



# wwPDB X-ray Structure Validation Summary Report ⓘ

May 27, 2025 – 01:22 pm BST

PDB ID : 9G8J / pdb\_00009g8j  
Title : Structure of K<sup>+</sup>-dependent Na<sup>+</sup>-PPase from *Thermotoga maritima* in complex with zoledronate  
Authors : Vidilaseris, K.; Liu, J.; Goldman, A.  
Deposited on : 2024-07-23  
Resolution : 3.26 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 Phenix2.0rc1  
Mogul : 1.8.4, CSD as541be (2020)  
Xtriage (Phenix) : 2.0rc1  
EDS : 3.0  
buster-report : 1.1.7 (2018)  
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)  
CCP4 : 9.0.003 (Gargrove)  
Density-Fitness : 1.0.11  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.43.1

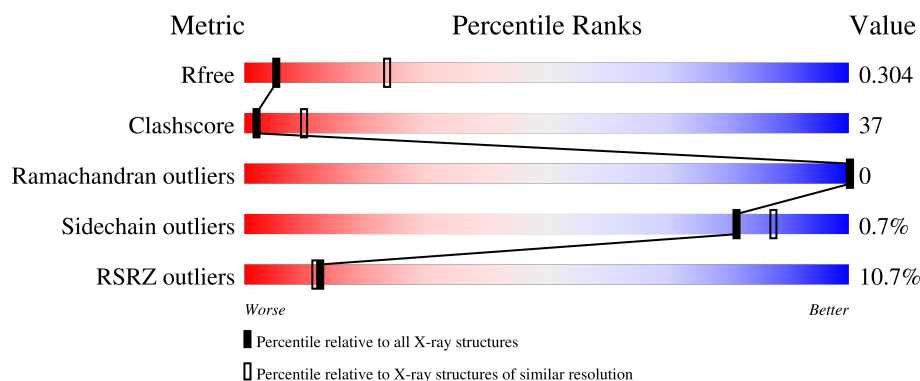
# 1 Overall quality at a glance ⓘ

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 3.26 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))
$R_{free}$	164625	1482 (3.30-3.22)
Clashscore	180529	1546 (3.30-3.22)
Ramachandran outliers	177936	1536 (3.30-3.22)
Sidechain outliers	177891	1535 (3.30-3.22)
RSRZ outliers	164620	1483 (3.30-3.22)

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	735	<div> <div>10%</div> <div>47%</div> <div>51%</div> <div>..</div> </div>
1	B	735	<div> <div>10%</div> <div>44%</div> <div>53%</div> <div>.</div> </div>
1	C	735	<div> <div>11%</div> <div>50%</div> <div>47%</div> <div>.</div> </div>
1	D	735	<div> <div>11%</div> <div>50%</div> <div>47%</div> <div>.</div> </div>

## 2 Entry composition

There are 5 unique types of molecules in this entry. The entry contains 20925 atoms, of which 70 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 K(+)-stimulated pyrophosphate-energized sodium pump.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	724	Total	C	N	O	S	0	0	0
			5238	3430	819	962	27			
1	B	716	Total	C	N	O	S	0	0	0
			5159	3383	804	946	26			
1	C	720	Total	C	N	O	S	0	0	0
			5205	3407	816	955	27			
1	D	716	Total	C	N	O	S	0	0	0
			5128	3359	797	946	26			

There are 48 discrepancies between the modelled and reference sequences:

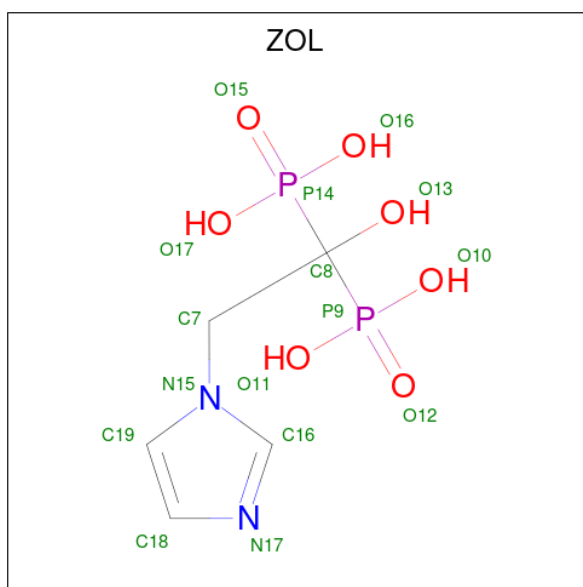
Chain	Residue	Modelled	Actual	Comment	Reference
A	-8	MET	-	initiating methionine	UNP Q9S5X0
A	-7	ARG	-	expression tag	UNP Q9S5X0
A	-6	GLY	-	expression tag	UNP Q9S5X0
A	-5	SER	-	expression tag	UNP Q9S5X0
A	-4	HIS	-	expression tag	UNP Q9S5X0
A	-3	HIS	-	expression tag	UNP Q9S5X0
A	-2	HIS	-	expression tag	UNP Q9S5X0
A	-1	HIS	-	expression tag	UNP Q9S5X0
A	0	HIS	-	expression tag	UNP Q9S5X0
A	1	HIS	-	expression tag	UNP Q9S5X0
A	353	LEU	VAL	conflict	UNP Q9S5X0
A	395	GLY	SER	conflict	UNP Q9S5X0
B	-8	MET	-	initiating methionine	UNP Q9S5X0
B	-7	ARG	-	expression tag	UNP Q9S5X0
B	-6	GLY	-	expression tag	UNP Q9S5X0
B	-5	SER	-	expression tag	UNP Q9S5X0
B	-4	HIS	-	expression tag	UNP Q9S5X0
B	-3	HIS	-	expression tag	UNP Q9S5X0
B	-2	HIS	-	expression tag	UNP Q9S5X0
B	-1	HIS	-	expression tag	UNP Q9S5X0
B	0	HIS	-	expression tag	UNP Q9S5X0

*Continued on next page...*

*Continued from previous page...*

Chain	Residue	Modelled	Actual	Comment	Reference
B	1	HIS	-	expression tag	UNP Q9S5X0
B	353	LEU	VAL	conflict	UNP Q9S5X0
B	395	GLY	SER	conflict	UNP Q9S5X0
C	-8	MET	-	initiating methionine	UNP Q9S5X0
C	-7	ARG	-	expression tag	UNP Q9S5X0
C	-6	GLY	-	expression tag	UNP Q9S5X0
C	-5	SER	-	expression tag	UNP Q9S5X0
C	-4	HIS	-	expression tag	UNP Q9S5X0
C	-3	HIS	-	expression tag	UNP Q9S5X0
C	-2	HIS	-	expression tag	UNP Q9S5X0
C	-1	HIS	-	expression tag	UNP Q9S5X0
C	0	HIS	-	expression tag	UNP Q9S5X0
C	1	HIS	-	expression tag	UNP Q9S5X0
C	353	LEU	VAL	conflict	UNP Q9S5X0
C	395	GLY	SER	conflict	UNP Q9S5X0
D	-8	MET	-	initiating methionine	UNP Q9S5X0
D	-7	ARG	-	expression tag	UNP Q9S5X0
D	-6	GLY	-	expression tag	UNP Q9S5X0
D	-5	SER	-	expression tag	UNP Q9S5X0
D	-4	HIS	-	expression tag	UNP Q9S5X0
D	-3	HIS	-	expression tag	UNP Q9S5X0
D	-2	HIS	-	expression tag	UNP Q9S5X0
D	-1	HIS	-	expression tag	UNP Q9S5X0
D	0	HIS	-	expression tag	UNP Q9S5X0
D	1	HIS	-	expression tag	UNP Q9S5X0
D	353	LEU	VAL	conflict	UNP Q9S5X0
D	395	GLY	SER	conflict	UNP Q9S5X0

- Molecule 2 is ZOLEDRONIC ACID (CCD ID: ZOL) (formula:  $C_5H_{10}N_2O_7P_2$ ).



Mol	Chain	Residues	Atoms						ZeroOcc	AltConf
2	A	1	Total 22	C 5	H 6	N 2	O 7	P 2	0	0
2	B	1	Total 22	C 5	H 6	N 2	O 7	P 2	0	0
2	C	1	Total 22	C 5	H 6	N 2	O 7	P 2	0	0
2	D	1	Total 22	C 5	H 6	N 2	O 7	P 2	0	0

- Molecule 3 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	4	Total	Mg	0	0
			4	4		
3	B	4	Total	Mg	0	0
			4	4		
3	C	4	Total	Mg	0	0
			4	4		
3	D	4	Total	Mg	0	0
			4	4		

- Molecule 4 is DODECYL-BETA-D-MALTOSIDE (CCD ID: LMT) (formula: C<sub>24</sub>H<sub>46</sub>O<sub>11</sub>).



- Molecule 5 is water.



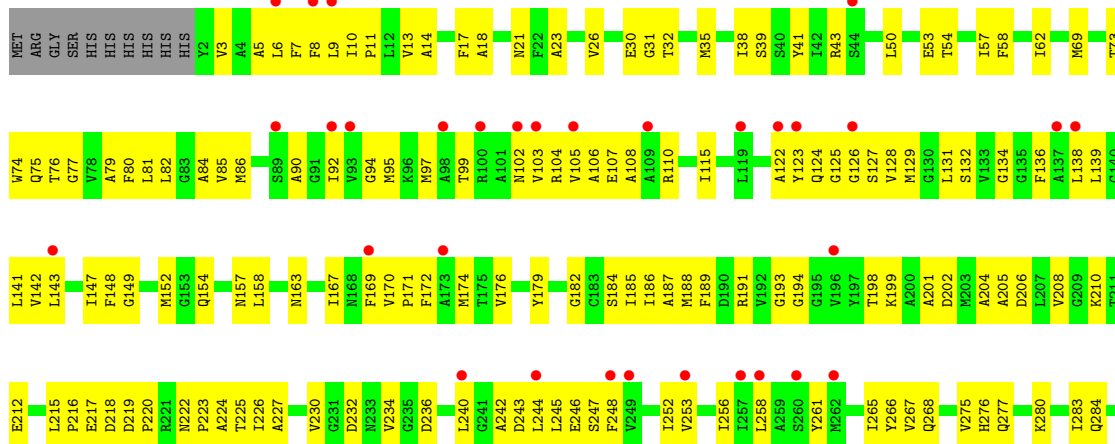


Chain B:

Sequence logo showing amino acid conservation across 200 positions. The y-axis represents information content in bits (0.00 to 1.00). The x-axis shows positions 1 to 200. The color key identifies amino acids: MET, ARG, GLY, SER, HIS, HIS, HIS, HIS, Y2, L6, F7, F8, L9, I10, P11, L12, V13, A14, L15, A18, N21, F22, A98, A23, A24, V25, V26, R27, V105, P28, P29, E33, ARG, MET, K36, S39, S40, Y41, I42, R43, A46, F49, L50, E53, Q122, Y123, Q124, T54, T57, F58, I62, A65.

[illegible]







## 4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	101.19Å 147.36Å 252.34Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	48.22 – 3.26 48.22 – 3.26	Depositor EDS
% Data completeness (in resolution range)	55.2 (48.22-3.26) 55.4 (48.22-3.26)	Depositor EDS
$R_{merge}$	0.14	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	1.55 (at 3.26Å)	Xtriage
Refinement program	PHENIX 1.20.1_4487	Depositor
R, $R_{free}$	0.266 , 0.306 0.265 , 0.304	Depositor DCC
$R_{free}$ test set	1670 reflections (5.05%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	122.0	Xtriage
Anisotropy	0.099	Xtriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.29 , 87.0	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.44$ , $\langle L^2 \rangle = 0.26$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
$F_o, F_c$ correlation	0.87	EDS
Total number of atoms	20925	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	112.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.05% 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

### 5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: MG, ZOL, LMT

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	0.38	0/5349	0.58	1/7304 (0.0%)
1	B	0.24	0/5270	0.40	1/7202 (0.0%)
1	C	0.25	0/5313	0.43	1/7251 (0.0%)
1	D	0.25	0/5232	0.42	0/7150
All	All	0.28	0/21164	0.46	3/28907 (0.0%)

There are no bond length outliers.

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	C	720	PHE	CA-CB-CG	6.18	119.98	113.80
1	A	720	PHE	CA-CB-CG	5.64	119.44	113.80
1	B	720	PHE	CA-CB-CG	5.05	118.85	113.80

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	A	5238	0	5206	435	0
1	B	5159	0	5110	434	0
1	C	5205	0	5163	358	0
1	D	5128	0	5058	394	0

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	A	16	6	6	0	0
2	B	16	6	7	3	0
2	C	16	6	7	0	0
2	D	16	6	7	2	0
3	A	4	0	0	0	0
3	B	4	0	0	0	0
3	C	4	0	0	0	0
3	D	4	0	0	0	0
4	D	35	46	46	0	0
5	A	2	0	0	2	0
5	B	8	0	0	6	0
All	All	20855	70	20610	1546	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 37.

The worst 5 of 1546 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:D:97:MET:HG2	1:D:128:VAL:HG21	1.27	1.16
1:A:138:LEU:HD13	1:A:295:LEU:HD23	1.29	1.15
1:A:571:MET:HG3	1:B:404:MET:HE2	1.30	1.13
1:B:39:SER:HB2	1:B:103:VAL:HG21	1.31	1.12
1:B:244:LEU:HD23	1:B:455:VAL:HG22	1.31	1.12

There are no symmetry-related clashes.

## 5.3 Torsion angles ⓘ

### 5.3.1 Protein backbone ⓘ

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	720/735 (98%)	710 (99%)	10 (1%)	0	100 100

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	B	710/735 (97%)	697 (98%)	13 (2%)	0	100	100
1	C	710/735 (97%)	702 (99%)	8 (1%)	0	100	100
1	D	706/735 (96%)	695 (98%)	11 (2%)	0	100	100
All	All	2846/2940 (97%)	2804 (98%)	42 (2%)	0	100	100

There are no Ramachandran outliers to report.

### 5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all 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	523/575 (91%)	518 (99%)	5 (1%)	73	82
1	B	513/575 (89%)	509 (99%)	4 (1%)	79	86
1	C	518/575 (90%)	515 (99%)	3 (1%)	84	89
1	D	507/575 (88%)	504 (99%)	3 (1%)	84	89
All	All	2061/2300 (90%)	2046 (99%)	15 (1%)	81	87

5 of 15 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	B	719	ILE
1	D	353	LEU
1	B	725	LEU
1	D	719	ILE
1	C	719	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 19 such sidechains are listed below:

Mol	Chain	Res	Type
1	D	21	ASN
1	D	318	GLN
1	D	681	HIS

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type
1	D	276	HIS
1	C	214	ASN

### 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 oligosaccharides in this entry.

## 5.6 Ligand geometry ⓘ

Of 21 ligands modelled in this entry, 16 are monoatomic - leaving 5 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# $ Z  > 2$	Counts	RMSZ	# $ Z  > 2$
2	ZOL	D	801	3	14,16,16	6.20	3 (21%)	20,26,26	1.92	2 (10%)
4	LMT	D	806	-	36,36,36	1.05	3 (8%)	47,47,47	0.92	1 (2%)
2	ZOL	A	801	3	14,16,16	6.65	2 (14%)	20,26,26	2.01	4 (20%)
2	ZOL	C	801	3	14,16,16	6.66	2 (14%)	20,26,26	1.78	3 (15%)
2	ZOL	B	801	3	14,16,16	6.16	3 (21%)	20,26,26	2.23	4 (20%)

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	ZOL	D	801	3	-	11/23/23/23	0/1/1/1
4	LMT	D	806	-	-	12/21/61/61	0/2/2/2
2	ZOL	A	801	3	-	19/23/23/23	0/1/1/1
2	ZOL	C	801	3	-	4/23/23/23	0/1/1/1
2	ZOL	B	801	3	-	16/23/23/23	0/1/1/1

The worst 5 of 13 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	C	801	ZOL	P9-C8	18.78	1.98	1.85
2	A	801	ZOL	P14-C8	17.51	1.97	1.85
2	B	801	ZOL	P14-C8	17.38	1.97	1.85
2	A	801	ZOL	P9-C8	17.18	1.97	1.85
2	D	801	ZOL	P14-C8	16.42	1.96	1.85

The worst 5 of 14 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	801	ZOL	P9-C8-P14	7.92	126.97	112.81
2	D	801	ZOL	P9-C8-P14	6.75	124.88	112.81
2	A	801	ZOL	P9-C8-P14	6.63	124.67	112.81
2	C	801	ZOL	P9-C8-P14	5.75	123.10	112.81
2	A	801	ZOL	P9-C8-O13	-3.20	100.02	107.30

There are no chirality outliers.

5 of 62 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	801	ZOL	P9-C8-P14-O17
2	A	801	ZOL	O13-C8-P14-O17
2	A	801	ZOL	P9-C8-P14-O16
2	A	801	ZOL	P9-C8-P14-O15
2	A	801	ZOL	P14-C8-P9-O10

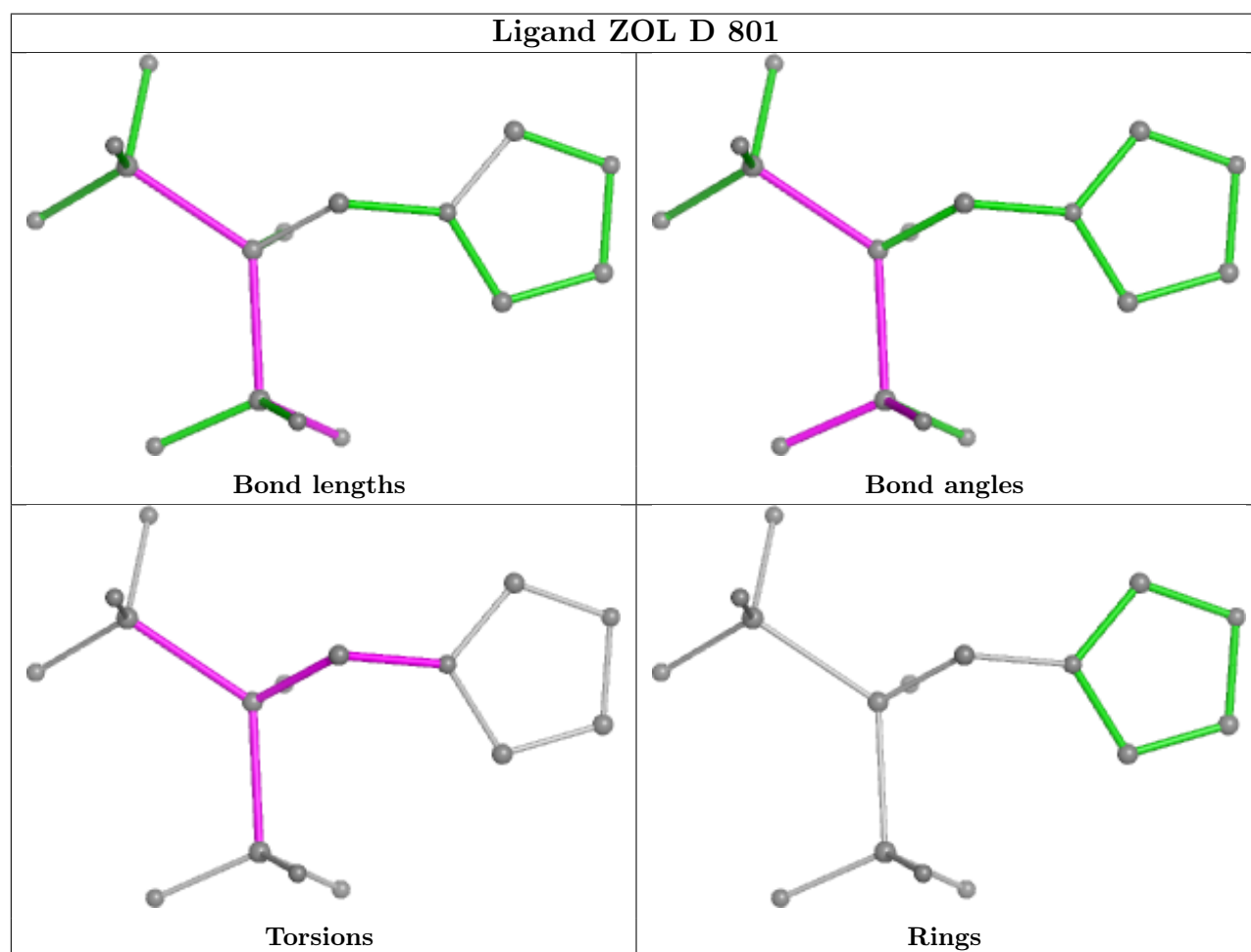
There are no ring outliers.

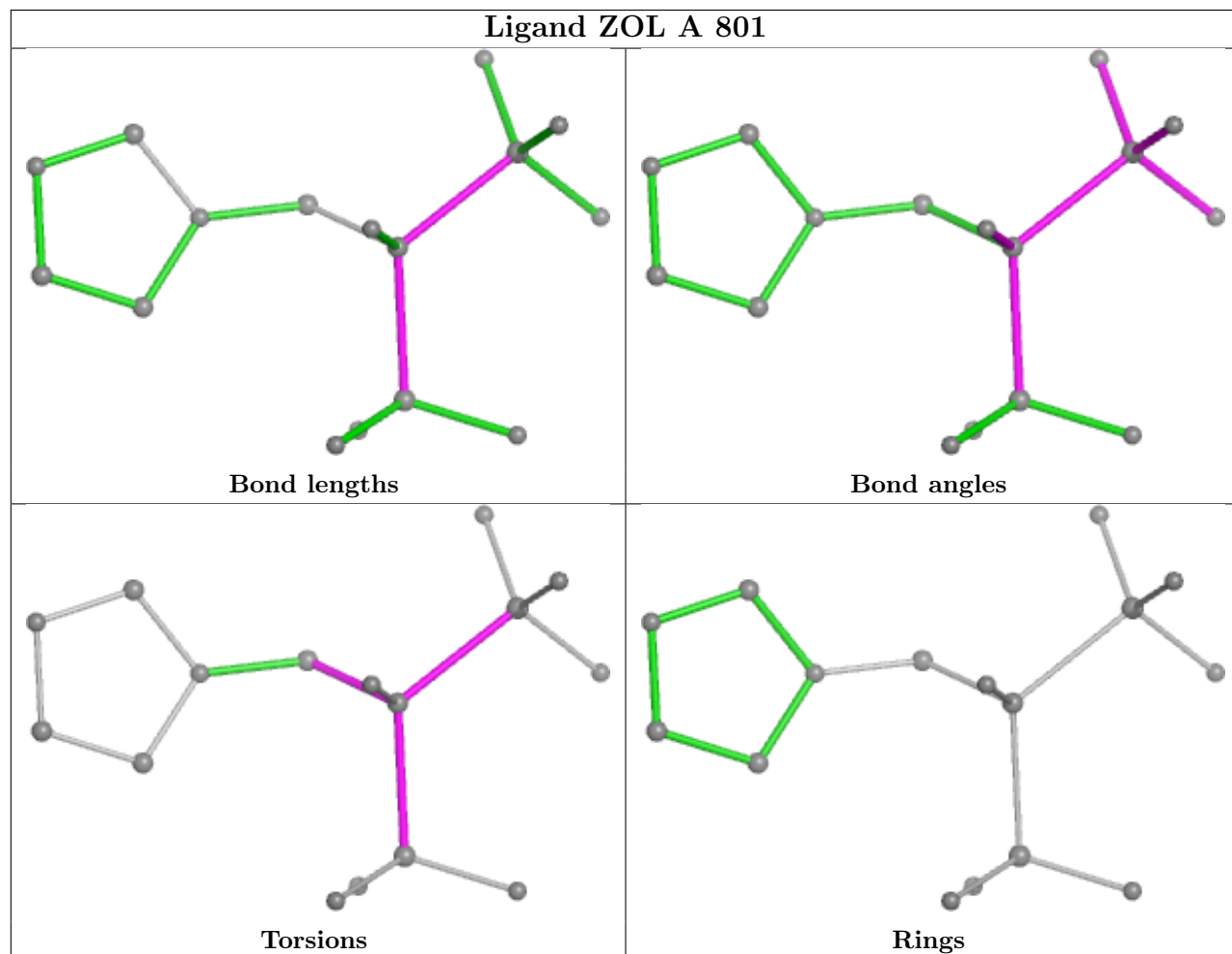
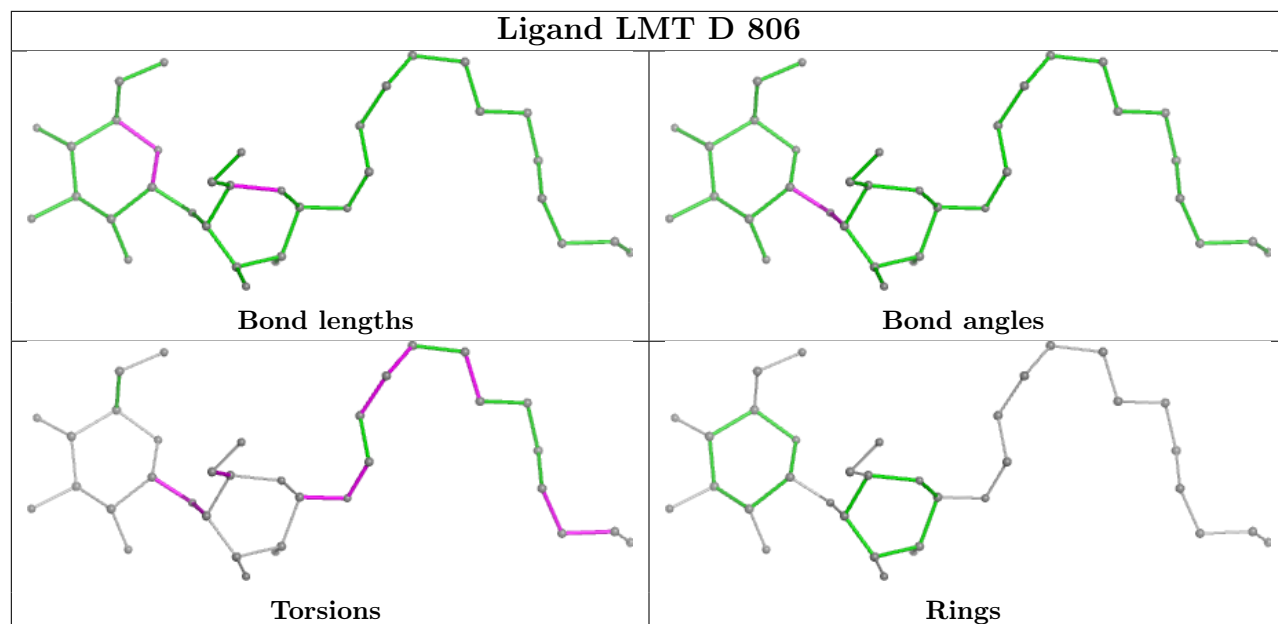
2 monomers are involved in 5 short contacts:

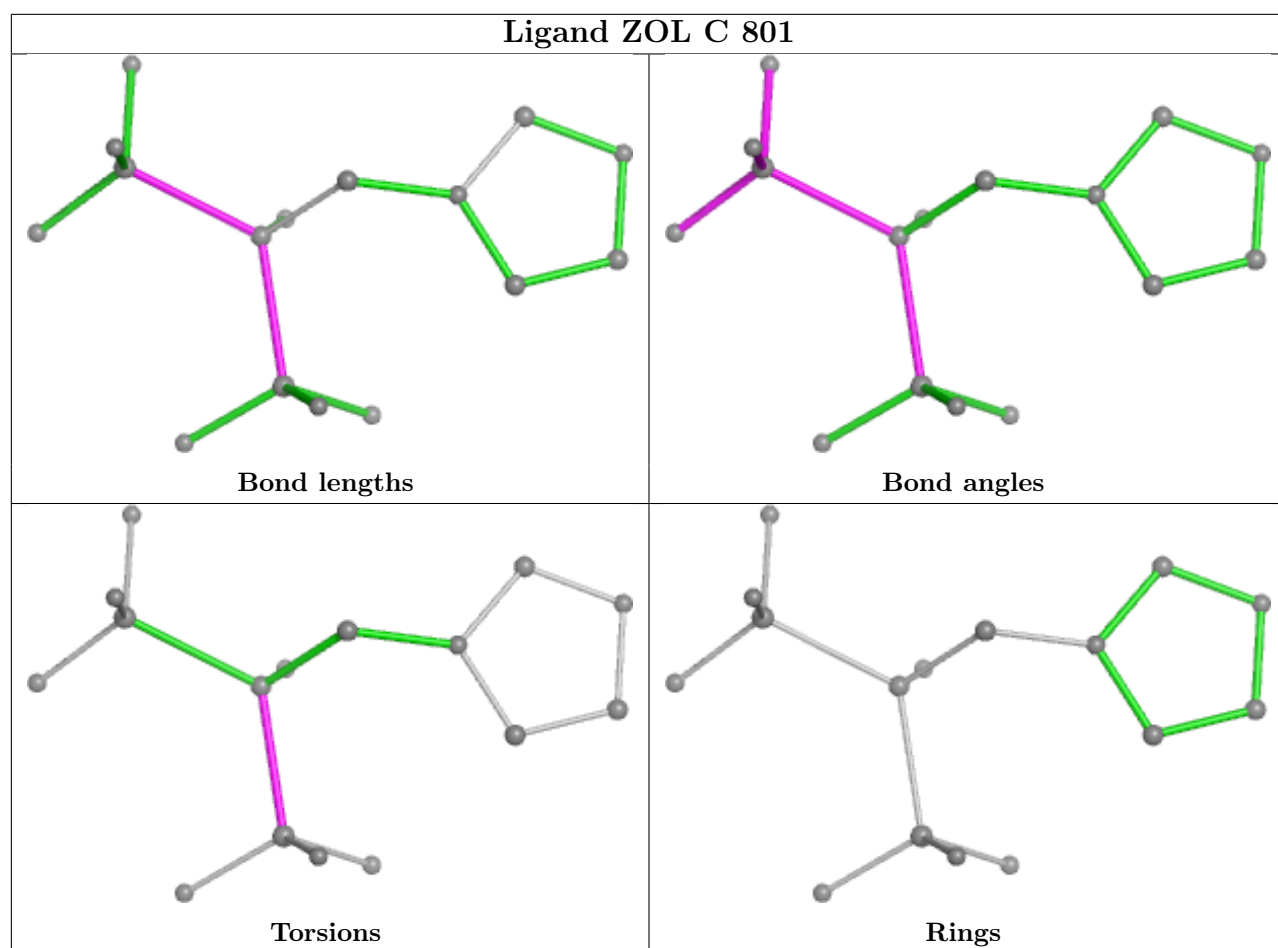
Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	D	801	ZOL	2	0
2	B	801	ZOL	3	0

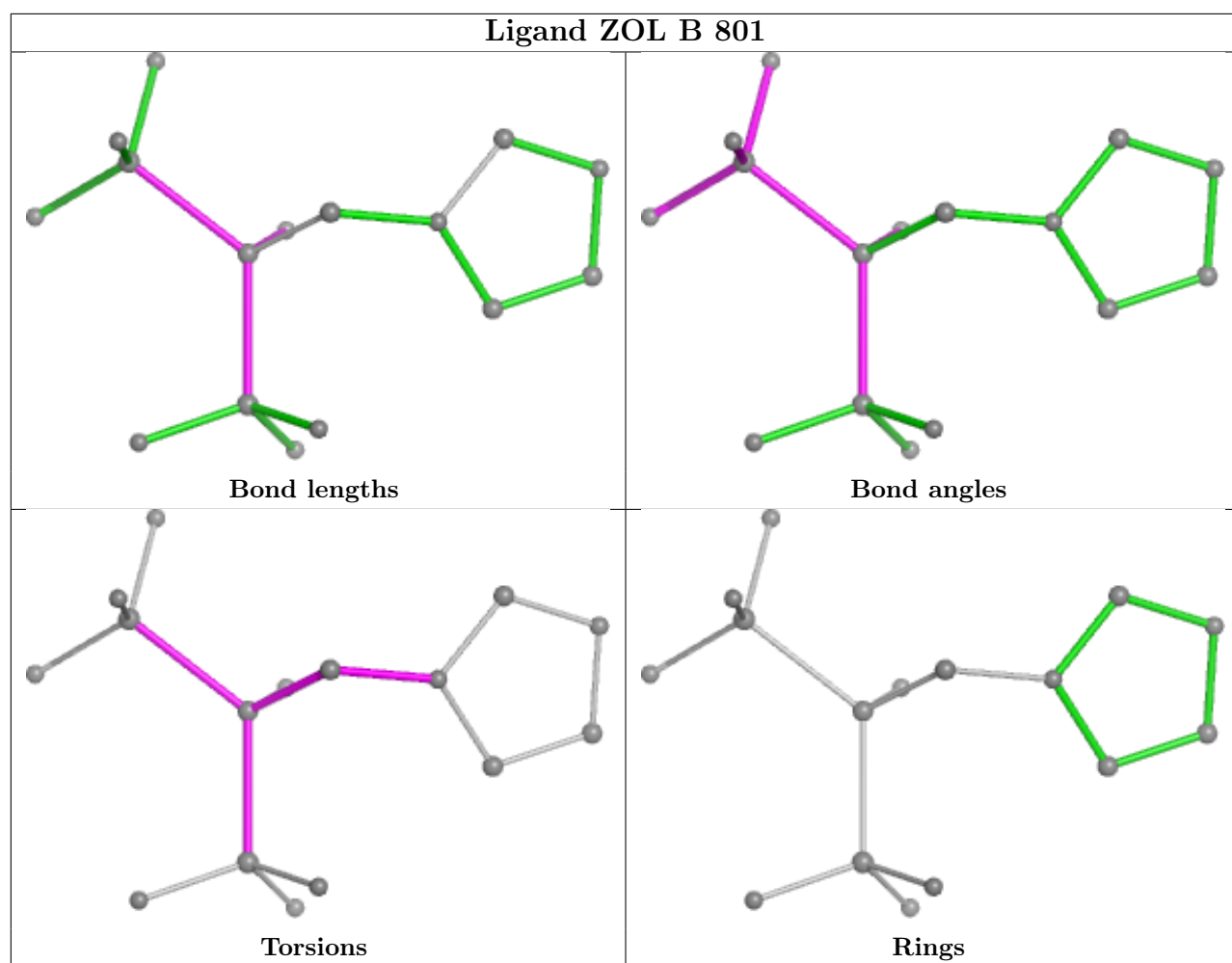


The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. 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	724/735 (98%)	0.62	76 (10%) 13 12	64, 106, 145, 175	0
1	B	716/735 (97%)	0.54	71 (9%) 14 13	62, 107, 145, 184	0
1	C	720/735 (97%)	0.52	82 (11%) 11 10	61, 106, 148, 178	0
1	D	716/735 (97%)	0.62	80 (11%) 11 11	71, 124, 167, 199	0
All	All	2876/2940 (97%)	0.57	309 (10%) 12 12	61, 110, 154, 199	0

The worst 5 of 309 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	494	THR	11.2
1	D	458	ASP	10.5
1	D	464	ALA	10.1
1	A	399	ILE	9.8
1	A	158	LEU	9.4

### 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](#)

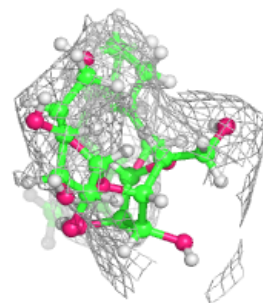
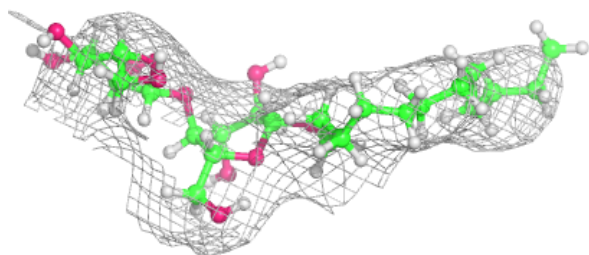
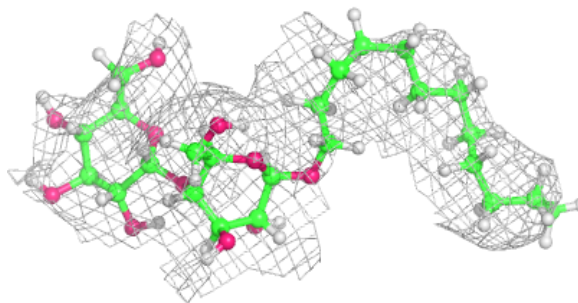
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95<sup>th</sup> percentile and maximum values of B factors of atoms in the group. The column labelled ‘Q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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
4	LMT	D	806	35/35	0.28	0.12	118,166,195,204	0
3	MG	B	802	1/1	0.34	0.20	110,110,110,110	0
3	MG	C	803	1/1	0.65	0.17	116,116,116,116	0
3	MG	B	805	1/1	0.81	0.19	122,122,122,122	0
3	MG	C	804	1/1	0.84	0.18	119,119,119,119	0
3	MG	D	803	1/1	0.86	0.16	132,132,132,132	0
3	MG	C	802	1/1	0.88	0.21	104,104,104,104	0
3	MG	B	804	1/1	0.89	0.12	98,98,98,98	0
3	MG	A	805	1/1	0.91	0.17	115,115,115,115	0
3	MG	A	804	1/1	0.92	0.19	86,86,86,86	0
2	ZOL	B	801	16/16	0.93	0.09	108,130,157,168	0
2	ZOL	D	801	16/16	0.93	0.11	131,151,178,183	0
2	ZOL	A	801	16/16	0.93	0.10	101,123,146,159	0
3	MG	D	805	1/1	0.94	0.12	133,133,133,133	0
2	ZOL	C	801	16/16	0.94	0.11	107,146,179,184	0
3	MG	D	804	1/1	0.95	0.15	127,127,127,127	0
3	MG	B	803	1/1	0.96	0.11	111,111,111,111	0
3	MG	A	803	1/1	0.97	0.09	101,101,101,101	0
3	MG	C	805	1/1	0.97	0.10	131,131,131,131	0
3	MG	A	802	1/1	0.98	0.15	92,92,92,92	0
3	MG	D	802	1/1	0.98	0.12	138,138,138,138	0

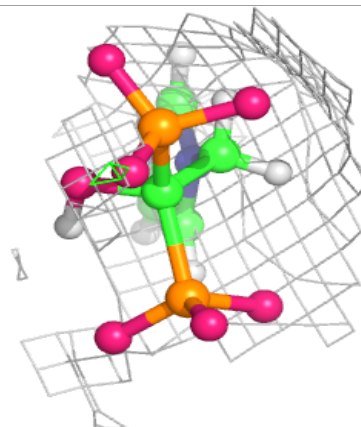
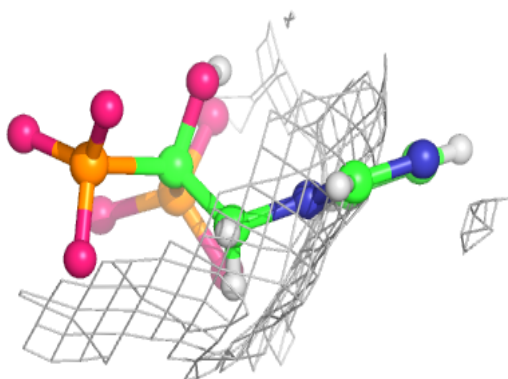
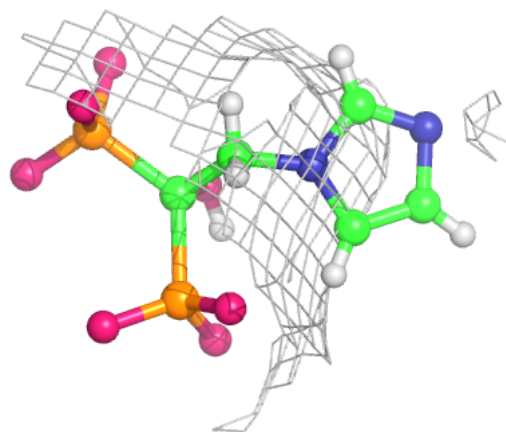
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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

**Electron density around LMT D 806:**

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

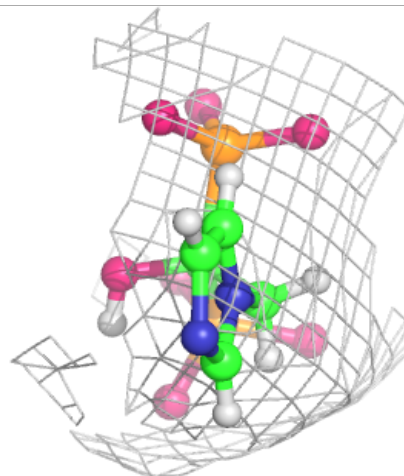
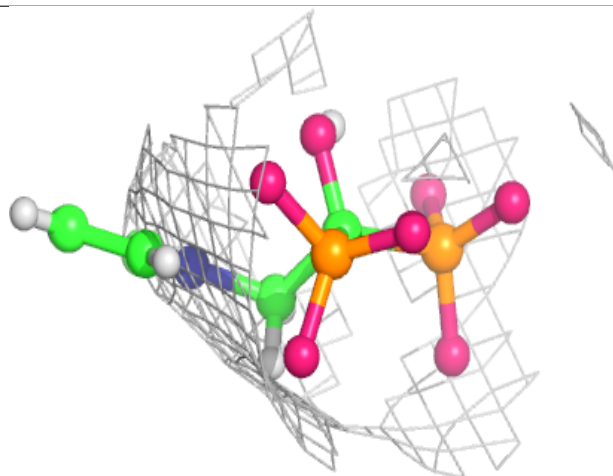
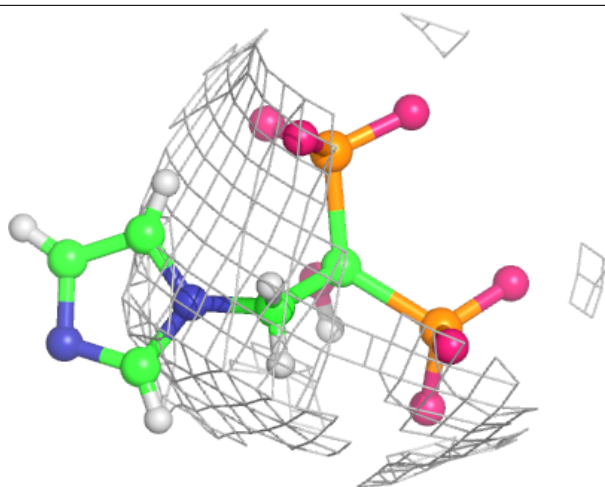
**Electron density around ZOL B 801:**

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



**Electron density around ZOL D 801:**

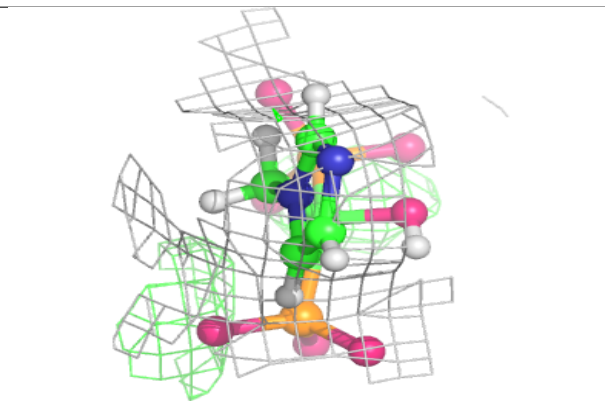
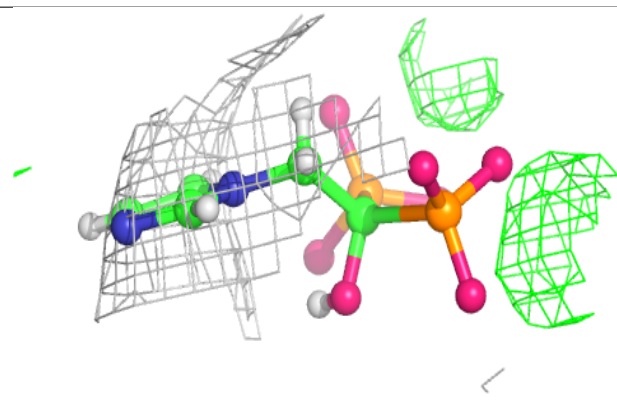
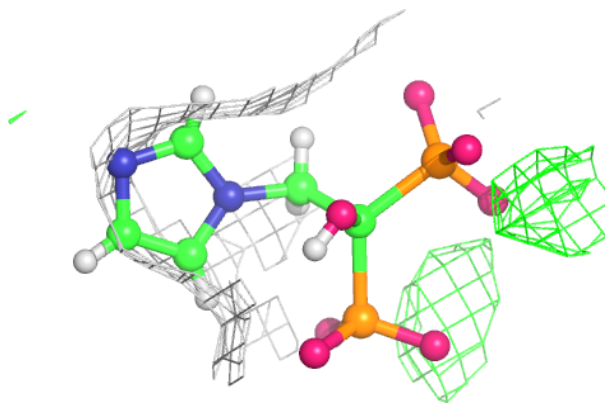
$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)





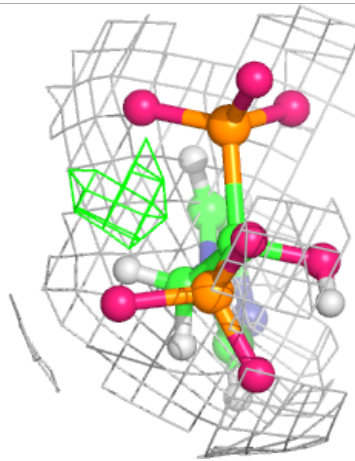
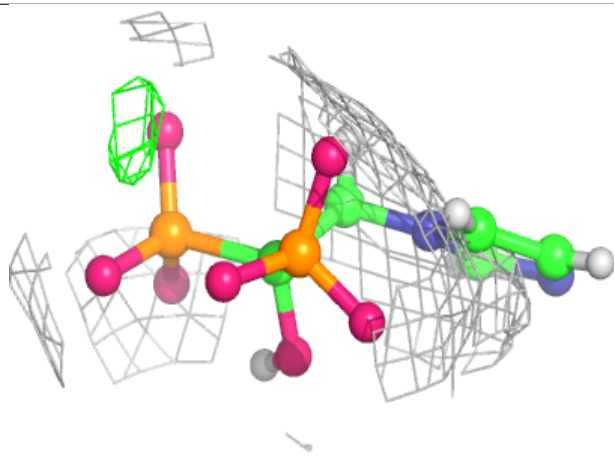
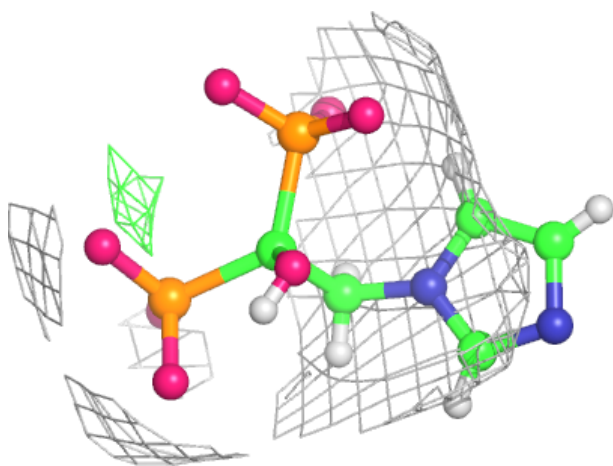
**Electron density around ZOL A 801:**

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



**Electron density around ZOL C 801:**

$2mF_o-DF_c$  (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.