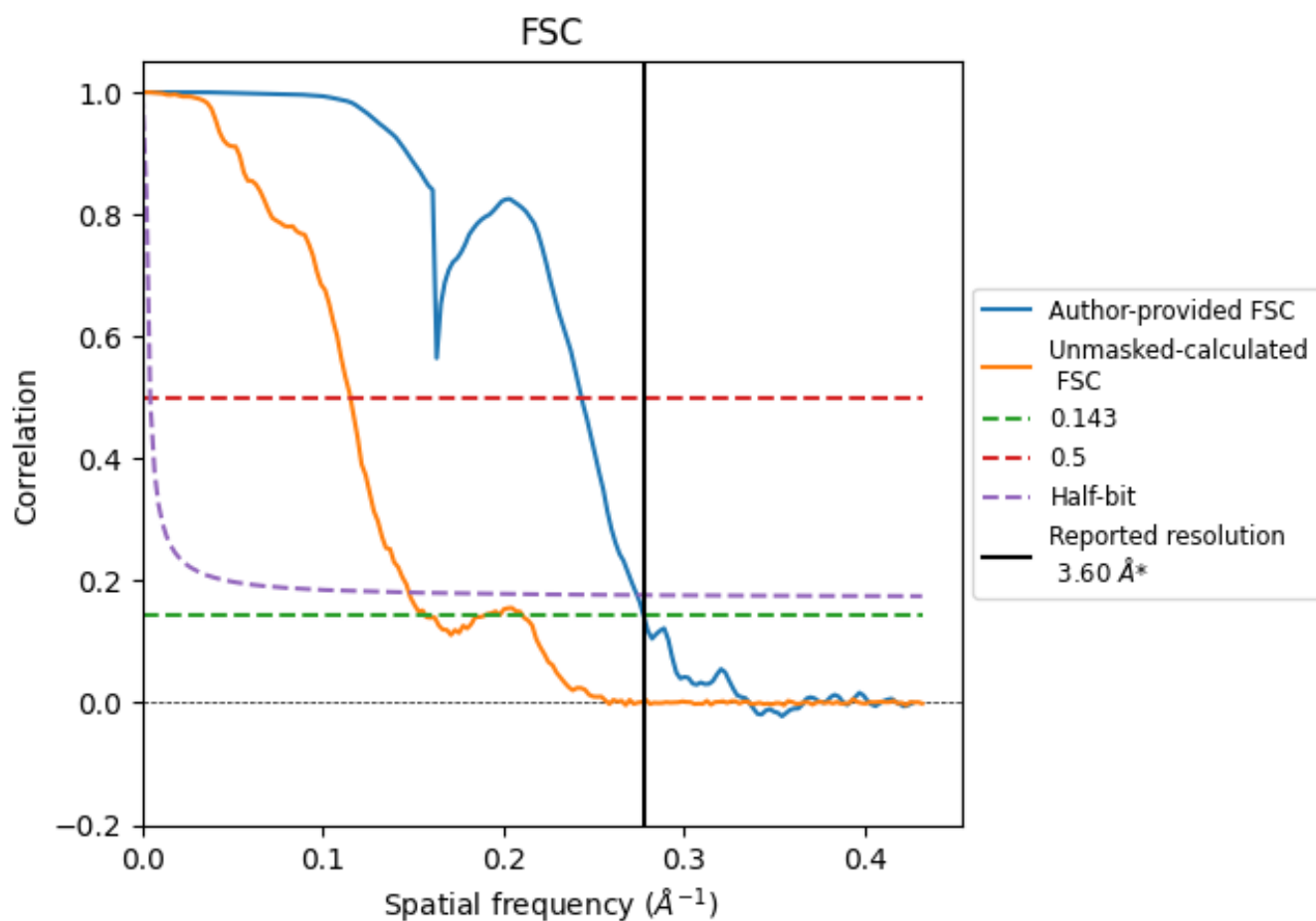


*Reported resolution corresponds to spatial frequency of 0.278 Å⁻¹

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 0.278 \AA^{-1}

8.2 Resolution estimates [i](#)

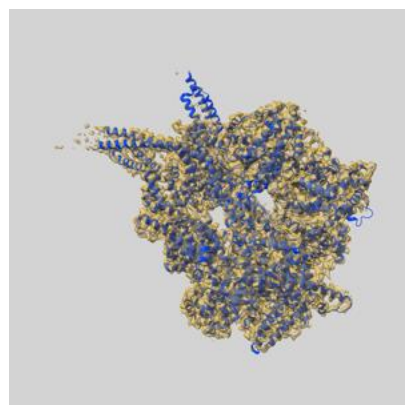
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.60	-	-
Author-provided FSC curve	3.60	4.11	3.65
Unmasked-calculated*	6.37	8.67	6.77

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 6.37 differs from the reported value 3.6 by more than 10 %

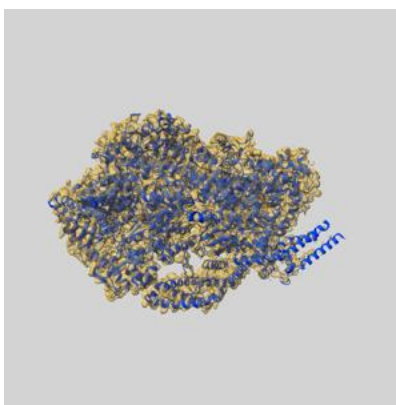
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-44694 and PDB model 9BMB. Per-residue inclusion information can be found in [section 3](#) on [page 5](#).

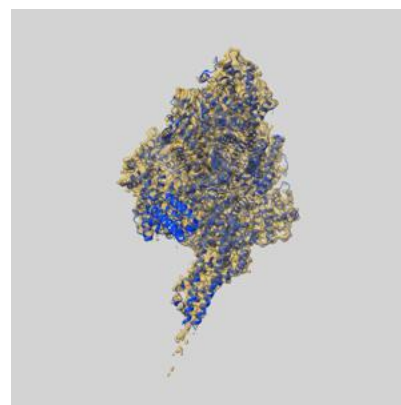
9.1 Map-model overlay [i](#)



X



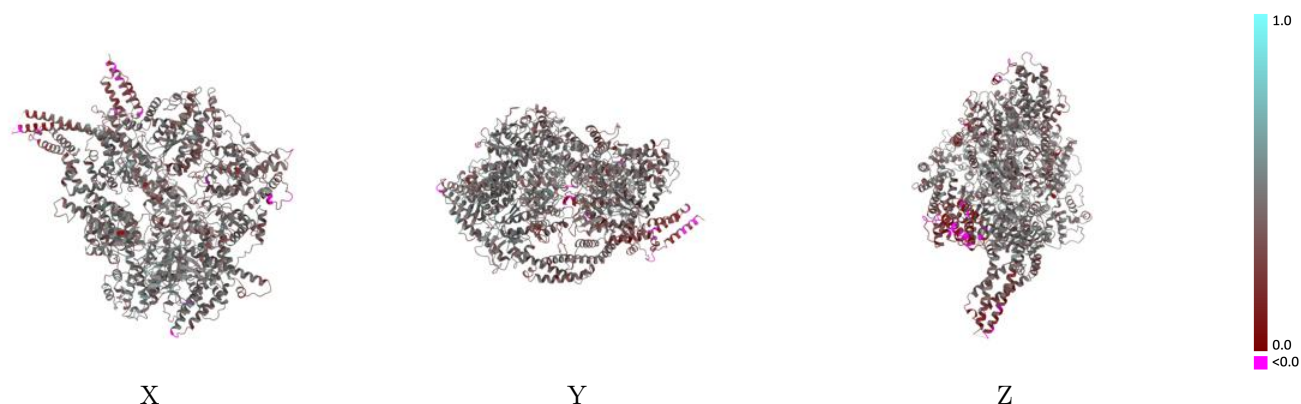
Y



Z

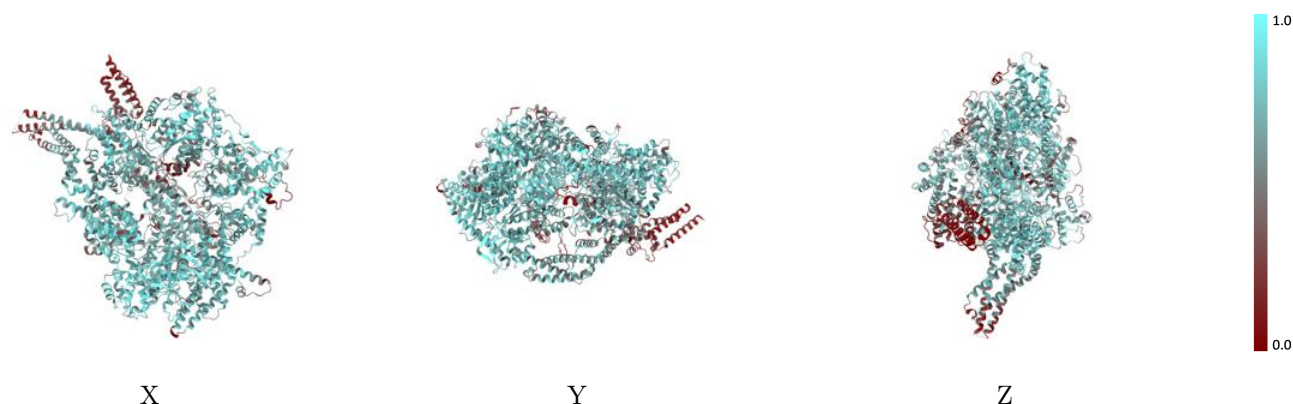
The images above show the 3D surface view of the map at the recommended contour level 0.2 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



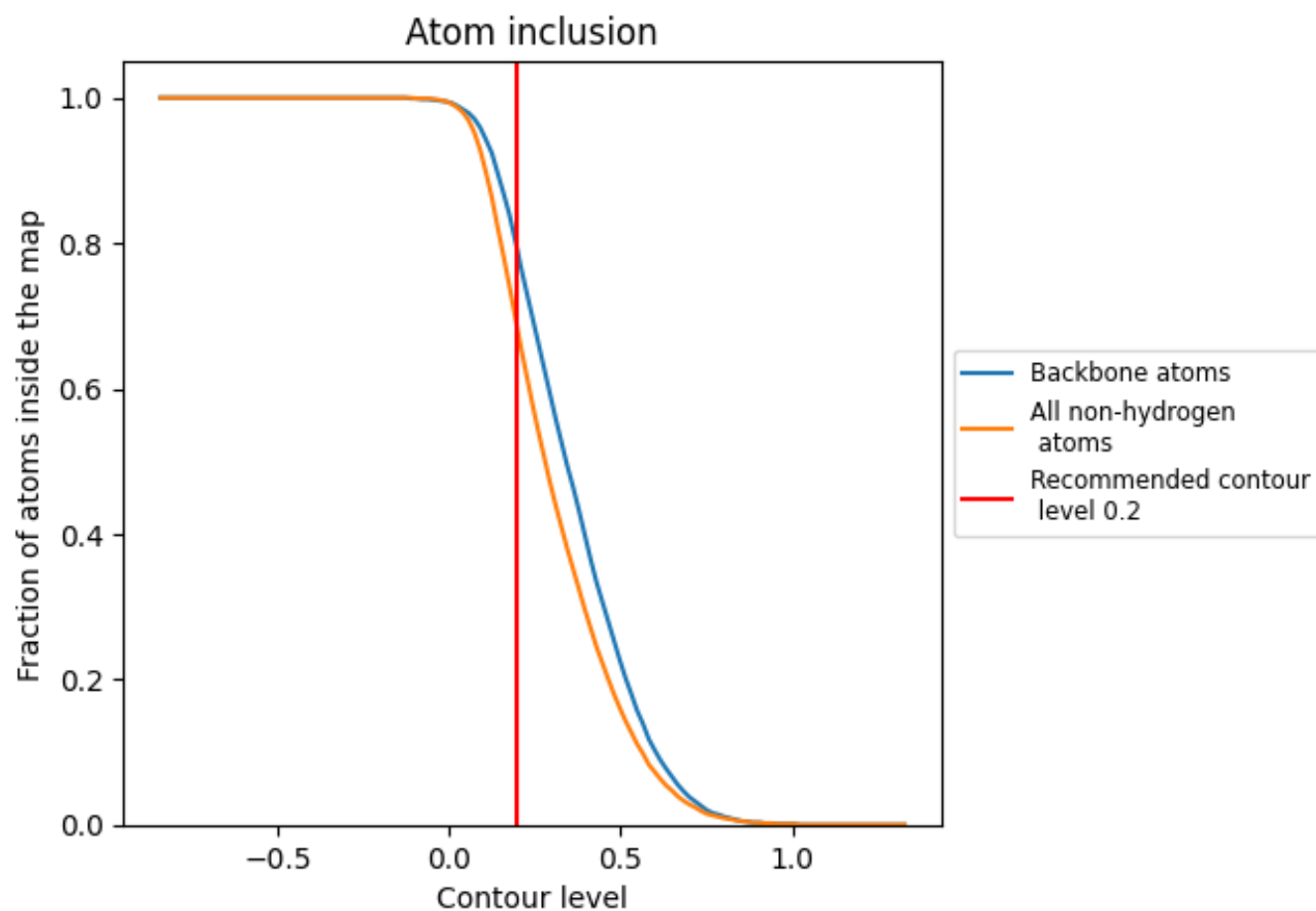
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.2).

9.4 Atom inclusion [i](#)



At the recommended contour level, 79% of all backbone atoms, 68% 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	<div></div> 0.6810	<div></div> 0.4140
A	<div></div> 0.6810	<div></div> 0.4140

