



Full wwPDB EM Validation Report ⓘ

Dec 8, 2025 – 10:48 AM EST

PDB ID : 9MFY / pdb_00009mfy
EMDB ID : EMD-48242
Title : Motor domain-Pac1 complex with ADP AAA1 and Apo AAA3 from yeast full-length dynein-1 and Pac1 in 0.1 mM ATP condition
Authors : Geohring, I.C.; Chai, P.; Iyer, B.R.
Deposited on : 2024-12-10
Resolution : 3.30 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.dev129
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4-5-2 with Phenix2.0
buster-report : 1.1.7 (2018)
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.47

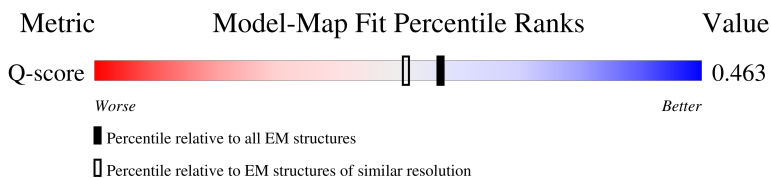
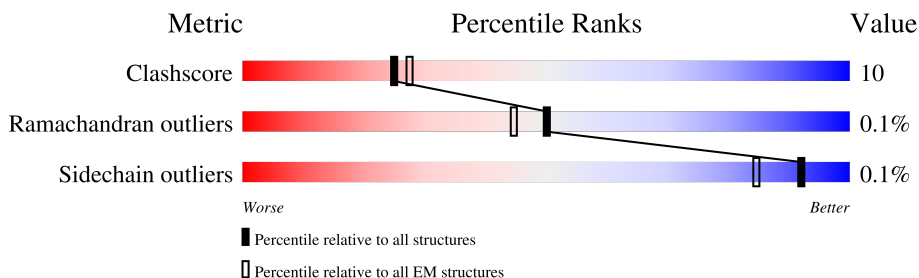
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.30 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	210492	15764	-
Ramachandran outliers	207382	16835	-
Sidechain outliers	206894	16415	-
Q-score	-	25397	15087 (2.80 - 3.80)

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	B	494	
2	A	4092	

2 Entry composition [i](#)

There are 5 unique types of molecules in this entry. The entry contains 23892 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.

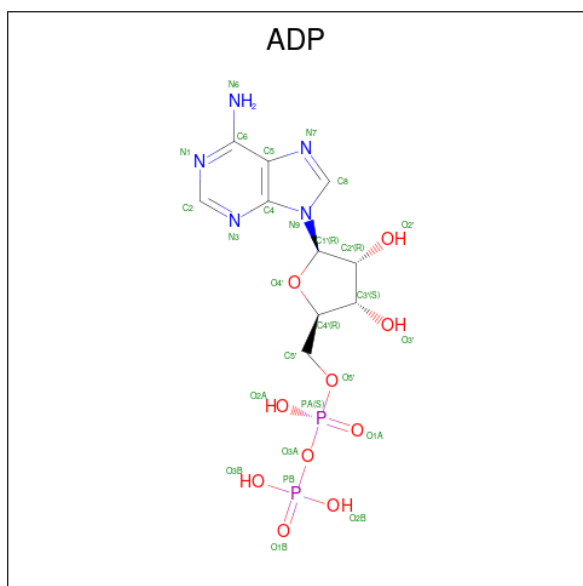
- Molecule 1 is a protein called Nuclear distribution protein PAC1.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	B	356	Total	C	N	O	S	0	0
			2880	1842	504	518	16		

- Molecule 2 is a protein called Dynein heavy chain, cytoplasmic.

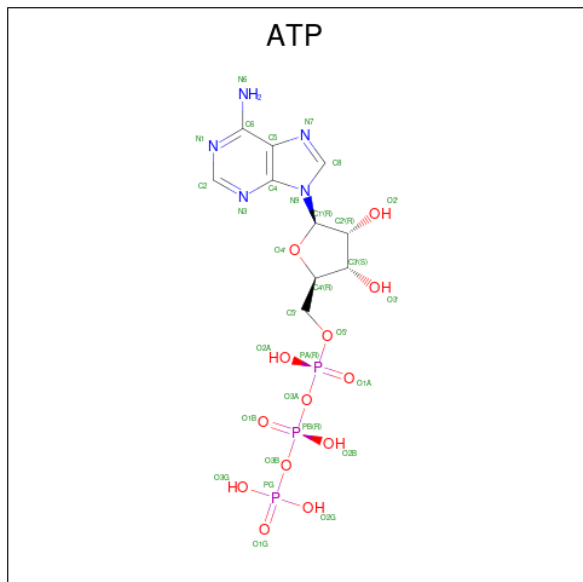
Mol	Chain	Residues	Atoms					AltConf	Trace
2	A	2583	Total	C	N	O	S	0	0
			20925	13431	3476	3920	98		

- Molecule 3 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
3	A	1	Total	C	N	O	P	0
			27	10	5	10	2	
3	A	1	Total	C	N	O	P	0
			27	10	5	10	2	

- Molecule 4 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
4	A	1	Total	C	N	O	P	0
			31	10	5	13	3	

- Molecule 5 is MAGNESIUM ION (CCD ID: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

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



ALA	ALA	LEU	PRO	LYS	D3009	T2764	S2499	S2373	F2244	S2117	E1996	Y1771
GLU	GLU	SER	PRO	GLN	G2765	G2766	Q2500	E2374	D2247	D2127	S1997	T1783
THR	GLY	ASP	SER	GLU	T2767	T2768	E2511	I2375	K2248	L2131	L1998	Q1788
MET	VAL	ASN	VAL	THR	I2769	I2770	K2512	S2377	L2249	R2135	L2018	G1796
GLN	GLU	THR	LYS	GLU	R2771	R2772	T2518	V2385	K2250	R2149	D2023	K1802
ASP	VAL	ILE	ILE	ILE	R2773	R2774	P2519	M2386	D2255	D2140	A2025	T1803
LEU	GLU	LYS	LYS	LYS	A2774	A2775	E2520	I2395	F2257	F2145	G2026	E1804
ALA	ALA	ALA	ALA	ALA	L2776	L2777	E2527	D2396	D2258	R2150	T2027	N1812
SER	VAL	ASN	VAL	VAL	L2778	L2779	R2528	T2397	M2259	W2151	P2028	V1818
ARG	ALA	ARG	CYS	VAL	H2780	H2781	A2534	E2401	T2263	D2154	L2029	F1826
ALA	ILE	GLN	ILE	GLN	R2782	R2783	C2535	K2402	F2266	D2155	S2031	K2032
LYS	ILE	GLU	GLY	GLU	H2784	H2785	M2546	L2403	F2286	F2169	K2033	L1831
LYS	GLU	GLU	TYR	ASP	S2793	S2794	R2549	D2406	R2279	M2166	L2038	I1838
GLY	GLN	ASP	GLN	ILE	D2795	D2796	R2552	C2417	T2280	N2167	Q2042	Q1840
PRO	PHE	LYS	PHE	ARG	F2797	F2798	Y2558	S2422	V2283	S2168	G2043	A1843
SER	ASN	LYS	ASN	ARG	M2799	M2800	L2559	L2427	L2284	V2169	Q2044	M1851
LEU	TRP	GLN	TRP	LYS	D2818	D2819	L2563	M2428	E2285	L2170	R2044	D1854
ILE	ARG	GLU	ARG	VAL	E2820	E2821	G2564	N2434	V2292	D2171	M2049	V1857
VAL	ILE	VAL	ILE	VAL	L2822	L2823	T2574	S2446	D2306	T2186	Y2061	V1861
ASN	GLN	MET	GLN	MET	R2830	R2831	I2578	K2447	D2307	P2187	M2063	L1882
ALA	GLN	GLU	GLN	GLU	M2832	M2833	T2579	D2448	L2316	F2190	K2075	L1898
ILE	ILE	ASN	ILE	ILE	N2834	N2835	K2580	T2462	R2320	P2204	A2076	N1899
ASN	ILE	ASN	ILE	ASN	L2836	L2837	T2586	T2467	Y2324	T2207	G2077	P1900
PHE	ARG	ASN	VAL	GLN	F2842	F2843	R2590	S2468	A2325	T2208	C2078	G1901
GLN	ARG	GLN	VAL	GLN	L2844	L2845	E2591	K2469	L2326	R2209	K2080	Y1902
ASP	LYS	ARG	THR	ARG	Q2846	Q2847	P2594	G2470	Q2385	I2222	T2081	L1908
LYS	ASP	GLY	THR	VAL	E2848	E2849	R2594	P2475	K2225	K2255	W2084	M1921
LEU	ASP	VAL	THR	GLN	L2852	L2853	L2599	K2476	L2339	L2229	K2085	A1930
GLY	THR	GLN	THR	GLN	L2854	L2855	Y2600	N2481	D2349	L2230	V2087	M1937
VAL	THR	GLN	THR	GLN	L2856	L2857	E2602	K2480	T2358	N2231	T2093	L1945
LYS	THR	GLN	THR	GLN	Q2858	Q2859	K2603	L2482	I2359	K2232	F2094	F1952
ASN	THR	GLN	THR	GLN	E2860	E2861	R2604	F2485	D2362	S2233	D2095	L1953
GLU	THR	GLN	THR	GLN	L2862	L2863	H2614	D2486	A2362	E2235	N2099	L1973
LEU	THR	GLN	THR	GLN	F2864	F2865	Y2615	E2487	N2363	D2238	D2105	F1987
SER	THR	GLN	THR	GLN	M2866	M2867	V2616	E2488	D2364	M2239	K2107	Y1995
THR	THR	GLN	THR	GLN	L2868	L2869	R2627	I2489	K2365	M2243	E2112	
ALA	THR	GLN	THR	GLN	I2870	I2871	Y2630	N2490	F2371			
LYS	THR	GLN	THR	GLN	G2872	G2873		L2494	C2372			
LEU	THR	GLN	THR	GLN	F2874	F2875						
GLY	THR	GLN	THR	GLN	M2876	M2877						
VAL	THR	GLN	THR	GLN	L2878	L2879						
ASN	THR	GLN	THR	GLN	I2880	I2881						
GLU	THR	GLN	THR	GLN	G2882	G2883						
SER	THR	GLN	THR	GLN	F2884	F2885						
LEU	THR	GLN	THR	GLN	M2886	M2887						
GLY	THR	GLN	THR	GLN	L2888	L2889						
VAL	THR	GLN	THR	GLN	G2890	G2891						
ASN	THR	GLN	THR	GLN	F2892	F2893						
GLU	THR	GLN	THR	GLN	M2894	M2895						
SER	THR	GLN	THR	GLN	L2896	L2897						
LEU	THR	GLN	THR	GLN	G2898	G2899						
GLY	THR	GLN	THR	GLN	F2900	F2901						
VAL	THR	GLN	THR	GLN	M2902	M2903						
ASN	THR	GLN	THR	GLN	L2904	L2905						
GLU	THR	GLN	THR	GLN	G2906	G2907						
SER	THR	GLN	THR	GLN	F2908	F2909						
LEU	THR	GLN	THR	GLN	M2910	M2911						
GLY	THR	GLN	THR	GLN	L2912	L2913						
VAL	THR	GLN	THR	GLN	G2914	G2915						
ASN	THR	GLN	THR	GLN	F2916	F2917						
GLU	THR	GLN	THR	GLN	M2918	M2919						
SER	THR	GLN	THR	GLN	L2920	L2921						
LEU	THR	GLN	THR	GLN	G2922	G2923						
GLY	THR	GLN	THR	GLN	F2924	F2925						
VAL	THR	GLN	THR	GLN	M2926	M2927						
ASN	THR	GLN	THR	GLN	L2928	L2929						
GLU	THR	GLN	THR	GLN	G2930	G2931						
SER	THR	GLN	THR	GLN	F2932	F2933						
LEU	THR	GLN	THR	GLN	M2934	M2935						
GLY	THR	GLN	THR	GLN	L2936	L2937						
VAL	THR	GLN	THR	GLN	G2938	G2939						
ASN	THR	GLN	THR	GLN	F2940	F2941						
GLU	THR	GLN	THR	GLN	M2942	M2943						
SER	THR	GLN	THR	GLN	L2944	L2945						
LEU	THR	GLN	THR	GLN	G2946	G2947						
GLY	THR	GLN	THR	GLN	F2948	F2949						
VAL	THR	GLN	THR	GLN	M2950	M2951						
ASN	THR	GLN	THR	GLN	L2952	L2953						
GLU	THR	GLN	THR	GLN	G2954	G2955						
SER	THR	GLN	THR	GLN	F2956	F2957						
LEU	THR	GLN	THR	GLN	M2958	M2959						
GLY	THR	GLN	THR	GLN	L2960	L2961						
VAL	THR	GLN	THR	GLN	G2962	G2963						
ASN	THR	GLN	THR	GLN	F2964	F2965						
GLU	THR	GLN	THR	GLN	M2966	M2967						
SER	THR	GLN	THR	GLN	L2968	L2969						
LEU	THR	GLN	THR	GLN	G2970	G2971						
GLY	THR	GLN	THR	GLN	F2972	F2973						
VAL	THR	GLN	THR	GLN	M2974	M2975						
ASN	THR	GLN	THR	GLN	L2976	L2977						
GLU	THR	GLN	THR	GLN	G2978	G2979						
SER	THR	GLN	THR	GLN	F2980	F2981						
LEU	THR	GLN	THR	GLN	M2982	M2983						
GLY	THR	GLN	THR	GLN	L2984	L2985						
VAL	THR	GLN	THR	GLN	G2986	G2987						
ASN	THR	GLN	THR	GLN	F2988	F2989						
GLU	THR	GLN	THR	GLN	M2990	M2991						
SER	THR	GLN	THR	GLN	L2992	L2993						
LEU	THR	GLN	THR	GLN	G2994	G2995						
GLY	THR	GLN	THR	GLN	F2996	F2997						
VAL	THR	GLN	THR	GLN	M2998	M2999						
ASN	THR	GLN	THR	GLN	L3000	L3001						



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	178195	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)	2500	Depositor
Magnification	45000	Depositor
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	1.810	Depositor
Minimum map value	-1.030	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.035	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 [i](#)

5.1 Standard geometry [i](#)

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

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	B	0.17	0/2961	0.34	0/4027
2	A	0.20	0/21346	0.35	1/28844 (0.0%)
All	All	0.20	0/24307	0.35	1/32871 (0.0%)

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A	2563	SER	CB-CA-C	-5.53	109.21	115.79

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	B	2880	0	2842	67	0
2	A	20925	0	21049	432	0
3	A	54	0	24	1	0
4	A	31	0	12	1	0
5	A	2	0	0	0	0
All	All	23892	0	23927	494	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 10.

All (494) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:2942:ASP:H	2:A:3318:GLN:HE22	1.19	0.88
2:A:3844:ILE:HG23	2:A:3851:VAL:HG21	1.62	0.81
2:A:2935:VAL:HG22	2:A:2937:PRO:HD2	1.64	0.79
2:A:2941:THR:HG21	2:A:3321:ILE:HG13	1.66	0.77
2:A:3524:SER:O	2:A:3526:GLU:N	2.13	0.76
2:A:2489:ILE:HG23	2:A:2546:MET:HE1	1.66	0.75
1:B:305:VAL:HG12	1:B:310:ILE:HG12	1.68	0.75
2:A:2489:ILE:HG22	2:A:2535:CYS:HB3	1.68	0.75
1:B:139:VAL:HG13	1:B:140:LEU:H	1.49	0.74
2:A:2386:MET:HE2	2:A:2627:ARG:HG2	1.69	0.74
1:B:204:MET:HG3	1:B:224:THR:HG22	1.69	0.72
2:A:2939:GLU:HG3	2:A:2940:PHE:H	1.54	0.71
2:A:2717:GLU:HG2	2:A:2734:ILE:HG13	1.73	0.71
2:A:3506:PRO:HG2	2:A:3509:LEU:HD23	1.71	0.71
2:A:1249:PHE:HB3	2:A:1340:LYS:HG2	1.73	0.71
2:A:3634:LYS:HE2	2:A:4091:GLU:HG3	1.72	0.71
1:B:281:ILE:HD11	1:B:310:ILE:HD11	1.73	0.71
2:A:3521:ASN:HD21	2:A:3524:SER:HB3	1.53	0.71
2:A:2042:GLY:HA3	2:A:2049:MET:HE2	1.72	0.70
2:A:1649:LEU:HD11	2:A:1704:GLU:HG3	1.72	0.70
2:A:2335:GLN:O	2:A:2339:ILE:HD12	1.90	0.70
2:A:3747:LEU:HD21	2:A:3762:TRP:CD2	2.27	0.69
1:B:330:LEU:HD23	1:B:390:PRO:HG3	1.73	0.69
2:A:2476:LYS:HZ1	2:A:2528:ARG:HG3	1.58	0.69
2:A:1458:ILE:HG21	2:A:1523:LEU:HD21	1.76	0.68
2:A:3428:LEU:HD12	2:A:3453:GLN:HE22	1.59	0.67
2:A:3683:TYR:HB2	2:A:3702:MET:HE1	1.76	0.67
2:A:3747:LEU:HD21	2:A:3762:TRP:CE2	2.30	0.67
1:B:275:ARG:HA	1:B:299:TRP:HB2	1.77	0.67
2:A:2374:GLU:OE2	2:A:2374:GLU:N	2.27	0.66
1:B:477:ARG:HD2	1:B:479:MET:HE2	1.77	0.66
2:A:3306:TRP:O	2:A:3309:THR:OG1	2.13	0.66
2:A:3348:ILE:HG12	2:A:3351:ARG:HH22	1.59	0.66
2:A:3378:LYS:NZ	2:A:3382:CYS:SG	2.69	0.66
1:B:145:ARG:HG2	1:B:147:LEU:H	1.60	0.66
2:A:2169:VAL:HG13	2:A:2186:ILE:HD13	1.78	0.65
2:A:2733:VAL:HG11	2:A:2928:VAL:HA	1.79	0.65
2:A:1581:GLY:HA2	2:A:1592:LEU:HG	1.79	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:3379:TRP:HB3	2:A:3384:LEU:HD12	1.78	0.65
2:A:3845:GLN:HE21	2:A:3877:CYS:HB3	1.62	0.65
2:A:3632:LEU:HB3	2:A:3644:ILE:HG21	1.78	0.64
2:A:3832:SER:HA	2:A:3835:GLU:HG2	1.80	0.64
2:A:1742:ASP:OD2	2:A:1745:ASN:ND2	2.31	0.63
2:A:1831:LEU:HD13	2:A:1861:VAL:HG21	1.81	0.63
2:A:1818:VAL:HG21	2:A:1838:ILE:HD11	1.81	0.63
2:A:3449:VAL:HG22	2:A:3493:LYS:HB2	1.81	0.63
2:A:1354:LEU:O	2:A:1358:ILE:HG13	1.98	0.63
2:A:1368:GLU:HB2	2:A:1424:PHE:HE2	1.63	0.63
2:A:2549:ARG:NE	4:A:4102:ATP:O1G	2.31	0.62
2:A:2058:MET:HE2	2:A:2058:MET:HA	1.81	0.62
2:A:3485:GLU:N	2:A:3485:GLU:OE2	2.33	0.62
2:A:3341:GLU:O	2:A:3345:MET:HG2	2.00	0.61
2:A:3793:ASP:OD2	2:A:3944:ARG:NH1	2.32	0.61
2:A:2401:GLU:HG2	2:A:2427:ILE:HG23	1.83	0.61
2:A:3551:LEU:HD13	2:A:3600:LYS:HZ1	1.65	0.61
2:A:4039:GLU:OE1	2:A:4042:ARG:NH2	2.21	0.61
2:A:2127:ASP:O	2:A:2131:THR:OG1	2.17	0.61
2:A:3583:LEU:HA	2:A:3586:THR:HB	1.81	0.60
2:A:1441:ILE:HD12	2:A:1505:PHE:HD2	1.66	0.60
2:A:2840:ILE:HG21	2:A:2843:LEU:HG	1.84	0.60
2:A:2490:ASN:HB3	2:A:2546:MET:HE3	1.84	0.60
2:A:2299:ARG:NH1	2:A:2300:GLN:HB3	2.17	0.60
2:A:2171:ASP:OD1	2:A:2209:ARG:NH1	2.35	0.60
2:A:1714:GLN:HB3	2:A:1727:LEU:HD11	1.84	0.59
1:B:306:LEU:HD22	1:B:370:MET:HE2	1.84	0.59
1:B:200:ALA:HB3	1:B:227:LYS:HE2	1.83	0.59
2:A:1851:ASN:ND2	2:A:1899:ASN:O	2.35	0.59
2:A:3342:ARG:NH2	2:A:3393:ASN:OD1	2.31	0.59
2:A:3429:LEU:HD13	2:A:3439:ARG:HD2	1.84	0.59
2:A:2795:PHE:CE2	2:A:2831:MET:HE3	2.38	0.59
2:A:3397:VAL:O	2:A:3401:GLN:NE2	2.35	0.59
2:A:2580:LYS:HG2	2:A:2586:ARG:HH12	1.68	0.58
2:A:2282:ASN:HB3	2:A:2552:ARG:HG3	1.84	0.58
2:A:3983:ALA:HA	2:A:3986:ARG:HH21	1.68	0.58
2:A:2230:LEU:HD11	2:A:2257:PHE:HZ	1.68	0.58
2:A:2233:SER:HB3	2:A:2292:VAL:HG11	1.86	0.58
2:A:2324:TYR:CD1	2:A:2403:ILE:HG12	2.37	0.58
2:A:1527:LEU:HD22	2:A:1545:LEU:HD22	1.86	0.58
2:A:2095:ASP:OD2	2:A:2149:ARG:NH2	2.37	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:2651:GLU:O	2:A:2655:ILE:HG12	2.04	0.58
2:A:3830:SER:HA	2:A:3833:LYS:HD3	1.86	0.58
2:A:2838:ALA:HB3	2:A:2878:VAL:HG13	1.85	0.57
2:A:3539:ALA:O	2:A:3543:ARG:HG2	2.04	0.57
2:A:2569:GLN:O	2:A:2573:ILE:HD12	2.03	0.57
2:A:3858:HIS:HD1	2:A:3858:HIS:C	2.12	0.57
2:A:1788:GLN:HE22	2:A:3966:VAL:HG21	1.70	0.57
2:A:1458:ILE:HD12	2:A:1546:LEU:HD13	1.86	0.57
1:B:246:ILE:HG22	1:B:247:ARG:HG3	1.85	0.57
2:A:2247:ASP:OD1	2:A:2248:LYS:N	2.38	0.57
2:A:3400:SER:O	2:A:3514:ARG:NH2	2.36	0.57
2:A:3707:LYS:HA	2:A:3710:ILE:HG22	1.86	0.57
2:A:1486:ILE:HG13	2:A:1508:THR:HG21	1.87	0.57
2:A:2175:ILE:HD12	2:A:2183:ARG:HD3	1.87	0.57
2:A:2437:LEU:C	2:A:2480:LYS:HG3	2.30	0.57
2:A:1690:SER:HB3	2:A:1694:VAL:HG13	1.85	0.57
2:A:3522:LYS:NZ	2:A:3523:GLU:H	2.04	0.56
2:A:3584:MET:HE3	2:A:3584:MET:HA	1.87	0.56
2:A:2832:ASN:HB2	2:A:2907:ALA:HB3	1.87	0.56
2:A:3710:ILE:HG23	2:A:3711:GLU:HG2	1.88	0.56
2:A:3975:ASN:HD22	2:A:3981:PRO:HB3	1.70	0.56
2:A:2953:VAL:O	2:A:2955:THR:N	2.38	0.56
2:A:1406:LYS:O	2:A:1410:GLU:HG2	2.06	0.56
1:B:464:LEU:HD13	1:B:482:THR:HG22	1.88	0.56
2:A:3762:TRP:NE1	2:A:3766:GLU:HG3	2.20	0.56
2:A:2957:PRO:HB2	2:A:2959:GLN:HE22	1.71	0.55
2:A:3891:ARG:O	2:A:3891:ARG:NH1	2.39	0.55
1:B:418:SER:OG	2:A:2719:ARG:NH2	2.39	0.55
2:A:1692:ASP:OD1	2:A:1693:ASN:N	2.39	0.55
2:A:2375:ILE:HD12	2:A:2376:PRO:HD2	1.87	0.55
2:A:2795:PHE:HE2	2:A:2831:MET:HE3	1.70	0.55
2:A:3801:ILE:HD13	2:A:3811:LEU:HD23	1.88	0.55
2:A:2222:ILE:HG13	2:A:2284:LEU:HD11	1.87	0.55
1:B:260:LYS:HG2	1:B:305:VAL:HG22	1.88	0.55
2:A:3529:ILE:HA	2:A:3532:ILE:HG12	1.88	0.55
2:A:3864:ALA:O	2:A:3867:GLU:HG2	2.06	0.55
1:B:225:ALA:HB1	1:B:256:VAL:HG13	1.87	0.55
2:A:3735:LYS:NZ	2:A:3737:THR:OG1	2.34	0.55
2:A:2462:THR:HG22	2:A:2476:LYS:HB3	1.89	0.55
2:A:3863:LYS:HE2	2:A:3891:ARG:HG3	1.90	0.54
2:A:2437:LEU:O	2:A:2481:ASN:N	2.36	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:425:ILE:HG12	1:B:430:LEU:HD13	1.89	0.54
2:A:2076:ALA:O	2:A:2279:ARG:NH1	2.40	0.54
2:A:1802:LYS:HG2	2:A:1921:MET:HG3	1.89	0.54
2:A:2720:PHE:CZ	2:A:2732:MET:HB2	2.42	0.54
2:A:3373:LEU:HA	2:A:3376:LYS:HG2	1.89	0.54
1:B:286:ASN:HB3	1:B:288:TRP:HE3	1.73	0.54
2:A:2837:ASN:OD1	2:A:2838:ALA:N	2.36	0.54
2:A:1663:CYS:O	2:A:1667:ASN:N	2.39	0.54
2:A:2300:GLN:HG2	2:A:2301:TRP:CD1	2.43	0.54
2:A:3578:LEU:HA	2:A:3582:GLU:HB3	1.90	0.54
2:A:3800:LEU:HD23	2:A:3840:LEU:HD22	1.89	0.54
2:A:1562:MET:HE3	2:A:1572:ILE:HD11	1.89	0.53
2:A:1368:GLU:HB2	2:A:1424:PHE:CE2	2.43	0.53
2:A:2106:THR:HB	2:A:2154:PHE:HD2	1.72	0.53
2:A:2766:LYS:HG2	2:A:2917:MET:SD	2.48	0.53
2:A:2867:LEU:HD13	2:A:2872:GLU:HB3	1.91	0.53
2:A:3611:PHE:O	2:A:3615:VAL:HG13	2.08	0.53
1:B:161:VAL:HG22	1:B:172:VAL:HG22	1.91	0.53
2:A:3812:LYS:HD2	2:A:3839:ILE:HD12	1.89	0.53
1:B:338:PHE:HB3	1:B:378:ARG:HB2	1.90	0.53
2:A:1535:PRO:HB3	2:A:1840:GLN:HG2	1.91	0.53
2:A:1756:LEU:HD13	2:A:1783:THR:HG23	1.90	0.52
2:A:3311:LYS:O	2:A:3315:LYS:HG2	2.09	0.52
2:A:1365:PHE:HA	2:A:1368:GLU:HB3	1.91	0.52
2:A:3604:SER:HB3	2:A:3608:PHE:CE2	2.45	0.52
2:A:1406:LYS:HE2	2:A:1406:LYS:HA	1.91	0.52
2:A:3299:LEU:HB3	2:A:3591:LYS:NZ	2.24	0.52
2:A:2127:ASP:OD1	2:A:2135:ARG:NE	2.42	0.52
2:A:2316:LEU:HD23	2:A:2359:ILE:HD11	1.91	0.52
2:A:2462:THR:HA	2:A:2476:LYS:HA	1.90	0.52
2:A:3764:LYS:HE3	2:A:3771:GLU:HG3	1.91	0.52
1:B:355:ILE:HD13	1:B:358:ARG:HG3	1.91	0.52
2:A:1346:ASN:O	2:A:1348:THR:N	2.42	0.52
2:A:3561:ASN:O	2:A:3564:LYS:HG3	2.10	0.52
2:A:3785:TYR:HD1	2:A:3873:MET:HB3	1.75	0.52
2:A:3618:TYR:HA	2:A:3621:ILE:HD12	1.92	0.51
2:A:3722:MET:SD	2:A:3747:LEU:HB3	2.51	0.51
2:A:1995:VAL:HG13	2:A:2018:LEU:HD21	1.93	0.51
2:A:2075:LYS:HG2	2:A:2078:CYS:SG	2.50	0.51
2:A:2060:PHE:HD2	2:A:2087:VAL:HG11	1.76	0.51
1:B:363:ASP:OD1	1:B:364:ARG:NH1	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:376:ALA:HB1	1:B:420:VAL:HB	1.92	0.51
2:A:2187:PRO:HD2	2:A:2190:PHE:HB2	1.91	0.51
2:A:2299:ARG:HH11	2:A:2300:GLN:HB3	1.75	0.51
2:A:3306:TRP:HE3	2:A:3307:LEU:HD22	1.75	0.51
2:A:3700:MET:SD	2:A:4085:THR:HG21	2.51	0.51
2:A:3565:ARG:NH2	2:A:3569:GLU:OE2	2.43	0.51
2:A:2131:THR:HG22	2:A:2176:LEU:HD21	1.92	0.50
2:A:3299:LEU:HB3	2:A:3591:LYS:HZ3	1.77	0.50
2:A:3569:GLU:CD	2:A:3583:LEU:HD13	2.36	0.50
1:B:164:HIS:HB3	1:B:167:LEU:O	2.11	0.50
2:A:3010:LEU:O	2:A:3014:GLN:HG2	2.11	0.50
1:B:181:ALA:HB2	1:B:243:PHE:HZ	1.75	0.50
1:B:220:LEU:HB3	1:B:236:TRP:HB3	1.94	0.50
2:A:2761:ALA:HB3	2:A:2988:SER:OG	2.12	0.50
2:A:3822:LEU:HD11	2:A:3850:TRP:CG	2.46	0.50
1:B:154:VAL:HG21	1:B:172:VAL:HG11	1.93	0.50
1:B:332:VAL:HG23	2:A:1349:LEU:HD12	1.94	0.50
2:A:2099:ASN:ND2	2:A:2151:TRP:HE1	2.10	0.50
2:A:2834:LEU:HB2	2:A:2840:ILE:HD11	1.94	0.50
2:A:3413:HIS:O	2:A:3416:THR:OG1	2.26	0.50
2:A:3823:ASN:HA	2:A:3826:GLN:HG2	1.94	0.50
2:A:2590:GLU:O	2:A:2594:ARG:HG2	2.12	0.50
1:B:381:THR:HG22	1:B:414:LYS:HG2	1.94	0.49
2:A:3302:GLU:HB3	2:A:3591:LYS:HE3	1.94	0.49
2:A:2661:VAL:HG12	2:A:2916:TRP:CD2	2.46	0.49
2:A:2494:LEU:HD23	2:A:2500:GLN:HG3	1.95	0.49
2:A:2714:ASN:O	2:A:2718:GLU:HG2	2.12	0.49
2:A:1280:LYS:HA	2:A:1285:TYR:HD2	1.77	0.49
2:A:2787:HIS:NE2	2:A:2789:HIS:O	2.45	0.49
2:A:3459:ASP:OD1	2:A:3459:ASP:N	2.44	0.49
2:A:1280:LYS:HG2	2:A:1285:TYR:HE2	1.77	0.49
2:A:2232:LYS:O	2:A:2235:GLU:HG3	2.12	0.49
2:A:1314:HIS:HE1	2:A:1361:ALA:HA	1.77	0.49
2:A:2081:THR:HA	2:A:2084:TRP:CD1	2.47	0.49
2:A:3541:MET:SD	2:A:3614:LEU:HD21	2.52	0.49
2:A:3526:GLU:HG3	2:A:3622:GLY:HA3	1.93	0.49
2:A:1401:LEU:HD13	2:A:1496:THR:HG21	1.95	0.49
2:A:2439:ASP:N	2:A:2481:ASN:O	2.43	0.49
2:A:2751:GLN:HB2	2:A:2754:GLY:HA3	1.95	0.49
1:B:163:LEU:HD23	1:B:170:VAL:HG22	1.95	0.49
2:A:3559:LEU:HD13	2:A:3597:ILE:HD12	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:1802:LYS:NZ	3:A:4101:ADP:O2B	2.41	0.49
2:A:1898:LEU:HD11	2:A:1908:LEU:HG	1.94	0.49
2:A:2081:THR:HA	2:A:2084:TRP:NE1	2.28	0.49
2:A:3736:LEU:HD22	2:A:3748:TRP:CD1	2.48	0.49
2:A:2049:MET:HE1	2:A:2086:THR:HG21	1.95	0.48
2:A:2373:SER:HA	2:A:2395:ILE:HD11	1.95	0.48
2:A:2476:LYS:NZ	2:A:2528:ARG:HG3	2.26	0.48
2:A:2867:LEU:HB2	2:A:2873:LEU:HD12	1.94	0.48
2:A:3487:ASP:OD1	2:A:3488:VAL:N	2.46	0.48
2:A:3547:ASP:OD1	2:A:3548:LEU:N	2.46	0.48
2:A:3656:VAL:HG23	2:A:3677:LEU:HB3	1.95	0.48
2:A:2759:ILE:HG22	2:A:2891:ILE:HD12	1.93	0.48
1:B:402:PRO:O	2:A:1294:MET:HE2	2.13	0.48
2:A:1244:ASP:HA	2:A:1247:ARG:HG2	1.95	0.48
2:A:1280:LYS:HA	2:A:1285:TYR:CD2	2.47	0.48
2:A:1475:LYS:HB3	2:A:1519:ILE:HD11	1.95	0.48
1:B:358:ARG:NH2	1:B:469:ASP:OD1	2.46	0.48
1:B:379:ASP:O	1:B:381:THR:HG23	2.12	0.48
1:B:480:MET:HB3	1:B:492:PHE:HB2	1.96	0.48
2:A:1604:ALA:HA	2:A:1607:TRP:NE1	2.29	0.48
2:A:1643:TYR:HB2	2:A:1648:ILE:HG23	1.96	0.48
2:A:2818:ASP:OD1	2:A:2819:GLU:N	2.47	0.48
2:A:3690:LEU:HD23	2:A:3694:PHE:HB3	1.96	0.48
2:A:3305:ARG:O	2:A:3309:THR:HG23	2.13	0.48
2:A:3669:THR:OG1	2:A:3670:ARG:N	2.46	0.48
2:A:3743:ASP:OD1	2:A:3744:LEU:N	2.47	0.48
1:B:286:ASN:HB3	1:B:288:TRP:CE3	2.49	0.48
2:A:2511:GLU:OE2	2:A:2512:LYS:NZ	2.45	0.48
2:A:2877:PHE:CZ	2:A:2881:ILE:HD11	2.48	0.48
2:A:3323:ASN:HD21	2:A:3361:ASP:HB2	1.79	0.48
2:A:3808:LYS:HD3	2:A:3870:LYS:NZ	2.29	0.48
1:B:341:GLU:OE1	1:B:421:ARG:NH1	2.46	0.47
2:A:3302:GLU:OE1	2:A:3591:LYS:HE3	2.14	0.47
2:A:1282:PHE:CD2	2:A:1284:MET:HG3	2.49	0.47
2:A:1287:SER:O	2:A:1291:GLN:HG2	2.14	0.47
2:A:1704:GLU:OE2	2:A:1771:TYR:OH	2.29	0.47
2:A:2155:ASP:OD2	2:A:2512:LYS:NZ	2.37	0.47
2:A:2759:ILE:HG13	2:A:2759:ILE:O	2.14	0.47
1:B:477:ARG:HH11	1:B:479:MET:CE	2.27	0.47
1:B:223:VAL:HG13	1:B:233:VAL:HG22	1.96	0.47
2:A:2614:HIS:HB2	2:A:2909:PHE:HE1	1.78	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:3762:TRP:HE1	2:A:3766:GLU:HG3	1.79	0.47
2:A:1565:MET:HG3	2:A:1566:PHE:HD1	1.78	0.47
2:A:3576:ASN:O	2:A:3580:ASN:N	2.45	0.47
2:A:2320:ARG:NH2	2:A:2406:ASP:OD2	2.48	0.47
2:A:2602:GLU:HB3	2:A:2672:LEU:HD11	1.96	0.47
2:A:3009:ASP:O	2:A:3012:GLU:HG3	2.15	0.47
1:B:227:LYS:HA	1:B:255:ILE:HG23	1.96	0.47
1:B:423:ILE:HG23	1:B:430:LEU:HD11	1.95	0.47
2:A:2084:TRP:HE3	2:A:2088:ILE:HD12	1.78	0.47
2:A:2158:LEU:HD23	2:A:2158:LEU:H	1.79	0.47
2:A:2204:PRO:HA	2:A:2207:ILE:HG12	1.96	0.47
2:A:2229:LEU:HD13	2:A:2285:GLU:HA	1.96	0.47
2:A:2487:ASP:OD1	2:A:2488:GLU:N	2.47	0.47
2:A:2734:ILE:HA	2:A:2738:MET:CE	2.45	0.47
2:A:3319:GLU:HB2	2:A:3360:TYR:HA	1.97	0.47
2:A:3409:ASP:OD1	2:A:3409:ASP:N	2.47	0.47
2:A:2476:LYS:HD2	2:A:2482:LEU:HB2	1.96	0.47
2:A:3529:ILE:HB	2:A:3653:PHE:CE2	2.50	0.47
2:A:3540:GLU:HG2	2:A:3543:ARG:NH2	2.30	0.47
1:B:254:HIS:ND1	1:B:275:ARG:HB3	2.30	0.47
2:A:2266:PHE:HD1	2:A:2326:LEU:HD21	1.80	0.47
2:A:3714:GLN:NE2	2:A:3737:THR:OG1	2.48	0.47
1:B:205:ASP:OD1	1:B:206:VAL:N	2.47	0.47
2:A:2397:THR:O	2:A:2401:GLU:HG3	2.15	0.47
2:A:1734:PHE:CD1	2:A:1749:ILE:HD12	2.49	0.46
2:A:2467:THR:OG1	2:A:2469:LYS:O	2.28	0.46
2:A:2023:ASP:N	2:A:2023:ASP:OD1	2.49	0.46
2:A:2759:ILE:HG22	2:A:2891:ILE:HB	1.96	0.46
2:A:2958:ILE:HG23	2:A:2963:ASP:HB2	1.98	0.46
1:B:226:SER:OG	1:B:228:ASP:OD1	2.33	0.46
2:A:2832:ASN:OD1	2:A:2833:THR:N	2.48	0.46
2:A:1314:HIS:CE1	2:A:1361:ALA:HA	2.51	0.46
2:A:2099:ASN:HD21	2:A:2149:ARG:HD2	1.81	0.46
2:A:3634:LYS:HD2	2:A:3637:GLN:NE2	2.30	0.46
2:A:3734:PRO:HB3	2:A:3748:TRP:HH2	1.79	0.46
1:B:481:VAL:HG12	1:B:491:VAL:HG22	1.98	0.46
2:A:4087:GLN:O	2:A:4091:GLU:HG2	2.16	0.46
1:B:301:ARG:HD2	1:B:341:GLU:HA	1.97	0.46
2:A:3465:LEU:HD21	2:A:3492:PHE:HE2	1.80	0.46
2:A:3736:LEU:HD11	2:A:3745:ARG:HD2	1.98	0.46
2:A:3979:ASN:HB2	2:A:3982:TRP:HE1	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:1662:LYS:O	2:A:1665:GLN:HG2	2.15	0.46
2:A:3311:LYS:HD2	2:A:3311:LYS:H	1.81	0.46
2:A:3477:VAL:HG23	2:A:3488:VAL:HG23	1.97	0.46
1:B:374:VAL:HG11	1:B:425:ILE:HD11	1.97	0.46
2:A:2599:LEU:HD21	2:A:2652:ALA:HB1	1.97	0.46
2:A:2728:LEU:HD13	2:A:2730:VAL:HG22	1.98	0.46
2:A:4033:LEU:HG	2:A:4036:GLN:H	1.81	0.46
1:B:355:ILE:HD11	1:B:428:GLN:HA	1.98	0.45
2:A:2732:MET:SD	2:A:2768:ILE:HG21	2.56	0.45
2:A:3020:GLY:HA2	2:A:3567:LEU:HD13	1.98	0.45
1:B:227:LYS:HG2	1:B:255:ILE:HG21	1.99	0.45
2:A:1599:LYS:O	2:A:1602:ILE:HG22	2.16	0.45
2:A:2349:ASP:OD1	2:A:2349:ASP:N	2.48	0.45
2:A:2769:LEU:HD23	2:A:2769:LEU:HA	1.75	0.45
2:A:3414:MET:O	2:A:3418:ILE:HG12	2.15	0.45
2:A:3595:MET:HE3	2:A:3599:LYS:HD3	1.98	0.45
1:B:378:ARG:NH2	2:A:2726:GLU:OE2	2.34	0.45
2:A:2385:VAL:HB	2:A:2627:ARG:HH11	1.80	0.45
2:A:2738:MET:SD	2:A:2769:LEU:HD21	2.57	0.45
2:A:2796:ASP:OD1	2:A:2830:ARG:NH1	2.50	0.45
2:A:2840:ILE:HG22	2:A:2842:ASP:H	1.80	0.45
2:A:3306:TRP:CZ2	2:A:3559:LEU:HD21	2.51	0.45
2:A:3617:GLU:O	2:A:3620:ILE:HG22	2.16	0.45
2:A:3942:ARG:HD3	2:A:4010:LEU:HD11	1.98	0.45
2:A:2266:PHE:CD1	2:A:2326:LEU:HD21	2.52	0.45
2:A:3414:MET:HE3	2:A:3518:PHE:CD1	2.51	0.45
2:A:3897:TYR:CZ	2:A:3899:ASP:HB2	2.52	0.45
2:A:3986:ARG:HG2	2:A:4015:PHE:HB2	1.99	0.45
2:A:2615:TYR:OH	2:A:2661:VAL:HG22	2.16	0.45
2:A:3303:LYS:HG2	2:A:3591:LYS:HZ2	1.81	0.45
2:A:3412:SER:O	2:A:3415:ILE:HG22	2.16	0.45
2:A:2105:ASP:OD1	2:A:2155:ASP:HB3	2.17	0.45
2:A:3777:VAL:O	2:A:3781:SER:OG	2.26	0.45
2:A:3858:HIS:C	2:A:3858:HIS:ND1	2.71	0.45
2:A:3536:GLU:HG3	2:A:3657:PHE:HB3	1.97	0.45
1:B:422:ASP:OD1	1:B:423:ILE:N	2.51	0.45
2:A:1768:ARG:NH2	2:A:1812:ASN:OD1	2.44	0.45
2:A:2488:GLU:N	2:A:2534:ALA:O	2.50	0.45
2:A:2571:TYR:HA	2:A:2574:TYR:HB2	1.97	0.45
2:A:2112:GLU:HB3	2:A:2117:SER:HB3	1.99	0.44
2:A:2793:SER:O	2:A:2797:MET:HG2	2.16	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:2892:CYS:HB3	2:A:3507:ILE:HD13	1.99	0.44
2:A:3524:SER:C	2:A:3526:GLU:H	2.16	0.44
2:A:3652:CYS:SG	2:A:3655:ARG:NH1	2.90	0.44
2:A:1375:LYS:O	2:A:1379:LYS:HG3	2.17	0.44
2:A:1395:VAL:HB	2:A:1398:TRP:CZ2	2.53	0.44
2:A:3986:ARG:HD3	2:A:4016:CYS:HB2	1.99	0.44
1:B:308:ASP:HA	1:B:324:TRP:NE1	2.32	0.44
2:A:1290:SER:HA	2:A:1293:ASN:HD22	1.83	0.44
2:A:3734:PRO:HB3	2:A:3748:TRP:CH2	2.53	0.44
2:A:3940:THR:O	2:A:3943:THR:HG22	2.18	0.44
2:A:1796:GLY:O	2:A:1900:PRO:HD3	2.17	0.44
2:A:2590:GLU:HB3	2:A:2591:PRO:HD3	2.00	0.44
2:A:2987:ARG:HG2	2:A:2988:SER:O	2.18	0.44
2:A:1475:LYS:HD2	2:A:1518:MET:HE1	2.00	0.44
2:A:2728:LEU:HD23	2:A:2771:ARG:NH2	2.32	0.44
2:A:3680:GLN:NE2	2:A:3768:PHE:O	2.50	0.44
2:A:1953:LEU:HD12	2:A:1973:LEU:HD12	1.98	0.44
2:A:2155:ASP:OD1	2:A:2549:ARG:NH2	2.50	0.44
2:A:3438:LYS:NZ	2:A:3442:ASN:HB2	2.33	0.44
2:A:1294:MET:O	2:A:1298:VAL:HG22	2.18	0.44
2:A:2084:TRP:CE3	2:A:2088:ILE:HD12	2.52	0.44
2:A:3700:MET:HE2	2:A:3763:PHE:CE1	2.53	0.44
1:B:254:HIS:CD2	2:A:3473:ALA:HA	2.52	0.43
2:A:2943:PHE:CZ	2:A:2964:ALA:HB2	2.53	0.43
2:A:2960:THR:HG23	2:A:2962:ARG:HG2	1.99	0.43
2:A:3801:ILE:HD11	2:A:3813:ILE:HD11	2.00	0.43
2:A:2417:CYS:O	2:A:2558:TYR:HA	2.19	0.43
2:A:2578:ILE:HG22	2:A:2579:PHE:HD1	1.83	0.43
2:A:2661:VAL:HG12	2:A:2916:TRP:CE2	2.54	0.43
2:A:3371:VAL:HG23	2:A:3376:LYS:HE2	1.98	0.43
2:A:3387:ASN:OD1	2:A:3390:PHE:HB2	2.19	0.43
2:A:3406:PHE:HB2	2:A:3513:VAL:HG12	1.99	0.43
2:A:3873:MET:HE3	2:A:3873:MET:HA	2.00	0.43
2:A:2107:LYS:NZ	2:A:2499:SER:OG	2.42	0.43
2:A:3554:GLU:O	2:A:3557:LEU:HG	2.18	0.43
2:A:3822:LEU:HD12	2:A:3822:LEU:HA	1.82	0.43
2:A:3935:PHE:HB2	2:A:4014:VAL:HG11	1.99	0.43
2:A:1356:LYS:HB2	2:A:1356:LYS:HE2	1.78	0.43
2:A:2837:ASN:CG	2:A:2838:ALA:H	2.27	0.43
2:A:3306:TRP:CH2	2:A:3559:LEU:HD21	2.54	0.43
2:A:2749:LEU:HD13	2:A:2779:LEU:HD12	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:479:MET:SD	1:B:493:MET:HG2	2.59	0.43
2:A:1588:GLU:OE1	2:A:1762:TYR:OH	2.34	0.43
2:A:2590:GLU:OE2	2:A:2594:ARG:NH1	2.46	0.43
2:A:2446:SER:OG	2:A:2448:ASP:O	2.37	0.43
2:A:2578:ILE:HG12	2:A:2630:TYR:HB2	2.01	0.43
1:B:428:GLN:O	1:B:428:GLN:HG2	2.19	0.43
2:A:2439:ASP:OD1	2:A:2480:LYS:HE3	2.19	0.43
2:A:2774:ALA:HB1	2:A:2779:LEU:HB2	1.99	0.43
2:A:3002:LEU:HD12	2:A:3002:LEU:HA	1.87	0.43
2:A:3442:ASN:O	2:A:3445:ARG:HG2	2.19	0.43
2:A:3583:LEU:HD23	2:A:3583:LEU:O	2.19	0.43
2:A:3587:LEU:HD11	2:A:3591:LYS:HZ2	1.82	0.43
2:A:2748:ALA:CB	2:A:2756:MET:HE3	2.48	0.43
2:A:3533:THR:HG23	2:A:3618:TYR:HD2	1.83	0.43
2:A:3669:THR:HG23	2:A:3671:VAL:HG12	2.01	0.43
2:A:1316:ASN:HB2	2:A:1332:LEU:HD21	2.00	0.42
2:A:1987:PHE:CE2	2:A:1996:GLU:HG2	2.54	0.42
2:A:2284:LEU:HA	2:A:2284:LEU:HD23	1.82	0.42
2:A:3341:GLU:OE1	2:A:3341:GLU:N	2.47	0.42
2:A:3721:THR:O	2:A:3725:VAL:HG23	2.19	0.42
1:B:162:LYS:HD3	1:B:465:ASP:OD2	2.18	0.42
2:A:1838:ILE:HD12	2:A:1843:ALA:HB3	1.99	0.42
2:A:2700:LEU:HD11	2:A:2712:LEU:HD13	2.01	0.42
2:A:1673:TRP:NE1	2:A:1709:ASN:OD1	2.53	0.42
2:A:1826:PHE:HE2	2:A:1831:LEU:HD21	1.85	0.42
2:A:2044:ARG:HH22	2:A:2093:ILE:HD11	1.84	0.42
2:A:2519:PRO:HG2	2:A:2520:GLU:OE1	2.20	0.42
2:A:3312:GLN:HG3	2:A:3313:PHE:N	2.34	0.42
2:A:3481:ILE:HD12	2:A:3481:ILE:HA	1.89	0.42
2:A:2247:ASP:HA	2:A:2250:LYS:HG2	2.00	0.42
2:A:2640:THR:HG23	2:A:2643:SER:H	1.84	0.42
2:A:2075:LYS:O	2:A:2080:LYS:NZ	2.52	0.42
2:A:1952:PHE:HE2	2:A:1998:LEU:HD22	1.85	0.42
2:A:2034:ILE:HG12	2:A:2061:TYR:CE2	2.55	0.42
2:A:2306:ASP:OD1	2:A:2306:ASP:N	2.52	0.42
2:A:3569:GLU:OE1	2:A:3583:LEU:HD13	2.20	0.42
2:A:3629:PHE:CZ	2:A:3646:ILE:HG13	2.54	0.42
2:A:1441:ILE:HD12	2:A:1505:PHE:CD2	2.52	0.42
2:A:1510:LYS:HA	2:A:1513:ILE:HG22	2.02	0.42
2:A:2154:PHE:CE2	2:A:2166:MET:HE1	2.55	0.42
2:A:2428:MET:HE2	2:A:2485:PHE:CG	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:2673:LEU:HD12	2:A:2673:LEU:HA	1.90	0.42
1:B:330:LEU:HA	1:B:400:PRO:HB3	2.02	0.42
2:A:2154:PHE:CZ	2:A:2166:MET:HE1	2.55	0.42
2:A:2259:MET:HE3	2:A:2259:MET:O	2.20	0.42
2:A:2844:PHE:CG	2:A:2852:LEU:HD22	2.55	0.42
1:B:355:ILE:HG21	1:B:358:ARG:HB2	2.02	0.42
2:A:1769:LEU:HD11	2:A:1804:GLU:HB3	2.00	0.42
2:A:3802:GLU:HA	2:A:3805:LYS:HG2	2.01	0.42
2:A:2518:THR:OG1	2:A:2519:PRO:HD3	2.20	0.42
2:A:2614:HIS:HD2	2:A:2659:ARG:HB2	1.85	0.42
2:A:2649:ALA:CB	2:A:2689:ILE:HD11	2.50	0.42
2:A:2763:ARG:HD3	2:A:3512:ARG:HD3	2.02	0.42
2:A:3438:LYS:HA	2:A:3438:LYS:HD2	1.94	0.42
2:A:3715:TYR:OH	2:A:3743:ASP:OD2	2.35	0.42
2:A:2600:TYR:CZ	2:A:2604:LYS:HD2	2.55	0.41
2:A:3384:LEU:HD11	2:A:3394:MET:HG2	2.02	0.41
2:A:3409:ASP:HB3	2:A:3518:PHE:HB2	2.01	0.41
2:A:3692:LYS:O	2:A:3696:MET:HE2	2.20	0.41
1:B:393:MET:HG2	1:B:396:ARG:HD2	2.01	0.41
2:A:1748:PHE:CE2	2:A:1755:LEU:HD22	2.55	0.41
2:A:2358:THR:HG22	2:A:2371:PHE:O	2.20	0.41
2:A:2756:MET:HG3	2:A:2913:ILE:O	2.21	0.41
2:A:3575:GLY:HA3	2:A:3579:GLU:HB2	2.02	0.41
1:B:144:PRO:HG2	1:B:480:MET:SD	2.60	0.41
1:B:256:VAL:HA	1:B:274:SER:HA	2.02	0.41
2:A:1416:LYS:HG2	2:A:1421:TYR:CZ	2.56	0.41
2:A:2427:ILE:HD12	2:A:2559:LEU:HD13	2.01	0.41
1:B:317:THR:HG22	1:B:338:PHE:C	2.45	0.41
2:A:1243:GLU:OE1	2:A:1243:GLU:N	2.46	0.41
2:A:2038:LEU:HD22	2:A:2058:MET:HE3	2.02	0.41
2:A:2936:ILE:N	2:A:2937:PRO:HD2	2.35	0.41
2:A:3772:TRP:HB3	2:A:3776:ASP:HB2	2.01	0.41
2:A:4076:LEU:O	2:A:4079:LYS:HG2	2.21	0.41
2:A:3598:GLU:O	2:A:3601:LEU:HG	2.21	0.41
2:A:1937:MET:HE2	2:A:1937:MET:HB3	1.90	0.41
2:A:2259:MET:O	2:A:2263:THR:HG23	2.20	0.41
2:A:2962:ARG:O	2:A:2966:VAL:HG12	2.20	0.41
2:A:3370:LEU:HD12	2:A:3395:SER:OG	2.20	0.41
2:A:1367:ILE:HG23	2:A:1415:MET:HE2	2.01	0.41
2:A:1882:LEU:O	2:A:1882:LEU:HD23	2.21	0.41
2:A:2761:ALA:O	2:A:2764:THR:OG1	2.30	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:2948:VAL:HG11	2:A:2958:ILE:HD12	2.03	0.41
2:A:1569:ILE:HD12	2:A:1569:ILE:H	1.85	0.41
2:A:1930:ALA:HB2	2:A:1973:LEU:HD21	2.03	0.41
2:A:2720:PHE:CE2	2:A:2732:MET:HB2	2.56	0.41
2:A:3306:TRP:CE3	2:A:3307:LEU:HD22	2.54	0.41
2:A:3338:ASN:HB2	2:A:3341:GLU:OE1	2.21	0.41
1:B:309:TYR:CE1	1:B:323:HIS:HD2	2.39	0.41
2:A:1431:LEU:HD23	2:A:1431:LEU:HA	1.90	0.41
2:A:2063:MET:HE3	2:A:2063:MET:HB2	1.90	0.41
2:A:2140:ASP:HB3	2:A:2145:PHE:HB2	2.02	0.41
2:A:2987:ARG:CZ	2:A:3511:SER:HA	2.51	0.41
2:A:3508:PHE:O	2:A:3512:ARG:HG2	2.21	0.41
2:A:3628:ILE:HD11	2:A:3679:TYR:CE2	2.55	0.41
2:A:1247:ARG:HA	2:A:1250:GLU:OE1	2.21	0.41
2:A:1453:LEU:HD12	2:A:1453:LEU:HA	1.93	0.41
2:A:3817:GLY:HA2	2:A:3846:MET:HE2	2.02	0.41
2:A:4045:LEU:HA	2:A:4048:ILE:HG12	2.03	0.41
1:B:225:ALA:HB2	1:B:259:VAL:HG23	2.03	0.40
2:A:2422:SER:O	2:A:2422:SER:OG	2.39	0.40
2:A:2563:SER:OG	2:A:2564:GLY:N	2.54	0.40
2:A:3406:PHE:HB2	2:A:3513:VAL:CG1	2.51	0.40
1:B:247:ARG:NH2	1:B:287:GLY:HA3	2.36	0.40
2:A:2891:ILE:HG22	2:A:2892:CYS:O	2.20	0.40
1:B:324:TRP:CG	1:B:325:PRO:HD3	2.56	0.40
2:A:1854:ASP:OD1	2:A:1857:VAL:HB	2.21	0.40
2:A:1945:LEU:HD23	2:A:1945:LEU:HA	1.90	0.40
2:A:2225:LYS:NZ	2:A:2281:PHE:O	2.35	0.40
2:A:2475:PRO:HG3	2:A:2527:GLU:OE2	2.22	0.40
2:A:2614:HIS:HB2	2:A:2909:PHE:CE1	2.56	0.40
2:A:2932:MET:HE1	2:A:2993:ILE:HG23	2.03	0.40
2:A:3784:ASN:HB3	2:A:3871:PHE:O	2.21	0.40
2:A:3839:ILE:HG12	2:A:3873:MET:HE1	2.02	0.40
1:B:301:ARG:HD2	1:B:340:ILE:O	2.20	0.40
2:A:1280:LYS:HG2	2:A:1285:TYR:CE2	2.56	0.40
2:A:2167:ASN:OD1	2:A:2168:SER:N	2.54	0.40
2:A:2653:TRP:HB3	2:A:2654:ARG:NH1	2.36	0.40
2:A:3441:GLU:HG2	2:A:3486:VAL:HG11	2.04	0.40
2:A:3838:TRP:CZ2	2:A:3872:LYS:HD2	2.56	0.40
1:B:179:LEU:HD12	1:B:224:THR:HG21	2.03	0.40
1:B:473:ASN:OD1	1:B:474:VAL:N	2.54	0.40
2:A:1547:LYS:HB3	2:A:1547:LYS:HE2	1.85	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:1734:PHE:CE1	2:A:1749:ILE:HD12	2.57	0.40
2:A:2298:TYR:HB2	2:A:2302:PHE:CZ	2.56	0.40
2:A:2995:GLY:HA2	2:A:3332:THR:HG21	2.03	0.40
2:A:3750:TYR:CE2	2:A:3758:SER:HB3	2.57	0.40
2:A:3756:TYR:O	2:A:3760:LEU:HD23	2.21	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	B	354/494 (72%)	334 (94%)	20 (6%)	0	100	100
2	A	2579/4092 (63%)	2481 (96%)	95 (4%)	3 (0%)	48	76
All	All	2933/4586 (64%)	2815 (96%)	115 (4%)	3 (0%)	50	76

All (3) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	A	2948	VAL
2	A	3525	ILE
2	A	3809	GLU

5.3.2 Protein sidechains [i](#)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	B	329/461 (71%)	329 (100%)	0	100	100
2	A	2358/3759 (63%)	2355 (100%)	3 (0%)	92	96
All	All	2687/4220 (64%)	2684 (100%)	3 (0%)	92	96

All (3) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	A	2960	THR
2	A	3656	VAL
2	A	3858	HIS

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

Mol	Chain	Res	Type
1	B	245	GLN
1	B	296	HIS
1	B	298	GLN
1	B	462	ASN
2	A	1262	GLN
2	A	1293	ASN
2	A	1382	GLN
2	A	1419	ASN
2	A	1466	GLN
2	A	1492	GLN
2	A	1554	HIS
2	A	1557	GLN
2	A	1714	GLN
2	A	1717	ASN
2	A	1757	GLN
2	A	1788	GLN
2	A	1870	ASN
2	A	1951	HIS
2	A	2099	ASN
2	A	2201	HIS
2	A	2303	GLN
2	A	2461	HIS
2	A	2521	ASN
2	A	2783	GLN
2	A	2789	HIS
2	A	2886	HIS
2	A	3011	GLN

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Mol	Chain	Res	Type
2	A	3308	ASN
2	A	3318	GLN
2	A	3714	GLN
2	A	3741	ASN
2	A	3845	GLN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains [i](#)

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 5 ligands modelled in this entry, 2 are monoatomic - leaving 3 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	$\# Z > 2$
4	ATP	A	4102	5	28,33,33	0.84	0	34,52,52	0.62	1 (2%)
3	ADP	A	4103	-	24,29,29	0.83	0	29,45,45	1.23	2 (6%)
3	ADP	A	4101	5	24,29,29	0.84	0	29,45,45	1.22	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
4	ATP	A	4102	5	-	5/18/38/38	0/3/3/3
3	ADP	A	4103	-	-	3/12/32/32	0/3/3/3
3	ADP	A	4101	5	-	3/12/32/32	0/3/3/3

There are no bond length outliers.

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	A	4103	ADP	N3-C2-N1	-3.76	123.56	128.67
3	A	4101	ADP	N3-C2-N1	-3.60	123.78	128.67
3	A	4101	ADP	C4-C5-N7	-2.52	106.68	109.34
4	A	4102	ATP	C5-C6-N6	2.35	123.89	120.31
3	A	4103	ADP	C4-C5-N7	-2.27	106.93	109.34

There are no chirality outliers.

All (11) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	A	4101	ADP	C5'-O5'-PA-O2A
3	A	4101	ADP	C5'-O5'-PA-O3A
3	A	4103	ADP	C5'-O5'-PA-O1A
3	A	4103	ADP	C5'-O5'-PA-O2A
3	A	4103	ADP	C5'-O5'-PA-O3A
4	A	4102	ATP	C4'-C5'-O5'-PA
4	A	4102	ATP	O4'-C4'-C5'-O5'
4	A	4102	ATP	C3'-C4'-C5'-O5'
3	A	4101	ADP	C5'-O5'-PA-O1A
4	A	4102	ATP	PG-O3B-PB-O1B
4	A	4102	ATP	PG-O3B-PB-O2B

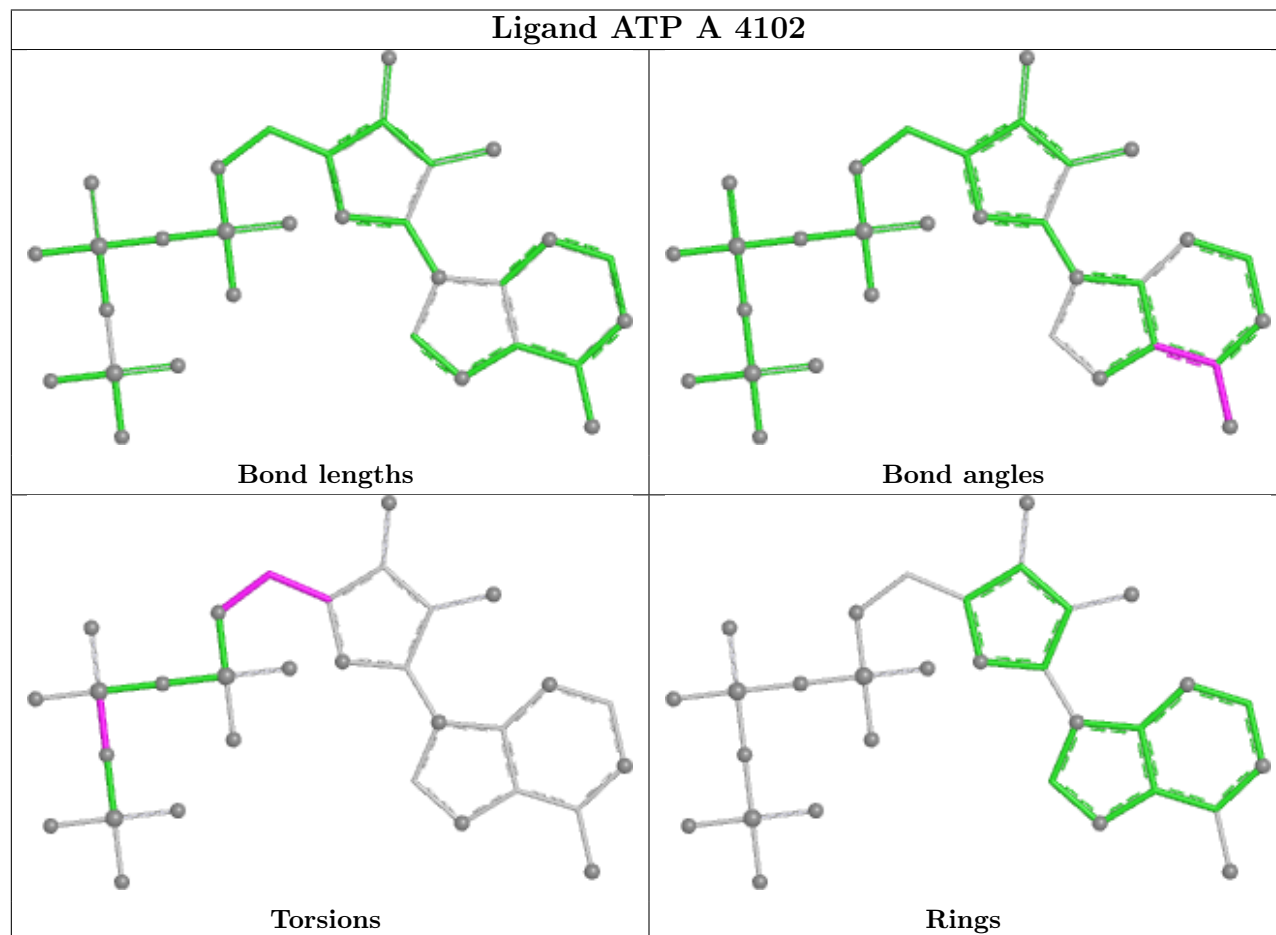
There are no ring outliers.

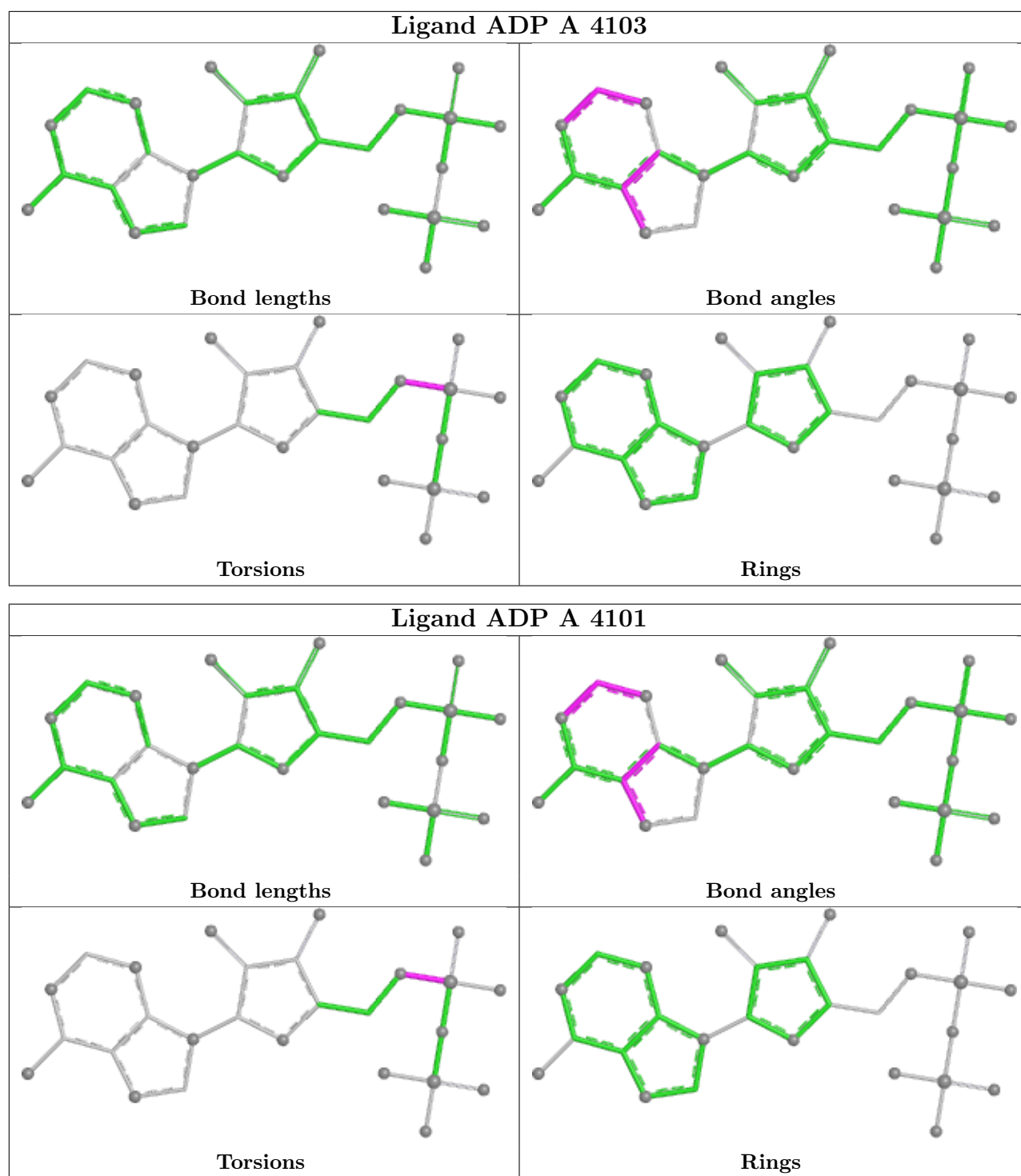
2 monomers are involved in 2 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	A	4102	ATP	1	0
3	A	4101	ADP	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.





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.

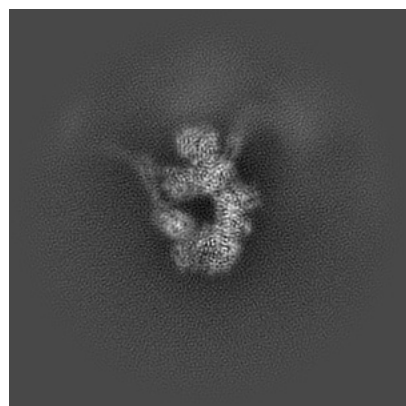
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-48242. These allow visual inspection of the internal detail of the map and identification of artifacts.

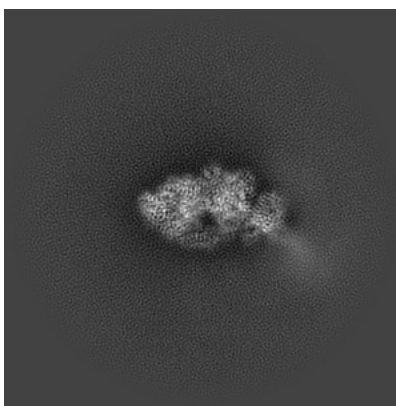
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

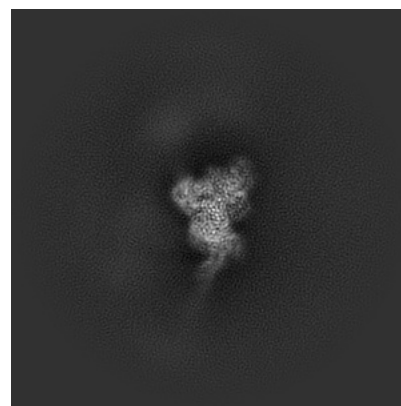
6.1.1 Primary map



X

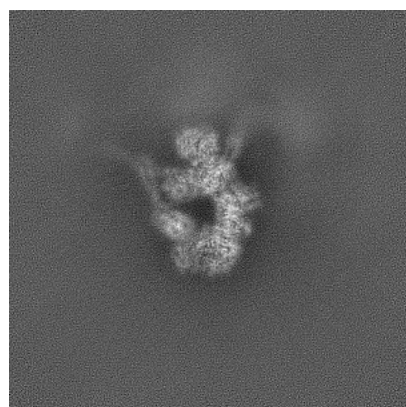


Y

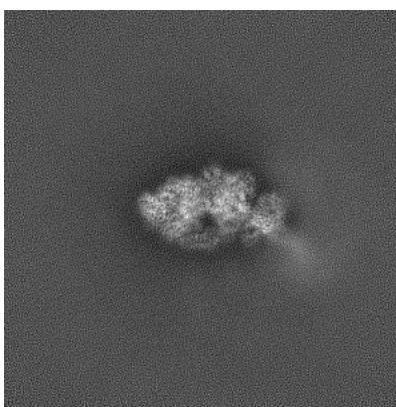


Z

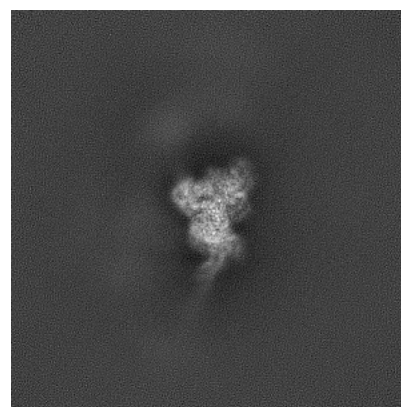
6.1.2 Raw map



X



Y

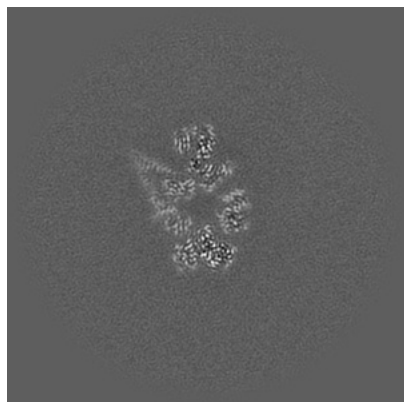


Z

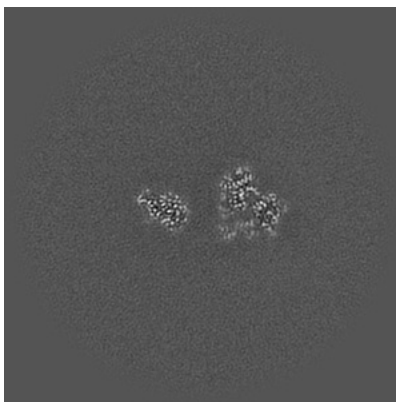
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

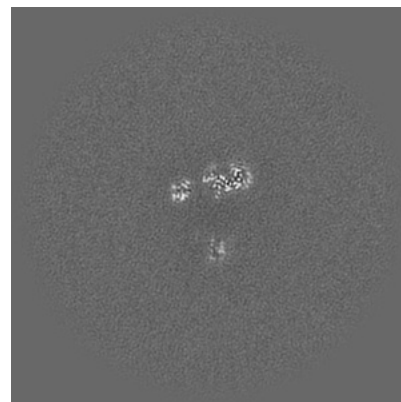
6.2.1 Primary map



X Index: 192

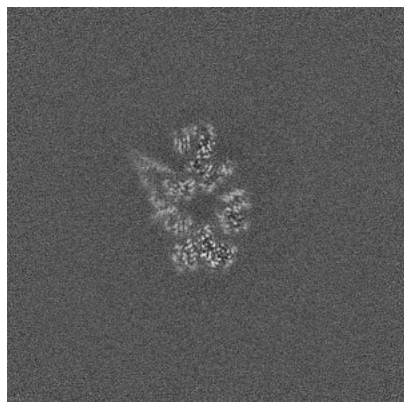


Y Index: 192

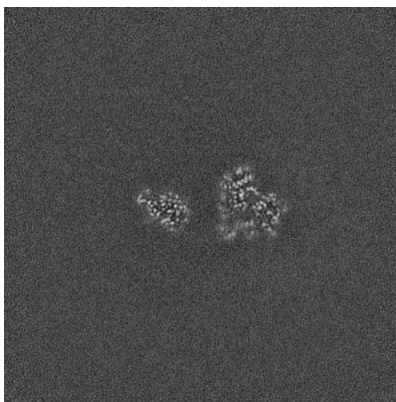


Z Index: 192

6.2.2 Raw map



X Index: 192



Y Index: 192

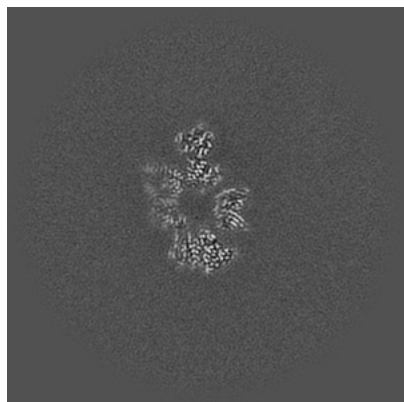


Z Index: 192

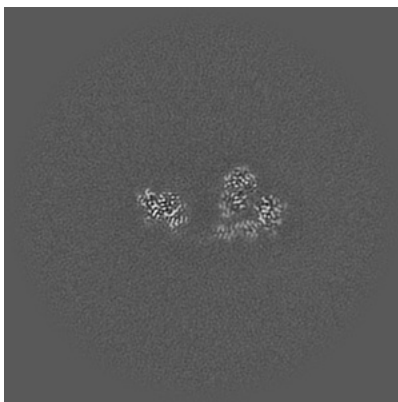
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

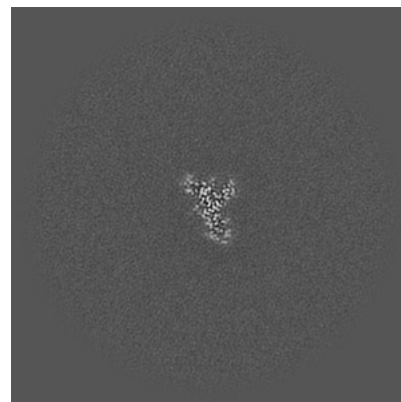
6.3.1 Primary map



X Index: 197

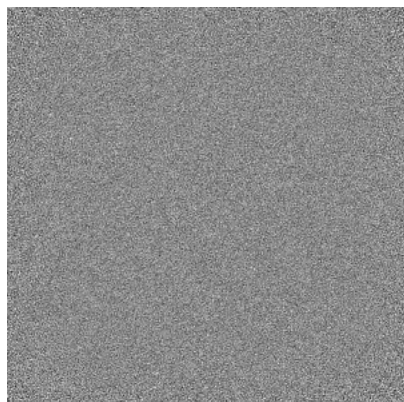


Y Index: 194

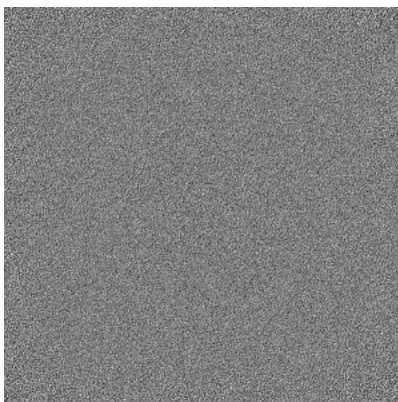


Z Index: 153

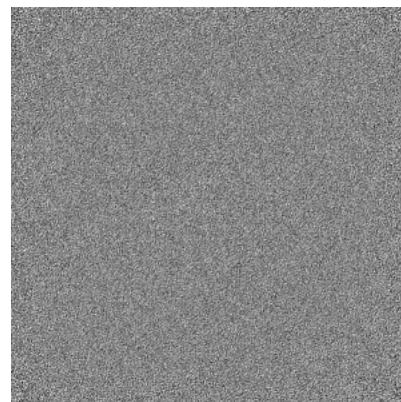
6.3.2 Raw map



X Index: 0



Y Index: 0

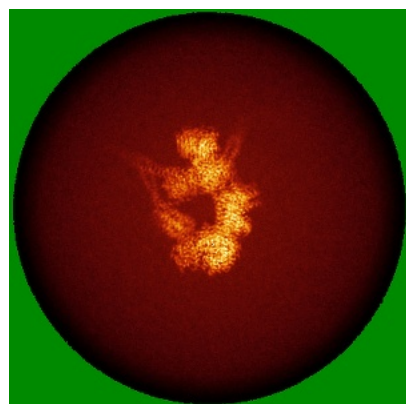


Z Index: 0

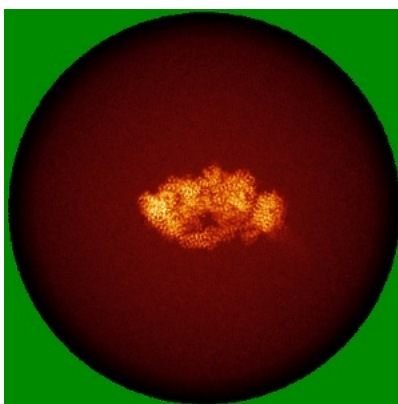
The images above show the largest variance slices of the map in three orthogonal directions.

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

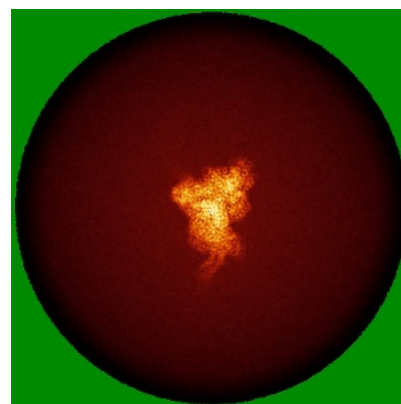
6.4.1 Primary map



X

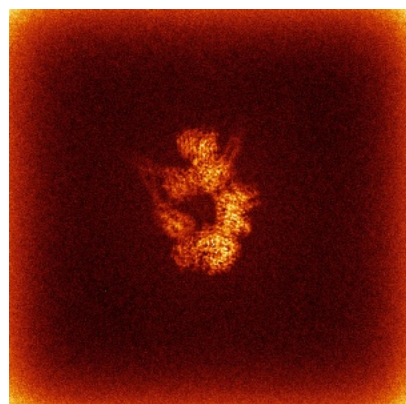


Y

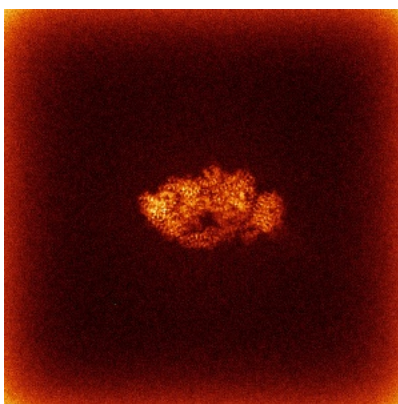


Z

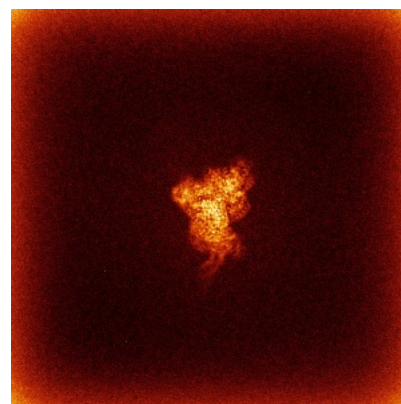
6.4.2 Raw map



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



X



Y



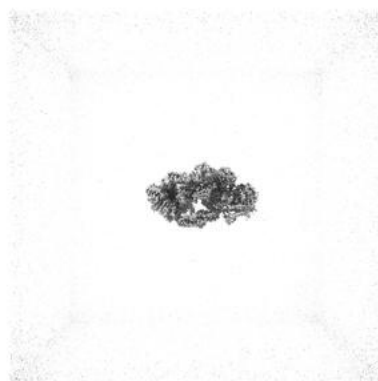
Z

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

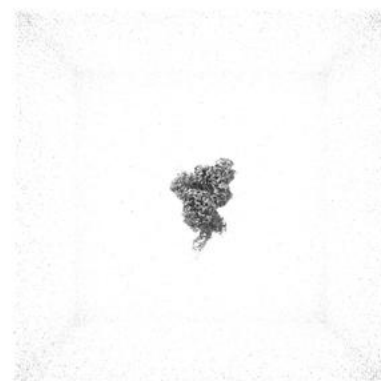
6.5.2 Raw map



X



Y



Z

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

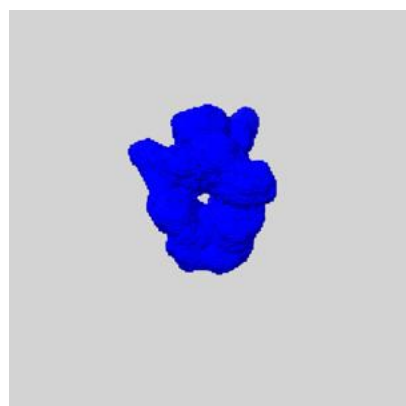
6.6 Mask visualisation [i](#)

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

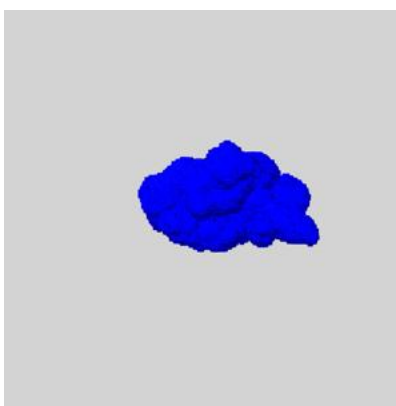
A mask typically either:

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

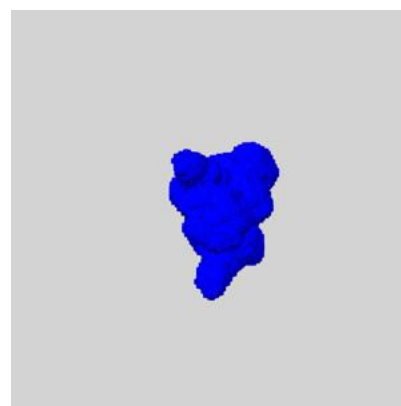
6.6.1 emd_48242_msk_1.map [i](#)



X



Y

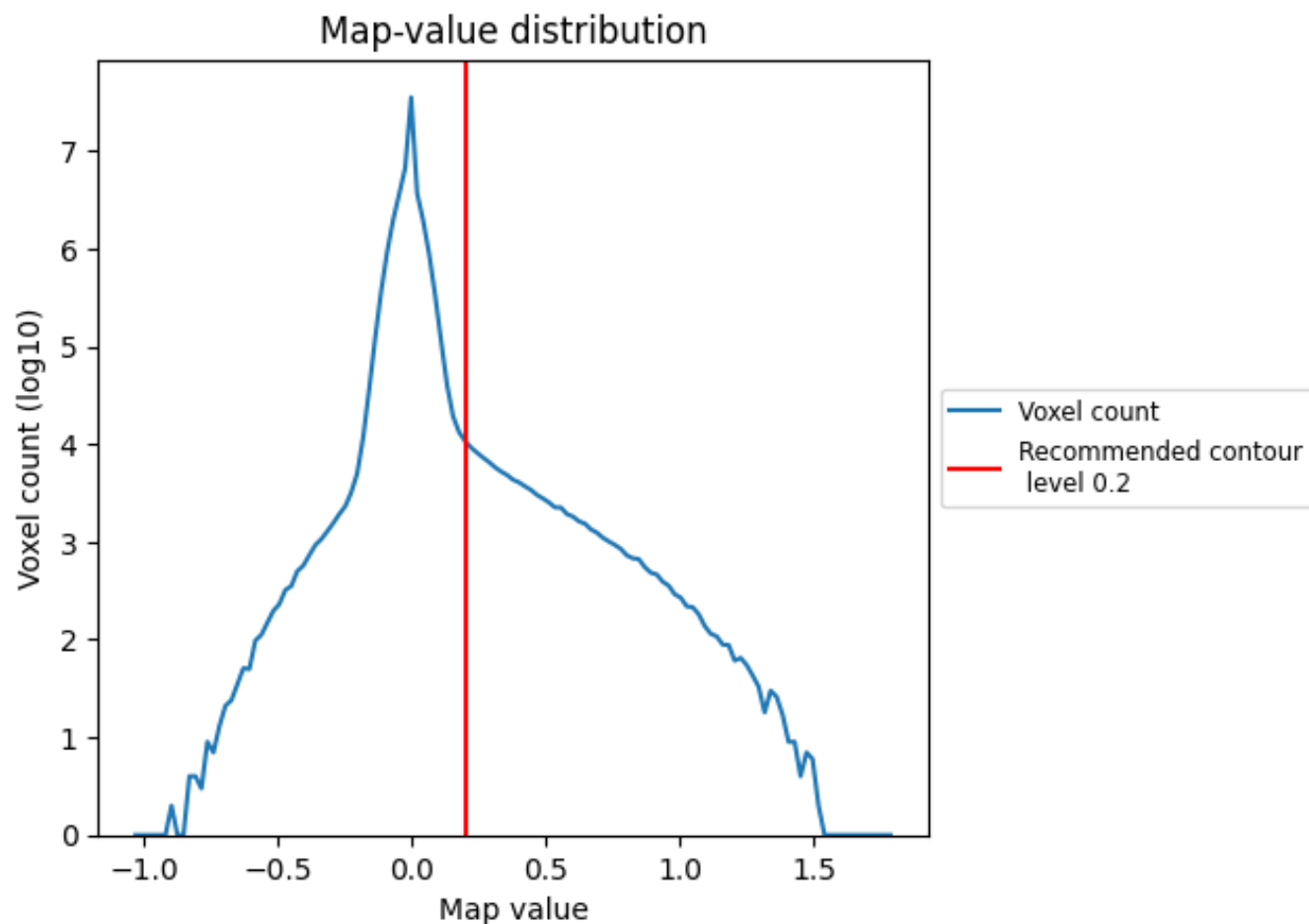


Z

7 Map analysis [i](#)

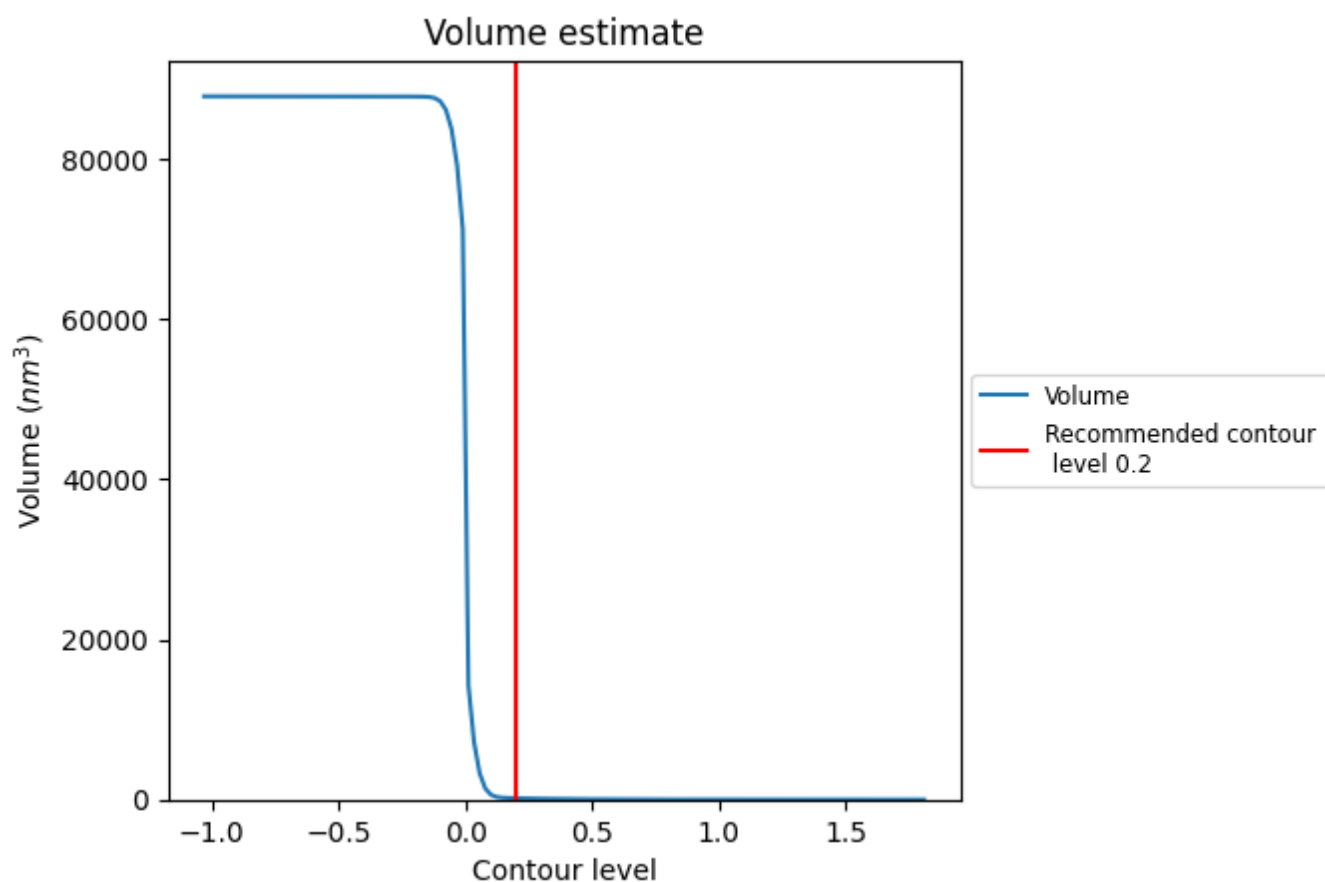
This section contains the results of statistical analysis of the map.

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.

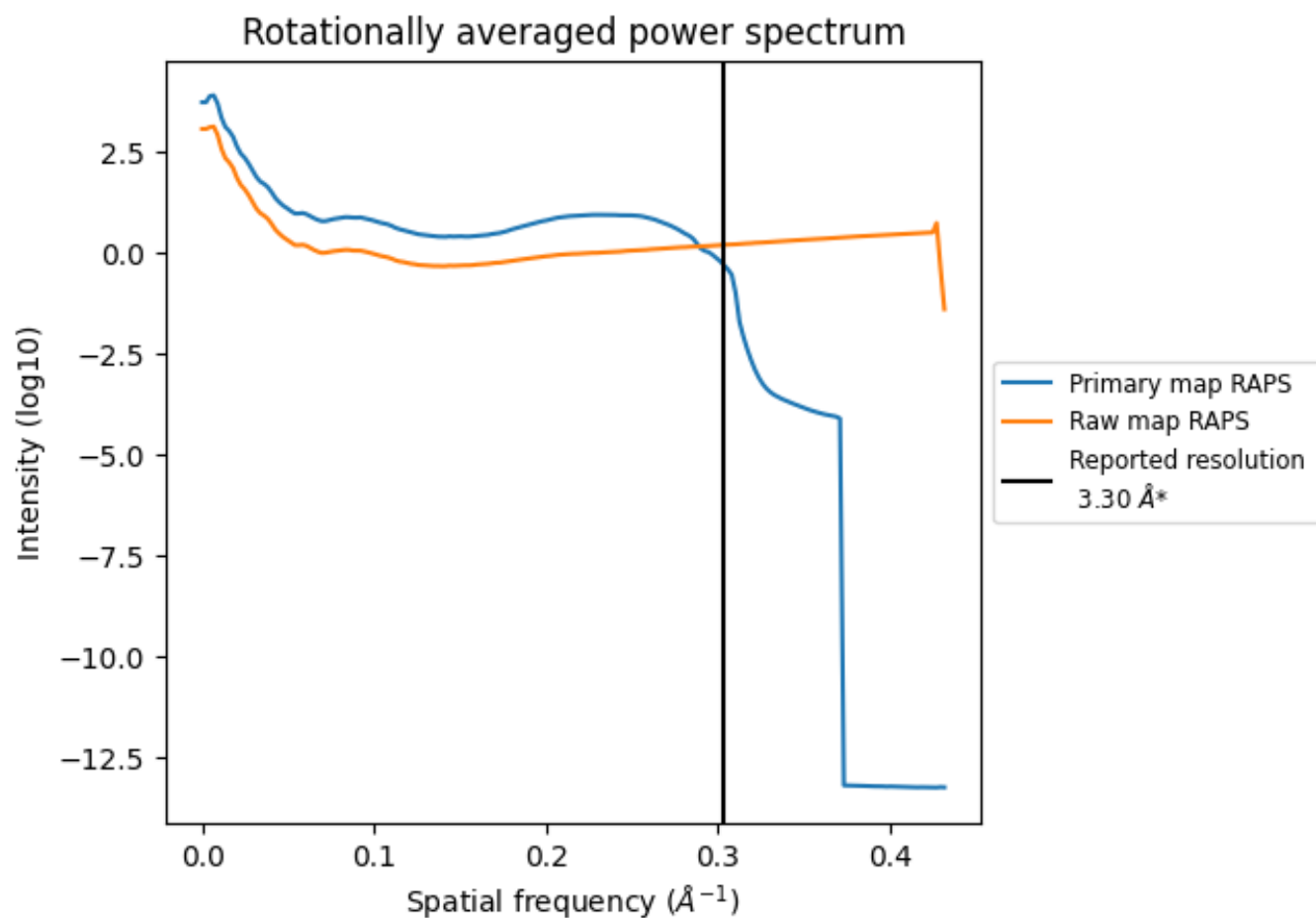
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 165 nm^3 ; this corresponds to an approximate mass of 149 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 ⓘ

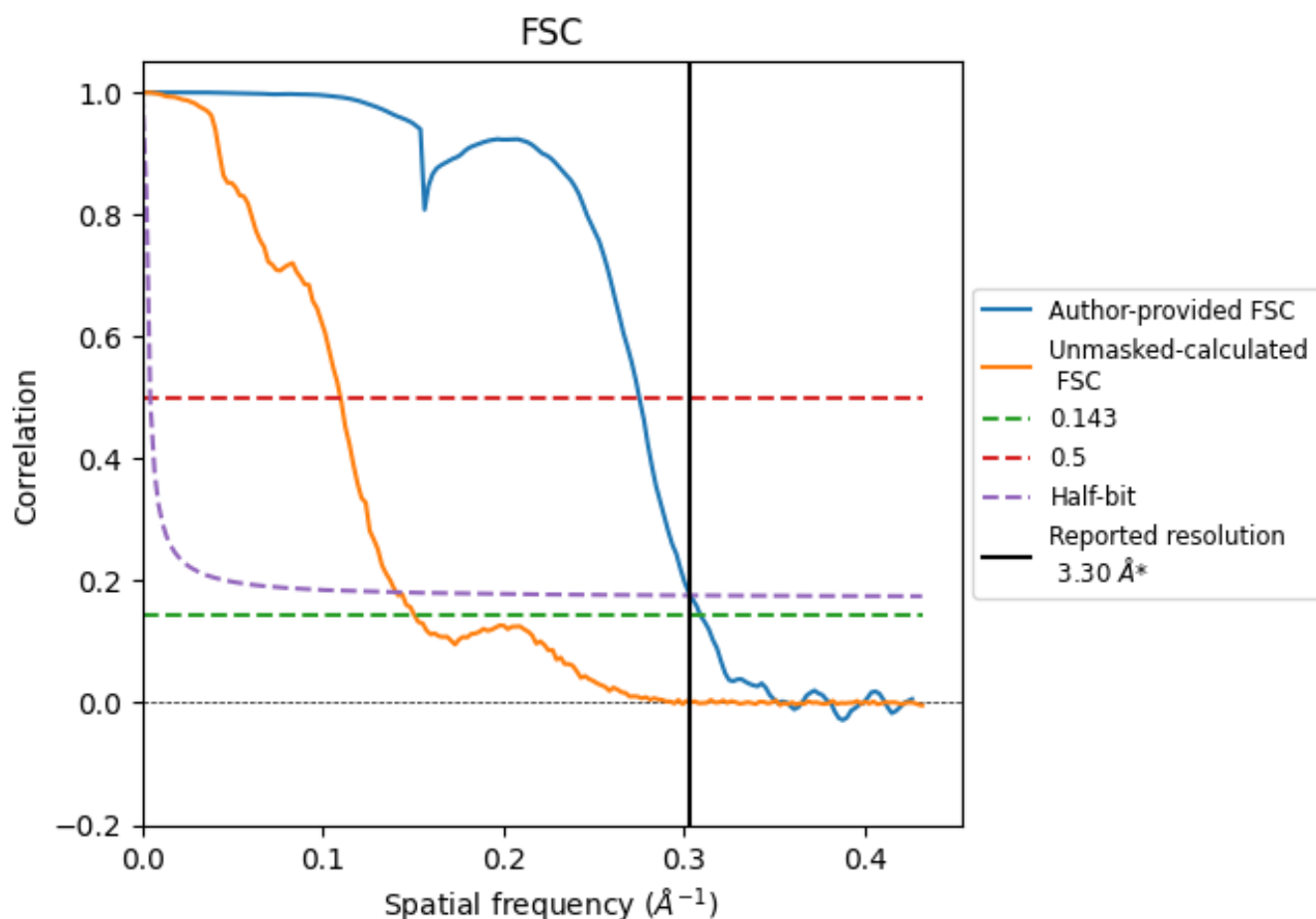


*Reported resolution corresponds to spatial frequency of 0.303 Å⁻¹

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 $0.303 \text{ \AA}^{-1}$

8.2 Resolution estimates [i](#)

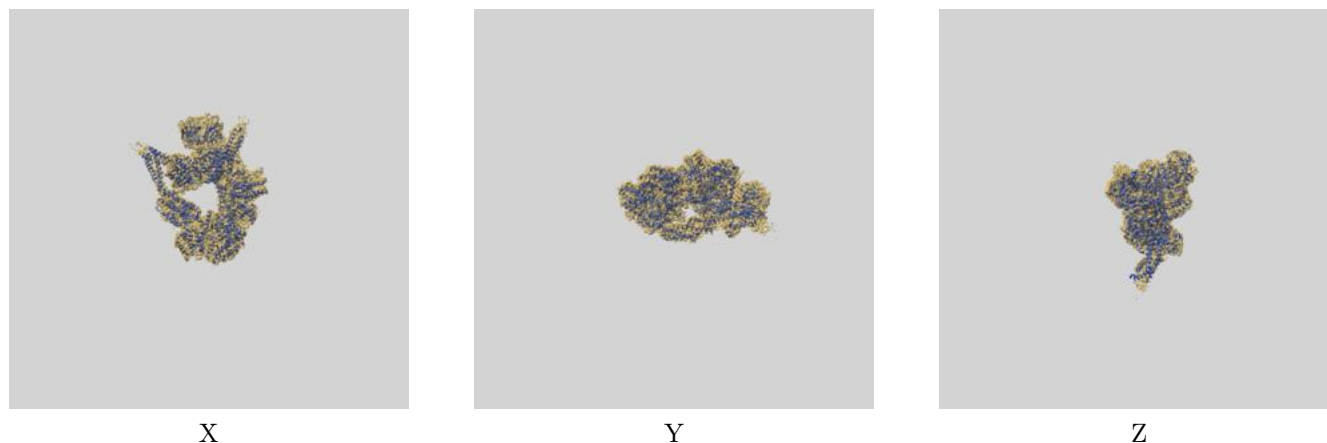
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.30	-	-
Author-provided FSC curve	3.23	3.63	3.29
Unmasked-calculated*	6.63	9.11	7.11

*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 6.63 differs from the reported value 3.3 by more than 10 %

9 Map-model fit [i](#)

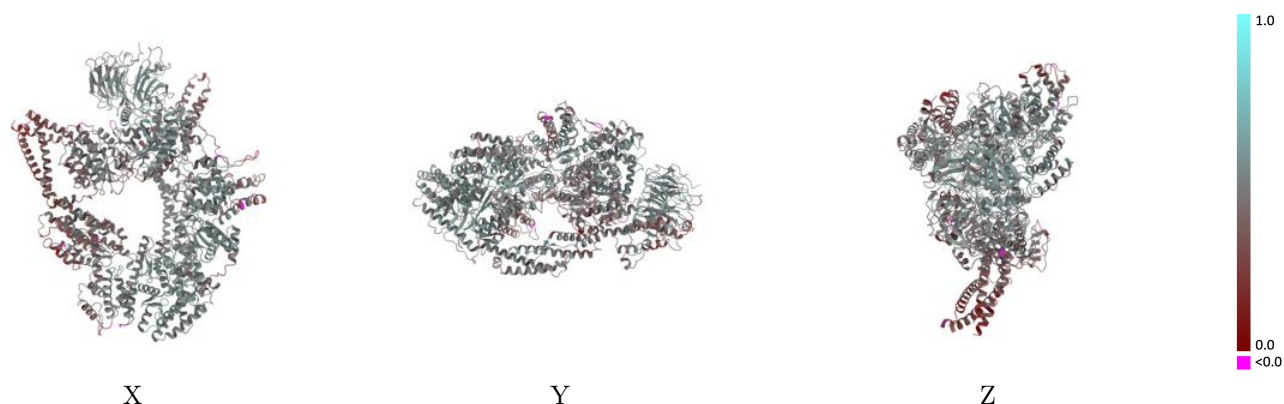
This section contains information regarding the fit between EMDB map EMD-48242 and PDB model 9MFY. Per-residue inclusion information can be found in [section 3](#) on [page 5](#).

9.1 Map-model overlay [i](#)



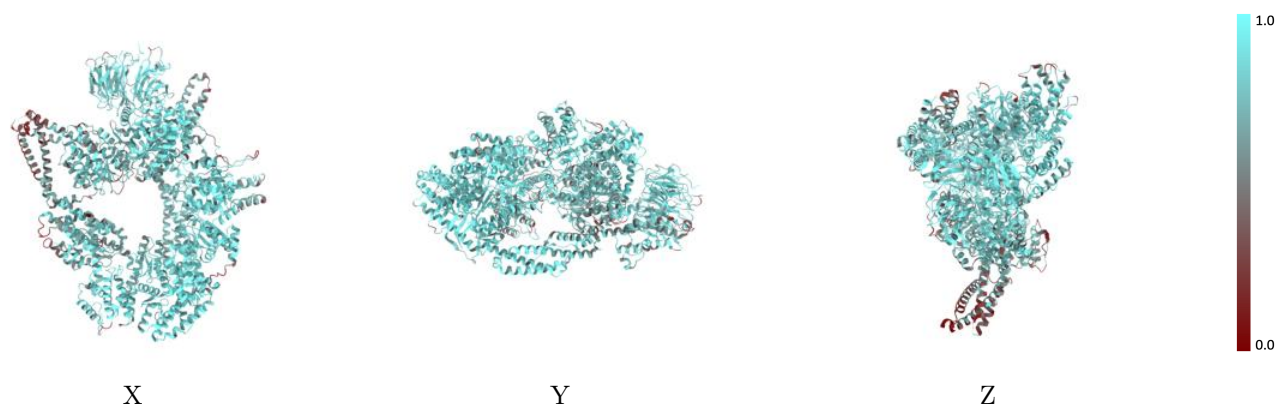
The images above show the 3D surface view of the map at the recommended contour level 0.2 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



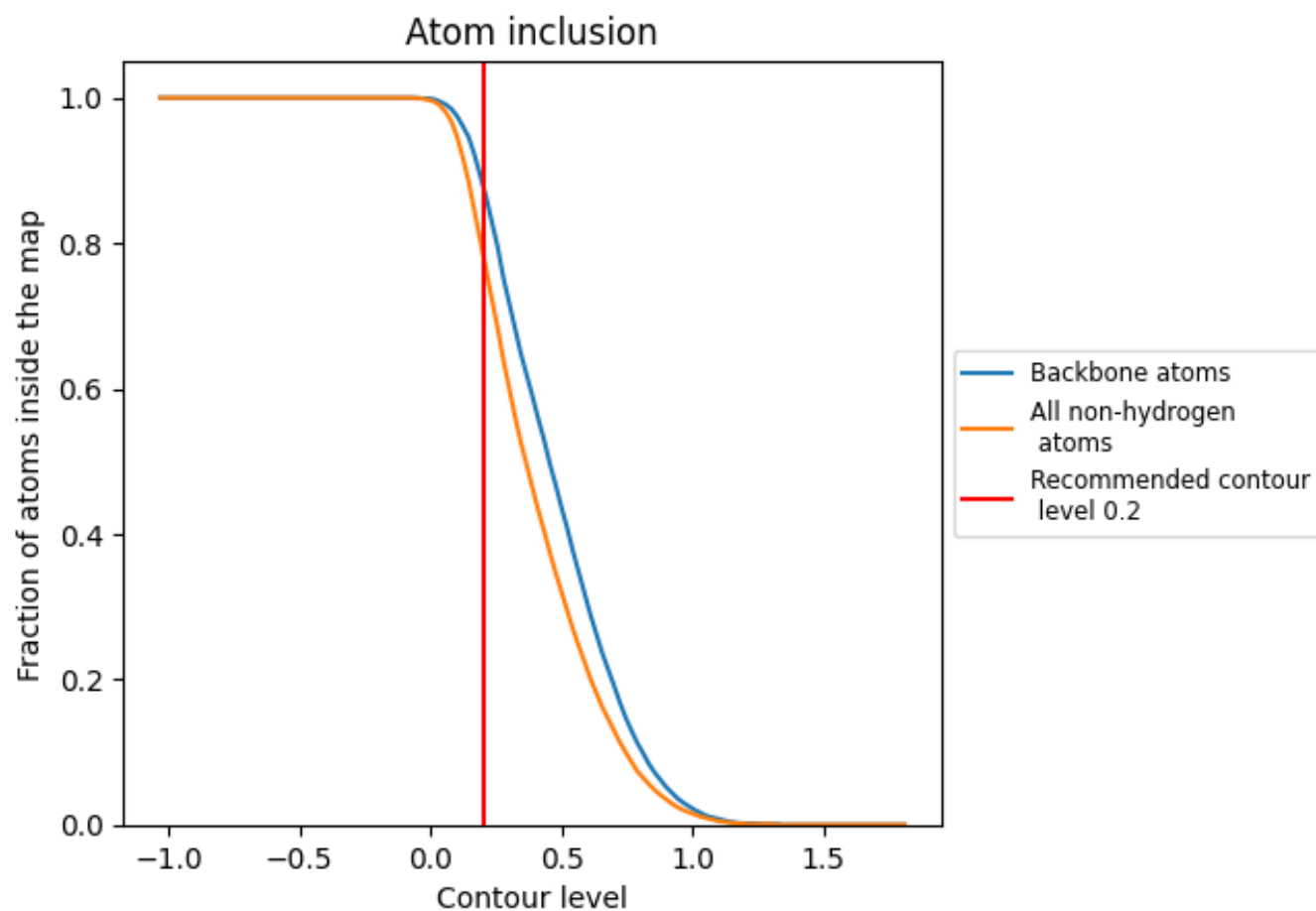
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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, 88% of all backbone atoms, 79% 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	0.7870	0.4630
A	0.7820	0.4570
B	0.8290	0.5080

