



# wwPDB X-ray Structure Validation Summary Report ⓘ

Jun 23, 2026 – 06:16 AM EDT

PDB ID : 1PL0 / pdb\_00001pl0  
Title : Crystal structure of human ATIC in complex with folate-based inhibitor, BW2315U89UC  
Authors : Cheong, C.G.; Greasley, S.E.; Horton, P.A.; Beardsley, G.P.; Wilson, I.A.  
Deposited on : 2003-06-06  
Resolution : 2.60 Å (reported)

This is a wwPDB X-ray Structure Validation Summary 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>.

---

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

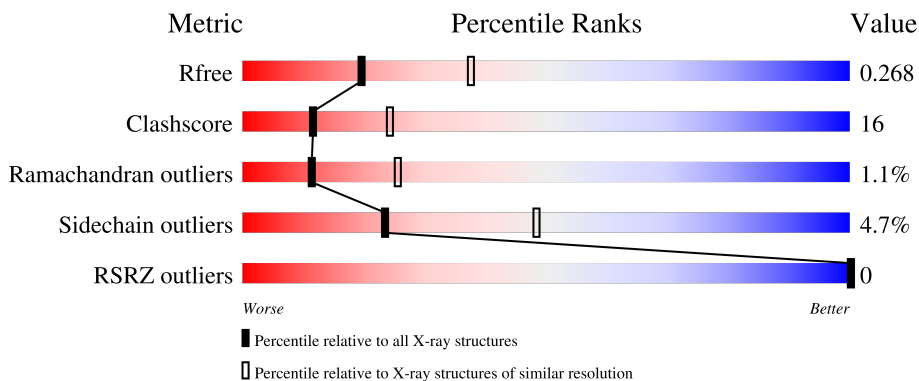
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 2.60 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	4008 (2.60-2.60)
Clashscore	190562	4347 (2.60-2.60)
Ramachandran outliers	187476	4277 (2.60-2.60)
Sidechain outliers	187428	4277 (2.60-2.60)
RSRZ outliers	180081	4008 (2.60-2.60)

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	592	
1	B	592	
1	C	592	
1	D	592	

## 2 Entry composition [i](#)

There are 6 unique types of molecules in this entry. The entry contains 17953 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.

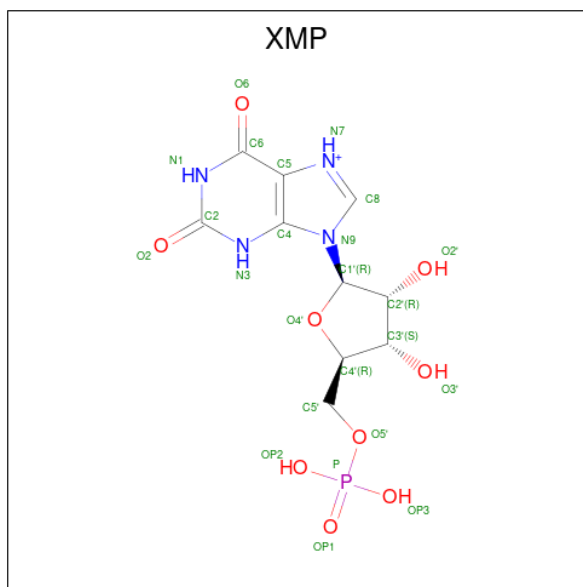
- Molecule 1 is a protein called Bifunctional purine biosynthesis protein PURH.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	589	4424	2801	776	829	18	0	0	0
1	B	587	4405	2781	768	838	18	0	0	0
1	C	585	4332	2736	763	815	18	0	0	0
1	D	579	4236	2677	741	800	18	0	0	0

- Molecule 2 is POTASSIUM ION (CCD ID: K) (formula: K).

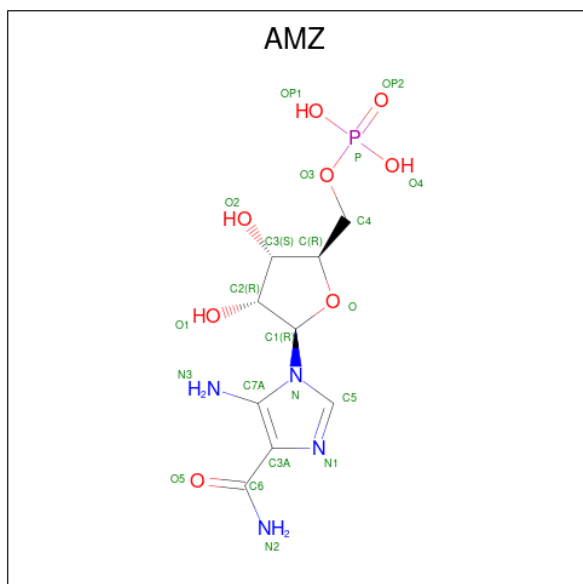
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	A	1	Total K 1 1	0	0
2	B	1	Total K 1 1	0	0
2	C	1	Total K 1 1	0	0
2	D	1	Total K 1 1	0	0

- Molecule 3 is XANTHOSINE-5'-MONOPHOSPHATE (CCD ID: XMP) (formula: C<sub>10</sub>H<sub>14</sub>N<sub>4</sub>O<sub>9</sub>P).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
			Total	C	N	O	P		
3	A	1	Total	C	N	O	P	0	0
			24	10	4	9	1		
3	C	1	Total	C	N	O	P	0	0
			24	10	4	9	1		

- Molecule 4 is AMINOIMIDAZOLE 4-CARBOXAMIDE RIBONUCLEOTIDE (CCD ID: AMZ) (formula: C<sub>9</sub>H<sub>15</sub>N<sub>4</sub>O<sub>8</sub>P).



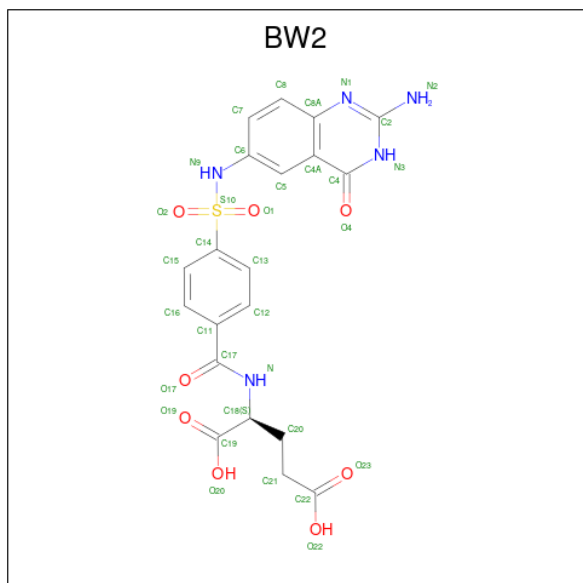
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
			Total	C	N	O	P		
4	B	1	Total	C	N	O	P	0	0
			22	9	4	8	1		

*Continued on next page...*

Continued from previous page...

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
4	D	1	Total	C	N	O	P	0	0
			22	9	4	8	1		
4	D	1	Total	C	N	O	P	0	0
			22	9	4	8	1		

- Molecule 5 is N-(4-{{(2-AMINO-4-OXO-3,4-DIHYDROQUINAZOLIN-6-YL)AMINO}SULFONYL}BENZOYL)GLUTAMIC ACID (CCD ID: BW2) (formula: C<sub>20</sub>H<sub>19</sub>N<sub>5</sub>O<sub>8</sub>S).

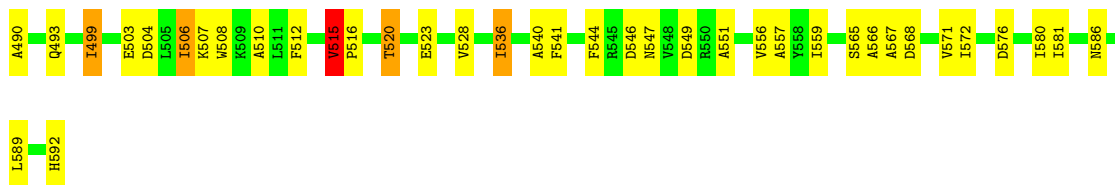


Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
5	B	1	Total	C	N	O	S	0	0
			25	15	5	4	1		
5	D	1	Total	C	N	O	S	0	0
			25	15	5	4	1		

- Molecule 6 is water.

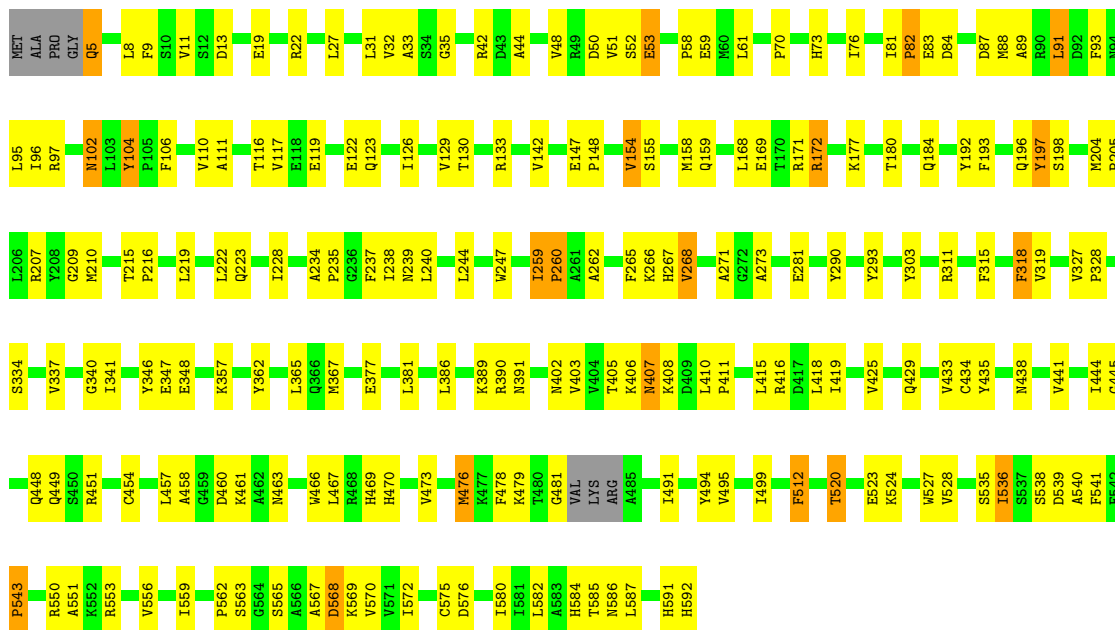
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	A	90	Total	O	0	0
			90	90		
6	B	124	Total	O	0	0
			124	124		
6	C	77	Total	O	0	0
			77	77		
6	D	97	Total	O	0	0
			97	97		





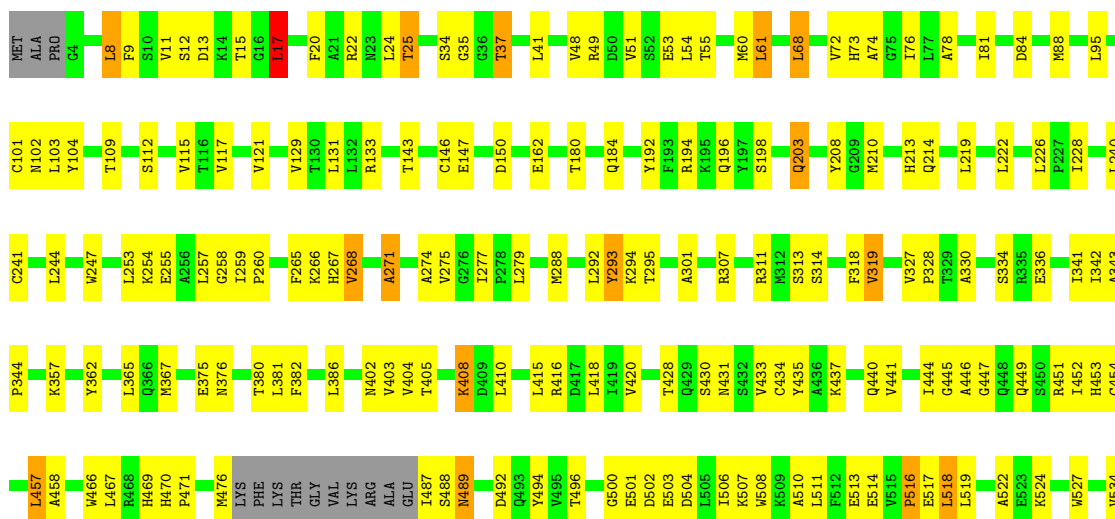
- Molecule 1: Bifunctional purine biosynthesis protein PURH

Chain C: 64% 31%



- Molecule 1: Bifunctional purine biosynthesis protein PURH

Chain D: 64% 31%





## 4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	77.12Å 92.97Å 178.49Å 90.00° 91.19° 90.00°	Depositor
Resolution (Å)	20.00 – 2.60 20.00 – 2.60	Depositor EDS
% Data completeness (in resolution range)	(Not available) (20.00-2.60) 86.9 (20.00-2.60)	Depositor EDS
$R_{merge}$	(Not available)	Depositor
$R_{sym}$	0.12	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	4.80 (at 2.59Å)	Xtrriage
Refinement program	CNS	Depositor
R, $R_{free}$	0.213 , 0.275 0.206 , 0.268	Depositor DCC
$R_{free}$ test set	3594 reflections (5.06%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	25.5	Xtrriage
Anisotropy	0.029	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.28 , 8.9	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.46$ , $\langle L^2 \rangle = 0.29$	Xtrriage
Estimated twinning fraction	0.157 for h,-k,-l	Xtrriage
$F_o, F_c$ correlation	0.94	EDS
Total number of atoms	17953	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	27.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.99% 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: BW2, K, XMP, AMZ

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with  $|Z| > 5$  is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
1	A	0.55	0/4507	1.01	22/6131 (0.4%)
1	B	0.56	0/4487	1.03	18/6104 (0.3%)
1	C	0.53	0/4411	1.01	15/6002 (0.2%)
1	D	0.57	0/4314	1.05	23/5882 (0.4%)
All	All	0.55	0/17719	1.02	78/24119 (0.3%)

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	1
1	C	0	1
All	All	0	2

There are no bond length outliers.

The worst 5 of 78 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	C	271	ALA	N-CA-C	-9.82	100.03	112.90
1	D	74	ALA	N-CA-C	-8.46	102.13	111.36
1	A	271	ALA	N-CA-C	-7.67	102.57	112.23
1	B	280	SER	N-CA-C	-7.17	101.06	110.53
1	B	343	ALA	N-CA-C	6.99	114.51	108.22

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	303	TYR	Sidechain
1	C	303	TYR	Sidechain

## 5.2 Too-close contacts [i](#)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	4424	0	4391	148	0
1	B	4405	0	4320	141	0
1	C	4332	0	4227	159	0
1	D	4236	0	4090	150	0
2	A	1	0	0	0	0
2	B	1	0	0	0	0
2	C	1	0	0	0	0
2	D	1	0	0	0	0
3	A	24	0	12	3	0
3	C	24	0	12	0	0
4	B	22	0	13	1	0
4	D	44	0	26	1	0
5	B	25	0	11	2	0
5	D	25	0	11	6	0
6	A	90	0	0	6	0
6	B	124	0	0	9	0
6	C	77	0	0	3	0
6	D	97	0	0	2	0
All	All	17953	0	17113	555	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 16.

The worst 5 of 555 close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:281:GLU:HG2	1:C:290:TYR:HE1	1.30	0.94
1:C:435:TYR:CZ	1:C:536:ILE:HD11	2.06	0.91
1:A:13:ASP:H	1:A:102:ASN:HD22	1.19	0.86
1:A:552:LYS:HG2	1:A:578:LEU:HD22	1.59	0.84

*Continued on next page...*

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:244:LEU:HD12	1:D:381:LEU:HD23	1.60	0.84

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	587/592 (99%)	541 (92%)	39 (7%)	7 (1%)	10	23
1	B	583/592 (98%)	543 (93%)	36 (6%)	4 (1%)	18	38
1	C	581/592 (98%)	540 (93%)	36 (6%)	5 (1%)	14	30
1	D	575/592 (97%)	514 (89%)	52 (9%)	9 (2%)	7	16
All	All	2326/2368 (98%)	2138 (92%)	163 (7%)	25 (1%)	11	25

5 of 25 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	C	82	PRO
1	C	407	ASN
1	A	35	GLY
1	B	61	LEU
1	B	276	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	A	460/488 (94%)	437 (95%)	23 (5%)	22	46
1	B	456/488 (93%)	435 (95%)	21 (5%)	24	49
1	C	436/488 (89%)	420 (96%)	16 (4%)	30	57
1	D	423/488 (87%)	400 (95%)	23 (5%)	20	42
All	All	1775/1952 (91%)	1692 (95%)	83 (5%)	23	48

5 of 83 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	C	536	ILE
1	D	255	GLU
1	C	586	ASN
1	D	68	LEU
1	D	415	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 43 such sidechains are listed below:

Mol	Chain	Res	Type
1	C	429	GLN
1	D	73	HIS
1	C	438	ASN
1	C	463	ASN
1	D	184	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

Of 11 ligands modelled in this entry, 4 are monoatomic - leaving 7 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	XMP	A	901	-	26,26,26	1.99	5 (19%)	34,40,40	1.93	12 (35%)
5	BW2	B	802	-	27,27,36	4.48	14 (51%)	40,40,52	2.17	12 (30%)
4	AMZ	B	702	-	22,23,23	2.10	5 (22%)	32,35,35	2.19	8 (25%)
4	AMZ	D	704	-	22,23,23	2.11	5 (22%)	32,35,35	2.36	8 (25%)
5	BW2	D	804	-	27,27,36	4.49	16 (59%)	40,40,52	2.04	11 (27%)
4	AMZ	D	703	-	22,23,23	2.29	5 (22%)	32,35,35	2.39	7 (21%)
3	XMP	C	903	-	26,26,26	2.02	8 (30%)	34,40,40	1.98	12 (35%)

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. <sup>1,2</sup> means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	XMP	A	901	-	-	5/10/26/26	0/3/3/3
5	BW2	B	802	-	-	0/15/15/28	0/3/3/3
4	AMZ	B	702	-	-	0/14/30/30	0/2/2/2
4	AMZ	D	704	-	-	0/14/30/30	0/2/2/2
5	BW2	D	804	-	-	0/15/15/28	0/3/3/3
4	AMZ	D	703	-	-	0/14/30/30	0/2/2/2
3	XMP	C	903	-	-	5/10/26/26	0/3/3/3

The worst 5 of 58 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	D	804	BW2	O1-S10	14.00	1.59	1.43
5	B	802	BW2	O2-S10	13.52	1.59	1.43
5	B	802	BW2	O1-S10	13.21	1.58	1.43
5	D	804	BW2	O2-S10	12.16	1.57	1.43

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	D	703	AMZ	C7A-N3	6.63	1.49	1.34

The worst 5 of 70 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	D	703	AMZ	C3A-C7A-N	9.89	109.80	105.75
4	D	704	AMZ	C3A-C7A-N	9.84	109.78	105.75
4	B	702	AMZ	C3A-C7A-N	8.26	109.13	105.75
5	B	802	BW2	O1-S10-O2	-7.73	110.14	119.52
5	D	804	BW2	O1-S10-O2	-5.98	112.26	119.52

There are no chirality outliers.

5 of 10 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	A	901	XMP	C5'-O5'-P-OP3
3	A	901	XMP	C5'-O5'-P-OP2
3	A	901	XMP	C5'-O5'-P-OP1
3	A	901	XMP	O4'-C4'-C5'-O5'
3	C	903	XMP	C5'-O5'-P-OP3

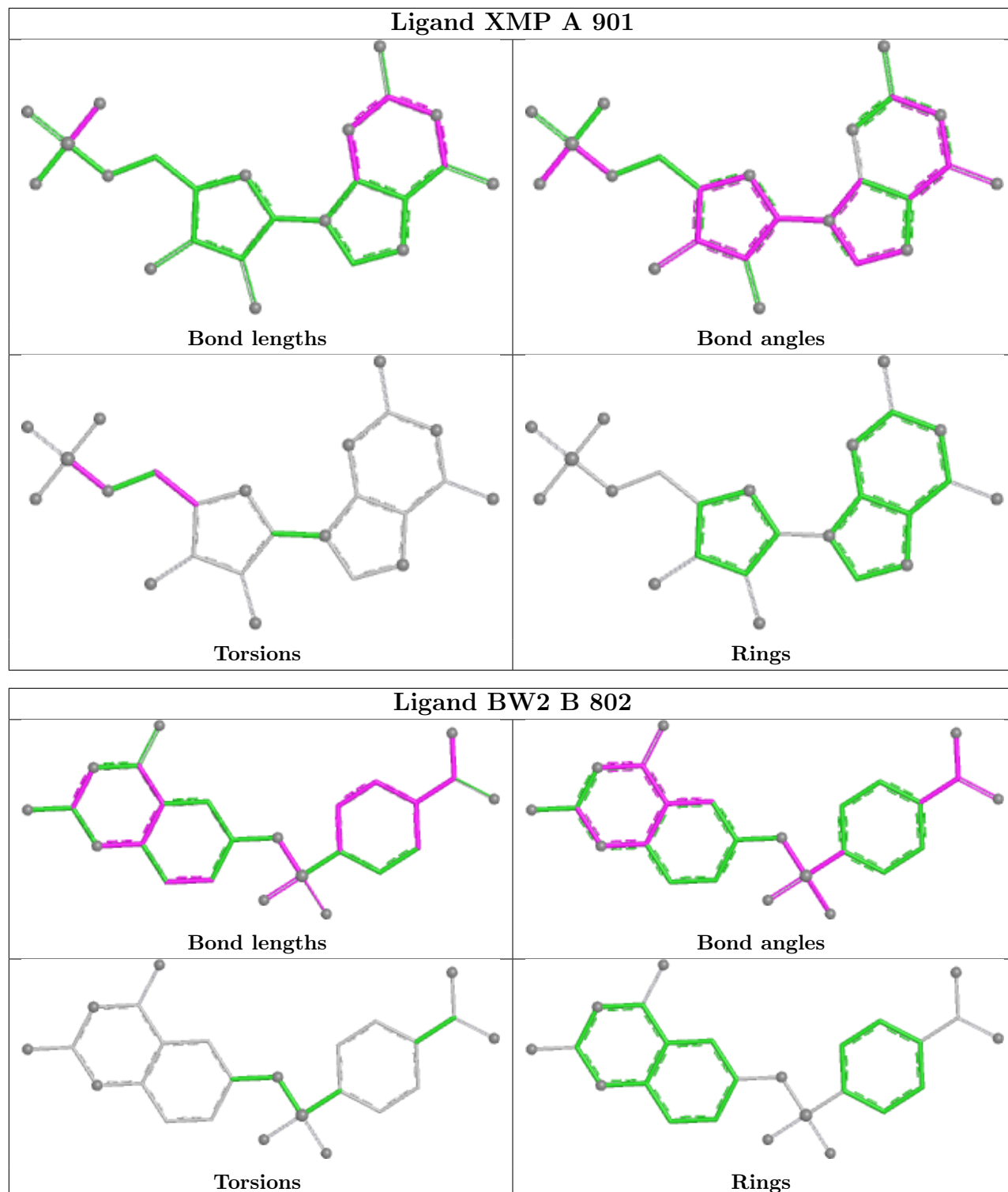
There are no ring outliers.

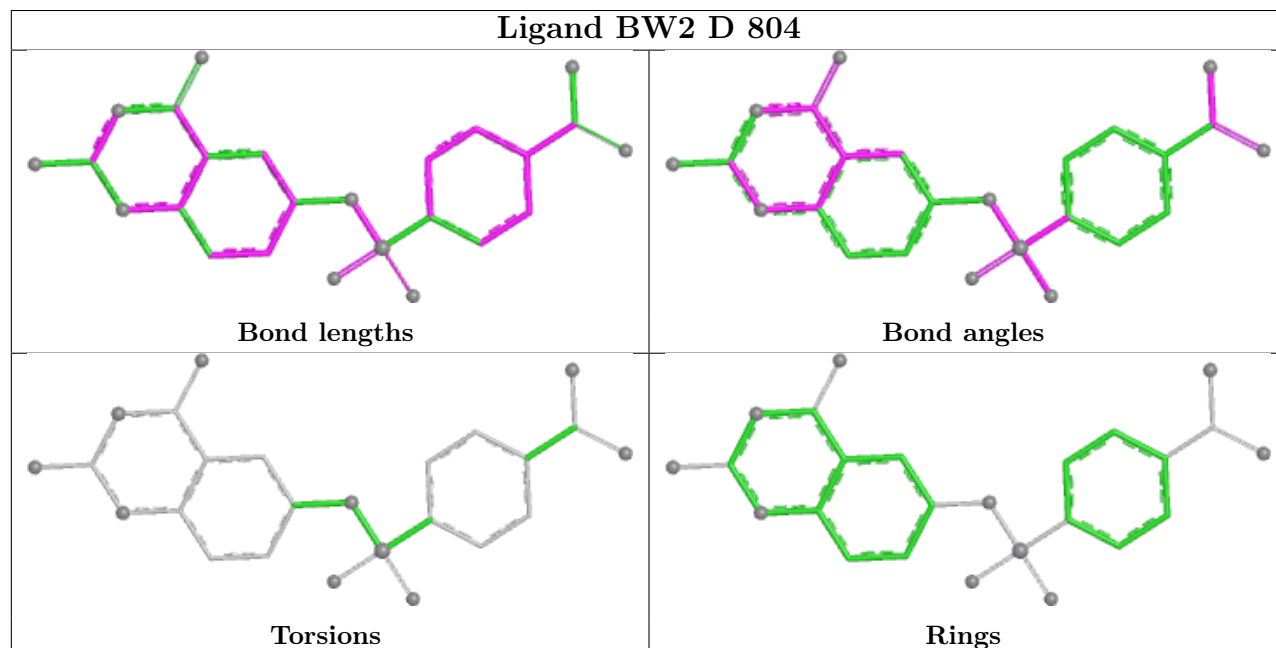
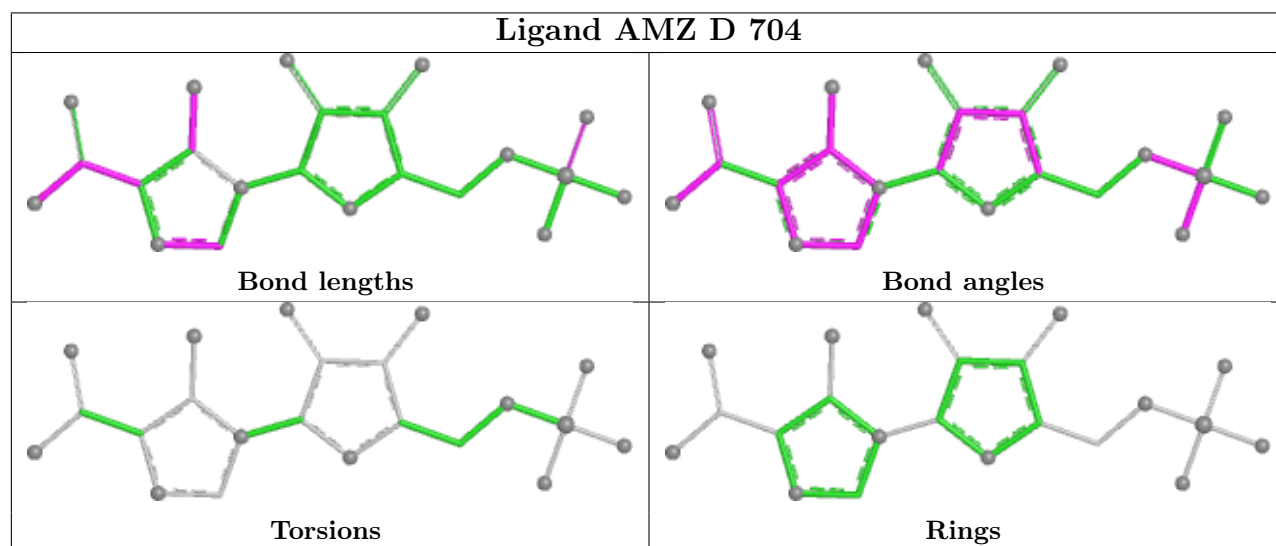
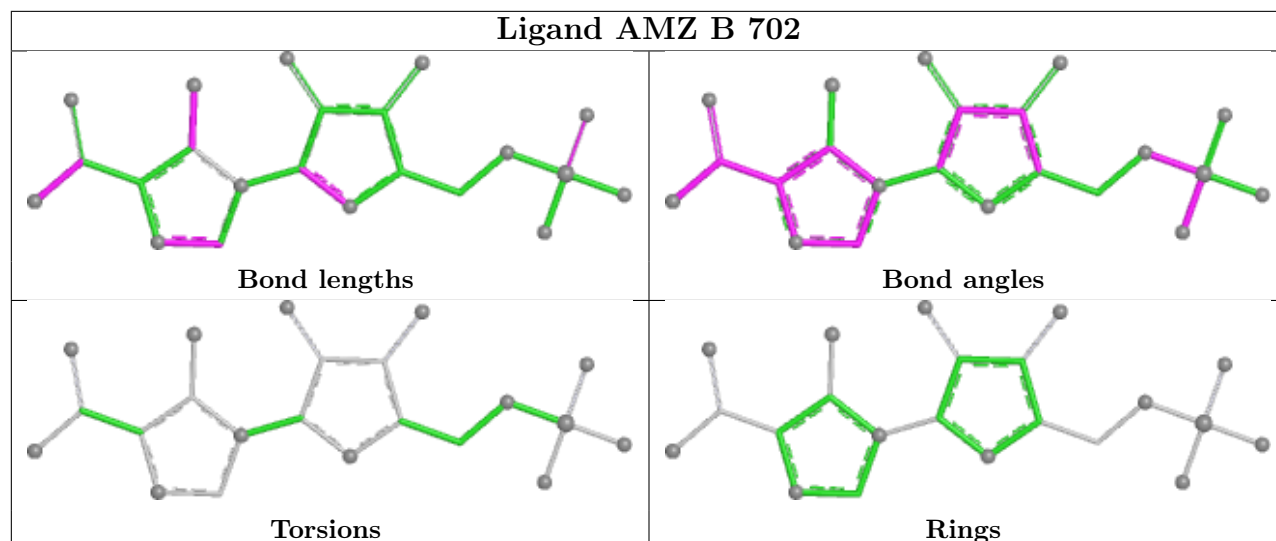
5 monomers are involved in 13 short contacts:

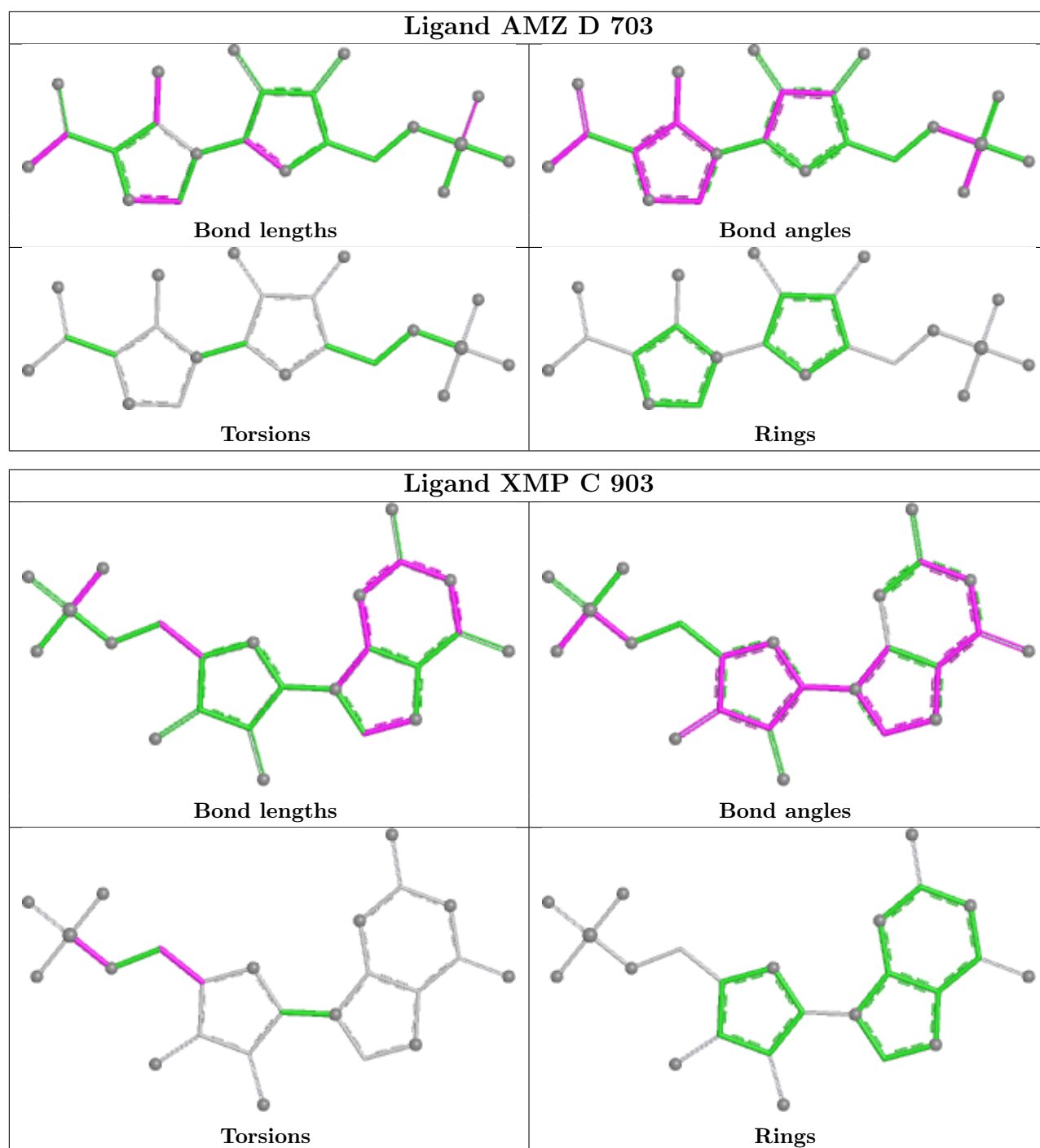
Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	A	901	XMP	3	0
5	B	802	BW2	2	0
4	B	702	AMZ	1	0
5	D	804	BW2	6	0
4	D	703	AMZ	1	0

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

equivalents in the CSD to analyse the geometry.







## 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	589/592 (99%)	-1.78	0 100 100	6, 26, 51, 64	0
1	B	587/592 (99%)	-1.79	0 100 100	3, 22, 51, 74	0
1	C	585/592 (98%)	-1.75	0 100 100	8, 29, 54, 66	0
1	D	579/592 (97%)	-1.76	0 100 100	4, 25, 54, 75	0
All	All	2340/2368 (98%)	-1.77	0 100 100	3, 25, 53, 75	0

There are no RSRZ outliers to report.

### 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.

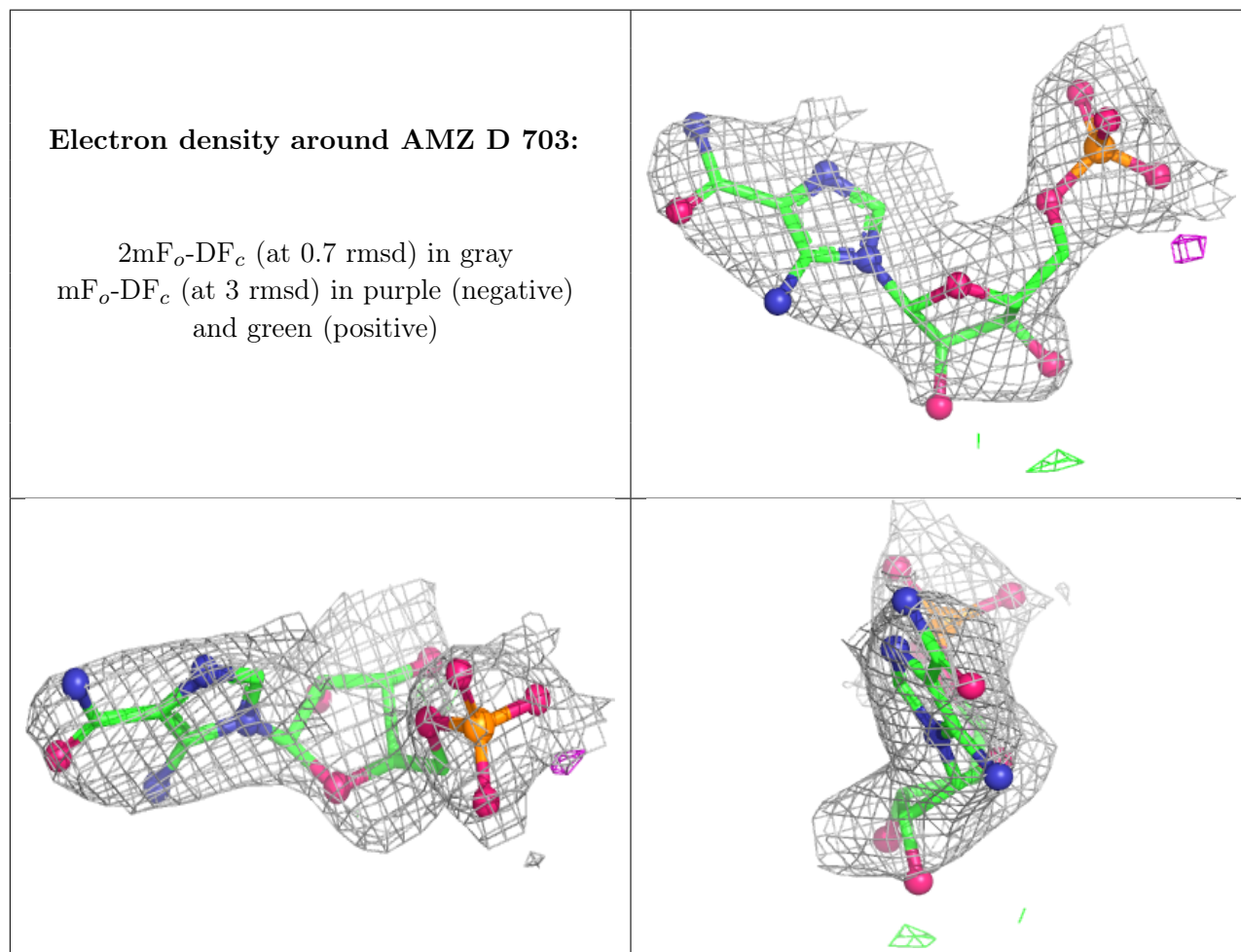
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å <sup>2</sup> )	Q<0.9
4	AMZ	D	703	22/22	0.99	0.03	34,39,40,41	0
2	K	B	1002	1/1	1.00	0.01	12,12,12,12	0
2	K	C	1003	1/1	1.00	0.01	17,17,17,17	0
2	K	D	1004	1/1	1.00	0.01	17,17,17,17	0

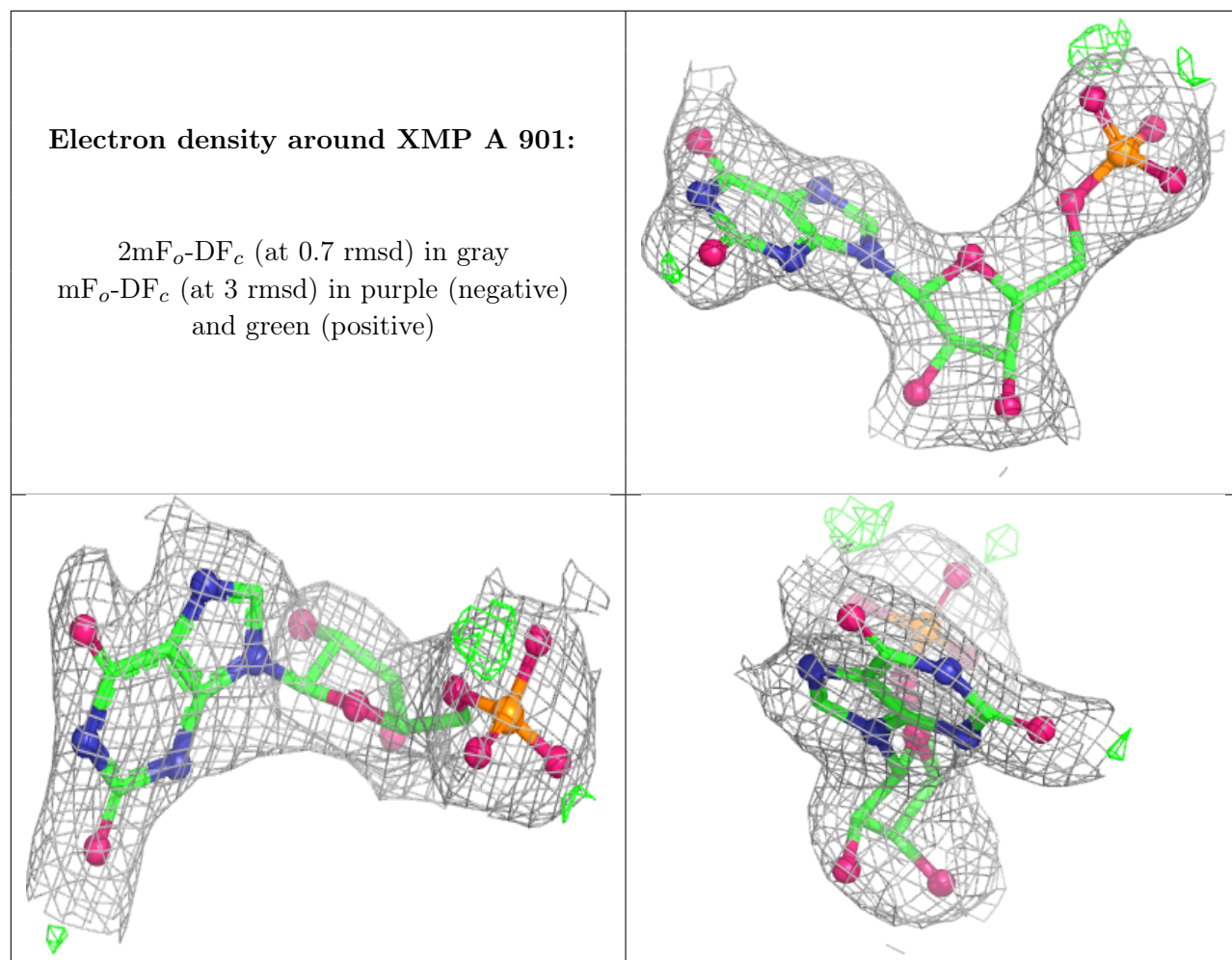
*Continued on next page...*

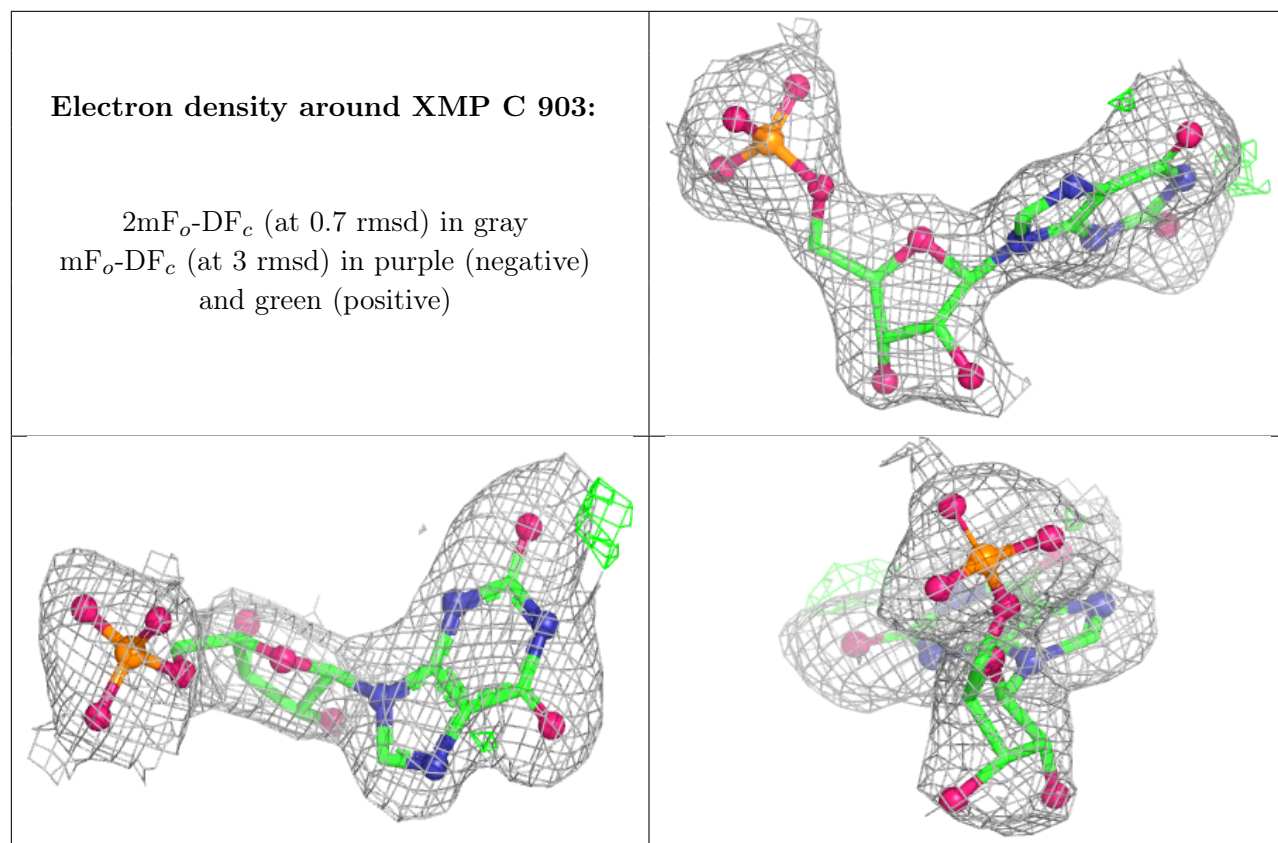
Continued from previous page...

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
3	XMP	A	901	24/24	1.00	0.02	19,21,26,31	0
3	XMP	C	903	24/24	1.00	0.02	17,21,28,30	0
4	AMZ	B	702	22/22	1.00	0.03	27,30,32,33	0
2	K	A	1001	1/1	1.00	0.02	16,16,16,16	0
4	AMZ	D	704	22/22	1.00	0.02	20,22,25,27	0
5	BW2	B	802	25/34	1.00	0.02	21,25,32,33	0
5	BW2	D	804	25/34	1.00	0.02	27,31,33,34	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.

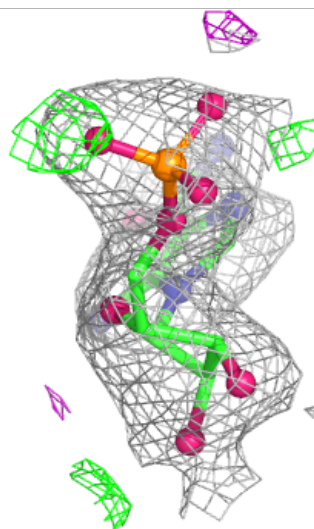
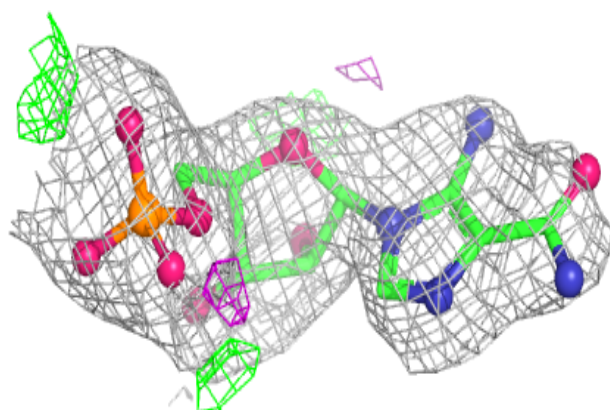
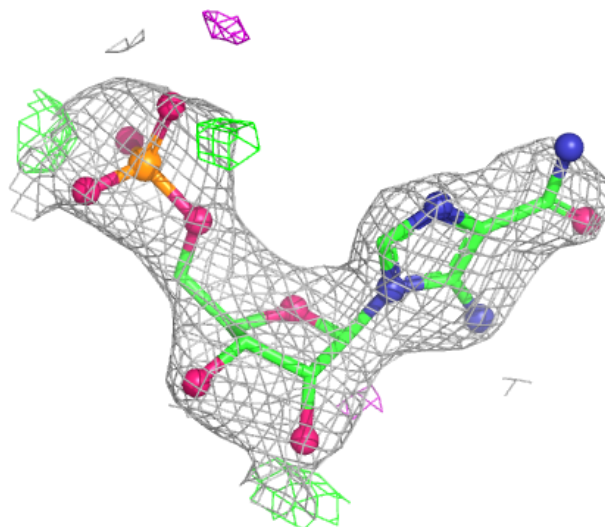






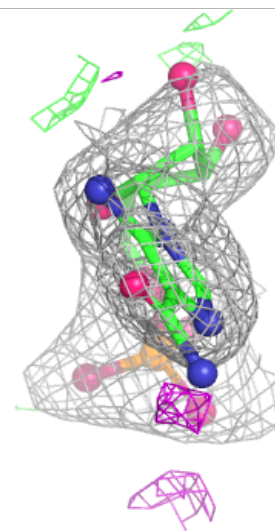
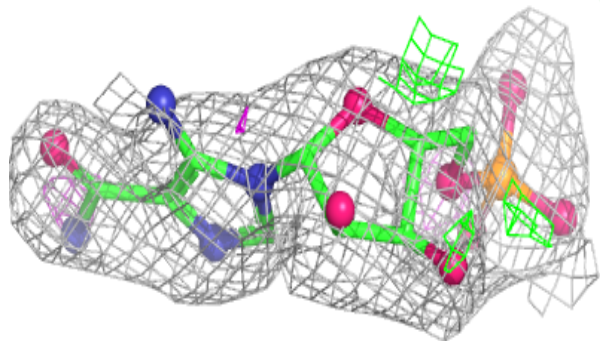
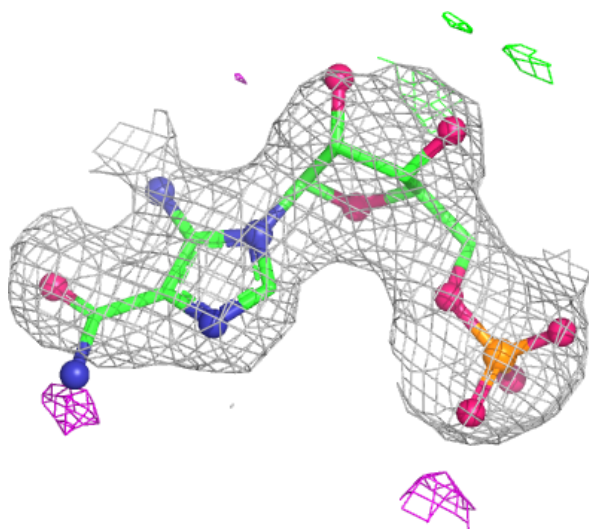
**Electron density around AMZ B 702:**

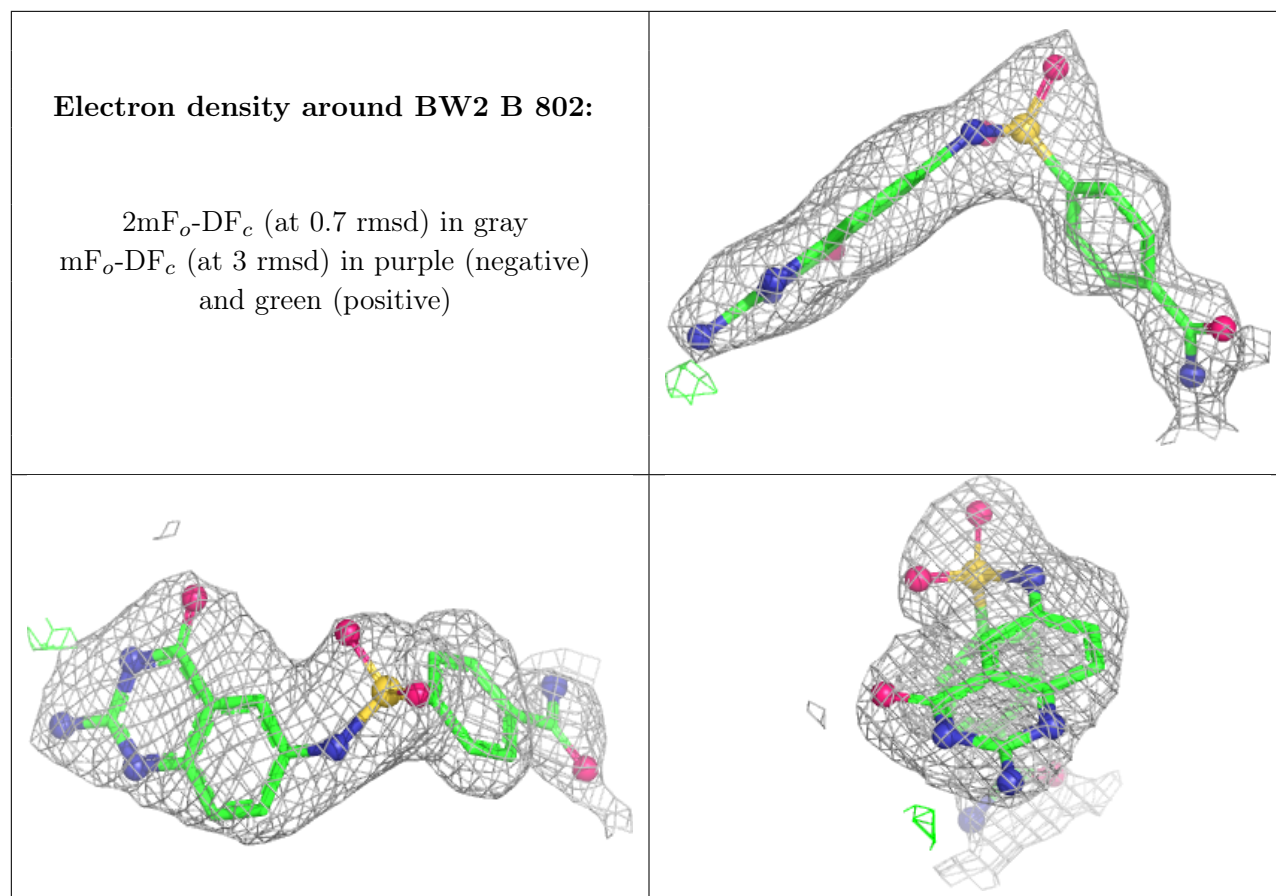
$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)

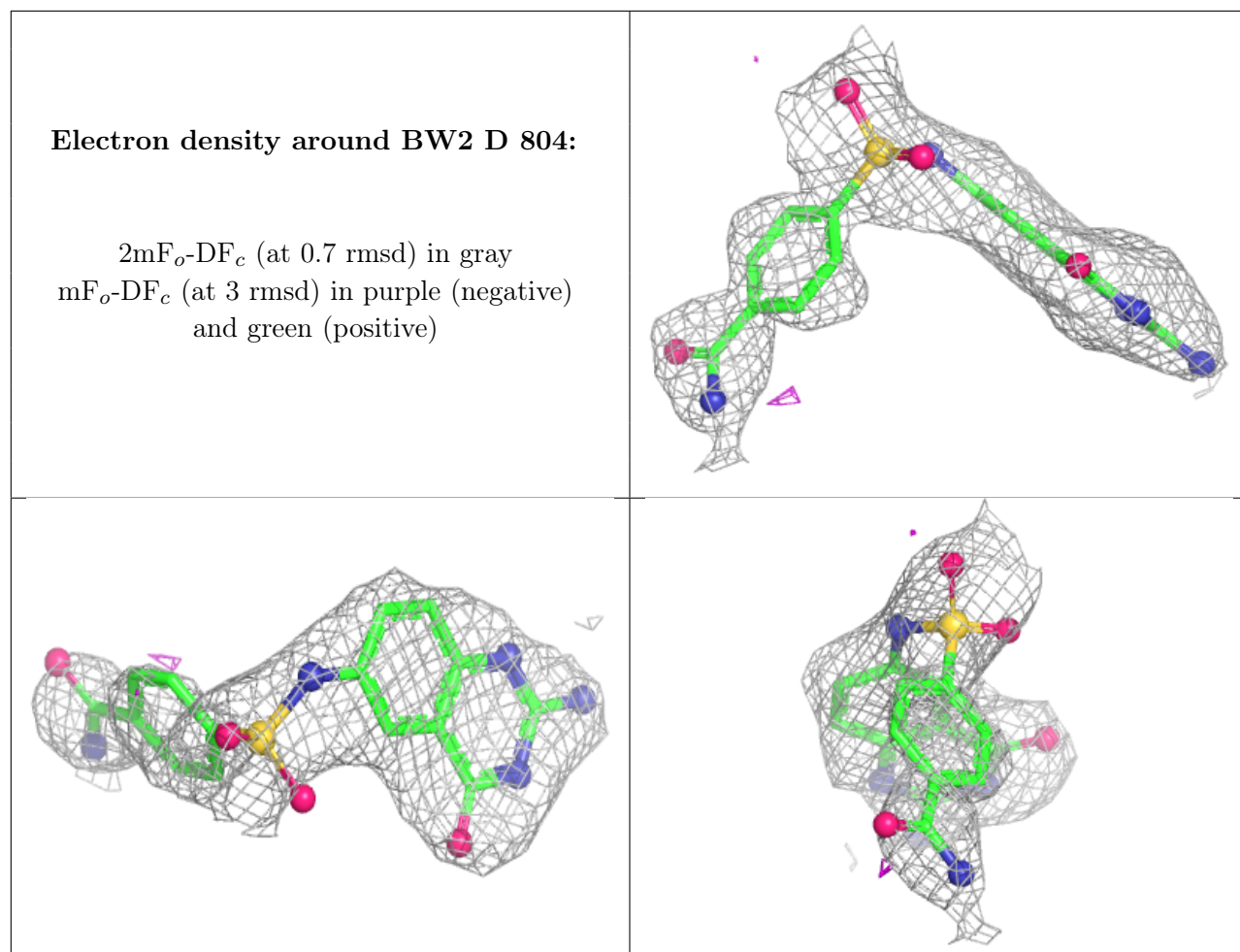


**Electron density around AMZ D 704:**

$2mF_o-DF_c$  (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.