Full wwPDB X-ray Structure Validation Report ⓘ

Oct 15, 2023 – 11:12 AM EDT

PDB ID	:	7TXA
Title	:	Structure of the Class II Fructose-1,6-Bisphophatase from Francisella tularensis complexed with native metal cofactor Mn++ and product F6P
Authors	:	Abad-Zapatero, C.; Selezneva, A.I.
Deposited on	:	2022-02-08
Resolution	:	2.40 Å(reported)

This is a Full wwPDB X-ray Structure 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/XrayValidationReportHelp
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:

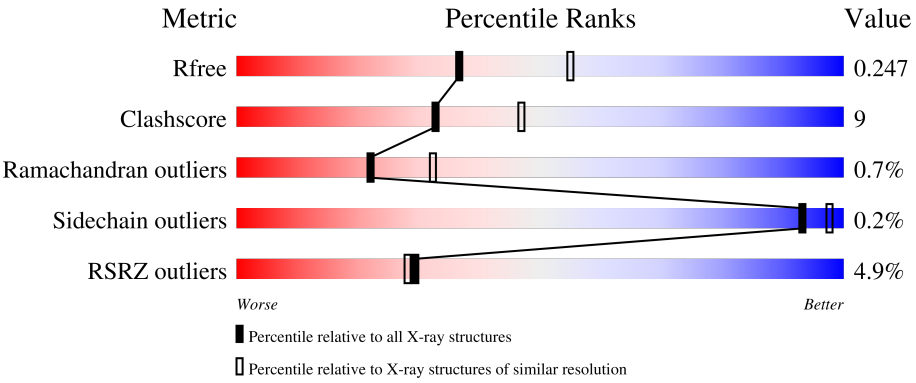
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.36
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
X-RAY DIFFRACTION

The reported resolution of this entry is 2.40 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	3907 (2.40-2.40)
Clashscore	141614	4398 (2.40-2.40)
Ramachandran outliers	138981	4318 (2.40-2.40)
Sidechain outliers	138945	4319 (2.40-2.40)
RSRZ outliers	127900	3811 (2.40-2.40)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower 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 <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	1	348	6% 73% 20% · 6%
1	A	348	3% 79% 14% 7%
1	B	348	4% 77% 16% 7%
1	C	348	6% 73% 19% · 6%
1	D	348	3% 79% 14% 7%

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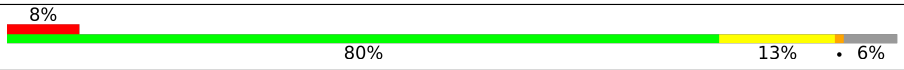
Mol	Chain	Length	Quality of chain
1	Q	348	
1	U	348	
1	W	348	

2 Entry composition (i)

There are 4 unique types of molecules in this entry. The entry contains 19787 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, 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 Fructose-1,6-bisphosphatase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	325	Total	C	N	O	S	0	0	0
			2406	1492	425	474	15			
1	B	325	Total	C	N	O	S	0	0	0
			2406	1492	425	474	15			
1	C	328	Total	C	N	O	S	0	0	0
			2433	1507	432	478	16			
1	D	324	Total	C	N	O	S	0	0	0
			2397	1486	423	473	15			
1	Q	328	Total	C	N	O	S	0	0	0
			2433	1507	432	478	16			
1	U	325	Total	C	N	O	S	0	0	0
			2406	1492	425	474	15			
1	W	328	Total	C	N	O	S	0	0	0
			2433	1507	432	478	16			
1	1	328	Total	C	N	O	S	0	0	0
			2433	1507	432	478	16			

There are 160 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-19	MET	-	initiating methionine	UNP A0A0E2ZJY0
A	-18	GLY	-	expression tag	UNP A0A0E2ZJY0
A	-17	SER	-	expression tag	UNP A0A0E2ZJY0
A	-16	SER	-	expression tag	UNP A0A0E2ZJY0
A	-15	HIS	-	expression tag	UNP A0A0E2ZJY0
A	-14	HIS	-	expression tag	UNP A0A0E2ZJY0
A	-13	HIS	-	expression tag	UNP A0A0E2ZJY0
A	-12	HIS	-	expression tag	UNP A0A0E2ZJY0
A	-11	HIS	-	expression tag	UNP A0A0E2ZJY0
A	-10	HIS	-	expression tag	UNP A0A0E2ZJY0
A	-9	SER	-	expression tag	UNP A0A0E2ZJY0
A	-8	SER	-	expression tag	UNP A0A0E2ZJY0
A	-7	GLY	-	expression tag	UNP A0A0E2ZJY0

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Chain	Residue	Modelled	Actual	Comment	Reference
A	-6	LEU	-	expression tag	UNP A0A0E2ZJY0
A	-5	VAL	-	expression tag	UNP A0A0E2ZJY0
A	-4	PRO	-	expression tag	UNP A0A0E2ZJY0
A	-3	ARG	-	expression tag	UNP A0A0E2ZJY0
A	-2	GLY	-	expression tag	UNP A0A0E2ZJY0
A	-1	SER	-	expression tag	UNP A0A0E2ZJY0
A	0	HIS	-	expression tag	UNP A0A0E2ZJY0
B	-19	MET	-	initiating methionine	UNP A0A0E2ZJY0
B	-18	GLY	-	expression tag	UNP A0A0E2ZJY0
B	-17	SER	-	expression tag	UNP A0A0E2ZJY0
B	-16	SER	-	expression tag	UNP A0A0E2ZJY0
B	-15	HIS	-	expression tag	UNP A0A0E2ZJY0
B	-14	HIS	-	expression tag	UNP A0A0E2ZJY0
B	-13	HIS	-	expression tag	UNP A0A0E2ZJY0
B	-12	HIS	-	expression tag	UNP A0A0E2ZJY0
B	-11	HIS	-	expression tag	UNP A0A0E2ZJY0
B	-10	HIS	-	expression tag	UNP A0A0E2ZJY0
B	-9	SER	-	expression tag	UNP A0A0E2ZJY0
B	-8	SER	-	expression tag	UNP A0A0E2ZJY0
B	-7	GLY	-	expression tag	UNP A0A0E2ZJY0
B	-6	LEU	-	expression tag	UNP A0A0E2ZJY0
B	-5	VAL	-	expression tag	UNP A0A0E2ZJY0
B	-4	PRO	-	expression tag	UNP A0A0E2ZJY0
B	-3	ARG	-	expression tag	UNP A0A0E2ZJY0
B	-2	GLY	-	expression tag	UNP A0A0E2ZJY0
B	-1	SER	-	expression tag	UNP A0A0E2ZJY0
B	0	HIS	-	expression tag	UNP A0A0E2ZJY0
C	-19	MET	-	initiating methionine	UNP A0A0E2ZJY0
C	-18	GLY	-	expression tag	UNP A0A0E2ZJY0
C	-17	SER	-	expression tag	UNP A0A0E2ZJY0
C	-16	SER	-	expression tag	UNP A0A0E2ZJY0
C	-15	HIS	-	expression tag	UNP A0A0E2ZJY0
C	-14	HIS	-	expression tag	UNP A0A0E2ZJY0
C	-13	HIS	-	expression tag	UNP A0A0E2ZJY0
C	-12	HIS	-	expression tag	UNP A0A0E2ZJY0
C	-11	HIS	-	expression tag	UNP A0A0E2ZJY0
C	-10	HIS	-	expression tag	UNP A0A0E2ZJY0
C	-9	SER	-	expression tag	UNP A0A0E2ZJY0
C	-8	SER	-	expression tag	UNP A0A0E2ZJY0
C	-7	GLY	-	expression tag	UNP A0A0E2ZJY0
C	-6	LEU	-	expression tag	UNP A0A0E2ZJY0
C	-5	VAL	-	expression tag	UNP A0A0E2ZJY0

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Chain	Residue	Modelled	Actual	Comment	Reference
C	-4	PRO	-	expression tag	UNP A0A0E2ZJY0
C	-3	ARG	-	expression tag	UNP A0A0E2ZJY0
C	-2	GLY	-	expression tag	UNP A0A0E2ZJY0
C	-1	SER	-	expression tag	UNP A0A0E2ZJY0
C	0	HIS	-	expression tag	UNP A0A0E2ZJY0
D	-19	MET	-	initiating methionine	UNP A0A0E2ZJY0
D	-18	GLY	-	expression tag	UNP A0A0E2ZJY0
D	-17	SER	-	expression tag	UNP A0A0E2ZJY0
D	-16	SER	-	expression tag	UNP A0A0E2ZJY0
D	-15	HIS	-	expression tag	UNP A0A0E2ZJY0
D	-14	HIS	-	expression tag	UNP A0A0E2ZJY0
D	-13	HIS	-	expression tag	UNP A0A0E2ZJY0
D	-12	HIS	-	expression tag	UNP A0A0E2ZJY0
D	-11	HIS	-	expression tag	UNP A0A0E2ZJY0
D	-10	HIS	-	expression tag	UNP A0A0E2ZJY0
D	-9	SER	-	expression tag	UNP A0A0E2ZJY0
D	-8	SER	-	expression tag	UNP A0A0E2ZJY0
D	-7	GLY	-	expression tag	UNP A0A0E2ZJY0
D	-6	LEU	-	expression tag	UNP A0A0E2ZJY0
D	-5	VAL	-	expression tag	UNP A0A0E2ZJY0
D	-4	PRO	-	expression tag	UNP A0A0E2ZJY0
D	-3	ARG	-	expression tag	UNP A0A0E2ZJY0
D	-2	GLY	-	expression tag	UNP A0A0E2ZJY0
D	-1	SER	-	expression tag	UNP A0A0E2ZJY0
D	0	HIS	-	expression tag	UNP A0A0E2ZJY0
Q	-19	MET	-	initiating methionine	UNP A0A0E2ZJY0
Q	-18	GLY	-	expression tag	UNP A0A0E2ZJY0
Q	-17	SER	-	expression tag	UNP A0A0E2ZJY0
Q	-16	SER	-	expression tag	UNP A0A0E2ZJY0
Q	-15	HIS	-	expression tag	UNP A0A0E2ZJY0
Q	-14	HIS	-	expression tag	UNP A0A0E2ZJY0
Q	-13	HIS	-	expression tag	UNP A0A0E2ZJY0
Q	-12	HIS	-	expression tag	UNP A0A0E2ZJY0
Q	-11	HIS	-	expression tag	UNP A0A0E2ZJY0
Q	-10	HIS	-	expression tag	UNP A0A0E2ZJY0
Q	-9	SER	-	expression tag	UNP A0A0E2ZJY0
Q	-8	SER	-	expression tag	UNP A0A0E2ZJY0
Q	-7	GLY	-	expression tag	UNP A0A0E2ZJY0
Q	-6	LEU	-	expression tag	UNP A0A0E2ZJY0
Q	-5	VAL	-	expression tag	UNP A0A0E2ZJY0
Q	-4	PRO	-	expression tag	UNP A0A0E2ZJY0
Q	-3	ARG	-	expression tag	UNP A0A0E2ZJY0

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Chain	Residue	Modelled	Actual	Comment	Reference
Q	-2	GLY	-	expression tag	UNP A0A0E2ZJY0
Q	-1	SER	-	expression tag	UNP A0A0E2ZJY0
Q	0	HIS	-	expression tag	UNP A0A0E2ZJY0
U	-19	MET	-	initiating methionine	UNP A0A0E2ZJY0
U	-18	GLY	-	expression tag	UNP A0A0E2ZJY0
U	-17	SER	-	expression tag	UNP A0A0E2ZJY0
U	-16	SER	-	expression tag	UNP A0A0E2ZJY0
U	-15	HIS	-	expression tag	UNP A0A0E2ZJY0
U	-14	HIS	-	expression tag	UNP A0A0E2ZJY0
U	-13	HIS	-	expression tag	UNP A0A0E2ZJY0
U	-12	HIS	-	expression tag	UNP A0A0E2ZJY0
U	-11	HIS	-	expression tag	UNP A0A0E2ZJY0
U	-10	HIS	-	expression tag	UNP A0A0E2ZJY0
U	-9	SER	-	expression tag	UNP A0A0E2ZJY0
U	-8	SER	-	expression tag	UNP A0A0E2ZJY0
U	-7	GLY	-	expression tag	UNP A0A0E2ZJY0
U	-6	LEU	-	expression tag	UNP A0A0E2ZJY0
U	-5	VAL	-	expression tag	UNP A0A0E2ZJY0
U	-4	PRO	-	expression tag	UNP A0A0E2ZJY0
U	-3	ARG	-	expression tag	UNP A0A0E2ZJY0
U	-2	GLY	-	expression tag	UNP A0A0E2ZJY0
U	-1	SER	-	expression tag	UNP A0A0E2ZJY0
U	0	HIS	-	expression tag	UNP A0A0E2ZJY0
W	-19	MET	-	initiating methionine	UNP A0A0E2ZJY0
W	-18	GLY	-	expression tag	UNP A0A0E2ZJY0
W	-17	SER	-	expression tag	UNP A0A0E2ZJY0
W	-16	SER	-	expression tag	UNP A0A0E2ZJY0
W	-15	HIS	-	expression tag	UNP A0A0E2ZJY0
W	-14	HIS	-	expression tag	UNP A0A0E2ZJY0
W	-13	HIS	-	expression tag	UNP A0A0E2ZJY0
W	-12	HIS	-	expression tag	UNP A0A0E2ZJY0
W	-11	HIS	-	expression tag	UNP A0A0E2ZJY0
W	-10	HIS	-	expression tag	UNP A0A0E2ZJY0
W	-9	SER	-	expression tag	UNP A0A0E2ZJY0
W	-8	SER	-	expression tag	UNP A0A0E2ZJY0
W	-7	GLY	-	expression tag	UNP A0A0E2ZJY0
W	-6	LEU	-	expression tag	UNP A0A0E2ZJY0
W	-5	VAL	-	expression tag	UNP A0A0E2ZJY0
W	-4	PRO	-	expression tag	UNP A0A0E2ZJY0
W	-3	ARG	-	expression tag	UNP A0A0E2ZJY0
W	-2	GLY	-	expression tag	UNP A0A0E2ZJY0
W	-1	SER	-	expression tag	UNP A0A0E2ZJY0

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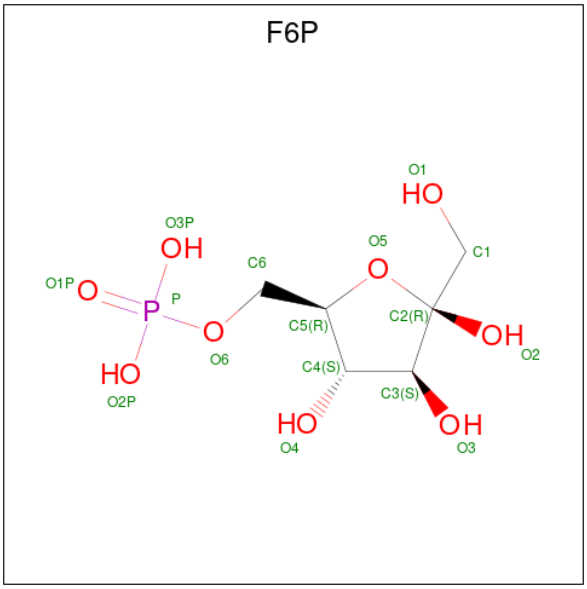
Chain	Residue	Modelled	Actual	Comment	Reference
W	0	HIS	-	expression tag	UNP A0A0E2ZJY0
1	-19	MET	-	initiating methionine	UNP A0A0E2ZJY0
1	-18	GLY	-	expression tag	UNP A0A0E2ZJY0
1	-17	SER	-	expression tag	UNP A0A0E2ZJY0
1	-16	SER	-	expression tag	UNP A0A0E2ZJY0
1	-15	HIS	-	expression tag	UNP A0A0E2ZJY0
1	-14	HIS	-	expression tag	UNP A0A0E2ZJY0
1	-13	HIS	-	expression tag	UNP A0A0E2ZJY0
1	-12	HIS	-	expression tag	UNP A0A0E2ZJY0
1	-11	HIS	-	expression tag	UNP A0A0E2ZJY0
1	-10	HIS	-	expression tag	UNP A0A0E2ZJY0
1	-9	SER	-	expression tag	UNP A0A0E2ZJY0
1	-8	SER	-	expression tag	UNP A0A0E2ZJY0
1	-7	GLY	-	expression tag	UNP A0A0E2ZJY0
1	-6	LEU	-	expression tag	UNP A0A0E2ZJY0
1	-5	VAL	-	expression tag	UNP A0A0E2ZJY0
1	-4	PRO	-	expression tag	UNP A0A0E2ZJY0
1	-3	ARG	-	expression tag	UNP A0A0E2ZJY0
1	-2	GLY	-	expression tag	UNP A0A0E2ZJY0
1	-1	SER	-	expression tag	UNP A0A0E2ZJY0
1	0	HIS	-	expression tag	UNP A0A0E2ZJY0

- Molecule 2 is MANGANESE (II) ION (three-letter code: MN) (formula: Mn) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	A	2	Total Mn 2 2	0	0
2	B	1	Total Mn 1 1	0	0
2	C	1	Total Mn 1 1	0	0
2	D	2	Total Mn 2 2	0	0
2	Q	2	Total Mn 2 2	0	0
2	U	1	Total Mn 1 1	0	0
2	W	1	Total Mn 1 1	0	0
2	1	1	Total Mn 1 1	0	0

- Molecule 3 is 6-O-phosphono-beta-D-fructofuranose (three-letter code: F6P) (formula: $C_6H_{13}O_9P$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	C	1	Total C O P 16 6 9 1	0	0
3	1	1	Total C O P 16 6 9 1	0	0

- Molecule 4 is water.

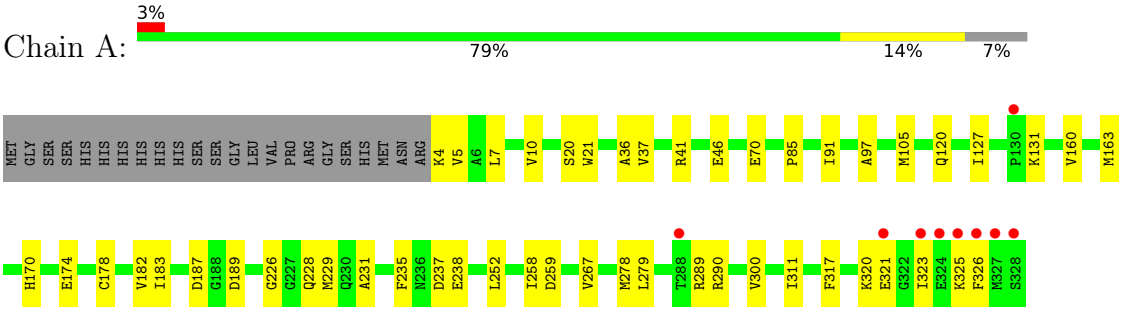
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	55	Total O 55 55	0	0
4	B	40	Total O 40 40	0	0
4	C	46	Total O 46 46	0	0
4	D	73	Total O 73 73	0	0
4	Q	71	Total O 71 71	0	0
4	U	54	Total O 54 54	0	0
4	W	20	Total O 20 20	0	0
4	1	38	Total O 38 38	0	0

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 electron 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 dot above a residue indicates a poor fit to the electron density (RSRZ > 2). 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.

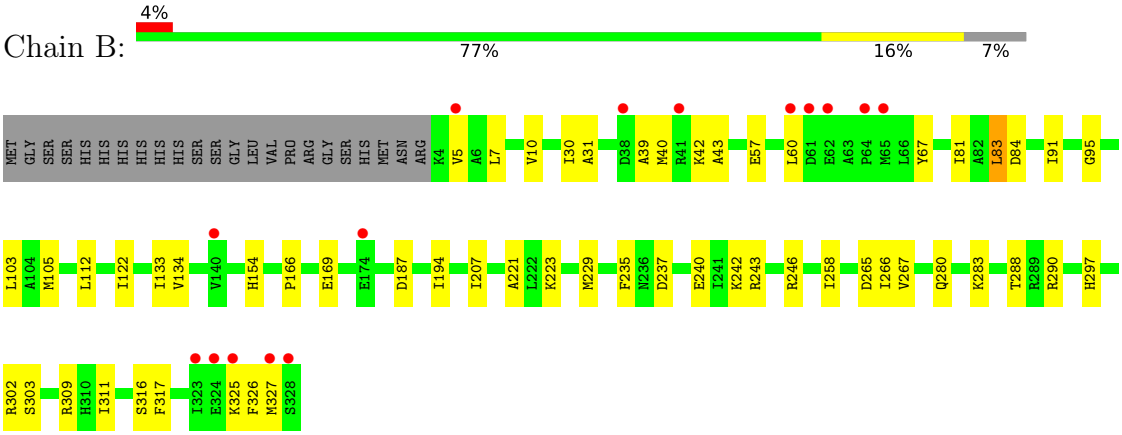
• Molecule 1: Fructose-1,6-bisphosphatase

Chain A:



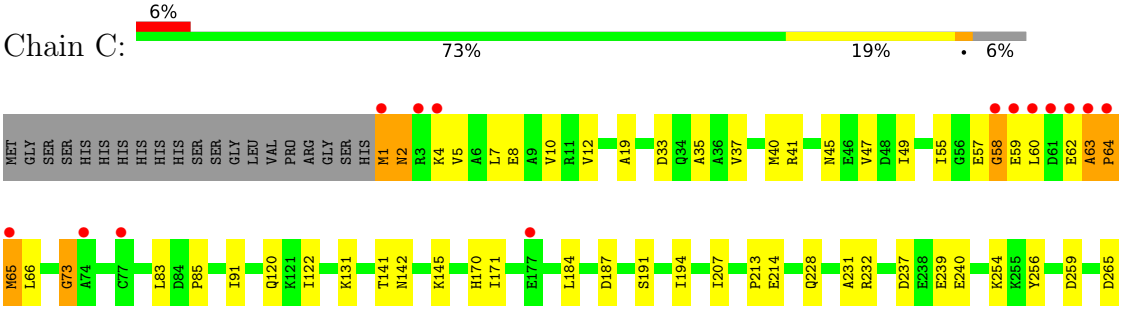
• Molecule 1: Fructose-1,6-bisphosphatase

Chain B:

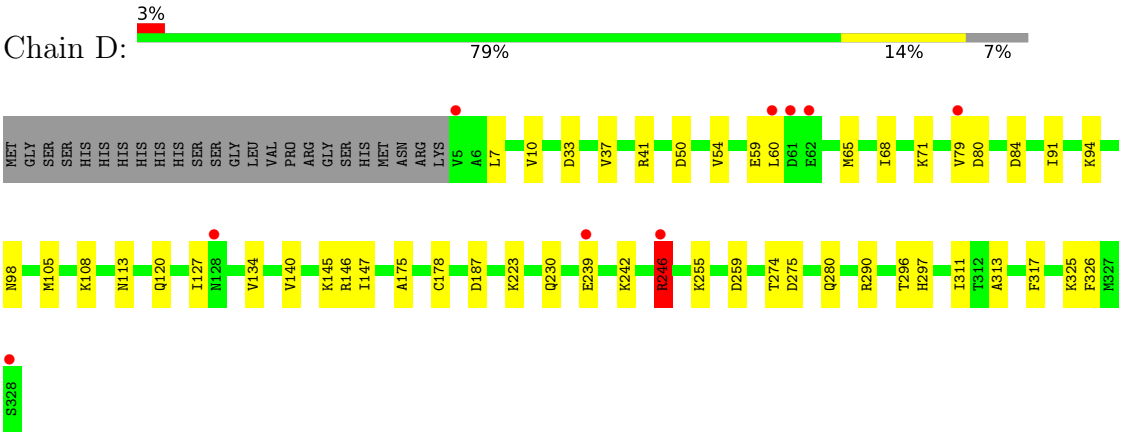


• Molecule 1: Fructose-1,6-bisphosphatase

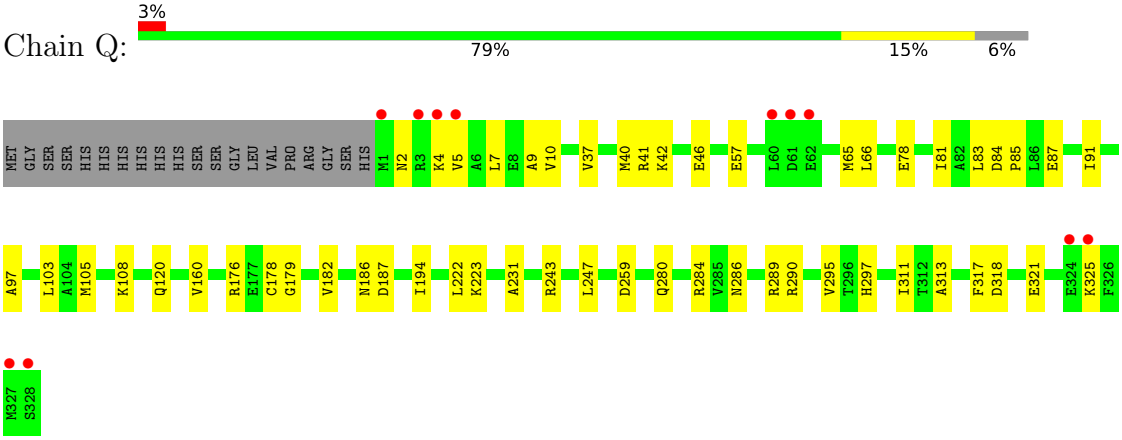
Chain C:



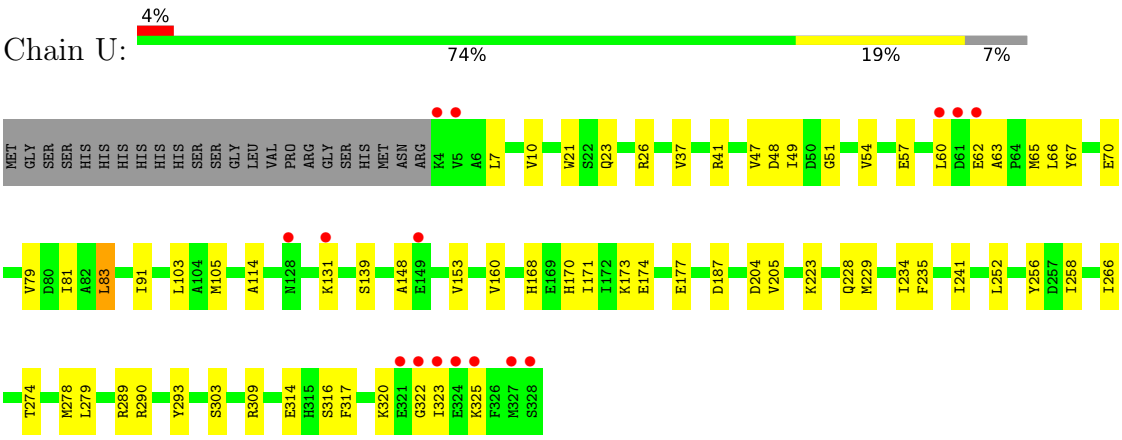
• Molecule 1: Fructose-1,6-bisphosphatase



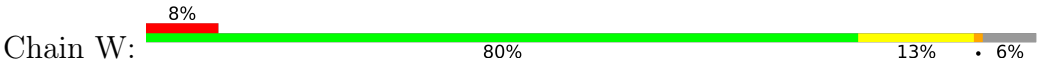
• Molecule 1: Fructose-1,6-bisphosphatase

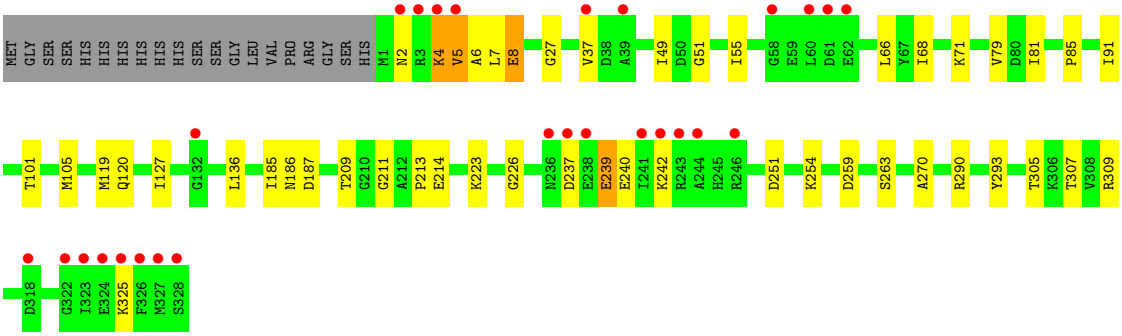


• Molecule 1: Fructose-1,6-bisphosphatase



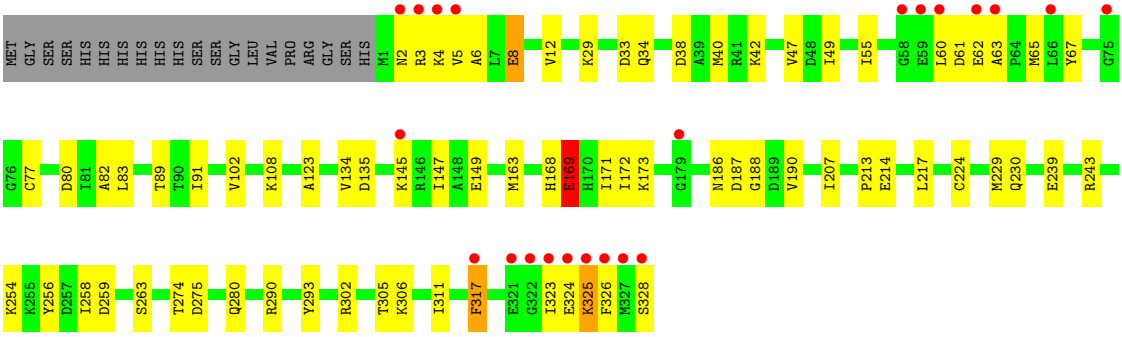
• Molecule 1: Fructose-1,6-bisphosphatase





• Molecule 1: Fructose-1,6-bisphosphatase

Chain 1:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1	Depositor
Cell constants a, b, c, α, β, γ	66.39Å 76.63Å 141.47Å 76.84° 87.23° 75.71°	Depositor
Resolution (Å)	39.10 – 2.40 39.10 – 2.40	Depositor EDS
% Data completeness (in resolution range)	98.5 (39.10-2.40) 98.4 (39.10-2.40)	Depositor EDS
R_{merge}	0.04	Depositor
R_{sym}	0.04	Depositor
$< I/\sigma(I) >$ [1]	2.13 (at 2.39Å)	Xtriage
Refinement program	PHENIX 1.18.2_3874, REFMAC 5	Depositor
R, R_{free}	0.196 , 0.248 0.196 , 0.247	Depositor DCC
R_{free} test set	5065 reflections (5.00%)	wwPDB-VP
Wilson B-factor (Å^2)	42.2	Xtriage
Anisotropy	0.236	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.34 , 42.6	EDS
L-test for twinning[2]	$< \|L\| > = 0.50$, $< L^2 > = 0.34$	Xtriage
Estimated twinning fraction	0.000 for -h,-k,-k+l	Xtriage
F_o,F_c correlation	0.95	EDS
Total number of atoms	19787	wwPDB-VP
Average B, all atoms (Å^2)	51.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 6.14% of the height of the origin peak. No significant pseudotranslation is detected.*

[1] Intensities estimated from amplitudes.

[2] Theoretical values of $< |L| >$, $< L^2 >$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: F6P, MN

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	1	0.49	2/2459 (0.1%)	0.73	2/3317 (0.1%)
1	A	0.48	0/2432	0.69	1/3282 (0.0%)
1	B	0.41	0/2432	0.64	1/3282 (0.0%)
1	C	0.48	2/2459 (0.1%)	0.68	1/3317 (0.0%)
1	D	0.49	1/2423 (0.0%)	0.80	7/3271 (0.2%)
1	Q	0.47	0/2459	0.69	1/3317 (0.0%)
1	U	0.54	3/2432 (0.1%)	0.71	3/3282 (0.1%)
1	W	0.47	1/2459 (0.0%)	0.67	1/3317 (0.0%)
All	All	0.48	9/19555 (0.0%)	0.70	17/26385 (0.1%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand.A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	1	0	3
1	B	0	1
1	C	0	1
All	All	0	5

All (9) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	U	62	GLU	CD-OE2	8.74	1.35	1.25
1	C	239	GLU	CB-CG	7.75	1.66	1.52
1	1	169	GLU	CD-OE2	7.21	1.33	1.25
1	U	131	LYS	CE-NZ	6.46	1.65	1.49
1	U	62	GLU	CB-CG	-6.45	1.39	1.52
1	D	239	GLU	CD-OE2	5.90	1.32	1.25
1	C	239	GLU	CG-CD	5.50	1.60	1.51

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	1	149	GLU	CG-CD	5.38	1.60	1.51
1	W	239	GLU	CB-CG	-5.37	1.42	1.52

All (17) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	D	246	ARG	NE-CZ-NH2	-12.92	113.84	120.30
1	D	246	ARG	NE-CZ-NH1	9.55	125.07	120.30
1	D	246	ARG	CB-CG-CD	9.45	136.17	111.60
1	D	246	ARG	CG-CD-NE	8.92	130.53	111.80
1	D	246	ARG	CD-NE-CZ	8.65	135.72	123.60
1	U	62	GLU	CA-CB-CG	8.46	132.02	113.40
1	1	29	LYS	CD-CE-NZ	-7.71	93.96	111.70
1	U	320	LYS	CD-CE-NZ	-7.16	95.22	111.70
1	A	46	GLU	CA-CB-CG	7.09	129.00	113.40
1	W	325	LYS	CD-CE-NZ	-7.04	95.50	111.70
1	1	83	LEU	CA-CB-CG	6.50	130.26	115.30
1	U	83	LEU	CA-CB-CG	6.25	129.67	115.30
1	B	84	ASP	CB-CG-OD2	5.28	123.05	118.30
1	C	1	MET	CG-SD-CE	5.22	108.55	100.20
1	D	239	GLU	CA-CB-CG	5.19	124.81	113.40
1	D	84	ASP	CB-CG-OD2	5.14	122.92	118.30
1	Q	84	ASP	CB-CG-OD2	5.12	122.91	118.30

There are no chirality outliers.

All (5) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	1	169	GLU	Sidechain
1	1	65	MET	Peptide
1	1	8	GLU	Peptide
1	B	83	LEU	Peptide
1	C	65	MET	Peptide

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	1	2433	0	2456	52	0
1	A	2406	0	2425	38	0
1	B	2406	0	2425	46	0
1	C	2433	0	2456	62	0
1	D	2397	0	2412	32	0
1	Q	2433	0	2456	41	0
1	U	2406	0	2425	55	0
1	W	2433	0	2456	35	0
2	1	1	0	0	0	0
2	A	2	0	0	0	0
2	B	1	0	0	0	0
2	C	1	0	0	0	0
2	D	2	0	0	0	0
2	Q	2	0	0	0	0
2	U	1	0	0	0	0
2	W	1	0	0	0	0
3	1	16	0	11	0	0
3	C	16	0	11	4	0
4	1	38	0	0	3	0
4	A	55	0	0	3	0
4	B	40	0	0	9	0
4	C	46	0	0	5	0
4	D	73	0	0	4	0
4	Q	71	0	0	8	0
4	U	54	0	0	7	0
4	W	20	0	0	1	0
All	All	19787	0	19533	337	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 9.

All (337) 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:Q:290:ARG:NH1	4:Q:501:HOH:O	1.81	1.00
1:W:186:ASN:HD21	1:1:186:ASN:HD21	1.11	0.95
1:B:237:ASP:OD1	4:B:501:HOH:O	1.84	0.95
1:Q:290:ARG:NH2	1:1:306:LYS:O	2.00	0.94
1:C:57:GLU:HG2	1:C:85:PRO:HD2	1.51	0.92
1:Q:178:CYS:SG	4:Q:565:HOH:O	2.27	0.91
1:B:39:ALA:O	4:B:502:HOH:O	1.90	0.89
1:W:91:ILE:HD11	1:W:187:ASP:HB3	1.53	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:Q:501:HOH:O	1:1:224:CYS:O	1.92	0.88
1:W:4:LYS:O	1:W:6:ALA:N	2.07	0.87
1:C:141:THR:O	4:C:501:HOH:O	1.94	0.85
1:U:57:GLU:OE2	4:U:501:HOH:O	1.95	0.84
1:D:178:CYS:SG	4:D:565:HOH:O	2.36	0.84
1:Q:179:GLY:HA2	1:U:26:ARG:HH22	1.43	0.84
1:U:41:ARG:HB2	1:U:66:LEU:HD21	1.61	0.82
1:1:77:CYS:SG	4:1:528:HOH:O	2.38	0.82
1:A:258:ILE:HD12	1:A:258:ILE:H	1.46	0.81
1:D:223:LYS:NZ	1:D:259:ASP:OD1	2.14	0.80
1:A:4:LYS:HG3	1:A:5:VAL:HG13	1.64	0.80
1:Q:57:GLU:OE1	4:Q:502:HOH:O	2.00	0.79
1:C:122:ILE:HD12	1:C:207:ILE:HG12	1.65	0.77
1:U:256:TYR:OH	4:U:502:HOH:O	2.00	0.77
1:A:91:ILE:HD11	1:A:187:ASP:HB3	1.65	0.76
1:C:91:ILE:HD11	1:C:187:ASP:HB3	1.66	0.76
1:C:194:ILE:HB	1:C:278:MET:HE2	1.67	0.76
1:A:229:MET:H	1:A:258:ILE:HD11	1.52	0.75
1:1:229:MET:H	1:1:258:ILE:HD11	1.53	0.74
1:C:145:LYS:N	4:C:501:HOH:O	2.02	0.74
1:B:258:ILE:HD12	1:B:258:ILE:H	1.53	0.73
1:U:266:ILE:H	1:U:303:SER:HB3	1.53	0.73
1:Q:317:PHE:HZ	1:Q:325:LYS:HB3	1.54	0.72
1:Q:87:GLU:OE1	4:Q:503:HOH:O	2.08	0.72
1:A:178:CYS:SG	4:A:552:HOH:O	2.48	0.71
1:U:83:LEU:HD23	1:U:103:LEU:HD13	1.71	0.71
1:1:42:LYS:HD3	1:1:328:SER:HB3	1.73	0.71
1:U:258:ILE:H	1:U:258:ILE:HD12	1.55	0.71
1:Q:243:ARG:HH22	1:Q:247:LEU:HD21	1.55	0.70
1:U:54:VAL:O	4:U:504:HOH:O	2.10	0.70
1:U:114:ALA:O	4:U:505:HOH:O	2.10	0.70
1:C:191:SER:HA	1:C:278:MET:HE3	1.73	0.69
1:1:33:ASP:HB3	1:1:63:ALA:HB2	1.74	0.69
1:U:168:HIS:HA	1:U:171:ILE:HD13	1.74	0.69
1:B:280:GLN:HG2	1:B:297:HIS:CE1	2.28	0.69
1:B:91:ILE:HD11	1:B:187:ASP:HB3	1.75	0.68
1:C:60:LEU:HD22	1:U:235:PHE:H	1.59	0.68
1:A:37:VAL:HG22	1:A:85:PRO:HG2	1.74	0.68
1:Q:91:ILE:HD11	1:Q:187:ASP:HB3	1.75	0.68
1:Q:41:ARG:HE	1:Q:65:MET:CE	2.06	0.67
1:D:59:GLU:OE1	1:D:68:ILE:HB	1.94	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:W:37:VAL:HG13	1:W:66:LEU:HD12	1.78	0.66
1:1:258:ILE:HD12	1:1:258:ILE:H	1.59	0.66
1:B:309:ARG:NH1	4:B:506:HOH:O	2.26	0.66
1:D:120:GLN:OE1	4:D:501:HOH:O	2.14	0.65
1:W:4:LYS:HG2	1:W:8:GLU:OE2	1.96	0.65
1:C:274:THR:O	4:C:503:HOH:O	2.14	0.65
1:1:239:GLU:O	1:1:243:ARG:HG3	1.95	0.65
1:U:229:MET:H	1:U:258:ILE:HD11	1.62	0.65
1:A:290:ARG:HA	1:D:127:ILE:HB	1.79	0.65
1:B:57:GLU:OE1	4:B:503:HOH:O	2.14	0.65
1:B:317:PHE:HE1	1:B:325:LYS:HB3	1.62	0.65
1:C:45:ASN:HD22	1:C:73:GLY:H	1.44	0.65
1:C:47:VAL:HG12	1:C:49:ILE:HG12	1.79	0.65
1:1:91:ILE:HD11	1:1:187:ASP:HB3	1.78	0.65
1:C:57:GLU:HB2	1:C:65:MET:HG2	1.79	0.65
1:C:41:ARG:NH2	1:C:65:MET:O	2.30	0.64
1:U:37:VAL:HG13	1:U:66:LEU:HD23	1.80	0.64
1:U:41:ARG:HD3	1:U:66:LEU:HD22	1.80	0.63
1:A:311:ILE:HG12	1:D:311:ILE:HG12	1.79	0.63
1:U:170:HIS:O	1:U:174:GLU:HG3	1.99	0.63
1:U:7:LEU:O	1:U:10:VAL:HG12	1.99	0.62
1:B:10:VAL:HG21	1:B:311:ILE:HD12	1.81	0.62
1:D:54:VAL:HB	1:D:113:ASN:HD21	1.64	0.62
1:C:57:GLU:O	3:C:401:F6P:O3	2.18	0.62
1:C:122:ILE:CD1	1:C:207:ILE:HG12	2.30	0.62
1:D:7:LEU:O	1:D:10:VAL:HG12	2.00	0.62
1:Q:311:ILE:HG12	1:1:311:ILE:HG12	1.82	0.62
1:U:223:LYS:HD3	1:U:266:ILE:HD13	1.81	0.61
1:A:289:ARG:NH2	4:A:501:HOH:O	2.21	0.61
1:Q:4:LYS:HG3	1:1:8:GLU:OE2	2.01	0.61
1:U:289:ARG:NH1	4:U:503:HOH:O	2.08	0.61
1:U:173:LYS:O	1:U:177:GLU:HG2	2.01	0.60
1:A:237:ASP:OD2	1:A:238:GLU:N	2.35	0.60
1:C:214:GLU:OE1	3:C:401:F6P:O1	2.15	0.60
1:C:7:LEU:O	1:C:10:VAL:HG12	2.01	0.60
1:A:170:HIS:O	1:A:174:GLU:HG3	2.02	0.60
1:D:91:ILE:HD11	1:D:187:ASP:HB3	1.83	0.59
1:B:235:PHE:N	4:B:504:HOH:O	2.21	0.59
1:C:66:LEU:HD13	1:C:83:LEU:HD11	1.85	0.59
1:1:317:PHE:CD1	1:1:325:LYS:HE2	2.37	0.59
1:D:274:THR:O	4:D:502:HOH:O	2.17	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:U:317:PHE:HZ	1:U:325:LYS:HB2	1.67	0.59
1:B:5:VAL:HG12	1:C:4:LYS:HD3	1.85	0.59
1:C:59:GLU:HB3	1:C:62:GLU:HB2	1.85	0.58
1:1:61:ASP:O	1:1:63:ALA:N	2.37	0.58
1:B:317:PHE:CE1	1:B:325:LYS:HE3	2.39	0.57
1:U:91:ILE:HD11	1:U:187:ASP:HB3	1.86	0.57
1:1:187:ASP:OD1	1:1:188:GLY:N	2.35	0.57
1:W:51:GLY:HA3	1:W:81:ILE:HD11	1.85	0.57
1:B:133:ILE:HG23	1:B:134:VAL:HG13	1.86	0.57
1:C:254:LYS:HD2	1:C:256:TYR:CE1	2.39	0.57
1:Q:7:LEU:O	1:Q:10:VAL:HG12	2.04	0.57
1:B:30:ILE:HG13	1:B:31:ALA:N	2.18	0.57
1:U:66:LEU:HD12	1:U:83:LEU:HD11	1.86	0.57
1:U:171:ILE:HD12	1:U:171:ILE:H	1.70	0.57
1:W:239:GLU:HA	1:W:242:LYS:HB2	1.86	0.57
1:B:166:PRO:O	1:B:169:GLU:HG2	2.05	0.57
1:C:170:HIS:CE1	1:C:171:ILE:HG13	2.40	0.56
1:C:214:GLU:OE2	3:C:401:F6P:H3	2.05	0.56
1:1:254:LYS:HD3	1:1:256:TYR:CE2	2.40	0.56
1:1:169:GLU:O	1:1:173:LYS:HD3	2.05	0.56
1:W:7:LEU:HD21	1:W:309:ARG:NH1	2.21	0.56
1:U:47:VAL:HG12	1:U:49:ILE:HG23	1.87	0.56
1:A:131:LYS:HE2	1:A:259:ASP:OD2	2.05	0.56
1:Q:41:ARG:HE	1:Q:65:MET:HE2	1.69	0.56
1:D:280:GLN:OE1	1:D:297:HIS:NE2	2.40	0.55
1:B:43:ALA:N	4:B:502:HOH:O	1.97	0.55
1:Q:317:PHE:CZ	1:Q:325:LYS:HB3	2.40	0.55
1:A:105:MET:HB2	1:A:267:VAL:HG22	1.87	0.55
1:C:191:SER:HA	1:C:278:MET:CE	2.37	0.55
1:A:321:GLU:HG2	1:A:325:LYS:HE3	1.88	0.54
1:C:45:ASN:ND2	1:C:73:GLY:H	2.05	0.54
1:1:6:ALA:HB2	1:1:302:ARG:HH21	1.72	0.54
1:D:134:VAL:HG12	1:D:147:ILE:HD11	1.90	0.54
1:C:237:ASP:OD1	1:C:240:GLU:HB3	2.08	0.54
1:B:242:LYS:O	1:B:246:ARG:HG2	2.06	0.54
1:W:254:LYS:O	4:W:501:HOH:O	2.19	0.54
1:1:290:ARG:HD3	1:1:293:TYR:CD1	2.42	0.54
1:B:266:ILE:H	1:B:303:SER:HB3	1.73	0.53
1:W:37:VAL:HG22	1:W:85:PRO:HG2	1.89	0.53
1:W:237:ASP:HB3	1:W:240:GLU:HG3	1.90	0.53
1:B:311:ILE:HG12	1:C:311:ILE:HG12	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:37:VAL:HG22	1:C:85:PRO:HG2	1.92	0.52
1:Q:243:ARG:NH2	1:Q:247:LEU:HD21	2.24	0.52
1:B:280:GLN:HG2	1:B:297:HIS:ND1	2.24	0.52
1:1:274:THR:O	4:1:501:HOH:O	2.19	0.52
1:Q:41:ARG:HB3	1:Q:66:LEU:HD21	1.93	0.51
1:1:135:ASP:HA	1:1:230:GLN:OE1	2.10	0.51
1:1:34:GLN:NE2	1:1:38:ASP:OD2	2.43	0.51
1:1:259:ASP:O	1:1:263:SER:HB3	2.10	0.51
1:A:183:ILE:HB	1:B:95:GLY:HA3	1.92	0.51
1:Q:160:VAL:HB	1:Q:182:VAL:HG22	1.92	0.51
1:D:41:ARG:NE	1:D:65:MET:SD	2.84	0.51
1:Q:81:ILE:CD1	1:Q:105:MET:HG2	2.40	0.51
1:B:237:ASP:HB2	1:B:240:GLU:HG3	1.92	0.51
1:W:186:ASN:ND2	1:1:186:ASN:HD21	1.94	0.51
1:W:290:ARG:HD3	1:W:293:TYR:CE1	2.46	0.51
1:A:7:LEU:HD12	1:D:7:LEU:HD12	1.93	0.51
1:B:42:LYS:N	4:B:502:HOH:O	2.44	0.51
1:A:41:ARG:NH2	1:A:70:GLU:OE1	2.44	0.51
1:B:7:LEU:HD11	1:B:309:ARG:NH1	2.26	0.51
1:U:7:LEU:HD12	1:W:7:LEU:HD12	1.91	0.50
1:W:185:ILE:HD12	1:W:187:ASP:O	2.10	0.50
1:Q:46:GLU:O	1:1:4:LYS:HD2	2.11	0.50
1:C:64:PRO:O	1:C:65:MET:HG3	2.11	0.50
1:D:79:VAL:HG11	1:D:105:MET:HG2	1.92	0.50
1:D:317:PHE:HE1	1:D:325:LYS:HB3	1.76	0.50
1:B:229:MET:H	1:B:258:ILE:HD11	1.76	0.50
1:C:40:MET:SD	1:C:83:LEU:HD12	2.51	0.50
1:D:140:VAL:HG11	1:D:175:ALA:HB2	1.92	0.50
1:B:122:ILE:HG13	1:B:207:ILE:HG12	1.94	0.50
1:D:50:ASP:OD1	1:D:71:LYS:HE3	2.11	0.50
1:U:41:ARG:NH1	1:U:70:GLU:OE1	2.45	0.49
1:W:259:ASP:O	1:W:263:SER:HB3	2.11	0.49
1:W:4:LYS:C	1:W:6:ALA:H	2.11	0.49
1:A:10:VAL:HG12	1:A:300:VAL:HB	1.94	0.49
1:C:2:ASN:O	1:C:5:VAL:HG12	2.13	0.49
1:Q:37:VAL:HG22	1:Q:85:PRO:HG2	1.93	0.49
1:U:21:TRP:CZ3	1:U:323:ILE:HD11	2.47	0.49
1:W:127:ILE:HD12	1:W:226:GLY:HA3	1.94	0.49
1:U:290:ARG:HH21	1:U:316:SER:HB3	1.78	0.49
1:W:211:GLY:HA3	1:W:214:GLU:OE1	2.13	0.48
1:D:317:PHE:CE1	1:D:325:LYS:HB3	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:59:GLU:HG3	1:D:60:LEU:N	2.28	0.48
1:W:120:GLN:HE21	1:W:136:LEU:HD22	1.78	0.48
1:D:145:LYS:C	1:D:145:LYS:HD3	2.34	0.48
1:D:242:LYS:N	1:D:242:LYS:HD2	2.28	0.48
1:Q:9:ALA:HB1	1:Q:103:LEU:HD22	1.95	0.48
1:Q:243:ARG:NH2	4:Q:510:HOH:O	2.47	0.48
1:C:290:ARG:HH21	1:C:316:SER:HB3	1.78	0.48
1:W:49:ILE:HD13	1:W:105:MET:HE2	1.95	0.48
1:D:326:PHE:O	4:D:503:HOH:O	2.20	0.48
1:1:171:ILE:HD13	1:1:207:ILE:HG22	1.96	0.48
1:A:127:ILE:HD12	1:A:226:GLY:HA3	1.96	0.47
1:Q:318:ASP:HB3	1:Q:321:GLU:OE1	2.14	0.47
1:U:41:ARG:CZ	1:U:65:MET:HG2	2.45	0.47
1:U:48:ASP:OD2	1:W:4:LYS:HD3	2.14	0.47
1:U:317:PHE:CZ	1:U:325:LYS:HB2	2.49	0.47
1:1:290:ARG:O	1:1:290:ARG:HG2	2.14	0.47
1:W:119:MET:O	1:W:209:THR:HA	2.14	0.47
1:A:229:MET:H	1:A:258:ILE:CD1	2.24	0.47
1:1:163:MET:HB2	1:1:168:HIS:CE1	2.49	0.47
1:B:194:ILE:HG12	1:B:221:ALA:HB3	1.96	0.47
1:B:266:ILE:O	1:B:302:ARG:HG3	2.15	0.47
1:1:275:ASP:OD1	1:1:280:GLN:HG3	2.14	0.47
1:A:120:GLN:O	1:A:231:ALA:HA	2.15	0.47
1:B:317:PHE:HE1	1:B:325:LYS:HE3	1.80	0.47
1:Q:280:GLN:HB2	4:Q:506:HOH:O	2.14	0.47
1:U:7:LEU:HD21	1:U:309:ARG:HD2	1.96	0.47
1:1:80:ASP:OD2	1:1:108:LYS:HA	2.15	0.47
1:U:51:GLY:HA2	1:U:79:VAL:O	2.14	0.46
1:1:61:ASP:C	1:1:63:ALA:H	2.19	0.46
1:1:190:VAL:HG23	1:1:214:GLU:HB3	1.96	0.46
1:B:266:ILE:HB	1:B:303:SER:HB2	1.96	0.46
1:W:91:ILE:CD1	1:W:187:ASP:HB3	2.37	0.46
1:C:131:LYS:HE2	1:C:259:ASP:OD2	2.15	0.46
1:U:266:ILE:HB	1:U:303:SER:HB2	1.97	0.46
1:1:168:HIS:O	1:1:172:ILE:HG13	2.15	0.46
1:A:235:PHE:CE2	1:A:252:LEU:HD12	2.51	0.46
1:C:266:ILE:HB	1:C:303:SER:HB3	1.98	0.46
1:C:145:LYS:HD2	1:C:145:LYS:HA	1.78	0.46
1:Q:41:ARG:HD2	1:Q:42:LYS:N	2.31	0.46
1:1:2:ASN:O	1:1:5:VAL:HG22	2.15	0.46
1:1:317:PHE:HE2	1:1:323:ILE:HD12	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:W:2:ASN:O	1:W:5:VAL:HG22	2.16	0.45
1:A:278:MET:HG2	1:A:279:LEU:HG	1.98	0.45
1:C:142:ASN:C	4:C:501:HOH:O	2.55	0.45
1:U:160:VAL:HG22	1:U:205:VAL:CG1	2.46	0.45
1:A:131:LYS:HG2	1:A:228:GLN:OE1	2.16	0.45
1:B:280:GLN:HE21	1:B:283:LYS:NZ	2.15	0.45
1:Q:186:ASN:ND2	4:Q:508:HOH:O	2.42	0.45
1:U:293:TYR:CE2	1:U:314:GLU:HG2	2.51	0.45
1:W:51:GLY:HA2	1:W:79:VAL:O	2.17	0.45
1:B:267:VAL:CG2	1:B:302:ARG:HD3	2.47	0.45
1:C:292:SER:OG	1:C:317:PHE:O	2.33	0.45
1:C:321:GLU:OE1	1:C:325:LYS:HG3	2.17	0.45
1:B:240:GLU:HG2	1:B:243:ARG:HH21	1.81	0.45
1:A:7:LEU:HB3	1:D:7:LEU:HB3	1.99	0.45
1:W:49:ILE:HD13	1:W:105:MET:CE	2.45	0.45
1:A:289:ARG:NH1	4:A:501:HOH:O	2.45	0.45
1:U:57:GLU:O	1:U:63:ALA:HB2	2.17	0.45
1:1:317:PHE:CD2	1:1:326:PHE:CE2	3.05	0.45
1:C:327:MET:HB3	4:C:502:HOH:O	2.17	0.45
1:1:60:LEU:HD13	1:1:67:TYR:CE2	2.52	0.45
1:1:145:LYS:HA	1:1:145:LYS:HD3	1.78	0.45
1:D:33:ASP:O	1:D:37:VAL:HG23	2.17	0.44
1:B:40:MET:C	4:B:502:HOH:O	2.56	0.44
1:C:47:VAL:O	1:C:49:ILE:N	2.49	0.44
1:Q:78:GLU:HG3	1:Q:108:LYS:CE	2.47	0.44
1:D:80:ASP:CG	1:D:108:LYS:HA	2.37	0.44
1:A:258:ILE:H	1:A:258:ILE:CD1	2.17	0.44
1:C:1:MET:H3	1:C:5:VAL:HG11	1.82	0.44
1:W:223:LYS:HE2	1:W:263:SER:HA	1.99	0.44
1:A:91:ILE:HD13	1:A:97:ALA:O	2.17	0.44
1:C:131:LYS:HG2	1:C:228:GLN:OE1	2.17	0.44
1:U:278:MET:HG2	1:U:279:LEU:HG	2.00	0.44
1:U:81:ILE:HD13	1:U:105:MET:HG2	2.00	0.44
1:1:290:ARG:HD3	1:1:293:TYR:CE1	2.53	0.44
1:D:296:THR:OG1	1:D:313:ALA:HB3	2.17	0.44
1:U:228:GLN:HA	1:U:258:ILE:HD11	2.00	0.44
1:W:251:ASP:HB3	1:W:254:LYS:HB2	2.00	0.44
1:B:223:LYS:HG2	1:B:266:ILE:HD12	1.99	0.43
1:Q:91:ILE:HD13	1:Q:97:ALA:O	2.18	0.43
1:Q:284:ARG:NH2	1:U:204:ASP:OD1	2.51	0.43
1:C:1:MET:N	1:C:5:VAL:HG11	2.33	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:W:305:THR:HB	1:W:307:THR:HG23	2.00	0.43
1:A:127:ILE:HB	1:D:290:ARG:HA	2.00	0.43
1:B:81:ILE:HD13	1:B:105:MET:HG2	1.99	0.43
1:U:160:VAL:HG22	1:U:205:VAL:HG13	2.00	0.43
1:A:91:ILE:CD1	1:A:187:ASP:HB3	2.44	0.43
1:B:290:ARG:NH2	1:B:316:SER:HB2	2.33	0.43
1:1:102:VAL:HG12	1:1:217:LEU:HD22	1.99	0.43
1:1:305:THR:O	4:1:502:HOH:O	2.21	0.43
1:C:2:ASN:OD1	1:C:2:ASN:N	2.52	0.43
1:Q:120:GLN:O	1:Q:231:ALA:HA	2.19	0.43
1:U:241:ILE:HG23	1:U:252:LEU:HD11	1.99	0.43
1:D:275:ASP:OD1	1:D:280:GLN:HG2	2.19	0.43
1:A:317:PHE:HB2	1:A:326:PHE:CZ	2.54	0.42
1:B:280:GLN:NE2	1:B:283:LYS:NZ	2.66	0.42
1:C:293:TYR:CD2	1:C:314:GLU:HB3	2.54	0.42
1:Q:289:ARG:HG3	1:Q:290:ARG:N	2.33	0.42
1:U:41:ARG:HB2	1:U:66:LEU:CD2	2.42	0.42
1:C:41:ARG:HB2	1:C:66:LEU:HD21	2.01	0.42
1:C:265:ASP:OD1	1:C:302:ARG:NH1	2.52	0.42
1:U:81:ILE:CD1	1:U:105:MET:HG2	2.49	0.42
1:B:325:LYS:C	1:B:327:MET:H	2.22	0.42
1:Q:194:ILE:HA	1:Q:222:LEU:HD11	2.02	0.42
1:1:317:PHE:CE1	1:1:325:LYS:HG2	2.54	0.42
1:A:21:TRP:CZ3	1:A:323:ILE:HD11	2.54	0.42
1:C:33:ASP:HB3	1:C:63:ALA:HB2	2.01	0.42
1:Q:295:VAL:HA	1:Q:313:ALA:O	2.19	0.42
1:1:47:VAL:O	1:1:49:ILE:N	2.52	0.42
1:1:55:ILE:CG2	1:1:213:PRO:HB3	2.49	0.42
1:1:134:VAL:HG12	1:1:147:ILE:HD11	2.00	0.42
1:Q:40:MET:SD	1:Q:83:LEU:HD22	2.60	0.42
1:C:91:ILE:CD1	1:C:187:ASP:HB3	2.41	0.42
1:Q:286:ASN:OD1	1:Q:286:ASN:C	2.58	0.42
1:U:23:GLN:OE1	1:U:26:ARG:HG2	2.20	0.42
1:U:139:SER:HB2	4:U:524:HOH:O	2.20	0.42
1:A:160:VAL:HB	1:A:182:VAL:HG22	2.01	0.42
1:C:57:GLU:HB3	1:C:58:GLY:H	1.58	0.42
1:C:254:LYS:HD2	1:C:256:TYR:CZ	2.55	0.42
1:D:230:GLN:OE1	1:D:255:LYS:HD2	2.20	0.42
1:W:101:THR:O	1:W:270:ALA:HA	2.19	0.42
1:C:55:ILE:O	1:C:83:LEU:HD23	2.19	0.42
3:C:401:F6P:O2P	1:U:170:HIS:HE1	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:1:33:ASP:CB	1:1:63:ALA:HB2	2.48	0.42
1:A:317:PHE:HZ	1:A:325:LYS:HB2	1.85	0.41
1:A:320:LYS:O	1:B:154:HIS:HB2	2.19	0.41
1:C:184:LEU:HD12	1:D:94:LYS:HG2	2.01	0.41
1:U:274:THR:O	4:U:506:HOH:O	2.22	0.41
1:1:306:LYS:HA	1:1:306:LYS:HD3	1.83	0.41
1:1:123:ALA:HB2	1:1:229:MET:HG3	2.02	0.41
1:D:145:LYS:HD3	1:D:146:ARG:N	2.35	0.41
1:U:67:TYR:CE1	1:U:70:GLU:HB2	2.55	0.41
1:W:55:ILE:HG23	1:W:213:PRO:HB3	2.02	0.41
1:A:163:MET:CE	1:A:189:ASP:HB3	2.51	0.41
1:C:12:VAL:HG12	1:C:40:MET:HG3	2.02	0.41
1:C:55:ILE:HG23	1:C:213:PRO:HB3	2.03	0.41
1:C:63:ALA:HB1	1:C:64:PRO:HD2	2.01	0.41
1:Q:280:GLN:HG3	1:Q:297:HIS:CG	2.56	0.41
1:1:6:ALA:HB2	1:1:302:ARG:HE	1.85	0.41
1:A:7:LEU:O	1:A:10:VAL:HG22	2.21	0.41
1:A:20:SER:OG	1:A:36:ALA:HB2	2.20	0.41
1:C:19:ALA:HB1	1:C:35:ALA:HB1	2.02	0.41
1:W:4:LYS:CG	1:W:8:GLU:OE2	2.66	0.41
1:1:12:VAL:CG1	1:1:40:MET:HG3	2.51	0.41
1:C:318:ASP:OD2	1:C:320:LYS:HB2	2.20	0.41
1:B:83:LEU:CD2	1:B:103:LEU:HD13	2.50	0.41
1:Q:223:LYS:HE3	1:Q:259:ASP:OD1	2.21	0.41
1:1:33:ASP:OD2	1:1:89:THR:HG21	2.21	0.41
1:B:60:LEU:HD12	1:B:67:TYR:CE1	2.55	0.41
1:B:317:PHE:CE1	1:B:325:LYS:HB3	2.49	0.41
1:U:148:ALA:HB1	1:U:153:VAL:O	2.21	0.41
1:W:239:GLU:HA	1:W:242:LYS:HD2	2.03	0.41
1:Q:2:ASN:O	1:Q:5:VAL:HG22	2.21	0.40
1:U:60:LEU:HD12	1:U:60:LEU:O	2.20	0.40
1:1:55:ILE:HB	1:1:82:ALA:HA	2.03	0.40
1:C:232:ARG:HH11	1:C:232:ARG:HD3	1.74	0.40
1:Q:176:ARG:O	1:U:26:ARG:NH1	2.54	0.40
1:C:60:LEU:HB3	1:U:234:ILE:HG23	2.04	0.40
1:C:120:GLN:O	1:C:231:ALA:HA	2.22	0.40
1:Q:81:ILE:HD13	1:Q:105:MET:HG2	2.03	0.40
1:U:41:ARG:NH2	1:U:65:MET:HG2	2.36	0.40
1:W:239:GLU:CD	1:W:239:GLU:H	2.24	0.40
1:B:7:LEU:HD23	1:C:8:GLU:OE2	2.22	0.40
1:B:265:ASP:OD1	1:B:302:ARG:HD2	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:288:THR:N	4:B:510:HOH:O	2.46	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 X-ray entries followed by that with respect to entries of similar resolution.

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	1	326/348 (94%)	307 (94%)	16 (5%)	3 (1%)	17	25
1	A	323/348 (93%)	313 (97%)	10 (3%)	0	100	100
1	B	323/348 (93%)	307 (95%)	14 (4%)	2 (1%)	25	36
1	C	326/348 (94%)	306 (94%)	15 (5%)	5 (2%)	10	14
1	D	322/348 (92%)	311 (97%)	9 (3%)	2 (1%)	25	36
1	Q	326/348 (94%)	320 (98%)	6 (2%)	0	100	100
1	U	323/348 (93%)	308 (95%)	14 (4%)	1 (0%)	41	55
1	W	326/348 (94%)	302 (93%)	19 (6%)	5 (2%)	10	14
All	All	2595/2784 (93%)	2474 (95%)	103 (4%)	18 (1%)	22	32

All (18) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	W	5	VAL
1	W	8	GLU
1	1	62	GLU
1	B	326	PHE
1	C	2	ASN
1	C	63	ALA
1	D	246	ARG
1	W	68	ILE
1	B	112	LEU

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Mol	Chain	Res	Type
1	W	4	LYS
1	1	317	PHE
1	1	324	GLU
1	C	58	GLY
1	C	64	PRO
1	D	98	ASN
1	U	322	GLY
1	W	27	GLY
1	C	73	GLY

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 X-ray entries followed by that with respect to entries of similar resolution.

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	1	254/271 (94%)	252 (99%)	2 (1%)	81 91
1	A	251/271 (93%)	251 (100%)	0	100 100
1	B	251/271 (93%)	251 (100%)	0	100 100
1	C	254/271 (94%)	254 (100%)	0	100 100
1	D	250/271 (92%)	249 (100%)	1 (0%)	91 96
1	Q	254/271 (94%)	254 (100%)	0	100 100
1	U	251/271 (93%)	251 (100%)	0	100 100
1	W	254/271 (94%)	253 (100%)	1 (0%)	91 96
All	All	2019/2168 (93%)	2015 (100%)	4 (0%)	93 97

All (4) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	D	246	ARG
1	W	71	LYS
1	1	3	ARG
1	1	325	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (10) such sidechains are listed below:

Mol	Chain	Res	Type
1	B	280	GLN
1	C	45	ASN
1	D	113	ASN
1	U	170	HIS
1	U	200	ASN
1	W	120	GLN
1	W	186	ASN
1	W	228	GLN
1	W	236	ASN
1	1	170	HIS

5.3.3 RNA

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains

There are no non-standard protein/DNA/RNA residues in this entry.

5.5 Carbohydrates

There are no monosaccharides in this entry.

5.6 Ligand geometry

Of 13 ligands modelled in this entry, 11 are monoatomic - leaving 2 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
3	F6P	1	401	-	15,16,16	3.63	5 (33%)	17,25,25	1.61	2 (11%)
3	F6P	C	401	-	15,16,16	3.42	4 (26%)	17,25,25	1.14	1 (5%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	F6P	1	401	-	-	5/9/28/28	0/1/1/1
3	F6P	C	401	-	-	1/9/28/28	0/1/1/1

All (9) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	1	401	F6P	O5-C2	11.22	1.60	1.43
3	C	401	F6P	O5-C2	9.75	1.58	1.43
3	C	401	F6P	C4-C5	-5.80	1.38	1.53
3	C	401	F6P	O5-C5	5.09	1.54	1.43
3	1	401	F6P	C4-C5	-5.08	1.40	1.53
3	1	401	F6P	O5-C5	5.05	1.54	1.43
3	1	401	F6P	C4-C3	2.80	1.64	1.52
3	C	401	F6P	C4-C3	2.58	1.63	1.52
3	1	401	F6P	P-O6	2.51	1.68	1.60

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	C	401	F6P	O1-C1-C2	-3.99	103.38	111.86
3	1	401	F6P	O1-C1-C2	-3.91	103.54	111.86
3	1	401	F6P	O2P-P-O6	2.63	113.73	106.73

There are no chirality outliers.

All (6) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	1	401	F6P	O1-C1-C2-O2
3	1	401	F6P	O1-C1-C2-C3
3	1	401	F6P	O1-C1-C2-O5
3	1	401	F6P	C4-C5-C6-O6
3	1	401	F6P	O5-C5-C6-O6
3	C	401	F6P	C4-C5-C6-O6

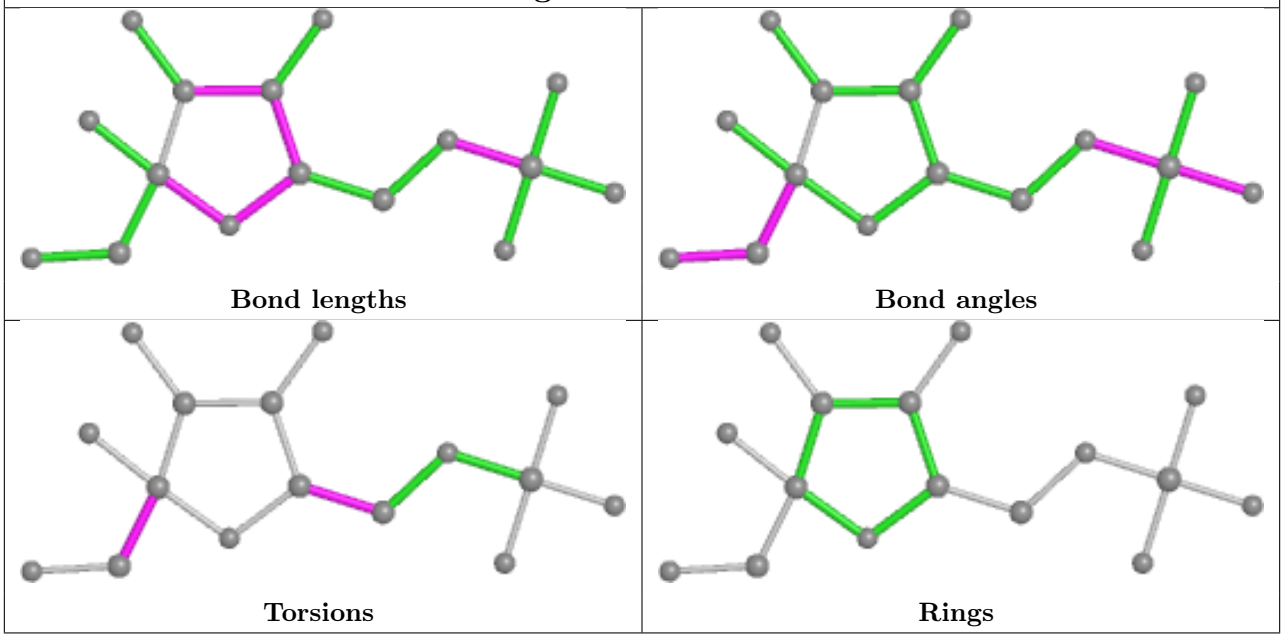
There are no ring outliers.

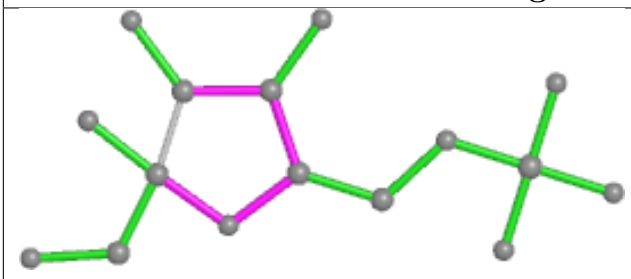
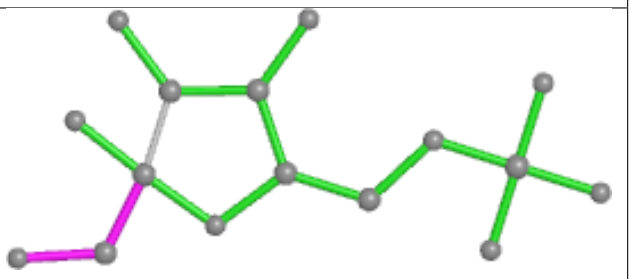
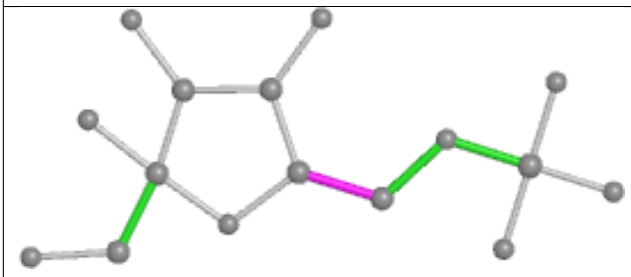
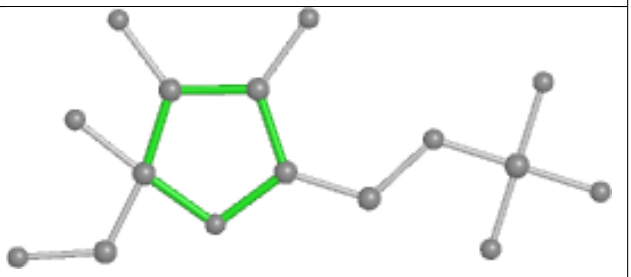
1 monomer is involved in 4 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	C	401	F6P	4	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 then 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 F6P 1 401



Ligand F6P C 401	
 Bond lengths	 Bond angles
 Torsions	 Rings

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 Fit of model and data

6.1 Protein, DNA and RNA chains

In the following table, the column labelled '#RSRZ> 2' contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95^{th} percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled 'Q< 0.9' lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å^2)	Q<0.9
1	1	328/348 (94%)	0.26	22 (6%)	17	16	27, 52, 95, 188	0
1	A	325/348 (93%)	-0.15	9 (2%)	53	51	26, 45, 74, 120	0
1	B	325/348 (93%)	0.19	15 (4%)	32	31	32, 56, 83, 120	0
1	C	328/348 (94%)	0.21	21 (6%)	19	18	27, 47, 100, 208	0
1	D	324/348 (93%)	-0.14	9 (2%)	53	51	24, 42, 68, 99	0
1	Q	328/348 (94%)	-0.17	11 (3%)	45	44	24, 40, 72, 124	0
1	U	325/348 (93%)	0.07	15 (4%)	32	31	26, 47, 74, 98	0
1	W	328/348 (94%)	0.41	27 (8%)	11	10	33, 56, 101, 142	0
All	All	2611/2784 (93%)	0.08	129 (4%)	29	28	24, 48, 83, 208	0

All (129) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	C	328	SER	14.0
1	B	328	SER	13.6
1	1	328	SER	13.4
1	W	328	SER	11.0
1	1	62	GLU	9.9
1	C	62	GLU	8.6
1	C	4	LYS	7.3
1	C	74	ALA	7.2
1	Q	4	LYS	7.1
1	B	327	MET	6.8
1	C	326	PHE	6.1
1	D	328	SER	5.8
1	C	1	MET	5.7
1	W	327	MET	5.6
1	1	326	PHE	5.6
1	1	327	MET	5.5

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Mol	Chain	Res	Type	RSRZ
1	C	3	ARG	5.4
1	C	327	MET	5.3
1	B	323	ILE	5.3
1	C	63	ALA	5.1
1	W	3	ARG	4.9
1	W	323	ILE	4.8
1	1	324	GLU	4.8
1	B	325	LYS	4.8
1	W	4	LYS	4.7
1	A	328	SER	4.6
1	Q	328	SER	4.6
1	A	326	PHE	4.6
1	W	246	ARG	4.6
1	W	326	PHE	4.6
1	W	324	GLU	4.5
1	C	58	GLY	4.5
1	C	323	ILE	4.2
1	C	325	LYS	4.1
1	Q	3	ARG	4.0
1	1	58	GLY	4.0
1	A	324	GLU	4.0
1	U	60	LEU	4.0
1	W	325	LYS	3.9
1	U	5	VAL	3.9
1	1	5	VAL	3.9
1	B	62	GLU	3.8
1	U	327	MET	3.8
1	W	5	VAL	3.7
1	A	327	MET	3.7
1	B	61	ASP	3.6
1	D	61	ASP	3.6
1	U	61	ASP	3.6
1	U	62	GLU	3.5
1	1	60	LEU	3.5
1	U	328	SER	3.5
1	1	4	LYS	3.5
1	W	242	LYS	3.4
1	C	64	PRO	3.4
1	B	60	LEU	3.4
1	1	322	GLY	3.3
1	1	325	LYS	3.3
1	A	325	LYS	3.3

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Mol	Chain	Res	Type	RSRZ
1	C	324	GLU	3.3
1	1	323	ILE	3.2
1	C	59	GLU	3.2
1	D	60	LEU	3.2
1	W	2	ASN	3.1
1	U	4	LYS	3.1
1	C	61	ASP	3.1
1	D	128	ASN	3.1
1	C	77	CYS	3.0
1	W	318	ASP	3.0
1	W	61	ASP	3.0
1	1	59	GLU	3.0
1	W	58	GLY	3.0
1	W	243	ARG	3.0
1	B	38	ASP	2.9
1	1	317	PHE	2.9
1	C	60	LEU	2.9
1	U	325	LYS	2.8
1	W	60	LEU	2.8
1	W	37	VAL	2.8
1	1	3	ARG	2.7
1	1	321	GLU	2.7
1	W	238	GLU	2.7
1	D	5	VAL	2.7
1	C	177	GLU	2.7
1	Q	325	LYS	2.7
1	Q	61	ASP	2.7
1	W	241	ILE	2.6
1	W	132	GLY	2.6
1	W	39	ALA	2.6
1	D	246	ARG	2.6
1	D	62	GLU	2.5
1	W	237	ASP	2.5
1	B	41	ARG	2.5
1	Q	327	MET	2.5
1	C	65	MET	2.4
1	1	66	LEU	2.4
1	A	321	GLU	2.4
1	A	323	ILE	2.4
1	C	321	GLU	2.4
1	B	5	VAL	2.4
1	B	64	PRO	2.3

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Mol	Chain	Res	Type	RSRZ
1	B	324	GLU	2.3
1	1	63	ALA	2.3
1	U	131	LYS	2.3
1	1	179	GLY	2.3
1	Q	324	GLU	2.3
1	1	145	LYS	2.3
1	B	140	VAL	2.3
1	U	149	GLU	2.3
1	U	128	ASN	2.2
1	W	322	GLY	2.2
1	B	174	GLU	2.2
1	U	323	ILE	2.2
1	Q	1	MET	2.2
1	W	236	ASN	2.2
1	1	75	GLY	2.2
1	B	65	MET	2.1
1	Q	5	VAL	2.1
1	U	321	GLU	2.1
1	D	239	GLU	2.1
1	Q	60	LEU	2.1
1	A	130	PRO	2.1
1	D	79	VAL	2.1
1	W	244	ALA	2.1
1	Q	62	GLU	2.1
1	W	62	GLU	2.1
1	A	288	THR	2.0
1	U	324	GLU	2.0
1	U	322	GLY	2.0
1	1	2	ASN	2.0

6.2 Non-standard residues in protein, DNA, RNA chains (i)

There are no non-standard protein/DNA/RNA residues in this entry.

6.3 Carbohydrates (i)

There are no monosaccharides in this entry.

6.4 Ligands (i)

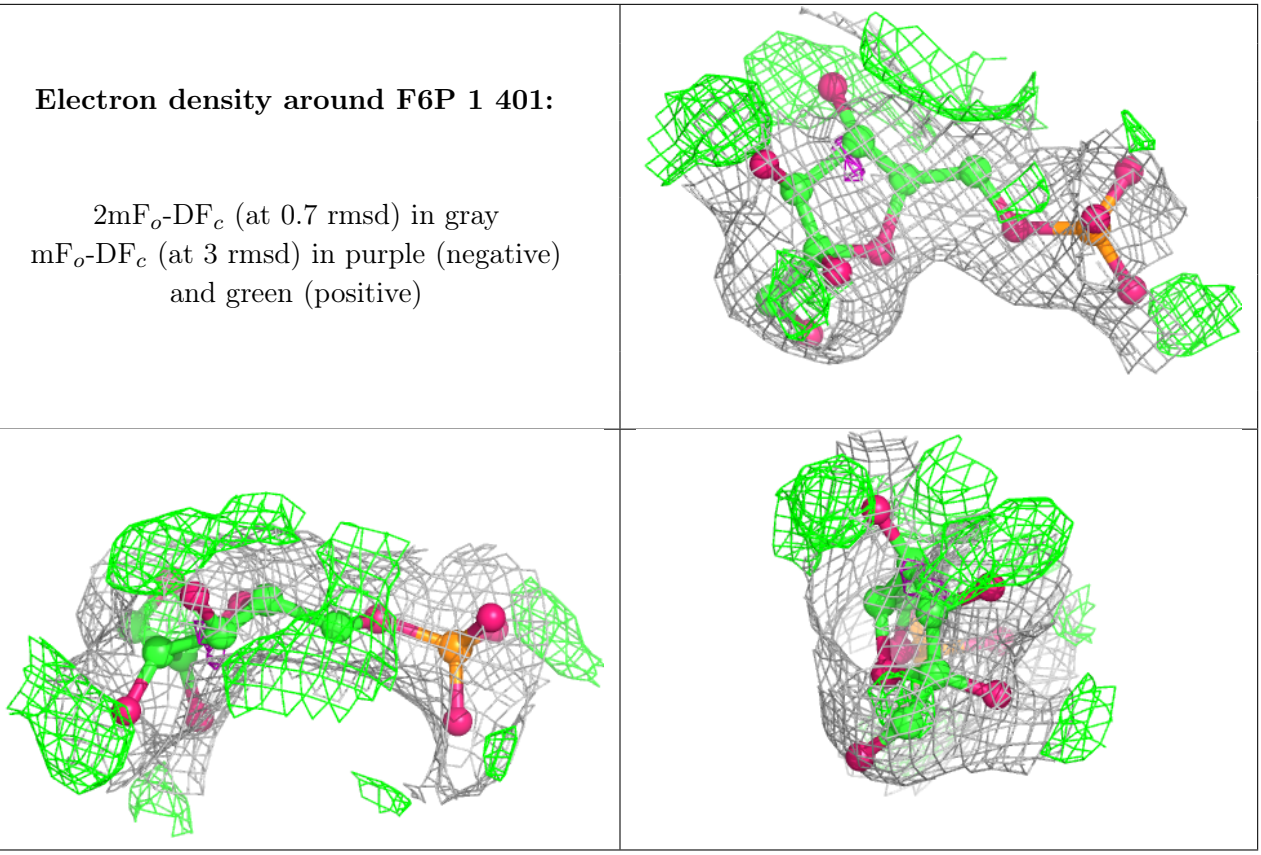
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95^{th} percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
3	F6P	1	401	16/16	0.73	0.23	51,73,91,92	0
3	F6P	C	401	16/16	0.77	0.23	52,75,91,103	0
2	MN	1	402	1/1	0.78	0.18	55,55,55,55	0
2	MN	D	402	1/1	0.88	0.11	56,56,56,56	0
2	MN	A	402	1/1	0.88	0.09	51,51,51,51	0
2	MN	A	401	1/1	0.92	0.38	87,87,87,87	0
2	MN	B	401	1/1	0.93	0.04	58,58,58,58	0
2	MN	Q	401	1/1	0.94	0.09	64,64,64,64	0
2	MN	U	401	1/1	0.95	0.26	72,72,72,72	0
2	MN	C	402	1/1	0.95	0.12	57,57,57,57	0
2	MN	D	401	1/1	0.97	0.10	51,51,51,51	0
2	MN	Q	402	1/1	0.98	0.05	44,44,44,44	0
2	MN	W	401	1/1	0.99	0.03	56,56,56,56	0

The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation to approximate a three-dimensional view.

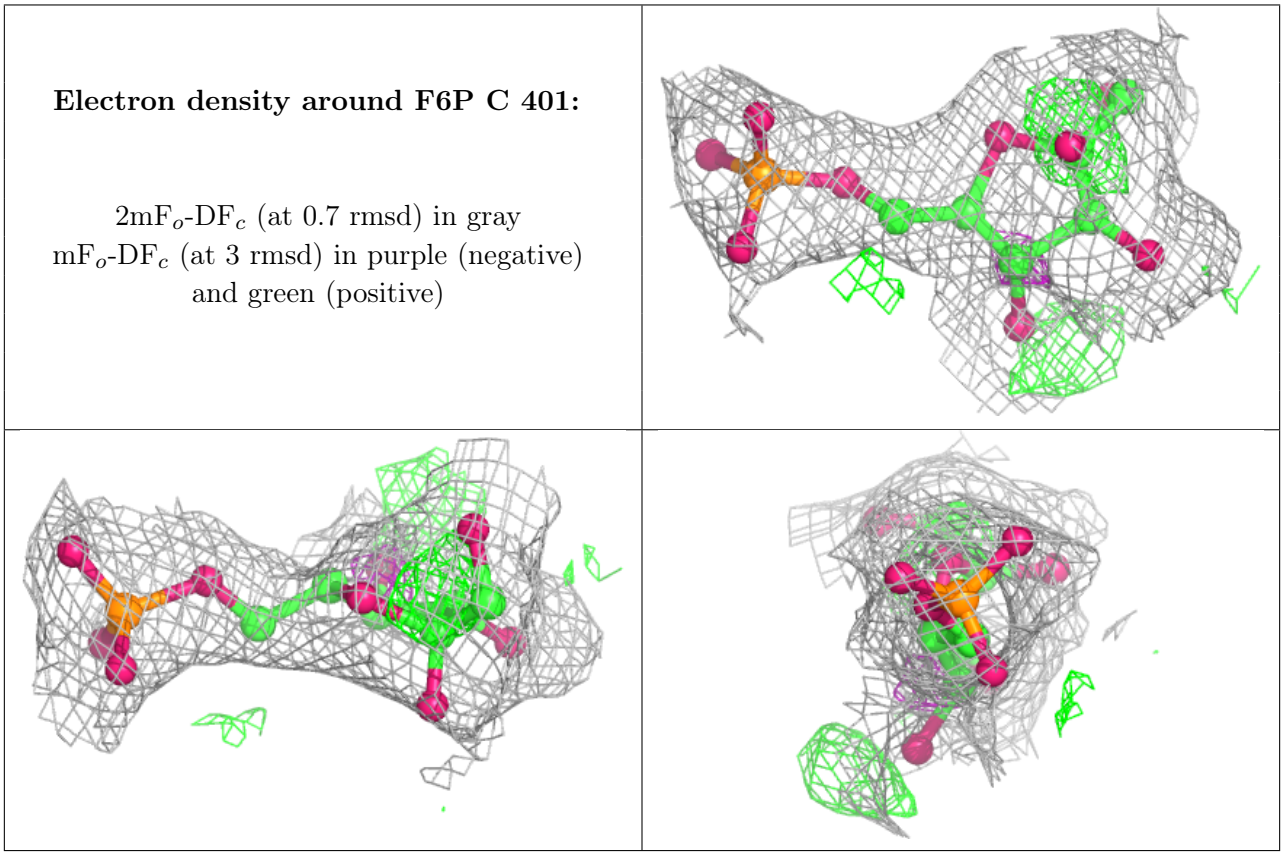
Electron density around F6P 1 401:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)



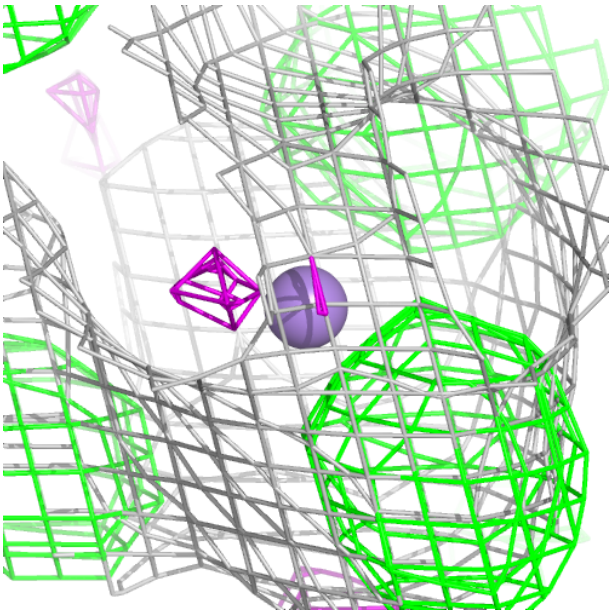
Electron density around F6P C 401:

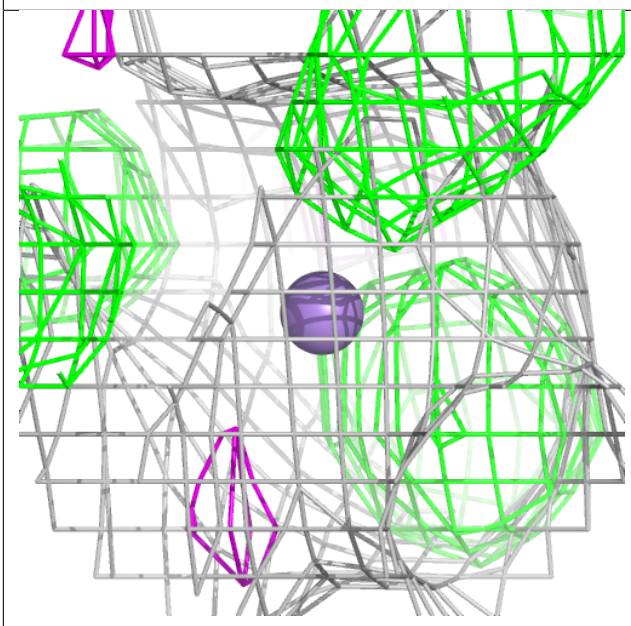
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

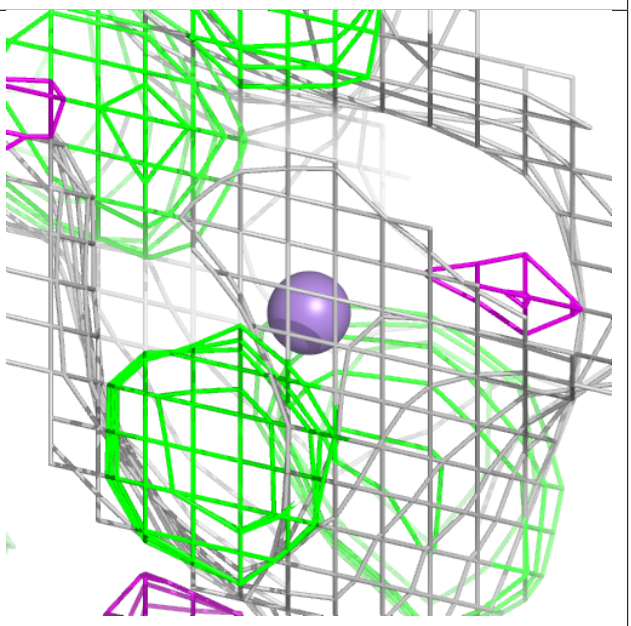


Electron density around MN 1 402:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

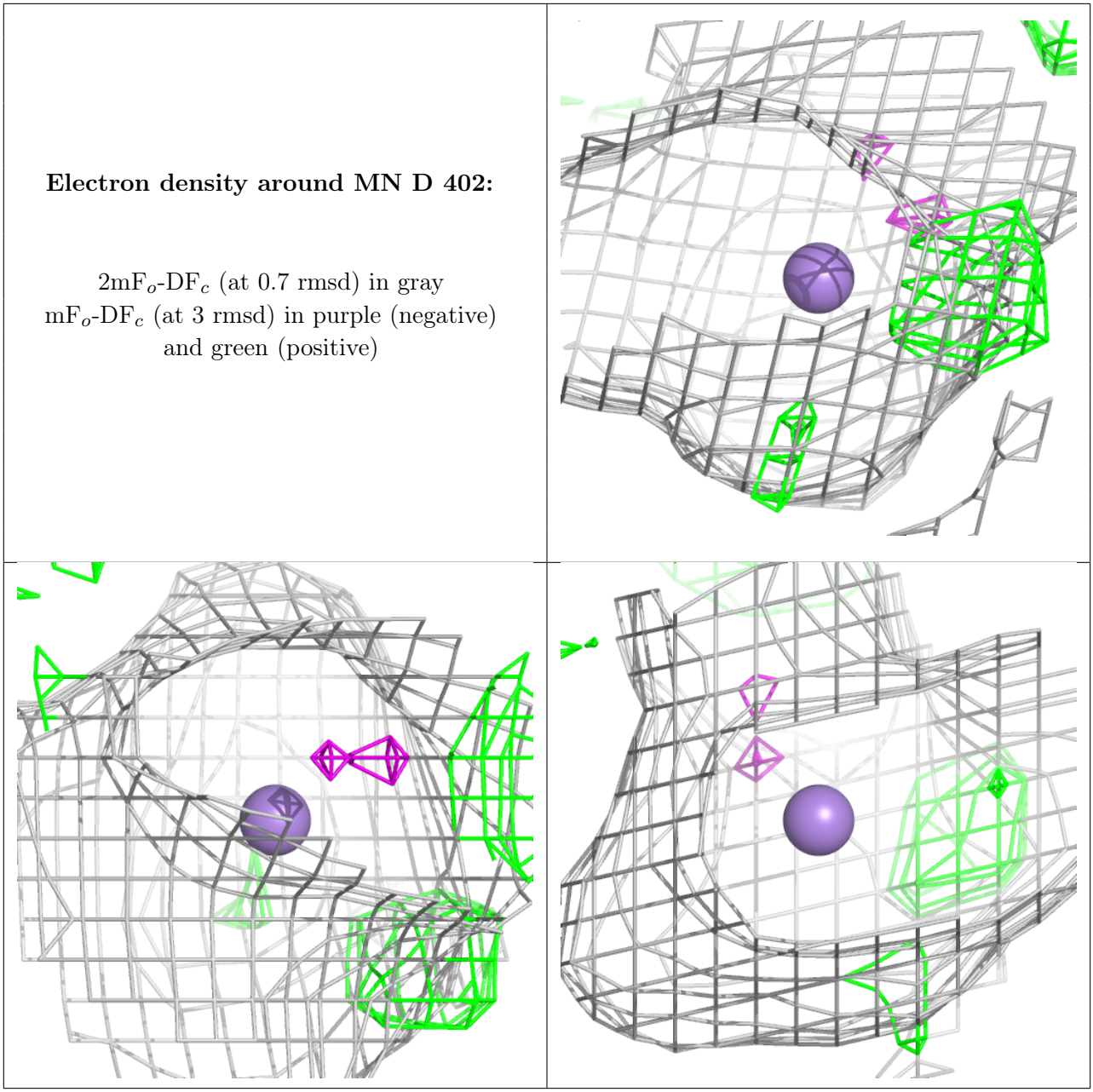






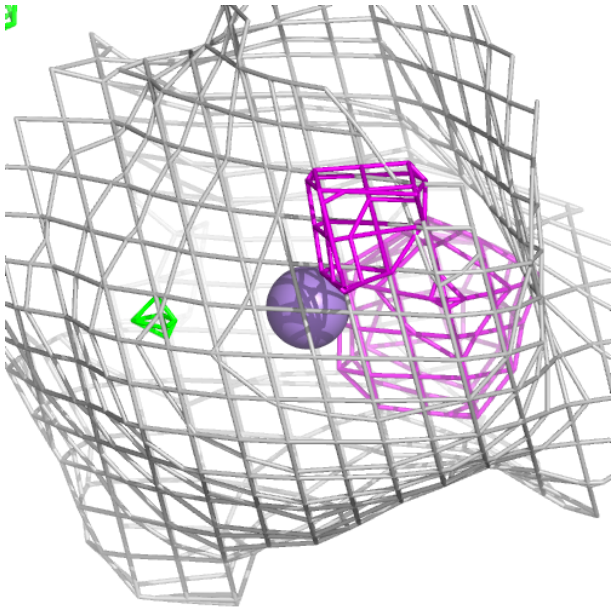
Electron density around MN D 402:

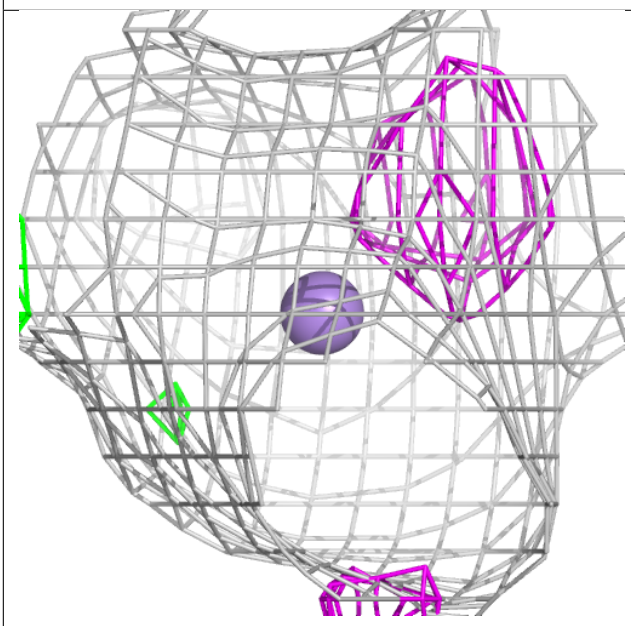
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

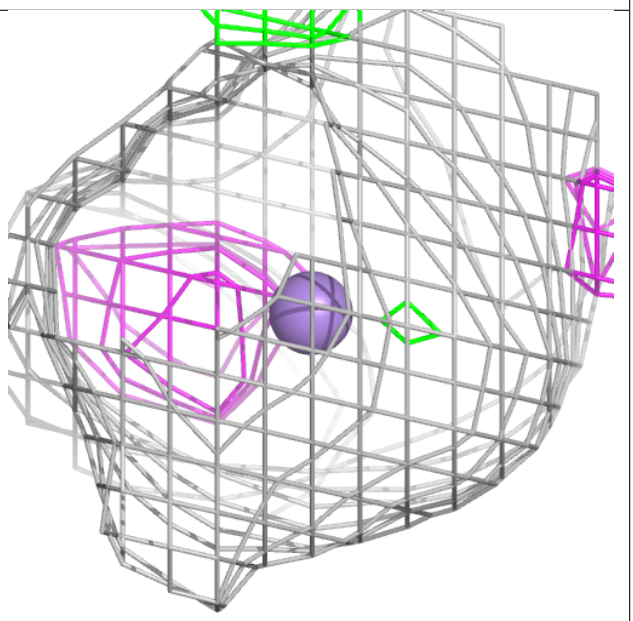


Electron density around MN A 402:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

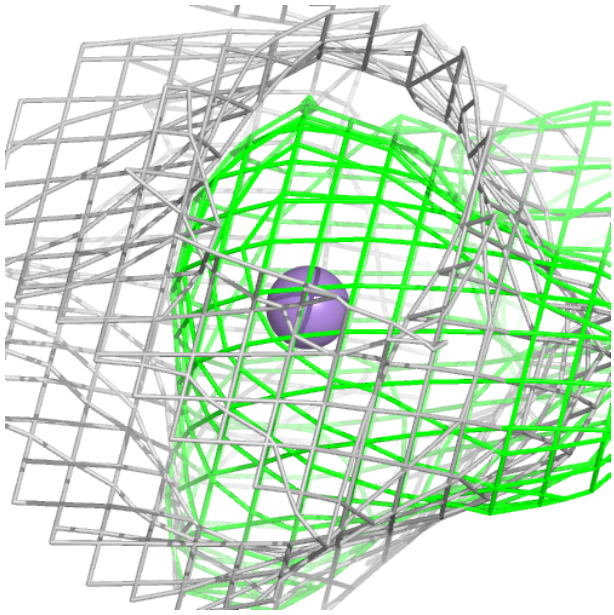


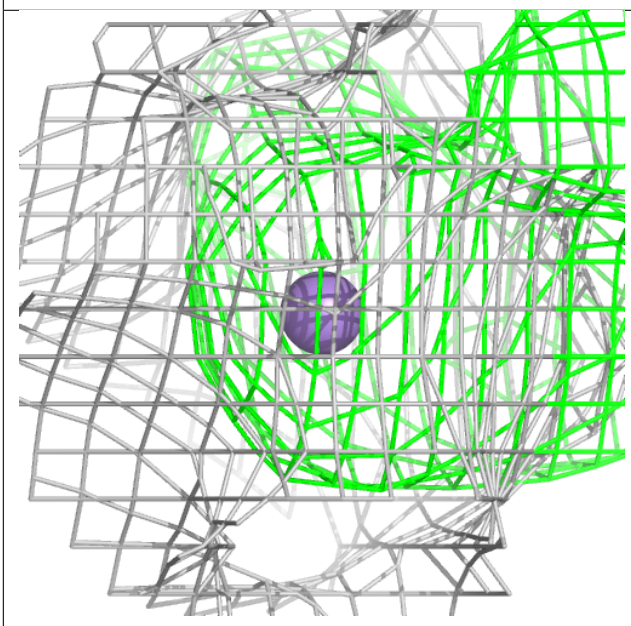


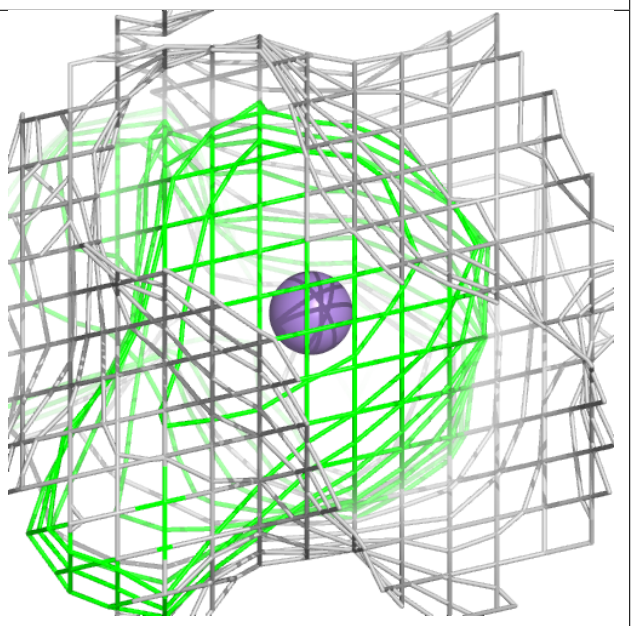


Electron density around MN A 401:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

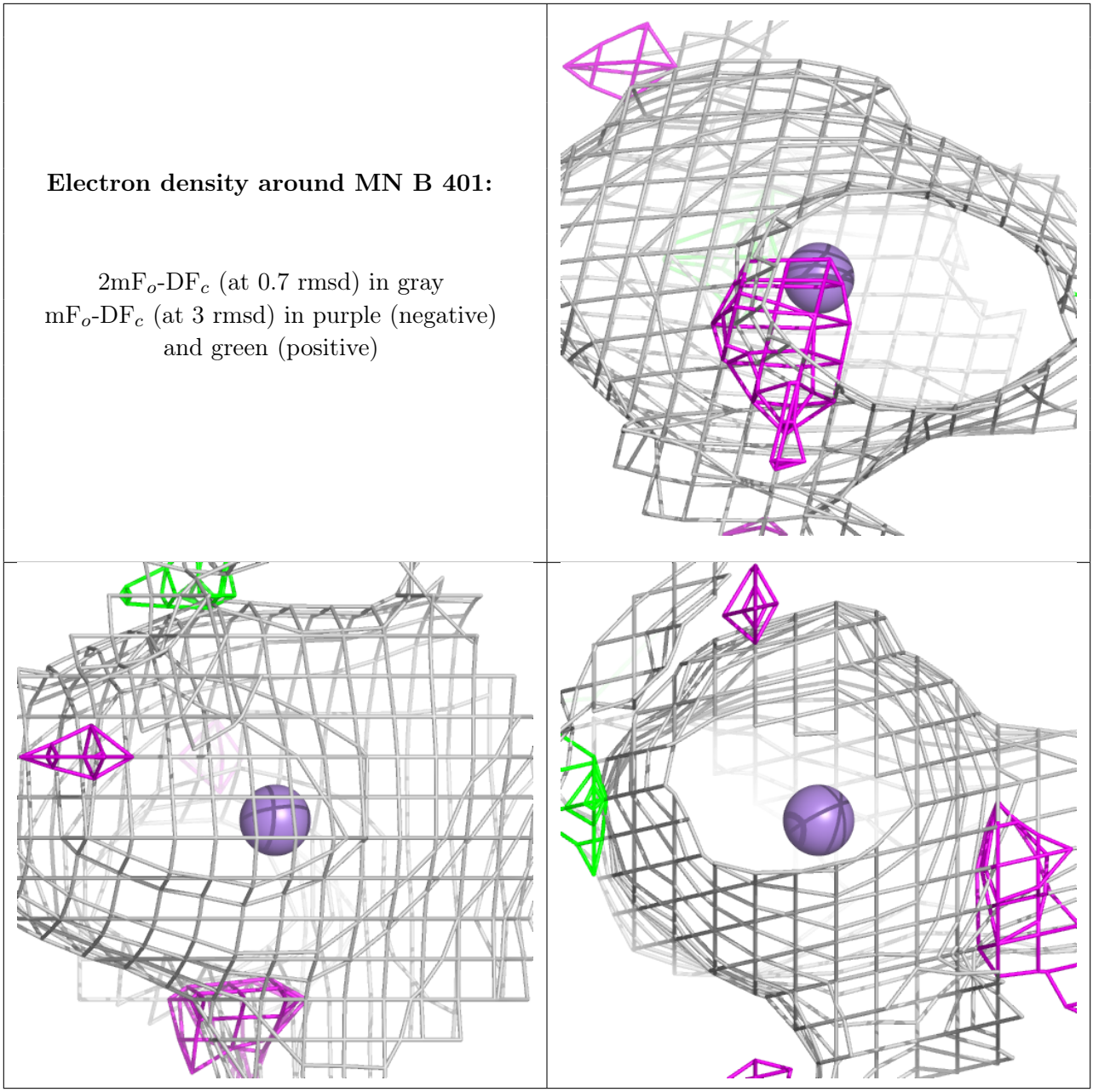






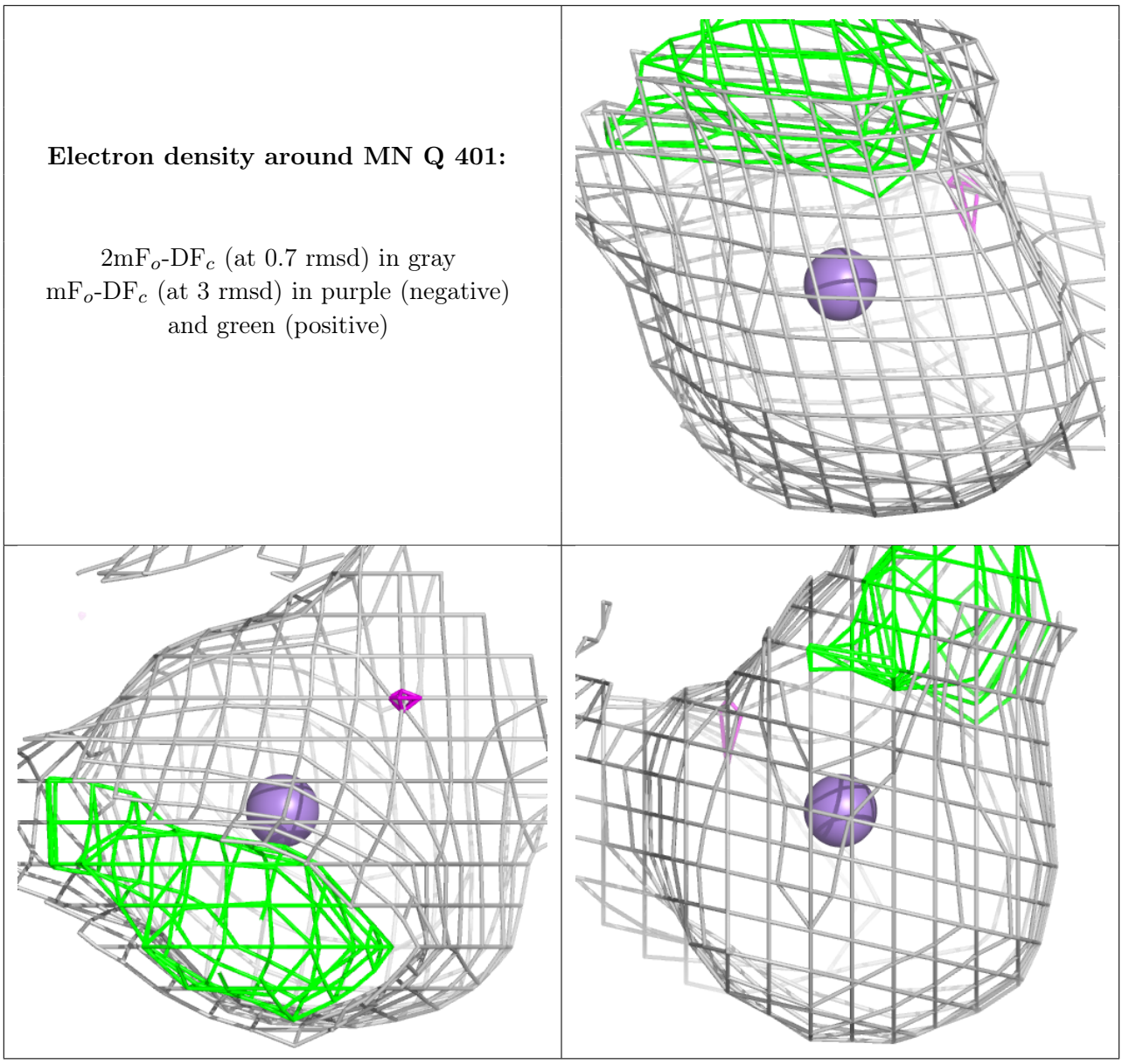
Electron density around MN B 401:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)



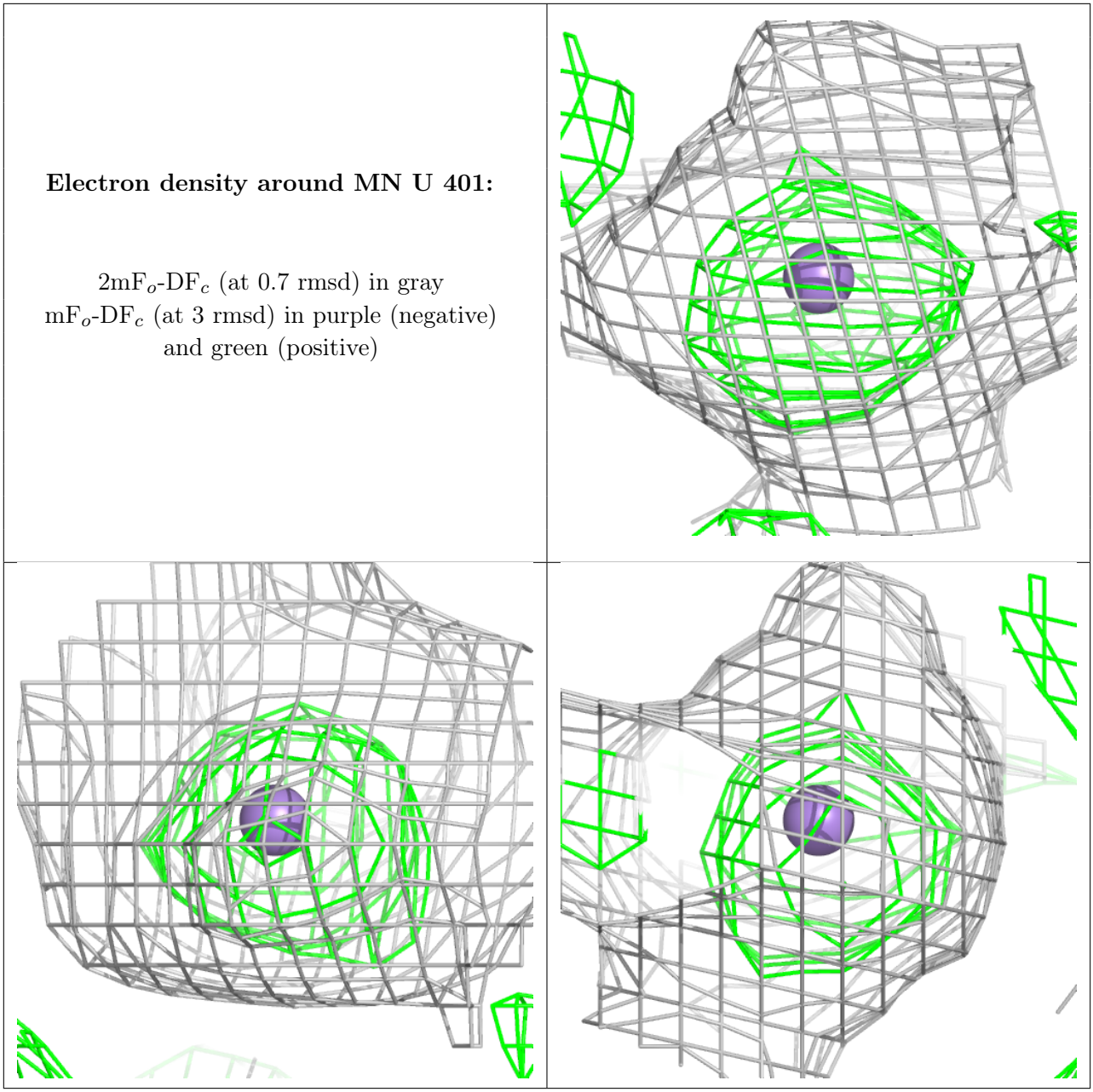
Electron density around MN Q 401:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)



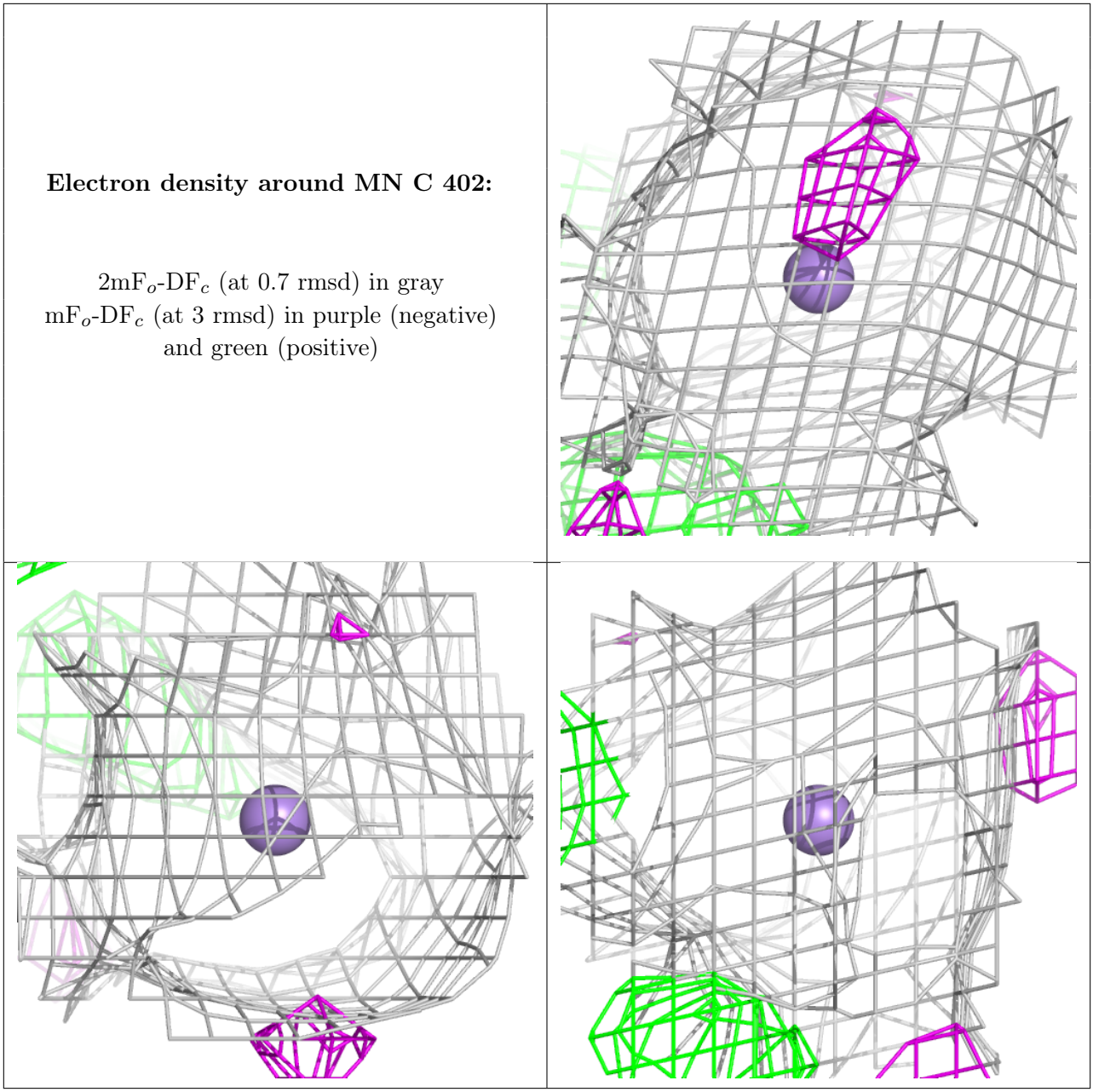
Electron density around MN U 401:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)



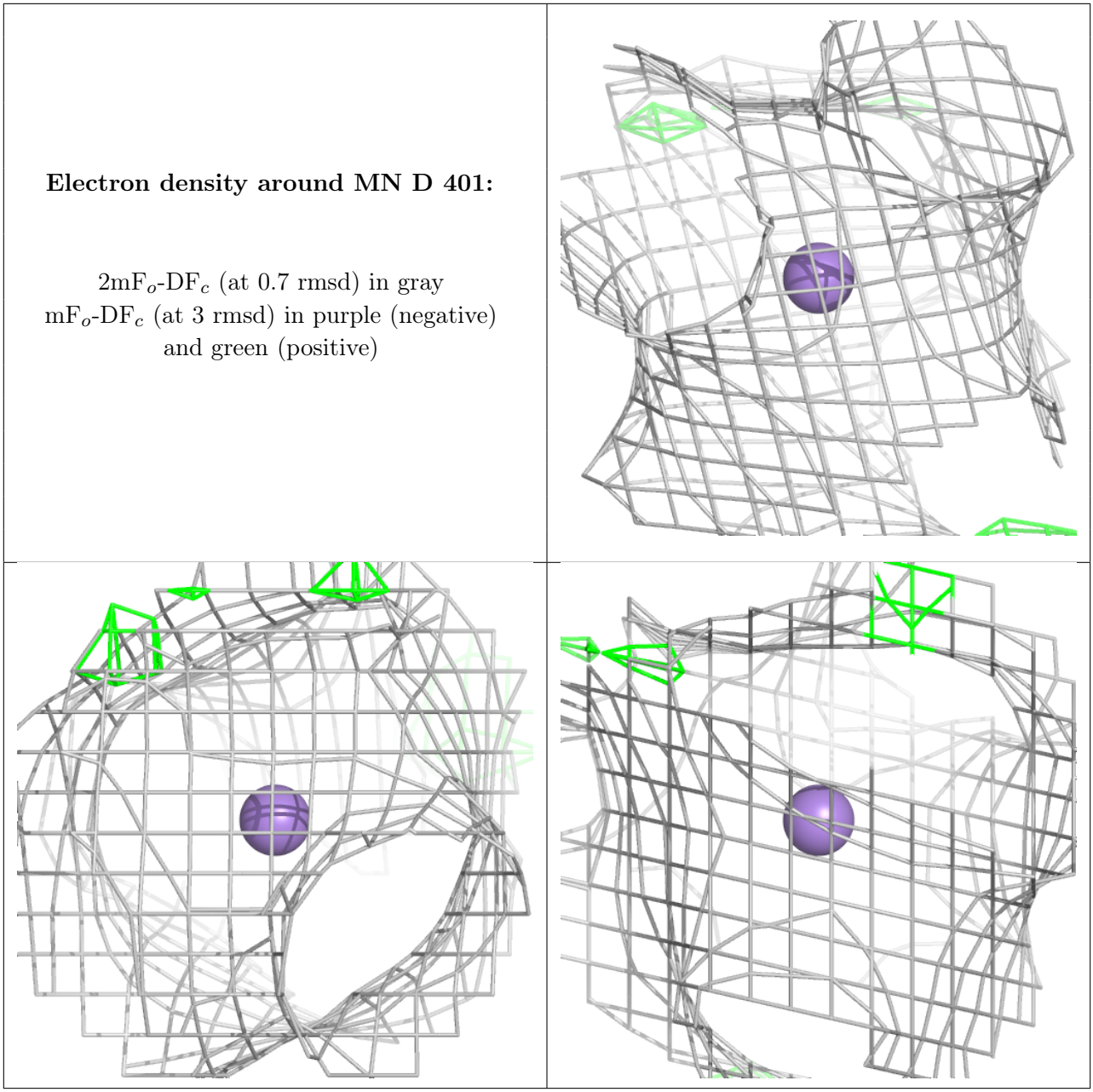
Electron density around MN C 402:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)



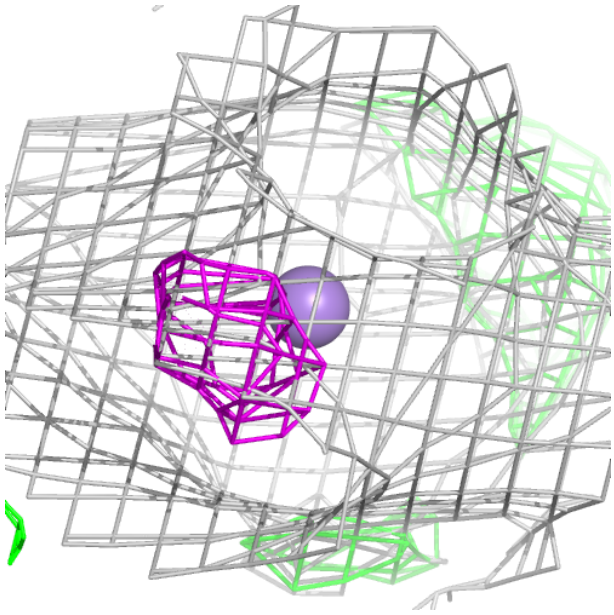
Electron density around MN D 401:

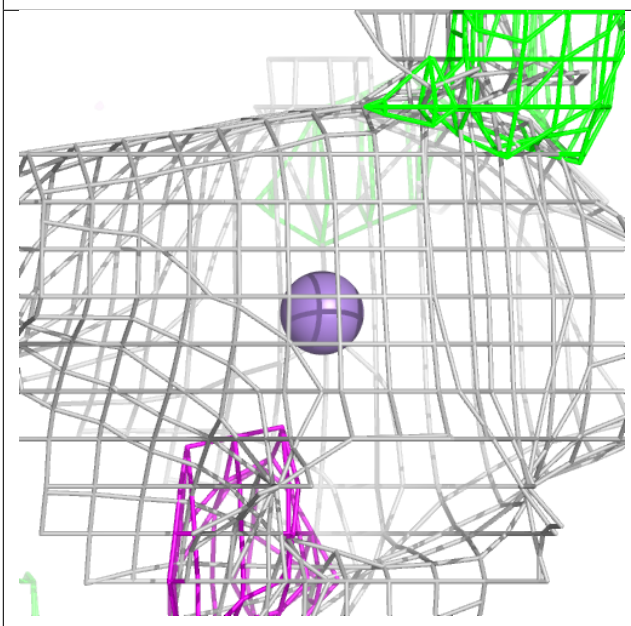
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

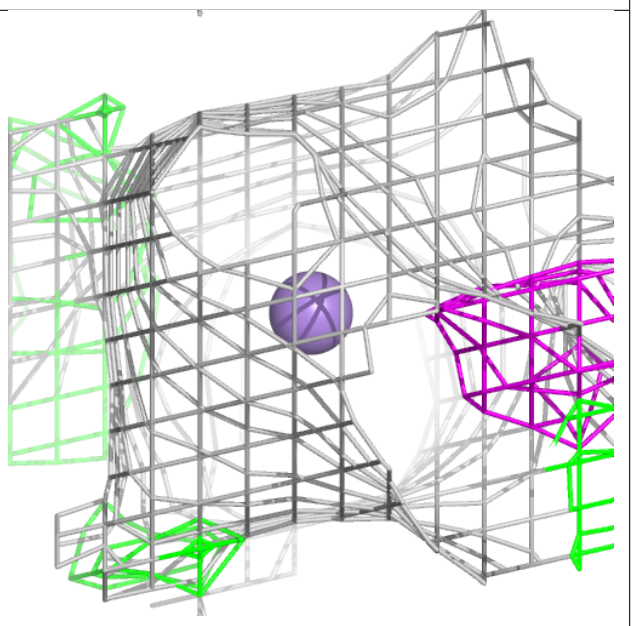


Electron density around MN Q 402:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

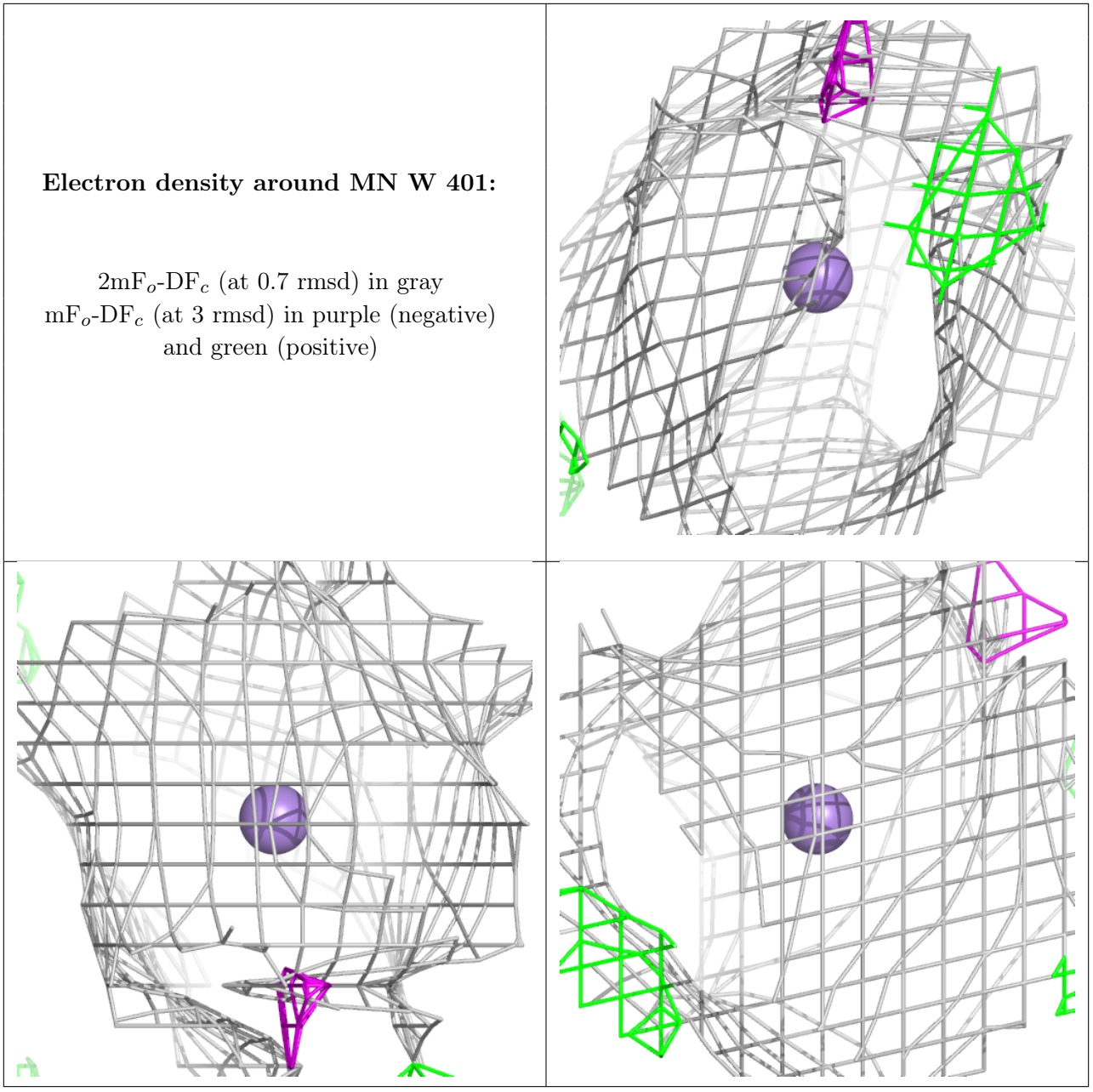






Electron density around MN W 401:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)



6.5 Other polymers

There are no such residues in this entry.