



Full wwPDB EM Validation Report ⓘ

Feb 5, 2026 – 08:55 AM EST

PDB ID : 9E11 / pdb_00009e11
EMDB ID : EMD-47380
Title : Dimeric motor domains from phi-like dynein-1 bound to a Lis1 dimer under Lis1 condition
Authors : Yang, J.; Zhang, K.
Deposited on : 2024-10-21
Resolution : 2.86 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

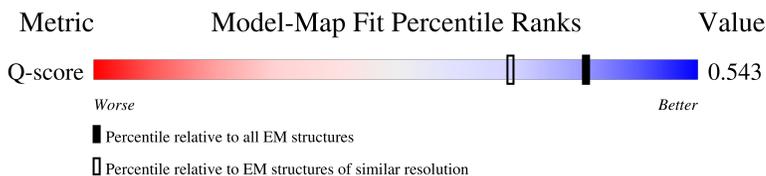
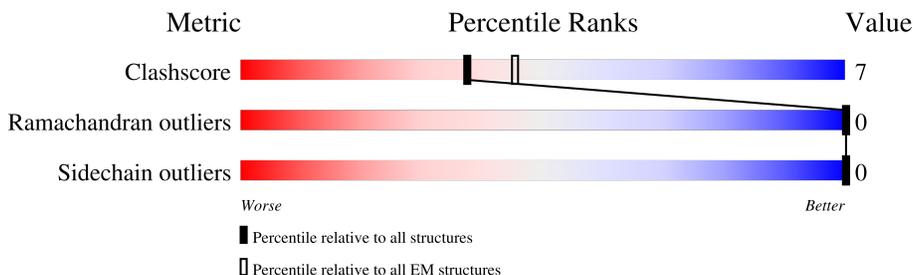
EMDB validation analysis : 0.0.1.dev129
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4-5-2 with Phenix2.0
buster-report : 1.1.7 (2018)
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.47

1 Overall quality at a glance

The following experimental techniques were used to determine the structure:
ELECTRON MICROSCOPY

The reported resolution of this entry is 2.86 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	210492	15764	-
Ramachandran outliers	207382	16835	-
Sidechain outliers	206894	16415	-
Q-score	-	25397	12017 (2.36 - 3.36)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion $< 40\%$). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	4646	<p>7% (red), 51% (green), 12% (yellow), 37% (grey)</p>
1	B	4646	<p>~1% (red), 52% (green), 11% (yellow), 37% (grey)</p>
2	C	410	<p>~1% (red), 61% (green), 18% (yellow), 21% (grey)</p>
2	D	410	<p>22% (red), 52% (green), 26% (yellow), 22% (grey)</p>

2 Entry composition [i](#)

There are 5 unique types of molecules in this entry. The entry contains 52502 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

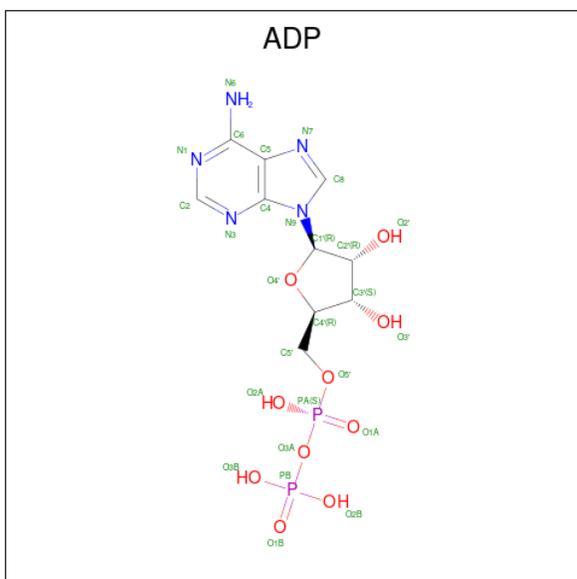
- Molecule 1 is a protein called Cytoplasmic dynein 1 heavy chain 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	2937	Total	C	N	O	S	0	0
			23593	15028	4070	4378	117		
1	B	2937	Total	C	N	O	S	0	0
			23593	15028	4070	4378	117		

- Molecule 2 is a protein called Platelet-activating factor acetylhydrolase IB subunit beta.

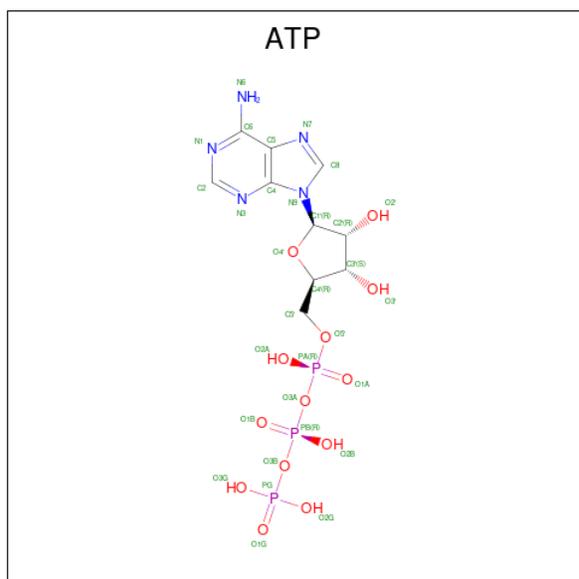
Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	C	322	Total	C	N	O	S	0	0
			2557	1608	452	477	20		
2	D	319	Total	C	N	O	S	0	0
			2531	1593	446	472	20		

- Molecule 3 is ADENOSINE-5'-DIPHOSPHATE (CCD ID: ADP) (formula: $C_{10}H_{15}N_5O_{10}P_2$) (labeled as "Ligand of Interest" by depositor).



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

- Molecule 4 is ADENOSINE-5'-TRIPHOSPHATE (CCD ID: ATP) (formula: $C_{10}H_{16}N_5O_{13}P_3$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					AltConf
4	A	1	Total	C	N	O	P	0
			31	10	5	13	3	
4	B	1	Total	C	N	O	P	0
			31	10	5	13	3	

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

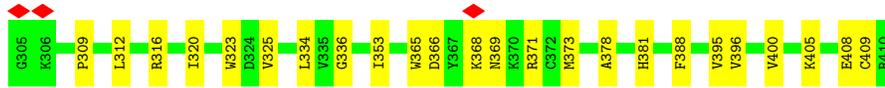
Mol	Chain	Residues	Atoms		AltConf
5	A	2	Total	Mg	0
			2	2	

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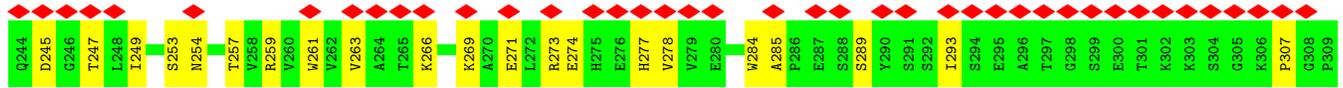
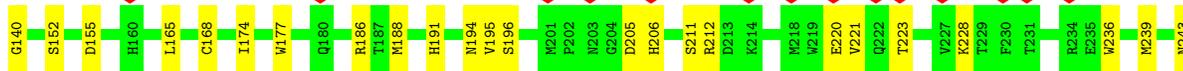
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Mol	Chain	Residues	Atoms		AltConf
			Total	Mg	
5	B	2	2	2	0

S5483	L2157	D2304	L2413	K2551	R2729	R2863	L3012	V3148	D3238	SER	GLU	LYS	E3449
R3486	L2161	G2305	T2422	Q2554	H2730	E2864	A3013	F3149	K3239	ILE	ILE	LEU	E3450
E3490	S2162	D2306	M2423	V2562	V2731	S2868	M3014	Q3152	L3240	LYS	SER	ASP	F3451
K3491	D2163	V2307	N2430	A2563	P2732	L2877	G3019	T3153	L3241	ASP	ALA	ASP	A3452
E3494	V2164	D2308	R2433	A2564	V2733	S2878	D3024	L3154	K3242	HIS	ILE	ALA	F3453
T3495	R2172	N2314	V2433	P2565	V2734	K2879	C3033	A3157	MET	LEU	ARG	ASP	L3454
M3500	Q2173	N2316	L2437	D2566	L2756	D2880	Q3038	L3161	GLN	VAL	GLU	ASN	I3455
S3501	E2174	D2320	H2445	D2567	R2757	D2885	K3039	A3162	GLN	GLN	ASP	ASN	S3456
T3502	R2175	L2324	M2446	R2573	L2758	K2894	E3040	K3163	ALA	ALA	ALA	TYR	Q3459
D3506	T2176	L2331	L2447	R2576	I2759	K2895	M3043	T3168	GLU	GLU	ASN	GLY	A3460
S3510	E2180	E2331	D2448	L2581	P2768	A2895	L3044	T3172	GLU	PRO	PRO	VAL	I3461
Y3516	E2181	R2332	L2449	L2584	L2769	R2896	L3045	F3175	LYS	ASN	ALA	GLN	K3462
A3517	C2186	M2342	T2452	P2590	M2773	K2898	D3046	R3174	VAL	ALA	PRO	GLN	A3463
D3521	R2189	F2343	R2453	L2592	F2784	V2899	S3046	H3175	VAL	VAL	TYR	TYR	D3464
M3524	Y2190	Q2346	C2454	V2593	F2788	E2902	H3047	D3178	LEU	LEU	ASN	ASN	L3465
R3525	Y2191	T2355	S2457	L2596	Y2792	E2903	E3048	H3182	LEU	LEU	ILE	ALA	A3466
W3532	E2205	V2356	H2462	P2596	L2793	E2904	E3049	R3191	GLN	GLN	GLU	ALA	Q3469
Q3542	L2208	S2357	H2463	G2598	Y2794	L2905	F3054	S3192	GLN	GLN	GLU	ALA	I3469
D3546	Y2211	M2361	R2467	S2607	S2795	L2911	R3060	F3194	GLN	GLN	GLU	ALA	F3461
I3547	Q2215	T2371	Y2472	G2598	R2801	L2934	F3066	L3194	GLN	GLN	GLU	ALA	K3462
L3553	L2220	I2374	R2475	S2607	W2802	L2943	T3067	G3204	GLN	GLN	GLU	ALA	A3463
D3557	M2221	I2385	D2478	G2598	R2803	L2956	S3077	I3208	GLN	GLN	GLU	ALA	A3463
F3558	R2222	L2386	F2479	G2598	W2804	L2966	D3077	K3209	VAL	VAL	VAL	ALA	F3461
R3559	G2224	L2387	M2481	T2626	R2804	L2966	E3073	F3210	THR	THR	THR	ALA	K3462
W3562	G2227	L2388	Q2482	K2633	R2804	L2966	A2951	F3211	ASP	ASP	ASP	ALA	A3463
Q3563	ASP	L2389	I2483	F2635	R2804	L2966	L2966	V3212	TRP	TRP	TRP	ALA	F3461
L3567	GLU	L2390	L2486	F2635	R2804	L2966	L2966	D3213	LYS	LYS	LYS	ALA	A3463
R3582	ASP	L2391	E2487	F2635	R2804	L2966	L2966	Q3214	GLN	GLN	GLN	ALA	A3463
F3583	ALA	L2392	L2488	F2635	R2804	L2966	L2966	V3215	ILE	ILE	ILE	ALA	A3463
N3584	ARG	L2393	V2495	F2635	R2804	L2966	L2966	E3216	VAL	VAL	VAL	ALA	A3463
R3585	ARG	L2394	T2498	F2635	R2804	L2966	L2966	E3217	ARG	ARG	ARG	ALA	A3463
T3597	ARG	L2395	T2507	F2635	R2804	L2966	L2966	L3218	SER	SER	SER	ALA	A3463
R3611	ARG	L2396	L2508	F2635	R2804	L2966	L2966	R3219	ILE	ILE	ILE	ALA	A3463
L3615	ARG	L2397	K2509	F2635	R2804	L2966	L2966	R3220	MET	MET	MET	ALA	A3463
L3627	ALA	L2398	L2526	F2635	R2804	L2966	L2966	D3221	GLU	GLU	GLU	ALA	A3463
L3634	ALA	L2399	L2526	F2635	R2804	L2966	L2966	I3224	VAL	VAL	VAL	ALA	A3463
V3635	ALA	L2400	L2526	F2635	R2804	L2966	L2966	Y3125	PRO	PRO	PRO	ALA	A3463
Q3636	ALA	L2401	L2526	F2635	R2804	L2966	L2966	M3126	ALA	ALA	ALA	ALA	A3463
		L2402	L2526	F2635	R2804	L2966	L2966	V3129	VAL	VAL	VAL	ALA	A3463
		L2403	L2526	F2635	R2804	L2966	L2966	Y3130	VAL	VAL	VAL	ALA	A3463
		L2404	L2526	F2635	R2804	L2966	L2966	D3131	VAL	VAL	VAL	ALA	A3463
		L2405	L2526	F2635	R2804	L2966	L2966	K3132	VAL	VAL	VAL	ALA	A3463
		L2406	L2526	F2635	R2804	L2966	L2966	L3133	VAL	VAL	VAL	ALA	A3463
		L2407	L2526	F2635	R2804	L2966	L2966	F3134	VAL	VAL	VAL	ALA	A3463
		L2408	L2526	F2635	R2804	L2966	L2966	Q3135	VAL	VAL	VAL	ALA	A3463
		L2409	L2526	F2635	R2804	L2966	L2966	P3136	VAL	VAL	VAL	ALA	A3463
		L2410	L2526	F2635	R2804	L2966	L2966	P3137	VAL	VAL	VAL	ALA	A3463
		L2411	L2526	F2635	R2804	L2966	L2966	E3141	LYS	LYS	LYS	ALA	A3463
		L2412	L2526	F2635	R2804	L2966	L2966	N3237	LYS	LYS	LYS	ALA	A3463



• Molecule 2: Platelet-activating factor acetylhydrolase IB subunit beta



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	215049	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS GLACIOS	Depositor
Voltage (kV)	200	Depositor
Electron dose ($e^-/\text{\AA}^2$)	40	Depositor
Minimum defocus (nm)	1200	Depositor
Maximum defocus (nm)	2600	Depositor
Magnification	45000	Depositor
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	2.214	Depositor
Minimum map value	-1.179	Depositor
Average map value	-0.000	Depositor
Map value standard deviation	0.053	Depositor
Recommended contour level	0.3	Depositor
Map size (Å)	444.4032, 444.4032, 444.4032	wwPDB
Map dimensions	384, 384, 384	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.1573, 1.1573, 1.1573	Depositor

5 Model quality [i](#)

5.1 Standard geometry [i](#)

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

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	0.11	0/24093	0.27	0/32651
1	B	0.12	0/24093	0.27	0/32651
2	C	0.13	0/2624	0.31	0/3555
2	D	0.13	0/2597	0.34	0/3518
All	All	0.12	0/53407	0.28	0/72375

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	23593	0	23659	340	0
1	B	23593	0	23657	305	0
2	C	2557	0	2487	48	0
2	D	2531	0	2463	77	0
3	A	81	0	36	0	0
3	B	81	0	36	2	0
4	A	31	0	12	2	0
4	B	31	0	12	0	0
5	A	2	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
5	B	2	0	0	0	0
All	All	52502	0	52362	767	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 (767) 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:4296:MET:HE3	1:A:4297:PRO:HD2	1.53	0.91
1:B:1490:TRP:HH2	1:B:1537:TRP:HD1	1.24	0.86
1:A:1565:THR:HG22	1:A:1569:GLN:HE22	1.43	0.84
1:A:2221:MET:HG3	1:A:2343:PHE:HB2	1.59	0.84
1:B:2495:VAL:HG21	1:B:2524:VAL:HG21	1.65	0.79
1:A:2644:THR:HG22	1:A:2646:ASN:H	1.49	0.78
1:A:2633:LYS:HD2	1:A:3019:GLY:HA3	1.65	0.78
1:A:2956:LEU:HD23	1:A:2989:LYS:HB3	1.66	0.77
1:A:4055:VAL:HB	1:A:4095:MET:HE1	1.68	0.76
1:B:3989:ARG:HG3	1:B:4004:MET:HE2	1.68	0.74
2:D:257:THR:HG22	2:D:273:ARG:HB3	1.68	0.74
1:A:2452:LEU:HD13	1:A:2729:ARG:HH21	1.52	0.74
1:B:3242:LYS:NZ	1:B:3451:TYR:OH	2.20	0.73
1:B:2221:MET:HG2	1:B:2343:PHE:HB2	1.72	0.71
1:B:2257:LYS:NZ	1:B:2308:ASP:OD2	2.24	0.70
1:B:2671:MET:HE3	1:B:2675:GLY:HA2	1.74	0.69
1:A:1565:THR:O	1:A:1569:GLN:NE2	2.25	0.69
2:C:91:PRO:HA	2:C:94:TRP:HZ3	1.57	0.69
1:B:4398:LEU:HG	1:B:4417:VAL:HG11	1.73	0.69
1:A:2961:ILE:HD11	1:A:2998:ASN:HB3	1.72	0.69
1:B:4505:LYS:NZ	1:B:4554:ASP:O	2.21	0.69
1:A:3873:ARG:HD3	1:A:4021:MET:HE1	1.75	0.69
1:B:1490:TRP:CH2	1:B:1537:TRP:HD1	2.10	0.68
1:B:2047:GLN:NE2	1:B:2067:ASN:OD1	2.26	0.68
1:B:3178:ASP:OD2	1:B:3585:ARG:NE	2.27	0.68
1:A:3584:ASN:O	1:A:3651:ARG:NH1	2.26	0.67
2:D:396:VAL:HG12	2:D:406:VAL:HG22	1.75	0.67
1:B:2078:GLU:O	1:B:4415:ARG:NH1	2.27	0.67
1:B:2181:GLU:HG3	1:B:2244:LEU:HB2	1.77	0.67
2:D:95:ILE:HD11	2:D:352:PHE:HD2	1.60	0.67
1:A:2304:ASP:OD1	1:A:2726:ARG:NH1	2.25	0.66
1:A:2773:MET:HG2	1:A:2825:TRP:HE1	1.58	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2976:LEU:HD21	1:B:3008:MET:HE1	1.76	0.66
1:B:1623:ARG:NH2	1:B:1634:ASP:OD1	2.29	0.66
1:B:4178:ARG:NH2	1:B:4297:PRO:O	2.29	0.66
1:B:1769:MET:HE3	1:B:1777:PRO:HD2	1.77	0.66
1:B:2573:ASP:OD1	1:B:2576:ARG:NH2	2.28	0.65
1:A:4088:VAL:HG11	1:A:4116:LEU:HD21	1.79	0.65
1:B:1965:GLU:HG2	1:B:2026:SER:HB3	1.79	0.65
1:B:4150:PRO:O	1:B:4195:ARG:NH2	2.29	0.65
1:A:4081:ASP:OD1	1:A:4112:LYS:NZ	2.26	0.65
1:A:3611:ARG:NH1	1:A:3636:GLN:OE1	2.29	0.65
1:A:2562:VAL:O	1:A:2804:ARG:NH1	2.30	0.65
2:D:243:ASN:HB3	2:D:284:TRP:HZ3	1.61	0.65
1:A:1612:GLN:NE2	1:A:1635:GLU:OE1	2.26	0.65
1:B:3638:VAL:HG12	1:B:3681:THR:HB	1.78	0.64
2:D:243:ASN:ND2	2:D:245:ASP:OD1	2.30	0.64
1:A:2126:GLU:OE1	1:A:2126:GLU:N	2.29	0.64
1:A:2607:SER:HA	1:A:2610:ARG:HE	1.62	0.64
1:B:2444:GLU:HG2	1:B:2510:MET:HE3	1.79	0.64
1:A:2573:ASP:OD1	1:A:2576:ARG:NH2	2.29	0.64
1:B:3914:ILE:O	1:B:3937:ARG:NH1	2.31	0.64
1:A:4505:LYS:NZ	1:A:4554:ASP:O	2.30	0.64
1:A:2433:VAL:HG22	1:A:2498:ILE:HD11	1.80	0.64
1:A:3517:ALA:HB1	1:A:3525:ARG:HG2	1.81	0.63
2:D:243:ASN:ND2	2:D:247:THR:OG1	2.31	0.63
1:A:1554:SER:O	1:A:1558:LYS:NZ	2.30	0.63
1:B:2452:LEU:HD13	1:B:2729:ARG:HH21	1.64	0.63
1:A:3178:ASP:OD2	1:A:3585:ARG:NE	2.31	0.63
2:C:90:ASP:HB3	2:C:93:GLU:HB3	1.80	0.63
2:C:91:PRO:HA	2:C:94:TRP:CZ3	2.32	0.63
1:A:1750:VAL:HG12	1:A:1811:LEU:HD21	1.80	0.63
2:C:278:VAL:HB	2:C:316:ARG:HD2	1.80	0.63
1:B:3510:SER:HB3	1:B:3553:LEU:HD21	1.80	0.63
1:A:1636:ASP:OD2	1:A:1656:LYS:NZ	2.32	0.62
1:A:4492:ILE:HG22	1:A:4507:ILE:HD13	1.82	0.62
1:A:4398:LEU:HG	1:A:4417:VAL:HG21	1.80	0.62
1:B:3229:LEU:O	1:B:3233:ASN:ND2	2.31	0.62
1:B:4326:ASN:ND2	1:B:4579:ASN:O	2.31	0.62
1:A:4068:SER:HA	1:A:4095:MET:HB3	1.81	0.62
1:A:2784:PHE:HB2	1:A:2794:TYR:HE2	1.65	0.62
1:A:3174:ARG:NH1	1:A:3650:ASN:OD1	2.33	0.62
1:A:3661:LEU:HD12	1:A:3668:ASP:HB3	1.82	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1491:ASP:O	1:A:1495:ASN:ND2	2.33	0.62
1:A:3129:VAL:HG21	1:A:3149:PHE:HB2	1.80	0.62
1:B:3481:SER:HB3	1:B:3774:LYS:HE2	1.82	0.62
1:A:3946:ASP:OD2	1:A:3950:LYS:NZ	2.33	0.61
2:C:295:GLU:OE2	2:C:368:LYS:NZ	2.33	0.61
2:D:123:MET:HG3	2:D:396:VAL:HG11	1.81	0.61
1:A:4049:TYR:OH	1:A:4191:GLN:OE1	2.18	0.61
1:A:1623:ARG:NH2	1:A:1634:ASP:OD1	2.33	0.61
1:B:3230:GLU:HA	1:B:3233:ASN:HD21	1.65	0.61
2:D:174:ILE:HD11	2:D:195:VAL:HG11	1.81	0.61
1:B:4492:ILE:HG13	1:B:4507:ILE:HD13	1.82	0.61
1:A:1558:LYS:HG3	1:A:1565:THR:HG21	1.83	0.60
1:A:2138:ILE:HD12	1:A:2161:LEU:HD22	1.82	0.60
2:D:277:HIS:CG	2:D:278:VAL:H	2.18	0.60
1:B:3983:ILE:O	1:B:3987:ILE:HD12	2.01	0.60
1:B:4037:PRO:HB2	1:B:4118:PRO:HG2	1.82	0.60
1:A:2969:GLY:HA2	1:A:3004:PHE:HE1	1.65	0.60
1:A:3972:TYR:OH	1:A:3976:GLU:OE2	2.18	0.60
1:B:3561:ARG:NH1	1:B:3603:GLU:OE2	2.34	0.60
1:A:4075:GLU:O	1:A:4079:GLN:HG3	2.02	0.60
2:C:101:LYS:NZ	2:C:408:GLU:OE2	2.26	0.60
1:A:2457:SER:HB2	1:A:2732:PRO:HB3	1.83	0.60
1:A:1699:ASN:OD1	1:A:1700:GLU:N	2.35	0.60
1:B:2457:SER:HB3	1:B:2732:PRO:HB3	1.83	0.60
1:B:3219:ARG:HH21	1:B:3472:VAL:HG22	1.65	0.60
2:C:312:LEU:HD21	2:C:353:ILE:HD13	1.83	0.60
1:B:2592:VAL:HG23	1:B:2731:VAL:HG11	1.85	0.59
1:B:4611:LEU:HB2	1:B:4619:ILE:HD11	1.84	0.59
1:B:2138:ILE:HD12	1:B:2161:LEU:HD22	1.83	0.59
2:D:336:GLY:O	2:D:363:ARG:NH1	2.36	0.59
1:A:3708:LEU:HD23	1:A:3809:SER:HA	1.84	0.59
1:B:1537:TRP:CE3	1:B:1601:LEU:HD21	2.38	0.59
1:B:4496:ALA:HB2	1:B:4504:LEU:HD21	1.83	0.59
1:A:1897:GLU:O	1:A:1899:ARG:NH1	2.36	0.59
1:B:2987:ASN:OD1	1:B:3060:ARG:NH2	2.35	0.59
2:D:228:LYS:NZ	2:D:263:VAL:O	2.36	0.59
1:A:4517:PRO:HG2	1:A:4619:ILE:HD12	1.85	0.59
1:A:2386:PRO:HG3	1:A:2413:LEU:HD12	1.85	0.59
1:A:4227:ALA:HB2	1:A:4233:ILE:HD12	1.85	0.58
1:B:1959:GLU:HB3	1:B:1962:ARG:HD3	1.85	0.58
1:A:2581:LEU:HD11	1:A:2593:LEU:HD21	1.84	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3638:VAL:HG12	1:A:3681:THR:HB	1.85	0.58
1:A:3892:LEU:HD11	1:A:3983:ILE:HG21	1.85	0.58
1:B:1537:TRP:HE3	1:B:1601:LEU:HD11	1.68	0.58
1:B:1484:CYS:SG	1:B:1579:MET:HG2	2.43	0.58
1:A:4110:GLU:OE1	1:A:4137:ASN:ND2	2.36	0.58
1:B:3779:GLU:OE2	1:B:3782:ARG:NH2	2.35	0.58
1:A:1717:LEU:HB2	1:A:1749:LEU:HD22	1.85	0.58
1:B:2905:LEU:HD11	1:B:3652:GLU:HB3	1.85	0.58
1:B:2925:ILE:HG21	1:B:2933:LEU:HG	1.86	0.58
1:A:2987:ASN:OD1	1:A:3060:ARG:NH2	2.31	0.58
1:B:3839:VAL:HG21	1:B:3863:LEU:HA	1.85	0.58
1:A:4178:ARG:NH2	1:A:4297:PRO:O	2.37	0.57
1:B:3219:ARG:NH2	1:B:3472:VAL:HG13	2.18	0.57
2:D:277:HIS:HD2	2:D:316:ARG:HB2	1.70	0.57
1:A:3557:ASP:OD1	1:A:3743:ARG:NH1	2.38	0.57
1:A:4096:LEU:HD13	1:A:4105:TRP:HH2	1.68	0.57
1:B:3789:ILE:HA	1:B:3792:GLN:OE1	2.05	0.57
2:D:269:LYS:NZ	2:D:325:VAL:O	2.37	0.57
1:A:1709:MET:HE3	1:A:1872:TYR:H	1.69	0.57
1:B:2488:ARG:O	1:B:2492:ARG:HG2	2.05	0.57
1:B:4176:ARG:NH1	1:B:4220:ASP:OD1	2.36	0.57
1:B:4226:THR:HG21	1:B:4239:PRO:HD3	1.86	0.57
2:C:123:MET:SD	2:C:396:VAL:HG21	2.44	0.57
1:A:1494:PHE:O	1:A:1498:LYS:HG2	2.04	0.57
1:A:1888:CYS:HA	1:A:2039:LEU:HD22	1.87	0.57
1:A:3157:ALA:HB1	1:A:3524:MET:HE2	1.86	0.57
1:B:1620:GLU:OE2	1:B:1943:ARG:NH1	2.37	0.57
1:B:2449:LEU:HA	1:B:2453:ARG:HH21	1.69	0.57
2:C:265:THR:HG23	2:C:267:GLU:HG2	1.86	0.57
1:A:2446:ILE:HD11	1:A:2714:PRO:HB3	1.86	0.57
1:A:1879:LEU:HD13	1:A:1918:ALA:HB2	1.86	0.57
1:A:4326:ASN:ND2	1:A:4579:ASN:O	2.37	0.57
1:B:4096:LEU:HD13	1:B:4105:TRP:HH2	1.69	0.57
1:B:1897:GLU:O	1:B:1899:ARG:NH1	2.38	0.56
2:D:196:SER:OG	2:D:236:TRP:NE1	2.34	0.56
2:D:366:ASP:HB2	2:D:372:CYS:HB2	1.86	0.56
1:A:2275:TRP:NE1	1:A:2277:ASP:OD1	2.37	0.56
1:A:2472:TYR:HD2	1:A:2481:MET:HE3	1.70	0.56
1:A:3825:TYR:CZ	1:A:3875:MET:HG3	2.39	0.56
1:B:1490:TRP:HH2	1:B:1537:TRP:CD1	2.14	0.56
2:D:236:TRP:HB3	2:D:254:ASN:ND2	2.20	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2581:LEU:HD21	1:B:2593:LEU:HD21	1.88	0.56
1:A:1492:ASP:OD1	1:A:1493:LEU:N	2.39	0.56
1:A:3909:LEU:HB3	1:A:4344:LEU:HD13	1.88	0.56
1:B:2430:ASN:O	1:B:2435:LYS:NZ	2.39	0.56
1:B:3782:ARG:NH1	1:B:3786:GLU:OE2	2.39	0.56
1:B:4387:TRP:HE3	1:B:4431:LEU:HD11	1.70	0.56
2:C:110:PRO:HB3	2:C:400:VAL:HA	1.86	0.56
2:C:388:PHE:HD1	2:C:395:VAL:HG22	1.70	0.56
1:A:2934:LEU:HD11	1:A:3068:MET:HE2	1.87	0.56
1:A:1487:ILE:HD12	1:A:1537:TRP:HE1	1.70	0.56
1:A:2047:GLN:HA	1:A:2070:VAL:HG21	1.87	0.56
1:A:2538:GLU:OE2	1:A:2551:LYS:NZ	2.29	0.56
1:A:3940:CYS:O	1:A:3945:LYS:NZ	2.39	0.56
1:B:4190:ILE:HD12	1:B:4201:TRP:HZ2	1.71	0.56
2:C:353:ILE:HB	2:C:365:TRP:HB2	1.88	0.56
1:A:1839:LEU:O	1:A:1843:ARG:NH1	2.39	0.56
2:D:362:LEU:HD11	2:D:397:THR:HG21	1.88	0.56
1:A:4021:MET:HE3	1:A:4021:MET:HA	1.89	0.55
1:B:3708:LEU:HD23	1:B:3809:SER:HA	1.88	0.55
1:B:4413:PHE:CD2	1:B:4492:ILE:HG21	2.41	0.55
2:D:212:ARG:HD3	2:D:236:TRP:CG	2.41	0.55
1:B:3601:MET:HE2	1:B:3601:MET:HA	1.87	0.55
1:A:2371:THR:HG22	1:A:2451:ARG:HD2	1.89	0.55
1:A:2324:LEU:HD22	1:A:2332:ARG:HB3	1.87	0.55
1:A:4100:HIS:HB3	1:A:4128:MET:HB2	1.87	0.55
1:B:2372:ASP:OD2	1:B:2429:SER:OG	2.24	0.55
1:B:2778:THR:O	1:B:2782:GLU:HG3	2.06	0.55
1:B:2356:VAL:HG13	1:B:2361:MET:HE3	1.89	0.55
1:B:4502:LYS:H	1:B:4502:LYS:HD2	1.71	0.55
1:A:2596:PRO:HB2	1:A:2738:TYR:CE1	2.42	0.55
2:D:359:ASP:OD1	2:D:361:THR:OG1	2.17	0.55
1:B:3096:ASP:OD1	1:B:3097:TRP:N	2.40	0.55
2:C:320:ILE:HB	2:C:334:LEU:HB2	1.89	0.55
1:A:2220:LEU:HB2	1:A:2342:MET:HG2	1.88	0.54
1:B:1839:LEU:O	1:B:1843:ARG:NH1	2.40	0.54
1:A:3891:LYS:HD2	1:A:4013:LEU:HD23	1.88	0.54
2:D:94:TRP:HB3	2:D:409:CYS:HB3	1.89	0.54
1:A:1623:ARG:NH1	1:A:1632:VAL:O	2.37	0.54
1:A:2181:GLU:HG3	1:A:2244:LEU:HB2	1.89	0.54
1:A:3154:LEU:HG	1:A:3516:TYR:CD1	2.42	0.54
1:B:3715:GLU:HB3	1:B:3836:TYR:HE2	1.72	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3845:ASN:ND2	1:A:3862:ASP:OD2	2.33	0.54
2:C:128:GLU:HA	2:C:152:SER:HB2	1.90	0.54
1:B:2066:ALA:HA	1:B:2069:ILE:HG22	1.90	0.54
2:C:186:ARG:HD3	2:C:224:GLY:HA3	1.90	0.54
1:A:1627:PRO:HB3	1:A:1950:GLN:HB3	1.90	0.54
1:B:4549:GLN:HG3	1:B:4587:LEU:HB2	1.90	0.54
1:B:3099:THR:HG23	1:B:3148:VAL:HG11	1.90	0.53
2:C:216:ILE:HB	2:C:230:PHE:HB2	1.90	0.53
1:B:3214:GLN:OE1	1:B:3759:ARG:HD2	2.08	0.53
1:A:2538:GLU:HB3	1:A:2548:TRP:CE2	2.43	0.53
1:A:2051:GLN:HE21	1:A:2063:GLU:HG2	1.74	0.53
1:B:2684:ARG:NH1	1:B:2688:GLU:OE1	2.42	0.53
1:B:3584:ASN:O	1:B:3651:ARG:NH2	2.41	0.53
2:D:356:CYS:SG	2:D:386:LEU:HD22	2.48	0.53
1:A:3597:THR:HG23	1:A:3634:LEU:HD21	1.90	0.53
1:B:2855:LEU:HD21	1:B:2863:ARG:HG3	1.88	0.53
2:D:311:LEU:HB3	2:D:323:TRP:HB2	1.91	0.53
2:C:211:SER:OG	2:C:213:ASP:OD1	2.27	0.53
2:D:110:PRO:HB3	2:D:400:VAL:HA	1.90	0.53
1:B:3517:ALA:HB1	1:B:3525:ARG:HG2	1.91	0.53
2:C:280:GLU:OE2	2:C:316:ARG:NE	2.37	0.53
2:D:104:LEU:N	2:D:404:VAL:O	2.41	0.53
1:A:3731:LEU:HD21	1:A:3790:VAL:HG13	1.91	0.53
1:A:3013:ALA:HA	1:A:3088:ARG:HG3	1.91	0.53
1:B:1914:GLU:HG3	3:B:4701:ADP:H2'	1.91	0.53
1:B:3001:ASP:OD1	1:B:3002:SER:N	2.41	0.53
1:A:2257:LYS:NZ	1:A:2308:ASP:OD2	2.42	0.52
1:B:3174:ARG:NH1	1:B:3650:ASN:OD1	2.42	0.52
1:A:1487:ILE:HD12	1:A:1537:TRP:NE1	2.25	0.52
1:A:4153:VAL:O	1:A:4157:MET:HG3	2.09	0.52
1:B:4413:PHE:HZ	1:B:4509:VAL:HG11	1.74	0.52
1:B:4488:GLN:O	1:B:4492:ILE:HD12	2.09	0.52
2:C:123:MET:N	2:C:135:TRP:O	2.37	0.52
1:A:1470:TRP:HE1	1:A:1527:LEU:HD21	1.73	0.52
2:D:205:ASP:O	2:D:206:HIS:ND1	2.40	0.52
1:A:1467:ARG:HE	1:A:1523:TRP:HZ2	1.58	0.52
1:A:3559:ARG:O	1:A:3563:GLN:HG2	2.09	0.52
2:D:278:VAL:HB	2:D:316:ARG:HD2	1.92	0.52
1:B:1667:ASN:ND2	1:B:1672:VAL:HG12	2.24	0.52
1:B:3114:ASP:O	1:B:3140:ARG:NH2	2.43	0.52
1:A:2066:ALA:HA	1:A:2069:ILE:HG22	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3008:MET:HA	1:A:3008:MET:HE2	1.92	0.52
1:B:2943:LYS:N	3:B:4704:ADP:O1B	2.41	0.52
1:B:3154:LEU:HG	1:B:3516:TYR:CD1	2.45	0.52
1:A:4039:THR:HG23	1:A:4142:GLY:HA2	1.90	0.52
1:A:4160:THR:HG23	1:A:4212:LEU:HD21	1.92	0.52
1:A:2449:LEU:HA	1:A:2453:ARG:HH21	1.74	0.52
1:A:2449:LEU:HD11	1:A:2454:CYS:SG	2.50	0.52
1:B:3835:ILE:HG12	1:B:3870:ARG:HD2	1.92	0.52
1:A:2768:PRO:HB2	1:A:2858:PHE:HE1	1.74	0.52
1:A:4213:ARG:HB2	1:A:4213:ARG:NH1	2.24	0.52
1:B:3735:GLN:HG3	1:B:3787:THR:HG21	1.92	0.52
1:A:4496:ALA:HB2	1:A:4504:LEU:HD21	1.92	0.51
1:B:2433:VAL:HG22	1:B:2498:ILE:HD11	1.91	0.51
1:B:2797:ARG:O	1:B:2801:ARG:HG3	2.10	0.51
1:A:2131:LEU:HD12	1:A:2132:PRO:HD2	1.92	0.51
1:A:4412:PHE:CZ	1:A:4520:TYR:HB2	2.46	0.51
1:B:3492:THR:HA	1:B:3495:THR:HG22	1.91	0.51
1:B:3560:LEU:HD11	1:B:3743:ARG:HH22	1.75	0.51
1:B:1946:VAL:HG22	1:B:2006:VAL:HG21	1.92	0.51
2:D:95:ILE:HD11	2:D:352:PHE:CD2	2.44	0.51
1:B:2481:MET:HE3	1:B:2485:GLN:HG2	1.92	0.51
1:A:1709:MET:CE	1:A:1872:TYR:H	2.24	0.51
1:A:2290:SER:HB2	1:A:2295:LEU:HG	1.92	0.51
1:A:3172:THR:HG21	1:A:3694:SER:HB3	1.93	0.51
1:B:1561:LEU:HB3	1:B:1564:GLU:HB2	1.92	0.51
1:B:3548:ALA:HB3	1:B:3551:GLU:HG2	1.93	0.51
1:B:3623:LEU:O	1:B:3627:LEU:HG	2.10	0.51
1:A:2626:THR:HB	1:A:2669:PRO:HG3	1.92	0.51
1:A:3459:GLN:O	1:A:3462:LYS:HG2	2.10	0.51
2:D:361:THR:HA	2:D:377:ASN:HA	1.92	0.51
2:C:220:GLU:OE1	2:C:223:THR:OG1	2.27	0.51
1:B:1958:ASP:HA	1:B:2017:THR:HB	1.92	0.51
1:A:3825:TYR:OH	1:A:3879:ASP:OD2	2.19	0.51
1:A:4463:SER:HG	1:A:4464:TRP:CD1	2.29	0.51
2:D:127:SER:OG	2:D:128:GLU:N	2.44	0.51
1:A:2172:ARG:HH22	1:A:2205:GLU:HG3	1.75	0.50
1:B:2231:SER:HA	1:B:2234:TRP:CD1	2.46	0.50
1:B:2967:TYR:OH	1:B:2975:ASP:OD2	2.28	0.50
1:B:3876:LEU:HD23	1:B:4146:VAL:HG11	1.93	0.50
1:A:1721:VAL:HA	1:A:1724:VAL:HG12	1.93	0.50
1:A:3135:GLN:O	1:A:3137:PRO:HD3	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:3970:VAL:HB	1:B:3989:ARG:HH11	1.76	0.50
1:B:3072:SER:O	1:B:3076:LYS:HG3	2.12	0.50
1:B:4039:THR:HG23	1:B:4142:GLY:HA2	1.93	0.50
1:B:3817:SER:OG	1:B:4346:MET:HB3	2.11	0.50
2:D:274:GLU:HG3	2:D:323:TRP:CH2	2.47	0.50
1:A:4528:VAL:HG11	1:A:4592:TRP:HB2	1.93	0.50
1:B:4544:ASN:HB2	1:B:4573:ASN:HD21	1.77	0.50
2:D:257:THR:OG1	2:D:259:ARG:NH1	2.44	0.50
1:B:1460:GLU:OE2	1:B:1460:GLU:N	2.30	0.50
1:B:4318:PRO:HG2	1:B:4325:ASN:HA	1.94	0.50
2:C:274:GLU:HB2	2:C:323:TRP:HH2	1.77	0.50
1:A:2964:HIS:HA	1:A:3643:PRO:HD2	1.93	0.50
1:A:3990:LEU:HA	1:A:4004:MET:HG2	1.93	0.50
1:B:2290:SER:HB2	1:B:2295:LEU:HG	1.93	0.50
1:B:2879:LYS:HE2	2:C:336:GLY:HA2	1.94	0.50
1:A:1533:LEU:HD11	1:A:1597:VAL:HG22	1.94	0.49
1:A:2138:ILE:HD11	1:A:2165:PHE:CG	2.47	0.49
1:A:2422:ILE:HD13	1:A:2487:GLU:HA	1.94	0.49
2:C:90:ASP:OD1	2:C:91:PRO:HD2	2.12	0.49
1:A:1565:THR:HG22	1:A:1569:GLN:NE2	2.20	0.49
1:A:3510:SER:HB3	1:A:3553:LEU:HD21	1.94	0.49
1:B:4387:TRP:HE1	1:B:4476:ILE:HD12	1.77	0.49
2:D:277:HIS:CD2	2:D:278:VAL:H	2.30	0.49
1:B:1569:GLN:O	1:B:1573:THR:HG23	2.12	0.49
2:C:254:ASN:HD22	2:C:278:VAL:HG21	1.77	0.49
1:A:1836:PHE:HA	1:A:1839:LEU:HB2	1.95	0.49
1:A:2877:LEU:HD11	1:A:2884:VAL:HG23	1.93	0.49
2:D:165:LEU:HB3	2:D:177:TRP:HB2	1.94	0.49
1:A:2051:GLN:NE2	1:A:2063:GLU:HG2	2.28	0.49
1:B:4187:HIS:ND1	1:B:4252:TYR:OH	2.41	0.49
1:B:1508:LYS:HG2	1:B:1513:TYR:CZ	2.47	0.49
1:B:3110:THR:O	1:B:3140:ARG:NH1	2.45	0.49
1:B:3551:GLU:HA	1:B:3559:ARG:HH12	1.77	0.49
1:B:3981:THR:HG23	1:B:3984:GLY:H	1.76	0.49
2:C:112:THR:HG21	2:C:154:GLN:HA	1.94	0.49
2:D:321:LYS:HG2	2:D:333:THR:HG22	1.94	0.49
1:B:1543:ARG:HA	1:B:1546:TYR:CE1	2.47	0.49
1:B:1619:LEU:HD11	1:B:1638:LEU:HG	1.94	0.49
1:B:4297:PRO:HG3	1:B:4308:TRP:CD2	2.47	0.49
1:B:4381:HIS:HB2	1:B:4438:CYS:HB3	1.94	0.49
1:A:2231:SER:HA	1:A:2234:TRP:CD1	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1533:LEU:HD11	1:B:1597:VAL:HG22	1.93	0.49
1:B:3228:GLU:HA	1:B:3231:VAL:HG12	1.94	0.49
1:B:3985:GLN:O	1:B:3989:ARG:HG2	2.12	0.49
2:C:193:HIS:HD1	2:C:194:ASN:H	1.59	0.49
1:A:2822:ILE:HD11	1:A:2858:PHE:CD2	2.48	0.49
1:B:2257:LYS:HE3	1:B:2676:THR:HG21	1.94	0.49
1:B:1850:GLN:HB3	1:B:1856:GLN:HG2	1.94	0.49
2:D:206:HIS:CE1	2:D:220:GLU:HG2	2.48	0.49
2:D:243:ASN:HD21	2:D:247:THR:H	1.61	0.49
1:A:2080:LEU:O	1:A:4415:ARG:NH1	2.46	0.48
1:A:1547:LEU:HD12	1:A:1608:LEU:HD22	1.95	0.48
1:A:1795:SER:O	1:A:1800:GLN:NE2	2.30	0.48
1:A:1706:GLU:O	1:A:1710:ARG:HG3	2.14	0.48
1:A:1949:CYS:SG	1:A:2012:MET:HE3	2.53	0.48
2:C:277:HIS:ND1	2:C:316:ARG:HB2	2.28	0.48
1:A:1462:PHE:O	1:A:1466:ILE:HG12	2.13	0.48
1:A:2073:PHE:HZ	1:A:2096:VAL:HG21	1.79	0.48
1:A:4297:PRO:HG3	1:A:4308:TRP:CG	2.48	0.48
1:A:2186:CYS:HA	1:A:2191:LEU:HB2	1.96	0.48
1:A:2483:ILE:O	1:A:2486:LEU:N	2.46	0.48
1:B:1627:PRO:HB3	1:B:1950:GLN:HB3	1.94	0.48
1:B:3013:ALA:HA	1:B:3088:ARG:HG3	1.94	0.48
1:B:4027:LEU:HB3	1:B:4058:LEU:HD22	1.96	0.48
1:B:4045:SER:HB3	1:B:4147:PHE:HB2	1.96	0.48
2:C:123:MET:HE2	2:C:137:TYR:HB3	1.95	0.48
1:A:1477:LEU:HB3	1:A:1485:ARG:HB3	1.96	0.48
1:A:2592:VAL:HG23	1:A:2731:VAL:HG11	1.96	0.48
1:A:2070:VAL:HB	1:A:2071:PRO:HD3	1.96	0.48
1:A:2227:GLY:HA3	1:A:2452:LEU:HD12	1.95	0.48
1:B:3551:GLU:HA	1:B:3559:ARG:NH1	2.29	0.48
1:A:1850:GLN:HB3	1:A:1856:GLN:HG2	1.95	0.48
1:A:4409:LEU:HD11	1:A:4558:PHE:HE2	1.77	0.48
1:B:4543:VAL:HG11	1:B:4622:VAL:HB	1.94	0.48
1:B:2564:ALA:HB3	1:B:2567:VAL:HG23	1.95	0.48
1:B:4517:PRO:HG2	1:B:4619:ILE:HD12	1.95	0.48
1:A:2046:ARG:HG2	1:A:2090:LEU:HD13	1.96	0.47
1:A:3961:LEU:O	1:A:3997:ARG:NH1	2.46	0.47
1:B:3835:ILE:HG23	1:B:3866:VAL:HG12	1.96	0.47
1:B:3967:GLU:OE1	1:B:4000:ARG:NE	2.41	0.47
2:D:95:ILE:HG22	2:D:97:ARG:HH12	1.79	0.47
1:B:1708:GLU:HA	1:B:1711:VAL:HG22	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2943:LYS:HG2	1:B:3094:PHE:CD2	2.48	0.47
1:A:2374:ILE:HD13	1:A:2452:LEU:HD21	1.95	0.47
1:B:2863:ARG:HH11	1:B:2863:ARG:HG2	1.78	0.47
1:B:3129:VAL:HG21	1:B:3149:PHE:HB2	1.96	0.47
1:A:1480:TYR:OH	1:A:1548:GLU:OE2	2.23	0.47
1:A:1507:MET:O	1:A:1510:SER:OG	2.25	0.47
1:A:1582:VAL:HG13	1:A:1591:VAL:HG11	1.96	0.47
1:A:2232:MET:HG3	4:A:4702:ATP:C8	2.48	0.47
1:B:2454:CYS:HB3	1:B:2502:LEU:HD12	1.97	0.47
1:B:4052:SER:O	1:B:4056:GLU:HG2	2.14	0.47
1:B:4088:VAL:HG11	1:B:4116:LEU:HD23	1.97	0.47
1:B:4412:PHE:CZ	1:B:4520:TYR:HB2	2.50	0.47
1:A:4412:PHE:HZ	1:A:4514:LEU:HD13	1.80	0.47
1:B:4554:ASP:OD2	1:B:4557:SER:OG	2.29	0.47
1:A:2837:LEU:HD13	1:A:2842:GLU:HB3	1.97	0.47
1:A:2943:LYS:HE2	1:A:3067:THR:HB	1.97	0.47
1:B:2507:ARG:HH21	1:B:2509:LYS:HE3	1.79	0.47
1:B:3135:GLN:O	1:B:3137:PRO:HD3	2.14	0.47
2:D:277:HIS:CG	2:D:278:VAL:N	2.83	0.47
2:D:338:ASP:HB3	2:D:359:ASP:HB3	1.96	0.47
1:A:2423:MET:HE2	1:A:2462:LEU:HD22	1.96	0.47
1:A:2508:LEU:HD11	1:A:2576:ARG:HH22	1.79	0.47
1:A:3597:THR:HG21	1:A:3611:ARG:HH12	1.80	0.47
1:B:1459:LEU:HG	1:B:1507:MET:HG3	1.95	0.47
1:B:1475:LEU:HD13	1:B:1487:ILE:HD13	1.97	0.47
1:B:2529:ALA:HB1	1:B:2532:ILE:HD12	1.97	0.47
1:B:3738:PHE:CE1	1:B:3783:LYS:HB3	2.50	0.47
2:D:243:ASN:HB3	2:D:284:TRP:CZ3	2.47	0.47
1:A:1476:ASP:O	1:A:1487:ILE:HA	2.15	0.47
1:A:2179:ARG:HH11	1:A:2208:LEU:HD11	1.80	0.47
1:A:4037:PRO:HB2	1:A:4118:PRO:HG2	1.95	0.47
2:C:369:ASN:HB2	2:C:371:ARG:HG2	1.96	0.47
1:A:2759:ILE:HD12	1:A:2815:THR:HA	1.97	0.47
1:A:4190:ILE:HD12	1:A:4201:TRP:HZ2	1.79	0.47
1:B:2538:GLU:HB3	1:B:2548:TRP:CE2	2.49	0.47
1:B:2964:HIS:H	1:B:2967:TYR:HB2	1.80	0.47
1:A:2211:TYR:O	1:A:2215:GLN:HG3	2.15	0.46
1:A:3214:GLN:O	1:A:3217:GLU:HG3	2.15	0.46
1:B:3230:GLU:HA	1:B:3233:ASN:ND2	2.30	0.46
1:A:1687:LYS:HD3	1:A:1712:THR:HG23	1.96	0.46
1:B:3753:LEU:HD21	1:B:3770:LEU:HD21	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2285:ARG:NH1	1:A:2331:GLU:OE2	2.39	0.46
1:A:4156:ASN:ND2	1:A:4188:ALA:HA	2.30	0.46
1:A:4318:PRO:HG2	1:A:4325:ASN:HA	1.98	0.46
1:B:3211:THR:HG22	1:B:3479:LEU:HD21	1.97	0.46
1:B:4160:THR:HG23	1:B:4212:LEU:HD21	1.97	0.46
1:A:3521:ASP:OD1	1:A:3521:ASP:N	2.45	0.46
1:B:2784:PHE:HB2	1:B:2794:TYR:HE2	1.81	0.46
1:B:3175:HIS:HB3	1:B:3516:TYR:CE1	2.50	0.46
2:C:169:SER:HB3	2:C:171:ASP:OD1	2.15	0.46
1:A:2074:LYS:HE3	1:A:2074:LYS:HB3	1.77	0.46
1:A:2437:LEU:HD21	1:A:2451:ARG:HG3	1.98	0.46
1:A:3175:HIS:HB3	1:A:3516:TYR:CE1	2.50	0.46
1:A:4247:MET:HE1	1:A:4273:PHE:CZ	2.50	0.46
1:B:2070:VAL:HB	1:B:2071:PRO:HD3	1.96	0.46
1:B:3214:GLN:HG2	1:B:3761:LEU:HD12	1.98	0.46
2:C:274:GLU:HB2	2:C:323:TRP:CH2	2.51	0.46
1:A:1476:ASP:HB3	1:A:1488:ARG:CZ	2.46	0.46
1:A:2897:LEU:HD11	1:A:2911:LEU:HD21	1.98	0.46
1:A:4150:PRO:O	1:A:4195:ARG:NH2	2.49	0.46
1:B:2665:GLU:HB3	1:B:2668:LEU:HD12	1.98	0.46
2:D:312:LEU:HD23	2:D:313:SER:N	2.31	0.46
1:A:3211:THR:HG22	1:A:3479:LEU:HD11	1.98	0.46
1:B:3759:ARG:NH2	1:B:3762:ASP:OD1	2.30	0.46
2:C:366:ASP:HB2	2:C:373:MET:HG3	1.97	0.46
2:D:381:HIS:CD2	2:D:382:PHE:CD2	3.04	0.46
1:B:3135:GLN:HB2	1:B:3136:PRO:HD3	1.97	0.46
2:D:136:ASP:O	2:D:140:GLY:N	2.49	0.46
2:D:289:SER:O	2:D:293:ILE:HG12	2.15	0.46
1:A:1708:GLU:HA	1:A:1711:VAL:HG22	1.98	0.46
1:A:3154:LEU:HD21	1:A:3532:TRP:HZ2	1.81	0.46
1:A:3615:LEU:HD11	1:A:4111:LYS:HD3	1.97	0.46
1:A:4489:LEU:HD23	1:A:4492:ILE:HD11	1.98	0.46
1:B:1728:GLY:O	1:B:1729:LYS:HG3	2.16	0.46
2:D:315:SER:O	2:D:341:VAL:HG22	2.16	0.46
1:A:1671:SER:HB2	1:A:1693:THR:HG23	1.98	0.45
1:A:2091:ARG:NH1	1:A:2320:ASP:OD1	2.49	0.45
1:A:1665:ILE:HD11	1:A:1683:GLU:HB2	1.98	0.45
1:A:2905:LEU:HD11	1:A:3652:GLU:HB3	1.98	0.45
1:A:2943:LYS:HG2	1:A:3094:PHE:CD2	2.52	0.45
1:A:2190:TYR:CE2	1:A:2385:ILE:HD11	2.51	0.45
1:B:1601:LEU:HA	1:B:1601:LEU:HD23	1.72	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:4544:ASN:OD1	1:B:4589:GLN:HB2	2.17	0.45
1:A:1459:LEU:HG	1:A:1507:MET:SD	2.57	0.45
1:B:2308:ASP:O	1:B:2312:VAL:HG12	2.16	0.45
1:B:2211:TYR:O	1:B:2214:THR:OG1	2.32	0.45
1:B:2270:PRO:HA	1:B:2273:ARG:HH11	1.82	0.45
1:B:3475:SER:O	1:B:3479:LEU:HD23	2.16	0.45
1:A:3787:THR:HA	1:A:3790:VAL:HG12	1.99	0.45
1:A:4052:SER:O	1:A:4056:GLU:HG3	2.17	0.45
1:B:1505:SER:HA	1:B:1508:LYS:HZ3	1.82	0.45
1:B:3662:ILE:HG23	1:B:3669:ILE:HB	1.97	0.45
1:B:4487:LYS:O	1:B:4490:GLN:HG2	2.16	0.45
2:C:252:CYS:HB2	2:C:279:VAL:HB	1.98	0.45
1:A:2189:MET:HB2	1:A:2191:LEU:HD23	1.99	0.45
1:A:4414:GLU:HA	1:A:4417:VAL:HG22	1.98	0.45
1:B:2969:GLY:HA2	1:B:3004:PHE:HE1	1.82	0.45
2:D:113:ARG:HA	2:D:385:SER:HB3	1.99	0.45
1:A:3182:HIS:NE2	1:A:3582:ARG:O	2.48	0.45
1:A:3452:ALA:HA	1:A:3455:ILE:HG12	1.98	0.45
1:A:3790:VAL:O	1:A:3793:GLU:HG2	2.17	0.45
1:A:3904:GLU:HG3	1:A:3941:LEU:HD21	1.99	0.45
2:C:200:ILE:HG12	2:C:207:ILE:HG12	1.99	0.45
1:B:2562:VAL:O	1:B:2804:ARG:NH1	2.40	0.45
1:A:2060:ARG:NH2	1:A:2129:GLU:HA	2.32	0.45
1:A:2793:ILE:O	1:A:2836:ARG:NH1	2.50	0.45
1:B:1508:LYS:NZ	1:B:1524:GLU:OE2	2.50	0.45
2:D:220:GLU:OE1	2:D:223:THR:OG1	2.25	0.45
2:D:249:ILE:O	2:D:261:TRP:N	2.34	0.45
2:D:320:ILE:HD11	2:D:337:HIS:CD2	2.52	0.45
1:A:2222:MET:HE1	1:A:2234:TRP:HB3	1.98	0.44
1:A:3194:LEU:HD12	1:A:3194:LEU:HA	1.85	0.44
1:A:4260:PHE:CE2	1:A:4608:PRO:HB3	2.52	0.44
1:B:1526:LYS:HE2	1:B:1589:MET:HE1	1.98	0.44
1:B:2138:ILE:HG22	1:B:2170:TYR:HB2	1.99	0.44
1:B:3881:ILE:O	1:B:3885:MET:HG2	2.16	0.44
1:A:2507:ARG:NH2	1:A:2509:LYS:HD2	2.32	0.44
1:B:2304:ASP:OD1	1:B:2684:ARG:NH2	2.51	0.44
2:D:253:SER:OG	2:D:254:ASN:N	2.49	0.44
2:D:344:VAL:HG23	2:D:355:SER:OG	2.17	0.44
1:A:3012:LEU:HD11	1:A:3066:PHE:HE2	1.82	0.44
1:A:4611:LEU:HB2	1:A:4619:ILE:HD11	1.99	0.44
1:B:1550:ILE:HG13	1:B:1641:ILE:HG22	1.98	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3741:ARG:NH2	1:A:3776:GLU:OE1	2.50	0.44
1:B:2906:ASP:HB2	1:B:3654:ARG:HA	1.99	0.44
1:B:3716:VAL:HB	1:B:3836:TYR:OH	2.17	0.44
2:C:309:PRO:HG2	2:C:325:VAL:HB	1.98	0.44
2:C:381:HIS:ND1	2:C:400:VAL:HB	2.32	0.44
2:D:381:HIS:CD2	2:D:382:PHE:HD2	2.35	0.44
1:A:1756:ILE:O	1:A:1760:GLU:HG2	2.18	0.44
1:A:2802:TRP:CZ2	1:A:2829:ALA:HB2	2.53	0.44
1:A:2899:VAL:O	1:A:2903:GLU:HG3	2.17	0.44
1:A:4009:VAL:HG13	1:A:4013:LEU:HD12	1.99	0.44
1:B:3929:VAL:O	1:B:3932:ALA:N	2.51	0.44
1:B:4534:TRP:CD2	1:B:4594:LYS:HD3	2.52	0.44
1:B:2756:LEU:HD13	1:B:2762:LEU:O	2.18	0.44
1:B:3158:ASN:ND2	1:B:3169:MET:O	2.50	0.44
1:B:3751:GLN:O	1:B:3754:ASN:N	2.50	0.44
1:B:4401:THR:HB	1:B:4404:ASN:HB2	1.98	0.44
2:D:307:PRO:HB2	2:D:310:PHE:CZ	2.52	0.44
1:A:1476:ASP:HB3	1:A:1488:ARG:NH1	2.32	0.44
1:A:1543:ARG:HA	1:A:1546:TYR:CE2	2.53	0.44
1:A:1637:LEU:O	1:A:1641:ILE:HG12	2.18	0.44
1:A:2590:PRO:O	1:A:2732:PRO:HD2	2.18	0.44
1:A:2792:TYR:OH	1:A:2842:GLU:OE1	2.32	0.44
1:A:2894:LYS:HG2	1:A:2911:LEU:HD12	2.00	0.44
1:A:3099:THR:HG23	1:A:3148:VAL:HG11	1.99	0.44
1:B:2446:ILE:HD11	1:B:2714:PRO:HB3	1.99	0.44
1:A:1478:VAL:HG23	1:A:1488:ARG:NH1	2.32	0.44
1:A:1543:ARG:HB3	1:A:1608:LEU:HD13	1.99	0.44
1:A:1895:ALA:HB2	1:A:2037:ARG:HB2	1.99	0.44
1:A:3204:GLY:O	1:A:3208:ILE:HG12	2.18	0.44
1:A:3211:THR:O	1:A:3215:VAL:HG23	2.18	0.44
1:B:1606:ASP:O	1:B:1610:LYS:HG2	2.17	0.44
1:B:4179:LEU:HD12	1:B:4223:LEU:HD22	1.98	0.44
2:C:155:ASP:HB3	2:C:198:VAL:HG12	1.99	0.44
1:A:2445:HIS:NE2	1:A:2449:LEU:HD22	2.33	0.44
1:A:3194:LEU:HD23	1:A:3500:MET:SD	2.58	0.44
1:A:4058:LEU:HD11	1:A:4062:GLN:HE21	1.83	0.44
1:A:4168:ARG:HH21	1:A:4216:CYS:HB3	1.81	0.44
1:B:2138:ILE:HD11	1:B:2165:PHE:CG	2.53	0.44
1:B:2802:TRP:CZ2	1:B:2829:ALA:HB2	2.52	0.44
2:D:186:ARG:NH1	2:D:221:VAL:O	2.51	0.44
1:A:1814:GLU:HB2	1:A:1878:LYS:HE2	1.98	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1817:HIS:CE1	1:A:1881:GLN:HG2	2.53	0.43
1:A:4423:LEU:HD12	1:A:4466:HIS:ND1	2.33	0.43
1:B:1558:LYS:HD2	1:B:1565:THR:HG21	2.00	0.43
1:B:2257:LYS:CE	1:B:2676:THR:HG21	2.48	0.43
1:A:2224:GLY:O	1:A:2346:GLN:HA	2.18	0.43
1:A:3923:ARG:NH1	1:A:3924:ILE:O	2.51	0.43
1:B:1665:ILE:HD11	1:B:1683:GLU:HG2	2.00	0.43
1:B:1969:SER:OG	1:B:4098:ASN:ND2	2.47	0.43
1:B:2605:LEU:HD13	1:B:2709:VAL:HG11	2.00	0.43
1:A:1497:VAL:O	1:A:1501:ILE:HG12	2.18	0.43
1:A:2191:LEU:HD12	4:A:4702:ATP:C6	2.53	0.43
1:A:2654:GLN:NE2	1:A:3048:GLU:HG2	2.33	0.43
1:A:2495:VAL:HG11	1:A:2526:LEU:HD21	2.00	0.43
1:A:3562:TRP:HB3	1:A:3567:LEU:HD22	2.01	0.43
1:A:3948:ILE:HA	1:A:3951:VAL:HG12	2.00	0.43
1:B:1879:LEU:HD21	1:B:1914:GLU:HB3	2.01	0.43
1:B:2063:GLU:O	1:B:2067:ASN:ND2	2.51	0.43
1:B:2134:GLN:O	1:B:2138:ILE:HG12	2.18	0.43
1:B:3172:THR:HG21	1:B:3694:SER:HB3	2.00	0.43
1:B:3521:ASP:N	1:B:3521:ASP:OD1	2.49	0.43
2:D:191:HIS:CD2	2:D:211:SER:HB3	2.54	0.43
1:A:3764:ASP:O	1:A:3768:THR:HG23	2.18	0.43
1:B:2755:MET:HE2	1:B:2807:PHE:HB2	2.00	0.43
1:B:2825:TRP:CZ3	1:B:2854:ALA:HB2	2.54	0.43
1:B:3163:LYS:HE2	1:B:3163:LYS:HB3	1.92	0.43
1:B:4485:ARG:HG2	1:B:4513:GLY:HA2	2.01	0.43
1:A:1654:PHE:HE1	1:A:1702:LEU:HD21	1.84	0.43
1:A:3133:LEU:HD11	1:A:3141:GLU:HB3	2.01	0.43
1:A:3875:MET:HE1	1:A:3883:PHE:HB2	2.00	0.43
1:B:1687:LYS:HG3	1:B:1715:LYS:HD2	2.00	0.43
1:B:2972:PHE:HZ	1:B:3008:MET:HE3	1.83	0.43
1:B:4002:LEU:O	1:B:4006:HIS:ND1	2.34	0.43
1:B:4387:TRP:HE1	1:B:4476:ILE:CD1	2.32	0.43
1:A:2980:LEU:HD21	1:A:3011:LEU:HD11	2.01	0.43
1:A:4430:ASP:OD2	1:A:4447:TYR:OH	2.36	0.43
1:B:2943:LYS:HE2	1:B:3067:THR:HB	2.01	0.43
1:B:4395:LEU:HD12	1:B:4486:ILE:HG23	1.99	0.43
1:B:4516:VAL:HG12	1:B:4519:ALA:H	1.84	0.43
2:C:378:ALA:O	2:C:405:LYS:NZ	2.35	0.43
1:A:1565:THR:C	1:A:1569:GLN:HE22	2.26	0.43
1:A:3753:LEU:HD21	1:A:3770:LEU:HD21	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4098:ASN:N	1:A:4127:THR:O	2.51	0.43
1:B:1470:TRP:NE1	1:B:1527:LEU:HD21	2.34	0.43
1:B:1492:ASP:OD1	1:B:1493:LEU:N	2.51	0.43
2:C:214:LYS:HG2	2:C:235:GLU:C	2.43	0.43
2:D:98:PRO:N	2:D:99:PRO:HD2	2.34	0.43
2:D:259:ARG:HG2	2:D:271:GLU:HG3	2.01	0.43
1:A:1835:SER:OG	1:A:1837:GLU:OE1	2.37	0.43
1:A:3482:LEU:HD11	1:A:3770:LEU:HD23	2.00	0.43
1:B:3790:VAL:HA	1:B:3793:GLU:HG3	2.00	0.43
1:A:2773:MET:HG2	1:A:2825:TRP:NE1	2.29	0.43
1:A:3130:TYR:CZ	1:A:3132:LYS:HB2	2.53	0.43
1:A:3491:LYS:O	1:A:3495:THR:HG23	2.19	0.43
1:A:3502:THR:HG22	1:A:3542:GLN:HB3	2.00	0.43
1:B:1741:TRP:CH2	1:B:1750:VAL:HG13	2.54	0.43
1:B:2273:ARG:HA	1:B:2273:ARG:HD2	1.81	0.43
1:B:2469:VAL:HG13	1:B:2481:MET:SD	2.59	0.43
1:B:3849:VAL:HG12	1:B:3855:ARG:HG2	2.01	0.43
2:C:236:TRP:HB3	2:C:254:ASN:OD1	2.19	0.43
1:A:2149:LEU:HD11	1:A:2157:LEU:HD22	2.00	0.42
1:A:3049:GLU:H	1:A:3049:GLU:CD	2.26	0.42
1:B:1518:GLU:HG2	1:B:1519:ASP:N	2.34	0.42
1:B:2413:LEU:O	1:B:2417:ARG:HG3	2.19	0.42
1:B:2623:SER:OG	1:B:3006:GLU:OE1	2.36	0.42
1:B:2956:LEU:HD22	1:B:2989:LYS:HB3	2.00	0.42
1:B:3114:ASP:O	1:B:3116:GLU:HG2	2.19	0.42
1:B:4246:LEU:HD23	1:B:4246:LEU:HA	1.82	0.42
1:A:2584:TRP:HZ3	1:A:2734:VAL:HB	1.84	0.42
1:A:4460:LEU:HD12	1:A:4461:PRO:HD2	2.01	0.42
1:B:2190:TYR:CE2	1:B:2385:ILE:HD11	2.53	0.42
1:A:1698:ILE:HD12	1:A:1701:TRP:NE1	2.34	0.42
1:A:2823:ARG:HH22	1:A:2868:SER:HB3	1.84	0.42
1:A:3973:LEU:HD23	1:A:3973:LEU:O	2.19	0.42
2:C:176:LEU:HD13	2:C:207:ILE:HD11	2.01	0.42
2:D:387:ASP:OD1	2:D:388:PHE:N	2.52	0.42
1:A:2040:ALA:HB1	1:A:4257:ASP:HB3	2.02	0.42
1:A:2534:ILE:HD12	1:A:2534:ILE:H	1.83	0.42
1:A:3451:TYR:HA	1:A:3454:LEU:HG	2.02	0.42
1:A:3627:LEU:HD12	1:A:3664:LEU:HD22	2.01	0.42
1:B:2043:LYS:HE2	1:B:2043:LYS:HB2	1.71	0.42
1:B:2837:LEU:HD13	1:B:2842:GLU:HB3	2.00	0.42
1:B:3148:VAL:O	1:B:3152:GLN:HG3	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:212:ARG:HG3	2:C:236:TRP:CG	2.55	0.42
1:A:1702:LEU:HD23	1:A:1702:LEU:HA	1.92	0.42
1:A:2387:LEU:HD23	1:A:2467:ARG:CZ	2.49	0.42
1:B:1888:CYS:HA	1:B:2039:LEU:HD22	2.01	0.42
1:B:2643:ARG:HH11	1:B:2648:VAL:HG23	1.84	0.42
1:B:3483:SER:O	1:B:3486:ARG:HG2	2.18	0.42
1:B:3877:HIS:CE1	1:B:4151:PRO:HB3	2.55	0.42
2:C:193:HIS:HB3	2:C:212:ARG:HB3	2.01	0.42
1:A:1490:TRP:HH2	1:A:1537:TRP:CD1	2.38	0.42
1:A:2221:MET:SD	1:A:2361:MET:HE1	2.60	0.42
1:A:2607:SER:HA	1:A:2610:ARG:NE	2.32	0.42
1:A:3216:GLU:HA	1:A:3219:ARG:NH1	2.35	0.42
1:B:3567:LEU:HD12	1:B:3568:PRO:HD2	2.02	0.42
2:D:100:GLU:HB3	2:D:407:TRP:CZ3	2.55	0.42
2:D:243:ASN:ND2	2:D:247:THR:H	2.17	0.42
1:A:1534:PHE:HA	1:A:1537:TRP:HB3	2.02	0.42
1:A:3727:LYS:O	1:A:3731:LEU:HD13	2.19	0.42
1:B:1581:LYS:HA	1:B:1584:LYS:HE3	2.01	0.42
1:B:2224:GLY:O	1:B:2346:GLN:HA	2.20	0.42
1:B:3222:LEU:HD22	1:B:3472:VAL:HG21	2.01	0.42
1:A:1572:SER:O	1:A:1576:LEU:HG	2.20	0.42
1:B:2073:PHE:HZ	1:B:2096:VAL:HG21	1.85	0.42
1:B:2319:LEU:HD13	1:B:2359:CYS:SG	2.60	0.42
1:B:2324:LEU:HD22	1:B:2332:ARG:HB3	2.01	0.42
1:B:2989:LYS:NZ	2:C:276:GLU:O	2.42	0.42
1:B:4097:LYS:HA	1:B:4127:THR:HB	2.01	0.42
1:B:4099:VAL:HB	1:B:4106:LEU:HD21	2.01	0.42
2:D:365:TRP:HD1	2:D:373:MET:HA	1.84	0.42
1:B:1514:LYS:H	1:B:1514:LYS:HG2	1.62	0.42
1:B:2517:TYR:CE2	1:B:2521:ILE:HD13	2.55	0.42
1:B:4115:SER:O	1:B:4116:LEU:HD12	2.20	0.42
2:D:228:LYS:HB2	2:D:266:LYS:HE2	2.02	0.42
1:A:1931:ASN:HD21	1:A:2316:ASN:HB2	1.84	0.42
1:A:3161:LEU:HD23	1:A:3168:THR:HG22	2.01	0.42
1:A:4187:HIS:ND1	1:A:4252:TYR:OH	2.49	0.42
1:B:2437:LEU:HD21	1:B:2451:ARG:HG3	2.01	0.42
1:B:2999:VAL:HG11	1:B:3005:LEU:HG	2.02	0.42
1:B:3970:VAL:HB	1:B:3989:ARG:NH1	2.35	0.42
2:C:109:SER:HB3	2:C:128:GLU:HB2	2.01	0.42
1:A:2221:MET:HE1	1:A:2355:THR:HG22	2.02	0.41
1:A:4248:ALA:HB2	1:A:4269:LEU:HD12	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4285:ALA:O	1:A:4293:ASP:HB2	2.20	0.41
1:B:1469:VAL:O	1:B:1473:TYR:HB2	2.20	0.41
1:B:2590:PRO:O	1:B:2732:PRO:HD2	2.20	0.41
2:D:155:ASP:HB3	2:D:168:CYS:SG	2.60	0.41
1:A:1640:ILE:HD11	1:A:1653:HIS:HB3	2.01	0.41
1:A:2060:ARG:HH21	1:A:2129:GLU:HA	1.84	0.41
1:A:2598:GLY:HA3	1:A:2795:SER:HB2	2.00	0.41
1:A:2662:PHE:HD1	1:A:2709:VAL:HG13	1.85	0.41
1:A:4223:LEU:HD12	1:A:4223:LEU:HA	1.92	0.41
1:A:4444:GLN:HG2	1:A:4449:ARG:HG3	2.01	0.41
1:B:2756:LEU:HD23	1:B:2756:LEU:HA	1.85	0.41
1:B:2848:GLU:O	1:B:2852:THR:HG23	2.21	0.41
1:B:3846:LEU:HD22	1:B:3855:ARG:HD2	2.01	0.41
1:B:3973:LEU:O	1:B:3973:LEU:HD23	2.20	0.41
1:B:4185:TRP:O	1:B:4189:ILE:HG12	2.20	0.41
1:B:4339:MET:HE2	1:B:4339:MET:HB3	1.87	0.41
1:B:4453:ASN:O	1:B:4457:LYS:HG3	2.20	0.41
2:D:95:ILE:HD12	2:D:364:VAL:HG11	2.03	0.41
2:D:128:GLU:HA	2:D:152:SER:HB2	2.02	0.41
2:D:285:ALA:HA	2:D:346:PHE:CD2	2.54	0.41
1:A:1741:TRP:CH2	1:A:1750:VAL:HG13	2.54	0.41
1:A:3659:ARG:NH2	1:B:3629:PHE:O	2.52	0.41
1:B:2172:ARG:HH22	1:B:2209:GLN:HG3	1.85	0.41
1:B:2265:TYR:OH	1:B:2311:TRP:O	2.24	0.41
1:B:3036:GLY:O	1:B:3040:GLU:HG2	2.20	0.41
2:D:194:ASN:C	2:D:211:SER:HG	2.24	0.41
2:D:381:HIS:CD2	2:D:382:PHE:H	2.39	0.41
1:A:1522:SER:O	1:A:1526:LYS:HG2	2.19	0.41
1:A:1962:ARG:NH2	1:A:2314:ASN:OD1	2.54	0.41
1:A:2172:ARG:NH2	1:A:2205:GLU:HG3	2.35	0.41
1:A:3135:GLN:HB2	1:A:3136:PRO:HD3	2.01	0.41
1:A:4413:PHE:CD1	1:A:4492:ILE:HD12	2.55	0.41
1:B:2896:ARG:HA	1:B:2896:ARG:HD3	1.81	0.41
1:B:3214:GLN:O	1:B:3218:LEU:HD23	2.20	0.41
1:B:4480:SER:O	1:B:4484:GLU:HG3	2.20	0.41
2:D:96:PRO:HA	2:D:408:GLU:O	2.21	0.41
2:D:362:LEU:N	2:D:376:LEU:O	2.33	0.41
1:A:1724:VAL:HG23	1:A:1727:PHE:HD2	1.86	0.41
1:A:2054:LEU:HD21	1:A:2097:LEU:HD22	2.02	0.41
1:A:2769:LEU:O	1:A:2773:MET:HG3	2.20	0.41
1:A:3772:ASN:OD1	1:A:3775:ARG:NH1	2.53	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:4190:ILE:HD12	1:A:4201:TRP:CZ2	2.55	0.41
1:B:1882:THR:HA	1:B:2048:LEU:HD23	2.01	0.41
2:C:233:HIS:CE1	2:C:259:ARG:HD2	2.55	0.41
2:D:211:SER:OG	2:D:212:ARG:N	2.54	0.41
1:A:2091:ARG:HD2	1:A:2357:SER:HB2	2.02	0.41
1:A:3044:LEU:HD22	1:A:3049:GLU:CG	2.51	0.41
1:A:3692:LEU:O	1:A:3696:VAL:HG22	2.20	0.41
1:A:3993:ILE:HD13	1:A:3993:ILE:HA	1.98	0.41
1:A:4069:ILE:HD13	1:A:4080:ALA:HA	2.02	0.41
1:B:2465:ALA:HB2	1:B:2493:TYR:CD1	2.56	0.41
1:B:3478:LEU:HD12	1:B:3767:ILE:HG23	2.00	0.41
2:C:395:VAL:HG23	2:C:409:CYS:SG	2.61	0.41
1:A:2176:THR:O	1:A:2180:GLU:HG2	2.21	0.41
1:A:2896:ARG:HA	1:A:2896:ARG:HD2	1.83	0.41
1:A:3723:ASP:OD1	1:A:3724:VAL:N	2.52	0.41
1:A:4106:LEU:HD13	1:A:4138:LEU:HD22	2.02	0.41
1:B:1487:ILE:HD12	1:B:1537:TRP:NE1	2.36	0.41
1:B:1836:PHE:HA	1:B:1839:LEU:HB2	2.03	0.41
2:C:113:ARG:HD2	2:C:155:ASP:HA	2.01	0.41
2:D:395:VAL:HG23	2:D:407:TRP:HD1	1.86	0.41
1:A:1556:ASP:O	1:A:1560:LEU:HG	2.21	0.41
1:A:1735:PRO:O	1:A:1739:ILE:HG12	2.21	0.41
1:A:3709:GLN:HG3	1:A:3809:SER:HB3	2.03	0.41
1:A:3728:ARG:HG3	1:A:3791:MET:HE1	2.02	0.41
1:A:4549:GLN:HG3	1:A:4587:LEU:HB2	2.02	0.41
1:B:2183:LYS:O	1:B:2187:GLN:HG2	2.21	0.41
1:B:2452:LEU:HD23	1:B:2452:LEU:HA	1.93	0.41
1:B:4433:ASP:HB3	1:B:4448:LEU:HD21	2.02	0.41
2:D:107:HIS:CE1	2:D:133:LYS:HG3	2.56	0.41
1:A:1946:VAL:HG22	1:A:2006:VAL:HG21	2.02	0.41
1:A:2951:ALA:HB1	1:A:2956:LEU:HB2	2.02	0.41
1:A:3114:ASP:O	1:A:3116:GLU:HG2	2.20	0.41
1:A:3931:GLN:O	1:A:3935:VAL:HG23	2.21	0.41
1:A:4424:LEU:HA	1:A:4482:PHE:HZ	1.86	0.41
1:A:4503:GLU:H	1:A:4503:GLU:HG2	1.73	0.41
1:B:1721:VAL:HA	1:B:1724:VAL:HG12	2.03	0.41
1:B:1733:ILE:HB	1:B:1791:VAL:HG21	2.03	0.41
1:B:2818:VAL:O	1:B:2822:ILE:HG12	2.21	0.41
1:B:3214:GLN:HE22	1:B:3759:ARG:NH1	2.19	0.41
1:B:3779:GLU:HG3	1:B:3783:LYS:HE3	2.03	0.41
1:B:3790:VAL:O	1:B:3793:GLU:HG3	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:4172:SER:HB2	1:B:4173:PRO:HD3	2.02	0.41
2:D:239:MET:HE3	2:D:239:MET:HB2	1.90	0.41
2:D:269:LYS:NZ	2:D:325:VAL:HG12	2.36	0.41
1:A:1470:TRP:CE3	1:A:1470:TRP:HA	2.55	0.41
1:A:1519:ASP:OD1	1:A:1520:ALA:N	2.54	0.41
1:A:2134:GLN:O	1:A:2138:ILE:HG12	2.21	0.41
1:A:2387:LEU:HD21	1:A:2463:HIS:HB3	2.03	0.41
1:A:3941:LEU:HD23	1:A:3944:PHE:CD2	2.56	0.41
1:A:4437:VAL:HG21	1:A:4448:LEU:HD13	2.03	0.41
1:B:1547:LEU:HD12	1:B:1608:LEU:HD22	2.03	0.41
1:B:2018:MET:HE3	1:B:2018:MET:HB2	1.80	0.41
1:A:1473:TYR:OH	1:A:1493:LEU:HB2	2.21	0.40
1:A:4292:LYS:HG3	1:A:4293:ASP:N	2.35	0.40
1:B:1895:ALA:HB2	1:B:2037:ARG:HB2	2.03	0.40
1:B:2422:ILE:HD13	1:B:2487:GLU:HA	2.03	0.40
2:D:236:TRP:HB3	2:D:254:ASN:HD22	1.83	0.40
1:A:2619:GLY:O	1:A:3014:ASN:ND2	2.55	0.40
1:B:2937:GLY:C	1:B:3070:PRO:HD3	2.46	0.40
1:B:3045:ASP:OD1	1:B:3045:ASP:N	2.53	0.40
1:A:2756:LEU:HD23	1:A:2756:LEU:HA	1.84	0.40
1:A:3148:VAL:O	1:A:3152:GLN:HG3	2.20	0.40
1:B:2220:LEU:HB2	1:B:2342:MET:HG2	2.03	0.40
1:B:2776:PHE:HZ	1:B:2846:THR:HG23	1.86	0.40
1:B:3692:LEU:O	1:B:3696:VAL:HG22	2.21	0.40
1:A:1547:LEU:HD23	1:A:1547:LEU:HA	1.90	0.40
1:A:2635:PHE:HB3	1:A:2650:LEU:HD21	2.03	0.40
1:A:3033:CYS:SG	1:A:3054:PHE:HB2	2.61	0.40
1:A:3783:LYS:O	1:A:3786:GLU:HG2	2.21	0.40
1:A:4172:SER:HB2	1:A:4173:PRO:HD3	2.02	0.40
1:B:1945:PHE:HB3	1:B:1978:ILE:HD11	2.03	0.40
1:B:2804:ARG:HA	1:B:2804:ARG:HD2	1.83	0.40
1:B:3107:LYS:HD2	1:B:3144:VAL:HG21	2.03	0.40
2:D:188:MET:HE3	2:D:188:MET:HB2	1.96	0.40
1:A:3474:ARG:HH22	1:A:3768:THR:HG22	1.86	0.40
1:B:2297:LYS:O	1:B:2338:ASN:ND2	2.39	0.40
1:B:2721:LYS:HE2	1:B:2721:LYS:HB2	1.94	0.40
1:B:3034:LYS:HE3	1:B:3050:LEU:HD11	2.04	0.40
1:B:3217:GLU:O	1:B:3220:ARG:HG2	2.21	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	2929/4646 (63%)	2879 (98%)	50 (2%)	0	100	100
1	B	2929/4646 (63%)	2868 (98%)	61 (2%)	0	100	100
2	C	320/410 (78%)	310 (97%)	10 (3%)	0	100	100
2	D	317/410 (77%)	305 (96%)	12 (4%)	0	100	100
All	All	6495/10112 (64%)	6362 (98%)	133 (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	2605/4125 (63%)	2605 (100%)	0	100	100
1	B	2605/4125 (63%)	2605 (100%)	0	100	100
2	C	287/364 (79%)	287 (100%)	0	100	100
2	D	284/364 (78%)	284 (100%)	0	100	100
All	All	5781/8978 (64%)	5781 (100%)	0	100	100

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

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (72) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	1495	ASN
1	A	1569	GLN
1	A	1779	HIS
1	A	1850	GLN
1	A	1950	GLN
1	A	1974	GLN
1	A	1979	GLN
1	A	2067	ASN
1	A	2212	GLN
1	A	2485	GLN
1	A	2549	GLN
1	A	2577	HIS
1	A	2588	HIS
1	A	2707	GLN
1	A	2781	GLN
1	A	2786	GLN
1	A	3061	ASN
1	A	3158	ASN
1	A	3198	GLN
1	A	3499	GLN
1	A	3526	GLN
1	A	3538	GLN
1	A	3709	GLN
1	A	3820	GLN
1	A	3952	GLN
1	A	4012	ASN
1	A	4062	GLN
1	A	4100	HIS
1	A	4114	HIS
1	A	4174	ASN
1	A	4490	GLN
1	A	4506	ASN
1	A	4530	GLN
1	A	4566	GLN
1	B	1495	ASN
1	B	1559	HIS
1	B	1569	GLN
1	B	1643	ASN
1	B	1755	GLN
1	B	1841	GLN
1	B	1950	GLN
1	B	1973	GLN
1	B	1976	GLN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	B	1979	GLN
1	B	2047	GLN
1	B	2067	ASN
1	B	2217	ASN
1	B	2263	HIS
1	B	2464	GLN
1	B	2485	GLN
1	B	2637	HIS
1	B	2654	GLN
1	B	2752	ASN
1	B	2960	GLN
1	B	3063	HIS
1	B	3119	ASN
1	B	3233	ASN
1	B	3526	GLN
1	B	3735	GLN
1	B	3744	GLN
1	B	3820	GLN
1	B	3877	HIS
1	B	4012	ASN
1	B	4098	ASN
1	B	4156	ASN
1	B	4191	GLN
1	B	4249	GLN
1	B	4258	ASN
2	C	206	HIS
2	D	222	GLN
2	D	277	HIS
2	D	381	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

Of 12 ligands modelled in this entry, 4 are monoatomic - leaving 8 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
3	ADP	B	4704	-	24,29,29	0.89	0	29,45,45	1.19	2 (6%)
3	ADP	B	4703	-	24,29,29	0.88	0	29,45,45	1.23	2 (6%)
3	ADP	A	4703	-	24,29,29	0.88	0	29,45,45	1.22	2 (6%)
4	ATP	A	4702	5	28,33,33	0.69	0	34,52,52	0.59	1 (2%)
3	ADP	A	4704	-	24,29,29	0.87	0	29,45,45	1.19	2 (6%)
3	ADP	B	4701	5	24,29,29	0.88	0	29,45,45	1.24	2 (6%)
3	ADP	A	4701	5	24,29,29	0.86	0	29,45,45	1.26	2 (6%)
4	ATP	B	4702	5	28,33,33	0.70	0	34,52,52	0.59	1 (2%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '2' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	ADP	B	4704	-	-	1/12/32/32	0/3/3/3
3	ADP	B	4703	-	-	1/12/32/32	0/3/3/3
3	ADP	A	4703	-	-	2/12/32/32	0/3/3/3
4	ATP	A	4702	5	-	3/18/38/38	0/3/3/3
3	ADP	A	4704	-	-	3/12/32/32	0/3/3/3
3	ADP	B	4701	5	-	4/12/32/32	0/3/3/3
3	ADP	A	4701	5	-	2/12/32/32	0/3/3/3
4	ATP	B	4702	5	-	4/18/38/38	0/3/3/3

There are no bond length outliers.

All (14) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	B	4703	ADP	N3-C2-N1	-3.75	123.58	128.67
3	A	4701	ADP	N3-C2-N1	-3.75	123.58	128.67
3	B	4704	ADP	N3-C2-N1	-3.73	123.60	128.67
3	A	4703	ADP	N3-C2-N1	-3.71	123.64	128.67
3	B	4701	ADP	N3-C2-N1	-3.68	123.68	128.67
3	A	4704	ADP	N3-C2-N1	-3.68	123.68	128.67
3	A	4701	ADP	C4-C5-N7	-2.66	106.52	109.34
3	B	4701	ADP	C4-C5-N7	-2.56	106.63	109.34
3	B	4704	ADP	C4-C5-N7	-2.52	106.67	109.34
3	A	4704	ADP	C4-C5-N7	-2.51	106.68	109.34
3	A	4703	ADP	C4-C5-N7	-2.51	106.69	109.34
3	B	4703	ADP	C4-C5-N7	-2.48	106.71	109.34
4	B	4702	ATP	C5-C6-N6	2.34	123.87	120.31
4	A	4702	ATP	C5-C6-N6	2.26	123.75	120.31

There are no chirality outliers.

All (20) torsion outliers are listed below:

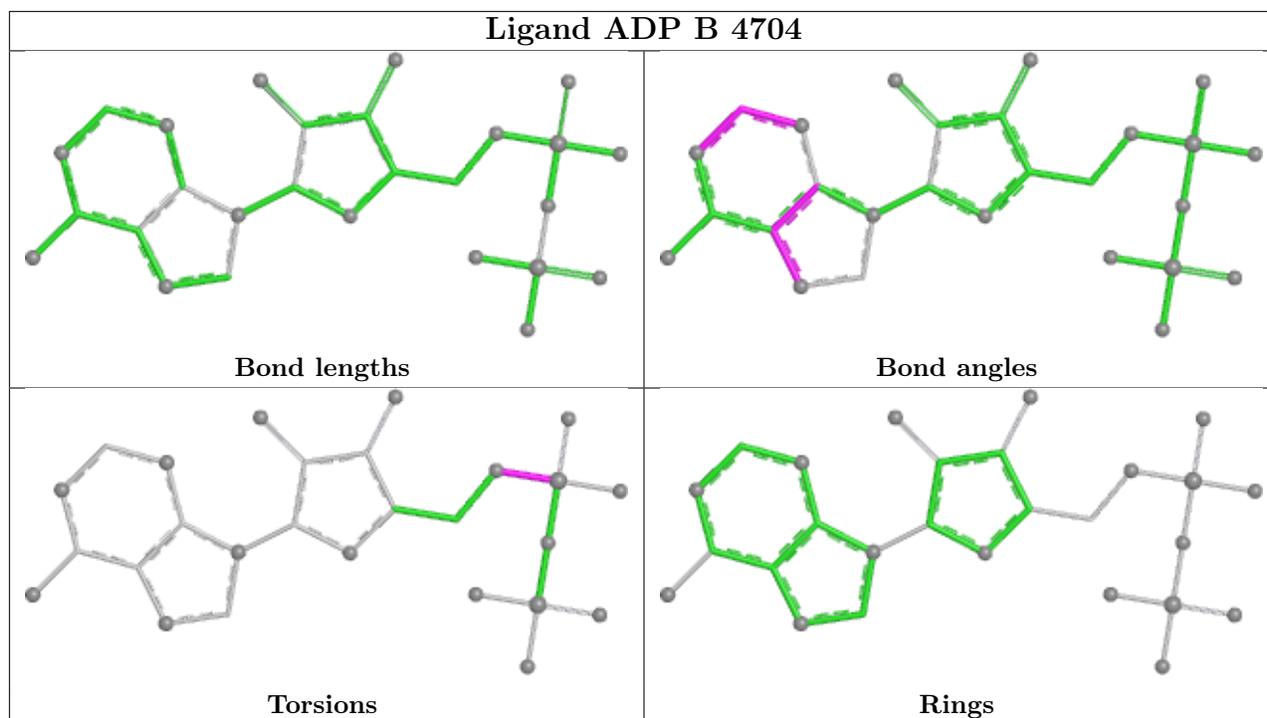
Mol	Chain	Res	Type	Atoms
3	A	4703	ADP	C5'-O5'-PA-O1A
3	A	4704	ADP	C5'-O5'-PA-O1A
3	B	4701	ADP	C5'-O5'-PA-O1A
3	B	4701	ADP	C5'-O5'-PA-O3A
4	B	4702	ATP	O4'-C4'-C5'-O5'
4	A	4702	ATP	O4'-C4'-C5'-O5'
4	A	4702	ATP	C3'-C4'-C5'-O5'
4	B	4702	ATP	C3'-C4'-C5'-O5'
3	B	4701	ADP	O4'-C4'-C5'-O5'
3	A	4701	ADP	PA-O3A-PB-O2B
3	A	4701	ADP	PA-O3A-PB-O3B
4	B	4702	ATP	PA-O3A-PB-O2B
3	B	4701	ADP	C5'-O5'-PA-O2A
3	B	4704	ADP	C5'-O5'-PA-O1A
4	A	4702	ATP	PA-O3A-PB-O2B
3	A	4704	ADP	C3'-C4'-C5'-O5'
3	A	4704	ADP	O4'-C4'-C5'-O5'
4	B	4702	ATP	PA-O3A-PB-O1B
3	A	4703	ADP	O4'-C4'-C5'-O5'
3	B	4703	ADP	O4'-C4'-C5'-O5'

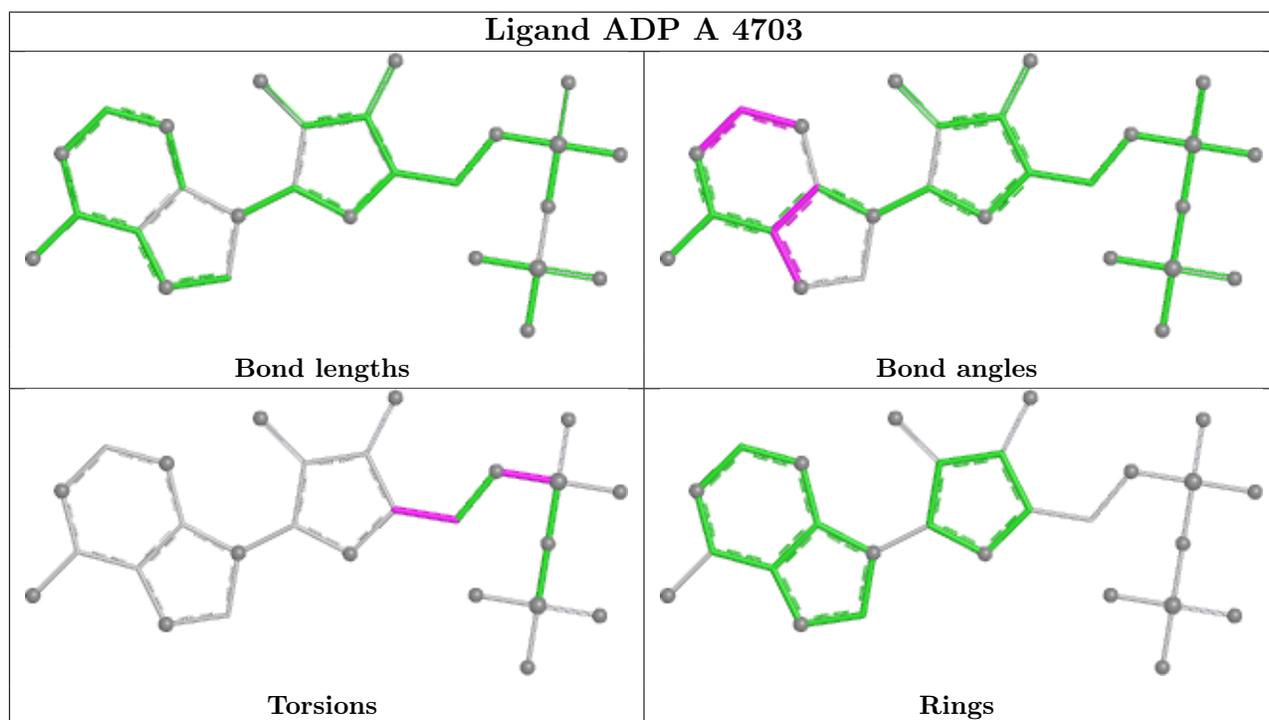
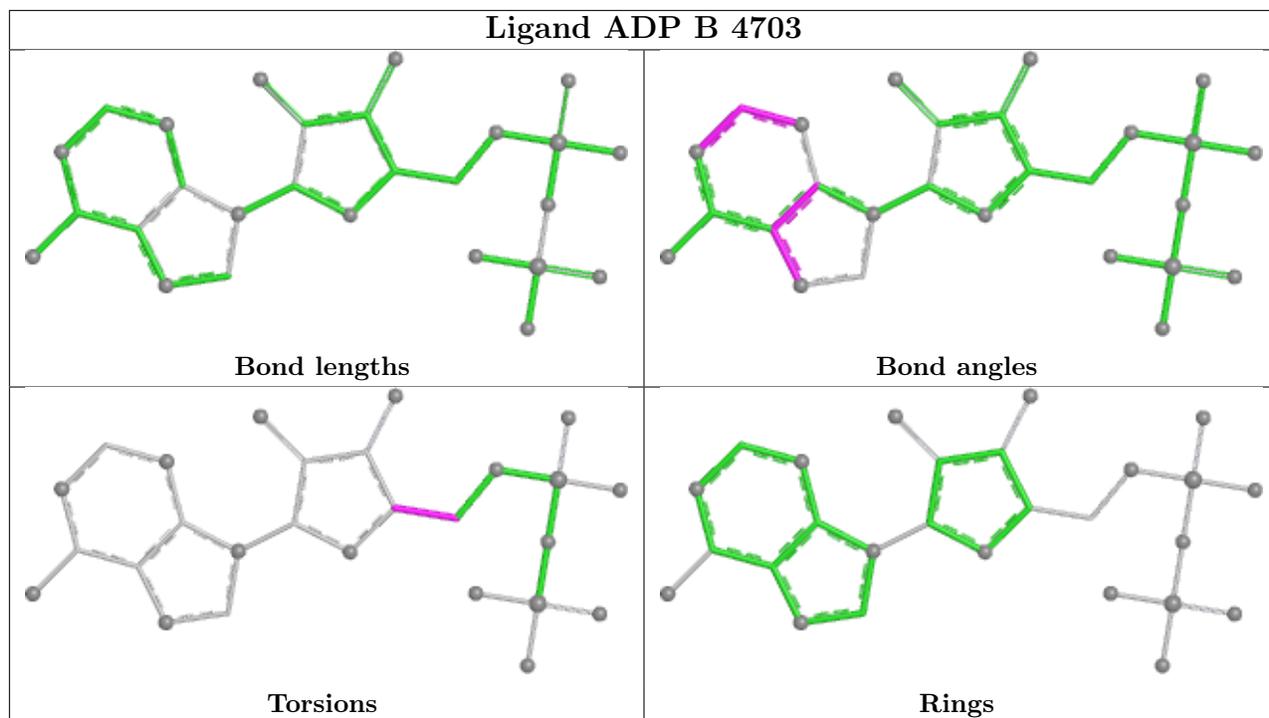
There are no ring outliers.

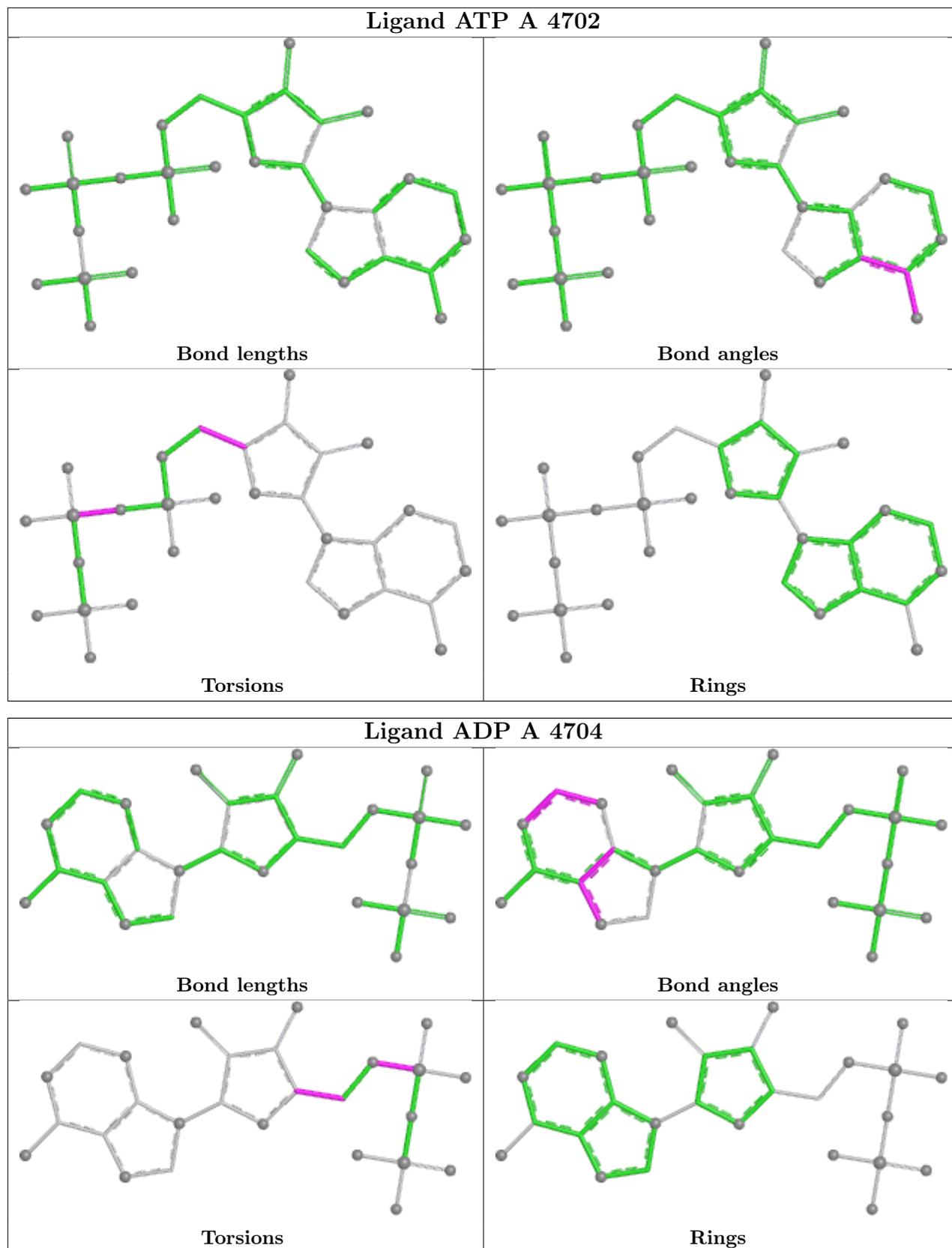
3 monomers are involved in 4 short contacts:

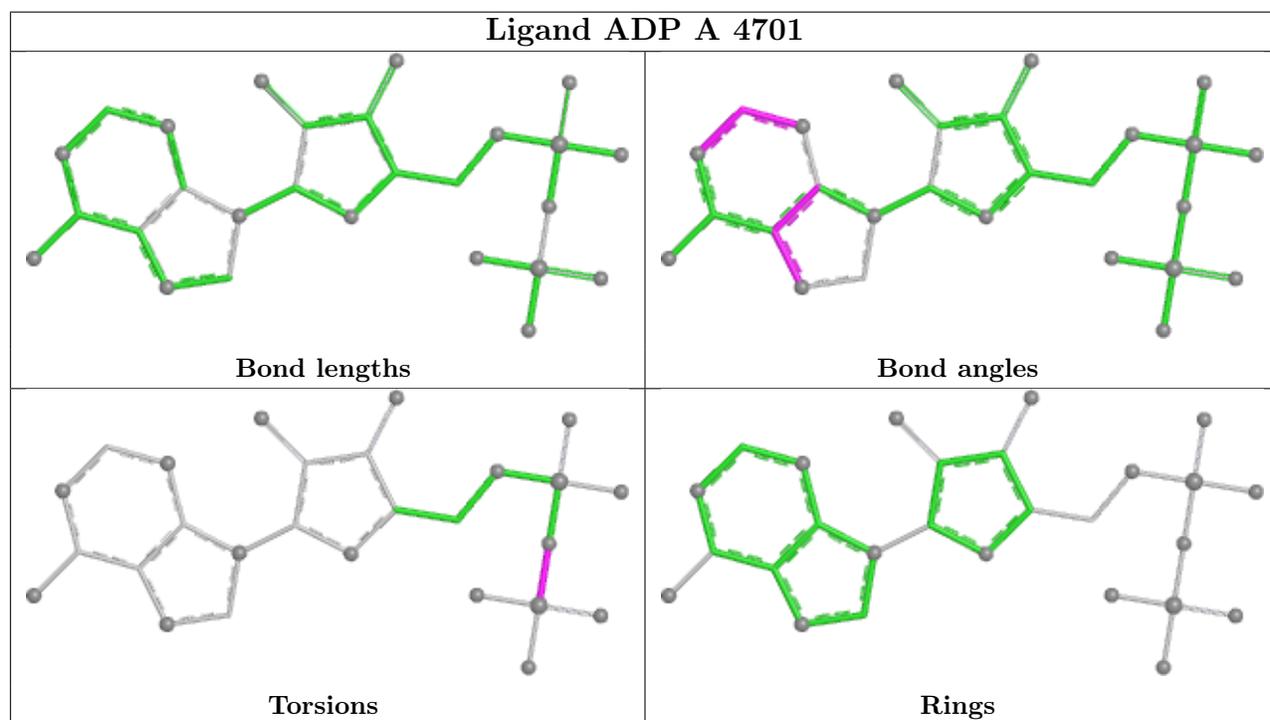
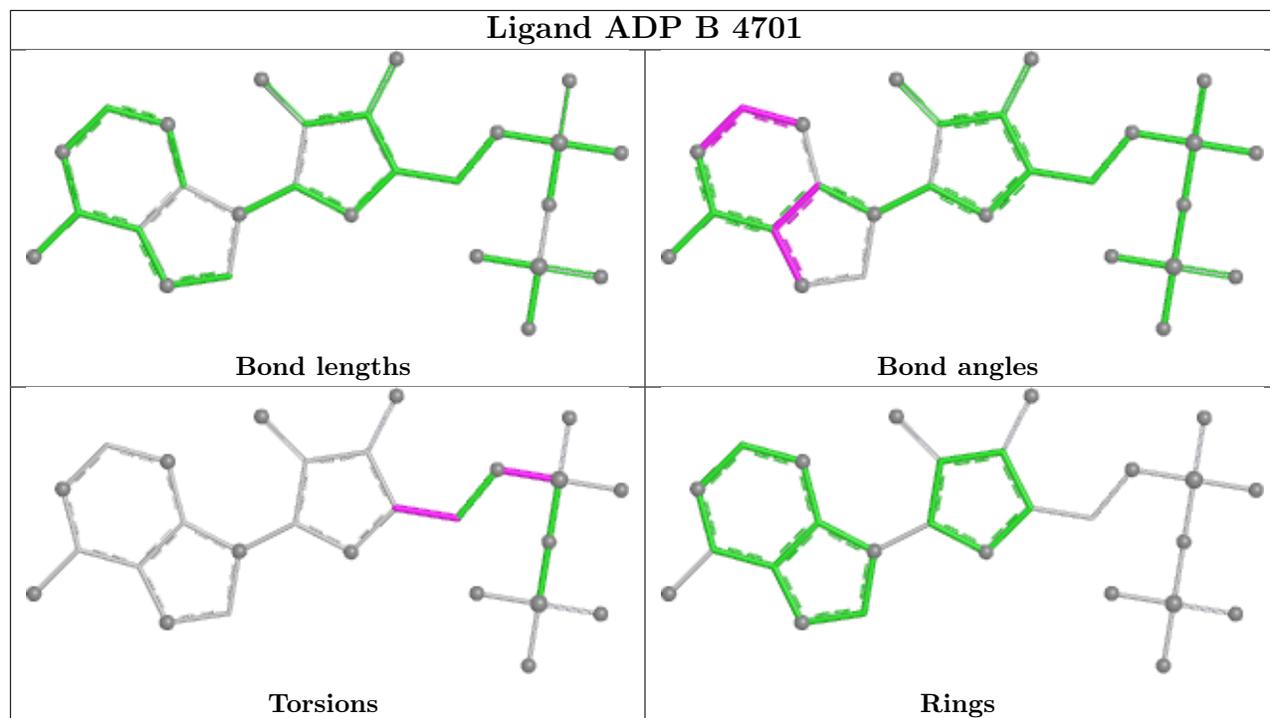
Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	B	4704	ADP	1	0
4	A	4702	ATP	2	0
3	B	4701	ADP	1	0

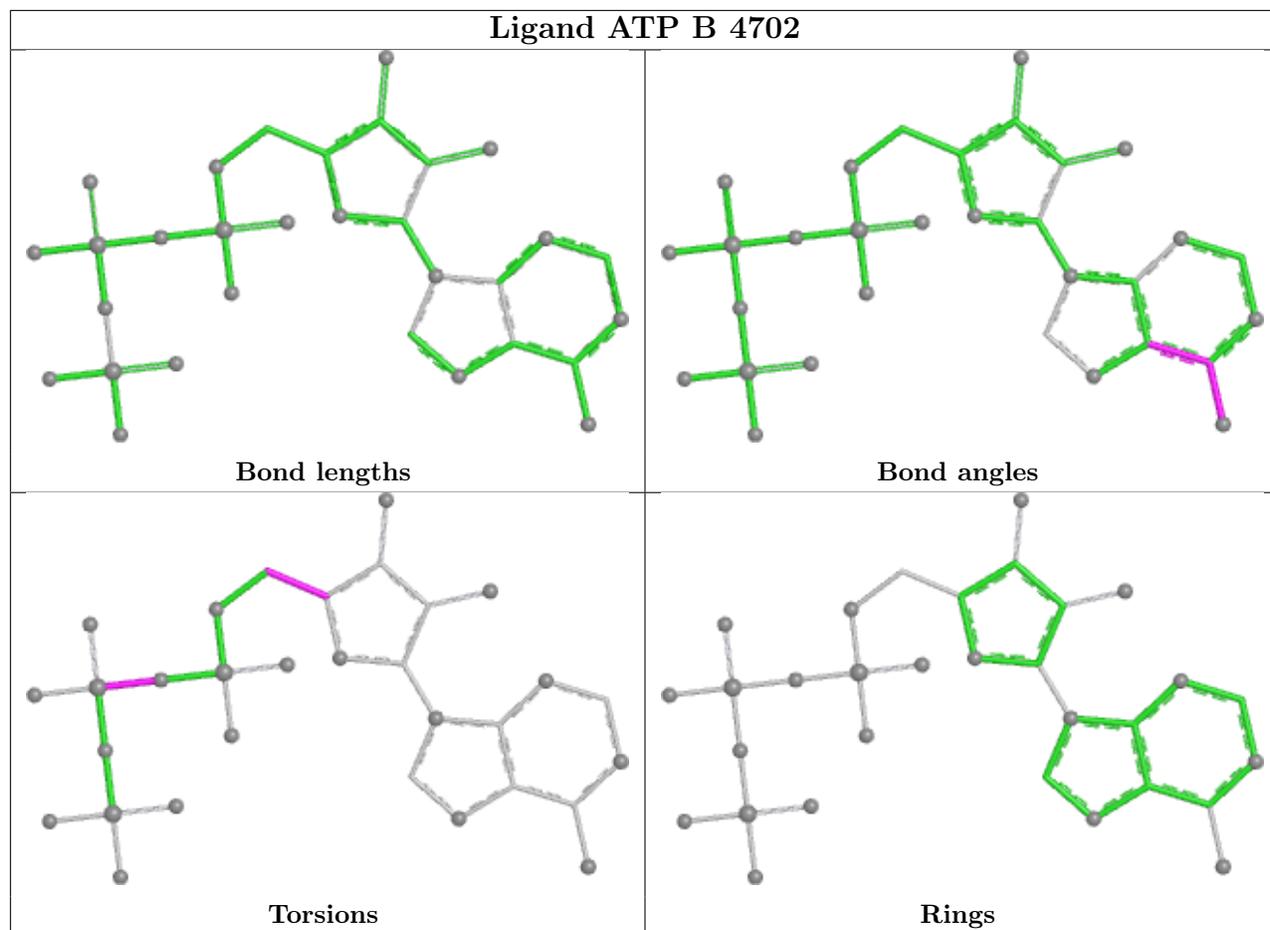
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included.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











5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

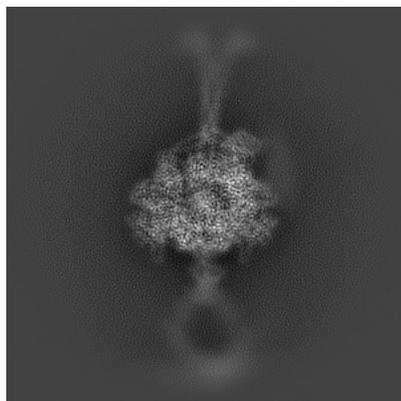
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-47380. These allow visual inspection of the internal detail of the map and identification of artifacts.

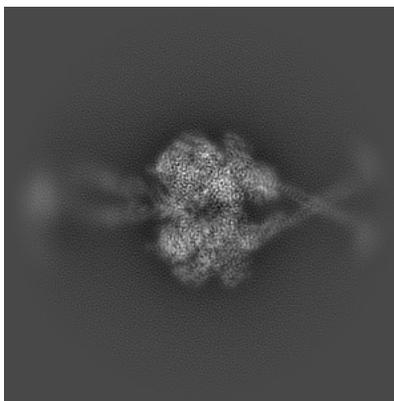
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

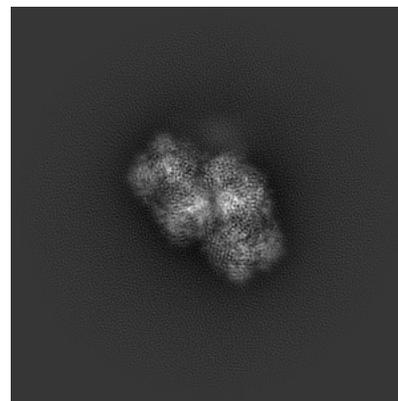
6.1.1 Primary map



X

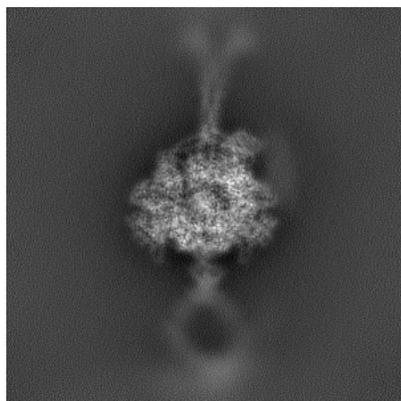


Y

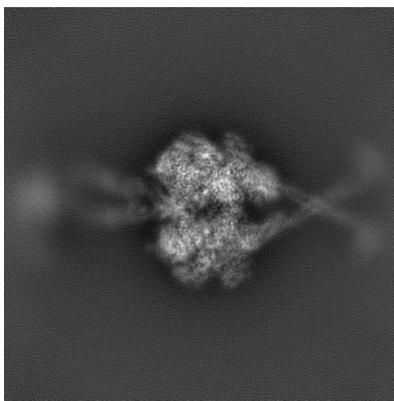


Z

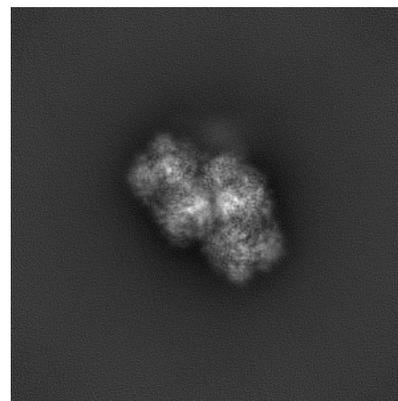
6.1.2 Raw map



X



Y

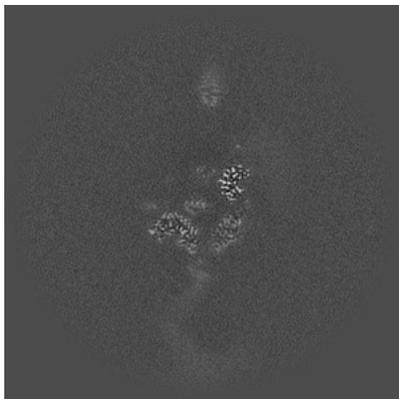


Z

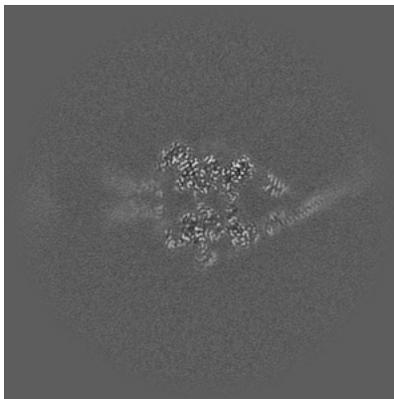
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

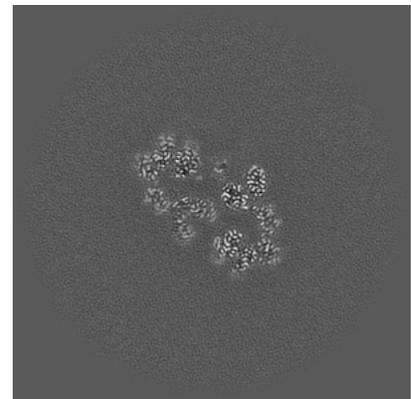
6.2.1 Primary map



X Index: 192



Y Index: 192

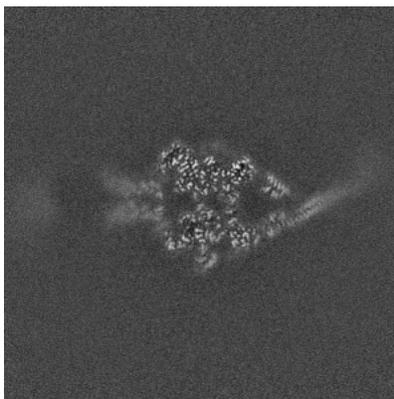


Z Index: 192

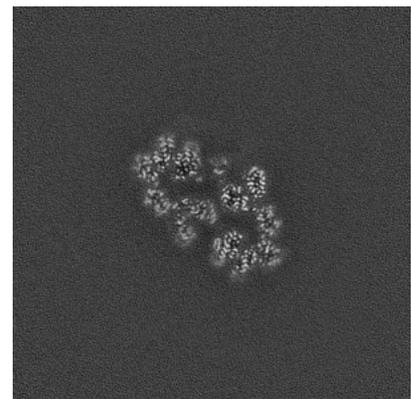
6.2.2 Raw map



X Index: 192



Y Index: 192

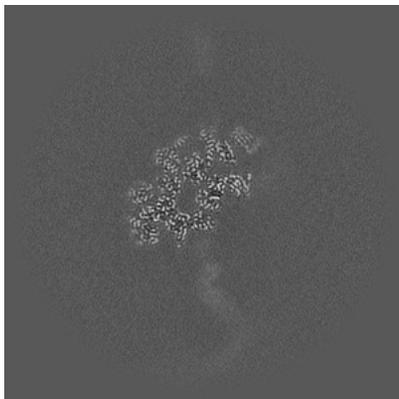


Z Index: 192

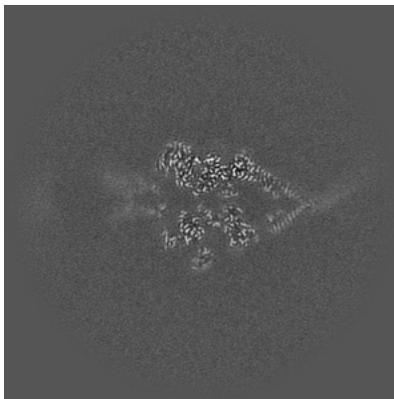
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

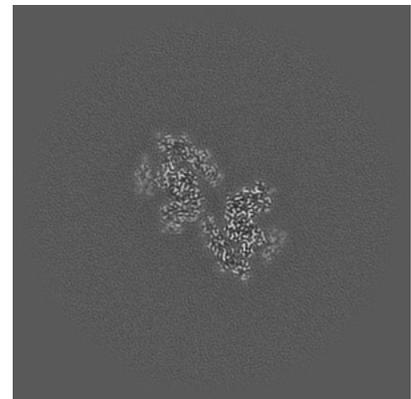
6.3.1 Primary map



X Index: 215

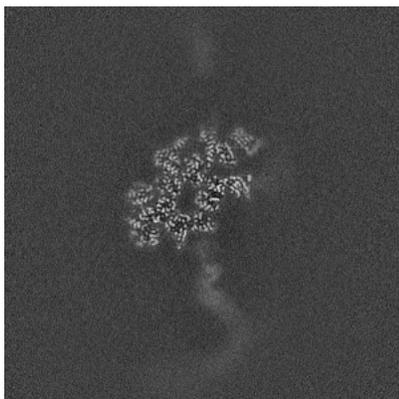


Y Index: 196

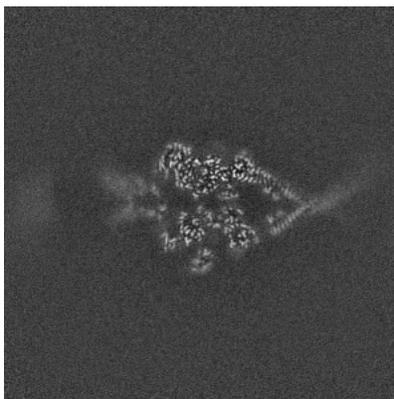


Z Index: 173

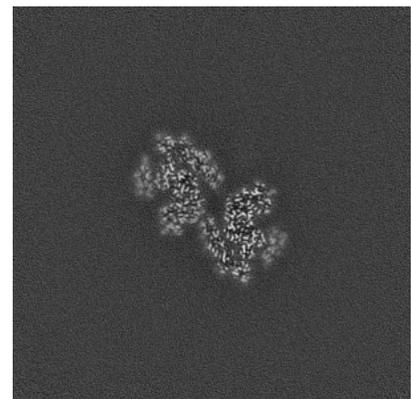
6.3.2 Raw map



X Index: 215



Y Index: 196

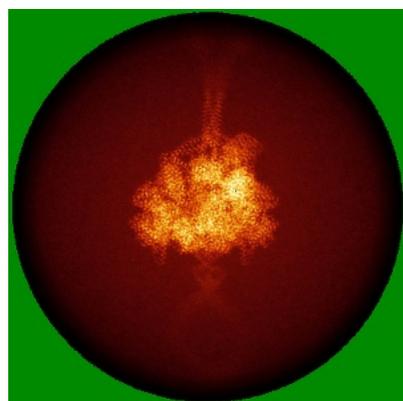


Z Index: 173

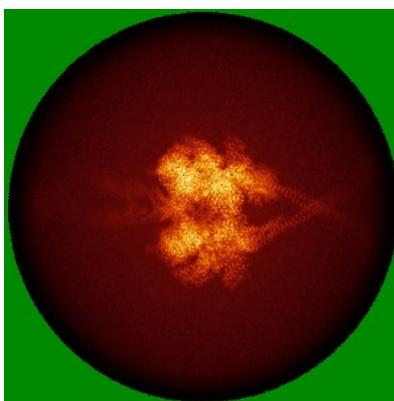
The images above show the largest variance slices of the map in three orthogonal directions.

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

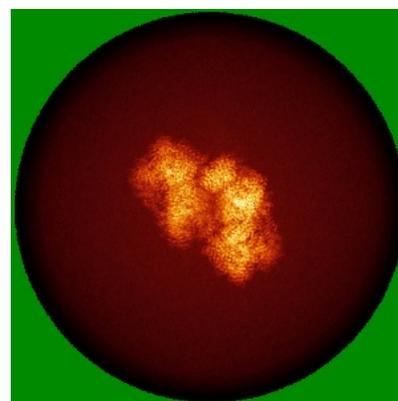
6.4.1 Primary map



X

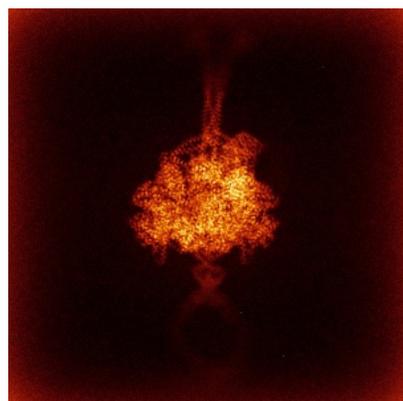


Y

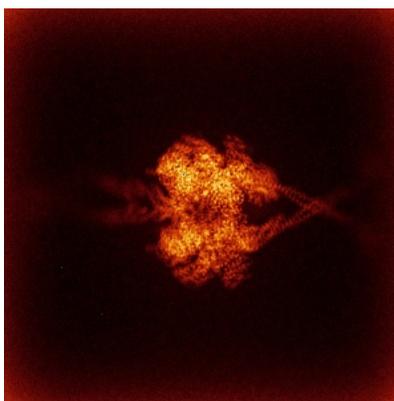


Z

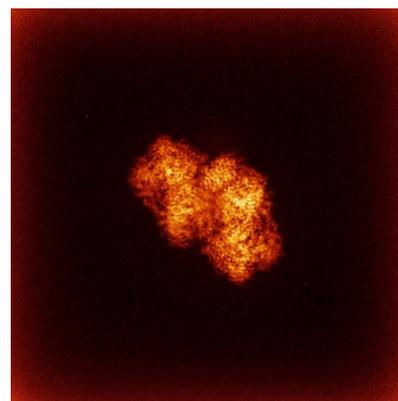
6.4.2 Raw map



X



Y

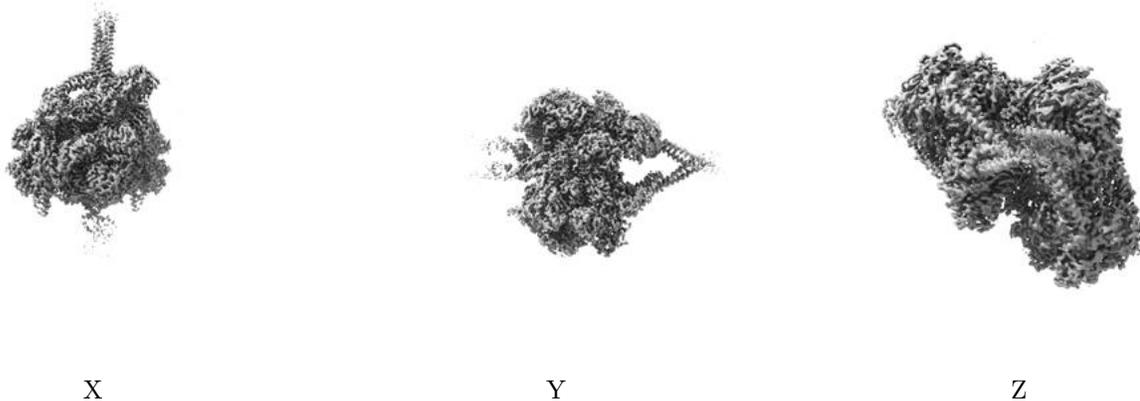


Z

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.

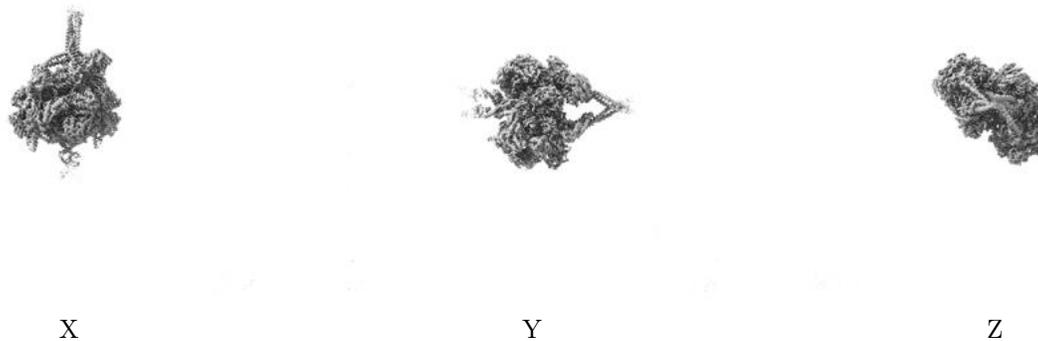
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.3. 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.

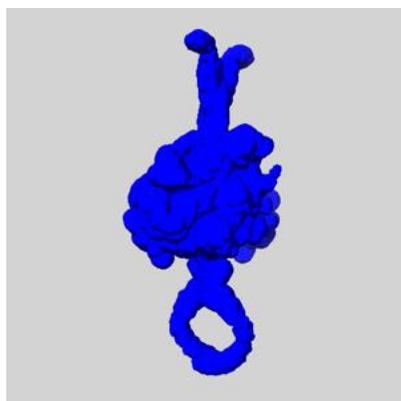
6.6 Mask visualisation [i](#)

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

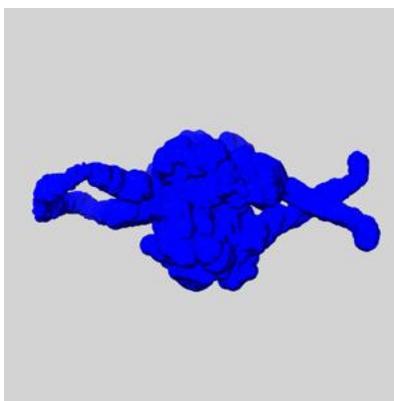
A mask typically either:

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

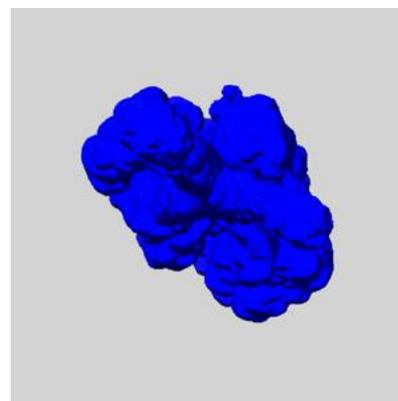
6.6.1 emd_47380_msk_1.map [i](#)



X



Y

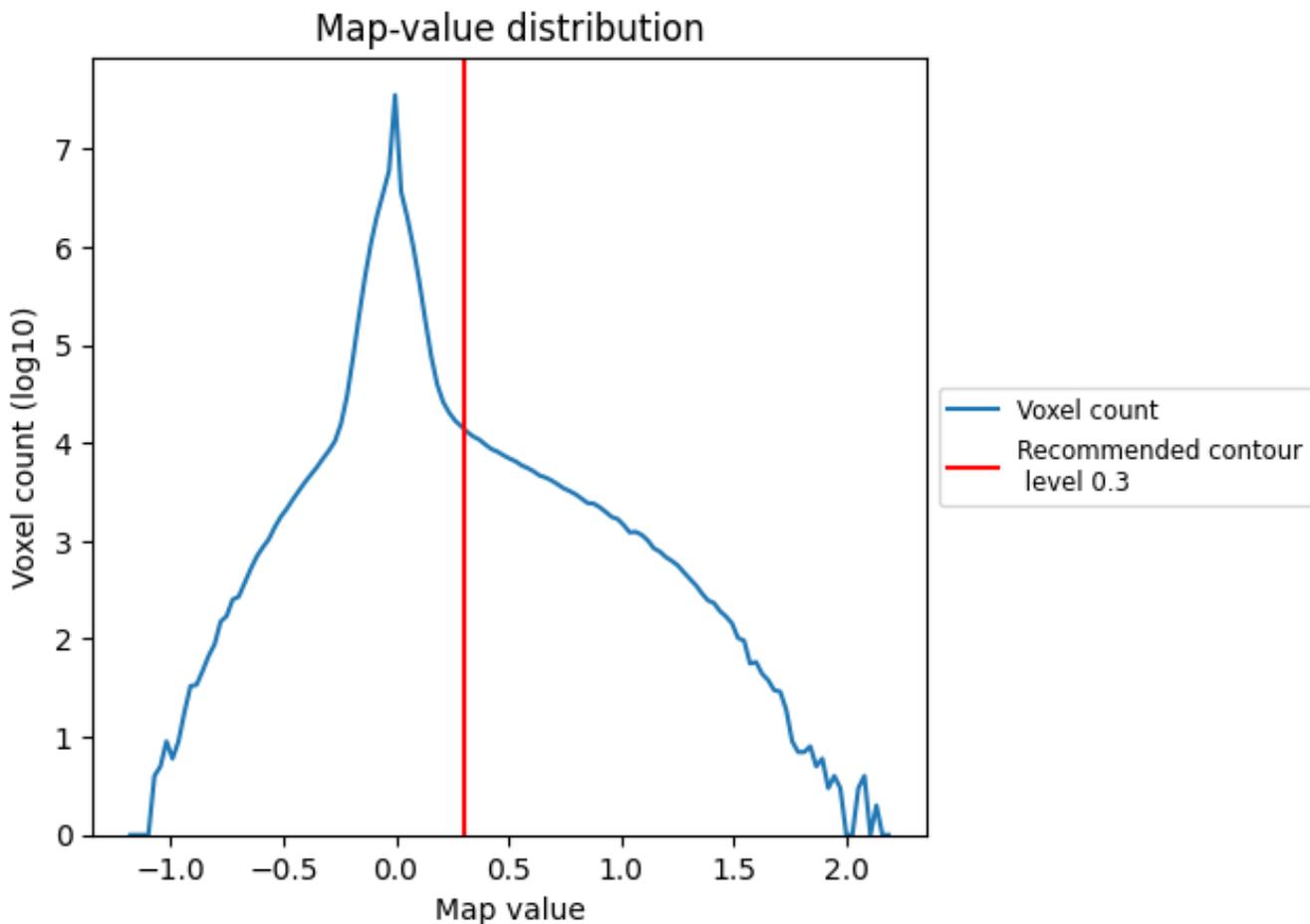


Z

7 Map analysis [i](#)

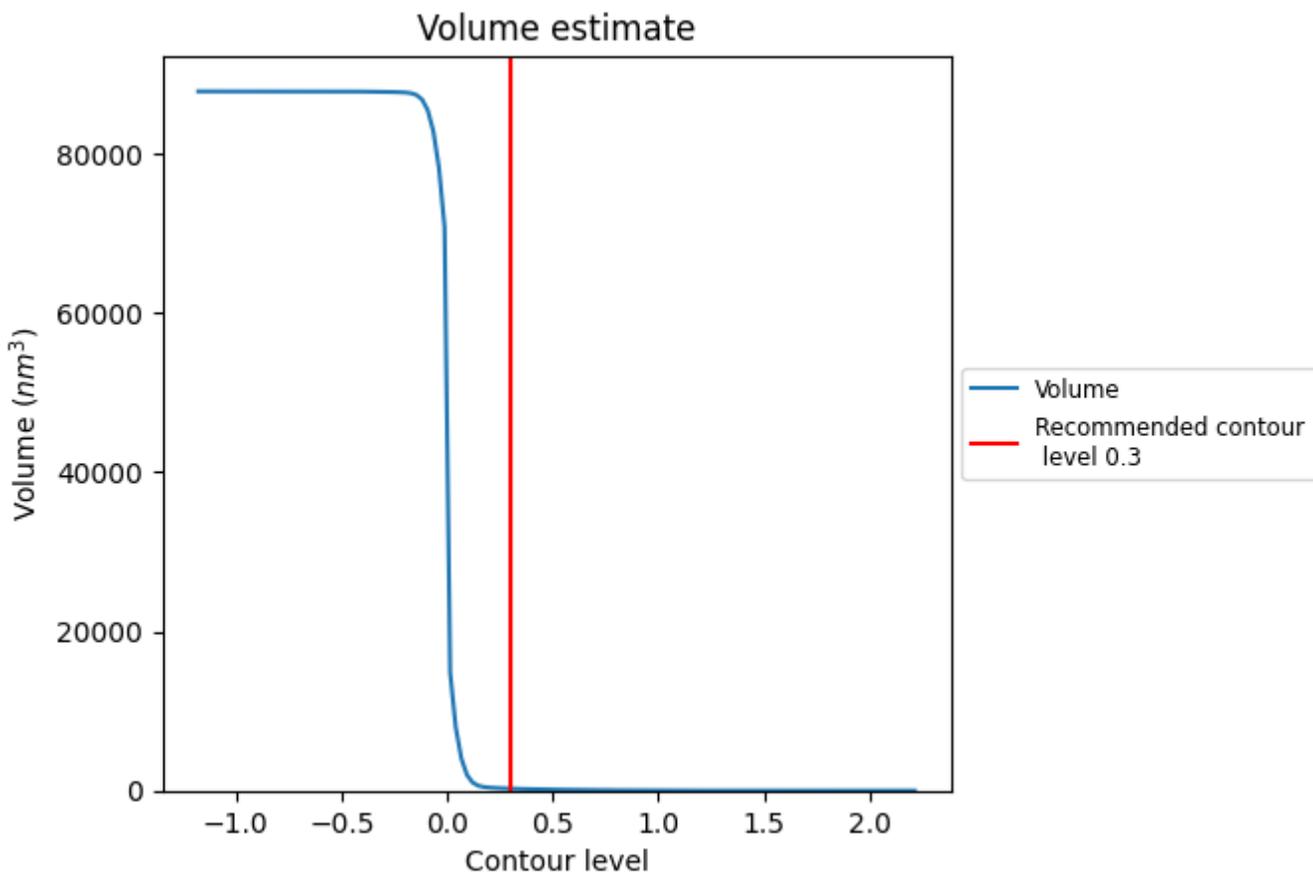
This section contains the results of statistical analysis of the map.

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.

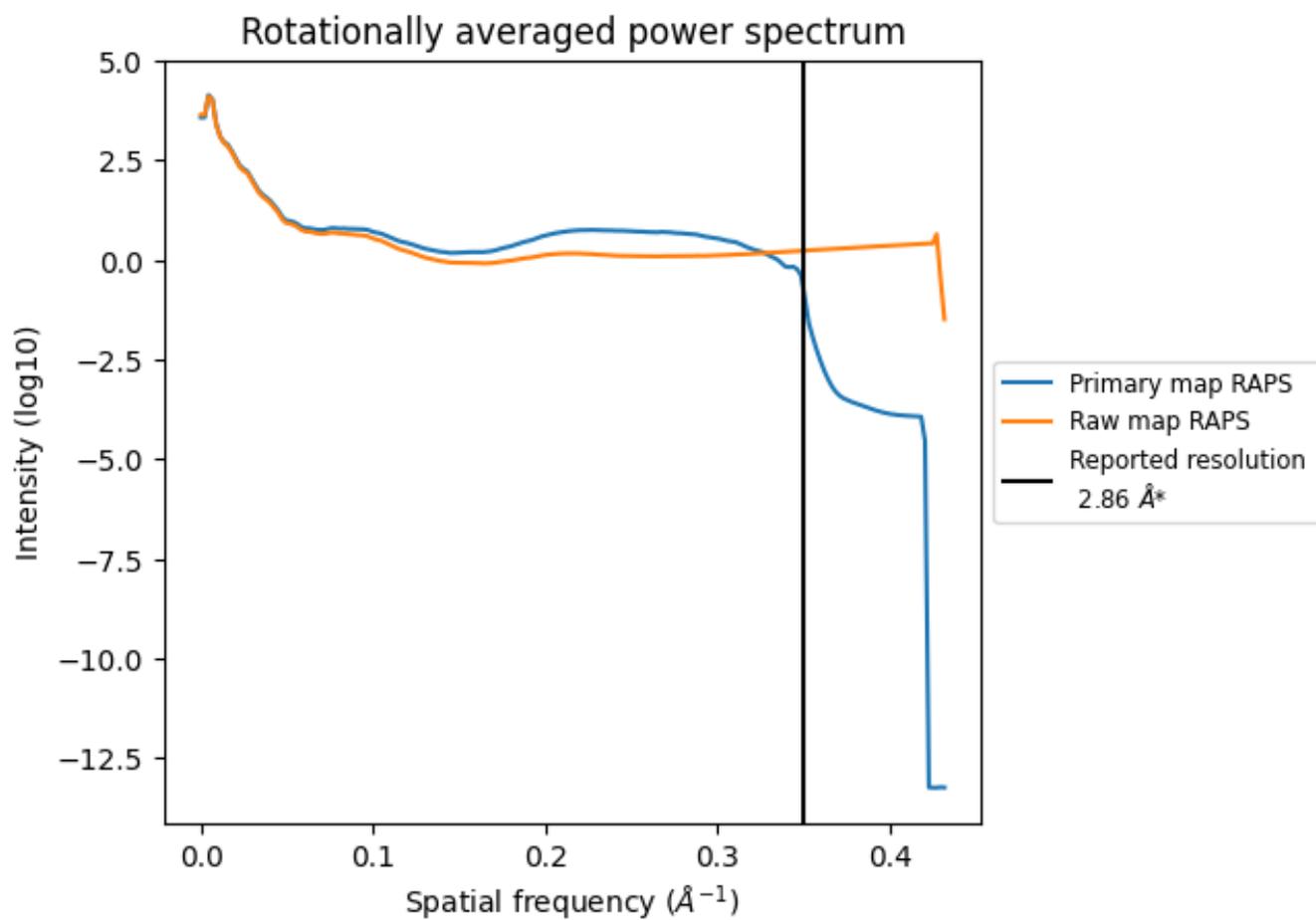
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 253 nm³; this corresponds to an approximate mass of 228 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](#)

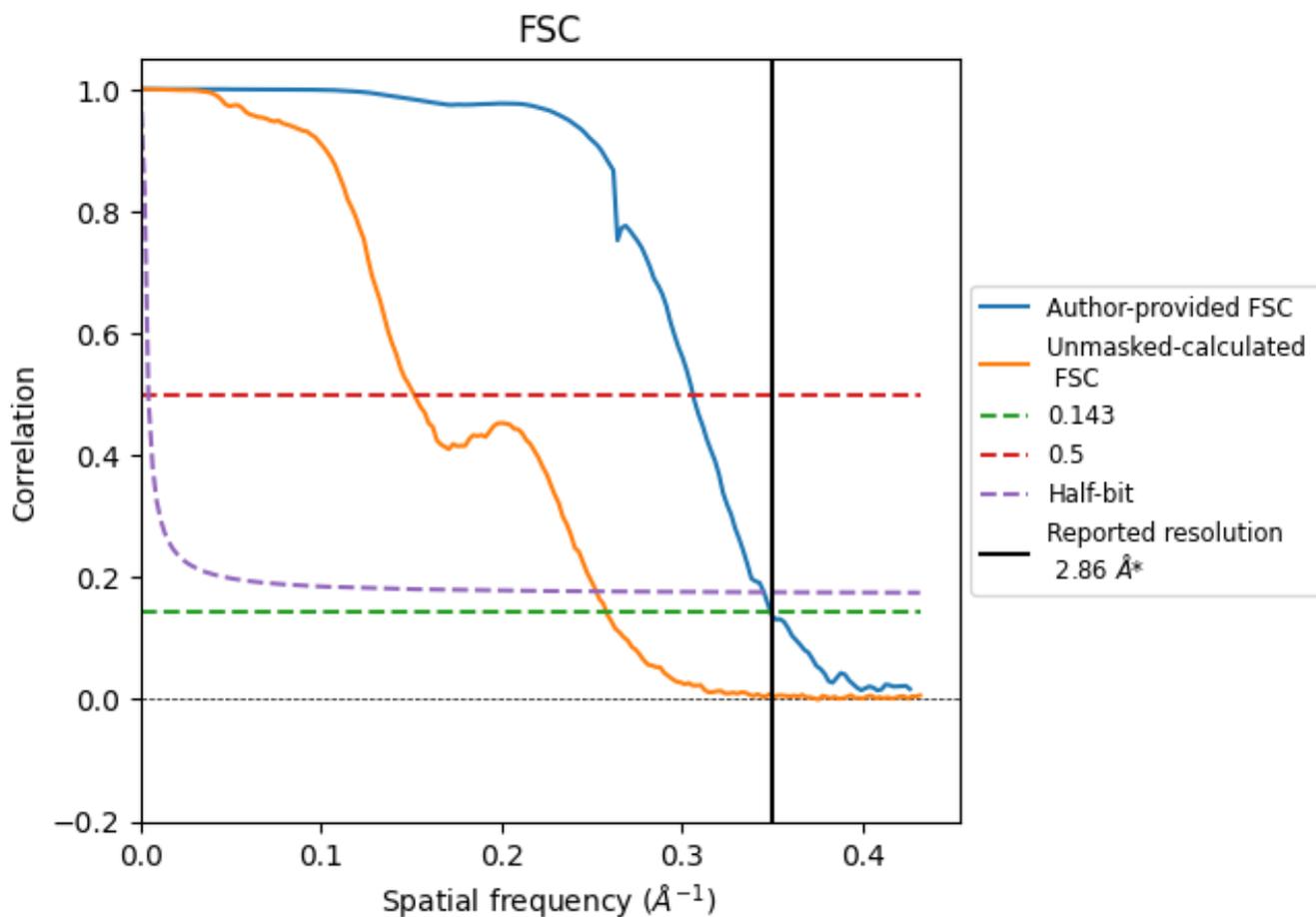


*Reported resolution corresponds to spatial frequency of 0.350 Å⁻¹

8 Fourier-Shell correlation [i](#)

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.350 Å⁻¹

8.2 Resolution estimates [i](#)

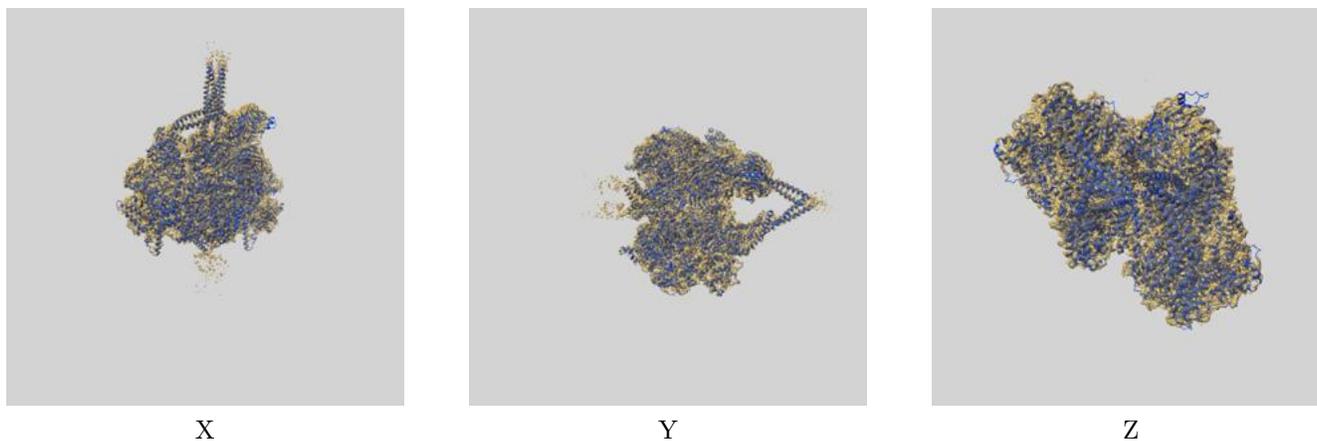
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.86	-	-
Author-provided FSC curve	2.86	3.27	2.89
Unmasked-calculated*	3.87	6.60	3.96

*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 3.87 differs from the reported value 2.86 by more than 10 %

9 Map-model fit [i](#)

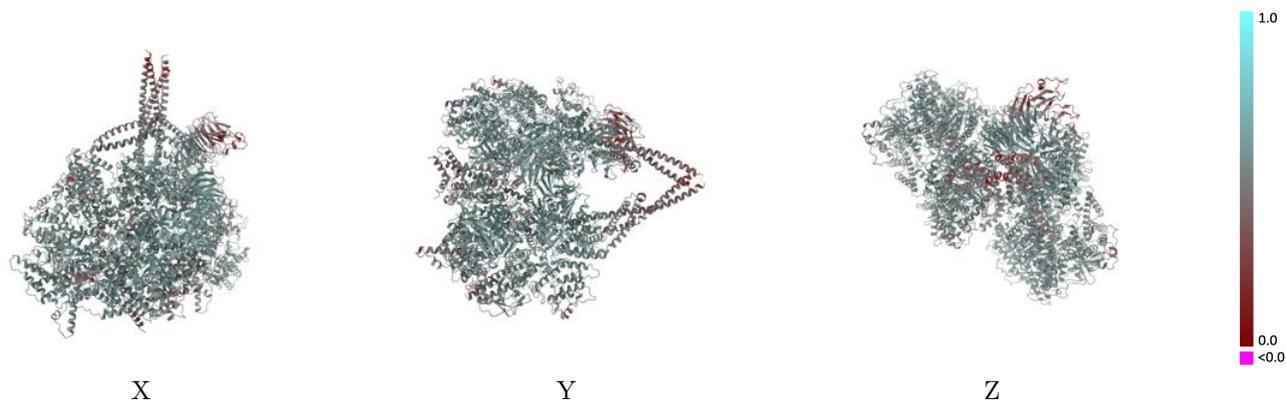
This section contains information regarding the fit between EMDB map EMD-47380 and PDB model 9E11. Per-residue inclusion information can be found in section 3 on page 6.

9.1 Map-model overlay [i](#)



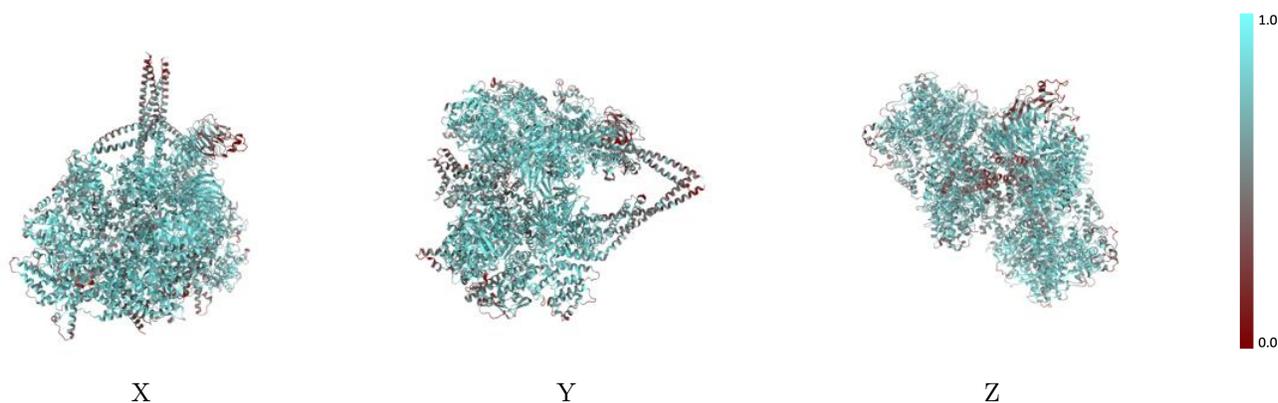
The images above show the 3D surface view of the map at the recommended contour level 0.3 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



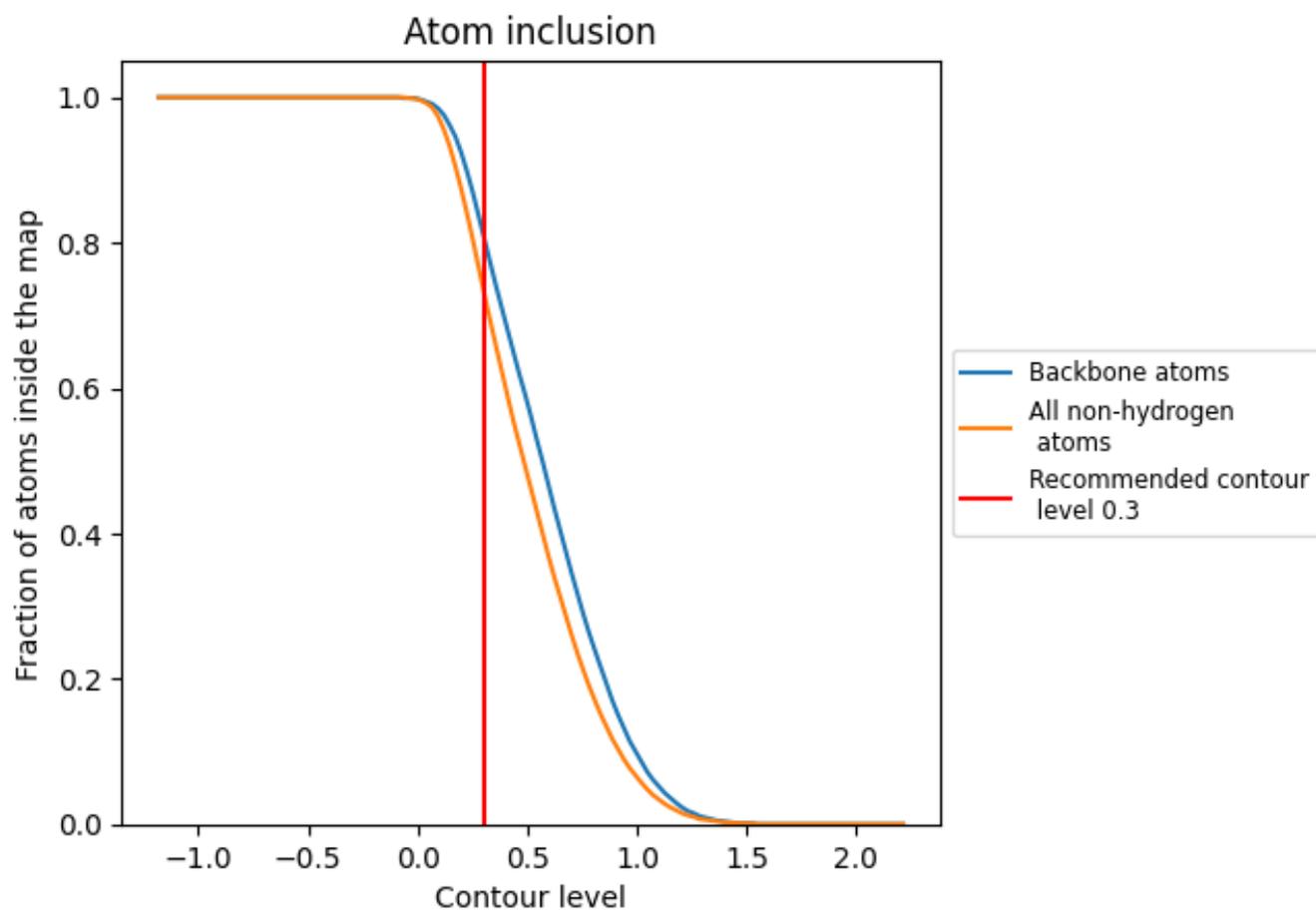
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.3).

9.4 Atom inclusion [i](#)



At the recommended contour level, 81% of all backbone atoms, 74% 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 (0.3) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.7360	 0.5430
A	 0.7130	 0.5370
B	 0.7660	 0.5550
C	 0.8490	 0.5900
D	 0.5620	 0.4470

