



## Full wwPDB EM Validation Report ⓘ

Dec 30, 2024 – 03:46 PM EST

PDB ID : 8E2I  
EMDB ID : EMD-27837  
Title : Cryo-EM structure of BIRC6/Smac  
Authors : Hunkeler, M.; Fischer, E.S.  
Deposited on : 2022-08-15  
Resolution : 3.04 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](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

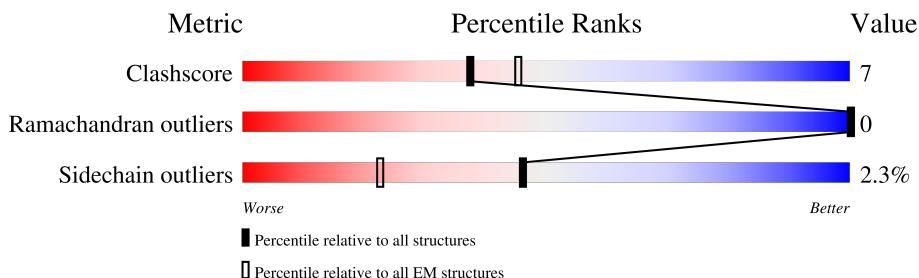
# 1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

*ELECTRON MICROSCOPY*

The reported resolution of this entry is 3.04 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	4888	
1	B	4888	
2	E	194	
2	F	194	
3	C	57	
3	D	57	

## 2 Entry composition i

There are 3 unique types of molecules in this entry. The entry contains 93130 atoms, of which 46956 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 Baculoviral IAP repeat-containing protein 6.

Mol	Chain	Residues	Atoms						AltConf	Trace
			Total	C	H	N	O	S		
1	A	2745	Total	C	H	N	O	S	23	0
			43333	13715	21905	3644	3919	150		
1	B	2745	Total	C	H	N	O	S	23	0
			43331	13715	21903	3644	3919	150		

There are 64 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-30	MET	-	expression tag	UNP Q9NR09
A	-29	ASP	-	expression tag	UNP Q9NR09
A	-28	TYR	-	expression tag	UNP Q9NR09
A	-27	LYS	-	expression tag	UNP Q9NR09
A	-26	ASP	-	expression tag	UNP Q9NR09
A	-25	ASP	-	expression tag	UNP Q9NR09
A	-24	ASP	-	expression tag	UNP Q9NR09
A	-23	ASP	-	expression tag	UNP Q9NR09
A	-22	LYS	-	expression tag	UNP Q9NR09
A	-21	LEU	-	expression tag	UNP Q9NR09
A	-20	ALA	-	expression tag	UNP Q9NR09
A	-19	ALA	-	expression tag	UNP Q9NR09
A	-18	ALA	-	expression tag	UNP Q9NR09
A	-17	ASN	-	expression tag	UNP Q9NR09
A	-16	SER	-	expression tag	UNP Q9NR09
A	-15	SER	-	expression tag	UNP Q9NR09
A	-14	ILE	-	expression tag	UNP Q9NR09
A	-13	ASP	-	expression tag	UNP Q9NR09
A	-12	LEU	-	expression tag	UNP Q9NR09
A	-11	ILE	-	expression tag	UNP Q9NR09
A	-10	SER	-	expression tag	UNP Q9NR09
A	-9	THR	-	expression tag	UNP Q9NR09
A	-8	SER	-	expression tag	UNP Q9NR09
A	-7	LEU	-	expression tag	UNP Q9NR09
A	-6	TYR	-	expression tag	UNP Q9NR09
A	-5	LYS	-	expression tag	UNP Q9NR09

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Chain	Residue	Modelled	Actual	Comment	Reference
A	-4	LYS	-	expression tag	UNP Q9NR09
A	-3	ALA	-	expression tag	UNP Q9NR09
A	-2	GLY	-	expression tag	UNP Q9NR09
A	-1	LEU	-	expression tag	UNP Q9NR09
A	0	THR	-	expression tag	UNP Q9NR09
A	1332	VAL	LEU	conflict	UNP Q9NR09
B	-30	MET	-	expression tag	UNP Q9NR09
B	-29	ASP	-	expression tag	UNP Q9NR09
B	-28	TYR	-	expression tag	UNP Q9NR09
B	-27	LYS	-	expression tag	UNP Q9NR09
B	-26	ASP	-	expression tag	UNP Q9NR09
B	-25	ASP	-	expression tag	UNP Q9NR09
B	-24	ASP	-	expression tag	UNP Q9NR09
B	-23	ASP	-	expression tag	UNP Q9NR09
B	-22	LYS	-	expression tag	UNP Q9NR09
B	-21	LEU	-	expression tag	UNP Q9NR09
B	-20	ALA	-	expression tag	UNP Q9NR09
B	-19	ALA	-	expression tag	UNP Q9NR09
B	-18	ALA	-	expression tag	UNP Q9NR09
B	-17	ASN	-	expression tag	UNP Q9NR09
B	-16	SER	-	expression tag	UNP Q9NR09
B	-15	SER	-	expression tag	UNP Q9NR09
B	-14	ILE	-	expression tag	UNP Q9NR09
B	-13	ASP	-	expression tag	UNP Q9NR09
B	-12	LEU	-	expression tag	UNP Q9NR09
B	-11	ILE	-	expression tag	UNP Q9NR09
B	-10	SER	-	expression tag	UNP Q9NR09
B	-9	THR	-	expression tag	UNP Q9NR09
B	-8	SER	-	expression tag	UNP Q9NR09
B	-7	LEU	-	expression tag	UNP Q9NR09
B	-6	TYR	-	expression tag	UNP Q9NR09
B	-5	LYS	-	expression tag	UNP Q9NR09
B	-4	LYS	-	expression tag	UNP Q9NR09
B	-3	ALA	-	expression tag	UNP Q9NR09
B	-2	GLY	-	expression tag	UNP Q9NR09
B	-1	LEU	-	expression tag	UNP Q9NR09
B	0	THR	-	expression tag	UNP Q9NR09
B	1332	VAL	LEU	conflict	UNP Q9NR09

- Molecule 2 is a protein called Diablo IAP-binding mitochondrial protein.

Mol	Chain	Residues	Atoms					AltConf	Trace	
			Total	C	H	N	O			S
2	F	173	2721	849	1347	231	289	5	0	0
2	E	173	2721	849	1347	231	289	5	0	0

There are 20 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
F	0	MET	-	initiating methionine	UNP Q9NR28
F	185	HIS	-	expression tag	UNP Q9NR28
F	186	HIS	-	expression tag	UNP Q9NR28
F	187	HIS	-	expression tag	UNP Q9NR28
F	188	HIS	-	expression tag	UNP Q9NR28
F	189	HIS	-	expression tag	UNP Q9NR28
F	190	HIS	-	expression tag	UNP Q9NR28
F	191	HIS	-	expression tag	UNP Q9NR28
F	192	HIS	-	expression tag	UNP Q9NR28
F	193	HIS	-	expression tag	UNP Q9NR28
E	0	MET	-	initiating methionine	UNP Q9NR28
E	185	HIS	-	expression tag	UNP Q9NR28
E	186	HIS	-	expression tag	UNP Q9NR28
E	187	HIS	-	expression tag	UNP Q9NR28
E	188	HIS	-	expression tag	UNP Q9NR28
E	189	HIS	-	expression tag	UNP Q9NR28
E	190	HIS	-	expression tag	UNP Q9NR28
E	191	HIS	-	expression tag	UNP Q9NR28
E	192	HIS	-	expression tag	UNP Q9NR28
E	193	HIS	-	expression tag	UNP Q9NR28

- Molecule 3 is a protein called Baculoviral IAP repeat-containing protein 6.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	H	N	O		
3	C	57	512	171	227	57	57	0	0
3	D	57	512	171	227	57	57	0	0









SER	PRO	THR	GLY	THR	GLY	THR	ASP	SER	LEU	LEU	LEU	LEU	LEU	LEU	GLN	ALA	ALA	ASN	THR	SER	ASN	GLN	SER	ILE	ILE	Q2632	H2649	H2654	Q2662	L2663	L2665	L2669	SER	SER	SER	THR	GLY	ASN	LYS	GLU	ASN	GLY	ALA	ASP	ILE	F2684	Y2686	R2689	R2690	S2703	L2705				
T9706	V2707	L2708	A2709	W2710	Y2711	P2712	N2713	R2717	T2718	V2722	L2728	M2729	T2730	L2734	ASN	SER	SER	GLY	ILE	ILE	ALA	ALA	ALA	ALA	Q2746	L2752	L2762	Y2763	K2764	F2765	L2766	S2767	G2768	THR	PRO	HIS	GLY	THR	ASN	ALA	ASP	Q2776	V2781	L2685	Y2686	R2795	L2796	Q2797	C2804						
L2807	F2811	H2817	L2818	Q2830	G2831	P2832	Q2836	L2839	L2840	V2850	V2863	L2866	V2867	H2868	H2869	T2872	C2873	K2876	V2877	M2878	G2882	S2883	D2884	S2885	S2886	V2887	G2888	A2889	R2890	A2891	G2894	GLY	LEU	PHE	ALA	ASN	ILE	LEU	ARG	PRO	GLY	ASP	ALA	ALA	VAL	CYS									
GLY	GLU	GLU	MET	T2914	L2922	V2926	S2941	A2942	R2943	VAL	SEN	L2839	L2840	V2850	V2863	L2866	V2867	H2868	H2869	T2872	C2873	K2876	V2877	M2878	G2882	S2883	D2884	S2885	S2886	V2887	G2888	A2889	R2890	A2891	G2894	GLY	LEU	PHE	ALA	ASN	ILE	LEU	ARG	PRO	GLY	ASP	ALA	ALA	VAL	CYS					
ILE	GLY	ALA	SER	GLY	LEU	HIS	THR	HIS	GLU	ASN	PHE	HIS	GLY	GLY	LEU	ASP	ALA	S3030	S3031	L3040	Y3065	M3066	Q3069	G3070	T3074	D3090	D3093	K3096	C3108	S3114	F3115	R3116	N3120	R3123	S3124	F3132	L3133	D3134	SER	GLY	PRO	ASN	LYS	ALA	ALA	VAL									
ASP	SER	THR	LEU	THR	LYS	ARG	ILE	LEU	ALA	GLU	PRO	ASP	ASN	ALA	G3159	S3172	S3173	Q3177	P3178	A3179	L3182	P3188	H3189	R3190	R3193	W3197	S3198	Y3199	L3202	D3209	T3212	L3219	L3220	K3221	E3222	I3223	H3224	I3225	L3229	A3230	S3231	L3232	P3236	V3239											
S3240	V3241	S3244	G3247	V3248	N3249	T3255	T3263	I3267	Q3268	L3269	A3272	E3273	S3276	L3280	R3281	L3282	H3283	P3284	R3286	D3287	T3290	L3291	I3296	L3299	T3306	T3307	S3308	S3309	ALA	THR	VAL	ASN	ASN	PRO	PHE	LEU	PRO	SER	GLU	D3321	H3340	I3341	S3342	D3343											
A3352	T3355	L3358	A3364	L3365	N3366	S3368	C3371	G3372	N3367	N3373	H3374	S3375	P3376	E3379	L3387	R3391	I3392	L3401	C3404	A3405	A3406	S3407	GLY	ASP	PRO	THR	ASP	L3414	N3415	G3421	D3429	S3430	L3435	D3443	P3444	G3445	R3462	N3466	LYS	ARG	ARG	SER	GLY	ARG											
MET	ASN	TYR	MET	CYS	PRO	ASN	SER	SER	THR	VAL	E3483	Y3484	H3493	H3503	L3508	D3512	Q3519	E3520	L3521	F3526	M3530	C3534	N3535	M3536	L3545	S3558	M3564	G3565	I3566	THR	PRO	PRO	PRO	VAL	GLN	CYS	HIS	HIS	ARG	LEU	SER	THR	THR	ASP	ASP	ASP	LYS								
GLN	ASP	SER	LEU	SER	SER	LEU	THR	ASP	ASP	LYS	ASN	ALA	GLN	ALA	PRO	L3603	A3604	L3605	T3606	E3607	E3621	A3622	L3623	K3624	Q3625	L3626	L3627	D3628	L3631	P3632	S3633	L3634	V3636	R3637	S3638	L3639	A3640	S3641	F3642	C3643	F3644	S3645	HIS	ILE	SER	SER	SER	GLU	SER	ILE	ALA	GLN	SER	ILE	ASP
ILE	SER	GLN	ASP	LEU	LYS	ARG	ARG	HIS	VAL	PRO	K3675	M3676	P3677	L3678	T3679	A3680	D3681	V3683	A3684	P3685	R3688	F3689	V3692	S3693	M3699	L3703	G3704	G3705	S3706	E3707	V3708	N3709	W3712	L3715	L3716	F3717	L3718	L3719	C3720	HIS	THR	GLN	SER	GLY	SER	ILE	THR	THR	GLY	SER					
HIS	ASN	LEU	GLY	ALA	GLN	THR	SER	HIS	ARG	ALA	SER	ALA	SER	LEU	SER	ALA	ALA	THR	THR	GLY	L3751	T3752	T3753	R3756	T3757	V3764	F3767	L3771	S3772	C3773	H3774	P3775	Q3778	K3779	A3782	Q3783	V3784	L3785	C3786	E3787	Q3790	THR	PRO	PRO	ARG	PRO	ILE	THR	PRO	ALA	LYS	LEU	ILE	SER	
SER	GLY	ASN	L3804	S3805	G3806	F3807	L3808	R3809	L3810	L3811	F3812	L3813	Q3814	L3815	M3816	L3817	E3818	D3819	E3820	K3821	L3852	Y3833	R3836	N3838	A3839	T3840	S3841	H3842	V3843	H3853	R3856	H3859	L3860	S3863	D3868	D3871	R3872	V3873	S3874	THR	PRO	GLN	THR	PRO	PRO	ILE	THR	ALA	LYS	LEU	ILE	SER			



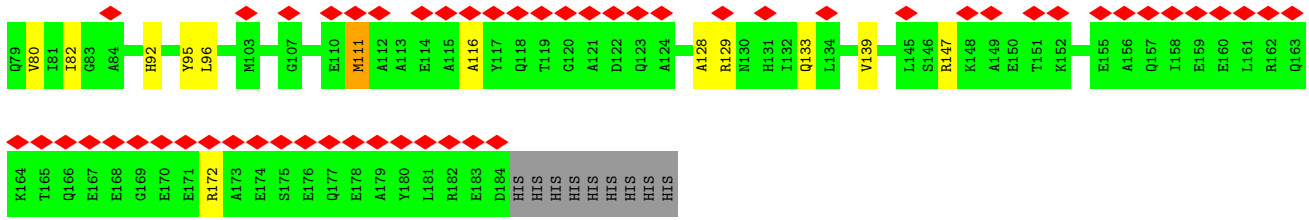




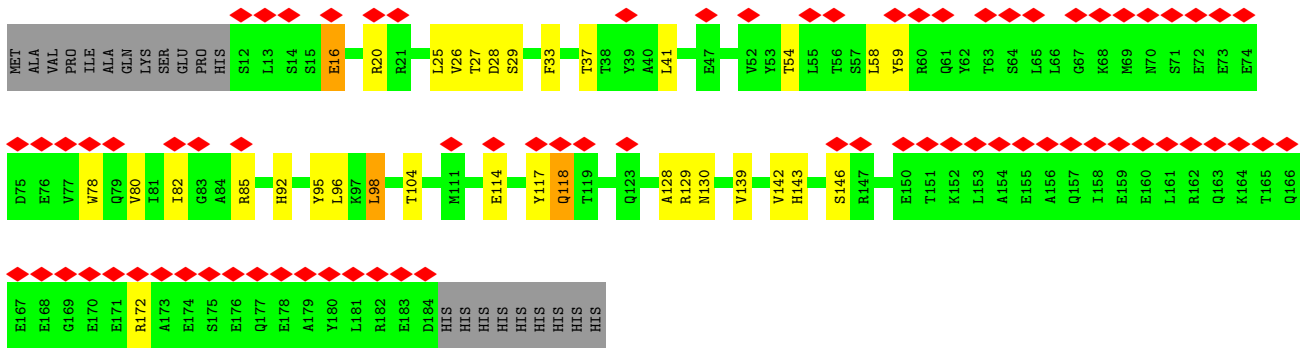
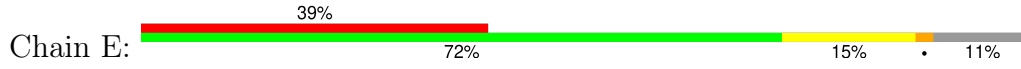




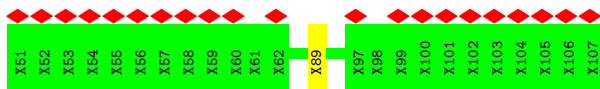




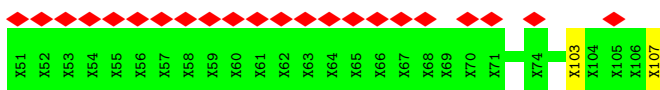
• Molecule 2: Diablo IAP-binding mitochondrial protein



• Molecule 3: Baculoviral IAP repeat-containing protein 6



• Molecule 3: Baculoviral IAP repeat-containing protein 6





## 4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	192025	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ( $e^-/\text{\AA}^2$ )	56.379	Depositor
Minimum defocus (nm)	800	Depositor
Maximum defocus (nm)	2200	Depositor
Magnification	105000	Depositor
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	1.614	Depositor
Minimum map value	-0.931	Depositor
Average map value	-0.001	Depositor
Map value standard deviation	0.049	Depositor
Recommended contour level	0.284	Depositor
Map size (Å)	422.224, 422.224, 422.224	wwPDB
Map dimensions	352, 352, 352	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.1995, 1.1995, 1.1995	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	0.28	0/21907	0.49	0/29741
1	B	0.28	0/21907	0.49	0/29741
2	E	0.26	0/1389	0.48	0/1876
2	F	0.25	0/1389	0.47	0/1876
All	All	0.28	0/46592	0.49	0/63234

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

### 5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	21428	21905	21819	329	0
1	B	21428	21903	21819	349	0
2	E	1374	1347	1347	24	0
2	F	1374	1347	1347	15	0
3	C	285	227	59	1	0
3	D	285	227	59	1	0
All	All	46174	46956	46450	677	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 7.

All (677) 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:B:280:ARG:NH2	1:B:328:CYS:O	2.03	0.91
1:B:1946:PRO:O	1:B:1952:ASN:ND2	2.09	0.85
1:A:3172:SER:OG	1:A:3209:ASP:OD2	1.92	0.84
1:B:3172:SER:OG	1:B:3209:ASP:OD2	1.93	0.84
1:A:164:GLU:OE1	1:A:258:ARG:NH2	2.12	0.82
1:A:857:THR:OG1	1:A:906:THR:O	1.98	0.81
1:B:137:ARG:NH2	1:B:148:THR:O	2.14	0.81
1:B:1329:GLU:OE2	1:B:1333:ASN:ND2	2.15	0.80
1:A:1946:PRO:O	1:A:1952:ASN:ND2	2.14	0.80
1:A:3981:MET:O	1:A:3982:THR:OG1	2.00	0.80
1:B:3193:ARG:NH1	2:E:114:GLU:O	2.14	0.79
1:B:3981:MET:O	1:B:3982:THR:OG1	1.99	0.79
1:A:3193:ARG:HH21	2:E:114:GLU:HB2	1.48	0.78
1:A:2784:THR:OG1	1:B:3242:GLU:OE2	2.02	0.78
1:B:343:GLU:OE1	1:B:1061:HIS:NE2	2.16	0.77
1:B:2079:GLY:O	1:B:2083:VAL:HG23	1.85	0.77
1:A:131:ASP:O	1:A:388:ILE:N	2.19	0.76
1:A:3813:LEU:HD23	1:A:3817:LEU:HD12	1.68	0.76
1:A:1461:GLU:N	1:A:1461:GLU:OE1	2.19	0.76
2:E:129:ARG:NH1	2:E:130:ASN:OD1	2.18	0.75
1:A:1484:ARG:NH2	1:A:2015:ILE:O	2.20	0.74
1:B:228:LEU:HG	1:B:259:LEU:HD11	1.67	0.74
1:A:1504:ASP:O	1:A:1981:GLN:NE2	2.20	0.73
1:A:1799:ILE:HD12	1:A:1799:ILE:O	1.88	0.73
1:B:1461:GLU:N	1:B:1461:GLU:OE1	2.20	0.73
1:B:3809:ARG:NH1	1:B:4189:LEU:O	2.20	0.73
1:B:164:GLU:OE1	1:B:258:ARG:NH2	2.22	0.73
1:B:4440:MET:O	1:B:4444:VAL:HG23	1.88	0.72
1:B:1501:SER:OG	1:B:2024:ARG:NH2	2.23	0.72
1:A:288:ASN:O	1:A:292:THR:HG23	1.90	0.71
1:A:2079:GLY:O	1:A:2083:VAL:HG23	1.90	0.71
1:B:3535:ASN:O	1:B:3540:LYS:NZ	2.17	0.71
1:A:952:LEU:N	1:A:964:LEU:O	2.24	0.71
1:B:228:LEU:HD23	1:B:259:LEU:HD21	1.73	0.70
1:A:3177:GLN:O	1:A:3197:TRP:NE1	2.25	0.69
1:A:1501:SER:OG	1:A:2024:ARG:NH2	2.25	0.69
1:A:156:LYS:N	1:A:159:ASP:OD2	2.24	0.69
1:A:4444:VAL:HG21	1:A:4481:ILE:HD13	1.75	0.69
1:B:3517:LEU:HD12	1:B:3552:VAL:HG11	1.74	0.69
1:B:2781:VAL:HG13	1:B:2832:PRO:HB3	1.75	0.69
1:A:2711:TYR:O	1:A:2764:LYS:NZ	2.25	0.68
1:A:3679:THR:OG1	1:A:3681:ASP:OD1	2.11	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:857:THR:OG1	1:B:906:THR:O	2.09	0.68
1:A:226:HIS:CE1	1:A:227:VAL:HG23	2.28	0.67
1:B:1799:ILE:HD12	1:B:1799:ILE:O	1.94	0.67
1:A:1495:ARG:NH1	1:A:1955:TYR:OH	2.28	0.66
1:B:1575:ASP:OD2	1:B:1789:ARG:NH2	2.28	0.66
1:B:2083:VAL:HG22	1:B:2124:ILE:HG23	1.77	0.65
1:A:3558:SER:OG	1:A:3625:GLN:OE1	2.15	0.64
1:A:1925:GLN:HG2	1:A:1984:LEU:HD21	1.79	0.64
1:A:2998:LEU:HD22	1:A:3040:LEU:HD12	1.77	0.64
1:A:2705:LEU:HD11	1:A:2752:LEU:HD23	1.79	0.64
1:B:226:HIS:CE1	1:B:227:VAL:HG23	2.32	0.64
1:B:3701:ASP:OD1	1:B:3774:HIS:NE2	2.30	0.64
1:B:4080:LEU:HD12	1:B:4171:ALA:HB1	1.80	0.64
1:A:2781:VAL:HG13	1:A:2832:PRO:HB3	1.78	0.64
1:A:4181:ALA:O	1:A:4185:LEU:HD12	1.97	0.64
1:A:137:ARG:NH2	1:A:148:THR:O	2.31	0.63
1:A:1942:ILE:HD11	1:A:1966:GLU:HB3	1.80	0.63
1:A:3124:SER:N	1:B:2349:ASP:OD2	2.28	0.63
1:B:4063:GLU:OE1	1:B:4063:GLU:N	2.30	0.62
1:A:2662:GLN:OE1	1:A:2717:ARG:NH2	2.33	0.62
1:B:356:PRO:HB2	1:B:363:THR:HG22	1.82	0.62
1:B:413:ASP:N	1:B:419:LYS:O	2.29	0.62
1:A:903:LEU:HD21	1:A:905:ILE:HG23	1.82	0.61
1:A:1557:LEU:HB3	1:A:1560:LEU:HD21	1.81	0.61
1:A:2083:VAL:HG22	1:A:2124:ILE:HG23	1.80	0.61
1:A:3809:ARG:NH1	1:A:4189:LEU:O	2.32	0.61
1:B:1477:VAL:HG13	1:B:2023:LEU:HD22	1.82	0.61
1:B:1484:ARG:NH2	1:B:2016:GLN:O	2.33	0.61
1:B:3193:ARG:HH11	2:E:118:GLN:CD	2.03	0.61
1:A:1106:PHE:N	1:A:1201:LEU:O	2.31	0.61
1:A:3639:LEU:HD11	1:A:3683:VAL:HG13	1.81	0.61
1:B:2984:VAL:HG13	1:B:2990:ILE:HG21	1.82	0.61
1:A:4489:TYR:O	1:A:4493:THR:HG23	2.01	0.61
1:B:3221:LYS:HE2	1:B:3272:ALA:HB2	1.81	0.61
1:B:85:VAL:HG21	1:B:115:VAL:O	2.00	0.61
1:A:4230:ASP:OD1	1:A:4231:GLY:N	2.34	0.61
2:F:25:LEU:HD21	3:C:89:UNK:CB	2.31	0.61
1:B:232:ALA:O	1:B:236:VAL:HG23	2.01	0.61
1:A:283:MET:HE3	1:A:283:MET:HA	1.83	0.60
1:A:3236:PRO:HB3	1:A:3291:LEU:HD11	1.81	0.60
1:A:736:ILE:HG23	1:A:747:VAL:HG22	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2686:TYR:N	1:B:3249:ASN:OD1	2.31	0.60
1:A:634:SER:HG	1:A:713:PRO:N	1.99	0.60
1:B:288:ASN:O	1:B:292:THR:HG23	2.02	0.60
1:A:4224:THR:O	1:A:4235:ARG:NH1	2.35	0.60
1:A:1032:GLU:O	1:A:1305:ARG:N	2.35	0.59
1:A:3074[A]:THR:O	1:B:2394:ARG:NH2	2.35	0.59
1:A:3352:ALA:O	1:A:3355:THR:HG22	2.02	0.59
1:B:3832:LEU:O	1:B:3856:ARG:NH2	2.35	0.59
1:B:3352:ALA:O	1:B:3355:THR:HG22	2.01	0.59
1:A:1406:ARG:NH2	1:A:2580:GLU:OE1	2.35	0.59
1:A:2349:ASP:OD1	1:A:2350:LEU:N	2.36	0.59
1:B:2349:ASP:OD1	1:B:2350:LEU:N	2.36	0.59
1:B:1925:GLN:HG2	1:B:1984:LEU:HD21	1.84	0.58
1:A:3249:ASN:OD1	1:B:2686:TYR:N	2.31	0.58
1:B:4230:ASP:OD1	1:B:4231:GLY:N	2.37	0.58
1:A:1346:GLU:HG3	1:A:1996:VAL:HG13	1.84	0.58
1:A:3624:LYS:NZ	1:A:3628:ASP:OD2	2.36	0.58
1:B:3813:LEU:HD23	1:B:3817:LEU:HD12	1.85	0.58
1:A:228:LEU:HG	1:A:259:LEU:HD11	1.86	0.58
1:B:2124:ILE:O	1:B:2128:SER:OG	2.22	0.58
1:B:414:VAL:HG22	1:B:418:MET:HE1	1.86	0.58
1:B:4311:THR:OG1	1:B:4314:ARG:NH1	2.35	0.58
1:B:412:TRP:CD1	1:B:420:VAL:HG22	2.39	0.57
1:B:1104:VAL:O	1:B:1203:LEU:N	2.37	0.57
1:B:3837:ILE:HG22	1:B:3839:ALA:H	1.69	0.57
1:B:2850:VAL:N	1:B:2941:SER:OG	2.37	0.57
1:A:4438:ALA:O	1:A:4442:THR:HG23	2.05	0.57
1:B:2998:LEU:HD22	1:B:3040:LEU:HD12	1.85	0.57
1:B:3827:GLN:O	1:B:4006:VAL:N	2.28	0.57
1:A:1930:LEU:HD11	1:B:3813:LEU:HD13	1.86	0.57
1:A:3693:VAL:HG23	1:A:3699:MET:HG2	1.87	0.57
1:B:4489:TYR:O	1:B:4493:THR:HG23	2.05	0.57
1:A:426:ILE:HG23	1:A:505:LEU:HD23	1.86	0.57
1:A:914:ILE:O	1:A:923:LEU:N	2.35	0.57
1:A:1193:ASP:OD1	1:A:1194:LEU:N	2.34	0.57
1:B:1406:ARG:NH2	1:B:2580:GLU:OE1	2.38	0.57
1:A:1329:GLU:OE2	1:A:1333:ASN:ND2	2.38	0.56
1:B:745:LEU:O	1:B:828:TYR:N	2.33	0.56
1:A:3415:ASN:OD1	1:B:2382:ARG:NH2	2.38	0.56
1:B:3867:SER:N	1:B:3979:ALA:O	2.38	0.56
1:A:568:LEU:CD2	1:A:736:ILE:HG21	2.35	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1804:VAL:HG13	1:A:1878:TYR:CD1	2.41	0.56
1:B:1958:ARG:O	1:B:1958:ARG:NE	2.36	0.56
1:A:2106:SER:OG	1:A:2164:ASP:OD1	2.23	0.56
1:B:1382:ARG:NH2	1:B:1421:GLN:OE1	2.38	0.56
1:A:3530:MET:HE3	1:A:3530:MET:HA	1.86	0.56
1:B:3534:CYS:SG	1:B:3608:SER:OG	2.61	0.56
1:B:1337:ARG:NE	1:B:1349:GLN:OE1	2.39	0.56
1:A:3202:LEU:O	1:A:3284:ARG:NH2	2.39	0.55
1:B:2325:HIS:N	1:B:2326:GLU:OE1	2.40	0.55
1:A:1510:LEU:HD22	1:A:1982:LEU:HD11	1.88	0.55
1:B:3220:LEU:HD21	1:B:3223:ILE:HD11	1.88	0.55
1:A:3837:ILE:HG22	1:A:3839:ALA:H	1.70	0.55
1:B:2336:VAL:HG23	1:B:2358:LEU:HD11	1.89	0.55
1:A:232:ALA:O	1:A:236:VAL:HG23	2.07	0.55
1:A:1104:VAL:O	1:A:1203:LEU:N	2.40	0.55
1:A:1512:MET:O	1:A:1513:SER:OG	2.24	0.55
1:A:3225:ILE:HD11	1:A:3280:LEU:HD13	1.88	0.55
1:B:85:VAL:HG23	1:B:117:CYS:SG	2.47	0.55
1:B:740:ALA:HB2	1:B:861:LEU:CD1	2.37	0.55
1:A:2891:ALA:O	1:A:3031:SER:OG	2.22	0.54
1:A:2868:HIS:O	1:A:2872:THR:HG23	2.07	0.54
1:B:2804:CYS:SG	1:B:2807:ILE:HG23	2.47	0.54
1:B:1808:THR:OG1	1:B:1841:SER:N	2.41	0.54
1:B:4233:LEU:HD12	1:B:4237:MET:CE	2.38	0.54
1:B:745:LEU:O	1:B:827:LEU:HD12	2.08	0.54
1:B:156:LYS:N	1:B:159:ASP:OD2	2.34	0.54
1:A:736:ILE:CG2	1:A:745:LEU:HD11	2.37	0.54
1:B:1484:ARG:NH1	1:B:2018:SER:O	2.41	0.54
1:B:2707:VAL:O	1:B:2711:TYR:N	2.41	0.54
1:A:315:TYR:OH	1:A:327:MET:SD	2.62	0.54
1:A:961:LEU:HD23	1:A:962:HIS:N	2.22	0.54
1:A:4063:GLU:OE1	1:A:4063:GLU:N	2.35	0.54
1:B:3236:PRO:HB3	1:B:3291:LEU:HD11	1.90	0.54
1:B:3525:LEU:HD12	1:B:3549:MET:SD	2.48	0.54
2:F:27:THR:HG23	2:F:128:ALA:HB2	1.90	0.54
1:A:3989:LEU:O	1:A:3993:ARG:N	2.39	0.54
1:A:3120:ASN:O	1:B:2348:ALA:N	2.38	0.53
1:B:3709:ASN:HB2	1:B:3780:LEU:HD11	1.90	0.53
1:A:2804:CYS:SG	1:A:2807:ILE:HG23	2.48	0.53
1:A:3401:LEU:HD21	1:A:3435:LEU:HD11	1.89	0.53
1:A:3689:PHE:O	1:A:3693:VAL:HG22	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2013:ASP:OD1	1:A:2013:ASP:N	2.40	0.53
1:B:1396:ALA:CB	1:B:1400:ILE:HG21	2.38	0.53
1:B:568:LEU:CD2	1:B:736:ILE:HG21	2.38	0.53
1:B:2662:GLN:OE1	1:B:2717:ARG:NH2	2.42	0.53
1:B:3225:ILE:HD11	1:B:3280:LEU:HD13	1.91	0.53
1:A:3832:LEU:O	1:A:3856:ARG:NH2	2.41	0.53
1:A:2394:ARG:NH2	1:B:3074[A]:THR:O	2.39	0.53
1:B:3202:LEU:O	1:B:3284:ARG:NH2	2.42	0.53
1:A:3221:LYS:HE2	1:A:3272:ALA:HB2	1.91	0.52
1:B:1440:PRO:O	1:B:2022:GLN:NE2	2.43	0.52
1:A:3771:ILE:HD11	1:A:3815:LEU:HD11	1.91	0.52
2:E:78:TRP:O	2:E:82:ILE:HG12	2.09	0.52
1:A:745:LEU:O	1:A:827:LEU:HD12	2.10	0.52
1:A:1914:LEU:HD11	1:A:1995:LYS:HG2	1.92	0.52
1:B:3212:ILE:HD11	1:B:3296:ILE:HG21	1.91	0.52
1:A:2866:LEU:HD23	1:A:2922:LEU:HD13	1.90	0.52
1:A:2326:GLU:OE1	1:A:2326:GLU:N	2.39	0.52
1:A:4364:LEU:HB2	1:A:4411:LEU:HD11	1.92	0.52
1:B:2705:LEU:HD11	1:B:2752:LEU:HD23	1.91	0.52
1:B:2326:GLU:OE1	1:B:2326:GLU:N	2.40	0.52
1:B:2692:PRO:HG3	1:B:2728:LEU:HB3	1.92	0.52
1:B:3624:LYS:NZ	1:B:3628:ASP:OD2	2.40	0.52
1:A:1471:ALA:O	1:A:1475:THR:HG23	2.10	0.52
1:A:2062:LEU:HD23	1:A:2082:LEU:HD21	1.92	0.52
1:B:2762:LEU:HD12	1:B:2811:PHE:HZ	1.75	0.52
1:B:3108:CYS:HB3	1:B:3355:THR:HG21	1.92	0.52
1:A:1803:ASP:OD1	1:A:1846:ASP:N	2.35	0.51
1:B:4400:ARG:NH1	1:B:4484:THR:OG1	2.43	0.51
1:A:110:LYS:HD3	1:A:110:LYS:N	2.25	0.51
1:B:139:ASP:HA	1:B:144:LEU:HD23	1.91	0.51
1:B:3558:SER:OG	1:B:3625:GLN:OE1	2.27	0.51
1:A:1085:SER:O	1:A:1089:HIS:NE2	2.44	0.51
1:A:3229:LEU:HD22	1:A:3229:LEU:H	1.75	0.51
1:A:299:VAL:O	1:A:305:GLN:NE2	2.44	0.51
1:A:3811:LEU:C	1:A:3811:LEU:HD23	2.30	0.51
1:B:3530:MET:HE3	1:B:3530:MET:HA	1.92	0.51
2:F:23:VAL:HG11	2:F:116:ALA:HA	1.91	0.51
1:A:4440:MET:O	1:A:4444:VAL:HG23	2.10	0.51
1:A:3421:GLY:HA2	1:B:2165:ILE:HG13	1.92	0.51
1:B:2180:ASP:OD1	1:B:2181:TYR:N	2.43	0.51
1:B:2891:ALA:O	1:B:3031:SER:OG	2.26	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:228:LEU:HD23	1:A:259:LEU:HD21	1.93	0.51
1:A:3355:THR:HG23	1:A:3358:LEU:HB2	1.93	0.51
1:B:2868:HIS:O	1:B:2872:THR:HG23	2.11	0.51
1:B:1776:GLN:HB3	1:B:1875:LEU:HD12	1.93	0.51
1:B:2336:VAL:HG21	1:B:2374:ILE:CG2	2.40	0.51
1:A:740:ALA:HB2	1:A:861:LEU:CD1	2.40	0.50
1:A:1477:VAL:HG13	1:A:2023:LEU:HD22	1.93	0.50
1:A:4084:ALA:HB2	1:A:4165:LEU:HB3	1.93	0.50
1:B:3824:MET:SD	1:B:4004:LEU:HD12	2.51	0.50
1:A:2984:VAL:HG13	1:A:2990:ILE:HG21	1.93	0.50
1:A:3116:ARG:NH2	1:B:2340:LEU:O	2.40	0.50
1:B:1123:THR:HG21	1:B:1174:LEU:HD21	1.93	0.50
1:A:740:ALA:HB3	1:A:901:GLY:HA3	1.92	0.50
1:B:283:MET:HE3	1:B:283:MET:HA	1.92	0.50
1:B:1830:ARG:HD3	1:B:1833:VAL:HG23	1.91	0.50
1:B:2049:VAL:HG22	1:B:2050:LEU:H	1.75	0.50
1:B:3177:GLN:O	1:B:3197:TRP:NE1	2.39	0.50
1:A:2165:ILE:HG13	1:B:3421:GLY:HA2	1.94	0.50
1:B:1940:GLN:OE1	1:B:1940:GLN:HA	2.11	0.50
1:B:2106:SER:OG	1:B:2164:ASP:OD1	2.28	0.50
1:A:3813:LEU:HD13	1:B:1930:LEU:HD11	1.93	0.50
1:A:3239:VAL:HG22	1:A:3282:LEU:HD23	1.93	0.50
1:B:1804:VAL:HG13	1:B:1878:TYR:CD2	2.47	0.50
2:F:78:TRP:O	2:F:82:ILE:HG12	2.12	0.50
1:B:1785:SER:OG	1:B:1865:GLY:N	2.45	0.50
2:E:27:THR:CG2	2:E:128:ALA:HB2	2.42	0.50
1:A:848:HIS:HD1	1:A:849:ILE:N	2.09	0.49
1:A:2830:GLN:OE1	1:B:2830:GLN:HG3	2.12	0.49
1:A:2850:VAL:N	1:A:2941:SER:OG	2.44	0.49
1:A:280:ARG:NH2	1:A:328:CYS:O	2.45	0.49
1:A:1992:GLN:O	1:A:1996:VAL:HG23	2.12	0.49
1:B:1409:ALA:HB1	1:B:2582:MET:SD	2.52	0.49
1:A:1776:GLN:HB3	1:A:1875:LEU:HD12	1.94	0.49
1:A:3090:ASP:O	1:A:3340:HIS:NE2	2.45	0.49
1:B:2046:VAL:N	1:B:2047:PRO:CD	2.75	0.49
1:A:2394:ARG:NH2	1:B:3074[A]:THR:HG23	2.28	0.49
1:B:3639:LEU:HD11	1:B:3683:VAL:HG13	1.94	0.49
1:A:356:PRO:HB2	1:A:363:THR:HG22	1.94	0.49
1:A:1069:ASP:O	1:A:1073:HIS:NE2	2.46	0.49
1:B:2336:VAL:CG2	1:B:2358:LEU:HD11	2.43	0.49
2:E:59:TYR:OH	2:E:85:ARG:NE	2.41	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:845:LYS:NZ	1:A:918:SER:O	2.46	0.49
1:A:1805:LEU:HA	1:A:1842:LEU:O	2.12	0.49
1:A:3212:ILE:HD11	1:A:3296:ILE:HG21	1.94	0.49
1:B:1193:ASP:OD1	1:B:1194:LEU:N	2.38	0.49
1:B:903:LEU:HD21	1:B:905:ILE:HG12	1.95	0.49
1:A:513:LEU:HD23	1:A:566:CYS:SG	2.53	0.48
1:A:2046:VAL:N	1:A:2047:PRO:CD	2.76	0.48
1:B:1436:MET:HG3	1:B:1439:LEU:HD12	1.95	0.48
1:B:2866:LEU:HD23	1:B:2922:LEU:HD13	1.94	0.48
1:B:3811:LEU:C	1:B:3811:LEU:HD23	2.33	0.48
1:A:1094:VAL:HG22	1:A:1219:SER:HB2	1.95	0.48
1:A:3074[B]:THR:O	1:B:2394:ARG:NH2	2.46	0.48
1:A:3123:ARG:O	1:B:1954:GLN:NE2	2.47	0.48
1:A:3366:LEU:HD11	1:A:3430:SER:HB3	1.94	0.48
1:A:3813:LEU:CD2	1:A:3817:LEU:HD12	2.40	0.48
1:B:961:LEU:HD23	1:B:962:HIS:N	2.28	0.48
1:A:2599:THR:O	1:A:2599:THR:HG22	2.13	0.48
1:A:4442:THR:O	1:A:4446:THR:HG23	2.13	0.48
1:B:357:PHE:HB2	1:B:363:THR:HG21	1.96	0.48
1:B:1390:ARG:N	1:B:1435:ASN:OD1	2.45	0.48
1:A:3809:ARG:NH2	1:B:1923:ASP:OD1	2.40	0.48
1:B:1354:ASP:OD1	1:B:1403:LYS:NZ	2.30	0.48
2:F:33:PHE:HB2	2:E:26:VAL:CG2	2.44	0.48
1:A:2079:GLY:HA3	1:A:2120:LEU:HD11	1.96	0.48
1:A:3817:LEU:O	1:A:4186:ARG:NH1	2.47	0.48
1:B:1013:VAL:HG11	1:B:1324:PHE:HD2	1.79	0.48
1:A:568:LEU:HD22	1:A:736:ILE:HG21	1.95	0.48
1:A:1499:TYR:CG	1:A:2072:PRO:HD3	2.48	0.48
1:A:1868:ASN:ND2	1:A:1870:ARG:O	2.47	0.48
1:A:3198:SER:HA	1:A:3291:LEU:O	2.14	0.48
1:A:3263:THR:N	1:B:3287:ASP:OD2	2.43	0.48
1:B:1402:HIS:ND1	1:B:1846:ASP:OD2	2.33	0.48
1:B:1801:LEU:HD11	1:B:1804:VAL:HG23	1.96	0.48
1:B:3199:TYR:O	1:B:3290:THR:HA	2.13	0.48
1:A:2180:ASP:OD1	1:A:2181:TYR:N	2.47	0.48
1:B:1092:GLU:OE2	1:B:1094:VAL:HG23	2.13	0.48
1:B:2871:ILE:HD11	1:B:3032:VAL:HG12	1.96	0.48
1:A:85:VAL:HG12	1:A:86:THR:N	2.28	0.48
1:A:1808:THR:OG1	1:A:1841:SER:N	2.47	0.48
1:B:3709:ASN:N	1:B:3710:PRO:CD	2.77	0.48
1:B:71:HIS:HA	1:B:941:VAL:HG11	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:325:ARG:NH1	1:B:334:CYS:SG	2.87	0.48
1:B:3123:ARG:NH2	1:B:3303:ALA:O	2.46	0.48
1:A:3819:ASP:OD2	1:A:3863:SER:OG	2.22	0.47
1:B:285:SER:HA	1:B:366:VAL:HB	1.96	0.47
1:A:736:ILE:HG22	1:A:745:LEU:HD11	1.94	0.47
1:A:2336:VAL:HG21	1:A:2374:ILE:CG2	2.43	0.47
1:B:3244:SER:OG	1:B:3247:GLY:N	2.48	0.47
1:B:85:VAL:HG12	1:B:86:THR:N	2.29	0.47
1:B:1510:LEU:HD22	1:B:1982:LEU:HD11	1.95	0.47
1:A:2049:VAL:HG22	1:A:2050:LEU:H	1.78	0.47
1:B:3443:ASP:OD1	1:B:3445:GLY:N	2.47	0.47
2:E:27:THR:HG23	2:E:128:ALA:HB2	1.97	0.47
1:B:2707:VAL:HA	1:B:2710:TRP:NE1	2.28	0.47
1:B:3712:TRP:HZ3	1:B:3781:MET:HB2	1.80	0.47
1:A:1499:TYR:HB3	1:A:2071:THR:HG22	1.97	0.47
1:A:2348:ALA:N	1:B:3120:ASN:O	2.43	0.47
1:A:2762:LEU:HD12	1:A:2811:PHE:HZ	1.79	0.47
1:B:1557:LEU:HB3	1:B:1560:LEU:HD21	1.97	0.47
1:A:3179:ALA:HB1	1:A:3182:LEU:HD12	1.97	0.47
1:B:1428:LEU:HD23	1:B:1458:VAL:HG11	1.97	0.47
1:B:2059:CYS:SG	1:B:2082:LEU:HD22	2.55	0.47
1:A:85:VAL:HG23	1:A:117:CYS:SG	2.54	0.47
1:A:2391:ASP:OD1	1:A:2391:ASP:N	2.46	0.47
1:A:3429:ASP:HB3	1:A:3853:HIS:NE2	2.30	0.47
1:A:3435:LEU:HD12	1:A:3493:HIS:CD2	2.50	0.47
1:A:3199:TYR:O	1:A:3290:THR:HA	2.15	0.47
1:B:3819:ASP:OD2	1:B:3863:SER:OG	2.16	0.47
1:A:2873:CYS:HA	1:B:2713:ASN:OD1	2.14	0.46
1:B:1867:THR:O	1:B:1867:THR:HG22	2.16	0.46
3:D:103:UNK:O	3:D:107:UNK:N	2.48	0.46
1:A:1867:THR:HG22	1:A:1867:THR:O	2.15	0.46
1:A:2713:ASN:OD1	1:B:2873:CYS:HA	2.16	0.46
1:A:4409:VAL:N	1:A:4410:PRO:HD2	2.30	0.46
1:B:110:LYS:HD3	1:B:110:LYS:N	2.30	0.46
1:B:2567:LEU:HD11	1:B:2581:LEU:HG	1.97	0.46
1:A:2649:MET:HB3	1:A:2654:HIS:HB2	1.96	0.46
1:B:1106:PHE:N	1:B:1201:LEU:O	2.36	0.46
1:B:2863:VAL:HG11	1:B:2926:VAL:HG23	1.97	0.46
1:B:4084:ALA:HB1	1:B:4162:GLY:O	2.15	0.46
1:A:3108:CYS:HB3	1:A:3355:THR:HG21	1.97	0.46
1:B:3355:THR:HG23	1:B:3358:LEU:HB2	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:165:LEU:HD12	1:A:221:PHE:HE2	1.80	0.46
1:A:2840:LEU:HD11	1:A:2922:LEU:HD23	1.98	0.46
1:B:1565:PRO:HB2	1:B:1771:GLN:O	2.15	0.46
1:B:2120:LEU:O	1:B:2124:ILE:HG12	2.16	0.46
1:A:120:ILE:HD12	1:A:120:ILE:N	2.31	0.46
1:A:2325:HIS:N	1:A:2326:GLU:OE1	2.49	0.46
1:A:2665:LEU:HD23	1:A:2728:LEU:HD12	1.98	0.46
1:A:3241:VAL:HG21	1:A:3267:ILE:HD13	1.96	0.46
1:A:3364:ALA:O	1:A:3368[A]:SER:OG	2.29	0.46
1:B:1093:LEU:CD2	1:B:1301:VAL:HG11	2.46	0.46
1:B:3198:SER:HA	1:B:3291:LEU:O	2.16	0.46
1:B:4209:LEU:N	1:B:4210:PRO:HD2	2.30	0.46
1:A:632:LEU:O	1:A:717:VAL:N	2.48	0.46
1:A:3219:LEU:HG	1:A:3272:ALA:HB1	1.96	0.46
1:B:722:LEU:HD11	1:B:733:ILE:HD11	1.98	0.46
1:B:1042:VAL:HG12	1:B:1091:PHE:CD2	2.51	0.46
1:B:1789:ARG:O	1:B:1860:VAL:N	2.43	0.46
1:B:3343:ASP:OD1	1:B:3343:ASP:N	2.49	0.46
1:A:912:VAL:O	1:A:925:LYS:HA	2.16	0.45
1:A:1924:ILE:HG22	1:A:1984:LEU:HD23	1.97	0.45
1:A:3811:LEU:HD23	1:A:3811:LEU:O	2.16	0.45
1:B:1322:LEU:HD21	1:B:1362:VAL:HG11	1.98	0.45
1:B:4442:THR:O	1:B:4446:THR:HG23	2.16	0.45
1:A:953:CYS:SG	1:A:961:LEU:HD21	2.56	0.45
1:A:2712:PRO:HB2	1:B:2869:HIS:CD2	2.51	0.45
1:B:123:VAL:HG21	1:B:414:VAL:HG11	1.97	0.45
1:B:2083:VAL:CG2	1:B:2124:ILE:HD12	2.45	0.45
1:A:2863:VAL:HG11	1:A:2926:VAL:HG23	1.98	0.45
1:A:3193:ARG:HH21	2:E:114:GLU:CB	2.23	0.45
1:A:3220:LEU:HD21	1:A:3223:ILE:HD11	1.97	0.45
1:B:298:HIS:NE2	1:B:324:ASP:OD2	2.43	0.45
1:B:1450:TRP:CZ2	1:B:1845:HIS:CE1	3.04	0.45
1:B:2830:GLN:O	1:B:2836:GLN:NE2	2.43	0.45
1:A:1494:THR:HG23	1:A:2113:PRO:HA	1.99	0.45
1:B:1042:VAL:HG11	1:B:1077:TRP:NE1	2.31	0.45
1:B:1353:LEU:HD13	1:B:1403:LYS:HB2	1.98	0.45
1:A:72:SER:O	1:A:73:LEU:HD12	2.17	0.45
1:A:1125:LEU:HA	1:A:1180:ASP:O	2.17	0.45
1:A:2869:HIS:CD2	1:B:2712:PRO:HB2	2.51	0.45
1:A:3255:THR:O	1:B:2777:HIS:ND1	2.43	0.45
1:B:1094:VAL:HG22	1:B:1219:SER:HB2	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:111:MET:SD	2:E:104:THR:HG23	2.57	0.45
1:A:410:CYS:SG	1:A:420:VAL:HG13	2.57	0.45
1:A:1092:GLU:HG3	1:A:1127:ASN:HD21	1.82	0.45
1:A:1430:LYS:NZ	1:A:1434:ASP:OD2	2.40	0.45
1:A:1801:LEU:HD11	1:A:1804:VAL:HG23	1.99	0.45
1:A:3220:LEU:HD12	1:A:3299:LEU:O	2.17	0.45
1:A:4413:LEU:CD2	1:A:4495:LEU:HD22	2.47	0.45
1:B:299:VAL:O	1:B:305:GLN:NE2	2.49	0.45
1:B:3344:LEU:HD22	1:B:3347:MET:HE2	1.98	0.45
1:B:1345:THR:HG22	1:B:1346:GLU:N	2.32	0.45
1:B:4080:LEU:CD2	1:B:4185:LEU:HD21	2.47	0.45
1:A:1093:LEU:O	1:A:1220:PHE:N	2.47	0.45
1:A:1816:SER:HB2	1:A:1833:VAL:HG22	1.98	0.45
1:B:740:ALA:HB2	1:B:861:LEU:HD12	1.98	0.45
1:B:1322:LEU:CD2	1:B:1362:VAL:HG11	2.47	0.45
2:E:92:HIS:NE2	2:E:96:LEU:HD11	2.32	0.45
1:B:226:HIS:ND1	1:B:227:VAL:N	2.65	0.45
1:B:3709:ASN:C	1:B:3709:ASN:OD1	2.55	0.45
1:A:4363:LEU:O	1:A:4367:SER:HB3	2.16	0.44
1:B:91:ILE:HD12	1:B:107:LEU:HD11	1.99	0.44
1:B:505:LEU:HD21	1:B:631:LEU:HD21	1.98	0.44
1:B:1026:VAL:HG21	1:B:1351:LEU:CD2	2.47	0.44
1:B:1331:LEU:HD22	1:B:1352:VAL:HG13	1.99	0.44
1:B:4224:THR:HG22	1:B:4231:GLY:CA	2.47	0.44
1:A:226:HIS:ND1	1:A:227:VAL:HG23	2.32	0.44
1:B:736:ILE:HG12	1:B:747:VAL:HG13	1.99	0.44
1:B:2867:VAL:HG11	1:B:2923:LEU:HD21	1.99	0.44
1:B:3432:ILE:HD11	1:B:3492:SER:HB3	1.99	0.44
2:F:33:PHE:CD2	2:E:26:VAL:HG21	2.52	0.44
1:A:4478:VAL:N	1:A:4479:PRO:CD	2.81	0.44
1:B:1085:SER:O	1:B:1089:HIS:NE2	2.48	0.44
1:B:2174:LEU:O	1:B:2178:LEU:HG	2.16	0.44
1:A:2149:LEU:HG	1:A:2163:LEU:HD11	2.00	0.44
1:A:3244:SER:OG	1:A:3247:GLY:N	2.50	0.44
1:A:3972:LEU:HD12	1:A:3977:LEU:HD21	1.99	0.44
1:A:4196:GLU:HG2	1:A:4196:GLU:O	2.17	0.44
1:A:4212:LEU:O	1:A:4216:VAL:HG23	2.17	0.44
1:B:740:ALA:HB1	1:B:863:PRO:HA	1.99	0.44
1:B:861:LEU:HD13	1:B:917:LEU:HD11	1.98	0.44
1:B:1790:PHE:HA	1:B:1858:ILE:O	2.18	0.44
1:A:851:ASP:HB3	1:A:854:ASP:HB2	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2180:ASP:OD1	1:B:2180:ASP:C	2.55	0.44
1:B:2876:LYS:NZ	1:B:3273:GLU:OE2	2.49	0.44
1:B:3193:ARG:CZ	2:E:114:GLU:CD	2.86	0.44
1:A:736:ILE:HG12	1:A:747:VAL:HG13	2.00	0.44
1:A:2382:ARG:NH2	1:B:3415:ASN:OD1	2.51	0.44
1:A:3132:PHE:CD2	1:B:2115:ASP:HB3	2.53	0.44
1:B:3566:ILE:HD11	1:B:3605:LEU:HD21	1.99	0.44
1:B:3684:ALA:HB3	1:B:3685:PRO:HD3	2.00	0.44
1:B:4435:THR:O	1:B:4439:LYS:HG3	2.17	0.44
1:B:4478:VAL:N	1:B:4479:PRO:CD	2.79	0.44
2:F:69:MET:SD	2:F:70:ASN:N	2.91	0.44
1:A:1830:ARG:HD3	1:A:1833:VAL:HG23	1.99	0.44
1:B:567:LEU:HB2	1:B:635:ILE:HD11	2.00	0.44
1:B:1512:MET:O	1:B:1513:SER:OG	2.23	0.44
1:B:3397:ILE:HG23	1:B:3401:LEU:HD12	1.99	0.44
1:B:3846:HIS:CE1	1:B:3848:MET:HE2	2.53	0.44
2:E:139:VAL:O	2:E:142:VAL:HG22	2.17	0.44
1:A:1191:GLY:O	1:A:1199:GLY:HA3	2.18	0.44
1:A:2120:LEU:O	1:A:2124:ILE:HG12	2.17	0.44
1:B:1780:ILE:HD12	1:B:1873:ILE:HD11	2.00	0.44
2:E:16:GLU:OE2	2:E:20:ARG:NE	2.46	0.44
2:E:28:ASP:OD1	2:E:29:SER:N	2.51	0.44
1:A:1346:GLU:CG	1:A:1996:VAL:HG13	2.46	0.44
1:A:1396:ALA:CB	1:A:1400:ILE:HG21	2.48	0.44
1:A:2878:MET:N	1:A:3268:GLN:O	2.49	0.44
1:A:3443:ASP:OD1	1:A:3445:GLY:N	2.51	0.44
1:B:632:LEU:O	1:B:716:LEU:HD12	2.18	0.44
1:B:3362:CYS:HB2	1:B:3382:LEU:HD21	2.00	0.44
1:A:2345:THR:HG22	1:B:3364:ALA:HB1	1.99	0.43
1:B:168:THR:O	1:B:172:GLN:HG2	2.18	0.43
1:B:1817:ILE:O	1:B:1831:LEU:N	2.50	0.43
1:B:2049:VAL:HG22	1:B:2050:LEU:N	2.33	0.43
1:A:1507:LEU:HD11	1:A:1981:GLN:OE1	2.18	0.43
1:A:3364:ALA:HB1	1:B:2345:THR:HG22	1.99	0.43
1:B:97:THR:HG22	1:B:949:THR:HG22	1.99	0.43
1:B:1026:VAL:HG21	1:B:1351:LEU:HD22	2.00	0.43
1:B:2051:GLN:OE1	1:B:2051:GLN:HA	2.18	0.43
1:A:740:ALA:HB2	1:A:861:LEU:HD12	2.00	0.43
1:B:854:ASP:HA	1:B:907:THR:HB	2.00	0.43
1:B:1061:HIS:CE1	1:B:1062:LEU:HG	2.54	0.43
1:B:1924:ILE:HG21	1:B:1984:LEU:HA	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:54:THR:O	2:E:58:LEU:HD13	2.19	0.43
1:A:1790:PHE:CD1	1:A:1790:PHE:C	2.91	0.43
1:A:2180:ASP:OD1	1:A:2180:ASP:C	2.56	0.43
1:B:1824:GLU:O	1:B:1828:GLY:HA3	2.18	0.43
1:B:4153:ILE:HG23	1:B:4153:ILE:O	2.18	0.43
1:B:4186:ARG:NE	1:B:4193:ASP:O	2.45	0.43
1:A:107:LEU:HD23	1:A:146:LEU:O	2.18	0.43
1:A:854:ASP:HA	1:A:907:THR:HB	2.00	0.43
1:A:2707:VAL:HA	1:A:2710:TRP:NE1	2.34	0.43
1:A:2717:ARG:HE	1:B:3251:LEU:HD23	1.83	0.43
1:A:4445:ASP:OD1	1:A:4482:GLN:NE2	2.51	0.43
1:B:120:ILE:HD12	1:B:120:ILE:N	2.33	0.43
1:B:327:MET:HE2	1:B:327:MET:N	2.33	0.43
1:B:3030:ILE:HG23	1:B:3034:ASP:CB	2.48	0.43
1:A:503:VAL:HA	1:A:575:TYR:HA	1.99	0.43
1:A:3225:ILE:CD1	1:A:3280:LEU:HD13	2.48	0.43
1:B:120:ILE:HD13	1:B:127:ILE:CG1	2.49	0.43
1:B:575:TYR:N	1:B:575:TYR:CD1	2.85	0.43
1:B:4254:LEU:HD13	1:B:4319:HIS:HB3	1.99	0.43
1:A:1817:ILE:HD12	1:A:1832:VAL:CG1	2.48	0.43
1:A:2174:LEU:O	1:A:2178:LEU:HG	2.18	0.43
1:A:2703[A]:SER:O	1:A:2707:VAL:HG23	2.19	0.43
1:A:3753:THR:O	1:A:3757:THR:OG1	2.30	0.43
1:B:1042:VAL:HG11	1:B:1077:TRP:CE2	2.53	0.43
1:B:3401:LEU:HD21	1:B:3435:LEU:HD11	2.00	0.43
1:B:4409:VAL:N	1:B:4410:PRO:HD2	2.33	0.43
1:A:722:LEU:HD11	1:A:733:ILE:HD11	2.01	0.43
1:A:1820:TRP:CZ3	1:A:1857:LYS:HB2	2.54	0.43
1:B:2877:VAL:CG1	1:B:3253:LEU:HB3	2.49	0.43
2:E:33:PHE:CE1	2:E:37:THR:OG1	2.71	0.43
1:A:176:ALA:O	1:A:181:VAL:HG22	2.19	0.43
1:A:226:HIS:ND1	1:A:227:VAL:N	2.67	0.43
1:A:2412:LEU:O	1:A:2416:LEU:HG	2.19	0.43
1:B:325:ARG:HG2	1:B:327:MET:SD	2.58	0.43
1:B:1353:LEU:CD1	1:B:1400:ILE:HA	2.48	0.43
1:B:1406:ARG:HG2	1:B:2579:ALA:HB1	2.00	0.43
1:B:2018:SER:HB2	1:B:2023:LEU:HD21	2.01	0.43
1:B:3193:ARG:CZ	2:E:114:GLU:OE2	2.67	0.43
1:B:4224:THR:HG22	1:B:4231:GLY:HA2	1.99	0.43
1:A:2763:VAL:HG21	1:A:2818:ILE:HG21	2.01	0.43
1:A:2876:LYS:NZ	1:A:3273:GLU:OE2	2.52	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4437:LEU:HD22	1:A:4485:ALA:HB2	2.01	0.43
1:A:1107:LYS:HG2	1:A:1200:MET:HB2	2.00	0.42
1:A:4153:ILE:HG23	1:A:4153:ILE:O	2.19	0.42
1:B:1873:ILE:HD12	1:B:1873:ILE:N	2.34	0.42
1:B:2853:VAL:HG21	1:B:2934:LEU:HD22	2.01	0.42
1:A:198:ASP:OD1	1:A:199:GLY:N	2.52	0.42
1:A:2067:CYS:SG	1:A:2078:THR:HB	2.59	0.42
1:A:3343:ASP:OD1	1:A:3343:ASP:N	2.51	0.42
1:A:4218:ARG:HB2	1:A:4326:VAL:HG22	2.01	0.42
1:B:505:LEU:HD21	1:B:631:LEU:CD2	2.49	0.42
1:B:1471:ALA:O	1:B:1475:THR:HG23	2.18	0.42
1:B:1499:TYR:CG	1:B:2072:PRO:HD3	2.54	0.42
1:B:2325:HIS:NE2	1:B:2329:ILE:HD11	2.34	0.42
1:B:2685:LEU:HD12	1:B:2686:TYR:N	2.34	0.42
1:B:3179:ALA:HB1	1:B:3182:LEU:HD12	2.00	0.42
1:B:4235:ARG:NH2	1:B:4329:SER:O	2.52	0.42
2:F:58:LEU:HD21	2:F:80:VAL:HG12	2.01	0.42
1:A:412:TRP:CD1	1:A:420:VAL:HG22	2.54	0.42
1:A:1108:PHE:HB2	1:A:1296:LEU:CD2	2.50	0.42
1:B:4218:ARG:HB2	1:B:4326:VAL:HG22	2.00	0.42
1:A:431:PRO:O	1:A:435:GLN:HG2	2.19	0.42
1:A:1390:ARG:HB2	1:A:1390:ARG:NH1	2.34	0.42
1:A:1404:CYS:O	1:A:1408:LEU:HD23	2.20	0.42
1:A:1958:ARG:O	1:A:1958:ARG:NE	2.39	0.42
1:B:2384:LEU:HD22	1:B:2663:LEU:HD21	2.01	0.42
1:B:3344:LEU:HD22	1:B:3347:MET:CE	2.49	0.42
1:A:2051:GLN:HA	1:A:2051:GLN:OE1	2.20	0.42
1:A:2669:LEU:HD21	1:A:2728:LEU:HD11	2.02	0.42
1:A:4209:LEU:N	1:A:4210:PRO:HD2	2.34	0.42
1:B:293:PHE:CD1	1:B:316:HIS:HB2	2.55	0.42
1:B:426:ILE:CG2	1:B:505:LEU:HD23	2.49	0.42
1:B:2790:GLN:HG3	1:B:2838:LYS:HD2	2.01	0.42
2:F:38:THR:HG23	2:F:139:VAL:CG2	2.50	0.42
1:A:426:ILE:CG2	1:A:505:LEU:HD23	2.50	0.42
1:A:1040:ALA:HA	1:A:1092:GLU:O	2.19	0.42
1:A:1807:PRO:HD3	1:A:1876:GLY:HA2	2.02	0.42
1:A:3374:HIS:HB3	1:A:3376:PRO:HD2	2.00	0.42
1:B:742:GLY:O	1:B:743:ILE:HG22	2.20	0.42
2:F:48:TYR:O	2:F:52:VAL:HG23	2.20	0.42
1:A:1482:GLN:HG3	1:A:2065:HIS:HA	2.02	0.42
1:A:2866:LEU:HD23	1:A:2922:LEU:CD1	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3074[A]:THR:HG21	1:A:3114:SER:HB3	2.01	0.42
1:B:1091:PHE:CD1	1:B:1091:PHE:N	2.88	0.42
1:B:3513:LEU:HB3	1:B:3514:PRO:HD3	2.02	0.42
1:A:575:TYR:N	1:A:575:TYR:CD1	2.88	0.42
1:A:2203:PHE:CD2	1:A:2403:TRP:CZ3	3.08	0.42
1:A:2830:GLN:O	1:A:2836:GLN:NE2	2.42	0.42
1:A:3764:VAL:HG11	1:A:3814:GLN:NE2	2.35	0.42
1:B:826:VAL:HG12	1:B:846:ILE:HG13	2.01	0.42
1:B:1815:LEU:HD21	1:B:1858:ILE:HG23	2.01	0.42
1:B:3388:GLN:HG3	1:B:3392[B]:ILE:HD11	2.02	0.42
1:B:3388:GLN:HG3	1:B:3392[A]:ILE:HD11	2.02	0.42
2:F:92:HIS:NE2	2:F:96:LEU:HD11	2.35	0.42
1:A:411:ILE:O	1:A:421:HIS:N	2.48	0.42
1:A:1107:LYS:HA	1:A:1200:MET:HA	2.01	0.42
1:A:1120:ILE:HB	1:A:1188:LEU:HB2	2.01	0.42
1:A:1848:ILE:HD13	1:A:1848:ILE:HA	1.91	0.42
1:A:2336:VAL:HG23	1:A:2358:LEU:HD11	2.01	0.42
1:A:2766:LEU:CD1	1:A:2839:LEU:HD22	2.50	0.42
1:A:3817:LEU:CD1	1:A:4189:LEU:HD12	2.50	0.42
1:B:293:PHE:CB	1:B:306:PRO:HB3	2.50	0.42
1:B:2203:PHE:CD2	1:B:2403:TRP:CZ3	3.08	0.42
1:A:1122:VAL:O	1:A:1186:VAL:N	2.45	0.41
1:A:1174:LEU:HD21	1:A:1223:HIS:CG	2.55	0.41
1:A:1506:VAL:HG13	1:A:2019:SER:HB2	2.02	0.41
1:A:2718:THR:O	1:A:2722:VAL:HG23	2.20	0.41
1:A:3269:LEU:HD12	1:A:3269:LEU:N	2.35	0.41
1:B:2984:VAL:HG13	1:B:2990:ILE:CG2	2.49	0.41
1:A:85:VAL:CG1	1:A:86:THR:N	2.83	0.41
1:A:3684:ALA:HB3	1:A:3685:PRO:HD3	2.00	0.41
1:B:213:VAL:O	1:B:217:ALA:N	2.54	0.41
1:B:3704:GLY:HA3	1:B:3777:ASN:OD1	2.21	0.41
1:A:631:LEU:HB3	1:A:633:TYR:CE2	2.55	0.41
1:A:2703[B]:SER:O	1:A:2707:VAL:HG23	2.20	0.41
1:B:1405:ALA:HA	1:B:1454:LEU:HD11	2.03	0.41
1:B:1817:ILE:HG23	1:B:1858:ILE:HD13	2.03	0.41
1:B:3182:LEU:HD23	1:B:3294:SER:O	2.20	0.41
1:A:130:ASP:OD1	1:A:131:ASP:N	2.50	0.41
1:A:2685:LEU:HD12	1:A:2686:TYR:N	2.36	0.41
1:B:129:VAL:HG21	1:B:391:PHE:HB2	2.02	0.41
1:B:356:PRO:O	1:B:361:GLU:N	2.44	0.41
1:B:3236:PRO:HB3	1:B:3282:LEU:HB3	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3239:VAL:HG22	1:B:3282:LEU:HD23	2.02	0.41
1:B:3331:LEU:HD21	1:B:3378:ILE:HG12	2.02	0.41
1:B:4438:ALA:O	1:B:4442:THR:HG23	2.20	0.41
1:A:293:PHE:CB	1:A:306:PRO:HB3	2.51	0.41
1:A:1436:MET:HG3	1:A:1439:LEU:HD12	2.03	0.41
1:A:1819:ILE:HG13	1:A:1829:ARG:HB2	2.03	0.41
1:A:3709:ASN:HA	1:A:3712:TRP:CD1	2.55	0.41
1:B:129:VAL:HG21	1:B:391:PHE:CB	2.50	0.41
1:B:258:ARG:CZ	1:B:374:THR:HG21	2.51	0.41
1:B:1561:LEU:HB3	1:B:1989:ASN:OD1	2.21	0.41
1:A:1358:TRP:CE2	1:A:1362:VAL:HG21	2.55	0.41
1:A:1398:ARG:HH22	1:A:1563:VAL:HG11	1.85	0.41
1:B:2753[A]:VAL:HG21	1:B:2800:LEU:HD11	2.03	0.41
1:B:2753[B]:VAL:HG21	1:B:2800:LEU:HD11	2.03	0.41
1:B:4396:LEU:HD11	1:B:4481:ILE:HG13	2.02	0.41
1:A:745:LEU:N	1:A:828:TYR:O	2.46	0.41
1:A:1037:ARG:HB2	1:A:1072:GLN:O	2.21	0.41
1:A:1561:LEU:HB3	1:A:1989:ASN:OD1	2.20	0.41
1:B:84:ALA:O	1:B:92:LYS:N	2.51	0.41
1:B:1816:SER:HB2	1:B:1833:VAL:HG22	2.02	0.41
1:B:3074[A]:THR:HG21	1:B:3114:SER:HB3	2.03	0.41
2:F:23:VAL:HG22	2:E:33:PHE:CE1	2.56	0.41
1:A:1852:VAL:HG12	1:A:1852:VAL:O	2.21	0.41
1:A:4410:PRO:HA	1:A:4413:LEU:HG	2.03	0.41
1:B:85:VAL:CG1	1:B:86:THR:N	2.83	0.41
1:B:2101:GLN:O	1:B:2105:ASN:HB3	2.21	0.41
1:B:2391:ASP:OD1	1:B:2391:ASP:N	2.47	0.41
1:B:2834:ASP:N	1:B:2834:ASP:OD1	2.54	0.41
1:B:3257[A]:VAL:HG23	1:B:3259:THR:HG23	2.03	0.41
1:A:71:HIS:O	1:A:71:HIS:CG	2.73	0.41
1:A:381:CYS:SG	1:A:382:THR:N	2.93	0.41
1:A:1197:HIS:O	1:A:1197:HIS:ND1	2.52	0.41
1:A:1209:VAL:HG11	1:A:1322:LEU:HD11	2.02	0.41
1:A:1863:ARG:O	1:A:1866:SER:OG	2.31	0.41
1:A:2149:LEU:CG	1:A:2163:LEU:HD11	2.51	0.41
1:A:3221:LYS:HG3	1:A:3222:GLU:HG3	2.03	0.41
1:A:4247:ILE:HG23	1:A:4323:LEU:HD22	2.03	0.41
1:A:4252:SER:HB2	1:A:4368:CYS:SG	2.60	0.41
1:B:182:ASP:OD1	1:B:182:ASP:O	2.39	0.41
1:B:1573:THR:HG22	1:B:1791:VAL:HG23	2.03	0.41
1:B:1852:VAL:O	1:B:1852:VAL:HG12	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2336:VAL:HG21	1:B:2374:ILE:HG21	2.03	0.41
1:B:2399:TRP:HZ3	1:B:2408:LEU:HD11	1.86	0.41
1:B:4495:LEU:C	1:B:4495:LEU:HD23	2.41	0.41
1:A:412:TRP:NE1	1:A:420:VAL:HG22	2.36	0.41
1:A:1124:LEU:HA	1:A:1221:LEU:O	2.21	0.41
1:A:1820:TRP:HB3	1:A:1828:GLY:HA2	2.02	0.41
1:A:4437:LEU:O	1:A:4437:LEU:HD23	2.21	0.41
1:B:291:GLU:O	1:B:294:THR:HG23	2.21	0.41
1:B:2852:SER:O	1:B:2855:THR:HG22	2.20	0.41
1:B:3566:ILE:HD12	1:B:3566:ILE:N	2.36	0.41
1:A:77:PRO:HD2	1:A:119:TYR:CE1	2.56	0.40
1:A:4008:LEU:HD23	1:A:4008:LEU:N	2.36	0.40
1:B:128:PHE:CZ	1:B:146:LEU:HD22	2.56	0.40
1:B:1108:PHE:HB2	1:B:1296:LEU:CD2	2.52	0.40
1:B:1174:LEU:HB3	1:B:1181:ILE:HD11	2.02	0.40
1:B:1330:LYS:O	1:B:1334:THR:HG22	2.21	0.40
1:B:4084:ALA:HB2	1:B:4165:LEU:HB3	2.03	0.40
1:B:4378:ARG:HG2	1:B:4436:LEU:HD22	2.03	0.40
1:A:1873:ILE:N	1:A:1873:ILE:HD12	2.37	0.40
1:A:3269:LEU:HD23	1:A:3273:GLU:HG3	2.02	0.40
1:B:246:VAL:HG22	1:B:247:ALA:N	2.36	0.40
1:B:739:CYS:SG	1:B:741:ASP:N	2.95	0.40
1:B:3374:HIS:HB3	1:B:3376:PRO:HD2	2.03	0.40
1:B:4161:PHE:HB2	1:B:4213:PRO:CG	2.51	0.40
2:F:16:GLU:OE1	2:F:20:ARG:NE	2.40	0.40
2:F:38:THR:HG23	2:F:139:VAL:HG22	2.03	0.40
2:E:117:TYR:C	2:E:117:TYR:CD1	2.94	0.40
1:A:1808:THR:N	1:A:1841:SER:OG	2.53	0.40
1:A:2336:VAL:HG21	1:A:2374:ILE:HG22	2.03	0.40
1:A:2384:LEU:HD22	1:A:2663:LEU:HD21	2.03	0.40
1:B:137:ARG:CZ	1:B:374:THR:HA	2.50	0.40
1:B:508:THR:O	1:B:508:THR:HG22	2.21	0.40
1:B:1499:TYR:CD1	1:B:2072:PRO:HD3	2.56	0.40
1:B:1927:ARG:HB2	1:B:1980:LEU:HD12	2.03	0.40
1:B:2655:VAL:HG11	1:B:2660:LEU:HD22	2.04	0.40
1:B:2766:LEU:CD1	1:B:2839:LEU:HD22	2.49	0.40
1:B:3359:LEU:HD21	1:B:3385:ILE:CG2	2.52	0.40
2:E:58:LEU:HD21	2:E:80:VAL:HG12	2.02	0.40
1:A:1094:VAL:HA	1:A:1219:SER:HA	2.02	0.40
1:A:3287:ASP:HB2	1:B:3262:LEU:HA	2.03	0.40
1:A:4320:VAL:O	1:A:4324:LEU:HG	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:160:VAL:HA	1:B:224:PRO:HA	2.02	0.40
1:B:508:THR:HG21	1:B:733:ILE:O	2.21	0.40
1:B:943:VAL:HG12	1:B:944:ILE:N	2.37	0.40
1:B:1453:VAL:HG13	1:B:2586:MET:HB3	2.03	0.40
1:B:2863:VAL:HG11	1:B:2926:VAL:CG2	2.50	0.40
1:B:4380:ASP:OD1	1:B:4380:ASP:N	2.44	0.40
1:A:1345:THR:HG22	1:A:1346:GLU:N	2.36	0.40
1:A:1824:GLU:O	1:A:1828:GLY:HA3	2.22	0.40
1:A:3989:LEU:O	1:A:3993:ARG:HG2	2.21	0.40
1:B:378:GLN:OE1	1:B:420:VAL:HG23	2.22	0.40
1:B:2766:LEU:O	1:B:2831:GLY:HA3	2.22	0.40
2:E:41:LEU:HA	2:E:98:LEU:HD13	2.04	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	2670/4888 (55%)	2620 (98%)	50 (2%)	0	100	100
1	B	2670/4888 (55%)	2624 (98%)	46 (2%)	0	100	100
2	E	171/194 (88%)	167 (98%)	4 (2%)	0	100	100
2	F	171/194 (88%)	167 (98%)	4 (2%)	0	100	100
All	All	5682/10164 (56%)	5578 (98%)	104 (2%)	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	2442/4242 (58%)	2387 (98%)	55 (2%)	45	72
1	B	2442/4242 (58%)	2391 (98%)	51 (2%)	48	74
2	E	148/167 (89%)	140 (95%)	8 (5%)	18	47
2	F	148/167 (89%)	142 (96%)	6 (4%)	26	57
All	All	5180/8818 (59%)	5060 (98%)	120 (2%)	46	72

All (120) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	121	SER
1	A	175	SER
1	A	180	LYS
1	A	290	ARG
1	A	386	ASP
1	A	418	MET
1	A	425	GLU
1	A	625	ARG
1	A	739	CYS
1	A	848	HIS
1	A	1205	SER
1	A	1305	ARG
1	A	1308	LYS
1	A	1315	ARG
1	A	1326	GLU
1	A	1488	MET
1	A	1511	GLU
1	A	1578	ARG
1	A	1771	GLN
1	A	1788	ARG
1	A	1794	ASP
1	A	1853	CYS
1	A	1911	ASP
1	A	1934	ARG
1	A	1954	GLN
1	A	1958	ARG
1	A	2073	LYS
1	A	2084	GLN

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	2137	SER
1	A	2577	GLN
1	A	2585	MET
1	A	2592	ASP
1	A	2689	ASN
1	A	2690	ARG
1	A	2795	ARG
1	A	2797	GLN
1	A	3093	ASP
1	A	3096	LYS
1	A	3173	SER
1	A	3232	LEU
1	A	3276	SER
1	A	3343	ASP
1	A	3355	THR
1	A	3375	SER
1	A	3392[A]	ILE
1	A	3392[B]	ILE
1	A	3462	ARG
1	A	3564	MET
1	A	3624	LYS
1	A	3641	SER
1	A	3676	MET
1	A	3810	ARG
1	A	4229	ASP
1	A	4239	LEU
1	A	4445	ASP
1	B	121	SER
1	B	175	SER
1	B	180	LYS
1	B	290	ARG
1	B	325	ARG
1	B	327	MET
1	B	386	ASP
1	B	425	GLU
1	B	625	ARG
1	B	739	CYS
1	B	848	HIS
1	B	1205	SER
1	B	1305	ARG
1	B	1308	LYS
1	B	1315	ARG

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	B	1326	GLU
1	B	1435	ASN
1	B	1578	ARG
1	B	1771	GLN
1	B	1788	ARG
1	B	1958	ARG
1	B	1996	VAL
1	B	2073	LYS
1	B	2089	GLU
1	B	2137	SER
1	B	2577	GLN
1	B	2585	MET
1	B	2592	ASP
1	B	2795	ARG
1	B	2797	GLN
1	B	3093	ASP
1	B	3276	SER
1	B	3343	ASP
1	B	3355	THR
1	B	3375	SER
1	B	3392[A]	ILE
1	B	3392[B]	ILE
1	B	3441	THR
1	B	3462	ARG
1	B	3483	GLU
1	B	3564	MET
1	B	3624	LYS
1	B	3641	SER
1	B	3676	MET
1	B	3681	ASP
1	B	3810	ARG
1	B	3981	MET
1	B	4229	ASP
1	B	4239	LEU
1	B	4381	SER
1	B	4445	ASP
2	F	95	TYR
2	F	111	MET
2	F	129	ARG
2	F	133	GLN
2	F	147	ARG
2	F	172	ARG

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
2	E	16	GLU
2	E	25	LEU
2	E	95	TYR
2	E	98	LEU
2	E	118	GLN
2	E	143	HIS
2	E	146	SER
2	E	172	ARG

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

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	348	HIS
1	A	351	HIS
1	A	902	HIS
1	A	1323	GLN
1	A	1456	ASN
1	A	1845	HIS
1	A	1895	HIS
1	A	2670	ASN
1	A	2806	GLN
1	A	2931	GLN
1	A	3283	HIS
1	A	3322	GLN
1	A	3495	HIS
1	A	3761	ASN
1	B	244	GLN
1	B	348	HIS
1	B	351	HIS
1	B	1067	HIS
1	B	1845	HIS
1	B	2077	HIS
1	B	2084	GLN
1	B	2578	GLN
1	B	2806	GLN
1	B	2869	HIS
1	B	3283	HIS
1	B	3495	HIS
1	B	4319	HIS

### 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.



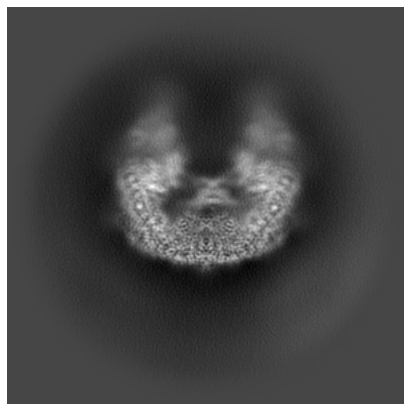
## 6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-27837. These allow visual inspection of the internal detail of the map and identification of artifacts.

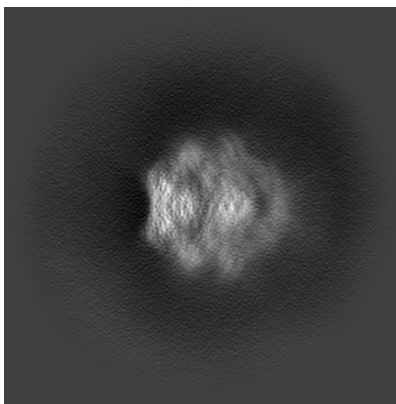
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

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

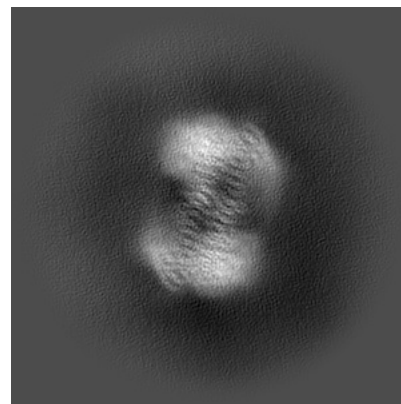
#### 6.1.1 Primary map



X

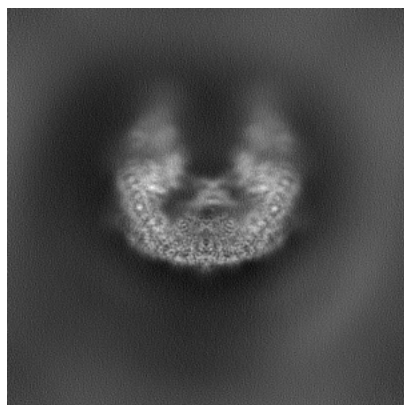


Y

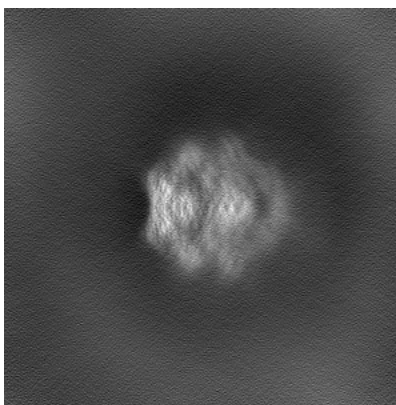


Z

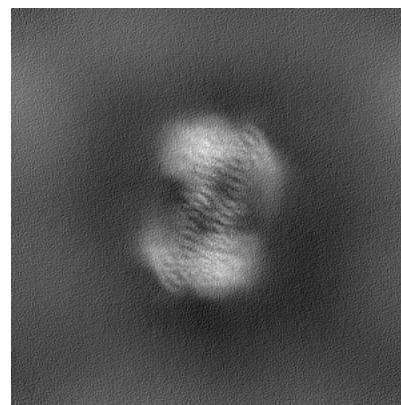
#### 6.1.2 Raw map



X



Y



Z

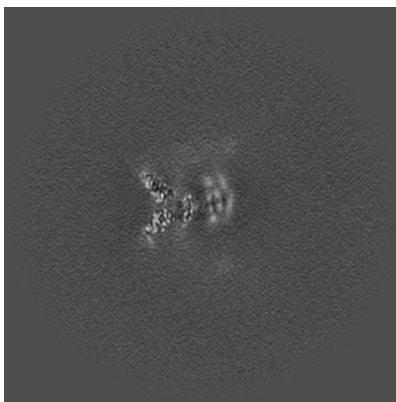
The images above show the map projected in three orthogonal directions.

## 6.2 Central slices [i](#)

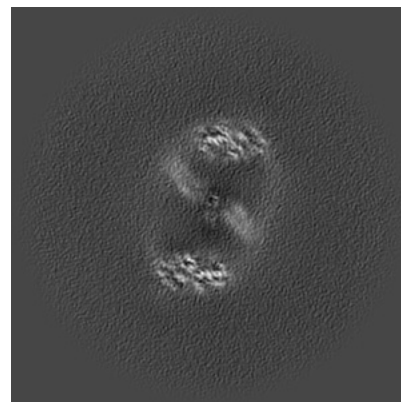
### 6.2.1 Primary map



X Index: 176

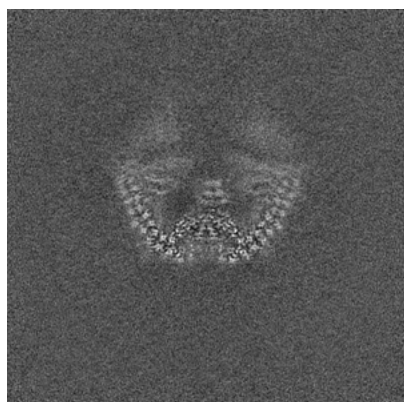


Y Index: 176

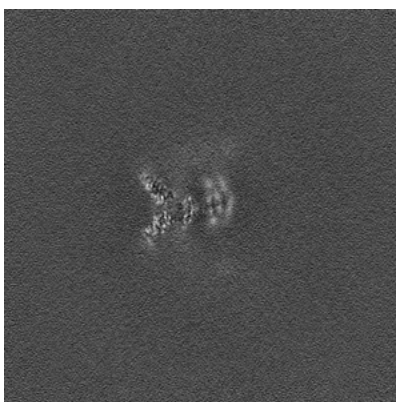


Z Index: 176

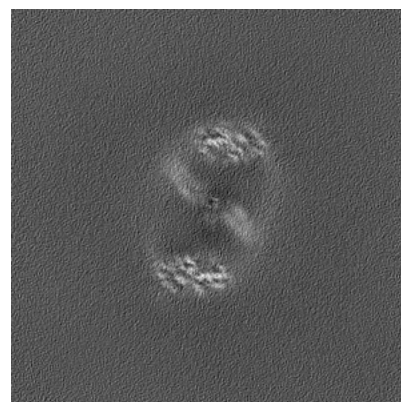
### 6.2.2 Raw map



X Index: 176



Y Index: 176

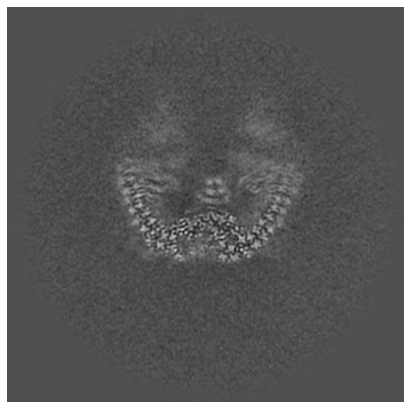


Z Index: 176

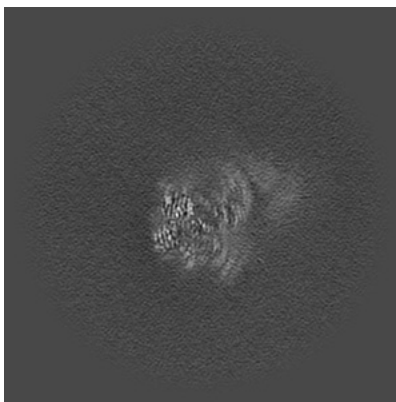
The images above show central slices of the map in three orthogonal directions.

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

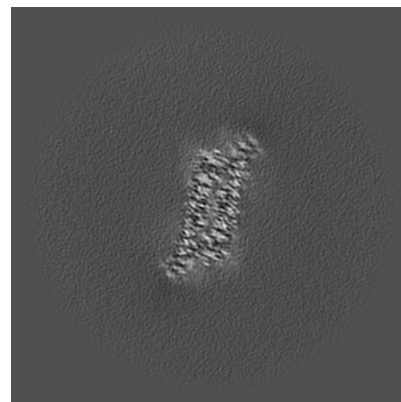
### 6.3.1 Primary map



X Index: 174

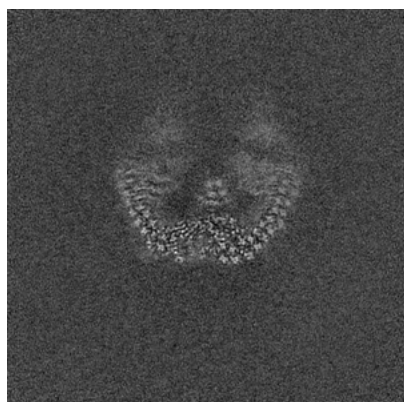


Y Index: 128

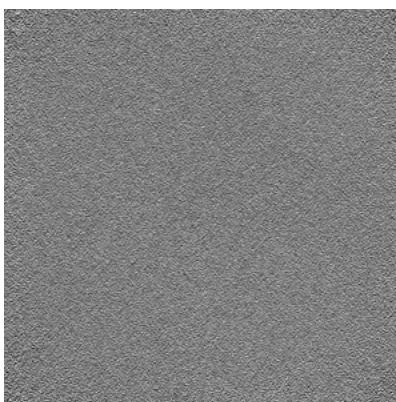


Z Index: 141

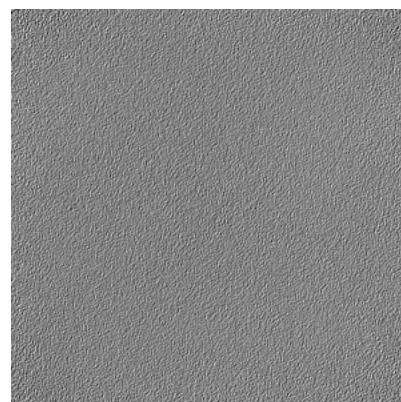
### 6.3.2 Raw map



X Index: 173



Y Index: 0



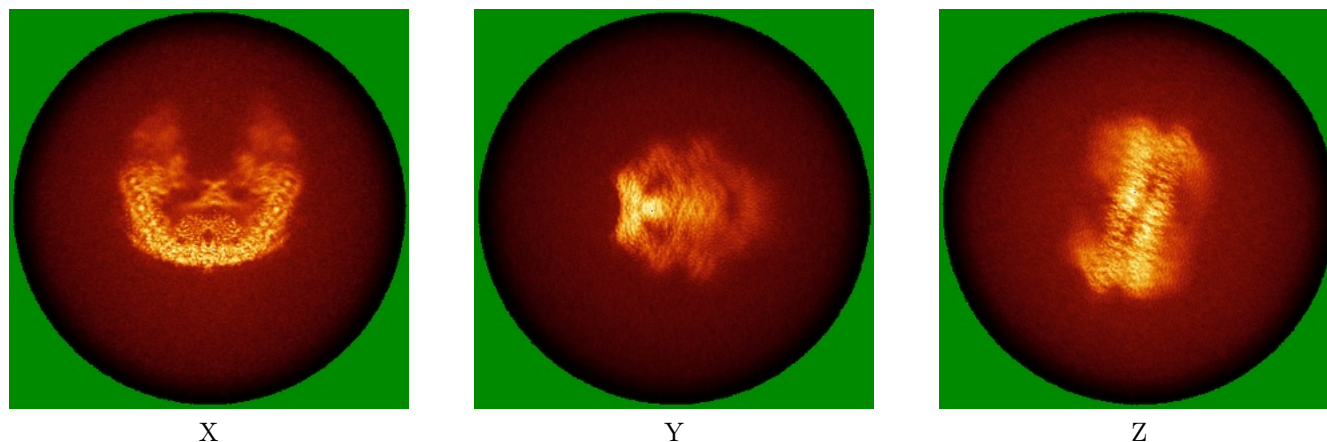
Z Index: 0

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

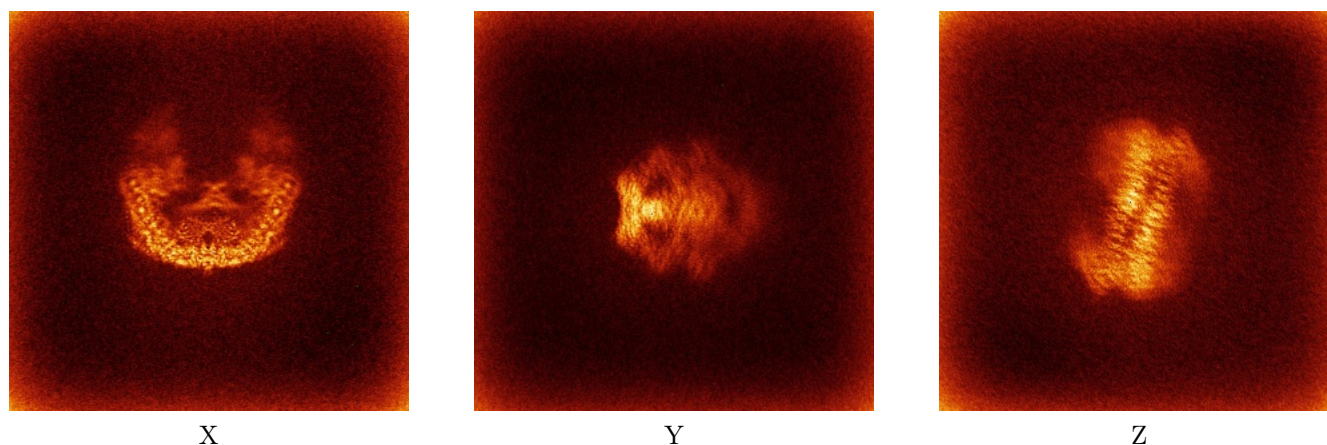


## 6.4 Orthogonal standard-deviation projections (False-color) [i](#)

### 6.4.1 Primary map



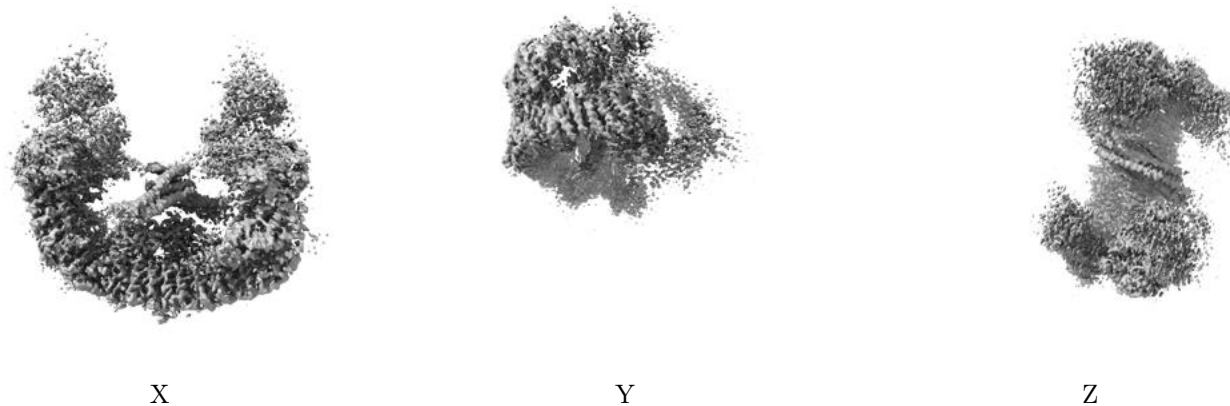
### 6.4.2 Raw map



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.

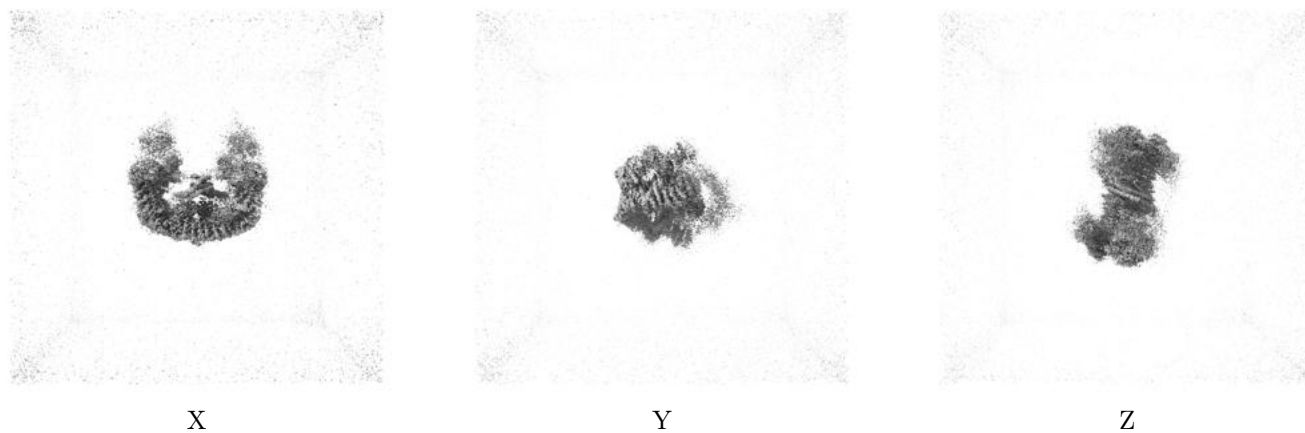
## 6.5 Orthogonal surface views [i](#)

### 6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.284. 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.

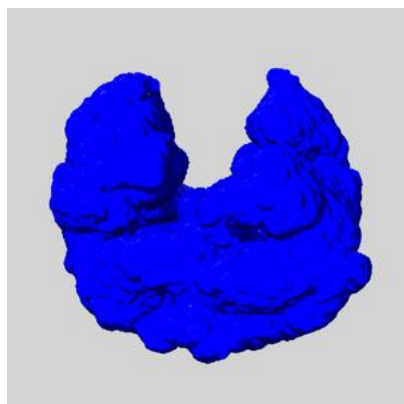
## 6.6 Mask visualisation [i](#)

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

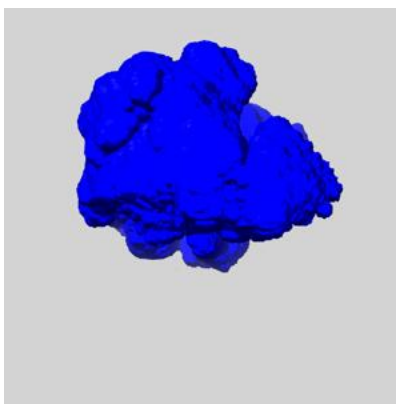
A mask typically either:

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

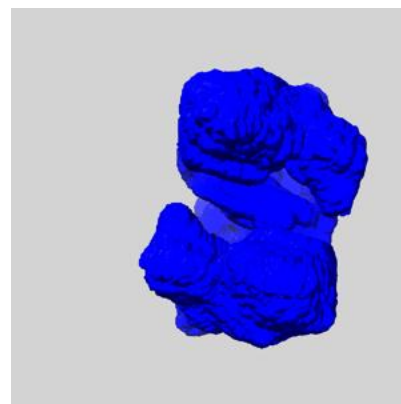
### 6.6.1 emd\_27837\_msk\_1.map [i](#)



X



Y

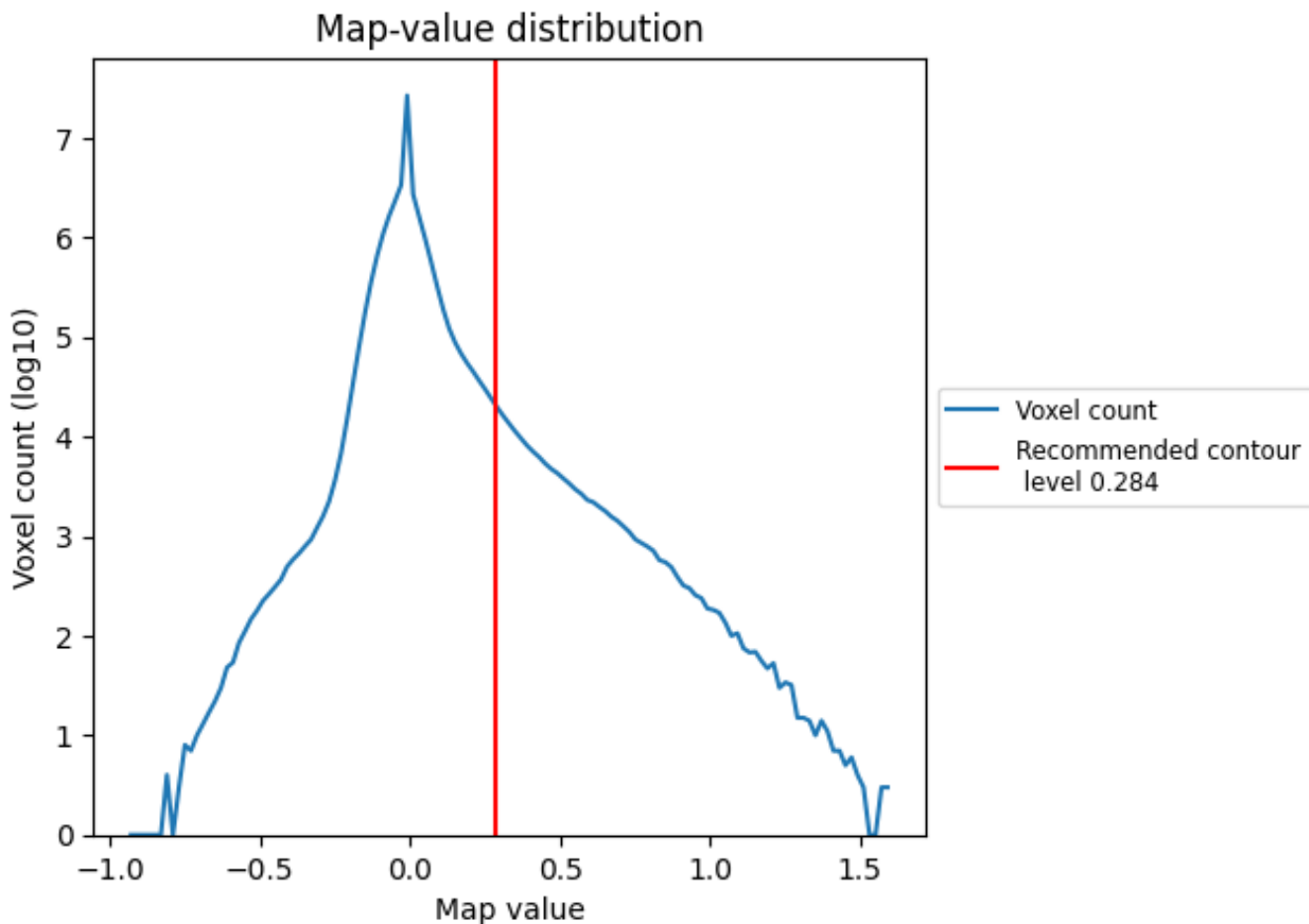


Z

## 7 Map analysis [i](#)

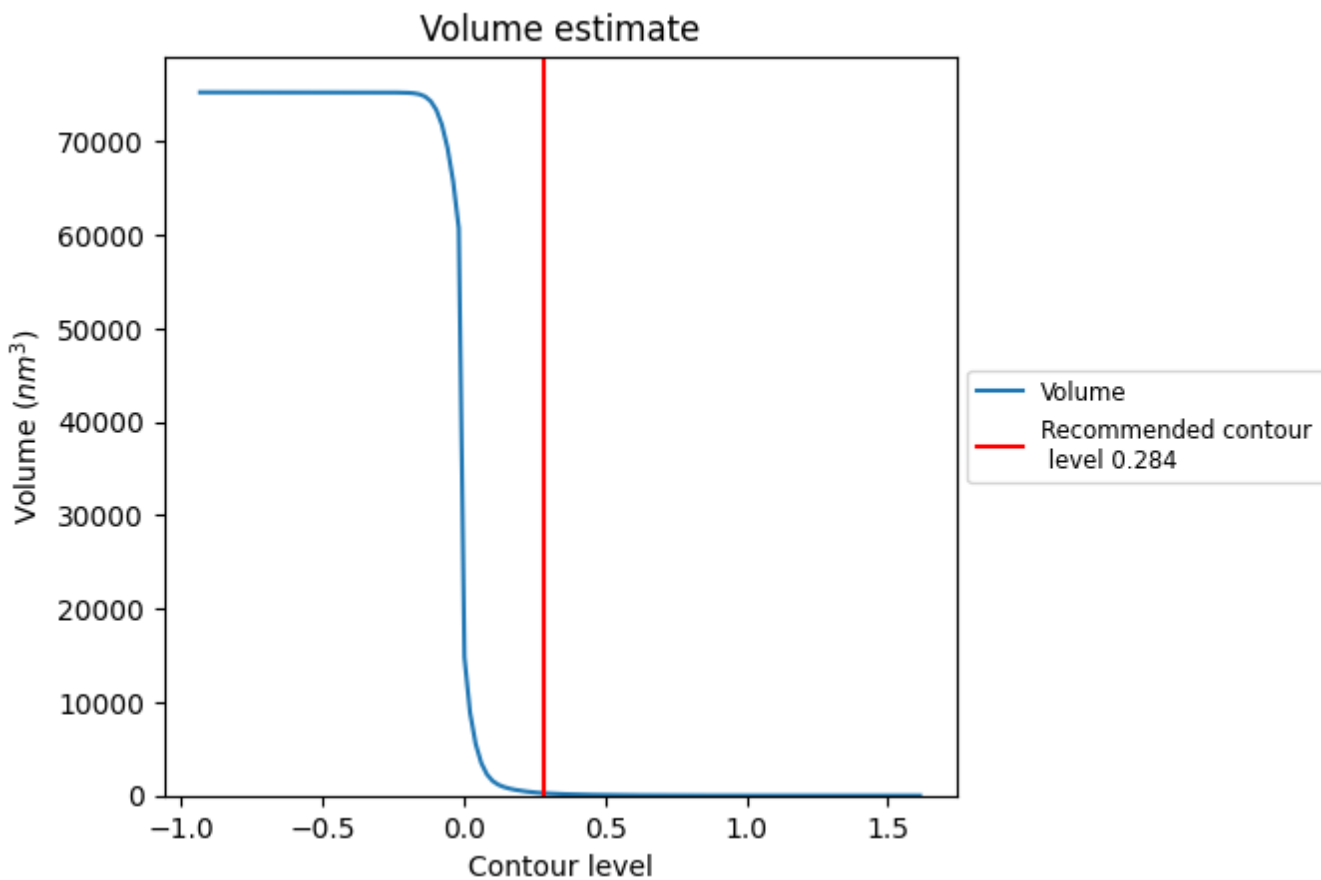
This section contains the results of statistical analysis of the map.

### 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](#)

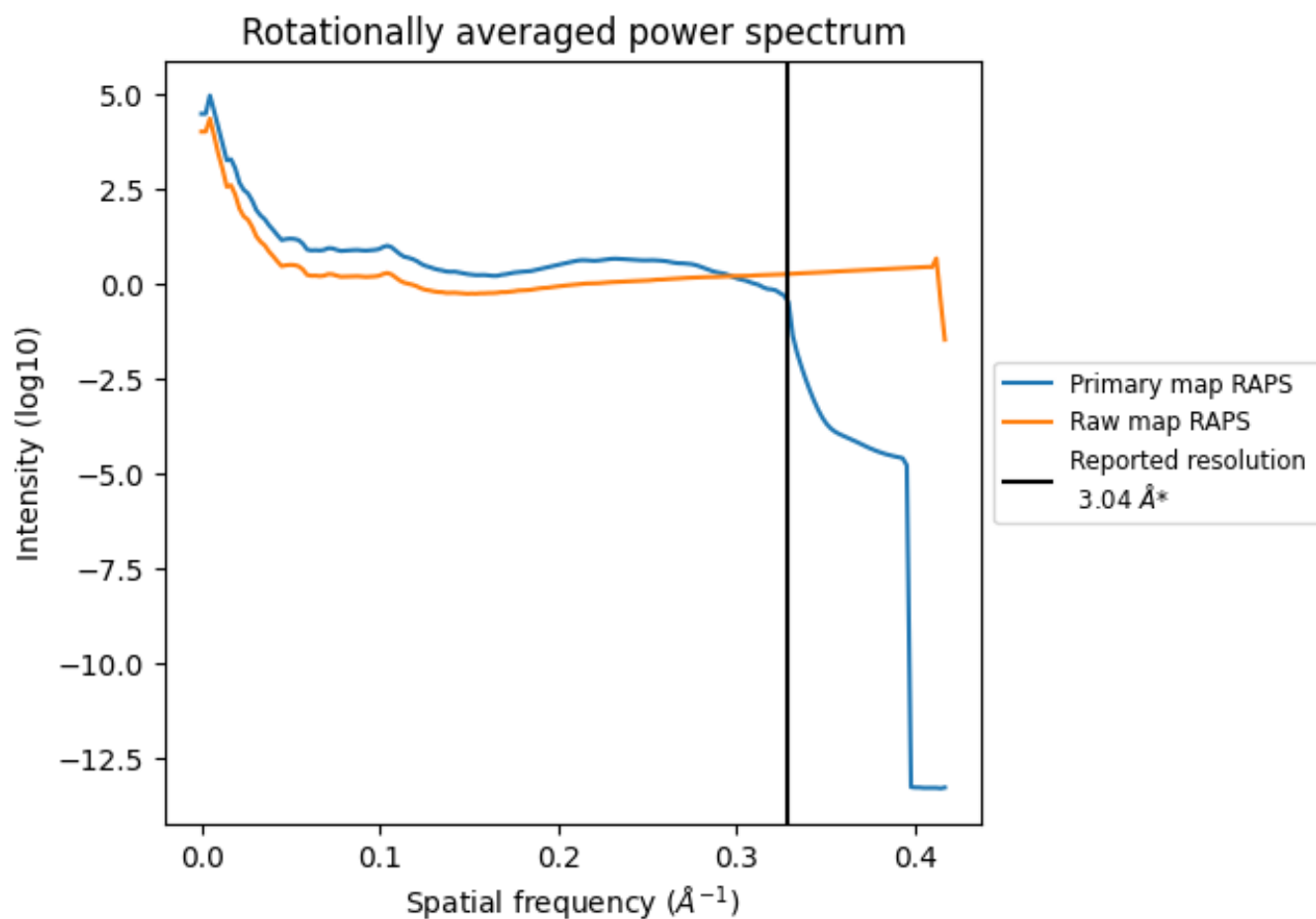


The volume at the recommended contour level is 257 nm<sup>3</sup>; this corresponds to an approximate mass of 232 kDa.

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](#)

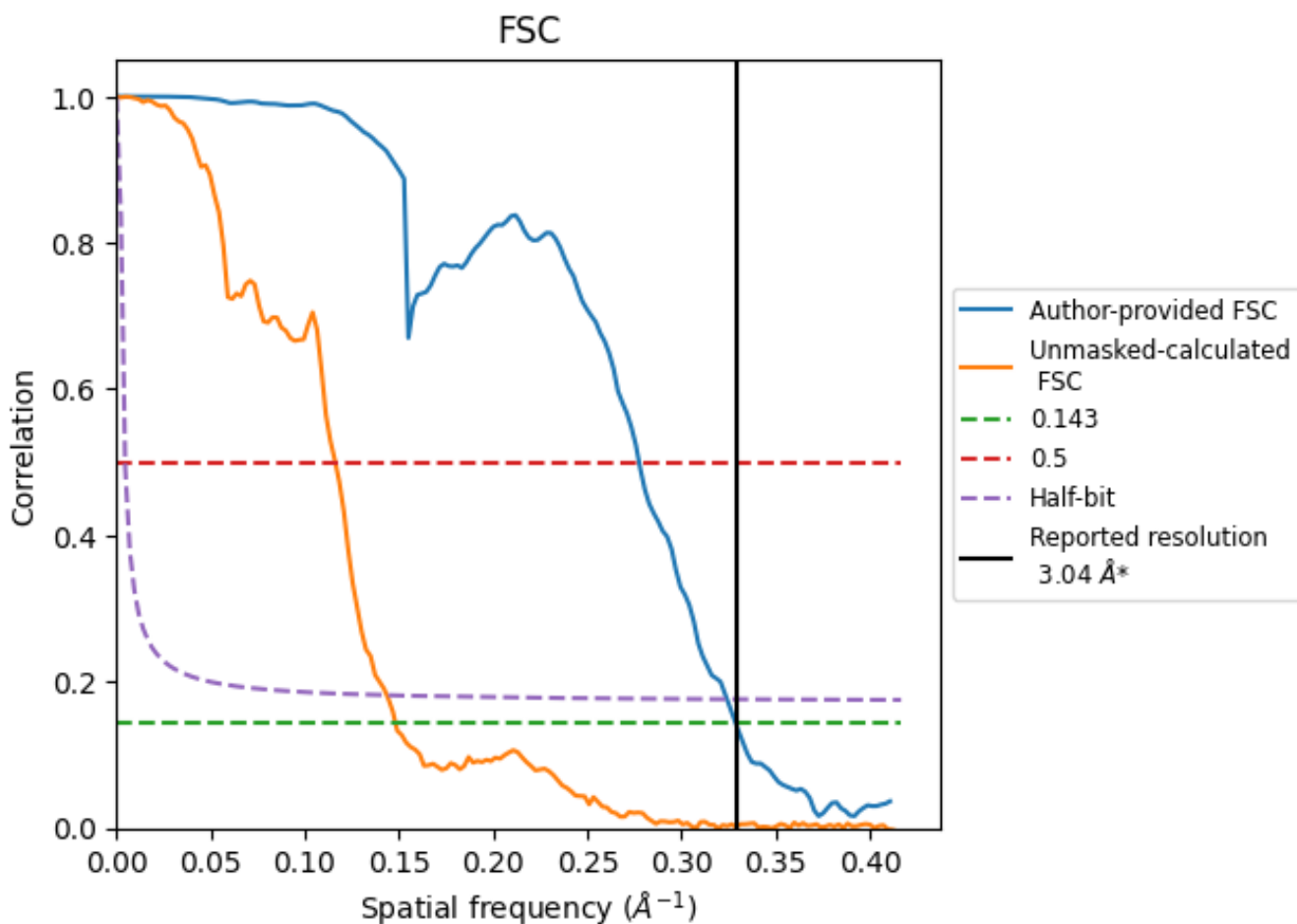


\*Reported resolution corresponds to spatial frequency of  $0.329 \text{ \AA}^{-1}$

## 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 0.329 Å<sup>-1</sup>

## 8.2 Resolution estimates [i](#)

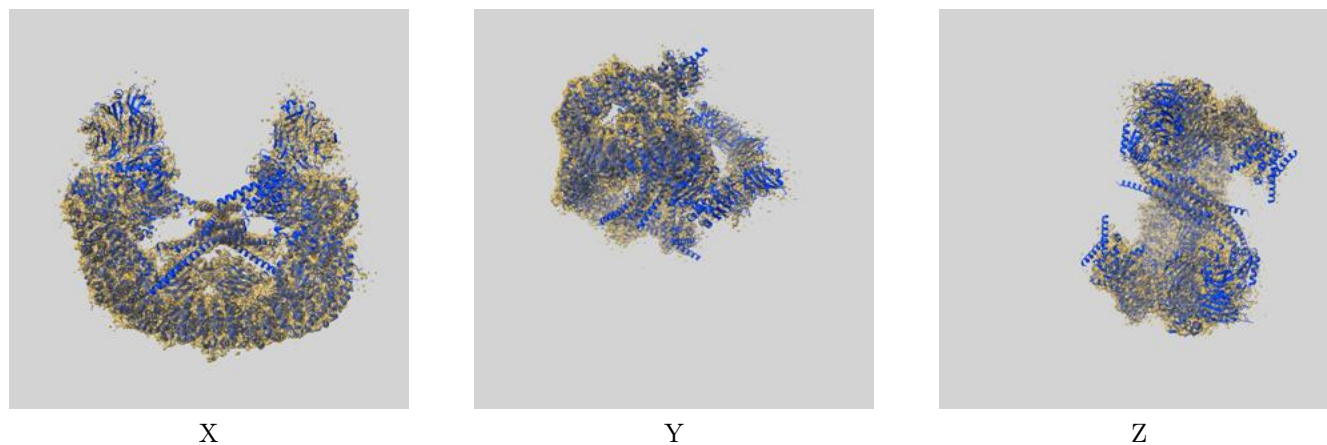
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.04	-	-
Author-provided FSC curve	3.04	3.60	3.08
Unmasked-calculated*	6.74	8.61	6.96

\*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 6.74 differs from the reported value 3.04 by more than 10 %

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

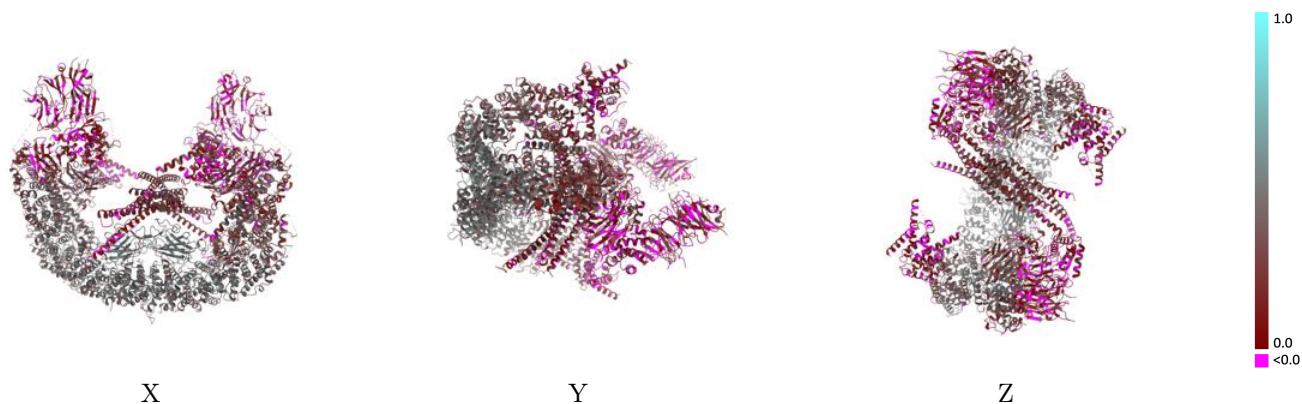
This section contains information regarding the fit between EMDB map EMD-27837 and PDB model 8E2I. Per-residue inclusion information can be found in section 3 on page 6.

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



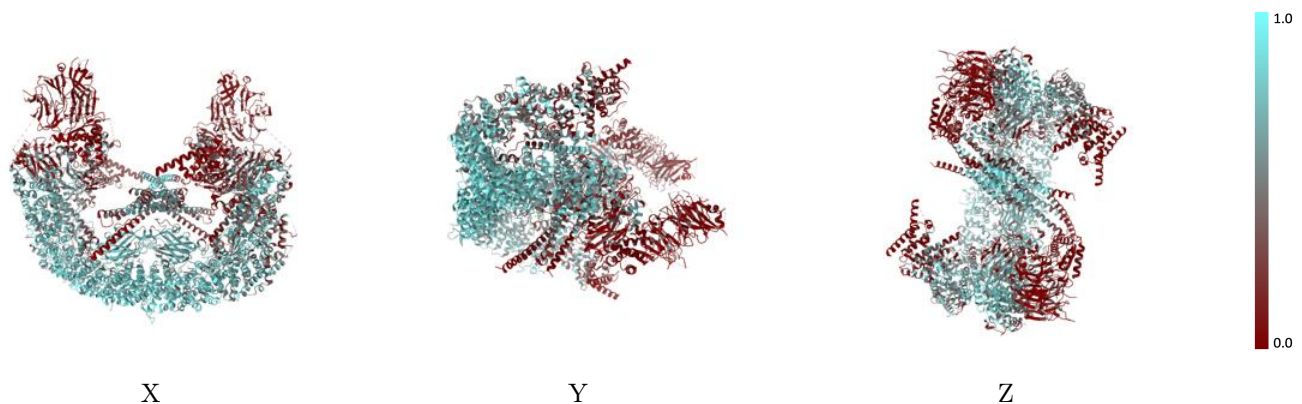
The images above show the 3D surface view of the map at the recommended contour level 0.284 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



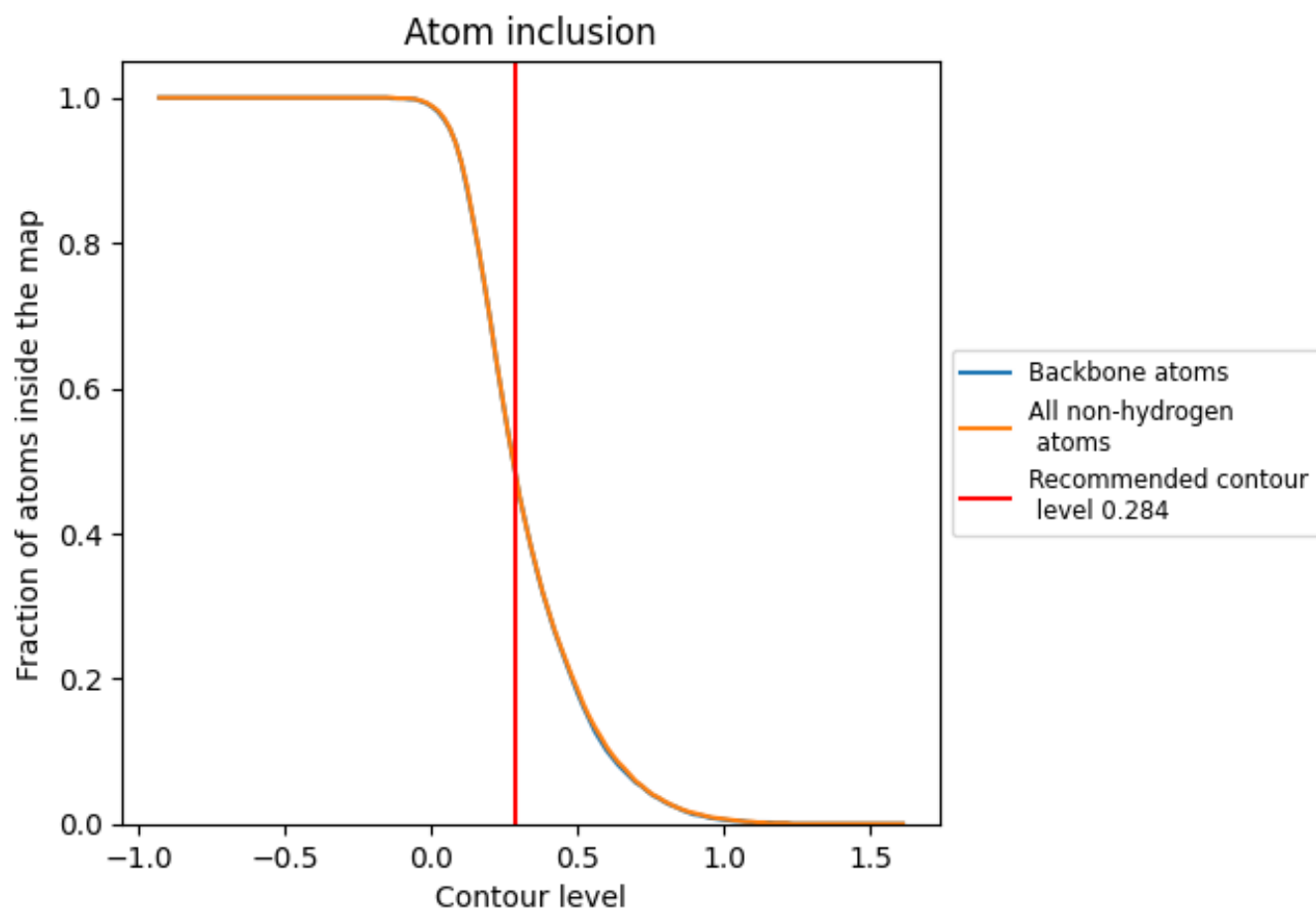
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.284).

## 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 [i](#)

The table lists the average atom inclusion at the recommended contour level (0.284) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.4910	0.2900
A	0.5010	0.3040
B	0.5080	0.2940
C	0.5510	0.2120
D	0.5230	0.2010
E	0.4290	0.1880
F	0.3970	0.1590

