



Full wwPDB EM Validation Report ⓘ

Aug 16, 2025 – 01:22 PM EDT

PDB ID : 9BMO / pdb_00009bmo
EMDB ID : EMD-44705
Title : State-6 of motor domain from full-length human dynein-1 in 5mM AMPPNP
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.dev126
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4-5-2 with Phenix2.0rc1
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) : 2.45.1

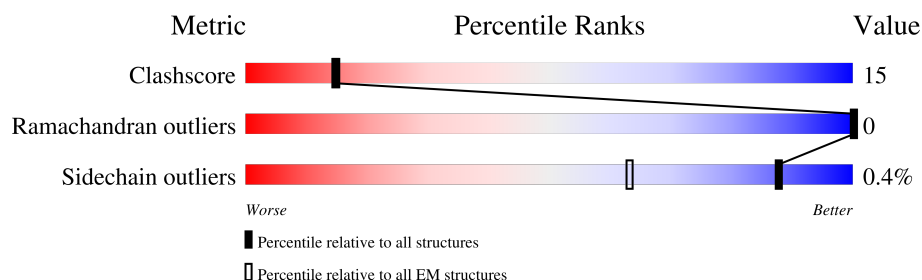
1 Overall quality at a glance

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 3 unique types of molecules in this entry. The entry contains 21867 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	2711	21755	13852	3757	4035	111	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).

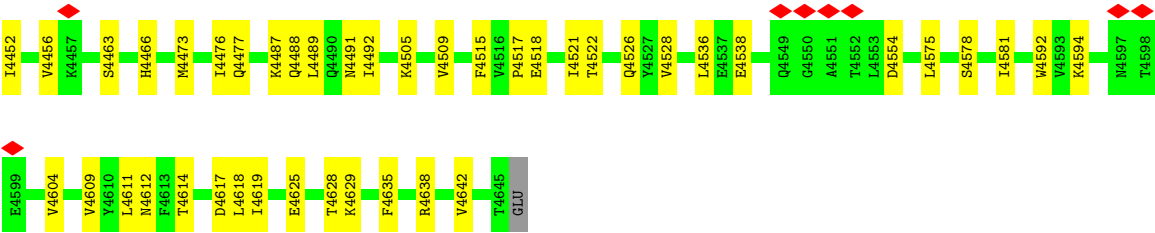


Mol	Chain	Residues	Atoms					AltConf
3	A	1	Total	C	N	O	P	0
			31	10	5	13	3	

L2028	L2029	D2030	N2031	L2032	R2037	M2041	T2042	K2043	T2049	M2052	L2054	Y2055	S2056	R2060	A2066	T2069	V2070	P2071	F2072	F2073	K2074	L2075	C2076	L2080	F2088	L2093	L2097	R2107	T2111	K2112	R2113	E2120	A2121	V2122	D2123	I2127	A2128	E2129	L2137	T2138	Q2139	S2140							
E1959	F1960	N1961	R1962	L1963	E1964	E1965	R1966	M1967	L1968	S1969	A1970	V1971	S1972	V1975	I1978	A1981	H1985	S1986	ASN	PRO	ASN	TYR	ASP	LYS	THR	ALA	I1997	T1998	C1999	E2000	L2001	L2002	N2003	K2004	Q2005	V2006	M2012	A2013	L2016	T2017	N2018	M2019	P2020	A2128	E2129	L2137	T2138	Q2139	S2140
V1853	Q1856	M1861	A1864	K1865	F1866	E1871	Y1872	L1873	Q1876	L1879	V1880	L1884	L1890	E1897	S1903	G1909	T1910	G1911	K1912	T1913	E1914	A1918	L1923	F1926	V1927	L1928	E1934	F1938	Q1939	A1940	M1941	G1942	R1943	I1944	F1945	V1946	G1947	L1948	V1951	G1952	A1953	N2027							
E1622	R1623	F1626	P1627	R1628	F1629	Y1630	F1631	V1632	G1633	D1634	L1637	I1640	K1649	L1650	Q1651	K1652	H1653	F1654	M1657	F1658	A1659	I1665	L1666	N1667	L1674	I1675	S1677	S1678	E1683	F1686	K1687	T1688	K1697	I1698	W1701	L1702	T1703	L1704	V1705	E1706	K1707	M1709	R1710	T1712					
L1717	V1721	T1722	E1723	V1724	E1725	G1728	N1736	T1740	Y1745	Q1746	A1747	Q1748	L1749	L1766	G1771	G1772	G1773	L1778	L1789	L1792	L1797	Q1800	R1804	K1807	L1808	H1810	L1811	I1812	T1813	E1814	L1815	V1816	I1826	D1831	F1836	L1839	M1842	R1843											
ARG	ASN	GLU	VAL	THR	GLN	ARG	PHE	ILE	THR	GLU	PHE	ALA	LEU	LYS	VAL	VAL	VAL	ASP	GLY	GLN	ASP	GLY	GLN	PRO	LEU	VAL	GLY	VAL	GLN	ARG	TRP	VAL	VAL	GLN	GLN	LYS	THR	GLN	ALA	GLY	GLY	GLY	GLY	GLY	GLY	GLY			
ASN	LEU	ASP	GLN	THR	MET	ASN	VAL	LEU	THR	GLU	PHE	ALA	LEU	LYS	VAL	VAL	VAL	ASP	GLY	GLN	ASP	GLY	GLN	PRO	LEU	VAL	GLY	VAL	GLN	ARG	TRP	VAL	VAL	GLN	GLN	LYS	THR	GLN	ALA	GLY	GLY	GLY	GLY	GLY	GLY	GLY			
GLU	ARG	ILE	THR	GLN	ASN	VAL	THR	VAL	ASN	PRO	GLU	ILE	ASN	PRO	GLU	GLU	GLU	ALA	GLU	THR	ILE	THR	GLN	MET	LEU	VAL	GLY	VAL	GLN	ARG	TRP	VAL	VAL	GLN	GLN	LYS	THR	GLN	VAL	GLY	GLY	GLY	GLY	GLY	GLY	GLY			
ASN	ALA	THR	MET	GLY	PRO	ASP	GLY	VAL	LEU	ALA	GLU	VAL	VAL	VAL	VAL	VAL	VAL	GLY	GLU	THR	ILE	THR	VAL	GLU	GLU	VAL	GLY	VAL	GLN	CTR	ASN	GLN	ALA	ALA	GLN	GLU	GLU	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY				
LEU	LYS	VAL	THR	GLN	ILE	ARG	LYS	ARG	THR	THR	GLU	GLY	GLU	GLY	GLU	GLU	GLU	ASP	THR	ALA	THR	THR	VAL	VAL	ILE	THR	GLN	GLN	GLN	TRP	ASP	GLY	THR	THR	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY	GLY			
ALA	LEU	VAL	ILE	ILE	ARG	LYS	ARG	ARG	THR	ASP	ASP	THR	THR	LYS	LYS	LYS	GLU	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR		
GLU	PHE	HIS	THR	GLN	ILE	LYS	THR	THR	GLU	GLU	GLU	HIS	GLU	VAL	ASP	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	
ASN	ALA	THR	MET	GLY	PRO	ASP	GLY	VAL	LEU	ALA	GLU	VAL	VAL	VAL	VAL	VAL	VAL	GLY	GLU	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	
GLU	ARG	ILE	THR	GLN	ASN	VAL	THR	THR	GLU	GLU	GLU	HIS	GLU	VAL	ASP	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR
ASN	ALA	THR	MET	GLY	PRO	ASP	GLY	VAL	LEU	ALA	GLU	VAL	VAL	VAL	VAL	VAL	VAL	GLY	GLU	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR
GLU	ARG	ILE	THR	GLN	ASN	VAL	THR	THR	GLU	GLU	GLU	HIS	GLU	VAL	ASP	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR
ASN	ALA	THR	MET	GLY	PRO	ASP	GLY	VAL	LEU	ALA	GLU	VAL	VAL	VAL	VAL	VAL	VAL	GLY	GLU	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR
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ASN	ALA	THR	MET	GLY	PRO	ASP	GLY	VAL	LEU	ALA	GLU	VAL	VAL	VAL	VAL	VAL	VAL	GLY	GLU	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR
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ASN	ALA	THR	MET	GLY	PRO	ASP	GLY	VAL	LEU	ALA	GLU	VAL	VAL	VAL	VAL	VAL	VAL	GLY	GLU	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR
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ASN	ALA	THR	MET	GLY	PRO	ASP	GLY	VAL	LEU	ALA	GLU	VAL	VAL	VAL	VAL	VAL	VAL	GLY	GLU	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR
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ASN	ALA	THR	MET	GLY	PRO	ASP	GLY	VAL	LEU	ALA	GLU	VAL	VAL	VAL	VAL	VAL	VAL	GLY	GLU	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR
GLU	ARG	ILE	THR	GLN	ASN	VAL	THR	THR	GLU	GLU	GLU	HIS	GLU	VAL	ASP	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR
ASN	ALA	THR	MET	GLY	PRO	ASP	GLY	VAL	LEU	ALA	GLU	VAL	VAL	VAL	VAL	VAL	VAL	GLY	GLU	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR
GLU	ARG	ILE	THR	GLN	ASN	VAL	THR	THR	GLU	GLU	GLU	HIS	GLU	VAL	ASP	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR	THR
ASN	ALA	THR	MET	GLY	PRO</																																												

LYS	R3164	R3088	R3007	F2926	R2831	R2726	L2632	D2505	ALA	N2329	H2252	V2141
LEU	R3167	C3089	M3008	R2927	R2835	R2727	F2635	S2506	S2410	G2350	I2253	C2142
LYS	T3168	V3090	N3009	P2928	R2836	L2728	P2635	R2507	P2411	E2331	M2145	M2145
MET	M3169	L3091	T3010	P2929	L2837	H2729	C2639	K2509	M2412	A2258	P2147	P2146
VAL	A3170	N3092	L3011	H2932	D2840	V2731	V2648	M2510	I2415	L2335	K2148	K2148
LYS	I3171	F3094	L3012	L2933	E2841	P2732	V2648	R2511	Q2416	P2336	L2157	L2157
ASP	T3172	T3099	M3014	L2934	E2842	P2733	P2652	A2512	A2419	P2337	H2263	H2263
GLN	Y3176	A3100	G3015	L2935	R2843	V2734	K2657	E2513	M2423	V2339	T2267	T2267
GLU	I3180	A3101	E3016	G2937	R2844	Y2735	W2658	L2514	P2430	R2340	L2161	L2161
ALA	I3180	L3102	E3016	G2937	W2845	L2744	W2658	L2526	P2430	R2341	V2168	V2168
GLY	Y3183	Y3103	G3019	K2943	N2849	L2744	F2662	P2527	K2430	F2342	R2172	R2172
LYS	A3184	Q3104	L3020	L2946	I2850	I2747	C2663	N2531	K2435	P2343	N2271	N2271
LYS	M3185	Y3105	F3021	S2947	I2850	Y2748	D2664	I2532	A2436	E2344	R2179	R2179
VAL	L3186	G3106	E3022	R2948	I2861	G2749	E2665	I2533	L2437	K2349	T2272	T2272
MET	E3108	K3107	G3023	F2949	R2862	E2750	I2666	I2534	E2438	E2180	R2273	R2273
SER	F3109	E3108	D3024	V2950	R2863	A2754	N2667	D2536	A2354	E2181	W2275	W2275
GLN	E3195	F3109	I3024	A2951	E2864	R2757	L2668	Y2537	R2358	K2184	G2276	G2276
GLU	M3113	M3113	L3029	L2956	S2868	L2758	D2670	E2538	R2358	V2185	D2277	D2277
ILE	D3114	D3114	M3030	S2957	R2869	L2759	D2671	E2538	M2361	C2186	G2278	G2278
GLN	L3115	L3115	K3034	V2958	P2870	I2759	K2673	S2542	W2445	F2280	L2279	L2279
GLU	E3116	E3116	E3035	Y2959	L2871	R2763	D2671	W2545	M2447	T2281	F2280	F2280
LEU	Y3120	Y3120	E3035	Q2960	Y2873	A2766	K2673	W2545	P2364	D2195	L2191	L2191
HIS	Q3204	Q3204	Q3038	K2962	Y2873	T2770	G2675	W2548	D2448	D2367	L2195	L2195
LYS	L3204	L3204	G3041	H2963	D2880	T2770	F2682	W2548	L2449	V2368	G2201	G2201
GLN	L3205	L3205	L3042	V2964	Y2881	T2785	I2683	K2551	R2451	L2284	W2202	W2202
GLU	R3206	R3206	M3042	R2965	L2885	Q2786	Q2684	V2552	R2452	K2286	E2202	E2202
VAL	K3207	K3207	M3043	K2966	Q2886	D2787	Q2685	P2553	R2453	W2304	W2304	W2304
VAL	P3127	P3127	L3044	Y2967	E2887	T2788	W2686	E2553	R2453	E2205	E2205	E2205
ILE	V3128	V3128	D3045	T2968	E2888	T2788	V2687	E2553	S2457	L2208	L2208	L2208
ALA	V3129	V3129	D3045	G2969	E2888	H2791	E2688	E2553	H2463	Q2209	Q2209	Q2209
ASP	E3210	E3210	E3049	G2969	Y2892	Y2794	F2692	K2561	Q2464	L2382	L2382	L2382
LYS	T3211	T3211	T3055	D2973	A2895	Y2794	Y2693	P2570	A2465	P2385	I2213	I2213
GLN	V3212	V3212	L3059	E2974	R2896	T2800	D2697	T2583	D2478	P2386	L2220	L2220
MET	D3213	D3213	L3059	L2975	L2897	R2801	Q2698	W2584	F2479	L2387	W2221	W2221
VAL	Q3214	Q3214	L3059	L2976	K2898	L2810	Q2698	L2585	P2480	E2389	M2222	M2222
LYS	V3215	V3215	F3066	R2977	V2899	L2810	Q2698	L2585	M2481	GLY	V2302	V2302
ASP	E3216	E3216	M3067	L2980	V2899	L2810	Q2698	L2585	Q2482	ASP	F2303	F2303
LEU	E3217	E3217	M3068	L2980	V2899	L2810	Q2698	L2585	Q2482	D2304	D2304	D2304
ASP	L3218	L3218	P3070	L2980	V2899	L2810	Q2698	L2585	Q2482	ASP	S2228	S2228
LYS	R3219	R3219	S3071	L2980	V2899	L2810	Q2698	L2585	Q2482	GLU	G2229	G2229
PRO	R3220	R3220	S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ASP	K2230	K2230
ALA	ASP	ASP	S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	S2301	S2301
VAL	LEU	LEU	S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	M2232	M2232
VAL	ARG	ARG	S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	K2233	K2233
ILE	ARG	ARG	S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	W2234	W2234
GLU	ILE	ILE	S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	R2235	R2235
GLU	LYS	LYS	S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	V2236	V2236
ALA	LYS	LYS	S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2237	L2237
GLN	SER	SER	S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2238	L2238
ASN	GLN	GLN	S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2239	L2239
ALA	GLU	GLU	S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2244	L2244
VAL	LEU	LEU	S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	E2248	E2248
LYS	GLU	GLU	S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	G2249	G2249
SER	VAL	VAL	S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2327	L2327
	ASN	ASN	S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2328	L2328
	ALA	ALA	S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2329	L2329
	ALA	ALA	S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2330	L2330
	ASN	ASN	S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2331	L2331
	ASP	ASP	S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2332	L2332
			S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2333	L2333
			S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2334	L2334
			S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2335	L2335
			S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2336	L2336
			S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2337	L2337
			S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2338	L2338
			S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2339	L2339
			S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2340	L2340
			S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2341	L2341
			S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2342	L2342
			S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2343	L2343
			S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2344	L2344
			S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2345	L2345
			S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2346	L2346
			S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2347	L2347
			S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2348	L2348
			S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2349	L2349
			S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2350	L2350
			S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2351	L2351
			S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2352	L2352
			S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2353	L2353
			S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2354	L2354
			S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2355	L2355
			S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2356	L2356
			S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2357	L2357
			S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2358	L2358
			S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2359	L2359
			S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2360	L2360
			S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2361	L2361
			S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2362	L2362
			S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2363	L2363
			S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2364	L2364
			S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2365	L2365
			S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2366	L2366
			S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2367	L2367
			S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2368	L2368
			S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2369	L2369
			S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2370	L2370
			S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2371	L2371
			S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2372	L2372
			S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2373	L2373
			S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2374	L2374
			S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2375	L2375
			S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2376	L2376
			S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2377	L2377
			S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2378	L2378
			S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2379	L2379
			S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2380	L2380
			S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2381	L2381
			S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA	L2382	L2382
			S3072	L2980	V2899	L2810	Q2698	L2585	Q2482	ALA		





4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	82309	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	1.305	Depositor
Minimum map value	-0.690	Depositor
Average map value	-0.001	Depositor
Map value standard deviation	0.038	Depositor
Recommended contour level	0.2	Depositor
Map size (Å)	333.312, 333.312, 333.312	wwPDB
Map dimensions	256, 256, 256	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.302, 1.302, 1.302	Depositor

5 Model quality [i](#)

5.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section: 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	0.14	0/22220	0.36	3/30121 (0.0%)

There are no bond length outliers.

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed($^{\circ}$)	Ideal($^{\circ}$)
1	A	4132	PRO	CA-N-CD	-12.43	94.59	112.00
1	A	4132	PRO	N-CD-CG	-6.11	94.04	103.20
1	A	2929	PRO	CA-N-CD	-5.10	104.86	112.00

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	21755	0	21789	653	0
2	A	81	0	36	9	0
3	A	31	0	12	7	0
All	All	21867	0	21837	653	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 15.

All (653) 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:2452:LEU:HD23	1:A:2729:ARG:HD2	1.57	0.84
1:A:3570:ASP:OD1	1:A:3571:ASP:N	2.20	0.74
1:A:4388:LEU:HD21	1:A:4431:LEU:HB3	1.70	0.74
1:A:4377:MET:HE3	1:A:4438:CYS:HA	1.69	0.73
1:A:2935:LEU:HD13	1:A:2943:LYS:HB3	1.70	0.73
1:A:3736:GLY:O	1:A:3740:LEU:N	2.22	0.73
1:A:4021:MET:HE3	1:A:4021:MET:HA	1.70	0.72
1:A:4448:LEU:O	1:A:4452:ILE:HG12	1.90	0.71
1:A:2228:SER:OG	1:A:2230:LYS:NZ	2.24	0.70
1:A:4176:ARG:NH1	1:A:4220:ASP:OD1	2.25	0.70
1:A:4473:MET:HG3	1:A:4477:GLN:HG3	1.73	0.70
1:A:2749:GLY:HA2	1:A:2770:THR:HG21	1.72	0.70
1:A:2412:MET:HA	1:A:2415:ILE:HG22	1.73	0.70
1:A:2028:LEU:HD12	1:A:2029:PRO:HD2	1.74	0.69
1:A:1709:MET:HE1	1:A:1872:TYR:HB2	1.73	0.69
1:A:2880:ASP:OD2	1:A:2881:TYR:N	2.26	0.69
1:A:2996:GLU:OE2	1:A:3069:ASN:ND2	2.25	0.69
1:A:4081:ASP:OD1	1:A:4112:LYS:NZ	2.24	0.69
1:A:1938:PHE:CE2	1:A:1967:MET:HG2	2.26	0.69
1:A:3967:GLU:OE1	1:A:3967:GLU:N	2.21	0.69
1:A:2437:LEU:HD21	1:A:2451:ARG:HG3	1.73	0.69
1:A:3102:LEU:HB3	1:A:3176:TYR:HE2	1.58	0.69
1:A:3886:LEU:HD11	1:A:4346:MET:HG3	1.75	0.69
1:A:3006:GLU:HA	1:A:3009:ASN:ND2	2.07	0.68
1:A:4010:SER:HB2	1:A:4015:GLU:HA	1.75	0.67
1:A:2054:LEU:HG	1:A:2097:LEU:HD22	1.77	0.67
1:A:3990:LEU:HD13	1:A:4004:MET:HG3	1.76	0.67
1:A:2585:LEU:HD12	1:A:2707:GLN:HE21	1.60	0.67
1:A:2688:GLU:HB2	1:A:2730:HIS:HE1	1.59	0.67
1:A:3914:ILE:HB	1:A:3937:ARG:HD3	1.77	0.67
1:A:1711:VAL:HG22	1:A:1853:VAL:HG21	1.78	0.66
1:A:1836:PHE:HA	1:A:1839:LEU:HB2	1.77	0.66
1:A:4113:LEU:HD11	1:A:4124:LEU:HD13	1.78	0.66
1:A:1631:PHE:HA	1:A:1944:ILE:HG22	1.77	0.66
1:A:3500:MET:HA	1:A:3500:MET:HE2	1.77	0.66
1:A:1951:VAL:HG13	1:A:1953:ALA:H	1.61	0.66
1:A:1880:VAL:HG21	1:A:2049:ILE:HG12	1.78	0.66
1:A:2016:ILE:HG22	1:A:2018:MET:HE1	1.78	0.65
1:A:4400:ARG:HH21	1:A:4405:ILE:HG12	1.61	0.65
1:A:2231:SER:OG	1:A:2344:GLU:OE2	2.13	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2961:ILE:O	1:A:2998:ASN:ND2	2.26	0.65
1:A:3566:SER:OG	1:A:3602:ASN:ND2	2.29	0.65
1:A:3158:ASN:ND2	1:A:3169:MET:O	2.25	0.65
1:A:2447:MET:HE1	1:A:2723:LEU:HD13	1.78	0.65
1:A:2747:ILE:HD11	2:A:4703:ADP:C6	2.31	0.65
1:A:3135:GLN:O	1:A:3137:PRO:HD3	1.97	0.65
1:A:2269:ASP:HB2	1:A:2274:GLU:HG2	1.79	0.65
1:A:4463:SER:O	1:A:4466:HIS:NE2	2.27	0.65
1:A:2181:GLU:HG3	1:A:2244:LEU:HB2	1.79	0.64
1:A:3513:PHE:HZ	1:A:3575:GLU:HB3	1.61	0.64
1:A:3981:THR:HG23	1:A:3984:GLY:H	1.62	0.64
1:A:1778:LEU:HB3	1:A:1826:ILE:HD11	1.79	0.64
1:A:3727:LYS:O	1:A:3731:LEU:N	2.31	0.64
1:A:3966:PRO:HD2	1:A:4000:ARG:HG3	1.78	0.64
1:A:1812:ILE:HD13	1:A:2056:SER:HA	1.79	0.64
1:A:2688:GLU:HB2	1:A:2730:HIS:CE1	2.32	0.64
1:A:2271:ASN:ND2	1:A:2272:THR:HG23	2.13	0.64
1:A:2527:PRO:HD2	1:A:2534:ILE:HD12	1.78	0.64
1:A:2963:VAL:HG11	1:A:2998:ASN:HA	1.80	0.64
1:A:4099:VAL:HG12	1:A:4106:LEU:HD21	1.80	0.63
1:A:3620:ARG:NH2	1:A:3642:ASP:OD2	2.31	0.63
1:A:2612:LEU:HD13	1:A:2615:MET:HE2	1.79	0.63
1:A:2269:ASP:OD2	1:A:2272:THR:OG1	2.16	0.63
1:A:2910:VAL:HG21	1:A:3105:VAL:HG22	1.81	0.63
1:A:1912:LYS:HE2	1:A:2017:THR:HB	1.81	0.63
1:A:3519:TYR:O	1:A:3700:ASN:ND2	2.32	0.63
1:A:3099:THR:HA	1:A:3102:LEU:HD12	1.81	0.62
1:A:2794:TYR:HE1	1:A:2836:ARG:HD2	1.65	0.62
1:A:3734:LEU:HD13	1:A:3783:LYS:HB3	1.82	0.62
1:A:2934:LEU:HD13	1:A:3066:PHE:CZ	2.35	0.62
1:A:1964:GLU:HB3	1:A:1967:MET:HE3	1.81	0.62
1:A:2919:VAL:HG23	1:A:2950:VAL:HG22	1.81	0.62
1:A:2684:ARG:NH1	1:A:2688:GLU:OE2	2.30	0.61
1:A:2957:SER:HB2	1:A:2990:ILE:HD12	1.81	0.61
1:A:3851:ASP:HB3	1:A:3854:GLN:HB3	1.80	0.61
1:A:2452:LEU:HB3	1:A:2729:ARG:HG3	1.83	0.61
1:A:1628:ARG:NH1	1:A:1871:GLU:OE2	2.34	0.61
1:A:4187:HIS:ND1	1:A:4212:LEU:HD22	2.15	0.61
1:A:2925:ILE:HG21	1:A:2933:LEU:HB2	1.81	0.61
1:A:2485:GLN:OE1	1:A:2488:ARG:NH1	2.34	0.61
1:A:3172:THR:HG21	1:A:3694:SER:HB2	1.81	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4043:MET:HE1	1:A:4055:VAL:HB	1.84	0.60
1:A:3147:CYS:O	1:A:3150:VAL:HG12	2.01	0.60
1:A:4260:PHE:CE2	1:A:4618:LEU:HD11	2.37	0.60
1:A:2925:ILE:HG13	1:A:3090:VAL:HG21	1.83	0.60
1:A:2994:MET:HE3	1:A:2995:ASP:H	1.67	0.60
1:A:3520:PHE:HB3	1:A:3524:MET:HB3	1.84	0.60
1:A:1842:MET:HA	1:A:1861:MET:HG3	1.84	0.60
1:A:2863:ARG:O	1:A:2863:ARG:NH1	2.34	0.59
1:A:4445:THR:O	1:A:4449:ARG:N	2.30	0.59
1:A:4611:LEU:HB2	1:A:4619:ILE:HD11	1.84	0.59
1:A:2232:MET:HA	1:A:2235:ARG:HB2	1.84	0.59
1:A:2666:ILE:HG22	1:A:2712:CYS:HB3	1.85	0.59
1:A:1912:LYS:N	2:A:4701:ADP:O3B	2.35	0.59
1:A:2277:ASP:O	1:A:2698:GLN:NE2	2.34	0.59
1:A:4030:ILE:HG21	1:A:4145:PHE:HZ	1.68	0.59
1:A:3909:LEU:HD21	1:A:4343:MET:HG2	1.82	0.59
1:A:1686:PHE:HA	1:A:1712:THR:HG21	1.85	0.59
1:A:3588:LEU:HD12	1:A:3679:LEU:HB2	1.84	0.59
1:A:2813:LEU:HD21	1:A:2816:LEU:HB2	1.84	0.59
1:A:3885:MET:HB3	1:A:4343:MET:HE1	1.85	0.59
1:A:3825:TYR:CZ	1:A:3875:MET:HG3	2.38	0.59
1:A:1975:VAL:HA	1:A:1978:ILE:HG22	1.85	0.59
1:A:2221:MET:HG2	1:A:2343:PHE:HB2	1.83	0.58
1:A:1934:GLU:OE2	1:A:1934:GLU:N	2.33	0.58
1:A:2309:PRO:HA	1:A:2312:VAL:HG12	1.85	0.58
1:A:2816:LEU:HD11	1:A:2820:GLY:HA3	1.85	0.58
1:A:2179:ARG:NH2	1:A:2195:ASP:OD2	2.36	0.58
1:A:1839:LEU:O	1:A:1843:ARG:NH1	2.37	0.58
1:A:2748:TYR:OH	1:A:2800:THR:OG1	2.19	0.58
1:A:4260:PHE:HE2	1:A:4618:LEU:HD11	1.69	0.58
1:A:1808:LEU:O	1:A:1812:ILE:HG22	2.04	0.58
1:A:2179:ARG:HD3	1:A:2208:LEU:HD11	1.86	0.58
1:A:2845:TRP:NE1	1:A:2849:ASN:HD21	2.01	0.58
1:A:3021:PHE:CD2	1:A:3029:LEU:HD22	2.39	0.58
1:A:2994:MET:HE1	1:A:2998:ASN:HB3	1.86	0.57
1:A:2419:ALA:O	1:A:2423:MET:HG2	2.04	0.57
1:A:1649:LYS:HD2	1:A:2273:ARG:HH12	1.70	0.57
1:A:1880:VAL:HG22	2:A:4701:ADP:N1	2.19	0.57
1:A:3169:MET:HE3	1:A:3169:MET:HA	1.86	0.57
1:A:1721:VAL:HA	1:A:1724:VAL:HG12	1.85	0.57
1:A:3839:VAL:HG21	1:A:3863:LEU:HA	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3974:TRP:HZ2	1:A:3985:GLN:HG2	1.69	0.57
1:A:4186:PHE:O	1:A:4189:ILE:HG22	2.04	0.57
1:A:1623:ARG:NH2	1:A:1637:LEU:HD22	2.19	0.57
1:A:3902:ASP:OD1	1:A:3902:ASP:N	2.34	0.57
1:A:2819:GLU:OE1	1:A:2819:GLU:N	2.25	0.57
1:A:4295:GLN:OE1	1:A:4296:MET:N	2.38	0.57
1:A:1766:LEU:HD22	1:A:1778:LEU:HD11	1.86	0.57
1:A:2526:LEU:HD13	1:A:2534:ILE:HG13	1.85	0.57
1:A:3885:MET:HE2	1:A:4005:ALA:HB1	1.87	0.57
1:A:2585:LEU:HD12	1:A:2707:GLN:NE2	2.20	0.56
1:A:2316:ASN:OD1	1:A:2358:ARG:NH1	2.38	0.56
1:A:3078:ARG:O	1:A:3082:SER:OG	2.23	0.56
1:A:1879:LEU:HD23	1:A:1918:ALA:HB2	1.87	0.56
1:A:3488:ARG:HE	1:A:3489:TRP:CD1	2.22	0.56
1:A:1853:VAL:HA	1:A:1856:GLN:HG3	1.86	0.56
1:A:3624:GLU:O	1:A:3628:ARG:HG2	2.05	0.56
1:A:1967:MET:O	1:A:1971:VAL:HG22	2.06	0.56
1:A:2668:LEU:O	1:A:2721:LYS:NZ	2.35	0.56
1:A:2670:ASP:HA	1:A:2721:LYS:HE3	1.88	0.56
1:A:2901:TYR:OH	1:A:2909:LEU:N	2.38	0.56
1:A:4487:LYS:O	1:A:4491:ASN:ND2	2.38	0.56
1:A:3821:ILE:HG23	1:A:4346:MET:HE3	1.88	0.56
1:A:4346:MET:HA	1:A:4346:MET:HE2	1.87	0.56
1:A:1909:GLY:N	2:A:4701:ADP:O2B	2.36	0.55
1:A:3217:GLU:HB3	1:A:3220:ARG:HH21	1.71	0.55
1:A:1873:LEU:O	1:A:1876:GLN:NE2	2.38	0.55
1:A:4066:ILE:HD12	1:A:4095:MET:HG3	1.86	0.55
1:A:4518:GLU:OE2	1:A:4518:GLU:N	2.30	0.55
1:A:1961:ASN:HD21	1:A:2019:ASN:HB3	1.72	0.55
1:A:2148:LYS:HG2	1:A:2361:MET:HB3	1.87	0.55
1:A:3909:LEU:HB3	1:A:4344:LEU:HD13	1.88	0.55
1:A:1632:VAL:O	1:A:1943:ARG:NH1	2.26	0.55
1:A:2354:ALA:HB1	1:A:2358:ARG:HH22	1.71	0.55
1:A:2785:THR:HG22	1:A:2787:ASP:H	1.71	0.55
1:A:2279:LEU:O	1:A:2283:VAL:HG23	2.06	0.55
1:A:2505:ASP:OD1	1:A:2505:ASP:N	2.40	0.55
1:A:3030:MET:N	1:A:3030:MET:SD	2.79	0.55
1:A:1687:LYS:HG2	1:A:1712:THR:HG22	1.88	0.55
1:A:2337:PRO:O	1:A:2340:ARG:NH1	2.39	0.55
1:A:2801:ARG:NH1	1:A:2801:ARG:O	2.40	0.55
1:A:3999:ASP:OD1	1:A:4329:ARG:NH1	2.40	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4066:ILE:HG22	1:A:4093:TRP:HB2	1.89	0.55
1:A:4423:LEU:HD13	1:A:4466:HIS:CE1	2.41	0.55
1:A:4476:ILE:HD12	1:A:4476:ILE:H	1.72	0.55
1:A:3874:GLY:HA3	1:A:4144:ILE:HG13	1.88	0.54
1:A:4452:ILE:O	1:A:4456:VAL:HG22	2.07	0.54
1:A:4505:LYS:NZ	1:A:4554:ASP:O	2.40	0.54
1:A:4628:THR:O	1:A:4629:LYS:HG2	2.08	0.54
1:A:4027:LEU:O	1:A:4031:VAL:HG12	2.07	0.54
1:A:2452:LEU:HD21	3:A:4702:ATP:H4'	1.88	0.54
1:A:2766:ALA:O	1:A:2770:THR:HG23	2.06	0.54
1:A:3071:SER:HB3	1:A:3078:ARG:HH22	1.72	0.54
1:A:2141:VAL:O	1:A:2145:MET:HB2	2.08	0.54
1:A:2602:THR:HG23	1:A:2662:PHE:HE1	1.72	0.54
1:A:2612:LEU:HB3	1:A:2615:MET:SD	2.47	0.54
1:A:3929:VAL:O	1:A:3933:GLU:HG2	2.08	0.54
1:A:1903:SER:O	1:A:1903:SER:OG	2.26	0.54
1:A:3526:GLN:OE1	1:A:3549:ARG:NH2	2.33	0.54
1:A:1963:LEU:HD23	1:A:1967:MET:HB3	1.90	0.54
1:A:2980:LEU:HD21	1:A:3011:LEU:HD11	1.88	0.54
1:A:3572:LEU:HD21	1:A:3701:PHE:HA	1.89	0.54
1:A:4374:PRO:HG2	1:A:4377:MET:HB2	1.89	0.54
1:A:1866:PHE:HD2	1:A:1923:LEU:HD11	1.73	0.54
1:A:2485:GLN:NE2	1:A:2542:SER:O	2.38	0.54
1:A:4170:CYS:SG	1:A:4301:ARG:NH2	2.80	0.54
1:A:1879:LEU:HD12	2:A:4701:ADP:C6	2.43	0.53
1:A:2819:GLU:HA	1:A:2861:ILE:HD11	1.90	0.53
1:A:2191:LEU:HD21	1:A:2232:MET:HE1	1.90	0.53
1:A:3646:ASN:OD1	1:A:3650:ASN:ND2	2.41	0.53
1:A:1654:PHE:CE1	1:A:1702:LEU:HD11	2.44	0.53
1:A:1912:LYS:HG2	1:A:2041:MET:HG3	1.90	0.53
1:A:1940:ALA:O	1:A:1944:ILE:HG23	2.08	0.53
1:A:2071:PRO:O	1:A:2075:LEU:HG	2.08	0.53
1:A:2222:MET:HE2	1:A:2342:MET:HG2	1.89	0.53
1:A:4488:GLN:O	1:A:4492:ILE:HG12	2.08	0.53
1:A:4609:VAL:HG22	1:A:4642:VAL:HB	1.90	0.53
1:A:2498:ILE:HG23	1:A:2502:LEU:HD22	1.91	0.53
1:A:2621:ASN:HA	1:A:2664:ASP:HB2	1.90	0.53
1:A:1812:ILE:HD11	1:A:2055:TYR:HD1	1.73	0.53
1:A:2277:ASP:OD1	1:A:2277:ASP:N	2.38	0.53
1:A:4211:ASP:OD1	1:A:4255:ARG:NH1	2.42	0.53
1:A:2505:ASP:HA	1:A:2735:TYR:HB2	1.89	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1626:PHE:HE1	1:A:1706:GLU:HG3	1.73	0.53
1:A:2744:LEU:HA	1:A:2747:ILE:HG22	1.91	0.53
1:A:4538:GLU:OE1	1:A:4594:LYS:NZ	2.40	0.53
1:A:3005:LEU:HD21	1:A:3082:SER:HB3	1.91	0.53
1:A:3730:ASP:O	1:A:3734:LEU:HG	2.09	0.53
1:A:3924:ILE:HD12	1:A:3924:ILE:H	1.74	0.53
1:A:3999:ASP:OD1	1:A:4329:ARG:HG3	2.08	0.52
1:A:3103:TYR:OH	1:A:3107:LYS:NZ	2.42	0.52
1:A:1938:PHE:CZ	1:A:1967:MET:HG2	2.43	0.52
1:A:1623:ARG:HA	1:A:1629:PHE:HE2	1.75	0.52
1:A:3888:ALA:HA	1:A:4013:LEU:HD11	1.91	0.52
1:A:2747:ILE:HD11	2:A:4703:ADP:C5	2.45	0.52
1:A:1816:VAL:HG11	1:A:2052:VAL:HG22	1.92	0.52
1:A:2673:LYS:NZ	1:A:2674:TYR:OH	2.43	0.52
1:A:2814:GLU:HG2	1:A:2815:THR:HG23	1.91	0.52
1:A:3879:ASP:OD1	1:A:4342:LYS:NZ	2.34	0.52
1:A:4247:MET:HA	1:A:4251:ILE:HG13	1.91	0.52
1:A:2445:HIS:CD2	1:A:2449:LEU:HD13	2.45	0.52
1:A:2720:ARG:HH21	1:A:3083:PRO:HB3	1.75	0.52
1:A:2845:TRP:CD1	1:A:2849:ASN:HD21	2.28	0.52
1:A:2821:LEU:O	1:A:2824:ILE:HG22	2.10	0.52
1:A:3785:GLU:O	1:A:3789:ILE:HG13	2.10	0.52
1:A:2012:MET:SD	1:A:2013:ALA:N	2.83	0.51
1:A:2066:ALA:HA	1:A:2069:ILE:HG22	1.92	0.51
1:A:3742:LEU:HD12	1:A:3776:GLU:HB3	1.92	0.51
1:A:2635:PHE:O	1:A:2639:CYS:N	2.37	0.51
1:A:2129:GLU:N	1:A:2129:GLU:OE1	2.43	0.51
1:A:3947:LEU:O	1:A:3951:VAL:HG23	2.11	0.51
1:A:4157:MET:HE3	1:A:4185:TRP:HE3	1.75	0.51
1:A:1812:ILE:HD11	1:A:2055:TYR:CD1	2.45	0.51
1:A:3006:GLU:HA	1:A:3009:ASN:HD21	1.72	0.51
1:A:3514:ILE:HD11	1:A:3553:LEU:HD13	1.91	0.51
1:A:3744:GLN:O	1:A:3747:LYS:HG3	2.11	0.51
1:A:2682:PHE:O	1:A:2686:MET:HG3	2.10	0.51
1:A:3161:LEU:HD13	1:A:3524:MET:HE3	1.92	0.51
1:A:2667:ASN:HB3	1:A:2723:LEU:HD11	1.93	0.51
1:A:4439:GLU:HB3	1:A:4441:LYS:HE3	1.92	0.51
1:A:3109:PHE:HB3	1:A:3180:ILE:HG21	1.93	0.51
1:A:1946:VAL:HG23	1:A:2006:VAL:HG21	1.93	0.50
1:A:2872:LEU:HD12	1:A:2920:LEU:HD12	1.92	0.50
1:A:4521:ILE:HG13	1:A:4522:THR:N	2.26	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2031:ASN:OD1	1:A:2031:ASN:N	2.45	0.50
1:A:3510:SER:HB3	1:A:3553:LEU:HD21	1.92	0.50
1:A:3594:GLY:O	1:A:3597:THR:OG1	2.24	0.50
1:A:3730:ASP:O	1:A:3734:LEU:N	2.42	0.50
1:A:2283:VAL:O	1:A:2287:ILE:HG13	2.12	0.50
1:A:3881:ILE:HG13	1:A:4339:MET:HE1	1.93	0.50
1:A:4260:PHE:HD1	1:A:4263:ARG:NH2	2.10	0.50
1:A:2483:ILE:HD12	1:A:2486:LEU:HD22	1.93	0.50
1:A:3099:THR:OG1	1:A:3100:GLU:OE2	2.29	0.50
1:A:3579:MET:HE2	1:A:3699:VAL:HG12	1.94	0.50
1:A:3909:LEU:HD11	1:A:4343:MET:HG2	1.93	0.50
1:A:4065:GLN:OE1	1:A:4065:GLN:N	2.33	0.50
1:A:4575:LEU:HB3	1:A:4635:PHE:CZ	2.46	0.50
1:A:3817:SER:OG	1:A:4346:MET:SD	2.67	0.50
1:A:3989:ARG:HA	1:A:3992:LEU:HD12	1.94	0.50
1:A:4617:ASP:N	1:A:4617:ASP:OD2	2.43	0.50
1:A:1800:GLN:OE1	1:A:1804:ARG:NH1	2.45	0.49
1:A:2201:GLY:O	1:A:2205:GLU:HG2	2.12	0.49
1:A:2235:ARG:HH12	1:A:2253:ILE:HD11	1.76	0.49
1:A:2923:ASP:OD2	1:A:2927:ARG:NH2	2.42	0.49
1:A:4178:ARG:HD2	1:A:4296:MET:HE3	1.94	0.49
1:A:2503:SER:HB3	1:A:2514:LEU:HD22	1.93	0.49
1:A:3115:LEU:HD23	1:A:3143:ILE:HD13	1.94	0.49
1:A:4202:SER:OG	1:A:4261:ASP:OD2	2.29	0.49
1:A:4380:LEU:HA	1:A:4383:THR:HG22	1.93	0.49
1:A:1810:HIS:NE2	1:A:1876:GLN:O	2.46	0.49
1:A:2191:LEU:HD12	3:A:4702:ATP:C6	2.47	0.49
1:A:3612:THR:O	1:A:3635:VAL:HA	2.12	0.49
1:A:1914:GLU:OE2	2:A:4701:ADP:H3'	2.13	0.49
1:A:2369:LEU:HD23	1:A:2373:MET:SD	2.52	0.49
1:A:3790:VAL:HG22	1:A:3794:VAL:HG21	1.94	0.49
1:A:2042:THR:HG23	1:A:2043:LYS:HG2	1.94	0.49
1:A:3501:SER:HB2	1:A:3542:GLN:HB2	1.94	0.49
1:A:3924:ILE:HB	1:A:3927:LEU:HD12	1.94	0.49
1:A:1864:ALA:HB2	1:A:1897:GLU:HB2	1.93	0.49
1:A:3999:ASP:OD2	1:A:4000:ARG:N	2.46	0.49
1:A:1653:HIS:O	1:A:1657:MET:HE3	2.13	0.49
1:A:2480:PRO:HG2	1:A:2482:GLN:HE22	1.77	0.49
1:A:2369:LEU:HD21	3:A:4702:ATP:C4	2.48	0.49
1:A:2509:LYS:O	1:A:2513:GLU:HG3	2.13	0.49
1:A:3636:GLN:HA	1:A:3680:SER:HB3	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3840:LEU:HA	1:A:3859:ILE:HD11	1.94	0.49
1:A:4004:MET:O	1:A:4007:MET:HG3	2.13	0.49
1:A:4194:LEU:HD23	1:A:4201:TRP:CD1	2.47	0.49
1:A:4375:ALA:O	1:A:4379:THR:HG23	2.13	0.49
1:A:2943:LYS:HG2	1:A:3094:PHE:CD2	2.48	0.48
1:A:3071:SER:OG	1:A:3073:GLU:OE1	2.30	0.48
1:A:2349:LYS:HE2	1:A:2349:LYS:HB2	1.67	0.48
1:A:2825:TRP:HZ3	1:A:2850:ILE:HG23	1.78	0.48
1:A:2492:ARG:HG2	1:A:2545:TRP:NE1	2.27	0.48
1:A:2533:PRO:HB2	1:A:2535:ILE:HG22	1.94	0.48
1:A:3756:VAL:O	1:A:3759:ARG:HG2	2.14	0.48
1:A:1747:ALA:HB2	1:A:1807:LYS:HG2	1.94	0.48
1:A:2686:MET:HG2	1:A:2692:PHE:HB3	1.95	0.48
1:A:2946:LEU:O	1:A:2950:VAL:HG23	2.14	0.48
1:A:2017:THR:C	1:A:2018:MET:HE2	2.39	0.48
1:A:2837:LEU:HD13	1:A:2842:GLU:HB3	1.96	0.48
1:A:3590:ILE:O	1:A:3701:PHE:N	2.36	0.48
1:A:3645:LEU:HB3	1:A:3649:LEU:HD13	1.95	0.48
1:A:2481:MET:HE1	1:A:2485:GLN:HB3	1.94	0.48
1:A:2960:GLN:HB3	1:A:2993:ILE:HB	1.94	0.48
1:A:2835:ASP:OD1	1:A:3092:ASN:HA	2.13	0.48
1:A:3044:LEU:HB3	1:A:3049:GLU:HG3	1.94	0.48
1:A:4154:LYS:HB2	1:A:4312:LEU:HD12	1.95	0.48
1:A:4160:THR:HG23	1:A:4212:LEU:HD21	1.94	0.48
1:A:2932:HIS:HD2	1:A:3012:LEU:HB2	1.79	0.48
1:A:3601:MET:HE2	1:A:3601:MET:N	2.29	0.48
1:A:1938:PHE:O	1:A:1942:GLY:N	2.34	0.47
1:A:1966:ARG:HH21	1:A:1970:ALA:N	2.12	0.47
1:A:2075:LEU:HD11	1:A:4536:LEU:HD12	1.96	0.47
1:A:2088:PHE:CE1	1:A:2145:MET:HE1	2.49	0.47
1:A:2220:LEU:HB2	1:A:2342:MET:HG3	1.95	0.47
1:A:3204:GLY:O	1:A:3207:LYS:HG2	2.14	0.47
1:A:3624:GLU:HG3	1:A:3669:ILE:HD13	1.95	0.47
1:A:4257:ASP:OD1	1:A:4258:ASN:N	2.47	0.47
1:A:2465:ALA:HB2	1:A:2493:TYR:CE1	2.49	0.47
1:A:3730:ASP:HA	1:A:3733:LYS:HB2	1.95	0.47
1:A:1985:HIS:HA	1:A:1997:ILE:HG13	1.94	0.47
1:A:2073:PHE:CD2	1:A:2093:LEU:HD13	2.49	0.47
1:A:2280:PHE:HE1	1:A:2301:ILE:HG21	1.78	0.47
1:A:2864:GLU:OE1	1:A:2864:GLU:N	2.41	0.47
1:A:3611:ARG:HD3	1:A:3612:THR:N	2.30	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2280:PHE:CE1	1:A:2301:ILE:HG21	2.49	0.47
1:A:2335:LEU:HD23	1:A:2336:PRO:O	2.14	0.47
1:A:2787:ASP:OD1	1:A:2788:THR:N	2.47	0.47
1:A:2840:ASP:OD1	1:A:2841:GLU:N	2.48	0.47
1:A:2263:HIS:ND1	1:A:2263:HIS:N	2.62	0.47
1:A:2671:MET:HE3	1:A:2675:GLY:HA2	1.96	0.47
1:A:2754:ALA:HA	1:A:2757:ARG:HH12	1.80	0.47
1:A:2897:LEU:HD11	1:A:2911:LEU:HD11	1.96	0.47
1:A:3150:VAL:HA	1:A:3153:THR:HG22	1.96	0.47
1:A:3789:ILE:O	1:A:3793:GLU:HG3	2.15	0.47
1:A:4075:GLU:O	1:A:4079:GLN:HG2	2.15	0.47
1:A:1701:TRP:HA	1:A:1704:LEU:HD12	1.95	0.47
1:A:3107:LYS:HZ2	1:A:3141:GLU:HG2	1.79	0.47
1:A:3575:GLU:O	1:A:3579:MET:HG3	2.14	0.47
1:A:3733:LYS:C	1:A:3736:GLY:H	2.23	0.47
1:A:2186:CYS:O	1:A:2191:LEU:N	2.47	0.47
1:A:2205:GLU:O	1:A:2209:GLN:HG3	2.13	0.47
1:A:2382:LEU:O	1:A:2416:GLN:NE2	2.45	0.47
1:A:4283:LYS:NZ	1:A:4293:ASP:OD2	2.40	0.47
1:A:1831:ASP:OD1	1:A:1831:ASP:N	2.45	0.47
1:A:2828:GLU:CD	1:A:2924:ARG:HH22	2.23	0.47
1:A:3924:ILE:HG12	1:A:3948:ILE:HD11	1.97	0.47
1:A:2932:HIS:CD2	1:A:3012:LEU:HB2	2.50	0.47
1:A:3638:VAL:HG21	1:A:3679:LEU:HB3	1.97	0.47
1:A:1926:PHE:O	1:A:1953:ALA:HB1	2.15	0.46
1:A:3591:ASP:OD1	1:A:3591:ASP:N	2.46	0.46
1:A:3683:ASP:OD2	1:A:3685:THR:OG1	2.27	0.46
1:A:1637:LEU:O	1:A:1640:ILE:HG22	2.15	0.46
1:A:3004:PHE:N	1:A:3004:PHE:CD1	2.83	0.46
1:A:3101:ALA:O	1:A:3105:VAL:HG23	2.16	0.46
1:A:3796:THR:HA	1:A:3799:GLN:HG3	1.97	0.46
1:A:4154:LYS:NZ	1:A:4310:GLU:O	2.48	0.46
1:A:4612:ASN:OD1	1:A:4612:ASN:C	2.58	0.46
1:A:1687:LYS:H	1:A:1712:THR:CG2	2.28	0.46
1:A:2592:VAL:HG23	1:A:2733:VAL:HG22	1.95	0.46
1:A:3529:PHE:CE2	1:A:3549:ARG:HD3	2.50	0.46
1:A:2238:LEU:HD21	1:A:2249:GLY:HA3	1.96	0.46
1:A:2234:TRP:CZ2	1:A:2302:VAL:HG21	2.51	0.46
1:A:3691:ASP:OD1	1:A:3692:LEU:N	2.48	0.46
1:A:3724:VAL:HG23	1:A:3794:VAL:HG22	1.97	0.46
1:A:3824:LEU:HD22	1:A:4130:ILE:HG12	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4307:GLN:O	1:A:4311:LEU:HG	2.16	0.46
1:A:2615:MET:SD	1:A:2615:MET:N	2.89	0.46
1:A:2937:GLY:O	1:A:3070:PRO:HD3	2.16	0.46
1:A:2968:THR:OG1	1:A:2969:GLY:N	2.48	0.46
1:A:3116:GLU:HG3	1:A:3140:ARG:HH21	1.81	0.46
1:A:3154:LEU:HD22	1:A:3516:TYR:HB3	1.98	0.46
1:A:4223:LEU:HD12	1:A:4223:LEU:HA	1.75	0.46
1:A:4526:GLN:HG2	1:A:4536:LEU:HD11	1.98	0.46
1:A:2864:GLU:O	1:A:2868:SER:OG	2.25	0.46
1:A:2973:ASP:OD1	1:A:3007:ARG:NH1	2.46	0.46
1:A:3783:LYS:HD3	1:A:3783:LYS:HA	1.70	0.46
1:A:2228:SER:HB2	1:A:2364:PHE:HB3	1.98	0.46
1:A:3792:GLN:O	1:A:3796:THR:OG1	2.33	0.46
1:A:3895:THR:HB	1:A:3898:GLU:OE1	2.15	0.46
1:A:4223:LEU:HD11	1:A:4238:ILE:HD12	1.98	0.46
1:A:1677:SER:HA	1:A:1683:GLU:HA	1.98	0.46
1:A:3495:THR:HG23	1:A:3496:PHE:HD1	1.81	0.46
1:A:3974:TRP:NE1	1:A:3976:GLU:OE2	2.49	0.46
1:A:4281:GLU:N	1:A:4281:GLU:OE1	2.49	0.46
1:A:1640:ILE:HD11	1:A:1650:LEU:HG	1.97	0.45
1:A:2228:SER:C	1:A:2369:LEU:HD12	2.41	0.45
1:A:2435:LYS:O	1:A:2438:GLU:HG2	2.16	0.45
1:A:2698:GLN:N	1:A:2698:GLN:OE1	2.48	0.45
1:A:2800:THR:OG1	2:A:4703:ADP:O2'	2.30	0.45
1:A:2977:ARG:HG2	1:A:3021:PHE:CE1	2.51	0.45
1:A:1626:PHE:CZ	1:A:1702:LEU:HD12	2.52	0.45
1:A:2558:GLU:H	1:A:2561:LYS:HZ3	1.64	0.45
1:A:3143:ILE:HD11	1:A:3183:TYR:OH	2.15	0.45
1:A:3512:ALA:O	1:A:3516:TYR:HB2	2.15	0.45
1:A:1628:ARG:HG3	1:A:1657:MET:HB2	1.97	0.45
1:A:2088:PHE:HE1	1:A:2145:MET:HE1	1.79	0.45
1:A:2209:GLN:O	1:A:2213:ILE:HG12	2.16	0.45
1:A:2252:HIS:NE2	1:A:2299:GLN:OE1	2.46	0.45
1:A:1717:LEU:O	1:A:1721:VAL:HG12	2.16	0.45
1:A:1968:LEU:O	1:A:1972:SER:OG	2.20	0.45
1:A:2635:PHE:HZ	1:A:2708:PHE:HZ	1.62	0.45
1:A:2076:CYS:HA	1:A:2080:LEU:HD23	1.97	0.45
1:A:3712:CYS:SG	1:A:3805:SER:HA	2.56	0.45
1:A:3817:SER:O	1:A:4346:MET:HE1	2.16	0.45
1:A:2030:ASP:OD1	1:A:2030:ASP:N	2.50	0.45
1:A:2648:VAL:HG12	1:A:2701:VAL:HG13	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3790:VAL:HA	1:A:3794:VAL:HB	1.98	0.45
1:A:3856:LEU:O	1:A:3859:ILE:HG22	2.16	0.45
1:A:2892:TYR:OH	1:A:2896:ARG:NH1	2.49	0.45
1:A:4179:LEU:HD23	1:A:4179:LEU:HA	1.80	0.45
1:A:2553:PRO:HG2	1:A:2570:PRO:HG3	1.99	0.45
1:A:2584:TRP:CH2	1:A:2732:PRO:HB2	2.52	0.45
1:A:4171:LYS:HD3	1:A:4171:LYS:HA	1.73	0.45
1:A:1747:ALA:N	1:A:1807:LYS:HE3	2.32	0.45
1:A:1981:ALA:HB2	1:A:1999:CYS:HB3	1.99	0.45
1:A:2060:ARG:CZ	1:A:2060:ARG:HA	2.47	0.45
1:A:2107:ARG:NH2	1:A:2139:GLN:OE1	2.50	0.45
1:A:2718:PRO:HB2	1:A:3080:ALA:HA	1.98	0.45
1:A:2726:ARG:NE	3:A:4702:ATP:O1G	2.41	0.45
1:A:2948:ARG:HG3	1:A:2958:VAL:HG21	1.98	0.45
1:A:2536:ASP:O	1:A:2548:TRP:HD1	2.00	0.45
1:A:1809:GLU:O	1:A:1813:THR:HG22	2.17	0.44
1:A:2221:MET:HE3	1:A:2221:MET:HB3	1.86	0.44
1:A:3875:MET:HG2	1:A:3879:ASP:HB2	1.98	0.44
1:A:2387:LEU:HD11	1:A:2463:HIS:CG	2.52	0.44
1:A:3733:LYS:HA	1:A:3733:LYS:HD3	1.86	0.44
1:A:3966:PRO:HG3	1:A:3997:ARG:NH1	2.33	0.44
1:A:2287:ILE:HA	1:A:2294:GLU:HG3	1.99	0.44
1:A:2457:SER:HB2	1:A:2732:PRO:HB3	2.00	0.44
1:A:2951:ALA:O	1:A:2956:LEU:N	2.51	0.44
1:A:3066:PHE:CZ	1:A:3085:LEU:HD11	2.53	0.44
1:A:2935:LEU:O	1:A:3068:MET:N	2.40	0.44
1:A:3606:ASP:OD1	1:A:3606:ASP:N	2.50	0.44
1:A:3913:GLU:OE2	1:A:3913:GLU:N	2.51	0.44
1:A:1659:ALA:HB2	1:A:1926:PHE:HB2	1.99	0.44
1:A:2191:LEU:HD11	1:A:2232:MET:SD	2.57	0.44
1:A:2841:GLU:O	1:A:2844:ARG:HG2	2.17	0.44
1:A:3892:LEU:HD13	1:A:3983:ILE:HG21	2.00	0.44
1:A:4575:LEU:HB3	1:A:4635:PHE:HZ	1.82	0.44
1:A:1947:GLY:O	1:A:1951:VAL:HG12	2.17	0.44
1:A:2111:ILE:HG21	1:A:2127:ILE:HG21	1.98	0.44
1:A:2583:THR:HG22	1:A:2584:TRP:HD1	1.82	0.44
1:A:4058:LEU:HA	1:A:4061:GLU:HG2	2.00	0.44
1:A:4297:PRO:HG3	1:A:4308:TRP:CD2	2.52	0.44
1:A:2810:LEU:HD11	1:A:2821:LEU:HD13	2.00	0.44
1:A:2823:ARG:HE	1:A:2871:ILE:HG12	1.82	0.44
1:A:2831:ARG:HD2	1:A:2921:ARG:HG2	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3007:ARG:HG2	1:A:3007:ARG:HH11	1.83	0.44
1:A:3044:LEU:HD22	1:A:3049:GLU:HB2	1.99	0.44
1:A:3183:TYR:CE1	1:A:3508:LEU:HA	2.53	0.44
1:A:3582:ARG:HE	1:A:3582:ARG:HB3	1.62	0.44
1:A:2382:LEU:HD12	1:A:2463:HIS:CE1	2.52	0.44
1:A:2754:ALA:HA	1:A:2757:ARG:NH1	2.33	0.44
1:A:3151:HIS:ND1	1:A:3516:TYR:OH	2.32	0.44
1:A:4612:ASN:OD1	1:A:4614:THR:N	2.51	0.44
1:A:1665:ILE:N	1:A:1675:GLY:O	2.48	0.44
1:A:2075:LEU:HD22	1:A:4526:GLN:OE1	2.18	0.44
1:A:2319:LEU:HB2	1:A:2358:ARG:HG2	1.99	0.44
1:A:2602:THR:HG23	1:A:2662:PHE:CE1	2.52	0.44
1:A:3213:ASP:O	1:A:3216:GLU:HG2	2.18	0.44
1:A:4138:LEU:HD12	1:A:4138:LEU:HA	1.82	0.44
1:A:4190:ILE:HG13	1:A:4191:GLN:N	2.33	0.44
1:A:1928:LEU:HD23	1:A:1948:LEU:HD21	2.00	0.43
1:A:1959:GLU:OE1	1:A:2019:ASN:HB2	2.18	0.43
1:A:2791:HIS:HB3	1:A:3086:PHE:CE2	2.51	0.43
1:A:3999:ASP:OD2	1:A:3999:ASP:C	2.60	0.43
1:A:1910:THR:HG21	1:A:2041:MET:HB3	2.00	0.43
1:A:2203:TRP:CH2	1:A:2236:VAL:HG11	2.52	0.43
1:A:2304:ASP:OD1	1:A:2726:ARG:NH2	2.51	0.43
1:A:2912:PHE:CE1	1:A:2915:VAL:HG23	2.53	0.43
1:A:3113:MET:CE	1:A:3184:ALA:HA	2.48	0.43
1:A:2299:GLN:HB2	1:A:2339:VAL:HG22	2.00	0.43
1:A:3120:TYR:HD1	1:A:3139:HIS:HD2	1.66	0.43
1:A:3517:ALA:HA	1:A:3520:PHE:HD2	1.83	0.43
1:A:1864:ALA:HB1	1:A:1866:PHE:CE1	2.53	0.43
1:A:2480:PRO:HG2	1:A:2482:GLN:NE2	2.34	0.43
1:A:2275:TRP:CE2	1:A:2327:LEU:HD13	2.53	0.43
1:A:4338:ASP:OD1	1:A:4342:LYS:HE3	2.19	0.43
1:A:1872:TYR:C	1:A:1873:LEU:HD23	2.44	0.43
1:A:2895:ALA:O	1:A:2899:VAL:HG23	2.18	0.43
1:A:3009:ASN:HA	1:A:3012:LEU:HG	2.00	0.43
1:A:1698:ILE:HA	1:A:1701:TRP:NE1	2.34	0.43
1:A:1941:MET:HE1	1:A:1945:PHE:CD1	2.54	0.43
1:A:2257:LYS:HA	1:A:2257:LYS:HD2	1.69	0.43
1:A:3601:MET:HE1	1:A:3634:LEU:HD13	1.99	0.43
1:A:3717:LEU:HD23	1:A:3717:LEU:HA	1.84	0.43
1:A:3808:CYS:SG	1:A:3836:TYR:HE2	2.42	0.43
1:A:4027:LEU:HB3	1:A:4058:LEU:HD12	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4205:TYR:OH	1:A:4261:ASP:OD2	2.29	0.43
1:A:1745:TYR:O	1:A:1807:LYS:HE2	2.19	0.43
1:A:2885:ASP:HB3	1:A:2888:GLU:HG3	2.01	0.43
1:A:3055:THR:O	1:A:3059:ILE:HG23	2.19	0.43
1:A:1640:ILE:HD12	1:A:1653:HIS:ND1	2.33	0.43
1:A:1736:ASN:O	1:A:1740:THR:HG23	2.18	0.43
1:A:2157:LEU:O	1:A:2161:LEU:HD23	2.19	0.43
1:A:2172:ARG:NH2	1:A:2205:GLU:OE1	2.51	0.43
1:A:2885:ASP:OD1	1:A:2886:GLN:N	2.51	0.43
1:A:4004:MET:HE2	1:A:4004:MET:HA	2.00	0.43
1:A:1652:LYS:HG3	1:A:2330:GLY:HA2	2.01	0.43
1:A:2759:ILE:HG13	1:A:2759:ILE:O	2.19	0.43
1:A:2817:PRO:HB2	1:A:2819:GLU:OE1	2.19	0.43
1:A:3202:ASN:HA	1:A:3205:LEU:HD12	2.01	0.43
1:A:3566:SER:HG	1:A:3602:ASN:HD22	1.62	0.43
1:A:3620:ARG:NH1	1:A:3644:VAL:HG11	2.34	0.43
1:A:4102:ALA:O	1:A:4106:LEU:HD23	2.19	0.43
1:A:4489:LEU:HD11	1:A:4515:PHE:HE1	1.84	0.43
1:A:1789:LEU:HD11	1:A:1816:VAL:HG23	2.01	0.42
1:A:2594:CYS:HA	1:A:2712:CYS:O	2.19	0.42
1:A:2685:GLN:NE2	1:A:2692:PHE:HA	2.34	0.42
1:A:4277:SER:HA	1:A:4282:PHE:CG	2.54	0.42
1:A:1677:SER:OG	1:A:1678:SER:N	2.51	0.42
1:A:2452:LEU:HA	1:A:2452:LEU:HD12	1.64	0.42
1:A:2658:TRP:CE3	1:A:2705:ARG:HA	2.54	0.42
1:A:2816:LEU:HD12	1:A:2817:PRO:HD2	2.00	0.42
1:A:3783:LYS:O	1:A:3787:THR:HG23	2.19	0.42
1:A:4444:GLN:HB2	1:A:4449:ARG:NH2	2.34	0.42
1:A:2977:ARG:HG2	1:A:3021:PHE:HE1	1.84	0.42
1:A:3487:GLU:O	1:A:3491:LYS:HG2	2.19	0.42
1:A:4293:ASP:N	1:A:4293:ASP:OD1	2.51	0.42
1:A:1911:GLY:HA3	2:A:4701:ADP:C8	2.54	0.42
1:A:1939:GLN:O	1:A:1943:ARG:HG2	2.19	0.42
1:A:2377:ASN:OD1	3:A:4702:ATP:O2'	2.36	0.42
1:A:2490:ILE:HD13	1:A:2490:ILE:HA	1.88	0.42
1:A:2757:ARG:HA	1:A:2763:ARG:HH21	1.83	0.42
1:A:4277:SER:HA	1:A:4282:PHE:CD1	2.54	0.42
1:A:1697:LYS:O	1:A:1701:TRP:HD1	2.01	0.42
1:A:1884:LEU:HD21	1:A:2041:MET:SD	2.60	0.42
1:A:2275:TRP:HZ2	1:A:2281:THR:HG21	1.85	0.42
1:A:2657:LYS:O	1:A:2705:ARG:NH1	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3126:MET:SD	1:A:3127:PRO:HD2	2.59	0.42
1:A:3945:LYS:HE3	1:A:3945:LYS:HB3	1.83	0.42
1:A:4075:GLU:OE1	1:A:4075:GLU:N	2.41	0.42
1:A:4466:HIS:CD2	1:A:4466:HIS:N	2.87	0.42
1:A:2697:ASP:OD1	1:A:2697:ASP:N	2.53	0.42
1:A:3186:LEU:HD23	1:A:3186:LEU:HA	1.90	0.42
1:A:1724:VAL:O	1:A:1728:GLY:N	2.53	0.42
1:A:2592:VAL:HG12	1:A:2710:GLY:HA3	2.02	0.42
1:A:2723:LEU:HD12	1:A:2723:LEU:H	1.83	0.42
1:A:3001:ASP:CG	1:A:3003:GLY:H	2.28	0.42
1:A:3029:LEU:HD23	1:A:3030:MET:SD	2.60	0.42
1:A:3971:PRO:HG2	1:A:3973:LEU:HD11	2.01	0.42
1:A:4050:ASP:N	1:A:4050:ASP:OD1	2.53	0.42
1:A:1934:GLU:H	1:A:1934:GLU:CD	2.25	0.42
1:A:2029:PRO:HG2	1:A:2032:LEU:HD12	2.02	0.42
1:A:2137:LEU:HD12	1:A:2137:LEU:HA	1.91	0.42
1:A:3129:VAL:HG21	1:A:3149:PHE:HD2	1.84	0.42
1:A:4319:SER:OG	1:A:4325:ASN:OD1	2.22	0.42
1:A:1749:LEU:HD23	1:A:1749:LEU:HA	1.84	0.42
1:A:1903:SER:N	1:A:2037:ARG:O	2.53	0.42
1:A:2922:ILE:HG22	1:A:2950:VAL:HG11	2.00	0.42
1:A:2933:LEU:HD21	1:A:2935:LEU:HG	2.02	0.42
1:A:3502:THR:HB	1:A:3544:ARG:HG2	2.02	0.42
1:A:3876:LEU:HD23	1:A:4146:VAL:HG11	2.02	0.42
1:A:3898:GLU:H	1:A:3898:GLU:CD	2.28	0.42
1:A:4604:VAL:HA	1:A:4625:GLU:HA	2.01	0.42
1:A:2018:MET:HE2	1:A:2018:MET:N	2.35	0.42
1:A:2185:VAL:HG13	1:A:2239:LYS:HD2	2.02	0.42
1:A:2933:LEU:CD2	1:A:2935:LEU:HG	2.50	0.42
1:A:3034:LYS:HE3	1:A:3038:GLN:NE2	2.35	0.42
1:A:2311:TRP:H	1:A:2311:TRP:CD1	2.38	0.41
1:A:2329:ASN:OD1	1:A:2330:GLY:N	2.53	0.41
1:A:3591:ASP:HB3	1:A:3701:PHE:HB2	2.02	0.41
1:A:2074:LYS:HD2	1:A:2074:LYS:HA	1.64	0.41
1:A:3161:LEU:HB3	1:A:3168:THR:HG22	2.01	0.41
1:A:1861:MET:HE1	1:A:1890:LEU:HA	2.02	0.41
1:A:3589:ILE:HA	1:A:3699:VAL:HG23	2.01	0.41
1:A:2142:CYS:O	1:A:2146:VAL:HB	2.19	0.41
1:A:2230:LYS:H	1:A:2230:LYS:HG3	1.62	0.41
1:A:2273:ARG:HE	1:A:2329:ASN:HB2	1.86	0.41
1:A:2443:LEU:HD21	1:A:2510:MET:HG3	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2973:ASP:CG	1:A:3007:ARG:HH12	2.28	0.41
1:A:2996:GLU:HG2	1:A:2997:SER:N	2.36	0.41
1:A:3003:GLY:HA2	1:A:3006:GLU:HG3	2.02	0.41
1:A:3107:LYS:NZ	1:A:3141:GLU:HG2	2.35	0.41
1:A:3508:LEU:HD23	1:A:3536:LEU:HD11	2.01	0.41
1:A:3630:GLY:HA2	1:A:3675:PHE:HB2	2.03	0.41
1:A:4105:TRP:CH2	1:A:4109:LEU:HD22	2.55	0.41
1:A:1626:PHE:HD2	1:A:1629:PHE:CE1	2.37	0.41
1:A:1667:ASN:OD1	1:A:1667:ASN:N	2.53	0.41
1:A:1880:VAL:CG2	1:A:2049:ILE:HG12	2.47	0.41
1:A:2138:ILE:HD12	1:A:2168:VAL:HG22	2.01	0.41
1:A:4028:THR:HA	1:A:4058:LEU:HD11	2.02	0.41
1:A:4095:MET:HE3	1:A:4095:MET:HB3	1.93	0.41
1:A:4287:LYS:HE3	1:A:4291:HIS:HA	2.02	0.41
1:A:2313:GLU:HA	1:A:2316:ASN:HD22	1.85	0.41
1:A:3909:LEU:HD22	1:A:4344:LEU:HB2	2.02	0.41
1:A:3959:ILE:HD12	1:A:3959:ILE:H	1.84	0.41
1:A:4191:GLN:O	1:A:4194:LEU:HB2	2.21	0.41
1:A:1688:THR:OG1	1:A:1708:GLU:OE2	2.39	0.41
1:A:1722:THR:O	1:A:1725:GLU:HG3	2.20	0.41
1:A:1943:ARG:HA	1:A:1946:VAL:HG12	2.02	0.41
1:A:2665:GLU:HB3	1:A:2668:LEU:HB3	2.02	0.41
1:A:2673:LYS:H	1:A:2673:LYS:HG2	1.55	0.41
1:A:2726:ARG:HE	3:A:4702:ATP:PG	2.42	0.41
1:A:3546:ASP:OD1	1:A:3546:ASP:N	2.53	0.41
1:A:3715:GLU:OE1	1:A:3718:LYS:NZ	2.53	0.41
1:A:3854:GLN:O	1:A:3858:ILE:HG12	2.21	0.41
1:A:4377:MET:HE1	1:A:4437:VAL:HG12	2.01	0.41
1:A:1652:LYS:HD2	1:A:1652:LYS:HA	1.78	0.41
1:A:2538:GLU:HB3	1:A:2548:TRP:NE1	2.36	0.41
1:A:2652:PRO:HD2	1:A:2705:ARG:CZ	2.51	0.41
1:A:2683:ILE:HG22	1:A:2727:PHE:HE1	1.86	0.41
1:A:3497:LYS:HD2	1:A:3497:LYS:HA	1.83	0.41
1:A:4381:HIS:HB2	1:A:4438:CYS:HB3	2.02	0.41
1:A:4578:SER:O	1:A:4638:ARG:NH2	2.54	0.41
1:A:2231:SER:HA	1:A:2234:TRP:CD1	2.56	0.41
1:A:2258:ALA:HB1	1:A:2682:PHE:HD2	1.86	0.41
1:A:2612:LEU:CD2	1:A:2613:PRO:HD2	2.51	0.41
1:A:2818:VAL:O	1:A:2822:ILE:HG12	2.21	0.41
1:A:2873:TYR:O	1:A:2920:LEU:HD13	2.20	0.41
1:A:3067:THR:O	1:A:3068:MET:HE2	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3509:LEU:HD23	1:A:3509:LEU:HA	1.87	0.41
1:A:3595:GLN:H	1:A:3595:GLN:HG3	1.71	0.41
1:A:3704:THR:HG22	1:A:3706:SER:H	1.86	0.41
1:A:3904:GLU:OE1	1:A:3904:GLU:N	2.45	0.41
1:A:4069:ILE:O	1:A:4096:LEU:HA	2.20	0.41
1:A:2385:ILE:HA	1:A:2386:PRO:HD3	1.95	0.41
1:A:2507:ARG:O	1:A:2511:ARG:HG3	2.21	0.41
1:A:3171:ILE:HD13	1:A:3171:ILE:HA	1.87	0.41
1:A:2322:ASN:HB3	1:A:2324:LEU:HD23	2.03	0.40
1:A:2835:ASP:OD1	1:A:2835:ASP:C	2.63	0.40
1:A:2976:LEU:HD23	1:A:2976:LEU:HA	1.95	0.40
1:A:4086:THR:O	1:A:4090:SER:OG	2.36	0.40
1:A:4528:VAL:HG11	1:A:4592:TRP:HB2	2.04	0.40
1:A:2191:LEU:HA	1:A:2191:LEU:HD13	1.85	0.40
1:A:2238:LEU:HD12	1:A:2300:TRP:CE3	2.56	0.40
1:A:2259:ILE:HG12	1:A:2263:HIS:HB2	2.02	0.40
1:A:2369:LEU:HD21	3:A:4702:ATP:C5	2.56	0.40
1:A:2412:MET:O	1:A:2415:ILE:HG22	2.22	0.40
1:A:2453:ARG:NH2	1:A:2505:ASP:OD2	2.53	0.40
1:A:4581:ILE:HD12	1:A:4581:ILE:HA	1.88	0.40
1:A:1792:LEU:HD11	1:A:1811:LEU:HG	2.04	0.40
1:A:2053:MET:HE2	1:A:2053:MET:HB2	1.83	0.40
1:A:2113:ARG:HA	1:A:2113:ARG:NE	2.36	0.40
1:A:3164:ARG:HH21	1:A:4374:PRO:N	2.18	0.40
1:A:4517:PRO:HG2	1:A:4619:ILE:HD12	2.03	0.40
1:A:1797:LEU:HD12	1:A:1797:LEU:HA	1.84	0.40
1:A:2232:MET:O	1:A:2236:VAL:HG12	2.22	0.40
1:A:3703:VAL:HG21	1:A:3829:LEU:HD22	2.02	0.40
1:A:3931:GLN:O	1:A:3935:VAL:HG12	2.21	0.40
1:A:3938:LEU:HD11	1:A:3991:LEU:HB3	2.03	0.40
1:A:2093:LEU:HD12	1:A:2093:LEU:HA	1.97	0.40
1:A:2184:LYS:HB2	1:A:2184:LYS:HE3	1.97	0.40
1:A:2279:LEU:HD11	1:A:2693:TYR:CG	2.57	0.40
1:A:2285:ARG:NH2	1:A:2331:GLU:OE1	2.47	0.40
1:A:2718:PRO:CB	1:A:3080:ALA:HA	2.52	0.40
1:A:3167:ARG:NH2	1:A:3686:VAL:O	2.52	0.40
1:A:3984:GLY:O	1:A:3988:HIS:ND1	2.54	0.40
1:A:4035:VAL:HG23	1:A:4143:ARG:HD3	2.04	0.40
1:A:4071:ILE:HG23	1:A:4077:PHE:HE1	1.86	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	2699/4646 (58%)	2641 (98%)	58 (2%)	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	2407/4125 (58%)	2397 (100%)	10 (0%)	89	95

All (10) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	1815	LEU
1	A	1926	PHE
1	A	2253	ILE
1	A	2263	HIS
1	A	2367	ASP
1	A	2632	LEU
1	A	3610	THR
1	A	4106	LEU
1	A	4339	MET
1	A	4509	VAL

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (32) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	1790	ASN
1	A	1974	GLN
1	A	2051	GLN
1	A	2134	GLN
1	A	2271	ASN
1	A	2282	HIS
1	A	2414	GLN
1	A	2464	GLN
1	A	2482	GLN
1	A	2491	GLN
1	A	2654	GLN
1	A	2677	GLN
1	A	2689	HIS
1	A	2730	HIS
1	A	2849	ASN
1	A	2857	HIS
1	A	3135	GLN
1	A	3139	HIS
1	A	3602	ASN
1	A	3650	ASN
1	A	3772	ASN
1	A	3830	GLN
1	A	3845	ASN
1	A	3952	GLN
1	A	4012	ASN
1	A	4062	GLN
1	A	4249	GLN
1	A	4262	GLN
1	A	4508	HIS
1	A	4566	GLN
1	A	4573	ASN
1	A	4589	GLN

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 [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

4 ligands are modelled in this entry.

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	-	24,29,29	0.84	0	29,45,45	1.29	2 (6%)
2	ADP	A	4703	-	24,29,29	0.92	1 (4%)	29,45,45	1.17	2 (6%)
3	ATP	A	4702	-	28,33,33	0.67	0	34,52,52	0.60	1 (2%)
2	ADP	A	4704	-	24,29,29	0.86	0	29,45,45	1.21	2 (6%)

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	-	-	1/12/32/32	0/3/3/3
2	ADP	A	4703	-	-	5/12/32/32	0/3/3/3
3	ATP	A	4702	-	-	0/18/38/38	0/3/3/3
2	ADP	A	4704	-	-	5/12/32/32	0/3/3/3

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A	4703	ADP	PA-O3A	2.12	1.61	1.59

All (7) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A	4701	ADP	N3-C2-N1	-3.78	123.54	128.67

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A	4703	ADP	N3-C2-N1	-3.74	123.60	128.67
2	A	4704	ADP	N3-C2-N1	-3.69	123.66	128.67
2	A	4703	ADP	C4-C5-N7	-2.62	106.57	109.34
2	A	4704	ADP	C4-C5-N7	-2.55	106.64	109.34
3	A	4702	ATP	C5-C6-N6	2.34	123.87	120.31
2	A	4701	ADP	C4-C5-N7	-2.29	106.91	109.34

There are no chirality outliers.

All (11) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	4703	ADP	C5'-O5'-PA-O2A
2	A	4704	ADP	C5'-O5'-PA-O3A
2	A	4704	ADP	O4'-C4'-C5'-O5'
2	A	4704	ADP	C3'-C4'-C5'-O5'
2	A	4703	ADP	O4'-C4'-C5'-O5'
2	A	4703	ADP	C3'-C4'-C5'-O5'
2	A	4704	ADP	PA-O3A-PB-O1B
2	A	4701	ADP	C5'-O5'-PA-O1A
2	A	4704	ADP	C5'-O5'-PA-O1A
2	A	4703	ADP	PB-O3A-PA-O2A
2	A	4703	ADP	PB-O3A-PA-O1A

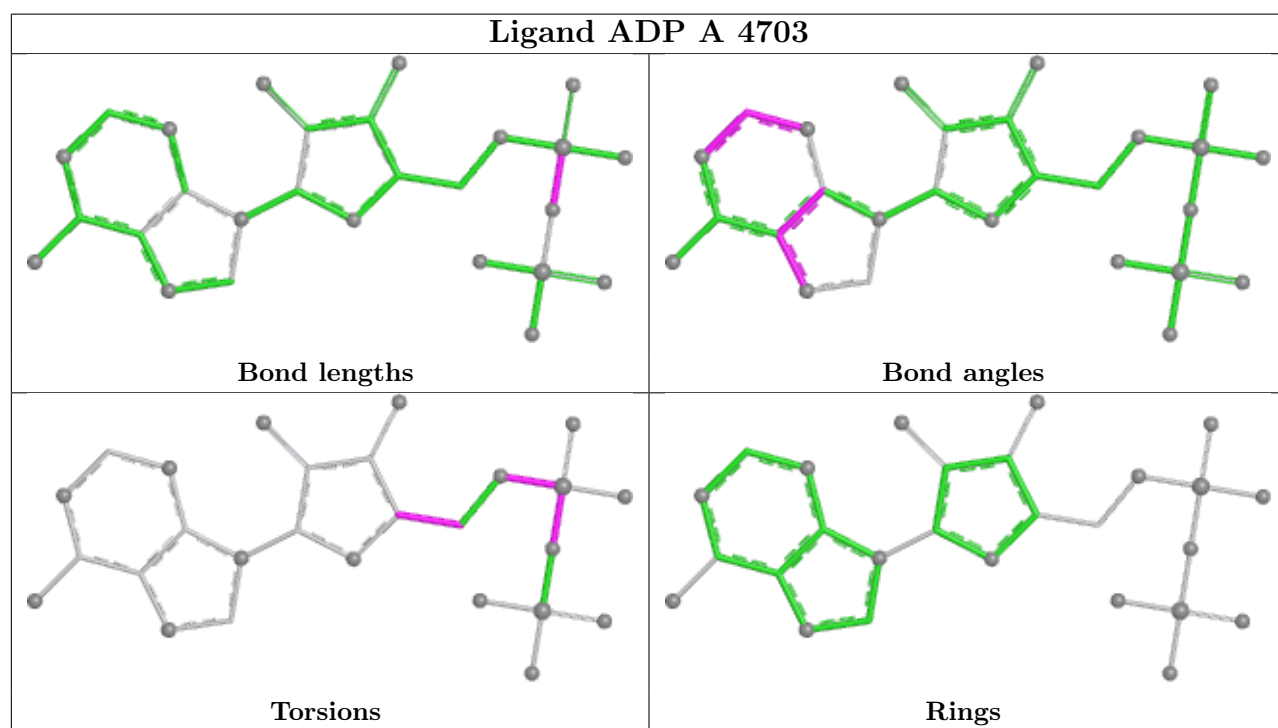
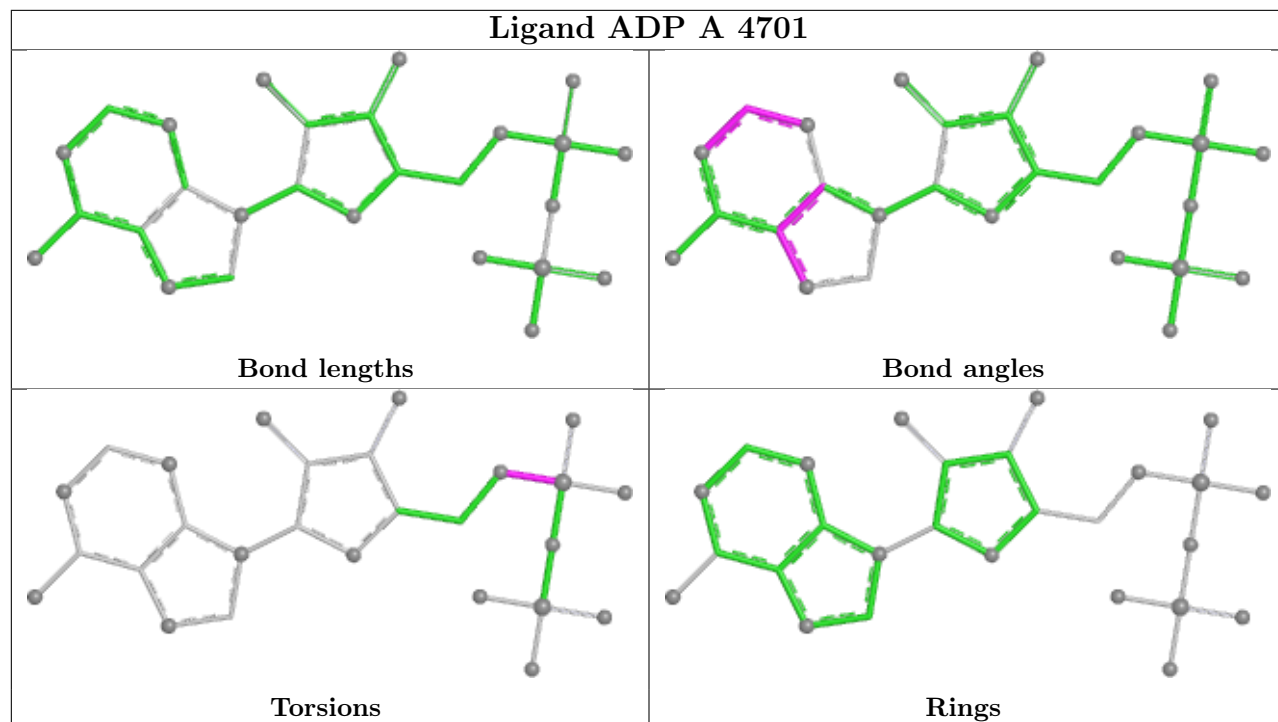
There are no ring outliers.

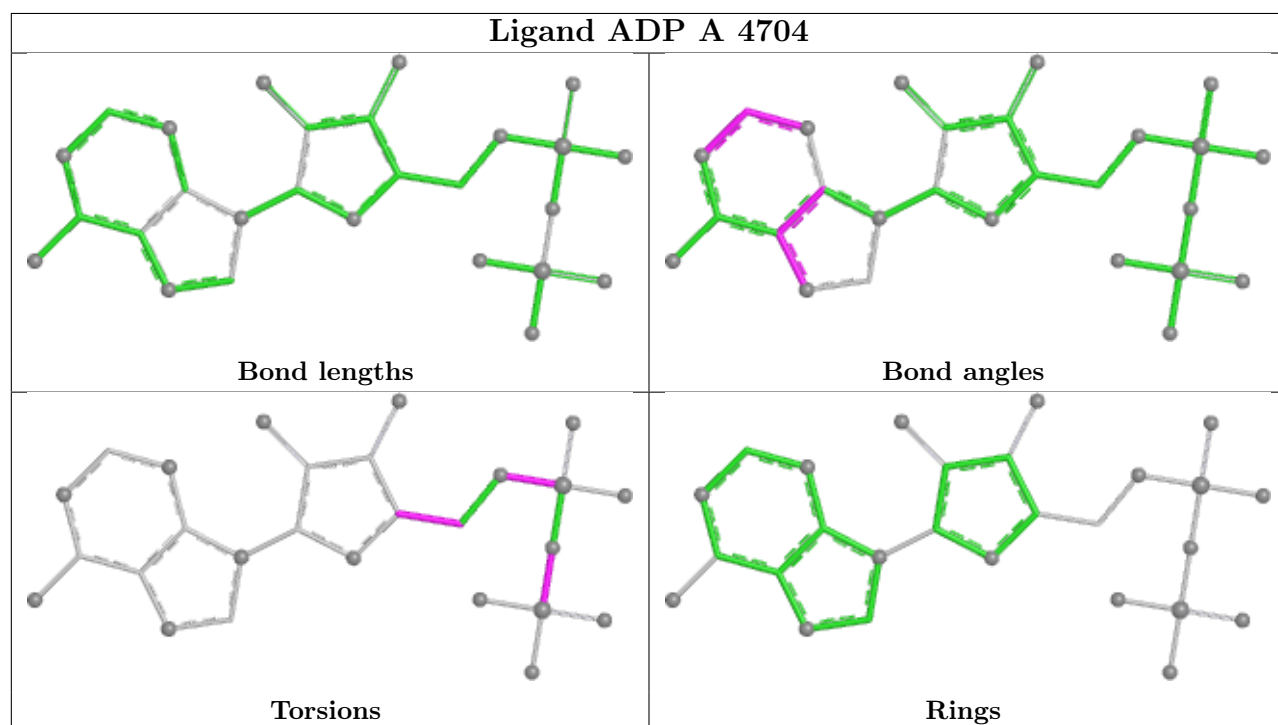
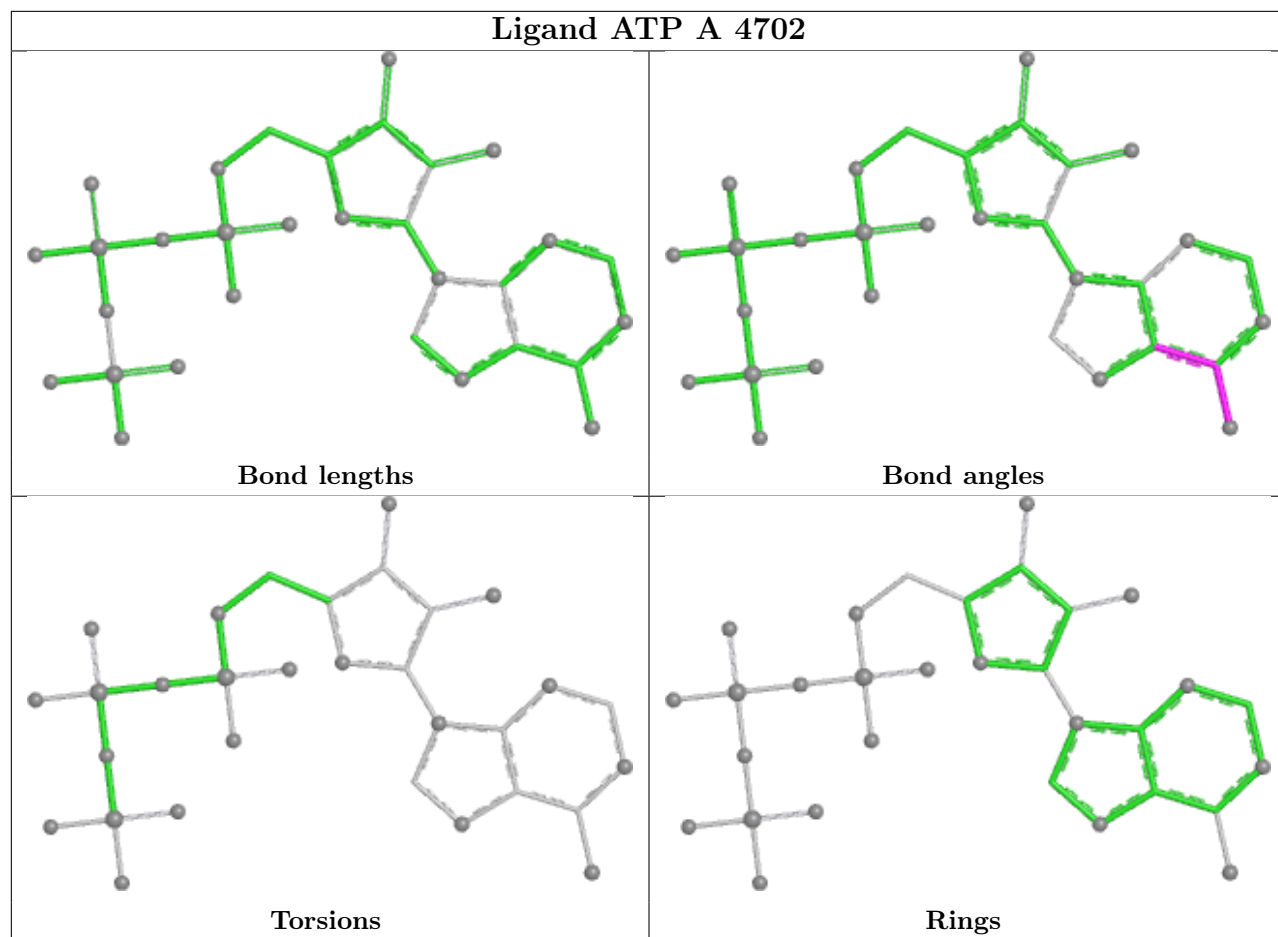
3 monomers are involved in 16 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	A	4701	ADP	6	0
2	A	4703	ADP	3	0
3	A	4702	ATP	7	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.





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.

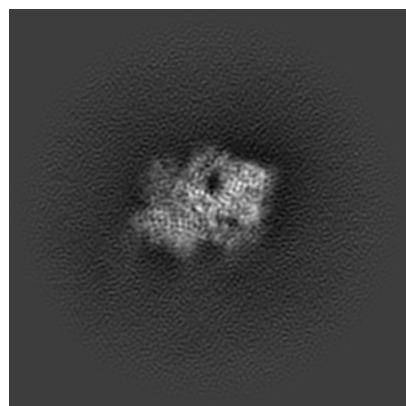
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-44705. These allow visual inspection of the internal detail of the map and identification of artifacts.

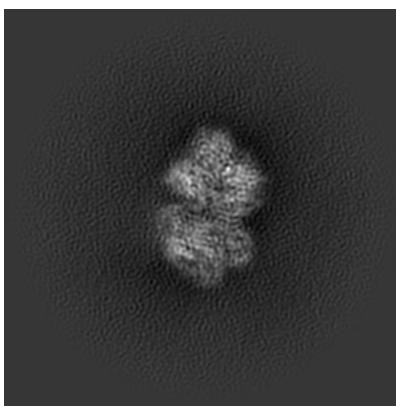
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

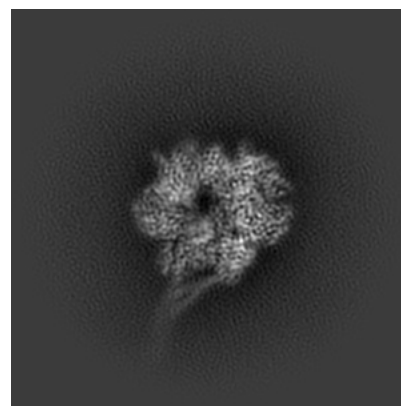
6.1.1 Primary map



X

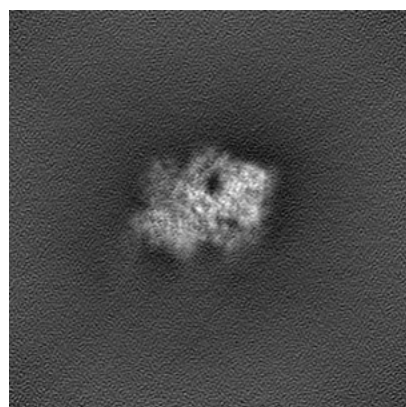


Y

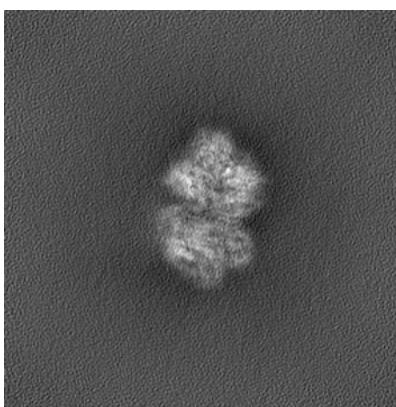


Z

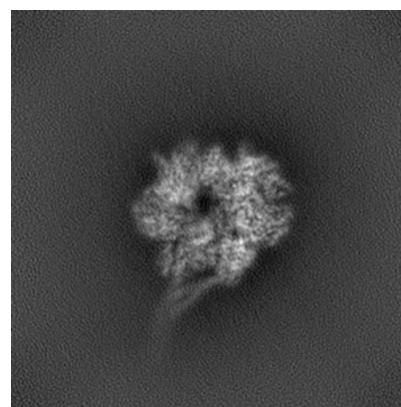
6.1.2 Raw map



X



Y

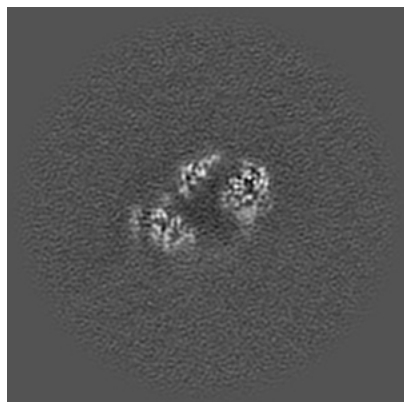


Z

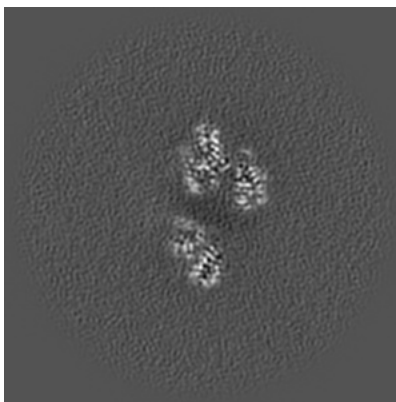
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

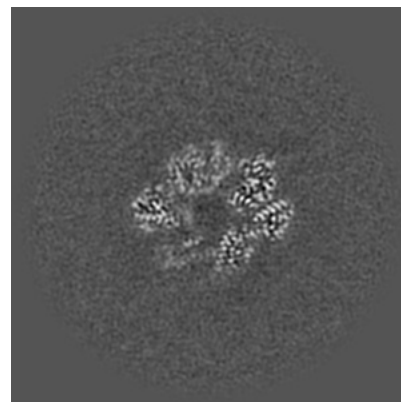
6.2.1 Primary map



X Index: 128

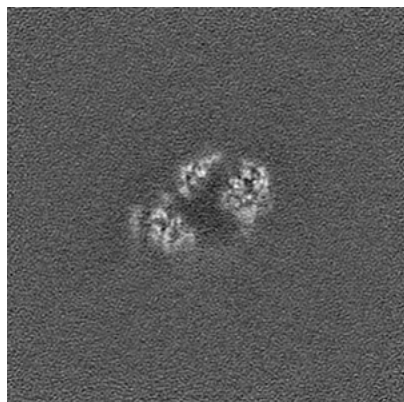


Y Index: 128

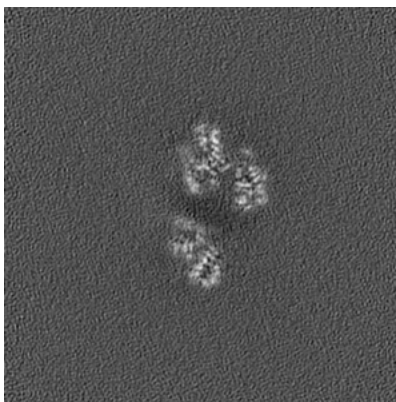


Z Index: 128

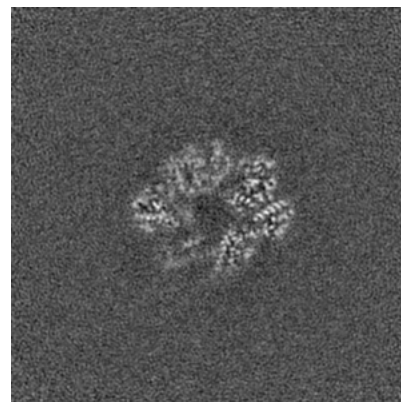
6.2.2 Raw map



X Index: 128



Y Index: 128

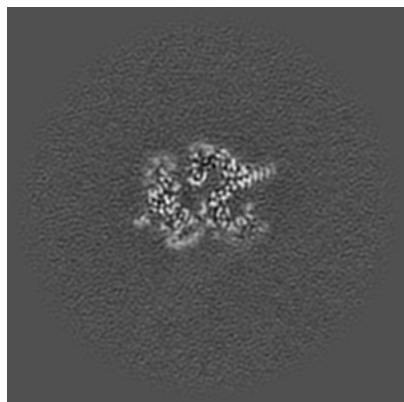


Z Index: 128

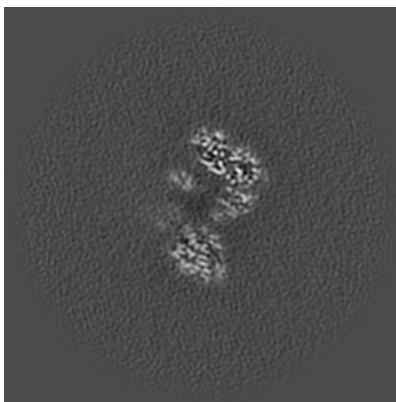
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

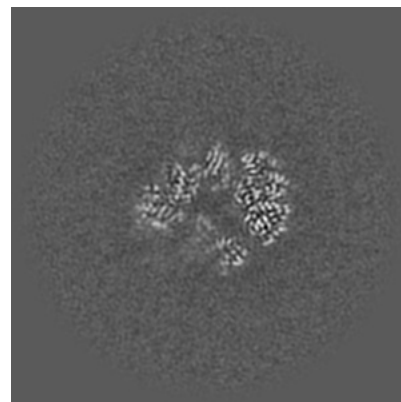
6.3.1 Primary map



X Index: 146

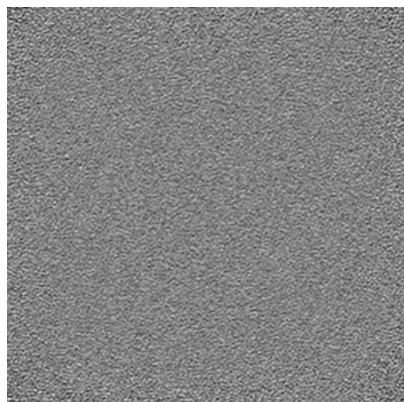


Y Index: 120

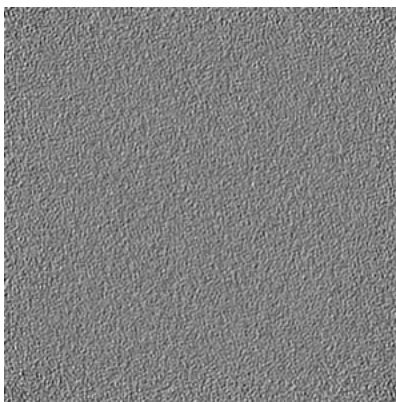


Z Index: 135

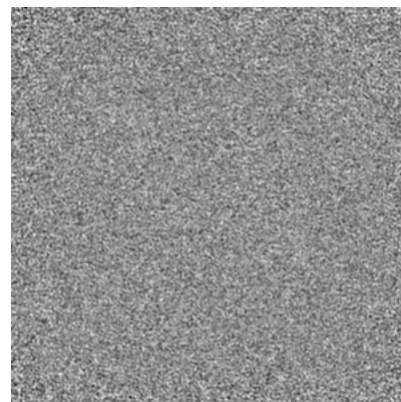
6.3.2 Raw map



X Index: 0



Y Index: 0

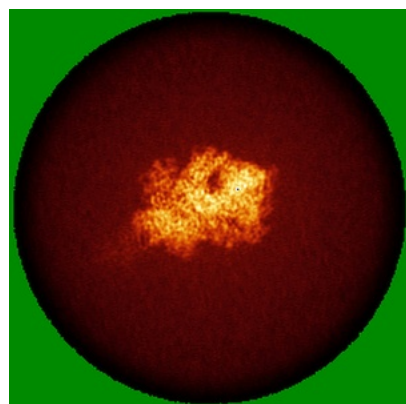


Z Index: 0

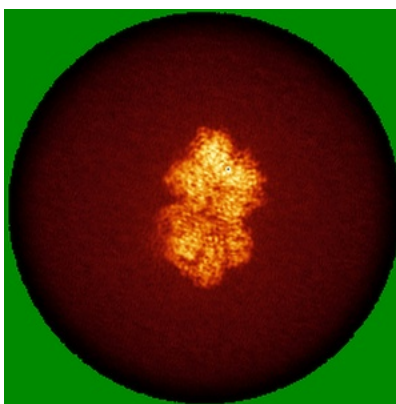
The images above show the largest variance slices of the map in three orthogonal directions.

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

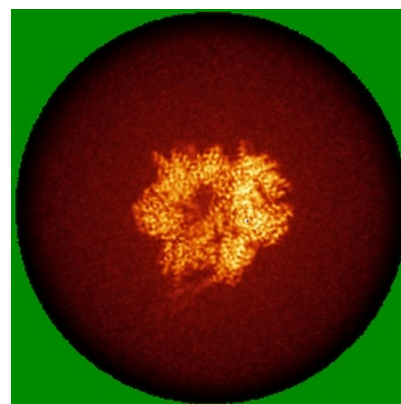
6.4.1 Primary map



X

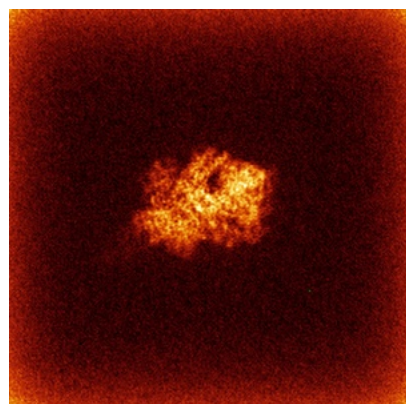


Y

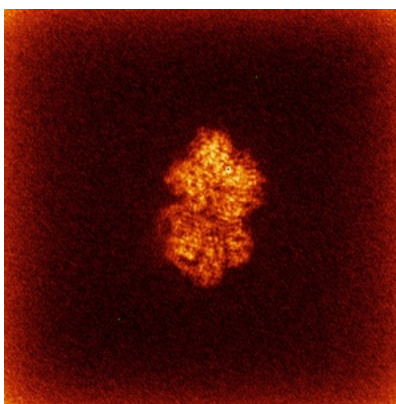


Z

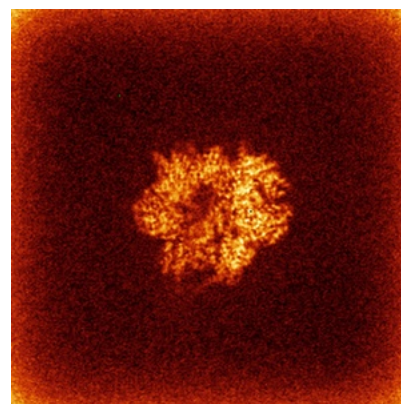
6.4.2 Raw map



X



Y

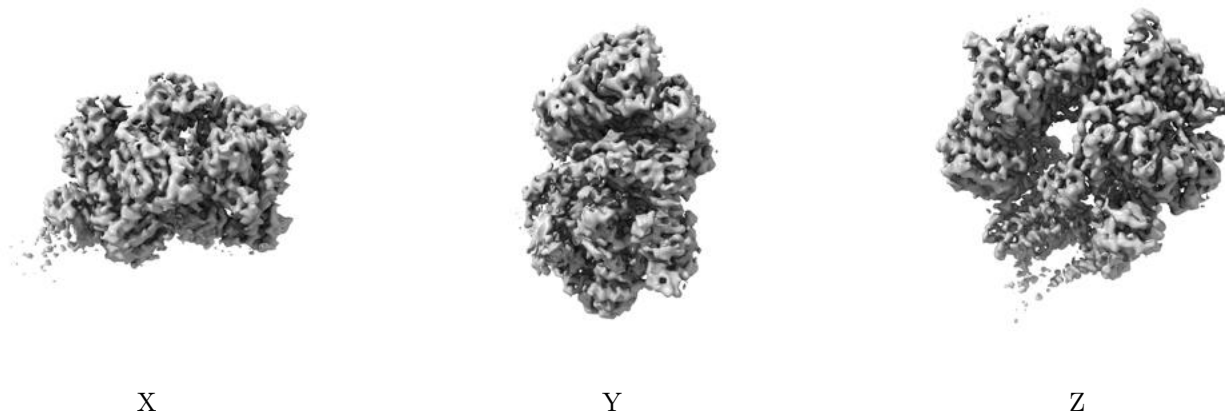


Z

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.

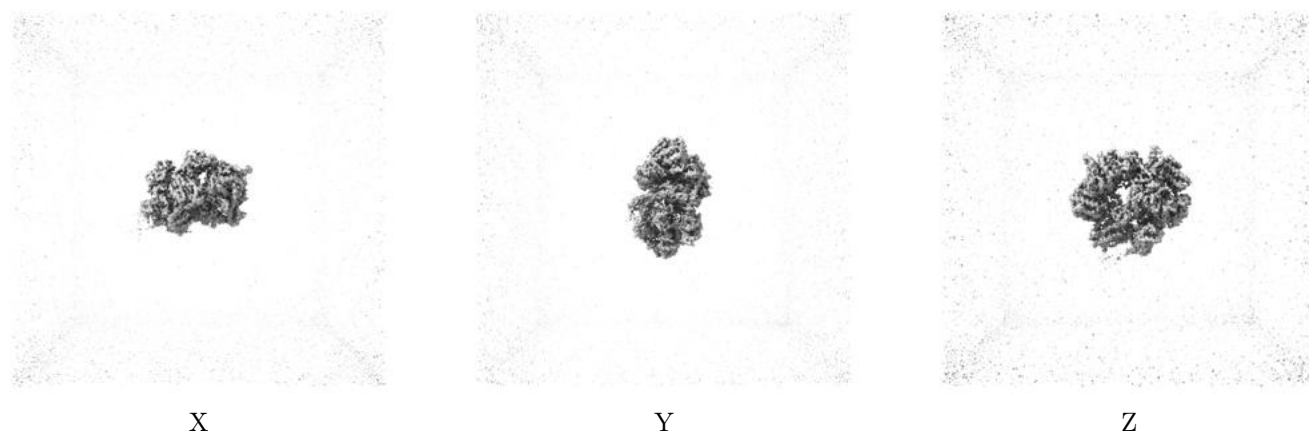
6.5 Orthogonal surface views [i](#)

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.

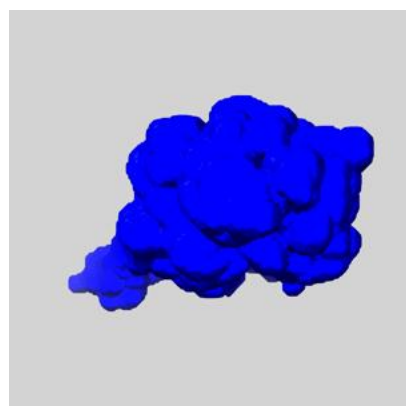
6.6 Mask visualisation [i](#)

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

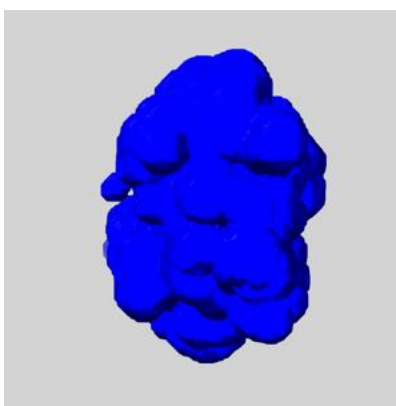
A mask typically either:

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

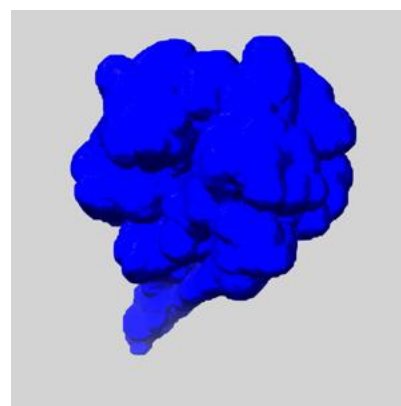
6.6.1 emd_44705_msk_1.map [i](#)



X



Y

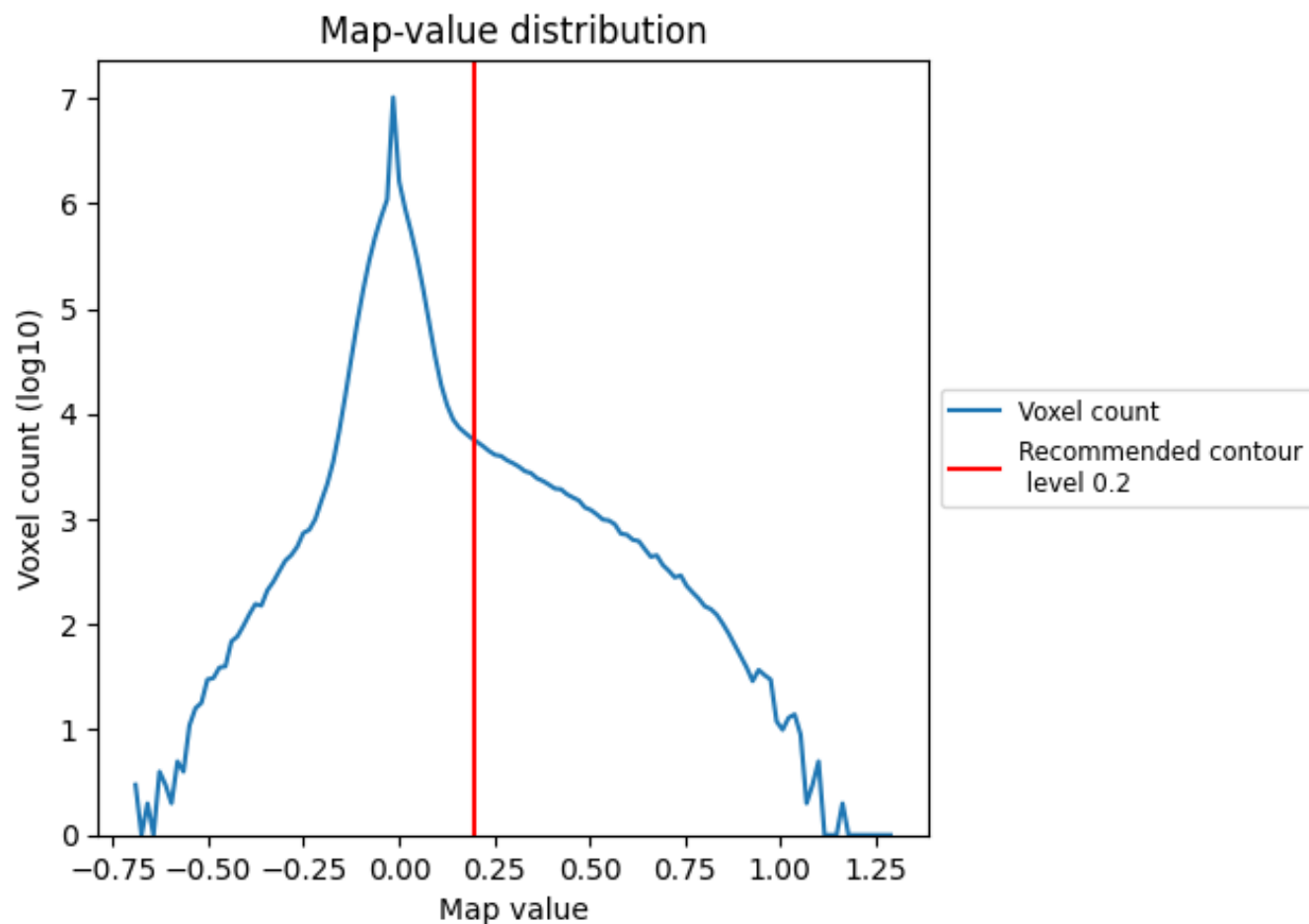


Z

7 Map analysis [i](#)

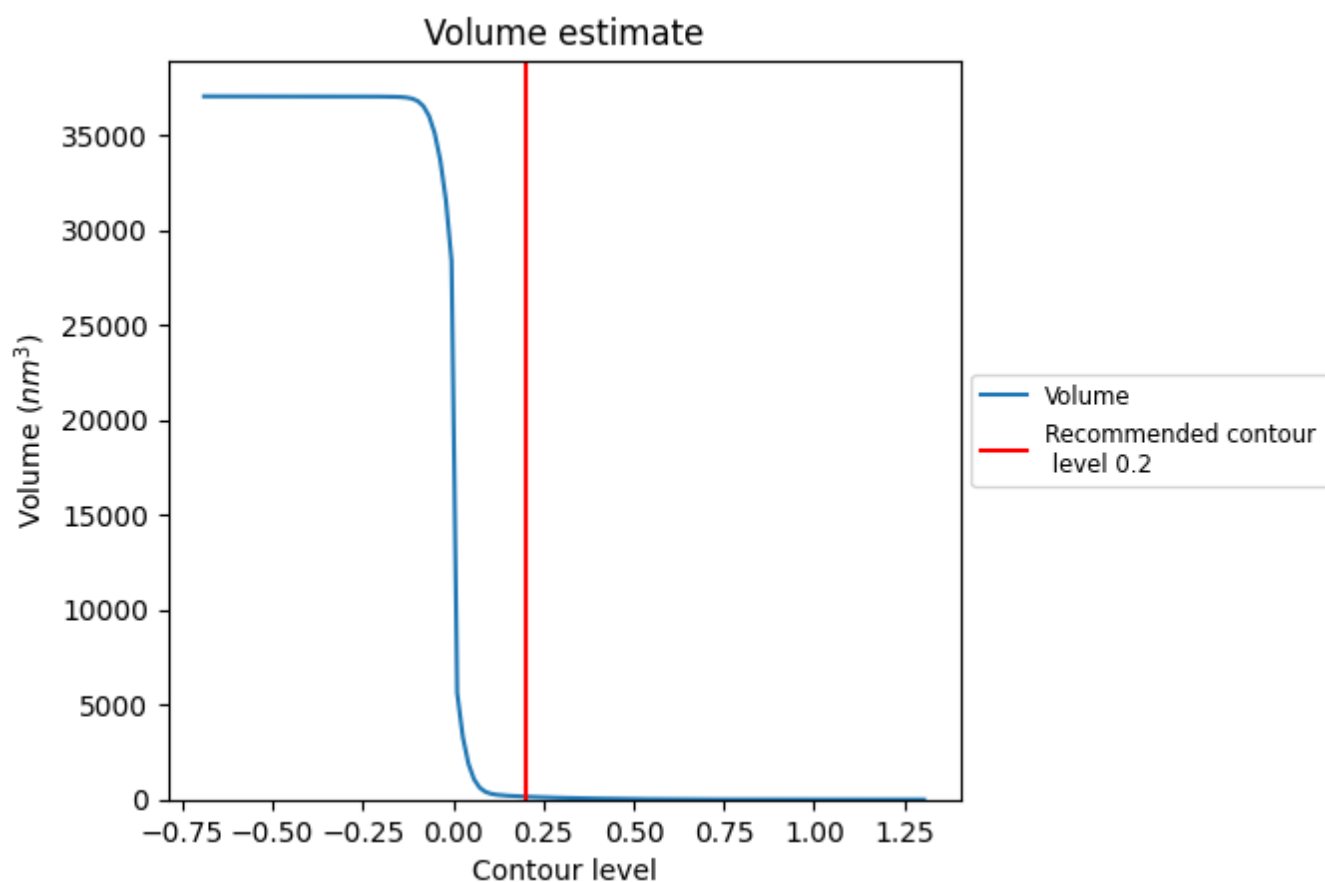
This section contains the results of statistical analysis of the map.

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.

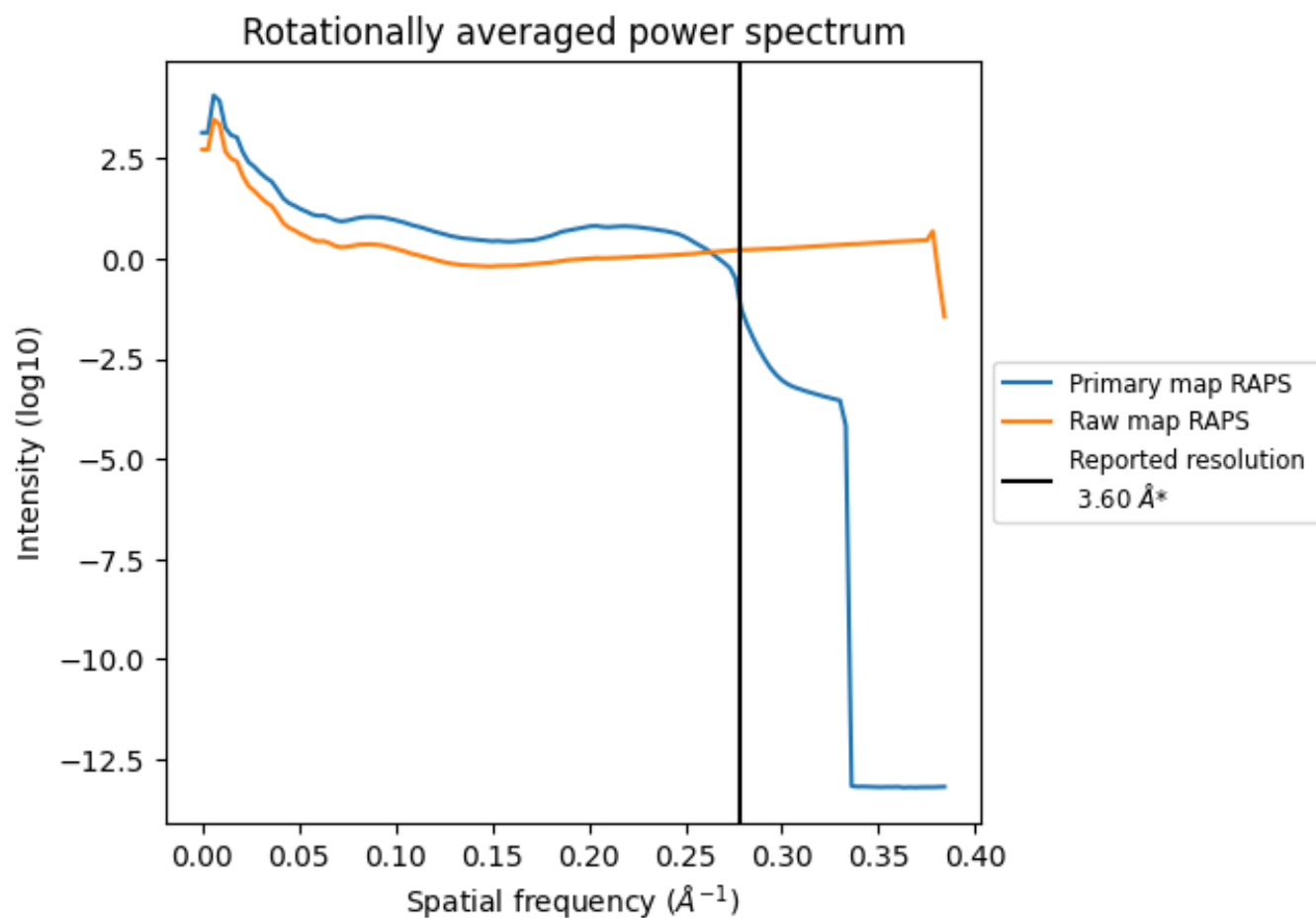
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 154 nm³; this corresponds to an approximate mass of 139 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 ⓘ

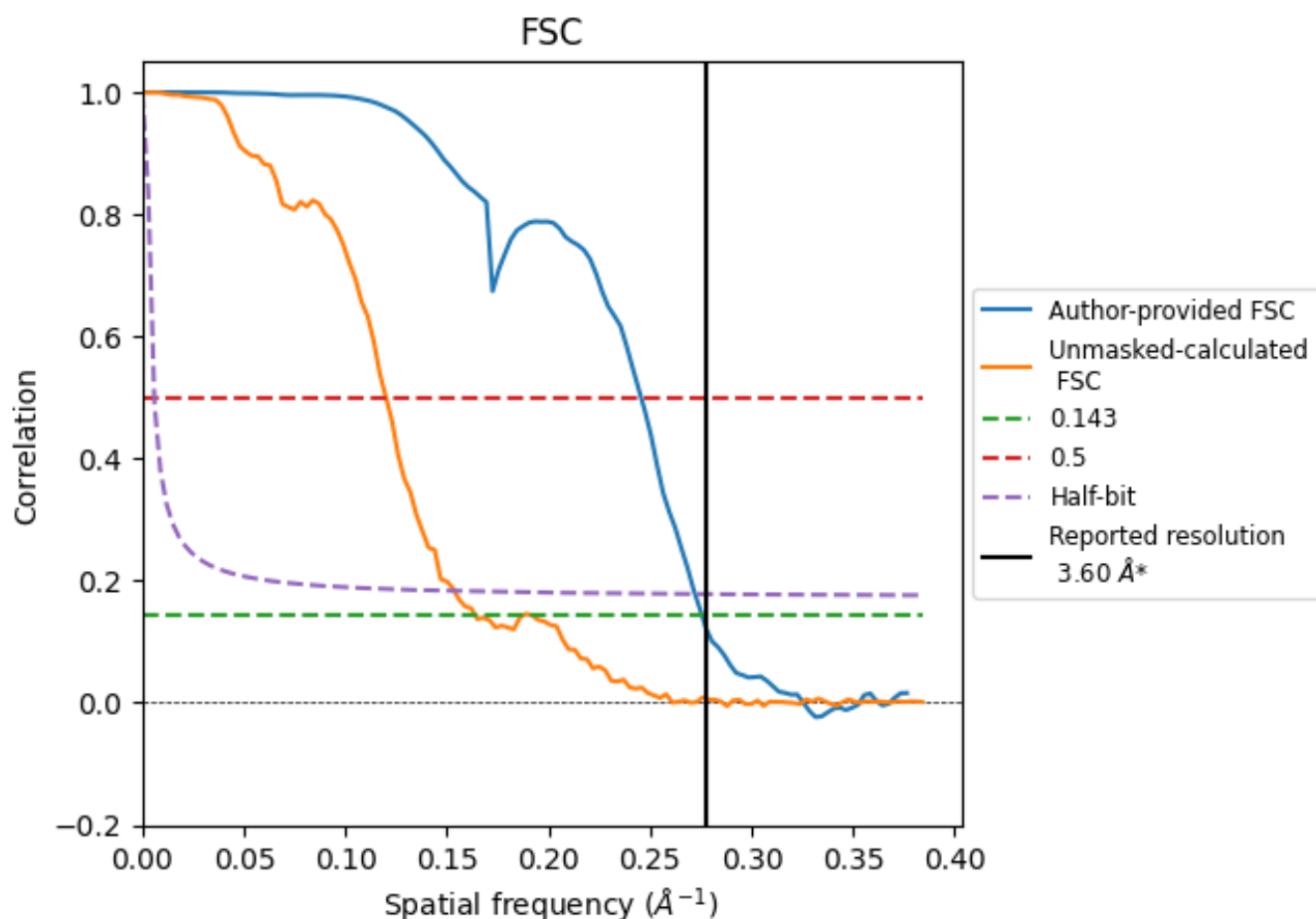


*Reported resolution corresponds to spatial frequency of 0.278 Å⁻¹

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 Å⁻¹

8.2 Resolution estimates [i](#)

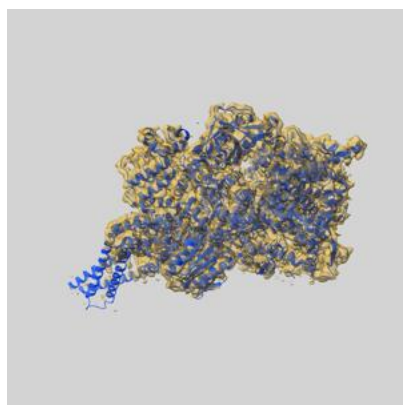
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.60	-	-
Author-provided FSC curve	3.63	4.07	3.67
Unmasked-calculated*	6.10	8.33	6.51

*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 6.10 differs from the reported value 3.6 by more than 10 %

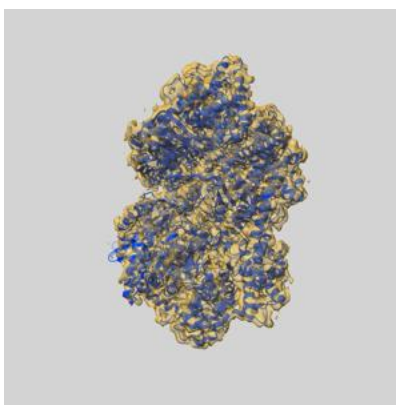
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-44705 and PDB model 9BMO. Per-residue inclusion information can be found in section [3](#) on page [5](#).

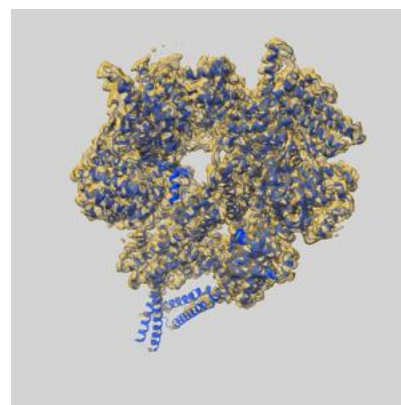
9.1 Map-model overlay [i](#)



X



Y



Z

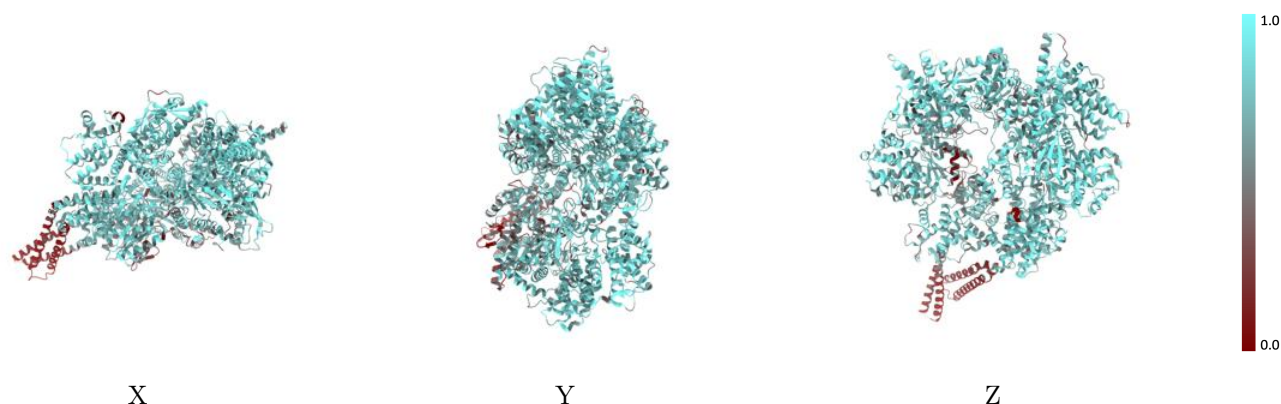
The images above show the 3D surface view of the map at the recommended contour level 0.2 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



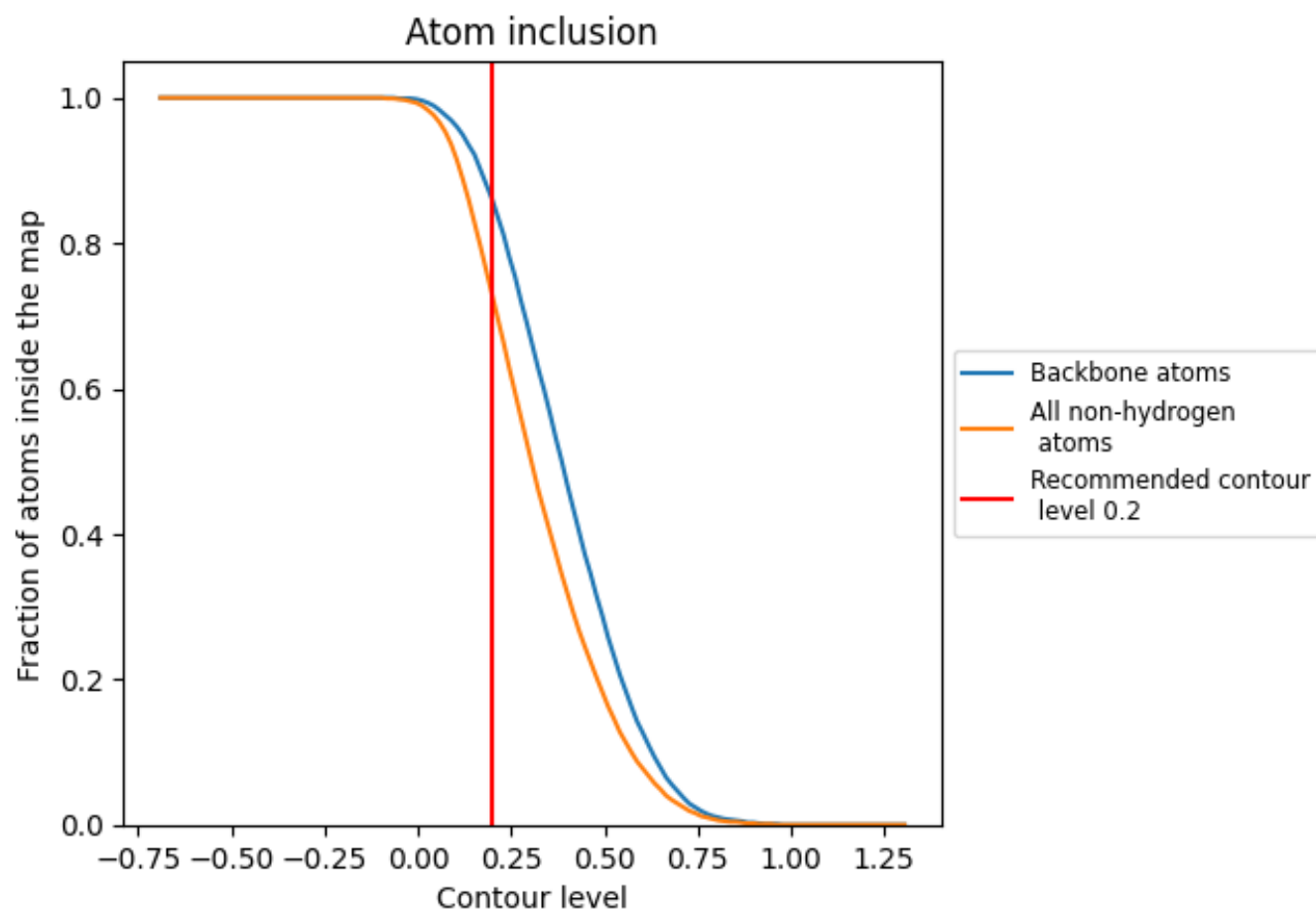
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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, 86% of all backbone atoms, 73% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary ⓘ

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

Chain	Atom inclusion	Q-score
All	0.7280	0.3970
A	0.7280	0.3970

