Full wwPDB X-ray Structure Validation Report ⓘ

Oct 10, 2023 – 12:39 AM EDT

PDB ID	:	7MX6
Title	:	Leishmania major dihydroorotate dehydrogenase in complex with [4-(1H-pyrrol-1-yl)phenyl]methanol
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Deposited on	:	2021-05-18
Resolution	:	1.80 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:

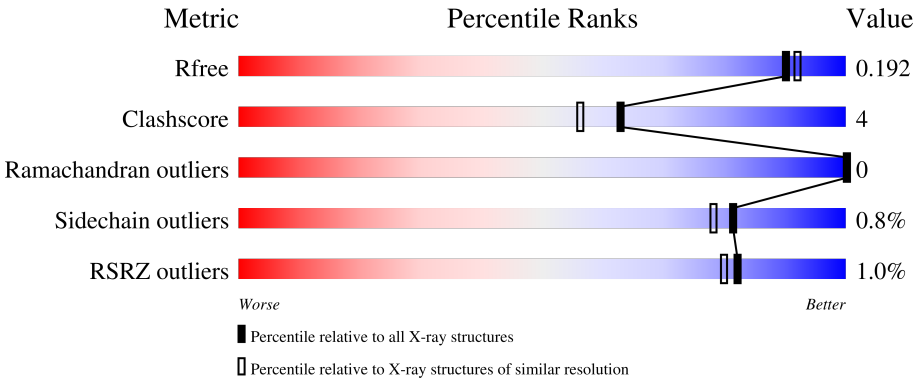
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.35.1
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.35.1

1 Overall quality at a glance (i)

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

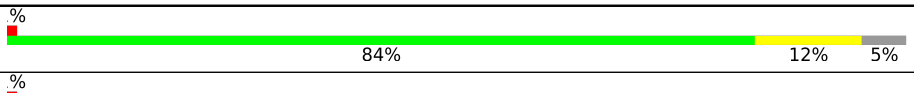
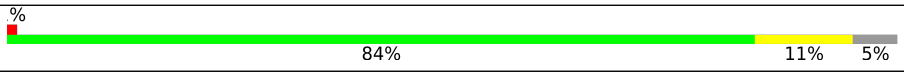
The reported resolution of this entry is 1.80 Å.

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	5950 (1.80-1.80)
Clashscore	141614	6793 (1.80-1.80)
Ramachandran outliers	138981	6697 (1.80-1.80)
Sidechain outliers	138945	6696 (1.80-1.80)
RSRZ outliers	127900	5850 (1.80-1.80)

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	AAA	321	
1	BBB	321	

2 Entry composition

There are 6 unique types of molecules in this entry. The entry contains 10104 atoms, of which 4834 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.

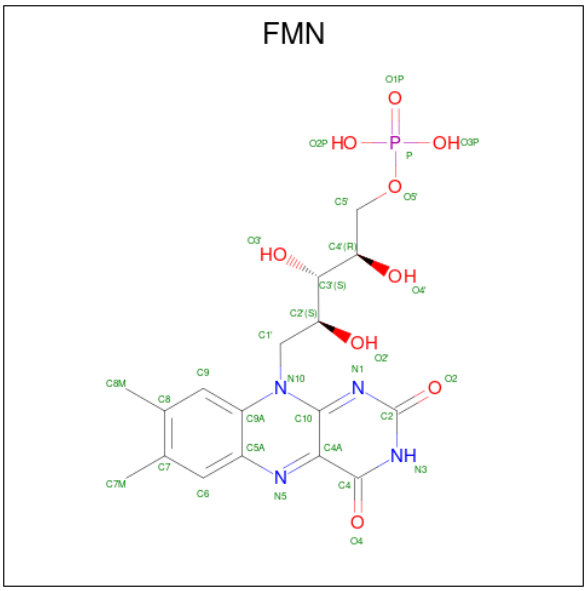
- Molecule 1 is a protein called Dihydroorotate dehydrogenase (fumarate).

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
1	AAA	306	Total	C	H	N	O	S	68	11	0
			4819	1532	2407	406	453	21			
1	BBB	306	Total	C	H	N	O	S	71	5	0
			4695	1498	2347	392	437	21			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
AAA	0	SER	-	expression tag	UNP Q4QEW7
BBB	0	SER	-	expression tag	UNP Q4QEW7

- Molecule 2 is FLAVIN MONONUCLEOTIDE (three-letter code: FMN) (formula: $C_{17}H_{21}N_4O_9P$).



Mol	Chain	Residues	Atoms						ZeroOcc	AltConf
2	AAA	1	Total	C	H	N	O	P	3	0
			50	17	19	4	9	1		

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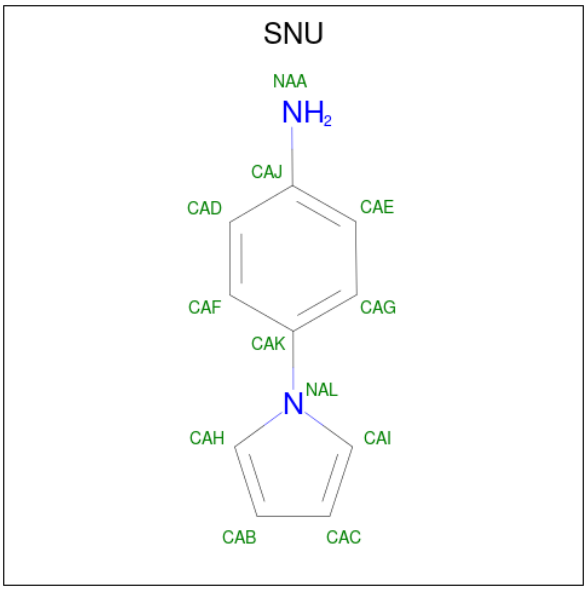
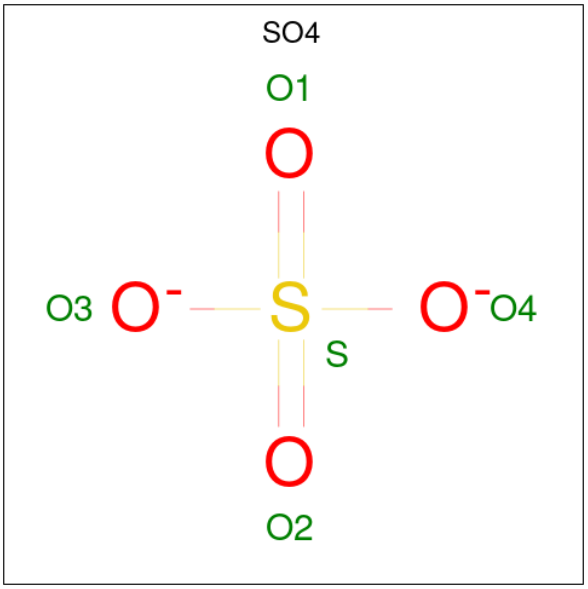
Mol	Chain	Residues	Atoms						ZeroOcc	AltConf
2	BBB	1	Total	C	H	N	O	P	3	0
			50	17	19	4	9	1		

- Molecule 3 is 4-(1H-pyrrol-1-yl)aniline (three-letter code: SNU) (formula: $C_{10}H_{10}N_2$) (labeled as "Ligand of Interest" by depositor).



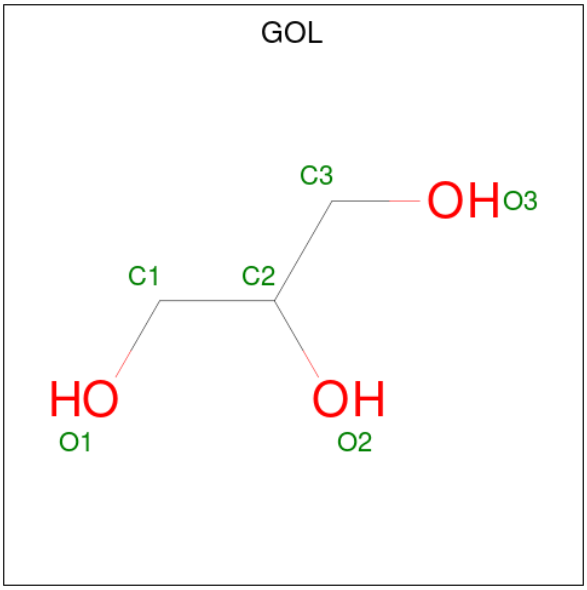
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
3	AAA	1	Total	C	H	N	0	0
			22	10	10	2		

- Molecule 4 is SULFATE ION (three-letter code: SO4) (formula: O_4S).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	AAA	1	Total O S 5 4 1	0	0
4	AAA	1	Total O S 5 4 1	0	0
4	AAA	1	Total O S 5 4 1	0	0
4	AAA	1	Total O S 5 4 1	0	0
4	BBB	1	Total O S 5 4 1	0	0
4	BBB	1	Total O S 5 4 1	0	0

- Molecule 5 is GLYCEROL (three-letter code: GOL) (formula: $C_3H_8O_3$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	AAA	1	Total C H O 14 3 8 3	2	0
5	BBB	1	Total C H O 14 3 8 3	2	0
5	BBB	1	Total C H O 14 3 8 3	2	0
5	BBB	1	Total C H O 14 3 8 3	2	0

- Molecule 6 is water.

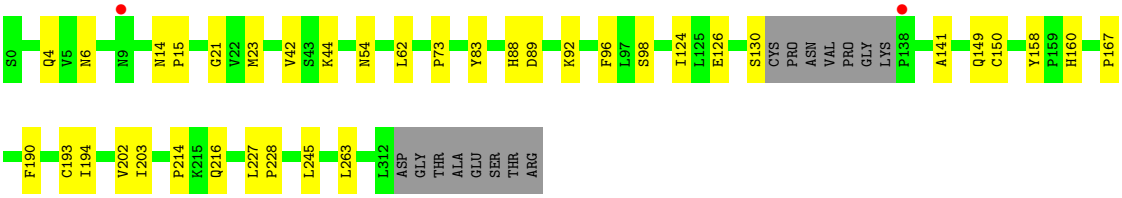
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	AAA	189	Total O 189 189	0	0
6	BBB	193	Total O 193 193	0	0

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.

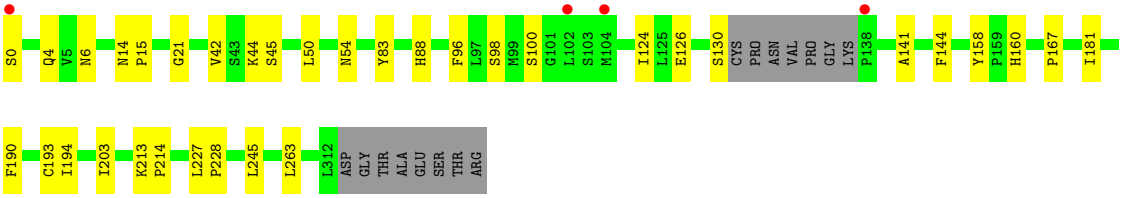
• Molecule 1: Dihydroorotate dehydrogenase (fumarate)

Chain AAA:



• Molecule 1: Dihydroorotate dehydrogenase (fumarate)

Chain BBB:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 61	Depositor
Cell constants a, b, c, α, β, γ	142.19Å 142.19Å 68.73Å 90.00° 90.00° 120.00°	Depositor
Resolution (Å)	35.24 – 1.80 35.24 – 1.80	Depositor EDS
% Data completeness (in resolution range)	100.0 (35.24-1.80) 100.0 (35.24-1.80)	Depositor EDS
R_{merge}	0.09	Depositor
R_{sym}	0.09	Depositor
$< I/\sigma(I) >$ [1]	2.05 (at 1.81Å)	Xtriage
Refinement program	REFMAC 5.8.0267	Depositor
R, R_{free}	0.163 , 0.184 0.173 , 0.192	Depositor DCC
R_{free} test set	3702 reflections (5.04%)	wwPDB-VP
Wilson B-factor (Å^2)	20.8	Xtriage
Anisotropy	0.042	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.46 , 39.2	EDS
L-test for twinning[2]	$< \|L\| > = 0.50$, $< L^2 > = 0.34$	Xtriage
Estimated twinning fraction	0.024 for h,-h-k,-l	Xtriage
F_o,F_c correlation	0.96	EDS
Total number of atoms	10104	wwPDB-VP
Average B, all atoms (Å^2)	22.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.35% 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: SO4, GOL, FMN, SNU

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	AAA	0.59	0/2459	0.71	0/3324
1	BBB	0.60	0/2395	0.71	0/3241
All	All	0.60	0/4854	0.71	0/6565

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

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	AAA	2412	2407	2386	22	0
1	BBB	2348	2347	2323	22	0
2	AAA	31	19	19	1	0
2	BBB	31	19	19	1	0
3	AAA	12	10	10	0	0
4	AAA	20	0	0	0	0
4	BBB	10	0	0	0	0
5	AAA	6	8	8	0	0
5	BBB	18	24	24	0	0
6	AAA	189	0	0	0	0
6	BBB	193	0	0	0	0
All	All	5270	4834	4789	42	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 4.

All (42) 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:BBB:4:GLN:HE21	1:BBB:6:ASN:HD21	1.39	0.68
1:AAA:4:GLN:HE21	1:AAA:6:ASN:HD21	1.46	0.64
1:BBB:21:GLY:HA3	2:BBB:401:FMN:N5	2.17	0.60
1:AAA:21:GLY:HA3	2:AAA:401:FMN:N5	2.22	0.54
1:AAA:158:TYR:CE2	1:AAA:160:HIS:HB2	2.46	0.51
1:BBB:141:ALA:HB3	1:BBB:167:PRO:HG3	1.93	0.50
1:BBB:144:PHE:HB3	1:BBB:181:ILE:HD11	1.94	0.49
1:BBB:50:LEU:HD12	1:BBB:50:LEU:C	2.33	0.48
1:BBB:227:LEU:HB3	1:BBB:228:PRO:HD3	1.96	0.47
1:BBB:158:TYR:CE2	1:BBB:160:HIS:HB2	2.49	0.47
1:AAA:42:VAL:HA	1:AAA:96:PHE:O	2.15	0.47
1:AAA:141:ALA:HB3	1:AAA:167:PRO:HG3	1.96	0.47
1:BBB:21:GLY:HA2	1:BBB:44:LYS:HD2	1.97	0.46
1:AAA:89:ASP:OD2	1:AAA:92:LYS:HE2	2.15	0.46
1:AAA:203:ILE:HG21	1:BBB:263[B]:LEU:HD23	1.97	0.45
1:BBB:190:PHE:HA	1:BBB:245:LEU:O	2.17	0.45
1:AAA:141:ALA:HB3	1:AAA:167:PRO:CD	2.47	0.44
1:BBB:141:ALA:HB3	1:BBB:167:PRO:CG	2.46	0.44
1:BBB:193:CYS:HA	1:BBB:194:ILE:HA	1.85	0.44
1:AAA:14:ASN:HB2	1:AAA:15:PRO:HD2	1.99	0.44
1:BBB:45:SER:HB3	1:BBB:100:SER:HB2	2.00	0.44
1:AAA:227:LEU:HB3	1:AAA:228:PRO:HD3	2.00	0.43
1:AAA:193:CYS:HA	1:AAA:194:ILE:HA	1.86	0.43
1:AAA:149[A]:GLN:HG2	1:AAA:150[A]:CYS:N	2.32	0.43
1:AAA:54:ASN:HB3	1:AAA:214:PRO:HG3	2.00	0.43
1:BBB:98:SER:HA	1:BBB:126:GLU:O	2.19	0.43
1:AAA:83:TYR:CE2	1:AAA:88:HIS:HB2	2.54	0.42
1:BBB:42:VAL:HA	1:BBB:96:PHE:O	2.20	0.42
1:AAA:44:LYS:HE2	1:AAA:73:PRO:O	2.20	0.42
1:BBB:21:GLY:HA2	1:BBB:44:LYS:CD	2.49	0.42
1:BBB:96:PHE:HA	1:BBB:124:ILE:O	2.20	0.42
1:AAA:263[B]:LEU:HD23	1:BBB:203:ILE:HG21	2.01	0.42
1:AAA:23[B]:MET:HA	1:AAA:23[B]:MET:HE2	2.02	0.42
1:BBB:14:ASN:HB2	1:BBB:15:PRO:HD2	2.02	0.42
1:AAA:96:PHE:HA	1:AAA:124:ILE:O	2.19	0.41
1:BBB:54:ASN:HB3	1:BBB:214:PRO:HG3	2.02	0.41
1:AAA:62:LEU:HD11	1:AAA:202:VAL:HG21	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AAA:190:PHE:HA	1:AAA:245:LEU:O	2.20	0.41
1:BBB:83:TYR:CE2	1:BBB:88:HIS:HB2	2.56	0.41
1:AAA:21:GLY:HA2	1:AAA:44:LYS:CD	2.50	0.41
1:BBB:213:LYS:N	1:BBB:214:PRO:CD	2.84	0.41
1:AAA:98:SER:HA	1:AAA:126:GLU:O	2.21	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	AAA	313/321 (98%)	301 (96%)	12 (4%)	0	100	100
1	BBB	307/321 (96%)	298 (97%)	9 (3%)	0	100	100
All	All	620/642 (97%)	599 (97%)	21 (3%)	0	100	100

There are no Ramachandran outliers to report.

5.3.2 Protein sidechains (i)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all 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	AAA	258/262 (98%)	256 (99%)	2 (1%)	81	78
1	BBB	248/262 (95%)	246 (99%)	2 (1%)	81	78
All	All	506/524 (97%)	502 (99%)	4 (1%)	81	78

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

Mol	Chain	Res	Type
1	AAA	130	SER
1	AAA	216	GLN
1	BBB	0	SER
1	BBB	130	SER

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 monosaccharides in this entry.

5.6 Ligand geometry (i)

13 ligands are modelled in this entry.

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	$\#\|Z\| > 2$
5	GOL	BBB	403	-	5,5,5	0.15	0	5,5,5	0.57	0
5	GOL	AAA	407	-	5,5,5	0.16	0	5,5,5	0.64	0
4	SO4	AAA	406	-	4,4,4	0.43	0	6,6,6	0.12	0
5	GOL	BBB	405	-	5,5,5	0.10	0	5,5,5	0.27	0
4	SO4	AAA	403	-	4,4,4	0.38	0	6,6,6	0.11	0
2	FMN	BBB	401	-	33,33,33	0.73	0	48,50,50	0.71	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
4	SO4	AAA	404	-	4,4,4	0.38	0	6,6,6	0.08	0
4	SO4	AAA	405	-	4,4,4	0.38	0	6,6,6	0.05	0
3	SNU	AAA	402	-	13,13,13	1.33	2 (15%)	16,17,17	0.97	1 (6%)
4	SO4	BBB	402	-	4,4,4	0.39	0	6,6,6	0.08	0
4	SO4	BBB	406	-	4,4,4	0.39	0	6,6,6	0.06	0
2	FMN	AAA	401	-	33,33,33	0.73	0	48,50,50	0.71	0
5	GOL	BBB	404	-	5,5,5	0.18	0	5,5,5	0.44	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
5	GOL	BBB	403	-	-	1/4/4/4	-
5	GOL	AAA	407	-	-	2/4/4/4	-
5	GOL	BBB	405	-	-	0/4/4/4	-
2	FMN	BBB	401	-	-	1/18/18/18	0/3/3/3
3	SNU	AAA	402	-	-	0/4/4/4	0/2/2/2
2	FMN	AAA	401	-	-	1/18/18/18	0/3/3/3
5	GOL	BBB	404	-	-	4/4/4/4	-

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	AAA	402	SNU	CAH-NAL	-2.87	1.35	1.39
3	AAA	402	SNU	CAI-NAL	-2.60	1.35	1.39

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	AAA	402	SNU	CAE-CAJ-CAD	2.09	121.39	118.15

There are no chirality outliers.

All (9) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
5	BBB	404	GOL	C1-C2-C3-O3
5	BBB	404	GOL	O2-C2-C3-O3
5	AAA	407	GOL	O1-C1-C2-C3

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Mol	Chain	Res	Type	Atoms
2	BBB	401	FMN	C4'-C5'-O5'-P
2	AAA	401	FMN	C4'-C5'-O5'-P
5	BBB	404	GOL	O1-C1-C2-O2
5	BBB	403	GOL	C1-C2-C3-O3
5	BBB	404	GOL	O1-C1-C2-C3
5	AAA	407	GOL	O1-C1-C2-O2

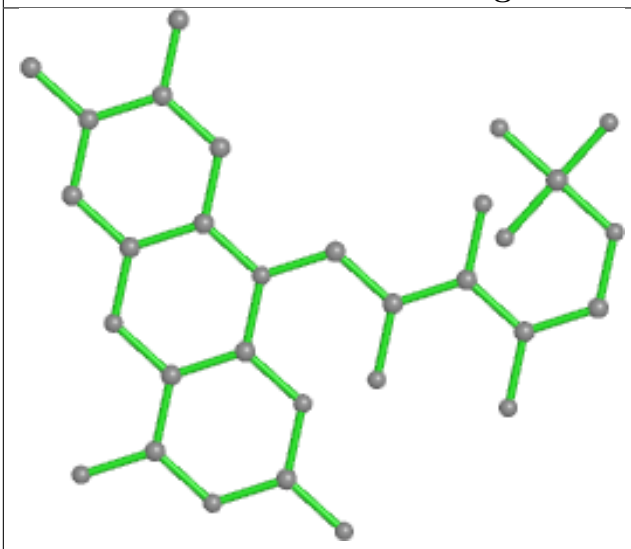
There are no ring outliers.

2 monomers are involved in 2 short contacts:

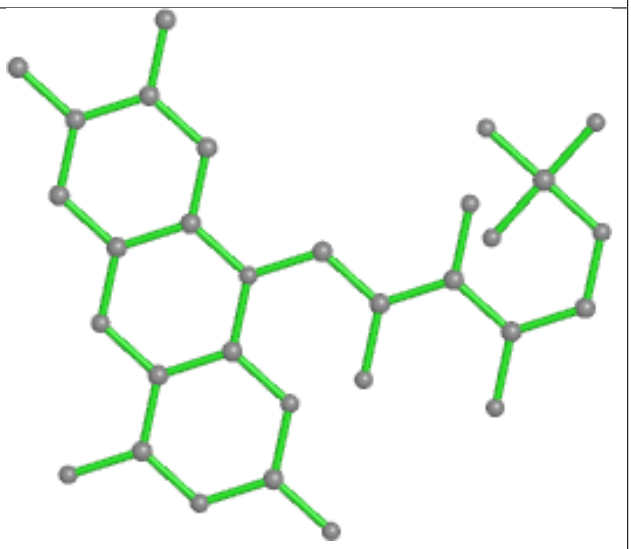
Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	BBB	401	FMN	1	0
2	AAA	401	FMN	1	0

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 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.

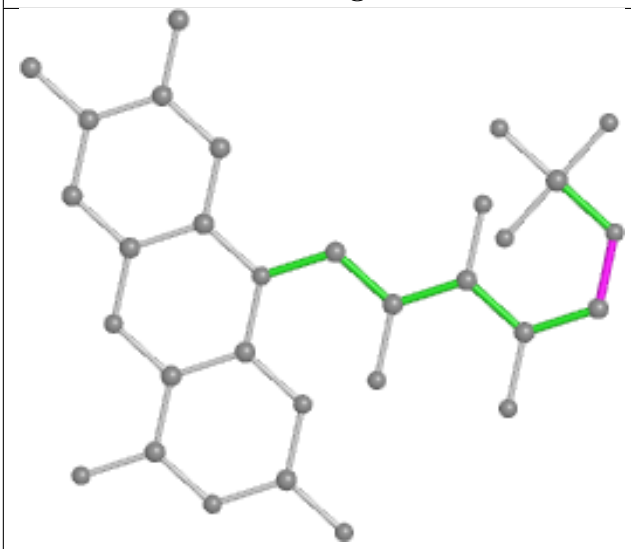
Ligand FMN BBB 401



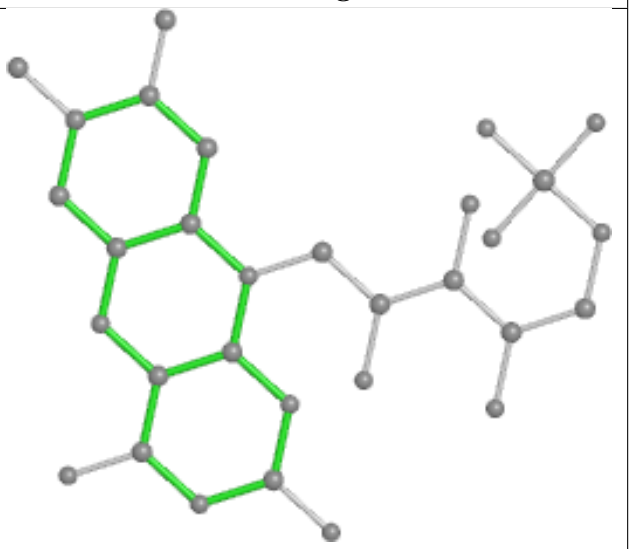
Bond lengths



Bond angles

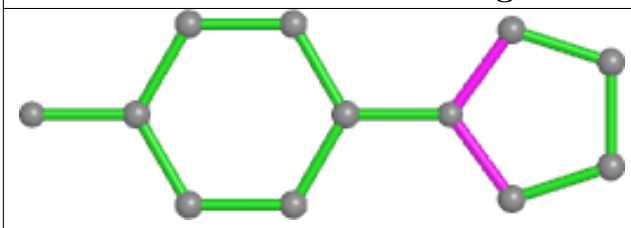


Torsions

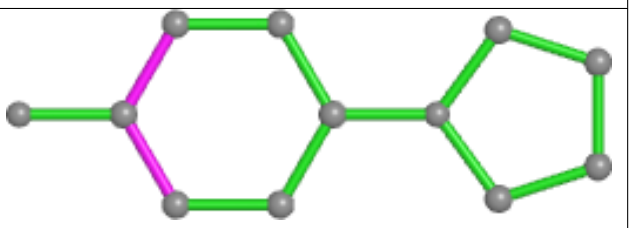


Rings

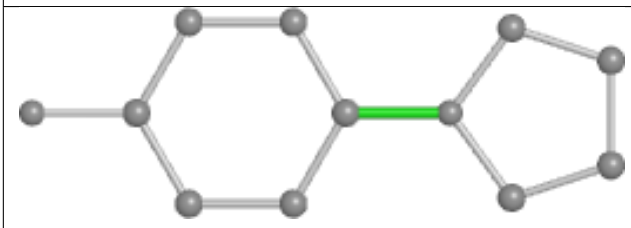
Ligand SNU AAA 402



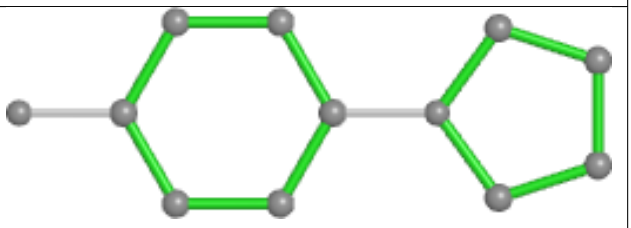
Bond lengths



Bond angles

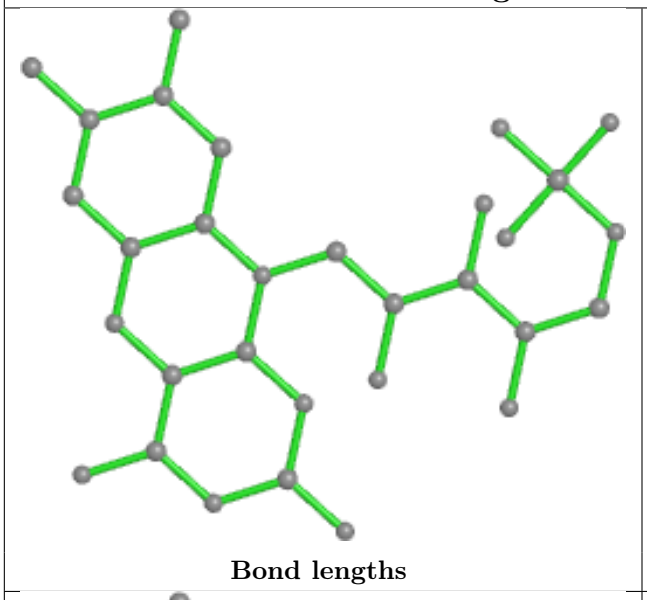


Torsions

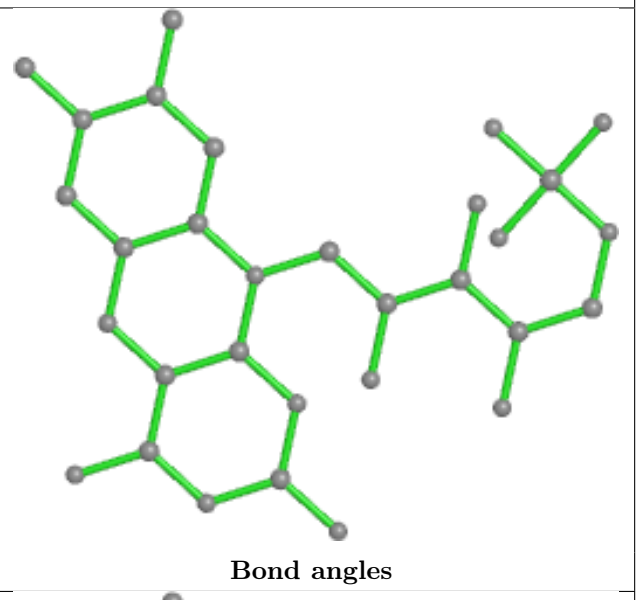


Rings

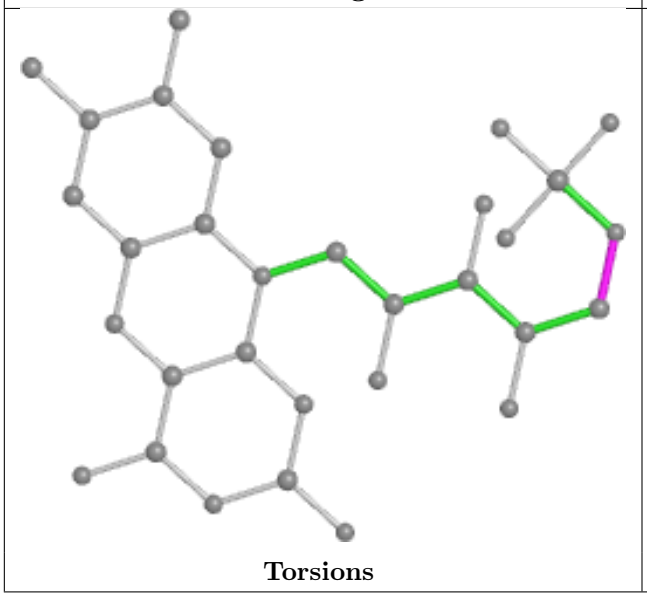
Ligand FMN AAA 401



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	AAA	306/321 (95%)	-0.26	2 (0%)	87	86	13, 20, 32, 48	0
1	BBB	306/321 (95%)	-0.12	4 (1%)	77	74	13, 21, 32, 45	0
All	All	612/642 (95%)	-0.19	6 (0%)	82	80	13, 21, 32, 48	0

All (6) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	BBB	102	LEU	2.7
1	AAA	9[A]	ASN	2.4
1	BBB	104	MET	2.3
1	BBB	138	PRO	2.3
1	BBB	0	SER	2.2
1	AAA	138	PRO	2.1

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

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

6.3 Carbohydrates

There are no monosaccharides in this entry.

6.4 Ligands

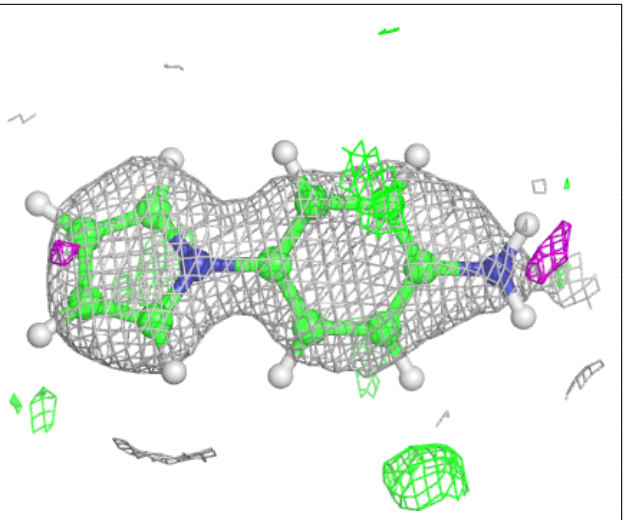
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95^{th} percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9'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

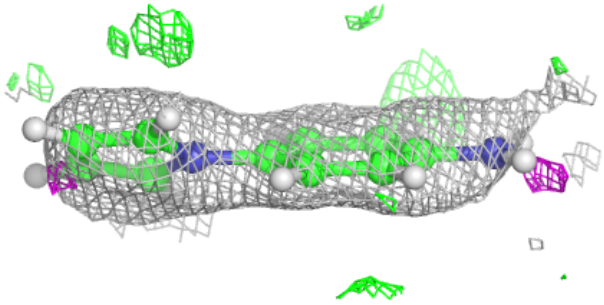
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
5	GOL	BBB	405	6/6	0.59	0.22	47,60,63,63	2
5	GOL	BBB	404	6/6	0.70	0.18	48,52,55,55	2
4	SO4	BBB	402	5/5	0.83	0.15	41,43,44,45	5
5	GOL	AAA	407	6/6	0.83	0.19	27,35,38,39	2
4	SO4	BBB	406	5/5	0.85	0.19	82,85,85,86	0
5	GOL	BBB	403	6/6	0.86	0.19	29,38,42,42	2
4	SO4	AAA	406	5/5	0.89	0.19	27,28,31,31	5
4	SO4	AAA	403	5/5	0.93	0.15	43,46,47,48	5
3	SNU	AAA	402	12/12	0.93	0.11	24,32,35,37	0
4	SO4	AAA	405	5/5	0.95	0.21	73,74,75,77	0
4	SO4	AAA	404	5/5	0.95	0.16	56,58,59,62	0
2	FMN	BBB	401	31/31	0.97	0.10	14,18,19,20	3
2	FMN	AAA	401	31/31	0.97	0.10	14,17,18,20	3

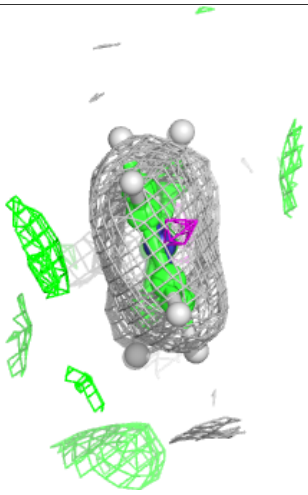
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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

Electron density around SNU AAA 402:

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

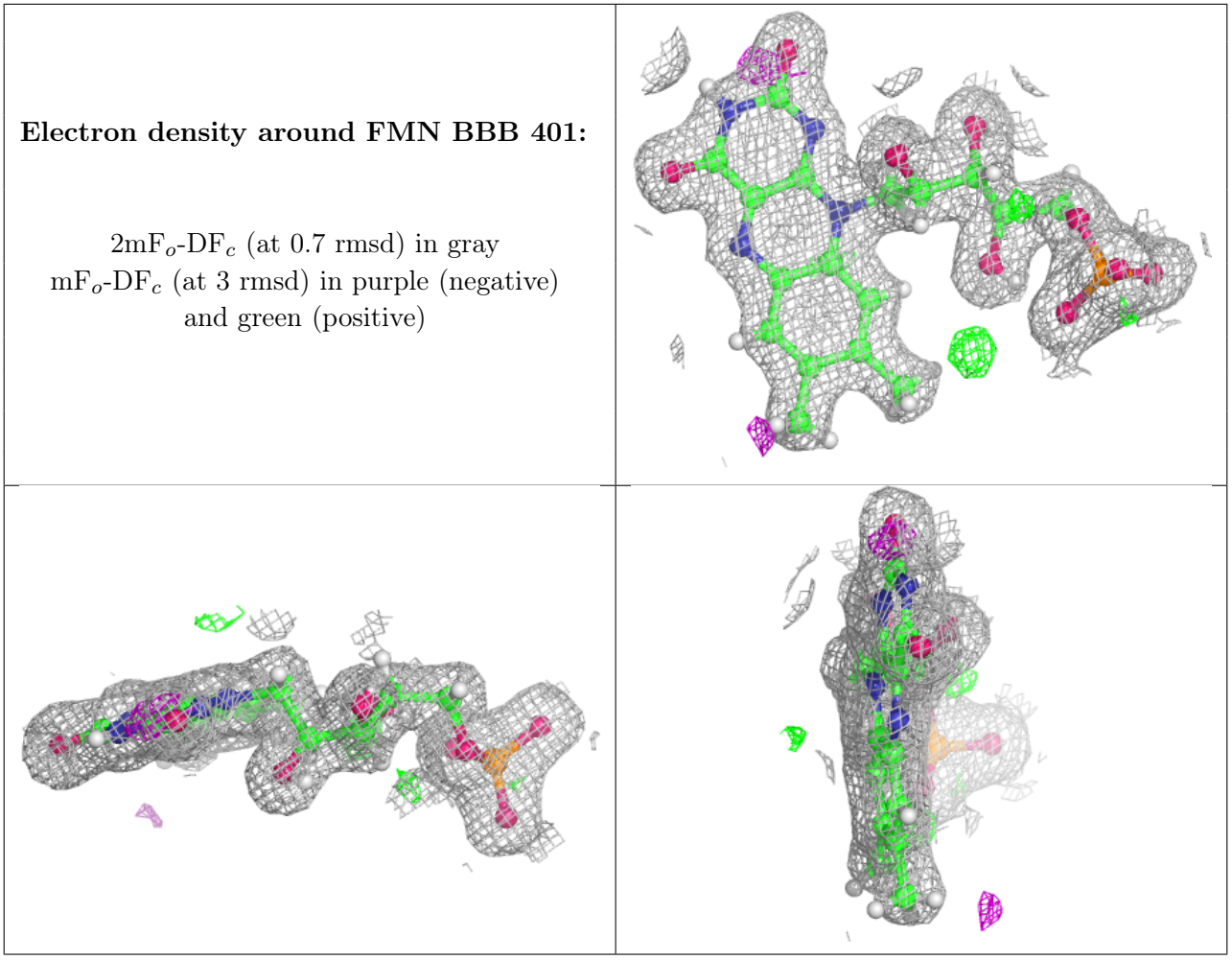






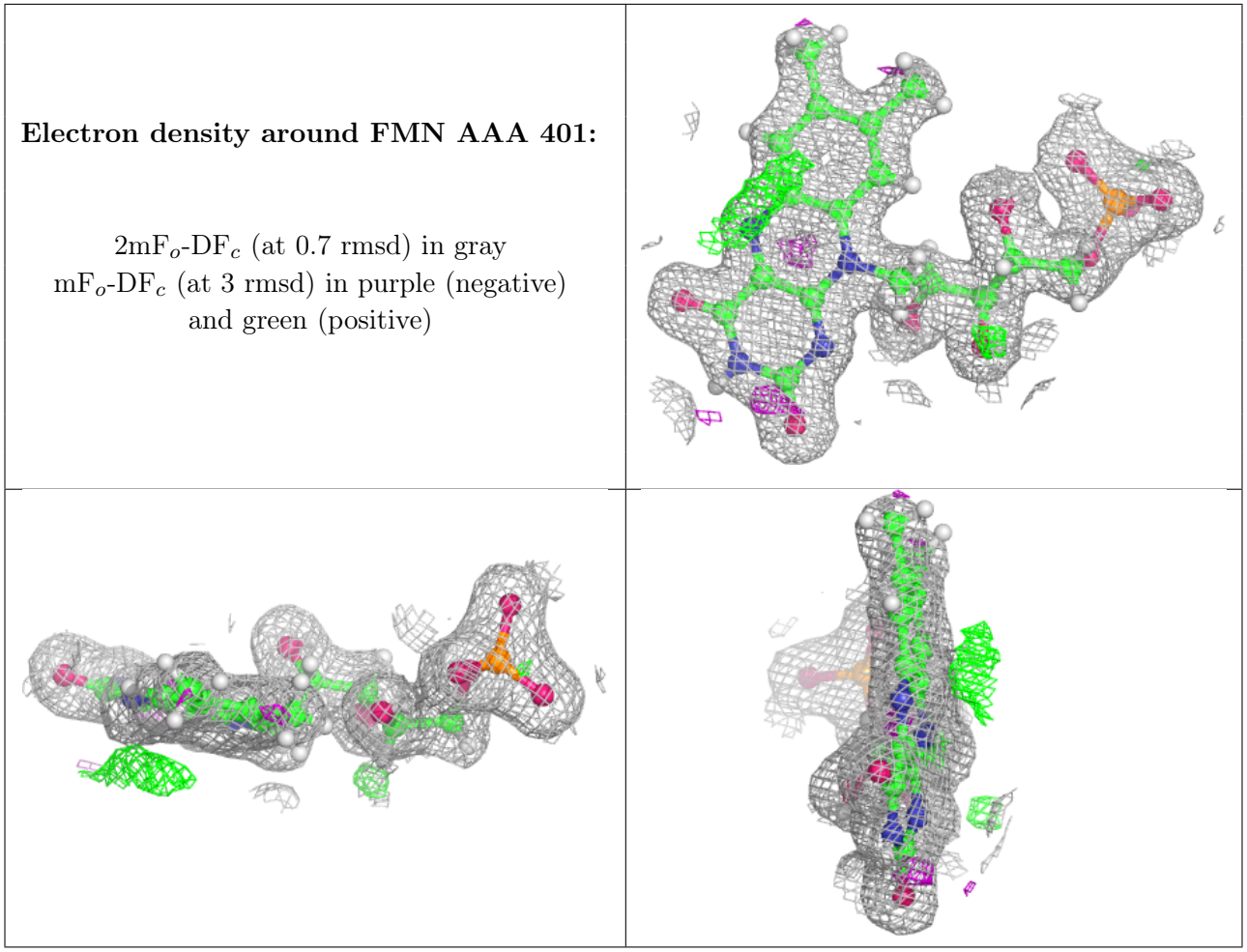
Electron density around FMN BBB 401:

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



Electron density around FMN AAA 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 (i)

There are no such residues in this entry.