



# Full wwPDB X-ray Structure Validation Report ⓘ

Mar 5, 2026 – 11:58 AM UTC

PDB ID : 7OHL / pdb\_00007ohl  
Title : SaFtsZ complexed with GDP, BeF<sub>3</sub><sup>-</sup> and Mn<sup>2+</sup>  
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Deposited on : 2021-05-11  
Resolution : 1.75 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](mailto: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>.

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

MolProbity : 4-5-2 with Phenix2.0  
Mogul : 2022.3.0, CSD as543be (2022)  
Xtriage (Phenix) : 2.0  
EDS : 3.0  
Buster-report : wwPDB partial adaption of 1.1.7 (2018)  
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)  
CCP4 : 9.0.010 (Gargrove)  
Density-Fitness : 1.0.12  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.49

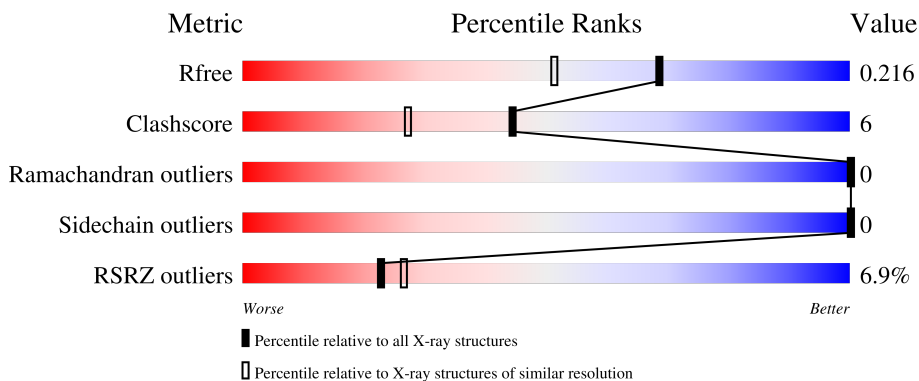
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 1.75 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))
$R_{free}$	180053	3183 (1.76-1.76)
Clashscore	190562	3299 (1.76-1.76)
Ramachandran outliers	187476	3274 (1.76-1.76)
Sidechain outliers	187428	3274 (1.76-1.76)
RSRZ outliers	180081	3183 (1.76-1.76)

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  $\geq 3$ , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions  $\leq 5\%$ . The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	326	

## 2 Entry composition [i](#)

There are 6 unique types of molecules in this entry. The entry contains 4602 atoms, of which 2245 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 Cell division protein FtsZ.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
			Total	C	H	N	O	S			
1	A	305	4441	1366	2235	378	448	14	0	1	0

There are 21 discrepancies between the modelled and reference sequences:

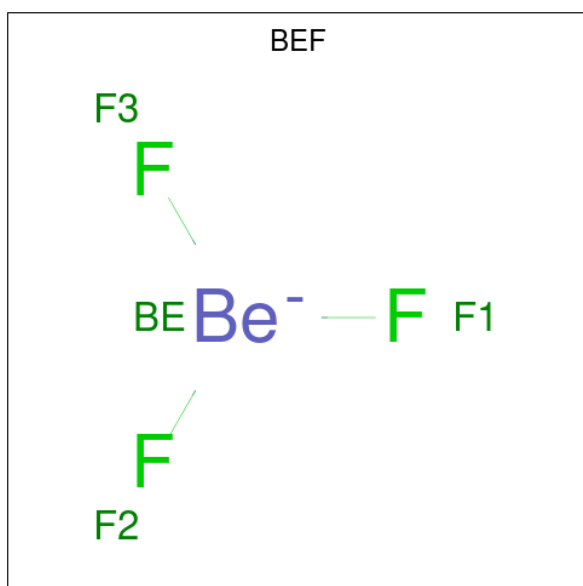
Chain	Residue	Modelled	Actual	Comment	Reference
A	-9	MET	-	initiating methionine	UNP P0A031
A	-8	GLY	-	expression tag	UNP P0A031
A	-7	SER	-	expression tag	UNP P0A031
A	-6	SER	-	expression tag	UNP P0A031
A	-5	HIS	-	expression tag	UNP P0A031
A	-4	HIS	-	expression tag	UNP P0A031
A	-3	HIS	-	expression tag	UNP P0A031
A	-2	HIS	-	expression tag	UNP P0A031
A	-1	HIS	-	expression tag	UNP P0A031
A	0	HIS	-	expression tag	UNP P0A031
A	1	SER	-	expression tag	UNP P0A031
A	2	SER	-	expression tag	UNP P0A031
A	3	GLY	-	expression tag	UNP P0A031
A	4	LEU	-	expression tag	UNP P0A031
A	5	VAL	-	expression tag	UNP P0A031
A	6	PRO	-	expression tag	UNP P0A031
A	7	ARG	-	expression tag	UNP P0A031
A	8	GLY	-	expression tag	UNP P0A031
A	9	SER	-	expression tag	UNP P0A031
A	10	HIS	-	expression tag	UNP P0A031
A	11	MET	-	expression tag	UNP P0A031

- Molecule 2 is GUANOSINE-5'-DIPHOSPHATE (CCD ID: GDP) (formula: C<sub>10</sub>H<sub>15</sub>N<sub>5</sub>O<sub>11</sub>P<sub>2</sub>) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	
			Total	C	H	N	O			P
2	A	1	38	10	10	5	11	2	0	0

- Molecule 3 is BERYLLIUM TRIFLUORIDE ION (CCD ID: BEF) (formula: BeF<sub>3</sub>) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
			Total	Be	F		
3	A	1	4	1	3	0	0

- Molecule 4 is MANGANESE (II) ION (CCD ID: MN) (formula: Mn) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	1	Total	Mn	0	0
			1	1		

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

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	A	1	Total	K	0	0
			1	1		

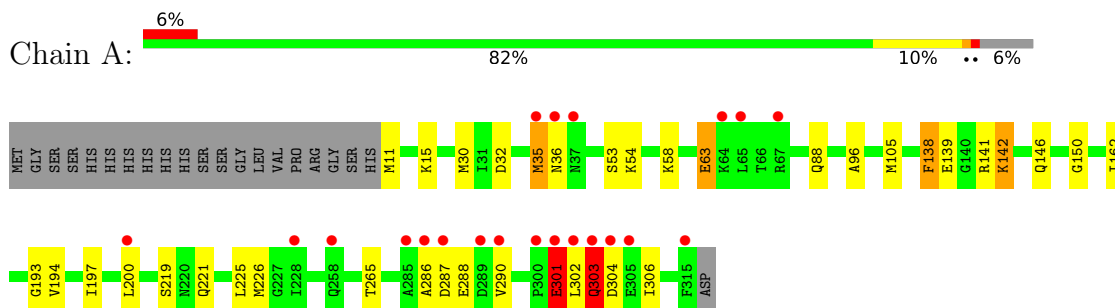
- Molecule 6 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	A	117	Total	O	0	0
			117	117		

### 3 Residue-property plots [i](#)

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: Cell division protein FtsZ



## 4 Data and refinement statistics

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	72.02Å 51.49Å 88.02Å 90.00° 110.82° 90.00°	Depositor
Resolution (Å)	41.14 – 1.75 41.14 – 1.75	Depositor EDS
% Data completeness (in resolution range)	98.4 (41.14-1.75) 98.4 (41.14-1.75)	Depositor EDS
$R_{merge}$	(Not available)	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	1.02 (at 1.75Å)	Xtrriage
Refinement program	PHENIX 1.18.2_3874	Depositor
R, $R_{free}$	0.170 , 0.211 0.175 , 0.216	Depositor DCC
$R_{free}$ test set	1505 reflections (4.92%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	34.2	Xtrriage
Anisotropy	0.099	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.38 , 38.3	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.50$ , $\langle L^2 \rangle = 0.33$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
$F_o, F_c$ correlation	0.96	EDS
Total number of atoms	4602	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	47.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 7.82% of the height of the origin peak. No significant pseudotranslation is detected.*

<sup>1</sup>Intensities estimated from amplitudes.

<sup>2</sup>Theoretical values of  $\langle |L| \rangle$ ,  $\langle L^2 \rangle$  for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

## 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: MN, K, BEF, GDP

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	1.45	13/2225 (0.6%)	1.81	45/3002 (1.5%)

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	A	0	4

All (13) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	138	PHE	CG-CD2	10.71	1.61	1.38
1	A	304	ASP	CA-CB	10.16	1.71	1.53
1	A	138	PHE	CE1-CZ	-8.91	1.11	1.38
1	A	303	GLN	CG-CD	8.17	1.72	1.52
1	A	142	LYS	CD-CE	8.16	1.76	1.52
1	A	142	LYS	C-N	-7.75	1.23	1.33
1	A	303	GLN	CD-OE1	-6.50	1.11	1.23
1	A	138	PHE	CA-C	6.45	1.61	1.52
1	A	304	ASP	CB-CG	6.27	1.67	1.52
1	A	303	GLN	CA-C	6.25	1.61	1.52
1	A	303	GLN	CD-NE2	5.96	1.45	1.33
1	A	138	PHE	CD2-CE2	5.93	1.56	1.38
1	A	139	GLU	CD-OE2	5.79	1.36	1.25

All (45) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	138	PHE	CB-CG-CD1	30.76	173.00	120.70
1	A	304	ASP	CB-CG-OD1	23.27	171.93	118.40
1	A	138	PHE	CB-CG-CD2	-20.53	85.80	120.70
1	A	138	PHE	CD1-CG-CD2	-19.23	89.76	118.60
1	A	304	ASP	OD1-CG-OD2	-17.02	82.06	122.90
1	A	303	GLN	N-CA-CB	13.73	133.69	110.49
1	A	303	GLN	CG-CD-NE2	-12.67	97.39	116.40
1	A	301	GLU	CG-CD-OE1	12.35	146.80	118.40
1	A	301	GLU	OE1-CD-OE2	-12.13	93.80	122.90
1	A	142	LYS	CA-CB-CG	-11.01	92.08	114.10
1	A	138	PHE	CG-CD1-CE1	10.70	138.89	120.70
1	A	303	GLN	N-CA-C	-9.63	90.28	110.80
1	A	142	LYS	CB-CG-CD	-8.95	90.71	111.30
1	A	303	GLN	CB-CG-CD	-8.51	98.14	112.60
1	A	304	ASP	CA-CB-CG	-8.00	104.60	112.60
1	A	304	ASP	CB-CG-OD2	-7.91	100.22	118.40
1	A	63	GLU	OE1-CD-OE2	-7.84	104.09	122.90
1	A	142	LYS	CG-CD-CE	-7.82	93.33	111.30
1	A	35	MET	CA-C-N	-7.37	109.47	123.32
1	A	35	MET	C-N-CA	-7.37	109.47	123.32
1	A	303	GLN	CG-CD-OE1	7.16	135.11	120.80
1	A	142	LYS	N-CA-C	7.14	119.15	111.36
1	A	301	GLU	CG-CD-OE2	-7.00	102.31	118.40
1	A	301	GLU	CB-CG-CD	6.99	124.49	112.60
1	A	141	ARG	CA-C-N	-6.96	110.41	120.29
1	A	141	ARG	C-N-CA	-6.96	110.41	120.29
1	A	302	LEU	CA-C-N	-6.94	108.28	121.54
1	A	302	LEU	C-N-CA	-6.94	108.28	121.54
1	A	288	GLU	N-CA-C	6.90	119.04	108.42
1	A	200	LEU	CB-CA-C	6.70	123.53	110.67
1	A	142	LYS	O-C-N	6.53	129.59	122.15
1	A	63	GLU	CA-CB-CG	6.38	126.86	114.10
1	A	63	GLU	CG-CD-OE1	6.35	133.00	118.40
1	A	11	MET	CG-SD-CE	6.29	114.75	100.90
1	A	36	ASN	N-CA-C	-6.24	100.71	109.69
1	A	304	ASP	CB-CA-C	6.19	120.44	110.09
1	A	303	GLN	CA-CB-CG	-6.19	101.72	114.10
1	A	197	ILE	CA-CB-CG1	-6.14	99.97	110.40
1	A	301	GLU	N-CA-C	-5.61	105.69	112.54
1	A	290	VAL	N-CA-CB	-5.59	102.10	111.38
1	A	303	GLN	OE1-CD-NE2	-5.47	117.13	122.60
1	A	138	PHE	N-CA-C	-5.38	106.55	113.01
1	A	138	PHE	CE1-CZ-CE2	-5.26	110.53	120.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	36	ASN	N-CA-CB	5.25	118.80	110.87
1	A	142	LYS	CA-C-O	-5.09	115.03	120.42

There are no chirality outliers.

All (4) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	138	PHE	Sidechain
1	A	301	GLU	Sidechain
1	A	303	GLN	Sidechain
1	A	63	GLU	Sidechain

## 5.2 Too-close contacts

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	2206	2235	2236	27	0
2	A	28	10	12	0	0
3	A	4	0	0	0	0
4	A	1	0	0	0	0
5	A	1	0	0	0	0
6	A	117	0	0	0	0
All	All	2357	2245	2248	27	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 6.

All (27) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:142:LYS:CE	1:A:142:LYS:CD	1.76	1.63
1:A:142:LYS:CE	1:A:142:LYS:CG	2.44	0.95
1:A:142:LYS:O	1:A:142:LYS:HG2	1.78	0.83
1:A:193:GLY:HA3	1:A:226:MET:HE3	1.71	0.72
1:A:53:SER:HB3	1:A:58:LYS:HE2	1.71	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:142:LYS:CG	1:A:142:LYS:NZ	2.56	0.69
1:A:142:LYS:CD	1:A:142:LYS:NZ	2.60	0.63
1:A:30:MET:HE3	1:A:35:MET:SD	2.38	0.63
1:A:142:LYS:NZ	1:A:142:LYS:HG3	2.14	0.63
1:A:32:ASP:OD1	1:A:54:LYS:HE2	2.00	0.61
1:A:193:GLY:HA3	1:A:226:MET:CE	2.31	0.60
1:A:35:MET:HE1	1:A:194:VAL:HB	1.85	0.57
1:A:142:LYS:HE3	1:A:146:GLN:NE2	2.20	0.57
1:A:35:MET:HE2	1:A:194:VAL:CG1	2.36	0.56
1:A:219:SER:O	1:A:221:GLN:HG2	2.07	0.55
1:A:35:MET:HE2	1:A:194:VAL:HG12	1.89	0.54
1:A:15:LYS:HE3	1:A:96:ALA:HB2	1.93	0.51
1:A:265:THR:O	1:A:306:ILE:HG13	2.13	0.49
1:A:162:ILE:HD11	1:A:226:MET:HG3	1.97	0.47
1:A:105[A]:MET:HE3	1:A:150:GLY:HA3	1.97	0.46
1:A:32:ASP:OD1	1:A:54:LYS:CE	2.63	0.46
1:A:286:ALA:O	1:A:287:ASP:HB3	2.16	0.46
1:A:142:LYS:HG3	1:A:142:LYS:HZ2	1.80	0.45
1:A:301:GLU:O	1:A:303:GLN:OE1	2.38	0.41
1:A:88:GLN:OE1	1:A:88:GLN:N	2.47	0.41
1:A:225:LEU:C	1:A:225:LEU:HD23	2.45	0.41
1:A:35:MET:CE	1:A:194:VAL:CG1	3.00	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	A	304/326 (93%)	298 (98%)	6 (2%)	0	<a href="#">100</a> <a href="#">100</a>

There are no Ramachandran outliers to report.

### 5.3.2 Protein sidechains [i](#)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all 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	A	232/249 (93%)	232 (100%)	0	100 100

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

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (2) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	144	GLN
1	A	146	GLN

### 5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

## 5.4 Non-standard residues in protein, DNA, RNA chains [i](#)

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

## 5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

## 5.6 Ligand geometry [i](#)

Of 4 ligands modelled in this entry, 2 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	BEF	A	402	4,2	0,3,3	-	-	-		
2	GDP	A	401	4,3	29,30,30	2.24	8 (27%)	45,47,47	1.95	11 (24%)

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	GDP	A	401	4,3	-	0/16/32/32	0/3/3/3

All (8) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A	401	GDP	PA-O3A	7.30	1.67	1.59
2	A	401	GDP	O4'-C1'	4.93	1.53	1.42
2	A	401	GDP	C4-N9	-2.94	1.30	1.38
2	A	401	GDP	C2'-C1'	-2.48	1.45	1.53
2	A	401	GDP	C5'-C4'	2.45	1.58	1.51
2	A	401	GDP	O2'-C2'	2.27	1.48	1.43
2	A	401	GDP	C8-N9	2.17	1.42	1.37
2	A	401	GDP	C1'-N9	-2.13	1.41	1.47

All (11) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A	401	GDP	C2'-C1'-N9	5.36	128.16	113.25
2	A	401	GDP	C3'-C2'-C1'	4.73	110.42	101.46
2	A	401	GDP	N9-C8-N7	-3.86	106.25	113.40
2	A	401	GDP	O4'-C1'-N9	-3.83	99.67	108.36
2	A	401	GDP	C5-C4-N3	-3.81	122.32	128.39
2	A	401	GDP	C8-N9-C4	2.98	111.62	106.03
2	A	401	GDP	C2-N1-C6	-2.82	120.00	125.11
2	A	401	GDP	O2'-C2'-C1'	-2.73	100.72	110.10
2	A	401	GDP	O6-C6-C5	-2.56	119.77	126.53
2	A	401	GDP	O2A-PA-O5'	2.47	118.78	107.57
2	A	401	GDP	N9-C4-N3	2.46	130.88	125.95

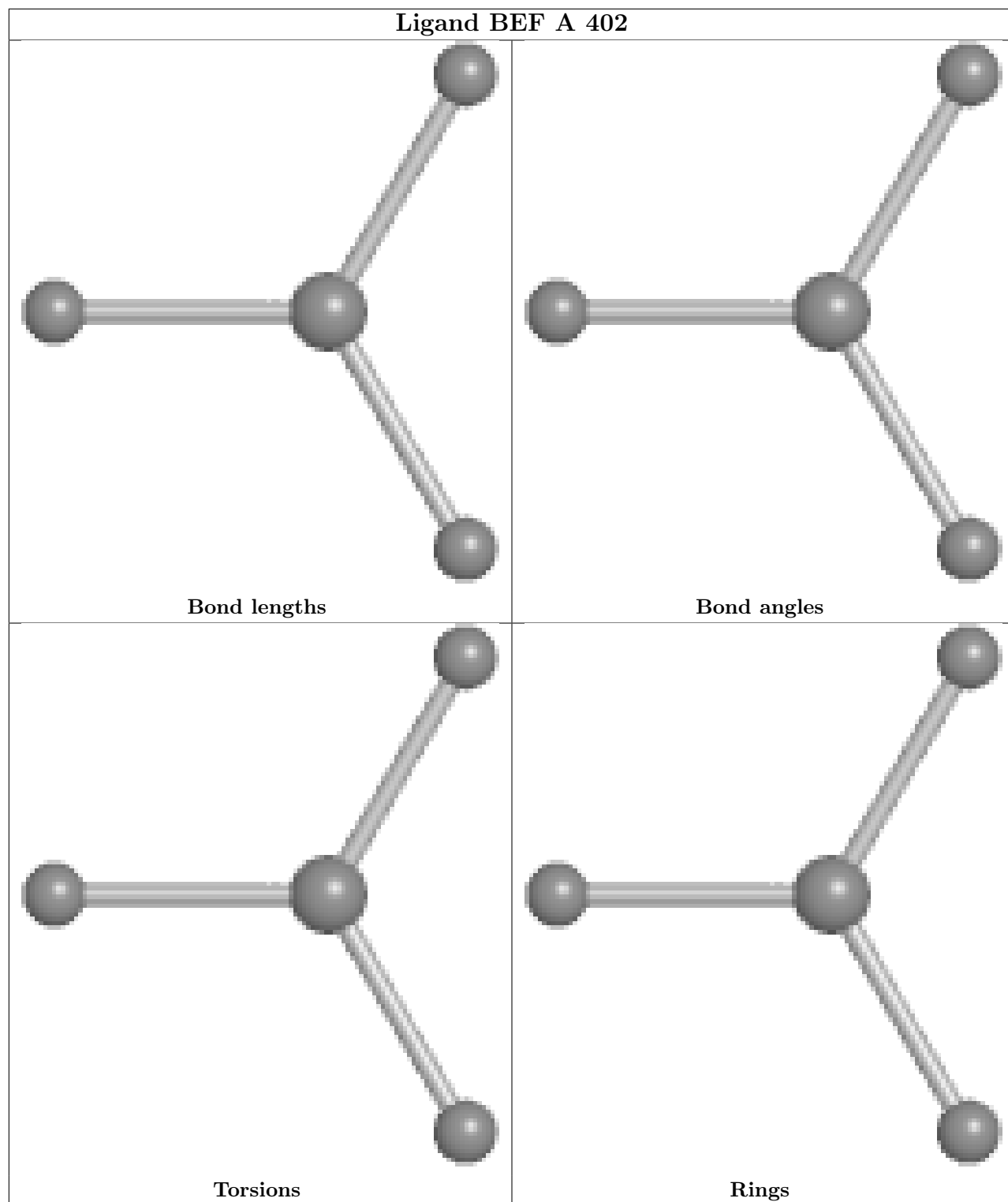
There are no chirality outliers.

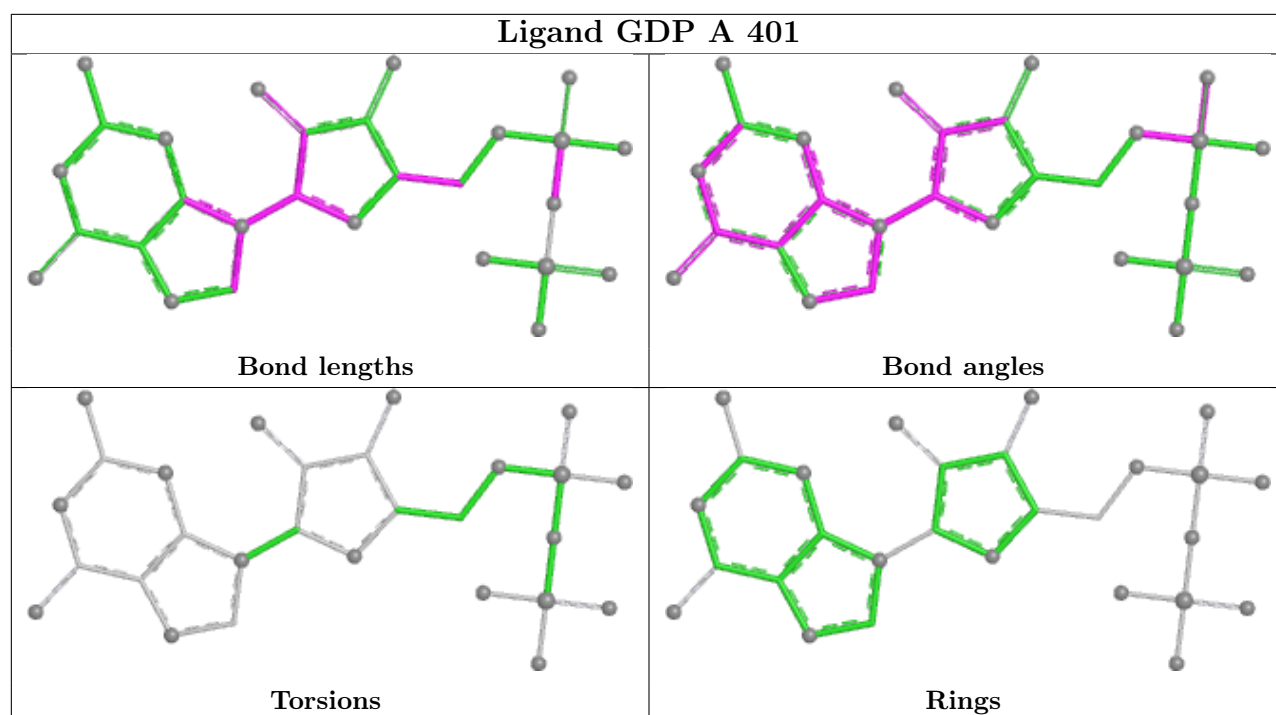
There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

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





## 5.7 Other polymers [i](#)

There are no such residues in this entry.

## 5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

## 6 Fit of model and data [i](#)

### 6.1 Protein, DNA and RNA chains [i](#)

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<sup>th</sup> 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 <sup>2</sup> )	Q<0.9
1	A	305/326 (93%)	0.38	21 (6%) <b>23</b> <b>26</b>	19, 42, 72, 115	1 (0%)

All (21) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	285	ALA	3.5
1	A	290	VAL	3.3
1	A	289	ASP	3.3
1	A	302	LEU	2.8
1	A	304	ASP	2.8
1	A	37	ASN	2.7
1	A	286	ALA	2.6
1	A	303	GLN	2.5
1	A	65	LEU	2.4
1	A	301	GLU	2.4
1	A	287	ASP	2.4
1	A	67	ARG	2.3
1	A	300	PRO	2.2
1	A	305	GLU	2.2
1	A	36	ASN	2.2
1	A	228	ILE	2.2
1	A	315	PHE	2.1
1	A	200	LEU	2.1
1	A	35	MET	2.0
1	A	258	GLN	2.0
1	A	64	LYS	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](#)

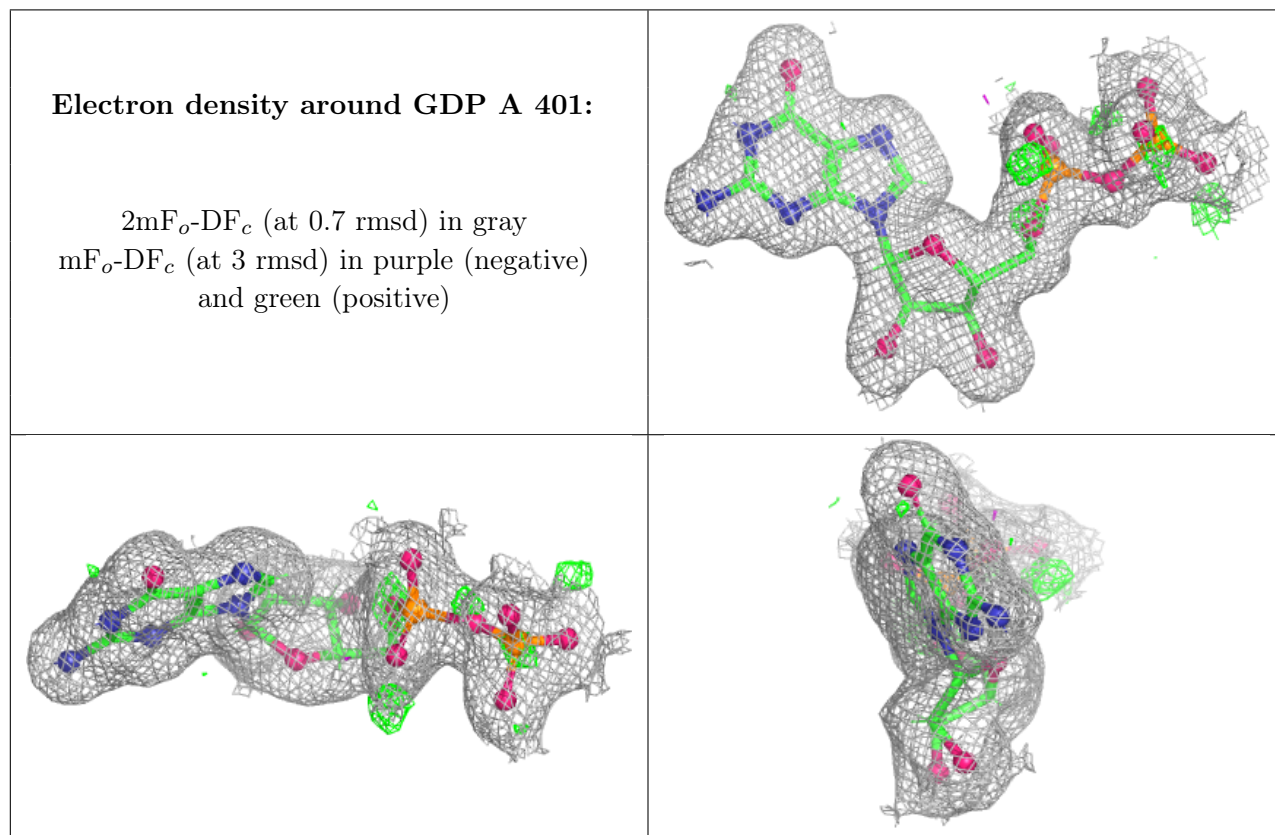
There are no oligosaccharides in this entry.

### 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<sup>th</sup> 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.

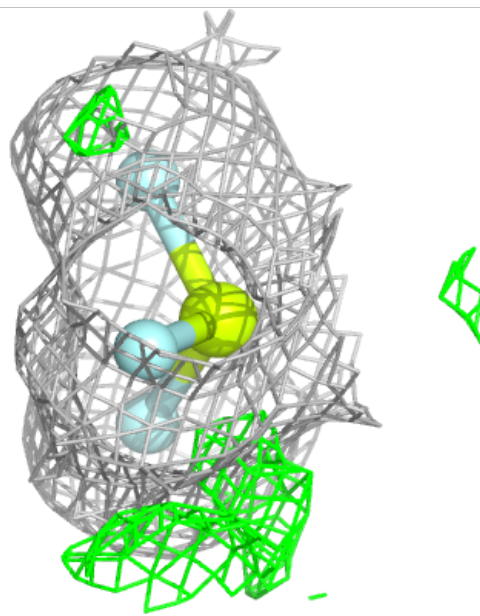
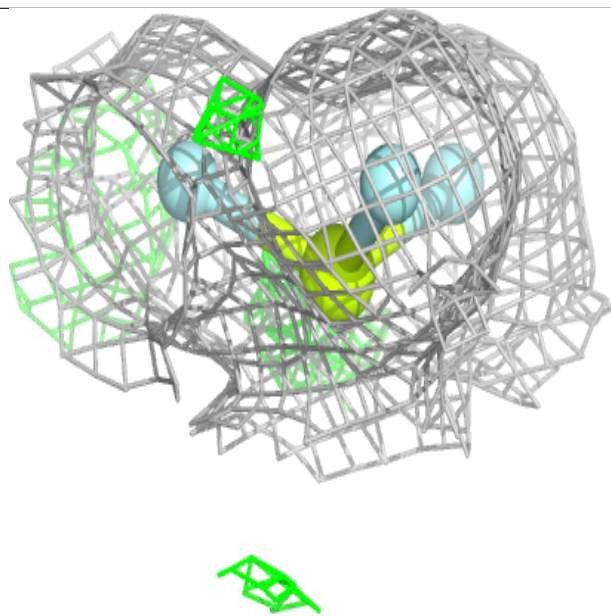
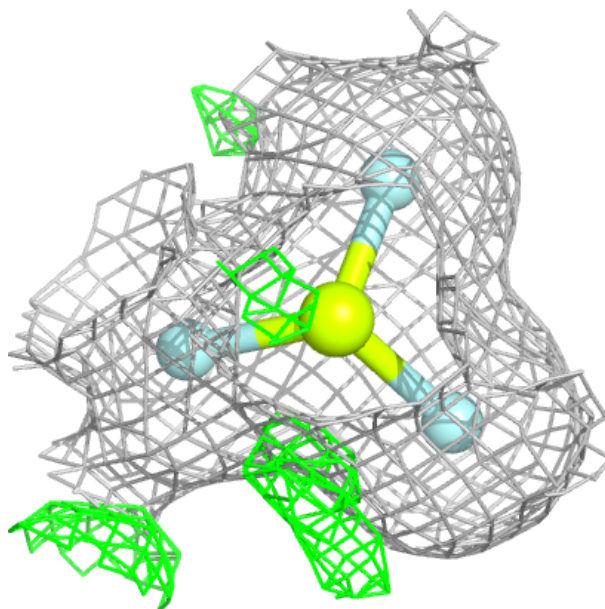
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å <sup>2</sup> )	Q<0.9
2	GDP	A	401	28/28	0.98	0.05	25,31,39,40	0
3	BEF	A	402	4/4	0.98	0.07	28,28,30,31	0
5	K	A	404	1/1	0.99	0.06	36,36,36,36	0
4	MN	A	403	1/1	1.00	0.02	30,30,30,30	0

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.



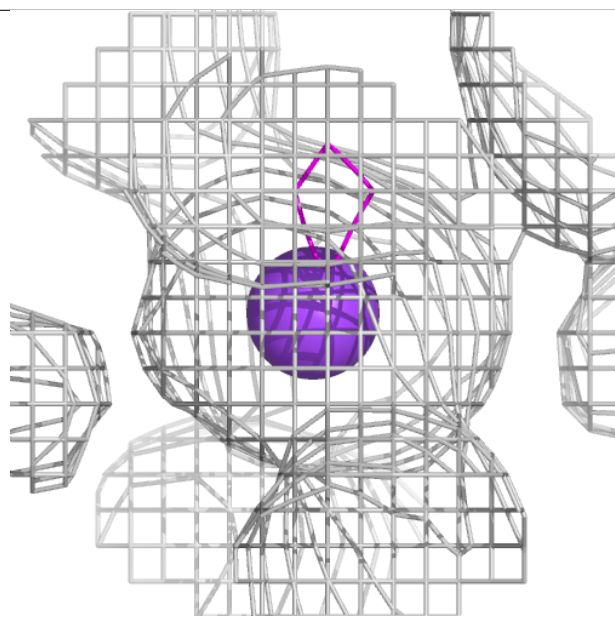
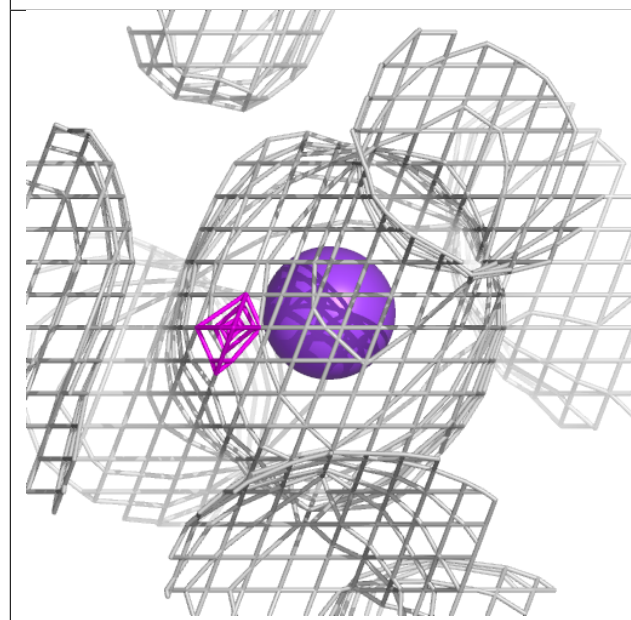
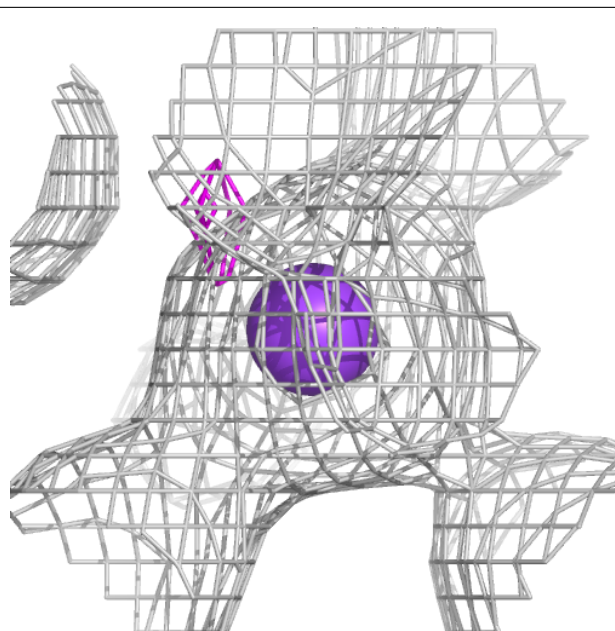
**Electron density around BEF A 402:**

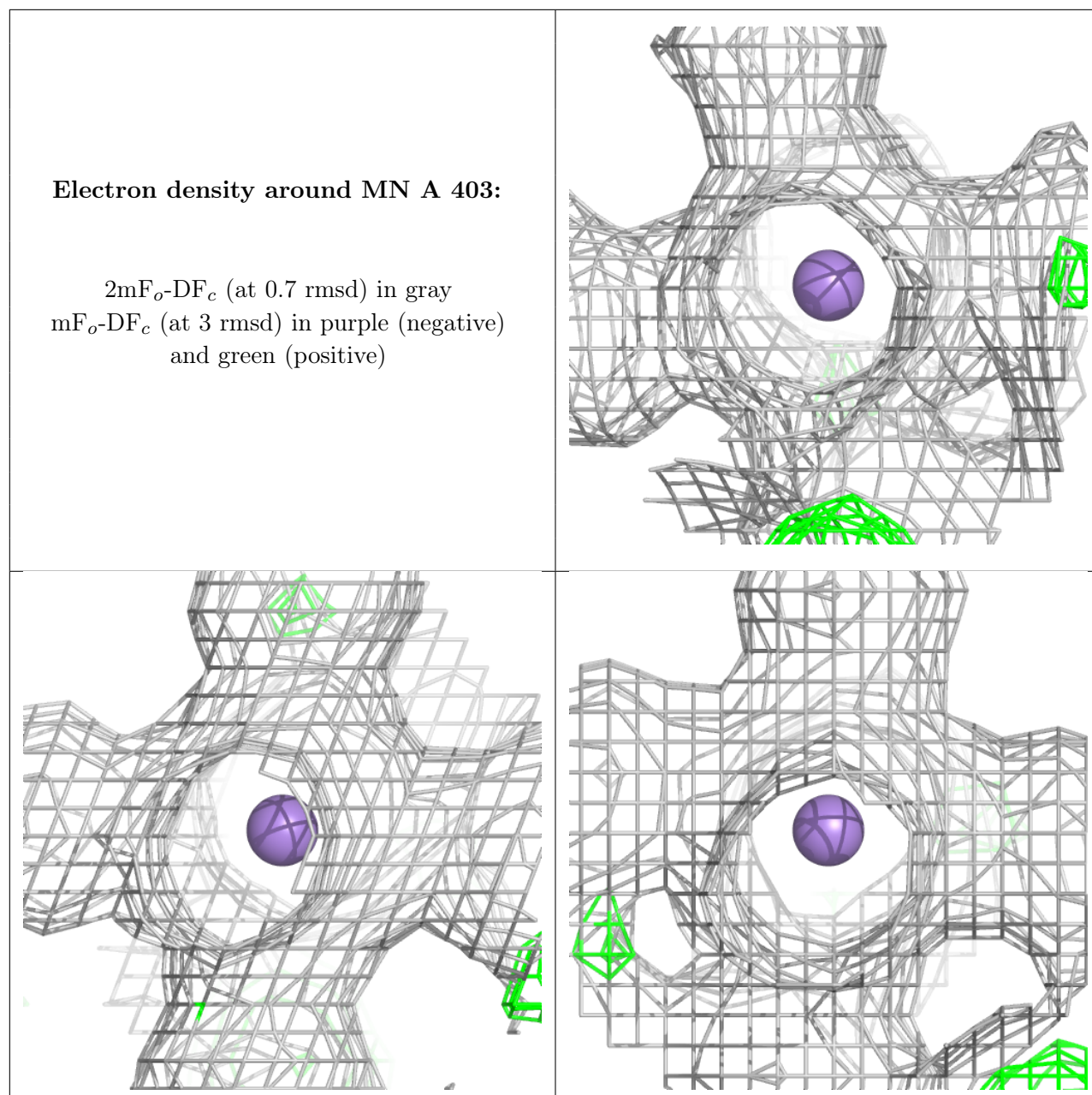
$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)



**Electron density around K A 404:**

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





## 6.5 Other polymers [i](#)

There are no such residues in this entry.