



## Full wwPDB EM Validation Report ⓘ

Dec 10, 2024 – 08:23 PM EST

PDB ID : 9EA7  
EMDB ID : EMD-47801  
Title : The Structure of ApoB100 from Human Low-Density Lipoprotein  
Authors : Berndsen, Z.T.; Cassidy, C.K.  
Deposited on : 2024-11-10  
Resolution : 9.00 Å(reported)  
Based on initial model : .

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

We welcome your comments at [validation@mail.wwpdb.org](mailto: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>.

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

EMDB validation analysis : 0.0.1.dev113  
MolProbity : 4.02b-467  
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) : 2.40

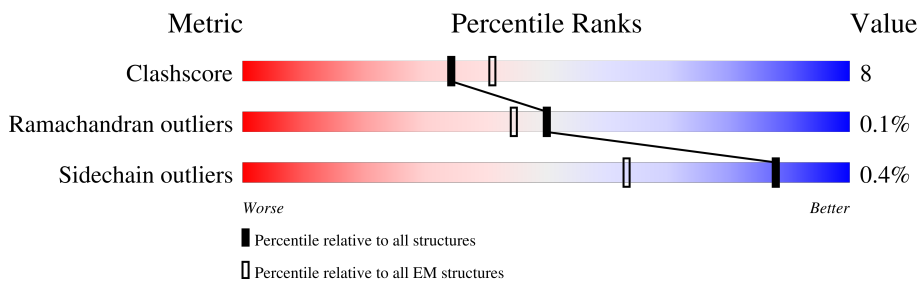
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*ELECTRON MICROSCOPY*

The reported resolution of this entry is 9.00 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  $\geq 3$ , 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	4563	

## 2 Entry composition

There is only 1 type of molecule in this entry. The entry contains 72328 atoms, of which 36245 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 Apolipoprotein B 100.

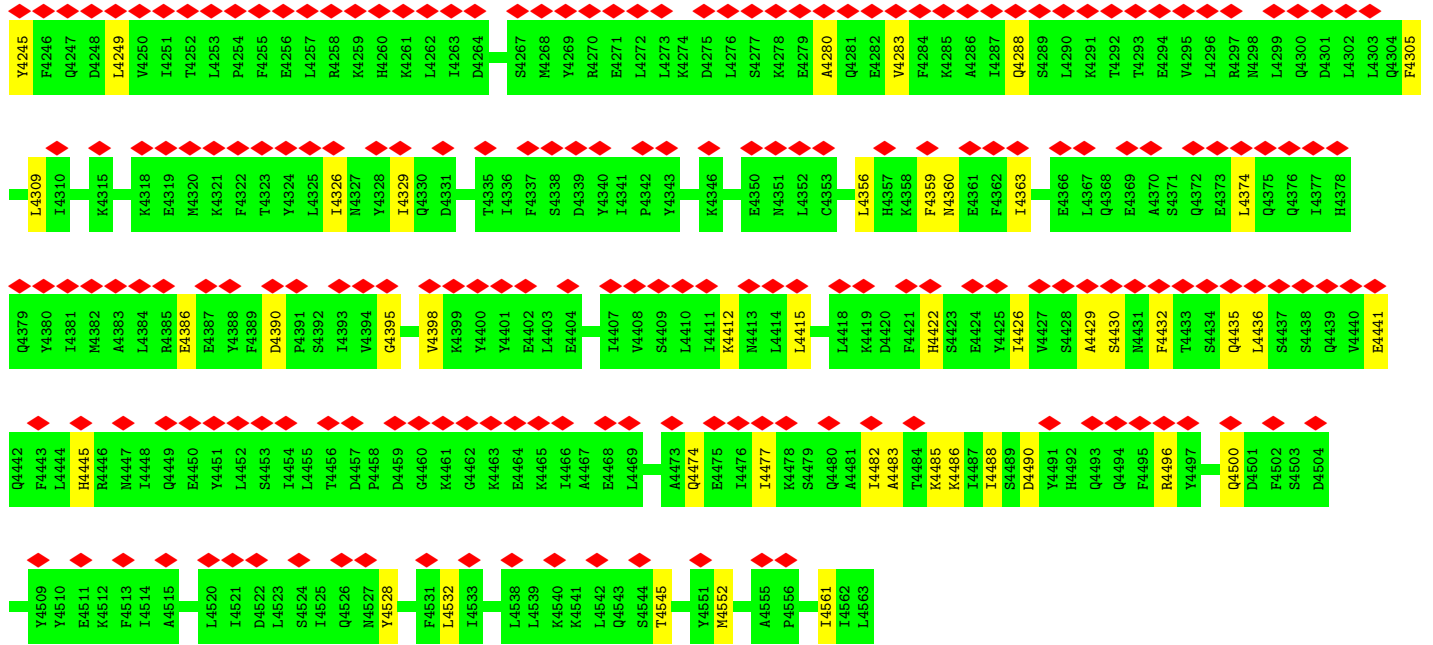
Mol	Chain	Residues	Atoms					AltConf	Trace	
			Total	C	H	N	O			S
1	A	4526	72328	23018	36245	6066	6897	102	0	0



T2013	H737	V816	A895	G997	T1114	V1232	L1310	V1396	M1631	I1636	Y1780	F1896	T2013
L2014	F738	I817	R896	R1000	K1115	A1233	K1311	V1397	T1534	G1639	L1786	L1896	L2014
A2015	G739	G820	M901	L1001	E1116	M1234	M1312	D1398	G1535	A1640	Q1787	V1899	A2015
D2016	Y740	N923	T903	E1002	E1117	S1235	L1313	L1399	R1536	H1641	L1788	M1900	D2016
L2017	T741	D824	N904	L1003	P1127	S1236	E1314	L1400	D1539	T1644	Q1789	A1901	L2017
T2018	K742	F825	F905	E1004	R1128	W1237	T1315	V1404	D1543	R1645	M1803	F1903	T2018
L2019	D743	F826	H907	L1005	R1129	L1238	V1316	V1411	S1543	L1646	M1804	F1903	L2019
L2020	D744	Y829	G910	P1007	E1136	Q1239	R1317	T1411	T1547	I1647	M1807	M1914	L2020
D2021	K745	M832	L911	T1008	W1141	K1240	T1318	K1415	L1550	T1657	D1807	G1915	D2021
S2022	H746	E833	H914	G1009	R1164	A1241	P1319	M1416	L1557	L1664	L1808	K1916	S2022
P2023	E747	E833	H914	I1011	R1165	S1242	A1320	N1416	L1558	L1665	M1811	L1917	P2023
I2024	Q748	N834	K921	E1012	V1166	G1243	L1321	L1420	T1558	V1666	L1821	A1918	I2024
K2025	D749	A835	K921	Q1013	A1166	G1244	H1322	S1421	K1562	L1667	H1822	H1923	K2025
V2026	M750	F836	F924	Q1014	E1172	L1245	F1323	C1422	K1562	E1668	V1823	T1924	V2026
P2027	V751	E837	R924	S1015	E1172	P1246	K1324	R1427	M1565	E1674	M1826	G1925	P2027
L2028	M752	P838	I925	V1016	E1175	Q1249	V1326	R1439	M1565	L1675	N1826	Q1926	L2028
L2029	G753	L838	I925	E1021	F1176	T1250	G1327	H1439	S1572	G1676	L1827	L1927	L2029
L2030	I754	P839	L935	R1024	E1177	L1251	F1328	M1434	G1677	L1677	M1833	G1948	L2030
S2031	M755	T840	L935	R1027	M1183	L1252	F1329	H1439	S1677	S1677	M1833	G1948	S2031
E2032	L756	L844	G839	R1027	V1184	D1253	L1330	H1440	K1683	K1683	Y1840	V1955	E2032
P2033	S757	Q847	H943	T1037	M1184	L1253	L1330	V1440	L1684	L1684	A1841	S1956	P2033
I2034	V758	S850	L944	Q1038	H1254	M1254	L1331	E1441	L1684	L1684	I1842	R1957	I2034
L2035	E759	S851	V945	A1039	M1192	M1256	S1332	G1444	T1685	T1685	A1845	K1958	L2035
N2036	K760	G852	S946	A1042	V1195	S1257	R1333	N1445	T1686	N1687	A1845	S1959	N2036
I2037	K763	G857	K949	A1042	S1198	F1261	E1334	M1446	G1688	G1688	A1846	I1960	I2037
D2038	D764	A858	T950	K1043	D1199	L1262	F1335	N1446	L1697	L1697	A1846	I1960	D2038
A2039	L765	K859	T950	Q1044	Y1200	L1263	L1335	P1447	L1597	R1639	L1847	L1964	A2039
L2040	L766	A860	V952	Q1045	P1201	Q1264	Q1336	P1448	R1599	S1698	S1848	L1964	L2040
E2041	K766	K862	Q861	M1054	K1202	M1265	T1341	D1466	S1699	G1701	K1852	V1968	E2041
M2042	S767	K863	K967	M1058	S1203	M1266	L1342	Q1463	E1601	K1702	A1853	L1971	M2042
R2043	K768	V866	G972	M1066	S1203	M1266	P1343	P1463	Q1603	K1702	D1854	L1972	R2043
D2044	E769	V866	L973	I1066	H1205	G1267	L1344	K1474	A1604	L1705	G1861	T1973	D2044
A2045	E772	K872	Y975	I1066	M1206	L1268	L1346	K1475	D1605	L1710	V1862	P1974	A2045
V2046	A773	E872	Y981	V1071	M1207	P1269	Y1347	Q1477	S1608	Q1715	R1867	Q1977	V2046
K2047	R774	K876	Y981	L1077	Y1207	D1270	V1350	H1478	L1610	Y1731	L1868	T1978	K2047
E2048	L777	V879	A984	R1078	R1210	F1271	P1351	H1478	F1611	L1736	M1869	W1981	E2048
P2049	I778	S880	S986	E1082	L1211	H1272	L1352	L1479	L1614	L1736	T1870	F1987	P2049
F2052	L780	V881	T987	S1083	L1212	Y1273	L1353	F1480	L1619	Y1746	D1871	F1987	F2052
V2055	E783	V884	D988	E1084	D1213	L1277	L1356	V1492	L1619	Y1746	G1874	Y1992	V2055
K2059	G785	T885	D988	T1084	H1214	Y1287	D1357	R1507	H1622	G1761	L1875	A1998	K2059
Y2060	F786	N886	D988	E1085	R1215	Y1287	L1358	D1508	H1622	L1762	A1876	Y1999	Y2060
N2063	D791	N887	S989	G1086	V1216	K1291	L1366	P1509	E1625	T1773	S1877	N2000	N2063
Q2064	L794	N887	S991	D1095	T1219	M1292	W1369	P1509	E1625	Y1774	K1880	K2001	Q2064
D2065	L798	N887	S991	T1096	D1220	M1292	W1370	P1509	E1625	Y1775	M1881	L2005	D2065
V2066	M801	N887	S991	Q1097	D1220	M1292	W1370	P1509	E1625	Y1776	S1882	L2005	V2066
H2067	R804	N887	S991	Q1097	D1220	M1292	W1370	P1509	E1625	Y1777	T1883	E2008	H2067
S2068	Q807	N887	S991	Q1097	D1220	M1292	W1370	P1509	E1625	Y1777	K1778	R2012	S2068
L2069	I813	N887	S991	Q1097	D1220	M1292	W1370	P1509	E1625	Y1777	F1779	R2012	L2069
N2070		N887	S991	Q1097	D1220	M1292	W1370	P1509	E1625	Y1777	F1779	R2012	N2070
L2071		N887	S991	Q1097	D1220	M1292	W1370	P1509	E1625	Y1777	F1779	R2012	L2071
P2072		N887	S991	Q1097	D1220	M1292	W1370	P1509	E1625	Y1777	F1779	R2012	P2072
F2073		N887	S991	Q1097	D1220	M1292	W1370	P1509	E1625	Y1777	F1779	R2012	F2073
F2074		N887	S991	Q1097	D1220	M1292	W1370	P1509	E1625	Y1777	F1779	R2012	F2074
E2075		N887	S991	Q1097	D1220	M1292	W1370	P1509	E1625	Y1777	F1779	R2012	E2075
T2076		N887	S991	Q1097	D1220	M1292	W1370	P1509	E1625	Y1777	F1779	R2012	T2076
L2077		N887	S991	Q1097	D1220	M1292	W1370	P1509	E1625	Y1777	F1779	R2012	L2077



F3093	F3102	N3106	N3107	E3108	N3109	I3110	N3111	E3112	A3113	H3114	F3125	L3126	N3127	I3128	F3129	L3130	T3131	I3132	F3133	E3134	K3135	N3136	L3137	F3138	F3139	I3140	I3141	I3142	T3143	T3144	F3145	F3146	L3147	K3148	D3149	F3150	S3151	L3152	N3153	K3155	L3158	K3159	E3160	F3161	L3162	K3163	T3164	K3166	Q3167	S3168	F3169	V3177							
K3178	K3179	N3180	R3183	H3184	S3185	I3186	T3187	N3188	F3189	L3190	A3191	V3192	L3193	C3194	E3195	F3196	I3197	S3198	Q3199	S3200	I3201	K3202	S3203	F3204	D3205	H3207	F3208	E3209	K3210	N3211	R3212	N3213	N3214	A3215	L3216	D3217	F3218	V3219	T3220	K3221	S3222	Y3223	N3224	E3225	F3226	K3227	I3228	K3229	F3230	D3231	K3232	K3234	A3235	E3236	K3237	S3238			
H3239	D3240	E3241	L3242	P3243	R3244	T3245	F3246	Q3247	N3248	P3249	G3250	Y3251	T3252	V3253	P3254	V3255	V3256	N3257	V3258	E3259	V3260	S3261	P3262	F3263	T3264	I3265	E3266	K3267	S3268	A3269	F3270	G3271	P3272	V3273	F3274	P3275	K3276	A3277	V3278	S3279	M3280	P3281	S3282	F3283	S3284	I3285	L3286	K3287	S3288	D3289	V3290	K3291	V3292	P3293	S3294	Y3295	T3296	L3297	I3298
L3299	P3300	S3301	L3302	E3303	L3304	P3305	V3306	L3307	H3308	V3309	P3310	R3311	N3312	L3313	K3314	L3315	S3316	L3317	P3318	D3319	F3320	K3321	E3322	L3323	C3324	T3325	L3326	S3327	I3328	S3329	F3330	I3331	P3332	A3333	V3334	M3335	G3336	I3337	S3345	L3348	E3355	N3358	Q3359	S3360	D3361	I3362	V3363	I3374	L3377	E3382	R3389								
K3390	R3391	H3410	N3411	T3417	T3418	K3419	N3420	A3426	T3427	N3439	K3449	S3457	M3458	K3461	Y3462	S3466	M3468	L3469	Y3470	G3475	K3480	L3481	S3482	L3483	E3484	F3490	S3491	I3492	E3493	S3494	S3495	K3497	G3498	D3499	V3500	S3506	R3507	E3508	Y3509	G3511	T3512	I3513	T3519																
Y3520	L3521	N3522	S3523	S3528	R3529	V3530	K3531	D3539	F3544	N3543	L3544	K3547	E3548	N3549	F3550	M3563	E3564	Q3572	L3573	E3574	E3575	L3576	F3577	E3582	H3583	T3584	A3587	E3590	L3591	S3592	P3593	S3594	Q3595	L3599	V3600	Q3601	V3602	H3603	F3614	D3615	L3616	A3621	N3625	T3626															
K3627	R3632	W3633	K3634	S3635	E3636	V3637	R3638	S3643	F3644	Q3645	S3646	E3649	L3650	S3651	N3652	D3653	Q3654	E3655	K3656	A3657	H3658	L3659	N3674	V3679	Y3680	V3685	D3686	K3689	S3695	I3696	R3699	Q3700	H3701	F3708	T3711	K3712	N3713	P3714	N3715	G3716	Y3717	F3719	S3720	I3721	P3722	V3723	K3724												
V3725	L3726	A3727	D3728	K3729	F3730	L3731	L3732	P3733	K3736	F3737	N3738	D3739	L3740	N3741	S3742	V3743	L3744	V3745	K3746	P3747	F3749	H3750	V3751	V3752	F3753	T3754	D3755	L3756	V3758	P3759	S3760	C3761	K3762	L3763	D3764	F3765	R3766	E3767	L3768	Q3769	I3770	S3777	L3781	N3782	L3783	P3784	T3785	L3786	P3787	E3788	E3793	S3801							
Q3802	P3803	E3804	D3805	S3806	L3807	E3817	S3818	Q3819	L3820	T3826	L3827	F3828	K3829	S3829	S3830	V3831	S3832	D3833	G3834	I3835	A3836	F3837	L3838	D3839	L3840	N3841	A3842	V3843	A3844	N3845	K3846	L3847	A3848	D3849	F3850	E3851	L3852	I3855	I3856	V3857	P3858	E3859	Q3860	Q3861	L3862	E3863	S3866	I3867	K3868	F3869	S3870	V3871	F3872	A3873	G3874	I3875			
V3876	I3877	P3878	S3879	A3882	R3886	F3887	E3888	V3889	D3890	S3891	Y3894	N3895	A3906	D3907	Y3908	V3909	E3910	T3911	D3914	S3915	N3916	F3923	L3924	E3925	Y3926	H3934	E3937	D3938	G3939	A3942	T3948	H3951	E3952	D3953	E3957	D3961	G3962	G3966	L3967	Q3968	K3979	S3980	F3983																
K3994	P4004	D4016	D4017	S4020	K4021	W4022	Y4026	S4027	P4028	Q4029	S4030	S4031	P4032	D4033	F4130	K4034	A4035	L4036	T4037	L4038	F4039	L4043	R4046	E4047	S4048	D4049	E4050	E4051	L4054	E4059	E4060	L4070	K4071	T4068	S4069	L4070	K4071	K4076	Y4084	Y4088	H4089	W4090	E4091	L4095	T4096	S4102													
R4105	Q4109	E4113	W4114	Y4115	Y4116	Q4117	R4121	Q4122	I4123	D4124	D4125	I4126	D4127	W4128	R4129	F4130	K4034	A4035	L4036	T4037	Y4141	W4144	K4145	D4146	K4147	A4148	L4151	Y4152	Q4153	E4154	L4155	L4156	T4157	Q4158	E4159	C4160	Q4161	A4162	S4163	F4164	Q4165	G4166	L4167	K4168	N4169	N4170	V4171	L4175	W4178	T4179	Q4180								
E4181	F4182	W4186	K4187	H4188	L4189	L4190	L4193	I4194	D4195	F4196	L4197	N4198	F4199	P4200	R4201	F4202	Q4203	F4204	P4205	Q4206	K4207	P4208	Q4209	L4210	Y4211	T4212	R4213	E4214	E4215	L4216	C4217	T4218	W4219	F4220	L4221	R4222	E4223	V4224	Q4225	T4226	V4227	L4228	V4231	Y4232	S4233	K4234	W4235	H4236	N4237	Q4238	S4239	I4241	L4242	L4243	S4244				





## 4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	52843	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ( $e^-/\text{\AA}^2$ )	50	Depositor
Minimum defocus (nm)	800	Depositor
Maximum defocus (nm)	2800	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	1.148	Depositor
Minimum map value	-0.560	Depositor
Average map value	-0.000	Depositor
Map value standard deviation	0.025	Depositor
Recommended contour level	0.182	Depositor
Map size (Å)	490.5, 490.5, 490.5	wwPDB
Map dimensions	450, 450, 450	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.09, 1.09, 1.09	Depositor

## 5 Model quality [i](#)

### 5.1 Standard geometry [i](#)

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	0.25	0/36813	0.46	0/49814

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	2820	ASN	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	36083	36245	36243	573	0
All	All	36083	36245	36243	573	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 8.

All (573) 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:500:GLU:OE2	1:A:537:LYS:NZ	1.96	0.98
1:A:325:VAL:HG13	1:A:351:LEU:HD11	1.46	0.95
1:A:323:GLU:OE1	1:A:327:LYS:NZ	2.03	0.92
1:A:3632:ARG:NH1	1:A:3633:TRP:O	2.03	0.92
1:A:3482:SER:OG	1:A:3484:GLU:OE2	1.90	0.89
1:A:243:GLN:NE2	1:A:245:CYS:SG	2.48	0.86
1:A:3491:SER:OG	1:A:3493:GLU:OE2	1.93	0.84
1:A:3135:MET:SD	1:A:3144:THR:OG1	2.35	0.84
1:A:332:LEU:O	1:A:344:ARG:NH2	2.11	0.84
1:A:3649:GLU:OE2	1:A:3651:SER:OG	1.95	0.83
1:A:1038:GLN:NE2	1:A:1044:GLN:OE1	2.12	0.83
1:A:1684:LEU:O	1:A:1698:SER:OG	1.97	0.82
1:A:1608:SER:O	1:A:1610:ARG:NH1	2.13	0.81
1:A:57:GLU:N	1:A:57:GLU:OE1	2.14	0.80
1:A:2833:LYS:O	1:A:2836:ARG:NH1	2.15	0.80
1:A:907:HIS:ND1	1:A:935:LEU:O	2.14	0.80
1:A:2802:GLU:N	1:A:2802:GLU:OE1	2.15	0.80
1:A:1521:ARG:NH1	1:A:1522:PHE:O	2.15	0.80
1:A:336:THR:O	1:A:859:LYS:NZ	2.15	0.79
1:A:847:GLN:N	1:A:888:GLY:O	2.15	0.79
1:A:54:TYR:OH	1:A:256:VAL:O	2.00	0.79
1:A:79:LYS:NZ	1:A:81:GLU:OE2	2.15	0.79
1:A:4109:GLN:O	1:A:4496:ARG:NH2	2.17	0.78
1:A:1386:ARG:O	1:A:1386:ARG:NH1	2.17	0.77
1:A:143:LEU:N	1:A:306:MET:O	2.16	0.77
1:A:1881:MET:SD	1:A:1883:THR:OG1	2.42	0.76
1:A:3636:GLU:N	1:A:3636:GLU:OE1	2.18	0.76
1:A:1603:GLN:OE1	1:A:1605:ASP:N	2.19	0.76
1:A:271:SER:OG	1:A:276:TYR:N	2.20	0.75
1:A:1012:GLU:N	1:A:1012:GLU:OE1	2.20	0.75
1:A:1668:GLU:OE2	1:A:1687:ASN:N	2.20	0.74
1:A:460:THR:OG1	1:A:462:GLU:OE1	2.04	0.74
1:A:1978:THR:OG1	1:A:1998:ALA:O	2.04	0.74
1:A:1789:GLN:OE1	1:A:1789:GLN:N	2.20	0.73
1:A:3888:GLU:OE2	1:A:3895:ASN:ND2	2.21	0.73
1:A:1531:ASN:ND2	1:A:1547:THR:O	2.22	0.72
1:A:2183:GLN:NE2	1:A:2187:ASP:OD2	2.22	0.72
1:A:949:LYS:NZ	1:A:950:THR:O	2.22	0.72
1:A:120:GLU:N	1:A:120:GLU:OE1	2.23	0.72
1:A:3953:ASP:OD2	1:A:4088:TYR:OH	2.08	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:180:ASP:OD1	1:A:181:THR:N	2.23	0.71
1:A:3784:PRO:O	1:A:3785:THR:OG1	2.06	0.71
1:A:352:VAL:HG23	1:A:356:ARG:HH22	1.56	0.71
1:A:429:ILE:HG22	1:A:445:LEU:HD13	1.73	0.71
1:A:1977:GLN:OE1	1:A:2000:ASN:ND2	2.24	0.71
1:A:158:ARG:NH2	1:A:311:GLU:OE1	2.23	0.70
1:A:2855:ASN:ND2	1:A:2871:ASN:O	2.25	0.70
1:A:896:ARG:NH2	1:A:946:SER:O	2.23	0.70
1:A:4102:SER:OG	1:A:4105:ARG:NH2	2.24	0.70
1:A:991:SER:N	1:A:996:THR:OG1	2.24	0.69
1:A:389:GLN:NE2	1:A:390:CYS:SG	2.66	0.69
1:A:1039:ALA:N	1:A:1045:THR:OG1	2.26	0.69
1:A:3654:GLN:NE2	1:A:3805:ASP:O	2.25	0.69
1:A:1586:LYS:N	1:A:1601:GLU:OE2	2.26	0.69
1:A:186:CYS:SG	1:A:207:ARG:NH1	2.65	0.69
1:A:1715:GLN:OE1	1:A:1715:GLN:N	2.26	0.69
1:A:558:ARG:NH2	1:A:586:ASN:OD1	2.27	0.68
1:A:603:SER:HB3	1:A:608:ILE:HG21	1.75	0.68
1:A:1586:LYS:O	1:A:1599:ARG:NH1	2.25	0.68
1:A:1664:LEU:O	1:A:1689:ARG:NH1	2.26	0.68
1:A:4037:THR:N	1:A:4059:GLU:OE2	2.24	0.67
1:A:3480:LYS:NZ	1:A:3481:LEU:O	2.27	0.67
1:A:1915:GLY:N	1:A:1925:GLY:O	2.26	0.67
1:A:1869:ASN:ND2	1:A:1880:ASP:OD1	2.27	0.67
1:A:85:PRO:O	1:A:297:ARG:NH1	2.27	0.66
1:A:375:SER:O	1:A:378:THR:OG1	2.13	0.66
1:A:3180:ASN:ND2	1:A:3333:ALA:O	2.27	0.66
1:A:3508:GLU:OE1	1:A:3510:SER:OG	2.14	0.66
1:A:443:TYR:O	1:A:447:HIS:ND1	2.29	0.66
1:A:1314:GLU:N	1:A:1314:GLU:OE1	2.28	0.66
1:A:599:ASN:ND2	1:A:636:ASN:OD1	2.29	0.65
1:A:497:GLN:N	1:A:497:GLN:OE1	2.30	0.65
1:A:3355:GLU:N	1:A:3355:GLU:OE1	2.29	0.65
1:A:314:LYS:NZ	1:A:358:LEU:O	2.30	0.64
1:A:3548:GLU:N	1:A:3548:GLU:OE1	2.30	0.64
1:A:4004:PRO:O	1:A:4029:GLN:NE2	2.30	0.64
1:A:1172:GLU:N	1:A:1172:GLU:OE1	2.30	0.64
1:A:431:ASN:OD1	1:A:434:ARG:NH2	2.30	0.64
1:A:586:ASN:O	1:A:589:VAL:N	2.31	0.64
1:A:1632:GLY:O	1:A:1639:GLY:N	2.30	0.64
1:A:2925:GLY:N	1:A:2944:SER:O	2.29	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3582:GLU:OE1	1:A:3582:GLU:N	2.30	0.64
1:A:4124:ASP:OD1	1:A:4485:LYS:NZ	2.27	0.63
1:A:967:LYS:O	1:A:975:TYR:N	2.31	0.63
1:A:3522:ASN:OD1	1:A:3523:SER:N	2.31	0.63
1:A:1585:ASN:ND2	1:A:1601:GLU:O	2.31	0.63
1:A:3079:SER:OG	1:A:3082:ALA:O	2.14	0.63
1:A:3602:VAL:HG23	1:A:3603:HIS:ND1	2.14	0.63
1:A:1955:VAL:O	1:A:1956:SER:OG	2.07	0.63
1:A:396:GLN:N	1:A:396:GLN:OE1	2.29	0.63
1:A:764:ASP:O	1:A:768:LYS:NZ	2.30	0.62
1:A:2512:PHE:CZ	1:A:2516:LEU:HD11	2.34	0.62
1:A:967:LYS:NZ	1:A:4050:GLU:OE2	2.33	0.62
1:A:2867:LEU:HD23	1:A:2868:GLU:N	2.13	0.62
1:A:1334:GLU:OE1	1:A:1334:GLU:N	2.33	0.62
1:A:2888:LYS:NZ	1:A:2889:TYR:O	2.33	0.61
1:A:1273:ILE:HD12	1:A:1277:LEU:HD11	1.82	0.61
1:A:777:LEU:O	1:A:784:LEU:N	2.31	0.61
1:A:3004:ALA:HB1	1:A:3017:PHE:CZ	2.36	0.61
1:A:2017:LEU:N	1:A:2046:VAL:O	2.32	0.61
1:A:2889:TYR:OH	1:A:2891:HIS:ND1	2.30	0.61
1:A:3689:LYS:NZ	1:A:4091:GLU:OE2	2.32	0.61
1:A:181:THR:HG22	1:A:184:GLY:O	2.01	0.61
1:A:3001:VAL:O	1:A:3021:HIS:ND1	2.33	0.61
1:A:3040:SER:OG	1:A:3042:GLN:NE2	2.34	0.61
1:A:325:VAL:HG13	1:A:351:LEU:CD1	2.28	0.60
1:A:1595:ASN:ND2	1:A:1619:LEU:O	2.34	0.60
1:A:462:GLU:O	1:A:466:ILE:HD12	2.00	0.60
1:A:194:THR:OG1	1:A:202:GLU:OE1	2.18	0.60
1:A:961:GLN:N	1:A:981:TYR:O	2.34	0.60
1:A:1523:ASN:OD1	1:A:1524:SER:N	2.35	0.60
1:A:3417:THR:O	1:A:3418:THR:OG1	2.18	0.60
1:A:179:LEU:O	1:A:186:CYS:N	2.35	0.59
1:A:424:GLN:O	1:A:428:GLU:OE1	2.20	0.59
1:A:623:GLN:OE1	1:A:623:GLN:N	2.34	0.59
1:A:1701:GLY:HA2	1:A:1710:LEU:HD23	1.82	0.59
1:A:4038:ILE:HD13	1:A:4062:ALA:HB1	1.84	0.59
1:A:2339:ALA:O	1:A:2343:GLU:OE1	2.19	0.59
1:A:3891:SER:OG	1:A:3894:TYR:O	2.14	0.59
1:A:844:LEU:HD22	1:A:891:ILE:HG13	1.84	0.59
1:A:2838:GLU:N	1:A:2838:GLU:OE1	2.36	0.59
1:A:505:GLU:OE1	1:A:505:GLU:N	2.32	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1852:LYS:NZ	1:A:1854:ASP:OD2	2.34	0.59
1:A:2144:ALA:O	1:A:2148:LYS:N	2.36	0.59
1:A:3149:ASP:O	1:A:3155:LYS:NZ	2.34	0.59
1:A:2801:LEU:O	1:A:2804:LEU:N	2.30	0.59
1:A:2008:GLU:OE1	1:A:2008:GLU:N	2.35	0.59
1:A:155:ASN:OD1	1:A:158:ARG:NH1	2.35	0.58
1:A:2005:ILE:HG22	1:A:2060:TYR:HD2	1.68	0.58
1:A:233:ARG:NH1	1:A:237:THR:OG1	2.36	0.58
1:A:3153:TRP:NE1	1:A:3164:THR:O	2.36	0.58
1:A:3411:ASN:ND2	1:A:3426:ALA:O	2.34	0.58
1:A:990:ALA:HB1	1:A:996:THR:HG21	1.84	0.58
1:A:1683:LYS:NZ	1:A:1698:SER:OG	2.31	0.58
1:A:1512:GLY:O	1:A:1539:ASP:N	2.31	0.58
1:A:135:ILE:O	1:A:135:ILE:HG23	2.04	0.58
1:A:1175:GLU:N	1:A:1175:GLU:OE1	2.36	0.58
1:A:445:LEU:O	1:A:449:VAL:HG23	2.03	0.58
1:A:901:MET:SD	1:A:901:MET:N	2.77	0.58
1:A:1948:GLY:O	1:A:1964:LEU:N	2.36	0.58
1:A:3345:SER:OG	1:A:3348:ILE:O	2.19	0.57
1:A:801:MET:HE3	1:A:801:MET:O	2.03	0.57
1:A:1314:GLU:OE2	1:A:1317:ARG:NH2	2.38	0.57
1:A:891:ILE:HG22	1:A:894:PHE:HB2	1.87	0.57
1:A:4090:TRP:HE1	1:A:4096:THR:HG22	1.69	0.57
1:A:2451:ASN:OD1	1:A:2455:GLN:NE2	2.38	0.57
1:A:359:SER:O	1:A:363:VAL:HG23	2.05	0.56
1:A:4435:GLN:OE1	1:A:4436:LEU:HD22	2.05	0.56
1:A:515:GLN:NE2	1:A:546:GLN:OE1	2.36	0.56
1:A:1666:VAL:HG23	1:A:1689:ARG:HH21	1.70	0.56
1:A:2986:LEU:O	1:A:3006:GLY:N	2.34	0.56
1:A:3532:LEU:N	1:A:3549:ASN:OD1	2.33	0.56
1:A:4114:TRP:O	1:A:4117:GLN:NE2	2.38	0.56
1:A:3643:SER:OG	1:A:3645:GLN:NE2	2.39	0.56
1:A:826:PHE:HA	1:A:857:GLY:HA3	1.88	0.56
1:A:329:LEU:HG	1:A:373:VAL:HG11	1.88	0.56
1:A:1887:SER:OG	1:A:1890:LEU:O	2.13	0.56
1:A:3711:THR:OG1	1:A:3882:ALA:N	2.39	0.56
1:A:1206:MET:SD	1:A:4545:THR:HG23	2.46	0.56
1:A:1992:TYR:HD1	1:A:2013:THR:HG1	1.52	0.56
1:A:914:HIS:O	1:A:925:ILE:N	2.30	0.55
1:A:2449:ARG:O	1:A:2453:GLU:OE1	2.24	0.55
1:A:2764:ILE:HD13	1:A:2771:LEU:HD23	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:75:ARG:CB	1:A:113:LEU:HD13	2.37	0.55
1:A:3253:VAL:O	1:A:3257:ASN:N	2.40	0.55
1:A:239:ILE:HD13	1:A:267:PHE:HD1	1.71	0.55
1:A:3439:ASN:OD1	1:A:3461:LYS:NZ	2.26	0.55
1:A:395:LEU:HD22	1:A:428:GLU:HB3	1.89	0.55
1:A:1016:VAL:HG23	1:A:1037:THR:HG22	1.90	0.54
1:A:1881:MET:SD	1:A:1882:SER:N	2.80	0.54
1:A:1478:HIS:CE1	1:A:1509:PRO:HG2	2.42	0.54
1:A:3714:PRO:O	1:A:3876:VAL:HG11	2.07	0.54
1:A:476:ASP:OD1	1:A:509:SER:OG	2.18	0.54
1:A:973:LEU:HD13	1:A:1007:PRO:HA	1.88	0.54
1:A:2973:ASN:O	1:A:2974:LEU:HD22	2.07	0.54
1:A:1746:TYR:OH	1:A:4390:ASP:OD1	2.22	0.54
1:A:2779:ASN:OD1	1:A:2780:GLY:N	2.41	0.54
1:A:4386:GLU:N	1:A:4386:GLU:OE1	2.41	0.54
1:A:3961:ASP:OD1	1:A:3962:GLY:N	2.41	0.54
1:A:1420:LEU:HD11	1:A:1422:CYS:SG	2.48	0.54
1:A:2040:LEU:HD21	1:A:2800:LYS:NZ	2.22	0.54
1:A:352:VAL:HG23	1:A:356:ARG:NH2	2.22	0.53
1:A:397:TRP:CZ2	1:A:401:VAL:HG11	2.43	0.53
1:A:881:VAL:N	1:A:905:PHE:O	2.41	0.53
1:A:3057:LYS:NZ	1:A:3069:ASP:OD1	2.38	0.53
1:A:837:GLU:O	1:A:838:LEU:HD22	2.08	0.53
1:A:1826:ASN:OD1	1:A:1827:LEU:N	2.42	0.53
1:A:4165:GLN:OE1	1:A:4165:GLN:N	2.36	0.53
1:A:3206:ARG:NH2	1:A:3834:GLY:O	2.37	0.53
1:A:3914:ASP:OD1	1:A:3915:SER:N	2.42	0.53
1:A:466:ILE:O	1:A:470:LEU:HD23	2.09	0.53
1:A:910:GLY:C	1:A:911:LEU:HD22	2.29	0.53
1:A:1078:ARG:NH1	1:A:1095:ASP:OD2	2.38	0.53
1:A:203:ILE:HD12	1:A:249:LEU:HD11	1.90	0.53
1:A:397:TRP:CE2	1:A:401:VAL:HG11	2.43	0.53
1:A:573:ASP:O	1:A:577:ILE:HG13	2.09	0.53
1:A:519:PRO:O	1:A:524:GLN:NE2	2.39	0.53
1:A:1446:ASN:O	1:A:1448:VAL:N	2.42	0.53
1:A:2105:ASP:OD1	1:A:2106:GLN:N	2.42	0.53
1:A:3757:GLN:N	1:A:3777:SER:OG	2.36	0.53
1:A:837:GLU:C	1:A:838:LEU:HD22	2.29	0.53
1:A:2988:ILE:HD11	1:A:3004:ALA:HB3	1.91	0.53
1:A:3194:CYS:O	1:A:3321:LYS:NZ	2.41	0.53
1:A:3715:ASN:O	1:A:3876:VAL:HG13	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3948:THR:HG23	1:A:3957:GLU:HG3	1.91	0.52
1:A:1870:THR:HG22	1:A:1871:ASP:N	2.24	0.52
1:A:2941:THR:N	1:A:2964:ASN:OD1	2.39	0.52
1:A:327:LYS:O	1:A:331:GLU:HG2	2.10	0.52
1:A:595:SER:N	1:A:627:VAL:HG11	2.25	0.52
1:A:3910:GLU:N	1:A:3910:GLU:OE1	2.42	0.52
1:A:4360:ASN:HB2	1:A:4426:ILE:HG21	1.92	0.52
1:A:813:ILE:HD12	1:A:2240:LYS:HE3	1.92	0.52
1:A:934:LYS:HA	1:A:1004:GLU:HG2	1.91	0.52
1:A:1386:ARG:O	1:A:1386:ARG:HG2	2.10	0.52
1:A:1463:PRO:O	1:A:1464:GLN:NE2	2.43	0.52
1:A:212:CYS:O	1:A:215:PHE:HD1	1.93	0.51
1:A:235:LEU:O	1:A:238:LEU:N	2.42	0.51
1:A:325:VAL:CG1	1:A:351:LEU:HD11	2.31	0.51
1:A:2799:SER:O	1:A:2805:ASN:ND2	2.41	0.51
1:A:921:LYS:NZ	1:A:1021:GLU:OE2	2.41	0.51
1:A:1968:VAL:HG13	1:A:1981:TRP:CD1	2.45	0.51
1:A:3626:THR:OG1	1:A:3627:LYS:N	2.38	0.51
1:A:2585:PHE:O	1:A:2602:VAL:HG22	2.10	0.51
1:A:2997:VAL:O	1:A:3026:ASN:N	2.42	0.51
1:A:336:THR:HB	1:A:344:ARG:HH22	1.75	0.51
1:A:713:ASP:OD2	1:A:760:LYS:NZ	2.33	0.51
1:A:794:LEU:O	1:A:798:LEU:HG	2.11	0.51
1:A:101:GLU:N	1:A:101:GLU:OE1	2.44	0.51
1:A:3468:MET:SD	1:A:3468:MET:N	2.83	0.51
1:A:833:GLU:OE2	1:A:835:ALA:HB2	2.09	0.51
1:A:2547:VAL:HG11	1:A:2634:LYS:HD3	1.93	0.51
1:A:3564:GLU:OE1	1:A:3584:THR:HG21	2.11	0.51
1:A:3674:ASN:ND2	1:A:3696:ILE:O	2.40	0.51
1:A:4305:PHE:CE2	1:A:4309:LEU:HD11	2.45	0.51
1:A:702:GLU:O	1:A:706:GLY:N	2.40	0.51
1:A:1625:GLU:OE1	1:A:1625:GLU:N	2.43	0.51
1:A:850:SER:HB2	1:A:885:THR:HG23	1.93	0.51
1:A:3507:ARG:NH2	1:A:3539:ASP:O	2.41	0.51
1:A:3512:THR:HG23	1:A:3512:THR:O	2.11	0.51
1:A:3625:ASN:O	1:A:3626:THR:OG1	2.20	0.51
1:A:4202:PHE:N	1:A:4211:TYR:O	2.39	0.51
1:A:1304:GLY:N	1:A:1342:ILE:O	2.36	0.51
1:A:4117:GLN:OE1	1:A:4121:ARG:NH1	2.43	0.51
1:A:175:GLN:O	1:A:190:PHE:N	2.38	0.50
1:A:3925:GLU:O	1:A:3951:HIS:ND1	2.44	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:881:VAL:O	1:A:905:PHE:N	2.43	0.50
1:A:1993:SER:OG	1:A:2012:ARG:NH2	2.43	0.50
1:A:75:ARG:HB3	1:A:113:LEU:HD13	1.92	0.50
1:A:3544:LEU:HD23	1:A:3544:LEU:O	2.11	0.50
1:A:490:ARG:NH1	1:A:783:GLU:OE2	2.37	0.50
1:A:847:GLN:OE1	1:A:888:GLY:N	2.45	0.50
1:A:1369:TRP:CH2	1:A:1371:ALA:HB2	2.46	0.50
1:A:2008:GLU:OE2	1:A:2059:LYS:NZ	2.40	0.50
1:A:3190:LEU:N	1:A:3324:CYS:O	2.45	0.50
1:A:3083:GLN:OE1	1:A:3106:ASN:ND2	2.44	0.49
1:A:3533:GLN:OE1	1:A:3547:LYS:N	2.40	0.49
1:A:3595:GLN:OE1	1:A:3625:ASN:ND2	2.45	0.49
1:A:3653:ASP:OD1	1:A:3656:LYS:N	2.40	0.49
1:A:3498:GLY:N	1:A:3513:ILE:O	2.44	0.49
1:A:3633:TRP:HZ3	1:A:3646:SER:HG	1.58	0.49
1:A:2894:ASN:ND2	1:A:2900:PHE:O	2.45	0.49
1:A:266:LEU:HD13	1:A:279:VAL:HA	1.93	0.49
1:A:816:VAL:O	1:A:820:GLY:N	2.40	0.49
1:A:1917:LEU:O	1:A:1923:HIS:N	2.42	0.49
1:A:3520:TYR:O	1:A:3521:LEU:HD22	2.13	0.49
1:A:4109:GLN:NE2	1:A:4500:GLN:OE1	2.45	0.49
1:A:1398:ASP:OD1	1:A:1399:LEU:N	2.44	0.49
1:A:1915:GLY:O	1:A:1925:GLY:N	2.41	0.49
1:A:225:LEU:O	1:A:829:TYR:OH	2.23	0.49
1:A:943:HIS:ND1	1:A:952:VAL:HA	2.27	0.49
1:A:817:ILE:HD13	1:A:2240:LYS:HB3	1.94	0.49
1:A:1646:ARG:NH1	1:A:1647:ILE:O	2.46	0.49
1:A:3572:GLN:OE1	1:A:3574:GLU:N	2.46	0.49
1:A:3599:LEU:HD13	1:A:3621:ALA:HA	1.93	0.49
1:A:1266:MET:SD	1:A:1266:MET:N	2.86	0.48
1:A:4359:PHE:O	1:A:4363:ILE:HG23	2.13	0.48
1:A:209:LEU:HD11	1:A:263:GLU:OE1	2.13	0.48
1:A:333:LYS:O	1:A:336:THR:HG22	2.13	0.48
1:A:884:VAL:HG23	1:A:902:ASN:OD1	2.12	0.48
1:A:2592:THR:OG1	1:A:2595:GLY:O	2.17	0.48
1:A:2609:LYS:O	1:A:2634:LYS:NZ	2.46	0.48
1:A:840:THR:HG21	1:A:889:ILE:HD13	1.94	0.48
1:A:3576:LEU:O	1:A:3576:LEU:HD12	2.13	0.48
1:A:2213:ASP:OD2	1:A:2219:ARG:HD3	2.14	0.48
1:A:2219:ARG:NH2	1:A:2277:ASP:OD2	2.46	0.48
1:A:1448:VAL:HG13	1:A:1474:LYS:HG2	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:594:ALA:HB3	1:A:627:VAL:HG12	1.94	0.48
1:A:872:GLU:OE1	1:A:872:GLU:N	2.46	0.48
1:A:4068:THR:O	1:A:4071:LYS:HG3	2.13	0.48
1:A:4374:LEU:HD11	1:A:4415:LEU:HD12	1.95	0.48
1:A:331:GLU:O	1:A:335:LEU:HG	2.14	0.48
1:A:1345:LEU:O	1:A:1347:GLN:NE2	2.44	0.48
1:A:1439:HIS:NE2	1:A:1441:GLU:OE2	2.47	0.48
1:A:104:GLY:O	1:A:112:LEU:N	2.47	0.48
1:A:1811:ASN:O	1:A:1840:TYR:OH	2.28	0.48
1:A:914:HIS:N	1:A:925:ILE:O	2.42	0.48
1:A:1166:ALA:N	1:A:1177:GLU:OE2	2.46	0.48
1:A:945:VAL:HG22	1:A:950:THR:HG23	1.96	0.47
1:A:2066:VAL:HG21	1:A:2751:GLU:HB3	1.96	0.47
1:A:3827:LEU:HD12	1:A:3857:VAL:HG23	1.96	0.47
1:A:1731:VAL:HG22	1:A:1736:LEU:HD13	1.95	0.47
1:A:3550:PHE:HB3	1:A:3563:TRP:O	2.14	0.47
1:A:183:TYR:CE2	1:A:212:CYS:HB2	2.49	0.47
1:A:3713:ASN:ND2	1:A:3879:SER:OG	2.47	0.47
1:A:326:LEU:HD21	1:A:366:LEU:HD11	1.96	0.47
1:A:348:PHE:O	1:A:352:VAL:HG22	2.14	0.47
1:A:804:ARG:O	1:A:807:GLN:HG3	2.15	0.47
1:A:2103:ASN:OD1	1:A:2104:ILE:N	2.48	0.47
1:A:2905:ASP:O	1:A:2907:ARG:NH1	2.47	0.47
1:A:3572:GLN:OE1	1:A:3573:LEU:N	2.47	0.47
1:A:4245:TYR:CZ	1:A:4249:LEU:HD11	2.49	0.47
1:A:1899:VAL:HG12	1:A:1901:ALA:H	1.80	0.47
1:A:2384:VAL:HG23	1:A:2386:ILE:HG23	1.96	0.47
1:A:3563:TRP:CZ2	1:A:3587:ALA:HB3	2.49	0.47
1:A:1201:PRO:O	1:A:1205:HIS:ND1	2.43	0.47
1:A:2905:ASP:O	1:A:2905:ASP:OD1	2.32	0.47
1:A:4552:MET:CE	1:A:4561:ILE:HG23	2.45	0.47
1:A:122:PHE:CD2	1:A:126:MET:HE1	2.50	0.47
1:A:505:GLU:HG2	1:A:506:LEU:HD12	1.97	0.47
1:A:1415:LYS:O	1:A:1416:ASN:HB2	2.15	0.47
1:A:1572:SER:N	1:A:1587:MET:O	2.39	0.47
1:A:3026:ASN:OD1	1:A:3027:GLY:N	2.48	0.47
1:A:3827:LEU:HB3	1:A:3828:PRO:HD2	1.97	0.47
1:A:1264:GLN:N	1:A:1264:GLN:OE1	2.47	0.47
1:A:1476:LYS:O	1:A:1478:HIS:N	2.49	0.47
1:A:2040:LEU:HG	1:A:2800:LYS:HE3	1.96	0.47
1:A:3462:TYR:OH	1:A:3499:ASP:O	2.30	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3658:HIS:C	1:A:3659:LEU:HD22	2.36	0.47
1:A:239:ILE:HD13	1:A:267:PHE:CD1	2.51	0.46
1:A:1968:VAL:HG13	1:A:1981:TRP:NE1	2.30	0.46
1:A:102:VAL:HG22	1:A:111:ALA:HB1	1.96	0.46
1:A:1644:THR:C	1:A:1645:LEU:HD22	2.36	0.46
1:A:1183:ASN:OD1	1:A:1184:VAL:N	2.49	0.46
1:A:2868:GLU:N	1:A:2868:GLU:OE1	2.48	0.46
1:A:934:LYS:O	1:A:934:LYS:HG3	2.14	0.46
1:A:1391:MET:N	1:A:1404:VAL:O	2.42	0.46
1:A:1478:HIS:CE1	1:A:1510:ASN:OD1	2.69	0.46
1:A:1775:SER:N	1:A:1778:LYS:O	2.43	0.46
1:A:2851:GLU:N	1:A:2851:GLU:OE1	2.48	0.46
1:A:367:LEU:HD23	1:A:371:ILE:HD13	1.97	0.46
1:A:1010:GLU:O	1:A:1042:ALA:N	2.49	0.46
1:A:2451:ASN:O	1:A:2455:GLN:OE1	2.33	0.46
1:A:442:LEU:HD12	1:A:487:LEU:HD21	1.97	0.46
1:A:813:ILE:O	1:A:817:ILE:HD12	2.15	0.46
1:A:2381:LEU:O	1:A:2384:VAL:HG22	2.16	0.46
1:A:764:ASP:HB3	1:A:768:LYS:HZ1	1.81	0.46
1:A:1356:LEU:HD21	1:A:1358:LEU:HD11	1.98	0.46
1:A:3382:GLU:N	1:A:3382:GLU:OE1	2.49	0.46
1:A:4127:ASP:O	1:A:4131:GLN:HG2	2.16	0.46
1:A:4441:GLU:O	1:A:4445:HIS:ND1	2.49	0.46
1:A:178:PHE:HA	1:A:186:CYS:O	2.15	0.45
1:A:1536:ARG:HA	1:A:1536:ARG:NE	2.31	0.45
1:A:1557:ASN:OD1	1:A:1558:THR:N	2.48	0.45
1:A:2512:PHE:CE2	1:A:2516:LEU:HD11	2.51	0.45
1:A:2898:LEU:H	1:A:2898:LEU:HD23	1.81	0.45
1:A:2993:ASP:OD1	1:A:2999:HIS:NE2	2.50	0.45
1:A:3615:ASP:C	1:A:3616:LEU:HD22	2.37	0.45
1:A:507:LYS:NZ	1:A:540:ASP:OD2	2.39	0.45
1:A:886:ASN:OD1	1:A:887:MET:N	2.50	0.45
1:A:1210:ARG:NH2	1:A:4545:THR:OG1	2.46	0.45
1:A:2880:GLN:OE1	1:A:2880:GLN:N	2.44	0.45
1:A:426:LEU:HD11	1:A:452:TYR:CG	2.50	0.45
1:A:2273:ILE:HD13	1:A:2276:ILE:HD12	1.98	0.45
1:A:3923:PHE:O	1:A:3951:HIS:NE2	2.49	0.45
1:A:3957:GLU:N	1:A:3957:GLU:OE1	2.49	0.45
1:A:371:ILE:H	1:A:371:ILE:HD12	1.81	0.45
1:A:1113:ASP:N	1:A:1117:GLU:O	2.50	0.45
1:A:1206:MET:SD	1:A:1210:ARG:NH2	2.90	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1674:GLU:OE1	1:A:1676:GLY:N	2.50	0.45
1:A:1683:LYS:NZ	1:A:1685:THR:OG1	2.49	0.45
1:A:157:LYS:O	1:A:161:ILE:HG12	2.16	0.45
1:A:463:LEU:HD12	1:A:463:LEU:H	1.82	0.45
1:A:1807:ASP:OD1	1:A:1808:LEU:N	2.49	0.45
1:A:45:ARG:NH2	1:A:167:PRO:O	2.37	0.45
1:A:346:ASN:O	1:A:350:LYS:HE3	2.15	0.45
1:A:462:GLU:O	1:A:466:ILE:CD1	2.65	0.45
1:A:972:GLY:O	1:A:1008:THR:OG1	2.29	0.45
1:A:2808:PHE:CZ	1:A:2810:ALA:HB2	2.52	0.45
1:A:3915:SER:OG	1:A:3926:TYR:OH	2.29	0.45
1:A:844:LEU:CB	1:A:889:ILE:HD11	2.46	0.45
1:A:1002:GLU:N	1:A:1002:GLU:OE1	2.49	0.45
1:A:4016:ASP:OD1	1:A:4017:ASP:N	2.46	0.45
1:A:1821:LEU:HD11	1:A:1823:VAL:CG2	2.46	0.45
1:A:1823:VAL:O	1:A:1842:ILE:N	2.45	0.45
1:A:4054:ILE:HB	1:A:4561:ILE:HB	1.99	0.45
1:A:209:LEU:HD12	1:A:241:SER:HB2	1.99	0.45
1:A:1803:TYR:CG	1:A:1803:TYR:O	2.70	0.45
1:A:2730:ASP:OD1	1:A:2731:PHE:N	2.49	0.45
1:A:2865:ASN:OD1	1:A:2866:THR:N	2.50	0.45
1:A:1534:THR:HG23	1:A:1534:THR:O	2.17	0.45
1:A:3658:HIS:O	1:A:3659:LEU:HD22	2.17	0.45
1:A:3909:VAL:N	1:A:3934:HIS:O	2.44	0.45
1:A:3594:TRP:CZ3	1:A:3626:THR:HG21	2.52	0.44
1:A:3828:PRO:HA	1:A:3840:LEU:HD12	1.99	0.44
1:A:49:LEU:N	1:A:84:VAL:O	2.51	0.44
1:A:268:LEU:HB2	1:A:269:PRO:HD3	1.98	0.44
1:A:1517:GLU:N	1:A:1517:GLU:OE1	2.49	0.44
1:A:2635:ASP:OD1	1:A:2638:ASN:ND2	2.50	0.44
1:A:1463:PRO:HG3	1:A:1492:VAL:HG13	1.97	0.44
1:A:3564:GLU:CD	1:A:3564:GLU:O	2.56	0.44
1:A:924:PHE:O	1:A:1015:SER:HA	2.17	0.44
1:A:1635:LYS:HG3	1:A:1636:ILE:HD12	1.99	0.44
1:A:1641:HIS:ND1	1:A:1657:THR:O	2.50	0.44
1:A:183:TYR:HE2	1:A:212:CYS:HB2	1.81	0.44
1:A:813:ILE:HD12	1:A:2240:LYS:CE	2.47	0.44
1:A:925:ILE:HG23	1:A:1013:GLN:NE2	2.33	0.44
1:A:3653:ASP:O	1:A:3712:LYS:NZ	2.44	0.44
1:A:416:ALA:HB2	1:A:444:ALA:HB1	1.98	0.44
1:A:3188:ASN:N	1:A:3327:SER:O	2.43	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3530:VAL:HB	1:A:3550:PHE:CE1	2.53	0.44
1:A:400:ARG:HA	1:A:400:ARG:NE	2.33	0.44
1:A:2171:LEU:HD13	1:A:2315:GLU:HB2	1.98	0.44
1:A:4036:LEU:HB3	1:A:4062:ALA:HB2	2.00	0.44
1:A:405:PRO:HA	1:A:408:ILE:HD12	2.00	0.43
1:A:629:ASP:OD1	1:A:630:PHE:N	2.51	0.43
1:A:755:MET:SD	1:A:2205:ILE:HG13	2.58	0.43
1:A:1971:LEU:C	1:A:1972:LEU:HD22	2.38	0.43
1:A:3258:VAL:HG13	1:A:3285:ILE:HG22	1.99	0.43
1:A:379:LEU:HD21	1:A:397:TRP:CE2	2.54	0.43
1:A:3153:TRP:NE1	1:A:3165:THR:HA	2.34	0.43
1:A:4395:GLY:O	1:A:4398:VAL:HG22	2.18	0.43
1:A:603:SER:CB	1:A:608:ILE:HG21	2.47	0.43
1:A:627:VAL:O	1:A:627:VAL:HG23	2.17	0.43
1:A:904:ASN:N	1:A:939:GLY:O	2.51	0.43
1:A:1231:ILE:HG23	1:A:1255:LEU:HB3	2.00	0.43
1:A:1630:ILE:O	1:A:1631:LEU:HD22	2.18	0.43
1:A:1631:LEU:HD13	1:A:1640:ALA:HA	2.00	0.43
1:A:1890:LEU:HD12	1:A:1914:ASN:O	2.18	0.43
1:A:1955:VAL:HG12	1:A:1956:SER:N	2.33	0.43
1:A:1971:LEU:HD12	1:A:2739:PRO:HD3	2.00	0.43
1:A:3685:TRP:O	1:A:3689:LYS:N	2.52	0.43
1:A:3937:GLU:N	1:A:3937:GLU:OE1	2.51	0.43
1:A:1773:ILE:HD13	1:A:1779:PHE:HB2	2.00	0.43
1:A:4432:PHE:O	1:A:4436:LEU:HD23	2.18	0.43
1:A:424:GLN:O	1:A:427:ARG:N	2.51	0.43
1:A:993:TYR:N	1:A:994:PRO:HD2	2.34	0.43
1:A:1971:LEU:HD12	1:A:2739:PRO:CD	2.48	0.43
1:A:1216:VAL:HG23	1:A:1219:THR:HG22	1.99	0.43
1:A:1614:LEU:N	1:A:1629:ASP:O	2.44	0.43
1:A:2001:THR:HG22	1:A:2002:LYS:N	2.34	0.43
1:A:3495:SER:OG	1:A:3497:LYS:NZ	2.51	0.43
1:A:360:ASP:OD1	1:A:389:GLN:HB3	2.18	0.43
1:A:1136:GLU:N	1:A:1136:GLU:OE1	2.52	0.43
1:A:1588:ASP:N	1:A:1588:ASP:OD1	2.51	0.43
1:A:2872:GLY:N	1:A:2886:ASN:OD1	2.41	0.43
1:A:326:LEU:HD21	1:A:366:LEU:HD21	2.01	0.43
1:A:588:GLN:NE2	1:A:589:VAL:HG23	2.33	0.43
1:A:1926:GLN:OE1	1:A:1927:LEU:N	2.52	0.43
1:A:2565:ALA:O	1:A:2569:SER:N	2.52	0.43
1:A:2905:ASP:O	1:A:2906:LEU:HD22	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3197:ILE:O	1:A:3201:ILE:HG12	2.19	0.43
1:A:3410:HIS:ND1	1:A:3427:THR:HG23	2.33	0.43
1:A:4089:HIS:HB3	1:A:4095:LEU:O	2.18	0.43
1:A:65:PRO:HD3	1:A:279:VAL:HG12	2.01	0.43
1:A:2211:SER:O	1:A:2215:HIS:ND1	2.52	0.43
1:A:4422:HIS:O	1:A:4426:ILE:HG12	2.19	0.43
1:A:763:LYS:HE2	1:A:2208:LYS:HE3	2.01	0.43
1:A:2772:ASP:OD1	1:A:2796:LYS:HB2	2.19	0.43
1:A:3587:ALA:HB1	1:A:3600:VAL:HA	1.99	0.43
1:A:3602:VAL:HG23	1:A:3603:HIS:CE1	2.54	0.43
1:A:1384:SER:HB3	1:A:1411:THR:HG23	2.00	0.42
1:A:1786:LEU:O	1:A:1787:GLN:NE2	2.52	0.42
1:A:3466:SER:O	1:A:3470:TYR:N	2.52	0.42
1:A:876:LYS:HA	1:A:910:GLY:HA3	2.02	0.42
1:A:2973:ASN:C	1:A:2974:LEU:HD22	2.39	0.42
1:A:3841:ASN:OD1	1:A:3852:LEU:N	2.53	0.42
1:A:4280:ALA:HA	1:A:4283:VAL:HG12	2.01	0.42
1:A:93:LYS:NZ	1:A:129:TYR:O	2.47	0.42
1:A:361:GLU:HA	1:A:364:THR:HG22	2.01	0.42
1:A:367:LEU:O	1:A:371:ILE:HD12	2.20	0.42
1:A:2988:ILE:CD1	1:A:3004:ALA:HB3	2.50	0.42
1:A:751:VAL:HG23	1:A:752:ASN:N	2.35	0.42
1:A:1775:SER:HB3	1:A:1778:LYS:HB3	2.01	0.42
1:A:2819:ILE:HG13	1:A:2821:PRO:HD3	2.01	0.42
1:A:496:GLY:O	1:A:500:GLU:HG3	2.19	0.42
1:A:2436:VAL:O	1:A:2439:THR:OG1	2.29	0.42
1:A:3679:VAL:HG23	1:A:3680:TYR:N	2.35	0.42
1:A:4116:TYR:CD1	1:A:4488:ILE:HG22	2.54	0.42
1:A:200:ALA:HB3	1:A:203:ILE:HD11	2.02	0.42
1:A:403:ALA:O	1:A:408:ILE:HD11	2.20	0.42
1:A:588:GLN:HB2	1:A:634:SER:H	1.84	0.42
1:A:755:MET:CG	1:A:2205:ILE:HG13	2.50	0.42
1:A:759:GLU:HG2	1:A:2208:LYS:HE2	2.02	0.42
1:A:1543:SER:OG	1:A:1562:LYS:NZ	2.45	0.42
1:A:4474:GLN:O	1:A:4477:ILE:HG22	2.19	0.42
1:A:363:VAL:O	1:A:367:LEU:N	2.50	0.42
1:A:512:LYS:O	1:A:516:SER:N	2.53	0.42
1:A:910:GLY:O	1:A:911:LEU:HD22	2.19	0.42
1:A:108:GLU:HG2	1:A:110:LYS:HG2	2.02	0.42
1:A:779:ILE:CG1	1:A:784:LEU:HD11	2.50	0.42
1:A:823:ASN:O	1:A:860:ALA:N	2.47	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:993:TYR:CG	1:A:994:PRO:HD3	2.54	0.42
1:A:4356:LEU:HD23	1:A:4430:SER:HB2	2.00	0.42
1:A:3336:ASN:OD1	1:A:3337:ILE:N	2.53	0.41
1:A:3590:GLU:O	1:A:3591:LEU:HD22	2.20	0.41
1:A:174:LYS:O	1:A:174:LYS:HD3	2.20	0.41
1:A:1054:ASN:O	1:A:1058:MET:N	2.53	0.41
1:A:1204:LEU:HD13	1:A:1263:LEU:HB2	2.01	0.41
1:A:2190:ASP:OD1	1:A:2191:LEU:HD12	2.20	0.41
1:A:1115:LYS:NZ	1:A:1116:GLU:OE1	2.37	0.41
1:A:1587:MET:CE	1:A:1598:LEU:HD12	2.51	0.41
1:A:4126:ILE:O	1:A:4129:ARG:HG2	2.20	0.41
1:A:4356:LEU:HD21	1:A:4429:ALA:HB3	2.03	0.41
1:A:379:LEU:O	1:A:383:VAL:HG22	2.19	0.41
1:A:807:GLN:HA	1:A:2232:PHE:CD1	2.55	0.41
1:A:4218:THR:O	1:A:4222:ARG:HG2	2.20	0.41
1:A:4326:ILE:O	1:A:4329:ILE:HG22	2.20	0.41
1:A:185:ASN:O	1:A:186:CYS:SG	2.79	0.41
1:A:439:ARG:NH2	1:A:791:ASP:OD1	2.53	0.41
1:A:972:GLY:O	1:A:973:LEU:HD22	2.20	0.41
1:A:1066:ILE:HB	1:A:1071:VAL:HB	2.03	0.41
1:A:1200:TYR:CZ	1:A:1204:LEU:HD11	2.56	0.41
1:A:1415:LYS:O	1:A:1415:LYS:HD3	2.20	0.41
1:A:3070:PHE:C	1:A:3071:LEU:HD22	2.41	0.41
1:A:3635:ASN:OD1	1:A:3636:GLU:N	2.54	0.41
1:A:341:ASN:HA	1:A:344:ARG:HG2	2.03	0.41
1:A:1215:ARG:HE	1:A:1220:ASP:HA	1.86	0.41
1:A:2611:THR:HG22	1:A:2630:GLN:NE2	2.35	0.41
1:A:3076:LEU:HD12	1:A:3084:GLN:O	2.21	0.41
1:A:3475:GLY:HA3	1:A:3500:VAL:HA	2.02	0.41
1:A:975:TYR:HA	1:A:1005:LEU:HD13	2.02	0.41
1:A:1587:MET:HE1	1:A:1598:LEU:HD12	2.02	0.41
1:A:3508:GLU:O	1:A:3539:ASP:N	2.49	0.41
1:A:3937:GLU:HG2	1:A:3937:GLU:O	2.21	0.41
1:A:4528:TYR:CE1	1:A:4532:LEU:HD11	2.56	0.41
1:A:341:ASN:OD1	1:A:341:ASN:O	2.39	0.41
1:A:352:VAL:O	1:A:355:LEU:HB3	2.21	0.41
1:A:416:ALA:CB	1:A:444:ALA:HB1	2.50	0.41
1:A:1000:ARG:C	1:A:1001:LEU:HD22	2.41	0.41
1:A:1097:GLN:HB3	1:A:1100:LYS:HA	2.03	0.41
1:A:1116:GLU:O	1:A:1141:TRP:N	2.45	0.41
1:A:1200:TYR:HB3	1:A:1201:PRO:HD3	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1596:ALA:HB3	1:A:1619:LEU:HD21	2.02	0.41
1:A:1665:LEU:HD12	1:A:1689:ARG:O	2.20	0.41
1:A:2764:ILE:HD13	1:A:2771:LEU:HB3	2.02	0.41
1:A:3564:GLU:OE1	1:A:3584:THR:CG2	2.69	0.41
1:A:4482:ILE:HG23	1:A:4483:ALA:N	2.36	0.41
1:A:4486:LYS:NZ	1:A:4490:ASP:OD2	2.44	0.41
1:A:115:LYS:NZ	1:A:119:SER:OG	2.42	0.41
1:A:885:THR:HB	1:A:901:MET:HB2	2.01	0.41
1:A:1416:ASN:O	1:A:1444:GLY:N	2.53	0.41
1:A:3004:ALA:HB1	1:A:3017:PHE:CE2	2.56	0.41
1:A:4038:ILE:HD13	1:A:4062:ALA:CB	2.48	0.41
1:A:4224:VAL:HG21	1:A:4288:GLN:OE1	2.21	0.41
1:A:265:HIS:C	1:A:266:LEU:HD22	2.42	0.40
1:A:463:LEU:HB3	1:A:502:LEU:CD1	2.51	0.40
1:A:2336:ALA:O	1:A:2340:LYS:HG2	2.21	0.40
1:A:3215:ALA:O	1:A:3219:VAL:HG23	2.21	0.40
1:A:3224:ASN:C	1:A:3224:ASN:HD22	2.23	0.40
1:A:3593:PRO:O	1:A:3594:TRP:HB3	2.21	0.40
1:A:469:TYR:O	1:A:473:GLN:HG2	2.22	0.40
1:A:833:GLU:OE2	1:A:835:ALA:N	2.55	0.40
1:A:1389:TYR:HE2	1:A:1404:VAL:HG12	1.86	0.40
1:A:3980:SER:O	1:A:3983:PHE:O	2.40	0.40
1:A:1287:TYR:HD1	1:A:1356:LEU:HA	1.86	0.40
1:A:1644:THR:O	1:A:1645:LEU:HD22	2.22	0.40
1:A:2164:LYS:HB2	1:A:2322:ILE:HD13	2.01	0.40
1:A:2800:LYS:HD3	1:A:2800:LYS:N	2.36	0.40
1:A:51:LYS:HA	1:A:82:LEU:O	2.22	0.40
1:A:832:MET:SD	1:A:852:GLY:N	2.95	0.40
1:A:2055:VAL:O	1:A:2763:LYS:N	2.51	0.40
1:A:2408:SER:O	1:A:2412:PHE:N	2.40	0.40
1:A:4084:TYR:CE1	1:A:4088:TYR:HE2	2.38	0.40
1:A:100:LYS:HB3	1:A:113:LEU:HB3	2.02	0.40
1:A:484:TYR:O	1:A:488:ILE:HG12	2.22	0.40
1:A:575:ASN:HA	1:A:618:ALA:HB1	2.03	0.40
1:A:1434:ASN:N	1:A:1456:ASP:O	2.44	0.40
1:A:2059:LYS:HB2	1:A:2759:TYR:CZ	2.56	0.40
1:A:2971:ASN:OD1	1:A:2972:GLN:N	2.55	0.40
1:A:2985:LYS:C	1:A:2986:LEU:HD22	2.41	0.40
1:A:3457:SER:O	1:A:3458:MET:HE2	2.22	0.40
1:A:3519:THR:HG23	1:A:3528:SER:OG	2.21	0.40
1:A:3957:GLU:OE1	1:A:3979:LYS:NZ	2.50	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	4524/4563 (99%)	4338 (96%)	182 (4%)	4 (0%)	48 83

All (4) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	3828	PRO
1	A	1477	GLN
1	A	3906	ALA
1	A	1804	ASN

### 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	4051/4080 (99%)	4033 (100%)	18 (0%)	89 91

All (18) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	216	LYS
1	A	233	ARG
1	A	695	LYS
1	A	1215	ARG

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*Continued from previous page...*

Mol	Chain	Res	Type
1	A	1386	ARG
1	A	1521	ARG
1	A	1610	ARG
1	A	1702	LYS
1	A	2251	ASN
1	A	2418	LYS
1	A	2836	ARG
1	A	2907	ARG
1	A	3224	ASN
1	A	3389	ARG
1	A	3638	ARG
1	A	3886	ARG
1	A	4071	LYS
1	A	4412	LYS

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

Mol	Chain	Res	Type
1	A	255	HIS
1	A	1013	GLN
1	A	1478	HIS
1	A	3051	ASN
1	A	3207	HIS
1	A	3224	ASN

### 5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

### 5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

## 5.6 Ligand geometry [i](#)

There are no ligands in this entry.

## 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.

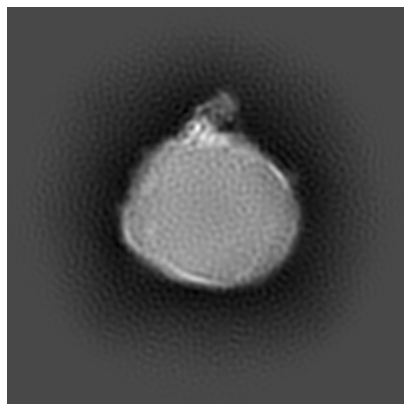
## 6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-47801. These allow visual inspection of the internal detail of the map and identification of artifacts.

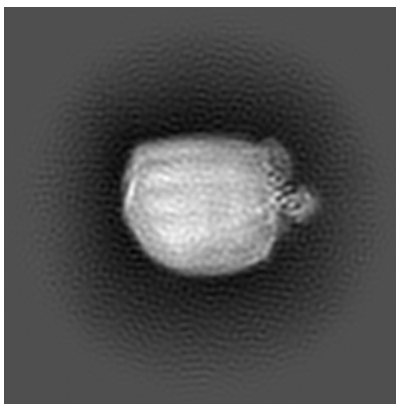
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

### 6.1 Orthogonal projections [i](#)

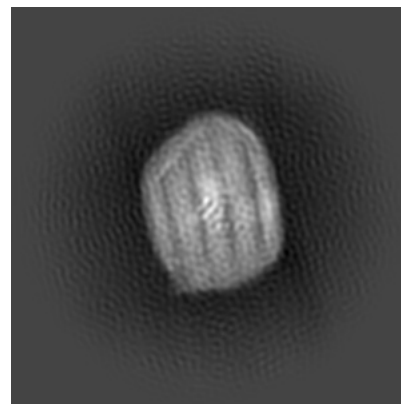
#### 6.1.1 Primary map



X

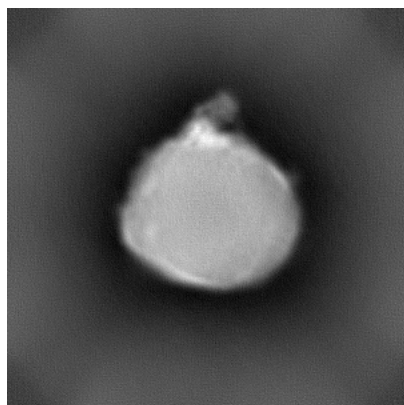


Y

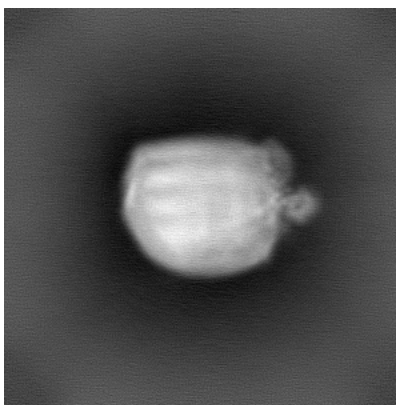


Z

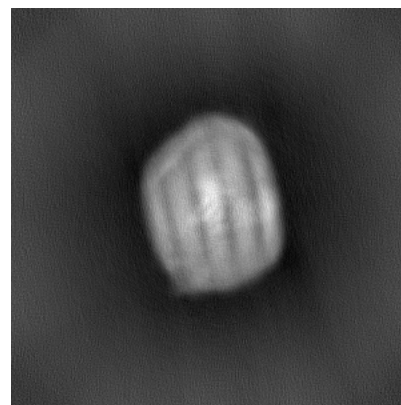
#### 6.1.2 Raw map



X



Y

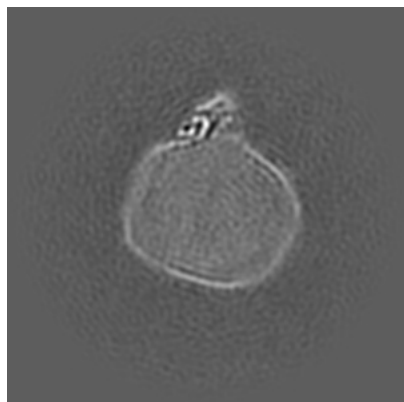


Z

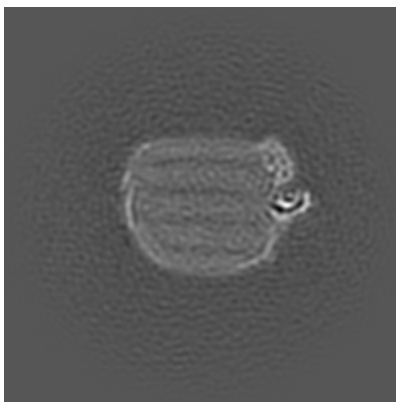
The images above show the map projected in three orthogonal directions.

## 6.2 Central slices [i](#)

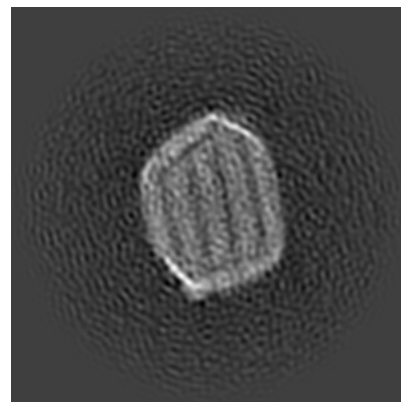
### 6.2.1 Primary map



X Index: 225

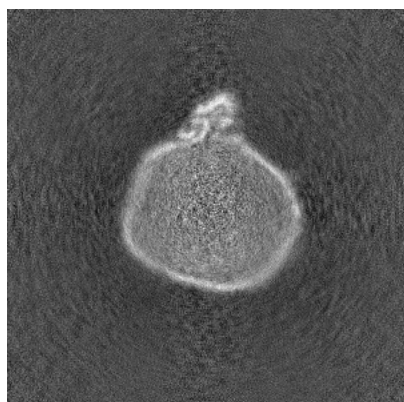


Y Index: 225

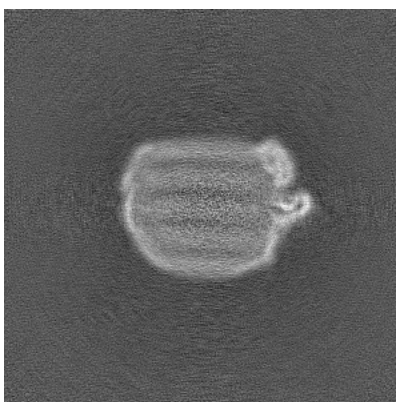


Z Index: 225

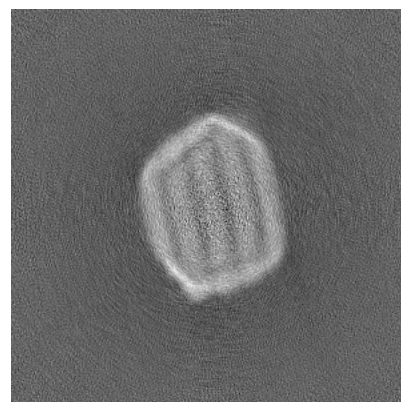
### 6.2.2 Raw map



X Index: 225



Y Index: 225

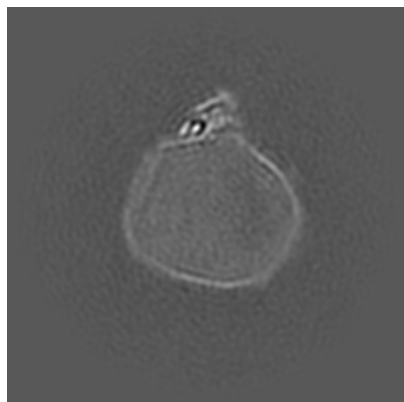


Z Index: 225

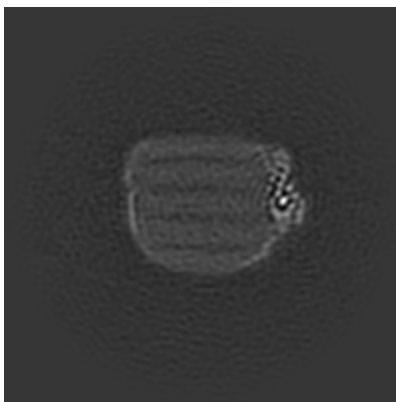
The images above show central slices of the map in three orthogonal directions.

## 6.3 Largest variance slices [i](#)

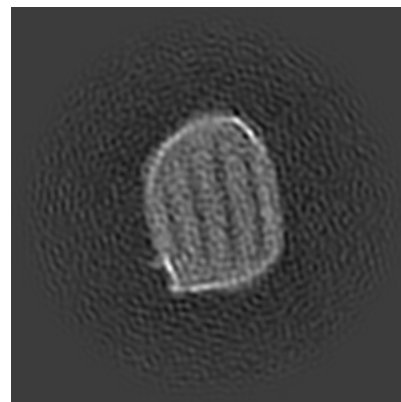
### 6.3.1 Primary map



X Index: 230

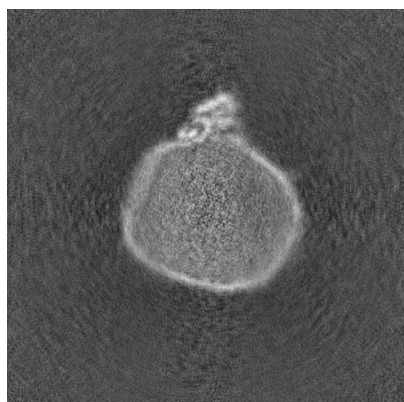


Y Index: 213

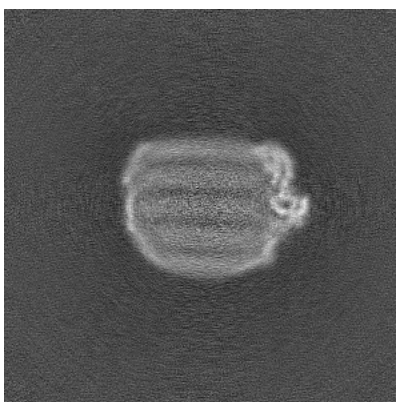


Z Index: 196

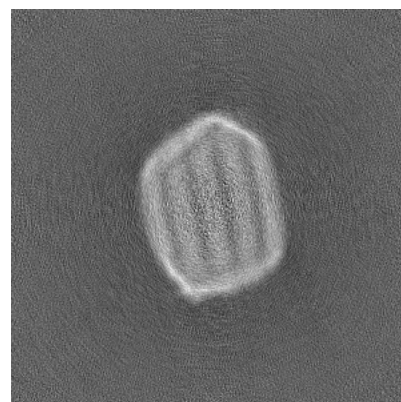
### 6.3.2 Raw map



X Index: 227



Y Index: 219

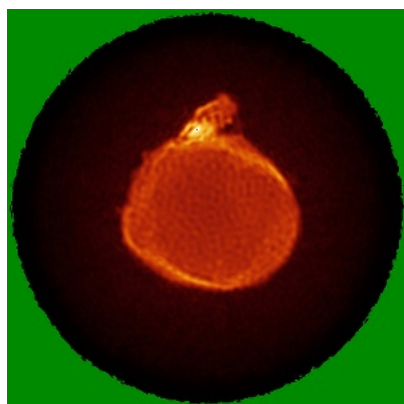


Z Index: 219

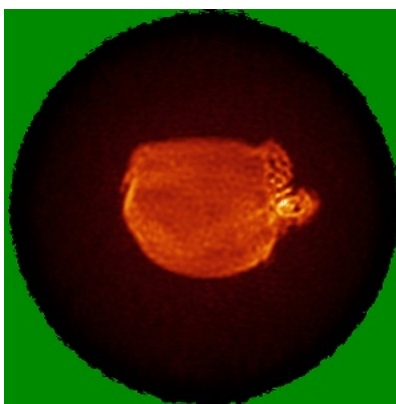
The images above show the largest variance slices of the map in three orthogonal directions.

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

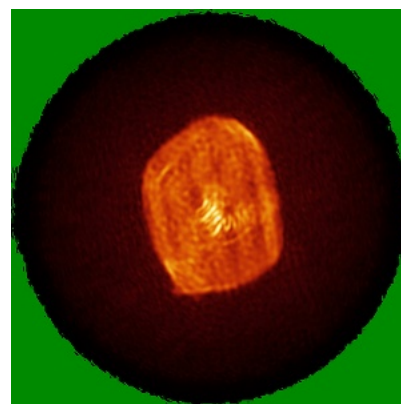
### 6.4.1 Primary map



X

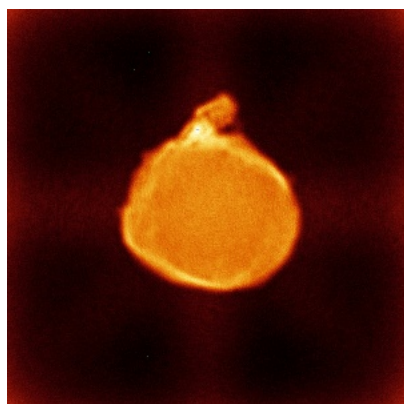


Y

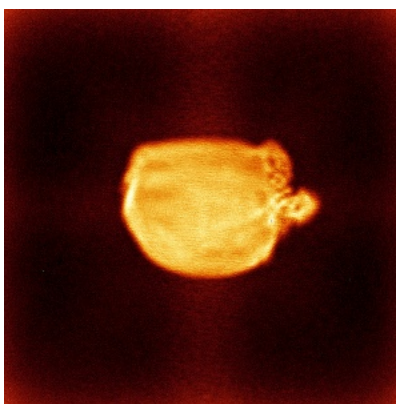


Z

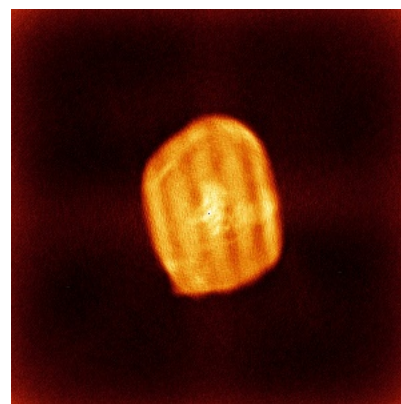
### 6.4.2 Raw map



X



Y

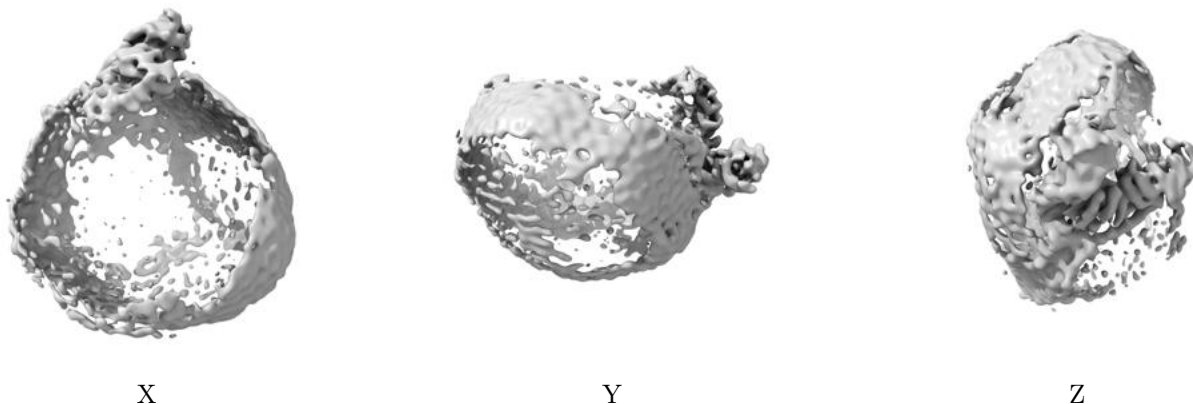


Z

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.

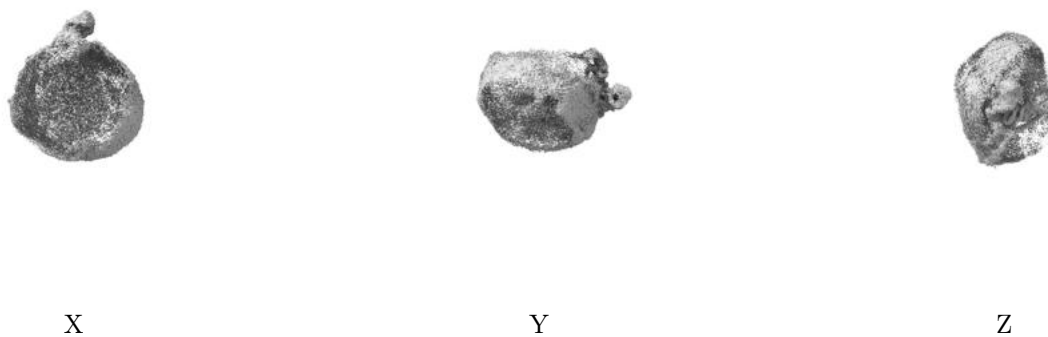
## 6.5 Orthogonal surface views [i](#)

### 6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.182. 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.



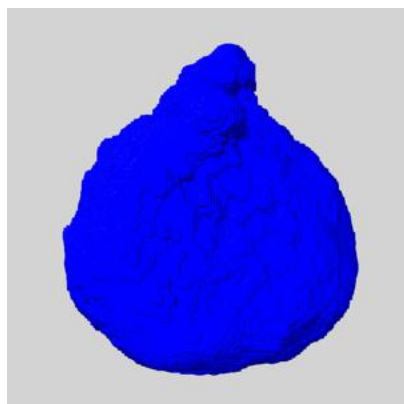
## 6.6 Mask visualisation [i](#)

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

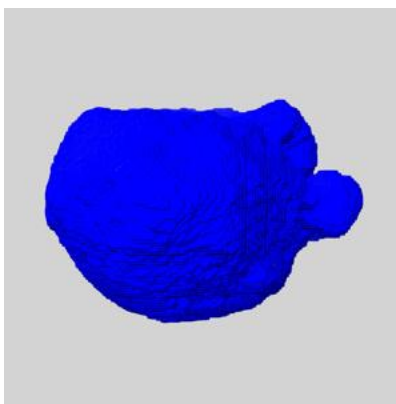
A mask typically either:

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

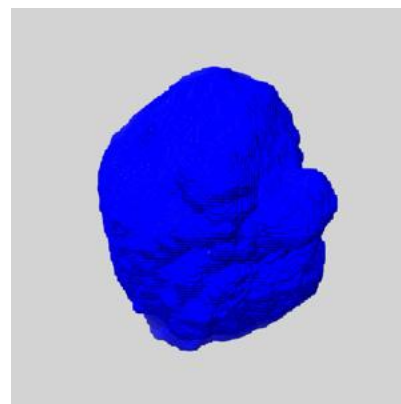
### 6.6.1 emd\_47801\_msk\_1.map [i](#)



X



Y

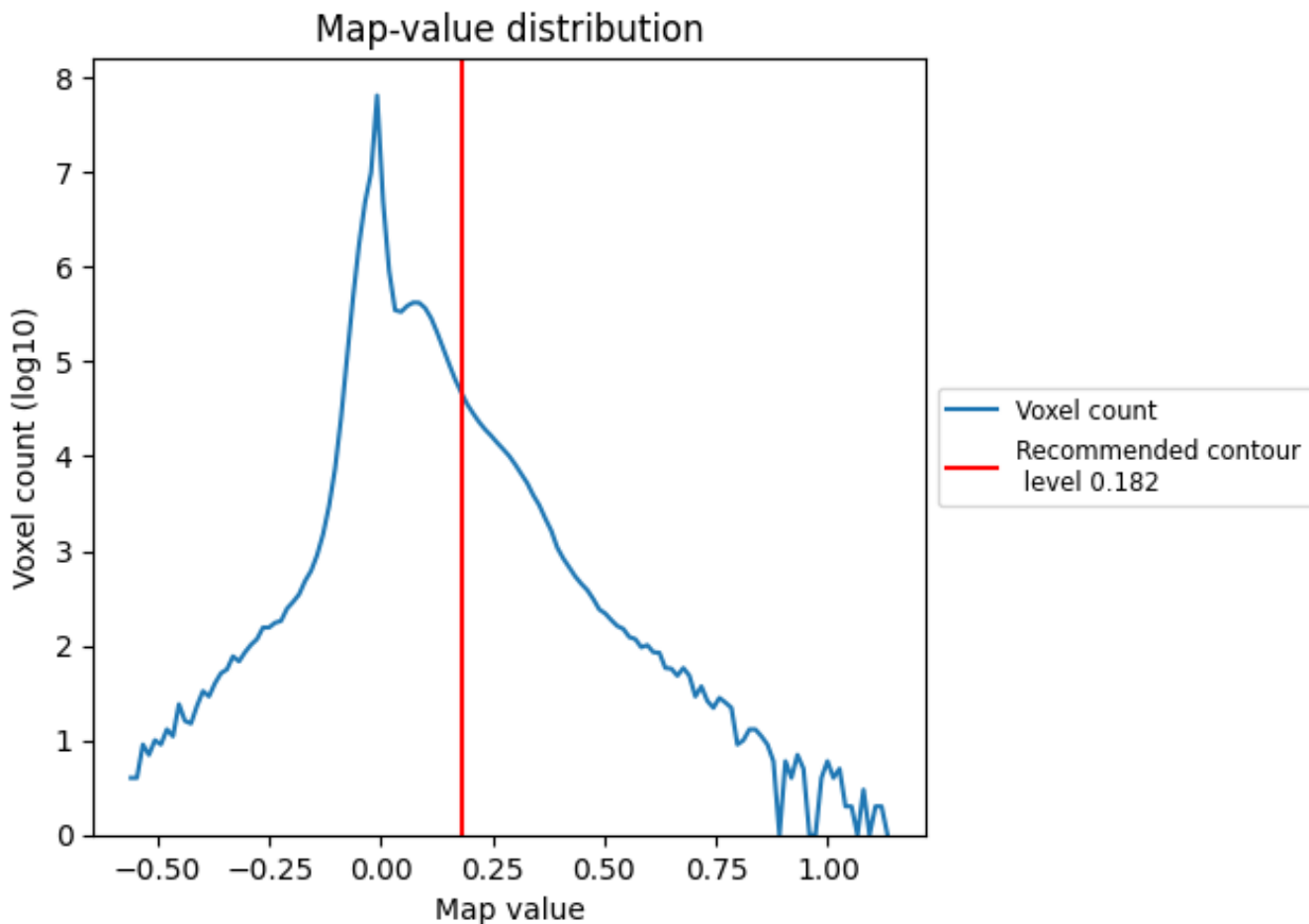


Z

## 7 Map analysis [i](#)

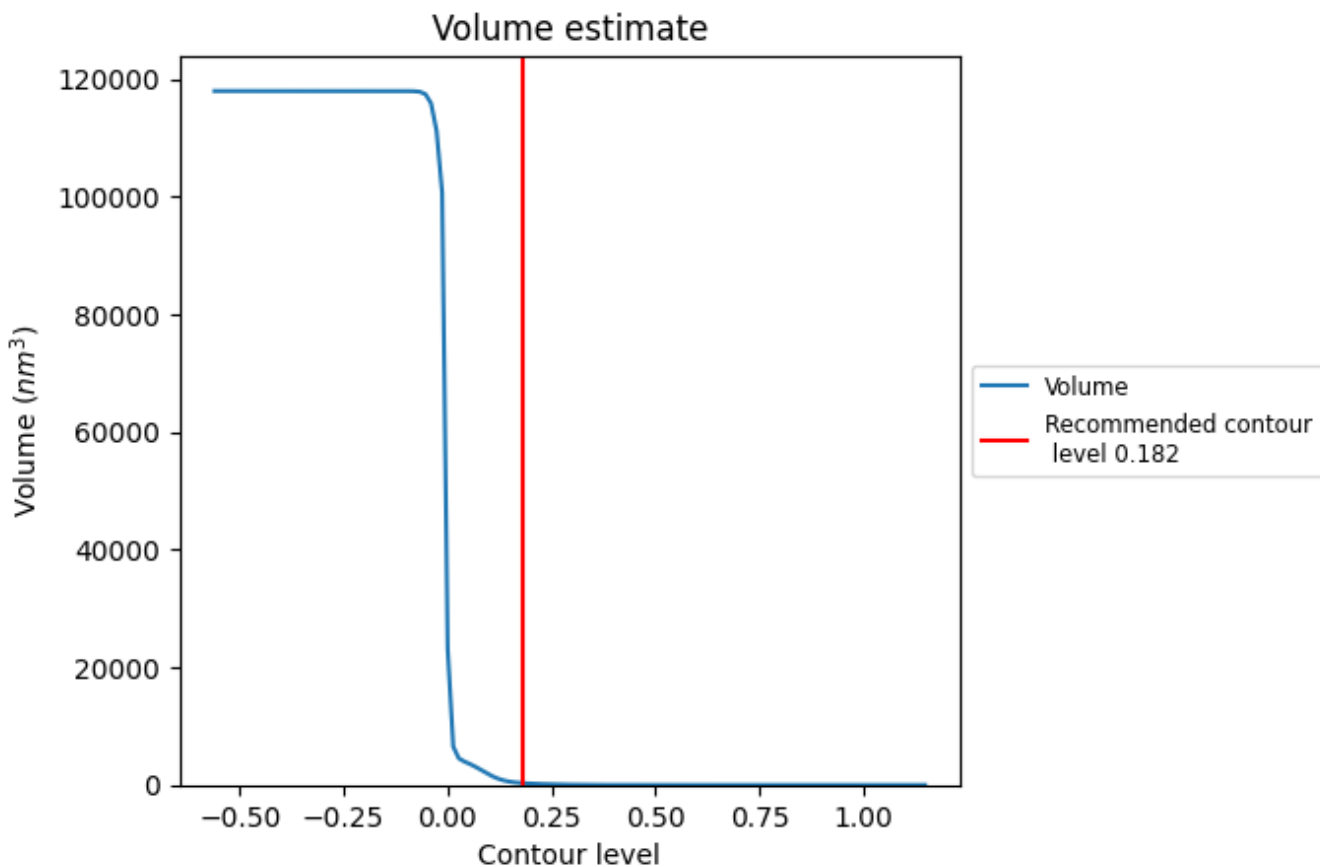
This section contains the results of statistical analysis of the map.

### 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.

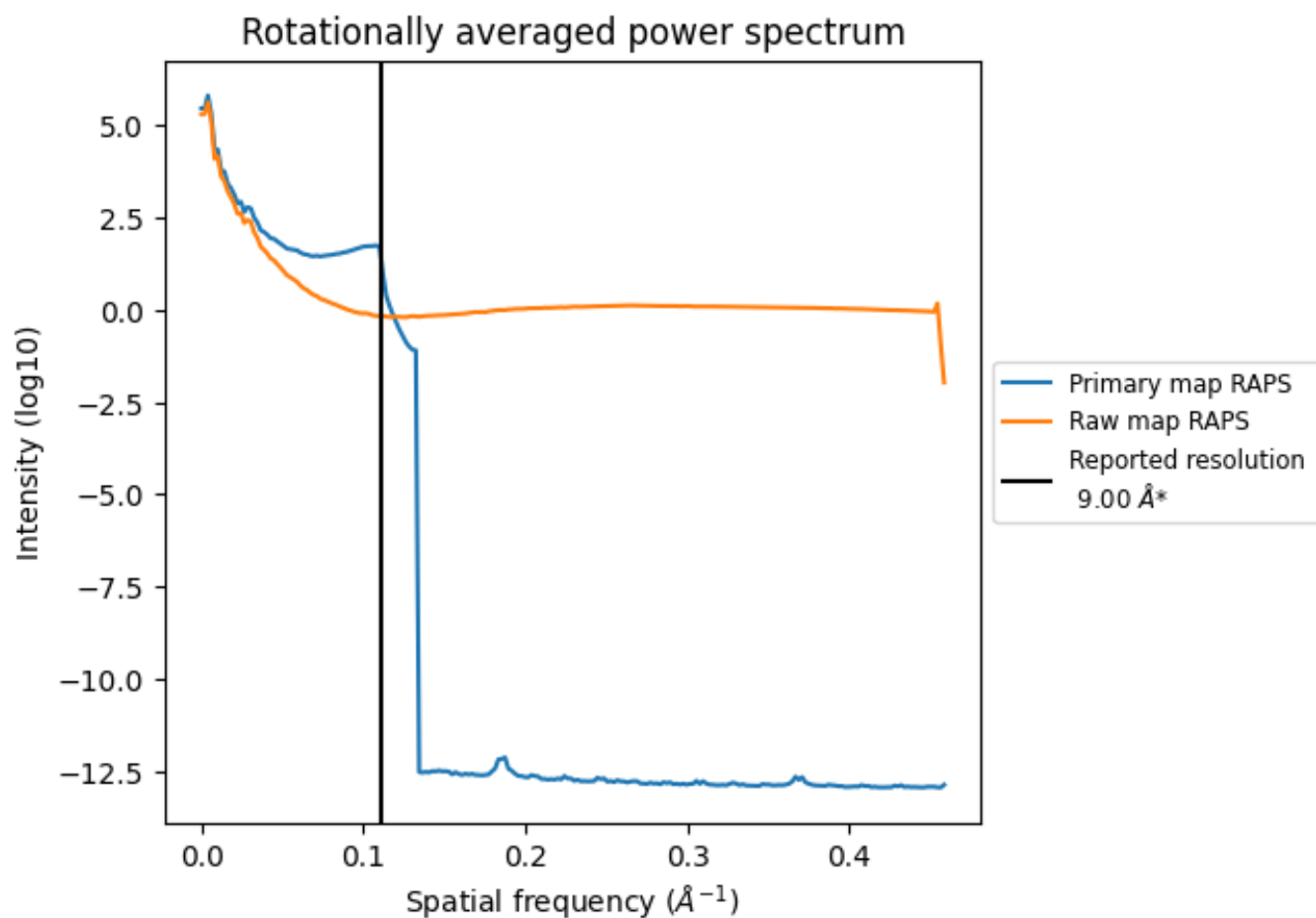
## 7.2 Volume estimate [\(i\)](#)



The volume at the recommended contour level is 304 nm<sup>3</sup>; this corresponds to an approximate mass of 275 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 [i](#)

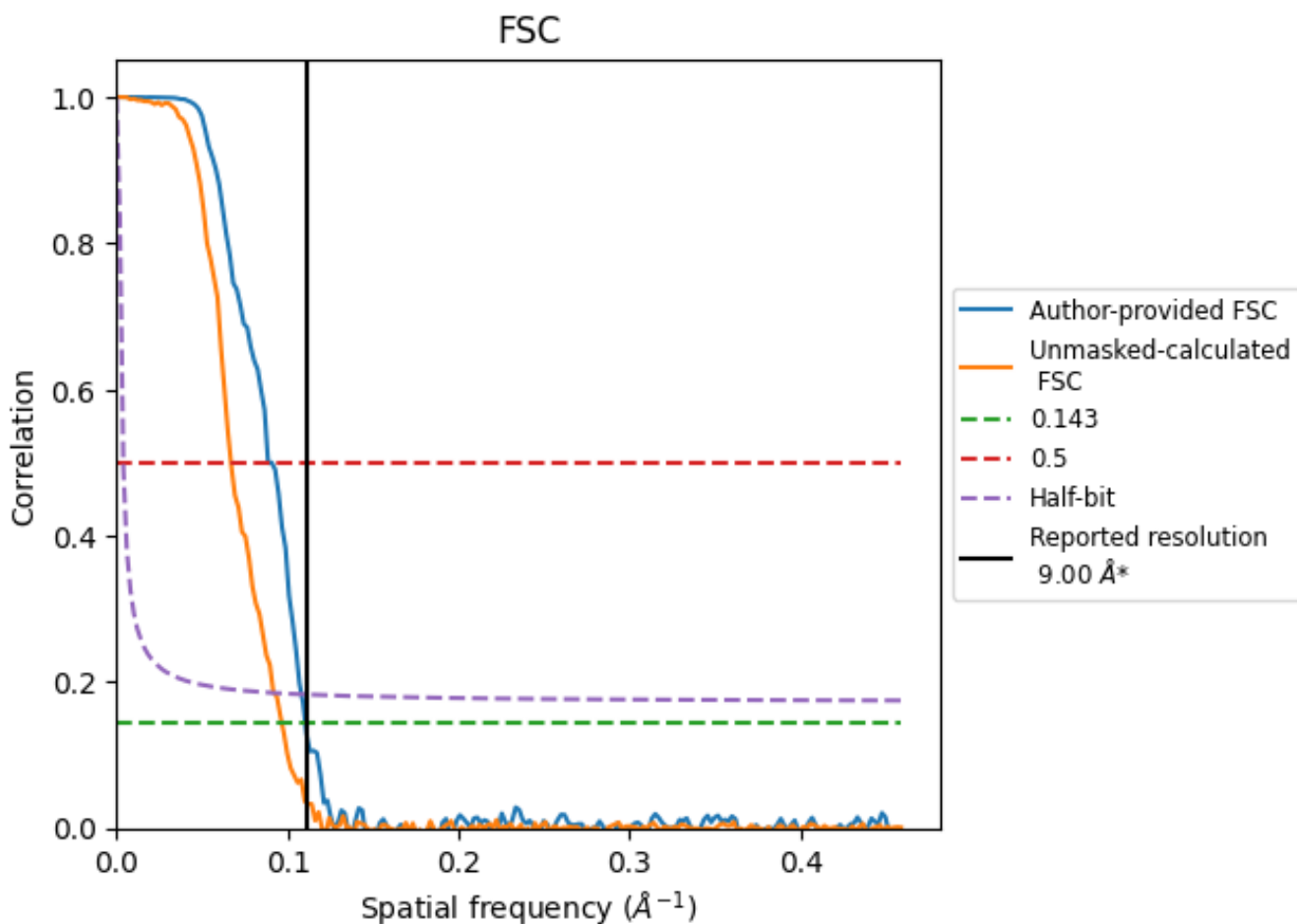


\*Reported resolution corresponds to spatial frequency of 0.111 Å<sup>-1</sup>

## 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 0.111 Å<sup>-1</sup>

## 8.2 Resolution estimates [i](#)

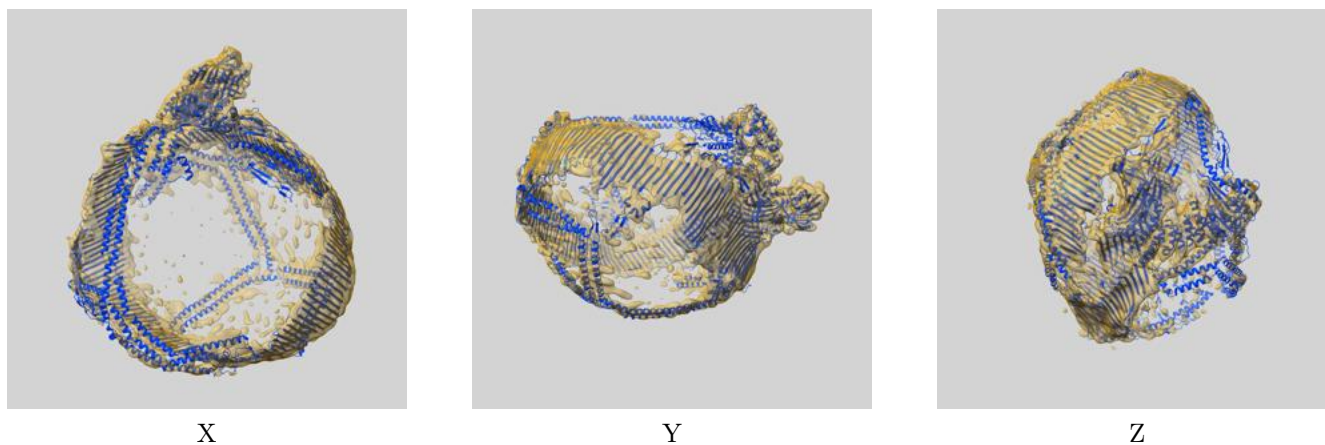
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	9.00	-	-
Author-provided FSC curve	9.06	11.27	9.24
Unmasked-calculated*	10.34	14.93	10.85

\*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 10.34 differs from the reported value 9.0 by more than 10 %

## 9 Map-model fit [i](#)

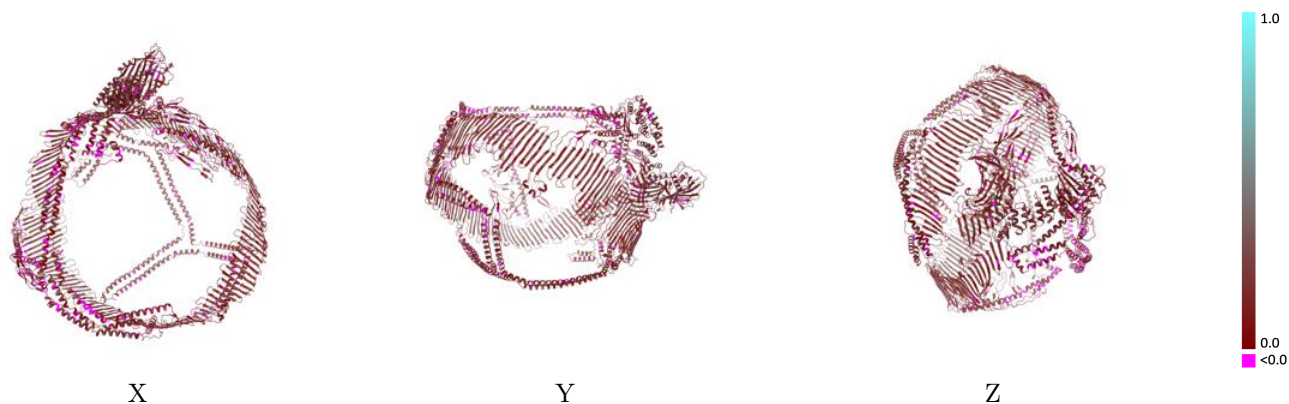
This section contains information regarding the fit between EMDB map EMD-47801 and PDB model 9EA7. Per-residue inclusion information can be found in section 3 on page 4.

### 9.1 Map-model overlay [i](#)



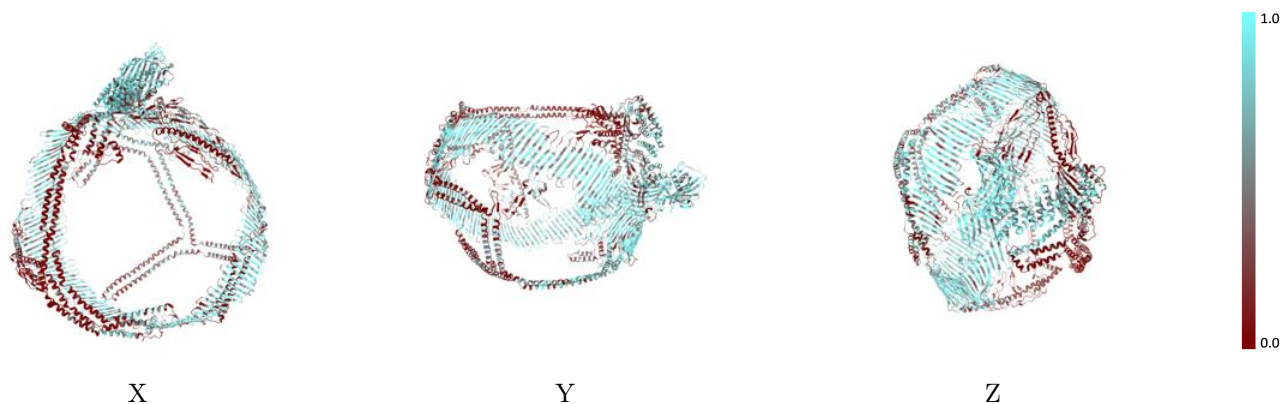
The images above show the 3D surface view of the map at the recommended contour level 0.182 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

## 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.

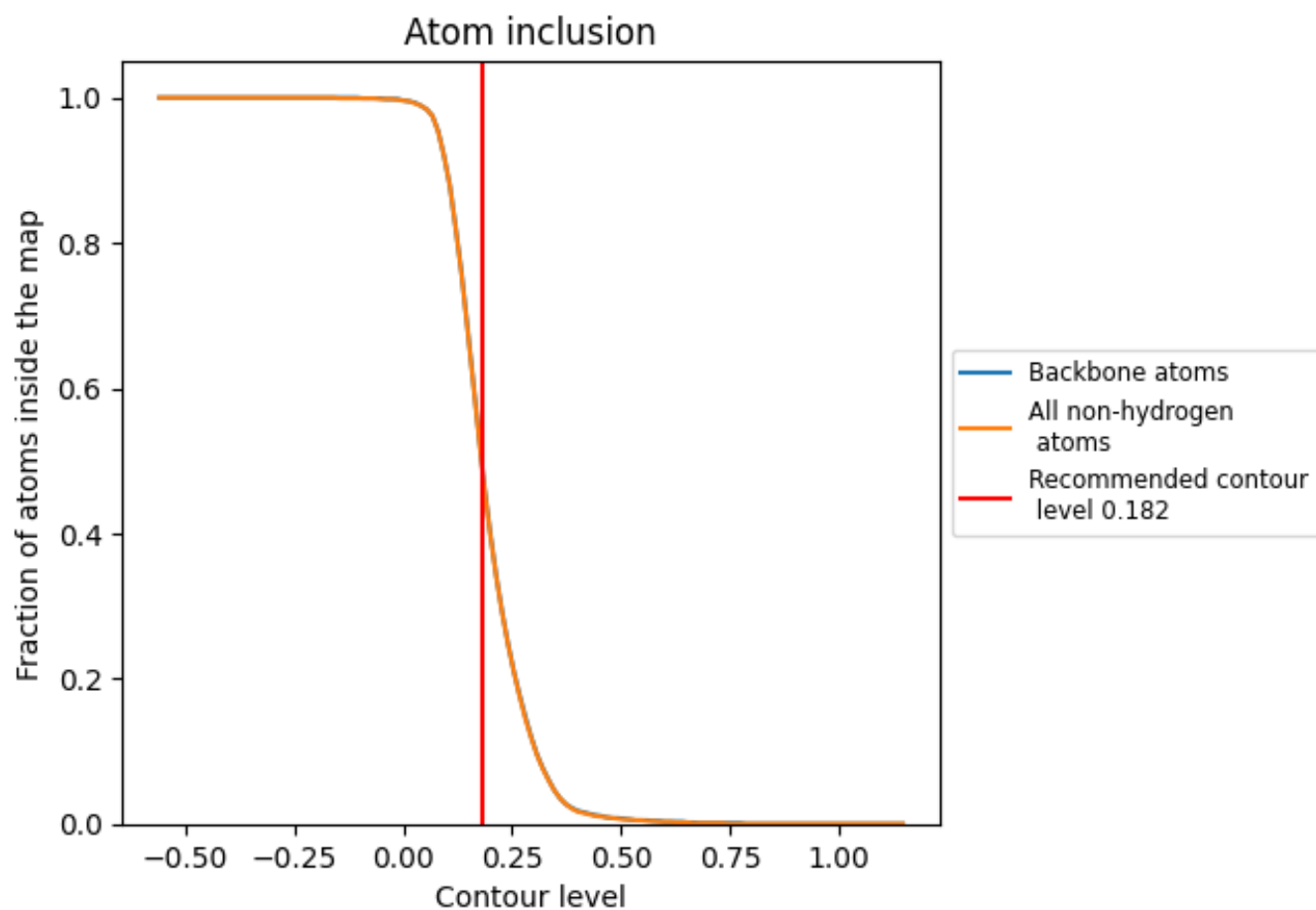
## 9.3 Atom inclusion mapped to coordinate model [i](#)



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 (0.182).







## 9.4 Atom inclusion [i](#)



At the recommended contour level, 49% of all backbone atoms, 49% 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 (0.182) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.4860	 0.1580
A	 0.4930	 0.1580

