



Full wwPDB X-ray Structure Validation Report ⓘ

May 22, 2020 – 08:24 pm BST

PDB ID : 4R6I
Title : AtxA protein, a virulence regulator from Bacillus anthracis.
Authors : Osipiuk, J.; Horton, L.B.; Koehler, T.M.; Anderson, W.F.; Joachimiak, A.;
Center for Structural Genomics of Infectious Diseases (CSGID)
Deposited on : 2014-08-25
Resolution : 2.65 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 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 : 2.11
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) : 2.11

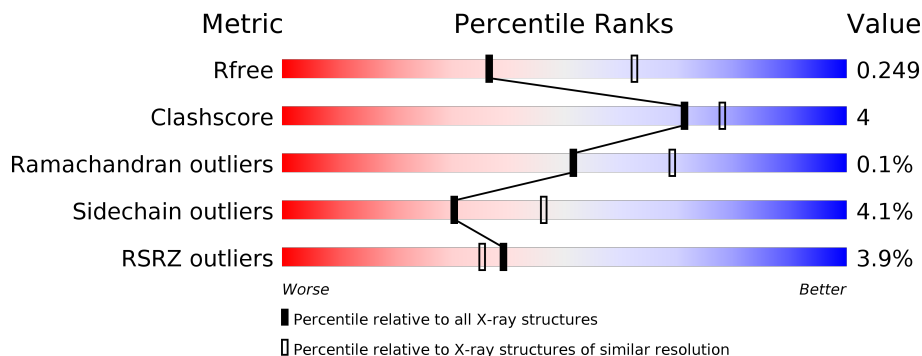
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.65 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	1332 (2.68-2.64)
Clashscore	141614	1374 (2.68-2.64)
Ramachandran outliers	138981	1349 (2.68-2.64)
Sidechain outliers	138945	1349 (2.68-2.64)
RSRZ outliers	127900	1318 (2.68-2.64)

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 on 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 $\leq 5\%$. 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	478	 90% 8%
1	B	478	 80% 13% 6%

2 Entry composition i

There are 3 unique types of molecules in this entry. The entry contains 7787 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.

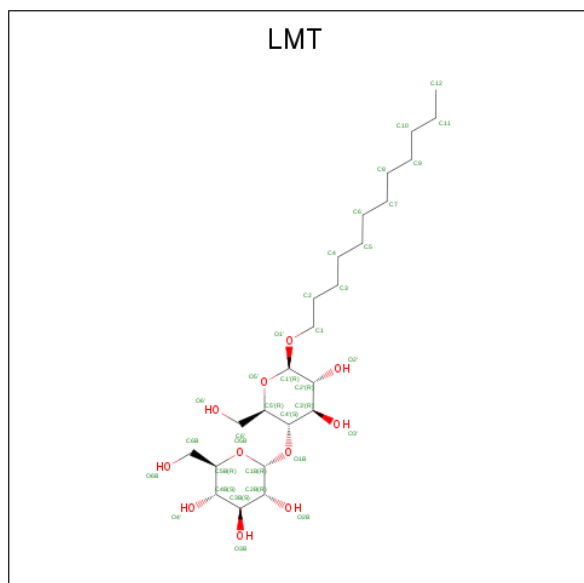
- Molecule 1 is a protein called Anthrax toxin expression trans-acting positive regulator.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace	
			Total	C	N	O	S				Se
1	A	472	Total 3894	C 2521	N 652	O 706	S 6	Se 9	0	0	0
1	B	448	Total 3716	C 2407	N 623	O 671	S 6	Se 9	0	2	0

There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-2	SER	-	EXPRESSION TAG	UNP Q44636
A	-1	ASN	-	EXPRESSION TAG	UNP Q44636
A	0	ALA	-	EXPRESSION TAG	UNP Q44636
B	-2	SER	-	EXPRESSION TAG	UNP Q44636
B	-1	ASN	-	EXPRESSION TAG	UNP Q44636
B	0	ALA	-	EXPRESSION TAG	UNP Q44636

- Molecule 2 is DODECYL-BETA-D-MALTOSE (three-letter code: LMT) (formula: C₂₄H₄₆O₁₁).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
2	A	1	Total	C	O	0	1
			70	48	22		
2	B	1	Total	C	O	0	0
			35	24	11		

- Molecule 3 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	49	Total	O	0	0
			49	49		
3	B	23	Total	O	0	0
			23	23		

4 Data and refinement statistics i

Property	Value	Source
Space group	I 2 2 2	Depositor
Cell constants a, b, c, α , β , γ	130.46Å 135.17Å 180.91Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	46.93 – 2.65 46.93 – 2.65	Depositor EDS
% Data completeness (in resolution range)	99.5 (46.93-2.65) 99.6 (46.93-2.65)	Depositor EDS
R_{merge}	0.09	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	2.32 (at 2.65Å)	Xtrriage
Refinement program	REFMAC 5.8.0071	Depositor
R, R_{free}	0.196 , 0.252 0.195 , 0.249	Depositor DCC
R_{free} test set	2344 reflections (5.06%)	wwPDB-VP
Wilson B-factor (Å ²)	67.1	Xtrriage
Anisotropy	0.319	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.32 , 48.1	EDS
L-test for twinning ²	$\langle L \rangle = 0.48$, $\langle L^2 \rangle = 0.32$	Xtrriage
Estimated twinning fraction	0.000 for -k,-h,-l 0.000 for -1/2*h+1/2*k-1/2*1,1/2*h-1/2*k-1/2*1,-h-k 0.000 for -1/2*h+1/2*k+1/2*1,1/2*h-1/2*k+1/2*1,h+k 0.000 for -1/2*h-1/2*k-1/2*1,-1/2*h-1/2*k+1/2*1,-h+k 0.000 for -1/2*h-1/2*k+1/2*1,-1/2*h-1/2*k-1/2*1,h-k	Xtrriage
F_o, F_c correlation	0.96	EDS
Total number of atoms	7787	wwPDB-VP
Average B, all atoms (Å ²)	81.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 30.39 % of the origin peak, indicating pseudo-translational symmetry. The chance of finding a peak of this or larger height randomly in a structure without pseudo-translational symmetry is equal to 1.3177e-03. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

¹ Intensities estimated from amplitudes.

² 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: 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	0.58	0/3961	0.71	0/5338
1	B	0.53	0/3784	0.67	0/5090
All	All	0.56	0/7745	0.69	0/10428

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 [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	3894	0	4036	19	0
1	B	3716	0	3844	28	0
2	A	70	0	92	12	0
2	B	35	0	46	0	0
3	A	49	0	0	1	0
3	B	23	0	0	0	0
All	All	7787	0	8018	55	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 (55) 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)
2:A:601[B]:LMT:H6E	2:A:601[B]:LMT:H2B	1.38	1.00
2:A:601[B]:LMT:C2B	2:A:601[B]:LMT:H6E	1.92	0.97
2:A:601[B]:LMT:C1B	2:A:601[B]:LMT:H6E	1.98	0.94
2:A:601[B]:LMT:H1B	2:A:601[B]:LMT:H6E	1.56	0.86
2:A:601[A]:LMT:H2B	2:A:601[A]:LMT:O3'	1.77	0.85
2:A:601[B]:LMT:H1B	2:A:601[B]:LMT:C6'	2.11	0.77
1:A:139:LYS:HB3	1:B:1:MSE:SE	2.35	0.76
2:A:601[B]:LMT:C6'	2:A:601[B]:LMT:H2B	2.22	0.66
1:B:182:ILE:HD12	1:B:202:CYS:SG	2.36	0.65
2:A:601[A]:LMT:H11	2:A:601[A]:LMT:O2'	1.96	0.65
1:A:253:HIS:CD2	1:A:255:THR:HG22	2.33	0.62
1:A:55:ILE:HG22	1:A:56:PRO:O	2.00	0.62
1:B:253:HIS:CD2	1:B:255:THR:HG22	2.37	0.60
1:B:182:ILE:HA	1:B:185:MSE:HE3	1.83	0.60
1:B:156:MSE:HE2	1:B:160:TYR:CZ	2.40	0.57
1:B:221:VAL:HG11	1:B:226:LEU:HD12	1.86	0.57
1:A:55:ILE:HG23	1:A:59:TRP:HB2	1.88	0.55
1:A:283:TYR:CZ	1:A:321:LYS:HG3	2.42	0.55
1:B:12:ILE:HD13	1:B:161:CYS:SG	2.48	0.53
1:B:268:LEU:O	1:B:269:GLY:C	2.48	0.53
1:A:51:LEU:O	1:A:55:ILE:HG12	2.10	0.51
1:B:153:ARG:NH1	1:B:208:THR:HG23	2.26	0.50
1:B:339:ILE:HD11	1:B:371:TYR:HB2	1.92	0.50
2:A:601[B]:LMT:C1B	2:A:601[B]:LMT:C6'	2.67	0.49
1:B:20:PHE:O	1:B:24:GLN:HG2	2.13	0.48
1:B:48:LEU:HD13	1:B:69:ILE:HG21	1.96	0.48
1:B:185:MSE:HE1	1:B:205:PHE:CZ	2.48	0.47
1:A:9:LYS:HE2	3:A:704:HOH:O	2.14	0.47
2:A:601[A]:LMT:O3'	2:A:601[A]:LMT:C2B	2.57	0.47
1:A:153:ARG:NH1	1:A:208:THR:HG23	2.30	0.47
1:A:158:ARG:HH11	1:A:327:ASN:ND2	2.14	0.46
1:B:21:ILE:HD11	1:B:33:LEU:CD2	2.46	0.46
1:A:427:ILE:CD1	1:A:435:LEU:HD23	2.47	0.44
1:B:204:LEU:C	1:B:204:LEU:HD13	2.38	0.44
1:B:221:VAL:HG11	1:B:226:LEU:CD1	2.48	0.44
1:A:299:GLU:OE1	1:A:308:TYR:OH	2.23	0.44
1:B:32:GLU:O	1:B:36:TYR:HD2	2.00	0.43
1:B:107:GLN:CD	1:B:107:GLN:H	2.21	0.43
1:A:117:VAL:HG12	1:B:40:ALA:HB2	2.01	0.43
1:B:157:LEU:HD22	1:B:204:LEU:HD23	2.00	0.43
1:B:149:GLU:OE2	1:B:153:ARG:NE	2.50	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:471:ILE:HG22	1:A:475:ILE:HD12	2.00	0.43
1:A:339:ILE:HD11	1:A:371:TYR:HB2	2.01	0.42
1:A:33:LEU:HD13	2:A:601[A]:LMT:H123	2.01	0.42
1:B:228:ASN:HB3	1:B:231:ASP:HB2	2.02	0.42
1:B:470:GLU:O	1:B:473:LYS:HG2	2.20	0.42
1:A:182:ILE:HD13	1:A:201:LEU:HD23	2.01	0.41
1:B:288:MSE:N	1:B:289:PRO:CD	2.82	0.41
1:B:270:ASN:HD22	1:B:329:ILE:HD11	1.84	0.41
1:A:86:ILE:HG12	2:A:601[A]:LMT:H42	2.03	0.41
1:A:429:ASN:C	1:A:429:ASN:OD1	2.59	0.41
1:B:323:ALA:HB2	1:B:372:GLU:HG2	2.03	0.40
1:B:426:THR:HG22	1:B:427:ILE:N	2.37	0.40
1:B:241:THR:O	1:B:245:GLN:HG3	2.21	0.40
1:A:204:LEU:HD13	1:A:204:LEU:C	2.42	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	468/478 (98%)	453 (97%)	15 (3%)	0	100	100
1	B	442/478 (92%)	427 (97%)	14 (3%)	1 (0%)	47	64
All	All	910/956 (95%)	880 (97%)	29 (3%)	1 (0%)	51	69

All (1) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	269	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	450/446 (101%)	437 (97%)	13 (3%)	42	60
1	B	427/446 (96%)	403 (94%)	24 (6%)	21	33
All	All	877/892 (98%)	840 (96%)	37 (4%)	30	45

All (37) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	1	MSE
1	A	61	LEU
1	A	73	LYS
1	A	107	GLN
1	A	121	TYR
1	A	225	ILE
1	A	270	ASN
1	A	271	SER
1	A	307	ASN
1	A	310	GLU
1	A	448	ASN
1	A	466	ARG
1	A	475	ILE
1	B	30	ILE
1	B	42	LYS
1	B	73	LYS
1	B	107	GLN
1	B	108	SER
1	B	111[A]	GLN
1	B	111[B]	GLN
1	B	121	TYR
1	B	214	SER
1	B	225	ILE
1	B	226	LEU
1	B	231	ASP
1	B	239	SER
1	B	242	SER

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Mol	Chain	Res	Type
1	B	255	THR
1	B	258	SER
1	B	271	SER
1	B	282	SER
1	B	286	THR
1	B	340	ARG
1	B	392	LYS
1	B	414	LYS
1	B	425	ASN
1	B	438	MSE

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (6) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	327	ASN
1	A	448	ASN
1	A	458	GLN
1	B	104	ASN
1	B	348	ASN
1	B	417	ASN

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 carbohydrates in this entry.

5.6 Ligand geometry [i](#)

3 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
2	LMT	B	601	-	36,36,36	0.47	0	47,47,47	1.44	9 (19%)
2	LMT	A	601[A]	-	36,36,36	0.47	0	47,47,47	0.82	1 (2%)
2	LMT	A	601[B]	-	36,36,36	0.47	0	47,47,47	0.91	1 (2%)

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	LMT	B	601	-	-	10/21/61/61	0/2/2/2
2	LMT	A	601[A]	-	-	13/21/61/61	0/2/2/2
2	LMT	A	601[B]	-	-	8/21/61/61	0/2/2/2

There are no bond length outliers.

All (11) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	601	LMT	O1B-C4'-C5'	3.33	118.57	109.45
2	B	601	LMT	C1B-O5B-C5B	3.14	119.86	113.69
2	B	601	LMT	C1'-O5'-C5'	2.97	119.51	113.69
2	B	601	LMT	C1-O1'-C1'	-2.64	109.47	113.84
2	A	601[A]	LMT	C1B-C2B-C3B	2.41	115.02	110.00
2	B	601	LMT	O5B-C1B-C2B	2.32	115.26	110.35
2	B	601	LMT	C3B-C4B-C5B	-2.25	106.22	110.24
2	B	601	LMT	C1B-C2B-C3B	2.19	114.56	110.00
2	B	601	LMT	O5'-C1'-C2'	2.13	114.86	110.35
2	A	601[B]	LMT	O5'-C1'-C2'	2.09	114.76	110.35
2	B	601	LMT	C1B-O1B-C4'	2.08	123.11	117.96

There are no chirality outliers.

All (31) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	601[A]	LMT	O5'-C1'-O1'-C1
2	A	601[B]	LMT	C5'-C4'-O1B-C1B
2	B	601	LMT	C5'-C4'-O1B-C1B
2	B	601	LMT	O5B-C5B-C6B-O6B
2	A	601[A]	LMT	C2'-C1'-O1'-C1
2	B	601	LMT	C4B-C5B-C6B-O6B
2	B	601	LMT	O1'-C1-C2-C3
2	A	601[A]	LMT	C7-C8-C9-C10
2	A	601[B]	LMT	O5B-C5B-C6B-O6B
2	A	601[A]	LMT	O5B-C1B-O1B-C4'
2	A	601[A]	LMT	C2B-C1B-O1B-C4'
2	A	601[A]	LMT	C3-C4-C5-C6
2	A	601[A]	LMT	C11-C10-C9-C8
2	A	601[B]	LMT	C7-C8-C9-C10
2	A	601[A]	LMT	C6-C7-C8-C9
2	A	601[A]	LMT	C5-C6-C7-C8
2	B	601	LMT	C2-C3-C4-C5
2	B	601	LMT	C7-C8-C9-C10
2	A	601[A]	LMT	C3'-C4'-O1B-C1B
2	A	601[A]	LMT	C5'-C4'-O1B-C1B
2	A	601[B]	LMT	C11-C10-C9-C8
2	A	601[A]	LMT	C1-C2-C3-C4
2	B	601	LMT	C2B-C1B-O1B-C4'
2	B	601	LMT	O5B-C1B-O1B-C4'
2	B	601	LMT	C9-C10-C11-C12
2	A	601[B]	LMT	C4B-C5B-C6B-O6B
2	A	601[A]	LMT	O5B-C5B-C6B-O6B
2	A	601[B]	LMT	O1'-C1-C2-C3
2	A	601[B]	LMT	C2B-C1B-O1B-C4'
2	B	601	LMT	C6-C7-C8-C9
2	A	601[B]	LMT	O5B-C1B-O1B-C4'

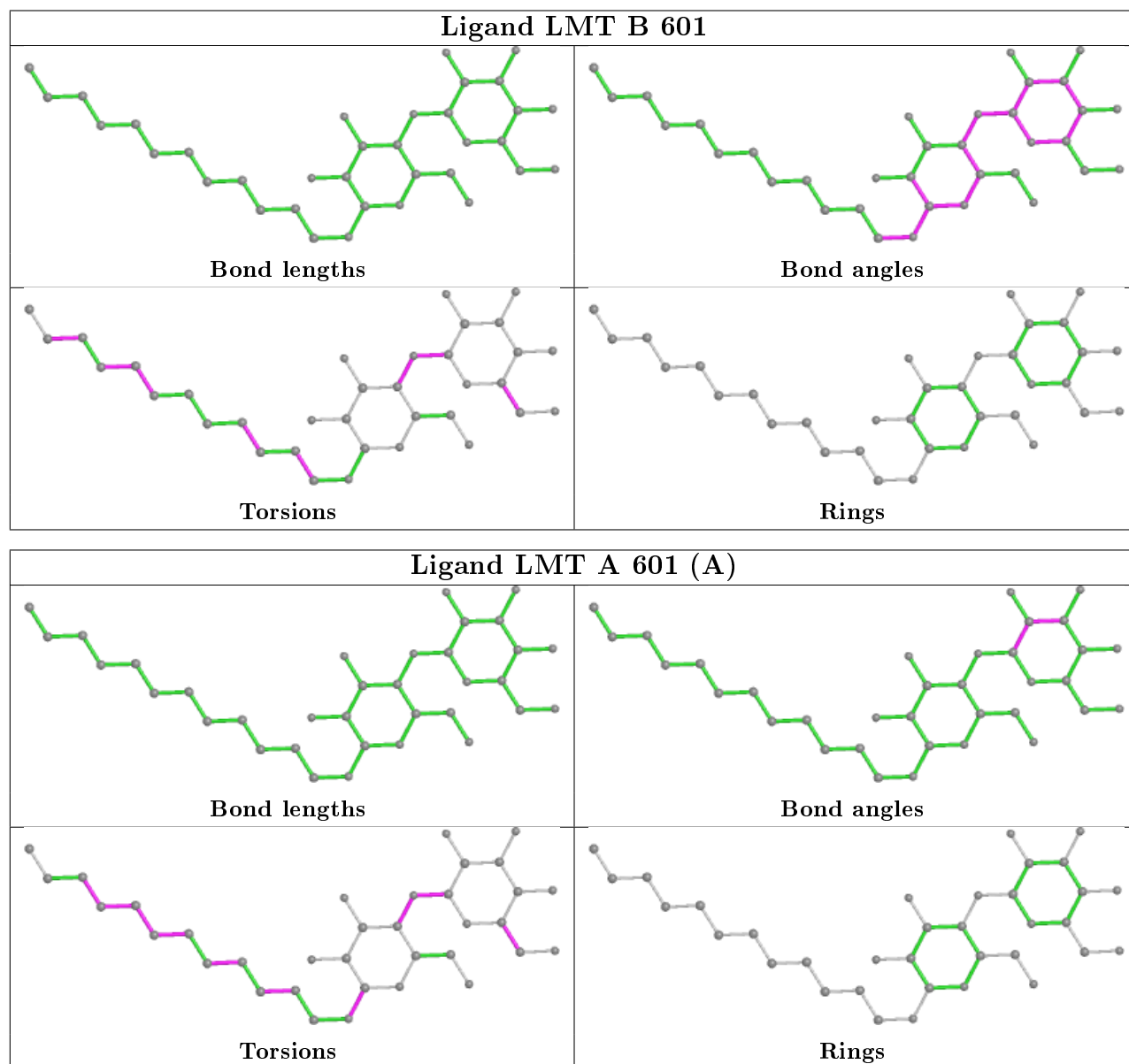
There are no ring outliers.

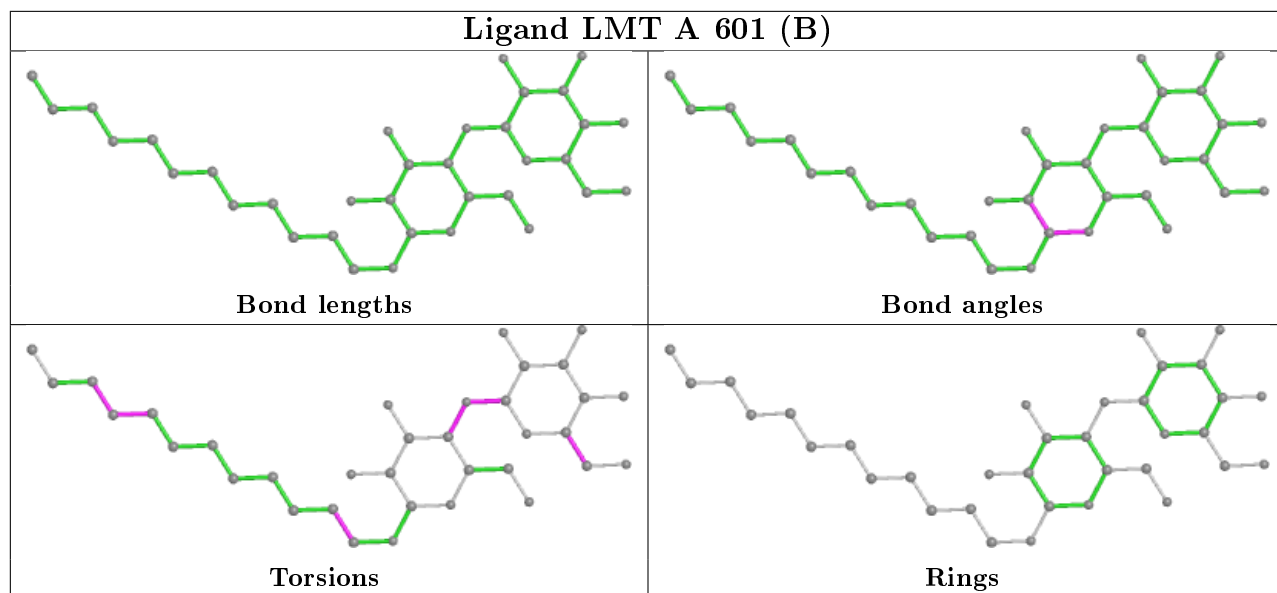
2 monomers are involved in 12 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	A	601[A]	LMT	5	0
2	A	601[B]	LMT	7	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

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, 95th 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	A	463/478 (96%)	-0.14	7 (1%) 73 71	47, 69, 107, 131	0
1	B	439/478 (91%)	0.29	28 (6%) 19 16	55, 85, 136, 160	0
All	All	902/956 (94%)	0.07	35 (3%) 39 35	47, 75, 127, 160	0

All (35) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	440	ILE	5.9
1	B	442	ILE	5.9
1	B	393	LYS	5.0
1	B	443	ILE	4.4
1	B	395	TYR	4.2
1	B	394	ILE	3.9
1	B	387	PHE	3.7
1	B	471	ILE	3.6
1	B	225	ILE	3.3
1	A	225	ILE	3.3
1	A	220	ASN	3.2
1	B	468	PHE	3.1
1	B	420	ILE	3.1
1	B	444	ILE	3.1
1	A	63	VAL	3.0
1	B	221	VAL	2.9
1	B	466	ARG	2.8
1	A	428	ILE	2.7
1	B	423	VAL	2.7
1	B	391	PRO	2.6
1	A	223	GLY	2.5
1	B	278	LYS	2.4
1	B	396	VAL	2.4
1	B	427	ILE	2.3

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Mol	Chain	Res	Type	RSRZ
1	B	62	LEU	2.3
1	B	36	TYR	2.3
1	B	441	ASP	2.3
1	B	222	SER	2.2
1	B	64	GLN	2.2
1	B	446	ASN	2.1
1	B	412	LEU	2.1
1	B	392	LYS	2.1
1	B	465	GLU	2.1
1	A	221	VAL	2.1
1	A	65	LYS	2.1

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 carbohydrates in this entry.

6.4 Ligands [i](#)

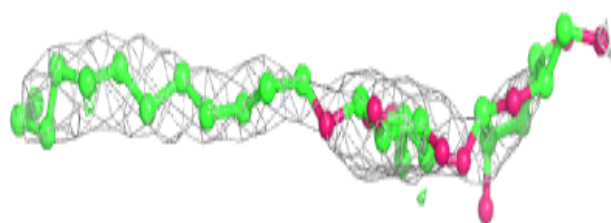
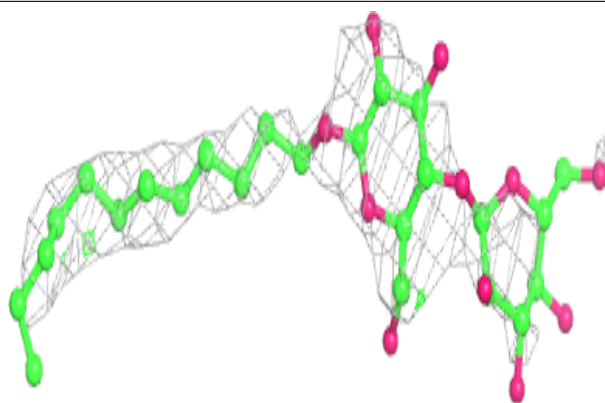
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
2	LMT	B	601	35/35	0.81	0.41	58,88,110,114	35
2	LMT	A	601[A]	35/35	0.90	0.39	72,107,133,136	35
2	LMT	A	601[B]	35/35	0.90	0.39	63,99,116,121	35

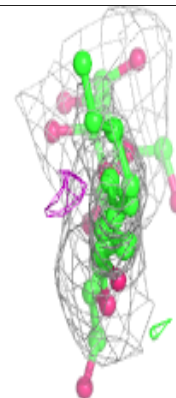
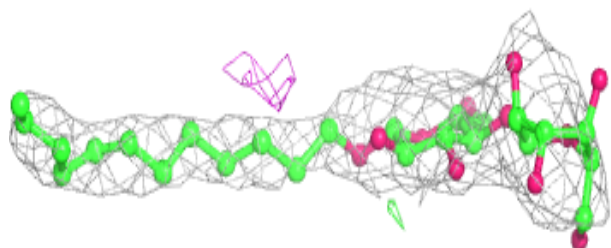
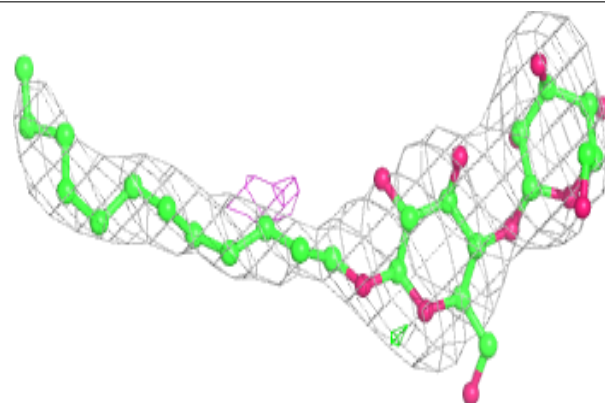
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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

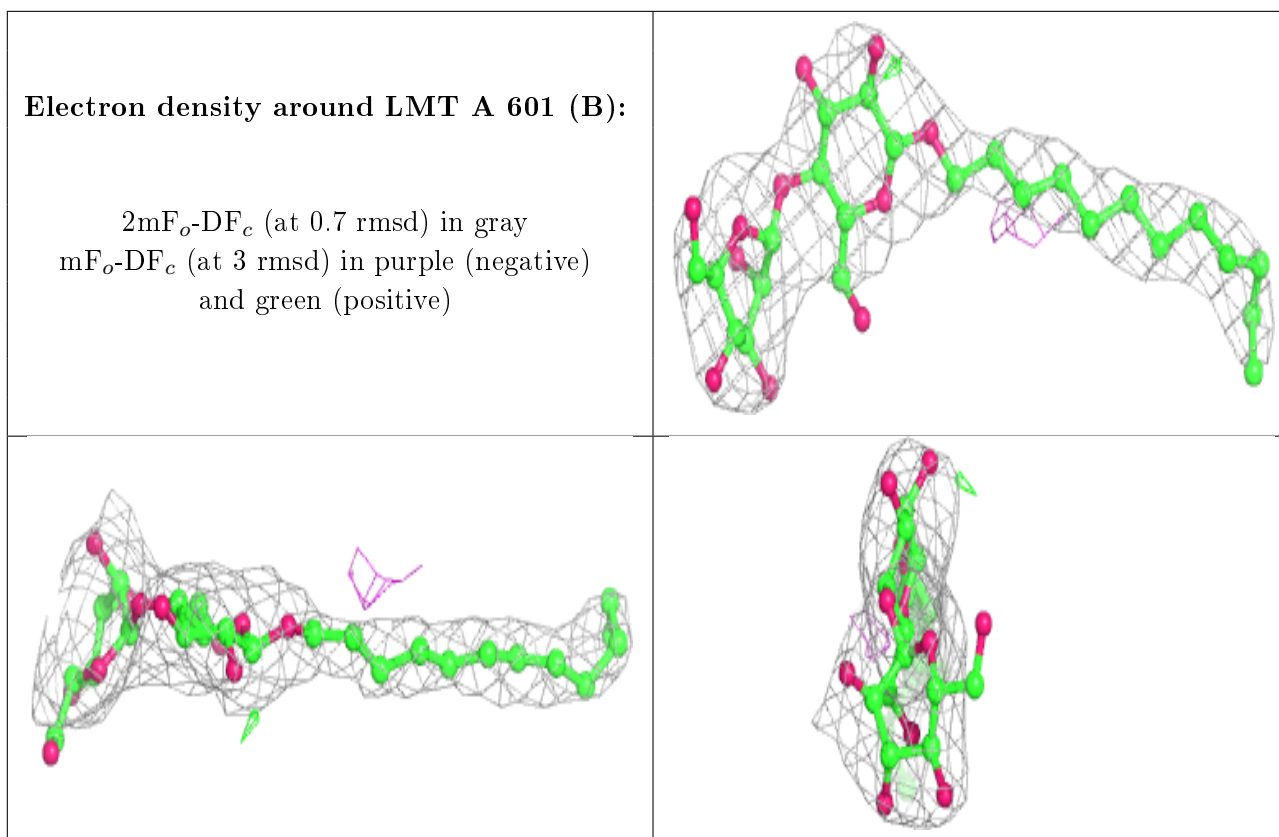
Electron density around LMT B 601:

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

**Electron density around LMT A 601 (A):**

$2mF_o-DF_c$ (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.