



Full wwPDB EM Validation Report ⓘ

Aug 14, 2025 – 02:04 PM EDT

PDB ID : 9BN0 / pdb_00009bn0
EMDB ID : EMD-44717
Title : State-7 of motor domain from full-length human dynein-1 in apo condition
Authors : Chai, P.; Zhang, K.
Deposited on : 2024-05-02
Resolution : 3.60 Å(reported)

This is a Full wwPDB EM Validation Report for a publicly released PDB entry.

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

The following versions of software and data (see [references ⓘ](#)) were used in the production of this report:

EMDB validation analysis : 0.0.1.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

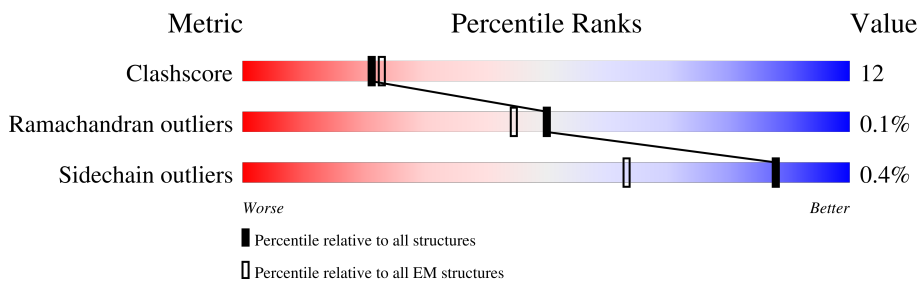
1 Overall quality at a glance

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](#)

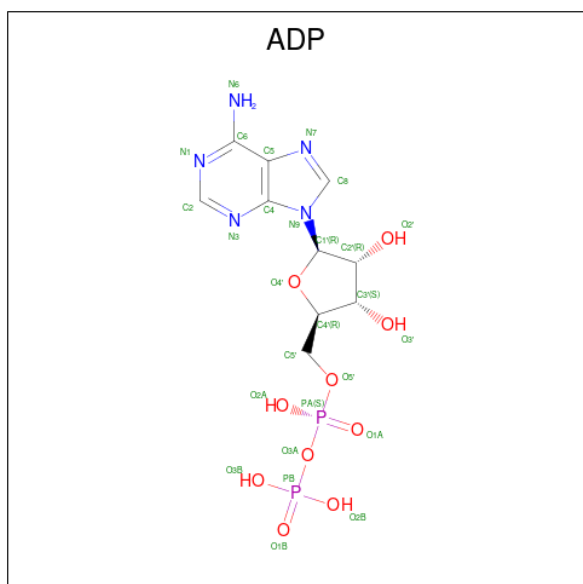
There are 4 unique types of molecules in this entry. The entry contains 23497 atoms, of which 0 are hydrogens and 0 are deuteriums.

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.

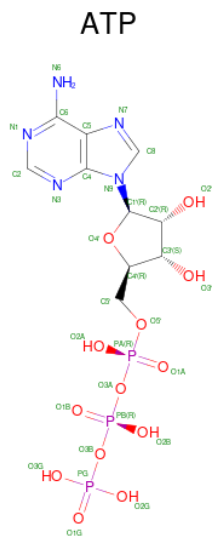
Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	2909	Total	C	N	O	S	0	0
			23384	14885	4038	4344	117		

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

- 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	

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

Mol	Chain	Residues	Atoms		AltConf
4	A	1	Total 1	Mg 1	0





E4537	A4375	L4223	K4082	K3945	H3837	K3747	L3661	N3576	L3478	
T4547	H4381	D4224	I4084	K3946	N3838	S3748	I3662	A3577	L3479	
Q4549	V4387	I4233	A4087	L3947	V3839	L3749	T3663	I3578	K3480	
G4550	V4086	V4086	V4086	V3951	L3840	L3750	L3664	M3579	S3481	
A4551	G4091	G4091	G4091	F3957	K3847	Q3751	G3665	K3581	L3482	
D4554	L4243	L4243	R4092	F3966	I3859	L3753	D3666	R3585	S3483	
F4558	M4247	M4247	L4096	E3967	L3863	E3755	Q3667	L3588	A3484	
G4559	I4251	I4251	V4099	L3973	F3864	V3756	L3671	I3589	E3485	
V4560	Y4252	Y4252	V4105	E3977	Q3865	K3757	S3672	I3590	R3486	
K4564	F4260	F4260	L4106	E3977	V3866	G3758	P3673	D3591	E3487	
K4574	D4261	D4261	M4107	T3983	A3867	R3759	T3681	T3597	K3489	
L4575	E4281	E4281	L4113	L3992	F3869	I3760	R3682		E3490	
L4577	K4287	K4287	L4116	F3996	R3870	L3761	D3683		T3492	
P4586	Q4429	Q4429	Q4117	R4000	V3871	D3762	P3684		S3493	
K4594	L4312	L4312	P4118	L4001	R3873	D3763			E3494	
E4599	P4324	P4324	C4121	L4002	M3875	T3765	D3692		T3495	
P4608	M4339	M4339	F4122	L4012	H3880	I3766	C3693		F3496	
V4609	M4343	M4343	R4123	L4013	A3888	I3767	S3694		M3500	
V4610	L4344	L4344	L4124	L4013	R3889	T3768	R3695		I3503	
L4611	K4345	K4345	F4125	M4021	R3899	T3769	T3697		S3510	
I4619	M4346	M4346	I4130	L4025	L3892	L3770	V3699		F3513	
F4624	Q4347	Q4347	K4133	V4031	F3908	E3771	F3701		V3516	
A4627	M4348	M4348	V4134	G4032	R3909	N3772	T3702		A3517	
T4628	L4349	L4349	P4135	T4033	R3910	L3773	T3702		G3518	
E4637	GLU	GLU	V4136	E4034		K3774	E3715		F3520	
R4638	ASP	ASP	N4137	E4034		E3776	V3716		K3524	
V4642	ASP	ASP	R4140	P4037		A3777	L3717			
E4646	LEU	LEU	F4147	M4038		A3778	V3724		H3535	
	ALA	ALA	L4158	P4040		E3779	D3725		L3536	
	ALA	ALA	R4176	H4054		V3780	R3628		Q3537	
	GLU	GLU				T3781	F3629		Q3538	
	THR	THR		L4058		R3782	P3632		I3541	
	LYS	LYS	L4179	N4063		K3783	S3729			
	LYS	LYS	Y4180	T4064		V3784	D3730		R3549	
	THR	THR	L4183	Q4065		E3785	D3637		T3550	
	ARG	ARG				E3786	V3638		E3551	
	THR	THR		T4069		T3787	V3644		T3552	
	ASP	ASP	R4193	A4070		D3788	V3654		L3560	
	THR	THR	S4202	L4071		I3789	R3655		R3561	
	SER	SER	Y4205	F4077		V3790	T3656		W3562	
	ASP	ASP		Q4078		Q3791	G3657		Q3563	
	GLY	GLY	A4215	Q4080		Q3799	G3658		A3564	
	ARG	ARG				L3740	R3659		L3567	
	PRO	PRO	D4220	D4081		R3741	P3660		P3568	
						R3743			E3575	
						Q3744				
						L3745				
						L3824				
						S3828				
						L3833				

4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	67545	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	1.172	Depositor
Minimum map value	-0.520	Depositor
Average map value	-0.000	Depositor
Map value standard deviation	0.032	Depositor
Recommended contour level	0.15	Depositor
Map size ($\text{\AA}$)	333.312, 333.312, 333.312	wwPDB
Map dimensions	256, 256, 256	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing ($\text{\AA}$)	1.302, 1.302, 1.302	Depositor

5 Model quality

5.1 Standard geometry

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	A	0.28	0/23881	0.42	1/32360 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	1

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	3129	VAL	N-CA-C	-5.20	107.76	113.43

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	3695	ARG	Sidechain

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	23384	0	23414	546	0
2	A	81	0	36	9	0
3	A	31	0	12	2	0
4	A	1	0	0	0	0
All	All	23497	0	23462	546	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 12.

All (546) 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:3034:LYS:HA	1:A:3050:LEU:HD22	1.57	0.86
1:A:1882:THR:HA	1:A:2048:LEU:HD23	1.62	0.81
1:A:2581:LEU:HD22	1:A:2591:LEU:HD21	1.68	0.76
1:A:3601:MET:HE1	1:A:3611:ARG:HB2	1.68	0.75
1:A:2320:ASP:OD2	1:A:2321:ASP:N	2.20	0.75
1:A:2823:ARG:HH12	1:A:2868:SER:H	1.34	0.75
1:A:2970:GLU:N	1:A:2970:GLU:OE1	2.19	0.74
1:A:2192:THR:HB	1:A:2373:MET:HG2	1.71	0.73
1:A:3042:LEU:HD12	1:A:3053:TRP:CD1	2.25	0.71
1:A:4574:LYS:HB3	1:A:4627:ALA:HB2	1.70	0.70
1:A:2999:VAL:HG21	1:A:3068:MET:HE1	1.74	0.70
1:A:4099:VAL:HB	1:A:4106:LEU:HD21	1.74	0.69
1:A:3772:ASN:HD22	1:A:3775:ARG:NH2	1.90	0.69
1:A:4033:THR:HG22	1:A:4034:GLU:HG3	1.74	0.69
1:A:1698:ILE:HD13	1:A:1701:TRP:HE1	1.58	0.69
1:A:3127:PRO:HB2	1:A:3535:HIS:CE1	2.28	0.69
1:A:1478:VAL:HB	1:A:1488:ARG:HH21	1.56	0.68
1:A:3128:VAL:HA	1:A:3145:ASN:HD21	1.59	0.68
1:A:3888:ALA:HA	1:A:4013:LEU:HD21	1.76	0.68
1:A:2797:ARG:HH12	1:A:3087:ASN:HB3	1.59	0.68
1:A:2816:LEU:HD12	1:A:2817:PRO:HD2	1.76	0.68
1:A:2593:LEU:HD13	1:A:2605:LEU:HD12	1.77	0.67
1:A:4505:LYS:NZ	1:A:4554:ASP:O	2.24	0.67
1:A:3839:VAL:HG21	1:A:3863:LEU:HA	1.76	0.67
1:A:3130:TYR:CE2	1:A:3132:LYS:HB2	2.29	0.67
1:A:3177:LEU:O	1:A:3180:ILE:HG22	1.95	0.66
1:A:3742:LEU:HD11	1:A:3780:VAL:HG21	1.77	0.66
1:A:4564:LYS:HG3	1:A:4646:GLU:HB2	1.76	0.66
1:A:2221:MET:HE1	1:A:2348:LEU:HD21	1.78	0.65
1:A:3914:ILE:HB	1:A:3937:ARG:HD2	1.79	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2963:VAL:HB	1:A:2998:ASN:HB3	1.78	0.65
1:A:2748:TYR:CE2	1:A:2799:MET:HB3	2.33	0.64
1:A:3612:THR:OG1	1:A:3622:ASN:ND2	2.29	0.64
1:A:3739:GLN:HA	1:A:3742:LEU:HD12	1.80	0.64
1:A:4457:LYS:HB3	1:A:4459:ILE:HD12	1.79	0.64
1:A:4040:PRO:HB3	1:A:4124:LEU:HD23	1.81	0.63
1:A:2909:LEU:HA	2:A:4704:ADP:C2	2.34	0.63
1:A:1880:VAL:HG11	1:A:2049:ILE:HA	1.80	0.63
1:A:2536:ASP:OD1	1:A:2576:ARG:NH1	2.31	0.63
1:A:3772:ASN:HA	1:A:3775:ARG:HE	1.61	0.63
1:A:1645:LYS:HD3	1:A:1645:LYS:N	2.14	0.62
1:A:4069:ILE:HD13	1:A:4079:GLN:HG3	1.81	0.62
1:A:3130:TYR:CZ	1:A:3132:LYS:HB2	2.35	0.62
1:A:3780:VAL:O	1:A:3784:VAL:HG23	1.99	0.62
1:A:3638:VAL:HG12	1:A:3681:THR:HB	1.81	0.62
1:A:2182:LEU:HD11	1:A:2207:VAL:HG11	1.79	0.62
1:A:1961:ASN:HB3	1:A:2018:MET:HE1	1.80	0.62
1:A:3792:GLN:O	1:A:3796:THR:HG23	1.99	0.62
1:A:3097:TRP:HB3	1:A:3101:ALA:HB3	1.82	0.61
1:A:1571:ILE:HG23	1:A:1604:LEU:HD22	1.81	0.61
1:A:2823:ARG:NH1	1:A:2868:SER:H	1.96	0.61
1:A:2823:ARG:HH22	1:A:2868:SER:HB2	1.66	0.61
1:A:2619:GLY:HA2	1:A:2662:PHE:HB3	1.81	0.61
1:A:4609:VAL:HG22	1:A:4642:VAL:HB	1.84	0.60
1:A:3034:LYS:HA	1:A:3050:LEU:CD2	2.29	0.60
1:A:3113:MET:O	1:A:3140:ARG:NH2	2.34	0.60
1:A:2572:LEU:HA	1:A:2575:VAL:HG22	1.83	0.60
1:A:3510:SER:HB3	1:A:3553:LEU:HD11	1.84	0.60
1:A:2291:VAL:HG23	1:A:2292:ARG:HG2	1.83	0.60
1:A:3127:PRO:HD3	1:A:3538:GLN:HB3	1.84	0.59
1:A:2444:GLU:H	1:A:2510:MET:HE1	1.67	0.59
1:A:3121:ILE:HD12	1:A:3121:ILE:H	1.66	0.59
1:A:2590:PRO:HB2	1:A:2731:VAL:HG12	1.84	0.59
1:A:2564:ALA:HB3	1:A:2567:VAL:HG23	1.85	0.59
1:A:1508:LYS:NZ	1:A:1524:GLU:OE1	2.34	0.59
1:A:1661:VAL:HG22	1:A:1676:ILE:HG21	1.85	0.59
1:A:2324:LEU:HD21	1:A:2332:ARG:HE	1.68	0.59
1:A:2308:ASP:OD1	1:A:2311:TRP:NE1	2.35	0.58
1:A:4065:GLN:HG2	1:A:4092:ARG:HE	1.68	0.58
1:A:4547:THR:HG22	1:A:4586:PRO:HG2	1.84	0.58
1:A:2851:ASP:OD1	1:A:2867:MET:HG3	2.02	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3030:MET:CE	1:A:3050:LEU:HB3	2.33	0.58
1:A:4463:SER:HG	1:A:4464:TRP:CD1	2.21	0.58
1:A:1497:VAL:O	1:A:1501:ILE:HG22	2.04	0.58
1:A:2834:GLN:HG2	1:A:2843:ARG:HG2	1.86	0.58
1:A:3627:LEU:HD22	1:A:3662:ILE:HG21	1.85	0.58
1:A:1649:LYS:O	1:A:1652:LYS:NZ	2.37	0.58
1:A:2984:GLY:HA2	1:A:3057:GLN:HB2	1.86	0.58
1:A:1816:VAL:HG11	1:A:2052:VAL:HG22	1.85	0.57
1:A:2775:GLU:O	1:A:2779:MET:HG3	2.04	0.57
1:A:3034:LYS:HE3	1:A:3045:ASP:HA	1.84	0.57
1:A:3050:LEU:O	1:A:3053:TRP:HB3	2.05	0.57
1:A:2744:LEU:HA	1:A:2747:ILE:HG22	1.85	0.57
1:A:4031:VAL:HG11	1:A:4058:LEU:HD21	1.86	0.57
1:A:3151:HIS:ND1	1:A:3516:TYR:OH	2.15	0.57
1:A:2346:GLN:HB2	1:A:2726:ARG:HD2	1.87	0.57
1:A:1912:LYS:HD2	1:A:2017:THR:HG23	1.87	0.57
1:A:3486:ARG:O	1:A:3490:GLU:HG2	2.05	0.57
1:A:4031:VAL:O	1:A:4123:ARG:NH1	2.37	0.57
1:A:3082:SER:HB3	1:A:3085:LEU:HD13	1.85	0.56
1:A:2369:LEU:HD12	1:A:2373:MET:HE3	1.87	0.56
1:A:4038:ASN:HB3	1:A:4118:PRO:HG3	1.87	0.56
1:A:2406:GLU:HG2	1:A:2409:ALA:HB2	1.87	0.56
1:A:2568:VAL:HG11	1:A:2607:SER:HB2	1.88	0.56
1:A:3549:ARG:NH2	1:A:3575:GLU:OE2	2.27	0.56
1:A:4247:MET:HA	1:A:4251:ILE:HB	1.87	0.56
1:A:3973:LEU:HB3	1:A:3992:LEU:HD11	1.88	0.56
1:A:4096:LEU:HD13	1:A:4105:TRP:HH2	1.70	0.56
1:A:2461:MET:HG2	1:A:2583:THR:HG21	1.87	0.55
1:A:2396:ARG:NH1	1:A:2406:GLU:OE2	2.40	0.55
1:A:2936:ILE:HD13	1:A:3068:MET:HB2	1.88	0.55
1:A:3030:MET:HE1	1:A:3051:TYR:N	2.21	0.55
1:A:3756:VAL:HG23	1:A:3760:ILE:HG21	1.87	0.55
1:A:4534:TRP:CD1	1:A:4594:LYS:HZ1	2.25	0.55
1:A:2910:VAL:HG23	1:A:3109:PHE:HE1	1.71	0.55
1:A:4460:LEU:HA	1:A:4475:VAL:HG22	1.87	0.55
1:A:1880:VAL:HB	1:A:2049:ILE:HD13	1.87	0.55
1:A:2555:ILE:HD13	1:A:2570:PRO:HD2	1.87	0.55
1:A:3143:ILE:HD13	1:A:3541:ILE:HD13	1.89	0.55
1:A:4071:ILE:HG23	1:A:4077:PHE:HE2	1.72	0.55
1:A:2152:GLU:OE1	1:A:2152:GLU:N	2.27	0.55
1:A:4205:TYR:OH	1:A:4261:ASP:OD2	2.23	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1911:GLY:HA2	2:A:4701:ADP:H5'1	1.88	0.55
1:A:3030:MET:HA	1:A:3030:MET:HE3	1.89	0.55
1:A:2773:MET:HB3	1:A:2799:MET:HE1	1.89	0.55
1:A:2308:ASP:OD1	1:A:2308:ASP:N	2.38	0.54
1:A:2934:LEU:HD23	1:A:3091:LEU:HB3	1.88	0.54
1:A:1652:LYS:HB3	1:A:2332:ARG:HH22	1.73	0.54
1:A:3888:ALA:HB1	1:A:4012:ASN:HD22	1.73	0.54
1:A:2090:LEU:O	1:A:2094:LYS:HG3	2.07	0.54
1:A:2469:VAL:HG13	1:A:2481:MET:SD	2.48	0.54
1:A:2816:LEU:HD11	1:A:2820:GLY:HA3	1.89	0.54
1:A:3715:GLU:OE2	1:A:3837:HIS:NE2	2.39	0.54
1:A:1961:ASN:HD21	1:A:2019:ASN:HB3	1.73	0.53
1:A:3957:PHE:HZ	1:A:3996:PHE:HE2	1.56	0.53
1:A:1814:GLU:OE2	1:A:1818:GLN:NE2	2.41	0.53
1:A:2795:SER:HB2	1:A:2796:PRO:CD	2.38	0.53
1:A:4113:LEU:HA	1:A:4116:LEU:HD12	1.90	0.53
1:A:3788:ASP:N	1:A:3788:ASP:OD1	2.42	0.53
1:A:2888:GLU:OE2	1:A:2888:GLU:N	2.34	0.53
1:A:3724:VAL:HG21	1:A:3797:VAL:HG21	1.91	0.53
1:A:3873:ARG:HD2	1:A:4025:LEU:HD13	1.90	0.53
1:A:3100:GLU:HA	1:A:3130:TYR:HE1	1.74	0.53
1:A:4398:LEU:HG	1:A:4417:VAL:HG21	1.90	0.53
1:A:1927:VAL:HG22	1:A:1954:TRP:HB2	1.91	0.53
1:A:2871:ILE:HD11	1:A:2873:TYR:HE1	1.73	0.53
1:A:3012:LEU:HD11	1:A:3066:PHE:CZ	2.43	0.53
1:A:2443:LEU:HG	1:A:2510:MET:HE3	1.91	0.52
1:A:1842:MET:HA	1:A:1861:MET:HB2	1.92	0.52
1:A:2600:GLY:HA2	2:A:4703:ADP:O1A	2.10	0.52
1:A:2065:LEU:HD11	1:A:2133:GLU:HB3	1.90	0.52
1:A:3562:TRP:HB3	1:A:3567:LEU:HD23	1.91	0.52
1:A:3772:ASN:HA	1:A:3775:ARG:NE	2.24	0.52
1:A:1880:VAL:HG13	1:A:2052:VAL:HB	1.90	0.52
1:A:2910:VAL:HG22	1:A:3108:GLU:HG2	1.90	0.52
1:A:4037:PRO:HB2	1:A:4118:PRO:HB2	1.90	0.52
1:A:4002:LEU:HD23	1:A:4339:MET:HE3	1.90	0.52
1:A:3113:MET:SD	1:A:3184:ALA:HA	2.50	0.52
1:A:2341:ILE:HG22	1:A:2343:PHE:CE1	2.44	0.52
1:A:2571:THR:O	1:A:2575:VAL:HG13	2.09	0.52
1:A:3021:PHE:HE2	1:A:3054:PHE:CE2	2.28	0.52
1:A:4202:SER:OG	1:A:4261:ASP:OD2	2.23	0.52
1:A:2107:ARG:NH2	1:A:2135:GLU:OE1	2.43	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2797:ARG:O	1:A:2801:ARG:HG3	2.10	0.52
1:A:1864:ALA:HB2	1:A:1897:GLU:HB2	1.92	0.51
1:A:4387:TRP:HE1	1:A:4476:ILE:HD12	1.75	0.51
1:A:2648:VAL:CG1	1:A:2701:VAL:HG22	2.40	0.51
1:A:1466:ILE:HG12	1:A:1500:HIS:ND1	2.25	0.51
1:A:2191:LEU:HD12	3:A:4702:ATP:C5	2.45	0.51
1:A:3684:PRO:HB3	1:A:3702:THR:HG21	1.92	0.51
1:A:1910:THR:HG21	1:A:2041:MET:O	2.10	0.51
1:A:3763:ASP:OD2	1:A:3765:THR:OG1	2.26	0.51
1:A:2561:LYS:O	1:A:2567:VAL:HG21	2.10	0.51
1:A:3909:LEU:HB3	1:A:4344:LEU:HD13	1.92	0.51
1:A:1721:VAL:HA	1:A:1724:VAL:HG12	1.92	0.51
1:A:2996:GLU:HB3	1:A:3068:MET:SD	2.50	0.51
1:A:1626:PHE:HB2	1:A:1699:ASN:ND2	2.25	0.51
1:A:2189:MET:CE	1:A:2236:VAL:HG22	2.41	0.51
1:A:3562:TRP:HZ2	1:A:3581:LYS:HD3	1.75	0.51
1:A:3034:LYS:HB2	1:A:3050:LEU:HD13	1.92	0.51
1:A:2437:LEU:HD21	1:A:2451:ARG:HG3	1.93	0.50
1:A:2605:LEU:HD13	1:A:2662:PHE:CE2	2.45	0.50
1:A:2629:GLU:O	1:A:2633:LYS:HG2	2.10	0.50
1:A:2572:LEU:O	1:A:2575:VAL:HG22	2.12	0.50
1:A:2992:PHE:HB3	1:A:3064:VAL:HA	1.93	0.50
1:A:3053:TRP:O	1:A:3057:GLN:HG2	2.11	0.50
1:A:3576:ASN:ND2	1:A:3700:ASN:O	2.32	0.50
1:A:1912:LYS:HG2	1:A:2041:MET:HG3	1.93	0.50
1:A:2568:VAL:HG11	1:A:2607:SER:CB	2.42	0.50
1:A:1843:ARG:NH1	1:A:1845:TYR:OH	2.42	0.50
1:A:3590:ILE:HD11	1:A:3700:ASN:ND2	2.27	0.50
1:A:1872:TYR:HE2	1:A:1874:GLY:HA2	1.76	0.50
1:A:2181:GLU:HA	1:A:2184:LYS:HD3	1.94	0.50
1:A:2562:VAL:HG21	1:A:2755:MET:HB2	1.94	0.50
1:A:1486:LEU:HB3	1:A:1541:GLN:NE2	2.26	0.50
1:A:3779:GLU:O	1:A:3783:LYS:HG3	2.11	0.50
1:A:1857:LEU:HD22	1:A:1868:TYR:HB2	1.92	0.50
1:A:2969:GLY:HA2	1:A:3004:PHE:HE1	1.76	0.50
1:A:4180:TYR:OH	1:A:4220:ASP:OD2	2.28	0.50
1:A:4391:ILE:O	1:A:4428:ARG:NH2	2.45	0.50
1:A:3100:GLU:HA	1:A:3130:TYR:CE1	2.47	0.50
1:A:1504:VAL:HG11	1:A:1524:GLU:HB2	1.93	0.49
1:A:2877:LEU:HD12	1:A:2877:LEU:H	1.76	0.49
1:A:3190:LYS:HB3	1:A:3503:ILE:HD11	1.94	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1645:LYS:HD3	1:A:1645:LYS:H	1.77	0.49
1:A:2422:ILE:HD12	1:A:2487:GLU:HB2	1.93	0.49
1:A:3037:ALA:HA	1:A:3053:TRP:NE1	2.27	0.49
1:A:2222:MET:HG2	1:A:2364:PHE:HE1	1.77	0.49
1:A:2769:LEU:HA	1:A:2858:PHE:HZ	1.77	0.49
1:A:2968:THR:OG1	1:A:2971:ASP:OD1	2.26	0.49
1:A:2995:ASP:HA	1:A:3067:THR:OG1	2.12	0.49
1:A:4087:ALA:O	1:A:4091:GLY:N	2.45	0.49
1:A:4381:HIS:HB2	1:A:4438:CYS:HB3	1.94	0.49
1:A:1487:ILE:H	1:A:1541:GLN:HE22	1.59	0.49
1:A:1556:ASP:O	1:A:1560:LEU:HG	2.12	0.49
1:A:1979:GLN:HB3	1:A:2035:LEU:HD13	1.94	0.49
1:A:2942:GLY:O	1:A:2943:LYS:C	2.56	0.49
1:A:4324:PRO:HD3	1:A:4638:ARG:HG2	1.94	0.49
1:A:1964:GLU:HG2	1:A:1965:GLU:N	2.28	0.49
1:A:1556:ASP:OD1	1:A:1645:LYS:HE2	2.12	0.49
1:A:2942:GLY:HA2	2:A:4704:ADP:H5'1	1.94	0.49
1:A:3021:PHE:CD2	1:A:3029:LEU:HD22	2.47	0.49
1:A:3193:GLU:O	1:A:3196:GLU:HG3	2.13	0.49
1:A:3892:LEU:HD13	1:A:3983:ILE:HG12	1.95	0.49
1:A:2257:LYS:NZ	1:A:2308:ASP:OD2	2.45	0.49
1:A:2748:TYR:CE2	1:A:2799:MET:CB	2.96	0.49
1:A:3567:LEU:HD12	1:A:3568:PRO:HD2	1.95	0.49
1:A:3047:HIS:HA	1:A:3050:LEU:HB2	1.94	0.48
1:A:3553:LEU:HB3	1:A:3578:ILE:HD12	1.95	0.48
1:A:3889:ARG:HH22	1:A:4347:GLN:HG3	1.77	0.48
1:A:2506:SER:OG	1:A:2507:ARG:N	2.46	0.48
1:A:3762:ASP:OD1	1:A:3762:ASP:N	2.44	0.48
1:A:4088:VAL:HG23	1:A:4118:PRO:HA	1.95	0.48
1:A:4511:LEU:HD23	1:A:4560:VAL:HG13	1.96	0.48
1:A:3049:GLU:O	1:A:3052:LYS:HE3	2.14	0.48
1:A:1561:LEU:HB3	1:A:1564:GLU:HB2	1.95	0.48
1:A:1598:GLN:HG2	1:A:1599:ARG:HH21	1.79	0.48
1:A:3765:THR:HB	1:A:3767:ILE:HG12	1.95	0.48
1:A:1488:ARG:NH1	1:A:1488:ARG:HB2	2.28	0.48
1:A:2221:MET:HG2	1:A:2343:PHE:HB2	1.93	0.48
1:A:2452:LEU:HD23	1:A:2452:LEU:HA	1.69	0.48
1:A:3611:ARG:NH1	1:A:3636:GLN:OE1	2.47	0.48
1:A:2500:TRP:CD2	1:A:2580:LEU:HD11	2.49	0.48
1:A:2836:ARG:HB2	1:A:3091:LEU:HD11	1.94	0.48
1:A:1638:LEU:HD23	1:A:1641:ILE:HD11	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2382:LEU:HD23	1:A:2420:ALA:HB2	1.96	0.48
1:A:3208:ILE:HG13	1:A:3489:TRP:HZ3	1.78	0.48
1:A:3692:LEU:O	1:A:3696:VAL:HG22	2.14	0.48
1:A:1526:LYS:O	1:A:1530:ILE:HG22	2.14	0.48
1:A:1571:ILE:HD11	1:A:1607:LEU:HB3	1.96	0.48
1:A:4054:HIS:CD2	1:A:4147:PHE:HE2	2.32	0.48
1:A:2622:PHE:CD2	1:A:2626:THR:HG21	2.48	0.48
1:A:2838:VAL:HG13	1:A:3093:TRP:CZ2	2.49	0.48
1:A:2912:PHE:CD1	1:A:2914:GLU:HB2	2.48	0.48
1:A:3772:ASN:O	1:A:3775:ARG:HG2	2.14	0.48
1:A:4021:MET:HA	1:A:4021:MET:HE2	1.95	0.48
1:A:2189:MET:HE1	1:A:2236:VAL:HG22	1.96	0.47
1:A:4423:LEU:HD13	1:A:4466:HIS:CD2	2.49	0.47
1:A:3596:ALA:O	1:A:3600:ILE:HG12	2.14	0.47
1:A:1746:GLN:O	1:A:1750:VAL:HG23	2.14	0.47
1:A:2066:ALA:HA	1:A:2069:ILE:HG22	1.96	0.47
1:A:3154:LEU:HD21	1:A:3171:ILE:HG13	1.96	0.47
1:A:3725:ASP:OD1	1:A:3728:ARG:NH2	2.37	0.47
1:A:2555:ILE:CD1	1:A:2570:PRO:HD2	2.44	0.47
1:A:3208:ILE:HG23	1:A:3482:LEU:HD12	1.95	0.47
1:A:2863:ARG:O	1:A:2867:MET:HG2	2.15	0.47
1:A:3561:ARG:NH2	1:A:3603:GLU:OE1	2.48	0.47
1:A:4535:SER:OG	1:A:4537:GLU:OE1	2.28	0.47
1:A:1658:PHE:HB2	1:A:1661:VAL:HB	1.96	0.47
1:A:2306:ASP:OD1	1:A:2307:VAL:N	2.48	0.47
1:A:3554:SER:HB3	1:A:3578:ILE:HD11	1.96	0.47
1:A:4423:LEU:HD13	1:A:4466:HIS:HD2	1.80	0.47
1:A:2191:LEU:HD11	1:A:2232:MET:HE3	1.97	0.47
1:A:2660:VAL:HG22	1:A:2707:GLN:HB2	1.97	0.47
1:A:3073:GLU:HG2	1:A:3074:GLY:N	2.29	0.47
1:A:3873:ARG:CD	1:A:4025:LEU:HD13	2.45	0.47
1:A:3913:GLU:N	1:A:3913:GLU:OE1	2.48	0.47
1:A:4281:GLU:N	1:A:4281:GLU:OE1	2.48	0.47
1:A:1717:LEU:HB2	1:A:1749:LEU:HD22	1.96	0.47
1:A:2349:LYS:HA	1:A:2349:LYS:HD3	1.72	0.47
1:A:2666:ILE:HB	1:A:2712:CYS:SG	2.54	0.47
1:A:2869:ARG:N	1:A:2870:PRO:HD2	2.30	0.47
1:A:2889:LEU:HD23	1:A:2916:LEU:HG	1.97	0.47
1:A:2605:LEU:HD11	1:A:2709:VAL:HG12	1.97	0.47
1:A:3828:SER:HB3	1:A:4140:ARG:HG2	1.96	0.47
1:A:2747:ILE:HD13	1:A:2747:ILE:O	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2999:VAL:HG13	1:A:3005:LEU:HD21	1.96	0.47
1:A:3957:PHE:HZ	1:A:3996:PHE:CE2	2.33	0.47
1:A:1882:THR:OG1	1:A:1883:PRO:HD2	2.14	0.46
1:A:2956:LEU:HD23	1:A:2989:LYS:HB3	1.97	0.46
1:A:3482:LEU:O	1:A:3485:GLU:HG3	2.15	0.46
1:A:3927:LEU:HD21	1:A:3935:VAL:HG21	1.97	0.46
1:A:2784:PHE:CE1	1:A:2842:GLU:HB3	2.50	0.46
1:A:3033:CYS:SG	1:A:3053:TRP:HE3	2.38	0.46
1:A:3140:ARG:O	1:A:3144:VAL:HG23	2.15	0.46
1:A:2231:SER:HA	1:A:2234:TRP:CD1	2.51	0.46
1:A:2395:GLN:HB3	1:A:2398:ARG:HH22	1.80	0.46
1:A:2666:ILE:O	1:A:2669:PRO:HD2	2.15	0.46
1:A:3483:SER:O	1:A:3487:GLU:HG2	2.15	0.46
1:A:2012:MET:HE3	1:A:2012:MET:HB3	1.79	0.46
1:A:2964:HIS:HB2	1:A:3644:VAL:HB	1.98	0.46
1:A:3910:ARG:CZ	1:A:4344:LEU:HD11	2.46	0.46
1:A:1509:LEU:HD22	1:A:3628:ARG:HE	1.80	0.46
1:A:2453:ARG:NH1	1:A:2505:ASP:OD2	2.27	0.46
1:A:2757:ARG:HG2	1:A:2763:ARG:HH22	1.79	0.46
1:A:3175:HIS:CD2	1:A:3585:ARG:HH12	2.33	0.46
1:A:2784:PHE:HB2	1:A:2794:TYR:HE2	1.80	0.46
1:A:2869:ARG:CZ	1:A:2869:ARG:HA	2.46	0.46
1:A:2412:MET:HE1	1:A:2467:ARG:HA	1.97	0.46
1:A:3588:LEU:HD22	1:A:3698:PHE:CE1	2.51	0.46
1:A:3172:THR:HG21	1:A:3694:SER:HB2	1.98	0.46
1:A:3755:GLU:OE2	1:A:3759:ARG:NH1	2.42	0.46
1:A:2728:LEU:HA	1:A:2731:VAL:HG22	1.98	0.46
1:A:3037:ALA:HA	1:A:3053:TRP:CE2	2.51	0.46
1:A:3042:LEU:O	1:A:3043:MET:C	2.58	0.46
1:A:2191:LEU:HD12	3:A:4702:ATP:C6	2.51	0.46
1:A:2444:GLU:N	1:A:2510:MET:HE1	2.30	0.46
1:A:2620:LEU:HD12	1:A:2630:LEU:HD21	1.97	0.46
1:A:2897:LEU:HD22	1:A:2911:LEU:HD21	1.97	0.46
1:A:1925:ARG:HG2	1:A:1954:TRP:CD1	2.51	0.45
1:A:2872:LEU:HG	1:A:2920:LEU:HD12	1.96	0.45
1:A:2972:PHE:CE2	1:A:3004:PHE:HB3	2.51	0.45
1:A:2986:LYS:O	1:A:2987:ASN:C	2.59	0.45
1:A:3079:ALA:HB2	1:A:3086:PHE:CE1	2.51	0.45
1:A:4501:ALA:HB3	1:A:4502:LYS:NZ	2.31	0.45
1:A:1575:PHE:CZ	1:A:1579:MET:HE2	2.52	0.45
1:A:3114:ASP:O	1:A:3116:GLU:HG3	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3151:HIS:HD1	1:A:3516:TYR:HH	0.57	0.45
1:A:3612:THR:HG21	1:A:3619:PHE:HA	1.98	0.45
1:A:2093:LEU:O	1:A:2097:LEU:HG	2.17	0.45
1:A:3591:ASP:N	1:A:3591:ASP:OD1	2.47	0.45
1:A:3921:THR:O	1:A:3921:THR:OG1	2.33	0.45
1:A:2053:MET:HE1	1:A:2094:LYS:HG2	1.99	0.45
1:A:2075:LEU:HB3	1:A:2160:LEU:HD13	1.97	0.45
1:A:2598:GLY:O	2:A:4703:ADP:H5'2	2.16	0.45
1:A:3817:SER:HB2	1:A:4346:MET:HE1	1.99	0.45
1:A:1797:LEU:HD23	1:A:1797:LEU:HA	1.87	0.45
1:A:2683:ILE:O	1:A:2687:VAL:HG22	2.17	0.45
1:A:2354:ALA:HB1	1:A:2358:ARG:HH21	1.81	0.45
1:A:2527:PRO:HD3	1:A:2545:TRP:CE2	2.52	0.45
1:A:2596:PRO:HB2	1:A:2738:TYR:CZ	2.51	0.45
1:A:2720:ARG:HH22	1:A:3083:PRO:HB3	1.82	0.45
1:A:3910:ARG:NH1	1:A:4344:LEU:HD11	2.31	0.45
1:A:1523:TRP:O	1:A:1527:LEU:HG	2.17	0.45
1:A:1632:VAL:HG22	1:A:1636:ASP:HB2	1.98	0.45
1:A:1882:THR:CG2	1:A:1885:THR:HG23	2.47	0.45
1:A:1892:MET:SD	1:A:1902:GLY:HA3	2.57	0.45
1:A:1961:ASN:ND2	1:A:2019:ASN:O	2.50	0.45
1:A:2472:TYR:CD1	1:A:2541:ILE:HG21	2.51	0.45
1:A:3021:PHE:CE2	1:A:3054:PHE:CE2	3.04	0.45
1:A:3042:LEU:HD12	1:A:3053:TRP:NE1	2.31	0.45
1:A:3945:LYS:HB2	1:A:3945:LYS:HE2	1.71	0.45
1:A:4084:ILE:HD11	1:A:4096:LEU:HD11	1.98	0.45
1:A:4158:LEU:HD23	1:A:4158:LEU:HA	1.80	0.45
1:A:4430:ASP:OD2	1:A:4447:TYR:OH	2.29	0.45
1:A:1626:PHE:HB3	1:A:1629:PHE:CD2	2.52	0.45
1:A:1678:SER:OG	1:A:1679:ARG:N	2.48	0.45
1:A:2603:MET:HE2	2:A:4703:ADP:C4	2.52	0.45
1:A:2748:TYR:HA	1:A:2751:PHE:HB2	1.99	0.44
1:A:3872:ALA:O	1:A:3880:HIS:NE2	2.50	0.44
1:A:1652:LYS:O	1:A:1655:LYS:NZ	2.51	0.44
1:A:2823:ARG:HH12	1:A:2868:SER:CB	2.30	0.44
1:A:3520:PHE:HB3	1:A:3524:MET:HB3	1.98	0.44
1:A:3592:PRO:HD3	1:A:3702:THR:HG22	1.98	0.44
1:A:1550:ILE:HD13	1:A:1615:LEU:HD21	1.99	0.44
1:A:2393:GLU:O	1:A:2397:ARG:NH1	2.50	0.44
1:A:2912:PHE:CE1	1:A:2915:VAL:HG23	2.53	0.44
1:A:3033:CYS:SG	1:A:3050:LEU:O	2.75	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2369:LEU:HD23	1:A:2451:ARG:HH21	1.82	0.44
1:A:2419:ALA:O	1:A:2423:MET:HG2	2.18	0.44
1:A:3114:ASP:O	1:A:3140:ARG:NH2	2.50	0.44
1:A:3620:ARG:O	1:A:3624:GLU:HG2	2.17	0.44
1:A:4031:VAL:HG21	1:A:4125:PHE:HZ	1.83	0.44
1:A:2222:MET:HG2	1:A:2364:PHE:CE1	2.52	0.44
1:A:3051:TYR:HE1	1:A:3054:PHE:HD2	1.66	0.44
1:A:3624:GLU:HA	1:A:3627:LEU:HD12	2.00	0.44
1:A:4460:LEU:HD12	1:A:4461:PRO:HD2	1.99	0.44
1:A:2045:ASP:O	1:A:2049:ILE:HG12	2.17	0.44
1:A:2290:SER:HB3	1:A:2295:LEU:HG	2.00	0.44
1:A:3551:GLU:OE1	1:A:3732:LEU:HG	2.17	0.44
1:A:2577:HIS:ND1	1:A:2736:VAL:HG22	2.32	0.44
1:A:3481:SER:HB2	1:A:3770:LEU:HD11	1.99	0.44
1:A:3966:PRO:HD2	1:A:4000:ARG:HG3	2.00	0.44
1:A:2031:ASN:OD1	1:A:2031:ASN:N	2.50	0.43
1:A:2123:ASP:O	1:A:2127:ILE:HG13	2.18	0.43
1:A:2172:ARG:C	1:A:2172:ARG:HD3	2.44	0.43
1:A:2382:LEU:O	1:A:2416:GLN:NE2	2.46	0.43
1:A:2568:VAL:CG1	1:A:2607:SER:HB2	2.48	0.43
1:A:4176:ARG:NH2	1:A:4224:ASP:OD1	2.48	0.43
1:A:4193:ARG:NH2	1:A:4637:GLU:O	2.31	0.43
1:A:1505:SER:HA	1:A:1508:LYS:HZ3	1.83	0.43
1:A:1622:GLU:OE2	1:A:1697:LYS:NZ	2.39	0.43
1:A:2445:HIS:CD2	1:A:2449:LEU:HD22	2.54	0.43
1:A:2558:GLU:HG3	1:A:2560:HIS:CE1	2.53	0.43
1:A:1879:LEU:HB3	2:A:4701:ADP:N6	2.33	0.43
1:A:2146:VAL:HA	1:A:2149:LEU:HD12	2.00	0.43
1:A:2413:LEU:HD23	1:A:2413:LEU:HA	1.81	0.43
1:A:3058:VAL:O	1:A:3059:ILE:C	2.61	0.43
1:A:3097:TRP:HB3	1:A:3101:ALA:CB	2.45	0.43
1:A:3180:ILE:HD12	1:A:3180:ILE:HA	1.94	0.43
1:A:4404:ASN:ND2	1:A:4501:ALA:HB2	2.33	0.43
1:A:1928:LEU:HD13	1:A:1948:LEU:HD21	2.01	0.43
1:A:2635:PHE:HB3	1:A:2650:LEU:HD11	2.00	0.43
1:A:2871:ILE:CD1	1:A:2873:TYR:HE1	2.31	0.43
1:A:4260:PHE:CE2	1:A:4608:PRO:HB3	2.53	0.43
1:A:2648:VAL:HG12	1:A:2701:VAL:HG22	1.99	0.43
1:A:3590:ILE:HD11	1:A:3700:ASN:HD22	1.82	0.43
1:A:2632:LEU:HD23	1:A:2632:LEU:HA	1.86	0.43
1:A:3030:MET:HE1	1:A:3050:LEU:C	2.43	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3513:PHE:HZ	1:A:3575:GLU:HB3	1.84	0.43
1:A:1663:SER:OG	1:A:1664:ILE:N	2.51	0.43
1:A:2152:GLU:H	1:A:2152:GLU:CD	2.21	0.43
1:A:2415:ILE:HD12	1:A:2415:ILE:HA	1.89	0.43
1:A:2910:VAL:HG23	1:A:3109:PHE:CE1	2.53	0.43
1:A:4107:MET:HE1	1:A:4135:PRO:HB3	2.01	0.43
1:A:2759:ILE:HD11	1:A:2810:LEU:HD22	2.01	0.43
1:A:2823:ARG:HH12	1:A:2868:SER:N	2.08	0.43
1:A:3736:GLY:O	1:A:3740:LEU:N	2.43	0.43
1:A:3846:LEU:HD21	1:A:3859:ILE:HG13	2.01	0.43
1:A:4524:THR:HB	1:A:4558:PHE:CE2	2.54	0.43
1:A:2962:LYS:HG3	1:A:3665:GLY:O	2.19	0.43
1:A:4243:LEU:O	1:A:4247:MET:HE3	2.18	0.43
1:A:1478:VAL:HB	1:A:1488:ARG:NH2	2.29	0.43
1:A:3865:GLN:NE2	1:A:3869:ASN:OD1	2.51	0.43
1:A:4457:LYS:HB2	1:A:4457:LYS:HE2	1.88	0.43
1:A:1912:LYS:HZ3	1:A:1912:LYS:HB2	1.84	0.42
1:A:2418:ASP:O	1:A:2422:ILE:HG12	2.19	0.42
1:A:2465:ALA:HB2	1:A:2493:TYR:CD1	2.54	0.42
1:A:2571:THR:HG23	1:A:2574:THR:H	1.84	0.42
1:A:2577:HIS:O	1:A:2581:LEU:HG	2.19	0.42
1:A:3127:PRO:HG3	1:A:3538:GLN:HB3	2.01	0.42
1:A:2214:THR:HG22	1:A:2220:LEU:HD21	2.01	0.42
1:A:2784:PHE:HB3	1:A:2792:TYR:CD2	2.54	0.42
1:A:3607:ARG:HD2	1:A:3632:PRO:HD3	2.01	0.42
1:A:3824:LEU:HD22	1:A:4130:ILE:HD12	2.01	0.42
1:A:3947:LEU:O	1:A:3951:VAL:HG23	2.19	0.42
1:A:4183:LEU:HD11	1:A:4215:ALA:HB1	2.01	0.42
1:A:1698:ILE:O	1:A:1702:LEU:HB2	2.18	0.42
1:A:2182:LEU:HD13	1:A:2236:VAL:HG12	2.01	0.42
1:A:3048:GLU:CD	1:A:3049:GLU:HG2	2.44	0.42
1:A:4002:LEU:HD23	1:A:4002:LEU:HA	1.87	0.42
1:A:2181:GLU:HG3	1:A:2244:LEU:HD13	2.01	0.42
1:A:2213:ILE:HG22	1:A:2220:LEU:HD22	2.01	0.42
1:A:2222:MET:CE	1:A:2342:MET:HG2	2.50	0.42
1:A:2598:GLY:HA2	1:A:2797:ARG:HD2	2.01	0.42
1:A:3079:ALA:HB2	1:A:3086:PHE:HE1	1.84	0.42
1:A:3127:PRO:CD	1:A:3538:GLN:HB3	2.49	0.42
1:A:1469:VAL:HG11	1:A:1500:HIS:HE1	1.83	0.42
1:A:2072:PHE:CZ	1:A:2161:LEU:HD13	2.54	0.42
1:A:2453:ARG:HD3	1:A:2728:LEU:O	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2315:LEU:HD13	1:A:2343:PHE:HZ	1.85	0.42
1:A:3021:PHE:HE2	1:A:3054:PHE:HE2	1.66	0.42
1:A:2241:LEU:HB3	1:A:2298:ARG:NH2	2.35	0.42
1:A:2580:LEU:HB3	1:A:2584:TRP:CZ3	2.54	0.42
1:A:2920:LEU:HD23	1:A:2920:LEU:HA	1.81	0.42
1:A:2976:LEU:HA	1:A:2979:VAL:HG12	2.01	0.42
1:A:4179:LEU:HD12	1:A:4223:LEU:HD22	2.02	0.42
1:A:4233:ILE:HD11	1:A:4238:ILE:HG12	2.01	0.42
1:A:4324:PRO:HB3	1:A:4638:ARG:HH11	1.84	0.42
1:A:1638:LEU:HD23	1:A:1638:LEU:HA	1.86	0.42
1:A:1800:GLN:OE1	1:A:1804:ARG:NH1	2.53	0.42
1:A:2072:PHE:CE1	1:A:2161:LEU:HD13	2.55	0.42
1:A:2427:PHE:HE2	1:A:2459:PHE:HE1	1.68	0.42
1:A:2813:LEU:HD22	1:A:2816:LEU:HD22	2.02	0.42
1:A:3691:ASP:CG	1:A:3695:ARG:HE	2.28	0.42
1:A:3847:LYS:HB2	1:A:3847:LYS:HE2	1.82	0.42
1:A:4414:GLU:OE1	1:A:4415:ARG:N	2.53	0.42
1:A:1702:LEU:HD12	1:A:1702:LEU:HA	1.79	0.42
1:A:1704:LEU:HD23	1:A:1704:LEU:HA	1.88	0.42
1:A:2189:MET:HE3	1:A:2189:MET:HB2	1.85	0.42
1:A:2798:GLU:HA	1:A:2801:ARG:HD2	2.02	0.42
1:A:2976:LEU:HA	1:A:2976:LEU:HD23	1.86	0.42
1:A:2254:ILE:HD11	1:A:2283:VAL:HG21	2.01	0.42
1:A:2648:VAL:HG11	1:A:2701:VAL:HG22	2.01	0.42
1:A:3190:LYS:CB	1:A:3503:ILE:HD11	2.49	0.42
1:A:3518:GLY:HA2	1:A:3579:MET:HE1	2.01	0.42
1:A:1738:TYR:HE2	1:A:1792:LEU:HD21	1.85	0.41
1:A:2897:LEU:HD12	1:A:2897:LEU:HA	1.81	0.41
1:A:3211:THR:O	1:A:3215:VAL:HG23	2.20	0.41
1:A:3709:GLN:HG3	1:A:3805:SER:OG	2.20	0.41
1:A:3717:LEU:HD23	1:A:3717:LEU:HA	1.79	0.41
1:A:3908:PHE:HE2	1:A:4343:MET:HE1	1.84	0.41
1:A:2912:PHE:CE1	1:A:2914:GLU:HB2	2.55	0.41
1:A:3867:ALA:O	1:A:3871:VAL:HG23	2.20	0.41
1:A:1778:LEU:HB3	1:A:1826:ILE:HG12	2.01	0.41
1:A:2053:MET:HE1	1:A:2094:LYS:HA	2.02	0.41
1:A:2161:LEU:HD12	1:A:2161:LEU:HA	1.91	0.41
1:A:2827:HIS:HB2	1:A:2871:ILE:HD11	2.01	0.41
1:A:1872:TYR:HD2	1:A:1874:GLY:H	1.69	0.41
1:A:2183:LYS:HZ3	1:A:2193:TYR:HE2	1.67	0.41
1:A:2600:GLY:HA2	2:A:4703:ADP:H5'1	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2819:GLU:HB2	1:A:2865:LYS:HE3	2.02	0.41
1:A:3078:ARG:HD3	1:A:3078:ARG:HA	1.85	0.41
1:A:3776:GLU:O	1:A:3780:VAL:HG13	2.21	0.41
1:A:4069:ILE:HD12	1:A:4080:ALA:HA	2.03	0.41
1:A:2150:VAL:HG12	1:A:2363:TRP:CE2	2.55	0.41
1:A:2309:PRO:HB3	1:A:2352:THR:HG23	2.01	0.41
1:A:2568:VAL:HG11	1:A:2607:SER:OG	2.20	0.41
1:A:2980:LEU:HB3	1:A:3054:PHE:HZ	1.85	0.41
1:A:3637:ASP:N	1:A:3637:ASP:OD1	2.53	0.41
1:A:2307:VAL:HG23	1:A:2345:VAL:HG11	2.03	0.41
1:A:2492:ARG:HG3	1:A:2545:TRP:CE2	2.55	0.41
1:A:1574:GLU:OE2	1:A:1604:LEU:HD11	2.21	0.41
1:A:1579:MET:HA	1:A:1582:VAL:HG12	2.02	0.41
1:A:1741:TRP:CH2	1:A:1750:VAL:HG13	2.55	0.41
1:A:2872:LEU:CG	1:A:2920:LEU:HD12	2.50	0.41
1:A:3010:THR:HG21	1:A:3018:PRO:HD2	2.03	0.41
1:A:3029:LEU:HD21	1:A:3051:TYR:CE1	2.56	0.41
1:A:4096:LEU:HD13	1:A:4105:TRP:CH2	2.52	0.41
1:A:1880:VAL:HG21	1:A:2049:ILE:HA	2.02	0.41
1:A:2164:VAL:O	1:A:2166:PRO:HD3	2.20	0.41
1:A:2218:HIS:HA	1:A:2340:ARG:HD3	2.02	0.41
1:A:2275:TRP:CZ2	1:A:2327:LEU:HD23	2.56	0.41
1:A:2574:THR:O	1:A:2578:GLU:HB2	2.21	0.41
1:A:4107:MET:SD	1:A:4137:ASN:ND2	2.91	0.41
1:A:1486:LEU:HB3	1:A:1541:GLN:HE22	1.86	0.41
1:A:1698:ILE:HD13	1:A:1701:TRP:NE1	2.32	0.41
1:A:2801:ARG:O	1:A:2802:TRP:C	2.64	0.41
1:A:2818:VAL:O	1:A:2822:ILE:HG12	2.21	0.41
1:A:2871:ILE:HD11	1:A:2873:TYR:CE1	2.53	0.41
1:A:2885:ASP:HB3	1:A:2888:GLU:OE2	2.20	0.41
1:A:3030:MET:CE	1:A:3050:LEU:CB	2.99	0.41
1:A:3107:LYS:HE3	1:A:3107:LYS:HB3	1.93	0.41
1:A:3597:THR:O	1:A:3601:MET:HG2	2.21	0.41
1:A:4065:GLN:CG	1:A:4092:ARG:HE	2.34	0.41
1:A:1628:ARG:HE	1:A:1706:GLU:CD	2.29	0.41
1:A:1636:ASP:HB3	1:A:1653:HIS:CE1	2.56	0.41
1:A:1880:VAL:HG21	1:A:2049:ILE:O	2.21	0.41
1:A:3496:PHE:HZ	1:A:3743:ARG:NH1	2.19	0.41
1:A:3833:LEU:HD23	1:A:3833:LEU:HA	1.87	0.41
1:A:4247:MET:O	1:A:4252:TYR:HB2	2.21	0.41
1:A:4575:LEU:HG	1:A:4624:PHE:HB3	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1912:LYS:HA	1:A:2041:MET:HE3	2.02	0.40
1:A:3727:LYS:HE3	1:A:3790:VAL:HG13	2.03	0.40
1:A:3871:VAL:HG12	1:A:3875:MET:SD	2.60	0.40
1:A:1911:GLY:HA3	2:A:4701:ADP:H8	1.86	0.40
1:A:2686:MET:HE2	1:A:2686:MET:HB3	1.86	0.40
1:A:2802:TRP:CZ2	1:A:2829:ALA:HB2	2.57	0.40
1:A:2867:MET:HE3	1:A:2867:MET:HB3	1.70	0.40
1:A:2901:TYR:OH	1:A:2909:LEU:N	2.52	0.40
1:A:2910:VAL:HG21	1:A:3105:VAL:HA	2.03	0.40
1:A:4312:LEU:HD23	1:A:4312:LEU:HA	1.86	0.40
1:A:1469:VAL:HG11	1:A:1500:HIS:CE1	2.57	0.40
1:A:1724:VAL:HA	1:A:1727:PHE:HB2	2.04	0.40
1:A:2385:ILE:HD13	1:A:2385:ILE:HA	1.97	0.40
1:A:3030:MET:HE2	1:A:3050:LEU:CB	2.51	0.40
1:A:3654:ARG:NH1	1:A:3668:ASP:OD2	2.54	0.40
1:A:4031:VAL:HG22	1:A:4123:ARG:HH11	1.86	0.40
1:A:2300:TRP:CD2	1:A:2342:MET:HE1	2.57	0.40
1:A:3169:MET:HG3	1:A:3698:PHE:CE2	2.56	0.40
1:A:3840:LEU:HD23	1:A:3840:LEU:HA	1.90	0.40
1:A:1668:GLU:H	1:A:1668:GLU:HG2	1.67	0.40
1:A:3992:LEU:HD23	1:A:3992:LEU:HA	1.91	0.40
1:A:4422:LYS:HD3	1:A:4422:LYS:C	2.46	0.40
1:A:4577:LEU:HD22	1:A:4638:ARG:HD2	2.04	0.40
1:A:4611:LEU:HB2	1:A:4619:ILE:HD11	2.03	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	A	2901/4646 (62%)	2832 (98%)	66 (2%)	3 (0%)	48 79

All (3) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	2987	ASN
1	A	2943	LYS
1	A	1510	SER

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	A	2583/4125 (63%)	2572 (100%)	11 (0%)	89	95

All (11) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	1563	VAL
1	A	1967	MET
1	A	2182	LEU
1	A	2189	MET
1	A	2191	LEU
1	A	2747	ILE
1	A	2867	MET
1	A	3096	ASP
1	A	3125	TYR
1	A	3126	MET
1	A	4343	MET

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (34) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	1465	GLN
1	A	1528	ASN
1	A	1541	GLN
1	A	1643	ASN
1	A	1667	ASN
1	A	1736	ASN

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Mol	Chain	Res	Type
1	A	1755	GLN
1	A	1818	GLN
1	A	1894	GLN
1	A	2051	GLN
1	A	2130	ASN
1	A	2171	HIS
1	A	2209	GLN
1	A	2218	HIS
1	A	2346	GLN
1	A	2430	ASN
1	A	2468	ASN
1	A	2621	ASN
1	A	2677	GLN
1	A	2827	HIS
1	A	2987	ASN
1	A	3032	GLN
1	A	3145	ASN
1	A	3772	ASN
1	A	3822	HIS
1	A	3845	ASN
1	A	3865	GLN
1	A	3912	ASN
1	A	4062	GLN
1	A	4258	ASN
1	A	4326	ASN
1	A	4490	GLN
1	A	4506	ASN
1	A	4595	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 ⓘ

There are no oligosaccharides in this entry.

5.6 Ligand geometry

Of 5 ligands modelled in this entry, 1 is monoatomic - leaving 4 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
2	ADP	A	4701	-	24,29,29	0.72	0	29,45,45	0.74	1 (3%)
2	ADP	A	4704	-	24,29,29	0.73	0	29,45,45	0.78	1 (3%)
3	ATP	A	4702	-	28,33,33	0.74	0	34,52,52	0.83	1 (2%)
2	ADP	A	4703	-	24,29,29	0.73	0	29,45,45	0.73	1 (3%)

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

There are no bond length outliers.

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	A	4702	ATP	C5-C6-N6	2.38	123.94	120.31
2	A	4701	ADP	C5-C6-N6	2.29	123.80	120.31
2	A	4703	ADP	C5-C6-N6	2.26	123.75	120.31
2	A	4704	ADP	C5-C6-N6	2.21	123.68	120.31

There are no chirality outliers.

All (5) torsion outliers are listed below:

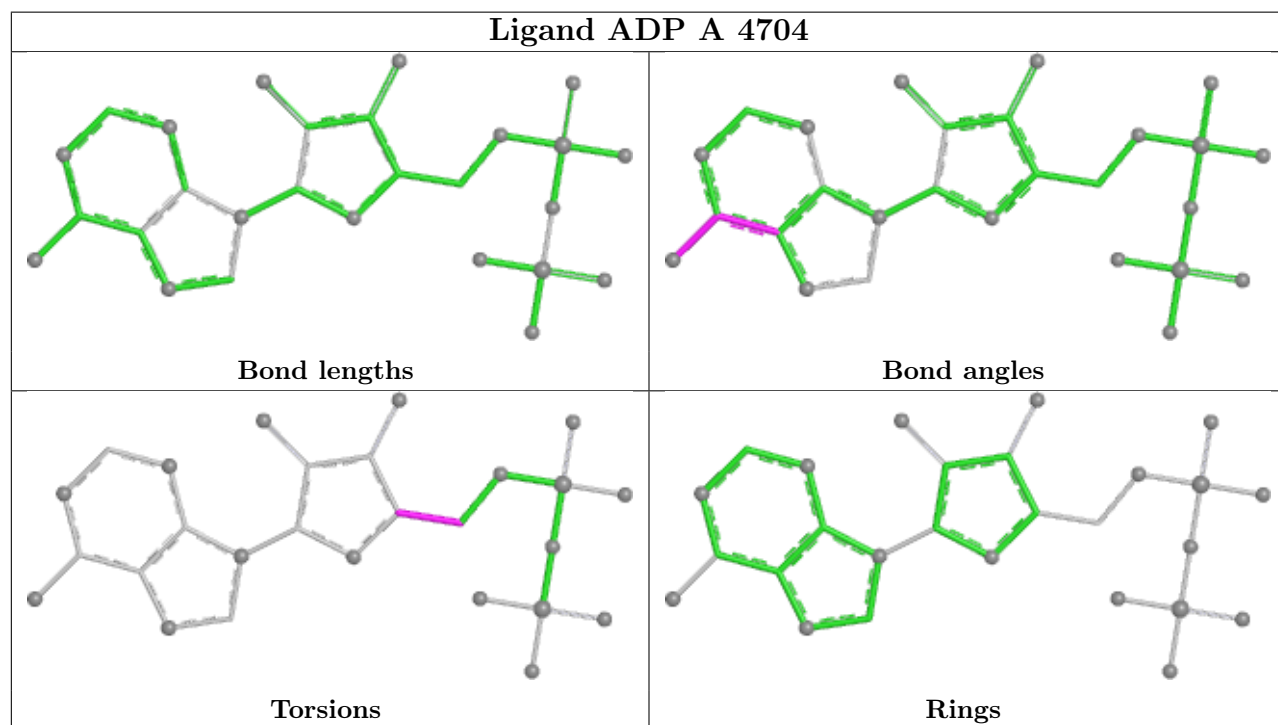
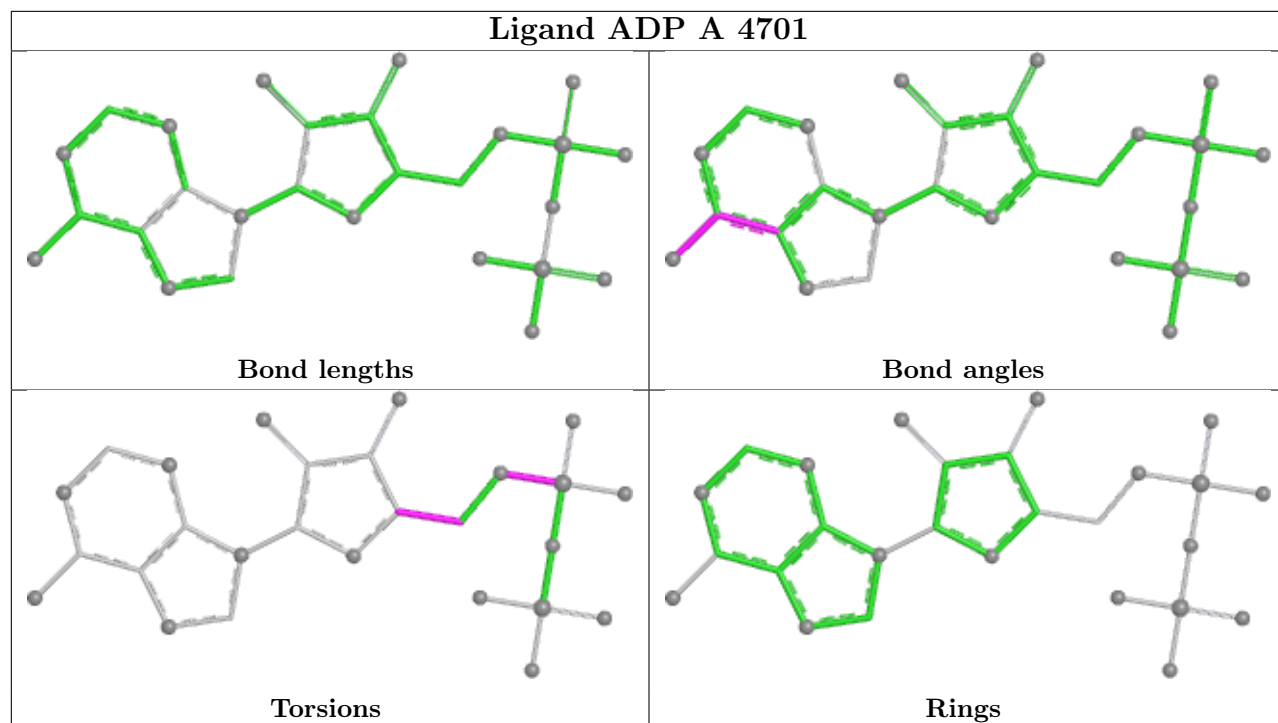
Mol	Chain	Res	Type	Atoms
2	A	4701	ADP	C5'-O5'-PA-O2A
2	A	4701	ADP	C5'-O5'-PA-O3A
2	A	4701	ADP	O4'-C4'-C5'-O5'
2	A	4704	ADP	O4'-C4'-C5'-O5'
2	A	4704	ADP	C3'-C4'-C5'-O5'

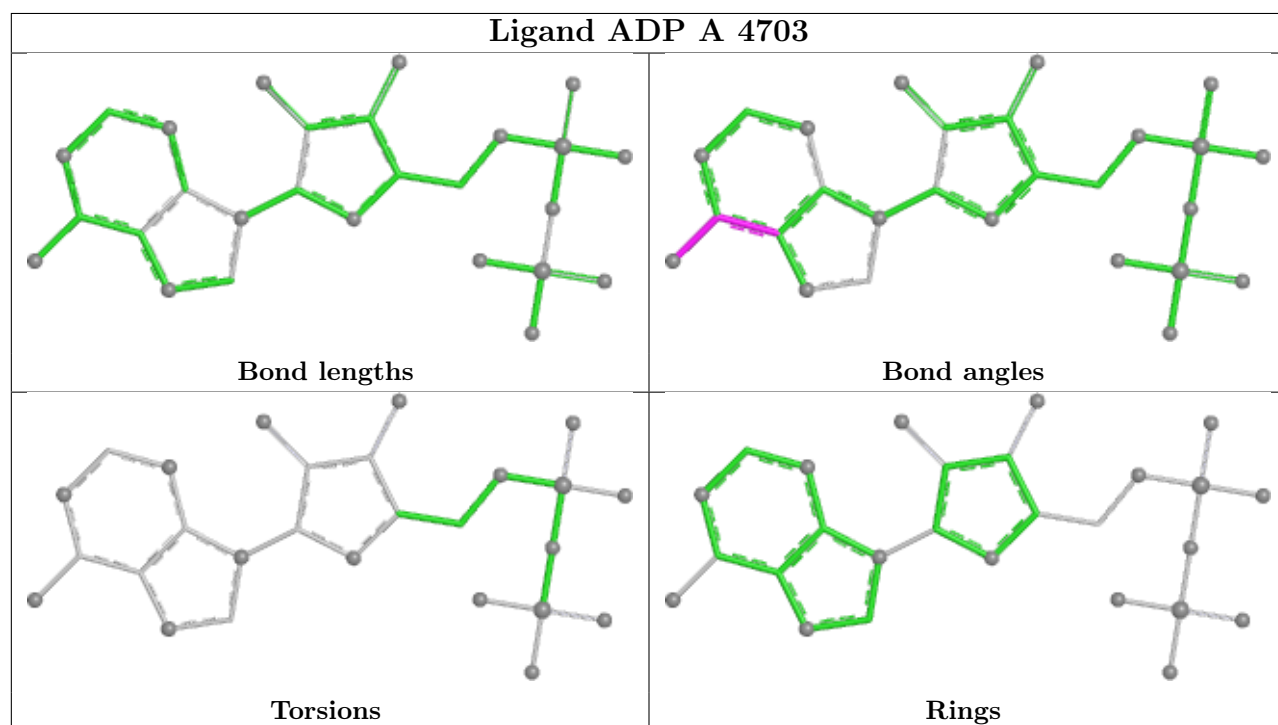
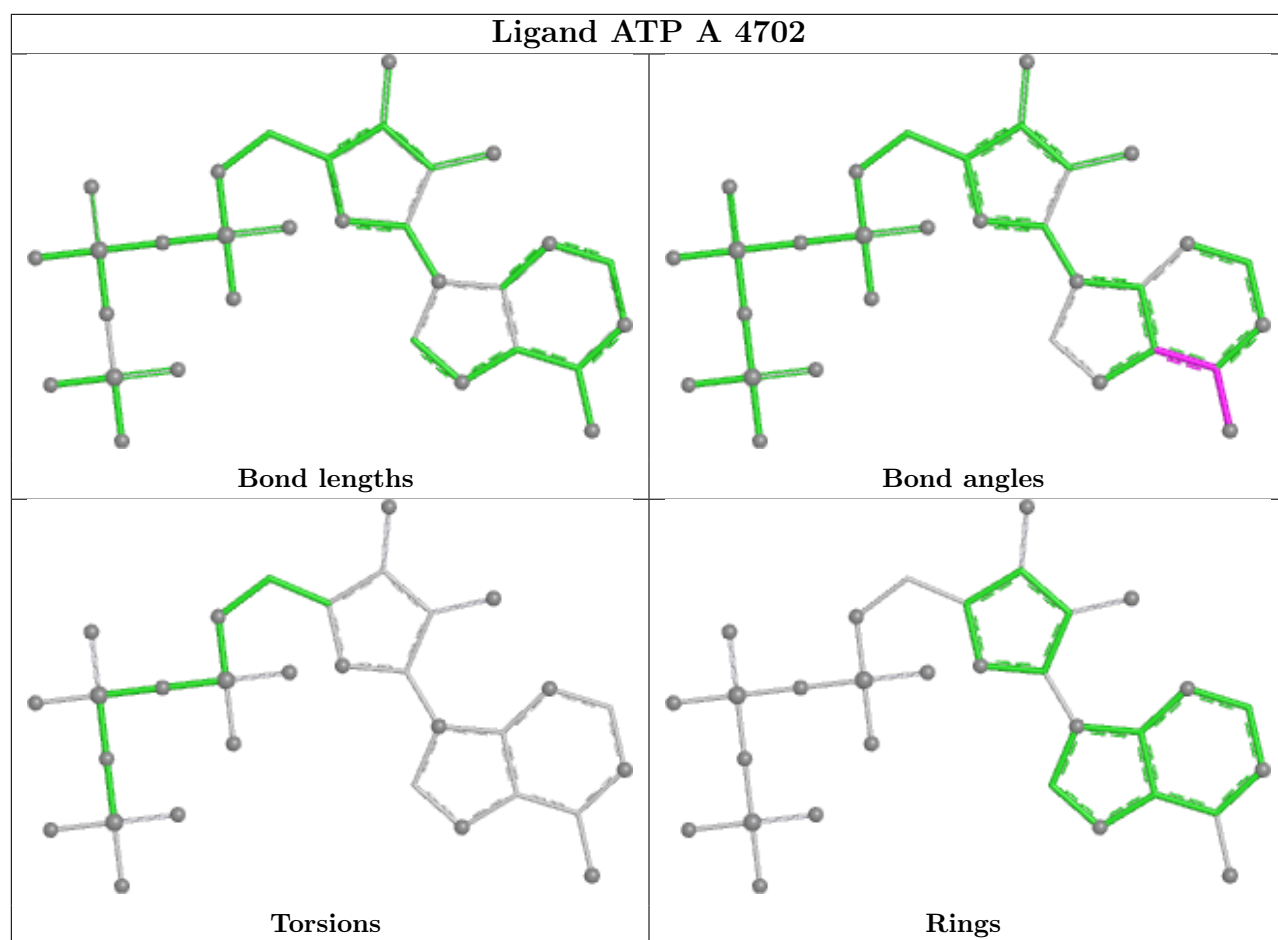
There are no ring outliers.

4 monomers are involved in 11 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	A	4701	ADP	3	0
2	A	4704	ADP	2	0
3	A	4702	ATP	2	0
2	A	4703	ADP	4	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.

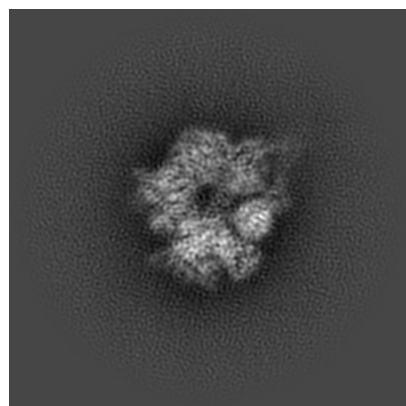
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-44717. These allow visual inspection of the internal detail of the map and identification of artifacts.

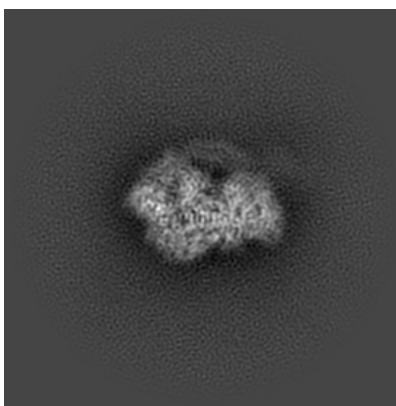
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

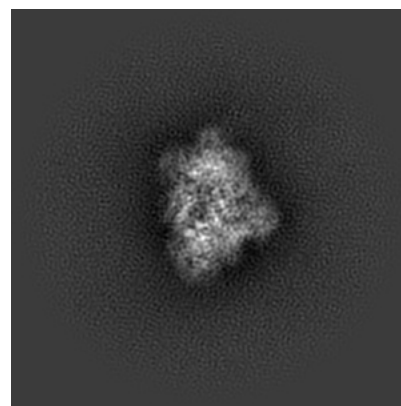
6.1.1 Primary map



X

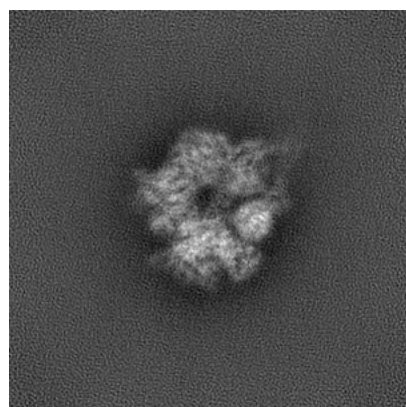


Y

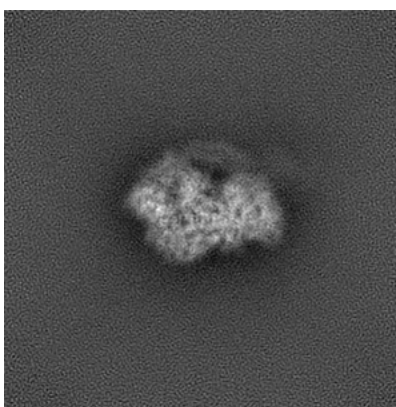


Z

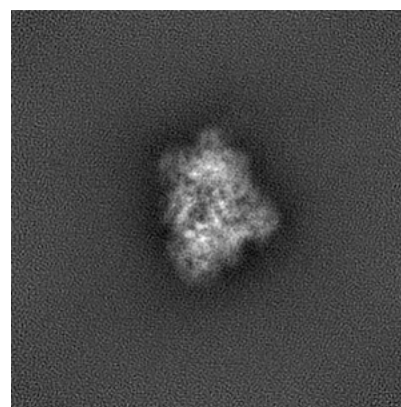
6.1.2 Raw map



X



Y

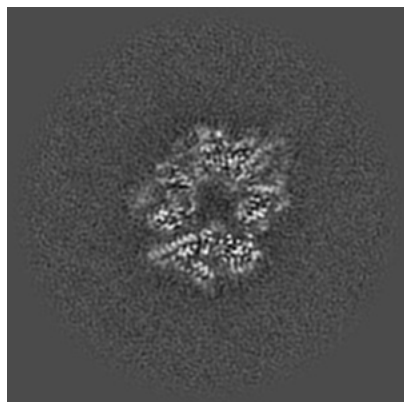


Z

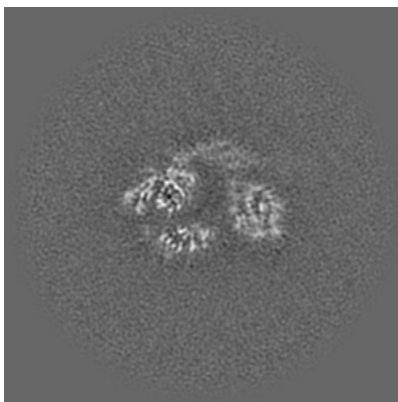
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

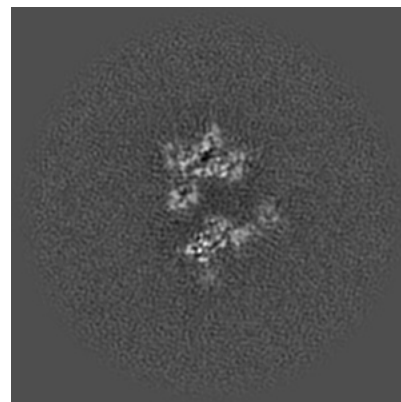
6.2.1 Primary map



X Index: 128

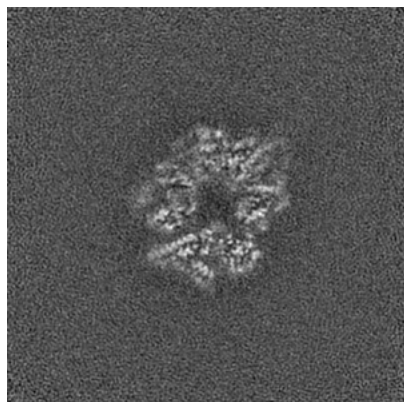


Y Index: 128

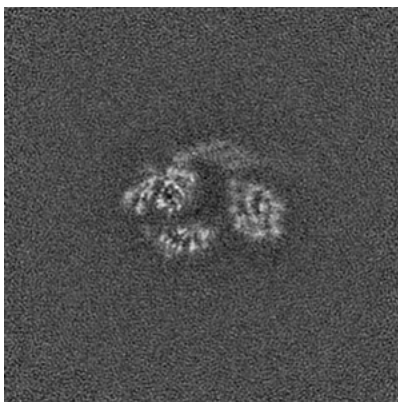


Z Index: 128

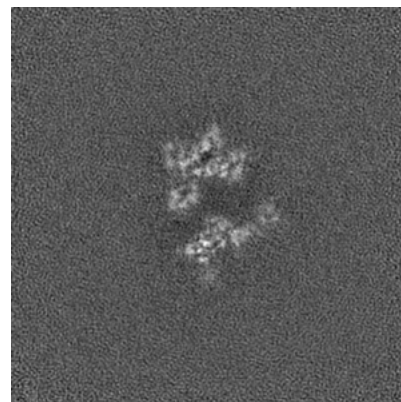
6.2.2 Raw map



X Index: 128



Y Index: 128

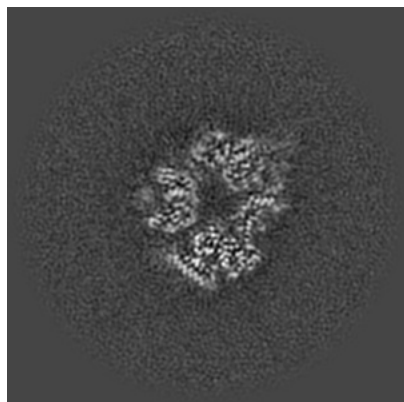


Z Index: 128

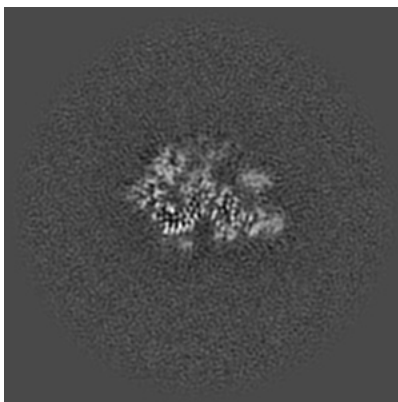
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

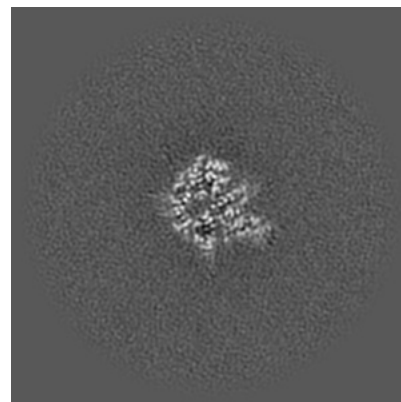
6.3.1 Primary map



X Index: 131

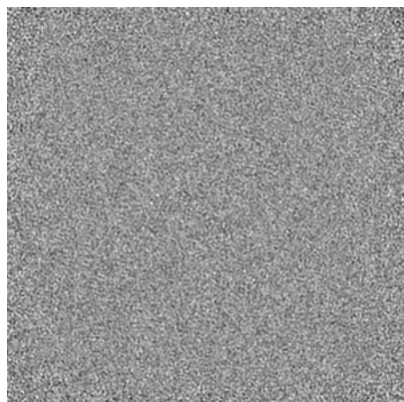


Y Index: 112

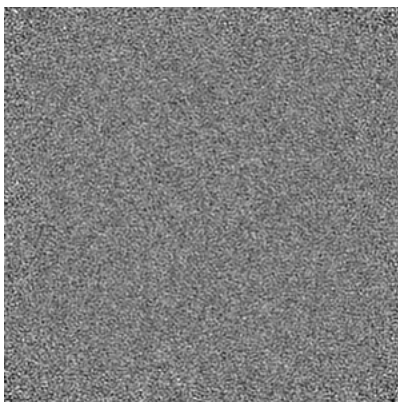


Z Index: 102

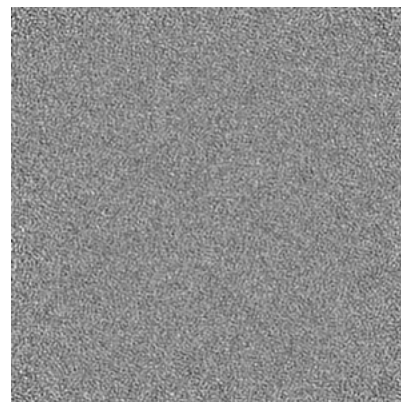
6.3.2 Raw map



X Index: 0



Y Index: 0

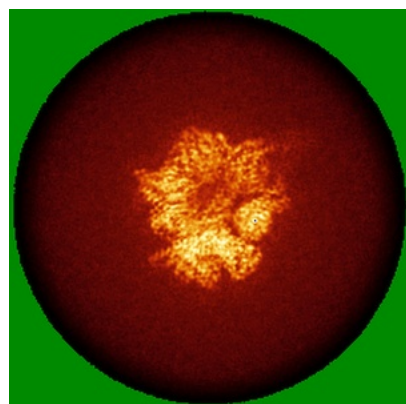


Z Index: 0

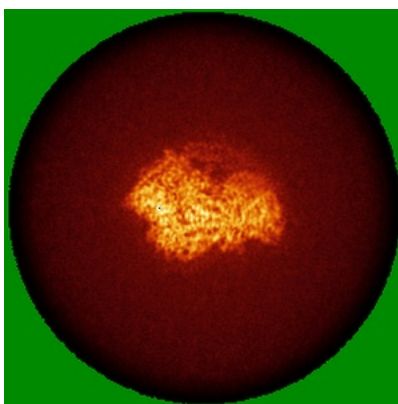
The images above show the largest variance slices of the map in three orthogonal directions.

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

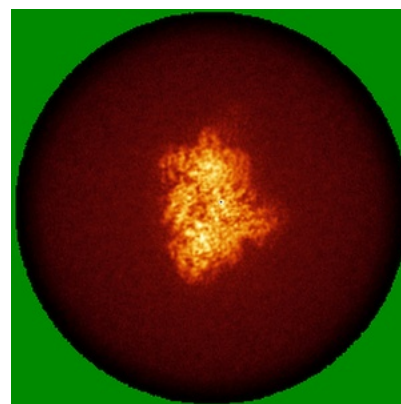
6.4.1 Primary map



X

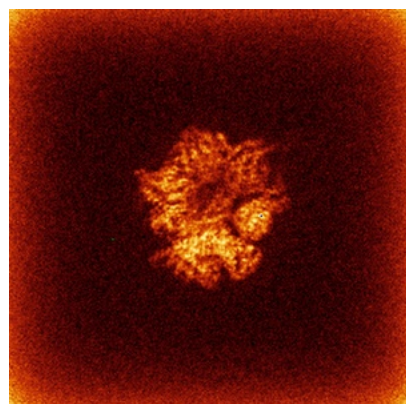


Y

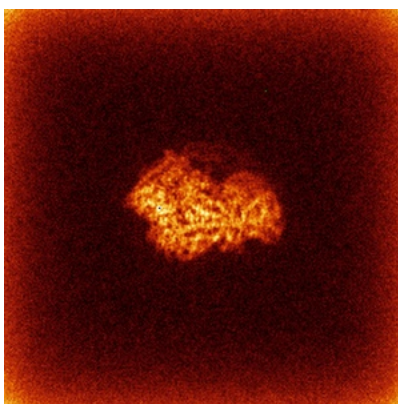


Z

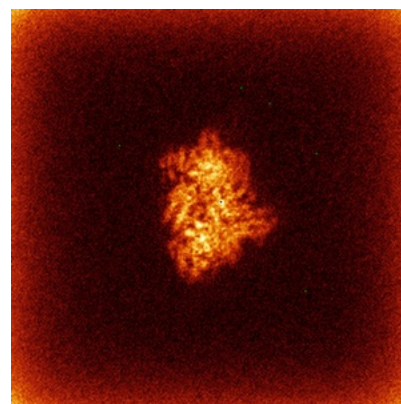
6.4.2 Raw map



X



Y

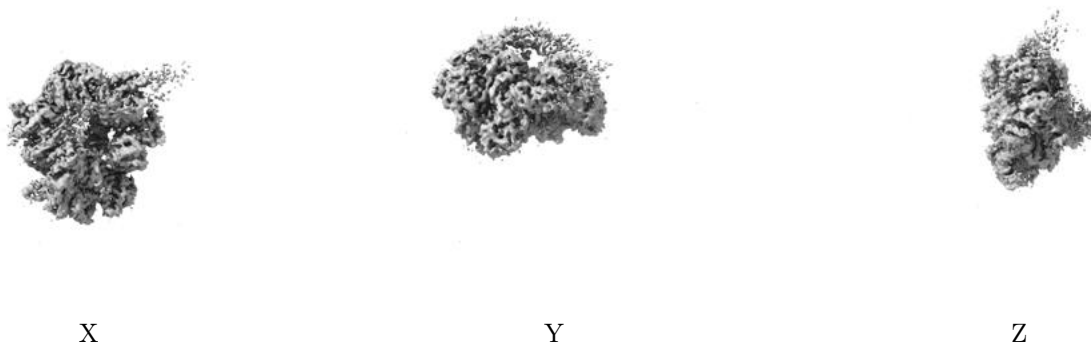


Z

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.

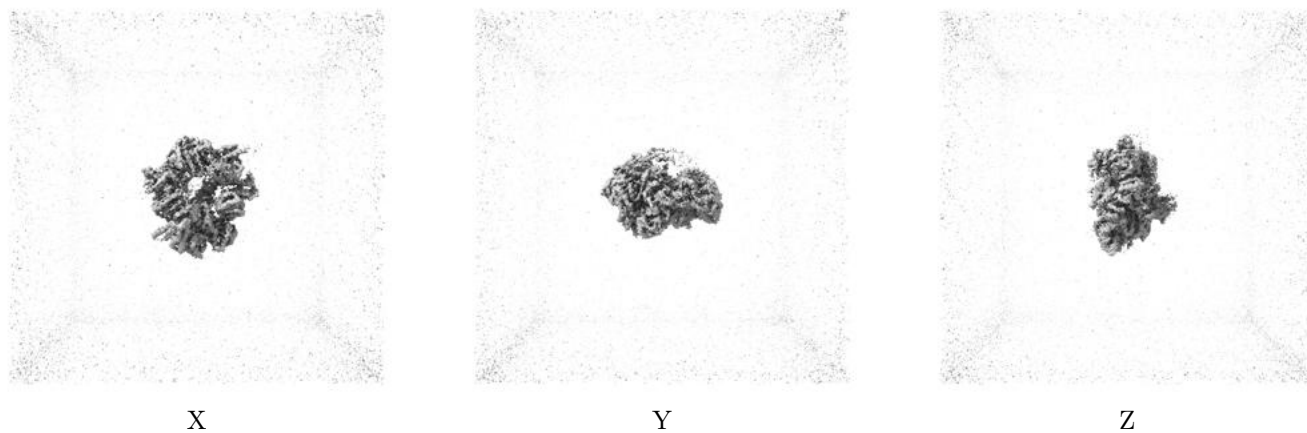
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.15. 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.

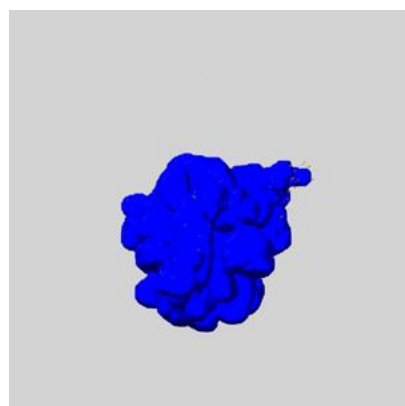
6.6 Mask visualisation [i](#)

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

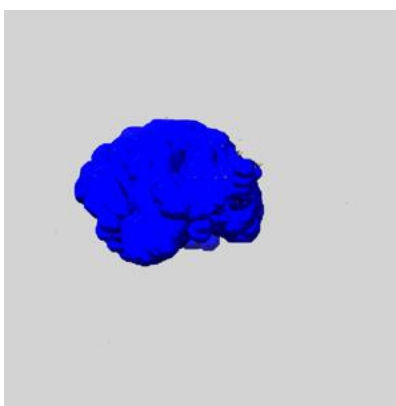
A mask typically either:

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

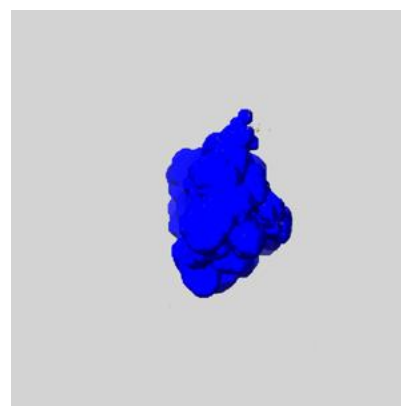
6.6.1 emd_44717_msk_1.map [i](#)



X



Y

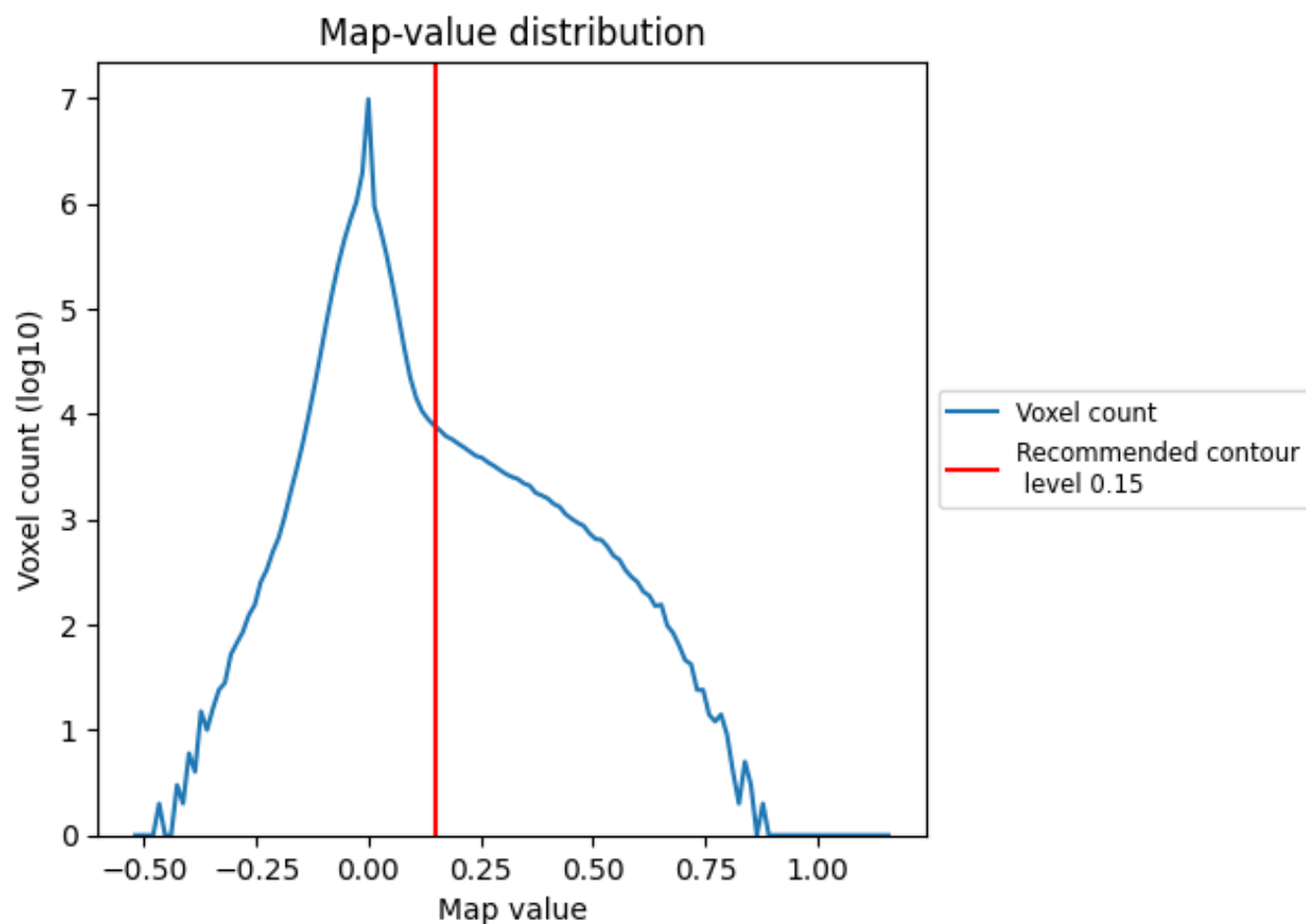


Z

7 Map analysis [i](#)

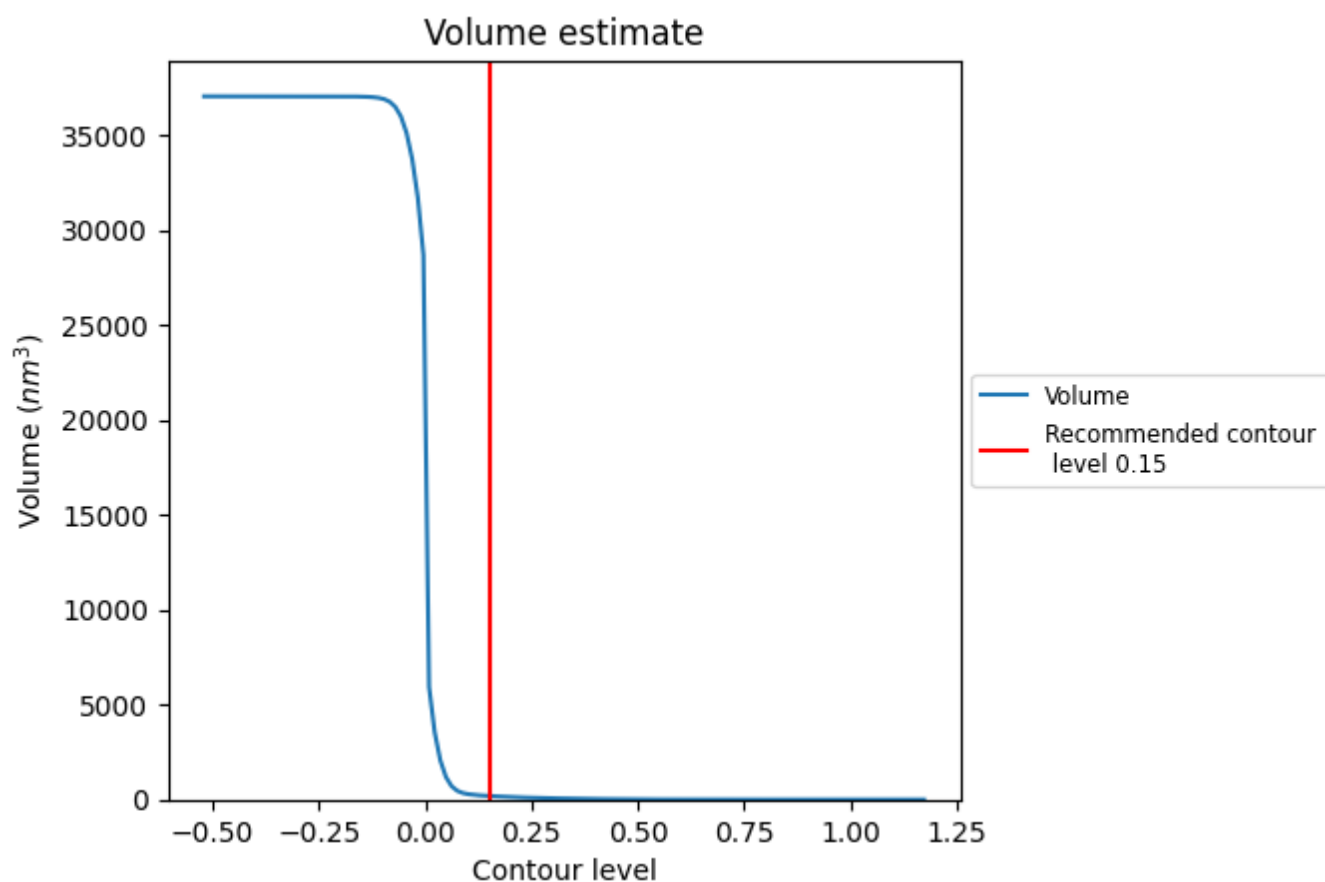
This section contains the results of statistical analysis of the map.

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.

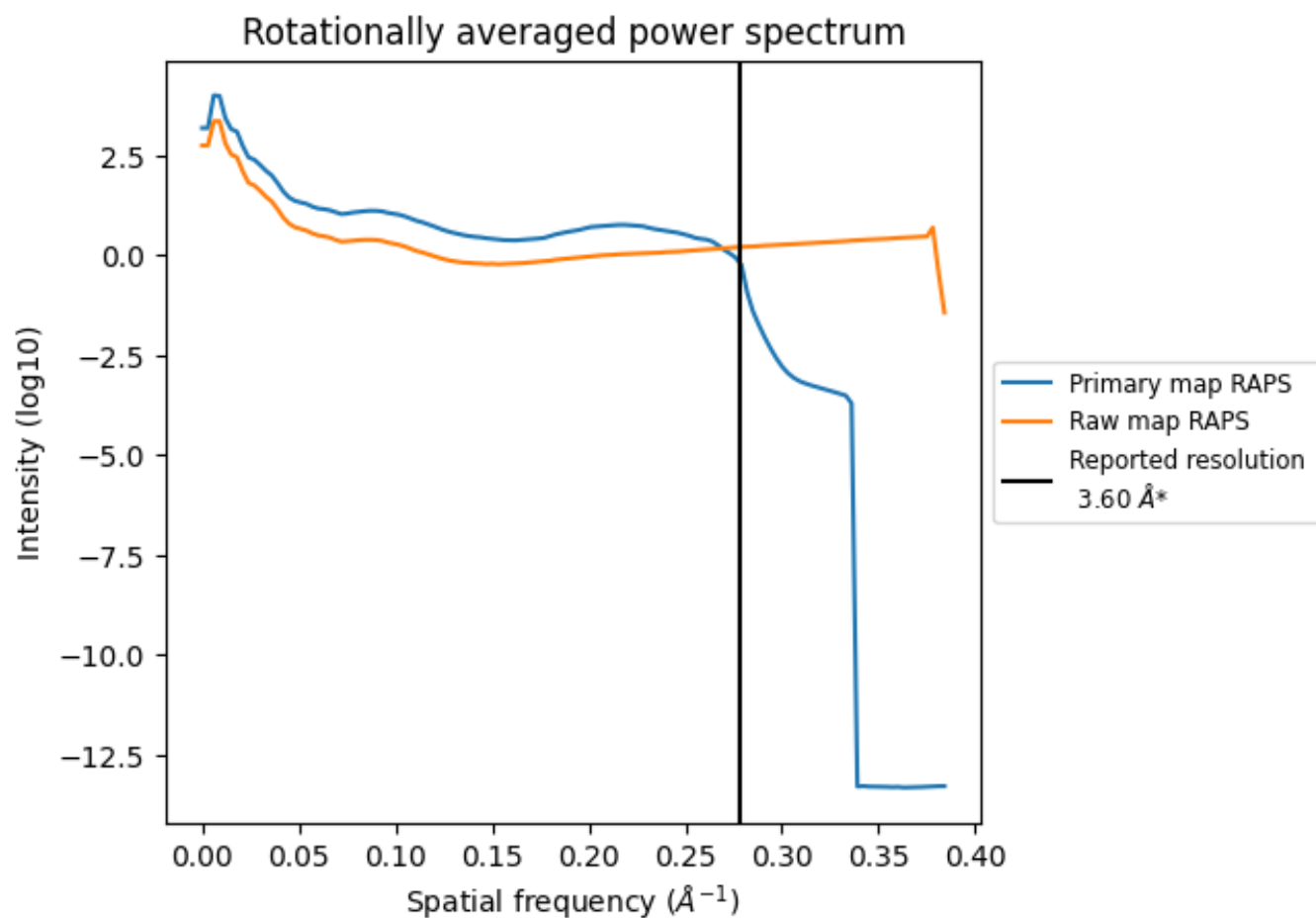
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 189 nm³; this corresponds to an approximate mass of 170 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 ⓘ

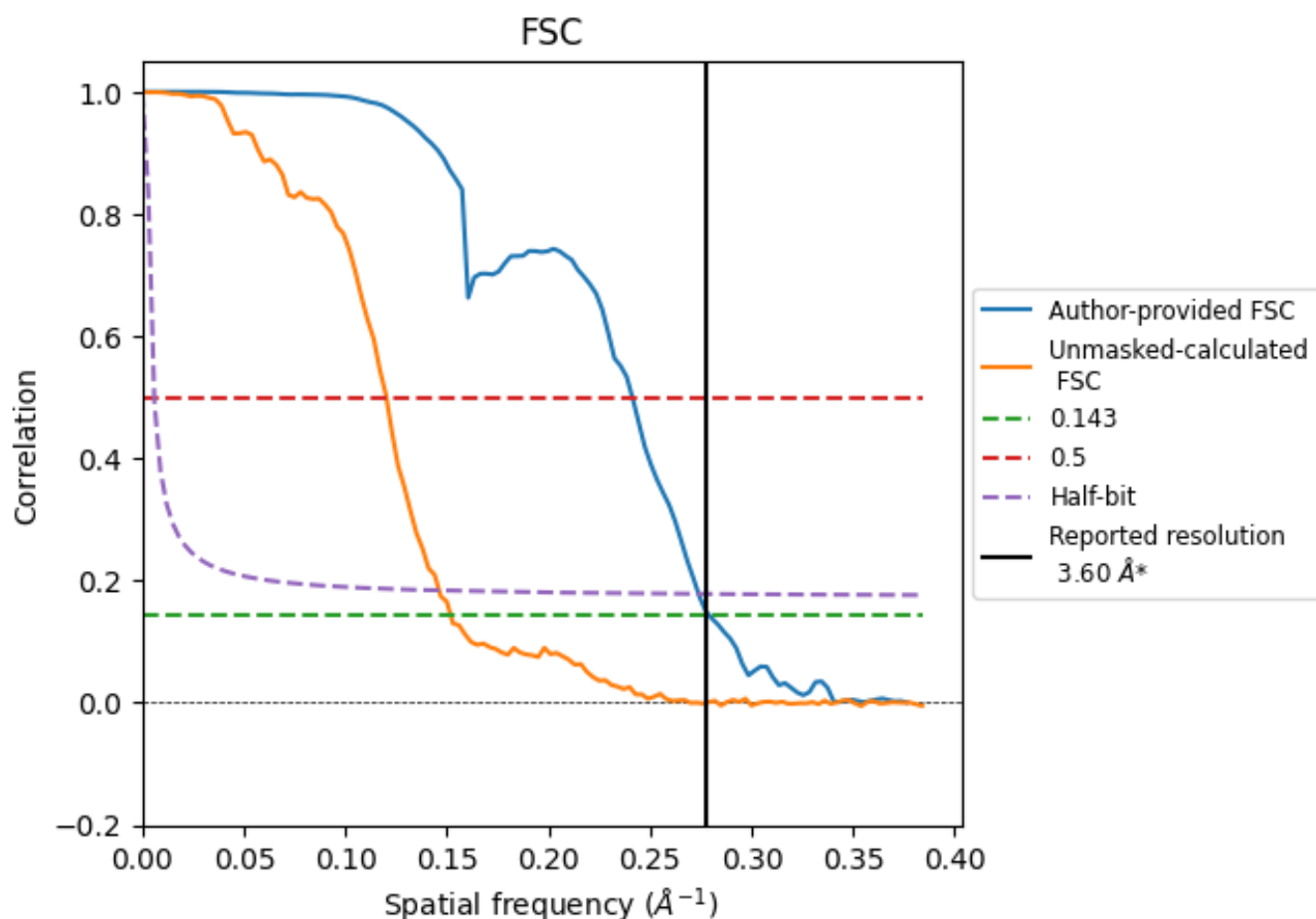


*Reported resolution corresponds to spatial frequency of 0.278 Å⁻¹

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

8.2 Resolution estimates [i](#)

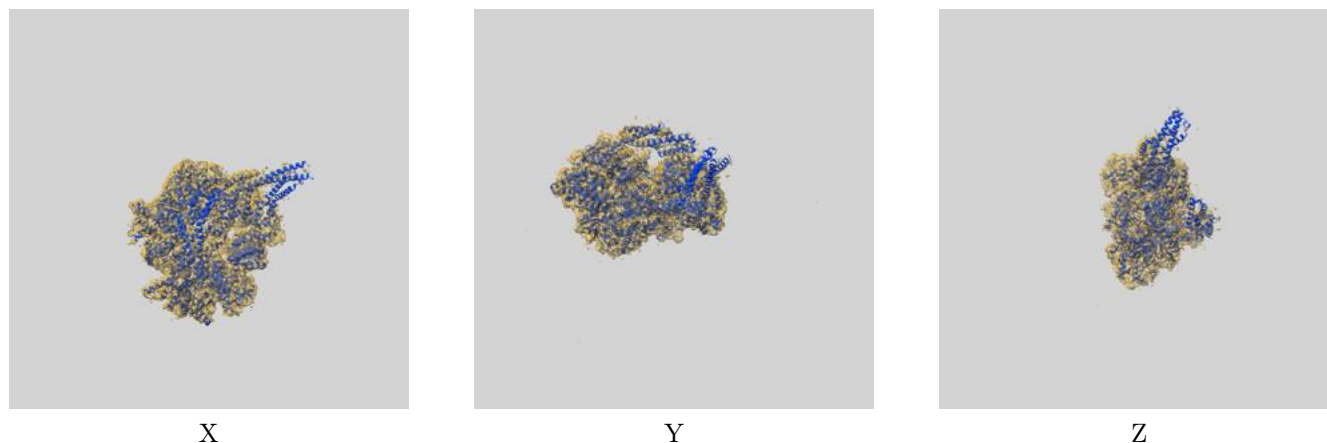
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.60	-	-
Author-provided FSC curve	3.58	4.14	3.65
Unmasked-calculated*	6.58	8.32	6.84

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

9 Map-model fit [i](#)

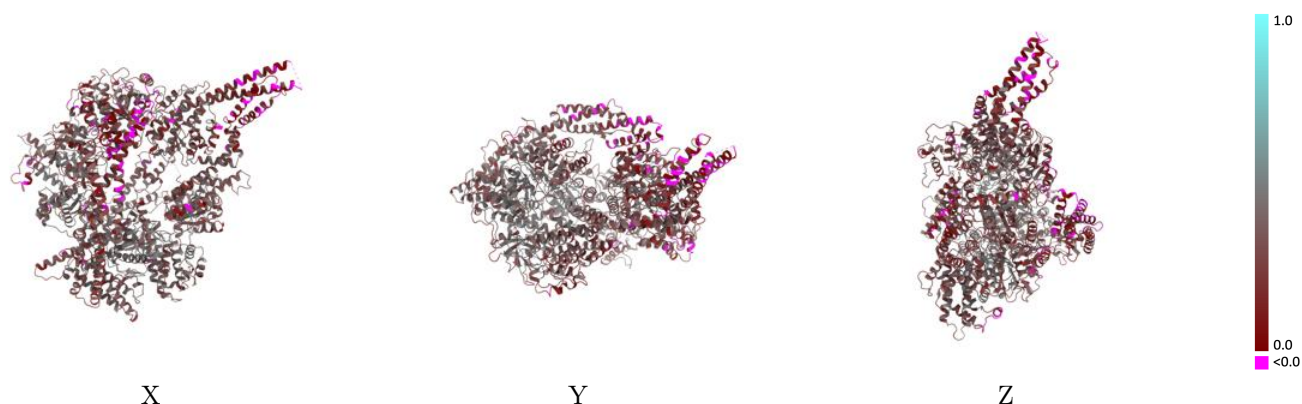
This section contains information regarding the fit between EMDB map EMD-44717 and PDB model 9BN0. Per-residue inclusion information can be found in [section 3](#) on [page 5](#).

9.1 Map-model overlay [i](#)



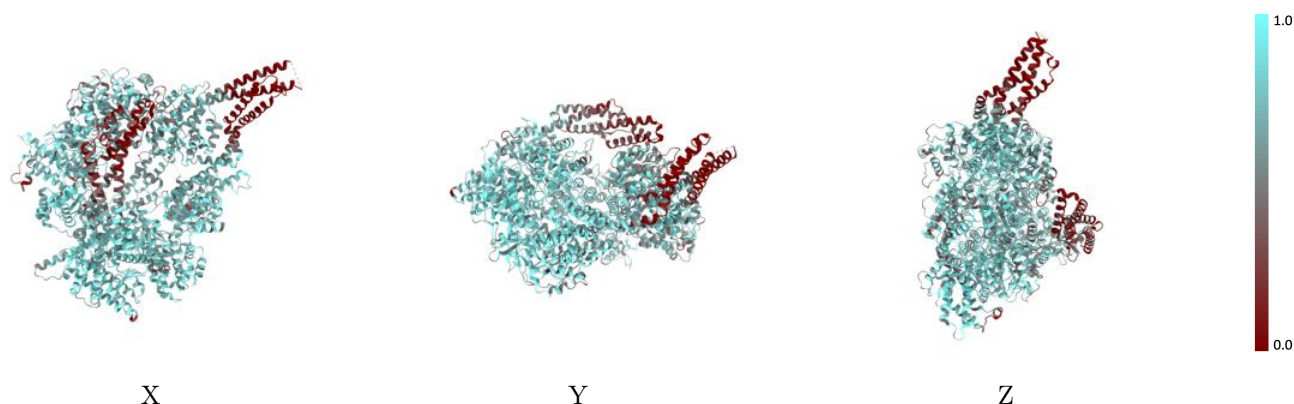
The images above show the 3D surface view of the map at the recommended contour level 0.15 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



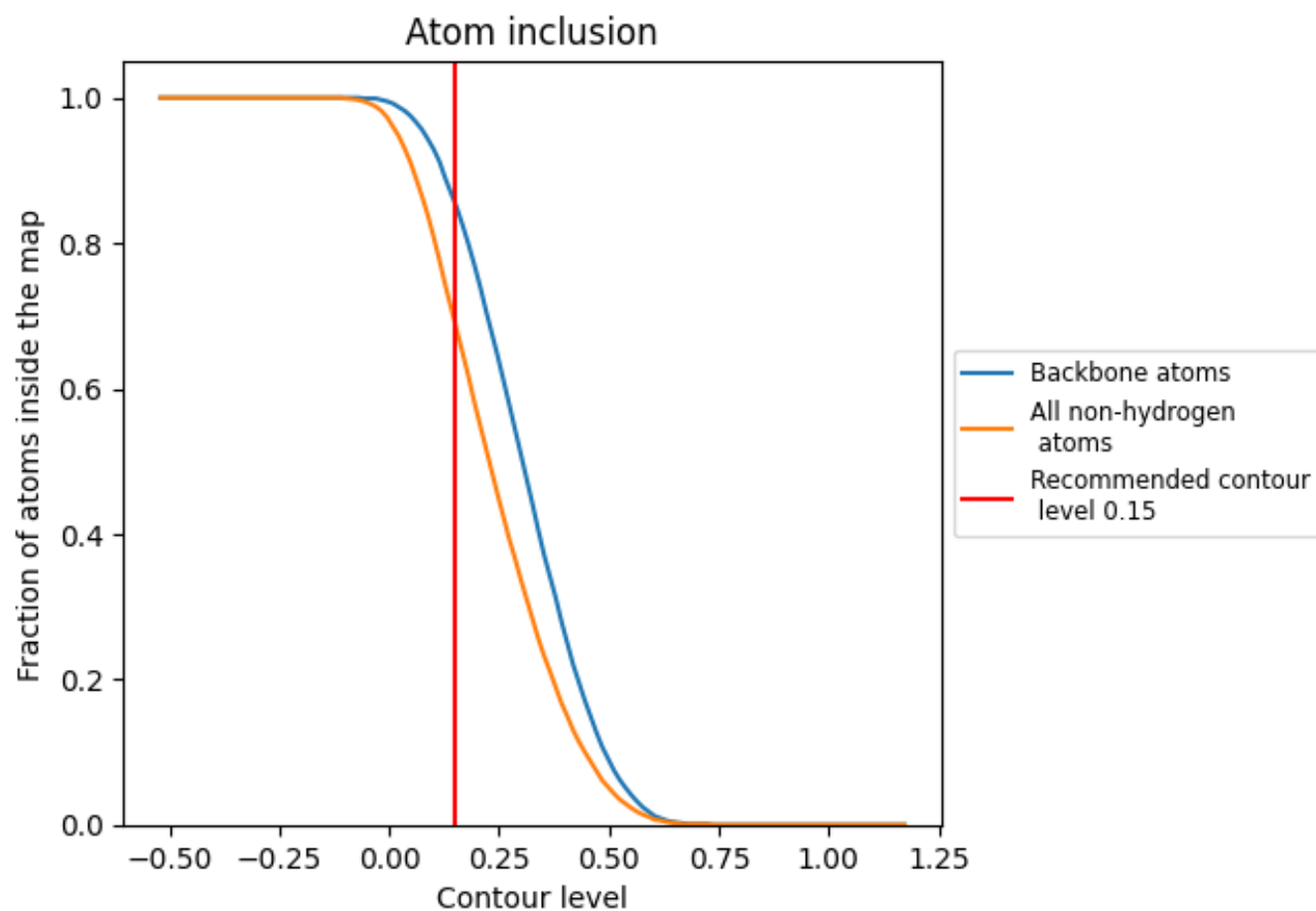
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.15).

9.4 Atom inclusion [i](#)



At the recommended contour level, 86% of all backbone atoms, 69% 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 (0.15) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.6900	0.3120
A	0.6900	0.3120

