



Full wwPDB EM Validation Report ⓘ

Apr 5, 2026 – 10:33 PM UTC

PDB ID : 9YNF / pdb_00009ynf
EMDB ID : EMD-73176
Title : Motor domain of human dynein-1 in post1 state
Authors : Yang, J.; Rao, Q.; Chai, P.; Zhang, K.
Deposited on : 2025-10-10
Resolution : 3.92 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.dev132
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4-5-2 with Phenix2.0
Buster-report : wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
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) : 2.49

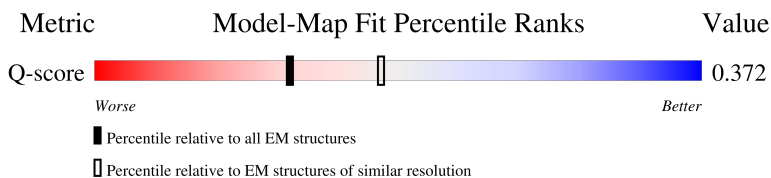
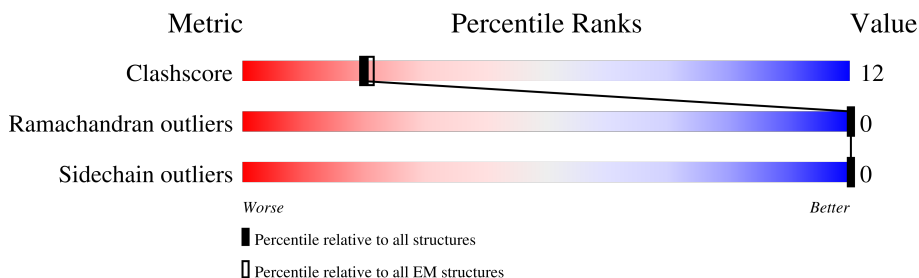
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

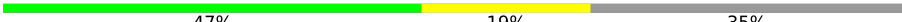
The reported resolution of this entry is 3.92 Å.

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	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
Q-score	-	25397	7862 (3.42 - 4.42)

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	 47% 19% 35%

2 Entry composition [i](#)

There are 5 unique types of molecules in this entry. The entry contains 24588 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	3038	24471	15586	4225	4538	122	0	0

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



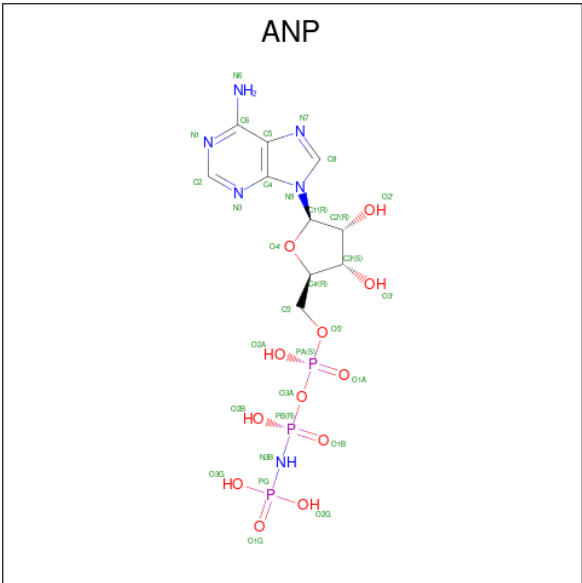
Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
2	A	1	27	10	5	10	2	0
2	A	1	27	10	5	10	2	0

- 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 PHOSPHOAMINOPHOSPHONIC ACID-ADENYLATE ESTER (CCD ID: ANP) (formula: $C_{10}H_{17}N_6O_{12}P_3$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					AltConf
4	A	1	Total	C	N	O	P	0
			31	10	6	12	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	1	Total	Mg	0
			1	1	

E2248	Y2086	E1984	W1838	Y1738	I1611	H1495	L1399	VAL	TRP	ARG	GLU	ALA	ASN	GLU	GLU	ASN	GLU	ASN	PHE
G2278	L2090	H1985	R1843	W1741	Y1618	K1496	V1400	ALA	GLU	PHE	PHE	LEU	LYS	LEU	LEU	LYS	LEU	LYS	PHE
H2282	L2093	S1986	F1844	Q1748	R1621	V1497	I1401	GLU	THR	GLN	THR	GLU	THR	GLN	THR	GLN	THR	GLN	PHE
V2283	L2097	N1987	I1859	L1749	F1626	S1503	L1403	LEU	LYS	PRO	PRO	LEU	LYS	GLN	GLN	GLN	GLN	GLN	LYS
I2287	K2115	M1861	Q1860	V1750	P1627	M1507	A1407	Q1327	THR	THR	THR	GLY	ASP	PRO	PRO	PRO	PRO	PRO	VAL
Q2299	R2118	N1863	L1752	W1751	E1635	K1508	L1408	L1328	GLY	GLY	GLY	ASP	GLY	ASP	ASP	ASP	ASP	ASP	ASP
W2300	R2118	N1863	L1752	W1751	E1635	L1509	K1409	L1329	ASN	TYR	TYR	GLY	GLY	GLY	GLY	GLY	GLY	GLY	ASP
D2306	V2122	S2009	Q1876	A1757	L1638	K1514	D1410	V1332	LEU	ILE	ILE	VAL	VAL	VAL	VAL	VAL	VAL	VAL	GLY
V2307	G2125	P2010	D1877	W1758	Q1651	F1516	R1411	E1335	PRO	ARG	ARG	ASP	ASN	ASN	ASN	ASN	ASN	ASN	ILE
W2311	K2125	D2011	E1763	W1758	A1659	E1517	K1414	L1336	GLU	ILE	ILE	ASP	ASN	ASN	ASN	ASN	ASN	ASN	GLU
V2312	E2129	M2012	L1878	W1758	A1659	E1517	K1414	L1336	GLU	ILE	ILE	ASP	ASN	ASN	ASN	ASN	ASN	ASN	GLU
L2315	E2133	A2013	L1879	W1758	A1659	E1517	K1414	L1336	GLU	ILE	ILE	ASP	ASN	ASN	ASN	ASN	ASN	ASN	GLU
K2323	L2138	M2014	L1882	W1758	A1659	E1517	K1414	L1336	GLU	ILE	ILE	ASP	ASN	ASN	ASN	ASN	ASN	ASN	GLU
L2324	E2133	F2015	L1882	W1758	A1659	E1517	K1414	L1336	GLU	ILE	ILE	ASP	ASN	ASN	ASN	ASN	ASN	ASN	GLU
R2332	V2141	L2016	T1885	W1758	A1659	E1517	K1414	L1336	GLU	ILE	ILE	ASP	ASN	ASN	ASN	ASN	ASN	ASN	GLU
L2335	L2149	M2017	C1888	W1758	A1659	E1517	K1414	L1336	GLU	ILE	ILE	ASP	ASN	ASN	ASN	ASN	ASN	ASN	GLU
P2336	V2150	G2021	F1905	W1758	A1659	E1517	K1414	L1336	GLU	ILE	ILE	ASP	ASN	ASN	ASN	ASN	ASN	ASN	GLU
P2337	L2156	ALA	E1914	W1758	A1659	E1517	K1414	L1336	GLU	ILE	ILE	ASP	ASN	ASN	ASN	ASN	ASN	ASN	GLU
M2338	L2157	GLY	E1917	W1758	A1659	E1517	K1414	L1336	GLU	ILE	ILE	ASP	ASN	ASN	ASN	ASN	ASN	ASN	GLU
V2339	L2161	ARG	K1917	W1758	A1659	E1517	K1414	L1336	GLU	ILE	ILE	ASP	ASN	ASN	ASN	ASN	ASN	ASN	GLU
R2340	L2161	S2026	L1923	W1758	A1659	E1517	K1414	L1336	GLU	ILE	ILE	ASP	ASN	ASN	ASN	ASN	ASN	ASN	GLU
I2341	L2161	D2030	F1926	W1758	A1659	E1517	K1414	L1336	GLU	ILE	ILE	ASP	ASN	ASN	ASN	ASN	ASN	ASN	GLU
M2342	R2172	K2033	V1927	W1758	A1659	E1517	K1414	L1336	GLU	ILE	ILE	ASP	ASN	ASN	ASN	ASN	ASN	ASN	GLU
V2345	G2173	F2036	D1933	W1758	A1659	E1517	K1414	L1336	GLU	ILE	ILE	ASP	ASN	ASN	ASN	ASN	ASN	ASN	GLU
A2354	R2179	M2041	E1934	W1758	A1659	E1517	K1414	L1336	GLU	ILE	ILE	ASP	ASN	ASN	ASN	ASN	ASN	ASN	GLU
R2358	M2189	R2046	F1938	W1758	A1659	E1517	K1414	L1336	GLU	ILE	ILE	ASP	ASN	ASN	ASN	ASN	ASN	ASN	GLU
W2363	G2200	I2049	V1946	W1758	A1659	E1517	K1414	L1336	GLU	ILE	ILE	ASP	ASN	ASN	ASN	ASN	ASN	ASN	GLU
F2364	L2208	C1949	C1949	W1758	A1659	E1517	K1414	L1336	GLU	ILE	ILE	ASP	ASN	ASN	ASN	ASN	ASN	ASN	GLU
L2369	Q2209	M2053	Q1950	W1758	A1659	E1517	K1414	L1336	GLU	ILE	ILE	ASP	ASN	ASN	ASN	ASN	ASN	ASN	GLU
S2370	L2210	L2054	V1951	W1758	A1659	E1517	K1414	L1336	GLU	ILE	ILE	ASP	ASN	ASN	ASN	ASN	ASN	ASN	GLU
M2373	T2214	Y2055	G1952	W1758	A1659	E1517	K1414	L1336	GLU	ILE	ILE	ASP	ASN	ASN	ASN	ASN	ASN	ASN	GLU
I2374	M2222	S2056	A1953	W1758	A1659	E1517	K1414	L1336	GLU	ILE	ILE	ASP	ASN	ASN	ASN	ASN	ASN	ASN	GLU
M2377	S2228	R2060	W1954	W1758	A1659	E1517	K1414	L1336	GLU	ILE	ILE	ASP	ASN	ASN	ASN	ASN	ASN	ASN	GLU
L2382	G2229	L2065	L1962	W1758	A1659	E1517	K1414	L1336	GLU	ILE	ILE	ASP	ASN	ASN	ASN	ASN	ASN	ASN	GLU
P2386	S2231	A2066	L1963	W1758	A1659	E1517	K1414	L1336	GLU	ILE	ILE	ASP	ASN	ASN	ASN	ASN	ASN	ASN	GLU
L2387	M2232	I2069	M1967	W1758	A1659	E1517	K1414	L1336	GLU	ILE	ILE	ASP	ASN	ASN	ASN	ASN	ASN	ASN	GLU
Q2395	M2234	E2078	V1975	W1758	A1659	E1517	K1414	L1336	GLU	ILE	ILE	ASP	ASN	ASN	ASN	ASN	ASN	ASN	GLU
R2396	R2235	Q2079	W1975	W1758	A1659	E1517	K1414	L1336	GLU	ILE	ILE	ASP	ASN	ASN	ASN	ASN	ASN	ASN	GLU
R2397	K2239	L2080	I1978	W1758	A1659	E1517	K1414	L1336	GLU	ILE	ILE	ASP	ASN	ASN	ASN	ASN	ASN	ASN	GLU
		S2081	F1836	W1758	A1659	E1517	K1414	L1336	GLU	ILE	ILE	ASP	ASN	ASN	ASN	ASN	ASN	ASN	GLU
		S2082	E1837	W1758	A1659	E1517	K1414	L1336	GLU	ILE	ILE	ASP	ASN	ASN	ASN	ASN	ASN	ASN	GLU

13859	T3860	V3866	N3869	R3870	R3873	G3874	G3875	T3881	T3882	F3883	A3884	M3885	L3886	L3887	A3888	R3889	K3893	D3902	A3903	A3919	R3923	L3924	Q3925	V3929	E3930	Q3931	V3935	K3945	I3948	Q3952	F3957	P3966	I3983	G3984	I3987	L3990	F3996	R3997	P3998																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
G3594	Q3595	A3596	T3597	E3598	F3599	I3600	M3601	K3608	R3620	K3621	E3624	R3628	V3638	L3649	R3654	R3655	R3659	V3660	L3661	L3662	L3663	L3664	G3665	D3668	L3669	L3670	L3671	T3681	P3684	T3685	S3694	R3695	V3696	F3701	T3702	R3705	V3839	L3840	D3851	R3855	L3856	K3747																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																
ASP	LEU	ALA	VAL	GLU	A3470	K3471	V3472	N3473	R3474	S3475	T3476	A3477	L3478	L3479	K3480	R3488	R3489	T3495	N3498	Q3499	K3500	S3501	T3502	L3508	L3509	S3510	A3511	L3514	A3515	V3516	L3536	L3563	S3564	N3565	S3694	R3695	V3696	L3687	L3688	L3689	L3690	L3691	L3692	L3693	L3694	L3695	L3696	L3697	L3698	L3699	L3700	L3701	L3702	L3703	L3704	L3705	L3706	L3707	L3708	L3709	L3710	L3711	L3712	L3713	L3714	L3715	L3716	L3717	L3718	L3719	L3720	L3721	L3722	L3723	L3724	L3725	L3726	L3727	L3728	L3729	L3730	L3731	L3732	L3733	L3734	L3735	L3736	L3737	L3738	L3739	L3740	L3741	L3742	L3743	L3744	L3745	L3746	L3747	L3748	L3749	L3750	L3751	L3752	L3753	L3754	L3755	L3756	L3757	L3758	L3759	L3760	L3761	L3762	L3763	L3764	L3765	L3766	L3767	L3768	L3769	L3770	L3771	L3772	L3773	L3774	L3775	L3776	L3777	L3778	L3779	L3780	L3781	L3782	L3783	L3784	L3785	L3786	L3787	L3788	L3789	L3790	L3791	L3792	L3793	L3794	L3795	L3796	L3797	L3798	L3799	L3800	L3801	L3802	L3803	L3804	L3805	L3806	L3807	L3808	L3809	L3810	L3811	L3812	L3813	L3814	L3815	L3816	L3817	L3818	L3819	L3820	L3821	L3822	L3823	L3824	L3825	L3826	L3827	L3828	L3829	L3830	L3831	L3832	L3833	L3834	L3835	L3836	L3837	L3838	L3839	L3840	L3841	L3842	L3843	L3844	L3845	L3846	L3847	L3848	L3849	L3850	L3851	L3852	L3853	L3854	L3855	L3856	L3857	L3858	L3859	L3860	L3861	L3862	L3863	L3864	L3865	L3866	L3867	L3868	L3869	L3870	L3871	L3872	L3873	L3874	L3875	L3876	L3877	L3878	L3879	L3880	L3881	L3882	L3883	L3884	L3885	L3886	L3887	L3888	L3889	L3890	L3891	L3892	L3893	L3894	L3895	L3896	L3897	L3898	L3899	L3900	L3901	L3902	L3903	L3904	L3905	L3906	L3907	L3908	L3909	L3910	L3911	L3912	L3913	L3914	L3915	L3916	L3917	L3918	L3919	L3920	L3921	L3922	L3923	L3924	L3925	L3926	L3927	L3928	L3929	L3930	L3931	L3932	L3933	L3934	L3935	L3936	L3937	L3938	L3939	L3940	L3941	L3942	L3943	L3944	L3945	L3946	L3947	L3948	L3949	L3950	L3951	L3952	L3953	L3954	L3955	L3956	L3957	L3958	L3959	L3960	L3961	L3962	L3963	L3964	L3965	L3966	L3967	L3968	L3969	L3970	L3971	L3972	L3973	L3974	L3975	L3976	L3977	L3978	L3979	L3980	L3981	L3982	L3983	L3984	L3985	L3986	L3987	L3988	L3989	L3990	L3991	L3992	L3993	L3994	L3995	L3996	L3997	L3998	L3999	L4000	L4001	L4002	L4003	L4004	L4005	L4006	L4007	L4008	L4009	L4010	L4011	L4012	L4013	L4014	L4015	L4016	L4017	L4018	L4019	L4020	L4021	L4022	L4023	L4024	L4025	L4026	L4027	L4028	L4029	L4030	L4031	L4032	L4033	L4034	L4035	L4036	L4037	L4038	L4039	L4040	L4041	L4042	L4043	L4044	L4045	L4046	L4047	L4048	L4049	L4050	L4051	L4052	L4053	L4054	L4055	L4056	L4057	L4058	L4059	L4060	L4061	L4062	L4063	L4064	L4065	L4066	L4067	L4068	L4069	L4070	L4071	L4072	L4073	L4074	L4075	L4076	L4077	L4078	L4079	L4080	L4081	L4082	L4083	L4084	L4085	L4086	L4087	L4088	L4089	L4090	L4091	L4092	L4093	L4094	L4095	L4096	L4097	L4098	L4099	L4100	L4101	L4102	L4103	L4104	L4105	L4106	L4107	L4108	L4109	L4110	L4111	L4112	L4113	L4114	L4115	L4116	L4117	L4118	L4119	L4120	L4121	L4122	L4123	L4124	L4125	L4126	L4127	L4128	L4129	L4130	L4131	L4132	L4133	L4134	L4135	L4136	L4137	L4138	L4139	L4140	L4141	L4142	L4143	L4144	L4145	L4146	L4147	L4148	L4149	L4150	L4151	L4152	L4153	L4154	L4155	L4156	L4157	L4158	L4159	L4160	L4161	L4162	L4163	L4164	L4165	L4166	L4167	L4168	L4169	L4170	L4171	L4172	L4173	L4174	L4175	L4176	L4177	L4178	L4179	L4180	L4181	L4182	L4183	L4184	L4185	L4186	L4187	L4188	L4189	L4190	L4191	L4192	L4193	L4194	L4195	L4196	L4197	L4198	L4199	L4200	L4201	L4202	L4203	L4204	L4205	L4206	L4207	L4208	L4209	L4210	L4211	L4212	L4213	L4214	L4215	L4216	L4217	L4218	L4219	L4220	L4221	L4222	L4223	L4224	L4225	L4226	L4227	L4228	L4229	L4230	L4231	L4232	L4233	L4234	L4235	L4236	L4237	L4238	L4239	L4240	L4241	L4242	L4243	L4244	L4245	L4246	L4247	L4248	L4249	L4250	L4251	L4252	L4253	L4254	L4255	L4256	L4257	L4258	L4259	L4260	L4261	L4262	L4263	L4264	L4265	L4266	L4267	L4268	L4269	L4270	L4271	L4272	L4273	L4274	L4275	L4276	L4277	L4278	L4279	L4280	L4281	L4282	L4283	L4284	L4285	L4286	L4287	L4288	L4289	L4290	L4291	L4292	L4293	L4294	L4295	L4296	L4297	L4298	L4299	L4300	L4301	L4302	L4303	L4304	L4305	L4306	L4307	L4308	L4309	L4310	L4311	L4312	L4313	L4314	L4315	L4316	L4317	L4318	L4319	L4320	L4321	L4322	L4323	L4324	L4325	L4326	L4327	L4328	L4329	L4330	L4331	L4332	L4333	L4334	L4335	L4336	L4337	L4338	L4339	L4340	L4341	L4342	L4343	L4344	L4345	L4346	L4347	L4348	L4349	L4350	L4351	L4352	L4353	L4354	L4355	L4356	L4357	L4358	L4359	L4360	L4361	L4362	L4363	L4364	L4365	L4366	L4367	L4368	L4369	L4370	L4371	L4372	L4373	L4374	L4375	L4376	L4377	L4378	L4379	L4380	L4381	L4382	L4383	L4384	L4385	L4386	L4387	L4388	L4389	L4390	L4391	L4392	L4393	L4394	L4395	L4396	L4397	L4398	L4399	L4400	L4401	L4402	L4403	L4404	L4405	L4406	L4407	L4408	L4409	L4410	L4411	L4412	L4413	L4414	L4415	L4416	L4417	L4418	L4419	L4420	L4421	L4422	L4423	L4424	L4425	L4426	L4427	L4428	L4429	L4430	L4431	L4432	L4433	L4434	L4435	L4436	L4437	L4438	L4439	L4440	L4441	L4442	L4443	L4444	L4445	L4446	L4447	L4448	L4449	L4450	L4451	L4452	L4453	L4454	L4455	L4456	L4457	L4458	L4459	L4460	L4461	L4462	L4463	L4464	L4465	L4466	L4467	L4468	L4469	L4470	L4471	L4472	L4473	L4474	L4475	L4476	L4477	L4478	L4479	L4480	L4481	L4482	L4483	L4484	L4485	L4486	L4487	L4488	L4489	L4490	L4491	L4492	L4493	L4494	L4495	L4496	L4497	L4498	L4499	L4500	L4501	L4502	L4503	L4504	L4505	L4506	L4507	L4508	L4509	L4510	L4511	L4512	L4513	L4514	L4515	L4516	L4517	L4518	L4519	L4520	L4521	L4522	L4523	L4524	L4525	L4526	L4527	L4528	L4529	L4530	L4531	L4532	L4533	L4534	L4535	L4536	L4537	L4538	L4539	L4540	L4541	L4542	L4543	L4544	L4545	L4546	L4547	L4548	L4549	L4550	L4551	L4552	L4553	L4554	L4555	L4556	L4557	L4558	L4559	L4560	L4561	L4562	L4563	L4564	L4565	L4566	L4567	L4568	L4569	L4570	L4571	L4572	L4573	L4574	L4575	L4576	L4577	L4578	L4579	L4580	L4581	L4582	L4583	L4584	L4585	L4586	L4587	L4588	L4589	L4590	L4591	L4592	L4593	L4594	L4595	L4596	L4597	L4598	L4599	L4600	L4601	L4602	L4603	L4604	L4605	L4606	L4607	L4608	L4609	L4610	L4611	L4612	L4613	L4614	L4615	L4616	L4617	L4618	L4619	L4620	L4621	L4622	L4623	L4624	L4625	L4626	L4627	L4628	L4629	L4630	L4631	L4632	L4633	L4634	L4635	L4636	L4637	L4638	L4639	L4640	L4641	L4642	L4643	L4644	L4645	L4646	L4647	L4648	L4649	L4650	L4651	L4652	L4653	L4654	L4655	L4656	L4657	L4658	L4659	L4660	L4661	L4662	L4663	L4664	L4665	L4666	L4667	L4668	L4669	L4670	L4671	L4672	L4673	L4674	L4675	L4676	L4677	L4678	L4679	L4680	L4681	L4682	L4683	L4684	L4685	L4686	L4687	L4688	L4689	L4690	L4691	L4692	L4693	L4694	L4695	L4696	L4697	L4698	L4699	L4700	L4701	L4702	L4703	L4704	L4705	L4706	L4707	L4708	L4709	L4710	L4711	L4712	L4713	L4714	L4715	L4716	L4717	L4718	L4719	L4720	L4721	L4722	L4723	L4724	L4725	L4726	L4727	L4728	L4729	L4730	L4731	L4732	L4733	L4734	L4735	L4736	L4737	L4738	L4739	L4740	L4741	L4742	L4743	L4744	L4745	L4746	L4747	L4748	L4749	L4750	L4751	L4752	L4753	L4754	L4755	L4756	L4757	L4758	L4759	L4760	L4761	L4762	L4763	L4764	L4765	L4766	L4767	L4768	L4769	L4770	L4771	L4772	L4773	L4774	L4775	L4776	L4777	L4778	L4779	L4780	L4781	L4782	L4783	L4784	L4785	L4786	L4787	L4788	L4789	L4790	L4791	L4792	L4793	L4794	L4795	L4796	L4797	L4798	L4799	L4800	L4801	L4802	L4803	L4804	L4805	L4806	L4807	L4808	L4809	L4810	L4811	L4812	L4813	L4814	L4815	L4816	L4817	L4818	L4819	L4820	L4821	L4822	L4823	L4824	L4825	L4826	L4827	L4828	L4829	L4830	L4831	L4832	L4833	L4834	L4835	L4836	L4837	L4838	L4839	L4840	L4841	L4842	L4843	L4844	L4845	L4846	L4847	L4848	L4849	L4850	L4851	L4852	L4853	L4854	L4855	L4856	L4857	L4858	L4859	L4860	L4861	L4862	L4863	L4864	L4865	L4866	L4867	L4868	L4869	L4870	L4871	L4872	L4873	L4874	L4875	L4876	L4877	L4878	L4879	L4880	L4881	L4882	L4883	L4884	L4885	L4886	L4887	L4888	L4889	L4890	L4891	L4892	L4893	L4894	L4895	L4896	L4897	L4898	L4899	L4900	L4901	L4902	L4903	L4904	L4905	L4906	L4907	L4908	L4909	L4910	L4911	L4912	L4913	L4914	L4915	L4916	L4917	L4918	L4919	L4920	L4921	L4922	L4923

D3999	P4118	I4233	M4346	A4421	P4515
R4000	T4127	S4234	Q4347	K4422	V4516
M4004	M4128	P4235	M4348	L4423	P4517
A4005	E4129	P4239	L4349	L4424	E4518
H4006	I4130	A4242	E4350	R4428	I4521
V4009	K4133	L4243	D4351	L4431	Y4527
S4010	N4137	K4244	E4352	V4434	Q4549
T4011	L4138	M4247	D4353	V4437	D4554
L4013	L4139	R4255	ASP	C4438	A4555
G4014	P4149	V4256	LEU	K4443	L4563
E4015	P4150	D4257	ALA	Q4444	K4564
S4019	V4153	R4263	THR	L4448	T4569
E4022	R4159	L4264	LYS	L4451	T4583
V4031	T4160	L4265	THR	I4452	L4587
E4034	P4165	N4266	ARG	N4453	T4588
V4035	R4168	T4267	THR	E4454	S4603
L4042	R4171	F4268	ASP	L4455	L4611
M4043	K4171	L4269	SER	V4456	I4619
V4055	E4175	E4270	THR	K4457	R4633
Q4065	R4176	R4271	ASP	L4460	Y4636
S4068	A4177	R4276	GLY	P4461	E4646
I4071	R4178	S4277	ARG	R4462	
F4077	L4179	F4278	PRO	M4473	
A4080	W4185	L4284	A4375	T4474	
I4084	F4186	V4288	T4379	Q4477	
V4088	H4187	I4294	L4380	V4478	
R4092	A4183	Q4295	H4381	D4479	
M4095	I4189	M4296	T4382	S4480	
L4096	I4190	P4297	A4384	F4482	
V4099	Q4191	T4300	S4385	E4483	
H4100	E4192	R4301	M4386	R4484	
P4103	L4199	R4302	W4387	R4485	
G4104	Y4205	E4303	L4388	I4486	
V4105	E4206	V4306	H4389	K4487	
L4106	L4212	Q4307	L4390	Q4488	
M4107	A4215	V4308	I4391	I4492	
Q4108	D4217	D4314	L4395	A4496	
L4109	D4220	T4315	K4399	A4497	
E4110	L4223	R4329	V4402	L4504	
K4111	D4224	V4330	E4403	K4505	
		G4336	I4405	V4506	
		T4340	D4407	L4507	
		N4343	F4410	G4513	
			R4411	L4514	
			F4412		

4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	326895	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)	2600	Depositor
Magnification	45000	Depositor
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	1.624	Depositor
Minimum map value	-1.305	Depositor
Average map value	-0.003	Depositor
Map value standard deviation	0.037	Depositor
Recommended contour level	0.15	Depositor
Map size (\AA)	444.416, 444.416, 444.416	wwPDB
Map dimensions	256, 256, 256	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (\AA)	1.736, 1.736, 1.736	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: MG, ANP, ADP, ATP

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	0.13	0/24989	0.34	0/33856

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.

There are no bond angle outliers.

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	2597	PRO	Peptide

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	24471	0	24528	609	0
2	A	54	0	24	7	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	A	31	0	12	6	0
4	A	31	0	13	4	0
5	A	1	0	0	0	0
All	All	24588	0	24577	609	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 (609) 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:3194:LEU:HD22	1:A:3500:MET:HE3	1.57	0.87
1:A:2603:MET:HE2	4:A:4703:ANP:H5'2	1.60	0.82
1:A:2387:LEU:HB3	1:A:2467:ARG:HH21	1.44	0.80
1:A:3817:SER:HB3	1:A:4349:LEU:HD21	1.63	0.80
1:A:2386:PRO:HA	1:A:2416:GLN:HE22	1.47	0.79
1:A:1361:GLN:NE2	1:A:1362:ASN:OD1	2.18	0.77
1:A:1938:PHE:HB2	1:A:1967:MET:HE3	1.67	0.77
1:A:1391:LYS:HA	1:A:1394:MET:HE3	1.67	0.77
1:A:2910:VAL:HG21	1:A:3105:VAL:HG22	1.67	0.77
1:A:4168:ARG:HA	1:A:4171:LYS:HE3	1.70	0.74
1:A:3724:VAL:HG11	1:A:3797:VAL:HG21	1.69	0.74
1:A:4107:MET:HE1	1:A:4137:ASN:HD21	1.53	0.74
1:A:3870:ARG:NH2	1:A:4034:GLU:OE1	2.22	0.73
1:A:2065:LEU:HD11	1:A:2133:GLU:HB3	1.69	0.73
1:A:3884:ALA:HB1	1:A:4009:VAL:HG11	1.68	0.72
1:A:3664:LEU:HB3	1:A:3669:ILE:HD13	1.72	0.72
1:A:2963:VAL:HG22	1:A:2998:ASN:HB3	1.73	0.71
1:A:3818:LEU:HD23	1:A:4346:MET:HE1	1.73	0.70
1:A:2179:ARG:HD3	1:A:2208:LEU:HD11	1.72	0.70
1:A:2684:ARG:NH1	1:A:2688:GLU:OE1	2.25	0.70
1:A:1698:ILE:HD13	1:A:1701:TRP:HE1	1.55	0.70
1:A:1509:LEU:HD22	1:A:3608:LYS:HG2	1.73	0.70
1:A:4088:VAL:HG13	1:A:4118:PRO:HA	1.74	0.70
1:A:4068:SER:HA	1:A:4095:MET:HB3	1.74	0.69
1:A:1396:ILE:HB	1:A:1439:LEU:HD12	1.73	0.69
1:A:4176:ARG:NH1	1:A:4220:ASP:OD1	2.26	0.68
1:A:2337:PRO:O	1:A:2340:ARG:NH1	2.26	0.68
1:A:3902:ASP:OD1	1:A:3903:ALA:N	2.26	0.68
1:A:4437:VAL:HG21	1:A:4444:GLN:HG3	1.76	0.68
1:A:2729:ARG:NH2	3:A:4702:ATP:O2A	2.25	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2229:GLY:O	1:A:2233:ALA:HB2	1.94	0.68
1:A:2200:GLY:HA2	1:A:2373:MET:HE3	1.77	0.67
1:A:2306:ASP:HA	1:A:2345:VAL:HG23	1.76	0.67
1:A:2312:VAL:HA	1:A:2315:LEU:HD23	1.76	0.67
1:A:2448:ASP:OD2	1:A:2725:HIS:NE2	2.28	0.66
1:A:2943:LYS:NZ	2:A:4704:ADP:O2B	2.25	0.66
1:A:2149:LEU:HD11	1:A:2157:LEU:HD13	1.77	0.66
1:A:3597:THR:O	1:A:3601:MET:HG2	1.96	0.66
1:A:1561:LEU:HB3	1:A:1564:GLU:HB2	1.78	0.66
1:A:2287:ILE:HD12	1:A:2299:GLN:HG3	1.78	0.66
1:A:4412:PHE:HE1	1:A:4516:VAL:HG23	1.61	0.65
1:A:1751:VAL:HG11	1:A:1878:LYS:HE3	1.79	0.65
1:A:3824:LEU:HD11	1:A:4130:ILE:HD12	1.78	0.65
1:A:3208:ILE:O	1:A:3212:VAL:HG23	1.96	0.64
1:A:2768:PRO:HB2	1:A:2858:PHE:HE1	1.63	0.64
1:A:2054:LEU:HD21	1:A:2097:LEU:HD12	1.80	0.64
1:A:3585:ARG:HB2	1:A:3697:THR:HG23	1.78	0.64
1:A:3005:LEU:HD12	1:A:3085:LEU:HD11	1.79	0.64
1:A:2138:ILE:HG23	1:A:2161:LEU:HD21	1.79	0.64
1:A:3113:MET:O	1:A:3140:ARG:NH1	2.30	0.64
1:A:1721:VAL:HA	1:A:1724:VAL:HG12	1.80	0.64
1:A:2918:HIS:O	1:A:2922:ILE:HG12	1.97	0.64
1:A:4168:ARG:NH2	1:A:4217:ASP:OD1	2.31	0.63
1:A:3100:GLU:HG3	1:A:3130:TYR:HE1	1.63	0.63
1:A:3193:GLU:O	1:A:3196:GLU:HG3	1.99	0.63
1:A:2965:ARG:H	1:A:3620:ARG:HH21	1.45	0.63
1:A:3471:LYS:HE3	1:A:3474:ARG:HH22	1.64	0.63
1:A:1946:VAL:HG13	1:A:2006:VAL:HG21	1.80	0.62
1:A:3708:LEU:HD23	1:A:3809:SER:HA	1.81	0.62
1:A:4165:PRO:HG2	1:A:4168:ARG:HB2	1.80	0.62
1:A:4395:LEU:HD21	1:A:4486:ILE:HG23	1.80	0.62
1:A:2942:GLY:HA2	2:A:4704:ADP:H5'2	1.81	0.62
1:A:2078:GLU:N	1:A:2078:GLU:OE2	2.32	0.62
1:A:2804:ARG:HD3	1:A:2929:PRO:HG2	1.81	0.62
1:A:1350:PRO:HA	1:A:1430:THR:HA	1.80	0.62
1:A:2299:GLN:HB2	1:A:2339:VAL:HG22	1.81	0.62
1:A:4185:TRP:O	1:A:4189:ILE:HG12	1.99	0.62
1:A:1356:PRO:HB3	1:A:1401:ILE:HG12	1.82	0.61
1:A:2413:LEU:HA	1:A:2416:GLN:HE21	1.64	0.61
1:A:2505:ASP:HB3	1:A:2733:VAL:HG13	1.81	0.61
1:A:2993:ILE:HG22	1:A:3065:VAL:HB	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4431:LEU:HA	1:A:4434:VAL:HG12	1.82	0.61
1:A:3172:THR:HG21	1:A:3694:SER:HB2	1.80	0.61
1:A:2232:MET:HA	1:A:2235:ARG:HB2	1.83	0.61
1:A:4239:PRO:HB2	1:A:4242:ALA:HB3	1.83	0.61
1:A:4407:ASP:OD2	1:A:4410:PHE:N	2.33	0.61
1:A:4496:ALA:HB2	1:A:4504:LEU:HD21	1.83	0.61
1:A:3638:VAL:HG12	1:A:3681:THR:HB	1.83	0.60
1:A:4100:HIS:O	1:A:4133:LYS:NZ	2.33	0.60
1:A:2603:MET:HE1	4:A:4703:ANP:N9	2.16	0.60
1:A:4178:ARG:HH21	1:A:4300:ILE:HG22	1.66	0.60
1:A:4199:LEU:HD23	1:A:4330:VAL:HG11	1.81	0.60
1:A:1964:GLU:OE1	1:A:1964:GLU:N	2.33	0.60
1:A:4042:LEU:HD13	1:A:4139:LEU:HD23	1.83	0.60
1:A:1514:LYS:HG3	1:A:1515:VAL:HG13	1.82	0.60
1:A:3925:GLN:OE1	1:A:3925:GLN:N	2.28	0.60
1:A:3474:ARG:HE	1:A:3764:ASP:HB3	1.65	0.60
1:A:4099:VAL:HB	1:A:4106:LEU:HD21	1.83	0.60
1:A:4243:LEU:O	1:A:4247:MET:HG2	2.02	0.60
1:A:2590:PRO:HB3	1:A:2708:PHE:HB2	1.84	0.60
1:A:3476:THR:O	1:A:3480:LYS:HG3	2.02	0.60
1:A:2307:VAL:HG12	1:A:2345:VAL:HG21	1.84	0.59
1:A:2115:LYS:HE3	1:A:2122:VAL:HG12	1.84	0.59
1:A:4569:THR:HG22	1:A:4583:THR:HG21	1.84	0.59
1:A:4176:ARG:NH2	1:A:4224:ASP:OD1	2.36	0.59
1:A:1469:VAL:O	1:A:1473:TYR:HB2	2.02	0.59
1:A:2925:ILE:HG21	1:A:2933:LEU:HB2	1.85	0.59
1:A:4205:TYR:OH	1:A:4257:ASP:OD1	2.18	0.59
1:A:2836:ARG:HG2	1:A:3091:LEU:HB2	1.85	0.59
1:A:3495:THR:O	1:A:3499:GLN:NE2	2.36	0.59
1:A:3923:ARG:HD3	1:A:3929:VAL:HG12	1.84	0.59
1:A:1665:ILE:N	1:A:1675:GLY:O	2.36	0.58
1:A:2446:ILE:HG23	1:A:2447:MET:HG3	1.85	0.58
1:A:3200:HIS:CE1	1:A:3747:LYS:HD3	2.38	0.58
1:A:1627:PRO:HB3	1:A:1950:GLN:HB3	1.85	0.58
1:A:2030:ASP:HA	1:A:2033:LYS:HG3	1.85	0.58
1:A:1474:GLU:OE1	1:A:1474:GLU:N	2.36	0.58
1:A:2369:LEU:HD21	1:A:2374:ILE:HD11	1.86	0.58
1:A:2387:LEU:HB2	1:A:2412:MET:HE2	1.85	0.58
1:A:4105:TRP:CZ3	1:A:4109:LEU:HD12	2.39	0.58
1:A:2569:VAL:HG11	1:A:2747:ILE:HA	1.84	0.58
1:A:2603:MET:HE1	4:A:4703:ANP:C4	2.33	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3885:MET:HB3	1:A:4343:MET:HE1	1.86	0.57
1:A:1810:HIS:NE2	1:A:1876:GLN:O	2.37	0.57
1:A:1825:LEU:HD22	1:A:1830:ILE:HD11	1.87	0.57
1:A:1975:VAL:HA	1:A:1978:ILE:HG22	1.86	0.57
1:A:2703:LEU:HD22	1:A:2706:ILE:HD12	1.85	0.57
1:A:2923:ASP:OD2	1:A:2927:ARG:NH2	2.37	0.57
1:A:1409:LYS:HD2	1:A:1410:ASP:N	2.19	0.57
1:A:4611:LEU:HB2	1:A:4619:ILE:HD11	1.86	0.57
1:A:4012:ASN:HB3	1:A:4013:LEU:HD12	1.86	0.57
1:A:2046:ARG:HA	1:A:2049:ILE:HG22	1.85	0.57
1:A:1792:LEU:HB3	1:A:1812:ILE:HD11	1.86	0.57
1:A:2889:LEU:HD21	1:A:2920:LEU:HD21	1.87	0.56
1:A:3499:GLN:HA	1:A:3502:THR:HG22	1.86	0.56
1:A:3750:LEU:HD12	1:A:3753:LEU:HD11	1.87	0.56
1:A:4176:ARG:HH12	1:A:4220:ASP:HA	1.70	0.56
1:A:1571:ILE:HG21	1:A:1608:LEU:HD21	1.88	0.56
1:A:1635:GLU:OE1	1:A:1635:GLU:N	2.35	0.56
1:A:1679:ARG:NH1	1:A:1680:GLU:OE2	2.38	0.56
1:A:3757:LYS:HE2	1:A:3759:ARG:HH21	1.71	0.56
1:A:4454:GLU:OE2	1:A:4461:PRO:HG3	2.05	0.56
1:A:2382:LEU:HD22	1:A:2420:ALA:HB2	1.86	0.56
1:A:2563:ALA:O	1:A:2804:ARG:NH2	2.38	0.56
1:A:4385:SER:O	1:A:4389:HIS:ND1	2.38	0.56
1:A:3883:PHE:HD1	1:A:3886:LEU:HD12	1.71	0.56
1:A:4100:HIS:NE2	1:A:4129:GLU:OE2	2.39	0.56
1:A:3741:ARG:NH1	1:A:3776:GLU:OE1	2.37	0.56
1:A:4423:LEU:HD22	1:A:4482:PHE:CE1	2.40	0.56
1:A:1582:VAL:HG23	1:A:1591:VAL:HG11	1.88	0.56
1:A:4084:ILE:O	1:A:4088:VAL:HG23	2.05	0.56
1:A:2554:GLN:OE1	1:A:2753:ARG:NH2	2.38	0.56
1:A:2324:LEU:HD11	1:A:2332:ARG:HB3	1.89	0.55
1:A:2595:GLY:O	1:A:2714:PRO:HD3	2.06	0.55
1:A:1800:GLN:OE1	1:A:1804:ARG:NH1	2.38	0.55
1:A:3219:ARG:NH1	1:A:3472:VAL:HA	2.21	0.55
1:A:3196:GLU:HA	1:A:3199:MET:HG3	1.87	0.55
1:A:3888:ALA:HB1	1:A:4012:ASN:HD22	1.72	0.55
1:A:4215:ALA:HB1	1:A:4247:MET:HE1	1.87	0.55
1:A:2229:GLY:O	1:A:2233:ALA:CB	2.53	0.55
1:A:2872:LEU:HD23	1:A:2889:LEU:HD23	1.88	0.55
1:A:1337:SER:O	1:A:1341:GLU:HG2	2.06	0.55
1:A:2796:PRO:HB2	4:A:4703:ANP:H1'	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3205:LEU:O	1:A:3209:LYS:HG2	2.07	0.55
1:A:4178:ARG:HH11	1:A:4296:MET:HE1	1.72	0.55
1:A:1952:GLY:HA2	1:A:2012:MET:HB3	1.88	0.55
1:A:3705:ARG:NH2	1:A:4349:LEU:O	2.39	0.54
1:A:4443:LYS:HD2	1:A:4444:GLN:N	2.22	0.54
1:A:1431:LEU:HD12	1:A:1434:ILE:HB	1.89	0.54
1:A:2488:ARG:O	1:A:2492:ARG:HG2	2.06	0.54
1:A:2635:PHE:HE1	1:A:2661:LEU:HD11	1.71	0.54
1:A:2571:THR:HG22	1:A:2574:THR:HG23	1.89	0.54
1:A:3068:MET:HE1	1:A:3081:THR:HG21	1.88	0.54
1:A:1812:ILE:HG21	1:A:2056:SER:HA	1.89	0.54
1:A:2492:ARG:HD2	1:A:2545:TRP:CZ2	2.43	0.54
1:A:2930:GLN:NE2	1:A:3013:ALA:O	2.40	0.54
1:A:3167:ARG:NH2	1:A:3684:PRO:O	2.34	0.54
1:A:4314:ASP:OD1	1:A:4315:THR:N	2.40	0.54
1:A:3110:THR:O	1:A:3140:ARG:NH2	2.39	0.54
1:A:4457:LYS:HE3	1:A:4457:LYS:HA	1.90	0.54
1:A:4518:GLU:OE2	1:A:4518:GLU:N	2.39	0.54
1:A:1985:HIS:CD2	1:A:1997:ILE:HD12	2.42	0.53
1:A:4244:LYS:HA	1:A:4269:LEU:HD12	1.89	0.53
1:A:4284:LEU:HG	1:A:4296:MET:HB2	1.91	0.53
1:A:4402:VAL:O	1:A:4406:LYS:HG3	2.07	0.53
1:A:4434:VAL:HA	1:A:4437:VAL:HG12	1.90	0.53
1:A:1397:ASN:O	1:A:1401:ILE:HG13	2.08	0.53
1:A:2888:GLU:OE1	1:A:2888:GLU:N	2.29	0.53
1:A:4071:ILE:HG13	1:A:4099:VAL:HG12	1.91	0.53
1:A:1461:GLU:HG3	1:A:3659:ARG:HD3	1.91	0.53
1:A:1417:MET:HE3	1:A:1417:MET:HA	1.90	0.53
1:A:2748:TYR:CZ	1:A:2799:MET:HB3	2.44	0.53
1:A:2813:LEU:HD21	1:A:2816:LEU:HG	1.91	0.53
1:A:4454:GLU:HA	1:A:4457:LYS:HG2	1.89	0.53
1:A:4517:PRO:O	1:A:4521:ILE:HG12	2.08	0.53
1:A:2973:ASP:HA	1:A:2976:LEU:HD12	1.91	0.53
1:A:4010:SER:HB2	1:A:4015:GLU:HA	1.90	0.53
1:A:2898:LYS:HA	1:A:2901:TYR:HD1	1.73	0.52
1:A:3128:VAL:HG23	1:A:3145:ASN:HD21	1.74	0.52
1:A:3957:PHE:HZ	1:A:3996:PHE:CE1	2.27	0.52
1:A:1888:CYS:HB2	1:A:2041:MET:HE3	1.91	0.52
1:A:4448:LEU:HD13	1:A:4451:LEU:HD23	1.91	0.52
1:A:3931:GLN:O	1:A:3935:VAL:HG23	2.09	0.52
1:A:1426:VAL:HA	1:A:1429:LEU:HG	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4206:GLU:OE2	1:A:4255:ARG:NH1	2.43	0.52
1:A:4399:LYS:HE2	1:A:4497:ALA:HA	1.92	0.52
1:A:2927:ARG:HG3	1:A:2928:GLN:HE21	1.75	0.52
1:A:3663:THR:OG1	1:A:3668:ASP:OD1	2.28	0.52
1:A:1664:ILE:HG22	1:A:1676:ILE:HG22	1.92	0.52
1:A:2756:LEU:HD12	1:A:2766:ALA:HB2	1.92	0.52
1:A:1590:ASP:O	1:A:1594:ILE:HG13	2.09	0.52
1:A:1555:ALA:O	1:A:1559:HIS:ND1	2.35	0.51
1:A:1789:LEU:HD21	1:A:1815:LEU:HB3	1.92	0.51
1:A:2422:ILE:HD12	1:A:2487:GLU:HG2	1.92	0.51
1:A:2944:THR:OG1	2:A:4704:ADP:O2A	2.26	0.51
1:A:4160:THR:HG23	1:A:4212:LEU:HD21	1.92	0.51
1:A:2510:MET:HE3	1:A:2510:MET:HA	1.91	0.51
1:A:1475:LEU:HD11	1:A:1534:PHE:HZ	1.75	0.51
1:A:2600:GLY:HA2	1:A:2603:MET:HE3	1.92	0.51
1:A:3705:ARG:HH22	1:A:4350:GLU:HA	1.75	0.51
1:A:3825:TYR:CZ	1:A:3875:MET:HG3	2.46	0.51
1:A:1721:VAL:O	1:A:1725:GLU:HG2	2.10	0.51
1:A:1497:VAL:HG13	1:A:1531:MET:HE1	1.92	0.51
1:A:2066:ALA:HA	1:A:2069:ILE:HG22	1.93	0.51
1:A:4488:GLN:O	1:A:4492:ILE:HG12	2.10	0.51
1:A:2093:LEU:HD23	1:A:2097:LEU:HD23	1.93	0.51
1:A:4107:MET:HE3	1:A:4107:MET:HA	1.93	0.51
1:A:1843:ARG:NH2	1:A:1861:MET:O	2.44	0.51
1:A:2125:GLY:O	1:A:2129:GLU:HG2	2.11	0.51
1:A:4235:PRO:HB3	1:A:4278:PHE:CD2	2.45	0.51
1:A:1398:MET:HG3	1:A:1399:LEU:HD12	1.94	0.51
1:A:3133:LEU:HD12	1:A:3134:PRO:HD2	1.92	0.51
1:A:3591:ASP:HB2	1:A:3701:PHE:HB2	1.93	0.51
1:A:2397:ARG:NH2	1:A:2406:GLU:OE2	2.44	0.50
1:A:2443:LEU:HD11	1:A:2510:MET:HB3	1.93	0.50
1:A:4179:LEU:HD12	1:A:4223:LEU:HD22	1.93	0.50
1:A:4348:MET:HE1	1:A:4453:ASN:HA	1.93	0.50
1:A:2283:VAL:O	1:A:2287:ILE:HG12	2.11	0.50
1:A:4564:LYS:HG3	1:A:4646:GLU:HB2	1.93	0.50
1:A:1407:ALA:HA	1:A:1457:MET:HE3	1.92	0.50
1:A:2465:ALA:HB2	1:A:2493:TYR:CD2	2.46	0.50
1:A:2755:MET:HE1	1:A:2807:PHE:HA	1.92	0.50
1:A:3514:ILE:HD11	1:A:3579:MET:HA	1.92	0.50
1:A:2943:LYS:HG2	1:A:3094:PHE:HD2	1.77	0.50
1:A:2053:MET:O	1:A:2056:SER:OG	2.22	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2248:GLU:N	1:A:2248:GLU:OE1	2.45	0.50
1:A:2395:GLN:HB2	1:A:2396:ARG:HH21	1.75	0.50
1:A:2465:ALA:HB2	1:A:2493:TYR:HD2	1.77	0.50
1:A:2377:ASN:HB2	3:A:4702:ATP:H2	1.77	0.50
1:A:2493:TYR:HD1	1:A:2539:VAL:HB	1.75	0.50
1:A:2964:HIS:HB2	1:A:3620:ARG:HH22	1.77	0.50
1:A:2090:LEU:HD23	2:A:4701:ADP:C8	2.47	0.49
1:A:2418:ASP:O	1:A:2422:ILE:HG12	2.11	0.49
1:A:2115:LYS:HG2	1:A:2118:ARG:HH12	1.77	0.49
1:A:2658:TRP:CE3	1:A:2705:ARG:HA	2.47	0.49
1:A:3835:ILE:HD12	1:A:3870:ARG:HD2	1.94	0.49
1:A:4288:VAL:HG21	1:A:4294:ILE:HG13	1.95	0.49
1:A:2838:VAL:HG22	1:A:3093:TRP:CD2	2.48	0.49
1:A:4462:ARG:HA	1:A:4462:ARG:NE	2.28	0.49
1:A:1793:ALA:HB1	1:A:2060:ARG:HH12	1.77	0.49
1:A:2150:VAL:HG12	1:A:2363:TRP:CE2	2.46	0.49
1:A:2571:THR:H	1:A:2574:THR:HG1	1.55	0.49
1:A:2228:SER:N	3:A:4702:ATP:O2B	2.31	0.49
1:A:2409:ALA:H	1:A:2413:LEU:HD23	1.77	0.49
1:A:3508:LEU:HD23	1:A:3536:LEU:HD21	1.93	0.49
1:A:4505:LYS:HG3	1:A:4527:TYR:CZ	2.48	0.49
1:A:1375:ALA:HA	1:A:1378:ARG:HB2	1.94	0.49
1:A:2723:LEU:HB2	1:A:2728:LEU:HD21	1.95	0.49
1:A:3966:PRO:HG3	1:A:3997:ARG:HE	1.78	0.49
1:A:4206:GLU:N	1:A:4206:GLU:OE1	2.42	0.49
1:A:4387:TRP:NE1	1:A:4479:VAL:HG21	2.28	0.49
1:A:1917:LYS:HG3	1:A:1927:VAL:HG11	1.95	0.49
1:A:2503:SER:HB2	1:A:2511:ARG:HG2	1.94	0.49
1:A:3869:ASN:O	1:A:3873:ARG:HG2	2.12	0.49
1:A:1905:PHE:HB3	1:A:2018:MET:HB3	1.95	0.48
1:A:2377:ASN:HB2	3:A:4702:ATP:C2	2.48	0.48
1:A:2789:GLN:HE21	1:A:2838:VAL:HG21	1.77	0.48
1:A:3593:SER:OG	1:A:3595:GLN:HG3	2.13	0.48
1:A:1360:ARG:NH1	1:A:2902:GLU:HG3	2.27	0.48
1:A:1411:ARG:HA	1:A:1414:LYS:HB3	1.95	0.48
1:A:3886:LEU:O	1:A:3890:ILE:HG12	2.14	0.48
1:A:1664:ILE:HA	1:A:1676:ILE:HA	1.95	0.48
1:A:1709:MET:HE3	1:A:1713:LEU:HD12	1.94	0.48
1:A:2222:MET:HE1	1:A:2342:MET:HG2	1.94	0.48
1:A:3567:LEU:HB2	1:A:3599:PHE:CD1	2.48	0.48
1:A:3999:ASP:OD1	1:A:4000:ARG:N	2.45	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1478:VAL:HG21	1:A:1488:ARG:HH21	1.78	0.48
1:A:2491:GLN:HB3	1:A:2524:VAL:HG21	1.95	0.48
1:A:2964:HIS:HA	1:A:3665:GLY:HA2	1.95	0.48
1:A:2012:MET:HE1	1:A:2014:ILE:HD11	1.94	0.48
1:A:4080:ALA:O	1:A:4084:ILE:HG12	2.14	0.48
1:A:3194:LEU:HD23	1:A:3194:LEU:O	2.13	0.48
1:A:3649:LEU:HB2	1:A:3695:ARG:HG3	1.96	0.48
1:A:1478:VAL:HG21	1:A:1488:ARG:HE	1.79	0.48
1:A:1748:GLN:HE22	1:A:1872:TYR:HA	1.78	0.48
1:A:1765:ALA:O	1:A:1769:MET:HG2	2.14	0.48
1:A:2485:GLN:HA	1:A:2488:ARG:HE	1.78	0.48
1:A:2499:LEU:O	1:A:2503:SER:OG	2.22	0.48
1:A:2472:TYR:CG	1:A:2541:ILE:HG21	2.49	0.48
1:A:3856:LEU:O	1:A:3859:ILE:HG22	2.14	0.48
1:A:1344:ASP:OD1	1:A:1347:LYS:NZ	2.34	0.47
1:A:2370:SER:N	1:A:2373:MET:SD	2.85	0.47
1:A:4481:ASP:O	1:A:4484:GLU:HG2	2.14	0.47
1:A:1863:ASN:O	1:A:1863:ASN:ND2	2.46	0.47
1:A:2554:GLN:HE22	1:A:2746:GLN:HE21	1.62	0.47
1:A:3888:ALA:HA	1:A:4013:LEU:HD11	1.95	0.47
1:A:2964:HIS:CE1	1:A:2967:TYR:HA	2.49	0.47
1:A:4444:GLN:HE22	1:A:4452:ILE:HG21	1.79	0.47
1:A:2082:SER:HA	1:A:2086:TYR:CD2	2.48	0.47
1:A:3003:GLY:HA2	1:A:3006:GLU:OE2	2.15	0.47
1:A:1523:TRP:HA	1:A:1526:LYS:HE3	1.95	0.47
1:A:1830:ILE:HG21	1:A:1837:GLU:OE2	2.14	0.47
1:A:1844:PHE:CD2	1:A:1859:ILE:HG12	2.50	0.47
1:A:1949:CYS:HB3	1:A:2008:VAL:HA	1.97	0.47
1:A:2901:TYR:OH	1:A:2909:LEU:O	2.33	0.47
1:A:4297:PRO:HB3	1:A:4308:TRP:CD1	2.50	0.47
1:A:4443:LYS:HD2	1:A:4444:GLN:H	1.79	0.47
1:A:2936:ILE:HG23	1:A:3093:TRP:HE3	1.78	0.47
1:A:1769:MET:HE1	1:A:1777:PRO:HD2	1.95	0.47
1:A:2685:GLN:O	1:A:2685:GLN:NE2	2.45	0.47
1:A:2996:GLU:HA	1:A:2999:VAL:HG22	1.95	0.47
1:A:4460:LEU:HD21	1:A:4473:MET:HG3	1.97	0.47
1:A:2597:PRO:HG3	1:A:2793:ILE:HD11	1.97	0.47
1:A:2757:ARG:HA	1:A:2763:ARG:HH22	1.80	0.47
1:A:4267:THR:HG21	1:A:4636:TYR:HD2	1.80	0.47
1:A:2751:PHE:O	1:A:2755:MET:HG2	2.15	0.47
1:A:3662:ILE:HG21	1:A:3671:LEU:HD21	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3948:ILE:O	1:A:3952:GLN:HG3	2.15	0.47
1:A:1984:GLU:OE1	1:A:1987:ASN:ND2	2.48	0.47
1:A:4264:LEU:O	1:A:4267:THR:OG1	2.29	0.47
1:A:1527:LEU:HA	1:A:1530:ILE:HG22	1.97	0.46
1:A:2080:LEU:HD23	1:A:2156:LEU:HD23	1.97	0.46
1:A:2554:GLN:NE2	1:A:2746:GLN:HE21	2.12	0.46
1:A:2972:PHE:CE2	1:A:2976:LEU:HD11	2.50	0.46
1:A:4437:VAL:HG21	1:A:4444:GLN:CG	2.45	0.46
1:A:1933:ASP:HB3	1:A:1962:ARG:NH2	2.30	0.46
1:A:3113:MET:HE2	1:A:3184:ALA:HA	1.96	0.46
1:A:3511:ALA:HA	1:A:3514:ILE:HG22	1.98	0.46
1:A:3882:THR:O	1:A:3886:LEU:HG	2.16	0.46
1:A:2896:ARG:HA	1:A:2899:VAL:HG12	1.96	0.46
1:A:4485:ARG:HG2	1:A:4513:GLY:HA2	1.96	0.46
1:A:1749:LEU:HD23	1:A:1749:LEU:HA	1.81	0.46
1:A:1981:ALA:HB2	1:A:1999:CYS:HB2	1.97	0.46
1:A:4482:PHE:O	1:A:4486:ILE:HD12	2.14	0.46
1:A:1384:GLU:O	1:A:1388:ARG:HG3	2.16	0.46
1:A:1428:GLU:OE1	1:A:1428:GLU:N	2.49	0.46
1:A:1734:ASP:HB3	1:A:1737:THR:OG1	2.16	0.46
1:A:2875:ASN:HB3	1:A:2881:TYR:HA	1.97	0.46
1:A:2049:ILE:HD12	2:A:4701:ADP:C6	2.50	0.46
1:A:3838:ASN:ND2	1:A:4034:GLU:OE1	2.48	0.46
1:A:1329:LEU:HA	1:A:1332:VAL:HG12	1.96	0.46
1:A:1914:GLU:CD	2:A:4701:ADP:H3'	2.40	0.46
1:A:2924:ARG:O	1:A:2928:GLN:HG2	2.15	0.46
1:A:4263:ARG:HD2	1:A:4636:TYR:CZ	2.51	0.46
1:A:2189:MET:HE3	1:A:2239:LYS:HD3	1.97	0.46
1:A:2413:LEU:HA	1:A:2416:GLN:NE2	2.31	0.46
1:A:2759:ILE:HG21	1:A:2762:LEU:HD12	1.97	0.46
1:A:4103:PRO:HD3	1:A:4133:LYS:NZ	2.31	0.46
1:A:1409:LYS:HD2	1:A:1410:ASP:H	1.80	0.46
1:A:1417:MET:SD	1:A:1423:ASN:HB3	2.55	0.46
1:A:2427:PHE:HD1	1:A:2433:VAL:HG11	1.82	0.45
1:A:2922:ILE:HD13	1:A:2933:LEU:HD23	1.98	0.45
1:A:3478:LEU:HB2	1:A:3767:ILE:HD11	1.98	0.45
1:A:2569:VAL:HB	1:A:2747:ILE:HG23	1.96	0.45
1:A:2729:ARG:NH1	3:A:4702:ATP:O2G	2.41	0.45
1:A:3167:ARG:CZ	1:A:3685:THR:HA	2.46	0.45
1:A:3588:LEU:HD11	1:A:3638:VAL:HG21	1.99	0.45
1:A:3810:SER:OG	1:A:3890:ILE:HD12	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3997:ARG:HH12	1:A:4329:ARG:NH2	2.14	0.45
1:A:4271:ARG:HG3	1:A:4633:ARG:HH22	1.81	0.45
1:A:1470:TRP:HB3	1:A:1589:MET:CE	2.47	0.45
1:A:2644:THR:HG22	1:A:2646:ASN:H	1.81	0.45
1:A:2686:MET:SD	1:A:2703:LEU:HD11	2.56	0.45
1:A:4153:VAL:HG13	1:A:4188:ALA:HB1	1.98	0.45
1:A:4407:ASP:O	1:A:4411:ARG:HG3	2.16	0.45
1:A:1715:LYS:O	1:A:1719:GLU:HG3	2.16	0.45
1:A:2354:ALA:O	1:A:2358:ARG:HG3	2.16	0.45
1:A:4451:LEU:O	1:A:4454:GLU:HG3	2.17	0.45
1:A:2049:ILE:HD13	1:A:2090:LEU:HD21	1.98	0.45
1:A:3990:LEU:HA	1:A:4004:MET:HG2	1.97	0.45
1:A:2804:ARG:O	1:A:2808:GLU:HG2	2.17	0.45
1:A:3199:MET:SD	1:A:3200:HIS:N	2.90	0.45
1:A:4186:PHE:O	1:A:4190:ILE:HG12	2.17	0.45
1:A:4481:ASP:O	1:A:4485:ARG:HG3	2.17	0.45
1:A:1470:TRP:HB3	1:A:1589:MET:HE3	1.97	0.45
1:A:2614:ASP:C	1:A:2615:MET:HE2	2.41	0.45
1:A:2278:GLY:O	1:A:2282:HIS:HB3	2.17	0.45
1:A:2726:ARG:NH1	3:A:4702:ATP:O1G	2.50	0.45
1:A:3510:SER:OG	1:A:3553:LEU:HD21	2.17	0.45
1:A:1438:ASP:HB3	1:A:1441:LYS:HB3	1.99	0.45
1:A:2594:CYS:O	1:A:2735:TYR:HA	2.17	0.45
1:A:2609:LEU:HD22	1:A:2615:MET:HG3	1.99	0.45
1:A:3621:LYS:O	1:A:3624:GLU:HG3	2.16	0.45
1:A:1356:PRO:HD3	1:A:1404:LYS:HD2	1.99	0.44
1:A:1470:TRP:HE1	1:A:1527:LEU:HD11	1.81	0.44
1:A:2172:ARG:NH1	1:A:2173:GLY:H	2.15	0.44
1:A:3151:HIS:HD1	1:A:3516:TYR:HH	1.58	0.44
1:A:3762:ASP:OD1	1:A:3763:ASP:N	2.45	0.44
1:A:1407:ALA:HB1	1:A:1453:ALA:HB1	1.99	0.44
1:A:2923:ASP:OD1	1:A:2954:ASN:ND2	2.37	0.44
1:A:4276:ARG:HD2	1:A:4276:ARG:N	2.33	0.44
1:A:1753:SER:HA	1:A:1756:ILE:HG12	2.00	0.44
1:A:2016:ILE:HG12	1:A:2036:PHE:CE2	2.52	0.44
1:A:1763:GLU:OE2	1:A:1838:TRP:NE1	2.40	0.44
1:A:2370:SER:O	1:A:2373:MET:HB2	2.16	0.44
1:A:3597:THR:O	1:A:3600:ILE:HG22	2.17	0.44
1:A:3655:ARG:HA	1:A:3660:VAL:HA	1.99	0.44
1:A:4452:ILE:O	1:A:4456:VAL:HG23	2.18	0.44
1:A:1393:TYR:HE1	1:A:1435:TRP:CD2	2.35	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1618:TYR:HA	1:A:1621:ARG:HE	1.82	0.44
1:A:1738:TYR:HE2	1:A:1792:LEU:HD21	1.82	0.44
1:A:1882:THR:HG22	1:A:1885:THR:HG23	1.98	0.44
1:A:2584:TRP:CZ3	1:A:2732:PRO:HB2	2.53	0.44
1:A:3017:VAL:HG22	1:A:3020:LEU:HD23	1.99	0.44
1:A:3851:ASP:O	1:A:3855:ARG:HG3	2.17	0.44
1:A:3881:ILE:HD13	1:A:4006:HIS:ND1	2.33	0.44
1:A:4302:ARG:O	1:A:4306:VAL:HG23	2.17	0.44
1:A:4379:THR:O	1:A:4383:THR:HG23	2.18	0.44
1:A:4563:LEU:HD12	1:A:4588:THR:HG21	1.99	0.44
1:A:3033:CYS:SG	1:A:3054:PHE:HB2	2.58	0.44
1:A:4065:GLN:CD	1:A:4092:ARG:HE	2.26	0.44
1:A:4266:ASN:O	1:A:4270:GLU:HG2	2.18	0.44
1:A:4482:PHE:CE1	1:A:4486:ILE:HD11	2.53	0.44
1:A:2420:ALA:HA	1:A:2423:MET:HG2	2.00	0.44
1:A:2994:MET:HB3	1:A:2998:ASN:OD1	2.18	0.44
1:A:3200:HIS:HE1	1:A:3747:LYS:HD3	1.82	0.44
1:A:1985:HIS:ND1	1:A:2010:PRO:HB3	2.33	0.43
1:A:2054:LEU:HA	1:A:2054:LEU:HD23	1.57	0.43
1:A:2427:PHE:CD1	1:A:2433:VAL:HG11	2.53	0.43
1:A:2671:MET:SD	1:A:2675:GLY:HA2	2.58	0.43
1:A:3109:PHE:HD2	1:A:3180:ILE:HG21	1.83	0.43
1:A:4381:HIS:HB2	1:A:4438:CYS:HB3	2.00	0.43
1:A:4395:LEU:HD12	1:A:4421:ALA:HA	2.01	0.43
1:A:1651:GLN:HE22	1:A:1664:ILE:HG12	1.81	0.43
1:A:3147:CYS:HB3	1:A:3179:PHE:HE2	1.83	0.43
1:A:3835:ILE:HD11	1:A:3866:VAL:HG12	2.00	0.43
1:A:4150:PRO:HD2	1:A:4159:ARG:HH21	1.82	0.43
1:A:1432:GLY:HA2	1:A:1435:TRP:CE3	2.54	0.43
1:A:2485:GLN:HG3	1:A:2488:ARG:HH21	1.82	0.43
1:A:2571:THR:O	1:A:2575:VAL:HG22	2.18	0.43
1:A:2813:LEU:HD11	1:A:2816:LEU:HD21	2.00	0.43
1:A:4297:PRO:HD3	1:A:4308:TRP:CE2	2.54	0.43
1:A:2435:LYS:NZ	1:A:2521:ILE:HB	2.32	0.43
1:A:2672:ASP:N	1:A:2672:ASP:OD1	2.51	0.43
1:A:3139:HIS:O	1:A:3143:ILE:HG12	2.17	0.43
1:A:3885:MET:CG	1:A:4343:MET:HE1	2.48	0.43
1:A:4424:LEU:HD12	1:A:4486:ILE:HG12	2.00	0.43
1:A:1335:GLU:O	1:A:1339:VAL:HG13	2.18	0.43
1:A:3788:ASP:OD1	1:A:3789:ILE:N	2.51	0.43
1:A:4227:ALA:HB2	1:A:4233:ILE:HD12	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1378:ARG:HG2	1:A:1383:TYR:CZ	2.54	0.43
1:A:1687:LYS:HG2	1:A:1712:THR:HG23	2.01	0.43
1:A:1785:VAL:O	1:A:1789:LEU:HD23	2.18	0.43
1:A:4175:GLU:HG2	1:A:4278:PHE:CE2	2.54	0.43
1:A:4192:GLU:OE1	1:A:4192:GLU:HA	2.18	0.43
1:A:1332:VAL:HG11	1:A:1380:TYR:CE2	2.54	0.43
1:A:3574:THR:O	1:A:3578:ILE:HG12	2.19	0.43
1:A:2527:PRO:HD3	1:A:2545:TRP:CE2	2.54	0.43
1:A:3101:ALA:O	1:A:3105:VAL:HG23	2.18	0.43
1:A:1678:SER:OG	1:A:1679:ARG:N	2.52	0.42
1:A:1769:MET:HB3	1:A:1831:ASP:HB2	2.00	0.42
1:A:2435:LYS:O	1:A:2438:GLU:HG3	2.18	0.42
1:A:2793:ILE:O	1:A:2836:ARG:NH2	2.41	0.42
1:A:2981:ARG:O	1:A:2985:CYS:HB3	2.18	0.42
1:A:4043:MET:HB2	1:A:4127:THR:HA	2.01	0.42
1:A:1387:GLN:O	1:A:1391:LYS:HG3	2.18	0.42
1:A:1678:SER:OG	1:A:1680:GLU:OE1	2.32	0.42
1:A:3007:ARG:CZ	1:A:3020:LEU:HD21	2.49	0.42
1:A:3779:GLU:HG2	1:A:3783:LYS:HE3	1.99	0.42
1:A:3893:LYS:HE2	1:A:3893:LYS:HB3	1.74	0.42
1:A:3945:LYS:HA	1:A:3945:LYS:HD2	1.82	0.42
1:A:3983:ILE:HD12	1:A:4012:ASN:OD1	2.19	0.42
1:A:1354:VAL:HG23	1:A:1404:LYS:HE3	2.00	0.42
1:A:1503:SER:O	1:A:1507:MET:HG2	2.19	0.42
1:A:2925:ILE:HG13	1:A:2933:LEU:HD22	2.00	0.42
1:A:2968:THR:HG22	1:A:2970:GLU:H	1.84	0.42
1:A:3684:PRO:HB3	1:A:3702:THR:HG21	2.01	0.42
1:A:1404:LYS:HE2	1:A:1404:LYS:HB2	1.79	0.42
1:A:1494:PHE:HA	1:A:1497:VAL:HG12	2.02	0.42
1:A:1836:PHE:CD2	1:A:4242:ALA:HA	2.55	0.42
1:A:2464:GLN:OE1	1:A:2467:ARG:NH1	2.52	0.42
1:A:2772:ALA:HA	1:A:2857:HIS:CE1	2.54	0.42
1:A:2934:LEU:HD21	1:A:3068:MET:SD	2.59	0.42
1:A:3756:VAL:C	1:A:3757:LYS:HD3	2.44	0.42
1:A:1758:TRP:CD2	1:A:1818:GLN:HG2	2.54	0.42
1:A:1766:LEU:HD13	1:A:1833:ALA:HA	2.02	0.42
1:A:2324:LEU:HD21	1:A:2332:ARG:HD3	2.01	0.42
1:A:1533:LEU:HD13	1:A:1592:LEU:HD13	2.01	0.42
1:A:2239:LYS:HE2	1:A:2239:LYS:HB3	1.88	0.42
1:A:2402:GLU:O	1:A:2402:GLU:HG3	2.19	0.42
1:A:2863:ARG:O	1:A:2863:ARG:HG2	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3839:VAL:HG13	1:A:3840:LEU:HD22	2.01	0.42
1:A:4404:ASN:HB3	1:A:4410:PHE:CE2	2.54	0.42
1:A:1398:MET:O	1:A:1402:GLU:OE1	2.38	0.42
1:A:1417:MET:HE1	1:A:1423:ASN:HB3	2.02	0.42
1:A:2840:ASP:HA	1:A:2843:ARG:HD2	2.01	0.42
1:A:3158:ASN:HD21	1:A:3171:ILE:HG12	1.83	0.42
1:A:3554:SER:OG	1:A:3558:GLU:OE1	2.38	0.42
1:A:1504:VAL:O	1:A:1507:MET:HB2	2.19	0.42
1:A:1882:THR:HG23	1:A:1885:THR:H	1.85	0.42
1:A:1397:ASN:C	1:A:1397:ASN:HD22	2.26	0.42
1:A:1423:ASN:OD1	1:A:1424:TRP:N	2.49	0.42
1:A:1661:VAL:HG13	1:A:1676:ILE:HB	2.02	0.42
1:A:2049:ILE:HG21	1:A:2090:LEU:HD11	2.01	0.42
1:A:2093:LEU:O	1:A:2097:LEU:HD23	2.20	0.42
1:A:2517:TYR:O	1:A:2521:ILE:HG12	2.19	0.42
1:A:2765:TYR:C	1:A:2768:PRO:HD2	2.45	0.42
1:A:2777:TYR:CB	1:A:2799:MET:HE1	2.50	0.42
1:A:3003:GLY:HA2	1:A:3006:GLU:CD	2.44	0.42
1:A:3628:ARG:HD3	1:A:3669:ILE:HG23	2.02	0.42
1:A:4107:MET:HE1	1:A:4137:ASN:ND2	2.27	0.42
1:A:1439:LEU:HD23	1:A:1439:LEU:HA	1.89	0.42
1:A:1755:GLN:HG2	1:A:1814:GLU:OE2	2.20	0.42
1:A:2478:ASP:OD1	1:A:2479:PHE:N	2.52	0.42
1:A:2493:TYR:CD1	1:A:2539:VAL:HB	2.54	0.42
1:A:2927:ARG:HG3	1:A:2928:GLN:NE2	2.35	0.42
1:A:4348:MET:CE	1:A:4453:ASN:HA	2.50	0.42
1:A:4474:THR:OG1	1:A:4477:GLN:HG3	2.20	0.42
1:A:2934:LEU:HB2	1:A:3089:CYS:SG	2.59	0.41
1:A:4549:GLN:HE22	1:A:4587:LEU:HB2	1.85	0.41
1:A:1496:LYS:HE2	1:A:1496:LYS:HB2	1.92	0.41
1:A:1626:PHE:CZ	1:A:1702:LEU:HB3	2.55	0.41
1:A:1741:TRP:CH2	1:A:1750:VAL:HG23	2.55	0.41
1:A:2648:VAL:HG11	1:A:2694:ARG:NH2	2.35	0.41
1:A:2903:GLU:OE1	1:A:2903:GLU:N	2.48	0.41
1:A:3017:VAL:O	1:A:3017:VAL:HG13	2.21	0.41
1:A:4336:GLY:O	1:A:4340:ILE:HG12	2.20	0.41
1:A:4375:ALA:O	1:A:4379:THR:HG23	2.20	0.41
1:A:1580:LYS:O	1:A:1584:LYS:HG2	2.20	0.41
1:A:2033:LYS:HE2	1:A:2033:LYS:HB3	1.94	0.41
1:A:2527:PRO:HG3	1:A:2545:TRP:CG	2.56	0.41
1:A:2747:ILE:O	1:A:2750:THR:OG1	2.30	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2777:TYR:CG	1:A:2799:MET:HE1	2.55	0.41
1:A:4031:VAL:HA	1:A:4035:VAL:HG12	2.02	0.41
1:A:4105:TRP:O	1:A:4108:GLN:HG3	2.20	0.41
1:A:4303:GLU:O	1:A:4307:GLN:NE2	2.53	0.41
1:A:1486:LEU:HD12	1:A:1541:GLN:HG3	2.02	0.41
1:A:1879:LEU:HD12	2:A:4701:ADP:C6	2.56	0.41
1:A:2335:LEU:HD12	1:A:2336:PRO:HD2	2.02	0.41
1:A:2437:LEU:HD22	1:A:2455:LEU:HD21	2.03	0.41
1:A:2451:ARG:O	1:A:2455:LEU:HD23	2.20	0.41
1:A:2467:ARG:NH1	1:A:2587:GLU:OE2	2.38	0.41
1:A:3488:ARG:NH2	1:A:3489:TRP:HE1	2.18	0.41
1:A:4554:ASP:OD1	1:A:4555:ALA:N	2.53	0.41
1:A:1363:LEU:O	1:A:1367:LEU:HG	2.20	0.41
1:A:2054:LEU:CD2	1:A:2097:LEU:HD12	2.49	0.41
1:A:2210:LEU:O	1:A:2214:THR:HG23	2.21	0.41
1:A:2396:ARG:HD3	1:A:2399:LYS:HE2	2.03	0.41
1:A:2965:ARG:HG3	1:A:2966:LYS:HD3	2.00	0.41
1:A:3172:THR:HG23	1:A:3174:ARG:HB2	2.02	0.41
1:A:3825:TYR:CE1	1:A:3875:MET:HG3	2.55	0.41
1:A:4105:TRP:HZ3	1:A:4109:LEU:HD12	1.83	0.41
1:A:3781:THR:O	1:A:3785:GLU:HG2	2.21	0.41
1:A:3984:GLY:HA2	1:A:3987:ILE:HG22	2.03	0.41
1:A:1422:VAL:HG13	1:A:1422:VAL:O	2.20	0.41
1:A:1550:ILE:HD12	1:A:1638:LEU:HD22	2.02	0.41
1:A:2300:TRP:CD1	1:A:2340:ARG:HB2	2.55	0.41
1:A:2844:ARG:HG2	1:A:2844:ARG:HH11	1.86	0.41
1:A:3498:ASN:O	1:A:3501:SER:OG	2.22	0.41
1:A:3804:LEU:HD13	1:A:3860:THR:HG22	2.01	0.41
1:A:1391:LYS:HA	1:A:1394:MET:HG2	2.03	0.41
1:A:1521:LEU:O	1:A:1524:GLU:HG3	2.21	0.41
1:A:1571:ILE:HG23	1:A:1604:LEU:HD22	2.01	0.41
1:A:1673:VAL:HB	1:A:1690:VAL:HG23	2.03	0.41
1:A:1682:GLU:OE1	1:A:1803:LEU:HD11	2.20	0.41
1:A:2879:LYS:HE3	1:A:2879:LYS:HB3	1.90	0.41
1:A:4071:ILE:HD11	1:A:4096:LEU:HD22	2.02	0.41
1:A:1357:ARG:CZ	1:A:2903:GLU:HB3	2.51	0.41
1:A:1923:LEU:HD12	1:A:1954:TRP:CZ2	2.56	0.41
1:A:1985:HIS:HD2	1:A:1997:ILE:HD12	1.86	0.41
1:A:2323:LYS:HE2	1:A:2323:LYS:HB3	1.85	0.41
1:A:3169:MET:HE3	1:A:3169:MET:HA	2.03	0.41
1:A:3210:GLU:HA	1:A:3213:ASP:OD1	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3654:ARG:O	1:A:3660:VAL:HA	2.21	0.41
1:A:3856:LEU:HA	1:A:3859:ILE:HG22	2.03	0.41
1:A:3886:LEU:HD11	1:A:4346:MET:SD	2.61	0.41
1:A:4149:PRO:HA	1:A:4150:PRO:HD3	1.97	0.41
1:A:4387:TRP:O	1:A:4391:ILE:HG12	2.20	0.41
1:A:4603:SER:O	1:A:4603:SER:OG	2.36	0.41
1:A:1517:GLU:O	1:A:1521:LEU:HD23	2.20	0.41
1:A:2307:VAL:HA	1:A:2311:TRP:HZ2	1.84	0.41
1:A:2447:MET:HE2	1:A:2447:MET:HB3	1.90	0.41
1:A:2599:SER:H	1:A:2601:LYS:HZ3	1.68	0.41
1:A:3138:SER:HB3	1:A:3141:GLU:HG3	2.03	0.41
1:A:3194:LEU:O	1:A:3198:GLN:HG2	2.21	0.41
1:A:4388:LEU:HD22	1:A:4428:ARG:NH1	2.36	0.41
1:A:1497:VAL:HG23	1:A:1527:LEU:HD12	2.02	0.40
1:A:1608:LEU:O	1:A:1611:ILE:HG22	2.20	0.40
1:A:1776:ALA:HB3	1:A:1777:PRO:HD3	2.03	0.40
1:A:2138:ILE:HA	1:A:2141:VAL:HG12	2.02	0.40
1:A:2230:LYS:HG2	1:A:2364:PHE:CD2	2.56	0.40
1:A:3051:TYR:O	1:A:3055:THR:HG23	2.21	0.40
1:A:3554:SER:OG	1:A:3555:ASN:N	2.54	0.40
1:A:3749:LEU:HD22	1:A:3773:LEU:HD22	2.02	0.40
1:A:3755:GLU:C	1:A:3759:ARG:HH22	2.27	0.40
1:A:4301:ARG:HG3	1:A:4301:ARG:HH11	1.86	0.40
1:A:1382:SER:O	1:A:1386:VAL:HG22	2.20	0.40
1:A:1460:GLU:HG2	1:A:1464:LYS:HE3	2.03	0.40
1:A:2519:ARG:HH21	1:A:2526:LEU:HB3	1.86	0.40
1:A:3813:PHE:O	1:A:3816:GLU:HG3	2.22	0.40
1:A:3930:GLU:OE1	1:A:3930:GLU:N	2.37	0.40
1:A:4077:PHE:HB3	1:A:4105:TRP:NE1	2.36	0.40
1:A:4422:LYS:HD2	1:A:4423:LEU:N	2.36	0.40
1:A:4453:ASN:O	1:A:4457:LYS:HG2	2.21	0.40
1:A:4504:LEU:O	1:A:4507:ILE:HG22	2.21	0.40
1:A:1978:ILE:HD13	1:A:2014:ILE:HD11	2.04	0.40
1:A:3585:ARG:NH2	1:A:3697:THR:HG22	2.36	0.40
1:A:4055:VAL:HG11	1:A:4095:MET:SD	2.61	0.40
1:A:4107:MET:O	1:A:4111:LYS:HE2	2.22	0.40
1:A:1698:ILE:O	1:A:1702:LEU:HD23	2.21	0.40
1:A:1806:ARG:NH2	1:A:1877:ASP:OD1	2.54	0.40
1:A:2411:PRO:O	1:A:2415:ILE:HG12	2.21	0.40
1:A:2799:MET:HB2	1:A:2799:MET:HE2	1.76	0.40
1:A:3045:ASP:HA	1:A:3050:LEU:HD11	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4019:SER:O	1:A:4022:GLU:HG3	2.21	0.40
1:A:4412:PHE:CZ	1:A:4514:LEU:HD13	2.57	0.40
1:A:1347:LYS:HG2	1:A:1432:GLY:HA2	2.04	0.40
1:A:1432:GLY:HA2	1:A:1435:TRP:HE3	1.86	0.40
1:A:1659:ALA:HA	1:A:1926:PHE:CE1	2.57	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	3028/4646 (65%)	2937 (97%)	91 (3%)	0	100	100

There are no Ramachandran outliers to report.

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	2703/4125 (66%)	2703 (100%)	0	100	100

There are no protein residues with a non-rotameric sidechain to report.

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (27) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	1361	GLN
1	A	1397	ASN
1	A	2416	GLN
1	A	2554	GLN
1	A	2964	HIS
1	A	3135	GLN
1	A	3145	ASN
1	A	3188	HIS
1	A	3197	GLN
1	A	3200	HIS
1	A	3214	GLN
1	A	3498	ASN
1	A	3499	GLN
1	A	3526	GLN
1	A	3837	HIS
1	A	3854	GLN
1	A	3931	GLN
1	A	4078	ASN
1	A	4098	ASN
1	A	4156	ASN
1	A	4174	ASN
1	A	4397	HIS
1	A	4508	HIS
1	A	4526	GLN
1	A	4532	ASN
1	A	4549	GLN
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
4	ANP	A	4703	-	33,33,33	2.34	6 (18%)	45,52,52	1.44	6 (13%)
2	ADP	A	4701	-	28,29,29	1.42	5 (17%)	43,45,45	1.79	9 (20%)
3	ATP	A	4702	5	32,33,33	0.42	0	48,52,52	0.32	0
2	ADP	A	4704	-	28,29,29	1.41	4 (14%)	43,45,45	1.82	9 (20%)

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	ANP	A	4703	-	-	7/18/38/38	0/3/3/3
2	ADP	A	4701	-	-	4/16/32/32	0/3/3/3
3	ATP	A	4702	5	-	7/22/38/38	0/3/3/3
2	ADP	A	4704	-	-	4/16/32/32	0/3/3/3

All (15) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	A	4703	ANP	PB-O3A	9.14	1.70	1.59
4	A	4703	ANP	PG-N3B	6.20	1.79	1.63
4	A	4703	ANP	PG-O1G	4.80	1.53	1.46
2	A	4704	ADP	C5-C4	4.65	1.47	1.39
2	A	4701	ADP	C5-C4	4.65	1.47	1.39
4	A	4703	ANP	PB-O1B	2.78	1.50	1.46
2	A	4704	ADP	C5-C6	2.70	1.48	1.41
2	A	4701	ADP	C5-C6	2.63	1.48	1.41
2	A	4704	ADP	C5-N7	-2.36	1.34	1.39
2	A	4701	ADP	C5-N7	-2.36	1.34	1.39
2	A	4704	ADP	C8-N7	2.30	1.36	1.31

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A	4701	ADP	C8-N7	2.26	1.36	1.31
4	A	4703	ANP	PB-O2B	-2.16	1.51	1.56
4	A	4703	ANP	PA-O3A	2.08	1.61	1.59
2	A	4701	ADP	PA-O3A	2.03	1.61	1.59

All (24) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A	4704	ADP	C5-C4-N3	-5.93	118.55	126.72
2	A	4701	ADP	C5-C4-N3	-5.64	118.94	126.72
2	A	4704	ADP	N3-C4-N9	4.58	134.96	127.17
4	A	4703	ANP	O2B-PB-O1B	4.52	119.57	109.87
2	A	4701	ADP	N3-C4-N9	4.50	134.82	127.17
4	A	4703	ANP	O1G-PG-N3B	-4.04	105.82	111.77
2	A	4704	ADP	C2-N3-C4	3.73	120.93	111.83
2	A	4701	ADP	C2-N3-C4	3.64	120.72	111.83
2	A	4704	ADP	C4-C5-N7	-3.51	106.57	110.58
2	A	4701	ADP	C4-C5-N7	-3.39	106.70	110.58
2	A	4701	ADP	N3-C2-N1	-3.38	123.47	128.58
2	A	4704	ADP	N3-C2-N1	-3.16	123.80	128.58
2	A	4701	ADP	C4-N9-C8	2.66	108.53	105.74
4	A	4703	ANP	O2G-PG-O3G	2.54	114.42	107.59
2	A	4704	ADP	C5-N7-C8	2.51	107.39	103.45
2	A	4701	ADP	C5-N7-C8	2.48	107.34	103.45
2	A	4704	ADP	C3'-C2'-C1'	2.43	106.07	101.46
2	A	4704	ADP	C4-N9-C8	2.41	108.27	105.74
4	A	4703	ANP	O5'-C5'-C4'	2.14	116.28	108.99
4	A	4703	ANP	O4'-C4'-C3'	-2.11	100.97	105.15
4	A	4703	ANP	O4'-C1'-N9	2.08	112.09	108.09
2	A	4701	ADP	C2-N1-C6	2.06	122.12	118.73
2	A	4704	ADP	C6-C5-N7	2.05	136.04	132.09
2	A	4701	ADP	C6-C5-N7	2.04	136.02	132.09

There are no chirality outliers.

All (22) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	4701	ADP	O4'-C4'-C5'-O5'
2	A	4704	ADP	C5'-O5'-PA-O3A
3	A	4702	ATP	PB-O3B-PG-O3G
3	A	4702	ATP	C5'-O5'-PA-O3A
4	A	4703	ANP	PB-N3B-PG-O1G

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Mol	Chain	Res	Type	Atoms
4	A	4703	ANP	PA-O3A-PB-O2B
4	A	4703	ANP	C5'-O5'-PA-O3A
4	A	4703	ANP	C4'-C5'-O5'-PA
2	A	4701	ADP	C3'-C4'-C5'-O5'
2	A	4704	ADP	C3'-C4'-C5'-O5'
2	A	4704	ADP	O4'-C4'-C5'-O5'
3	A	4702	ATP	O4'-C4'-C5'-O5'
3	A	4702	ATP	C3'-C4'-C5'-O5'
4	A	4703	ANP	C2'-C1'-N9-C4
4	A	4703	ANP	C2'-C1'-N9-C8
3	A	4702	ATP	PB-O3B-PG-O1G
2	A	4701	ADP	PB-O3A-PA-O2A
2	A	4704	ADP	C5'-O5'-PA-O1A
4	A	4703	ANP	C5'-O5'-PA-O1A
2	A	4701	ADP	PB-O3A-PA-O1A
3	A	4702	ATP	PG-O3B-PB-O2B
3	A	4702	ATP	PB-O3A-PA-O2A

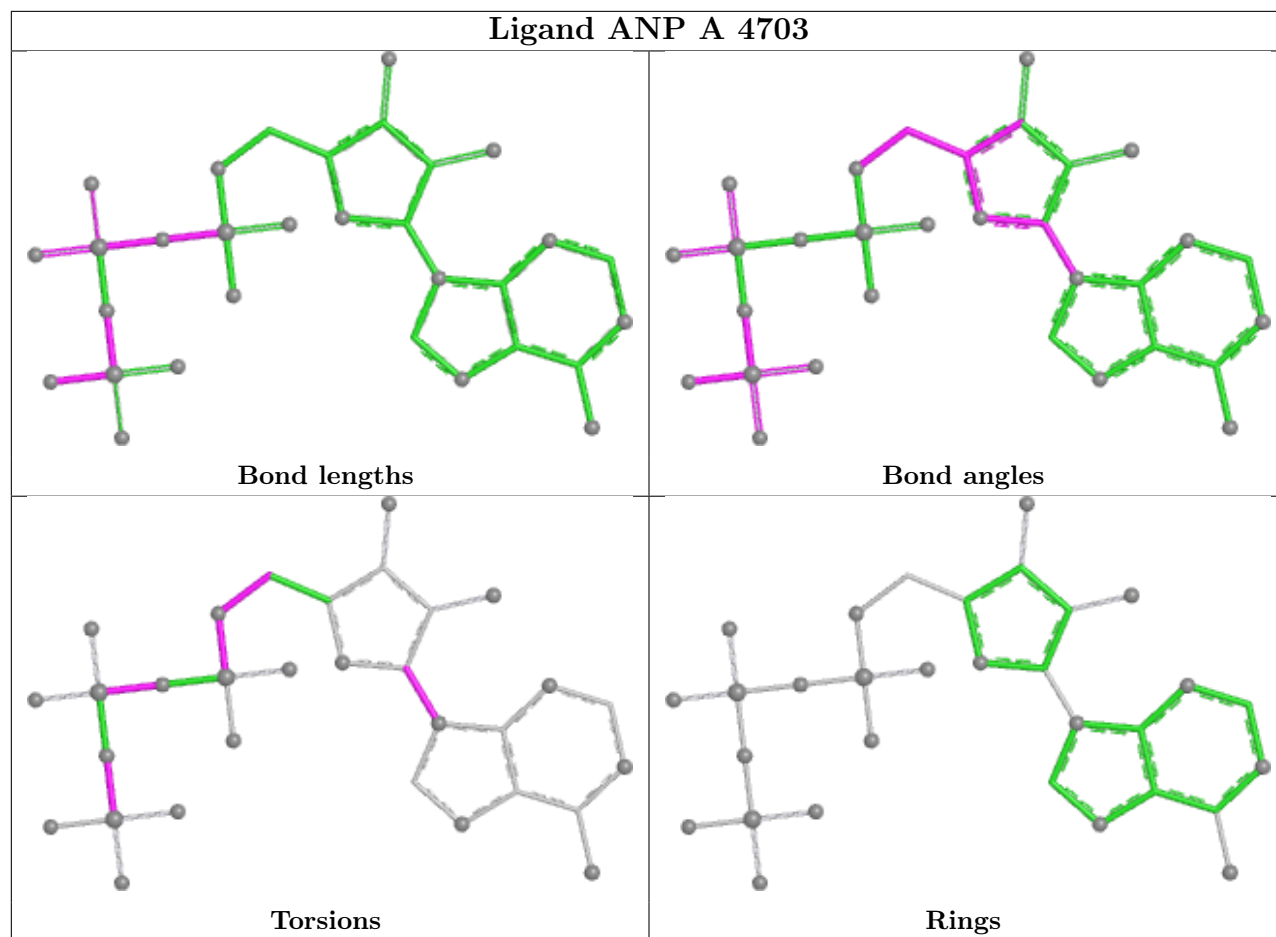
There are no ring outliers.

4 monomers are involved in 17 short contacts:

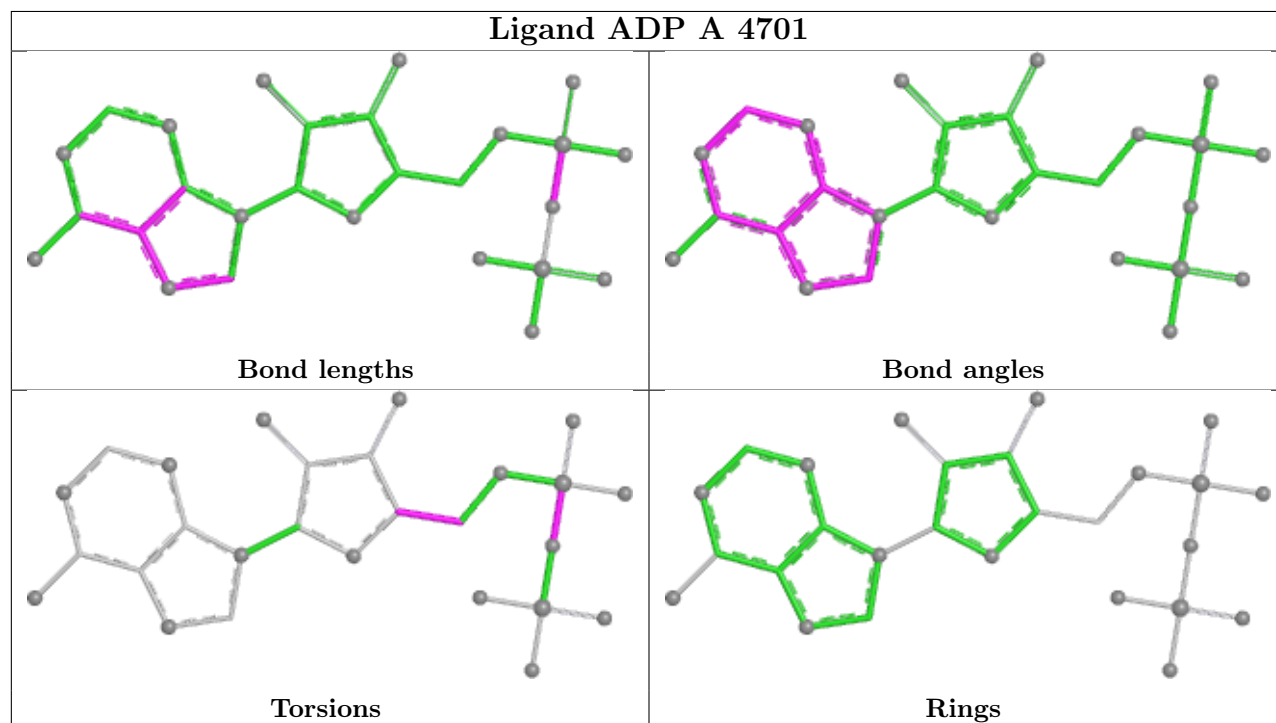
Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	A	4703	ANP	4	0
2	A	4701	ADP	4	0
3	A	4702	ATP	6	0
2	A	4704	ADP	3	0

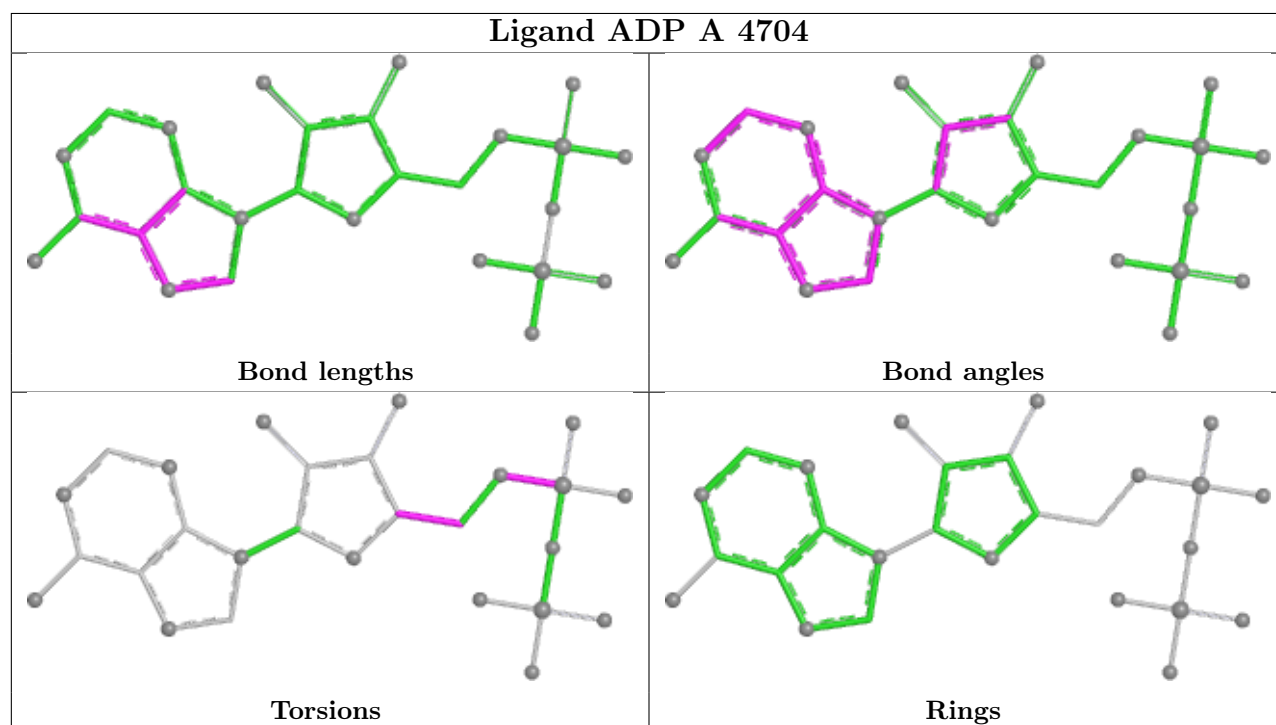
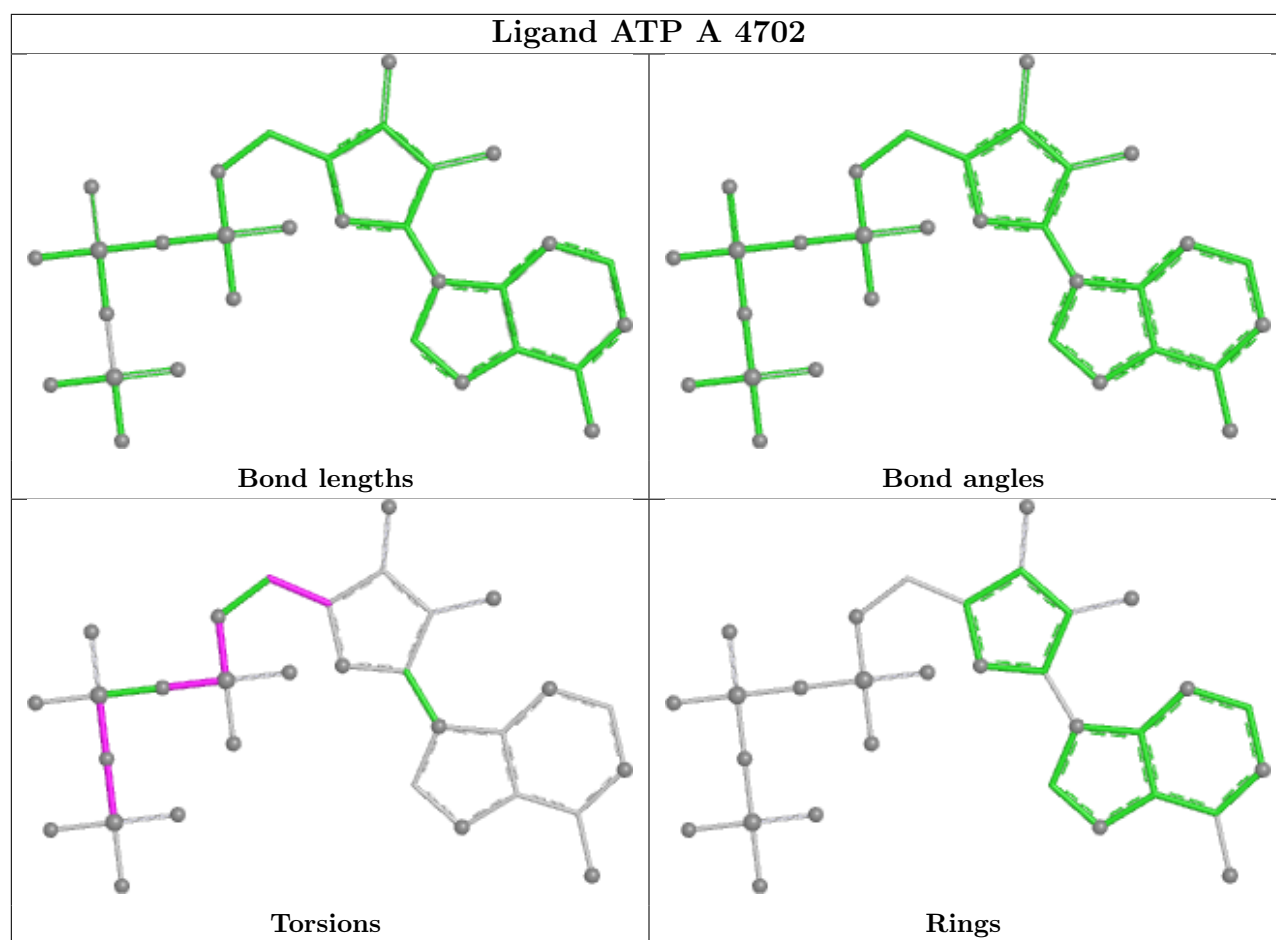
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included.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

Ligand ANP A 4703



Ligand ADP A 4701





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.

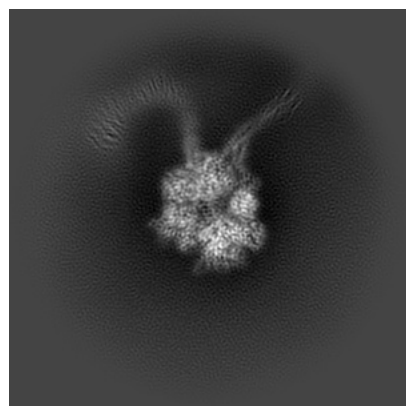
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-73176. These allow visual inspection of the internal detail of the map and identification of artifacts.

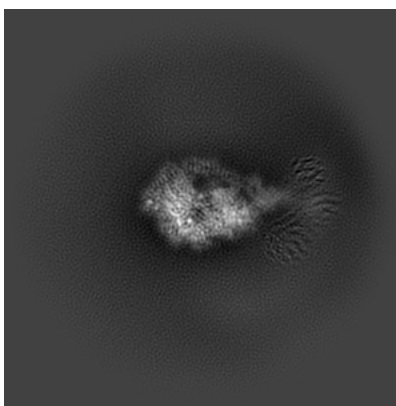
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

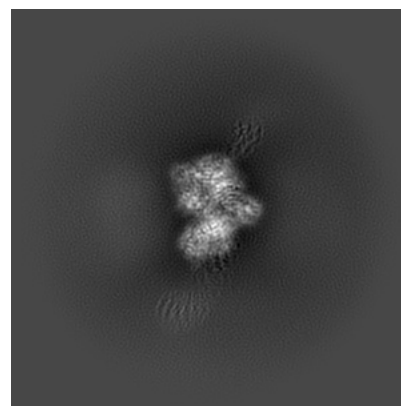
6.1.1 Primary map



X

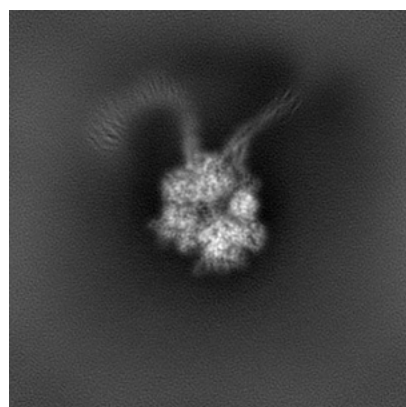


Y

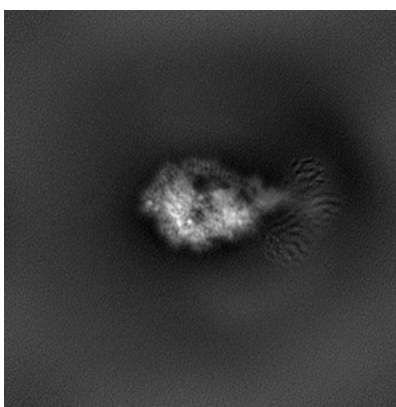


Z

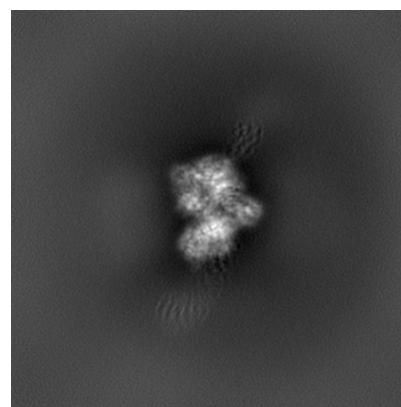
6.1.2 Raw map



X



Y

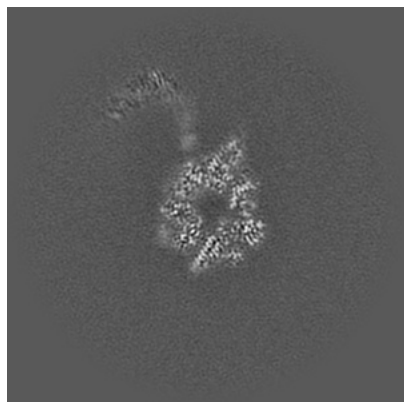


Z

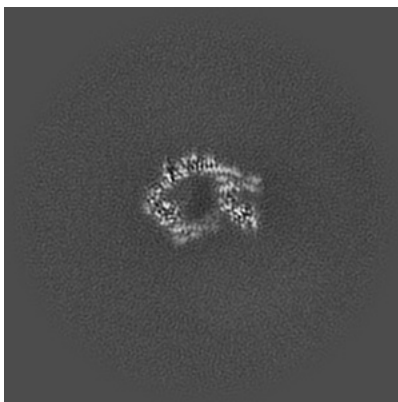
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

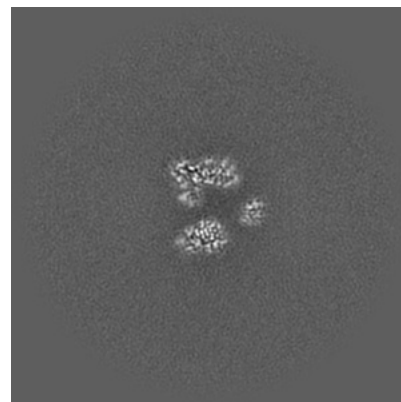
6.2.1 Primary map



X Index: 128

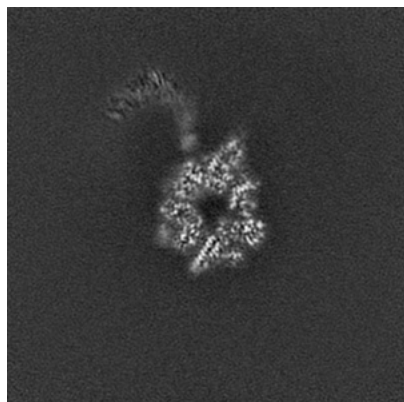


Y Index: 128

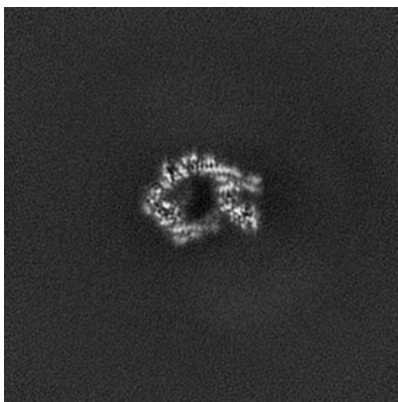


Z Index: 128

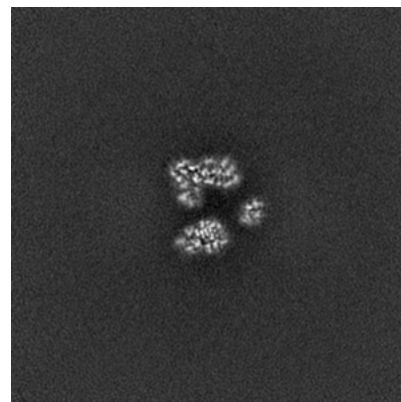
6.2.2 Raw map



X Index: 128



Y Index: 128

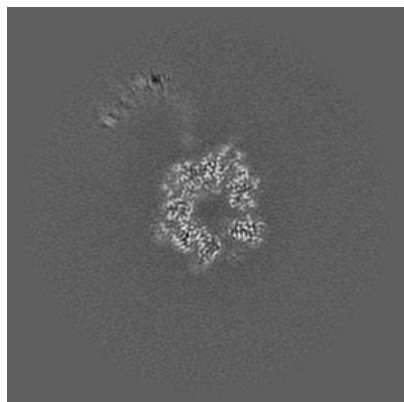


Z Index: 128

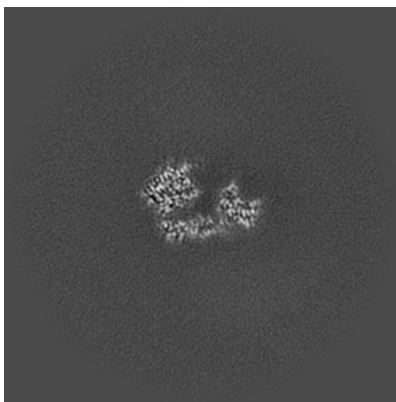
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

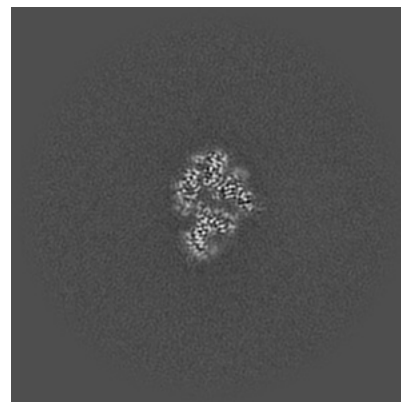
6.3.1 Primary map



X Index: 125

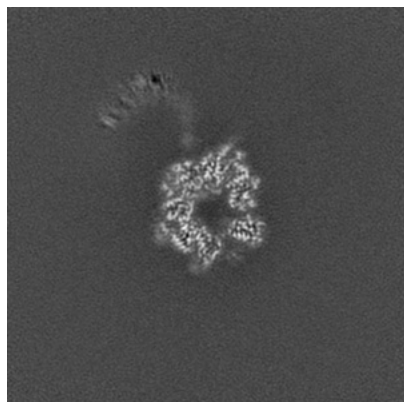


Y Index: 135

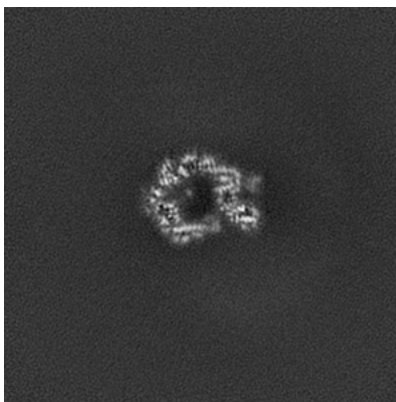


Z Index: 112

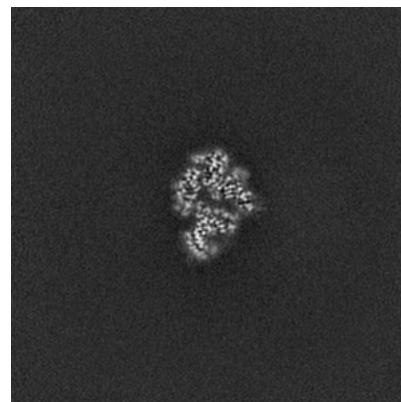
6.3.2 Raw map



X Index: 125



Y Index: 129

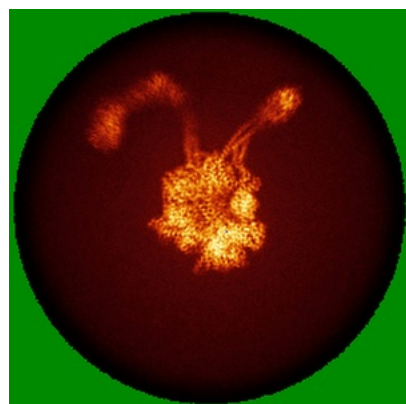


Z Index: 112

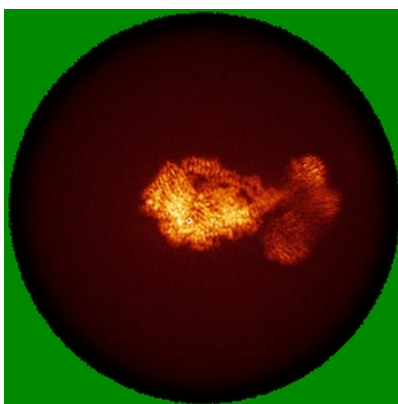
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) ⓘ

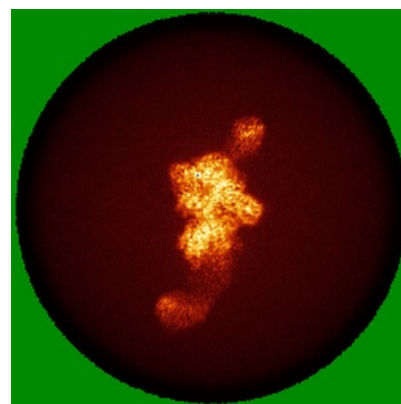
6.4.1 Primary map



X

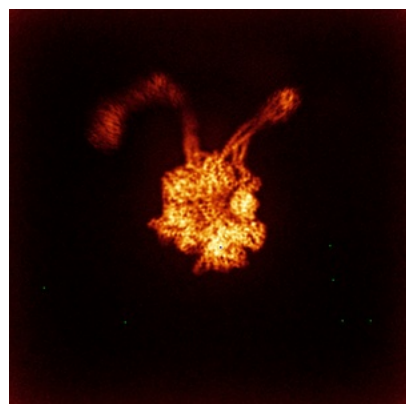


Y

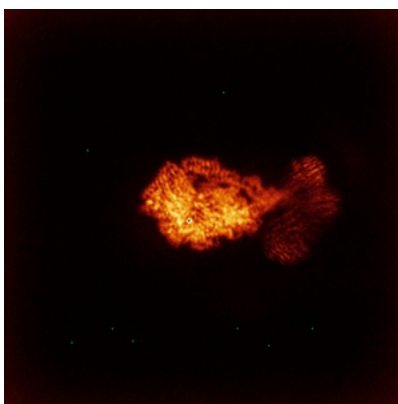


Z

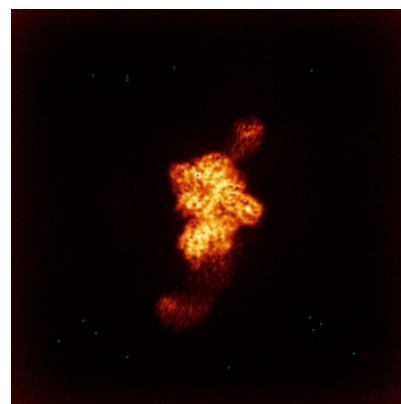
6.4.2 Raw map



X



Y

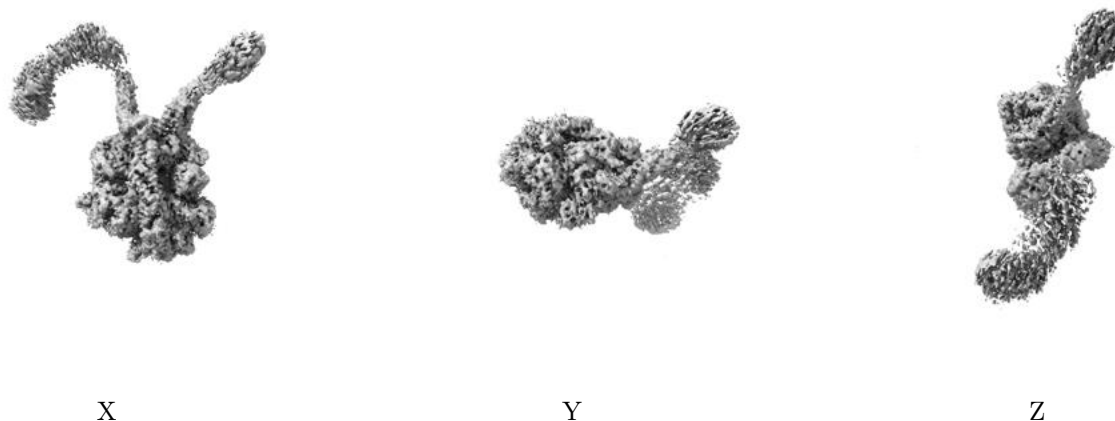


Z

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.

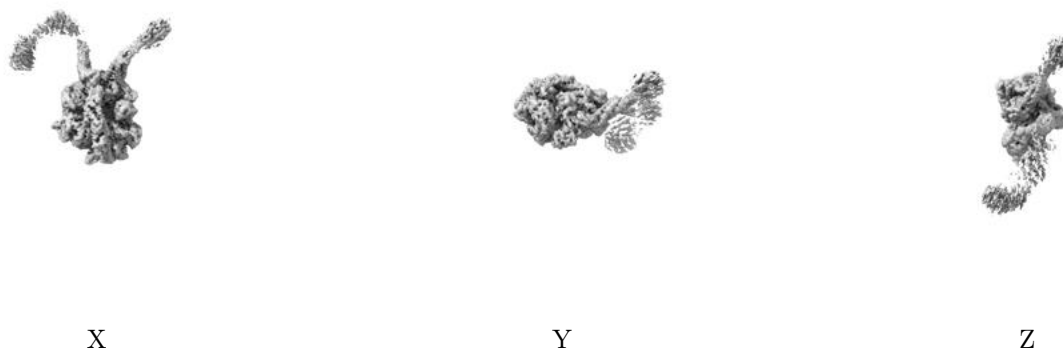
6.5 Orthogonal surface views [i](#)

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.

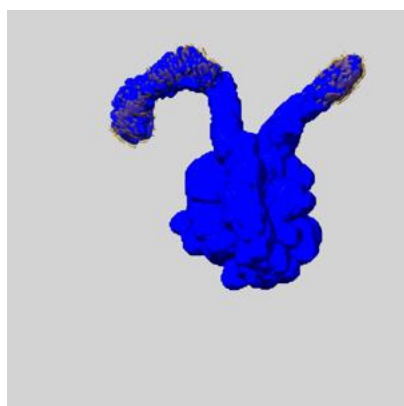
6.6 Mask visualisation [i](#)

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

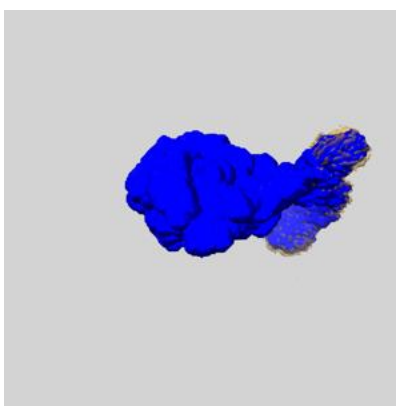
A mask typically either:

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

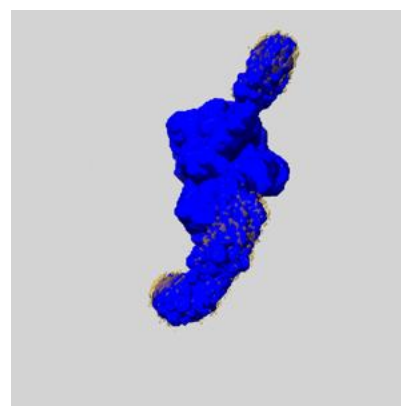
6.6.1 emd_73176_msk_1.map [i](#)



X



Y

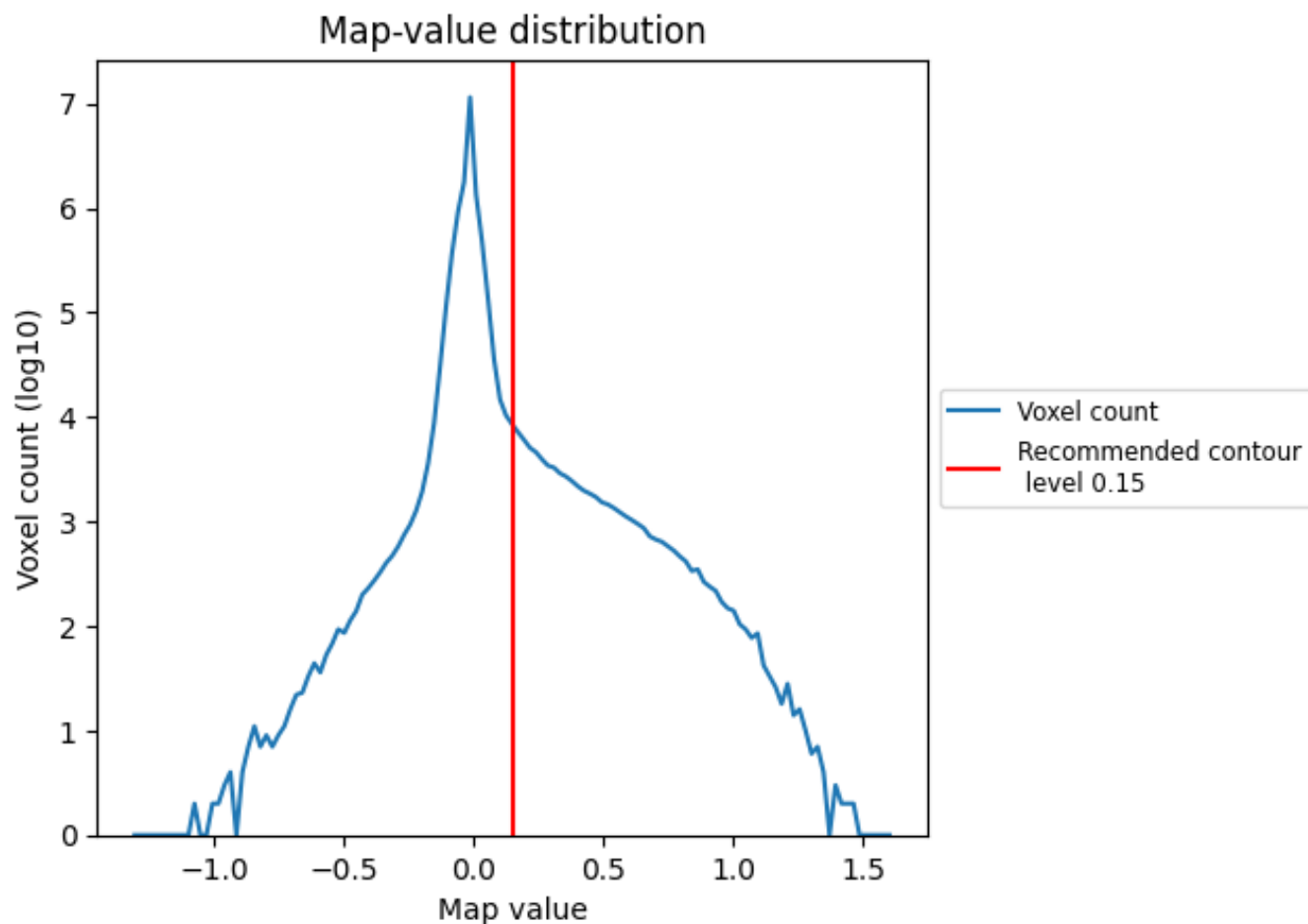


Z

7 Map analysis [i](#)

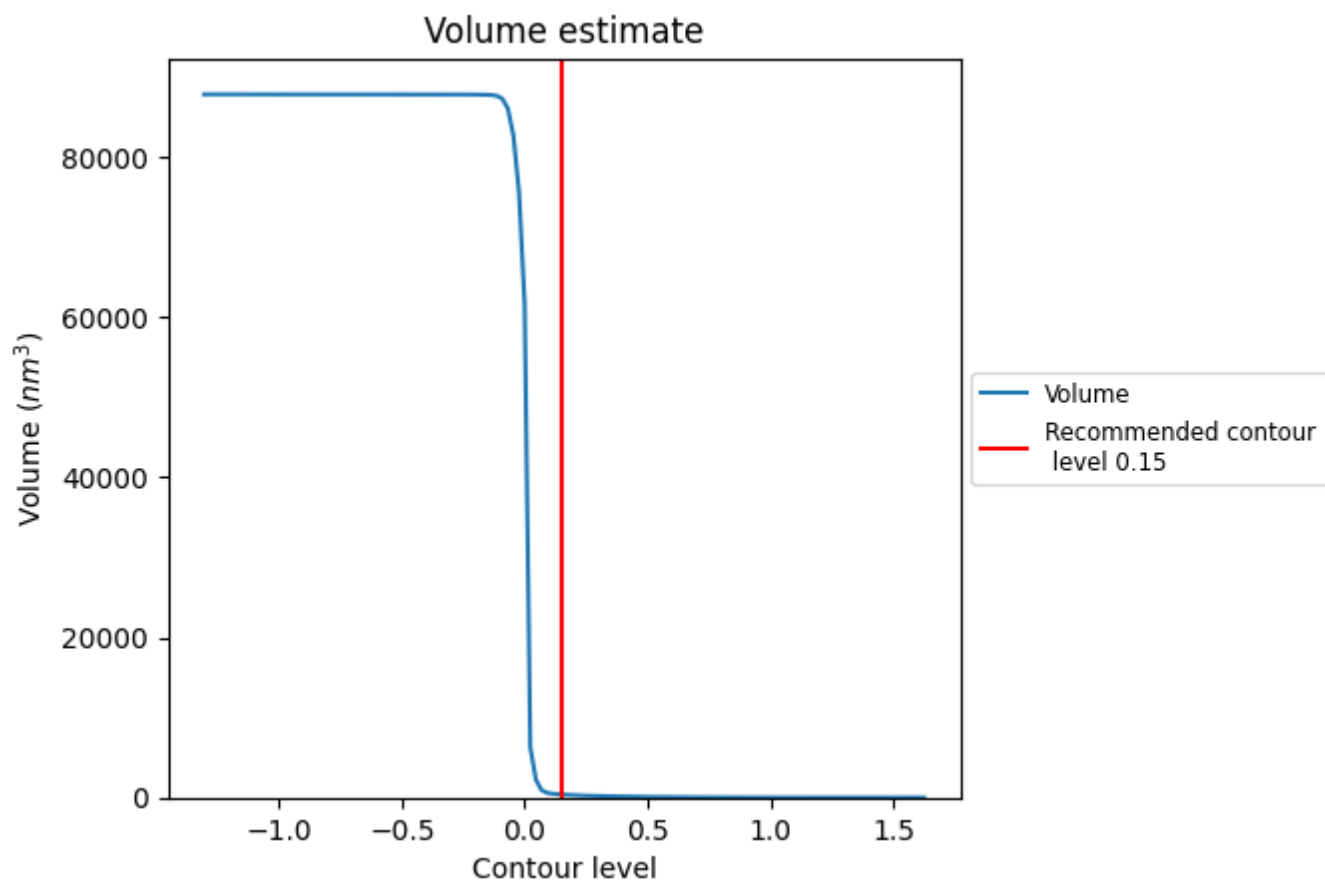
This section contains the results of statistical analysis of the map.

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.

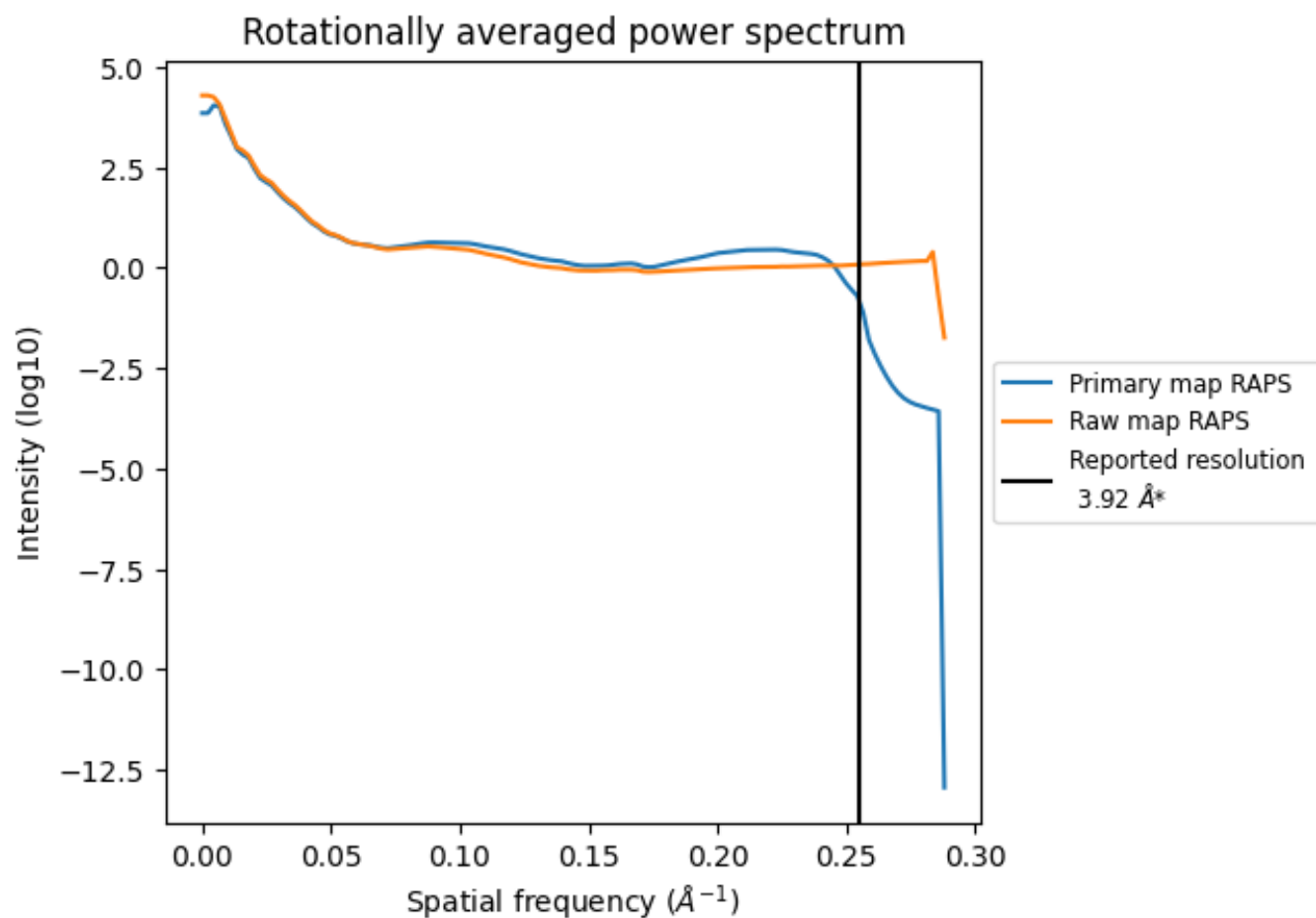
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 383 nm³; this corresponds to an approximate mass of 346 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 ⓘ

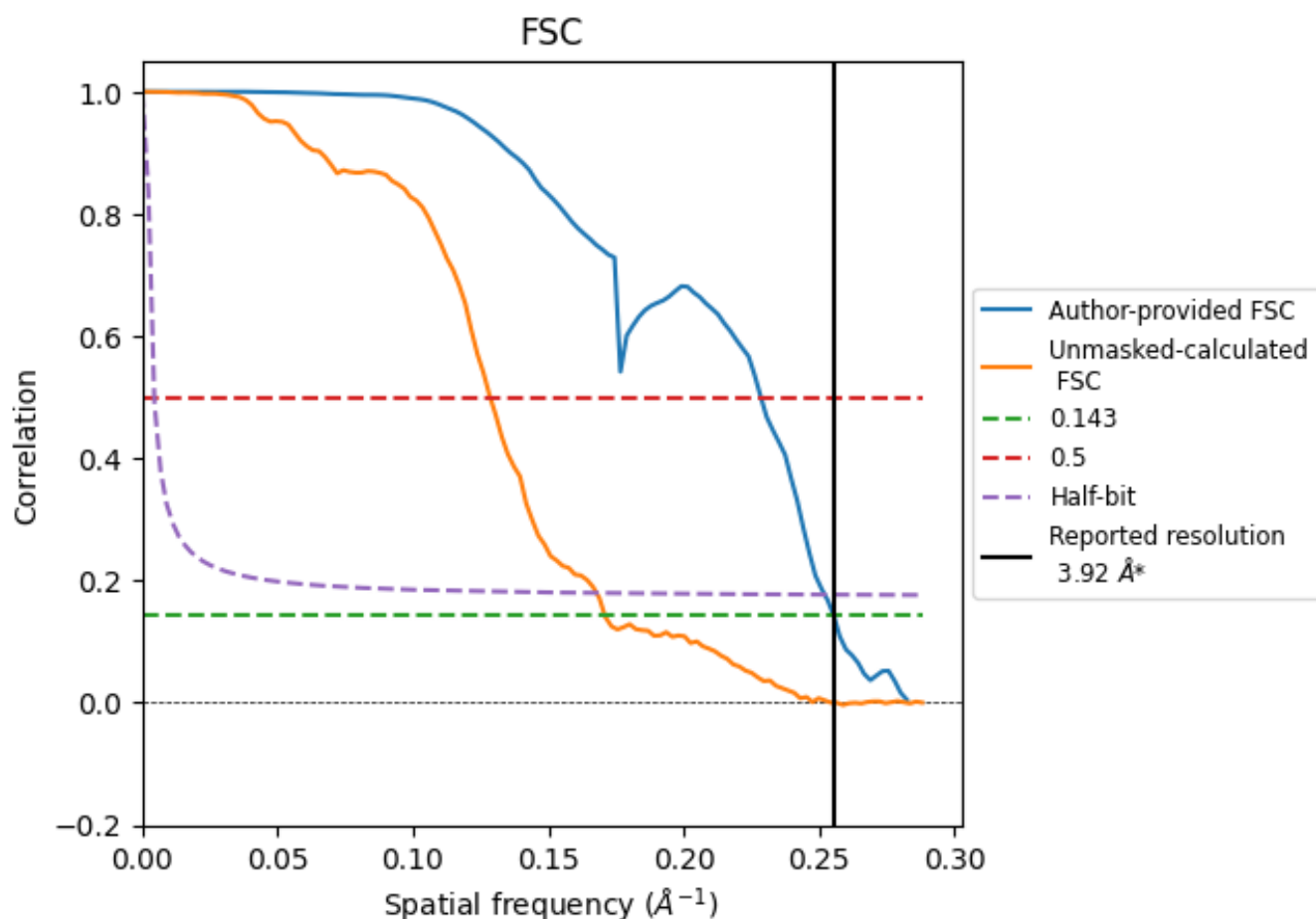


*Reported resolution corresponds to spatial frequency of 0.255 Å⁻¹

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 0.255 \AA^{-1}

8.2 Resolution estimates [i](#)

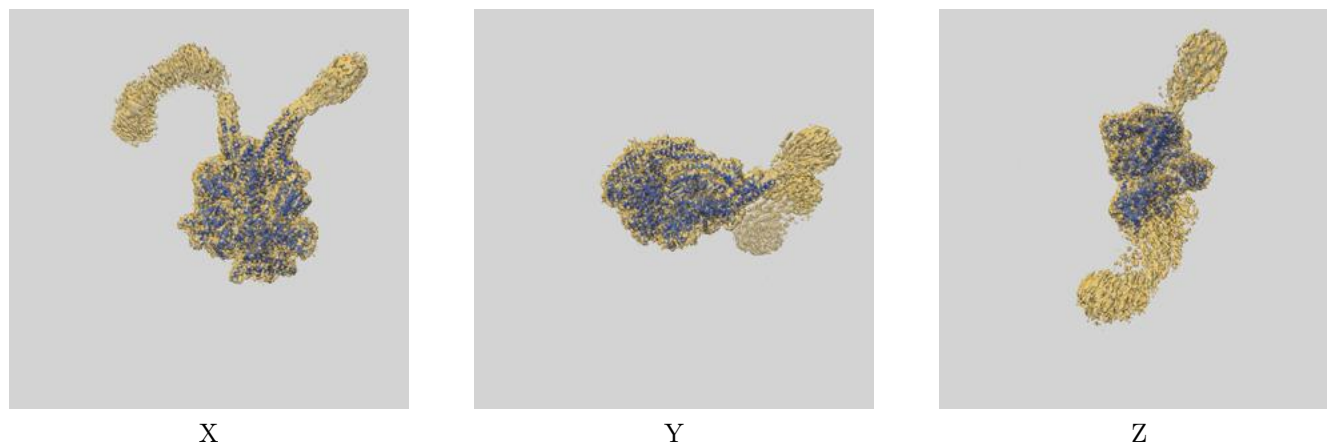
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.92	-	-
Author-provided FSC curve	3.92	4.38	3.97
Unmasked-calculated*	5.85	7.79	5.96

*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 5.85 differs from the reported value 3.92 by more than 10 %

9 Map-model fit [i](#)

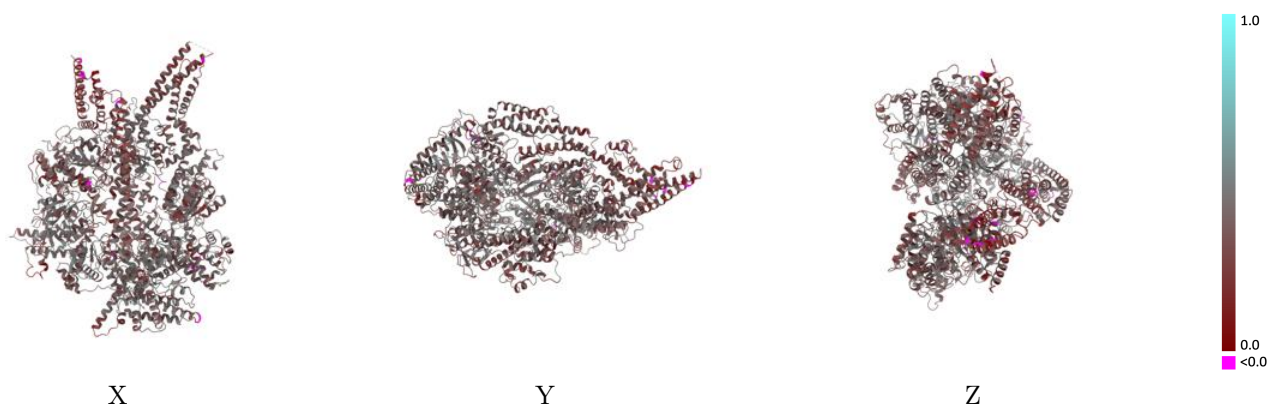
This section contains information regarding the fit between EMDB map EMD-73176 and PDB model 9YNF. Per-residue inclusion information can be found in section 3 on page 6.

9.1 Map-model overlay [i](#)



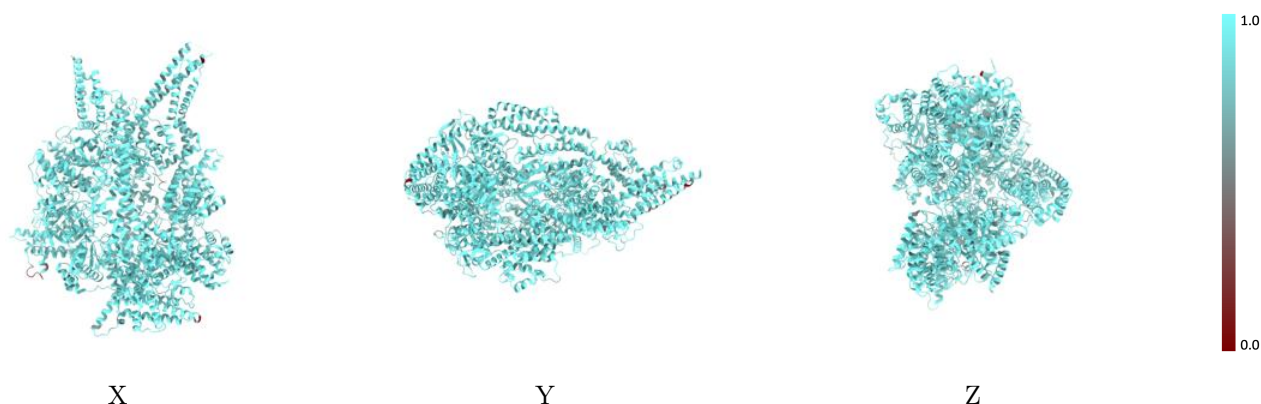
The images above show the 3D surface view of the map at the recommended contour level 0.15 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



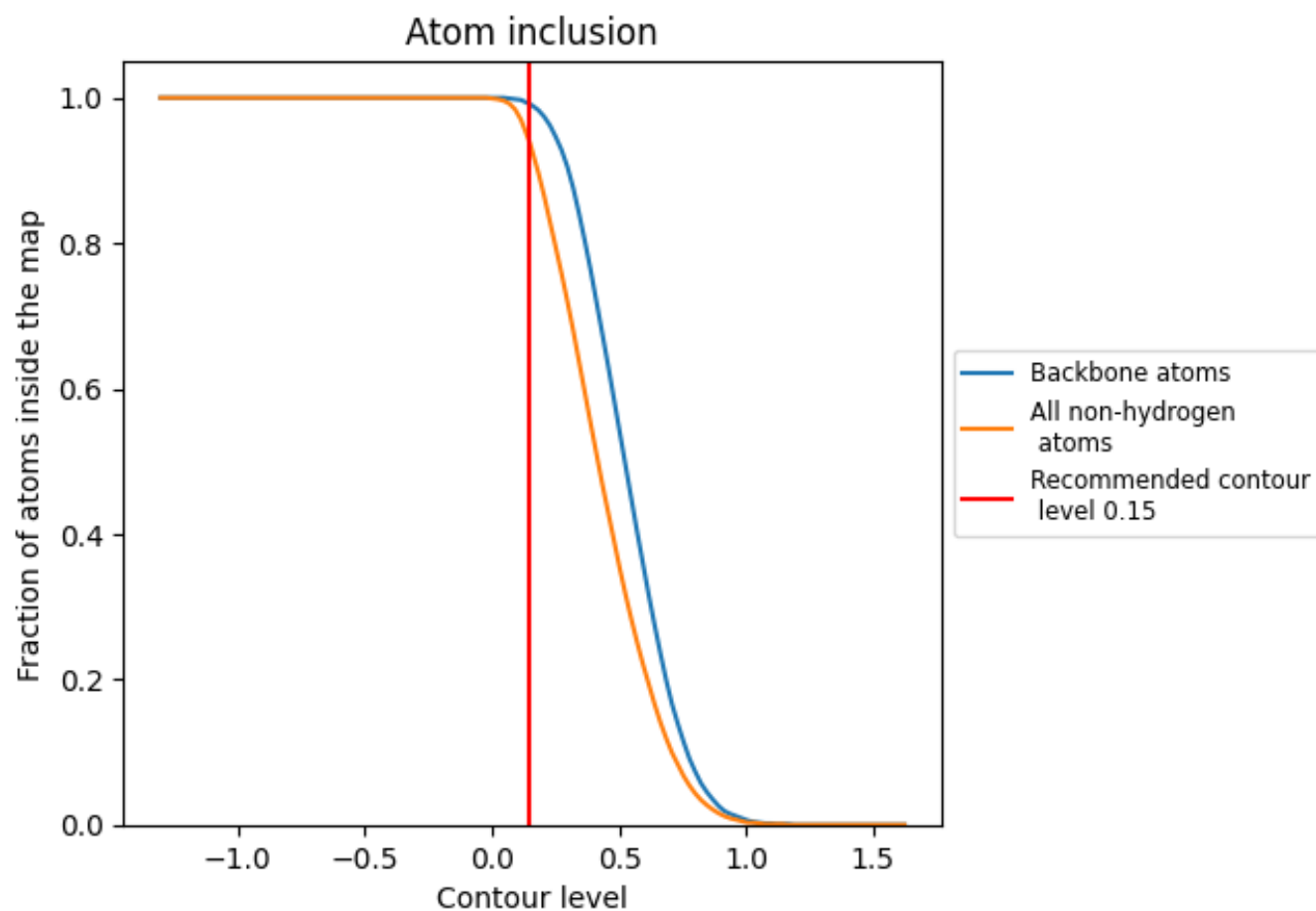
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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, 99% of all backbone atoms, 94% 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	<div><div></div></div> 0.9370	<div><div></div></div> 0.3720
A	<div><div></div></div> 0.9370	<div><div></div></div> 0.3720

