



Full wwPDB EM Validation Report ⓘ

Apr 7, 2025 – 12:07 PM EDT

PDB ID : 9B14 / pdb_00009b14
EMDB ID : EMD-44068
Title : Cryo-EM structure of human uMtCK1 in complex with transition state analog
Authors : Demir, M.; Koepping, L.; Zhao, J.; Sergienko, E.
Deposited on : 2024-03-13
Resolution : 2.20 Å(reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

EMDB validation analysis : 0.0.1.dev117
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4.02b-467
buster-report : 1.1.7 (2018)
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.42

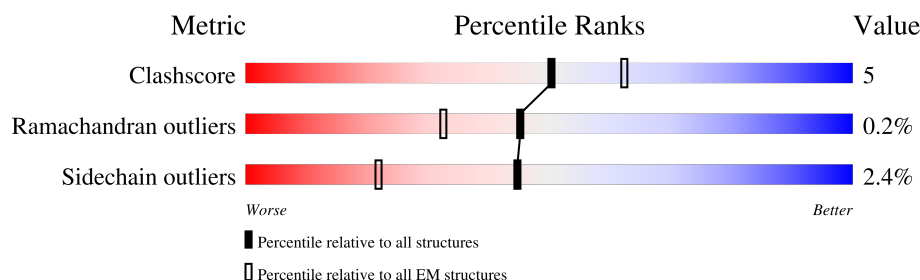
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 2.20 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	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for ≥ 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	418	76% 11% 12%
1	B	418	77% 11% 12%
1	C	418	77% 11% 12%
1	D	418	77% 11% 12%
1	E	418	75% 13% 12%
1	F	418	76% 12% 12%
1	G	418	77% 11% 12%
1	H	418	77% 11% 12%

2 Entry composition

There are 4 unique types of molecules in this entry. The entry contains 44192 atoms, of which 21368 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 Creatine kinase U-type, mitochondrial.

Mol	Chain	Residues	Atoms						AltConf	Trace
1	A	368	Total 5468	C 1763	H 2652	N 511	O 527	S 15	2	0
1	B	368	Total 5468	C 1763	H 2652	N 511	O 527	S 15	2	0
1	C	368	Total 5468	C 1763	H 2652	N 511	O 527	S 15	2	0
1	D	368	Total 5468	C 1763	H 2652	N 511	O 527	S 15	2	0
1	E	368	Total 5468	C 1763	H 2652	N 511	O 527	S 15	2	0
1	F	368	Total 5468	C 1763	H 2652	N 511	O 527	S 15	2	0
1	G	368	Total 5468	C 1763	H 2652	N 511	O 527	S 15	2	0
1	H	368	Total 5468	C 1763	H 2652	N 511	O 527	S 15	2	0

There are 312 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-27	MET	-	expression tag	UNP P12532
A	-26	GLY	-	expression tag	UNP P12532
A	-25	SER	-	expression tag	UNP P12532
A	-24	SER	-	expression tag	UNP P12532
A	-23	HIS	-	expression tag	UNP P12532
A	-22	HIS	-	expression tag	UNP P12532
A	-21	HIS	-	expression tag	UNP P12532
A	-20	HIS	-	expression tag	UNP P12532
A	-19	HIS	-	expression tag	UNP P12532
A	-18	HIS	-	expression tag	UNP P12532
A	-17	SER	-	expression tag	UNP P12532
A	-16	SER	-	expression tag	UNP P12532
A	-15	GLY	-	expression tag	UNP P12532
A	-14	LEU	-	expression tag	UNP P12532

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Chain	Residue	Modelled	Actual	Comment	Reference
A	-13	VAL	-	expression tag	UNP P12532
A	-12	PRO	-	expression tag	UNP P12532
A	-11	ARG	-	expression tag	UNP P12532
A	-10	GLY	-	expression tag	UNP P12532
A	-9	SER	-	expression tag	UNP P12532
A	-8	HIS	-	expression tag	UNP P12532
A	-7	MET	-	expression tag	UNP P12532
A	-6	GLU	-	expression tag	UNP P12532
A	-5	ASN	-	expression tag	UNP P12532
A	-4	LEU	-	expression tag	UNP P12532
A	-3	TYR	-	expression tag	UNP P12532
A	-2	PHE	-	expression tag	UNP P12532
A	-1	GLN	-	expression tag	UNP P12532
A	0	GLY	-	expression tag	UNP P12532
A	380	GLY	-	expression tag	UNP P12532
A	381	SER	-	expression tag	UNP P12532
A	382	SER	-	expression tag	UNP P12532
A	383	ASP	-	expression tag	UNP P12532
A	384	TYR	-	expression tag	UNP P12532
A	385	LYS	-	expression tag	UNP P12532
A	386	ASP	-	expression tag	UNP P12532
A	387	ASP	-	expression tag	UNP P12532
A	388	ASP	-	expression tag	UNP P12532
A	389	ASP	-	expression tag	UNP P12532
A	390	LYS	-	expression tag	UNP P12532
B	-27	MET	-	expression tag	UNP P12532
B	-26	GLY	-	expression tag	UNP P12532
B	-25	SER	-	expression tag	UNP P12532
B	-24	SER	-	expression tag	UNP P12532
B	-23	HIS	-	expression tag	UNP P12532
B	-22	HIS	-	expression tag	UNP P12532
B	-21	HIS	-	expression tag	UNP P12532
B	-20	HIS	-	expression tag	UNP P12532
B	-19	HIS	-	expression tag	UNP P12532
B	-18	HIS	-	expression tag	UNP P12532
B	-17	SER	-	expression tag	UNP P12532
B	-16	SER	-	expression tag	UNP P12532
B	-15	GLY	-	expression tag	UNP P12532
B	-14	LEU	-	expression tag	UNP P12532
B	-13	VAL	-	expression tag	UNP P12532
B	-12	PRO	-	expression tag	UNP P12532
B	-11	ARG	-	expression tag	UNP P12532

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Chain	Residue	Modelled	Actual	Comment	Reference
B	-10	GLY	-	expression tag	UNP P12532
B	-9	SER	-	expression tag	UNP P12532
B	-8	HIS	-	expression tag	UNP P12532
B	-7	MET	-	expression tag	UNP P12532
B	-6	GLU	-	expression tag	UNP P12532
B	-5	ASN	-	expression tag	UNP P12532
B	-4	LEU	-	expression tag	UNP P12532
B	-3	TYR	-	expression tag	UNP P12532
B	-2	PHE	-	expression tag	UNP P12532
B	-1	GLN	-	expression tag	UNP P12532
B	0	GLY	-	expression tag	UNP P12532
B	380	GLY	-	expression tag	UNP P12532
B	381	SER	-	expression tag	UNP P12532
B	382	SER	-	expression tag	UNP P12532
B	383	ASP	-	expression tag	UNP P12532
B	384	TYR	-	expression tag	UNP P12532
B	385	LYS	-	expression tag	UNP P12532
B	386	ASP	-	expression tag	UNP P12532
B	387	ASP	-	expression tag	UNP P12532
B	388	ASP	-	expression tag	UNP P12532
B	389	ASP	-	expression tag	UNP P12532
B	390	LYS	-	expression tag	UNP P12532
C	-27	MET	-	expression tag	UNP P12532
C	-26	GLY	-	expression tag	UNP P12532
C	-25	SER	-	expression tag	UNP P12532
C	-24	SER	-	expression tag	UNP P12532
C	-23	HIS	-	expression tag	UNP P12532
C	-22	HIS	-	expression tag	UNP P12532
C	-21	HIS	-	expression tag	UNP P12532
C	-20	HIS	-	expression tag	UNP P12532
C	-19	HIS	-	expression tag	UNP P12532
C	-18	HIS	-	expression tag	UNP P12532
C	-17	SER	-	expression tag	UNP P12532
C	-16	SER	-	expression tag	UNP P12532
C	-15	GLY	-	expression tag	UNP P12532
C	-14	LEU	-	expression tag	UNP P12532
C	-13	VAL	-	expression tag	UNP P12532
C	-12	PRO	-	expression tag	UNP P12532
C	-11	ARG	-	expression tag	UNP P12532
C	-10	GLY	-	expression tag	UNP P12532
C	-9	SER	-	expression tag	UNP P12532
C	-8	HIS	-	expression tag	UNP P12532

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Chain	Residue	Modelled	Actual	Comment	Reference
C	-7	MET	-	expression tag	UNP P12532
C	-6	GLU	-	expression tag	UNP P12532
C	-5	ASN	-	expression tag	UNP P12532
C	-4	LEU	-	expression tag	UNP P12532
C	-3	TYR	-	expression tag	UNP P12532
C	-2	PHE	-	expression tag	UNP P12532
C	-1	GLN	-	expression tag	UNP P12532
C	0	GLY	-	expression tag	UNP P12532
C	380	GLY	-	expression tag	UNP P12532
C	381	SER	-	expression tag	UNP P12532
C	382	SER	-	expression tag	UNP P12532
C	383	ASP	-	expression tag	UNP P12532
C	384	TYR	-	expression tag	UNP P12532
C	385	LYS	-	expression tag	UNP P12532
C	386	ASP	-	expression tag	UNP P12532
C	387	ASP	-	expression tag	UNP P12532
C	388	ASP	-	expression tag	UNP P12532
C	389	ASP	-	expression tag	UNP P12532
C	390	LYS	-	expression tag	UNP P12532
D	-27	MET	-	expression tag	UNP P12532
D	-26	GLY	-	expression tag	UNP P12532
D	-25	SER	-	expression tag	UNP P12532
D	-24	SER	-	expression tag	UNP P12532
D	-23	HIS	-	expression tag	UNP P12532
D	-22	HIS	-	expression tag	UNP P12532
D	-21	HIS	-	expression tag	UNP P12532
D	-20	HIS	-	expression tag	UNP P12532
D	-19	HIS	-	expression tag	UNP P12532
D	-18	HIS	-	expression tag	UNP P12532
D	-17	SER	-	expression tag	UNP P12532
D	-16	SER	-	expression tag	UNP P12532
D	-15	GLY	-	expression tag	UNP P12532
D	-14	LEU	-	expression tag	UNP P12532
D	-13	VAL	-	expression tag	UNP P12532
D	-12	PRO	-	expression tag	UNP P12532
D	-11	ARG	-	expression tag	UNP P12532
D	-10	GLY	-	expression tag	UNP P12532
D	-9	SER	-	expression tag	UNP P12532
D	-8	HIS	-	expression tag	UNP P12532
D	-7	MET	-	expression tag	UNP P12532
D	-6	GLU	-	expression tag	UNP P12532
D	-5	ASN	-	expression tag	UNP P12532

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Chain	Residue	Modelled	Actual	Comment	Reference
D	-4	LEU	-	expression tag	UNP P12532
D	-3	TYR	-	expression tag	UNP P12532
D	-2	PHE	-	expression tag	UNP P12532
D	-1	GLN	-	expression tag	UNP P12532
D	0	GLY	-	expression tag	UNP P12532
D	380	GLY	-	expression tag	UNP P12532
D	381	SER	-	expression tag	UNP P12532
D	382	SER	-	expression tag	UNP P12532
D	383	ASP	-	expression tag	UNP P12532
D	384	TYR	-	expression tag	UNP P12532
D	385	LYS	-	expression tag	UNP P12532
D	386	ASP	-	expression tag	UNP P12532
D	387	ASP	-	expression tag	UNP P12532
D	388	ASP	-	expression tag	UNP P12532
D	389	ASP	-	expression tag	UNP P12532
D	390	LYS	-	expression tag	UNP P12532
E	-27	MET	-	expression tag	UNP P12532
E	-26	GLY	-	expression tag	UNP P12532
E	-25	SER	-	expression tag	UNP P12532
E	-24	SER	-	expression tag	UNP P12532
E	-23	HIS	-	expression tag	UNP P12532
E	-22	HIS	-	expression tag	UNP P12532
E	-21	HIS	-	expression tag	UNP P12532
E	-20	HIS	-	expression tag	UNP P12532
E	-19	HIS	-	expression tag	UNP P12532
E	-18	HIS	-	expression tag	UNP P12532
E	-17	SER	-	expression tag	UNP P12532
E	-16	SER	-	expression tag	UNP P12532
E	-15	GLY	-	expression tag	UNP P12532
E	-14	LEU	-	expression tag	UNP P12532
E	-13	VAL	-	expression tag	UNP P12532
E	-12	PRO	-	expression tag	UNP P12532
E	-11	ARG	-	expression tag	UNP P12532
E	-10	GLY	-	expression tag	UNP P12532
E	-9	SER	-	expression tag	UNP P12532
E	-8	HIS	-	expression tag	UNP P12532
E	-7	MET	-	expression tag	UNP P12532
E	-6	GLU	-	expression tag	UNP P12532
E	-5	ASN	-	expression tag	UNP P12532
E	-4	LEU	-	expression tag	UNP P12532
E	-3	TYR	-	expression tag	UNP P12532
E	-2	PHE	-	expression tag	UNP P12532

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Chain	Residue	Modelled	Actual	Comment	Reference
E	-1	GLN	-	expression tag	UNP P12532
E	0	GLY	-	expression tag	UNP P12532
E	380	GLY	-	expression tag	UNP P12532
E	381	SER	-	expression tag	UNP P12532
E	382	SER	-	expression tag	UNP P12532
E	383	ASP	-	expression tag	UNP P12532
E	384	TYR	-	expression tag	UNP P12532
E	385	LYS	-	expression tag	UNP P12532
E	386	ASP	-	expression tag	UNP P12532
E	387	ASP	-	expression tag	UNP P12532
E	388	ASP	-	expression tag	UNP P12532
E	389	ASP	-	expression tag	UNP P12532
E	390	LYS	-	expression tag	UNP P12532
F	-27	MET	-	expression tag	UNP P12532
F	-26	GLY	-	expression tag	UNP P12532
F	-25	SER	-	expression tag	UNP P12532
F	-24	SER	-	expression tag	UNP P12532
F	-23	HIS	-	expression tag	UNP P12532
F	-22	HIS	-	expression tag	UNP P12532
F	-21	HIS	-	expression tag	UNP P12532
F	-20	HIS	-	expression tag	UNP P12532
F	-19	HIS	-	expression tag	UNP P12532
F	-18	HIS	-	expression tag	UNP P12532
F	-17	SER	-	expression tag	UNP P12532
F	-16	SER	-	expression tag	UNP P12532
F	-15	GLY	-	expression tag	UNP P12532
F	-14	LEU	-	expression tag	UNP P12532
F	-13	VAL	-	expression tag	UNP P12532
F	-12	PRO	-	expression tag	UNP P12532
F	-11	ARG	-	expression tag	UNP P12532
F	-10	GLY	-	expression tag	UNP P12532
F	-9	SER	-	expression tag	UNP P12532
F	-8	HIS	-	expression tag	UNP P12532
F	-7	MET	-	expression tag	UNP P12532
F	-6	GLU	-	expression tag	UNP P12532
F	-5	ASN	-	expression tag	UNP P12532
F	-4	LEU	-	expression tag	UNP P12532
F	-3	TYR	-	expression tag	UNP P12532
F	-2	PHE	-	expression tag	UNP P12532
F	-1	GLN	-	expression tag	UNP P12532
F	0	GLY	-	expression tag	UNP P12532
F	380	GLY	-	expression tag	UNP P12532

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Chain	Residue	Modelled	Actual	Comment	Reference
F	381	SER	-	expression tag	UNP P12532
F	382	SER	-	expression tag	UNP P12532
F	383	ASP	-	expression tag	UNP P12532
F	384	TYR	-	expression tag	UNP P12532
F	385	LYS	-	expression tag	UNP P12532
F	386	ASP	-	expression tag	UNP P12532
F	387	ASP	-	expression tag	UNP P12532
F	388	ASP	-	expression tag	UNP P12532
F	389	ASP	-	expression tag	UNP P12532
F	390	LYS	-	expression tag	UNP P12532
G	-27	MET	-	expression tag	UNP P12532
G	-26	GLY	-	expression tag	UNP P12532
G	-25	SER	-	expression tag	UNP P12532
G	-24	SER	-	expression tag	UNP P12532
G	-23	HIS	-	expression tag	UNP P12532
G	-22	HIS	-	expression tag	UNP P12532
G	-21	HIS	-	expression tag	UNP P12532
G	-20	HIS	-	expression tag	UNP P12532
G	-19	HIS	-	expression tag	UNP P12532
G	-18	HIS	-	expression tag	UNP P12532
G	-17	SER	-	expression tag	UNP P12532
G	-16	SER	-	expression tag	UNP P12532
G	-15	GLY	-	expression tag	UNP P12532
G	-14	LEU	-	expression tag	UNP P12532
G	-13	VAL	-	expression tag	UNP P12532
G	-12	PRO	-	expression tag	UNP P12532
G	-11	ARG	-	expression tag	UNP P12532
G	-10	GLY	-	expression tag	UNP P12532
G	-9	SER	-	expression tag	UNP P12532
G	-8	HIS	-	expression tag	UNP P12532
G	-7	MET	-	expression tag	UNP P12532
G	-6	GLU	-	expression tag	UNP P12532
G	-5	ASN	-	expression tag	UNP P12532
G	-4	LEU	-	expression tag	UNP P12532
G	-3	TYR	-	expression tag	UNP P12532
G	-2	PHE	-	expression tag	UNP P12532
G	-1	GLN	-	expression tag	UNP P12532
G	0	GLY	-	expression tag	UNP P12532
G	380	GLY	-	expression tag	UNP P12532
G	381	SER	-	expression tag	UNP P12532
G	382	SER	-	expression tag	UNP P12532
G	383	ASP	-	expression tag	UNP P12532

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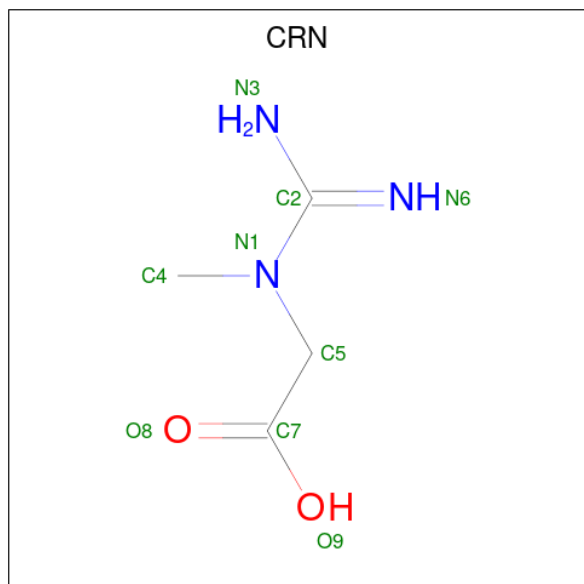
Chain	Residue	Modelled	Actual	Comment	Reference
G	384	TYR	-	expression tag	UNP P12532
G	385	LYS	-	expression tag	UNP P12532
G	386	ASP	-	expression tag	UNP P12532
G	387	ASP	-	expression tag	UNP P12532
G	388	ASP	-	expression tag	UNP P12532
G	389	ASP	-	expression tag	UNP P12532
G	390	LYS	-	expression tag	UNP P12532
H	-27	MET	-	expression tag	UNP P12532
H	-26	GLY	-	expression tag	UNP P12532
H	-25	SER	-	expression tag	UNP P12532
H	-24	SER	-	expression tag	UNP P12532
H	-23	HIS	-	expression tag	UNP P12532
H	-22	HIS	-	expression tag	UNP P12532
H	-21	HIS	-	expression tag	UNP P12532
H	-20	HIS	-	expression tag	UNP P12532
H	-19	HIS	-	expression tag	UNP P12532
H	-18	HIS	-	expression tag	UNP P12532
H	-17	SER	-	expression tag	UNP P12532
H	-16	SER	-	expression tag	UNP P12532
H	-15	GLY	-	expression tag	UNP P12532
H	-14	LEU	-	expression tag	UNP P12532
H	-13	VAL	-	expression tag	UNP P12532
H	-12	PRO	-	expression tag	UNP P12532
H	-11	ARG	-	expression tag	UNP P12532
H	-10	GLY	-	expression tag	UNP P12532
H	-9	SER	-	expression tag	UNP P12532
H	-8	HIS	-	expression tag	UNP P12532
H	-7	MET	-	expression tag	UNP P12532
H	-6	GLU	-	expression tag	UNP P12532
H	-5	ASN	-	expression tag	UNP P12532
H	-4	LEU	-	expression tag	UNP P12532
H	-3	TYR	-	expression tag	UNP P12532
H	-2	PHE	-	expression tag	UNP P12532
H	-1	GLN	-	expression tag	UNP P12532
H	0	GLY	-	expression tag	UNP P12532
H	380	GLY	-	expression tag	UNP P12532
H	381	SER	-	expression tag	UNP P12532
H	382	SER	-	expression tag	UNP P12532
H	383	ASP	-	expression tag	UNP P12532
H	384	TYR	-	expression tag	UNP P12532
H	385	LYS	-	expression tag	UNP P12532
H	386	ASP	-	expression tag	UNP P12532

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Chain	Residue	Modelled	Actual	Comment	Reference
H	387	ASP	-	expression tag	UNP P12532
H	388	ASP	-	expression tag	UNP P12532
H	389	ASP	-	expression tag	UNP P12532
H	390	LYS	-	expression tag	UNP P12532

- Molecule 2 is N-[(E)-AMINO(IMINO)METHYL]-N-METHYLGLYCINE (CCD ID: CRN) (formula: C₄H₉N₃O₂) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					AltConf
2	A	1	Total	C	H	N	O	0
			16	4	7	3	2	
2	B	1	Total	C	H	N	O	0
			16	4	7	3	2	
2	C	1	Total	C	H	N	O	0
			16	4	7	3	2	
2	D	1	Total	C	H	N	O	0
			16	4	7	3	2	
2	E	1	Total	C	H	N	O	0
			16	4	7	3	2	
2	F	1	Total	C	H	N	O	0
			16	4	7	3	2	
2	G	1	Total	C	H	N	O	0
			16	4	7	3	2	
2	H	1	Total	C	H	N	O	0
			16	4	7	3	2	

- Molecule 3 is ADENOSINE-5'-DIPHOSPHATE (CCD ID: ADP) (formula: C₁₀H₁₅N₅O₁₀P₂)

ADP

Mol	Chain	Residues	Atoms						AltConf
3	A	1	Total 39	C 10	H 12	N 5	O 10	P 2	0
3	B	1	Total 39	C 10	H 12	N 5	O 10	P 2	0
3	C	1	Total 39	C 10	H 12	N 5	O 10	P 2	0
3	D	1	Total 39	C 10	H 12	N 5	O 10	P 2	0
3	E	1	Total 39	C 10	H 12	N 5	O 10	P 2	0
3	F	1	Total 39	C 10	H 12	N 5	O 10	P 2	0
3	G	1	Total 39	C 10	H 12	N 5	O 10	P 2	0
3	H	1	Total 39	C 10	H 12	N 5	O 10	P 2	0

- Molecule 4 is MAGNESIUM ION (CCD ID: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms	AltConf
4	A	1	Total Mg 1 1	0
4	B	1	Total Mg 1 1	0

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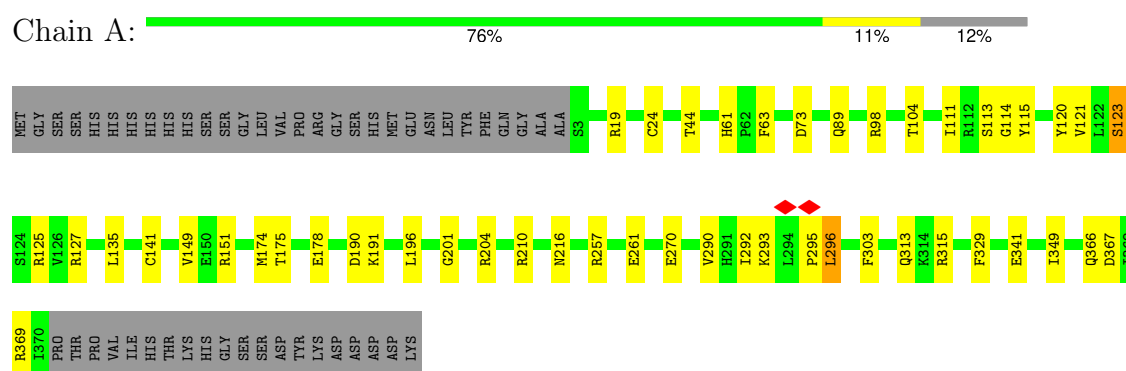
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Mol	Chain	Residues	Atoms		AltConf
4	C	1	Total 1	Mg 1	0
4	D	1	Total 1	Mg 1	0
4	E	1	Total 1	Mg 1	0
4	F	1	Total 1	Mg 1	0
4	G	1	Total 1	Mg 1	0
4	H	1	Total 1	Mg 1	0

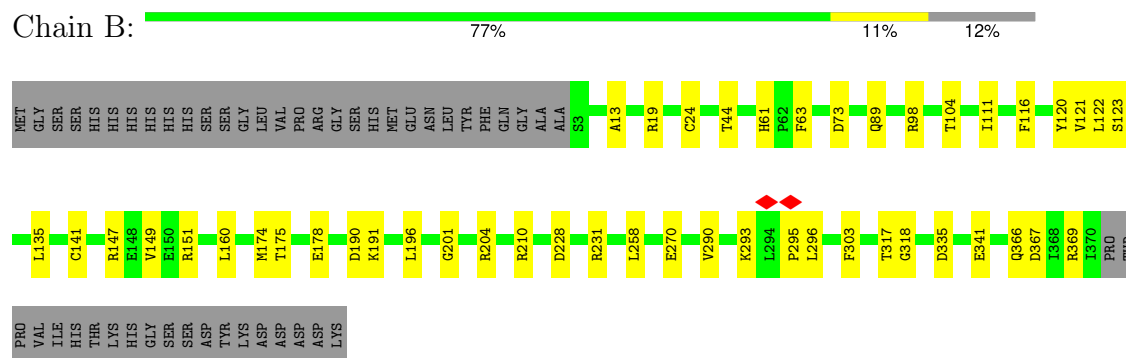
3 Residue-property plots

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.

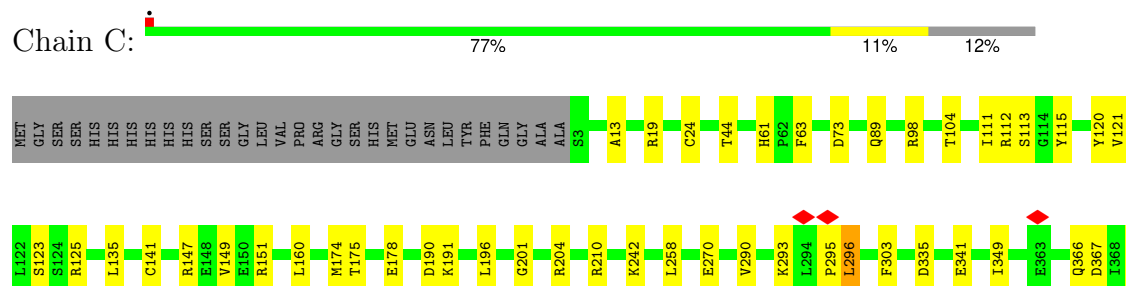
- Molecule 1: Creatine kinase U-type, mitochondrial



- Molecule 1: Creatine kinase U-type, mitochondrial



- Molecule 1: Creatine kinase U-type, mitochondrial



I370
PRO
THR
PRO
VAL
ILE
HIS
THR
LYS
HIS
GLY
SER
SER
ASP
TYR
LYS
ASP
ASP
ASP
LYS

- Molecule 1: Creatine kinase U-type, mitochondrial

Chain D: 77% 11% 12%

MET GLY SER SER HIS HIS HIS HIS HIS HIS HIS SER SER GLY LEU VAL VAL PRO PRO ARG ARG GLY SER HIS MET MET GLU ASN ASN LEU LEU TYR PHE GLN GLY GLY ALA ALA S3 R19 C24 T44 H61 P62 F63 D73 Q89 R98 T104 I111 I112 S113 G114 Y115 F116 Y120 V121 L122

S123 L136 C141 V149 E150 E151 M174 T175 E178 D190 K191 L196 G201 R204 R210 D228 R231 M235 E270 V290 H291 L292 K293 L294 P295 L296 F303 T317 G318 E341 I349 Q366 D367 I368 R369 I370 PRO THR PRO VAL

ILE HIS THR LYS HIS GLY SER SER ASP TYR LYS ASP ASP ASP LYS

- Molecule 1: Creatine kinase U-type, mitochondrial

Chain E: 75% 13% 12%

MET GLY SER SER HIS HIS HIS HIS HIS HIS HIS SER SER GLY LEU VAL VAL PRO PRO ARG ARG GLY SER HIS MET MET GLU ASN ASN LEU LEU TYR PHE GLN GLY GLY ALA ALA S3 A13 R19 C24 T44 H61 P62 F63 D73 Q89 R98 T104 I111 I112 S113 G114 Y115 F116 Y120

V121 L122 S123 L136 C141 V149 E150 E151 L160 T175 E178 D190 K191 L196 G201 R204 R210 D228 R231 K242 R257 L258 E261 E270 V290 H291 L292 K293 L294 P295 L296 T297 T317 G318 E341 I349 E359 R360

R361 L362 Q366 D367 I368 R369 I370 PRO THR VAL ILE HIS THR LYS GLY SER ASP TYR LYS ASP ASP ASP LYS

- Molecule 1: Creatine kinase U-type, mitochondrial

Chain F: 76% 12% 12%

MET GLY SER SER HIS HIS HIS HIS HIS HIS HIS SER SER GLY LEU VAL VAL PRO PRO ARG ARG GLY SER HIS MET MET GLU ASN ASN LEU LEU TYR PHE GLN GLY GLY ALA ALA S3 A13 R19 C24 T44 H61 P62 F63 D73 Q89 R98 T104 I111 F116 Y120 V121 L122 S123

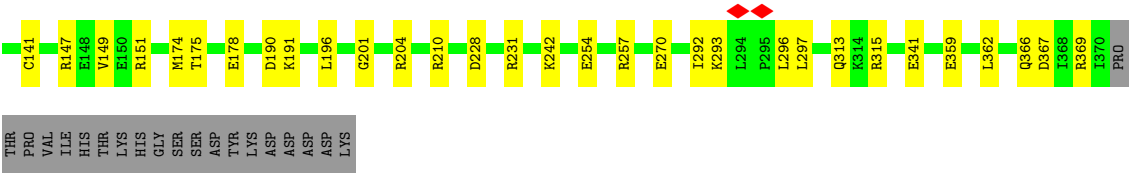
L135 C141 R147 E148 V149 E150 R151 L160 T175 E178 D190 K191 L196 G201 R204 R210 N216 D228 R231 R257 L258 E261 E270 V290 K293 L294 P295 L296 F303 T317 G318 E341 E359 L362 Q366

D367 I368 R369 I370 PRO THR PRO VAL ILE HIS THR LYS GLY SER SER ASP TYR LYS ASP ASP ASP LYS

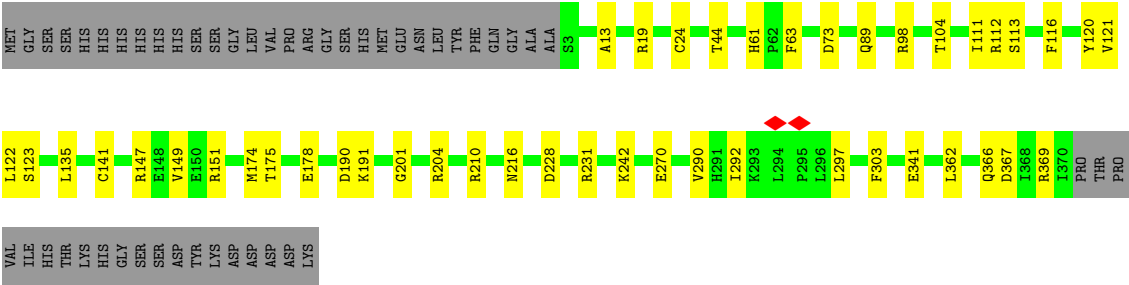
- Molecule 1: Creatine kinase U-type, mitochondrial

Chain G: 77% 11% 12%

MET GLY SER SER HIS HIS HIS HIS HIS HIS HIS SER SER GLY LEU LEU VAL VAL PRO PRO ARG ARG GLY SER HIS MET MET GLU ASN ASN LEU LEU TYR PHE GLN GLY GLY ALA ALA S3 R19 C24 T44 H61 P62 F63 D73 Q89 R98 T104 I111 F116 Y120 V121 L122 S123 L135



● Molecule 1: Creatine kinase U-type, mitochondrial



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	3132165	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 ($e^-/\text{\AA}^2$)	34	Depositor
Minimum defocus (nm)	900	Depositor
Maximum defocus (nm)	2100	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	0.827	Depositor
Minimum map value	-0.246	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.029	Depositor
Recommended contour level	0.1	Depositor
Map size (Å)	272.384, 272.384, 272.384	wwPDB
Map dimensions	256, 256, 256	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.064, 1.064, 1.064	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: ADP, MG, CRN

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	0.27	0/2883	0.53	0/3922
1	B	0.27	0/2883	0.53	0/3922
1	C	0.27	0/2883	0.53	0/3922
1	D	0.27	0/2883	0.53	0/3922
1	E	0.27	0/2883	0.53	0/3922
1	F	0.27	0/2883	0.53	0/3922
1	G	0.27	0/2883	0.53	0/3922
1	H	0.27	0/2883	0.53	0/3922
All	All	0.27	0/23064	0.53	0/31376

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	2816	2652	2642	29	0
1	B	2816	2652	2642	31	0
1	C	2816	2652	2642	30	0
1	D	2816	2652	2642	29	0
1	E	2816	2652	2642	34	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	F	2816	2652	2642	34	0
1	G	2816	2652	2642	30	0
1	H	2816	2652	2642	29	0
2	A	9	7	7	1	0
2	B	9	7	7	1	0
2	C	9	7	7	1	0
2	D	9	7	7	1	0
2	E	9	7	7	1	0
2	F	9	7	7	1	0
2	G	9	7	7	1	0
2	H	9	7	7	0	0
3	A	27	12	12	1	0
3	B	27	12	12	0	0
3	C	27	12	12	1	0
3	D	27	12	12	0	0
3	E	27	12	12	0	0
3	F	27	12	12	0	0
3	G	27	12	12	1	0
3	H	27	12	12	0	0
4	A	1	0	0	0	0
4	B	1	0	0	0	0
4	C	1	0	0	0	0
4	D	1	0	0	0	0
4	E	1	0	0	0	0
4	F	1	0	0	0	0
4	G	1	0	0	0	0
4	H	1	0	0	0	0
All	All	22824	21368	21288	237	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 5.

All (237) 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:E:270:GLU:N	1:E:270:GLU:OE2	2.09	0.84
1:A:270:GLU:N	1:A:270:GLU:OE1	2.15	0.79
1:H:270:GLU:N	1:H:270:GLU:OE1	2.15	0.79
1:G:270:GLU:OE1	1:G:270:GLU:N	2.15	0.79
1:F:270:GLU:N	1:F:270:GLU:OE1	2.15	0.79
1:C:270:GLU:N	1:C:270:GLU:OE1	2.16	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:204:ARG:O	1:G:210:ARG:NH2	2.16	0.78
1:A:204:ARG:O	1:A:210:ARG:NH2	2.16	0.78
1:B:270:GLU:OE1	1:B:270:GLU:N	2.17	0.78
1:H:204:ARG:O	1:H:210:ARG:NH2	2.16	0.78
1:D:270:GLU:N	1:D:270:GLU:OE1	2.16	0.78
1:D:204:ARG:O	1:D:210:ARG:NH2	2.17	0.77
1:F:204:ARG:O	1:F:210:ARG:NH2	2.18	0.77
1:E:204:ARG:O	1:E:210:ARG:NH2	2.18	0.77
1:B:204:ARG:O	1:B:210:ARG:NH2	2.18	0.77
1:C:204:ARG:O	1:C:210:ARG:NH2	2.18	0.77
1:B:141:CYS:O	1:B:204:ARG:NH2	2.21	0.73
1:C:141:CYS:O	1:C:204:ARG:NH2	2.21	0.73
1:G:111:ILE:O	1:G:111:ILE:HG22	1.89	0.73
1:A:141:CYS:O	1:A:204:ARG:NH2	2.21	0.73
1:E:141:CYS:O	1:E:204:ARG:NH2	2.21	0.73
1:F:111:ILE:HG22	1:F:111:ILE:O	1.88	0.72
1:G:141:CYS:O	1:G:204:ARG:NH2	2.21	0.72
1:D:141:CYS:O	1:D:204:ARG:NH2	2.21	0.72
1:H:141:CYS:O	1:H:204:ARG:NH2	2.21	0.72
1:F:141:CYS:O	1:F:204:ARG:NH2	2.21	0.72
1:B:111:ILE:HG22	1:B:111:ILE:O	1.91	0.70
1:H:111:ILE:HG22	1:H:111:ILE:O	1.91	0.70
1:H:228:ASP:OD2	1:H:231:ARG:NH1	2.26	0.68
1:D:228:ASP:OD2	1:D:231:ARG:NH1	2.27	0.68
1:G:228:ASP:OD2	1:G:231:ARG:NH1	2.28	0.67
1:B:228:ASP:OD2	1:B:231:ARG:NH1	2.27	0.67
1:F:228:ASP:OD2	1:F:231:ARG:NH1	2.28	0.67
1:E:228:ASP:OD2	1:E:231:ARG:NH1	2.27	0.66
1:C:120:TYR:O	1:C:293:LYS:N	2.30	0.64
1:C:111:ILE:O	1:C:111:ILE:HG13	1.99	0.62
1:E:121:VAL:HG12	1:E:123:SER:H	1.65	0.62
1:A:111:ILE:O	1:A:111:ILE:HG13	1.99	0.62
1:D:111:ILE:O	1:D:111:ILE:HG13	1.99	0.61
1:E:111:ILE:HG13	1:E:111:ILE:O	1.99	0.61
1:D:121:VAL:HG12	1:D:123:SER:H	1.64	0.61
1:H:121:VAL:HG12	1:H:123:SER:H	1.66	0.60
1:A:121:VAL:HG12	1:A:123:SER:H	1.66	0.60
1:E:367:ASP:O	1:E:369:ARG:N	2.34	0.60
1:B:121:VAL:HG12	1:B:123:SER:H	1.66	0.59
1:B:120:TYR:O	1:B:293:LYS:N	2.36	0.59
1:D:367:ASP:O	1:D:369:ARG:N	2.34	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:367:ASP:O	1:B:369:ARG:N	2.34	0.59
1:F:121:VAL:HG12	1:F:123:SER:H	1.66	0.59
1:A:367:ASP:O	1:A:369:ARG:N	2.35	0.59
1:C:367:ASP:O	1:C:369:ARG:N	2.34	0.58
1:F:367:ASP:O	1:F:369:ARG:N	2.35	0.58
1:G:44:THR:OG1	1:G:73:ASP:OD2	2.21	0.58
1:A:89:GLN:OE1	1:A:98:ARG:NH2	2.37	0.58
1:E:89:GLN:OE1	1:E:98:ARG:NH2	2.37	0.58
1:G:367:ASP:O	1:G:369:ARG:N	2.35	0.58
1:B:89:GLN:OE1	1:B:98:ARG:NH2	2.37	0.58
1:G:120:TYR:O	1:G:293:LYS:N	2.36	0.58
1:D:89:GLN:OE1	1:D:98:ARG:NH2	2.37	0.58
1:H:367:ASP:O	1:H:369:ARG:N	2.36	0.58
1:B:44:THR:OG1	1:B:73:ASP:OD2	2.21	0.57
1:C:112:ARG:O	1:C:113:SER:OG	2.16	0.57
1:D:44:THR:OG1	1:D:73:ASP:OD2	2.22	0.57
1:E:44:THR:OG1	1:E:73:ASP:OD2	2.21	0.57
1:A:44:THR:OG1	1:A:73:ASP:OD2	2.22	0.57
1:F:89:GLN:OE1	1:F:98:ARG:NH2	2.38	0.57
1:H:44:THR:OG1	1:H:73:ASP:OD2	2.22	0.57
1:C:89:GLN:OE1	1:C:98:ARG:NH2	2.38	0.57
1:F:44:THR:OG1	1:F:73:ASP:OD2	2.22	0.57
1:H:89:GLN:OE1	1:H:98:ARG:NH2	2.38	0.57
1:C:44:THR:OG1	1:C:73:ASP:OD2	2.22	0.57
1:F:120:TYR:O	1:F:293:LYS:N	2.38	0.57
1:E:295:PRO:O	1:E:296:LEU:CB	2.53	0.56
1:G:89:GLN:OE1	1:G:98:ARG:NH2	2.38	0.56
1:C:121:VAL:HG12	1:C:123:SER:H	1.70	0.56
1:A:123:SER:OG	3:A:402:ADP:N1	2.39	0.55
1:A:120:TYR:O	1:A:293:LYS:N	2.40	0.55
1:G:121:VAL:HG12	1:G:123:SER:H	1.70	0.55
1:A:341:GLU:OE1	1:A:341:GLU:N	2.39	0.55
1:E:341:GLU:OE1	1:E:341:GLU:N	2.39	0.55
1:E:121:VAL:HG13	1:E:290:VAL:HB	1.89	0.55
1:F:111:ILE:O	1:F:111:ILE:CG2	2.55	0.55
1:E:201:GLY:O	1:E:204:ARG:NH1	2.40	0.55
1:A:196:LEU:HD22	2:A:401:CRN:H51	1.89	0.54
1:A:113:SER:OG	1:A:114:GLY:N	2.39	0.54
1:A:295:PRO:O	1:A:296:LEU:CB	2.56	0.54
1:C:201:GLY:O	1:C:204:ARG:NH1	2.40	0.54
1:E:196:LEU:HD22	2:E:401:CRN:H51	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:122:LEU:O	1:B:123:SER:OG	2.25	0.53
1:D:112:ARG:O	1:D:113:SER:OG	2.16	0.53
1:D:121:VAL:HG13	1:D:290:VAL:HB	1.91	0.53
1:E:120:TYR:O	1:E:293:LYS:N	2.42	0.53
1:B:201:GLY:O	1:B:204:ARG:NH1	2.41	0.53
1:G:122:LEU:O	1:G:123:SER:OG	2.24	0.53
1:H:122:LEU:O	1:H:123:SER:OG	2.21	0.53
1:C:295:PRO:O	1:C:296:LEU:CB	2.57	0.52
1:G:196:LEU:HD22	2:G:401:CRN:H51	1.90	0.52
1:A:201:GLY:O	1:A:204:ARG:NH1	2.43	0.52
1:E:113:SER:OG	1:E:114:GLY:N	2.42	0.52
1:D:341:GLU:OE1	1:D:341:GLU:N	2.39	0.52
1:H:292:ILE:HG23	1:H:297:LEU:HD13	1.91	0.52
1:D:201:GLY:O	1:D:204:ARG:NH1	2.41	0.51
1:F:61:HIS:ND1	1:F:61:HIS:O	2.43	0.51
1:G:201:GLY:O	1:G:204:ARG:NH1	2.41	0.51
1:H:61:HIS:O	1:H:61:HIS:ND1	2.43	0.51
1:H:112:ARG:O	1:H:113:SER:OG	2.24	0.51
1:F:201:GLY:O	1:F:204:ARG:NH1	2.40	0.51
1:G:111:ILE:O	1:G:111:ILE:CG2	2.58	0.51
1:H:341:GLU:OE1	1:H:341:GLU:N	2.40	0.51
1:G:341:GLU:OE1	1:G:341:GLU:N	2.40	0.51
1:B:196:LEU:HD22	2:B:401:CRN:H51	1.91	0.51
1:F:341:GLU:OE1	1:F:341:GLU:N	2.40	0.51
1:C:196:LEU:HD22	2:C:401:CRN:H51	1.94	0.50
1:E:122:LEU:O	1:E:123:SER:OG	2.24	0.50
1:A:190:ASP:OD2	1:A:191:LYS:N	2.42	0.50
1:B:61:HIS:O	1:B:61:HIS:ND1	2.43	0.50
1:H:201:GLY:O	1:H:204:ARG:NH1	2.41	0.50
1:C:61:HIS:O	1:C:61:HIS:ND1	2.43	0.50
1:A:313:GLN:OE1	1:A:315:ARG:NE	2.42	0.49
1:D:196:LEU:HD22	2:D:401:CRN:H51	1.93	0.49
1:C:341:GLU:OE1	1:C:341:GLU:N	2.39	0.49
1:F:122:LEU:O	1:F:123:SER:OG	2.25	0.49
1:E:61:HIS:O	1:E:61:HIS:ND1	2.44	0.49
1:B:341:GLU:N	1:B:341:GLU:OE1	2.40	0.49
1:A:61:HIS:O	1:A:61:HIS:ND1	2.44	0.48
1:E:366:GLN:OE1	1:E:366:GLN:HA	2.14	0.48
1:H:190:ASP:OD1	1:H:191:LYS:N	2.45	0.48
1:F:295:PRO:O	1:F:296:LEU:CB	2.62	0.48
1:F:190:ASP:OD1	1:F:191:LYS:N	2.46	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:366:GLN:OE1	1:A:366:GLN:HA	2.14	0.48
1:C:123:SER:OG	3:C:402:ADP:N1	2.33	0.48
1:F:366:GLN:OE1	1:F:366:GLN:HA	2.14	0.48
1:B:111:ILE:O	1:B:111:ILE:CG2	2.60	0.47
1:F:257:ARG:NH1	1:F:261:GLU:OE2	2.47	0.47
1:D:190:ASP:OD1	1:D:191:LYS:N	2.46	0.47
1:G:190:ASP:OD1	1:G:191:LYS:N	2.46	0.47
1:D:61:HIS:O	1:D:61:HIS:ND1	2.43	0.47
1:B:366:GLN:HA	1:B:366:GLN:OE1	2.14	0.47
1:D:366:GLN:OE1	1:D:366:GLN:HA	2.14	0.47
1:C:366:GLN:OE1	1:C:366:GLN:HA	2.14	0.47
1:E:257:ARG:NH1	1:E:261:GLU:OE2	2.48	0.47
1:A:257:ARG:NH1	1:A:261:GLU:OE2	2.48	0.47
1:H:366:GLN:OE1	1:H:366:GLN:HA	2.14	0.47
1:G:366:GLN:HA	1:G:366:GLN:OE1	2.14	0.46
1:G:61:HIS:O	1:G:61:HIS:ND1	2.44	0.46
1:B:63:PHE:CD1	1:B:63:PHE:N	2.84	0.46
1:C:190:ASP:OD2	1:C:191:LYS:N	2.46	0.46
1:F:359:GLU:O	1:F:359:GLU:CG	2.63	0.46
1:C:63:PHE:CD1	1:C:63:PHE:N	2.84	0.46
1:D:295:PRO:O	1:D:296:LEU:CB	2.64	0.46
1:A:63:PHE:CD1	1:A:63:PHE:N	2.84	0.46
1:E:111:ILE:HD11	1:E:349:ILE:HD12	1.98	0.46
1:F:63:PHE:CD1	1:F:63:PHE:N	2.84	0.46
1:H:63:PHE:CD1	1:H:63:PHE:N	2.84	0.46
1:G:63:PHE:CD1	1:G:63:PHE:N	2.84	0.46
1:D:63:PHE:N	1:D:63:PHE:CD1	2.84	0.45
1:D:122:LEU:O	1:D:123:SER:OG	2.27	0.45
1:A:135:LEU:HD13	1:A:149:VAL:HG22	1.98	0.45
1:B:190:ASP:OD1	1:B:191:LYS:N	2.47	0.45
1:C:111:ILE:HD11	1:C:349:ILE:HD12	1.98	0.45
1:E:63:PHE:N	1:E:63:PHE:CD1	2.84	0.45
1:E:190:ASP:OD1	1:E:191:LYS:N	2.47	0.45
1:E:135:LEU:HD13	1:E:149:VAL:HG22	1.98	0.45
1:F:116:PHE:CB	1:F:121:VAL:HG21	2.46	0.45
1:B:116:PHE:CB	1:B:121:VAL:HG21	2.47	0.45
1:F:317:THR:O	1:F:318:GLY:C	2.56	0.45
1:H:121:VAL:HG13	1:H:290:VAL:HB	1.99	0.45
1:E:111:ILE:O	1:E:111:ILE:CG1	2.65	0.45
1:H:111:ILE:O	1:H:111:ILE:CG2	2.61	0.45
1:G:135:LEU:HD13	1:G:149:VAL:HG22	1.98	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:135:LEU:HD13	1:H:149:VAL:HG22	1.98	0.44
1:C:121:VAL:HG13	1:C:290:VAL:HB	2.00	0.44
1:F:135:LEU:HD13	1:F:149:VAL:HG22	1.98	0.44
1:B:135:LEU:HD13	1:B:149:VAL:HG22	1.98	0.44
1:D:135:LEU:HD13	1:D:149:VAL:HG22	1.99	0.44
1:D:111:ILE:HD11	1:D:349:ILE:HD12	1.99	0.44
1:E:317:THR:O	1:E:318:GLY:C	2.56	0.44
1:C:135:LEU:HD13	1:C:149:VAL:HG22	1.99	0.44
1:F:175:THR:HG23	1:F:178:GLU:H	1.83	0.44
1:G:175:THR:HG23	1:G:178:GLU:H	1.83	0.44
1:E:292:ILE:HG12	1:E:297:LEU:HD22	2.00	0.44
1:A:292:ILE:HG22	1:A:329:PHE:H	1.83	0.44
1:D:111:ILE:O	1:D:111:ILE:CG1	2.65	0.44
1:H:116:PHE:CB	1:H:121:VAL:HG21	2.48	0.43
1:B:317:THR:O	1:B:318:GLY:C	2.56	0.43
1:G:315:ARG:NH1	3:G:402:ADP:O1B	2.50	0.43
1:D:175:THR:HG23	1:D:178:GLU:H	1.84	0.43
1:E:175:THR:HG23	1:E:178:GLU:H	1.83	0.43
1:G:296:LEU:O	1:G:359:GLU:HB2	2.19	0.43
1:H:175:THR:HG23	1:H:178:GLU:H	1.84	0.43
1:F:196:LEU:HD22	2:F:401:CRN:H51	2.00	0.43
1:G:313:GLN:OE1	1:G:315:ARG:NE	2.49	0.43
1:H:120:TYR:CD1	1:H:297:LEU:HD11	2.53	0.43
1:C:160:LEU:HD23	1:C:258:LEU:HD12	2.00	0.42
1:E:116:PHE:CB	1:E:121:VAL:HG21	2.48	0.42
1:A:151[A]:ARG:HD2	1:B:151[A]:ARG:HD2	2.00	0.42
1:C:111:ILE:O	1:C:111:ILE:CG1	2.65	0.42
1:A:121:VAL:HG13	1:A:290:VAL:HB	2.01	0.42
1:A:175:THR:HG23	1:A:178:GLU:H	1.84	0.42
1:B:175:THR:HG23	1:B:178:GLU:H	1.84	0.42
1:D:151[A]:ARG:HD2	1:H:151[A]:ARG:HD2	2.00	0.42
1:D:317:THR:O	1:D:318:GLY:C	2.57	0.42
1:C:175:THR:HG23	1:C:178:GLU:H	1.84	0.42
1:F:135:LEU:HD13	1:F:149:VAL:CG2	2.50	0.42
1:H:135:LEU:HD13	1:H:149:VAL:CG2	2.50	0.42
1:C:151[A]:ARG:HD2	1:E:151[A]:ARG:HD2	2.00	0.42
1:F:151[A]:ARG:HD2	1:G:151[A]:ARG:HD2	2.00	0.42
1:D:120:TYR:O	1:D:292:ILE:HD13	2.19	0.42
1:F:362:LEU:HD23	1:F:362:LEU:H	1.85	0.42
1:B:295:PRO:O	1:B:296:LEU:CB	2.68	0.42
1:A:135:LEU:HD13	1:A:149:VAL:CG2	2.50	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:147:ARG:NH1	1:H:13:ALA:O	2.52	0.42
1:G:135:LEU:HD13	1:G:149:VAL:CG2	2.50	0.42
1:G:292:ILE:HG12	1:G:297:LEU:HD22	2.02	0.42
1:D:116:PHE:CB	1:D:121:VAL:HG21	2.49	0.42
1:B:13:ALA:O	1:C:147:ARG:NH1	2.52	0.41
1:A:111:ILE:HD11	1:A:349:ILE:HD12	2.02	0.41
1:D:135:LEU:HD13	1:D:149:VAL:CG2	2.50	0.41
1:E:135:LEU:HD13	1:E:149:VAL:CG2	2.50	0.41
1:F:13:ALA:O	1:H:147:ARG:NH1	2.52	0.41
1:B:135:LEU:HD13	1:B:149:VAL:CG2	2.50	0.41
1:E:13:ALA:O	1:G:147:ARG:NH1	2.52	0.41
1:B:147:ARG:NH1	1:C:13:ALA:O	2.52	0.41
1:F:160:LEU:HD23	1:F:258:LEU:HD12	2.03	0.41
1:A:111:ILE:O	1:A:111:ILE:CG1	2.66	0.41
1:B:121:VAL:HG13	1:B:290:VAL:HB	2.03	0.41
1:C:135:LEU:HD13	1:C:149:VAL:CG2	2.50	0.41
1:G:116:PHE:CB	1:G:121:VAL:HG21	2.51	0.41
1:G:254:GLU:OE2	1:G:257:ARG:NH2	2.45	0.41
1:H:362:LEU:HD23	1:H:362:LEU:H	1.86	0.41
1:B:160:LEU:HD23	1:B:258:LEU:HD12	2.03	0.41
1:C:335:ASP:OD1	1:C:335:ASP:N	2.52	0.41
1:E:362:LEU:H	1:E:362:LEU:HD23	1.86	0.40
1:F:359:GLU:N	1:F:359:GLU:OE1	2.54	0.40
1:F:121:VAL:HG13	1:F:290:VAL:HB	2.04	0.40
1:B:335:ASP:OD1	1:B:335:ASP:N	2.52	0.40
1:E:160:LEU:CD1	1:E:258:LEU:HD12	2.51	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	368/418 (88%)	347 (94%)	20 (5%)	1 (0%)	37	42
1	B	368/418 (88%)	347 (94%)	21 (6%)	0	100	100
1	C	368/418 (88%)	348 (95%)	19 (5%)	1 (0%)	37	42
1	D	368/418 (88%)	343 (93%)	24 (6%)	1 (0%)	37	42
1	E	368/418 (88%)	344 (94%)	23 (6%)	1 (0%)	37	42
1	F	368/418 (88%)	348 (95%)	19 (5%)	1 (0%)	37	42
1	G	368/418 (88%)	348 (95%)	20 (5%)	0	100	100
1	H	368/418 (88%)	349 (95%)	19 (5%)	0	100	100
All	All	2944/3344 (88%)	2774 (94%)	165 (6%)	5 (0%)	45	52

All (5) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	296	LEU
1	C	296	LEU
1	D	296	LEU
1	E	296	LEU
1	F	296	LEU

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	286/362 (79%)	276 (96%)	10 (4%)	31	41
1	B	286/362 (79%)	281 (98%)	5 (2%)	56	71
1	C	286/362 (79%)	278 (97%)	8 (3%)	38	51
1	D	286/362 (79%)	279 (98%)	7 (2%)	44	57
1	E	286/362 (79%)	279 (98%)	7 (2%)	44	57
1	F	286/362 (79%)	281 (98%)	5 (2%)	56	71
1	G	286/362 (79%)	280 (98%)	6 (2%)	48	63
1	H	286/362 (79%)	279 (98%)	7 (2%)	44	57

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
All	All	2288/2896 (79%)	2233 (98%)	55 (2%)	45 57

All (55) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	19	ARG
1	A	24	CYS
1	A	104	THR
1	A	115	TYR
1	A	123	SER
1	A	125	ARG
1	A	127	ARG
1	A	174	MET
1	A	216	ASN
1	A	303	PHE
1	B	19	ARG
1	B	24	CYS
1	B	104	THR
1	B	174	MET
1	B	303	PHE
1	C	19	ARG
1	C	24	CYS
1	C	104	THR
1	C	115	TYR
1	C	125	ARG
1	C	174	MET
1	C	242	LYS
1	C	303	PHE
1	D	19	ARG
1	D	24	CYS
1	D	104	THR
1	D	115	TYR
1	D	174	MET
1	D	235	MET
1	D	303	PHE
1	E	19	ARG
1	E	24	CYS
1	E	104	THR
1	E	115	TYR
1	E	242	LYS
1	E	359	GLU
1	E	360	ARG

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Mol	Chain	Res	Type
1	F	19	ARG
1	F	24	CYS
1	F	104	THR
1	F	216	ASN
1	F	303	PHE
1	G	19	ARG
1	G	24	CYS
1	G	104	THR
1	G	174	MET
1	G	242	LYS
1	G	362	LEU
1	H	19	ARG
1	H	24	CYS
1	H	104	THR
1	H	174	MET
1	H	216	ASN
1	H	242	LYS
1	H	303	PHE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. There are no such sidechains identified.

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 24 ligands modelled in this entry, 8 are monoatomic - leaving 16 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	$\# Z > 2$
2	CRN	G	401	-	7,8,8	1.20	0	8,10,10	0.90	0
3	ADP	F	402	4	24,29,29	0.84	0	29,45,45	1.33	3 (10%)
3	ADP	C	402	4	24,29,29	0.85	0	29,45,45	1.42	3 (10%)
2	CRN	F	401	-	7,8,8	1.18	0	8,10,10	0.90	0
3	ADP	H	402	4	24,29,29	0.85	0	29,45,45	1.31	3 (10%)
2	CRN	C	401	-	7,8,8	1.19	0	8,10,10	0.90	0
3	ADP	G	402	4	24,29,29	0.85	0	29,45,45	1.31	3 (10%)
2	CRN	D	401	-	7,8,8	1.19	0	8,10,10	0.90	0
2	CRN	A	401	-	7,8,8	1.19	0	8,10,10	0.90	0
2	CRN	B	401	-	7,8,8	1.19	0	8,10,10	0.89	0
3	ADP	A	402	4	24,29,29	0.84	0	29,45,45	1.42	3 (10%)
3	ADP	B	402	4	24,29,29	0.84	0	29,45,45	1.34	3 (10%)
2	CRN	E	401	-	7,8,8	1.19	0	8,10,10	0.89	0
3	ADP	E	402	4	24,29,29	0.85	0	29,45,45	1.34	3 (10%)
3	ADP	D	402	4	24,29,29	0.84	0	29,45,45	1.34	3 (10%)
2	CRN	H	401	-	7,8,8	1.22	0	8,10,10	1.03	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
2	CRN	G	401	-	-	0/8/8/8	-
3	ADP	F	402	4	-	5/12/32/32	0/3/3/3
3	ADP	C	402	4	-	2/12/32/32	0/3/3/3
2	CRN	F	401	-	-	0/8/8/8	-
3	ADP	H	402	4	-	5/12/32/32	0/3/3/3
2	CRN	C	401	-	-	0/8/8/8	-
3	ADP	G	402	4	-	4/12/32/32	0/3/3/3
2	CRN	D	401	-	-	0/8/8/8	-
2	CRN	A	401	-	-	0/8/8/8	-
2	CRN	B	401	-	-	0/8/8/8	-
3	ADP	A	402	4	-	1/12/32/32	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	ADP	B	402	4	-	6/12/32/32	0/3/3/3
2	CRN	E	401	-	-	0/8/8/8	-
3	ADP	E	402	4	-	5/12/32/32	0/3/3/3
3	ADP	D	402	4	-	5/12/32/32	0/3/3/3
2	CRN	H	401	-	-	0/8/8/8	-

There are no bond length outliers.

All (24) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	C	402	ADP	N3-C2-N1	-4.32	122.81	128.67
3	D	402	ADP	N3-C2-N1	-4.29	122.85	128.67
3	E	402	ADP	N3-C2-N1	-4.28	122.86	128.67
3	A	402	ADP	N3-C2-N1	-4.28	122.86	128.67
3	B	402	ADP	N3-C2-N1	-4.28	122.87	128.67
3	F	402	ADP	N3-C2-N1	-4.27	122.88	128.67
3	G	402	ADP	N3-C2-N1	-4.27	122.88	128.67
3	H	402	ADP	N3-C2-N1	-4.21	122.95	128.67
3	C	402	ADP	O4'-C1'-N9	3.29	113.11	108.75
3	A	402	ADP	O4'-C1'-N9	3.29	113.10	108.75
3	A	402	ADP	C4-C5-N7	-2.81	106.37	109.34
3	C	402	ADP	C4-C5-N7	-2.76	106.42	109.34
3	D	402	ADP	C4-C5-N7	-2.74	106.44	109.34
3	F	402	ADP	C4-C5-N7	-2.74	106.44	109.34
3	E	402	ADP	C4-C5-N7	-2.74	106.45	109.34
3	B	402	ADP	C4-C5-N7	-2.71	106.47	109.34
3	H	402	ADP	C4-C5-N7	-2.65	106.54	109.34
3	G	402	ADP	C4-C5-N7	-2.65	106.54	109.34
3	E	402	ADP	O4'-C1'-N9	2.56	112.14	108.75
3	D	402	ADP	O4'-C1'-N9	2.54	112.11	108.75
3	B	402	ADP	O4'-C1'-N9	2.53	112.10	108.75
3	F	402	ADP	O4'-C1'-N9	2.44	111.99	108.75
3	H	402	ADP	O4'-C1'-N9	2.23	111.70	108.75
3	G	402	ADP	O4'-C1'-N9	2.17	111.62	108.75

There are no chirality outliers.

All (33) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	A	402	ADP	C5'-O5'-PA-O2A

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Mol	Chain	Res	Type	Atoms
3	B	402	ADP	C5'-O5'-PA-O1A
3	B	402	ADP	C5'-O5'-PA-O2A
3	B	402	ADP	C5'-O5'-PA-O3A
3	C	402	ADP	C5'-O5'-PA-O2A
3	D	402	ADP	C5'-O5'-PA-O2A
3	D	402	ADP	C5'-O5'-PA-O3A
3	E	402	ADP	C5'-O5'-PA-O2A
3	E	402	ADP	C5'-O5'-PA-O3A
3	F	402	ADP	C5'-O5'-PA-O1A
3	F	402	ADP	C5'-O5'-PA-O2A
3	F	402	ADP	C5'-O5'-PA-O3A
3	G	402	ADP	C5'-O5'-PA-O1A
3	G	402	ADP	C5'-O5'-PA-O2A
3	G	402	ADP	C5'-O5'-PA-O3A
3	H	402	ADP	C5'-O5'-PA-O1A
3	H	402	ADP	C5'-O5'-PA-O2A
3	H	402	ADP	C5'-O5'-PA-O3A
3	C	402	ADP	C5'-O5'-PA-O3A
3	D	402	ADP	C5'-O5'-PA-O1A
3	E	402	ADP	C5'-O5'-PA-O1A
3	B	402	ADP	PB-O3A-PA-O1A
3	F	402	ADP	PB-O3A-PA-O2A
3	G	402	ADP	O4'-C4'-C5'-O5'
3	H	402	ADP	O4'-C4'-C5'-O5'
3	B	402	ADP	PB-O3A-PA-O2A
3	D	402	ADP	PB-O3A-PA-O1A
3	D	402	ADP	PB-O3A-PA-O2A
3	E	402	ADP	PB-O3A-PA-O1A
3	E	402	ADP	PB-O3A-PA-O2A
3	F	402	ADP	PB-O3A-PA-O1A
3	H	402	ADP	PB-O3A-PA-O1A
3	B	402	ADP	O4'-C4'-C5'-O5'

There are no ring outliers.

10 monomers are involved in 10 short contacts:

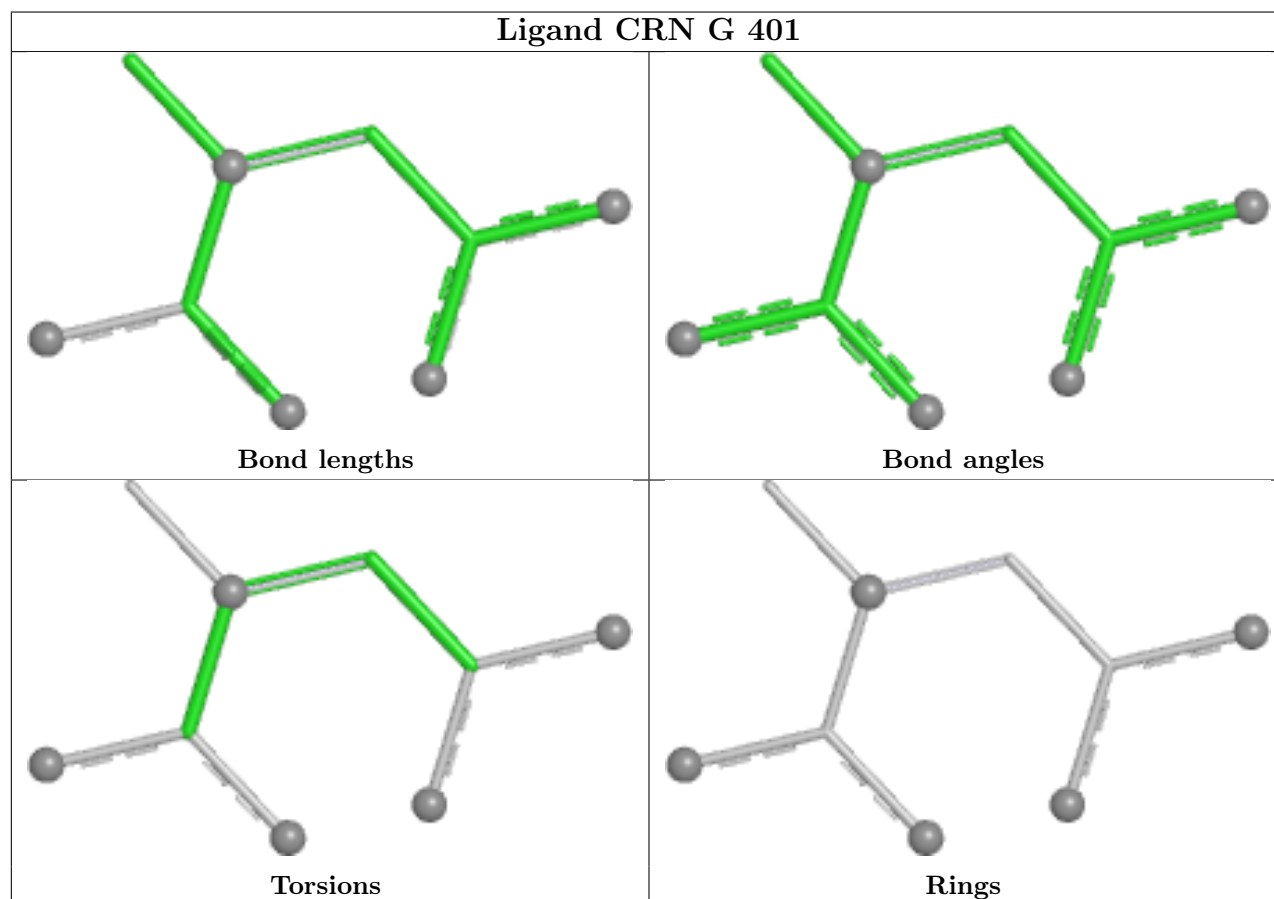
Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	G	401	CRN	1	0
3	C	402	ADP	1	0
2	F	401	CRN	1	0
2	C	401	CRN	1	0
3	G	402	ADP	1	0

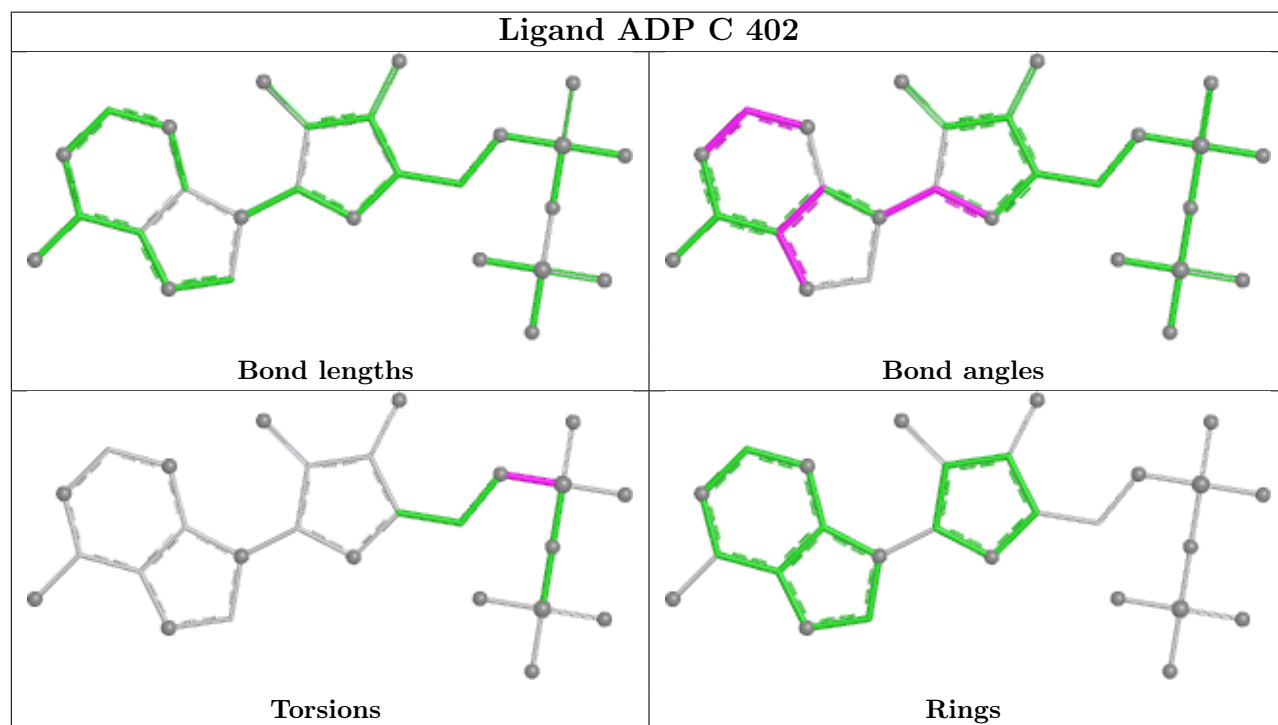
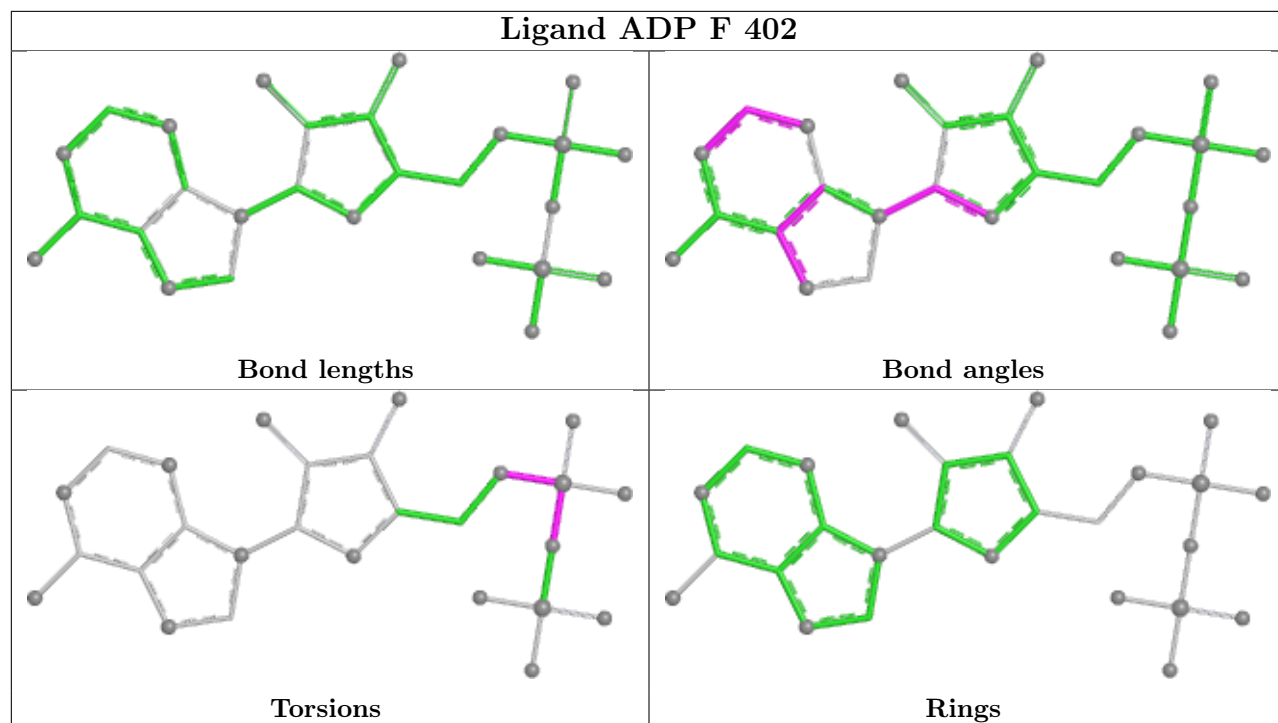
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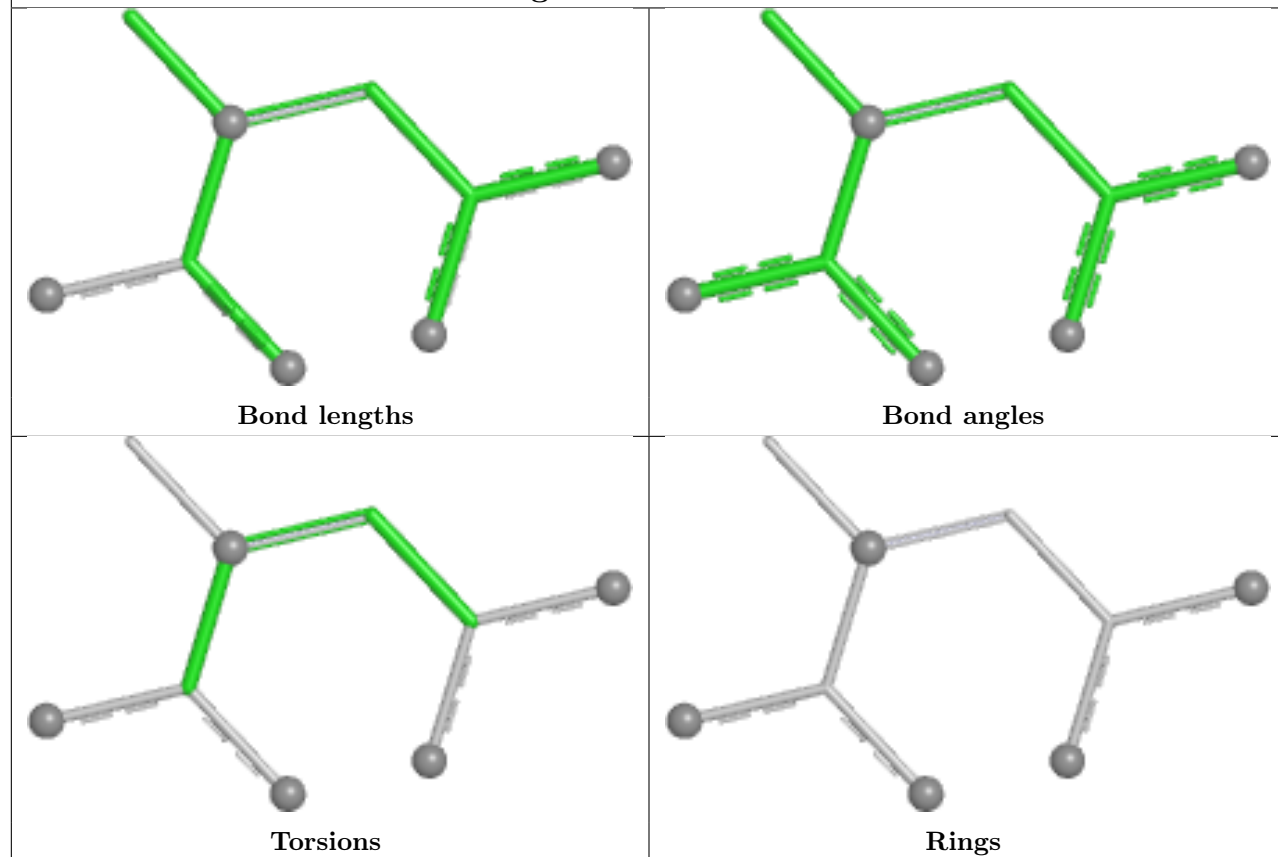
Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	D	401	CRN	1	0
2	A	401	CRN	1	0
2	B	401	CRN	1	0
3	A	402	ADP	1	0
2	E	401	CRN	1	0

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.

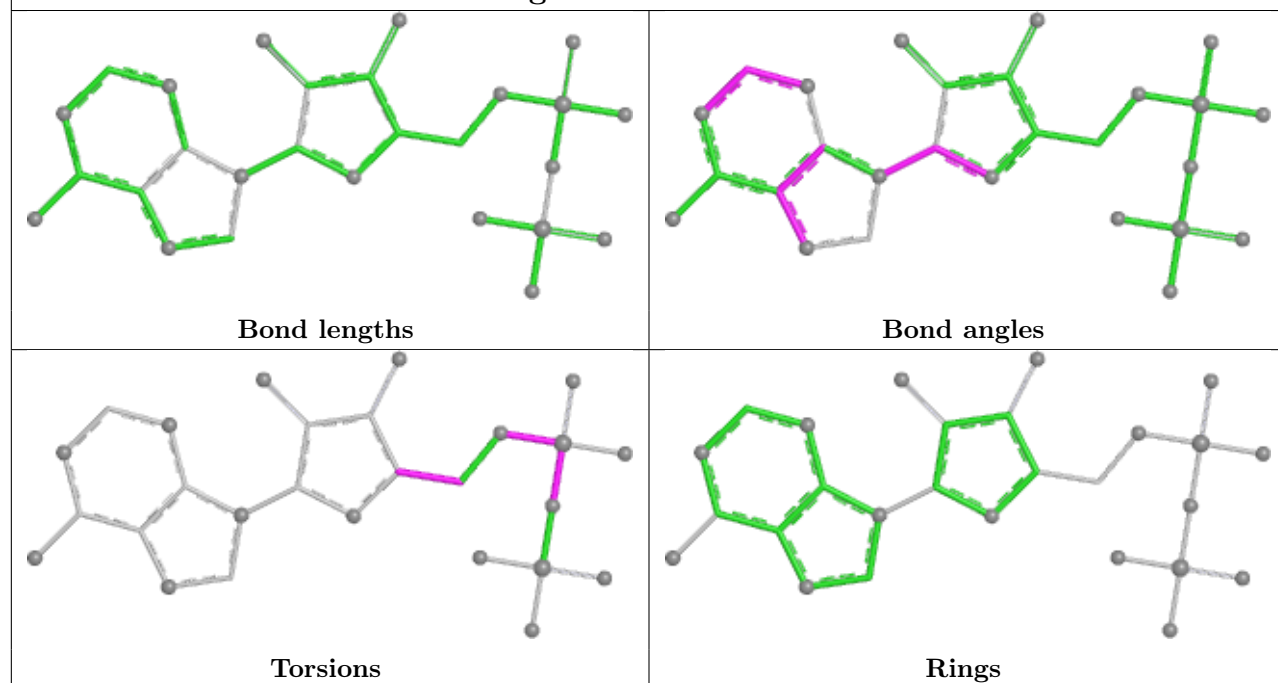


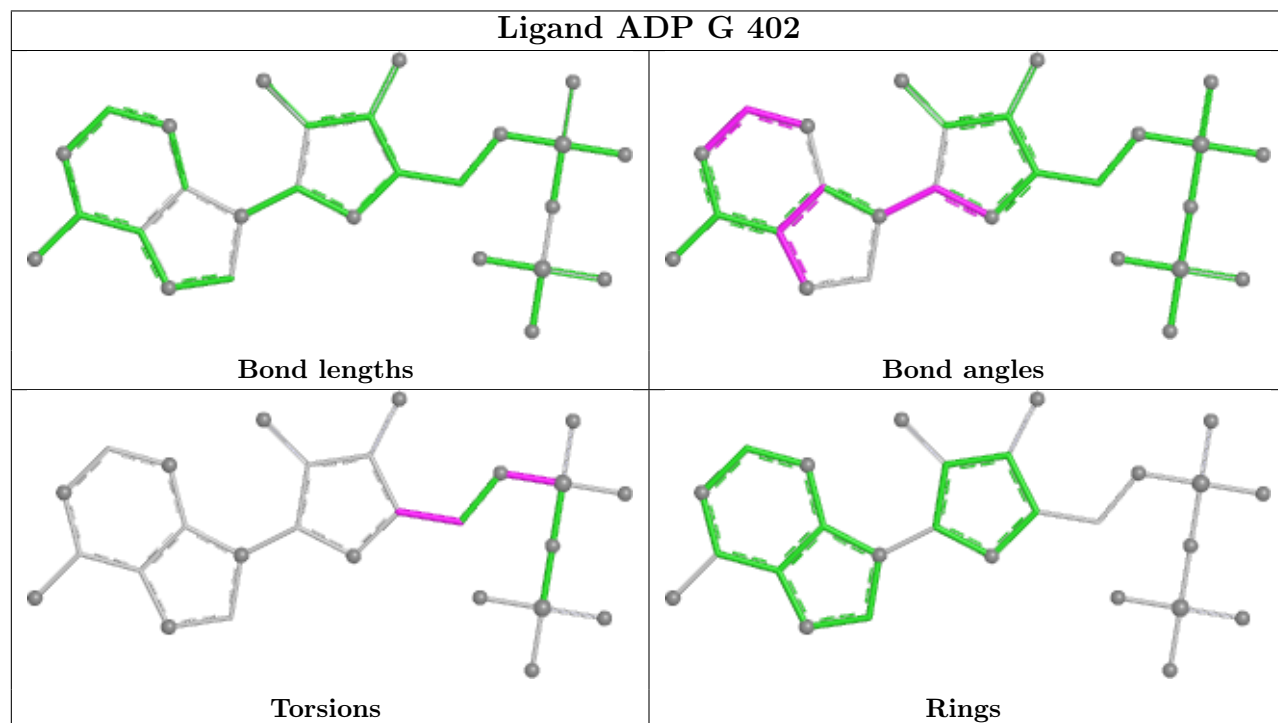
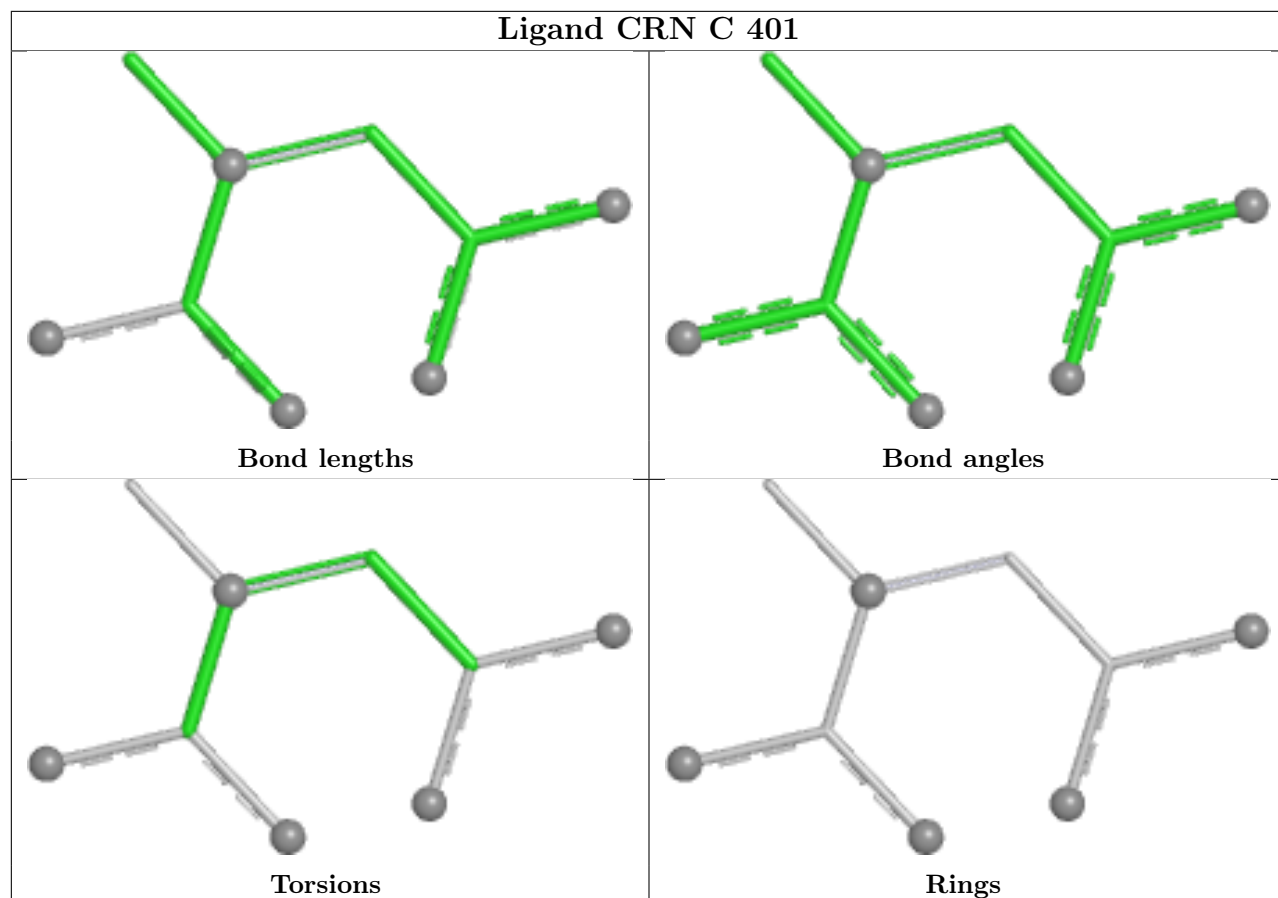


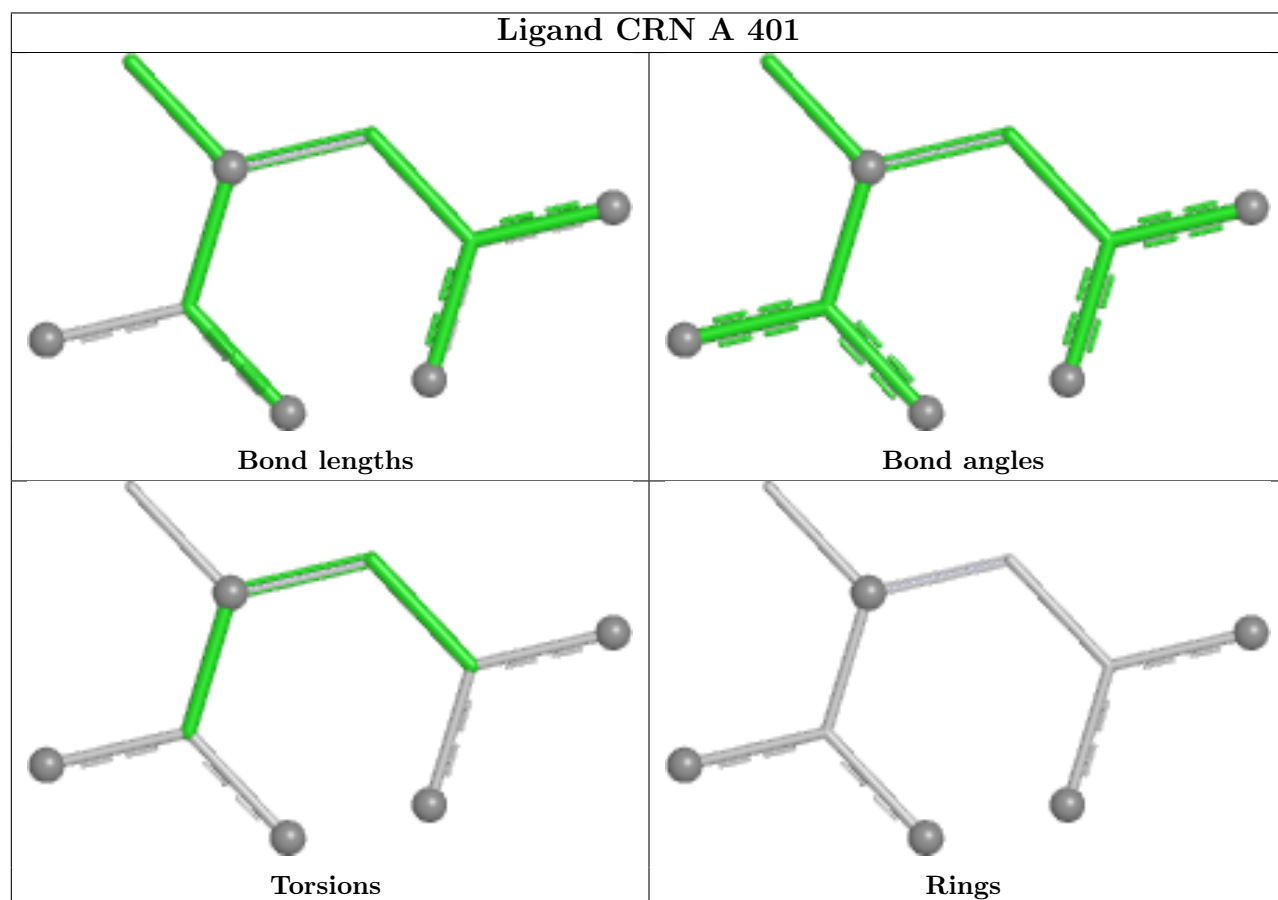
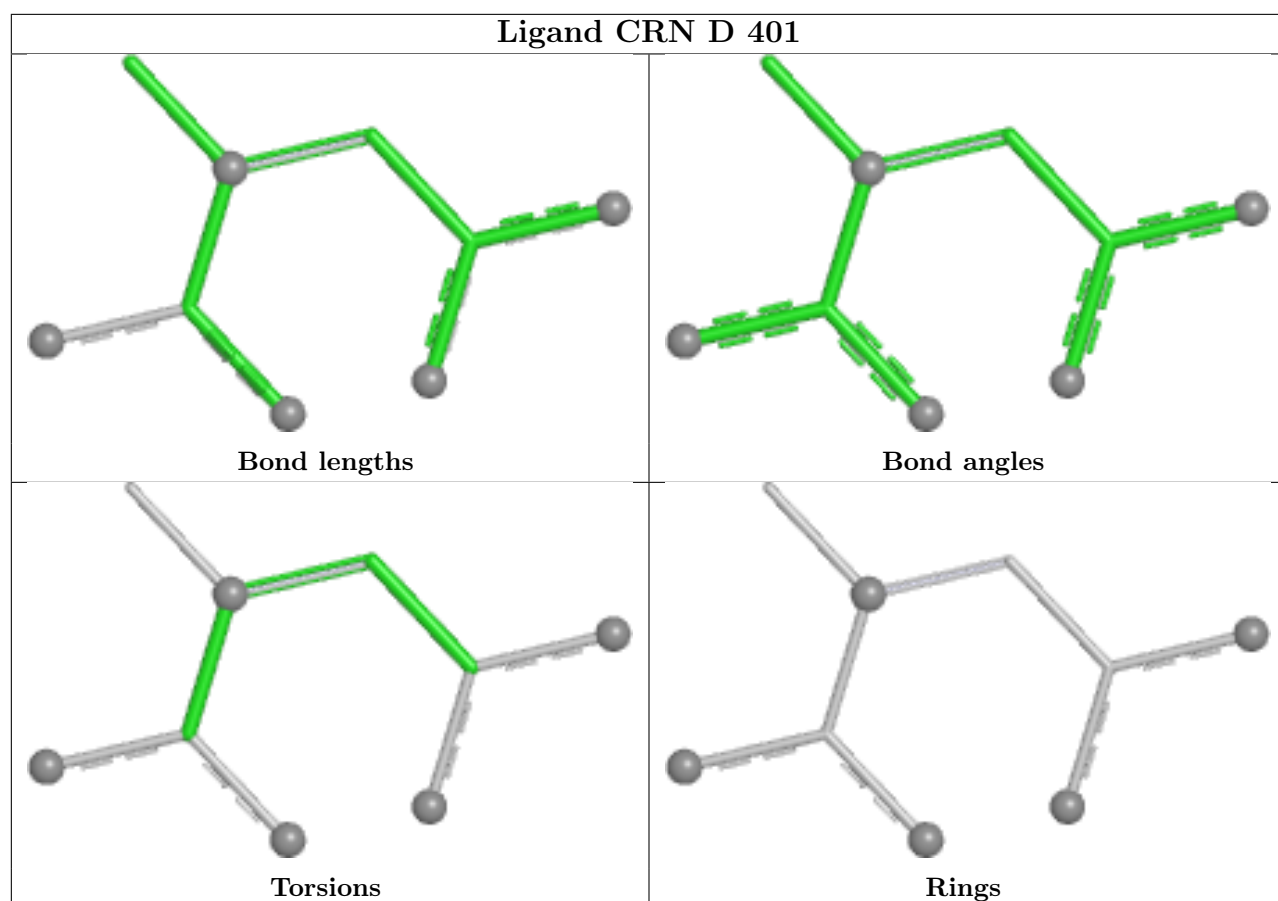
Ligand CRN F 401

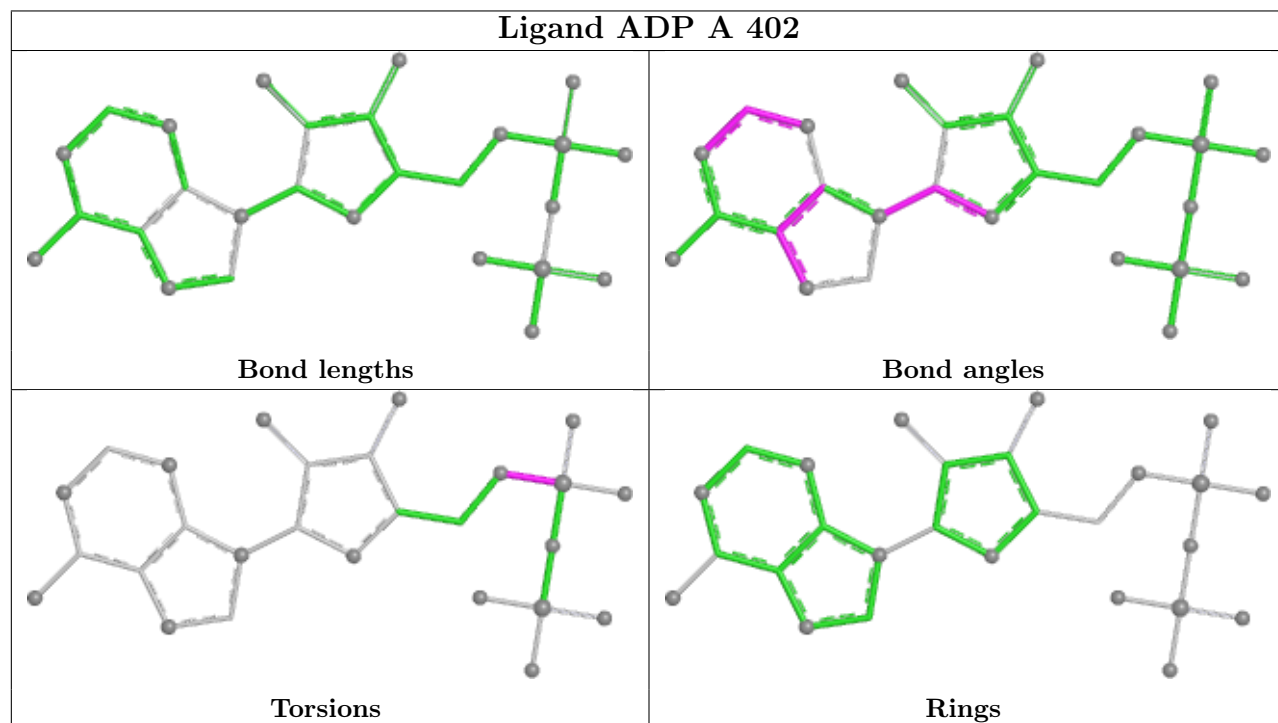
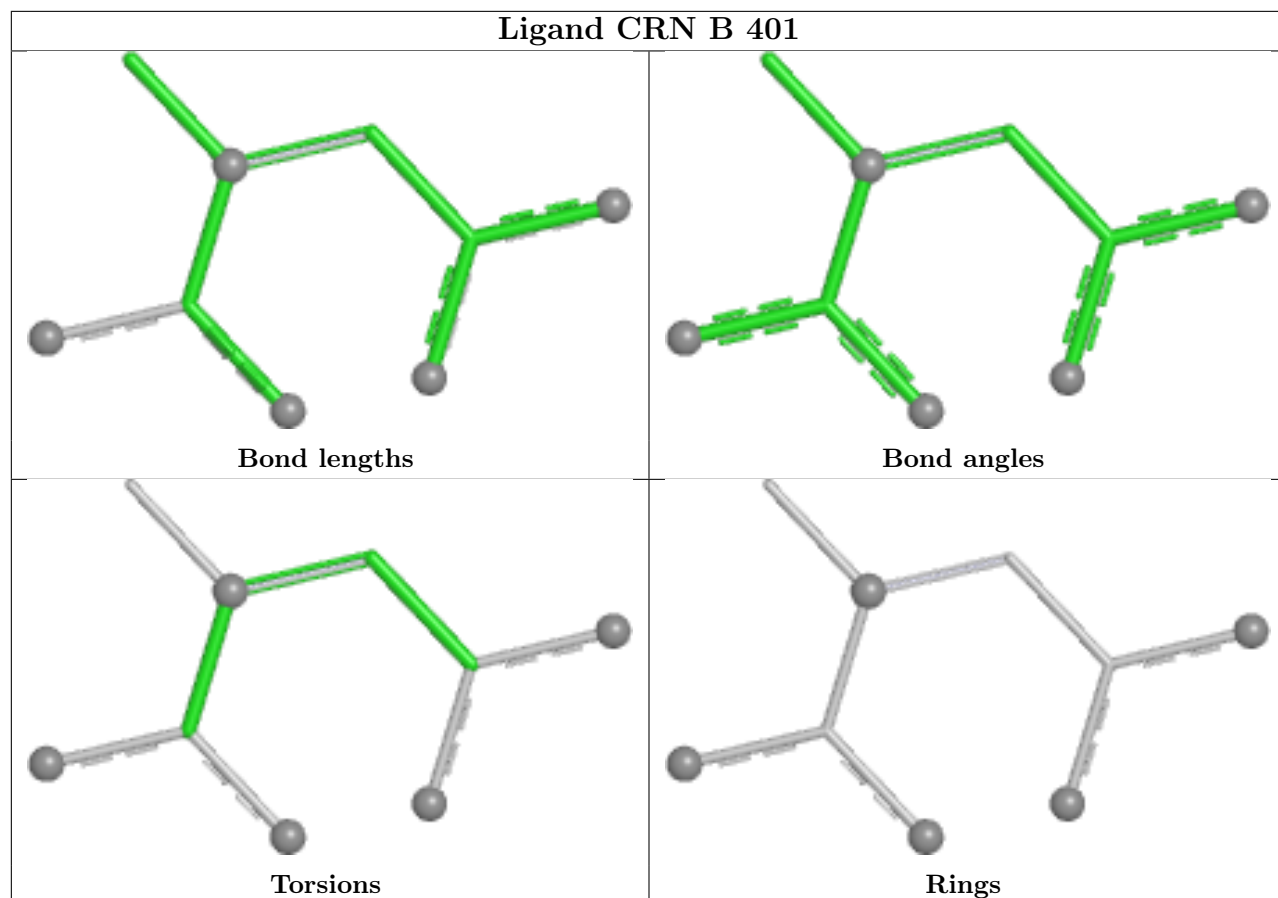


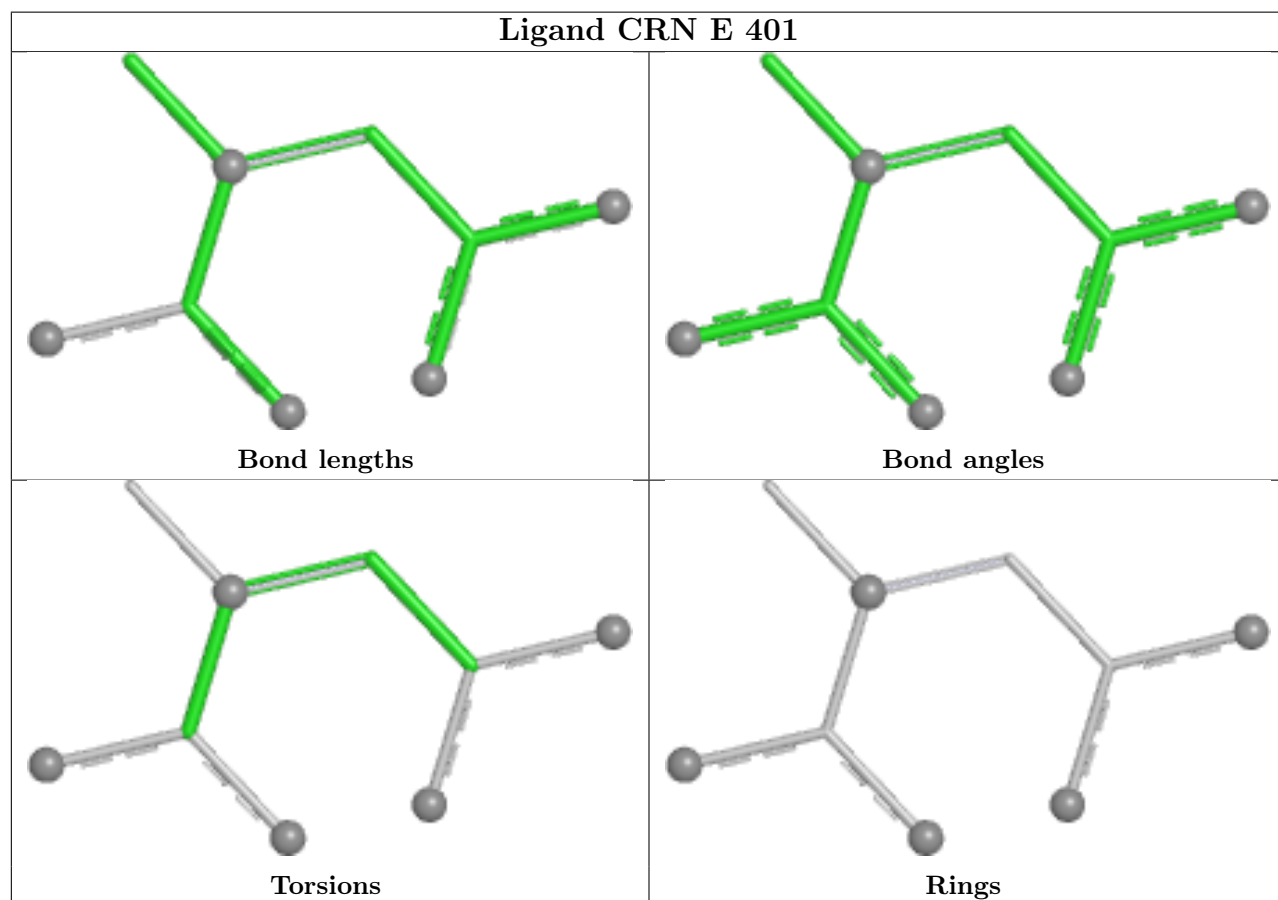
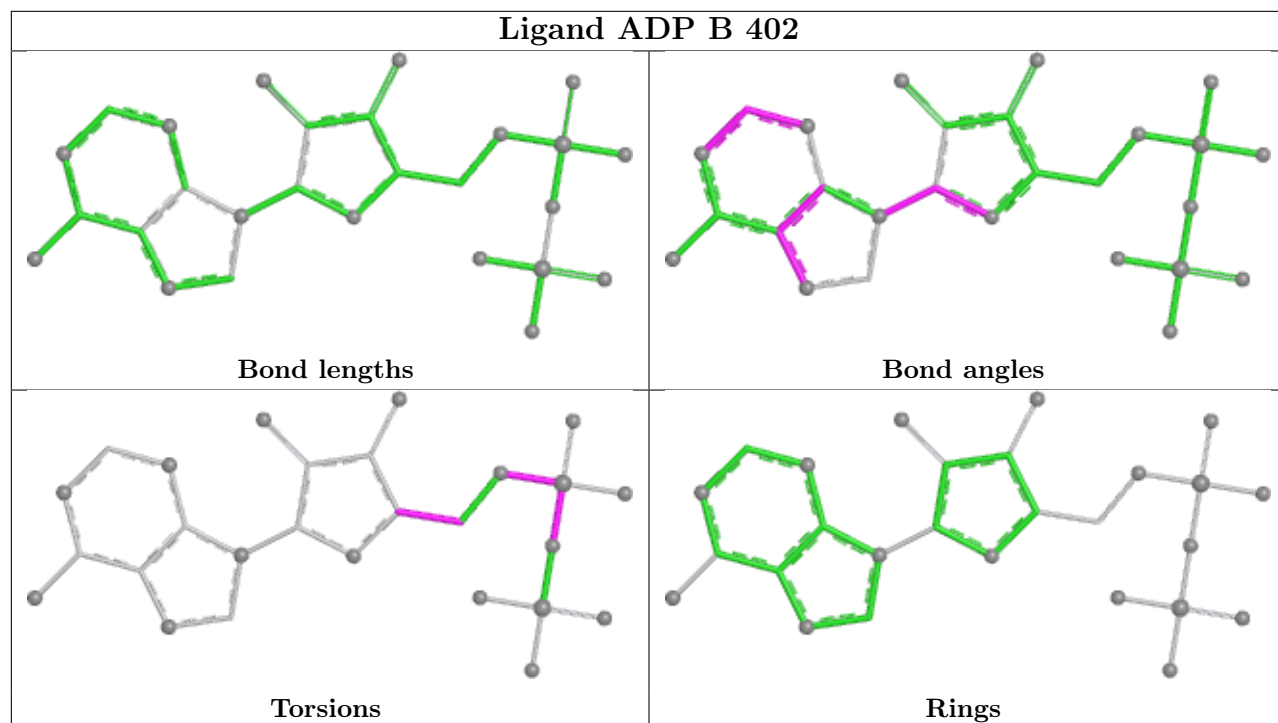
Ligand ADP H 402

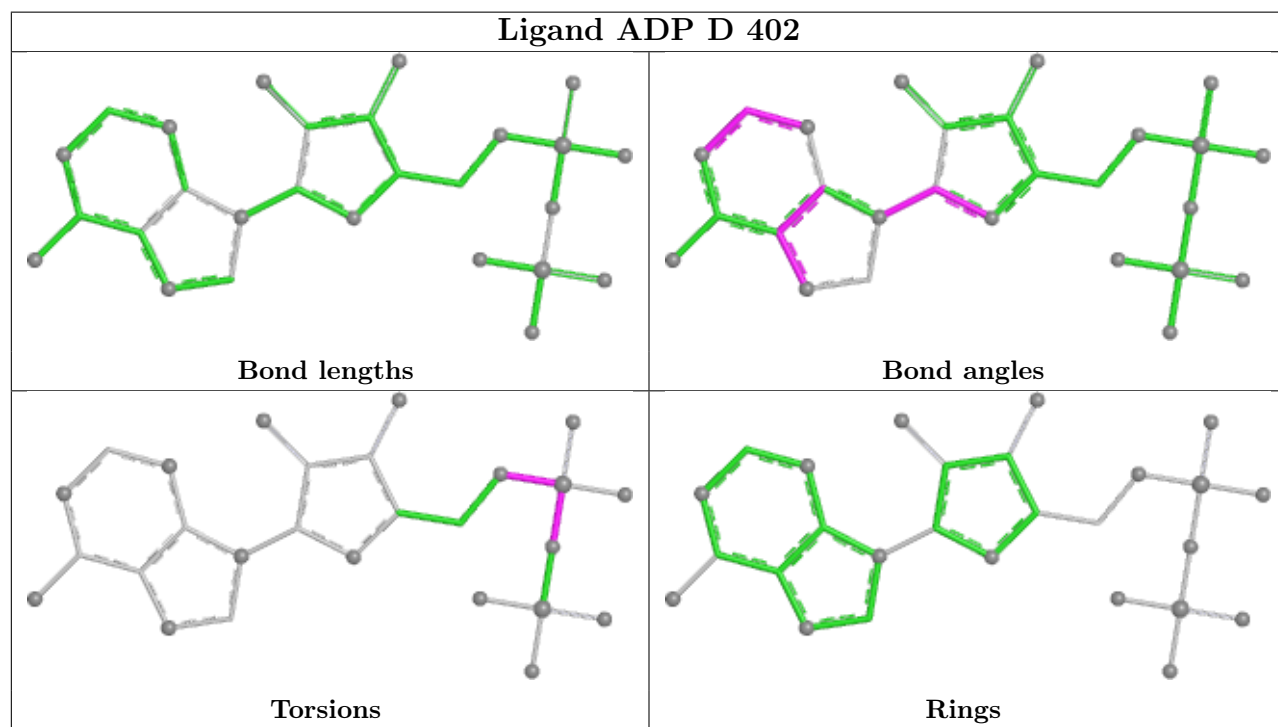
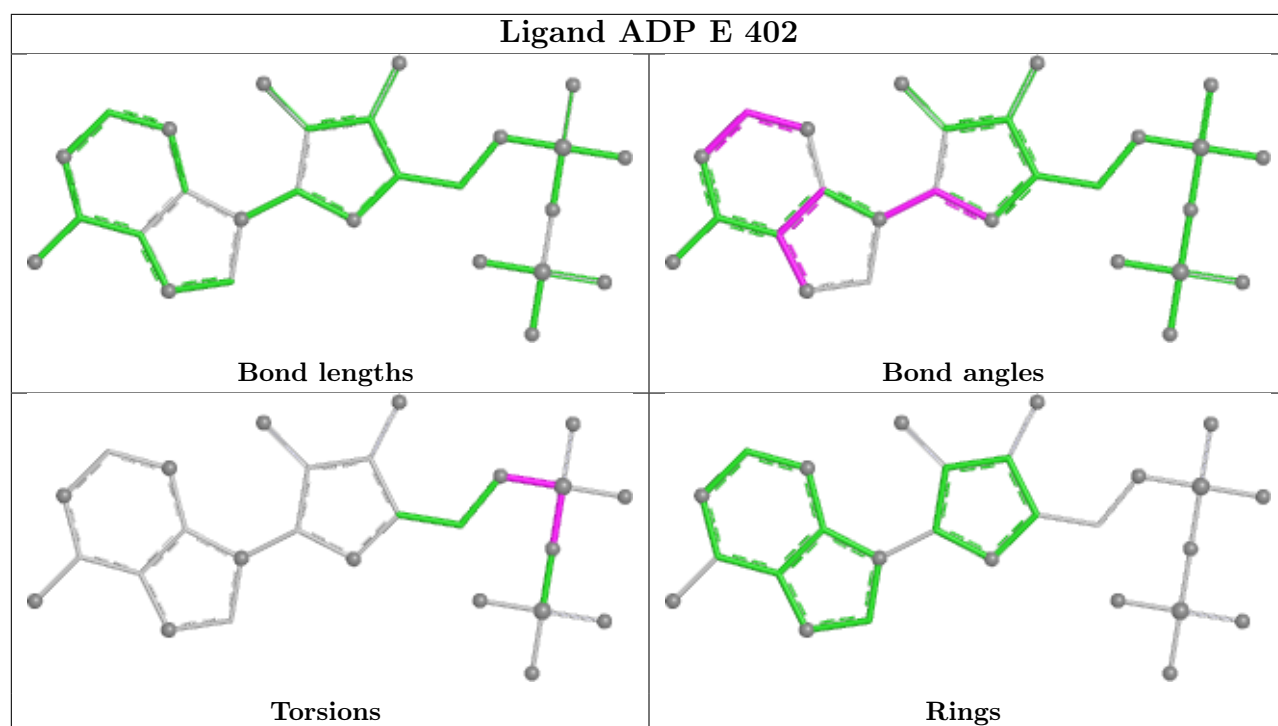


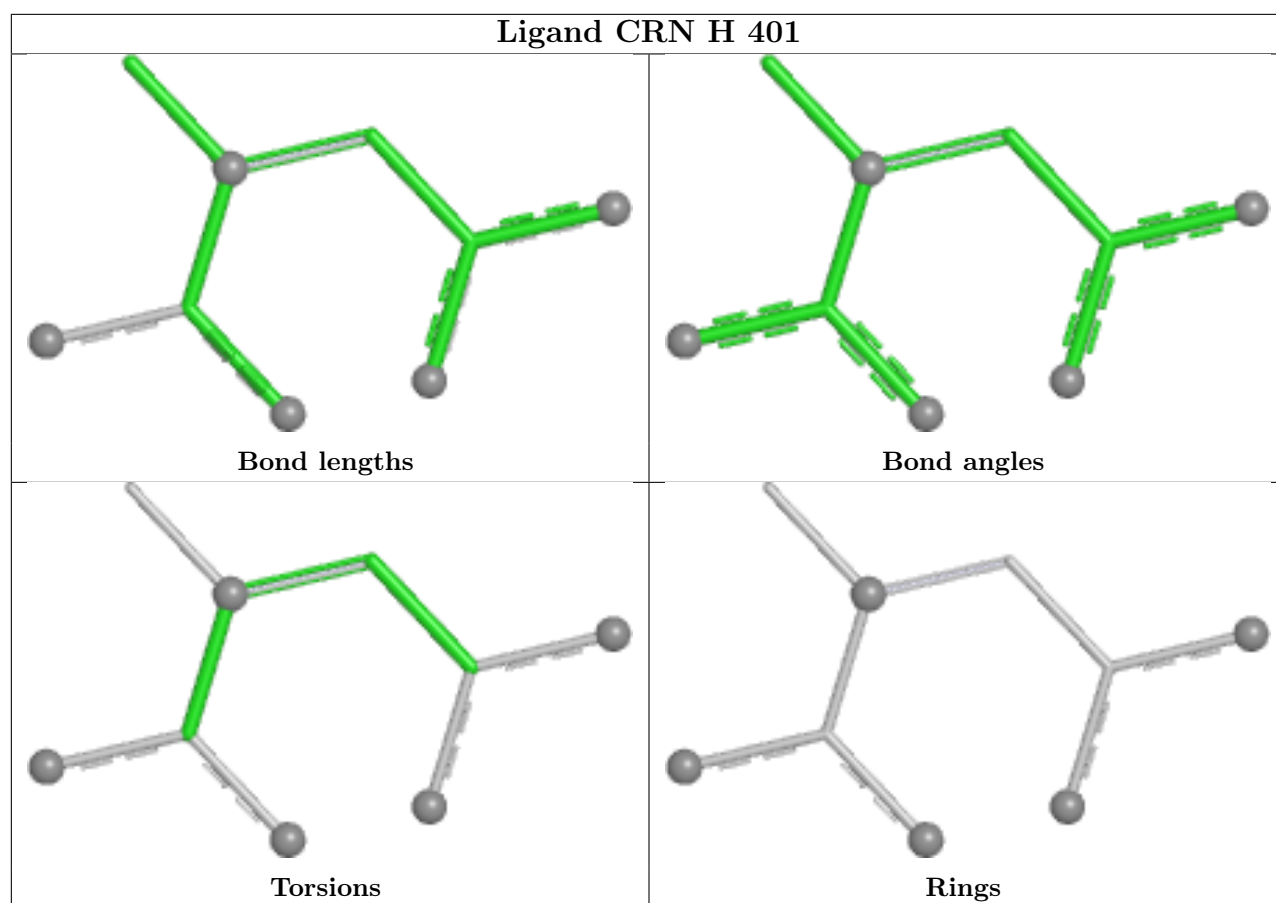












5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

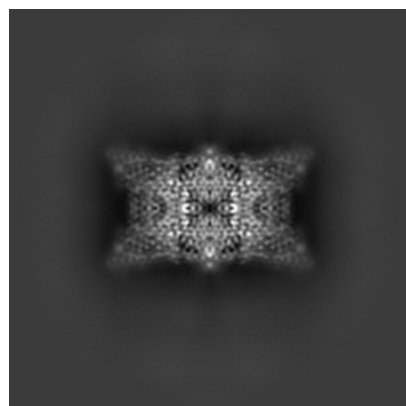
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-44068. These allow visual inspection of the internal detail of the map and identification of artifacts.

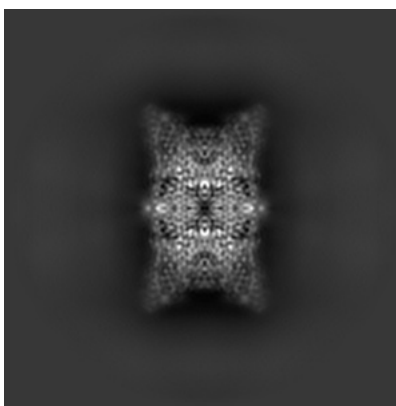
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

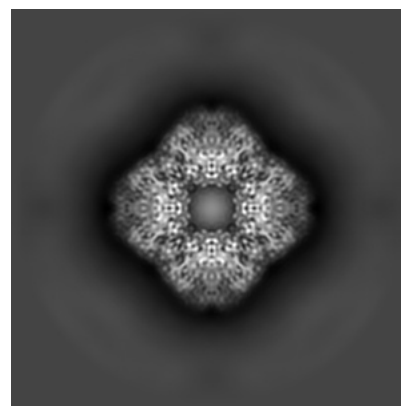
6.1.1 Primary map



X

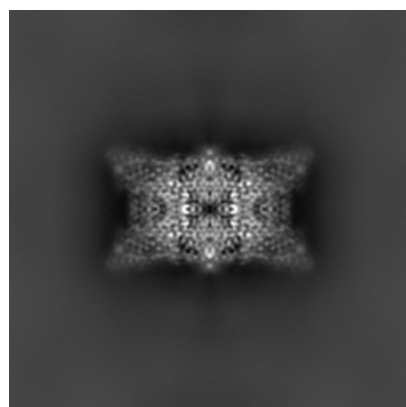


Y

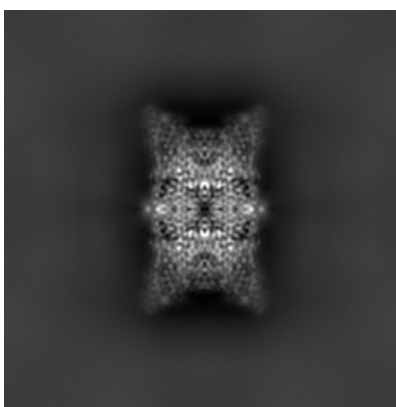


Z

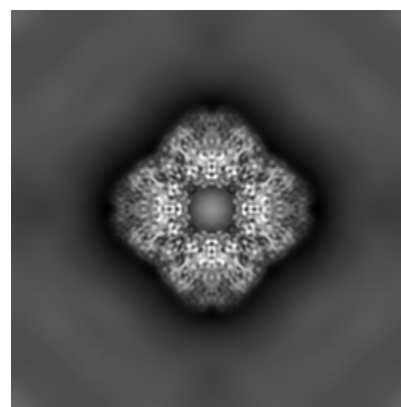
6.1.2 Raw map



X



Y

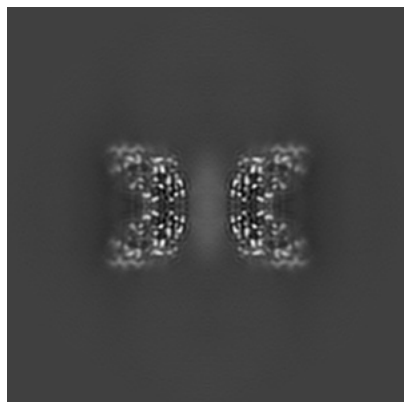


Z

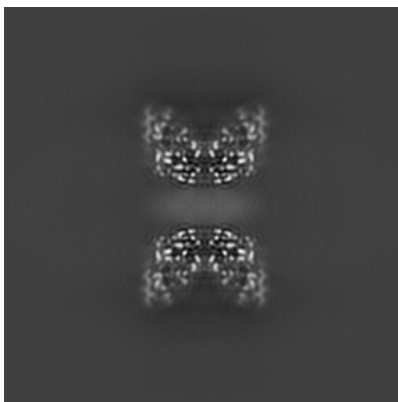
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

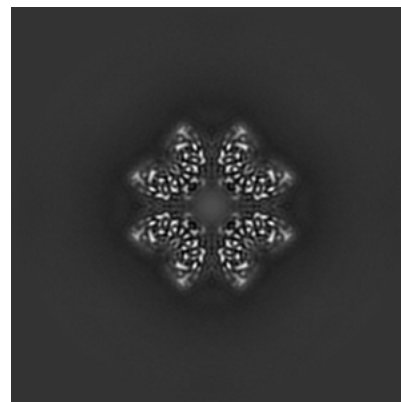
6.2.1 Primary map



X Index: 128

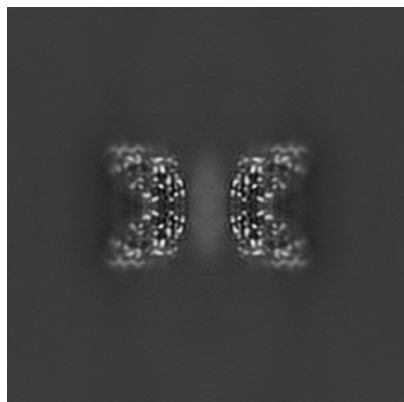


Y Index: 128

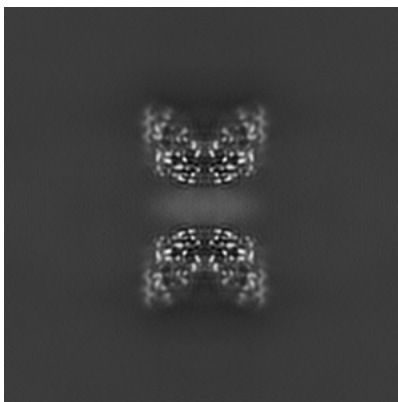


Z Index: 128

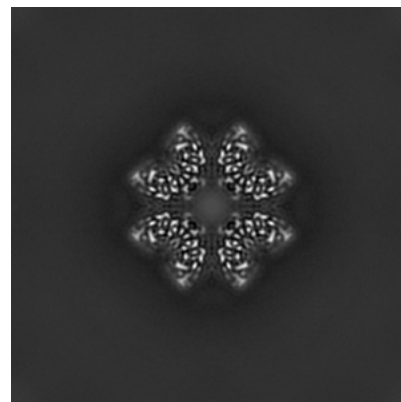
6.2.2 Raw map



X Index: 128



Y Index: 128

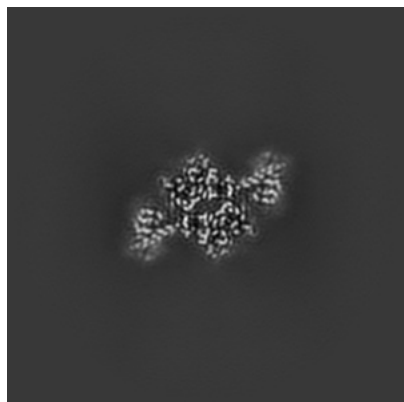


Z Index: 128

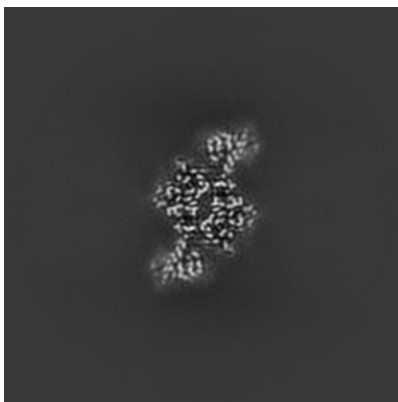
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

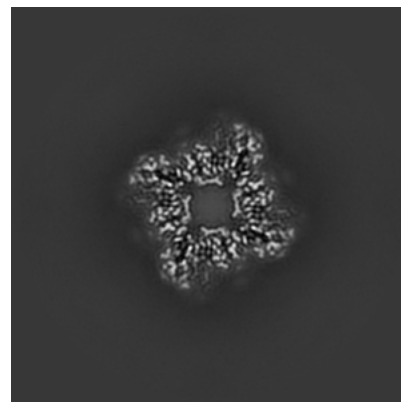
6.3.1 Primary map



X Index: 103

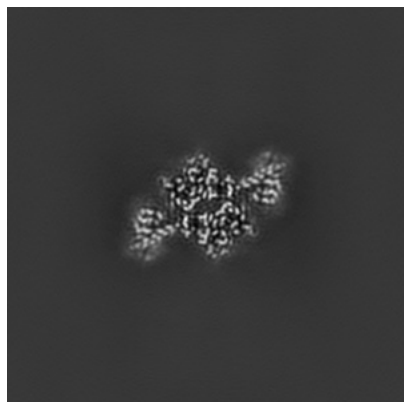


Y Index: 153

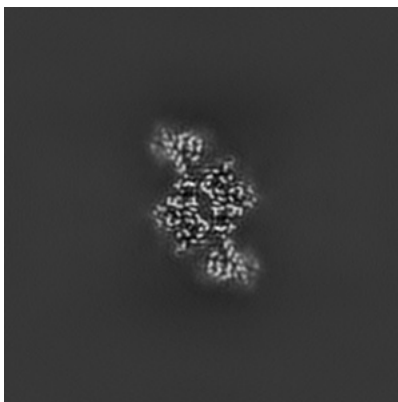


Z Index: 119

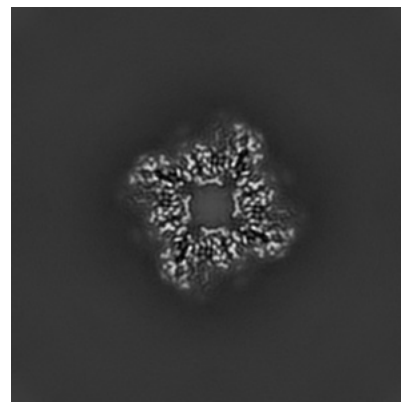
6.3.2 Raw map



X Index: 103



Y Index: 103

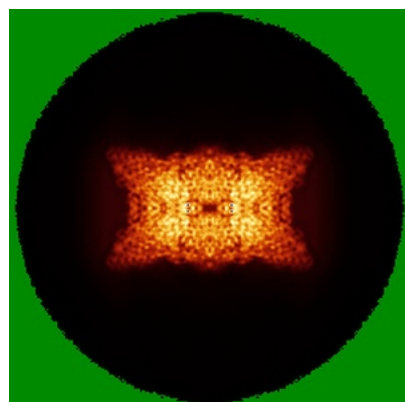


Z Index: 119

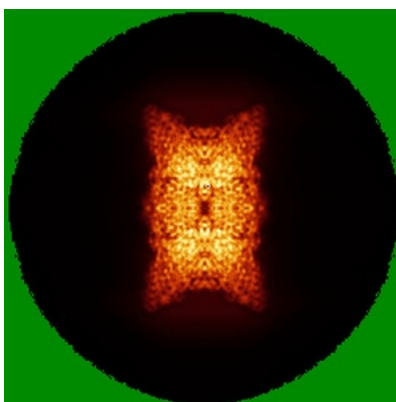
The images above show the largest variance slices of the map in three orthogonal directions.

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

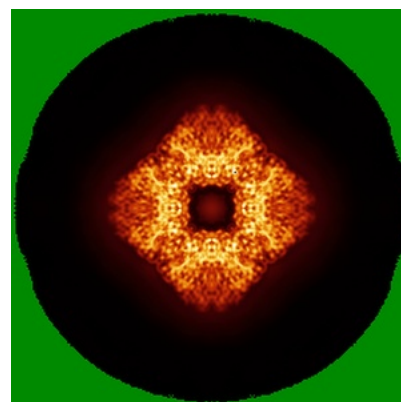
6.4.1 Primary map



X

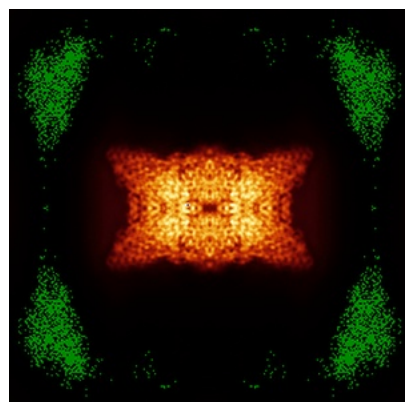


Y

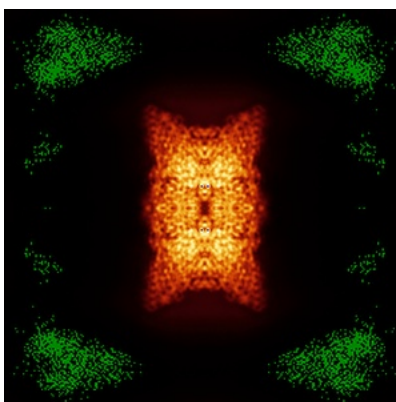


Z

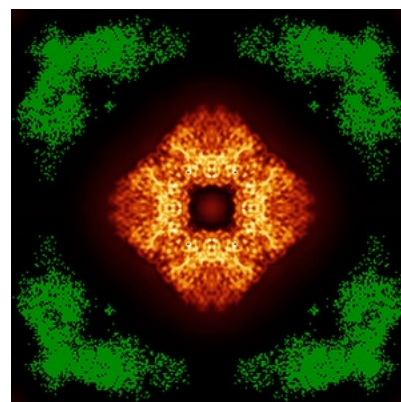
6.4.2 Raw map



X



Y

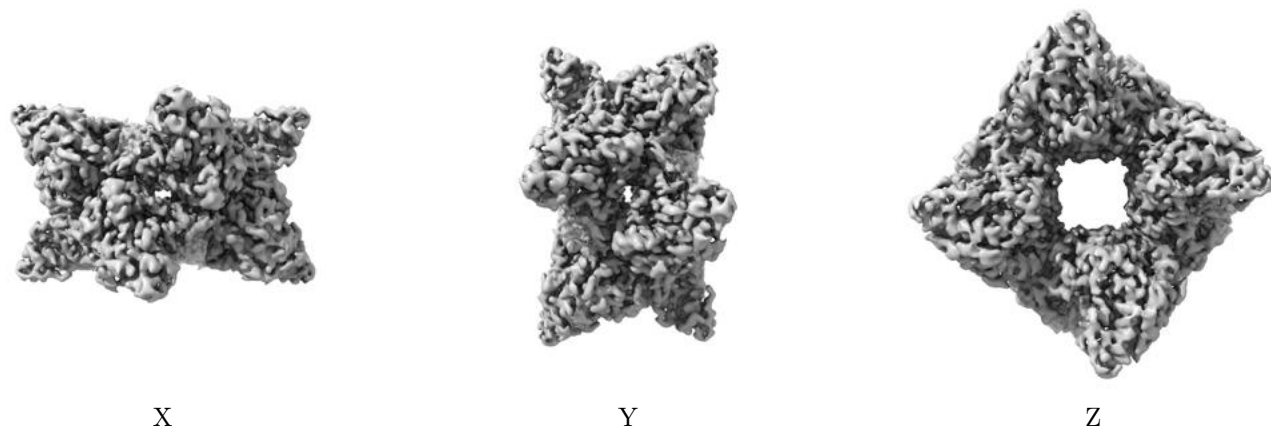


Z

The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

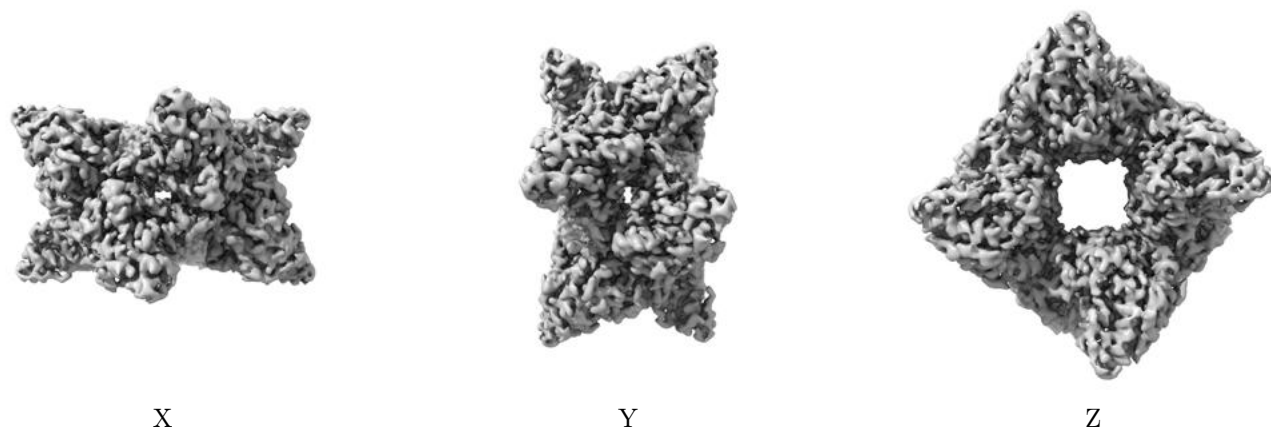
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.1. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

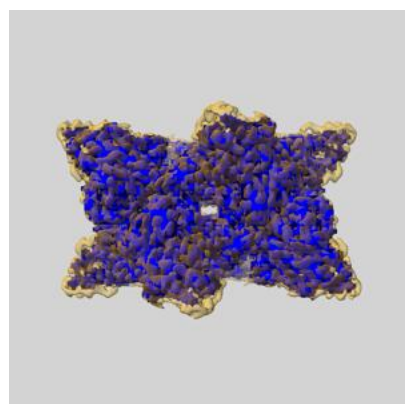
6.6 Mask visualisation [i](#)

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

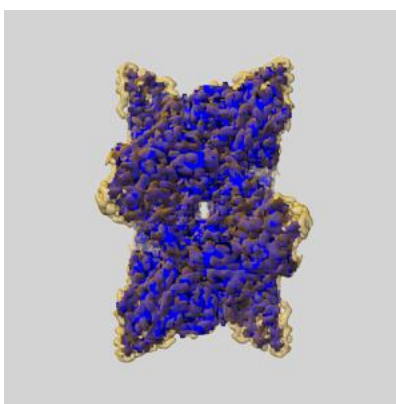
A mask typically either:

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

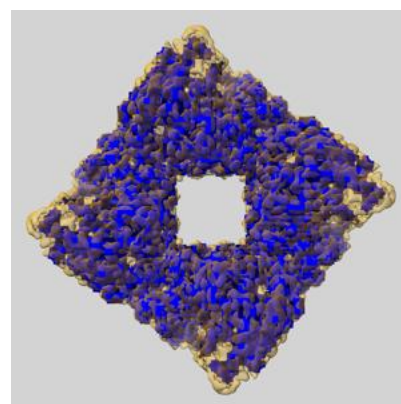
6.6.1 emd_44068_msk_1.map [i](#)



X



Y

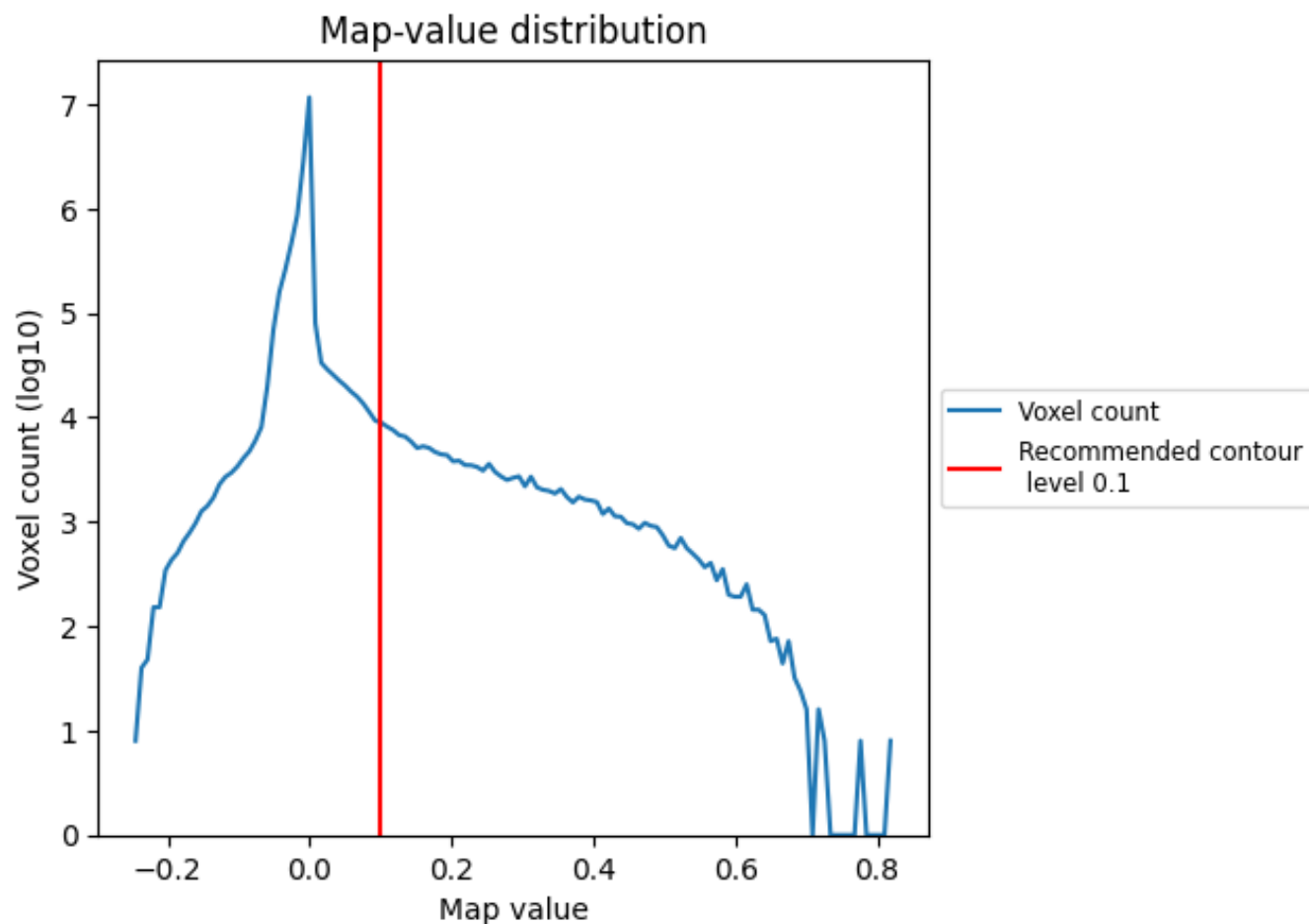


Z

7 Map analysis [i](#)

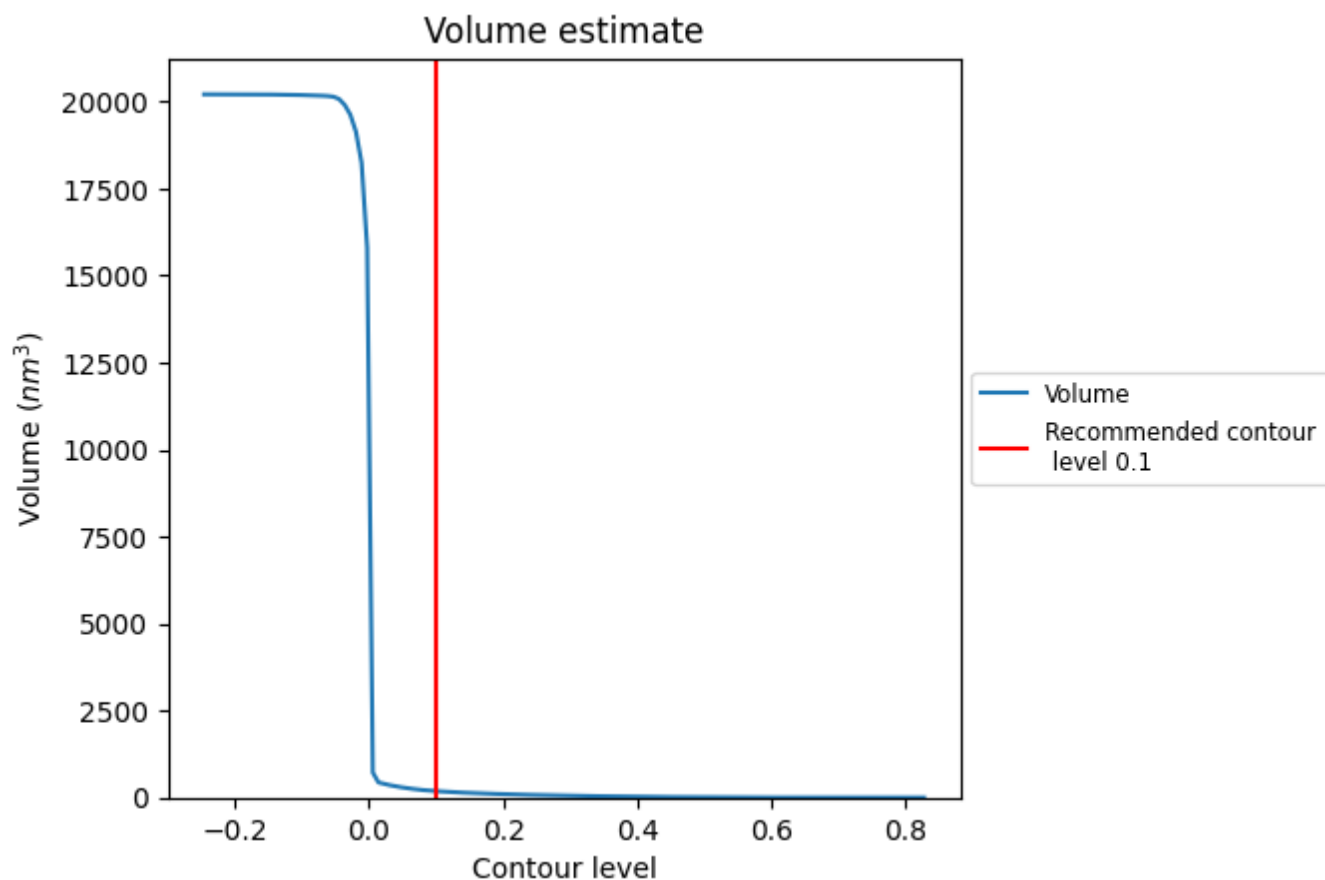
This section contains the results of statistical analysis of the map.

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.

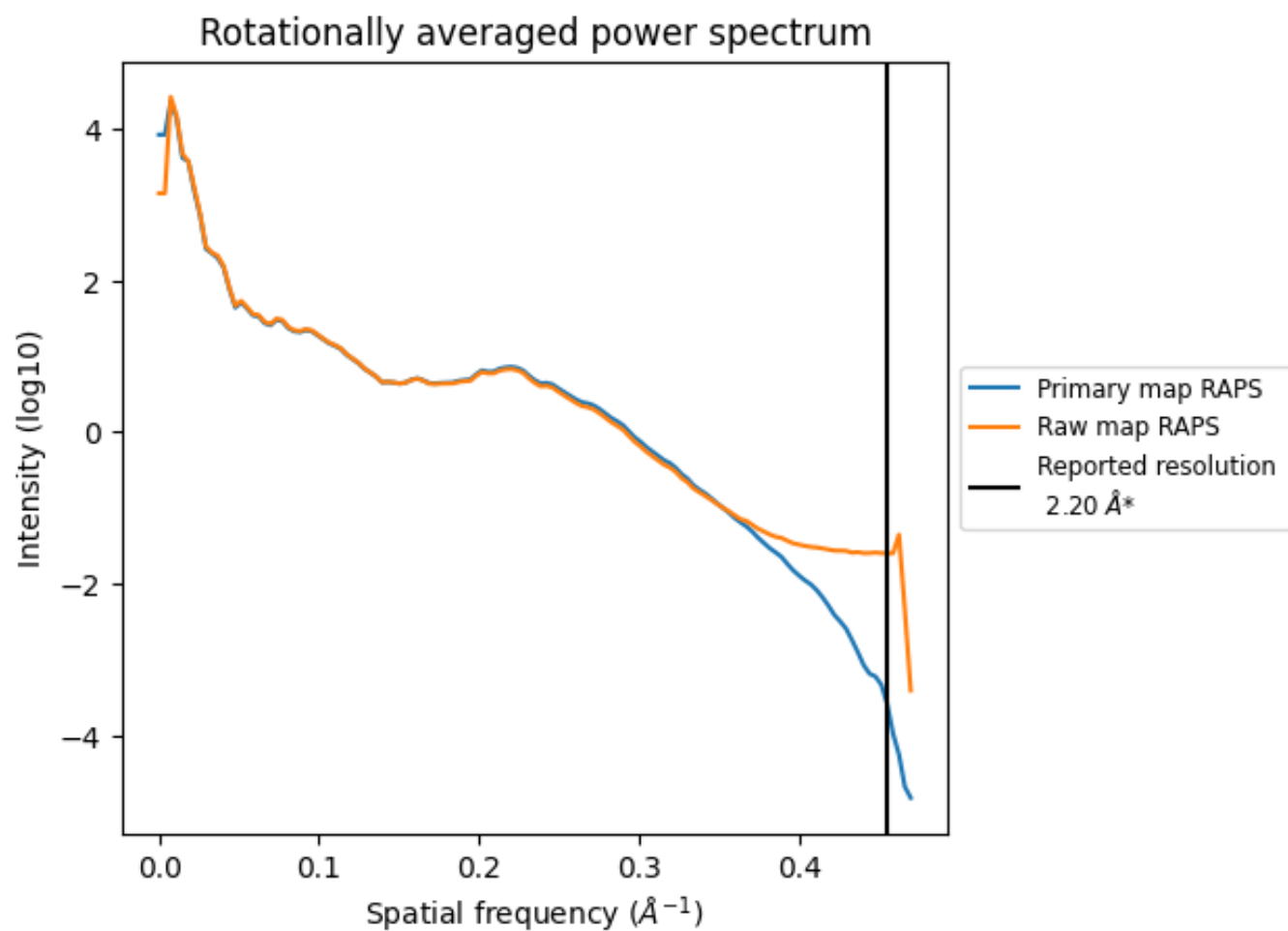
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 186 nm^3 ; this corresponds to an approximate mass of 168 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 ⓘ

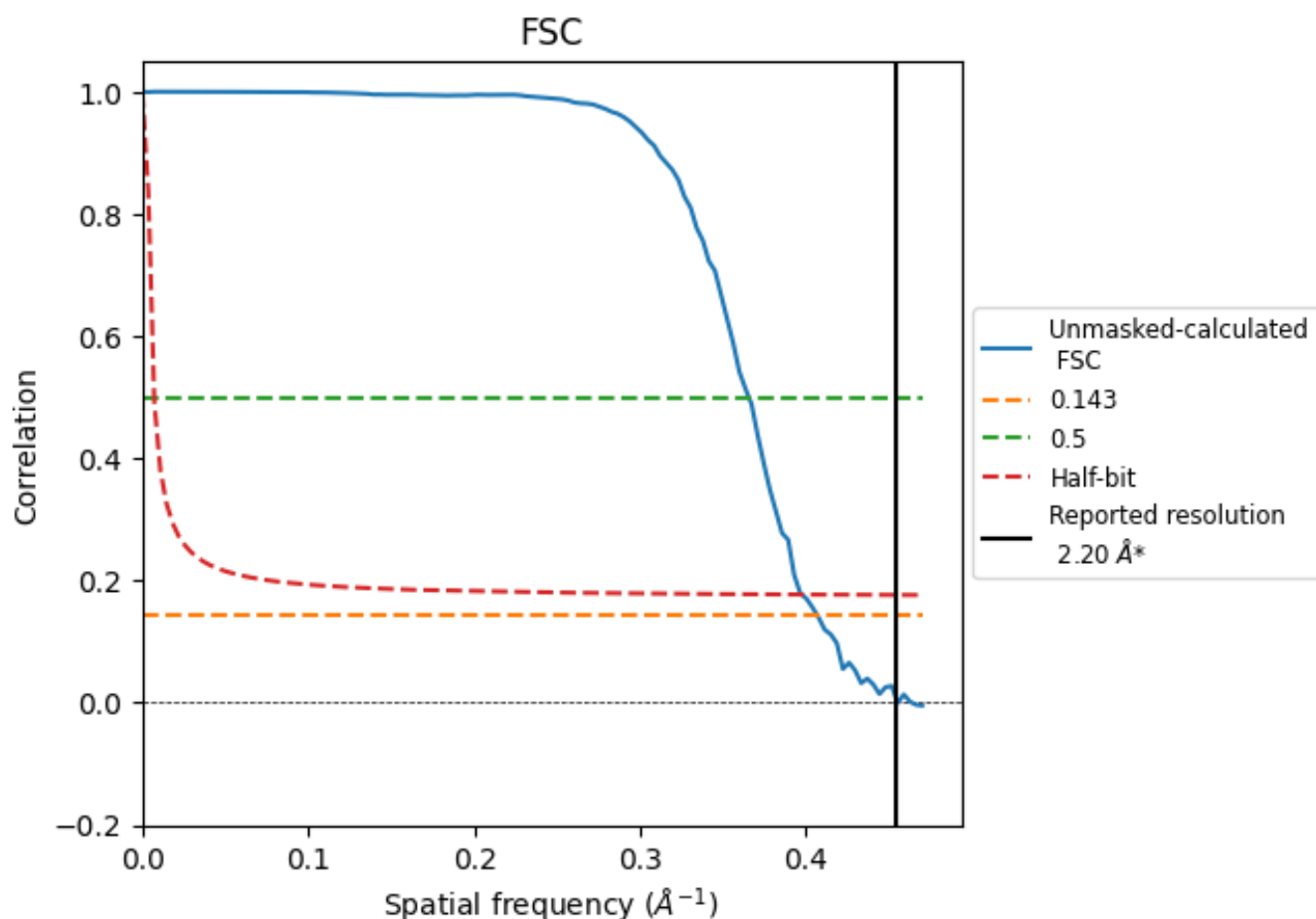


*Reported resolution corresponds to spatial frequency of 0.455 Å⁻¹

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 0.455 Å⁻¹

8.2 Resolution estimates [i](#)

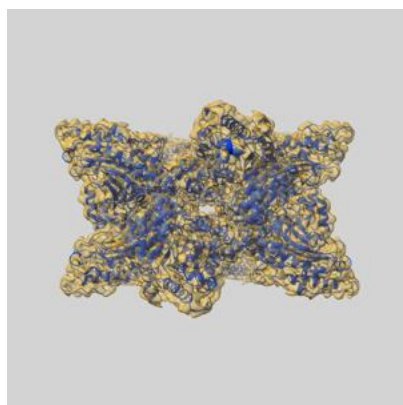
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	2.20	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	2.46	2.74	2.52

*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 2.46 differs from the reported value 2.2 by more than 10 %

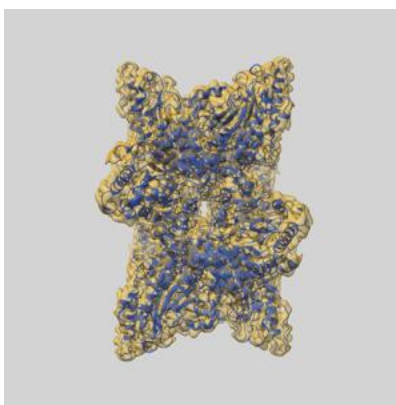
9 Map-model fit [i](#)

This section contains information regarding the fit between EMDB map EMD-44068 and PDB model 9B14. Per-residue inclusion information can be found in section [3](#) on page [14](#).

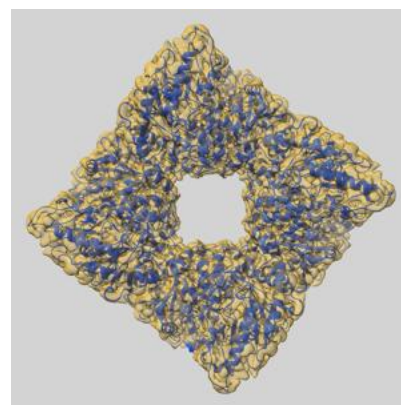
9.1 Map-model overlay [i](#)



X



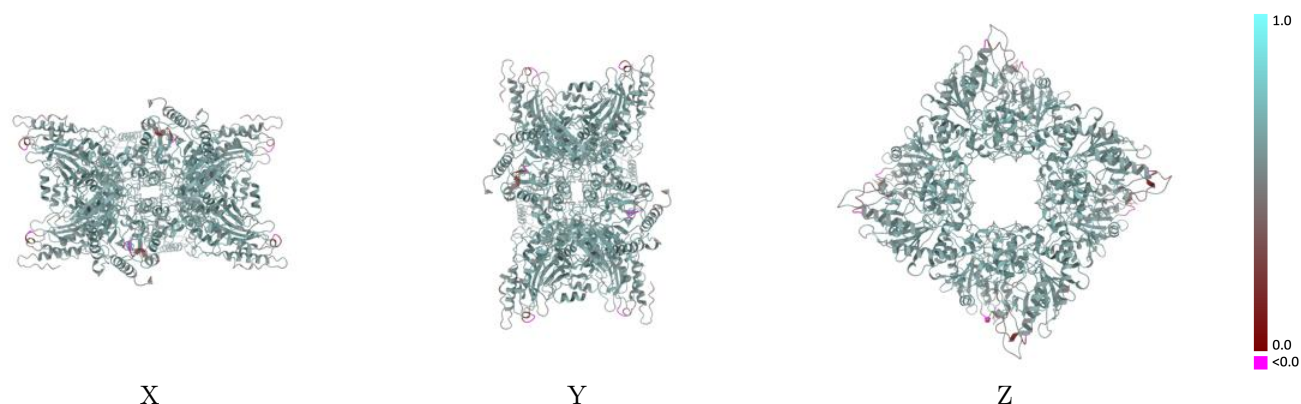
Y



Z

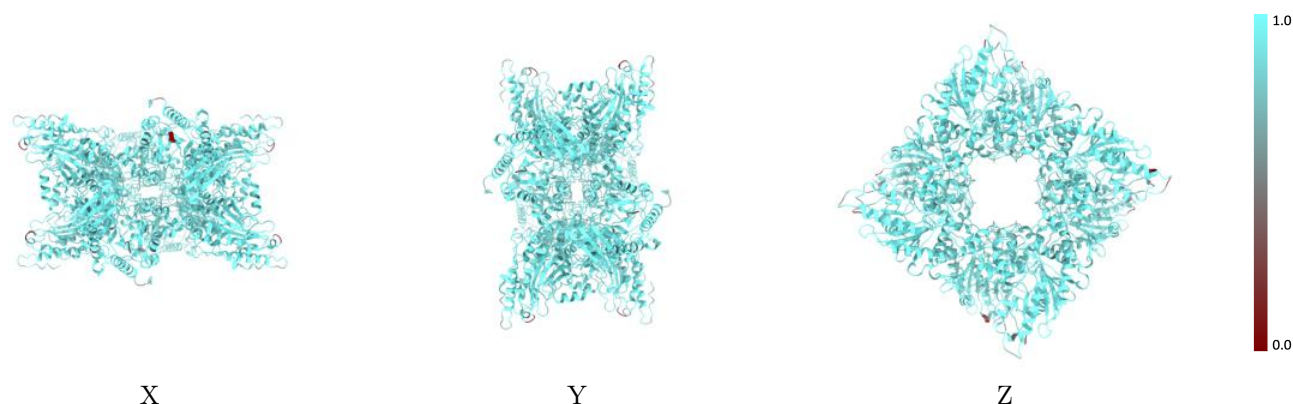
The images above show the 3D surface view of the map at the recommended contour level 0.1 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



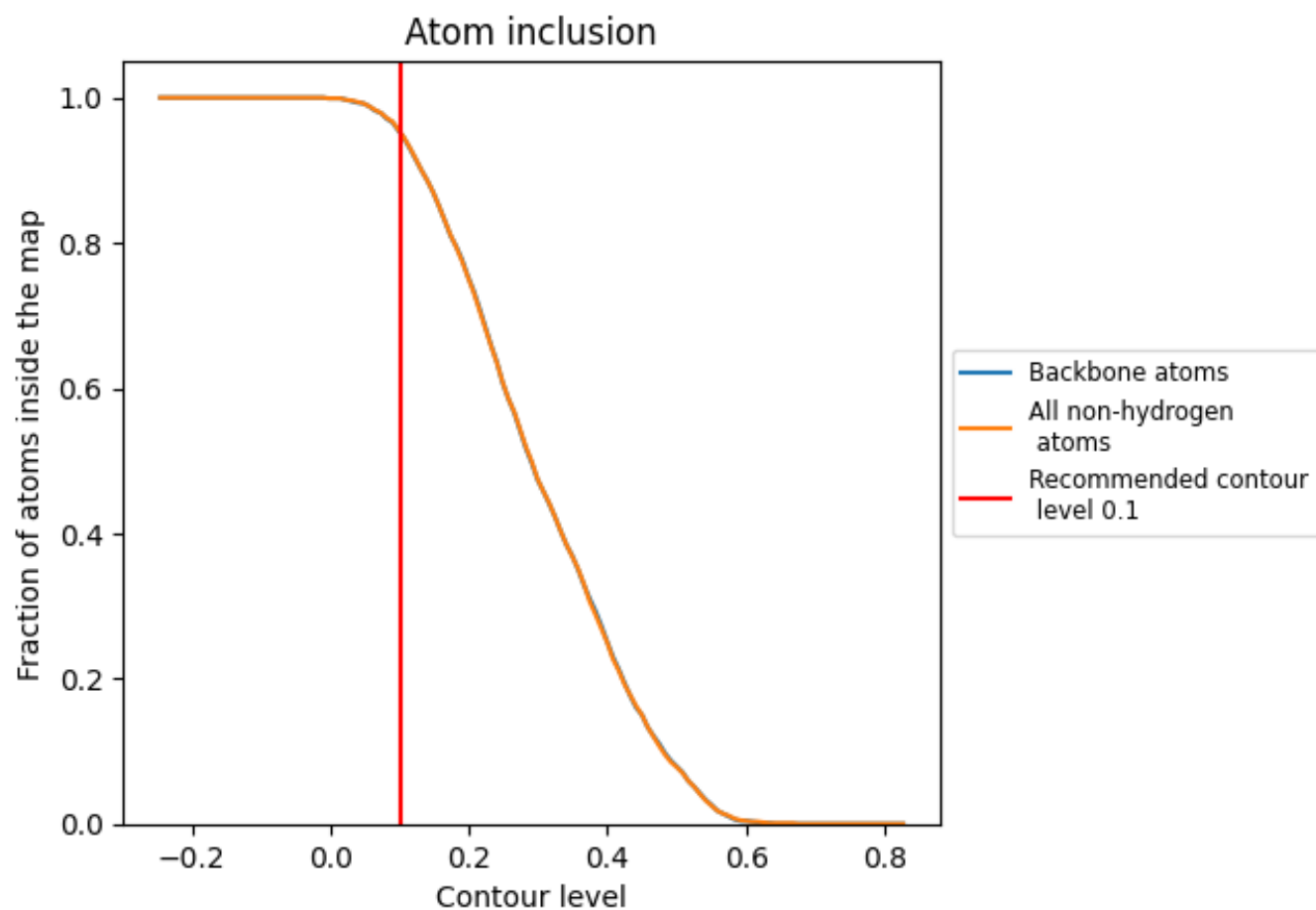
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.1).

9.4 Atom inclusion ⓘ



At the recommended contour level, 95% of all backbone atoms, 95% 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 (0.1) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	<div><div></div>0.9530</div>	<div><div></div>0.5970</div>
A	<div><div></div>0.9590</div>	<div><div></div>0.5970</div>
B	<div><div></div>0.9570</div>	<div><div></div>0.5970</div>
C	<div><div></div>0.9570</div>	<div><div></div>0.5960</div>
D	<div><div></div>0.9600</div>	<div><div></div>0.5970</div>
E	<div><div></div>0.9580</div>	<div><div></div>0.5970</div>
F	<div><div></div>0.9550</div>	<div><div></div>0.5970</div>
G	<div><div></div>0.9580</div>	<div><div></div>0.5980</div>
H	<div><div></div>0.9570</div>	<div><div></div>0.5990</div>

1.0

0.0

<0.0