



## Full wwPDB EM Validation Report ⓘ

Nov 28, 2022 – 05:03 PM EST

PDB ID : 7T3P  
EMDB ID : EMD-25667  
Title : IP3 and ATP bound type 3 IP3 receptor in the pre-active A state  
Authors : Schmitz, E.A.; Takahashi, H.; Karakas, E.  
Deposited on : 2021-12-08  
Resolution : 3.20 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](mailto:validation@mail.wwpdb.org)

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

EMDB validation analysis : 0.0.1.dev43  
Mogul : 1.8.5 (274361), CSD as541be (2020)  
MolProbity : 4.02b-467  
buster-report : 1.1.7 (2018)  
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)  
MapQ : 1.9.9  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.31.2

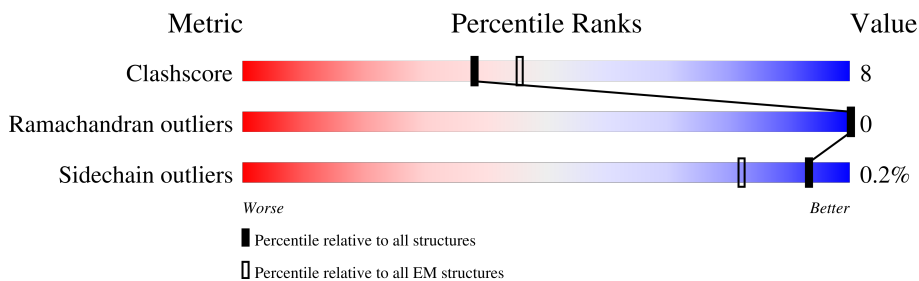
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*ELECTRON MICROSCOPY*

The reported resolution of this entry is 3.20 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826

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

Mol	Chain	Length	Quality of chain
1	A	2633	
1	B	2633	
1	C	2633	
1	D	2633	

## 2 Entry composition i

There are 4 unique types of molecules in this entry. The entry contains 66992 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.

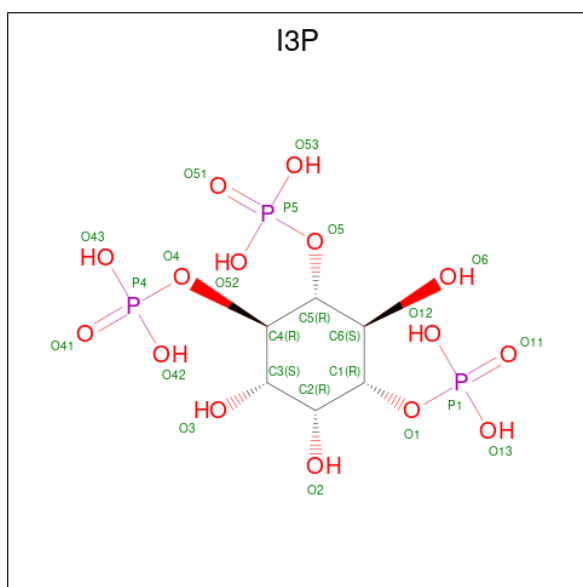
- Molecule 1 is a protein called Inositol 1,4,5-trisphosphate receptor type 3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	2066	16692	10684	2850	3057	101	0	0
1	B	2066	16692	10684	2850	3057	101	0	0
1	C	2066	16692	10684	2850	3057	101	0	0
1	D	2066	16692	10684	2850	3057	101	0	0

- Molecule 2 is ZINC ION (three-letter code: ZN) (formula: Zn) (labeled as "Ligand of Interest" by depositor).

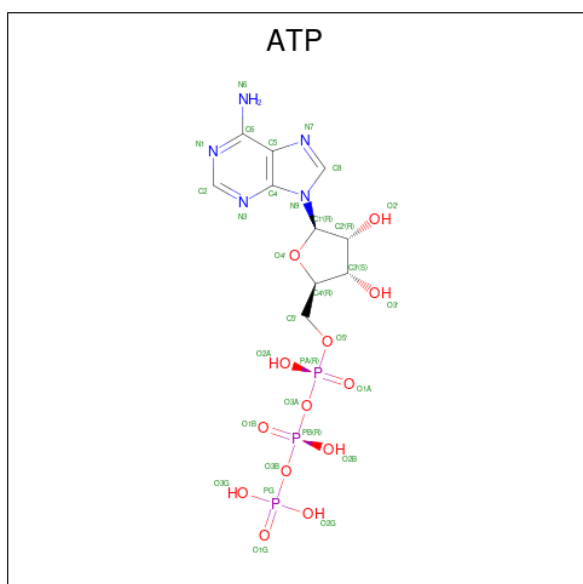
Mol	Chain	Residues	Atoms		AltConf
2	A	1	Total 1	Zn 1	0
2	B	1	Total 1	Zn 1	0
2	C	1	Total 1	Zn 1	0
2	D	1	Total 1	Zn 1	0

- Molecule 3 is D-MYO-INOSITOL-1,4,5-TRIPHOSPHATE (three-letter code: I3P) (formula: C<sub>6</sub>H<sub>15</sub>O<sub>15</sub>P<sub>3</sub>) (labeled as "Ligand of Interest" by depositor).



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

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



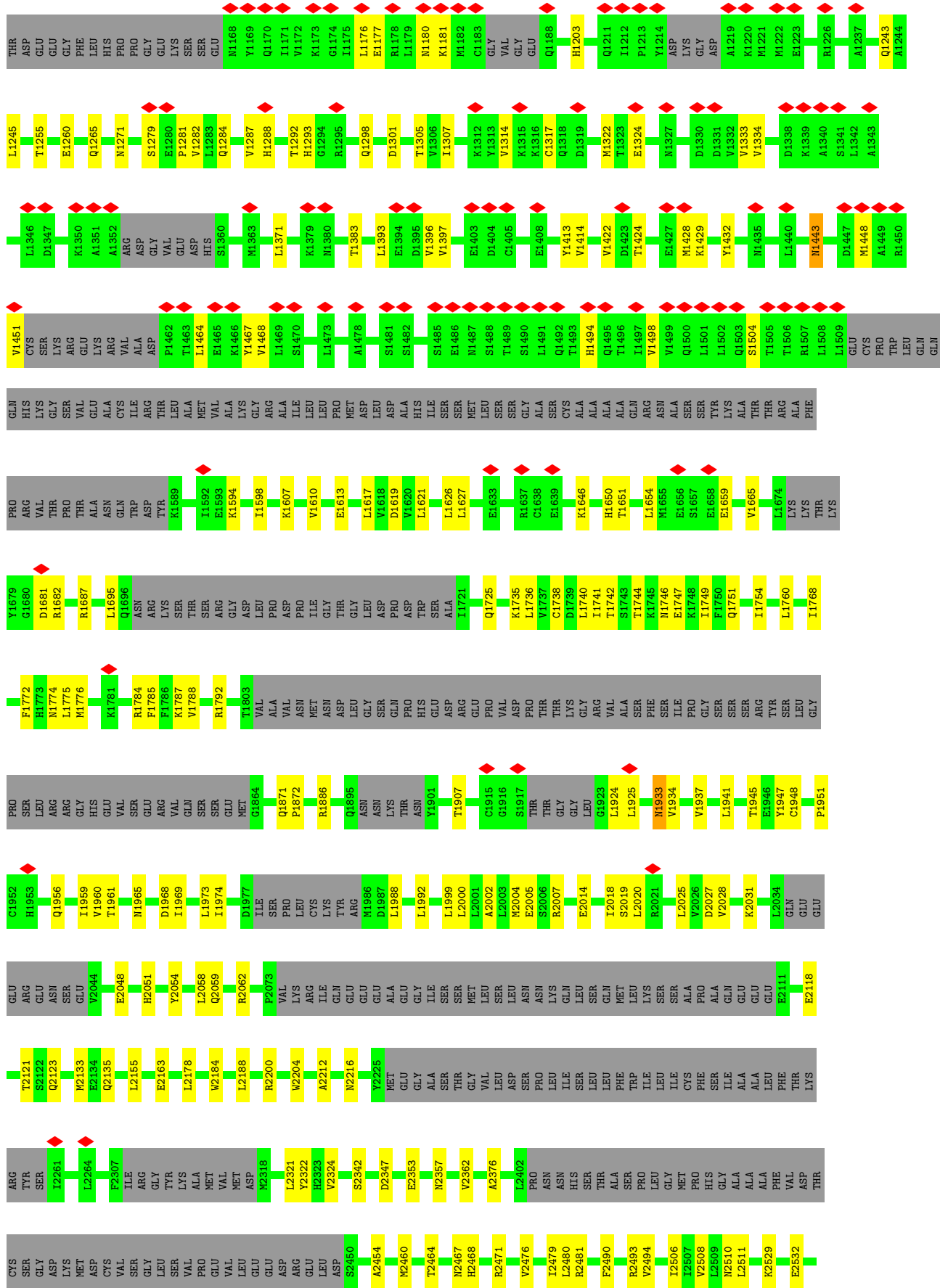
<b>Mol</b>	<b>Chain</b>	<b>Residues</b>	<b>Atoms</b>					<b>AltConf</b>
4	A	1	Total 31	C 10	N 5	O 13	P 3	0
4	B	1	Total 31	C 10	N 5	O 13	P 3	0
4	C	1	Total 31	C 10	N 5	O 13	P 3	0
4	D	1	Total 31	C 10	N 5	O 13	P 3	0







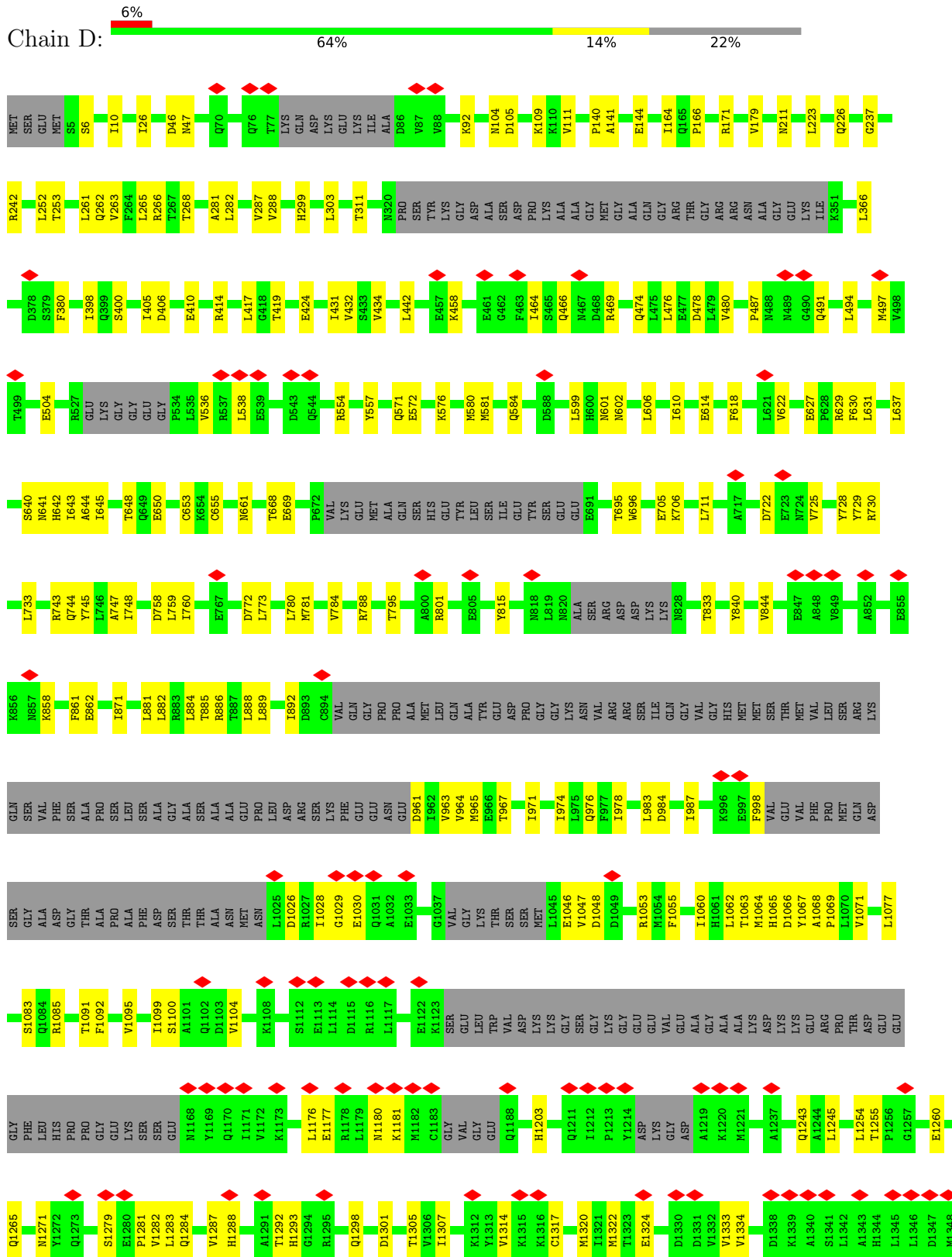






Q1273	GLY	VAL	CYS	ILE	GLN	L1695	R1784	SER	T1961	GLU	T1961	GLU	M2133	SER	LYS	F2655
S1279	ARG	ASP	THR	TRP	TRP	ASN	F1785	GLU	H1962	ARG	H1962	ARG	E2134	T2261	MET	E2556
E1280	ASP	ASP	THR	TYR	K1589	ARG	F1786	VAL	S1963	GLN	S1963	VAL	E2048	L2264	CYS	V2573
P1281	HIS	S1360	ALA	K1592	THR	THR	V1788	SER	M1965	SER	M1965	SER	H2051	F2307	GLY	L2574
V1282	VAL	L1371	VAL	I1592	THR	THR	R1792	GLU	D1968	GLU	D1968	GLU	Y2054	I1977	LEU	R2576
Q1284	VAL	L1371	VAL	E1593	SER	ARG	T1803	MET	I1969	MET	I1969	MET	Y2054	L1974	LEU	V2577
V1287	GLY	G1378	ALA	K1594	ARG	ASP	VAL	G1864	L1973	G1864	L1973	VAL	L2058	Q1871	VAL	Y2583
H1288	GLY	K1379	ALA	K1594	ASP	ASP	VAL	Q1871	L1974	Q1871	L1974	VAL	Q2059	P1872	VAL	T2584
A1291	ALA	T1383	ALA	E1603	PRO	PRO	ASN	R1886	D1977	R1886	D1977	ILE	R2062	P1977	LEU	G2585
T1292	LEU	L1383	LEU	K1607	PRO	ASP	ASN	Q1895	PRO	Q1895	PRO	PRO	P2073	R1886	GLU	M2608
H1293	LEU	L1383	LEU	K1607	PRO	ASP	ASN	Q1895	PRO	Q1895	PRO	PRO	P2073	R1886	GLU	X2628
G1294	PRO	E1384	PRO	V1610	GLY	THR	GLY	Q1895	LEU	Q1895	LEU	LEU	L2188	Q1895	ASP	X2629
R1295	ASP	V1396	MET	V1610	THR	THR	GLY	Q1895	CYS	Q1895	CYS	CYS	R2200	L2321	ARG	X2630
Q1298	ASP	V1397	LEU	E1613	LEU	LEU	GLN	ASN	TYR	ASN	TYR	GLN	W2204	L2321	GLU	X2631
D1301	HIS	E1403	HIS	L1617	PRO	ASP	HIS	ASN	ARG	M1986	ARG	GLU	A2212	H2322	LEU	X2635
T1305	HIS	D1404	HIS	V1518	PRO	ASP	GLU	ASN	L1987	D1987	L1987	GLU	A2212	H2322	LEU	X2635
V1306	ILE	C1405	ILE	D1619	TRP	TRP	ASP	GLU	L1988	L1988	L1988	ALA	N2216	V2324	ASP	X2635
I1307	SER	E1408	SER	L1621	SER	SER	ARG	ARG	L1992	L1992	L1992	GLY	Y2225	V2324	ASP	X2635
K1312	SER	E1408	MET	L1626	PRO	ALA	PRO	D1912	L1992	L1992	L1992	ILE	MET	D2347	GLU	X2642
Y1313	SER	Y1413	LEU	L1627	VAL	VAL	VAL	D1912	L1999	L1999	L1999	SER	GLU	E2353	SER	X2642
Y1314	SER	Y1414	SER	L1627	VAL	VAL	VAL	D1912	L1999	L1999	L1999	SER	SER	E2353	GLY	X2642
K1315	GLY	V1422	GLY	G1631	THR	THR	THR	G1915	L2000	L2000	L2000	ALA	ALA	M2357	ALA	T2464
K1316	SER	V1422	ALA	G1631	THR	THR	THR	G1915	L2000	L2000	L2000	ALA	ALA	M2357	ALA	T2464
C1317	CYS	T1424	CYS	R1637	LYS	LYS	LYS	G1915	L2000	L2000	L2000	ALA	ALA	M2357	ALA	T2464
M1322	ALA	E1425	ALA	C1638	GLY	GLY	ARG	G1915	L2000	L2000	L2000	ALA	ALA	M2357	ALA	T2464
T1323	ALA	E1426	ALA	D1739	ARG	ARG	VAL	G1915	L2000	L2000	L2000	ALA	ALA	M2357	ALA	T2464
E1324	ALA	E1427	ALA	L1740	VAL	VAL	ALA	G1915	L2000	L2000	L2000	ALA	ALA	M2357	ALA	T2464
D1330	ASN	M1428	ASN	L1741	VAL	VAL	ALA	G1915	L2000	L2000	L2000	ALA	ALA	M2357	ALA	T2464
D1331	ASN	M1428	ASN	L1741	VAL	VAL	ALA	G1915	L2000	L2000	L2000	ALA	ALA	M2357	ALA	T2464
V1332	GLM	M1429	GLM	L1742	SER	SER	PHE	G1915	L2000	L2000	L2000	ALA	ALA	M2357	ALA	T2464
V1333	GLM	M1429	GLM	L1742	SER	SER	PHE	G1915	L2000	L2000	L2000	ALA	ALA	M2357	ALA	T2464
V1334	GLM	M1429	GLM	L1742	SER	SER	PHE	G1915	L2000	L2000	L2000	ALA	ALA	M2357	ALA	T2464
D1338	GLY	L1440	GLY	E1659	THR	THR	THR	L1941	L2025	L2025	L2025	ALA	ALA	M2357	ALA	T2464
K1339	THR	N1443	THR	E1659	THR	THR	THR	L1941	L2025	L2025	L2025	ALA	ALA	M2357	ALA	T2464
A1340	ARG	F1444	ARG	E1659	THR	THR	THR	L1941	L2025	L2025	L2025	ALA	ALA	M2357	ALA	T2464
S1341	ALA	F1444	ALA	E1659	THR	THR	THR	L1941	L2025	L2025	L2025	ALA	ALA	M2357	ALA	T2464
L1342	PHE	T1445	PHE	E1659	THR	THR	THR	L1941	L2025	L2025	L2025	ALA	ALA	M2357	ALA	T2464
A1343	PRO	T1445	PRO	E1659	THR	THR	THR	L1941	L2025	L2025	L2025	ALA	ALA	M2357	ALA	T2464
H1344	VAL	T1445	VAL	E1659	THR	THR	THR	L1941	L2025	L2025	L2025	ALA	ALA	M2357	ALA	T2464
L1345	ARG	A1449	ARG	E1659	THR	THR	THR	L1941	L2025	L2025	L2025	ALA	ALA	M2357	ALA	T2464
L1346	PRO	A1449	PRO	E1659	THR	THR	THR	L1941	L2025	L2025	L2025	ALA	ALA	M2357	ALA	T2464
D1347	THR	L1450	THR	E1659	THR	THR	THR	L1941	L2025	L2025	L2025	ALA	ALA	M2357	ALA	T2464
V1451	ALA	V1451	ALA	E1659	THR	THR	THR	L1941	L2025	L2025	L2025	ALA	ALA	M2357	ALA	T2464
CYS	VAL	CYS	VAL	E1659	THR	THR	THR	L1941	L2025	L2025	L2025	ALA	ALA	M2357	ALA	T2464
SER	VAL	SER	VAL	E1659	THR	THR	THR	L1941	L2025	L2025	L2025	ALA	ALA	M2357	ALA	T2464
LYS	VAL	LYS	VAL	E1659	THR	THR	THR	L1941	L2025	L2025	L2025	ALA	ALA	M2357	ALA	T2464
HIS	VAL	HIS	VAL	E1659	THR	THR	THR	L1941	L2025	L2025	L2025	ALA	ALA	M2357	ALA	T2464
M1348	GLN	M1348	GLN	E1659	THR	THR	THR	L1941	L2025	L2025	L2025	ALA	ALA	M2357	ALA	T2464
M1349	GLN	M1349	GLN	E1659	THR	THR	THR	L1941	L2025	L2025	L2025	ALA	ALA	M2357	ALA	T2464
K1350	LYS	K1350	LYS	E1659	THR	THR	THR	L1941	L2025	L2025	L2025	ALA	ALA	M2357	ALA	T2464
A1351	LYS	A1351	LYS	E1659	THR	THR	THR	L1941	L2025	L2025	L2025	ALA	ALA	M2357	ALA	T2464
A1352	GLY	A1352	GLY	E1659	THR	THR	THR	L1941	L2025	L2025	L2025	ALA	ALA	M2357	ALA	T2464
ARG	VAL	ARG	VAL	E1659	THR	THR	THR	L1941	L2025	L2025	L2025	ALA	ALA	M2357	ALA	T2464
ASP	ALA	ASP	ALA	E1659	THR	THR	THR	L1941	L2025	L2025	L2025	ALA	ALA	M2357	ALA	T2464

● 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	116925	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	2.847	Depositor
Minimum map value	-1.846	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.058	Depositor
Recommended contour level	0.2	Depositor
Map size ( $\text{\AA}$ )	397.44, 397.44, 397.44	wwPDB
Map dimensions	480, 480, 480	wwPDB
Map angles ( $^\circ$ )	90.0, 90.0, 90.0	wwPDB
Pixel spacing ( $\text{\AA}$ )	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: I3P, ATP, ZN

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	0.29	0/16897	0.47	0/22813
1	B	0.29	0/16897	0.47	0/22813
1	C	0.29	0/16897	0.47	0/22813
1	D	0.29	0/16897	0.47	0/22813
All	All	0.29	0/67588	0.47	0/91252

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	16692	0	16773	272	0
1	B	16692	0	16773	281	0
1	C	16692	0	16773	281	0
1	D	16692	0	16773	274	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	2	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	2	0
3	D	24	0	9	2	0
4	A	31	0	12	0	0
4	B	31	0	12	0	0
4	C	31	0	12	0	0
4	D	31	0	12	0	0
All	All	66992	0	67176	1071	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 (1071) 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:C:801:ARG:NH2	1:C:984:ASP:OD1	2.09	0.86
1:B:801:ARG:NH2	1:B:984:ASP:OD1	2.09	0.86
1:D:801:ARG:NH2	1:D:984:ASP:OD1	2.09	0.85
1:A:627:GLU:OE1	1:A:629:ARG:NH1	2.10	0.84
1:A:801:ARG:NH2	1:A:984:ASP:OD1	2.09	0.84
1:B:627:GLU:OE1	1:B:629:ARG:NH1	2.10	0.84
1:C:1071:VAL:HG21	1:C:1650:HIS:ND1	1.93	0.84
1:A:1071:VAL:HG21	1:A:1650:HIS:ND1	1.93	0.84
1:B:1071:VAL:HG21	1:B:1650:HIS:ND1	1.93	0.84
1:D:1071:VAL:HG21	1:D:1650:HIS:ND1	1.93	0.84
1:D:627:GLU:OE1	1:D:629:ARG:NH1	2.10	0.83
1:C:627:GLU:OE1	1:C:629:ARG:NH1	2.10	0.83
1:A:1243:GLN:NE2	1:A:1271:ASN:OD1	2.12	0.82
1:D:1243:GLN:NE2	1:D:1271:ASN:OD1	2.12	0.82
1:B:1243:GLN:NE2	1:B:1271:ASN:OD1	2.12	0.82
1:C:1243:GLN:NE2	1:C:1271:ASN:OD1	2.12	0.82
1:B:1974:ILE:HD12	1:B:2000:LEU:HD12	1.63	0.81
1:C:1974:ILE:HD12	1:C:2000:LEU:HD12	1.63	0.81
1:D:487:PRO:O	1:D:491:GLN:NE2	2.14	0.81
1:C:487:PRO:O	1:C:491:GLN:NE2	2.14	0.80
1:C:743:ARG:NH1	1:C:788:ARG:O	2.14	0.80
1:A:487:PRO:O	1:A:491:GLN:NE2	2.14	0.80
1:D:1974:ILE:HD12	1:D:2000:LEU:HD12	1.63	0.80
1:D:743:ARG:NH1	1:D:788:ARG:O	2.14	0.80
1:A:743:ARG:NH1	1:A:788:ARG:O	2.14	0.80
1:B:487:PRO:O	1:B:491:GLN:NE2	2.14	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1974:ILE:HD12	1:A:2000:LEU:HD12	1.63	0.79
1:B:571:GLN:OE1	1:B:602:ASN:ND2	2.15	0.79
1:B:743:ARG:NH1	1:B:788:ARG:O	2.14	0.79
1:C:571:GLN:OE1	1:C:602:ASN:ND2	2.15	0.79
1:D:571:GLN:OE1	1:D:602:ASN:ND2	2.15	0.79
1:B:2481:ARG:O	1:B:2493:ARG:NH2	2.16	0.79
1:A:571:GLN:OE1	1:A:602:ASN:ND2	2.15	0.78
1:D:2481:ARG:O	1:D:2493:ARG:NH2	2.16	0.78
1:C:2481:ARG:O	1:C:2493:ARG:NH2	2.16	0.78
1:A:668:THR:HG1	1:A:729:TYR:HH	1.31	0.77
1:B:1968:ASP:OD1	1:B:2019:SER:OG	2.02	0.77
1:C:1968:ASP:OD1	1:C:2019:SER:OG	2.02	0.77
1:B:1255:THR:OG1	1:B:1260:GLU:OE1	2.02	0.77
1:A:2481:ARG:O	1:A:2493:ARG:NH2	2.16	0.77
1:A:1968:ASP:OD1	1:A:2019:SER:OG	2.02	0.77
1:C:1255:THR:OG1	1:C:1260:GLU:OE1	2.02	0.77
1:D:1968:ASP:OD1	1:D:2019:SER:OG	2.02	0.76
1:B:1424:THR:O	1:B:1429:LYS:NZ	2.16	0.76
1:D:1255:THR:OG1	1:D:1260:GLU:OE1	2.02	0.76
1:B:140:PRO:HD2	1:C:1428:MET:CE	2.15	0.76
1:A:1255:THR:OG1	1:A:1260:GLU:OE1	2.02	0.76
1:D:1424:THR:O	1:D:1429:LYS:NZ	2.16	0.76
1:D:772:ASP:OD1	1:D:773:LEU:N	2.19	0.76
1:A:772:ASP:OD1	1:A:773:LEU:N	2.19	0.75
1:D:885:THR:HG23	1:D:978:ILE:HD13	1.69	0.75
1:B:650:GLU:OE2	1:B:744:GLN:NE2	2.20	0.75
1:B:1064:MET:O	1:B:1646:LYS:NZ	2.20	0.74
1:A:650:GLU:OE2	1:A:744:GLN:NE2	2.20	0.74
1:B:886:ARG:NH1	1:B:1046:GLU:O	2.20	0.74
1:A:885:THR:HG23	1:A:978:ILE:HD13	1.69	0.74
1:A:886:ARG:NH1	1:A:1046:GLU:O	2.21	0.74
1:B:772:ASP:OD1	1:B:773:LEU:N	2.19	0.74
1:A:1659:GLU:OE1	1:A:1746:ASN:ND2	2.21	0.74
1:C:650:GLU:OE2	1:C:744:GLN:NE2	2.20	0.74
1:D:886:ARG:NH1	1:D:1046:GLU:O	2.21	0.74
1:C:885:THR:HG23	1:C:978:ILE:HD13	1.69	0.74
1:C:1941:LEU:O	1:C:1945:THR:HG23	1.88	0.74
1:D:1941:LEU:O	1:D:1945:THR:HG23	1.87	0.74
1:C:772:ASP:OD1	1:C:773:LEU:N	2.19	0.74
1:D:650:GLU:OE2	1:D:744:GLN:NE2	2.20	0.74
1:A:1064:MET:O	1:A:1646:LYS:NZ	2.20	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1941:LEU:O	1:A:1945:THR:HG23	1.88	0.74
1:A:1424:THR:O	1:A:1429:LYS:NZ	2.16	0.73
1:C:1424:THR:O	1:C:1429:LYS:NZ	2.16	0.73
1:B:1659:GLU:OE1	1:B:1746:ASN:ND2	2.21	0.73
1:C:1064:MET:O	1:C:1646:LYS:NZ	2.20	0.73
1:B:140:PRO:HD2	1:C:1428:MET:HE1	1.69	0.73
1:C:886:ARG:NH1	1:C:1046:GLU:O	2.21	0.73
1:C:1659:GLU:OE1	1:C:1746:ASN:ND2	2.21	0.73
1:D:1053:ARG:NH2	1:D:1627:LEU:O	2.22	0.73
1:D:1064:MET:O	1:D:1646:LYS:NZ	2.20	0.73
1:B:1941:LEU:O	1:B:1945:THR:HG23	1.87	0.73
1:D:1659:GLU:OE1	1:D:1746:ASN:ND2	2.21	0.73
1:B:885:THR:HG23	1:B:978:ILE:HD13	1.69	0.73
1:C:1053:ARG:NH2	1:C:1627:LEU:O	2.22	0.73
1:B:1053:ARG:NH2	1:B:1627:LEU:O	2.22	0.73
1:A:1053:ARG:NH2	1:A:1627:LEU:O	2.22	0.72
1:D:706:LYS:NZ	1:D:722:ASP:OD1	2.24	0.71
1:C:998:PHE:O	1:C:1594:LYS:NZ	2.21	0.71
1:B:1974:ILE:CD1	1:B:2000:LEU:HD12	2.21	0.71
1:A:2511:LEU:HD21	1:B:2362:VAL:HG23	1.73	0.70
1:A:1974:ILE:CD1	1:A:2000:LEU:HD12	2.21	0.70
1:C:1654:LEU:HD23	1:C:1654:LEU:O	1.92	0.70
1:D:1974:ILE:CD1	1:D:2000:LEU:HD12	2.21	0.70
1:A:706:LYS:NZ	1:A:722:ASP:OD1	2.24	0.70
1:B:889:LEU:HD13	1:B:1048:ASP:OD1	1.92	0.70
1:C:1974:ILE:CD1	1:C:2000:LEU:HD12	2.21	0.70
1:D:1654:LEU:O	1:D:1654:LEU:HD23	1.92	0.70
1:A:1028:ILE:HD13	1:A:1598:ILE:HD12	1.74	0.69
1:C:706:LYS:NZ	1:C:722:ASP:OD1	2.24	0.69
1:C:1028:ILE:HD13	1:C:1598:ILE:HD12	1.74	0.69
1:B:882:LEU:O	1:B:885:THR:OG1	2.11	0.69
1:D:2048:GLU:N	1:D:2048:GLU:OE1	2.25	0.69
1:C:889:LEU:HD13	1:C:1048:ASP:OD1	1.92	0.69
1:C:2048:GLU:N	1:C:2048:GLU:OE1	2.25	0.69
1:A:889:LEU:HD13	1:A:1048:ASP:OD1	1.92	0.69
1:A:466:GLN:OE1	1:A:469:ARG:NH2	2.26	0.69
1:A:2048:GLU:OE1	1:A:2048:GLU:N	2.25	0.69
1:C:466:GLN:OE1	1:C:469:ARG:NH2	2.26	0.69
1:A:1654:LEU:O	1:A:1654:LEU:HD23	1.92	0.69
1:B:706:LYS:NZ	1:B:722:ASP:OD1	2.24	0.69
1:C:10:ILE:HD11	1:C:111:VAL:HG13	1.75	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:466:GLN:OE1	1:D:469:ARG:NH2	2.26	0.69
1:B:466:GLN:OE1	1:B:469:ARG:NH2	2.26	0.68
1:B:2048:GLU:N	1:B:2048:GLU:OE1	2.25	0.68
1:A:882:LEU:O	1:A:885:THR:OG1	2.11	0.68
1:B:2545:ARG:NH1	1:B:2556:GLU:OE2	2.26	0.68
1:D:10:ILE:HD11	1:D:111:VAL:HG13	1.75	0.68
1:D:2545:ARG:NH1	1:D:2556:GLU:OE2	2.26	0.68
1:B:1654:LEU:HD23	1:B:1654:LEU:O	1.92	0.68
1:A:1960:VAL:HG23	1:A:1961:THR:HG23	1.75	0.68
1:D:1960:VAL:HG23	1:D:1961:THR:HG23	1.75	0.68
1:C:1740:LEU:O	1:C:1744:THR:OG1	2.09	0.68
1:C:2584:THR:HG22	1:C:2585:GLY:H	1.58	0.68
1:D:1028:ILE:HD13	1:D:1598:ILE:HD12	1.74	0.68
1:A:2545:ARG:NH1	1:A:2556:GLU:OE2	2.26	0.68
1:D:889:LEU:HD13	1:D:1048:ASP:OD1	1.92	0.68
1:C:696:TRP:CE2	1:C:725:VAL:HG21	2.29	0.68
1:B:998:PHE:O	1:B:1594:LYS:NZ	2.21	0.68
1:B:1028:ILE:HD13	1:B:1598:ILE:HD12	1.74	0.68
1:D:696:TRP:CE2	1:D:725:VAL:HG21	2.29	0.68
1:D:1774:ASN:OD1	1:D:1775:LEU:N	2.27	0.68
1:B:140:PRO:HG2	1:C:1428:MET:CE	2.24	0.67
1:C:2545:ARG:NH1	1:C:2556:GLU:OE2	2.26	0.67
1:B:10:ILE:CD1	1:B:111:VAL:HG13	2.25	0.67
1:B:10:ILE:HD11	1:B:111:VAL:HG13	1.75	0.67
1:B:1774:ASN:OD1	1:B:1775:LEU:N	2.27	0.67
1:D:881:LEU:HD22	1:D:978:ILE:HG12	1.76	0.67
1:A:10:ILE:CD1	1:A:111:VAL:HG13	2.25	0.67
1:B:881:LEU:HD22	1:B:978:ILE:HG12	1.77	0.67
1:B:1960:VAL:HG23	1:B:1961:THR:HG23	1.75	0.67
1:C:1774:ASN:OD1	1:C:1775:LEU:N	2.27	0.67
1:C:1960:VAL:HG23	1:C:1961:THR:HG23	1.76	0.67
1:D:10:ILE:CD1	1:D:111:VAL:HG13	2.25	0.67
1:A:10:ILE:HD11	1:A:111:VAL:HG13	1.75	0.67
1:A:696:TRP:CE2	1:A:725:VAL:HG21	2.29	0.67
1:D:2584:THR:HG22	1:D:2585:GLY:H	1.59	0.67
1:B:696:TRP:CE2	1:B:725:VAL:HG21	2.29	0.67
1:B:2584:THR:HG22	1:B:2585:GLY:H	1.59	0.67
1:A:1092:PHE:O	1:A:1095:VAL:HG12	1.95	0.67
1:D:998:PHE:O	1:D:1594:LYS:NZ	2.21	0.67
1:D:1092:PHE:O	1:D:1095:VAL:HG12	1.95	0.67
1:D:882:LEU:O	1:D:885:THR:OG1	2.11	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1092:PHE:O	1:B:1095:VAL:HG12	1.95	0.67
1:A:1774:ASN:OD1	1:A:1775:LEU:N	2.27	0.66
1:C:1301:ASP:O	1:C:1305:THR:HG23	1.95	0.66
1:C:2322:TYR:OH	1:C:2347:ASP:OD1	2.13	0.66
1:D:1301:ASP:O	1:D:1305:THR:HG23	1.95	0.66
1:A:881:LEU:HD22	1:A:978:ILE:HG12	1.76	0.66
1:C:10:ILE:CD1	1:C:111:VAL:HG13	2.25	0.66
1:C:1092:PHE:O	1:C:1095:VAL:HG12	1.95	0.66
1:A:2322:TYR:OH	1:A:2347:ASP:OD1	2.13	0.66
1:B:1063:THR:HA	1:B:1071:VAL:HG23	1.78	0.66
1:C:881:LEU:HD22	1:C:978:ILE:HG12	1.77	0.66
1:C:1933:ASN:ND2	1:C:1933:ASN:O	2.29	0.66
1:A:2584:THR:HG22	1:A:2585:GLY:H	1.59	0.66
1:C:695:THR:HG22	1:C:705:GLU:HG2	1.77	0.66
1:D:1933:ASN:O	1:D:1933:ASN:ND2	2.29	0.66
1:B:1301:ASP:O	1:B:1305:THR:HG23	1.95	0.66
1:D:2322:TYR:OH	1:D:2347:ASP:OD1	2.13	0.66
1:D:695:THR:HG22	1:D:705:GLU:HG2	1.77	0.66
1:A:1063:THR:HA	1:A:1071:VAL:HG23	1.78	0.65
1:A:1740:LEU:O	1:A:1744:THR:OG1	2.09	0.65
1:A:1933:ASN:ND2	1:A:1933:ASN:O	2.29	0.65
1:B:140:PRO:CD	1:C:1428:MET:CE	2.74	0.65
1:C:882:LEU:O	1:C:885:THR:OG1	2.11	0.65
1:B:2322:TYR:OH	1:B:2347:ASP:OD1	2.13	0.65
1:A:695:THR:HG22	1:A:705:GLU:HG2	1.77	0.65
1:B:1933:ASN:O	1:B:1933:ASN:ND2	2.29	0.65
1:D:1063:THR:HA	1:D:1071:VAL:HG23	1.78	0.65
1:A:1301:ASP:O	1:A:1305:THR:HG23	1.95	0.65
1:C:410:GLU:OE1	1:C:410:GLU:N	2.30	0.65
1:C:2184:TRP:CZ2	1:C:2188:LEU:HD13	2.32	0.65
1:B:695:THR:HG22	1:B:705:GLU:HG2	1.77	0.65
1:A:2184:TRP:CZ2	1:A:2188:LEU:HD13	2.32	0.65
1:D:410:GLU:N	1:D:410:GLU:OE1	2.30	0.65
1:D:963:VAL:O	1:D:967:THR:HG23	1.97	0.65
1:A:2362:VAL:HG23	1:D:2511:LEU:HD21	1.78	0.64
1:A:963:VAL:O	1:A:967:THR:HG23	1.97	0.64
1:C:963:VAL:O	1:C:967:THR:HG23	1.97	0.64
1:A:1428:MET:CE	1:D:140:PRO:HD2	2.26	0.64
1:B:140:PRO:CD	1:C:1428:MET:HE2	2.28	0.64
1:C:1063:THR:HA	1:C:1071:VAL:HG23	1.78	0.64
1:C:2511:LEU:HD21	1:D:2362:VAL:HG23	1.78	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2184:TRP:CZ2	1:B:2188:LEU:HD13	2.32	0.64
1:B:963:VAL:O	1:B:967:THR:HG23	1.97	0.64
1:B:1619:ASP:OD2	1:B:1687:ARG:NH1	2.31	0.64
1:D:696:TRP:CZ2	1:D:725:VAL:HG21	2.33	0.64
1:D:2184:TRP:CZ2	1:D:2188:LEU:HD13	2.32	0.64
1:A:696:TRP:CZ2	1:A:725:VAL:HG21	2.33	0.63
1:A:1651:THR:OG1	1:A:1665:VAL:HG11	1.98	0.63
1:B:410:GLU:N	1:B:410:GLU:OE1	2.30	0.63
1:C:1651:THR:OG1	1:C:1665:VAL:HG11	1.98	0.63
1:D:1651:THR:OG1	1:D:1665:VAL:HG11	1.98	0.63
1:B:696:TRP:CZ2	1:B:725:VAL:HG21	2.33	0.63
1:C:140:PRO:HD2	1:D:1428:MET:CE	2.28	0.63
1:A:888:LEU:HD22	1:A:971:ILE:HG12	1.79	0.63
1:C:888:LEU:HD22	1:C:971:ILE:HG12	1.79	0.63
1:C:1176:LEU:O	1:C:1180:ASN:ND2	2.32	0.63
1:B:668:THR:OG1	1:B:729:TYR:OH	2.14	0.63
1:B:1651:THR:OG1	1:B:1665:VAL:HG11	1.98	0.63
1:C:696:TRP:CZ2	1:C:725:VAL:HG21	2.33	0.63
1:D:1176:LEU:O	1:D:1180:ASN:ND2	2.32	0.63
1:B:1176:LEU:O	1:B:1180:ASN:ND2	2.32	0.63
1:C:668:THR:HG1	1:C:729:TYR:HH	1.41	0.63
1:B:1740:LEU:O	1:B:1744:THR:OG1	2.09	0.63
1:C:1619:ASP:OD2	1:C:1687:ARG:NH1	2.31	0.63
1:D:1619:ASP:OD2	1:D:1687:ARG:NH1	2.31	0.63
1:A:410:GLU:N	1:A:410:GLU:OE1	2.30	0.63
1:A:998:PHE:O	1:A:1594:LYS:NZ	2.21	0.62
1:A:2467:ASN:OD1	1:A:2471:ARG:NH1	2.32	0.62
1:B:1177:GLU:OE1	1:B:1181:LYS:NZ	2.32	0.62
1:C:1265:GLN:HG3	1:C:1305:THR:HG21	1.81	0.62
1:A:1176:LEU:O	1:A:1180:ASN:ND2	2.32	0.62
1:B:888:LEU:HD22	1:B:971:ILE:HG12	1.79	0.62
1:B:2467:ASN:OD1	1:B:2471:ARG:NH1	2.32	0.62
1:A:1619:ASP:OD2	1:A:1687:ARG:NH1	2.31	0.62
1:A:2468:HIS:HB2	1:A:2479:ILE:HD13	1.82	0.62
1:C:2468:HIS:HB2	1:C:2479:ILE:HD13	1.82	0.62
1:D:1177:GLU:OE1	1:D:1181:LYS:NZ	2.33	0.62
1:D:2123:GLN:OE1	1:D:2135:GLN:NE2	2.33	0.62
1:D:2467:ASN:OD1	1:D:2471:ARG:NH1	2.32	0.62
1:D:888:LEU:HD22	1:D:971:ILE:HG12	1.79	0.62
1:D:1265:GLN:HG3	1:D:1305:THR:HG21	1.81	0.62
1:A:252:LEU:HD13	1:A:417:LEU:CD1	2.30	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:983:LEU:HD21	1:A:1091:THR:HG21	1.81	0.62
1:B:2123:GLN:OE1	1:B:2135:GLN:NE2	2.33	0.62
1:C:252:LEU:HD13	1:C:417:LEU:CD1	2.30	0.62
1:C:1177:GLU:OE1	1:C:1181:LYS:NZ	2.32	0.62
1:C:1886:ARG:NH1	1:C:1951:PRO:O	2.33	0.62
1:A:268:THR:OG1	3:A:2702:I3P:O42	2.13	0.62
1:D:2468:HIS:HB2	1:D:2479:ILE:HD13	1.82	0.62
1:B:2468:HIS:HB2	1:B:2479:ILE:HD13	1.82	0.61
1:A:223:LEU:HD21	1:A:226:GLN:HG2	1.82	0.61
1:A:1177:GLU:OE1	1:A:1181:LYS:NZ	2.32	0.61
1:A:2123:GLN:OE1	1:A:2135:GLN:NE2	2.33	0.61
1:C:2123:GLN:OE1	1:C:2135:GLN:NE2	2.33	0.61
1:D:252:LEU:HD13	1:D:417:LEU:CD1	2.30	0.61
1:D:1886:ARG:NH1	1:D:1951:PRO:O	2.33	0.61
1:B:1886:ARG:NH1	1:B:1951:PRO:O	2.33	0.61
1:C:2467:ASN:OD1	1:C:2471:ARG:NH1	2.32	0.61
1:C:1314:VAL:HG23	1:C:1317:CYS:HB2	1.83	0.61
1:A:1265:GLN:HG3	1:A:1305:THR:HG21	1.81	0.61
1:B:1265:GLN:HG3	1:B:1305:THR:HG21	1.81	0.61
1:B:1314:VAL:HG23	1:B:1317:CYS:HB2	1.83	0.61
1:C:983:LEU:HD21	1:C:1091:THR:HG21	1.81	0.61
1:B:252:LEU:HD13	1:B:417:LEU:CD1	2.30	0.61
1:B:983:LEU:HD21	1:B:1091:THR:HG21	1.81	0.61
1:D:983:LEU:HD21	1:D:1091:THR:HG21	1.81	0.61
1:B:758:ASP:OD1	1:B:759:LEU:N	2.34	0.61
1:D:758:ASP:OD1	1:D:759:LEU:N	2.34	0.61
1:D:223:LEU:HD21	1:D:226:GLN:HG2	1.82	0.61
1:A:2054:TYR:OH	1:A:2118:GLU:OE1	2.19	0.60
1:C:2054:TYR:OH	1:C:2118:GLU:OE1	2.19	0.60
1:C:2062:ARG:NH2	1:C:2135:GLN:OE1	2.34	0.60
1:C:758:ASP:OD1	1:C:759:LEU:N	2.34	0.60
1:A:1886:ARG:NH1	1:A:1951:PRO:O	2.33	0.60
1:A:2062:ARG:NH2	1:A:2135:GLN:OE1	2.34	0.60
1:B:2468:HIS:HB3	1:B:2479:ILE:HG21	1.84	0.60
1:C:400:SER:HA	1:C:417:LEU:HD23	1.84	0.60
1:D:2062:ARG:NH2	1:D:2135:GLN:OE1	2.34	0.60
1:B:2054:TYR:OH	1:B:2118:GLU:OE1	2.19	0.60
1:B:2062:ARG:NH2	1:B:2135:GLN:OE1	2.34	0.60
1:B:223:LEU:HD21	1:B:226:GLN:HG2	1.82	0.60
1:D:2054:TYR:OH	1:D:2118:GLU:OE1	2.20	0.60
1:B:400:SER:HA	1:B:417:LEU:HD23	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:400:SER:HA	1:D:417:LEU:HD23	1.84	0.59
1:A:758:ASP:OD1	1:A:759:LEU:N	2.34	0.59
1:A:1428:MET:HE1	1:D:140:PRO:HD2	1.83	0.59
1:B:138:ARG:HG3	1:C:1427:GLU:HG3	1.84	0.59
1:A:780:LEU:O	1:A:784:VAL:HG12	2.03	0.59
1:C:140:PRO:HD2	1:D:1428:MET:HE1	1.83	0.59
1:D:871:ILE:HD13	1:D:974:ILE:HG23	1.85	0.59
1:D:892:ILE:HD11	1:D:971:ILE:HG21	1.85	0.59
1:D:1314:VAL:HG23	1:D:1317:CYS:HB2	1.83	0.59
1:D:2468:HIS:HB3	1:D:2479:ILE:HG21	1.84	0.59
1:A:1314:VAL:HG23	1:A:1317:CYS:HB2	1.83	0.59
1:B:780:LEU:O	1:B:784:VAL:HG12	2.03	0.59
1:C:780:LEU:O	1:C:784:VAL:HG12	2.03	0.59
1:C:892:ILE:HD11	1:C:971:ILE:HG21	1.85	0.59
1:A:2468:HIS:HB3	1:A:2479:ILE:HG21	1.84	0.59
1:C:223:LEU:HD21	1:C:226:GLN:HG2	1.82	0.59
1:C:871:ILE:HD13	1:C:974:ILE:HG23	1.85	0.59
1:A:892:ILE:HD11	1:A:971:ILE:HG21	1.85	0.59
1:D:1203:HIS:CD2	1:D:1245:LEU:HD21	2.38	0.59
1:B:282:LEU:CD2	1:B:434:VAL:HG21	2.33	0.58
1:B:1203:HIS:CD2	1:B:1245:LEU:HD21	2.38	0.58
1:C:282:LEU:CD2	1:C:434:VAL:HG21	2.33	0.58
1:B:266:ARG:NH2	3:B:2702:I3P:O43	2.36	0.58
1:C:266:ARG:NH2	3:C:2702:I3P:O43	2.36	0.58
1:A:871:ILE:HD13	1:A:974:ILE:HG23	1.85	0.58
1:C:1203:HIS:CD2	1:C:1245:LEU:HD21	2.38	0.58
1:D:2155:LEU:HD22	1:D:2178:LEU:HD11	1.85	0.58
1:A:400:SER:HA	1:A:417:LEU:HD23	1.84	0.58
1:D:780:LEU:O	1:D:784:VAL:HG12	2.03	0.58
1:A:557:TYR:OH	1:A:584:GLN:OE1	2.18	0.58
1:B:892:ILE:HD11	1:B:971:ILE:HG21	1.85	0.58
1:B:2468:HIS:CB	1:B:2479:ILE:HD13	2.34	0.58
1:D:2353:GLU:O	1:D:2357:ASN:ND2	2.37	0.58
1:D:282:LEU:CD2	1:D:434:VAL:HG21	2.33	0.58
1:A:2468:HIS:CB	1:A:2479:ILE:HD13	2.34	0.58
1:C:2468:HIS:HB3	1:C:2479:ILE:HG21	1.84	0.58
1:A:889:LEU:HD11	1:A:1047:VAL:HG12	1.85	0.58
1:C:6:SER:O	1:C:179:VAL:HG22	2.04	0.58
1:D:6:SER:O	1:D:179:VAL:HG22	2.04	0.58
1:A:733:LEU:HD22	1:A:780:LEU:HD22	1.86	0.58
1:A:1203:HIS:CD2	1:A:1245:LEU:HD21	2.38	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:6:SER:O	1:B:179:VAL:HG22	2.04	0.58
1:A:282:LEU:CD2	1:A:434:VAL:HG21	2.33	0.58
1:A:6:SER:O	1:A:179:VAL:HG22	2.04	0.57
1:D:266:ARG:NH2	3:D:2702:I3P:O43	2.36	0.57
1:A:266:ARG:NH2	3:A:2702:I3P:O43	2.36	0.57
1:A:2353:GLU:O	1:A:2357:ASN:ND2	2.37	0.57
1:D:733:LEU:HD22	1:D:780:LEU:HD22	1.86	0.57
1:C:2155:LEU:HD22	1:C:2178:LEU:HD11	1.85	0.57
1:C:2353:GLU:O	1:C:2357:ASN:ND2	2.37	0.57
1:C:2468:HIS:CB	1:C:2479:ILE:HD13	2.34	0.57
1:D:976:GLN:HG2	1:D:1077:LEU:HD11	1.86	0.57
1:A:976:GLN:HG2	1:A:1077:LEU:HD11	1.86	0.57
1:B:1934:VAL:HG21	1:B:1988:LEU:HD13	1.87	0.57
1:B:2353:GLU:O	1:B:2357:ASN:ND2	2.37	0.57
1:A:536:VAL:HG12	1:A:538:LEU:H	1.68	0.57
1:B:871:ILE:HD11	1:B:884:LEU:CD2	2.35	0.57
1:B:871:ILE:HD13	1:B:974:ILE:HG23	1.85	0.57
1:B:889:LEU:HD11	1:B:1047:VAL:HG12	1.85	0.57
1:C:976:GLN:HG2	1:C:1077:LEU:HD11	1.86	0.57
1:D:536:VAL:HG12	1:D:538:LEU:H	1.68	0.57
1:D:889:LEU:HD11	1:D:1047:VAL:HG12	1.85	0.57
1:B:1396:VAL:HG22	1:B:1413:TYR:HD2	1.69	0.57
1:B:2155:LEU:HD22	1:B:2178:LEU:HD11	1.85	0.57
1:C:536:VAL:HG12	1:C:538:LEU:H	1.68	0.57
1:A:1396:VAL:HG22	1:A:1413:TYR:HD2	1.69	0.57
1:C:1060:ILE:O	1:C:1063:THR:OG1	2.22	0.57
1:C:1026:ASP:O	1:C:1030:GLU:OE1	2.23	0.57
1:D:2468:HIS:CB	1:D:2479:ILE:HD13	2.33	0.57
1:B:733:LEU:HD22	1:B:780:LEU:HD22	1.86	0.57
1:D:557:TYR:OH	1:D:584:GLN:OE1	2.18	0.57
1:D:1333:VAL:HG13	1:D:1333:VAL:O	2.05	0.57
1:C:268:THR:OG1	3:C:2702:I3P:O42	2.13	0.57
1:C:871:ILE:HD11	1:C:884:LEU:CD2	2.35	0.57
1:A:1100:SER:O	1:A:1104:VAL:HG23	2.05	0.56
1:B:1100:SER:O	1:B:1104:VAL:HG23	2.05	0.56
1:A:1934:VAL:HG21	1:A:1988:LEU:HD13	1.86	0.56
1:A:2155:LEU:HD22	1:A:2178:LEU:HD11	1.85	0.56
1:B:1333:VAL:HG13	1:B:1333:VAL:O	2.05	0.56
1:C:733:LEU:HD22	1:C:780:LEU:HD22	1.86	0.56
1:D:1934:VAL:HG21	1:D:1988:LEU:HD13	1.86	0.56
1:A:871:ILE:HD11	1:A:884:LEU:CD2	2.35	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1026:ASP:O	1:A:1030:GLU:OE1	2.23	0.56
1:B:976:GLN:HG2	1:B:1077:LEU:HD11	1.86	0.56
1:B:2020:LEU:HD13	1:B:2025:LEU:HD11	1.88	0.56
1:C:889:LEU:HD11	1:C:1047:VAL:HG12	1.85	0.56
1:C:1333:VAL:HG13	1:C:1333:VAL:O	2.05	0.56
1:D:1060:ILE:O	1:D:1063:THR:OG1	2.22	0.56
1:D:1288:HIS:O	1:D:1292:THR:HG22	2.06	0.56
1:B:1288:HIS:O	1:B:1292:THR:HG22	2.06	0.56
1:D:1945:THR:HG22	1:D:1999:LEU:HA	1.87	0.56
1:A:1288:HIS:O	1:A:1292:THR:HG22	2.06	0.56
1:B:252:LEU:HD11	1:B:263:VAL:CG2	2.36	0.56
1:D:2506:ILE:O	1:D:2510:ASN:ND2	2.39	0.56
1:A:252:LEU:HD11	1:A:263:VAL:CG2	2.36	0.56
1:A:2020:LEU:HD13	1:A:2025:LEU:HD11	1.87	0.56
1:B:1026:ASP:O	1:B:1030:GLU:OE1	2.23	0.56
1:B:2506:ILE:O	1:B:2510:ASN:ND2	2.39	0.56
1:B:2511:LEU:HD21	1:C:2362:VAL:HG23	1.86	0.56
1:C:2506:ILE:O	1:C:2510:ASN:ND2	2.39	0.56
1:D:871:ILE:HD11	1:D:884:LEU:CD2	2.35	0.56
1:D:1100:SER:O	1:D:1104:VAL:HG23	2.05	0.56
1:D:1396:VAL:HG22	1:D:1413:TYR:HD2	1.69	0.56
1:A:1333:VAL:O	1:A:1333:VAL:HG13	2.05	0.56
1:C:1100:SER:O	1:C:1104:VAL:HG23	2.05	0.56
1:D:252:LEU:HD11	1:D:263:VAL:CG2	2.36	0.56
1:D:1026:ASP:O	1:D:1030:GLU:OE1	2.23	0.56
1:B:536:VAL:HG12	1:B:538:LEU:H	1.68	0.56
1:B:557:TYR:OH	1:B:584:GLN:OE1	2.18	0.56
1:B:1945:THR:HG22	1:B:1999:LEU:HA	1.87	0.56
1:A:2506:ILE:O	1:A:2510:ASN:ND2	2.39	0.56
1:C:1934:VAL:HG21	1:C:1988:LEU:HD13	1.86	0.56
1:C:1945:THR:HG22	1:C:1999:LEU:HA	1.87	0.56
1:B:10:ILE:HD11	1:B:111:VAL:O	2.06	0.56
1:C:252:LEU:HD11	1:C:263:VAL:CG2	2.36	0.56
1:C:1396:VAL:HG22	1:C:1413:TYR:HD2	1.69	0.56
1:D:2004:MET:O	1:D:2059:GLN:NE2	2.39	0.56
1:A:631:LEU:HD11	1:A:728:TYR:CE1	2.41	0.55
1:A:2004:MET:O	1:A:2059:GLN:NE2	2.39	0.55
1:B:406:ASP:OD2	1:B:414:ARG:NH1	2.38	0.55
1:C:2020:LEU:HD13	1:C:2025:LEU:HD11	1.87	0.55
1:B:2004:MET:O	1:B:2059:GLN:NE2	2.39	0.55
1:D:631:LEU:HD11	1:D:728:TYR:CE1	2.41	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:1969:ILE:O	1:D:1973:LEU:HD23	2.06	0.55
1:A:2584:THR:HG22	1:A:2585:GLY:N	2.22	0.55
1:D:1747:GLU:OE1	1:D:1792:ARG:NH2	2.40	0.55
1:A:1085:ARG:NH1	1:A:1613:GLU:OE1	2.40	0.55
1:A:1945:THR:HG22	1:A:1999:LEU:HA	1.87	0.55
1:B:1085:ARG:NH1	1:B:1613:GLU:OE1	2.40	0.55
1:B:2584:THR:HG22	1:B:2585:GLY:N	2.22	0.55
1:A:10:ILE:HD11	1:A:111:VAL:O	2.06	0.55
1:A:109:LYS:HE2	1:A:109:LYS:HA	1.88	0.55
1:C:631:LEU:HD11	1:C:728:TYR:CE1	2.41	0.55
1:C:1085:ARG:NH1	1:C:1613:GLU:OE1	2.40	0.55
1:C:1969:ILE:O	1:C:1973:LEU:HD23	2.06	0.55
1:C:655:CYS:O	1:C:661:ASN:ND2	2.40	0.55
1:C:1288:HIS:O	1:C:1292:THR:HG22	2.06	0.55
1:B:1060:ILE:O	1:B:1063:THR:OG1	2.22	0.55
1:C:2004:MET:O	1:C:2059:GLN:NE2	2.39	0.55
1:D:109:LYS:HA	1:D:109:LYS:HE2	1.88	0.55
1:D:1085:ARG:NH1	1:D:1613:GLU:OE1	2.40	0.55
1:A:406:ASP:OD2	1:A:414:ARG:NH1	2.38	0.55
1:A:424:GLU:OE1	1:A:424:GLU:N	2.40	0.55
1:A:1969:ILE:O	1:A:1973:LEU:HD23	2.06	0.55
1:B:631:LEU:HD11	1:B:728:TYR:CE1	2.41	0.55
1:B:1969:ILE:O	1:B:1973:LEU:HD23	2.06	0.55
1:A:237:GLY:HA2	1:A:287:VAL:HG23	1.89	0.54
1:A:601:ASN:O	1:A:641:ASN:ND2	2.39	0.54
1:A:2511:LEU:HD21	1:B:2362:VAL:CG2	2.35	0.54
1:B:1760:LEU:O	1:B:1768:ILE:HD13	2.08	0.54
1:C:10:ILE:HD11	1:C:111:VAL:O	2.06	0.54
1:D:2020:LEU:HD13	1:D:2025:LEU:HD11	1.87	0.54
1:A:655:CYS:O	1:A:661:ASN:ND2	2.40	0.54
1:A:2155:LEU:CD2	1:A:2178:LEU:HD11	2.38	0.54
1:B:601:ASN:O	1:B:641:ASN:ND2	2.39	0.54
1:C:424:GLU:N	1:C:424:GLU:OE1	2.40	0.54
1:C:601:ASN:O	1:C:641:ASN:ND2	2.39	0.54
1:D:10:ILE:HD11	1:D:111:VAL:O	2.06	0.54
1:D:2155:LEU:CD2	1:D:2178:LEU:HD11	2.38	0.54
1:D:2584:THR:HG22	1:D:2585:GLY:N	2.22	0.54
1:A:2005:GLU:O	1:A:2007:ARG:N	2.40	0.54
1:B:237:GLY:HA2	1:B:287:VAL:HG23	1.89	0.54
1:B:1746:ASN:OD1	1:B:1747:GLU:N	2.41	0.54
1:C:109:LYS:HE2	1:C:109:LYS:HA	1.88	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1747:GLU:OE1	1:A:1792:ARG:NH2	2.40	0.54
1:B:138:ARG:O	1:C:1427:GLU:HG3	2.07	0.54
1:B:614:GLU:OE1	1:B:614:GLU:N	2.41	0.54
1:C:557:TYR:OH	1:C:584:GLN:OE1	2.18	0.54
1:C:2155:LEU:CD2	1:C:2178:LEU:HD11	2.38	0.54
1:A:1060:ILE:O	1:A:1063:THR:OG1	2.22	0.54
1:A:1746:ASN:OD1	1:A:1747:GLU:N	2.41	0.54
1:B:109:LYS:HA	1:B:109:LYS:HE2	1.88	0.54
1:B:2155:LEU:CD2	1:B:2178:LEU:HD11	2.37	0.54
1:D:655:CYS:O	1:D:661:ASN:ND2	2.40	0.54
1:D:1760:LEU:O	1:D:1768:ILE:HD13	2.08	0.54
1:C:1068:ALA:HB3	1:C:1069:PRO:HD3	1.89	0.54
1:D:2051:HIS:NE2	1:D:2121:THR:OG1	2.36	0.54
1:A:1948:CYS:SG	1:A:1959:ILE:HD12	2.48	0.54
1:B:1871:GLN:HB3	1:B:1872:PRO:HD3	1.90	0.54
1:C:92:LYS:HE3	1:C:92:LYS:HA	1.90	0.54
1:C:760:ILE:HG21	1:C:781:MET:HB2	1.90	0.54
1:C:1747:GLU:OE1	1:C:1792:ARG:NH2	2.40	0.54
1:C:1760:LEU:O	1:C:1768:ILE:HD13	2.08	0.54
1:D:92:LYS:HE3	1:D:92:LYS:HA	1.90	0.54
1:D:406:ASP:OD2	1:D:414:ARG:NH1	2.38	0.54
1:D:1871:GLN:HB3	1:D:1872:PRO:HD3	1.90	0.54
1:A:614:GLU:OE1	1:A:614:GLU:N	2.41	0.54
1:B:1948:CYS:SG	1:B:1959:ILE:HD12	2.48	0.54
1:B:424:GLU:N	1:B:424:GLU:OE1	2.40	0.54
1:D:424:GLU:OE1	1:D:424:GLU:N	2.40	0.54
1:A:398:ILE:CD1	1:A:419:THR:HG22	2.39	0.53
1:C:2584:THR:HG22	1:C:2585:GLY:N	2.22	0.53
1:D:1948:CYS:SG	1:D:1959:ILE:HD12	2.48	0.53
1:B:655:CYS:O	1:B:661:ASN:ND2	2.40	0.53
1:C:398:ILE:CD1	1:C:419:THR:HG22	2.39	0.53
1:C:1746:ASN:OD1	1:C:1747:GLU:N	2.41	0.53
1:A:1068:ALA:HB3	1:A:1069:PRO:HD3	1.89	0.53
1:A:1760:LEU:O	1:A:1768:ILE:HD13	2.08	0.53
1:B:2005:GLU:O	1:B:2007:ARG:N	2.40	0.53
1:D:601:ASN:O	1:D:641:ASN:ND2	2.39	0.53
1:C:1871:GLN:HB3	1:C:1872:PRO:HD3	1.90	0.53
1:D:1068:ALA:HB3	1:D:1069:PRO:HD3	1.89	0.53
1:A:1871:GLN:HB3	1:A:1872:PRO:HD3	1.90	0.53
1:B:398:ILE:CD1	1:B:419:THR:HG22	2.39	0.53
1:B:1068:ALA:HB3	1:B:1069:PRO:HD3	1.89	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2454:ALA:HB1	1:B:2464:THR:OG1	2.09	0.53
1:C:2005:GLU:O	1:C:2007:ARG:N	2.40	0.53
1:B:760:ILE:HG21	1:B:781:MET:HB2	1.90	0.53
1:C:2511:LEU:HD21	1:D:2362:VAL:CG2	2.39	0.53
1:D:398:ILE:CD1	1:D:419:THR:HG22	2.39	0.53
1:D:760:ILE:HG21	1:D:781:MET:HB2	1.90	0.53
1:C:504:GLU:OE1	1:C:504:GLU:N	2.41	0.53
1:D:237:GLY:HA2	1:D:287:VAL:HG23	1.89	0.53
1:D:2005:GLU:O	1:D:2007:ARG:N	2.40	0.53
1:C:237:GLY:HA2	1:C:287:VAL:HG23	1.89	0.52
1:C:2454:ALA:HB1	1:C:2464:THR:OG1	2.09	0.52
1:D:282:LEU:HD12	1:D:442:LEU:HD22	1.92	0.52
1:A:26:ILE:HG23	1:A:26:ILE:O	2.09	0.52
1:A:92:LYS:HA	1:A:92:LYS:HE3	1.90	0.52
1:B:26:ILE:HG23	1:B:26:ILE:O	2.09	0.52
1:B:1747:GLU:OE1	1:B:1792:ARG:NH2	2.40	0.52
1:C:1948:CYS:SG	1:C:1959:ILE:HD12	2.48	0.52
1:D:614:GLU:OE1	1:D:614:GLU:N	2.41	0.52
1:D:2454:ALA:HB1	1:D:2464:THR:OG1	2.09	0.52
1:B:140:PRO:CG	1:C:1428:MET:CE	2.88	0.52
1:C:643:ILE:HG13	1:C:644:ALA:H	1.75	0.52
1:D:1746:ASN:OD1	1:D:1747:GLU:N	2.41	0.52
1:A:282:LEU:HD12	1:A:442:LEU:HD22	1.92	0.52
1:A:760:ILE:HG21	1:A:781:MET:HB2	1.90	0.52
1:A:2454:ALA:HB1	1:A:2464:THR:OG1	2.09	0.52
1:B:92:LYS:HE3	1:B:92:LYS:HA	1.90	0.52
1:D:643:ILE:HG13	1:D:644:ALA:H	1.75	0.52
1:D:26:ILE:O	1:D:26:ILE:HG23	2.09	0.52
1:B:643:ILE:HG13	1:B:644:ALA:H	1.75	0.52
1:B:1974:ILE:HD12	1:B:2000:LEU:CD1	2.38	0.52
1:C:1414:VAL:HG21	1:C:1467:TYR:OH	2.10	0.52
1:D:164:ILE:HG23	1:D:164:ILE:O	2.10	0.52
1:B:282:LEU:HD12	1:B:442:LEU:HD22	1.92	0.52
1:C:26:ILE:HG23	1:C:26:ILE:O	2.09	0.52
1:C:282:LEU:HD12	1:C:442:LEU:HD22	1.92	0.52
1:A:643:ILE:HG13	1:A:644:ALA:H	1.75	0.52
1:D:497:MET:SD	1:D:497:MET:N	2.83	0.52
1:D:504:GLU:N	1:D:504:GLU:OE1	2.41	0.52
1:A:1414:VAL:HG21	1:A:1467:TYR:OH	2.10	0.51
1:A:2051:HIS:NE2	1:A:2121:THR:OG1	2.36	0.51
1:C:406:ASP:OD2	1:C:414:ARG:NH1	2.38	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:1414:VAL:HG21	1:D:1467:TYR:OH	2.10	0.51
1:A:1292:THR:HG23	1:A:1293:HIS:N	2.25	0.51
1:B:1028:ILE:HD13	1:B:1598:ILE:CD1	2.41	0.51
1:B:1292:THR:HG23	1:B:1293:HIS:N	2.25	0.51
1:D:1292:THR:HG23	1:D:1293:HIS:N	2.25	0.51
1:C:881:LEU:HD22	1:C:978:ILE:CG1	2.41	0.51
1:C:1292:THR:HG23	1:C:1293:HIS:N	2.25	0.51
1:C:1028:ILE:HD13	1:C:1598:ILE:CD1	2.41	0.51
1:A:164:ILE:O	1:A:164:ILE:HG23	2.10	0.51
1:C:1974:ILE:HD12	1:C:2000:LEU:CD1	2.38	0.51
1:A:1028:ILE:HD13	1:A:1598:ILE:CD1	2.41	0.51
1:B:164:ILE:HG23	1:B:164:ILE:O	2.10	0.51
1:B:1414:VAL:HG21	1:B:1467:TYR:OH	2.10	0.51
1:C:164:ILE:HG23	1:C:164:ILE:O	2.10	0.51
1:C:614:GLU:N	1:C:614:GLU:OE1	2.41	0.51
1:C:2162:ASP:OD2	1:C:2169:SER:OG	2.25	0.51
1:A:892:ILE:HD11	1:A:971:ILE:CG2	2.41	0.51
1:A:2362:VAL:CG2	1:D:2511:LEU:HD21	2.40	0.51
1:C:2200:ARG:O	1:C:2204:TRP:NE1	2.44	0.51
1:D:1451:VAL:HG22	1:D:1464:LEU:HD22	1.93	0.51
1:A:2200:ARG:O	1:A:2204:TRP:NE1	2.44	0.51
1:B:1048:ASP:OD2	1:B:1055:PHE:N	2.38	0.51
1:C:2051:HIS:NE2	1:C:2121:THR:OG1	2.36	0.51
1:C:892:ILE:HD11	1:C:971:ILE:CG2	2.41	0.50
1:D:892:ILE:HD11	1:D:971:ILE:CG2	2.41	0.50
1:C:1451:VAL:HG22	1:C:1464:LEU:HD22	1.93	0.50
1:B:892:ILE:HD11	1:B:971:ILE:CG2	2.41	0.50
1:B:504:GLU:OE1	1:B:504:GLU:N	2.41	0.50
1:B:1451:VAL:HG22	1:B:1464:LEU:HD22	1.93	0.50
1:D:881:LEU:HD22	1:D:978:ILE:CG1	2.41	0.50
1:D:976:GLN:CG	1:D:1077:LEU:HD11	2.42	0.50
1:D:1028:ILE:HD13	1:D:1598:ILE:CD1	2.41	0.50
1:B:2200:ARG:O	1:B:2204:TRP:NE1	2.44	0.50
1:A:1451:VAL:HG22	1:A:1464:LEU:HD22	1.93	0.50
1:B:1751:GLN:O	1:B:1751:GLN:NE2	2.45	0.50
1:D:1741:ILE:HD11	1:D:1754:ILE:HD13	1.94	0.50
1:B:881:LEU:HD22	1:B:978:ILE:CG1	2.40	0.50
1:C:1751:GLN:O	1:C:1751:GLN:NE2	2.45	0.50
1:D:2200:ARG:O	1:D:2204:TRP:NE1	2.44	0.50
1:A:1751:GLN:O	1:A:1751:GLN:NE2	2.45	0.50
1:A:1974:ILE:HD12	1:A:2000:LEU:CD1	2.38	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:1751:GLN:O	1:D:1751:GLN:NE2	2.45	0.50
1:C:1048:ASP:OD2	1:C:1055:PHE:N	2.38	0.50
1:A:1617:LEU:O	1:A:1621:LEU:HD23	2.12	0.49
1:B:2054:TYR:CZ	1:B:2058:LEU:HD11	2.47	0.49
1:A:606:LEU:HD22	1:A:640:SER:HB2	1.94	0.49
1:C:1741:ILE:HD11	1:C:1754:ILE:HD13	1.94	0.49
1:D:1974:ILE:HD12	1:D:2000:LEU:CD1	2.38	0.49
1:A:881:LEU:HD22	1:A:978:ILE:CG1	2.40	0.49
1:A:1741:ILE:HD11	1:A:1754:ILE:HD13	1.94	0.49
1:B:1617:LEU:O	1:B:1621:LEU:HD23	2.12	0.49
1:B:2051:HIS:NE2	1:B:2121:THR:OG1	2.36	0.49
1:C:664:ILE:O	1:C:728:TYR:OH	2.23	0.49
1:D:1083:SER:O	1:D:1083:SER:OG	2.30	0.49
1:B:1741:ILE:HD11	1:B:1754:ILE:HD13	1.94	0.49
1:A:504:GLU:OE1	1:A:504:GLU:N	2.41	0.49
1:B:1736:LEU:HD12	1:B:1740:LEU:HD13	1.95	0.49
1:C:1298:GLN:N	1:C:1298:GLN:OE1	2.46	0.49
1:B:618:PHE:O	1:B:622:VAL:HG23	2.13	0.49
1:B:1298:GLN:OE1	1:B:1298:GLN:N	2.46	0.49
1:C:976:GLN:CG	1:C:1077:LEU:HD11	2.42	0.49
1:C:2054:TYR:CZ	1:C:2058:LEU:HD11	2.47	0.49
1:D:861:PHE:HA	1:D:967:THR:HG22	1.95	0.49
1:A:599:LEU:HD13	1:A:610:ILE:HG12	1.95	0.49
1:A:1298:GLN:N	1:A:1298:GLN:OE1	2.46	0.49
1:B:599:LEU:HD13	1:B:610:ILE:HG12	1.95	0.49
1:C:2575:VAL:O	1:C:2583:TYR:OH	2.18	0.49
1:D:1617:LEU:O	1:D:1621:LEU:HD23	2.13	0.49
1:A:976:GLN:CG	1:A:1077:LEU:HD11	2.42	0.49
1:A:1085:ARG:HB2	1:A:1610:VAL:HG12	1.95	0.49
1:B:1085:ARG:HB2	1:B:1610:VAL:HG12	1.95	0.49
1:B:1448:MET:HA	1:B:1451:VAL:HG23	1.95	0.49
1:C:599:LEU:HD13	1:C:610:ILE:HG12	1.95	0.49
1:C:618:PHE:O	1:C:622:VAL:HG23	2.13	0.49
1:D:1736:LEU:HD12	1:D:1740:LEU:HD13	1.95	0.49
1:A:2054:TYR:CZ	1:A:2058:LEU:HD11	2.47	0.48
1:C:965:MET:SD	1:C:1067:TYR:CD2	3.06	0.48
1:A:1448:MET:HA	1:A:1451:VAL:HG23	1.95	0.48
1:C:861:PHE:HA	1:C:967:THR:HG22	1.95	0.48
1:D:1298:GLN:OE1	1:D:1298:GLN:N	2.46	0.48
1:C:1617:LEU:O	1:C:1621:LEU:HD23	2.12	0.48
1:D:815:TYR:OH	1:D:984:ASP:OD2	2.32	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:2054:TYR:CZ	1:D:2058:LEU:HD11	2.47	0.48
1:D:2476:VAL:O	1:D:2480:LEU:HD13	2.14	0.48
1:A:965:MET:SD	1:A:1067:TYR:CD2	3.06	0.48
1:A:2476:VAL:O	1:A:2480:LEU:HD13	2.14	0.48
1:C:606:LEU:HD22	1:C:640:SER:HB2	1.94	0.48
1:D:618:PHE:O	1:D:622:VAL:HG23	2.13	0.48
1:B:398:ILE:HD13	1:B:419:THR:HG22	1.95	0.48
1:B:815:TYR:OH	1:B:984:ASP:OD2	2.32	0.48
1:B:976:GLN:CG	1:B:1077:LEU:HD11	2.42	0.48
1:C:1083:SER:O	1:C:1083:SER:OG	2.30	0.48
1:C:1085:ARG:HB2	1:C:1610:VAL:HG12	1.95	0.48
1:D:965:MET:SD	1:D:1067:TYR:CD2	3.06	0.48
1:A:618:PHE:O	1:A:622:VAL:HG23	2.13	0.48
1:B:965:MET:SD	1:B:1067:TYR:CD2	3.06	0.48
1:C:1448:MET:HA	1:C:1451:VAL:HG23	1.95	0.48
1:D:599:LEU:HD13	1:D:610:ILE:HG12	1.95	0.48
1:D:1048:ASP:OD2	1:D:1055:PHE:N	2.38	0.48
1:A:815:TYR:OH	1:A:984:ASP:OD2	2.32	0.48
1:D:606:LEU:HD22	1:D:640:SER:HB2	1.94	0.48
1:D:1085:ARG:HB2	1:D:1610:VAL:HG12	1.95	0.48
1:B:2476:VAL:O	1:B:2480:LEU:HD13	2.14	0.48
1:C:1736:LEU:HD12	1:C:1740:LEU:HD13	1.95	0.48
1:A:622:VAL:HG22	1:A:630:PHE:HB3	1.96	0.48
1:A:1428:MET:HE2	1:D:140:PRO:CD	2.44	0.48
1:B:140:PRO:CD	1:C:1428:MET:HE1	2.37	0.48
1:D:261:LEU:HD21	1:D:311:THR:HG21	1.96	0.48
1:D:1281:PRO:HD2	1:D:1282:VAL:H	1.79	0.48
1:D:1448:MET:HA	1:D:1451:VAL:HG23	1.95	0.48
1:B:606:LEU:HD22	1:B:640:SER:HB2	1.94	0.47
1:C:1912:ASP:OD2	1:C:1964:SER:OG	2.27	0.47
1:A:861:PHE:HA	1:A:967:THR:HG22	1.95	0.47
1:B:261:LEU:HD21	1:B:311:THR:HG21	1.96	0.47
1:C:622:VAL:HG22	1:C:630:PHE:HB3	1.96	0.47
1:C:885:THR:CG2	1:C:978:ILE:HD13	2.43	0.47
1:C:2476:VAL:O	1:C:2480:LEU:HD13	2.14	0.47
1:D:303:LEU:HD23	1:D:366:LEU:HD22	1.96	0.47
1:D:1422:VAL:O	1:D:1432:TYR:OH	2.28	0.47
1:A:104:ASN:OD1	1:A:105:ASP:N	2.48	0.47
1:A:398:ILE:HD13	1:A:419:THR:HG22	1.96	0.47
1:A:1736:LEU:HD12	1:A:1740:LEU:HD13	1.95	0.47
1:A:2163:GLU:OE1	1:A:2163:GLU:N	2.45	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:622:VAL:HG22	1:B:630:PHE:HB3	1.96	0.47
1:B:861:PHE:HA	1:B:967:THR:HG22	1.95	0.47
1:B:885:THR:CG2	1:B:978:ILE:HD13	2.43	0.47
1:A:262:GLN:OE1	1:A:405:ILE:HG21	2.14	0.47
1:A:1428:MET:HE2	1:D:140:PRO:HD2	1.94	0.47
1:B:104:ASN:OD1	1:B:105:ASP:N	2.48	0.47
1:C:262:GLN:OE1	1:C:405:ILE:HG21	2.14	0.47
1:C:1422:VAL:O	1:C:1432:TYR:OH	2.28	0.47
1:D:622:VAL:HG22	1:D:630:PHE:HB3	1.96	0.47
1:D:2573:VAL:O	1:D:2577:VAL:HG23	2.14	0.47
1:A:2573:VAL:O	1:A:2577:VAL:HG23	2.14	0.47
1:B:1281:PRO:HD2	1:B:1282:VAL:H	1.79	0.47
1:C:815:TYR:OH	1:C:984:ASP:OD2	2.32	0.47
1:D:253:THR:HG22	1:D:281:ALA:HB2	1.97	0.47
1:A:253:THR:HG22	1:A:281:ALA:HB2	1.97	0.47
1:A:261:LEU:HD21	1:A:311:THR:HG21	1.96	0.47
1:A:303:LEU:HD23	1:A:366:LEU:HD22	1.97	0.47
1:A:1924:LEU:HD23	1:A:1924:LEU:H	1.80	0.47
1:C:303:LEU:HD23	1:C:366:LEU:HD22	1.97	0.47
1:D:10:ILE:HD11	1:D:111:VAL:C	2.35	0.47
1:D:104:ASN:OD1	1:D:105:ASP:N	2.48	0.47
1:A:669:GLU:N	1:A:669:GLU:OE1	2.48	0.47
1:A:1281:PRO:HD2	1:A:1282:VAL:H	1.79	0.47
1:A:1422:VAL:O	1:A:1432:TYR:OH	2.28	0.47
1:B:140:PRO:HD2	1:C:1428:MET:HE2	1.91	0.47
1:B:303:LEU:HD23	1:B:366:LEU:HD22	1.97	0.47
1:B:669:GLU:N	1:B:669:GLU:OE1	2.48	0.47
1:B:1422:VAL:O	1:B:1432:TYR:OH	2.28	0.47
1:B:2163:GLU:N	1:B:2163:GLU:OE1	2.45	0.47
1:C:253:THR:HG22	1:C:281:ALA:HB2	1.97	0.47
1:C:398:ILE:HD13	1:C:419:THR:HG22	1.95	0.47
1:C:669:GLU:N	1:C:669:GLU:OE1	2.48	0.47
1:D:1924:LEU:H	1:D:1924:LEU:HD23	1.80	0.47
1:D:2163:GLU:OE1	1:D:2163:GLU:N	2.45	0.47
1:B:268:THR:OG1	3:B:2702:I3P:O42	2.13	0.47
1:B:2573:VAL:O	1:B:2577:VAL:HG23	2.15	0.47
1:C:2163:GLU:OE1	1:C:2163:GLU:N	2.46	0.47
1:B:10:ILE:HD11	1:B:111:VAL:C	2.35	0.47
1:C:140:PRO:CD	1:D:1428:MET:HE2	2.45	0.47
1:A:1307:ILE:HD12	1:A:1371:LEU:CD1	2.45	0.47
1:C:261:LEU:HD21	1:C:311:THR:HG21	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1281:PRO:HD2	1:C:1282:VAL:H	1.79	0.47
1:D:262:GLN:OE1	1:D:405:ILE:HG21	2.14	0.47
1:A:606:LEU:HD22	1:A:640:SER:CB	2.45	0.46
1:C:10:ILE:HD11	1:C:111:VAL:C	2.35	0.46
1:C:2573:VAL:O	1:C:2577:VAL:HG23	2.14	0.46
1:D:669:GLU:OE1	1:D:669:GLU:N	2.48	0.46
1:B:253:THR:HG22	1:B:281:ALA:HB2	1.97	0.46
1:B:606:LEU:HD22	1:B:640:SER:CB	2.45	0.46
1:B:1307:ILE:HD12	1:B:1371:LEU:CD1	2.45	0.46
1:A:10:ILE:HD11	1:A:111:VAL:C	2.35	0.46
1:B:265:LEU:HD11	1:B:417:LEU:HD21	1.98	0.46
1:A:885:THR:CG2	1:A:978:ILE:HD13	2.43	0.46
1:C:265:LEU:HD11	1:C:417:LEU:HD21	1.98	0.46
1:C:1464:LEU:O	1:C:1464:LEU:HD23	2.16	0.46
1:A:664:ILE:O	1:A:728:TYR:OH	2.23	0.46
1:A:1744:THR:HG21	1:A:1749:ILE:HG21	1.98	0.46
1:B:2054:TYR:O	1:B:2058:LEU:HD13	2.16	0.46
1:C:104:ASN:OD1	1:C:105:ASP:N	2.48	0.46
1:C:961:ASP:CB	1:C:964:VAL:HG22	2.46	0.46
1:C:2054:TYR:O	1:C:2058:LEU:HD13	2.16	0.46
1:D:1785:PHE:O	1:D:1788:VAL:HG12	2.16	0.46
1:A:961:ASP:CB	1:A:964:VAL:HG22	2.46	0.46
1:B:1924:LEU:H	1:B:1924:LEU:HD23	1.80	0.46
1:C:606:LEU:HD22	1:C:640:SER:CB	2.45	0.46
1:D:1307:ILE:HD12	1:D:1371:LEU:CD1	2.46	0.46
1:B:961:ASP:CB	1:B:964:VAL:HG22	2.46	0.46
1:B:1785:PHE:O	1:B:1788:VAL:HG12	2.16	0.46
1:C:140:PRO:HD2	1:D:1428:MET:HE2	1.95	0.46
1:D:961:ASP:CB	1:D:964:VAL:HG22	2.46	0.46
1:D:1744:THR:HG21	1:D:1749:ILE:HG21	1.98	0.46
1:C:1744:THR:HG21	1:C:1749:ILE:HG21	1.98	0.46
1:C:1924:LEU:HD23	1:C:1924:LEU:H	1.80	0.46
1:D:268:THR:OG1	3:D:2702:I3P:O42	2.13	0.46
1:D:398:ILE:HD13	1:D:419:THR:HG22	1.96	0.46
1:D:730:ARG:NH1	1:D:772:ASP:OD2	2.49	0.46
1:D:795:THR:HG23	1:D:795:THR:O	2.16	0.46
1:D:2054:TYR:O	1:D:2058:LEU:HD13	2.16	0.46
1:A:1464:LEU:O	1:A:1464:LEU:HD23	2.16	0.46
1:A:1785:PHE:O	1:A:1788:VAL:HG12	2.16	0.46
1:C:668:THR:OG1	1:C:729:TYR:OH	2.14	0.46
1:C:1307:ILE:HD12	1:C:1371:LEU:CD1	2.45	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1048:ASP:OD2	1:A:1055:PHE:N	2.38	0.46
1:B:497:MET:SD	1:B:497:MET:N	2.83	0.46
1:B:2553:VAL:O	1:B:2554:SER:OG	2.22	0.46
1:D:606:LEU:HD22	1:D:640:SER:CB	2.45	0.46
1:B:262:GLN:OE1	1:B:405:ILE:HG21	2.14	0.45
1:B:1464:LEU:HD23	1:B:1464:LEU:O	2.15	0.45
1:C:458:LYS:HZ1	1:C:464:ILE:HG13	1.81	0.45
1:D:1464:LEU:HD23	1:D:1464:LEU:O	2.16	0.45
1:A:1650:HIS:O	1:A:1654:LEU:CB	2.65	0.45
1:A:2054:TYR:O	1:A:2058:LEU:HD13	2.16	0.45
1:D:1650:HIS:O	1:D:1654:LEU:CB	2.65	0.45
1:A:730:ARG:NH1	1:A:772:ASP:OD2	2.49	0.45
1:A:795:THR:HG23	1:A:795:THR:O	2.16	0.45
1:B:1681:ASP:N	1:B:1681:ASP:OD1	2.49	0.45
1:B:1744:THR:HG21	1:B:1749:ILE:HG21	1.98	0.45
1:A:265:LEU:HD11	1:A:417:LEU:HD21	1.98	0.45
1:B:2027:ASP:O	1:B:2031:LYS:HE2	2.17	0.45
1:D:458:LYS:HZ1	1:D:464:ILE:HG13	1.80	0.45
1:B:795:THR:HG23	1:B:795:THR:O	2.16	0.45
1:C:1287:VAL:HG11	1:C:1324:GLU:HB3	1.99	0.45
1:D:288:VAL:HG21	1:D:366:LEU:HD21	1.99	0.45
1:B:730:ARG:NH1	1:B:772:ASP:OD2	2.49	0.45
1:B:2511:LEU:HD21	1:C:2362:VAL:CG2	2.47	0.45
1:C:2133:MET:HE3	1:C:2608:MET:HG3	1.99	0.45
1:C:2027:ASP:O	1:C:2031:LYS:HE2	2.17	0.45
1:D:2002:ALA:HA	1:D:2005:GLU:HG3	1.99	0.45
1:A:140:PRO:HD2	1:B:1428:MET:CE	2.46	0.45
1:A:2027:ASP:O	1:A:2031:LYS:HE2	2.17	0.45
1:A:2575:VAL:O	1:A:2583:TYR:OH	2.18	0.45
1:B:1287:VAL:HG11	1:B:1324:GLU:HB3	1.99	0.45
1:A:166:PRO:HB3	1:A:171:ARG:HB2	1.98	0.45
1:A:288:VAL:HG21	1:A:366:LEU:HD21	1.99	0.45
1:B:288:VAL:HG21	1:B:366:LEU:HD21	1.99	0.45
1:C:1650:HIS:O	1:C:1654:LEU:CB	2.65	0.45
1:A:1287:VAL:HG11	1:A:1324:GLU:HB3	1.99	0.45
1:A:2002:ALA:HA	1:A:2005:GLU:HG3	1.99	0.45
1:C:288:VAL:HG21	1:C:366:LEU:HD21	1.99	0.45
1:C:1785:PHE:O	1:C:1788:VAL:HG12	2.16	0.45
1:D:265:LEU:HD11	1:D:417:LEU:HD21	1.98	0.45
1:D:2027:ASP:O	1:D:2031:LYS:HE2	2.17	0.45
1:A:1681:ASP:OD1	1:A:1681:ASP:N	2.49	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:140:PRO:HD3	1:C:1426:VAL:CG1	2.47	0.44
1:C:730:ARG:NH1	1:C:772:ASP:OD2	2.49	0.44
1:C:795:THR:HG23	1:C:795:THR:O	2.16	0.44
1:C:2002:ALA:HA	1:C:2005:GLU:HG3	1.99	0.44
1:A:1067:TYR:CD1	1:A:1069:PRO:HD2	2.52	0.44
1:B:1067:TYR:CD1	1:B:1069:PRO:HD2	2.52	0.44
1:B:1451:VAL:HG22	1:B:1464:LEU:CD2	2.48	0.44
1:C:622:VAL:HG22	1:C:630:PHE:CB	2.47	0.44
1:D:1725:GLN:HB3	1:D:1768:ILE:CD1	2.47	0.44
1:B:1650:HIS:O	1:B:1654:LEU:CB	2.65	0.44
1:C:166:PRO:HB3	1:C:171:ARG:HB2	1.98	0.44
1:C:781:MET:CE	1:C:833:THR:HG21	2.48	0.44
1:C:963:VAL:HG13	1:C:964:VAL:N	2.33	0.44
1:D:622:VAL:HG22	1:D:630:PHE:CB	2.47	0.44
1:D:1287:VAL:HG11	1:D:1324:GLU:HB3	1.99	0.44
1:D:1681:ASP:N	1:D:1681:ASP:OD1	2.49	0.44
1:B:144:GLU:OE1	1:B:211:ASN:ND2	2.51	0.44
1:B:166:PRO:HB3	1:B:171:ARG:HB2	1.98	0.44
1:B:961:ASP:HB3	1:B:964:VAL:HG22	2.00	0.44
1:B:1083:SER:O	1:B:1083:SER:OG	2.30	0.44
1:C:745:TYR:HA	1:C:748:ILE:HB	2.00	0.44
1:D:961:ASP:HB3	1:D:964:VAL:HG22	2.00	0.44
1:A:696:TRP:HZ2	1:A:711:LEU:HD11	1.83	0.44
1:C:961:ASP:HB3	1:C:964:VAL:HG22	2.00	0.44
1:C:1451:VAL:HG22	1:C:1464:LEU:CD2	2.48	0.44
1:C:1725:GLN:HB3	1:C:1768:ILE:CD1	2.47	0.44
1:D:166:PRO:HB3	1:D:171:ARG:HB2	1.98	0.44
1:D:892:ILE:CD1	1:D:971:ILE:HG21	2.47	0.44
1:D:2553:VAL:HG13	1:D:2554:SER:N	2.33	0.44
1:A:961:ASP:HB3	1:A:964:VAL:HG22	2.00	0.44
1:B:781:MET:CE	1:B:833:THR:HG21	2.48	0.44
1:C:144:GLU:OE1	1:C:211:ASN:ND2	2.51	0.44
1:D:781:MET:CE	1:D:833:THR:HG21	2.48	0.44
1:A:1428:MET:CE	1:D:140:PRO:CD	2.94	0.44
1:B:1945:THR:HG22	1:B:1999:LEU:CA	2.48	0.44
1:B:2002:ALA:HA	1:B:2005:GLU:HG3	1.99	0.44
1:C:1067:TYR:CD1	1:C:1069:PRO:HD2	2.52	0.44
1:D:1067:TYR:CD1	1:D:1069:PRO:HD2	2.52	0.44
1:D:1784:ARG:HA	1:D:1787:LYS:HB3	2.00	0.44
1:A:1626:LEU:HB2	1:A:1695:LEU:HD22	2.00	0.44
1:A:1725:GLN:HB3	1:A:1768:ILE:CD1	2.47	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1784:ARG:HA	1:A:1787:LYS:HB3	2.00	0.44
1:D:745:TYR:HA	1:D:748:ILE:HB	2.00	0.44
1:D:1279:SER:OG	1:D:1282:VAL:HG12	2.18	0.44
1:A:622:VAL:HG22	1:A:630:PHE:CB	2.47	0.43
1:A:840:TYR:O	1:A:844:VAL:HG23	2.18	0.43
1:A:892:ILE:CD1	1:A:971:ILE:HG21	2.47	0.43
1:A:1945:THR:HG22	1:A:1999:LEU:CA	2.48	0.43
1:A:2020:LEU:CD1	1:A:2025:LEU:HD11	2.48	0.43
1:B:840:TYR:O	1:B:844:VAL:HG23	2.18	0.43
1:B:1279:SER:OG	1:B:1282:VAL:HG12	2.18	0.43
1:B:2553:VAL:HG13	1:B:2554:SER:N	2.33	0.43
1:D:144:GLU:OE1	1:D:211:ASN:ND2	2.51	0.43
1:B:140:PRO:HG2	1:C:1428:MET:HE1	1.98	0.43
1:B:140:PRO:CG	1:C:1428:MET:HE1	2.48	0.43
1:B:745:TYR:HA	1:B:748:ILE:HB	2.00	0.43
1:C:1925:LEU:HD21	1:C:1973:LEU:HD13	2.00	0.43
1:D:696:TRP:HZ2	1:D:711:LEU:HD11	1.83	0.43
1:D:1451:VAL:HG22	1:D:1464:LEU:CD2	2.48	0.43
1:A:46:ASP:OD1	1:A:47:ASN:N	2.52	0.43
1:A:1451:VAL:HG22	1:A:1464:LEU:CD2	2.48	0.43
1:B:622:VAL:HG22	1:B:630:PHE:CB	2.47	0.43
1:B:696:TRP:HZ2	1:B:711:LEU:HD11	1.83	0.43
1:B:1784:ARG:HA	1:B:1787:LYS:HB3	2.00	0.43
1:C:1681:ASP:OD1	1:C:1681:ASP:N	2.49	0.43
1:C:1945:THR:HG22	1:C:1999:LEU:CA	2.48	0.43
1:A:144:GLU:OE1	1:A:211:ASN:ND2	2.51	0.43
1:A:2225:TYR:OH	1:A:2338:GLU:OE1	2.29	0.43
1:A:2553:VAL:HG13	1:A:2554:SER:N	2.33	0.43
1:B:476:LEU:O	1:B:480:VAL:HG23	2.18	0.43
1:B:1925:LEU:HD21	1:B:1973:LEU:HD13	2.00	0.43
1:C:2553:VAL:HG13	1:C:2554:SER:N	2.33	0.43
1:A:497:MET:SD	1:A:497:MET:N	2.83	0.43
1:B:963:VAL:HG13	1:B:964:VAL:N	2.33	0.43
1:D:668:THR:OG1	1:D:729:TYR:OH	2.14	0.43
1:D:1925:LEU:HD21	1:D:1973:LEU:HD13	2.00	0.43
1:B:46:ASP:OD1	1:B:47:ASN:N	2.52	0.43
1:B:572:GLU:O	1:B:576:LYS:HD2	2.19	0.43
1:C:572:GLU:O	1:C:576:LYS:HD2	2.19	0.43
1:C:1099:ILE:HG13	1:C:1100:SER:N	2.34	0.43
1:C:1956:GLN:NE2	1:C:2002:ALA:O	2.51	0.43
1:A:745:TYR:HA	1:A:748:ILE:HB	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:963:VAL:HG13	1:A:964:VAL:N	2.33	0.43
1:B:1725:GLN:HB3	1:B:1768:ILE:CD1	2.47	0.43
1:B:2454:ALA:O	1:B:2460:MET:CG	2.67	0.43
1:C:46:ASP:OD1	1:C:47:ASN:N	2.52	0.43
1:C:140:PRO:CD	1:D:1428:MET:CE	2.95	0.43
1:C:840:TYR:O	1:C:844:VAL:HG23	2.18	0.43
1:D:1977:ASP:OD1	1:D:1977:ASP:N	2.51	0.43
1:A:476:LEU:O	1:A:480:VAL:HG23	2.18	0.43
1:A:781:MET:CE	1:A:833:THR:HG21	2.48	0.43
1:B:1626:LEU:HB2	1:B:1695:LEU:HD22	2.00	0.43
1:B:2133:MET:HE3	1:B:2608:MET:HG3	2.00	0.43
1:C:476:LEU:O	1:C:480:VAL:HG23	2.18	0.43
1:C:696:TRP:HZ2	1:C:711:LEU:HD11	1.83	0.43
1:C:1281:PRO:HA	1:C:1284:GLN:HG3	2.01	0.43
1:D:1626:LEU:HB2	1:D:1695:LEU:HD22	2.00	0.43
1:A:1279:SER:OG	1:A:1282:VAL:HG12	2.18	0.43
1:B:1646:LYS:O	1:B:1650:HIS:CD2	2.72	0.43
1:D:963:VAL:HG13	1:D:964:VAL:N	2.33	0.43
1:D:1646:LYS:O	1:D:1650:HIS:CD2	2.72	0.43
1:A:1393:LEU:O	1:A:1397:VAL:HG23	2.19	0.43
1:B:1956:GLN:NE2	1:B:2002:ALA:O	2.51	0.43
1:C:892:ILE:CD1	1:C:971:ILE:HG21	2.47	0.43
1:C:1626:LEU:HB2	1:C:1695:LEU:HD22	2.00	0.43
1:D:476:LEU:O	1:D:480:VAL:HG23	2.18	0.43
1:D:840:TYR:O	1:D:844:VAL:HG23	2.18	0.43
1:D:1393:LEU:O	1:D:1397:VAL:HG23	2.19	0.43
1:C:987:ILE:HD11	1:C:1091:THR:OG1	2.19	0.42
1:C:1393:LEU:O	1:C:1397:VAL:HG23	2.19	0.42
1:C:2020:LEU:CD1	1:C:2025:LEU:HD11	2.48	0.42
1:D:1099:ILE:HG13	1:D:1100:SER:N	2.34	0.42
1:D:1945:THR:HG22	1:D:1999:LEU:CA	2.48	0.42
1:B:987:ILE:HD11	1:B:1091:THR:OG1	2.19	0.42
1:B:2020:LEU:CD1	1:B:2025:LEU:HD11	2.48	0.42
1:C:1607:LYS:O	1:C:1610:VAL:HG22	2.19	0.42
1:C:1933:ASN:O	1:C:1937:VAL:HG23	2.19	0.42
1:C:2454:ALA:O	1:C:2460:MET:CG	2.67	0.42
1:A:474:GLN:NE2	1:A:478:ASP:OD1	2.52	0.42
1:A:1099:ILE:HG13	1:A:1100:SER:N	2.34	0.42
1:B:1099:ILE:HG13	1:B:1100:SER:N	2.34	0.42
1:C:1279:SER:OG	1:C:1282:VAL:HG12	2.18	0.42
1:C:1646:LYS:O	1:C:1650:HIS:CD2	2.72	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:2212:ALA:O	1:C:2216:ASN:ND2	2.48	0.42
1:D:2020:LEU:CD1	1:D:2025:LEU:HD11	2.48	0.42
1:A:257:TYR:OH	1:A:408:GLU:OE1	2.36	0.42
1:A:572:GLU:O	1:A:576:LYS:HD2	2.19	0.42
1:A:1646:LYS:O	1:A:1650:HIS:CD2	2.72	0.42
1:A:1925:LEU:HD21	1:A:1973:LEU:HD13	2.00	0.42
1:B:1933:ASN:O	1:B:1937:VAL:HG23	2.19	0.42
1:C:1334:VAL:HG13	1:C:1334:VAL:O	2.20	0.42
1:C:1448:MET:HG3	1:C:1468:VAL:HG11	2.02	0.42
1:C:1784:ARG:HA	1:C:1787:LYS:HB3	2.00	0.42
1:D:1334:VAL:HG13	1:D:1334:VAL:O	2.20	0.42
1:D:1912:ASP:OD2	1:D:1964:SER:OG	2.27	0.42
1:A:171:ARG:NH2	1:B:372:THR:O	2.46	0.42
1:A:1281:PRO:HA	1:A:1284:GLN:HG3	2.01	0.42
1:A:1442:GLU:O	1:A:1445:THR:OG1	2.34	0.42
1:A:1933:ASN:O	1:A:1937:VAL:HG23	2.19	0.42
1:B:1607:LYS:O	1:B:1610:VAL:HG22	2.19	0.42
1:C:474:GLN:NE2	1:C:478:ASP:OD1	2.52	0.42
1:C:1448:MET:HE3	1:C:1504:SER:HB2	2.01	0.42
1:A:1607:LYS:O	1:A:1610:VAL:HG22	2.20	0.42
1:B:138:ARG:HD3	1:C:1427:GLU:HG2	2.01	0.42
1:B:1393:LEU:O	1:B:1397:VAL:HG23	2.19	0.42
1:C:1907:THR:HG21	1:C:1947:TYR:HE2	1.85	0.42
1:D:46:ASP:OD1	1:D:47:ASN:N	2.52	0.42
1:B:153:ASP:OD1	1:B:156:GLY:N	2.50	0.42
1:B:892:ILE:CD1	1:B:971:ILE:HG21	2.47	0.42
1:C:642:HIS:O	1:C:642:HIS:ND1	2.53	0.42
1:C:1965:ASN:O	1:C:1965:ASN:CG	2.58	0.42
1:C:2529:LYS:O	1:C:2532:GLU:HG3	2.19	0.42
1:D:572:GLU:O	1:D:576:LYS:HD2	2.19	0.42
1:D:1307:ILE:O	1:D:1314:VAL:HG22	2.20	0.42
1:D:1965:ASN:CG	1:D:1965:ASN:O	2.58	0.42
1:D:2454:ALA:O	1:D:2460:MET:CG	2.67	0.42
1:D:2529:LYS:O	1:D:2532:GLU:HG3	2.19	0.42
1:A:653:CYS:SG	1:A:747:ALA:HB2	2.60	0.42
1:A:987:ILE:HD11	1:A:1091:THR:OG1	2.19	0.42
1:C:653:CYS:SG	1:C:747:ALA:HB2	2.60	0.42
1:C:1738:CYS:O	1:C:1742:THR:HG22	2.20	0.42
1:D:987:ILE:HD11	1:D:1091:THR:OG1	2.19	0.42
1:A:1307:ILE:O	1:A:1314:VAL:HG22	2.20	0.42
1:A:2529:LYS:O	1:A:2532:GLU:HG3	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1281:PRO:HA	1:B:1284:GLN:HG3	2.01	0.42
1:D:1281:PRO:HA	1:D:1284:GLN:HG3	2.01	0.42
1:D:1607:LYS:O	1:D:1610:VAL:HG22	2.19	0.42
1:A:642:HIS:O	1:A:642:HIS:ND1	2.53	0.42
1:A:2454:ALA:O	1:A:2460:MET:CG	2.67	0.42
1:B:642:HIS:ND1	1:B:642:HIS:O	2.53	0.42
1:B:1448:MET:HG3	1:B:1468:VAL:HG11	2.02	0.42
1:B:2529:LYS:O	1:B:2532:GLU:HG3	2.19	0.42
1:D:642:HIS:O	1:D:642:HIS:ND1	2.53	0.42
1:D:1907:THR:HG21	1:D:1947:TYR:HE2	1.85	0.42
1:D:1933:ASN:O	1:D:1937:VAL:HG23	2.19	0.42
1:A:494:LEU:HD21	1:A:554:ARG:HB3	2.02	0.41
1:A:1772:PHE:O	1:A:1776:MET:HG3	2.20	0.41
1:B:1738:CYS:O	1:B:1742:THR:HG22	2.20	0.41
1:B:2321:LEU:HA	1:B:2324:VAL:HG22	2.02	0.41
1:D:653:CYS:SG	1:D:747:ALA:HB2	2.60	0.41
1:D:1448:MET:HG3	1:D:1468:VAL:HG11	2.02	0.41
1:A:1322:MET:HE2	1:A:1383:THR:HB	2.02	0.41
1:B:1334:VAL:O	1:B:1334:VAL:HG13	2.20	0.41
1:B:1937:VAL:CG1	1:B:1992:LEU:HD11	2.50	0.41
1:C:580:MET:HG3	1:C:581:MET:N	2.36	0.41
1:C:1937:VAL:CG1	1:C:1992:LEU:HD11	2.50	0.41
1:D:474:GLN:NE2	1:D:478:ASP:OD1	2.52	0.41
1:D:885:THR:CG2	1:D:978:ILE:HD13	2.43	0.41
1:D:1650:HIS:CD2	1:D:1650:HIS:N	2.88	0.41
1:D:1772:PHE:O	1:D:1776:MET:HG3	2.20	0.41
1:A:2385:ILE:CD1	1:B:2342:SER:OG	2.68	0.41
1:B:474:GLN:NE2	1:B:478:ASP:OD1	2.52	0.41
1:C:858:LYS:O	1:C:862:GLU:OE1	2.39	0.41
1:C:1322:MET:HE2	1:C:1383:THR:HB	2.03	0.41
1:D:1494:HIS:O	1:D:1498:VAL:HG23	2.21	0.41
1:D:1937:VAL:CG1	1:D:1992:LEU:HD11	2.50	0.41
1:A:1334:VAL:O	1:A:1334:VAL:HG13	2.20	0.41
1:A:2212:ALA:O	1:A:2216:ASN:ND2	2.48	0.41
1:B:1907:THR:HG21	1:B:1947:TYR:HE2	1.85	0.41
1:C:1494:HIS:O	1:C:1498:VAL:HG23	2.21	0.41
1:D:1028:ILE:HG13	1:D:1029:GLY:N	2.36	0.41
1:D:1322:MET:HE2	1:D:1383:THR:HB	2.03	0.41
1:A:1448:MET:HE3	1:A:1504:SER:HB2	2.02	0.41
1:A:1448:MET:HG3	1:A:1468:VAL:HG11	2.02	0.41
1:A:1965:ASN:CG	1:A:1965:ASN:O	2.58	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2376:ALA:HB2	1:B:2508:VAL:HG11	2.02	0.41
1:C:2321:LEU:HA	1:C:2324:VAL:HG22	2.02	0.41
1:D:2014:GLU:O	1:D:2018:ILE:HG13	2.21	0.41
1:A:1083:SER:O	1:A:1083:SER:OG	2.30	0.41
1:D:141:ALA:HB3	1:D:144:GLU:O	2.21	0.41
1:A:140:PRO:HD2	1:B:1428:MET:HE1	2.02	0.41
1:A:2014:GLU:O	1:A:2018:ILE:HG13	2.21	0.41
1:B:458:LYS:HZ1	1:B:464:ILE:HG13	1.86	0.41
1:B:580:MET:HG3	1:B:581:MET:N	2.36	0.41
1:B:1322:MET:HE2	1:B:1383:THR:HB	2.03	0.41
1:B:1448:MET:HE3	1:B:1504:SER:HB2	2.03	0.41
1:B:1494:HIS:O	1:B:1498:VAL:HG23	2.21	0.41
1:B:2014:GLU:O	1:B:2018:ILE:HG13	2.21	0.41
1:B:2212:ALA:O	1:B:2216:ASN:ND2	2.48	0.41
1:C:1062:LEU:O	1:C:1065:HIS:HB2	2.21	0.41
1:C:1307:ILE:O	1:C:1314:VAL:HG22	2.20	0.41
1:D:858:LYS:O	1:D:862:GLU:OE1	2.39	0.41
1:D:1745:LYS:HA	1:D:1745:LYS:HD3	1.95	0.41
1:A:1254:LEU:HD21	1:A:1282:VAL:HG23	2.03	0.41
1:B:1965:ASN:CG	1:B:1965:ASN:O	2.58	0.41
1:B:2490:PHE:O	1:B:2494:VAL:HG23	2.21	0.41
1:C:257:TYR:OH	1:C:408:GLU:OE1	2.36	0.41
1:C:299:HIS:HE2	1:C:380:PHE:HE1	1.69	0.41
1:C:497:MET:SD	1:C:497:MET:N	2.83	0.41
1:A:141:ALA:HB3	1:A:144:GLU:O	2.21	0.41
1:A:580:MET:HG3	1:A:581:MET:N	2.36	0.41
1:A:637:LEU:O	1:A:648:THR:HG21	2.21	0.41
1:A:991:LEU:HD11	1:A:1095:VAL:HG21	2.03	0.41
1:A:1028:ILE:HG13	1:A:1029:GLY:N	2.36	0.41
1:A:1937:VAL:CG1	1:A:1992:LEU:HD11	2.50	0.41
1:A:2025:LEU:O	1:A:2028:VAL:HG12	2.21	0.41
1:B:1650:HIS:CD2	1:B:1650:HIS:N	2.88	0.41
1:C:888:LEU:HB3	1:C:971:ILE:HG23	2.03	0.41
1:C:1650:HIS:CD2	1:C:1650:HIS:N	2.88	0.41
1:D:299:HIS:HE2	1:D:380:PHE:HE1	1.69	0.41
1:D:494:LEU:HD21	1:D:554:ARG:HB3	2.02	0.41
1:D:1066:ASP:N	1:D:1066:ASP:OD1	2.54	0.41
1:D:1254:LEU:HD21	1:D:1282:VAL:HG23	2.03	0.41
1:D:2025:LEU:O	1:D:2028:VAL:HG12	2.21	0.41
1:A:1062:LEU:O	1:A:1065:HIS:HB2	2.21	0.41
1:A:2490:PHE:O	1:A:2494:VAL:HG23	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:653:CYS:SG	1:B:747:ALA:HB2	2.60	0.41
1:B:1307:ILE:O	1:B:1314:VAL:HG22	2.20	0.41
1:B:1772:PHE:O	1:B:1776:MET:HG3	2.20	0.41
1:D:642:HIS:O	1:D:642:HIS:CG	2.74	0.41
1:A:1066:ASP:N	1:A:1066:ASP:OD1	2.53	0.40
1:A:1607:LYS:HA	1:A:1610:VAL:HG22	2.03	0.40
1:A:1957:THR:HA	1:A:1960:VAL:HG22	2.04	0.40
1:B:991:LEU:HD11	1:B:1095:VAL:HG21	2.03	0.40
1:B:1062:LEU:O	1:B:1065:HIS:HB2	2.21	0.40
1:C:642:HIS:O	1:C:642:HIS:CG	2.74	0.40
1:D:242:ARG:HB2	1:D:432:VAL:CG2	2.51	0.40
1:D:888:LEU:HB3	1:D:971:ILE:HG23	2.03	0.40
1:D:1797:GLN:NE2	1:D:1906:GLU:O	2.55	0.40
1:A:1494:HIS:O	1:A:1498:VAL:HG23	2.21	0.40
1:A:1738:CYS:O	1:A:1742:THR:HG22	2.20	0.40
1:B:242:ARG:HB2	1:B:432:VAL:CG2	2.51	0.40
1:B:1443:ASN:O	1:B:1443:ASN:ND2	2.54	0.40
1:C:1028:ILE:HG13	1:C:1029:GLY:N	2.36	0.40
1:D:580:MET:HG3	1:D:581:MET:N	2.36	0.40
1:D:1283:LEU:HD23	1:D:1320:MET:HE3	2.03	0.40
1:D:2376:ALA:HB2	1:D:2508:VAL:HG11	2.03	0.40
1:A:6:SER:HA	1:B:374:LEU:HD11	2.03	0.40
1:A:234:VAL:HG12	1:A:235:LEU:N	2.37	0.40
1:A:2020:LEU:O	1:A:2020:LEU:HD12	2.22	0.40
1:B:157:ASN:O	1:B:158:GLU:HB2	2.21	0.40
1:B:234:VAL:HG12	1:B:235:LEU:N	2.37	0.40
1:C:643:ILE:HG13	1:C:644:ALA:N	2.36	0.40
1:C:1607:LYS:HA	1:C:1610:VAL:HG22	2.03	0.40
1:C:1772:PHE:O	1:C:1776:MET:HG3	2.21	0.40
1:D:637:LEU:O	1:D:648:THR:HG21	2.21	0.40
1:D:1738:CYS:O	1:D:1742:THR:HG22	2.20	0.40
1:D:2321:LEU:HA	1:D:2324:VAL:HG22	2.02	0.40
1:A:1797:GLN:NE2	1:A:1906:GLU:O	2.55	0.40
1:A:1904:VAL:O	1:A:1907:THR:HG22	2.22	0.40
1:A:1907:THR:HG21	1:A:1947:TYR:HE2	1.85	0.40
1:B:242:ARG:HB2	1:B:432:VAL:HG22	2.04	0.40
1:B:494:LEU:HD21	1:B:554:ARG:HB3	2.02	0.40
1:B:1245:LEU:C	1:B:1245:LEU:HD23	2.41	0.40
1:B:2025:LEU:O	1:B:2028:VAL:HG12	2.21	0.40
1:C:1245:LEU:HD23	1:C:1245:LEU:C	2.41	0.40
1:C:2014:GLU:O	1:C:2018:ILE:HG13	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:431:ILE:O	1:D:431:ILE:HG22	2.21	0.40
1:D:640:SER:HB3	1:D:645:ILE:HG13	2.03	0.40
1:D:1062:LEU:O	1:D:1065:HIS:HB2	2.21	0.40
1:D:2212:ALA:O	1:D:2216:ASN:ND2	2.48	0.40
1:A:642:HIS:O	1:A:642:HIS:CG	2.74	0.40
1:A:1245:LEU:C	1:A:1245:LEU:HD23	2.41	0.40
1:A:1956:GLN:NE2	1:A:2003:LEU:O	2.55	0.40
1:B:107:GLU:O	1:B:111:VAL:HG12	2.21	0.40
1:B:299:HIS:HE2	1:B:380:PHE:HE1	1.69	0.40
1:B:858:LYS:O	1:B:862:GLU:OE1	2.39	0.40
1:B:1028:ILE:HG13	1:B:1029:GLY:N	2.36	0.40
1:B:1607:LYS:HA	1:B:1610:VAL:HG22	2.03	0.40
1:C:494:LEU:HD21	1:C:554:ARG:HB3	2.02	0.40
1:C:2025:LEU:O	1:C:2028:VAL:HG12	2.21	0.40
1:C:2376:ALA:HB2	1:C:2508:VAL:HG11	2.03	0.40
1:C:2490:PHE:O	1:C:2494:VAL:HG23	2.21	0.40
1:D:1307:ILE:HD12	1:D:1371:LEU:HD12	2.04	0.40
1:D:1956:GLN:NE2	1:D:2003:LEU:O	2.55	0.40
1:D:1957:THR:HA	1:D:1960:VAL:HG22	2.04	0.40
1:D:2575:VAL:O	1:D:2583:TYR:OH	2.18	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	1995/2633 (76%)	1913 (96%)	82 (4%)	0	100	100
1	B	1995/2633 (76%)	1912 (96%)	83 (4%)	0	100	100
1	C	1995/2633 (76%)	1913 (96%)	82 (4%)	0	100	100
1	D	1995/2633 (76%)	1913 (96%)	82 (4%)	0	100	100
All	All	7980/10532 (76%)	7651 (96%)	329 (4%)	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	1865/2329 (80%)	1861 (100%)	4 (0%)	93	98
1	B	1865/2329 (80%)	1861 (100%)	4 (0%)	93	98
1	C	1865/2329 (80%)	1861 (100%)	4 (0%)	93	98
1	D	1865/2329 (80%)	1861 (100%)	4 (0%)	93	98
All	All	7460/9316 (80%)	7444 (100%)	16 (0%)	93	98

All (16) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	1443	ASN
1	A	1682	ARG
1	A	1735	LYS
1	A	1933	ASN
1	B	1443	ASN
1	B	1682	ARG
1	B	1735	LYS
1	B	1933	ASN
1	C	1443	ASN
1	C	1682	ARG
1	C	1735	LYS
1	C	1933	ASN
1	D	1443	ASN
1	D	1682	ARG
1	D	1735	LYS
1	D	1933	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (4) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	1243	GLN

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Mol	Chain	Res	Type
1	B	1243	GLN
1	C	1243	GLN
1	D	1243	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 monosaccharides 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
4	ATP	B	2703	-	26,33,33	0.64	0	31,52,52	1.08	3 (9%)
3	I3P	C	2702	-	24,24,24	1.25	3 (12%)	36,39,39	0.55	0
4	ATP	C	2703	-	26,33,33	0.64	0	31,52,52	1.08	3 (9%)
3	I3P	B	2702	-	24,24,24	1.25	3 (12%)	36,39,39	0.55	0
3	I3P	D	2702	-	24,24,24	1.25	3 (12%)	36,39,39	0.55	0
4	ATP	D	2703	-	26,33,33	0.65	0	31,52,52	1.08	3 (9%)
3	I3P	A	2702	-	24,24,24	1.25	3 (12%)	36,39,39	0.55	0
4	ATP	A	2703	-	26,33,33	0.65	0	31,52,52	1.08	3 (9%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	ATP	B	2703	-	-	3/18/38/38	0/3/3/3
3	I3P	C	2702	-	-	3/15/39/39	0/1/1/1
4	ATP	C	2703	-	-	3/18/38/38	0/3/3/3
3	I3P	B	2702	-	-	3/15/39/39	0/1/1/1
3	I3P	D	2702	-	-	3/15/39/39	0/1/1/1
4	ATP	D	2703	-	-	3/18/38/38	0/3/3/3
3	I3P	A	2702	-	-	3/15/39/39	0/1/1/1
4	ATP	A	2703	-	-	3/18/38/38	0/3/3/3

All (12) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	B	2702	I3P	P4-O4	2.99	1.65	1.59
3	A	2702	I3P	P4-O4	2.96	1.64	1.59
3	C	2702	I3P	P4-O4	2.96	1.64	1.59
3	D	2702	I3P	P4-O4	2.96	1.64	1.59
3	A	2702	I3P	P5-O5	2.89	1.64	1.59
3	D	2702	I3P	P5-O5	2.89	1.64	1.59
3	A	2702	I3P	P1-O1	2.87	1.64	1.59
3	C	2702	I3P	P1-O1	2.87	1.64	1.59
3	D	2702	I3P	P1-O1	2.87	1.64	1.59
3	B	2702	I3P	P5-O5	2.87	1.64	1.59
3	C	2702	I3P	P5-O5	2.86	1.64	1.59
3	B	2702	I3P	P1-O1	2.82	1.64	1.59

All (12) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	A	2703	ATP	C5-C6-N6	2.31	123.86	120.35
4	B	2703	ATP	C5-C6-N6	2.31	123.86	120.35
4	C	2703	ATP	C5-C6-N6	2.31	123.86	120.35
4	D	2703	ATP	C5-C6-N6	2.31	123.86	120.35
4	B	2703	ATP	PB-O3B-PG	2.05	139.86	132.83
4	A	2703	ATP	PB-O3B-PG	2.04	139.83	132.83
4	D	2703	ATP	PB-O3B-PG	2.04	139.83	132.83
4	C	2703	ATP	PB-O3B-PG	2.04	139.82	132.83
4	C	2703	ATP	O3'-C3'-C2'	-2.01	105.32	111.82

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	D	2703	ATP	O3'-C3'-C2'	-2.01	105.32	111.82
4	A	2703	ATP	O3'-C3'-C2'	-2.01	105.33	111.82
4	B	2703	ATP	O3'-C3'-C2'	-2.01	105.33	111.82

There are no chirality outliers.

All (24) torsion outliers are listed below:

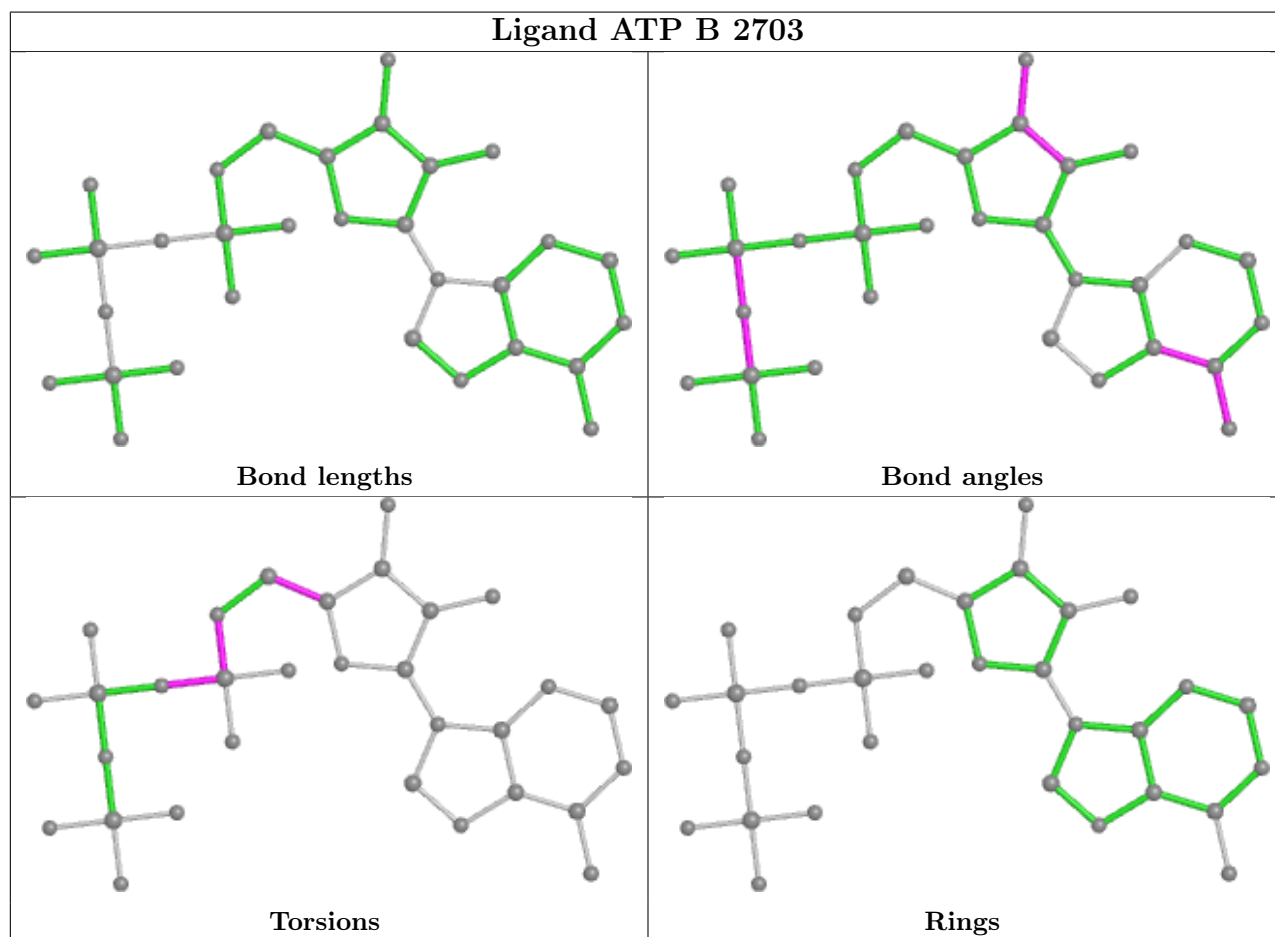
Mol	Chain	Res	Type	Atoms
3	A	2702	I3P	C1-O1-P1-O12
3	A	2702	I3P	C5-O5-P5-O53
3	B	2702	I3P	C1-O1-P1-O12
3	B	2702	I3P	C5-O5-P5-O53
3	C	2702	I3P	C1-O1-P1-O12
3	C	2702	I3P	C5-O5-P5-O53
3	D	2702	I3P	C1-O1-P1-O12
3	D	2702	I3P	C5-O5-P5-O53
4	A	2703	ATP	O4'-C4'-C5'-O5'
4	B	2703	ATP	O4'-C4'-C5'-O5'
4	C	2703	ATP	O4'-C4'-C5'-O5'
4	D	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'
3	A	2702	I3P	C1-O1-P1-O11
3	B	2702	I3P	C1-O1-P1-O11
3	C	2702	I3P	C1-O1-P1-O11
3	D	2702	I3P	C1-O1-P1-O11
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

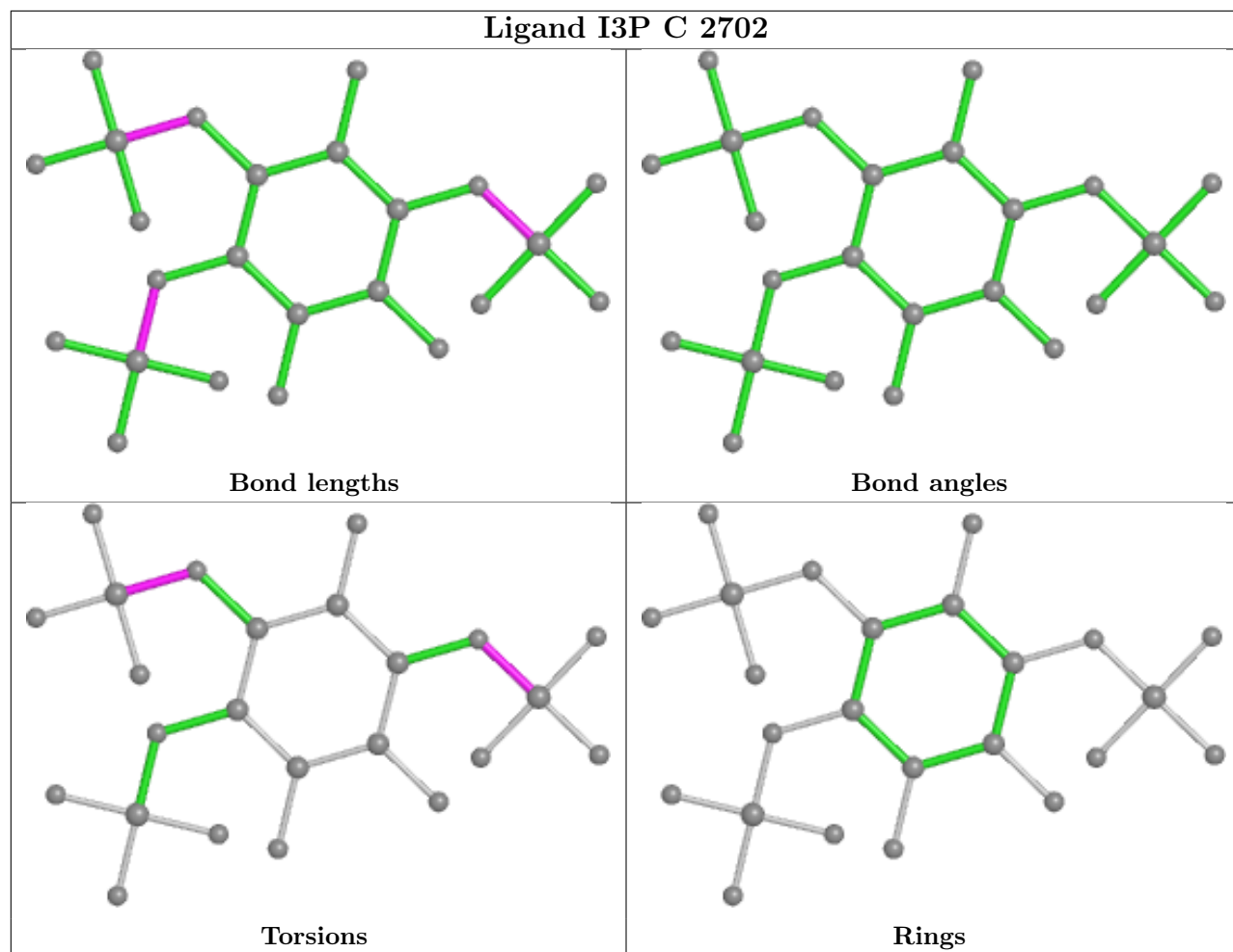
There are no ring outliers.

4 monomers are involved in 8 short contacts:

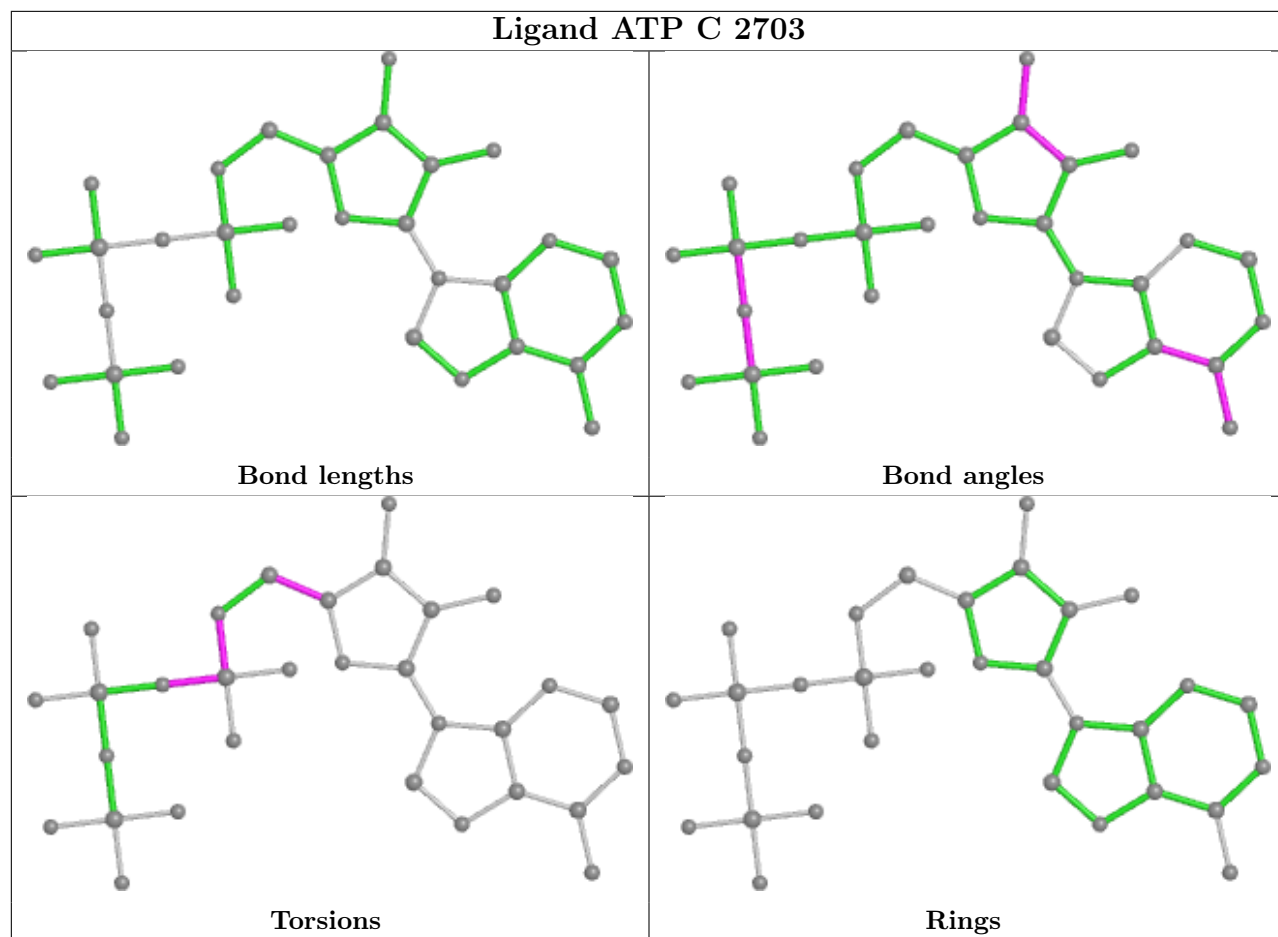
Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	C	2702	I3P	2	0
3	B	2702	I3P	2	0
3	D	2702	I3P	2	0
3	A	2702	I3P	2	0

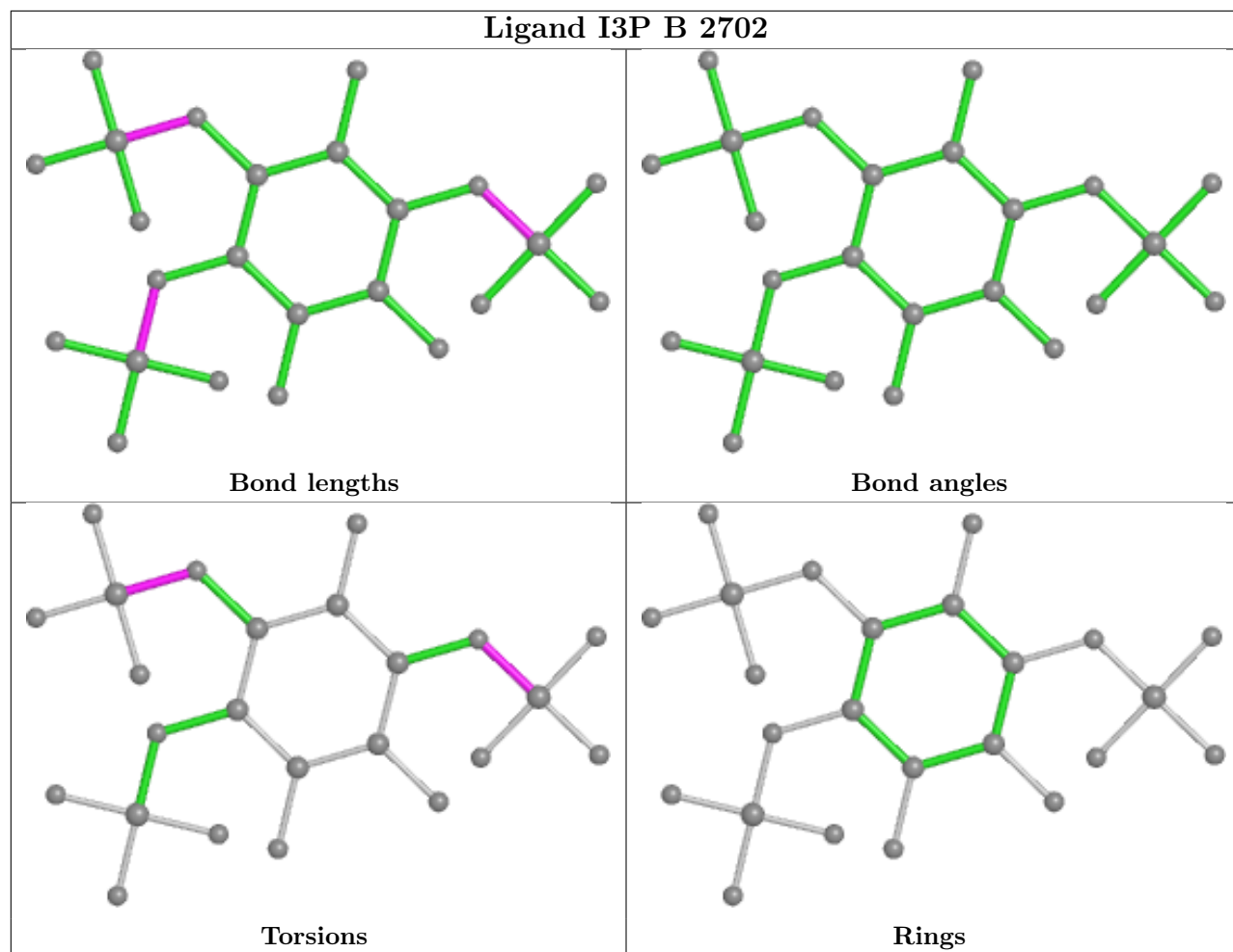
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included.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

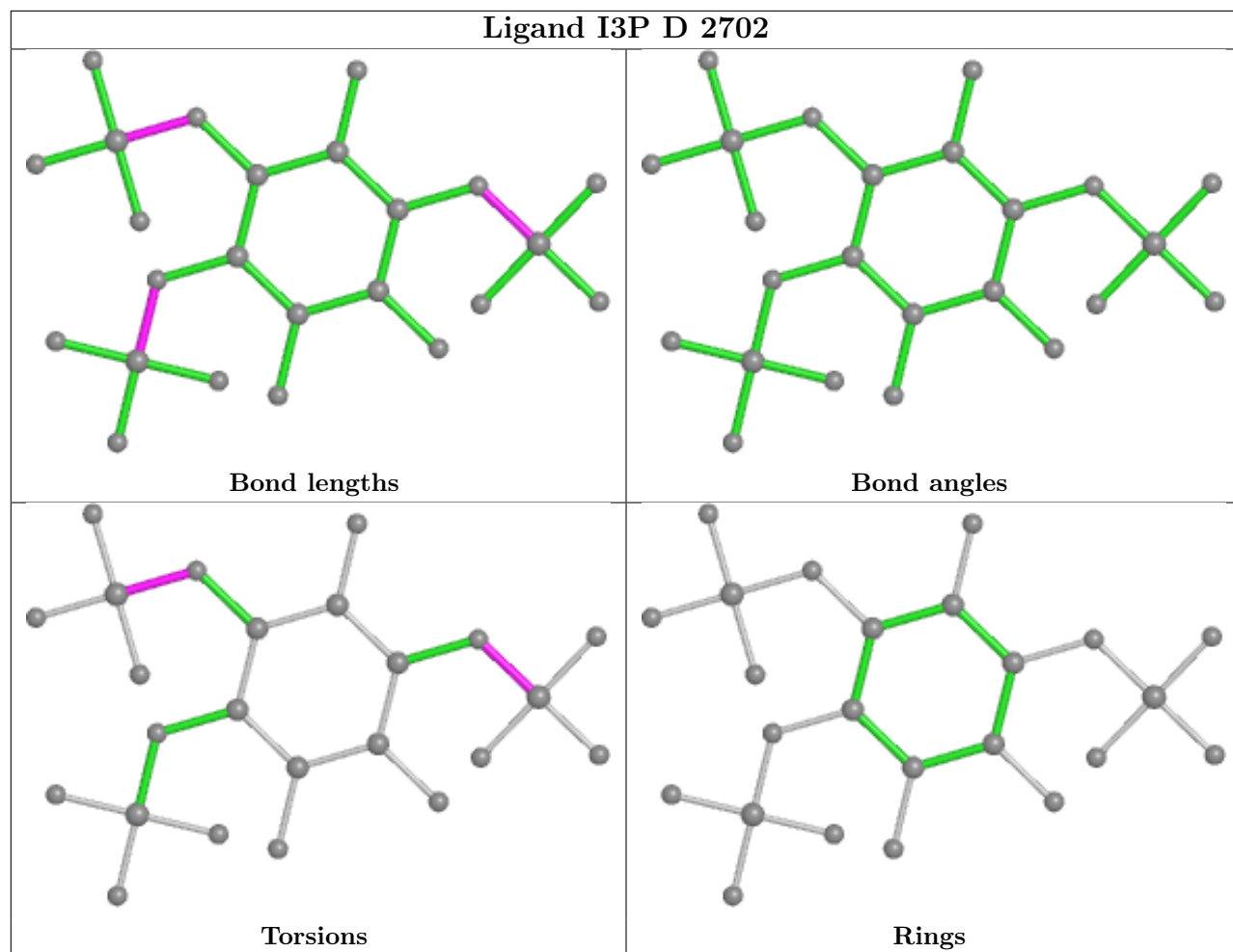


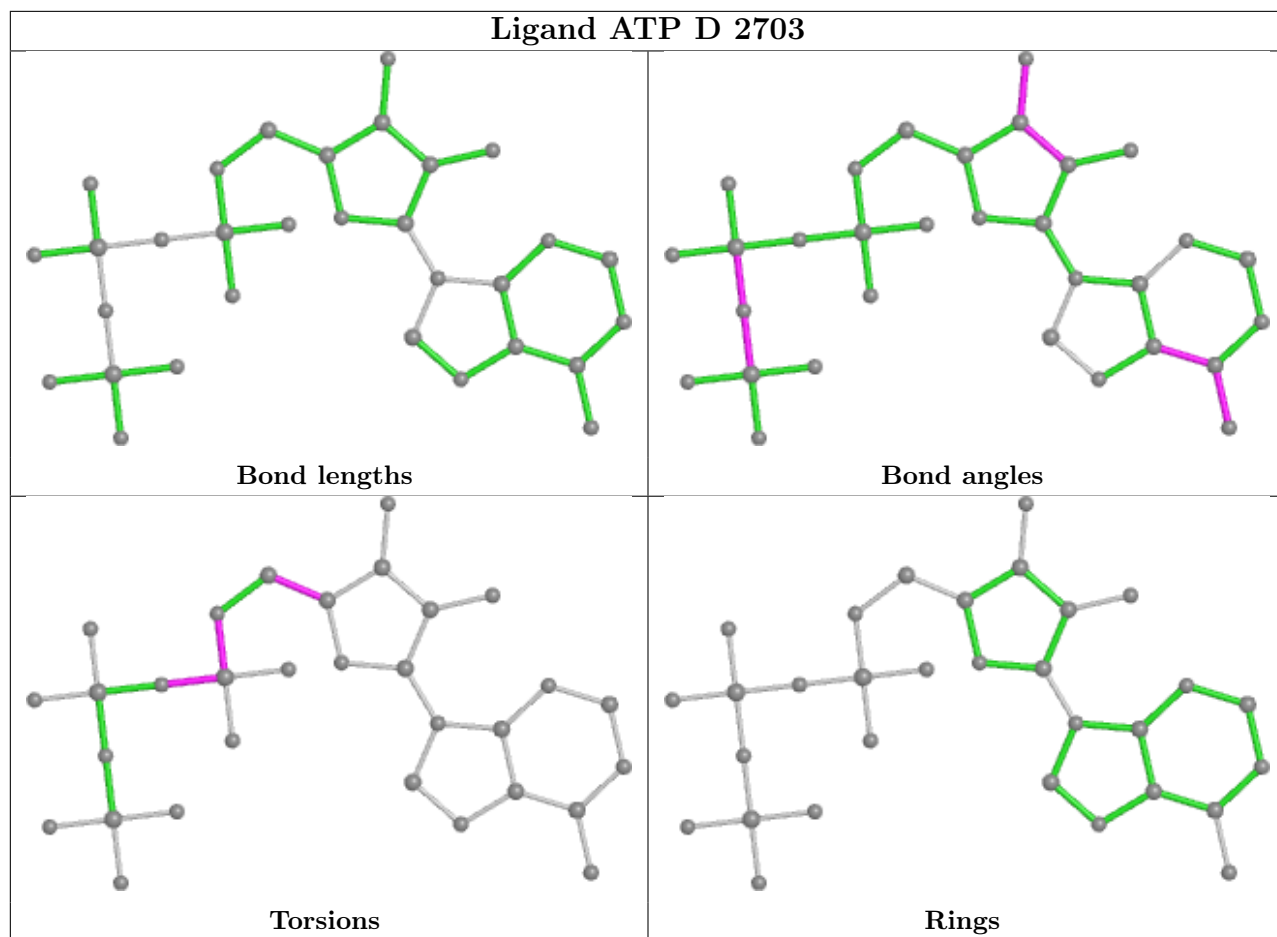


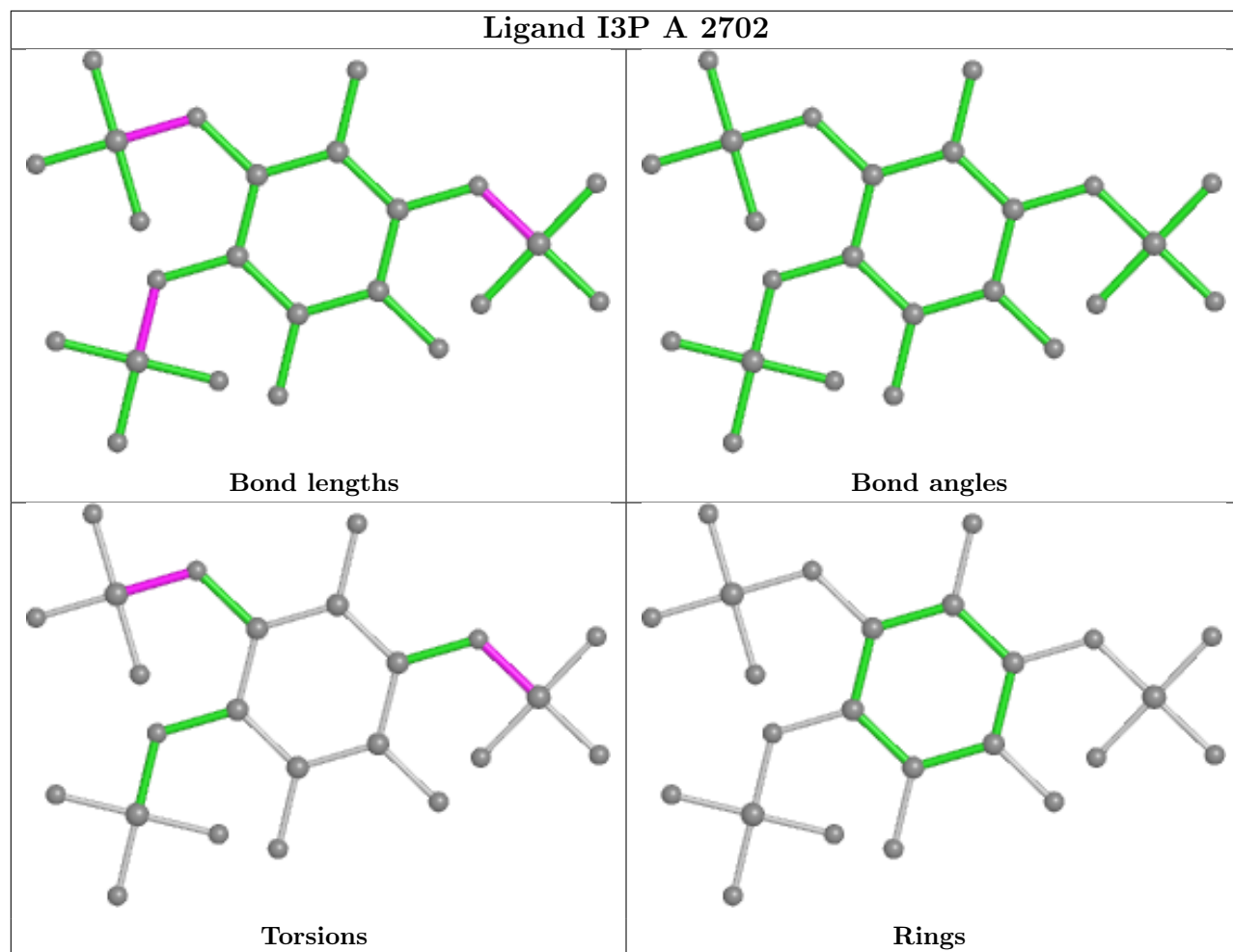


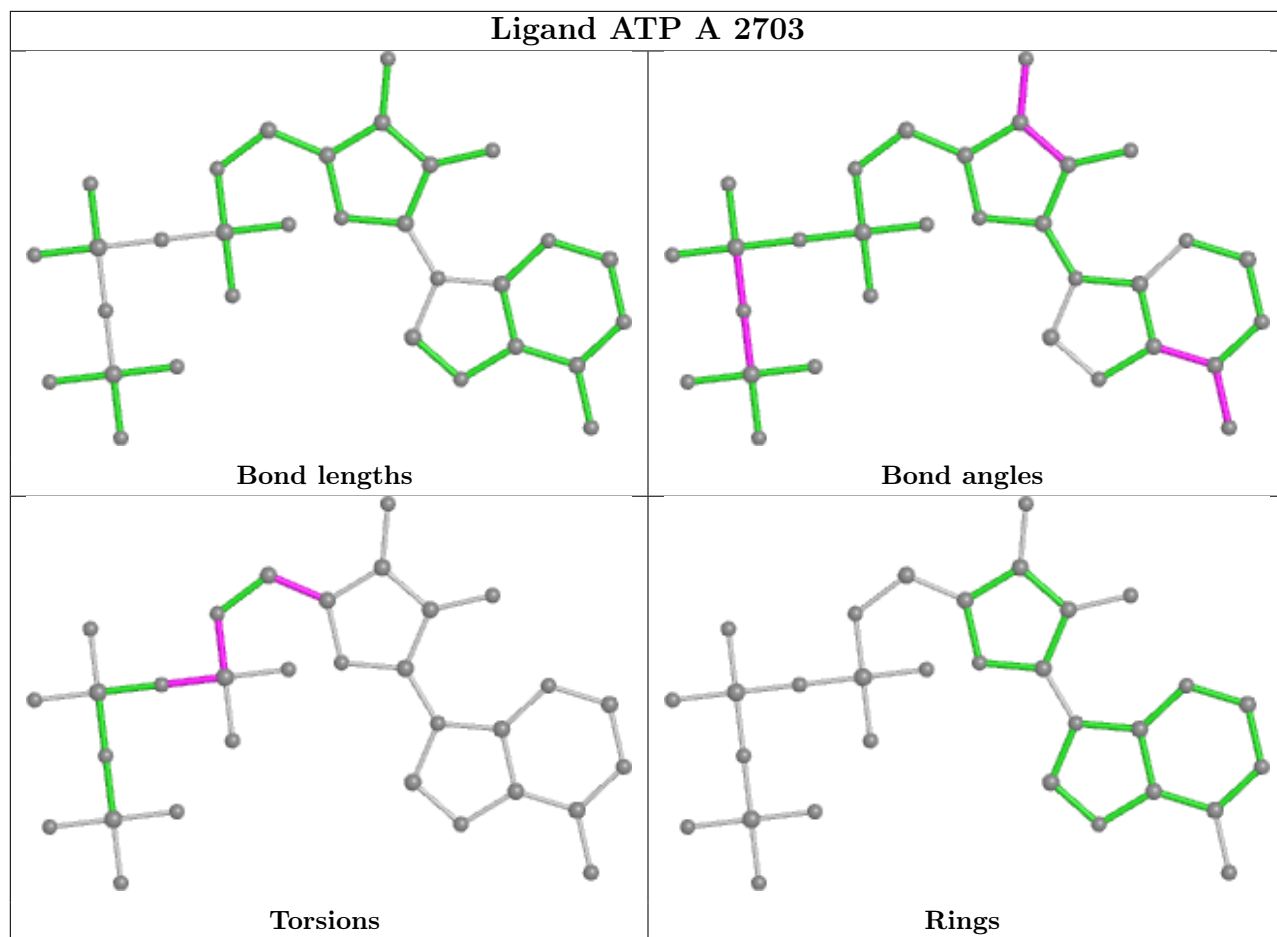












## 5.7 Other polymers [i](#)

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	B	1
1	C	1
1	D	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	25.33
1	B	2611:VAL	C	2628:UNK	N	25.33

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	C	2611:VAL	C	2628:UNK	N	25.33
1	D	2611:VAL	C	2628:UNK	N	25.33

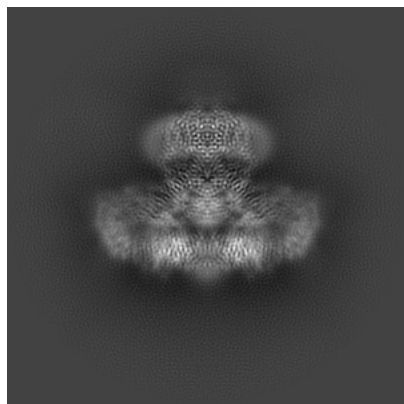
## 6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-25667. These allow visual inspection of the internal detail of the map and identification of artifacts.

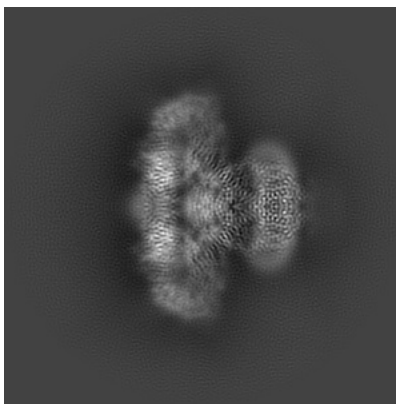
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

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

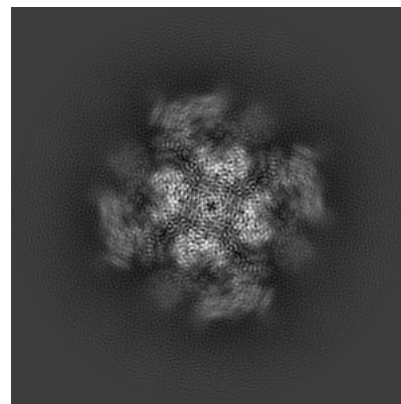
#### 6.1.1 Primary map



X

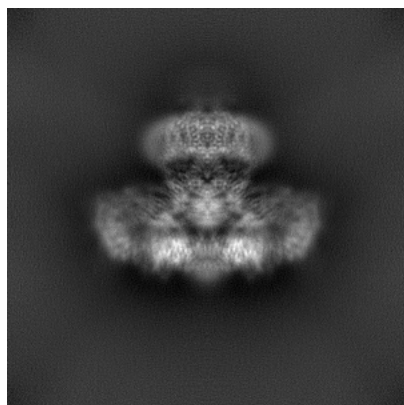


Y

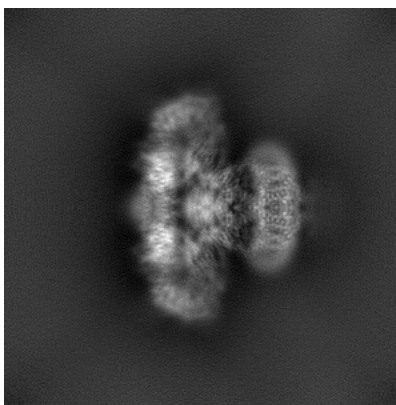


Z

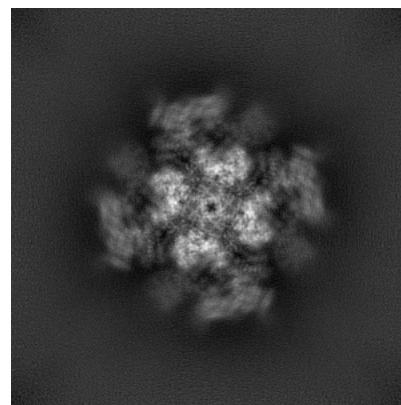
#### 6.1.2 Raw map



X



Y



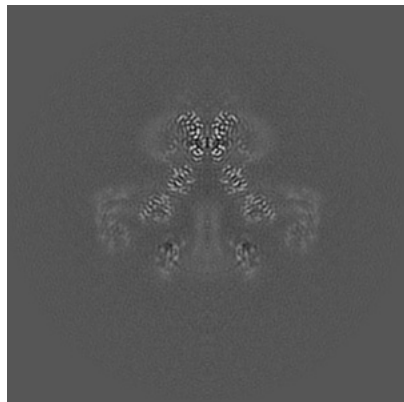
Z

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

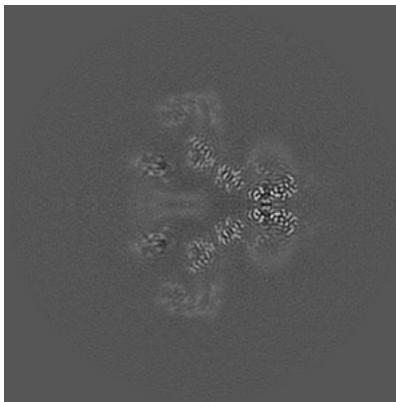


## 6.2 Central slices [i](#)

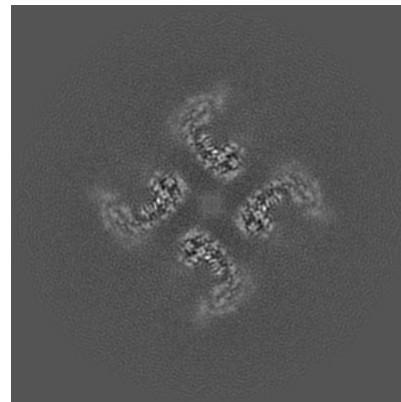
### 6.2.1 Primary map



X Index: 240

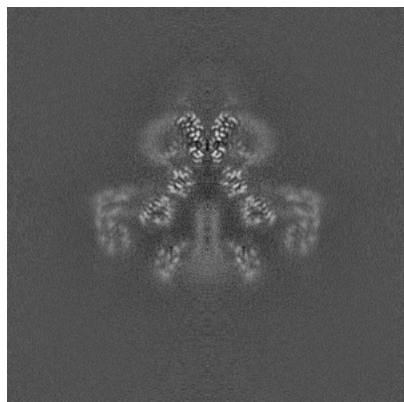


Y Index: 240

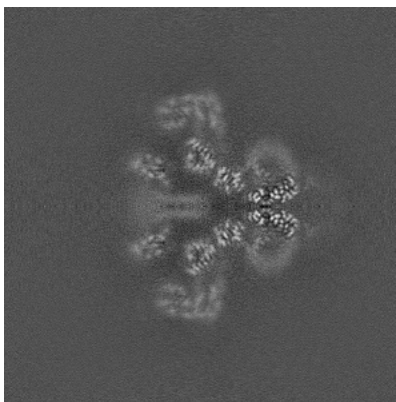


Z Index: 240

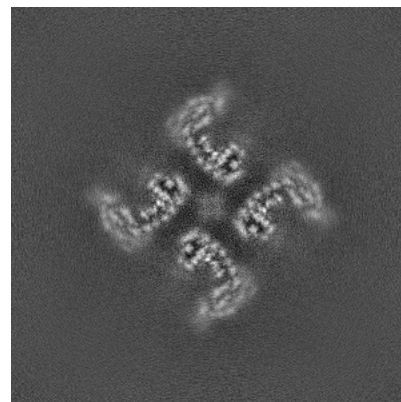
### 6.2.2 Raw map



X Index: 240



Y Index: 240

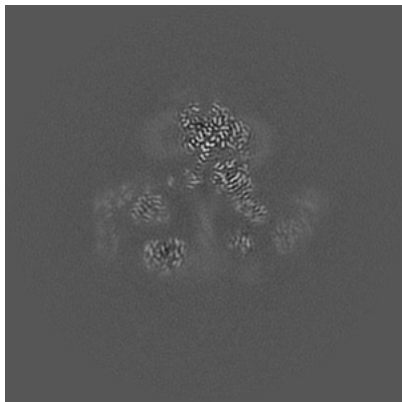


Z Index: 240

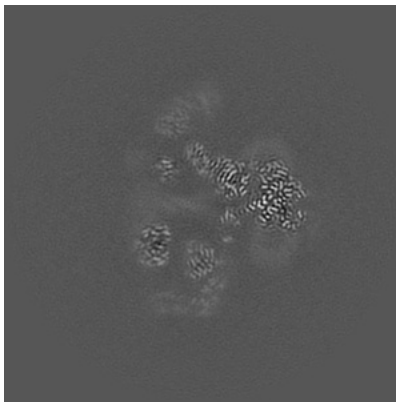
The images above show central slices of the map in three orthogonal directions.

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

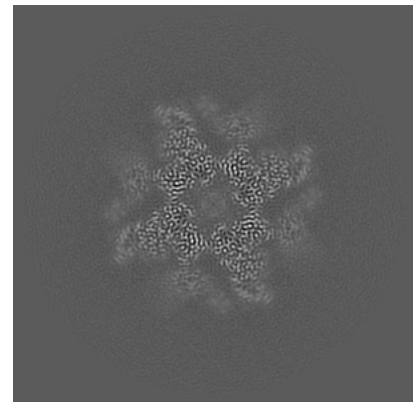
### 6.3.1 Primary map



X Index: 250

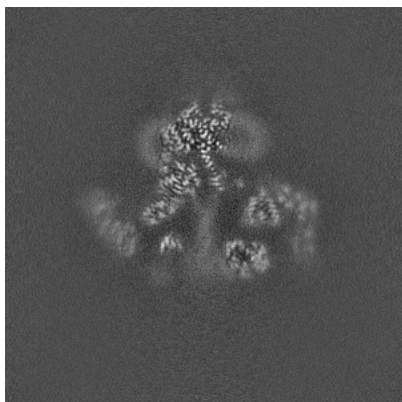


Y Index: 230

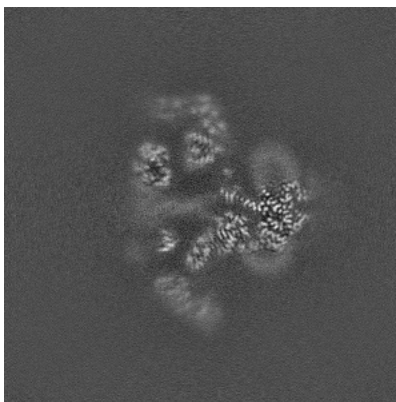


Z Index: 188

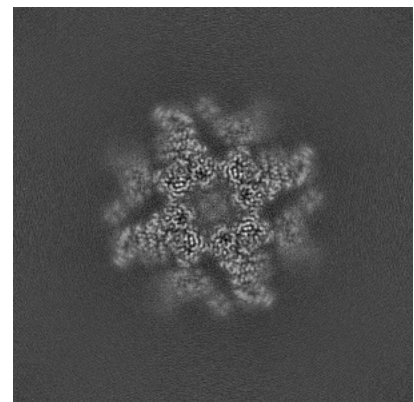
### 6.3.2 Raw map



X Index: 229



Y Index: 251

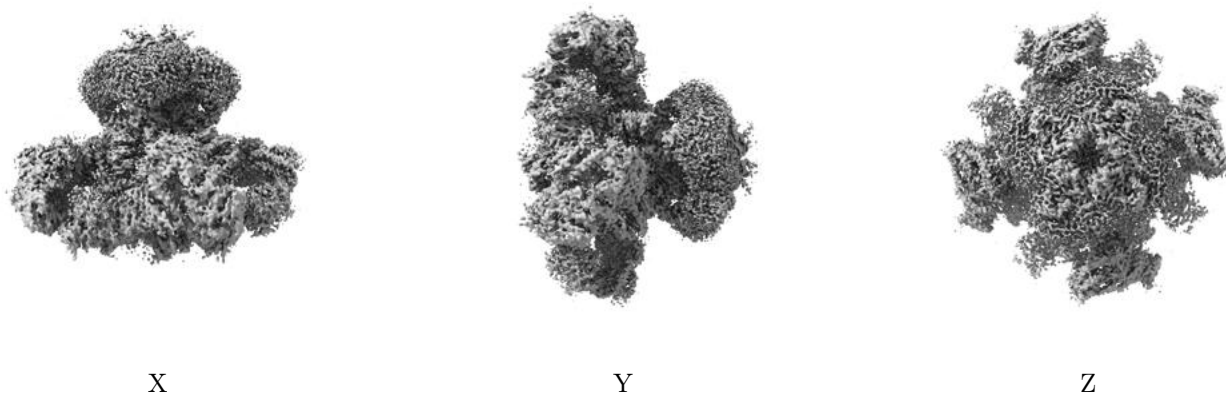


Z Index: 189

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

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

### 6.4.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.2. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

### 6.4.2 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.

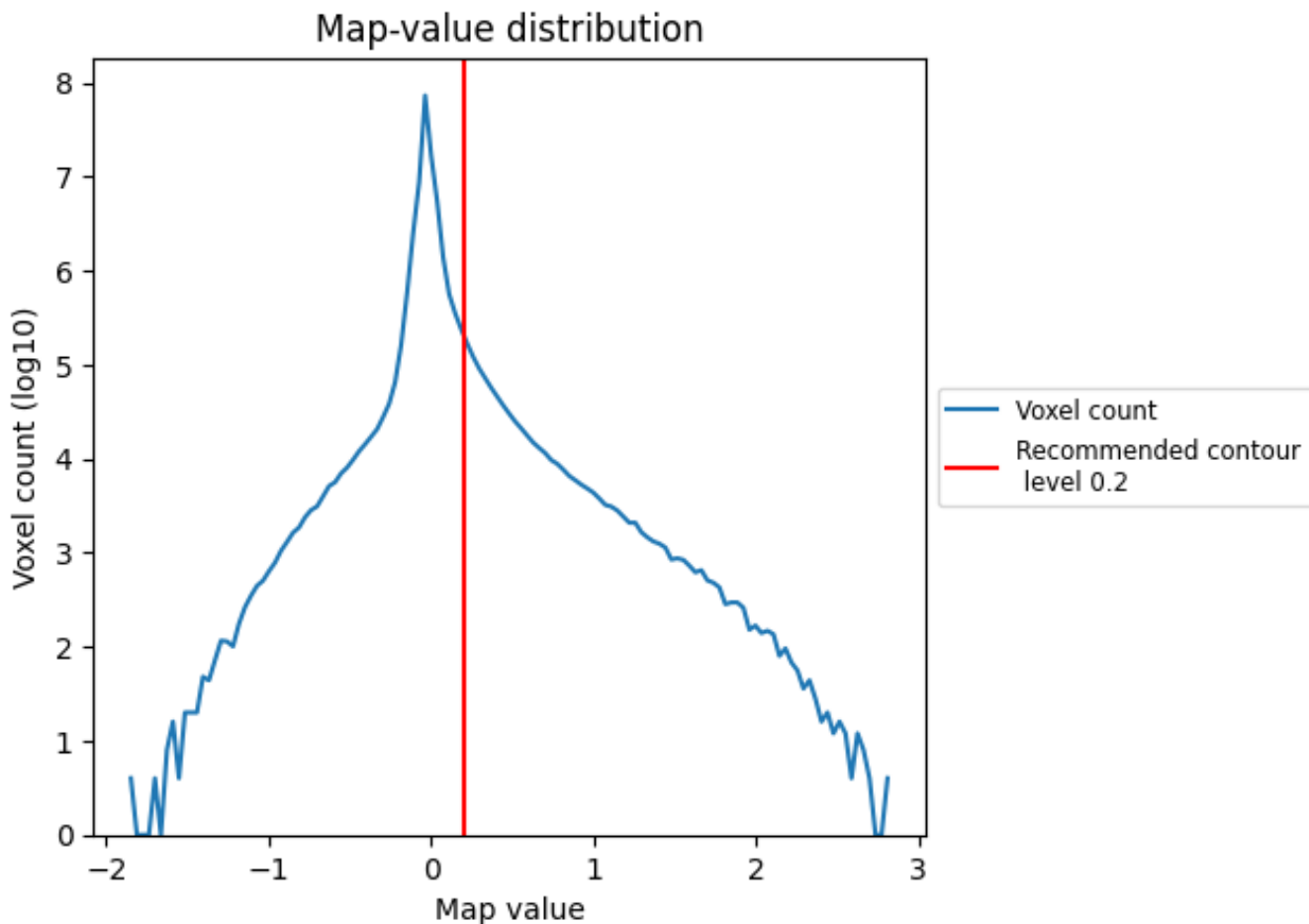
## 6.5 Mask visualisation [i](#)

This section was not generated. No masks/segmentation were deposited.

## 7 Map analysis [i](#)

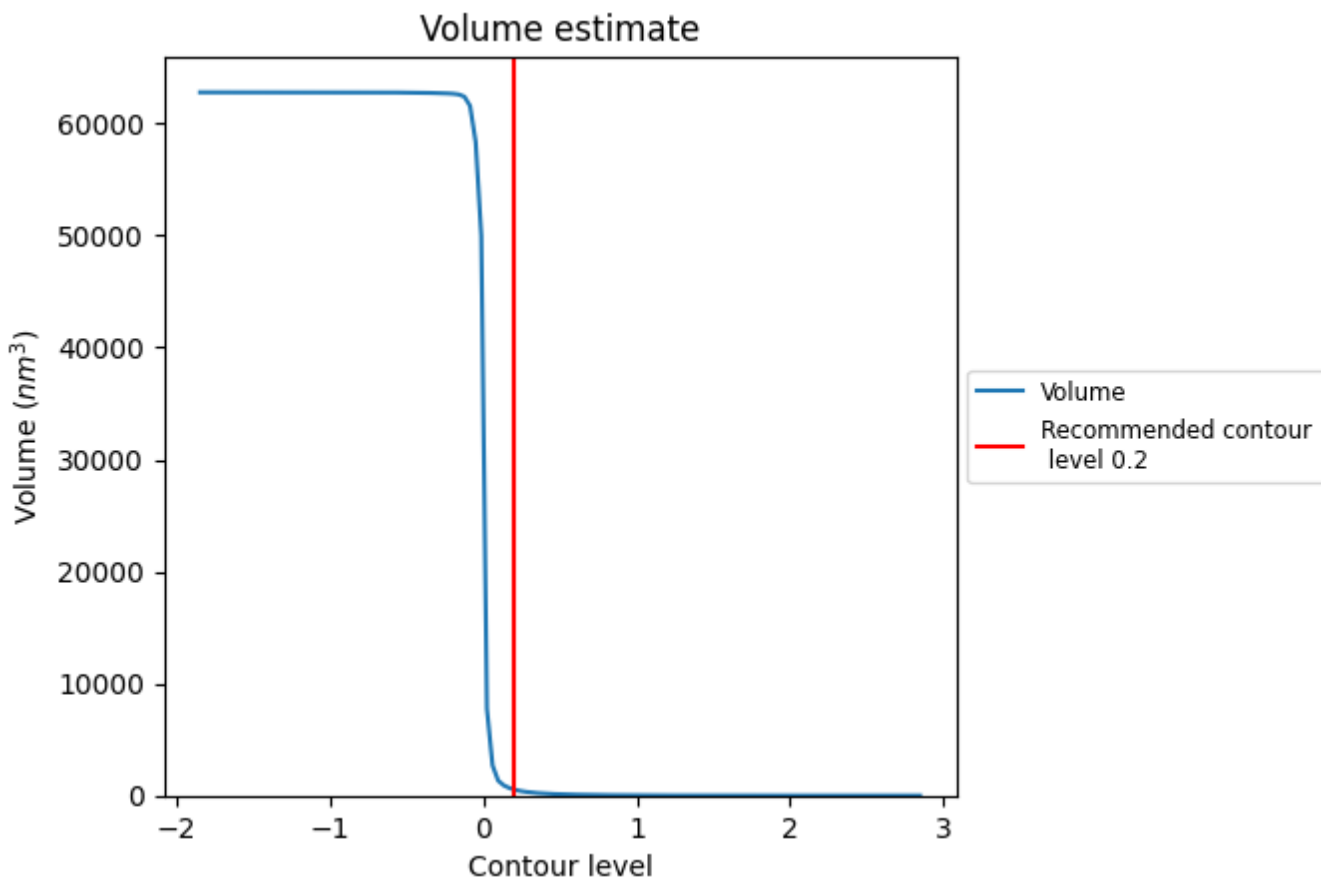
This section contains the results of statistical analysis of the map.

### 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.

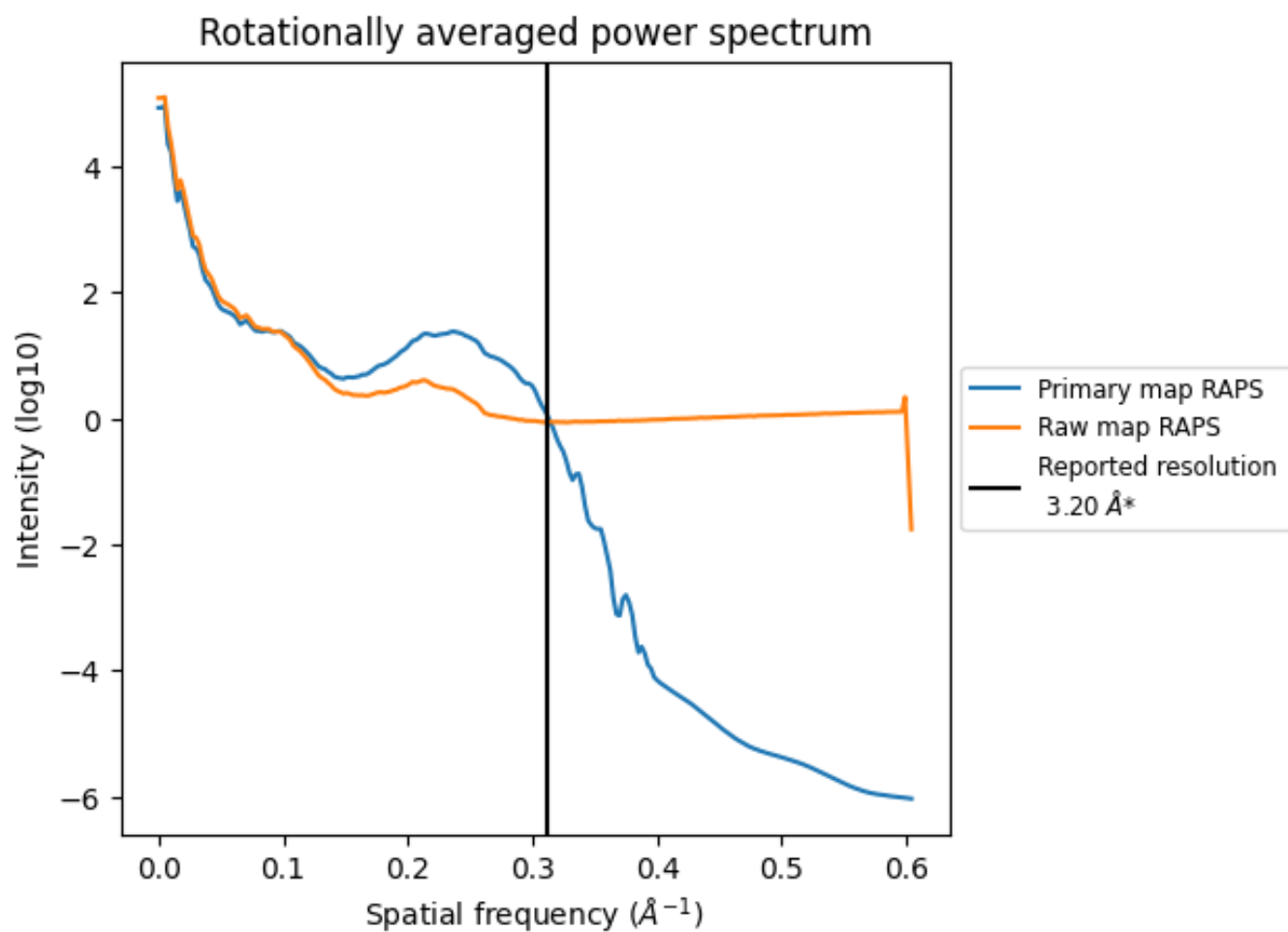
## 7.2 Volume estimate [i](#)



The volume at the recommended contour level is 544 nm<sup>3</sup>; this corresponds to an approximate mass of 491 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](#)

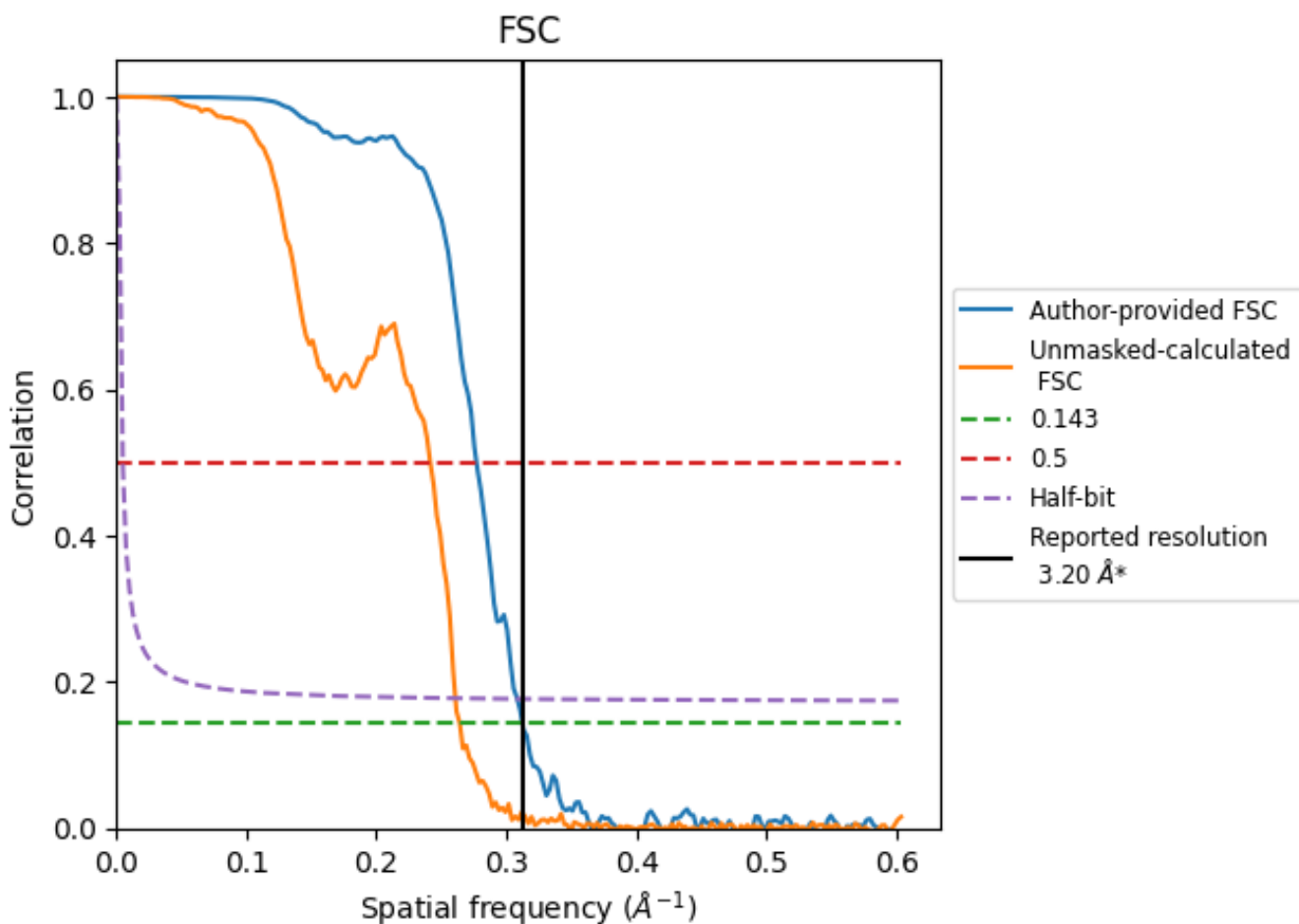


\*Reported resolution corresponds to spatial frequency of 0.312 Å<sup>-1</sup>

## 8 Fourier-Shell correlation [i](#)

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

### 8.1 FSC [i](#)



\*Reported resolution corresponds to spatial frequency of 0.312 Å<sup>-1</sup>

## 8.2 Resolution estimates [i](#)

Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.20	-	-
Author-provided FSC curve	3.20	3.61	3.24
Unmasked-calculated*	3.79	4.14	3.83

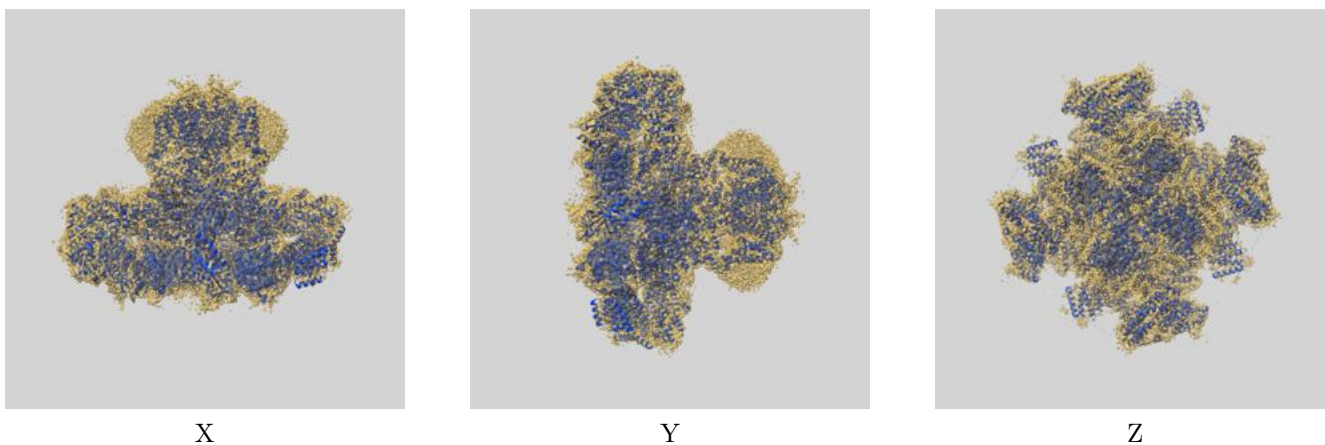
\*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 3.79 differs from the reported value 3.2 by more than 10 %



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

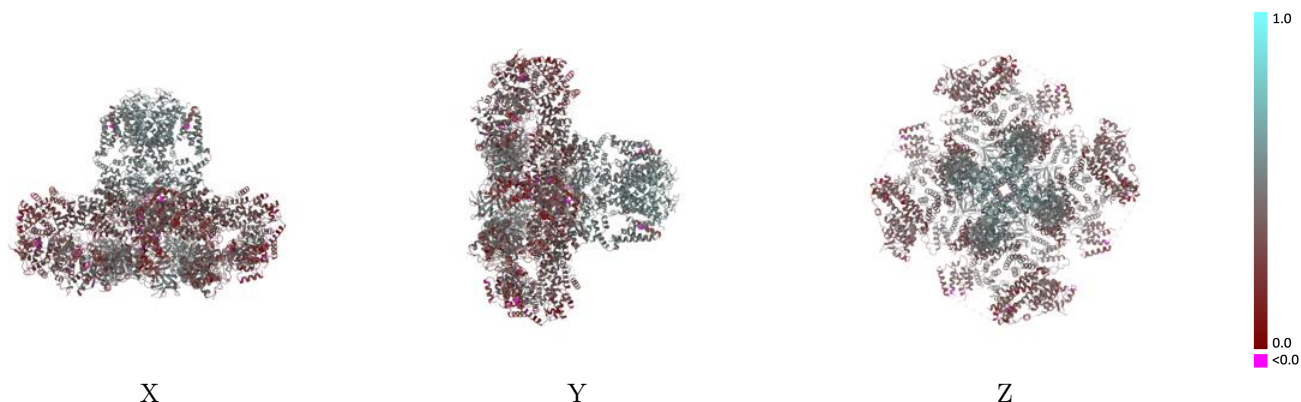
This section contains information regarding the fit between EMDB map EMD-25667 and PDB model 7T3P. Per-residue inclusion information can be found in section 3 on page 6.

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



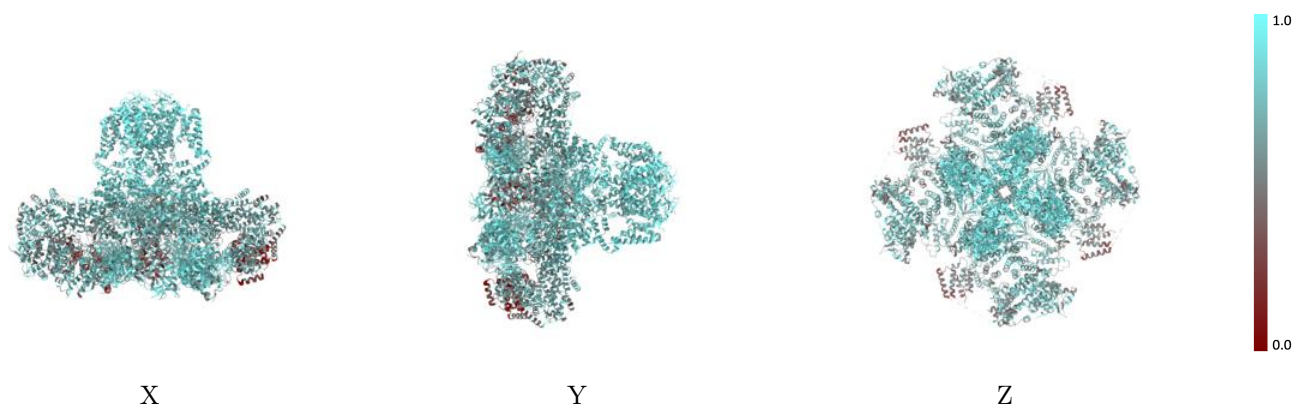
The images above show the 3D surface view of the map at the recommended contour level 0.2 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



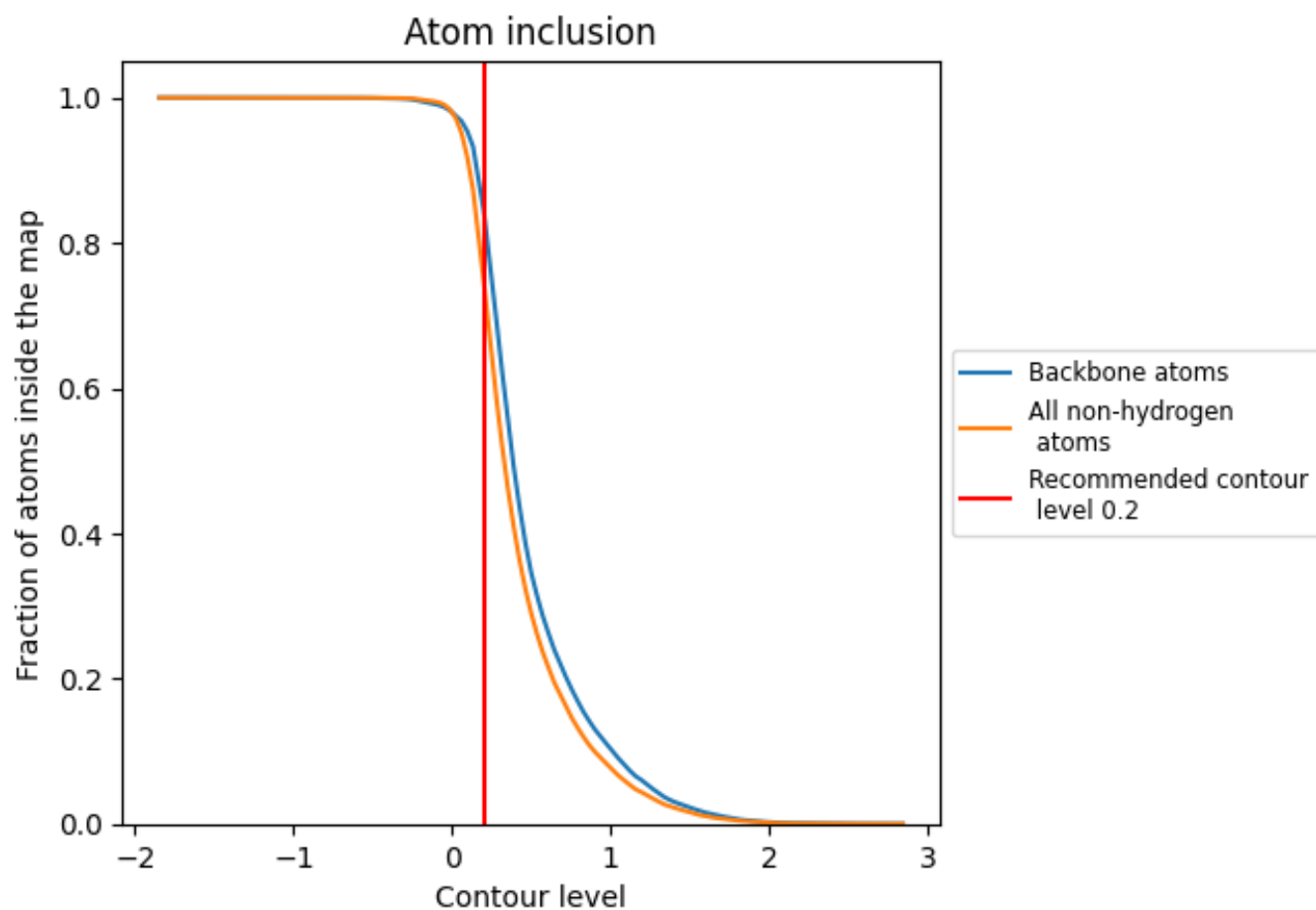
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.2).











## 9.4 Atom inclusion [i](#)



At the recommended contour level, 85% of all backbone atoms, 75% 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 (0.2) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.7496	 0.3990
A	 0.7512	 0.4020
B	 0.7445	 0.3910
C	 0.7514	 0.4020
D	 0.7513	 0.4020

