



Full wwPDB EM Validation Report ⓘ

Mar 9, 2026 – 01:53 AM UTC

PDB ID : 7T3R / pdb_00007t3r
EMDB ID : EMD-25669
Title : IP3 and ATP bound type 3 IP3 receptor in the pre-active C state
Authors : Schmitz, E.A.; Takahashi, H.; Karakas, E.
Deposited on : 2021-12-08
Resolution : 3.40 Å(reported)
Based on initial model : 6UQK

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

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

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

EMDB validation analysis : 0.0.1.dev132
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4-5-2 with Phenix2.0
Buster-report : wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics : 202505.v01 (Using data in the EMD archive up until May 2025)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

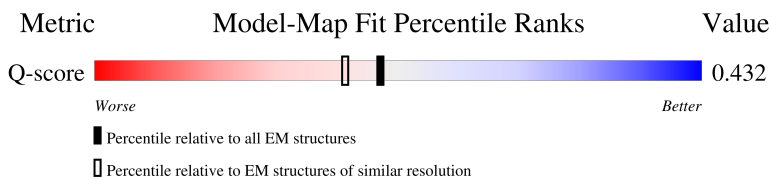
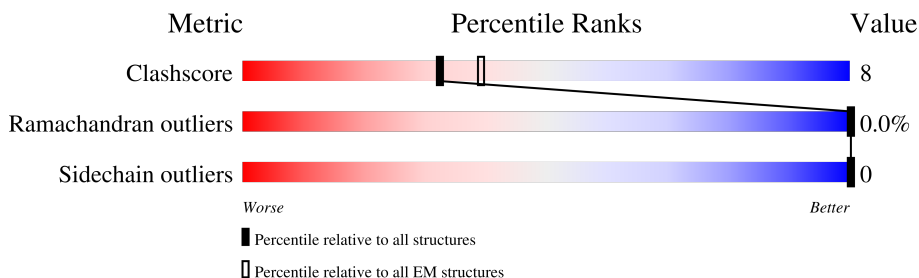
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.40 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
Q-score	-	25397	14717 (2.90 - 3.90)

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	2633	 65% 16% 19%
1	B	2633	 64% 16% 19%
1	C	2633	 65% 16% 19%
1	D	2633	 66% 15% 19%

2 Entry composition [i](#)

There are 4 unique types of molecules in this entry. The entry contains 68780 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.

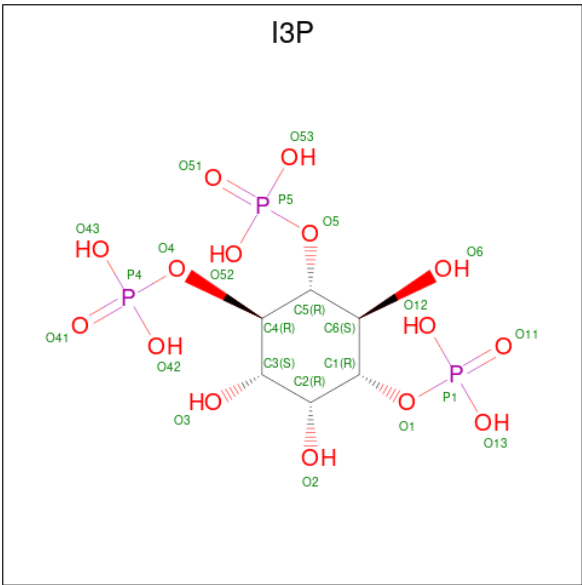
- Molecule 1 is a protein called Inositol 1,4,5-trisphosphate receptor type 3.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	2130	Total	C	N	O	S	0	0
			17139	10950	2934	3151	104		
1	B	2130	Total	C	N	O	S	0	0
			17139	10950	2934	3151	104		
1	C	2130	Total	C	N	O	S	0	0
			17139	10950	2934	3151	104		
1	D	2130	Total	C	N	O	S	0	0
			17139	10950	2934	3151	104		

- Molecule 2 is ZINC ION (CCD ID: ZN) (formula: Zn).

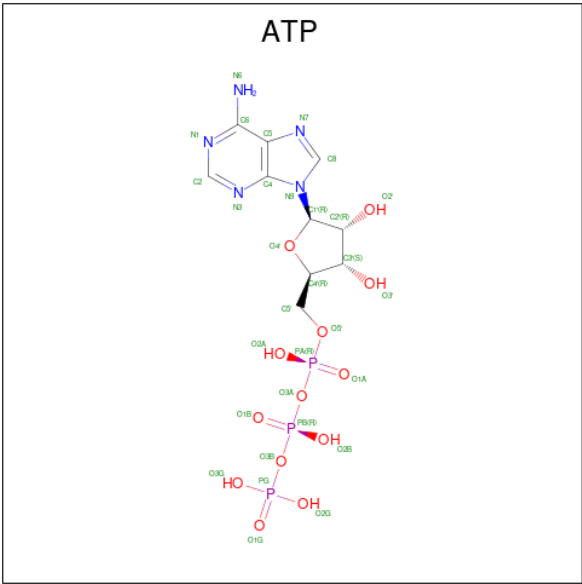
Mol	Chain	Residues	Atoms		AltConf
2	A	1	Total	Zn	0
			1	1	
2	B	1	Total	Zn	0
			1	1	
2	C	1	Total	Zn	0
			1	1	
2	D	1	Total	Zn	0
			1	1	

- Molecule 3 is D-MYO-INOSITOL-1,4,5-TRIPHOSPHATE (CCD ID: I3P) (formula: $C_6H_{15}O_{15}P_3$).



Mol	Chain	Residues	Atoms				AltConf
3	A	1	Total	C	O	P	0
			24	6	15	3	
3	B	1	Total	C	O	P	0
			24	6	15	3	
3	C	1	Total	C	O	P	0
			24	6	15	3	
3	D	1	Total	C	O	P	0
			24	6	15	3	

- Molecule 4 is ADENOSINE-5'-TRIPHOSPHATE (CCD ID: ATP) (formula: C₁₀H₁₆N₅O₁₃P₃).

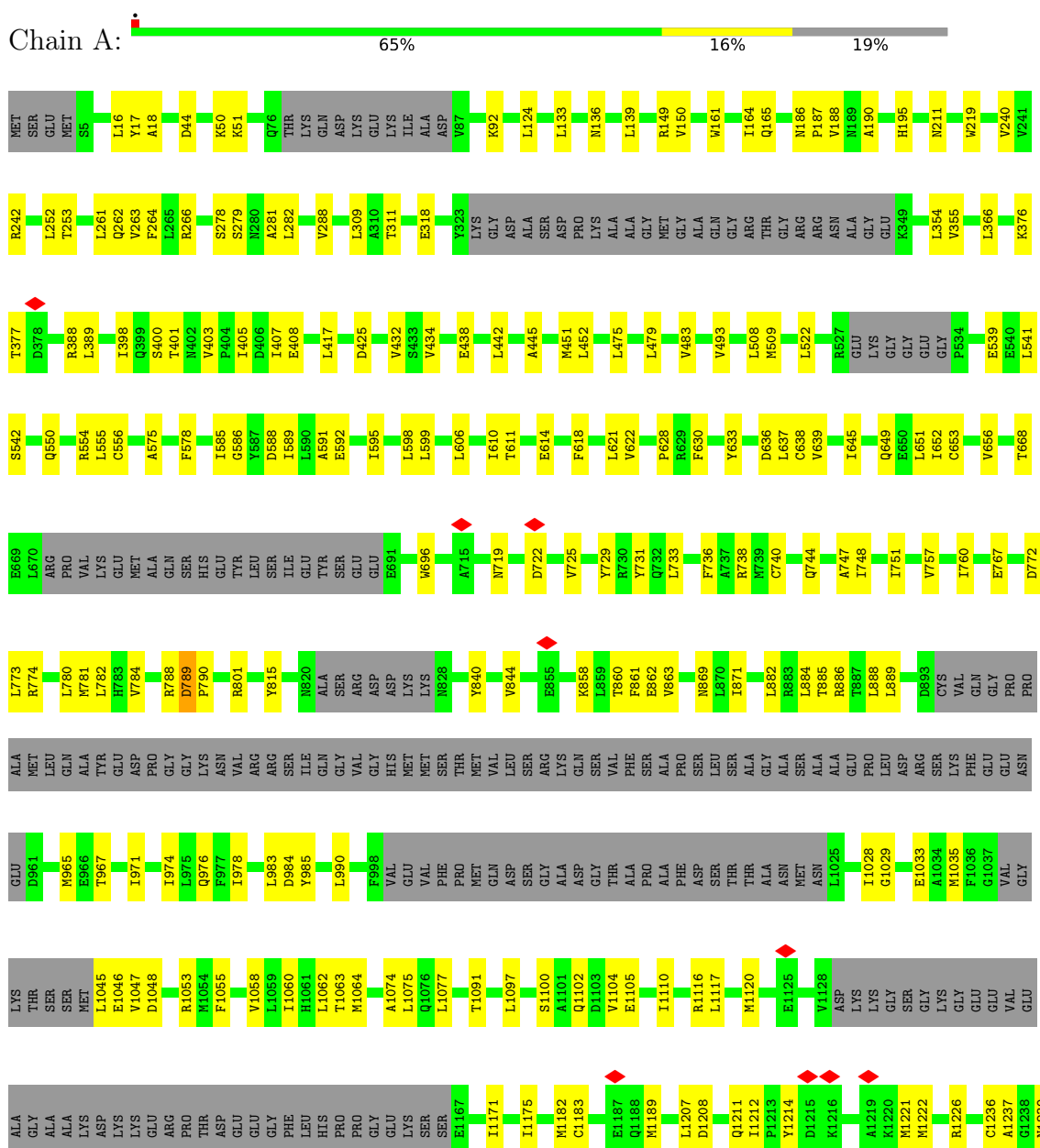


Mol	Chain	Residues	Atoms					AltConf
4	A	1	Total 31	C 10	N 5	O 13	P 3	0
4	B	1	Total 31	C 10	N 5	O 13	P 3	0
4	C	1	Total 31	C 10	N 5	O 13	P 3	0
4	D	1	Total 31	C 10	N 5	O 13	P 3	0

3 Residue-property plots

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

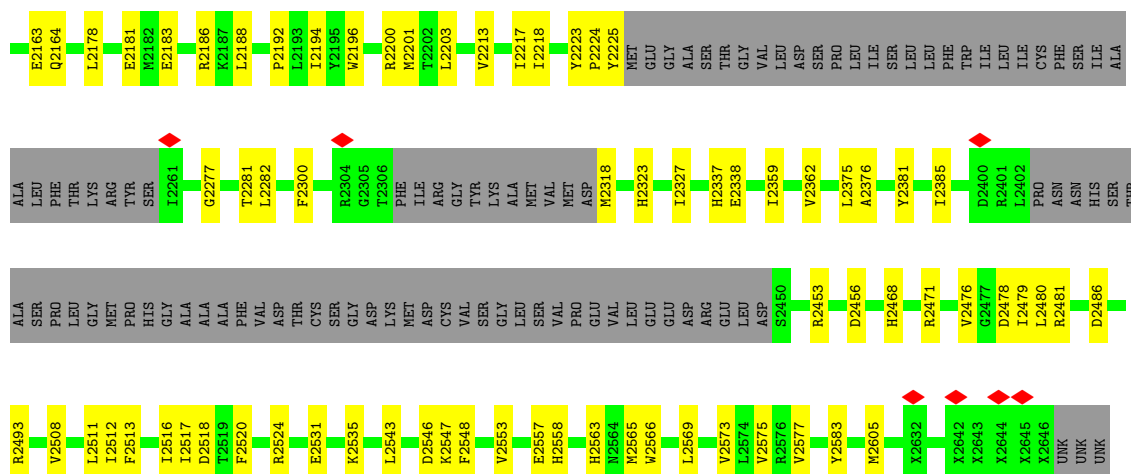
- Molecule 1: Inositol 1,4,5-trisphosphate receptor type 3



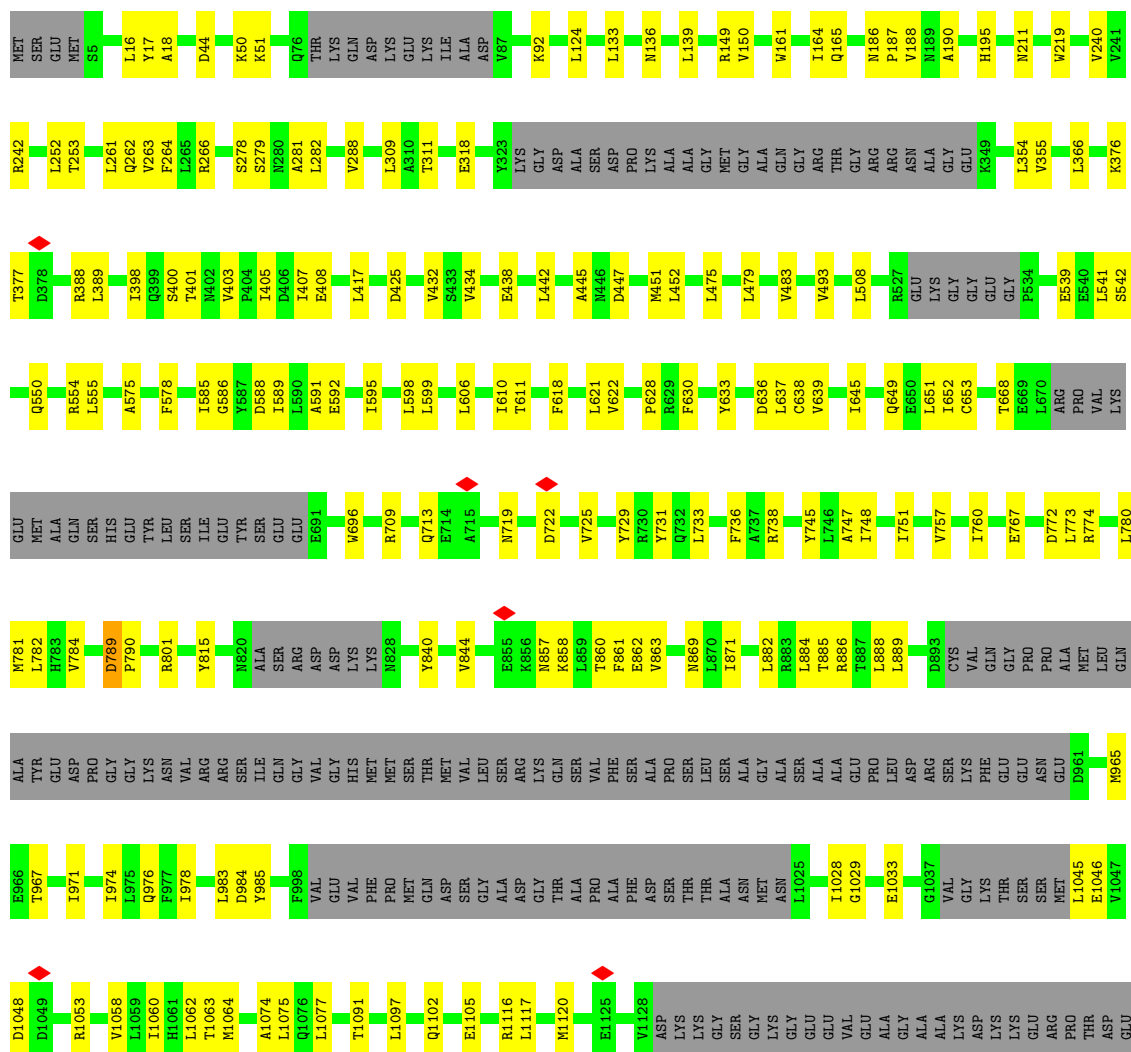




R2047	E1946	SER	T1744	P1608	LEU	T1445	L1254	ASP	L1045	D961	MET
E2048	C1948	GLY	K1745	L1609	PRO	T1446	T1255	LYS	E1046	LEU	L773
V2049	Q1949	PRO	N1746	Q1610	ASP	D1447	E1260	GLU	D1048	ALA	L780
Y2054	P1950	SER	A1612	E1612	LEU	D1447	E1260	ARG	D1049	TYR	M781
Q2059	P1951	LEU	I1749	E1613	ASP	R1450	T1263	PRO	D1049	GLU	H783
L2060	I1959	ARG	A1757	L1614	ALA	V1451	Q1264	THR	R1053	ASP	V784
L2071	H1962	GLY	F1785	S1615	HIS	CYS	Q1265	ASP	R1054	PRO	MET
E1963	K2072	HIS	N1774	D1619	SER	SER	D1301	GLU	F1055	GLY	R788
K2072	S1964	GLU	L1775	L1626	ARG	LYS	F1302	GLY	L1056	GLY	D789
P2073	VAL	VAL	S1778	L1626	MET	ARG	F1302	PHE	R1057	LYS	P790
VAL	SER	SER	A1796	M1655	LEU	GLY	T1305	LEU	V1058	VAL	R801
LYS	GLU	GLY	T1803	E1656	SER	LYS	V1306	HIS	L1059	ARG	GLU
ARG	ARG	SER	F1785	R1637	SER	VAL	D1330	PRO	H1061	LEU	TYR
ILE	VAL	GLN	V1788	F1643	GLY	ALA	D1330	PRO	H1061	ARG	ARG
GLU	SER	SER	A1796	L1644	ALA	ALA	R1339	GLY	T1062	SER	SER
L1974	I1974	SER	T1798	M1655	SER	P1462	R1339	LYS	M1064	ILE	ILE
L1975	L1975	CYS	A1796	E1656	ALA	ASP	R1339	GLY	T1063	GLY	GLU
L1976	D1977	ALA	T1803	ALA	ALA	L1469	L1342	SER	A1074	VAL	TYR
L1978	VAL	ALA	VAL	R1682	ALA	E1486	L1342	SER	L1075	VAL	GLU
L1981	ALA	ALA	VAL	R1687	ALA	N1487	L1345	ASP	Q1076	GLY	GLU
SER	ASN	GLN	ASN	K1688	GLN	E1486	L1345	I1175	L1077	PHE	VAL
L1989	MET	ASN	MET	ASN	ASN	S1488	M1349	GLY	R1085	THR	SER
L1999	ASP	ASN	ASP	Q1692	ALA	T1489	M1349	GLY	T1091	MET	THR
M2004	LEU	ASN	LEU	N1693	ALA	SER	K1350	GLY	T1091	GLN	SER
SER	ASP	GLY	ASP	Y1694	GLN	GLN	T1489	ASP	GLY	ASP	GLN
R2007	GLY	LYS	GLY	L1695	TYR	T1493	K1350	GLY	GLY	GLY	GLY
ASN	SER	TYR	SER	Q1696	ALA	H1494	A1351	ASP	ALA	ALA	A715
N1896	N1697	ALA	GLN	N1697	THR	Q1495	A1352	LYS	L1097	GLY	W719
L1997	ARG	THR	THR	ARG	THR	L1501	D1358	THR	GLY	ARG	D722
E2014	LYS	THR	HIS	L1501	THR	L1501	H1359	ALA	S1100	LYS	W719
R2015	SER	ARG	ARG	L1501	THR	L1501	D1358	ALA	GLY	GLY	D722
I2016	THR	ALA	ALA	L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
S2019	SER	PHE	PRO	L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
L2020	GLY	ARG	ARG	L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
L2025	ASP	VAL	VAL	L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
SER	ASP	THR	THR	L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
SER	PRO	PRO	PRO	L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
V2028	ALA	THR	THR	L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
L2029	ALA	THR	THR	L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
K2030	ALA	THR	THR	L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
Y2033	GLN	L1925	LYS	L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
L2034	GLU	G1926	GLY	L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
Q2035	GLU	L1927	ARG	L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
GLU	GLU	Y1928	VAL	L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
E2111	GLU	Q1596	ALA	L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
R2131	GLU	N1593	SER	L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
I2143	ARG	V1934	PHE	L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
T2151	GLU	G1935	ILE	L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
L2155	SER	V1937	GLY	L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
E2160	GLU	T1940	SER	L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
	VAL	L1941	SER	L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
	GLU	V2044	ARG	L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
	GLU	S2045	GLY	L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
	GLU	P2046	TYR	L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
				L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
				L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
				L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
				L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
				L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
				L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
				L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
				L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
				L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
				L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
				L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
				L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
				L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
				L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
				L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
				L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
				L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
				L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
				L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
				L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
				L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
				L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
				L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
				L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
				L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
				L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
				L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
				L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
				L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
				L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
				L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
				L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
				L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
				L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
				L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
				L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
				L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
				L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
				L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
				L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
				L1501	THR	L1501	H1359	ALA	GLY	GLY	D722
				L1501	THR	L1501	H1359	ALA	GLY		



• Molecule 1: Inositol 1,4,5-trisphosphate receptor type 3





4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C4	Depositor
Number of particles used	75994	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 ($e^-/\text{\AA}^2$)	60	Depositor
Minimum defocus (nm)	800	Depositor
Maximum defocus (nm)	1600	Depositor
Magnification	105000	Depositor
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	2.476	Depositor
Minimum map value	-1.428	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.058	Depositor
Recommended contour level	0.18	Depositor
Map size (Å)	397.44, 397.44, 397.44	wwPDB
Map dimensions	480, 480, 480	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.828, 0.828, 0.828	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: ATP, ZN, I3P

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	0.17	0/17356	0.29	0/23440
1	B	0.18	0/17356	0.30	0/23440
1	C	0.17	0/17356	0.30	0/23440
1	D	0.17	0/17356	0.29	0/23440
All	All	0.17	0/69424	0.29	0/93760

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	17139	0	17153	305	0
1	B	17139	0	17153	305	0
1	C	17139	0	17153	299	0
1	D	17139	0	17153	282	0
2	A	1	0	0	0	0
2	B	1	0	0	0	0
2	C	1	0	0	0	0
2	D	1	0	0	0	0
3	A	24	0	9	1	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	B	24	0	9	2	0
3	C	24	0	9	1	0
3	D	24	0	9	1	0
4	A	31	0	12	0	0
4	B	31	0	12	0	0
4	C	31	0	12	1	0
4	D	31	0	12	0	0
All	All	68780	0	68696	1162	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 8.

All (1162) 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:1214:TYR:CG	1:A:1221:MET:HE1	2.08	0.89
1:D:1214:TYR:CG	1:D:1221:MET:HE1	2.09	0.88
1:A:2213:VAL:O	1:A:2217:ILE:HD12	1.78	0.83
1:B:2213:VAL:O	1:B:2217:ILE:HD12	1.79	0.83
1:C:801:ARG:NH2	1:C:984:ASP:OD1	2.14	0.81
1:B:801:ARG:NH2	1:B:984:ASP:OD1	2.14	0.81
1:D:801:ARG:NH2	1:D:984:ASP:OD1	2.13	0.81
1:A:801:ARG:NH2	1:A:984:ASP:OD1	2.13	0.80
1:C:2213:VAL:O	1:C:2217:ILE:HD12	1.81	0.80
1:A:668:THR:HG1	1:A:729:TYR:HH	1.25	0.79
1:A:242:ARG:NH2	1:A:438:GLU:OE1	2.16	0.79
1:D:2163:GLU:OE2	1:D:2164:GLN:NE2	2.16	0.79
1:A:1236:CYS:SG	1:A:1246:LEU:HD12	2.23	0.79
1:C:242:ARG:NH2	1:C:438:GLU:OE1	2.16	0.79
1:B:242:ARG:NH2	1:B:438:GLU:OE1	2.15	0.78
1:C:2163:GLU:OE2	1:C:2164:GLN:NE2	2.16	0.78
1:D:1236:CYS:SG	1:D:1246:LEU:HD12	2.23	0.78
1:D:242:ARG:NH2	1:D:438:GLU:OE1	2.17	0.78
1:D:2323:HIS:O	1:D:2327:ILE:HD12	1.84	0.78
1:C:2323:HIS:O	1:C:2327:ILE:HD12	1.83	0.77
1:A:2323:HIS:O	1:A:2327:ILE:HD12	1.84	0.77
1:B:2323:HIS:O	1:B:2327:ILE:HD12	1.83	0.76
1:B:1102:GLN:NE2	1:B:1105:GLU:OE2	2.18	0.76
1:C:668:THR:HG1	1:C:729:TYR:HH	1.23	0.76
1:A:1102:GLN:NE2	1:A:1105:GLU:OE2	2.19	0.76
1:C:1102:GLN:NE2	1:C:1105:GLU:OE2	2.19	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:2513:PHE:CE2	1:C:2517:ILE:HD11	2.21	0.75
1:D:719:ASN:ND2	1:D:722:ASP:OD2	2.19	0.75
1:D:1102:GLN:NE2	1:D:1105:GLU:OE2	2.19	0.75
1:A:719:ASN:ND2	1:A:722:ASP:OD2	2.20	0.75
1:B:18:ALA:HB2	1:B:219:TRP:CZ3	2.21	0.75
1:B:240:VAL:HG11	1:B:309:LEU:HD11	1.67	0.75
1:C:696:TRP:CZ2	1:C:725:VAL:HG21	2.22	0.75
1:A:18:ALA:HB2	1:A:219:TRP:CZ3	2.21	0.74
1:B:696:TRP:CZ2	1:B:725:VAL:HG21	2.23	0.74
1:C:18:ALA:HB2	1:C:219:TRP:CZ3	2.22	0.74
1:C:719:ASN:ND2	1:C:722:ASP:OD2	2.21	0.74
1:D:696:TRP:CZ2	1:D:725:VAL:HG21	2.23	0.74
1:A:240:VAL:HG11	1:A:309:LEU:HD11	1.69	0.73
1:C:1644:LEU:HD23	1:C:1731:GLU:HG3	1.71	0.73
1:D:965:MET:HA	1:D:965:MET:HE2	1.69	0.73
1:A:885:THR:HG23	1:A:978:ILE:HD13	1.70	0.73
1:B:1644:LEU:HD23	1:B:1731:GLU:HG3	1.71	0.73
1:D:18:ALA:HB2	1:D:219:TRP:CZ3	2.23	0.73
1:D:885:THR:HG23	1:D:978:ILE:HD13	1.71	0.73
1:D:2183:GLU:OE2	1:D:2186:ARG:NH2	2.22	0.73
1:A:696:TRP:CZ2	1:A:725:VAL:HG21	2.23	0.73
1:C:780:LEU:O	1:C:784:VAL:HG12	1.88	0.73
1:D:1644:LEU:HD23	1:D:1731:GLU:HG3	1.70	0.73
1:C:1053:ARG:NH1	1:C:1694:TYR:O	2.23	0.72
1:D:1053:ARG:NH1	1:D:1694:TYR:O	2.22	0.72
1:A:965:MET:HE2	1:A:965:MET:HA	1.70	0.72
1:A:1644:LEU:HD23	1:A:1731:GLU:HG3	1.70	0.72
1:B:885:THR:HG23	1:B:978:ILE:HD13	1.71	0.72
1:B:2513:PHE:CE2	1:B:2517:ILE:HD11	2.25	0.72
1:C:885:THR:HG23	1:C:978:ILE:HD13	1.71	0.72
1:B:719:ASN:ND2	1:B:722:ASP:OD2	2.22	0.72
1:C:240:VAL:HG11	1:C:309:LEU:HD11	1.69	0.71
1:D:780:LEU:O	1:D:784:VAL:HG12	1.89	0.71
1:A:772:ASP:OD1	1:A:773:LEU:N	2.23	0.71
1:B:2163:GLU:OE2	1:B:2164:GLN:NE2	2.23	0.71
1:B:780:LEU:O	1:B:784:VAL:HG12	1.89	0.71
1:B:1053:ARG:NH1	1:B:1694:TYR:O	2.22	0.71
1:C:389:LEU:HB2	1:C:398:ILE:HD12	1.72	0.71
1:A:780:LEU:O	1:A:784:VAL:HG12	1.90	0.71
1:C:31:LEU:HD11	1:C:451:MET:HE1	1.74	0.70
1:A:1053:ARG:NH1	1:A:1694:TYR:O	2.23	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2143:ILE:HD11	1:A:2183:GLU:HA	1.73	0.70
1:A:2163:GLU:OE2	1:A:2164:GLN:NE2	2.24	0.70
1:B:2143:ILE:HD11	1:B:2183:GLU:HA	1.71	0.70
1:D:389:LEU:HB2	1:D:398:ILE:HD12	1.73	0.70
1:B:389:LEU:HB2	1:B:398:ILE:HD12	1.72	0.70
1:B:2214:PHE:O	1:B:2218:ILE:HD12	1.92	0.70
1:D:772:ASP:OD1	1:D:773:LEU:N	2.25	0.69
1:B:772:ASP:OD1	1:B:773:LEU:N	2.25	0.69
1:B:2183:GLU:OE2	1:B:2186:ARG:NH2	2.25	0.69
1:C:2048:GLU:N	1:C:2048:GLU:OE1	2.26	0.69
1:D:1196:LEU:HG	1:D:1200:MET:HE3	1.74	0.69
1:A:389:LEU:HB2	1:A:398:ILE:HD12	1.74	0.69
1:C:772:ASP:OD1	1:C:773:LEU:N	2.25	0.69
1:B:2048:GLU:N	1:B:2048:GLU:OE1	2.26	0.69
1:A:2048:GLU:OE1	1:A:2048:GLU:N	2.26	0.68
1:B:2506:ILE:O	1:B:2510:ASN:ND2	2.26	0.68
1:D:2048:GLU:N	1:D:2048:GLU:OE1	2.26	0.68
1:C:1028:ILE:HG22	1:C:1602:LEU:HD21	1.77	0.67
1:C:1941:LEU:O	1:C:1945:THR:HG23	1.95	0.67
1:C:282:LEU:HD12	1:C:442:LEU:HD22	1.75	0.67
1:D:2513:PHE:CE2	1:D:2517:ILE:HD11	2.30	0.67
1:C:649:GLN:NE2	1:C:738:ARG:O	2.27	0.67
1:D:649:GLN:NE2	1:D:738:ARG:O	2.28	0.67
1:D:282:LEU:HD12	1:D:442:LEU:HD22	1.76	0.66
1:A:282:LEU:HD12	1:A:442:LEU:HD22	1.77	0.66
1:D:17:TYR:OH	1:D:44:ASP:OD1	2.10	0.66
1:A:2513:PHE:CE2	1:A:2517:ILE:HD11	2.30	0.66
1:D:240:VAL:HG11	1:D:309:LEU:HD11	1.77	0.66
1:B:649:GLN:NE2	1:B:738:ARG:O	2.28	0.66
1:A:2471:ARG:NH2	1:D:2478:ASP:OD1	2.29	0.66
1:D:2143:ILE:HD11	1:D:2183:GLU:HA	1.77	0.66
1:A:17:TYR:OH	1:A:44:ASP:OD1	2.11	0.66
1:A:882:LEU:O	1:A:885:THR:OG1	2.14	0.66
1:A:1941:LEU:O	1:A:1945:THR:HG23	1.96	0.65
1:B:261:LEU:HD21	1:B:311:THR:HG21	1.77	0.65
1:B:2531:GLU:OE1	1:B:2535:LYS:NZ	2.30	0.65
1:B:1941:LEU:O	1:B:1945:THR:HG23	1.96	0.65
1:A:649:GLN:NE2	1:A:738:ARG:O	2.29	0.65
1:C:2531:GLU:OE1	1:C:2535:LYS:NZ	2.30	0.65
1:B:282:LEU:HD12	1:B:442:LEU:HD22	1.78	0.64
1:C:1265:GLN:HG3	1:C:1305:THR:HG21	1.79	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:882:LEU:O	1:D:885:THR:OG1	2.14	0.64
1:D:1941:LEU:O	1:D:1945:THR:HG23	1.96	0.64
1:A:261:LEU:HD21	1:A:311:THR:HG21	1.79	0.64
1:A:2478:ASP:OD1	1:B:2471:ARG:NH2	2.31	0.64
1:A:1265:GLN:HG3	1:A:1305:THR:HG21	1.79	0.64
1:B:1028:ILE:HG22	1:B:1602:LEU:HD21	1.78	0.64
1:A:400:SER:HA	1:A:417:LEU:HD23	1.79	0.64
1:D:889:LEU:HD13	1:D:1048:ASP:OD1	1.98	0.64
1:D:1028:ILE:HG22	1:D:1602:LEU:HD21	1.79	0.64
1:C:1301:ASP:O	1:C:1305:THR:HG23	1.98	0.64
1:D:1265:GLN:HG3	1:D:1305:THR:HG21	1.79	0.64
1:D:2453:ARG:NH2	1:D:2456:ASP:OD1	2.31	0.64
1:A:388:ARG:NH1	1:A:425:ASP:O	2.30	0.63
1:A:2453:ARG:NH2	1:A:2456:ASP:OD1	2.31	0.63
1:C:882:LEU:O	1:C:885:THR:OG1	2.14	0.63
1:A:2531:GLU:OE1	1:A:2535:LYS:NZ	2.31	0.63
1:C:889:LEU:HD13	1:C:1048:ASP:OD1	1.98	0.63
1:D:1489:THR:O	1:D:1495:GLN:NE2	2.32	0.63
1:A:2543:LEU:HD23	1:A:2548:PHE:CZ	2.34	0.63
1:C:2476:VAL:HG22	1:C:2480:LEU:HD13	1.81	0.63
1:A:889:LEU:HD13	1:A:1048:ASP:OD1	1.99	0.63
1:A:1301:ASP:O	1:A:1305:THR:HG23	1.98	0.63
1:B:1265:GLN:HG3	1:B:1305:THR:HG21	1.79	0.63
1:B:1301:ASP:O	1:B:1305:THR:HG23	1.98	0.63
1:B:2225:TYR:OH	1:B:2338:GLU:OE1	2.12	0.63
1:D:2531:GLU:OE1	1:D:2535:LYS:NZ	2.30	0.63
1:B:1117:LEU:HD13	1:B:1175:ILE:HG21	1.80	0.63
1:C:1214:TYR:HB2	1:C:1221:MET:HE1	1.81	0.63
1:B:889:LEU:HD13	1:B:1048:ASP:OD1	1.99	0.63
1:D:2225:TYR:OH	1:D:2338:GLU:OE1	2.13	0.62
1:C:388:ARG:NH1	1:C:425:ASP:O	2.32	0.62
1:B:1237:ALA:O	1:B:1239:ASN:N	2.31	0.62
1:A:760:ILE:HG21	1:A:781:MET:HB2	1.80	0.62
1:A:871:ILE:HD11	1:A:884:LEU:CD2	2.29	0.62
1:A:1489:THR:O	1:A:1495:GLN:NE2	2.32	0.62
1:D:1301:ASP:O	1:D:1305:THR:HG23	1.99	0.62
1:B:388:ARG:NH1	1:B:425:ASP:O	2.32	0.62
1:C:2543:LEU:HD23	1:C:2548:PHE:CZ	2.35	0.62
1:D:611:THR:C	1:D:651:LEU:HD21	2.24	0.62
1:D:2543:LEU:HD23	1:D:2548:PHE:CZ	2.34	0.62
1:B:871:ILE:HD11	1:B:884:LEU:CD2	2.29	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:400:SER:HA	1:C:417:LEU:HD23	1.81	0.62
1:C:2575:VAL:O	1:C:2583:TYR:OH	2.17	0.62
1:B:882:LEU:O	1:B:885:THR:OG1	2.14	0.62
1:B:1258:LEU:HD22	1:B:1298:GLN:OE1	1.99	0.62
1:B:2543:LEU:HD23	1:B:2548:PHE:CZ	2.34	0.62
1:C:261:LEU:HD21	1:C:311:THR:HG21	1.81	0.62
1:C:1489:THR:O	1:C:1495:GLN:NE2	2.32	0.62
1:D:976:GLN:HG2	1:D:1077:LEU:HD11	1.81	0.62
1:B:1196:LEU:HG	1:B:1200:MET:HE3	1.82	0.62
1:B:2453:ARG:NH2	1:B:2456:ASP:OD1	2.32	0.62
1:C:871:ILE:HD11	1:C:884:LEU:CD2	2.29	0.62
1:D:261:LEU:HD21	1:D:311:THR:HG21	1.82	0.62
1:D:871:ILE:HD11	1:D:884:LEU:CD2	2.30	0.62
1:A:1237:ALA:O	1:A:1239:ASN:N	2.30	0.61
1:B:1489:THR:O	1:B:1495:GLN:NE2	2.32	0.61
1:D:2476:VAL:HG22	1:D:2480:LEU:HD13	1.81	0.61
1:A:976:GLN:HG2	1:A:1077:LEU:HD11	1.81	0.61
1:B:990:LEU:HG	1:B:1035:MET:HE1	1.82	0.61
1:C:976:GLN:HG2	1:C:1077:LEU:HD11	1.82	0.61
1:C:1196:LEU:HG	1:C:1200:MET:HE3	1.82	0.61
1:A:1774:ASN:OD1	1:A:1775:LEU:N	2.33	0.61
1:B:400:SER:HA	1:B:417:LEU:HD23	1.81	0.61
1:D:388:ARG:NH1	1:D:425:ASP:O	2.33	0.61
1:C:452:LEU:HD11	1:C:479:LEU:HD11	1.82	0.61
1:C:760:ILE:HG21	1:C:781:MET:HB2	1.82	0.61
1:A:2575:VAL:O	1:A:2583:TYR:OH	2.15	0.61
1:D:760:ILE:HG21	1:D:781:MET:HB2	1.82	0.61
1:D:400:SER:HA	1:D:417:LEU:HD23	1.81	0.61
1:B:976:GLN:HG2	1:B:1077:LEU:HD11	1.83	0.61
1:B:1612:ALA:O	1:B:1615:SER:OG	2.18	0.61
1:C:2143:ILE:HD11	1:C:2183:GLU:HA	1.81	0.61
1:B:760:ILE:HG21	1:B:781:MET:HB2	1.82	0.60
1:B:2468:HIS:CB	1:B:2479:ILE:HD13	2.30	0.60
1:D:709:ARG:O	1:D:713:GLN:OE1	2.19	0.60
1:B:253:THR:HG22	1:B:281:ALA:HB2	1.84	0.60
1:B:1774:ASN:OD1	1:B:1775:LEU:N	2.34	0.60
1:C:2225:TYR:OH	1:C:2338:GLU:OE1	2.14	0.60
1:A:858:LYS:O	1:A:862:GLU:OE1	2.19	0.60
1:A:1945:THR:HG22	1:A:1999:LEU:HA	1.83	0.60
1:D:1774:ASN:OD1	1:D:1775:LEU:N	2.34	0.60
1:A:2468:HIS:CB	1:A:2479:ILE:HD13	2.31	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:318:GLU:CG	1:B:355:VAL:HG21	2.31	0.60
1:C:1774:ASN:OD1	1:C:1775:LEU:N	2.34	0.60
1:D:1237:ALA:O	1:D:1239:ASN:N	2.30	0.60
1:D:1945:THR:HG22	1:D:1999:LEU:HA	1.84	0.60
1:C:2468:HIS:CB	1:C:2479:ILE:HD13	2.32	0.60
1:B:452:LEU:HD11	1:B:479:LEU:HD11	1.83	0.60
1:B:1028:ILE:CG2	1:B:1602:LEU:HD21	2.31	0.60
1:C:1237:ALA:O	1:C:1239:ASN:N	2.31	0.60
1:C:1424:THR:O	1:C:1429:LYS:NZ	2.35	0.60
1:D:858:LYS:O	1:D:862:GLU:OE1	2.20	0.60
1:D:2513:PHE:CZ	1:D:2517:ILE:HD11	2.36	0.60
1:A:1424:THR:O	1:A:1429:LYS:NZ	2.35	0.60
1:C:2183:GLU:OE2	1:C:2186:ARG:NH2	2.35	0.60
1:A:318:GLU:CG	1:A:355:VAL:HG21	2.32	0.60
1:A:1610:VAL:O	1:A:1614:LEU:HD23	2.02	0.60
1:C:318:GLU:CG	1:C:355:VAL:HG21	2.31	0.59
1:C:2453:ARG:NH2	1:C:2456:ASP:OD1	2.33	0.59
1:C:2478:ASP:OD1	1:D:2471:ARG:NH2	2.34	0.59
1:D:318:GLU:CG	1:D:355:VAL:HG21	2.31	0.59
1:D:1610:VAL:O	1:D:1614:LEU:HD23	2.02	0.59
1:A:1886:ARG:NH1	1:A:1951:PRO:O	2.35	0.59
1:B:858:LYS:O	1:B:862:GLU:OE1	2.19	0.59
1:B:1214:TYR:CD1	1:B:1221:MET:HE1	2.37	0.59
1:C:709:ARG:HG2	1:C:768:MET:HE3	1.84	0.59
1:B:709:ARG:HG2	1:B:768:MET:HE3	1.85	0.59
1:A:253:THR:HG22	1:A:281:ALA:HB2	1.85	0.59
1:A:990:LEU:HG	1:A:1035:MET:HE1	1.83	0.59
1:B:2478:ASP:OD1	1:C:2471:ARG:NH2	2.35	0.59
1:C:1610:VAL:O	1:C:1614:LEU:HD23	2.02	0.59
1:B:1610:VAL:O	1:B:1614:LEU:HD23	2.03	0.59
1:C:1028:ILE:CG2	1:C:1602:LEU:HD21	2.33	0.59
1:A:2225:TYR:OH	1:A:2338:GLU:OE1	2.16	0.59
1:B:782:LEU:HD11	1:B:869:ASN:CG	2.28	0.59
1:B:1408:GLU:OE2	1:B:1409:VAL:HG23	2.03	0.59
1:B:1116:ARG:NH2	1:B:1175:ILE:HD11	2.17	0.59
1:B:1424:THR:O	1:B:1429:LYS:NZ	2.35	0.59
1:C:858:LYS:O	1:C:862:GLU:OE1	2.20	0.59
1:D:2575:VAL:O	1:D:2583:TYR:OH	2.15	0.59
1:A:2565:MET:HE2	1:A:2566:TRP:CZ2	2.38	0.58
1:D:2565:MET:HE2	1:D:2566:TRP:CZ2	2.39	0.58
1:A:240:VAL:CG1	1:A:309:LEU:HD11	2.33	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:451:MET:HE2	1:A:475:LEU:HD22	1.85	0.58
1:A:1612:ALA:O	1:A:1615:SER:OG	2.19	0.58
1:D:1028:ILE:CG2	1:D:1602:LEU:HD21	2.33	0.58
1:D:1424:THR:O	1:D:1429:LYS:NZ	2.35	0.58
1:C:871:ILE:HD13	1:C:974:ILE:HG23	1.83	0.58
1:A:2143:ILE:HD13	1:A:2186:ARG:HE	1.68	0.58
1:B:2468:HIS:HB2	1:B:2479:ILE:HD13	1.86	0.58
1:C:1945:THR:HG22	1:C:1999:LEU:HA	1.86	0.58
1:C:2565:MET:HE2	1:C:2566:TRP:CZ2	2.38	0.58
1:A:1116:ARG:NH1	1:A:1175:ILE:HD11	2.19	0.57
1:C:2518:ASP:OD1	1:D:2524:ARG:NE	2.37	0.57
1:D:2468:HIS:CB	1:D:2479:ILE:HD13	2.33	0.57
1:A:1656:GLU:N	1:A:1656:GLU:OE1	2.38	0.57
1:C:1612:ALA:O	1:C:1615:SER:OG	2.18	0.57
1:D:318:GLU:HG3	1:D:355:VAL:HG21	1.86	0.57
1:D:1656:GLU:OE1	1:D:1656:GLU:N	2.37	0.57
1:B:1486:GLU:OE1	1:B:1486:GLU:N	2.37	0.57
1:C:318:GLU:HG3	1:C:355:VAL:HG21	1.87	0.57
1:D:871:ILE:HD13	1:D:974:ILE:HG23	1.85	0.57
1:A:1911:LEU:HB2	1:A:1940:THR:HG21	1.86	0.57
1:A:2030:LYS:O	1:A:2034:LEU:HD23	2.04	0.57
1:B:2575:VAL:O	1:B:2583:TYR:OH	2.17	0.57
1:D:2155:LEU:O	1:D:2159:THR:OG1	2.11	0.57
1:A:1486:GLU:N	1:A:1486:GLU:OE1	2.37	0.57
1:D:1486:GLU:OE1	1:D:1486:GLU:N	2.37	0.57
1:A:2468:HIS:HB2	1:A:2479:ILE:HD13	1.85	0.57
1:C:1486:GLU:N	1:C:1486:GLU:OE1	2.37	0.57
1:D:282:LEU:HB3	1:D:309:LEU:HD12	1.86	0.57
1:B:1656:GLU:N	1:B:1656:GLU:OE1	2.38	0.57
1:D:452:LEU:HD11	1:D:479:LEU:HD11	1.86	0.57
1:D:1911:LEU:HB2	1:D:1940:THR:HG21	1.86	0.57
1:D:2468:HIS:HB2	1:D:2479:ILE:HD13	1.85	0.57
1:A:318:GLU:HG3	1:A:355:VAL:HG21	1.87	0.57
1:A:2513:PHE:CZ	1:A:2517:ILE:HD11	2.40	0.57
1:B:871:ILE:HD13	1:B:974:ILE:HG23	1.86	0.57
1:B:2481:ARG:O	1:B:2493:ARG:NH2	2.34	0.56
1:B:318:GLU:HG3	1:B:355:VAL:HG21	1.86	0.56
1:B:252:LEU:HD11	1:B:263:VAL:CG1	2.35	0.56
1:B:1945:THR:HG22	1:B:1999:LEU:HA	1.87	0.56
1:B:2030:LYS:O	1:B:2034:LEU:HD23	2.06	0.56
1:B:2143:ILE:HD13	1:B:2186:ARG:HE	1.70	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:17:TYR:OH	1:C:44:ASP:OD1	2.10	0.56
1:C:240:VAL:CG1	1:C:309:LEU:HD11	2.35	0.56
1:C:1656:GLU:N	1:C:1656:GLU:OE1	2.38	0.56
1:D:578:PHE:CE2	1:D:595:ILE:HD12	2.40	0.56
1:D:1612:ALA:O	1:D:1615:SER:OG	2.20	0.56
1:D:1655:MET:HE3	1:D:1744:THR:HB	1.88	0.56
1:D:1962:HIS:CE1	1:D:1964:SER:HG	2.23	0.56
1:B:92:LYS:NZ	1:C:1922:LEU:O	2.32	0.56
1:B:240:VAL:CG1	1:B:309:LEU:HD11	2.34	0.56
1:B:1117:LEU:CD1	1:B:1175:ILE:HG21	2.35	0.56
1:B:1911:LEU:HB2	1:B:1940:THR:HG21	1.86	0.56
1:A:252:LEU:HD11	1:A:263:VAL:CG1	2.36	0.56
1:A:1408:GLU:OE2	1:A:1409:VAL:HG23	2.06	0.56
1:B:2553:VAL:HG23	1:B:2557:GLU:HG2	1.88	0.56
1:C:1911:LEU:HB2	1:C:1940:THR:HG21	1.87	0.56
1:C:2004:MET:O	1:C:2059:GLN:NE2	2.39	0.56
1:D:2589:TYR:OH	1:D:2593:MET:HE2	2.06	0.56
1:B:2054:TYR:CE1	1:B:2071:LEU:HD22	2.40	0.56
1:C:578:PHE:CE2	1:C:595:ILE:HD12	2.41	0.56
1:C:1655:MET:HE3	1:C:1744:THR:HB	1.88	0.56
1:D:252:LEU:HD11	1:D:263:VAL:CG1	2.35	0.56
1:C:2468:HIS:HB2	1:C:2479:ILE:HD13	1.86	0.56
1:A:2054:TYR:CE1	1:A:2071:LEU:HD22	2.41	0.56
1:B:2004:MET:O	1:B:2059:GLN:NE2	2.39	0.56
1:A:622:VAL:HG22	1:A:630:PHE:HB3	1.88	0.56
1:B:578:PHE:CE2	1:B:595:ILE:HD12	2.41	0.56
1:B:976:GLN:CG	1:B:1077:LEU:HD11	2.36	0.56
1:B:1236:CYS:SG	1:B:1246:LEU:HD12	2.46	0.56
1:C:253:THR:HG22	1:C:281:ALA:HB2	1.88	0.56
1:C:2030:LYS:O	1:C:2034:LEU:HD23	2.06	0.56
1:C:622:VAL:HG22	1:C:630:PHE:HB3	1.88	0.55
1:C:1408:GLU:OE2	1:C:1409:VAL:HG23	2.06	0.55
1:C:2054:TYR:CE1	1:C:2071:LEU:HD22	2.41	0.55
1:A:668:THR:OG1	1:A:729:TYR:OH	2.05	0.55
1:A:886:ARG:NH1	1:A:1046:GLU:O	2.40	0.55
1:C:782:LEU:HD11	1:C:869:ASN:CG	2.31	0.55
1:A:2004:MET:O	1:A:2059:GLN:NE2	2.39	0.55
1:C:976:GLN:CG	1:C:1077:LEU:HD11	2.36	0.55
1:A:252:LEU:HD13	1:A:417:LEU:CD1	2.36	0.55
1:D:253:THR:HG22	1:D:281:ALA:HB2	1.88	0.55
1:D:976:GLN:CG	1:D:1077:LEU:HD11	2.36	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:1214:TYR:CB	1:D:1221:MET:HE1	2.36	0.55
1:B:622:VAL:HG22	1:B:630:PHE:HB3	1.89	0.55
1:B:1967:ILE:O	1:B:1971:THR:HG23	2.06	0.55
1:C:405:ILE:HG22	1:C:405:ILE:O	2.06	0.55
1:D:1408:GLU:OE2	1:D:1409:VAL:HG23	2.07	0.55
1:B:1655:MET:HE3	1:B:1744:THR:HB	1.89	0.55
1:D:1208:ASP:O	1:D:1212:ILE:HG23	2.06	0.55
1:B:1926:GLY:HA2	1:B:1978:ILE:HG23	1.89	0.55
1:C:252:LEU:HD11	1:C:263:VAL:CG1	2.35	0.55
1:D:1886:ARG:NH1	1:D:1951:PRO:O	2.39	0.55
1:A:2468:HIS:HB3	1:A:2479:ILE:HG21	1.88	0.55
1:C:252:LEU:HD13	1:C:417:LEU:CD1	2.37	0.55
1:D:2468:HIS:HB3	1:D:2479:ILE:HG21	1.89	0.55
1:A:1967:ILE:O	1:A:1971:THR:HG23	2.07	0.54
1:A:2476:VAL:HG22	1:A:2480:LEU:HD13	1.89	0.54
1:A:976:GLN:CG	1:A:1077:LEU:HD11	2.36	0.54
1:A:1655:MET:HE3	1:A:1744:THR:HB	1.89	0.54
1:B:2518:ASP:OD1	1:C:2524:ARG:NE	2.37	0.54
1:C:1236:CYS:SG	1:C:1246:LEU:HD12	2.47	0.54
1:D:252:LEU:HD13	1:D:417:LEU:CD1	2.37	0.54
1:D:405:ILE:O	1:D:405:ILE:HG22	2.06	0.54
1:D:2054:TYR:CE1	1:D:2071:LEU:HD22	2.42	0.54
1:B:554:ARG:NH2	1:B:588:ASP:O	2.41	0.54
1:B:886:ARG:NH1	1:B:1046:GLU:O	2.41	0.54
1:B:2553:VAL:HG21	1:B:2558:HIS:HB2	1.89	0.54
1:C:1967:ILE:O	1:C:1971:THR:HG23	2.07	0.54
1:A:405:ILE:HG22	1:A:405:ILE:O	2.06	0.54
1:C:2553:VAL:HG23	1:C:2557:GLU:HG2	1.90	0.54
1:A:282:LEU:HB3	1:A:309:LEU:HD12	1.89	0.54
1:A:2518:ASP:OD1	1:B:2524:ARG:NE	2.39	0.54
1:B:1207:LEU:O	1:B:1211:GLN:HG3	2.08	0.54
1:D:622:VAL:HG22	1:D:630:PHE:HB3	1.89	0.54
1:C:985:TYR:CD2	1:C:1045:LEU:HD21	2.43	0.54
1:C:31:LEU:HD11	1:C:451:MET:CE	2.36	0.54
1:C:1208:ASP:O	1:C:1212:ILE:HG23	2.07	0.54
1:C:1737:VAL:HG21	1:C:1757:ALA:HB2	1.90	0.54
1:D:554:ARG:NH2	1:D:588:ASP:O	2.41	0.54
1:A:2553:VAL:HG21	1:A:2558:HIS:HB2	1.89	0.54
1:D:240:VAL:CG1	1:D:309:LEU:HD11	2.38	0.54
1:A:261:LEU:CD2	1:A:311:THR:HG21	2.38	0.53
1:A:578:PHE:CE1	1:A:595:ILE:HD12	2.43	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2553:VAL:HG23	1:A:2557:GLU:HG2	1.90	0.53
1:C:165:GLN:OE1	1:C:186:ASN:ND2	2.37	0.53
1:D:2004:MET:O	1:D:2059:GLN:NE2	2.41	0.53
1:D:1737:VAL:HG21	1:D:1757:ALA:HB2	1.90	0.53
1:B:261:LEU:CD2	1:B:311:THR:HG21	2.37	0.53
1:C:554:ARG:NH2	1:C:588:ASP:O	2.41	0.53
1:D:886:ARG:NH1	1:D:1046:GLU:O	2.41	0.53
1:A:1028:ILE:HG22	1:A:1602:LEU:HD21	1.90	0.53
1:A:1922:LEU:O	1:D:92:LYS:NZ	2.33	0.53
1:C:1391:LEU:O	1:C:1421:TYR:OH	2.25	0.53
1:C:1207:LEU:O	1:C:1211:GLN:HG3	2.08	0.53
1:A:871:ILE:HD13	1:A:974:ILE:HG23	1.89	0.53
1:B:985:TYR:CD2	1:B:1045:LEU:HD21	2.43	0.53
1:C:1914:MET:HE1	1:C:1936:LEU:HB2	1.91	0.53
1:D:401:THR:HG22	1:D:403:VAL:H	1.73	0.53
1:B:16:LEU:HD11	1:B:124:LEU:HD13	1.91	0.53
1:B:252:LEU:HD13	1:B:417:LEU:CD1	2.37	0.53
1:B:2468:HIS:HB3	1:B:2479:ILE:HG21	1.89	0.53
1:C:668:THR:OG1	1:C:729:TYR:OH	2.04	0.53
1:C:2553:VAL:HG21	1:C:2558:HIS:HB2	1.90	0.53
1:D:985:TYR:CD2	1:D:1045:LEU:HD21	2.44	0.53
1:A:554:ARG:NH2	1:A:588:ASP:O	2.42	0.53
1:A:985:TYR:CD2	1:A:1045:LEU:HD21	2.44	0.53
1:B:405:ILE:O	1:B:405:ILE:HG22	2.07	0.53
1:B:2476:VAL:HG22	1:B:2480:LEU:HD13	1.89	0.53
1:D:1116:ARG:NH1	1:D:1175:ILE:HD11	2.24	0.53
1:D:1967:ILE:O	1:D:1971:THR:HG23	2.08	0.53
1:D:165:GLN:OE1	1:D:186:ASN:ND2	2.38	0.53
1:C:401:THR:HG22	1:C:403:VAL:H	1.74	0.53
1:C:1116:ARG:NH1	1:C:1175:ILE:HD11	2.24	0.52
1:C:2481:ARG:O	1:C:2493:ARG:NH2	2.35	0.52
1:D:376:LYS:NZ	1:D:377:THR:O	2.41	0.52
1:A:1207:LEU:O	1:A:1211:GLN:HG3	2.08	0.52
1:B:401:THR:HG22	1:B:403:VAL:H	1.73	0.52
1:B:1358:ASP:O	1:B:1359:HIS:ND1	2.42	0.52
1:D:1117:LEU:CD1	1:D:1175:ILE:HG21	2.40	0.52
1:A:638:CYS:HB3	1:A:652:ILE:HD12	1.91	0.52
1:B:2565:MET:HE2	1:B:2566:TRP:CZ2	2.44	0.52
1:C:1605:ARG:O	1:C:1682:ARG:NH2	2.42	0.52
1:D:2553:VAL:HG21	1:D:2558:HIS:HB2	1.91	0.52
1:C:16:LEU:HD11	1:C:124:LEU:HD13	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:2481:ARG:O	1:D:2493:ARG:NH2	2.37	0.52
1:A:195:HIS:N	1:A:211:ASN:O	2.40	0.52
1:C:1688:LYS:O	1:C:1692:GLN:OE1	2.28	0.52
1:D:2553:VAL:HG23	1:D:2557:GLU:HG2	1.91	0.52
1:D:1358:ASP:O	1:D:1359:HIS:ND1	2.43	0.52
1:A:1117:LEU:CD1	1:A:1175:ILE:HG21	2.40	0.52
1:A:1915:CYS:HB3	1:A:1925:LEU:HD11	1.92	0.52
1:C:1117:LEU:CD1	1:C:1175:ILE:HG21	2.40	0.52
1:A:92:LYS:NZ	1:B:1922:LEU:O	2.33	0.52
1:A:401:THR:HG22	1:A:403:VAL:H	1.74	0.52
1:A:1182:MET:SD	1:A:1183:CYS:N	2.83	0.52
1:B:1097:LEU:HD12	1:B:1595:LEU:HD22	1.92	0.52
1:A:1358:ASP:O	1:A:1359:HIS:ND1	2.43	0.52
1:B:861:PHE:HA	1:B:967:THR:HG22	1.92	0.52
1:D:1391:LEU:O	1:D:1421:TYR:OH	2.26	0.52
1:A:452:LEU:HD11	1:A:479:LEU:HD11	1.91	0.51
1:A:541:LEU:O	1:A:550:GLN:NE2	2.42	0.51
1:B:1975:LEU:HD11	1:B:2020:LEU:HB2	1.91	0.51
1:C:92:LYS:NZ	1:D:1922:LEU:O	2.35	0.51
1:C:886:ARG:NH1	1:C:1046:GLU:O	2.42	0.51
1:D:1688:LYS:O	1:D:1692:GLN:OE1	2.28	0.51
1:B:1391:LEU:O	1:B:1421:TYR:OH	2.22	0.51
1:D:195:HIS:N	1:D:211:ASN:O	2.41	0.51
1:D:1971:THR:HG21	1:D:2019:SER:HB2	1.92	0.51
1:A:1737:VAL:HG21	1:A:1757:ALA:HB2	1.92	0.51
1:B:1029:GLY:O	1:B:1033:GLU:OE1	2.29	0.51
1:B:1060:ILE:O	1:B:1063:THR:OG1	2.27	0.51
1:C:1926:GLY:HA2	1:C:1978:ILE:HG23	1.91	0.51
1:A:1926:GLY:HA2	1:A:1978:ILE:HG23	1.92	0.51
1:C:861:PHE:HA	1:C:967:THR:HG22	1.92	0.51
1:A:782:LEU:HD11	1:A:869:ASN:OD1	2.11	0.51
1:A:1117:LEU:HD13	1:A:1175:ILE:HG21	1.93	0.51
1:D:1926:GLY:HA2	1:D:1978:ILE:HG23	1.91	0.51
1:B:376:LYS:NZ	1:B:377:THR:O	2.41	0.51
1:B:1688:LYS:O	1:B:1692:GLN:OE1	2.28	0.51
1:C:261:LEU:CD2	1:C:311:THR:HG21	2.39	0.51
1:D:261:LEU:CD2	1:D:311:THR:HG21	2.40	0.51
1:D:1971:THR:HG21	1:D:2019:SER:CB	2.41	0.51
1:C:599:LEU:HD12	1:C:610:ILE:HD11	1.93	0.51
1:A:2510:ASN:HB3	1:B:2513:PHE:CD1	2.45	0.51
1:C:282:LEU:HB3	1:C:309:LEU:HD12	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:1117:LEU:HD13	1:D:1175:ILE:HG21	1.93	0.51
1:C:195:HIS:N	1:C:211:ASN:O	2.41	0.51
1:D:782:LEU:HD11	1:D:869:ASN:OD1	2.11	0.51
1:D:1253:PHE:CE1	1:D:1263:THR:HG21	2.46	0.51
1:A:861:PHE:HA	1:A:967:THR:HG22	1.93	0.51
1:A:1097:LEU:HD12	1:A:1595:LEU:HD22	1.93	0.50
1:C:1029:GLY:O	1:C:1033:GLU:OE1	2.28	0.50
1:A:628:PRO:HB2	1:A:731:TYR:CD2	2.46	0.50
1:A:1688:LYS:O	1:A:1692:GLN:OE1	2.28	0.50
1:C:2468:HIS:HB3	1:C:2479:ILE:HG21	1.92	0.50
1:C:2511:LEU:HD21	1:D:2362:VAL:HG23	1.93	0.50
1:A:2481:ARG:O	1:A:2493:ARG:NH2	2.36	0.50
1:B:1349:MET:HE2	1:B:1405:CYS:HA	1.93	0.50
1:B:1737:VAL:HG21	1:B:1757:ALA:HB2	1.92	0.50
1:B:2160:GLU:OE1	1:B:2160:GLU:HA	2.12	0.50
1:C:1358:ASP:O	1:C:1359:HIS:ND1	2.43	0.50
1:C:1886:ARG:NH1	1:C:1951:PRO:O	2.44	0.50
1:D:861:PHE:HA	1:D:967:THR:HG22	1.93	0.50
1:A:2201:MET:HE3	1:A:2296:PHE:CE1	2.47	0.50
1:B:195:HIS:N	1:B:211:ASN:O	2.41	0.50
1:B:1208:ASP:O	1:B:1212:ILE:HG23	2.11	0.50
1:C:1117:LEU:HD13	1:C:1175:ILE:HG21	1.93	0.50
1:D:16:LEU:HD11	1:D:124:LEU:HD13	1.94	0.50
1:B:965:MET:HE2	1:B:965:MET:HA	1.94	0.50
1:B:1962:HIS:CE1	1:B:1964:SER:HG	2.28	0.50
1:B:628:PRO:HB2	1:B:731:TYR:CD2	2.47	0.50
1:A:161:TRP:HB2	1:A:188:VAL:HG12	1.94	0.50
1:D:1029:GLY:O	1:D:1033:GLU:OE1	2.29	0.50
1:D:1426:VAL:HG12	1:D:1428:MET:H	1.75	0.50
1:A:2400:ASP:OD2	1:D:2482:LYS:NZ	2.39	0.50
1:A:782:LEU:HD11	1:A:869:ASN:CG	2.37	0.50
1:A:1029:GLY:O	1:A:1033:GLU:OE1	2.29	0.50
1:B:2511:LEU:HD21	1:C:2362:VAL:HG23	1.94	0.50
1:C:1928:TYR:O	1:C:1933:ASN:ND2	2.44	0.50
1:A:2160:GLU:OE1	1:A:2160:GLU:HA	2.12	0.49
1:C:318:GLU:HG2	1:C:355:VAL:HG21	1.94	0.49
1:C:452:LEU:HD11	1:C:479:LEU:CD1	2.42	0.49
1:C:638:CYS:HB3	1:C:652:ILE:HD12	1.94	0.49
1:A:599:LEU:HD12	1:A:610:ILE:HD11	1.94	0.49
1:A:1971:THR:HG21	1:A:2019:SER:HB2	1.94	0.49
1:A:2183:GLU:OE2	1:A:2186:ARG:NH2	2.45	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:599:LEU:HD12	1:B:610:ILE:HD11	1.93	0.49
1:C:1253:PHE:CE1	1:C:1263:THR:HG21	2.47	0.49
1:D:164:ILE:HG23	1:D:164:ILE:O	2.12	0.49
1:D:1222:MET:HE2	1:D:1222:MET:HA	1.94	0.49
1:D:1897:ASN:O	1:D:1900:ASN:ND2	2.46	0.49
1:C:1915:CYS:HB3	1:C:1925:LEU:HD11	1.93	0.49
1:C:2160:GLU:HA	1:C:2160:GLU:OE1	2.12	0.49
1:D:541:LEU:O	1:D:550:GLN:NE2	2.42	0.49
1:B:479:LEU:O	1:B:483:VAL:HG23	2.12	0.49
1:D:161:TRP:HB2	1:D:188:VAL:HG12	1.94	0.49
1:D:599:LEU:HD12	1:D:610:ILE:HD11	1.95	0.49
1:D:2160:GLU:OE1	1:D:2160:GLU:HA	2.12	0.49
1:A:16:LEU:HD11	1:A:124:LEU:HD13	1.94	0.49
1:A:1208:ASP:O	1:A:1212:ILE:HG23	2.13	0.49
1:C:1971:THR:HG21	1:C:2019:SER:HB2	1.95	0.49
1:D:1097:LEU:HD12	1:D:1595:LEU:HD22	1.94	0.49
1:A:1253:PHE:CE1	1:A:1263:THR:HG21	2.47	0.49
1:C:983:LEU:HD21	1:C:1091:THR:HG21	1.94	0.49
1:D:318:GLU:HG2	1:D:355:VAL:HG21	1.95	0.49
1:D:452:LEU:HD11	1:D:479:LEU:CD1	2.42	0.49
1:A:983:LEU:HD21	1:A:1091:THR:HG21	1.94	0.49
1:B:165:GLN:OE1	1:B:186:ASN:ND2	2.38	0.49
1:B:318:GLU:HG2	1:B:355:VAL:HG21	1.94	0.49
1:C:1426:VAL:HG12	1:C:1428:MET:H	1.77	0.49
1:D:789:ASP:HB3	1:D:790:PRO:HD3	1.94	0.49
1:D:2178:LEU:HD13	1:D:2569:LEU:HD22	1.93	0.49
1:B:1253:PHE:CE1	1:B:1263:THR:HG21	2.48	0.49
1:B:1605:ARG:O	1:B:1682:ARG:NH2	2.46	0.49
1:D:1915:CYS:HB3	1:D:1925:LEU:HD11	1.94	0.49
1:B:639:VAL:HG21	1:B:738:ARG:HD3	1.95	0.49
1:B:990:LEU:CG	1:B:1035:MET:HE1	2.42	0.49
1:C:103:GLN:OE1	1:C:107:GLU:OE2	2.30	0.49
1:C:2155:LEU:HD22	1:C:2178:LEU:HD11	1.93	0.49
1:A:1626:LEU:HD12	1:A:1695:LEU:HB3	1.95	0.49
1:D:1442:GLU:O	1:D:1445:THR:OG1	2.30	0.49
1:A:2337:HIS:O	1:A:2337:HIS:ND1	2.45	0.48
1:B:2004:MET:HE1	1:B:2060:LEU:HD21	1.95	0.48
1:C:139:LEU:HD23	1:C:149:ARG:HD2	1.93	0.48
1:C:1097:LEU:HD12	1:C:1595:LEU:HD22	1.95	0.48
1:C:2004:MET:HE1	1:C:2060:LEU:HD21	1.95	0.48
1:D:782:LEU:HD11	1:D:869:ASN:CG	2.38	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:541:LEU:O	1:B:550:GLN:NE2	2.42	0.48
1:B:2178:LEU:HD13	1:B:2569:LEU:HD22	1.95	0.48
1:B:2201:MET:HE3	1:B:2296:PHE:CE1	2.48	0.48
1:C:136:ASN:HD22	1:C:139:LEU:HD22	1.77	0.48
1:D:983:LEU:HD21	1:D:1091:THR:HG21	1.94	0.48
1:D:2155:LEU:HD22	1:D:2178:LEU:HD11	1.94	0.48
1:A:376:LYS:NZ	1:A:377:THR:O	2.43	0.48
1:A:1214:TYR:CD1	1:A:1221:MET:HE1	2.48	0.48
1:A:1391:LEU:O	1:A:1421:TYR:OH	2.23	0.48
1:A:2178:LEU:HD13	1:A:2569:LEU:HD22	1.95	0.48
1:B:983:LEU:HD21	1:B:1091:THR:HG21	1.95	0.48
1:B:1442:GLU:O	1:B:1445:THR:OG1	2.30	0.48
1:B:2007:ARG:NH2	1:B:2011:GLU:OE2	2.45	0.48
1:C:1062:LEU:HB3	1:C:1074:ALA:HB2	1.95	0.48
1:A:479:LEU:O	1:A:483:VAL:HG23	2.13	0.48
1:A:1214:TYR:CD2	1:A:1221:MET:HE1	2.46	0.48
1:A:1442:GLU:O	1:A:1445:THR:OG1	2.31	0.48
1:A:1907:THR:HG21	1:A:1947:TYR:HE2	1.77	0.48
1:A:2362:VAL:HG23	1:D:2511:LEU:HD21	1.94	0.48
1:B:161:TRP:HB2	1:B:188:VAL:HG12	1.94	0.48
1:C:164:ILE:HG23	1:C:164:ILE:O	2.13	0.48
1:D:139:LEU:HD23	1:D:149:ARG:HD2	1.94	0.48
1:D:2337:HIS:O	1:D:2337:HIS:ND1	2.45	0.48
1:A:1426:VAL:HG12	1:A:1428:MET:H	1.78	0.48
1:B:2188:LEU:HD11	1:B:2194:ILE:HG22	1.95	0.48
1:B:2510:ASN:HB3	1:C:2513:PHE:CD1	2.49	0.48
1:C:161:TRP:HB2	1:C:188:VAL:HG12	1.94	0.48
1:D:2476:VAL:HG22	1:D:2480:LEU:CD1	2.42	0.48
1:A:2007:ARG:NH2	1:A:2011:GLU:OE2	2.45	0.48
1:B:990:LEU:CD1	1:B:1035:MET:HE1	2.44	0.48
1:C:1442:GLU:O	1:C:1445:THR:OG1	2.29	0.48
1:D:767:GLU:OE2	1:D:774:ARG:NH2	2.47	0.48
1:A:757:VAL:HG13	1:A:781:MET:HE1	1.96	0.48
1:A:1971:THR:HG21	1:A:2019:SER:CB	2.43	0.48
1:C:288:VAL:HG21	1:C:366:LEU:HD21	1.95	0.48
1:C:2476:VAL:HG22	1:C:2480:LEU:CD1	2.43	0.48
1:D:539:GLU:OE1	1:D:539:GLU:N	2.46	0.48
1:D:1626:LEU:HD12	1:D:1695:LEU:HB3	1.96	0.48
1:D:2192:PRO:O	1:D:2196:TRP:N	2.43	0.48
1:B:539:GLU:OE1	1:B:539:GLU:N	2.44	0.48
1:B:706:LYS:HB3	1:B:711:LEU:HD11	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1062:LEU:HB3	1:B:1074:ALA:HB2	1.94	0.48
1:A:318:GLU:HG2	1:A:355:VAL:HG21	1.95	0.48
1:A:789:ASP:HB3	1:A:790:PRO:HD3	1.96	0.48
1:A:1222:MET:HE2	1:A:1222:MET:HA	1.94	0.48
1:A:1897:ASN:O	1:A:1900:ASN:ND2	2.46	0.48
1:B:589:ILE:O	1:B:591:ALA:N	2.43	0.48
1:B:1619:ASP:OD2	1:B:1687:ARG:NH2	2.46	0.48
1:C:965:MET:HE2	1:C:965:MET:HA	1.96	0.48
1:C:2178:LEU:HD13	1:C:2569:LEU:HD22	1.95	0.48
1:D:288:VAL:HG21	1:D:366:LEU:HD21	1.94	0.48
1:A:840:TYR:O	1:A:844:VAL:HG23	2.12	0.48
1:A:2543:LEU:HD23	1:A:2548:PHE:HZ	1.79	0.48
1:C:278:SER:O	1:C:279:SER:HB3	2.14	0.48
1:C:1895:GLN:O	1:C:1896:ASN:OD1	2.32	0.48
1:C:1962:HIS:CE1	1:C:1964:SER:HG	2.28	0.48
1:A:262:GLN:OE1	1:A:405:ILE:HG21	2.14	0.47
1:B:757:VAL:HG13	1:B:781:MET:HE1	1.96	0.47
1:C:376:LYS:NZ	1:C:377:THR:O	2.44	0.47
1:C:628:PRO:HB2	1:C:731:TYR:CD2	2.48	0.47
1:C:985:TYR:HD2	1:C:1045:LEU:HD21	1.79	0.47
1:C:1971:THR:HG21	1:C:2019:SER:CB	2.44	0.47
1:A:2200:ARG:HG3	1:A:2203:LEU:HB3	1.96	0.47
1:B:136:ASN:HD22	1:B:139:LEU:HD22	1.79	0.47
1:C:2200:ARG:HG3	1:C:2203:LEU:HB3	1.96	0.47
1:D:1196:LEU:CG	1:D:1200:MET:HE3	2.44	0.47
1:A:165:GLN:OE1	1:A:186:ASN:ND2	2.40	0.47
1:A:1342:LEU:O	1:A:1342:LEU:HD23	2.15	0.47
1:B:278:SER:O	1:B:279:SER:HB3	2.14	0.47
1:B:985:TYR:HD2	1:B:1045:LEU:HD21	1.79	0.47
1:C:1218:ASP:OD2	1:C:1221:MET:HE2	2.14	0.47
1:D:628:PRO:HB2	1:D:731:TYR:CD2	2.49	0.47
1:A:2381:TYR:CZ	1:A:2385:ILE:HD11	2.48	0.47
1:A:2511:LEU:HD21	1:B:2362:VAL:HG23	1.96	0.47
1:B:707:SER:O	1:B:711:LEU:HD13	2.15	0.47
1:C:479:LEU:O	1:C:483:VAL:HG23	2.14	0.47
1:C:1255:THR:OG1	1:C:1260:GLU:OE1	2.25	0.47
1:C:1897:ASN:O	1:C:1900:ASN:ND2	2.47	0.47
1:C:2565:MET:HE2	1:C:2566:TRP:CE2	2.50	0.47
1:A:621:LEU:HD23	1:A:630:PHE:CE1	2.50	0.47
1:B:1974:ILE:HD11	1:B:2020:LEU:HD22	1.95	0.47
1:D:815:TYR:OH	1:D:984:ASP:OD2	2.27	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:139:LEU:HD23	1:A:149:ARG:HD2	1.96	0.47
1:C:493:VAL:HG21	1:C:555:LEU:HD21	1.97	0.47
1:D:1342:LEU:HD23	1:D:1342:LEU:O	2.14	0.47
1:A:1974:ILE:HD11	1:A:2020:LEU:CD2	2.44	0.47
1:B:1897:ASN:O	1:B:1900:ASN:ND2	2.48	0.47
1:C:1060:ILE:O	1:C:1063:THR:OG1	2.27	0.47
1:C:2337:HIS:O	1:C:2337:HIS:ND1	2.44	0.47
1:D:1605:ARG:O	1:D:1682:ARG:NH2	2.48	0.47
1:D:1907:THR:HG21	1:D:1947:TYR:HE2	1.79	0.47
1:D:2020:LEU:HD12	1:D:2020:LEU:O	2.15	0.47
1:A:288:VAL:HG21	1:A:366:LEU:HD21	1.97	0.47
1:B:696:TRP:CE2	1:B:725:VAL:HG21	2.49	0.47
1:B:1785:PHE:O	1:B:1788:VAL:HG12	2.15	0.47
1:C:2020:LEU:HD12	1:C:2020:LEU:O	2.15	0.47
1:D:136:ASN:HD22	1:D:139:LEU:HD22	1.80	0.47
1:D:1934:VAL:HG12	1:D:1938:ILE:HD12	1.96	0.47
1:A:1610:VAL:HG23	1:A:1611:GLN:N	2.30	0.47
1:A:2513:PHE:CD1	1:D:2510:ASN:HB3	2.50	0.47
1:B:288:VAL:HG21	1:B:366:LEU:HD21	1.97	0.47
1:B:1426:VAL:HG12	1:B:1428:MET:H	1.78	0.47
1:B:1907:THR:HG21	1:B:1947:TYR:HE2	1.79	0.47
1:C:1974:ILE:HD11	1:C:2020:LEU:CD2	2.45	0.47
1:A:136:ASN:HD22	1:A:139:LEU:HD22	1.80	0.47
1:A:1189:MET:N	1:A:1189:MET:HE2	2.29	0.47
1:A:539:GLU:OE1	1:A:539:GLU:N	2.45	0.46
1:A:1062:LEU:HB3	1:A:1074:ALA:HB2	1.97	0.46
1:A:1605:ARG:O	1:A:1682:ARG:NH2	2.48	0.46
1:B:638:CYS:HB3	1:B:652:ILE:HD12	1.95	0.46
1:C:696:TRP:CE2	1:C:725:VAL:HG21	2.50	0.46
1:C:2004:MET:CE	1:C:2016:ILE:HD12	2.45	0.46
1:A:1895:GLN:O	1:A:1896:ASN:OD1	2.32	0.46
1:B:452:LEU:HD11	1:B:479:LEU:CD1	2.44	0.46
1:B:1623:TRP:HB3	1:B:1626:LEU:HD13	1.96	0.46
1:C:1907:THR:HG21	1:C:1947:TYR:HE2	1.80	0.46
1:D:262:GLN:OE1	1:D:405:ILE:HG21	2.16	0.46
1:D:985:TYR:HD2	1:D:1045:LEU:HD21	1.80	0.46
1:D:1895:GLN:O	1:D:1896:ASN:OD1	2.32	0.46
1:D:2381:TYR:CZ	1:D:2385:ILE:HD11	2.50	0.46
1:A:164:ILE:O	1:A:164:ILE:HG23	2.14	0.46
1:A:1532:VAL:HG12	1:A:1532:VAL:O	2.16	0.46
1:B:282:LEU:HB3	1:B:309:LEU:HD12	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:539:GLU:N	1:C:539:GLU:OE1	2.45	0.46
1:C:541:LEU:O	1:C:550:GLN:NE2	2.42	0.46
1:C:2155:LEU:CD2	1:C:2178:LEU:HD11	2.45	0.46
1:D:278:SER:O	1:D:279:SER:HB3	2.15	0.46
1:D:1974:ILE:HD11	1:D:2020:LEU:CD2	2.45	0.46
1:D:2543:LEU:HD23	1:D:2548:PHE:HZ	1.80	0.46
1:A:452:LEU:HD11	1:A:479:LEU:CD1	2.46	0.46
1:B:1342:LEU:HD23	1:B:1342:LEU:O	2.15	0.46
1:C:1619:ASP:OD2	1:C:1687:ARG:NH2	2.47	0.46
1:D:493:VAL:HG21	1:D:555:LEU:HD21	1.97	0.46
1:D:1610:VAL:HG23	1:D:1611:GLN:N	2.30	0.46
1:B:164:ILE:HG23	1:B:164:ILE:O	2.15	0.46
1:A:133:LEU:HD11	1:A:150:VAL:CG1	2.46	0.46
1:A:2192:PRO:O	1:A:2196:TRP:N	2.42	0.46
1:B:1971:THR:HG21	1:B:2019:SER:HB2	1.97	0.46
1:C:621:LEU:HD23	1:C:630:PHE:CE2	2.51	0.46
1:B:493:VAL:HG21	1:B:555:LEU:HD21	1.98	0.46
1:B:1610:VAL:HG23	1:B:1611:GLN:N	2.30	0.46
1:C:1626:LEU:HD12	1:C:1695:LEU:HB3	1.97	0.46
1:C:2007:ARG:NH2	1:C:2011:GLU:OE2	2.47	0.46
1:A:278:SER:O	1:A:279:SER:HB3	2.14	0.46
1:A:493:VAL:HG21	1:A:555:LEU:HD21	1.97	0.46
1:A:990:LEU:CD1	1:A:1035:MET:HE1	2.46	0.46
1:A:1060:ILE:O	1:A:1063:THR:OG1	2.26	0.46
1:B:17:TYR:OH	1:B:44:ASP:OD1	2.10	0.46
1:B:139:LEU:HD23	1:B:149:ARG:HD2	1.97	0.46
1:B:621:LEU:HD23	1:B:630:PHE:CE2	2.50	0.46
1:B:1063:THR:HG22	1:B:1075:LEU:HG	1.98	0.46
1:C:653:CYS:SG	1:C:747:ALA:HB2	2.56	0.46
1:C:1342:LEU:O	1:C:1342:LEU:HD23	2.14	0.46
1:C:2573:VAL:O	1:C:2577:VAL:HG12	2.15	0.46
1:A:653:CYS:SG	1:A:747:ALA:HB2	2.56	0.46
1:A:990:LEU:CG	1:A:1035:MET:HE1	2.44	0.46
1:A:2524:ARG:NE	1:D:2518:ASP:OD1	2.43	0.46
1:B:611:THR:C	1:B:651:LEU:HD21	2.41	0.46
1:B:2155:LEU:O	1:B:2159:THR:OG1	2.13	0.46
1:D:479:LEU:O	1:D:483:VAL:HG23	2.15	0.46
1:D:1062:LEU:HB3	1:D:1074:ALA:HB2	1.97	0.46
1:A:696:TRP:CE2	1:A:725:VAL:HG21	2.51	0.46
1:A:1379:LYS:O	1:A:1380:ASN:C	2.59	0.46
1:A:1619:ASP:OD2	1:A:1687:ARG:NH2	2.49	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2033:TYR:HD2	1:A:2034:LEU:HD22	1.81	0.46
1:C:789:ASP:HB3	1:C:790:PRO:HD3	1.96	0.46
1:C:1028:ILE:HG21	1:C:1598:ILE:HD11	1.97	0.46
1:D:638:CYS:HB3	1:D:652:ILE:HD12	1.97	0.46
1:D:1933:ASN:O	1:D:1937:VAL:HG23	2.16	0.46
1:A:445:ALA:HB2	1:A:508:LEU:HD21	1.98	0.45
1:A:611:THR:C	1:A:651:LEU:HD21	2.41	0.45
1:A:1928:TYR:O	1:A:1933:ASN:ND2	2.49	0.45
1:B:2004:MET:CE	1:B:2016:ILE:HD12	2.46	0.45
1:B:2201:MET:HE1	1:B:2300:PHE:HB2	1.98	0.45
1:C:1610:VAL:HG23	1:C:1611:GLN:N	2.30	0.45
1:C:1746:ASN:HB3	1:C:1749:ILE:HD13	1.97	0.45
1:C:2381:TYR:CZ	1:C:2385:ILE:HD11	2.51	0.45
1:D:266:ARG:NH2	3:D:2702:I3P:O43	2.49	0.45
1:D:696:TRP:CE2	1:D:725:VAL:HG21	2.51	0.45
1:D:1060:ILE:O	1:D:1063:THR:OG1	2.26	0.45
1:D:1532:VAL:HG12	1:D:1532:VAL:O	2.16	0.45
1:D:1785:PHE:O	1:D:1788:VAL:HG12	2.16	0.45
1:B:1255:THR:OG1	1:B:1260:GLU:OE1	2.29	0.45
1:B:2510:ASN:HB3	1:C:2513:PHE:CE1	2.50	0.45
1:C:1218:ASP:OD1	1:C:1218:ASP:N	2.47	0.45
1:C:1532:VAL:O	1:C:1532:VAL:HG12	2.16	0.45
1:D:1928:TYR:O	1:D:1933:ASN:ND2	2.49	0.45
1:A:1110:ILE:HD11	1:A:1182:MET:CE	2.46	0.45
1:B:161:TRP:HE3	1:B:188:VAL:HG11	1.81	0.45
1:B:633:TYR:O	1:B:637:LEU:HD13	2.17	0.45
1:B:885:THR:CG2	1:B:978:ILE:HD13	2.45	0.45
1:B:1864:GLY:O	1:B:1868:LEU:HD13	2.16	0.45
1:C:1975:LEU:HD11	1:C:2020:LEU:HB2	1.98	0.45
1:D:451:MET:HB2	1:D:475:LEU:HD22	1.98	0.45
1:D:1746:ASN:HB3	1:D:1749:ILE:HD13	1.98	0.45
1:D:2557:GLU:N	1:D:2557:GLU:OE1	2.50	0.45
1:A:633:TYR:O	1:A:637:LEU:HD13	2.17	0.45
1:A:815:TYR:OH	1:A:984:ASP:OD2	2.29	0.45
1:A:1785:PHE:O	1:A:1788:VAL:HG12	2.16	0.45
1:A:2557:GLU:OE1	1:A:2557:GLU:N	2.49	0.45
1:A:2565:MET:HE2	1:A:2566:TRP:CE2	2.51	0.45
1:B:2573:VAL:O	1:B:2577:VAL:HG12	2.16	0.45
1:D:589:ILE:O	1:D:591:ALA:N	2.47	0.45
1:D:2033:TYR:O	1:D:2047:ARG:NH2	2.48	0.45
1:A:2033:TYR:O	1:A:2047:ARG:NH2	2.46	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2201:MET:HE1	1:A:2300:PHE:HB2	1.98	0.45
1:B:653:CYS:SG	1:B:747:ALA:HB2	2.56	0.45
1:C:262:GLN:OE1	1:C:405:ILE:HG21	2.16	0.45
1:D:2565:MET:HE2	1:D:2566:TRP:CE2	2.51	0.45
1:A:1063:THR:HG22	1:A:1075:LEU:HG	1.98	0.45
1:B:1532:VAL:HG12	1:B:1532:VAL:O	2.16	0.45
1:B:1746:ASN:HB3	1:B:1749:ILE:HD13	1.96	0.45
1:C:611:THR:C	1:C:651:LEU:HD21	2.42	0.45
1:C:1933:ASN:O	1:C:1937:VAL:HG23	2.17	0.45
1:D:445:ALA:HB2	1:D:508:LEU:HD21	1.98	0.45
1:D:638:CYS:SG	1:D:738:ARG:HB3	2.56	0.45
1:A:985:TYR:HD2	1:A:1045:LEU:HD21	1.80	0.45
1:B:575:ALA:HB2	1:B:598:LEU:HD21	1.99	0.45
1:B:748:ILE:HG21	1:B:788:ARG:HD2	1.98	0.45
1:C:445:ALA:HB2	1:C:508:LEU:HD21	1.99	0.45
1:C:1974:ILE:HD11	1:C:2020:LEU:HD22	1.98	0.45
1:D:621:LEU:HD23	1:D:630:PHE:CE2	2.51	0.45
1:D:633:TYR:O	1:D:637:LEU:HD13	2.17	0.45
1:D:1028:ILE:HG21	1:D:1598:ILE:HD11	1.99	0.45
1:D:1379:LYS:O	1:D:1380:ASN:C	2.60	0.45
1:D:1643:PHE:CG	1:D:1643:PHE:O	2.70	0.45
1:A:1746:ASN:HB3	1:A:1749:ILE:HD13	1.97	0.45
1:B:2546:ASP:OD1	1:B:2547:LYS:N	2.50	0.45
1:C:1785:PHE:O	1:C:1788:VAL:HG12	2.16	0.45
1:A:1894:CYS:SG	1:A:1895:GLN:N	2.90	0.45
1:B:606:LEU:HD13	1:B:645:ILE:HD12	1.98	0.45
1:B:1655:MET:HE3	1:B:1744:THR:CB	2.47	0.45
1:B:2513:PHE:CZ	1:B:2517:ILE:HD11	2.51	0.45
1:C:815:TYR:OH	1:C:984:ASP:OD2	2.30	0.45
1:D:133:LEU:HD11	1:D:150:VAL:CG1	2.47	0.45
1:D:2054:TYR:HE1	1:D:2071:LEU:HD22	1.82	0.45
1:D:2573:VAL:O	1:D:2577:VAL:HG12	2.17	0.45
1:A:606:LEU:HD13	1:A:645:ILE:HD12	1.99	0.45
1:B:253:THR:OG1	1:B:264:PHE:CE2	2.69	0.45
1:B:1060:ILE:O	1:B:1064:MET:HG3	2.17	0.45
1:C:2192:PRO:O	1:C:2196:TRP:N	2.43	0.45
1:D:1597:ASP:O	1:D:1600:THR:OG1	2.32	0.45
1:A:2294:ILE:HG13	1:A:2295:VAL:N	2.32	0.44
1:B:2381:TYR:CZ	1:B:2385:ILE:HD11	2.52	0.44
1:B:2476:VAL:HG22	1:B:2480:LEU:CD1	2.47	0.44
1:C:633:TYR:O	1:C:637:LEU:HD13	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:606:LEU:HD13	1:D:645:ILE:HD12	2.00	0.44
1:D:2155:LEU:CD2	1:D:2178:LEU:HD11	2.47	0.44
1:A:589:ILE:O	1:A:591:ALA:N	2.45	0.44
1:A:1251:HIS:ND1	1:A:1252:LEU:HD12	2.32	0.44
1:B:1379:LYS:O	1:B:1380:ASN:C	2.60	0.44
1:C:606:LEU:HD13	1:C:645:ILE:HD12	1.99	0.44
1:C:748:ILE:HG21	1:C:788:ARG:HD2	1.99	0.44
1:C:2512:ILE:O	1:C:2512:ILE:HG22	2.17	0.44
1:A:161:TRP:HE3	1:A:188:VAL:HG11	1.83	0.44
1:A:1120:MET:HE1	1:A:1171:ILE:HD11	1.99	0.44
1:B:407:ILE:HD12	1:B:407:ILE:H	1.82	0.44
1:B:638:CYS:SG	1:B:738:ARG:HB3	2.58	0.44
1:B:1523:GLU:OE1	1:B:1523:GLU:N	2.48	0.44
1:B:1597:ASP:O	1:B:1600:THR:OG1	2.29	0.44
1:B:1934:VAL:HG21	1:B:1981:LEU:HD21	1.99	0.44
1:B:2375:LEU:CD2	1:C:2359:ILE:HD11	2.47	0.44
1:B:2557:GLU:N	1:B:2557:GLU:OE1	2.50	0.44
1:C:161:TRP:HE3	1:C:188:VAL:HG11	1.82	0.44
1:C:266:ARG:NH2	3:C:2702:I3P:O43	2.50	0.44
1:C:389:LEU:CB	1:C:398:ILE:HD12	2.46	0.44
1:C:888:LEU:HD22	1:C:971:ILE:HG12	1.98	0.44
1:C:1363:MET:HA	1:C:1366:ILE:HD12	2.00	0.44
1:D:1255:THR:OG1	1:D:1260:GLU:OE1	2.25	0.44
1:D:1975:LEU:HD11	1:D:2020:LEU:HB2	2.00	0.44
1:A:1643:PHE:O	1:A:1643:PHE:CG	2.70	0.44
1:B:445:ALA:HB2	1:B:508:LEU:HD21	1.99	0.44
1:B:1895:GLN:O	1:B:1896:ASN:OD1	2.36	0.44
1:B:2200:ARG:HG3	1:B:2203:LEU:HB3	1.99	0.44
1:C:253:THR:OG1	1:C:264:PHE:CE2	2.70	0.44
1:C:1950:GLY:O	1:C:1951:PRO:C	2.61	0.44
1:C:2546:ASP:OD1	1:C:2547:LYS:N	2.50	0.44
1:D:1974:ILE:HD11	1:D:2020:LEU:HD22	1.99	0.44
1:A:253:THR:OG1	1:A:264:PHE:CE2	2.69	0.44
1:A:885:THR:CG2	1:A:978:ILE:HD13	2.45	0.44
1:A:1655:MET:HE3	1:A:1744:THR:CB	2.47	0.44
1:A:2512:ILE:HG22	1:A:2512:ILE:O	2.17	0.44
1:B:262:GLN:OE1	1:B:405:ILE:HG21	2.18	0.44
1:B:1047:VAL:HG23	1:B:1048:ASP:OD1	2.17	0.44
1:C:840:TYR:O	1:C:844:VAL:HG23	2.18	0.44
1:C:1945:THR:HG22	1:C:1999:LEU:CA	2.48	0.44
1:C:2054:TYR:HE1	1:C:2071:LEU:HD22	1.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:653:CYS:SG	1:D:747:ALA:HB2	2.58	0.44
1:A:748:ILE:HG21	1:A:788:ARG:HD2	1.99	0.44
1:A:1523:GLU:OE1	1:A:1523:GLU:N	2.47	0.44
1:A:1950:GLY:O	1:A:1951:PRO:C	2.61	0.44
1:A:2573:VAL:O	1:A:2577:VAL:HG12	2.17	0.44
1:C:1379:LYS:O	1:C:1380:ASN:C	2.60	0.44
1:C:2557:GLU:OE1	1:C:2557:GLU:N	2.51	0.44
1:D:1364:TYR:CE2	1:D:1368:LEU:HD11	2.52	0.44
1:A:2476:VAL:HG22	1:A:2480:LEU:CD1	2.48	0.44
1:A:2589:TYR:OH	1:A:2593:MET:HE2	2.18	0.44
1:B:266:ARG:NH2	3:B:2702:I3P:O43	2.51	0.44
1:C:2375:LEU:CD2	1:D:2359:ILE:HD11	2.47	0.44
1:A:407:ILE:H	1:A:407:ILE:HD12	1.83	0.44
1:A:1945:THR:HG22	1:A:1999:LEU:CA	2.46	0.44
1:B:242:ARG:HB2	1:B:432:VAL:CG2	2.48	0.44
1:B:789:ASP:HB3	1:B:790:PRO:HD3	1.99	0.44
1:B:1214:TYR:HB2	1:B:1221:MET:HE1	1.99	0.44
1:B:2054:TYR:HE1	1:B:2071:LEU:HD22	1.82	0.44
1:B:2192:PRO:O	1:B:2196:TRP:N	2.42	0.44
1:C:451:MET:HB2	1:C:475:LEU:HD22	2.00	0.44
1:C:638:CYS:SG	1:C:738:ARG:HB3	2.57	0.44
1:C:407:ILE:HD12	1:C:407:ILE:H	1.82	0.44
1:C:542:SER:HA	1:C:550:GLN:NE2	2.33	0.44
1:D:668:THR:OG1	1:D:729:TYR:OH	2.05	0.44
1:D:1063:THR:HG22	1:D:1075:LEU:HG	2.00	0.44
1:D:1214:TYR:CD2	1:D:1221:MET:HE1	2.50	0.44
1:A:242:ARG:HB2	1:A:432:VAL:CG2	2.48	0.43
1:A:733:LEU:HD22	1:A:780:LEU:HD22	2.00	0.43
1:A:748:ILE:HG21	1:A:788:ARG:CD	2.48	0.43
1:A:1110:ILE:HG12	1:A:1182:MET:HE3	2.00	0.43
1:A:1975:LEU:HD11	1:A:2020:LEU:HB2	2.00	0.43
1:A:2020:LEU:O	1:A:2020:LEU:HD12	2.18	0.43
1:A:2054:TYR:HE1	1:A:2071:LEU:HD22	1.82	0.43
1:B:606:LEU:C	1:B:606:LEU:HD23	2.43	0.43
1:C:133:LEU:HD11	1:C:150:VAL:CG1	2.48	0.43
1:C:447:ASP:O	1:C:451:MET:HG3	2.17	0.43
1:C:1060:ILE:O	1:C:1064:MET:HG3	2.18	0.43
1:C:1218:ASP:CG	1:C:1221:MET:HE2	2.43	0.43
1:C:1643:PHE:O	1:C:1643:PHE:CG	2.71	0.43
1:D:407:ILE:HD12	1:D:407:ILE:H	1.82	0.43
1:D:1894:CYS:SG	1:D:1895:GLN:N	2.91	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:187:PRO:HB2	1:A:190:ALA:HB3	1.99	0.43
1:A:1060:ILE:O	1:A:1064:MET:HG3	2.18	0.43
1:A:1736:LEU:HD12	1:A:1740:LEU:HD13	2.00	0.43
1:B:282:LEU:CD2	1:B:434:VAL:HG21	2.48	0.43
1:B:1928:TYR:O	1:B:1933:ASN:ND2	2.51	0.43
1:B:2025:LEU:O	1:B:2028:VAL:HG12	2.18	0.43
1:C:451:MET:HE3	1:C:475:LEU:HD13	2.00	0.43
1:D:745:TYR:HA	1:D:748:ILE:HB	1.99	0.43
1:D:888:LEU:HD22	1:D:971:ILE:HG12	2.00	0.43
1:A:542:SER:HA	1:A:550:GLN:NE2	2.33	0.43
1:B:542:SER:HA	1:B:550:GLN:NE2	2.33	0.43
1:B:748:ILE:HG21	1:B:788:ARG:CD	2.48	0.43
1:C:1214:TYR:CD2	1:C:1221:MET:HE1	2.53	0.43
1:C:2201:MET:HE1	1:C:2300:PHE:HB2	1.99	0.43
1:D:1655:MET:HE3	1:D:1744:THR:CB	2.47	0.43
1:A:354:LEU:HD11	1:A:398:ILE:HD13	2.00	0.43
1:A:408:GLU:OE1	1:A:408:GLU:N	2.51	0.43
1:A:610:ILE:HD13	1:A:614:GLU:OE1	2.18	0.43
1:B:133:LEU:HD11	1:B:150:VAL:CG1	2.49	0.43
1:B:888:LEU:HD22	1:B:971:ILE:HG12	2.00	0.43
1:C:1063:THR:HG22	1:C:1075:LEU:HG	2.01	0.43
1:D:252:LEU:HD13	1:D:417:LEU:HD11	2.00	0.43
1:D:736:PHE:CD2	1:D:751:ILE:HD12	2.54	0.43
1:D:1120:MET:HE1	1:D:1171:ILE:HD11	2.00	0.43
1:D:1363:MET:HA	1:D:1366:ILE:HD12	2.00	0.43
1:A:2155:LEU:O	1:A:2159:THR:OG1	2.11	0.43
1:B:610:ILE:HD13	1:B:614:GLU:OE1	2.18	0.43
1:B:2337:HIS:O	1:B:2337:HIS:ND1	2.45	0.43
1:C:1597:ASP:O	1:C:1600:THR:OG1	2.32	0.43
1:D:242:ARG:HB2	1:D:432:VAL:CG2	2.49	0.43
1:D:408:GLU:OE1	1:D:408:GLU:N	2.51	0.43
1:D:1196:LEU:CD1	1:D:1200:MET:HE3	2.49	0.43
1:D:2200:ARG:HG3	1:D:2203:LEU:HB3	1.99	0.43
1:B:2131:ARG:HD2	1:B:2131:ARG:N	2.34	0.43
1:B:2214:PHE:O	1:B:2218:ILE:CD1	2.63	0.43
1:C:757:VAL:HG13	1:C:781:MET:HE1	2.00	0.43
1:C:1655:MET:HE3	1:C:1744:THR:CB	2.47	0.43
1:C:1890:ASN:OD1	1:C:1893:ARG:NH2	2.52	0.43
1:C:2543:LEU:HD23	1:C:2548:PHE:HZ	1.80	0.43
1:D:2201:MET:HE1	1:D:2300:PHE:HB2	2.01	0.43
1:A:638:CYS:SG	1:A:738:ARG:HB3	2.59	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1597:ASP:O	1:A:1600:THR:OG1	2.31	0.43
1:B:1971:THR:HG21	1:B:2019:SER:CB	2.49	0.43
1:C:242:ARG:HB2	1:C:432:VAL:CG2	2.49	0.43
1:C:451:MET:CE	1:C:475:LEU:HD13	2.49	0.43
1:C:575:ALA:HB2	1:C:598:LEU:HD21	2.01	0.43
1:D:722:ASP:HA	1:D:725:VAL:HG12	1.99	0.43
1:D:840:TYR:O	1:D:844:VAL:HG23	2.18	0.43
1:D:2318:MET:SD	1:D:2318:MET:N	2.92	0.43
1:A:1363:MET:HA	1:A:1366:ILE:HD12	2.00	0.43
1:A:1933:ASN:O	1:A:1937:VAL:HG23	2.19	0.43
1:B:1950:GLY:O	1:B:1951:PRO:C	2.61	0.43
1:C:748:ILE:HG21	1:C:788:ARG:CD	2.49	0.43
1:D:354:LEU:HD11	1:D:398:ILE:HD13	2.00	0.43
1:D:1950:GLY:O	1:D:1951:PRO:C	2.61	0.43
1:B:2318:MET:SD	1:B:2318:MET:N	2.92	0.43
1:B:2376:ALA:HB2	1:B:2508:VAL:HG11	2.01	0.43
1:B:2516:ILE:O	1:B:2520:PHE:CD2	2.72	0.43
1:C:606:LEU:HD23	1:C:606:LEU:C	2.44	0.43
1:C:736:PHE:CD2	1:C:751:ILE:HD12	2.54	0.43
1:C:1364:TYR:CE2	1:C:1368:LEU:HD11	2.54	0.43
1:C:2318:MET:SD	1:C:2318:MET:N	2.92	0.43
1:D:447:ASP:O	1:D:451:MET:HG3	2.19	0.43
1:D:542:SER:HA	1:D:550:GLN:NE2	2.34	0.43
1:D:1945:THR:HG22	1:D:1999:LEU:CA	2.47	0.43
1:A:767:GLU:OE2	1:A:774:ARG:NH2	2.52	0.43
1:A:1768:ILE:HG22	1:A:1772:PHE:CE2	2.54	0.43
1:B:2155:LEU:HD22	1:B:2178:LEU:HD11	2.01	0.43
1:C:2563:HIS:O	4:C:2703:ATP:N6	2.51	0.43
1:D:161:TRP:HE3	1:D:188:VAL:HG11	1.84	0.43
1:D:1222:MET:HE2	1:D:1222:MET:CA	2.49	0.43
1:D:1963:GLU:OE1	1:D:1963:GLU:N	2.43	0.43
1:D:2512:ILE:O	1:D:2512:ILE:HG22	2.17	0.43
1:A:522:LEU:HD21	1:A:556:CYS:HB2	2.01	0.42
1:A:722:ASP:HA	1:A:725:VAL:HG12	2.00	0.42
1:A:2025:LEU:O	1:A:2028:VAL:HG12	2.18	0.42
1:C:722:ASP:HA	1:C:725:VAL:HG12	2.00	0.42
1:C:1487:ASN:OD1	1:C:1487:ASN:O	2.37	0.42
1:D:1523:GLU:OE1	1:D:1523:GLU:N	2.47	0.42
1:D:1619:ASP:OD2	1:D:1687:ARG:NH2	2.50	0.42
1:A:266:ARG:NH2	3:A:2702:I3P:O43	2.52	0.42
1:A:2186:ARG:HG2	1:A:2186:ARG:HH11	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:408:GLU:N	1:B:408:GLU:OE1	2.52	0.42
1:B:1487:ASN:O	1:B:1487:ASN:OD1	2.38	0.42
1:B:2512:ILE:O	1:B:2512:ILE:HG22	2.19	0.42
1:C:252:LEU:HD13	1:C:417:LEU:HD11	2.00	0.42
1:C:2375:LEU:HD22	1:D:2359:ILE:HD11	2.00	0.42
1:A:585:ILE:HG23	1:A:592:GLU:HB3	2.02	0.42
1:A:1302:PHE:O	1:A:1306:VAL:HG23	2.19	0.42
1:B:1363:MET:HA	1:B:1366:ILE:HD12	2.00	0.42
1:C:2131:ARG:N	1:C:2131:ARG:HD2	2.34	0.42
1:D:1218:ASP:OD1	1:D:1218:ASP:N	2.46	0.42
1:A:282:LEU:CD2	1:A:434:VAL:HG21	2.50	0.42
1:A:2218:ILE:CG2	1:A:2282:LEU:HD21	2.50	0.42
1:A:2359:ILE:HD11	1:D:2375:LEU:CD2	2.49	0.42
1:B:187:PRO:HB2	1:B:190:ALA:HB3	2.00	0.42
1:B:354:LEU:HD11	1:B:398:ILE:HD13	2.01	0.42
1:B:736:PHE:CD2	1:B:751:ILE:HD12	2.54	0.42
1:D:253:THR:OG1	1:D:264:PHE:CE2	2.71	0.42
1:D:1890:ASN:OD1	1:D:1893:ARG:NH2	2.53	0.42
1:A:452:LEU:HG	1:A:475:LEU:HD21	2.01	0.42
1:A:2318:MET:SD	1:A:2318:MET:N	2.92	0.42
1:A:2592:GLN:OE1	1:A:2592:GLN:HA	2.18	0.42
1:B:2589:TYR:OH	1:B:2593:MET:HE2	2.19	0.42
1:D:575:ALA:HB2	1:D:598:LEU:HD21	2.01	0.42
1:D:733:LEU:HD22	1:D:780:LEU:HD22	2.00	0.42
1:D:2546:ASP:OD1	1:D:2547:LYS:N	2.53	0.42
1:A:1934:VAL:HG21	1:A:1981:LEU:HD21	2.02	0.42
1:C:408:GLU:OE1	1:C:408:GLU:N	2.53	0.42
1:C:452:LEU:HG	1:C:475:LEU:HD21	2.01	0.42
1:C:610:ILE:HD13	1:C:614:GLU:OE1	2.20	0.42
1:C:1196:LEU:CD1	1:C:1200:MET:HE3	2.50	0.42
1:D:606:LEU:C	1:D:606:LEU:HD23	2.45	0.42
1:D:610:ILE:HD12	1:D:637:LEU:CD2	2.49	0.42
1:A:2375:LEU:CD2	1:B:2359:ILE:HD11	2.50	0.42
1:A:2376:ALA:HB2	1:A:2508:VAL:HG11	2.02	0.42
1:A:2546:ASP:OD1	1:A:2547:LYS:N	2.53	0.42
1:C:1251:HIS:ND1	1:C:1252:LEU:HD12	2.35	0.42
1:C:1934:VAL:HG21	1:C:1981:LEU:HD21	2.02	0.42
1:C:2218:ILE:CG2	1:C:2282:LEU:HD21	2.49	0.42
1:A:1222:MET:HE2	1:A:1222:MET:CA	2.49	0.42
1:B:1251:HIS:ND1	1:B:1252:LEU:HD12	2.35	0.42
1:B:2001:LEU:HD11	1:B:2052:ASN:OD1	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:187:PRO:HB2	1:C:190:ALA:HB3	2.02	0.42
1:A:888:LEU:HD22	1:A:971:ILE:HG12	2.01	0.42
1:A:1255:THR:OG1	1:A:1260:GLU:OE1	2.26	0.42
1:A:1886:ARG:HH11	1:A:1886:ARG:HG3	1.85	0.42
1:B:2223:TYR:HB3	1:B:2224:PRO:HD3	2.02	0.42
1:B:2375:LEU:HD22	1:C:2359:ILE:HD11	2.02	0.42
1:C:636:ASP:O	1:C:639:VAL:O	2.38	0.42
1:C:1056:LEU:O	1:C:1060:ILE:HG12	2.20	0.42
1:D:2025:LEU:O	1:D:2028:VAL:HG12	2.19	0.42
1:D:2516:ILE:O	1:D:2520:PHE:CD2	2.73	0.42
1:A:636:ASP:O	1:A:639:VAL:O	2.38	0.42
1:A:1963:GLU:OE1	1:A:1963:GLU:N	2.42	0.42
1:B:567:TYR:CD2	1:B:570:ASN:HB2	2.55	0.42
1:B:1272:TYR:HA	1:B:1309:ALA:HB1	2.02	0.42
1:B:1366:ILE:HD13	1:B:1408:GLU:OE1	2.20	0.42
1:B:1643:PHE:O	1:B:1643:PHE:CG	2.73	0.42
1:C:354:LEU:HD11	1:C:398:ILE:HD13	2.01	0.42
1:C:586:GLY:HA3	1:C:621:LEU:HD21	2.02	0.42
1:D:860:THR:HA	1:D:863:VAL:HG12	2.02	0.42
1:D:1302:PHE:O	1:D:1306:VAL:HG23	2.20	0.42
1:A:1364:TYR:CE2	1:A:1368:LEU:HD11	2.55	0.41
1:B:470:ARG:NH1	1:B:470:ARG:HB2	2.35	0.41
1:B:722:ASP:HA	1:B:725:VAL:HG12	2.01	0.41
1:B:1933:ASN:O	1:B:1937:VAL:HG23	2.20	0.41
1:B:1974:ILE:HD11	1:B:2020:LEU:CD2	2.50	0.41
1:C:1345:LEU:HG	1:C:1349:MET:HE2	2.02	0.41
1:D:1058:VAL:O	1:D:1062:LEU:HD13	2.19	0.41
1:D:1487:ASN:OD1	1:D:1487:ASN:O	2.37	0.41
1:A:618:PHE:O	1:A:622:VAL:HG23	2.21	0.41
1:A:1487:ASN:OD1	1:A:1487:ASN:O	2.38	0.41
1:A:2001:LEU:HD11	1:A:2052:ASN:OD1	2.18	0.41
1:A:2359:ILE:HD11	1:D:2375:LEU:HD22	2.01	0.41
1:B:586:GLY:HA3	1:B:621:LEU:HD21	2.02	0.41
1:B:1028:ILE:HG21	1:B:1598:ILE:HD11	2.01	0.41
1:B:1055:PHE:O	1:B:1058:VAL:HG22	2.20	0.41
1:C:50:LYS:O	1:C:51:LYS:HB3	2.20	0.41
1:C:2188:LEU:HD11	1:C:2194:ILE:HG22	2.02	0.41
1:C:2376:ALA:HB2	1:C:2508:VAL:HG11	2.02	0.41
1:C:2513:PHE:HD2	1:D:2513:PHE:HZ	1.68	0.41
1:C:2516:ILE:O	1:C:2520:PHE:CD2	2.73	0.41
1:D:1060:ILE:O	1:D:1064:MET:HG3	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:1934:VAL:HG11	1:D:1988:LEU:HB3	2.01	0.41
1:D:1976:ASN:OD1	1:D:1977:ASP:N	2.53	0.41
1:A:1962:HIS:ND1	1:A:1964:SER:OG	2.36	0.41
1:B:50:LYS:O	1:B:51:LYS:HB3	2.20	0.41
1:B:240:VAL:HG21	1:B:439:ILE:HG12	2.03	0.41
1:B:252:LEU:HD13	1:B:417:LEU:HD11	2.01	0.41
1:B:1170:GLN:H	1:B:1170:GLN:CD	2.26	0.41
1:B:2182:MET:HE1	1:B:2573:VAL:HG21	2.02	0.41
1:B:2543:LEU:HD23	1:B:2548:PHE:HZ	1.80	0.41
1:C:733:LEU:HD22	1:C:780:LEU:HD22	2.02	0.41
1:C:1366:ILE:HD13	1:C:1408:GLU:OE1	2.21	0.41
1:C:1886:ARG:HH11	1:C:1886:ARG:HG3	1.85	0.41
1:D:585:ILE:HG23	1:D:592:GLU:HB3	2.01	0.41
1:D:857:ASN:O	1:D:860:THR:OG1	2.34	0.41
1:D:1979:SER:OG	1:D:1980:PRO:HD3	2.20	0.41
1:A:50:LYS:O	1:A:51:LYS:HB3	2.21	0.41
1:A:509:MET:HE3	1:A:509:MET:HB3	1.97	0.41
1:A:1058:VAL:O	1:A:1062:LEU:HD13	2.20	0.41
1:A:2516:ILE:O	1:A:2520:PHE:CD2	2.73	0.41
1:B:592:GLU:HG3	1:B:633:TYR:CE2	2.56	0.41
1:B:618:PHE:O	1:B:622:VAL:HG23	2.20	0.41
1:C:589:ILE:O	1:C:591:ALA:N	2.45	0.41
1:C:1196:LEU:CG	1:C:1200:MET:HE3	2.50	0.41
1:C:1302:PHE:O	1:C:1306:VAL:HG23	2.20	0.41
1:C:2025:LEU:O	1:C:2028:VAL:HG12	2.20	0.41
1:D:50:LYS:O	1:D:51:LYS:HB3	2.20	0.41
1:D:187:PRO:HB2	1:D:190:ALA:HB3	2.02	0.41
1:D:1207:LEU:O	1:D:1211:GLN:HG3	2.20	0.41
1:D:1736:LEU:HD12	1:D:1740:LEU:HD13	2.02	0.41
1:A:1100:SER:O	1:A:1104:VAL:HG23	2.20	0.41
1:B:972:LEU:HD12	1:B:1070:LEU:HD12	2.01	0.41
1:B:1058:VAL:O	1:B:1062:LEU:HD13	2.21	0.41
1:C:585:ILE:HG23	1:C:592:GLU:HB3	2.02	0.41
1:C:2277:GLY:O	1:C:2281:THR:OG1	2.35	0.41
1:D:618:PHE:O	1:D:622:VAL:HG23	2.20	0.41
1:B:758:ASP:OD1	1:B:759:LEU:N	2.54	0.41
1:B:1307:ILE:HD13	1:B:1321:ILE:HD11	2.02	0.41
1:B:1945:THR:HG22	1:B:1999:LEU:CA	2.50	0.41
1:B:2277:GLY:O	1:B:2281:THR:OG1	2.33	0.41
1:C:860:THR:HA	1:C:863:VAL:HG12	2.02	0.41
1:C:1637:ARG:HG2	1:C:1637:ARG:HH11	1.84	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:636:ASP:O	1:D:639:VAL:O	2.38	0.41
1:D:1886:ARG:HH11	1:D:1886:ARG:HG3	1.86	0.41
1:D:1914:MET:HE1	1:D:1936:LEU:HB2	2.01	0.41
1:A:606:LEU:C	1:A:606:LEU:HD23	2.45	0.41
1:A:1028:ILE:CG2	1:A:1602:LEU:HD21	2.49	0.41
1:B:733:LEU:HD22	1:B:780:LEU:HD22	2.02	0.41
1:B:1307:ILE:HG22	1:B:1317:CYS:HB2	2.03	0.41
1:B:1736:LEU:HD12	1:B:1740:LEU:HD13	2.02	0.41
1:B:1963:GLU:OE1	1:B:1963:GLU:N	2.42	0.41
1:C:618:PHE:O	1:C:622:VAL:HG23	2.20	0.41
1:C:1736:LEU:HD12	1:C:1740:LEU:HD13	2.02	0.41
1:C:1976:ASN:OD1	1:C:1977:ASP:N	2.54	0.41
1:C:2011:GLU:O	1:C:2014:GLU:HG2	2.21	0.41
1:D:757:VAL:HG13	1:D:781:MET:HE1	2.02	0.41
1:D:2011:GLU:O	1:D:2014:GLU:HG2	2.21	0.41
1:A:652:ILE:O	1:A:656:VAL:HG12	2.20	0.41
1:A:740:CYS:HB3	1:A:748:ILE:CD1	2.51	0.41
1:A:1307:ILE:HD13	1:A:1321:ILE:HD11	2.02	0.41
1:A:1948:CYS:SG	1:A:1959:ILE:HD12	2.61	0.41
1:A:1976:ASN:OD1	1:A:1977:ASP:N	2.54	0.41
1:B:668:THR:OG1	1:B:729:TYR:OH	2.04	0.41
1:B:2195:TYR:O	1:B:2199:ARG:HD2	2.20	0.41
1:C:2486:ASP:OD1	1:C:2486:ASP:N	2.49	0.41
1:A:586:GLY:HA3	1:A:621:LEU:HD21	2.02	0.41
1:A:740:CYS:HB3	1:A:748:ILE:HD13	2.03	0.41
1:A:860:THR:HA	1:A:863:VAL:HG12	2.03	0.41
1:A:1272:TYR:HA	1:A:1309:ALA:HB1	2.03	0.41
1:B:860:THR:HA	1:B:863:VAL:HG12	2.02	0.41
1:B:1283:LEU:HD22	1:B:1321:ILE:HG22	2.02	0.41
1:B:1346:LEU:O	1:B:1350:LYS:HG2	2.21	0.41
1:B:2033:TYR:O	1:B:2047:ARG:NH2	2.48	0.41
1:B:2292:ASN:O	1:B:2292:ASN:ND2	2.54	0.41
1:C:1058:VAL:O	1:C:1062:LEU:HD13	2.21	0.41
1:D:1258:LEU:HD22	1:D:1298:GLN:OE1	2.20	0.41
1:D:1280:GLU:O	1:D:1281:PRO:C	2.64	0.41
1:A:252:LEU:HD13	1:A:417:LEU:HD11	2.03	0.41
1:A:744:GLN:O	1:A:748:ILE:HG12	2.20	0.41
1:A:2011:GLU:O	1:A:2014:GLU:HG2	2.21	0.41
1:A:2155:LEU:HD22	1:A:2178:LEU:HD11	2.01	0.41
1:A:2605:MET:HG3	1:A:2605:MET:O	2.21	0.41
1:B:483:VAL:HG22	1:B:509:MET:SD	2.61	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:568:ARG:NH2	3:B:2702:I3P:O3	2.54	0.41
1:B:1334:VAL:O	1:B:1334:VAL:HG13	2.21	0.41
1:B:1626:LEU:N	1:B:1626:LEU:HD12	2.35	0.41
1:B:1774:ASN:OD1	1:B:1774:ASN:C	2.63	0.41
1:B:2011:GLU:O	1:B:2014:GLU:HG2	2.20	0.41
1:C:1100:SER:O	1:C:1104:VAL:HG23	2.20	0.41
1:C:1796:ALA:HB2	1:C:1866:SER:O	2.22	0.41
1:D:2630:UNK:O	1:D:2634:UNK:N	2.54	0.41
1:A:389:LEU:CB	1:A:398:ILE:HD12	2.48	0.40
1:A:1047:VAL:HG23	1:A:1048:ASP:OD1	2.21	0.40
1:A:1189:MET:HE2	1:A:1189:MET:HA	2.03	0.40
1:A:1226:ARG:HG2	1:A:1226:ARG:HH11	1.86	0.40
1:A:1280:GLU:O	1:A:1281:PRO:C	2.64	0.40
1:B:975:LEU:O	1:B:979:LEU:HD13	2.21	0.40
1:B:1056:LEU:O	1:B:1060:ILE:HG12	2.20	0.40
1:B:1651:THR:HB	1:B:1665:VAL:HG11	2.03	0.40
1:B:1979:SER:OG	1:B:1980:PRO:HD3	2.20	0.40
1:C:610:ILE:HD12	1:C:637:LEU:CD2	2.50	0.40
1:C:1055:PHE:O	1:C:1058:VAL:HG22	2.21	0.40
1:C:1085:ARG:NH1	1:C:1613:GLU:OE1	2.54	0.40
1:C:1948:CYS:SG	1:C:1959:ILE:HD12	2.61	0.40
1:C:2151:THR:OG1	1:C:2181:GLU:OE2	2.39	0.40
1:D:1366:ILE:HD13	1:D:1408:GLU:OE1	2.21	0.40
1:D:1948:CYS:SG	1:D:1959:ILE:HD12	2.61	0.40
1:A:1055:PHE:O	1:A:1058:VAL:HG22	2.22	0.40
1:A:1346:LEU:O	1:A:1350:LYS:HG2	2.20	0.40
1:A:1607:LYS:HG3	1:A:1608:PRO:HD3	2.03	0.40
1:B:990:LEU:HD11	1:B:1035:MET:HE1	2.03	0.40
1:B:1976:ASN:OD1	1:B:1977:ASP:N	2.53	0.40
1:C:1202:ALA:O	1:C:1205:VAL:HG12	2.21	0.40
1:C:1774:ASN:OD1	1:C:1774:ASN:C	2.64	0.40
1:C:2033:TYR:O	1:C:2047:ARG:NH2	2.50	0.40
1:D:282:LEU:CD2	1:D:434:VAL:HG21	2.51	0.40
1:D:1247:HIS:HB2	1:D:1274:LEU:HD21	2.03	0.40
1:D:1272:TYR:HA	1:D:1309:ALA:HB1	2.04	0.40
1:D:2223:TYR:HB3	1:D:2224:PRO:HD3	2.03	0.40
1:A:736:PHE:CD2	1:A:751:ILE:HD12	2.57	0.40
1:A:1189:MET:HE2	1:A:1189:MET:CA	2.51	0.40
1:B:1215:ASP:OD1	1:B:1216:LYS:N	2.55	0.40
1:B:2046:PRO:HA	1:B:2049:VAL:HG22	2.03	0.40
1:B:2548:PHE:HD2	1:B:2553:VAL:HG13	1.87	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:744:GLN:O	1:C:748:ILE:HG12	2.21	0.40
1:C:1914:MET:HE2	1:C:1933:ASN:HB3	2.03	0.40
1:C:1963:GLU:OE1	1:C:1963:GLU:N	2.43	0.40
1:D:2291:THR:O	1:D:2295:VAL:HG12	2.22	0.40
1:D:2543:LEU:HD23	1:D:2548:PHE:CE1	2.57	0.40
1:A:483:VAL:HG22	1:A:509:MET:SD	2.61	0.40
1:A:575:ALA:HB2	1:A:598:LEU:HD21	2.03	0.40
1:A:1247:HIS:HB2	1:A:1274:LEU:HD21	2.03	0.40
1:A:2469:GLY:O	1:A:2505:ILE:HD11	2.22	0.40
1:B:187:PRO:HD2	1:B:192:GLN:O	2.22	0.40
1:B:1607:LYS:HG3	1:B:1608:PRO:HD3	2.02	0.40
1:C:2605:MET:HG3	1:C:2605:MET:O	2.22	0.40
1:D:1796:ALA:HB2	1:D:1866:SER:O	2.22	0.40
1:D:2605:MET:O	1:D:2605:MET:HG3	2.21	0.40
1:A:1774:ASN:OD1	1:A:1774:ASN:C	2.64	0.40
1:A:2223:TYR:HB3	1:A:2224:PRO:HD3	2.03	0.40
1:A:2465:VAL:HG22	1:A:2476:VAL:HG21	2.03	0.40
1:B:318:GLU:HG3	1:B:355:VAL:HG11	2.04	0.40
1:B:1280:GLU:O	1:B:1281:PRO:C	2.64	0.40
1:B:1595:LEU:O	1:B:1599:ILE:HG13	2.21	0.40
1:B:1890:ASN:OD1	1:B:1893:ARG:NH2	2.54	0.40
1:B:1894:CYS:SG	1:B:1895:GLN:N	2.95	0.40
1:C:1523:GLU:OE1	1:C:1523:GLU:N	2.48	0.40
1:C:1607:LYS:HG3	1:C:1608:PRO:HD3	2.03	0.40
1:C:2046:PRO:HA	1:C:2049:VAL:HG22	2.03	0.40
1:C:2223:TYR:HB3	1:C:2224:PRO:HD3	2.03	0.40
1:C:2548:PHE:HD2	1:C:2553:VAL:HG13	1.86	0.40
1:D:586:GLY:HA3	1:D:621:LEU:HD21	2.03	0.40
1:D:1307:ILE:HD13	1:D:1321:ILE:HD11	2.04	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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	2069/2633 (79%)	1975 (96%)	93 (4%)	1 (0%)	100	100
1	B	2069/2633 (79%)	1968 (95%)	100 (5%)	1 (0%)	100	100
1	C	2069/2633 (79%)	1970 (95%)	98 (5%)	1 (0%)	100	100
1	D	2069/2633 (79%)	1974 (95%)	94 (4%)	1 (0%)	100	100
All	All	8276/10532 (79%)	7887 (95%)	385 (5%)	4 (0%)	100	100

All (4) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	789	ASP
1	B	789	ASP
1	C	789	ASP
1	D	789	ASP

5.3.2 Protein sidechains ⓘ

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	1903/2329 (82%)	1903 (100%)	0	100	100
1	B	1903/2329 (82%)	1903 (100%)	0	100	100
1	C	1903/2329 (82%)	1903 (100%)	0	100	100
1	D	1903/2329 (82%)	1903 (100%)	0	100	100
All	All	7612/9316 (82%)	7612 (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 (57) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	9	HIS
1	A	226	GLN
1	A	384	ASN
1	A	474	GLN

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Mol	Chain	Res	Type
1	A	491	GLN
1	A	502	ASN
1	A	506	GLN
1	A	980	ASN
1	A	1285	HIS
1	A	1288	HIS
1	A	1337	ASN
1	A	1671	GLN
1	A	2023	GLN
1	A	2129	GLN
1	A	2164	GLN
1	A	2185	GLN
1	A	2292	ASN
1	B	9	HIS
1	B	136	ASN
1	B	226	GLN
1	B	384	ASN
1	B	474	GLN
1	B	491	GLN
1	B	506	GLN
1	B	980	ASN
1	B	1106	ASN
1	B	1285	HIS
1	B	1337	ASN
1	B	1596	GLN
1	B	2023	GLN
1	B	2064	ASN
1	B	2164	GLN
1	B	2185	GLN
1	B	2292	ASN
1	C	9	HIS
1	C	136	ASN
1	C	226	GLN
1	C	384	ASN
1	C	491	GLN
1	C	980	ASN
1	C	1285	HIS
1	C	1596	GLN
1	C	1671	GLN
1	C	2023	GLN
1	C	2164	GLN
1	D	9	HIS

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Mol	Chain	Res	Type
1	D	226	GLN
1	D	384	ASN
1	D	474	GLN
1	D	980	ASN
1	D	1106	ASN
1	D	1285	HIS
1	D	1596	GLN
1	D	1671	GLN
1	D	2023	GLN
1	D	2164	GLN
1	D	2185	GLN

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](#)

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	I3P	A	2702	-	24,24,24	1.29	3 (12%)	39,39,39	0.78	1 (2%)
3	I3P	B	2702	-	24,24,24	1.29	3 (12%)	39,39,39	0.77	1 (2%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
4	ATP	C	2703	-	32,33,33	0.29	0	48,52,52	0.68	0
4	ATP	D	2703	-	32,33,33	0.29	0	48,52,52	0.68	0
3	I3P	D	2702	-	24,24,24	1.29	3 (12%)	39,39,39	0.77	1 (2%)
3	I3P	C	2702	-	24,24,24	1.29	3 (12%)	39,39,39	0.77	1 (2%)
4	ATP	A	2703	-	32,33,33	0.29	0	48,52,52	0.68	0
4	ATP	B	2703	-	32,33,33	0.29	0	48,52,52	0.68	0

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	I3P	A	2702	-	-	1/15/39/39	0/1/1/1
3	I3P	B	2702	-	-	1/15/39/39	0/1/1/1
4	ATP	C	2703	-	-	4/22/38/38	0/3/3/3
4	ATP	D	2703	-	-	4/22/38/38	0/3/3/3
3	I3P	D	2702	-	-	2/15/39/39	0/1/1/1
3	I3P	C	2702	-	-	3/15/39/39	0/1/1/1
4	ATP	A	2703	-	-	4/22/38/38	0/3/3/3
4	ATP	B	2703	-	-	4/22/38/38	0/3/3/3

All (12) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	D	2702	I3P	P1-O1	3.15	1.65	1.59
3	B	2702	I3P	P4-O4	3.12	1.65	1.59
3	A	2702	I3P	P4-O4	3.12	1.65	1.59
3	A	2702	I3P	P1-O1	3.10	1.65	1.59
3	D	2702	I3P	P4-O4	3.10	1.65	1.59
3	C	2702	I3P	P1-O1	3.09	1.64	1.59
3	C	2702	I3P	P4-O4	3.08	1.64	1.59
3	B	2702	I3P	P1-O1	3.07	1.64	1.59
3	C	2702	I3P	P5-O5	2.83	1.64	1.59
3	B	2702	I3P	P5-O5	2.80	1.64	1.59
3	D	2702	I3P	P5-O5	2.80	1.64	1.59
3	A	2702	I3P	P5-O5	2.78	1.64	1.59

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	B	2702	I3P	P1-O1-C1	-2.30	117.30	123.43
3	C	2702	I3P	P1-O1-C1	-2.29	117.31	123.43
3	A	2702	I3P	P1-O1-C1	-2.28	117.35	123.43
3	D	2702	I3P	P1-O1-C1	-2.26	117.41	123.43

There are no chirality outliers.

All (23) torsion outliers are listed below:

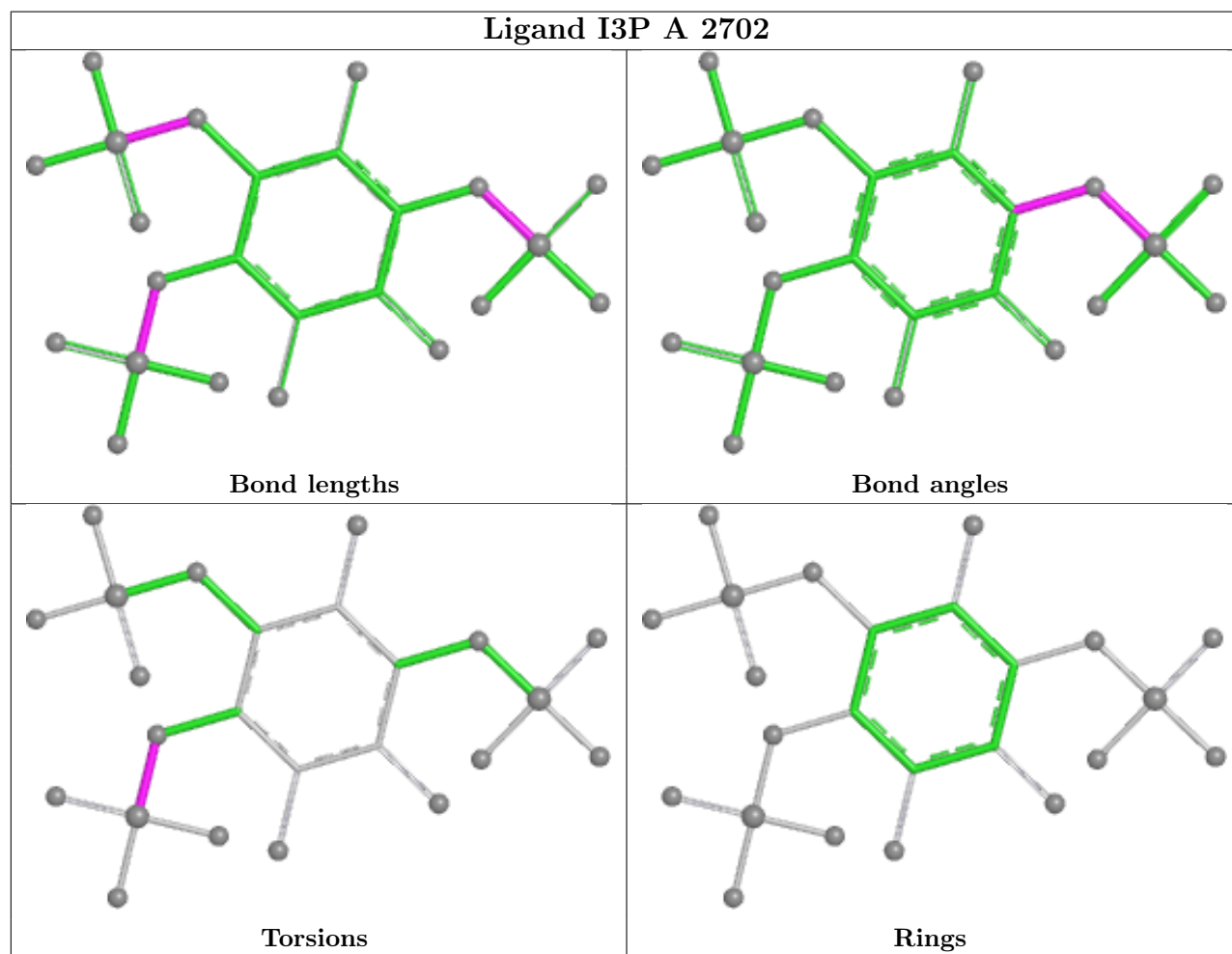
Mol	Chain	Res	Type	Atoms
4	A	2703	ATP	O4'-C4'-C5'-O5'
4	D	2703	ATP	O4'-C4'-C5'-O5'
4	B	2703	ATP	O4'-C4'-C5'-O5'
4	C	2703	ATP	O4'-C4'-C5'-O5'
4	A	2703	ATP	PB-O3A-PA-O5'
4	B	2703	ATP	PB-O3A-PA-O5'
4	C	2703	ATP	PB-O3A-PA-O5'
4	D	2703	ATP	PB-O3A-PA-O5'
4	A	2703	ATP	C5'-O5'-PA-O1A
4	B	2703	ATP	C5'-O5'-PA-O1A
4	C	2703	ATP	C5'-O5'-PA-O1A
4	D	2703	ATP	C5'-O5'-PA-O1A
3	C	2702	I3P	C5-O5-P5-O53
3	D	2702	I3P	C5-O5-P5-O53
3	C	2702	I3P	C5-O5-P5-O51
4	A	2703	ATP	PB-O3A-PA-O1A
4	B	2703	ATP	PB-O3A-PA-O1A
3	A	2702	I3P	C4-O4-P4-O43
3	C	2702	I3P	C5-O5-P5-O52
3	D	2702	I3P	C4-O4-P4-O43
3	B	2702	I3P	C5-O5-P5-O51
4	C	2703	ATP	PB-O3A-PA-O1A
4	D	2703	ATP	PB-O3A-PA-O1A

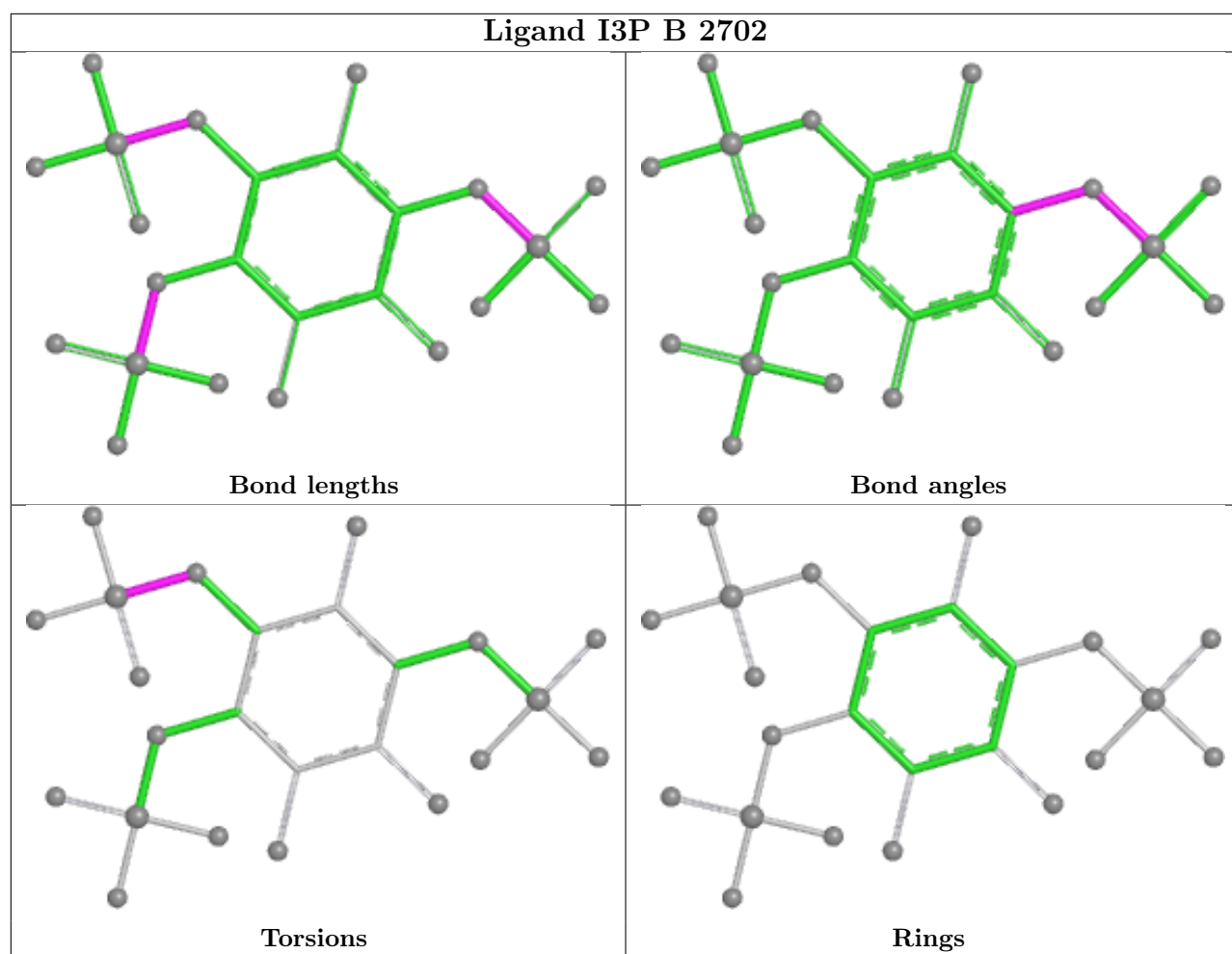
There are no ring outliers.

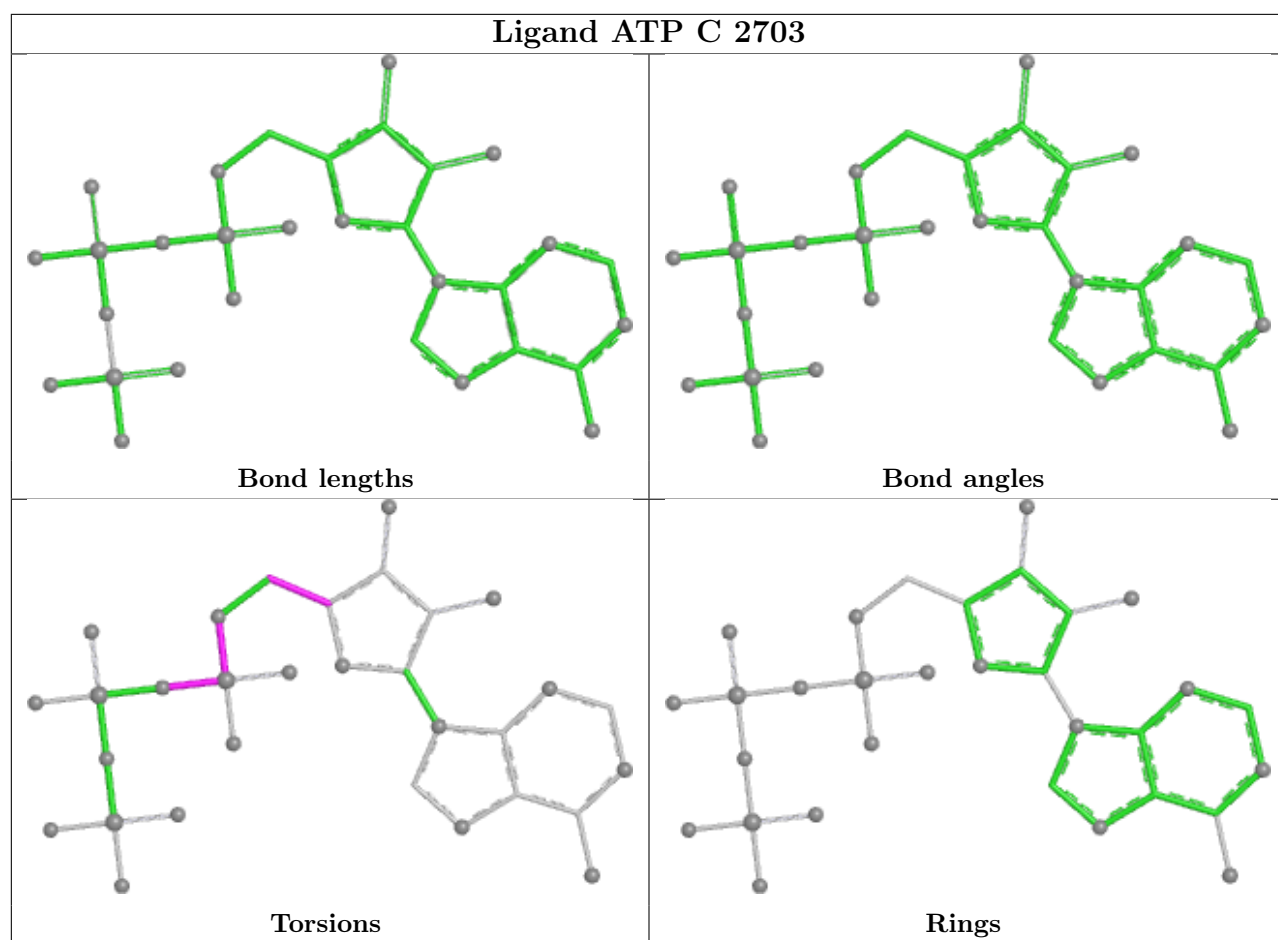
5 monomers are involved in 6 short contacts:

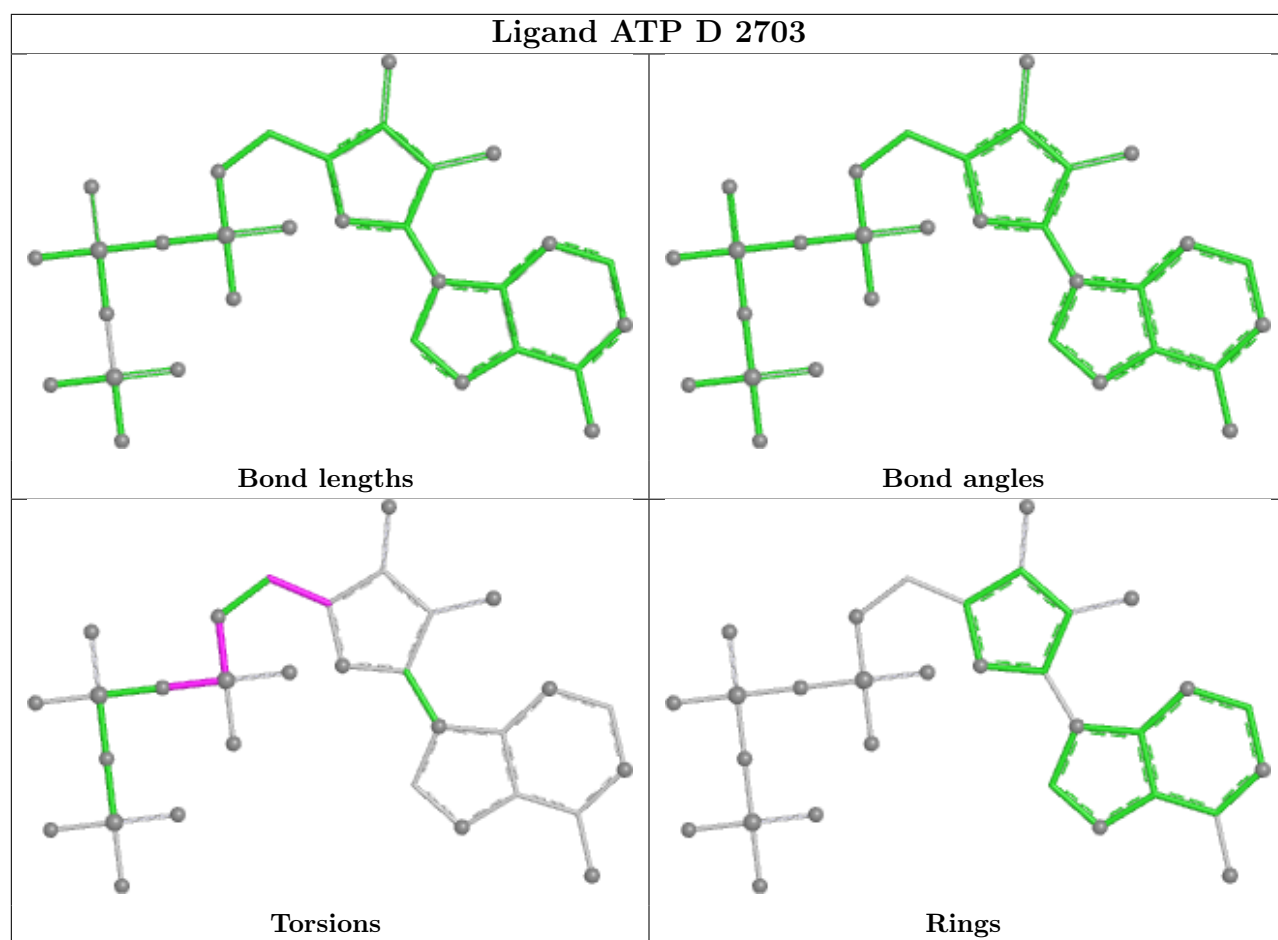
Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	A	2702	I3P	1	0
3	B	2702	I3P	2	0
4	C	2703	ATP	1	0
3	D	2702	I3P	1	0
3	C	2702	I3P	1	0

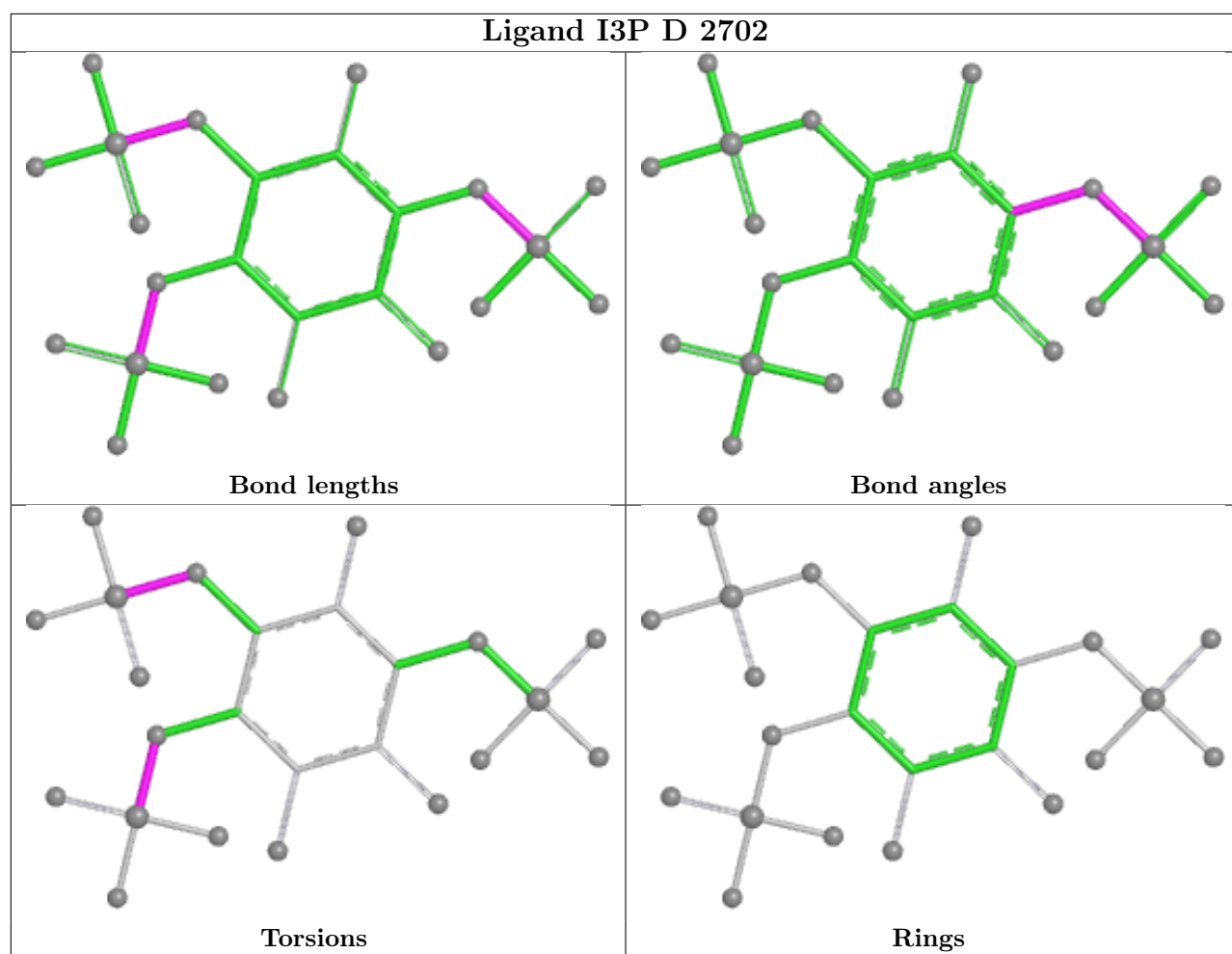
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. 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.

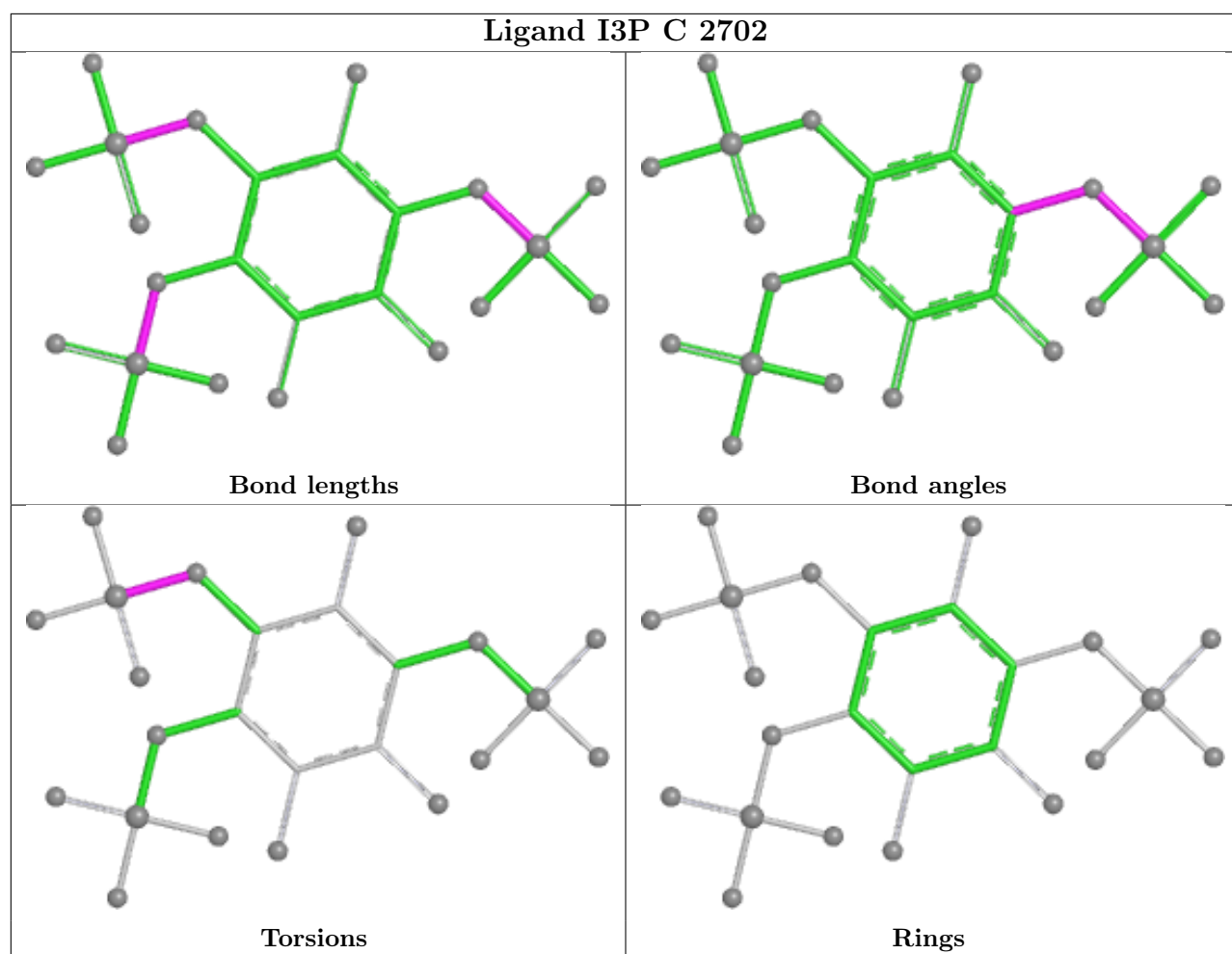


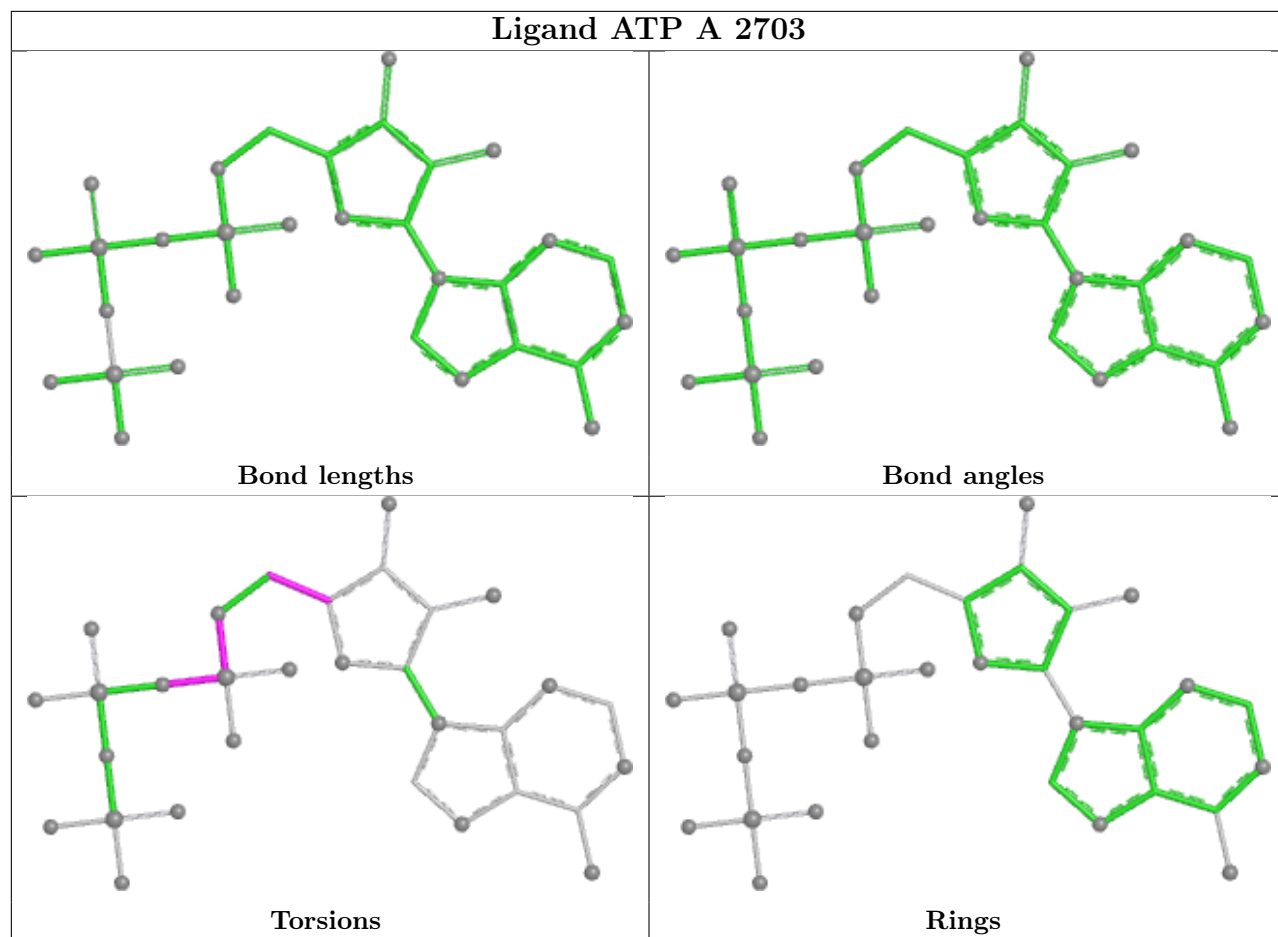


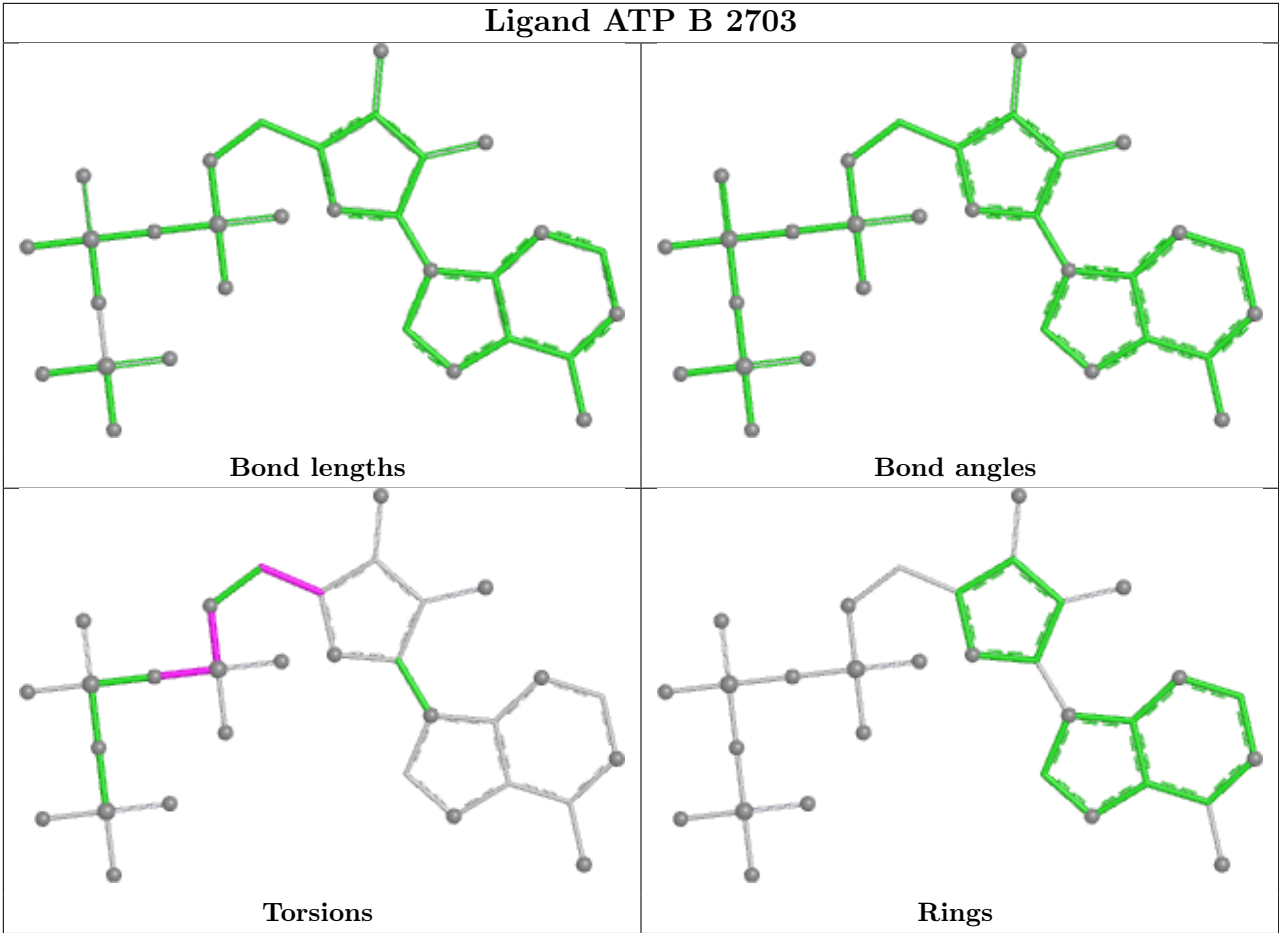












5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
1	A	1
1	D	1
1	C	1
1	B	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	A	2611:VAL	C	2628:UNK	N	27.59
1	D	2611:VAL	C	2628:UNK	N	27.58

Continued on next page...

Continued from previous page...

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	C	2611:VAL	C	2628:UNK	N	27.54
1	B	2611:VAL	C	2628:UNK	N	27.53

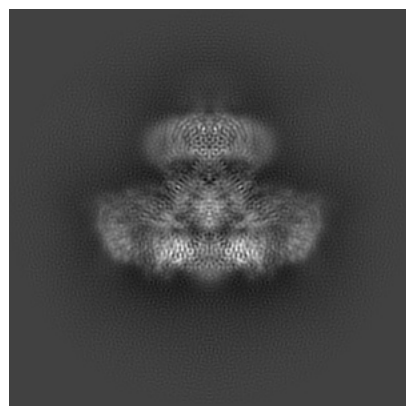
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-25669. These allow visual inspection of the internal detail of the map and identification of artifacts.

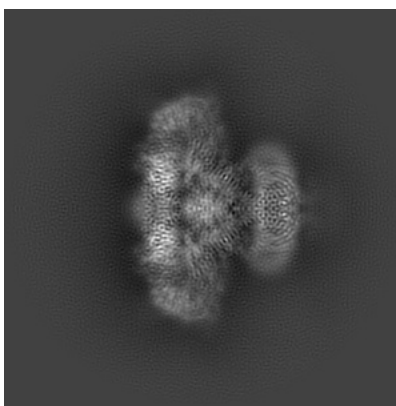
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

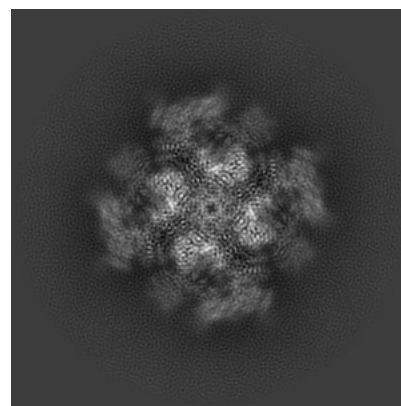
6.1.1 Primary map



X

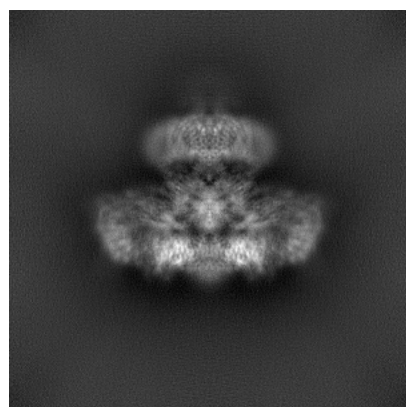


Y

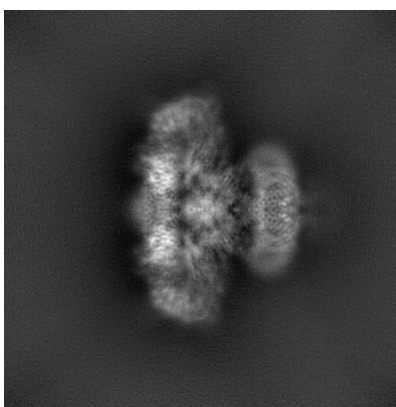


Z

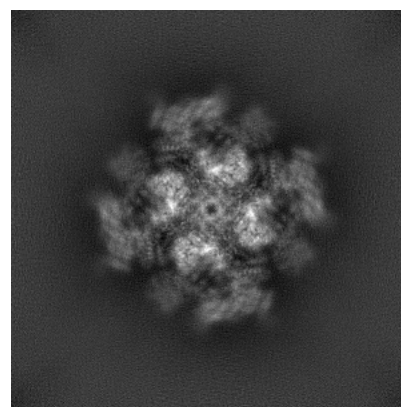
6.1.2 Raw map



X



Y

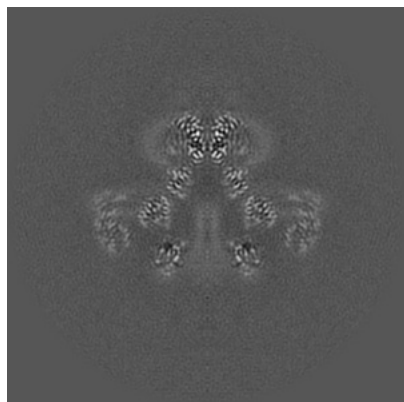


Z

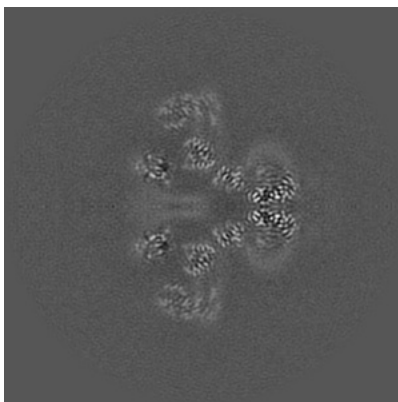
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

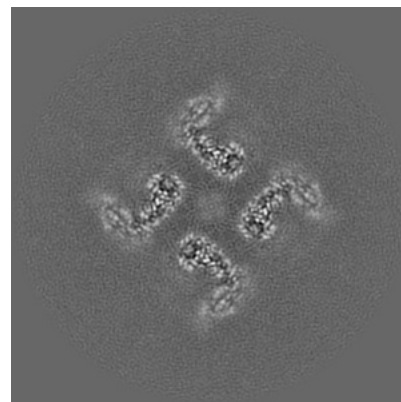
6.2.1 Primary map



X Index: 240

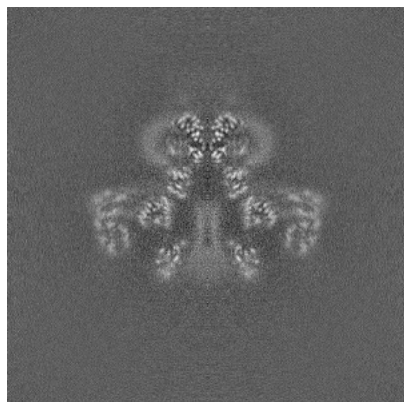


Y Index: 240

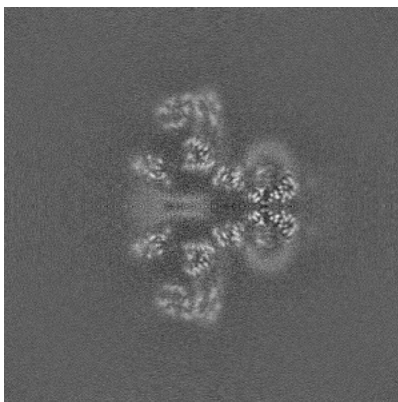


Z Index: 240

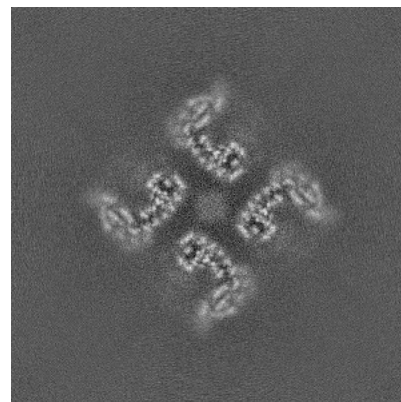
6.2.2 Raw map



X Index: 240



Y Index: 240

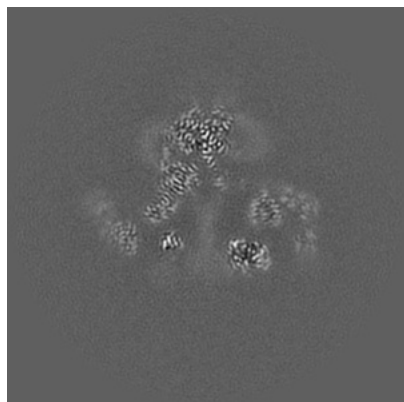


Z Index: 240

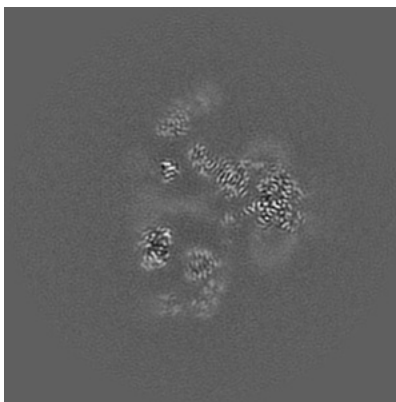
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

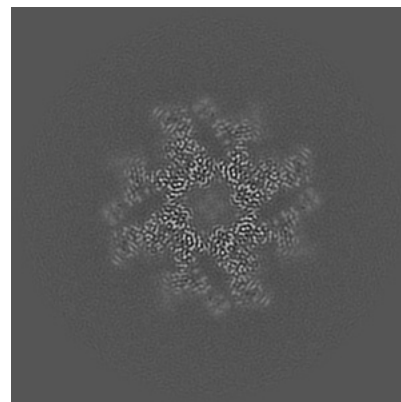
6.3.1 Primary map



X Index: 229

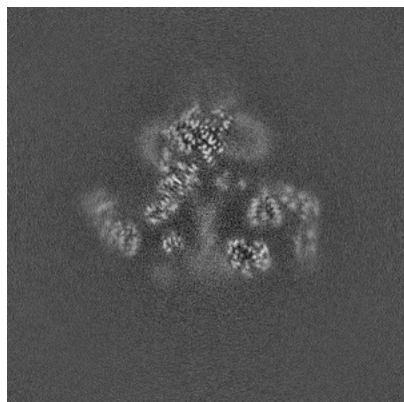


Y Index: 229

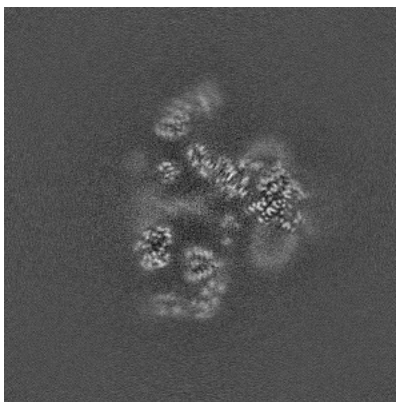


Z Index: 191

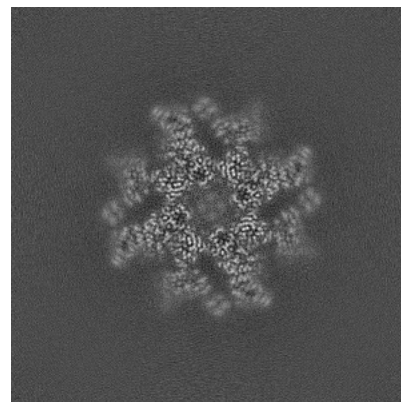
6.3.2 Raw map



X Index: 230



Y Index: 230

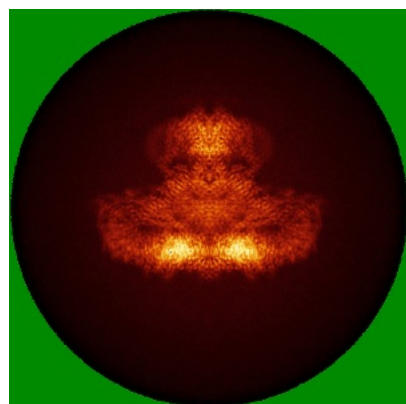


Z Index: 190

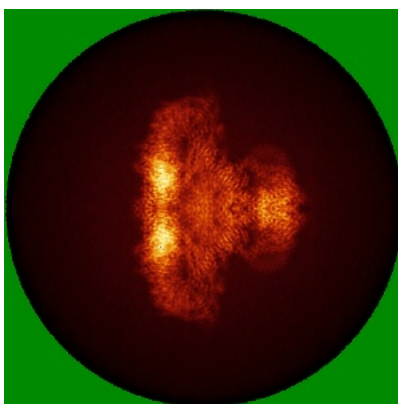
The images above show the largest variance slices of the map in three orthogonal directions.

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

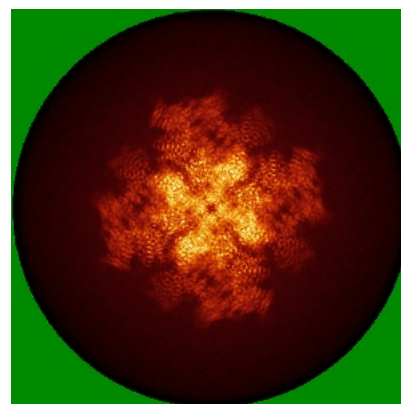
6.4.1 Primary map



X

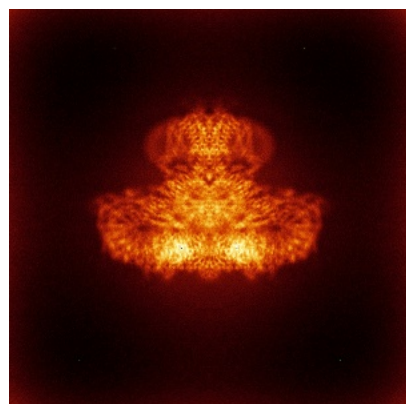


Y

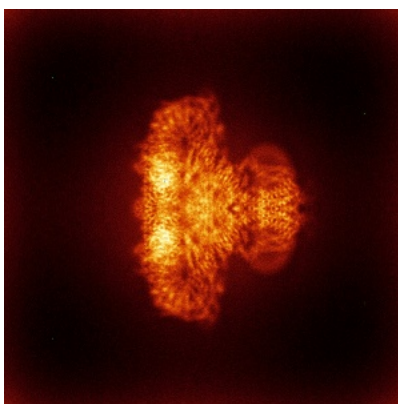


Z

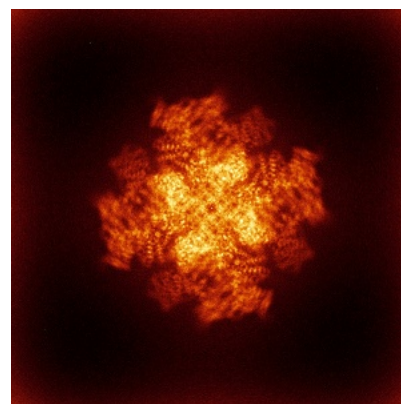
6.4.2 Raw map



X



Y

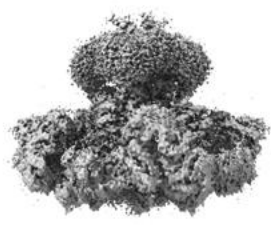


Z

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](#)

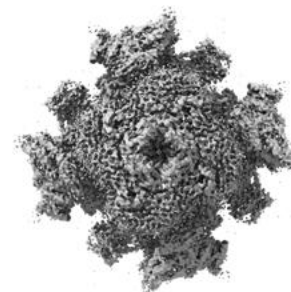
6.5.1 Primary map



X



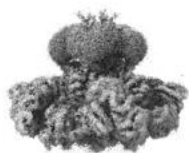
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.18. 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



X



Y



Z

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.

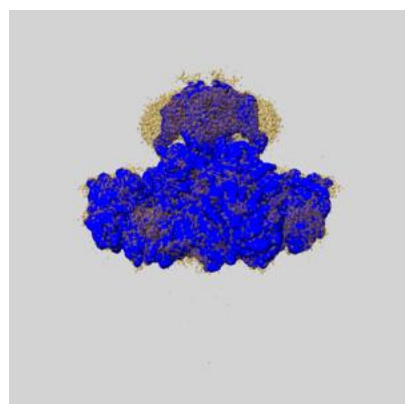
6.6 Mask visualisation [i](#)

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

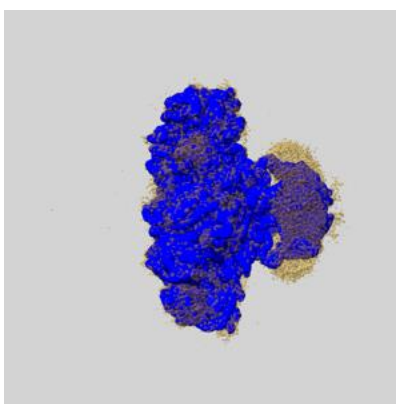
A mask typically either:

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

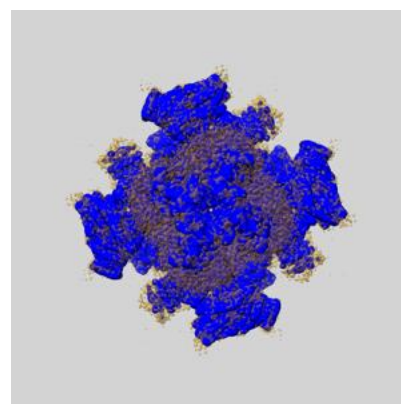
6.6.1 emd_25669_msk_1.map [i](#)



X



Y

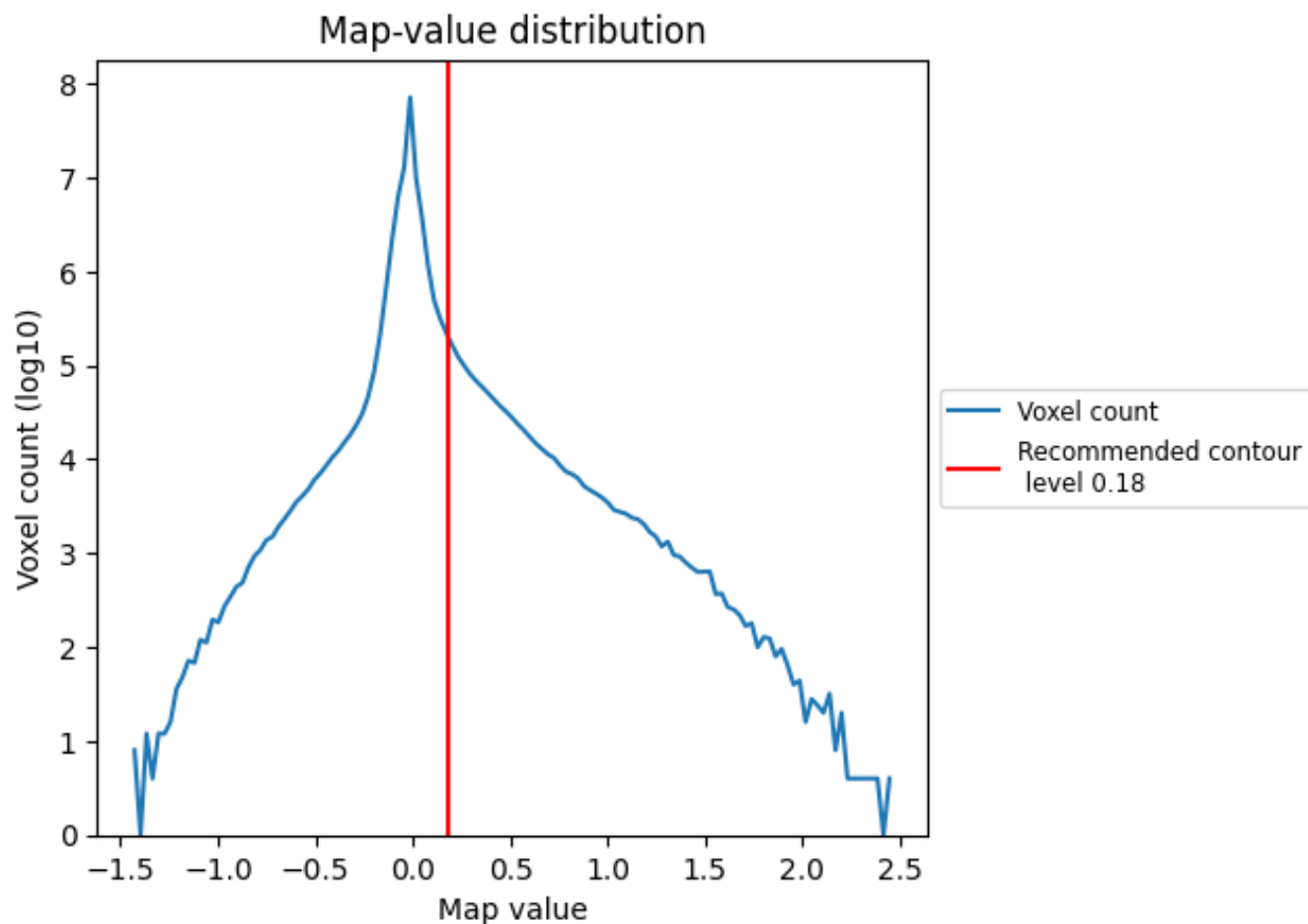


Z

7 Map analysis [i](#)

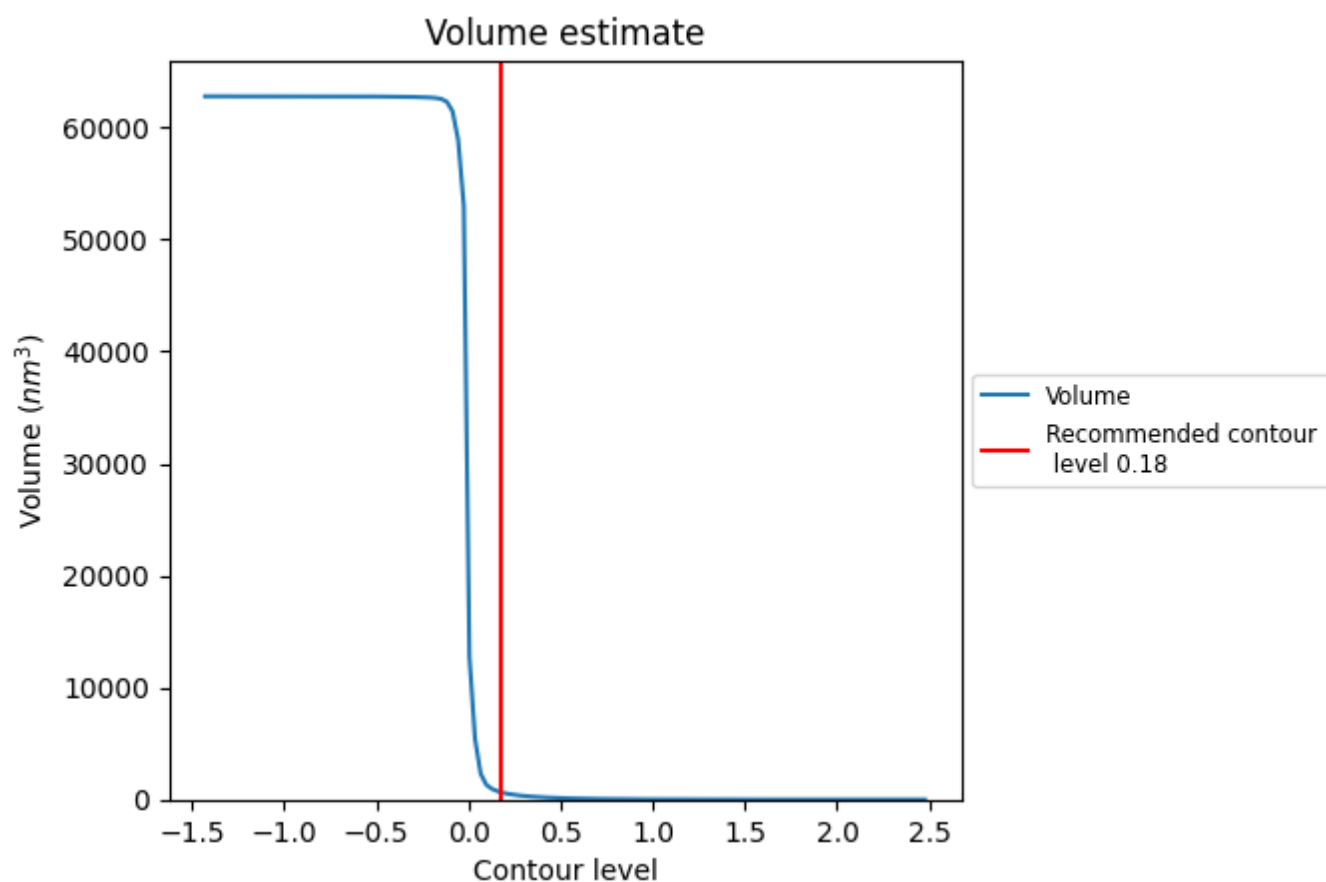
This section contains the results of statistical analysis of the map.

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.

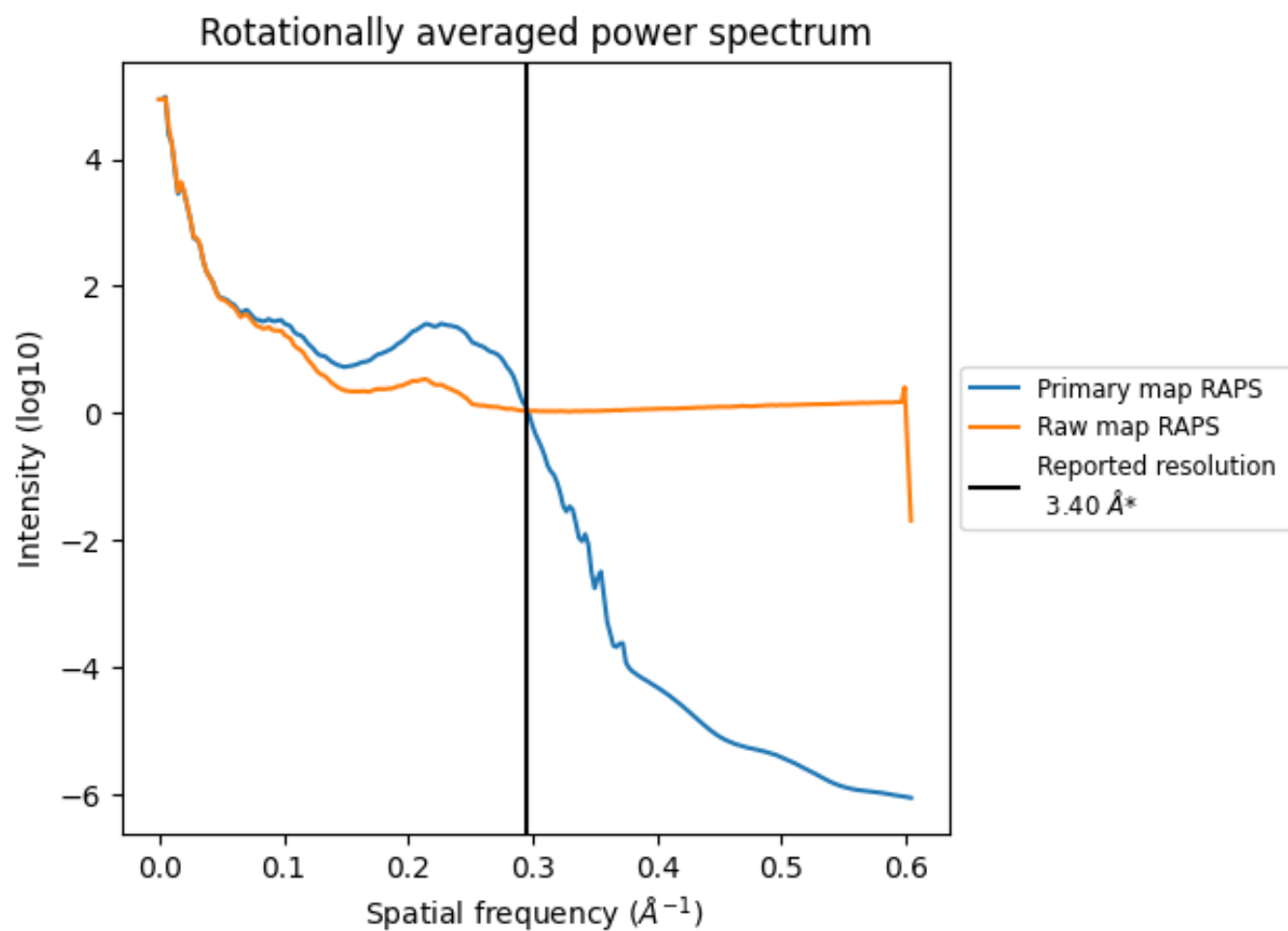
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 645 nm³; this corresponds to an approximate mass of 583 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum ⓘ

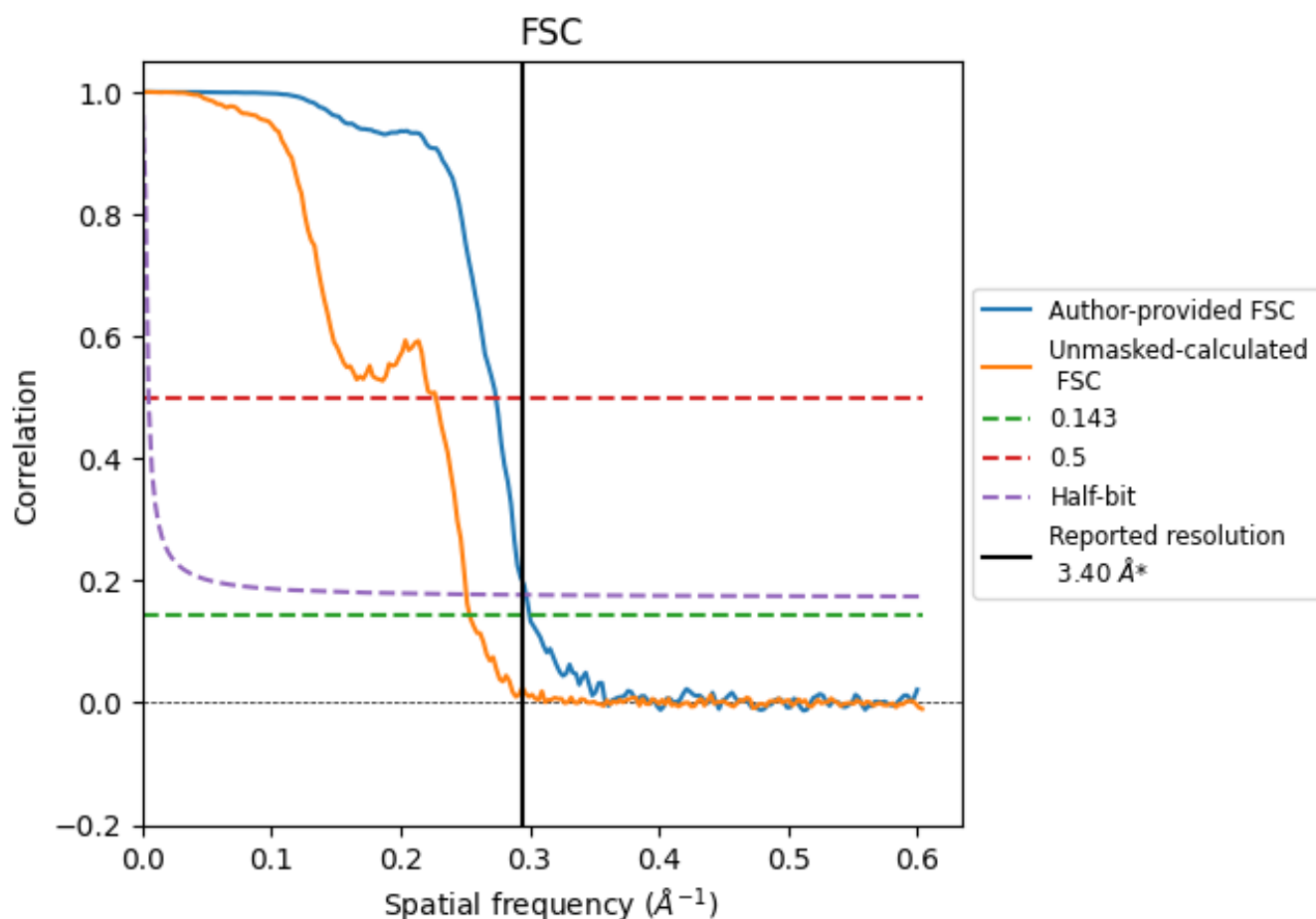


*Reported resolution corresponds to spatial frequency of 0.294 Å⁻¹

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 0.294 $\text{\AA}^{-1}$

8.2 Resolution estimates [i](#)

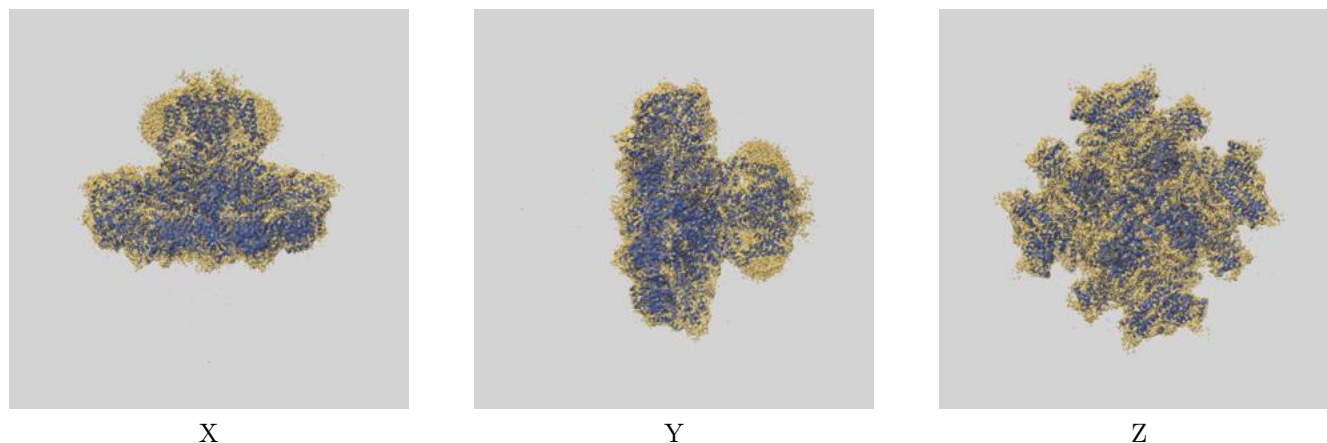
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.40	-	-
Author-provided FSC curve	3.33	3.65	3.36
Unmasked-calculated*	3.94	4.40	3.99

*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 3.94 differs from the reported value 3.4 by more than 10 %

9 Map-model fit [i](#)

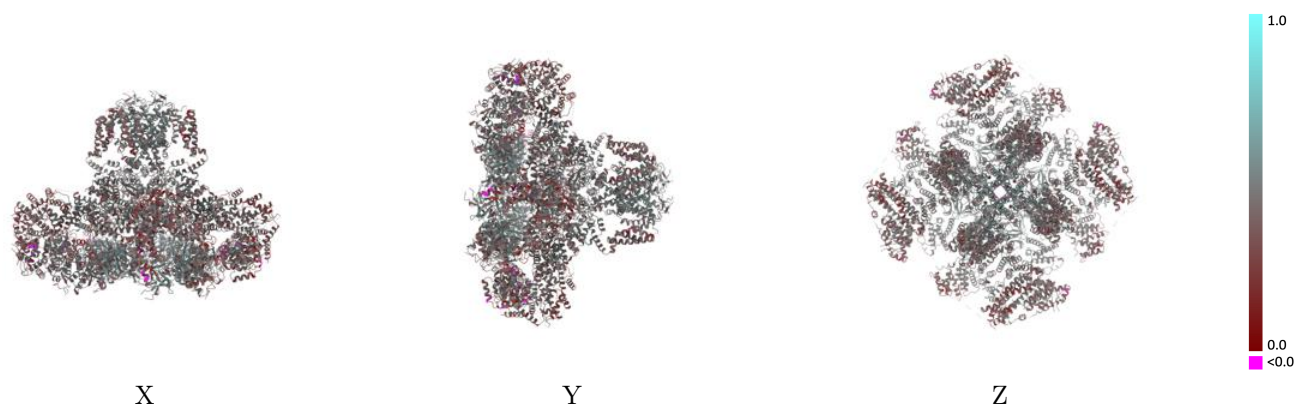
This section contains information regarding the fit between EMDB map EMD-25669 and PDB model 7T3R. Per-residue inclusion information can be found in [section 3](#) on [page 6](#).

9.1 Map-model overlay [i](#)



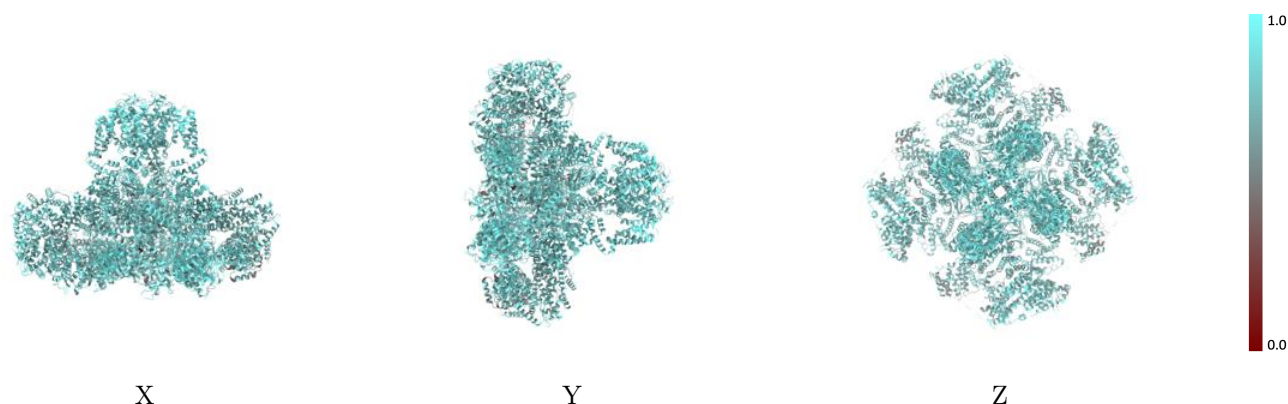
The images above show the 3D surface view of the map at the recommended contour level 0.18 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



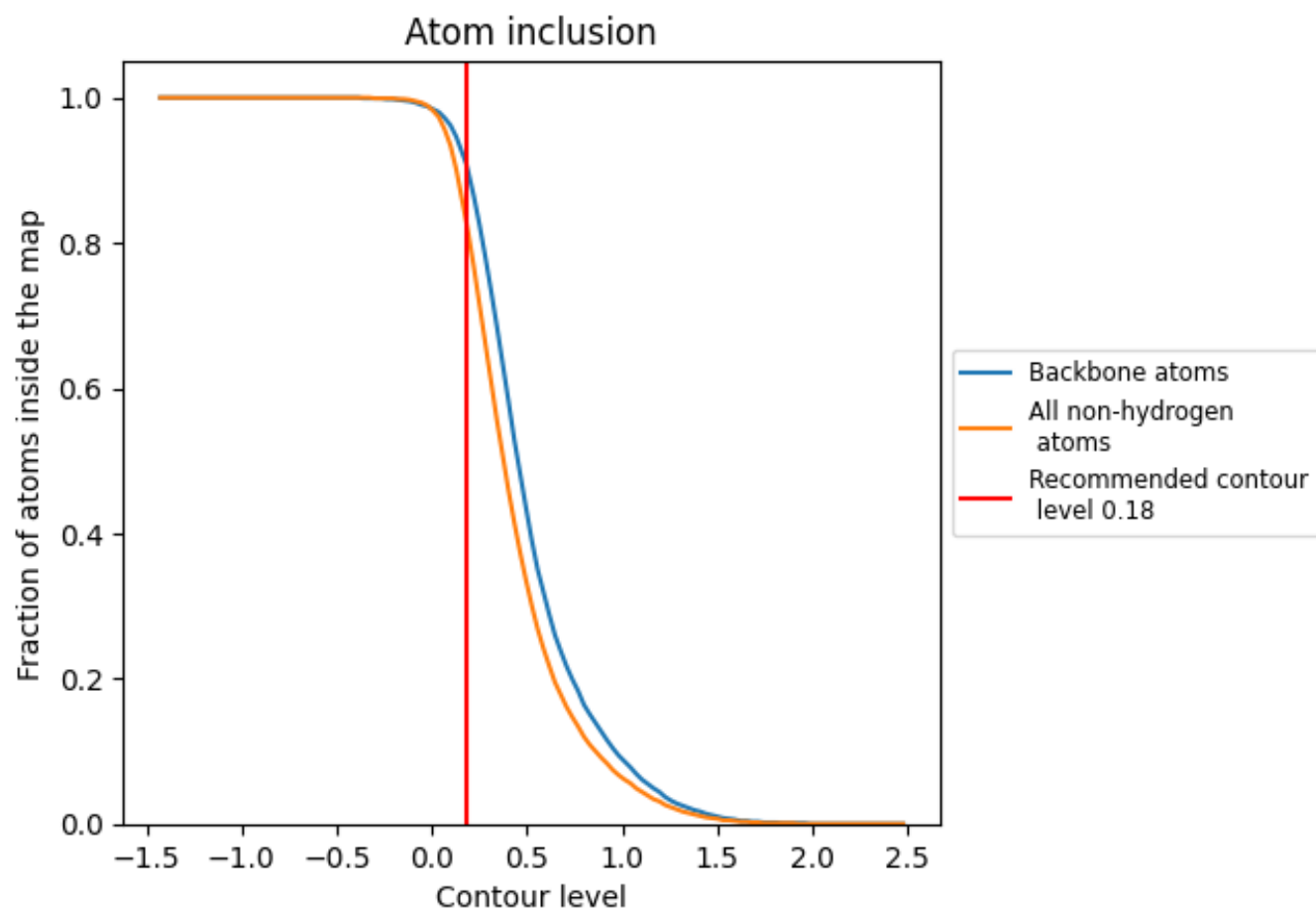
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.18).

9.4 Atom inclusion [i](#)



At the recommended contour level, 91% of all backbone atoms, 83% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary ⓘ

The table lists the average atom inclusion at the recommended contour level (0.18) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.8300	0.4320
A	0.8300	0.4320
B	0.8300	0.4320
C	0.8300	0.4310
D	0.8300	0.4320

