



wwPDB X-ray Structure Validation Summary Report ⓘ

Aug 9, 2020 – 08:09 PM BST

PDB ID : 6V4S
Title : A Closed pore conformation of a Pentameric ligand-gated ion channel with additional N-terminal domain
Authors : Delarue, M.; Hu, H.D.
Deposited on : 2019-11-29
Resolution : 3.55 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

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 : 2.13.1
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) : 2.13.1

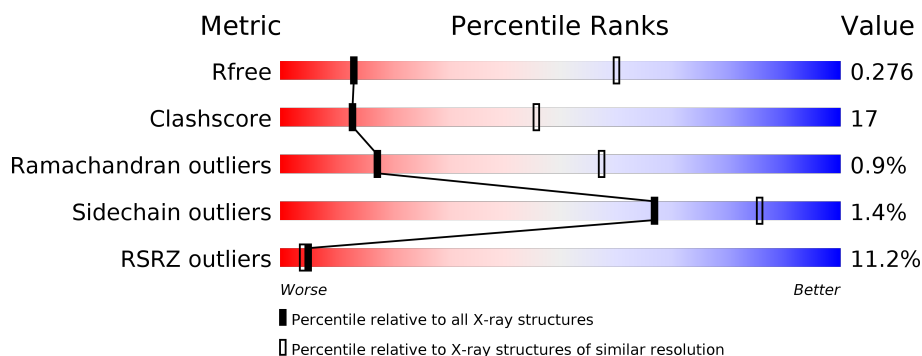
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.55 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	1020 (3.62-3.50)
Clashscore	141614	1100 (3.62-3.50)
Ramachandran outliers	138981	1065 (3.62-3.50)
Sidechain outliers	138945	1066 (3.62-3.50)
RSRZ outliers	127900	1009 (3.64-3.48)

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	642	<div> <div>14%</div> <div> <div>61%</div> <div>27%</div> <div>• 9%</div> </div> </div>
1	B	642	<div> <div>7%</div> <div> <div>63%</div> <div>26%</div> <div>• 9%</div> </div> </div>
1	C	642	<div> <div>9%</div> <div> <div>64%</div> <div>25%</div> <div>• 8%</div> </div> </div>
1	D	642	<div> <div>10%</div> <div> <div>63%</div> <div>27%</div> <div>• 8%</div> </div> </div>
1	E	642	<div> <div>11%</div> <div> <div>63%</div> <div>26%</div> <div>• 8%</div> </div> </div>

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
3	NA	A	704	-	-	-	X
3	NA	B	702	-	-	-	X
4	CL	B	703	-	-	-	X
4	CL	E	702	-	-	-	X
5	LMT	B	706	-	-	-	X
5	LMT	C	706	-	-	-	X

2 Entry composition [i](#)

There are 6 unique types of molecules in this entry. The entry contains 23261 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 Neur_chan_LBD domain-containing protein.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	585	Total	C	N	O	S	0	0	0
			4576	2948	752	865	11			
1	E	591	Total	C	N	O	S	0	0	0
			4613	2972	758	872	11			
1	D	591	Total	C	N	O	S	0	0	0
			4613	2972	758	872	11			
1	C	588	Total	C	N	O	S	0	0	0
			4597	2960	756	870	11			
1	B	586	Total	C	N	O	S	0	0	0
			4584	2951	753	869	11			

- Molecule 2 is CALCIUM ION (three-letter code: CA) (formula: Ca).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	B	1	Total	Ca	1	0
			1	1		
2	A	2	Total	Ca	2	0
			2	2		
2	C	1	Total	Ca	1	0
			1	1		
2	E	1	Total	Ca	0	0
			1	1		

- Molecule 3 is SODIUM ION (three-letter code: NA) (formula: Na).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	B	1	Total	Na	0	0
			1	1		
3	A	3	Total	Na	0	0
			3	3		
3	D	1	Total	Na	0	0
			1	1		

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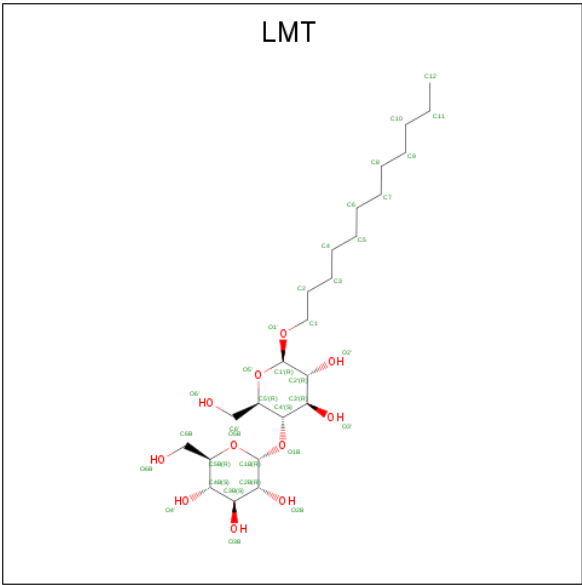
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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	C	2	Total	Na	1	0
			2	2		

- Molecule 4 is CHLORIDE ION (three-letter code: CL) (formula: Cl).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	B	1	Total	Cl	0	0
			1	1		
4	A	1	Total	Cl	0	0
			1	1		
4	D	1	Total	Cl	0	0
			1	1		
4	C	1	Total	Cl	0	0
			1	1		
4	E	1	Total	Cl	0	0
			1	1		

- Molecule 5 is DODECYL-BETA-D-MALTOSE (three-letter code: LMT) (formula: C₂₄H₄₆O₁₁).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
5	A	1	Total	C	O	0	0
			25	14	11		
5	E	1	Total	C	O	0	0
			25	14	11		
5	E	1	Total	C	O	0	0
			25	14	11		

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Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
5	E	1	Total	C	O	0	0
			25	14	11		
5	D	1	Total	C	O	0	0
			26	15	11		
5	C	1	Total	C	O	0	0
			25	14	11		
5	C	1	Total	C	O	0	0
			27	16	11		
5	B	1	Total	C	O	0	0
			25	14	11		
5	B	1	Total	C	O	0	0
			26	15	11		
5	B	1	Total	C	O	0	0
			27	16	11		

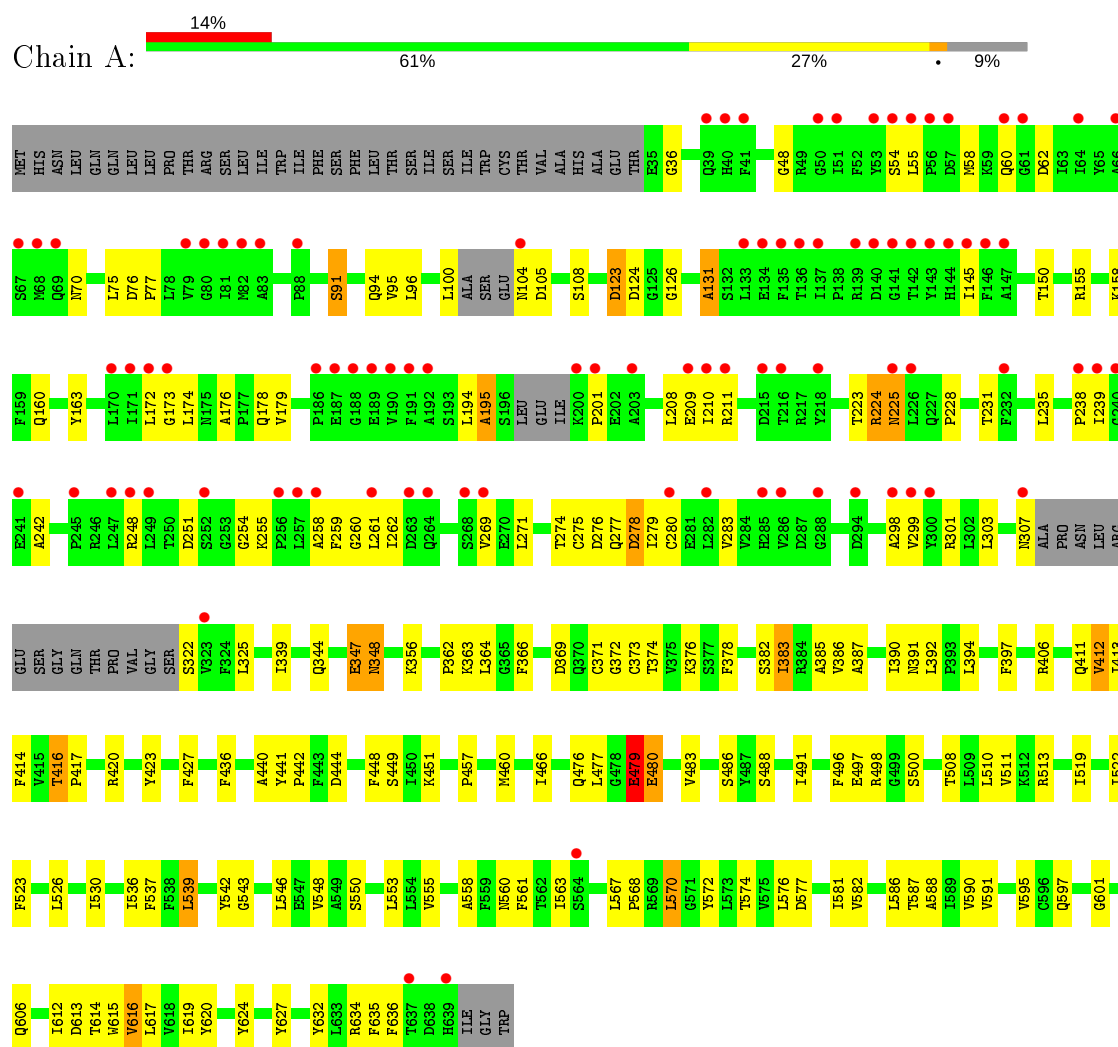
- Molecule 6 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	A	1	Total	O	0	0
			1	1		
6	E	1	Total	O	0	0
			1	1		
6	D	1	Total	O	0	0
			1	1		
6	C	1	Total	O	0	0
			1	1		
6	B	1	Total	O	0	0
			1	1		

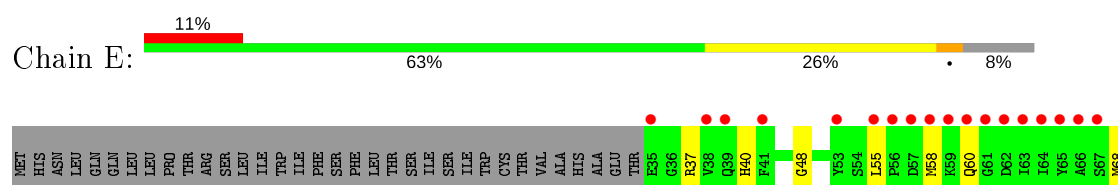
3 Residue-property plots

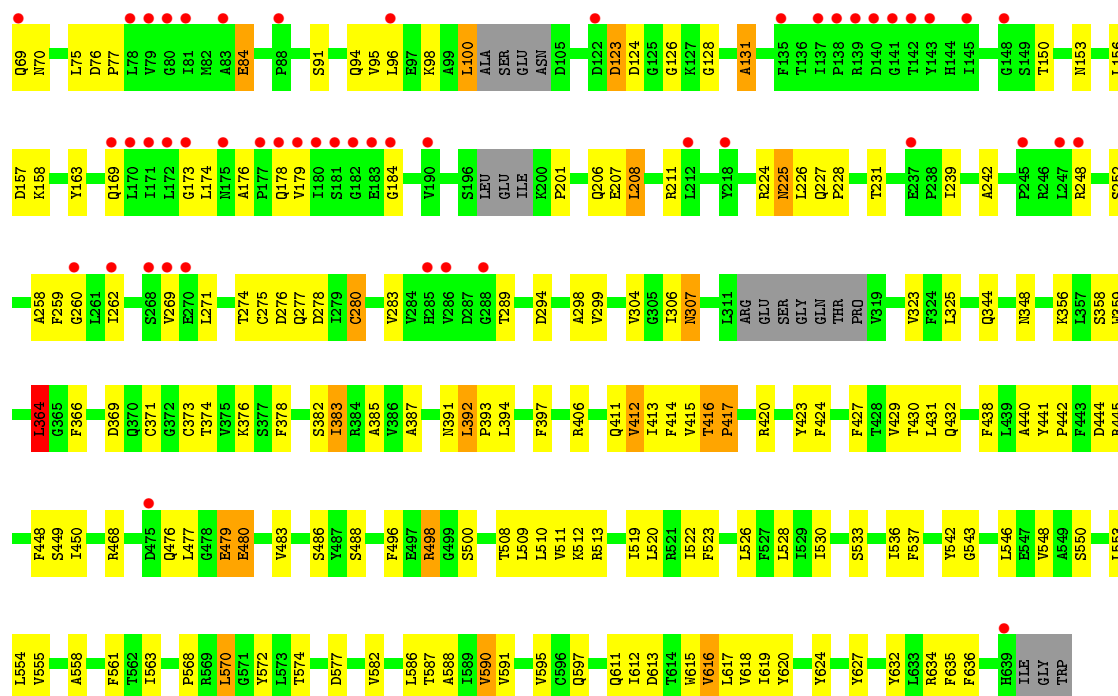
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. 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: Neur_chan_LBD domain-containing protein

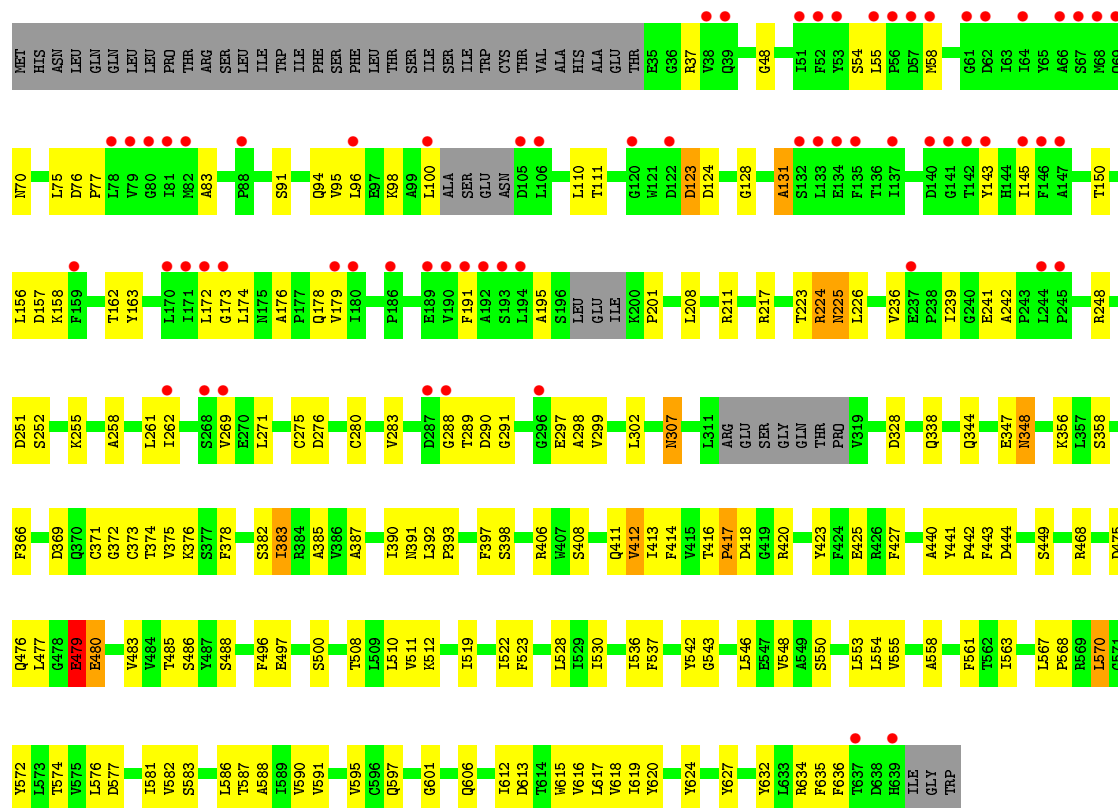


- Molecule 1: Neur_chan_LBD domain-containing protein

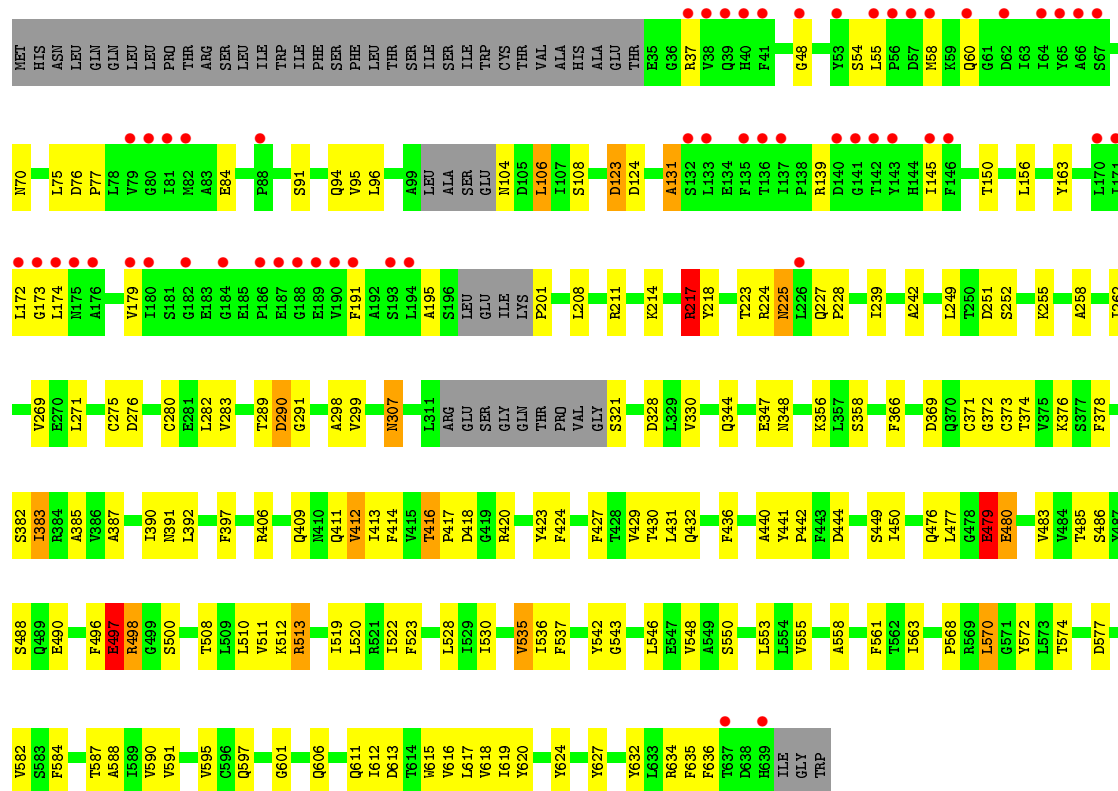




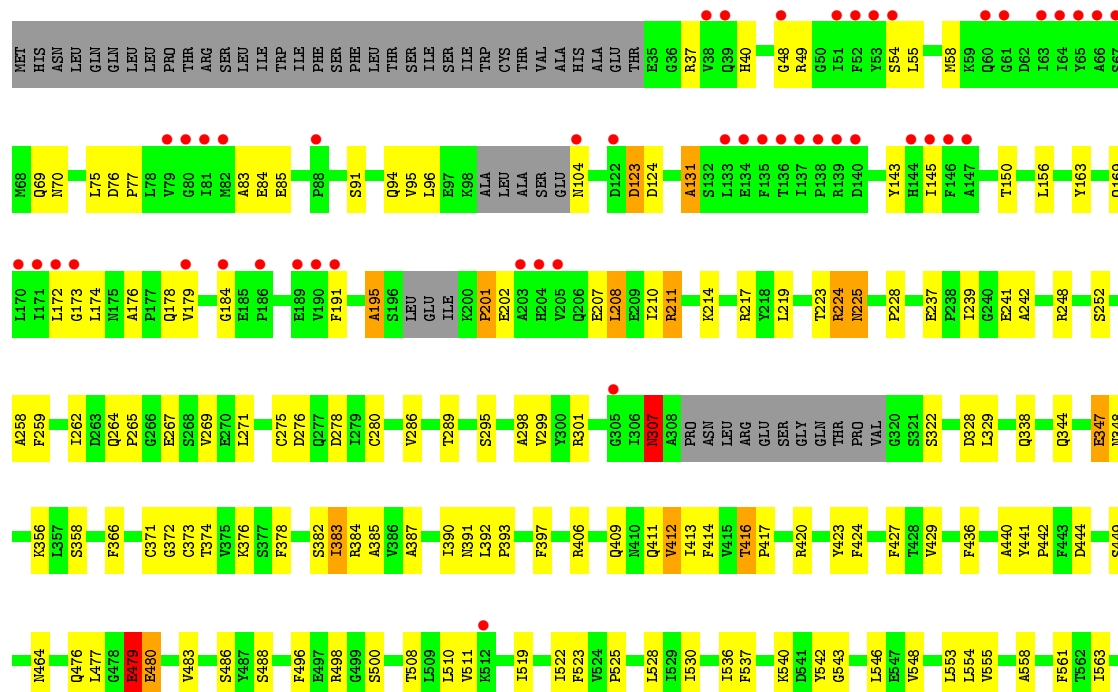
• Molecule 1: Neur_chan_LBD domain-containing protein



• Molecule 1: Neur_chan_LBD domain-containing protein



• Molecule 1: Neur_chan_LBD domain-containing protein





4 Data and refinement statistics

Property	Value	Source
Space group	P 2 ₁ 2 ₁ 2	Depositor
Cell constants a, b, c, α , β , γ	159.41Å 337.25Å 111.81Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	48.04 – 3.55 48.04 – 3.55	Depositor EDS
% Data completeness (in resolution range)	89.0 (48.04-3.55) 89.1 (48.04-3.55)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.42 (at 3.57Å)	Xtriage
Refinement program	REFMAC 5.8.0158	Depositor
R, R_{free}	0.194 , 0.268 0.206 , 0.276	Depositor DCC
R_{free} test set	3250 reflections (4.96%)	wwPDB-VP
Wilson B-factor (Å ²)	94.2	Xtriage
Anisotropy	0.916	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.29 , 113.3	EDS
L-test for twinning ²	$\langle L \rangle = 0.48$, $\langle L^2 \rangle = 0.30$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.92	EDS
Total number of atoms	23261	wwPDB-VP
Average B, all atoms (Å ²)	145.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 6.15% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical 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: NA, CA, LMT, CL

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	0.86	4/4678 (0.1%)	1.14	25/6365 (0.4%)
1	B	0.86	3/4687 (0.1%)	1.09	18/6377 (0.3%)
1	C	0.85	2/4700 (0.0%)	1.17	29/6396 (0.5%)
1	D	0.86	4/4716 (0.1%)	1.10	17/6418 (0.3%)
1	E	0.87	1/4716 (0.0%)	1.11	19/6418 (0.3%)
All	All	0.86	14/23497 (0.1%)	1.12	108/31974 (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	5
1	B	0	4
1	C	0	5
1	D	0	4
1	E	0	4
All	All	0	22

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

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	620	TYR	CE1-CZ	6.46	1.47	1.38
1	E	620	TYR	CE1-CZ	6.37	1.46	1.38
1	C	620	TYR	CE1-CZ	6.08	1.46	1.38
1	B	620	TYR	CE1-CZ	6.02	1.46	1.38
1	A	457	PRO	N-CD	-5.92	1.39	1.47

The worst 5 of 108 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	C	513	ARG	NE-CZ-NH2	27.52	134.06	120.30
1	A	513	ARG	NE-CZ-NH2	17.31	128.95	120.30
1	A	513	ARG	NE-CZ-NH1	-14.66	112.97	120.30
1	B	84	GLU	N-CA-C	10.67	139.81	111.00
1	C	513	ARG	NH1-CZ-NH2	-10.03	108.37	119.40

There are no chirality outliers.

5 of 22 planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	123	ASP	Peptide
1	A	224	ARG	Peptide
1	A	278	ASP	Peptide
1	A	322	SER	Mainchain,Peptide
1	E	123	ASP	Peptide

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	4576	0	4462	154	0
1	B	4584	0	4469	171	3
1	C	4597	0	4484	171	3
1	D	4613	0	4502	159	3
1	E	4613	0	4502	165	3
2	A	2	0	0	0	0
2	B	1	0	0	0	0
2	C	1	0	0	0	0
2	E	1	0	0	0	0
3	A	3	0	0	0	0
3	B	1	0	0	0	0
3	C	2	0	0	0	0
3	D	1	0	0	0	0
4	A	1	0	0	1	0
4	B	1	0	0	0	0
4	C	1	0	0	0	0
4	D	1	0	0	0	0
4	E	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
5	A	25	0	23	0	0
5	B	78	0	75	10	0
5	C	52	0	50	0	0
5	D	26	0	25	0	0
5	E	75	0	69	0	0
6	A	1	0	0	0	0
6	B	1	0	0	0	0
6	C	1	0	0	0	0
6	D	1	0	0	0	0
6	E	1	0	0	0	0
All	All	23261	0	22661	759	6

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 17.

The worst 5 of 759 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:476:GLN:CB	1:C:479:GLU:OE1	1.66	1.42
1:E:207:GLU:O	1:E:208:LEU:CD1	1.77	1.32
1:C:476:GLN:HB2	1:C:479:GLU:OE1	1.21	1.27
1:C:530:ILE:HD13	1:C:624:TYR:CE2	1.70	1.27
1:C:416:THR:OG1	1:C:417:PRO:HD2	1.12	1.23

The worst 5 of 6 symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:468:ARG:NH2	1:B:262:ILE:CG2[4_479]	1.05	1.15
1:D:468:ARG:NH2	1:C:262:ILE:CG2[4_4710]	1.27	0.93
1:D:468:ARG:NH2	1:C:262:ILE:CB[4_4710]	1.40	0.80
1:D:468:ARG:NH2	1:C:262:ILE:CG1[4_4710]	1.88	0.32
1:E:468:ARG:CZ	1:B:262:ILE:CG2[4_479]	2.00	0.20

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	577/642 (90%)	544 (94%)	28 (5%)	5 (1%)	17	57
1	B	578/642 (90%)	545 (94%)	27 (5%)	6 (1%)	15	55
1	C	580/642 (90%)	548 (94%)	28 (5%)	4 (1%)	22	62
1	D	583/642 (91%)	551 (94%)	27 (5%)	5 (1%)	17	57
1	E	583/642 (91%)	554 (95%)	23 (4%)	6 (1%)	15	55
All	All	2901/3210 (90%)	2742 (94%)	133 (5%)	26 (1%)	17	57

5 of 26 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	131	ALA
1	A	383	ILE
1	E	131	ALA
1	E	307	ASN
1	E	383	ILE

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	496/557 (89%)	489 (99%)	7 (1%)	67	85
1	B	498/557 (89%)	490 (98%)	8 (2%)	62	83
1	C	499/557 (90%)	493 (99%)	6 (1%)	71	87
1	D	500/557 (90%)	494 (99%)	6 (1%)	71	87

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	E	500/557 (90%)	492 (98%)	8 (2%)	62 83
All	All	2493/2785 (90%)	2458 (99%)	35 (1%)	67 85

5 of 35 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	D	96	LEU
1	D	358	SER
1	B	390	ILE
1	D	208	LEU
1	D	307	ASN

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 54 such sidechains are listed below:

Mol	Chain	Res	Type
1	D	154	GLN
1	D	432	GLN
1	B	403	GLN
1	D	175	ASN
1	D	338	GLN

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 monosaccharides in this entry.

5.6 Ligand geometry ⓘ

Of 27 ligands modelled in this entry, 17 are monoatomic - leaving 10 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
5	LMT	E	705	-	26,26,36	1.40	3 (11%)	37,37,47	2.28	10 (27%)
5	LMT	B	704	-	26,26,36	1.10	1 (3%)	37,37,47	1.60	7 (18%)
5	LMT	C	706	-	28,28,36	1.25	1 (3%)	39,39,47	2.14	12 (30%)
5	LMT	E	703	-	26,26,36	1.05	1 (3%)	37,37,47	1.60	5 (13%)
5	LMT	B	705	-	27,27,36	1.22	1 (3%)	37,38,47	1.82	10 (27%)
5	LMT	C	705	-	26,26,36	1.14	1 (3%)	37,37,47	1.77	9 (24%)
5	LMT	B	706	-	28,28,36	0.50	0	39,39,47	1.24	6 (15%)
5	LMT	E	704	-	26,26,36	0.98	1 (3%)	37,37,47	2.02	13 (35%)
5	LMT	D	703	-	27,27,36	1.28	1 (3%)	37,38,47	2.41	9 (24%)
5	LMT	A	707	-	26,26,36	1.24	2 (7%)	37,37,47	1.97	8 (21%)

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	LMT	E	705	-	-	5/11/51/61	0/2/2/2
5	LMT	B	704	-	-	5/11/51/61	0/2/2/2
5	LMT	C	706	-	-	3/13/53/61	0/2/2/2
5	LMT	E	703	-	-	5/11/51/61	0/2/2/2
5	LMT	B	705	-	-	6/12/52/61	0/2/2/2
5	LMT	C	705	-	-	6/11/51/61	0/2/2/2
5	LMT	B	706	-	-	5/13/53/61	0/2/2/2
5	LMT	E	704	-	-	8/11/51/61	0/2/2/2
5	LMT	D	703	-	-	5/12/52/61	0/2/2/2
5	LMT	A	707	-	-	5/11/51/61	0/2/2/2

The worst 5 of 12 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	E	705	LMT	O1'-C1'	4.59	1.48	1.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	D	703	LMT	O1'-C1'	4.47	1.47	1.40
5	A	707	LMT	O1'-C1'	4.12	1.47	1.40
5	B	705	LMT	O1'-C1'	4.07	1.47	1.40
5	C	705	LMT	O1'-C1'	3.99	1.47	1.40

The worst 5 of 89 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	D	703	LMT	C1B-O5B-C5B	7.63	128.66	113.69
5	D	703	LMT	C1-O1'-C1'	7.17	125.73	113.84
5	E	705	LMT	C1B-O5B-C5B	6.72	126.89	113.69
5	C	706	LMT	C1B-O5B-C5B	5.85	125.17	113.69
5	E	705	LMT	C1'-O5'-C5'	5.52	124.52	113.69

There are no chirality outliers.

5 of 53 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
5	C	705	LMT	C2B-C1B-O1B-C4'
5	E	703	LMT	C2B-C1B-O1B-C4'
5	D	703	LMT	C2'-C1'-O1'-C1
5	D	703	LMT	O5'-C1'-O1'-C1
5	A	707	LMT	C2B-C1B-O1B-C4'

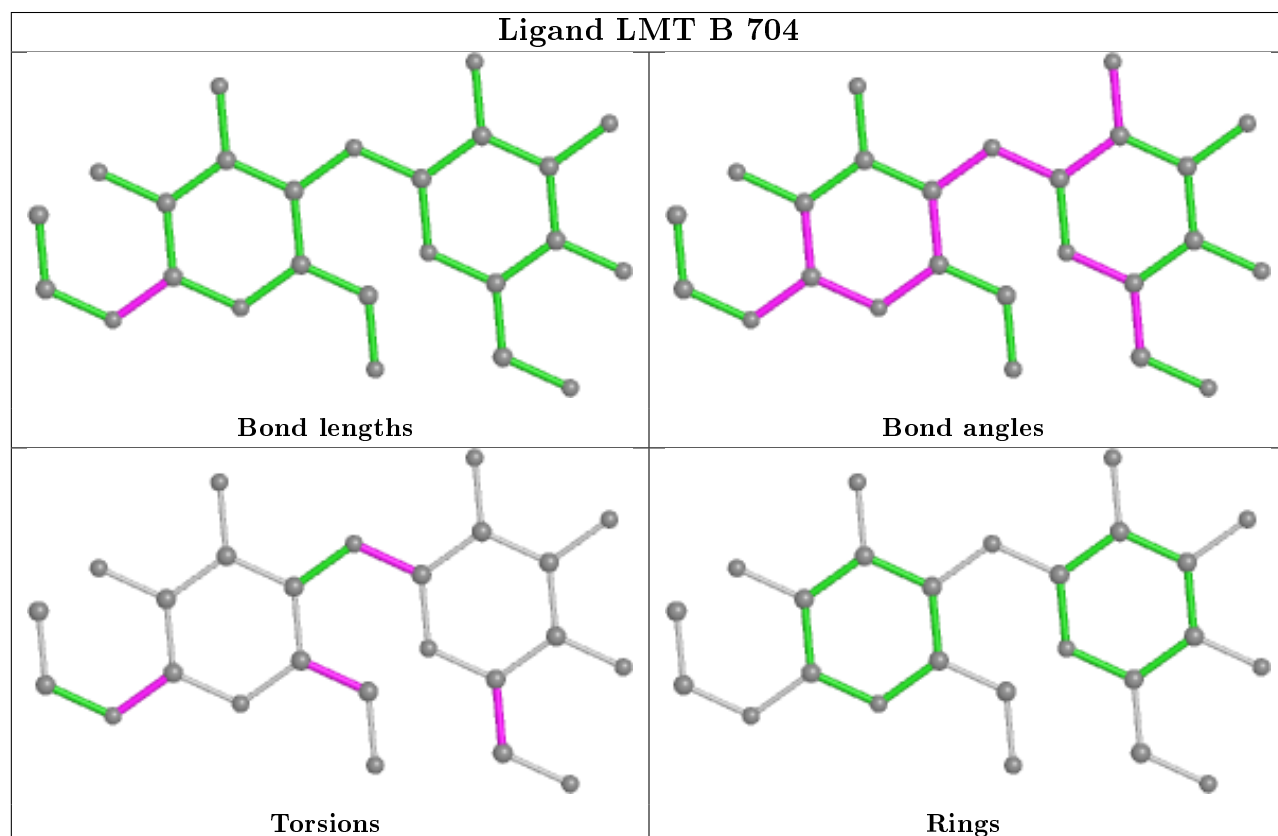
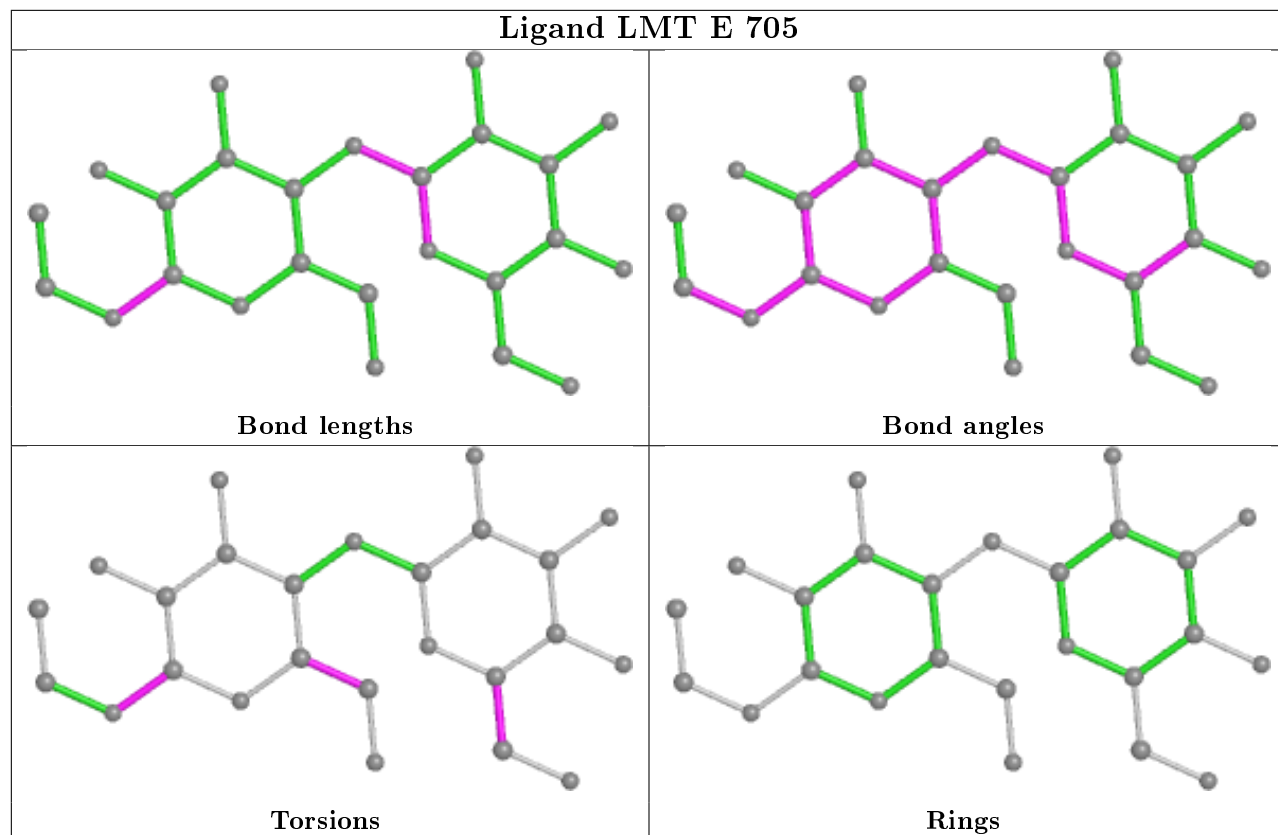
There are no ring outliers.

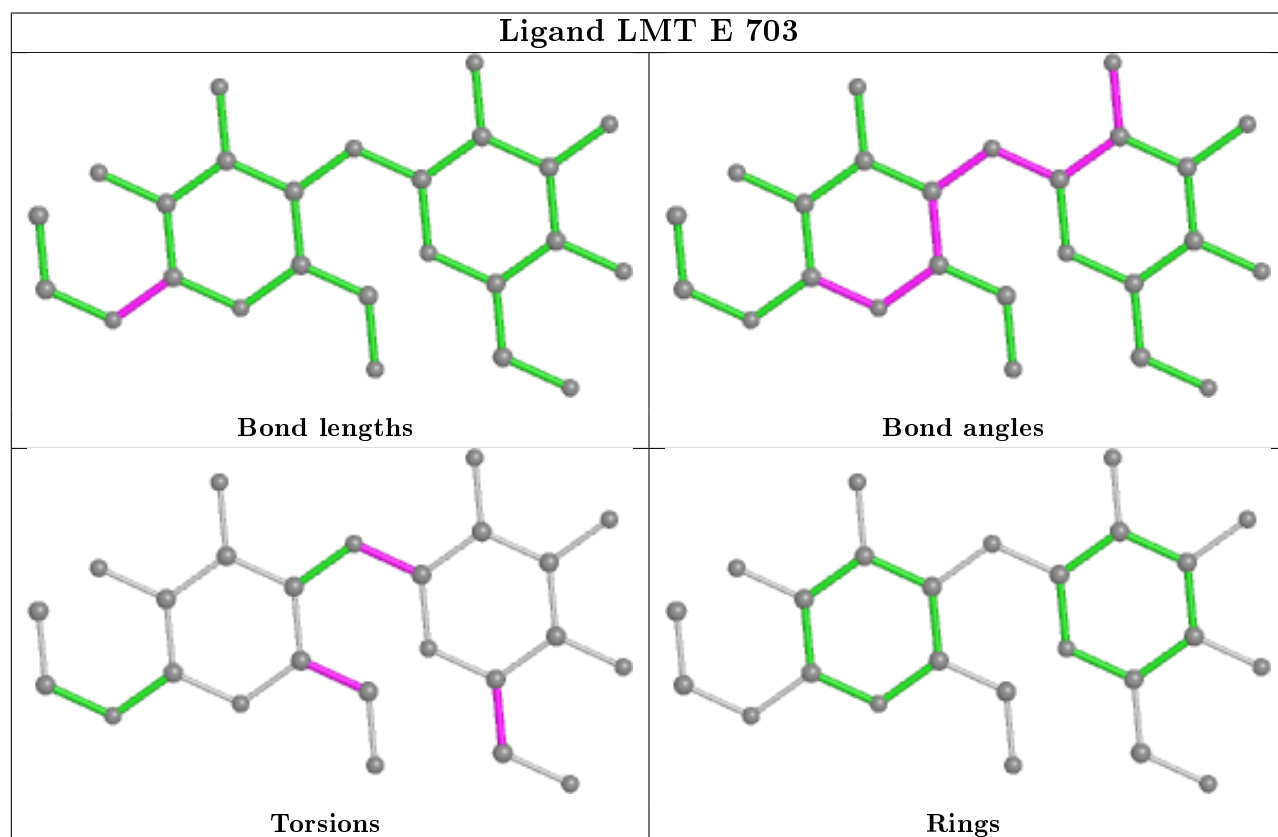
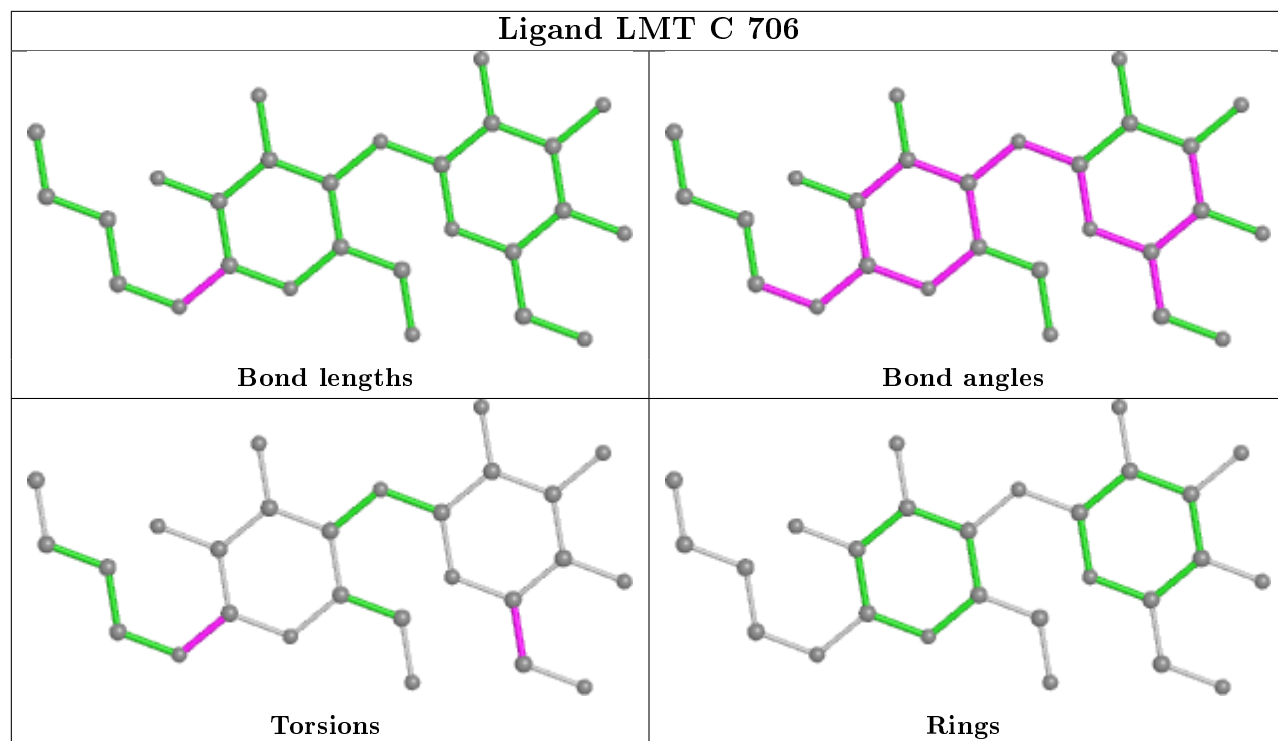
2 monomers are involved in 10 short contacts:

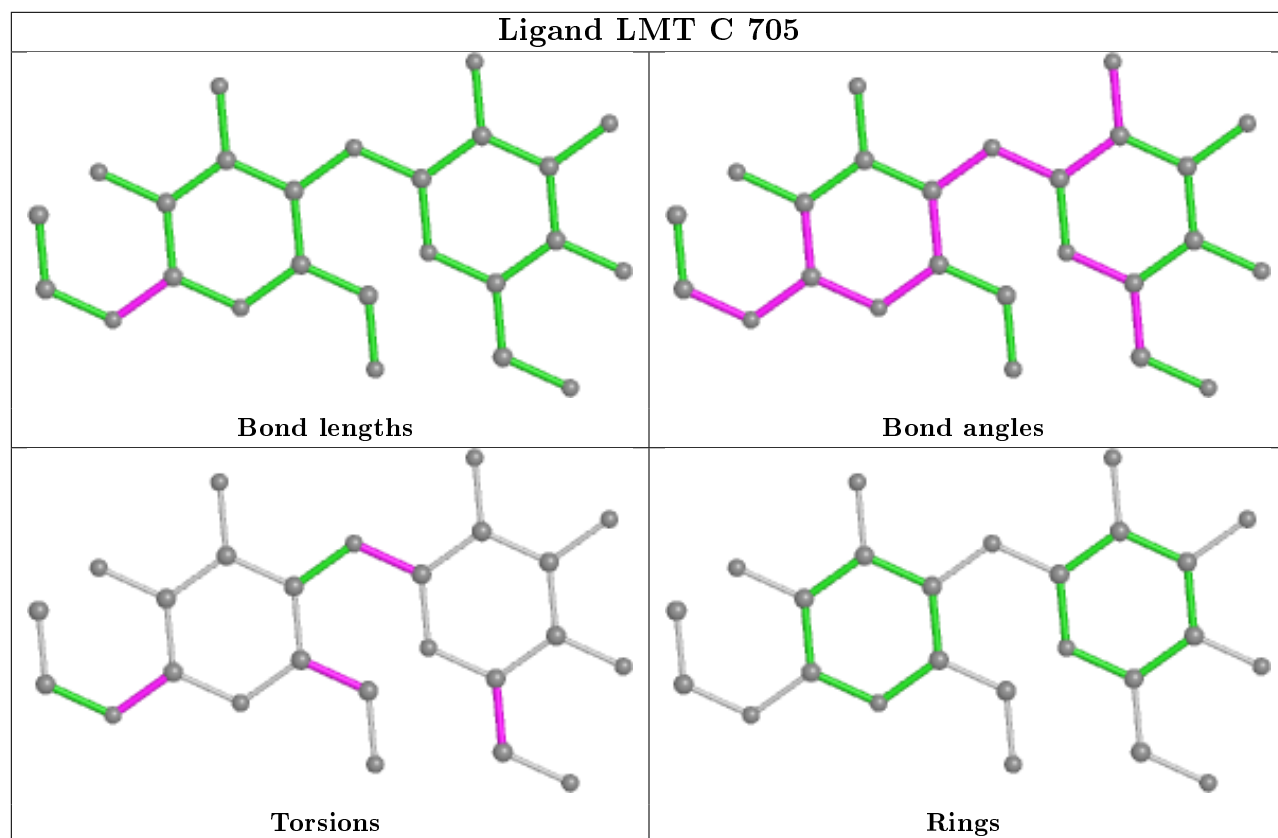
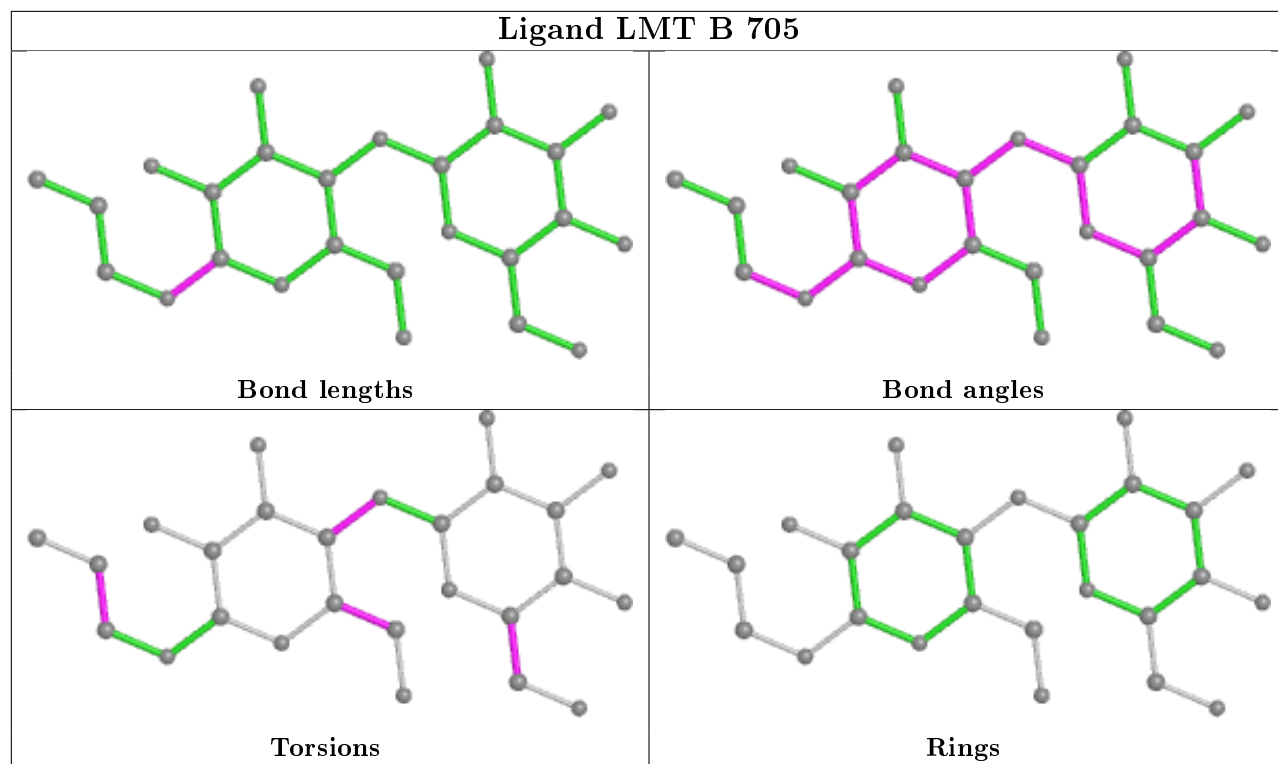
Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	B	705	LMT	1	0
5	B	706	LMT	9	0

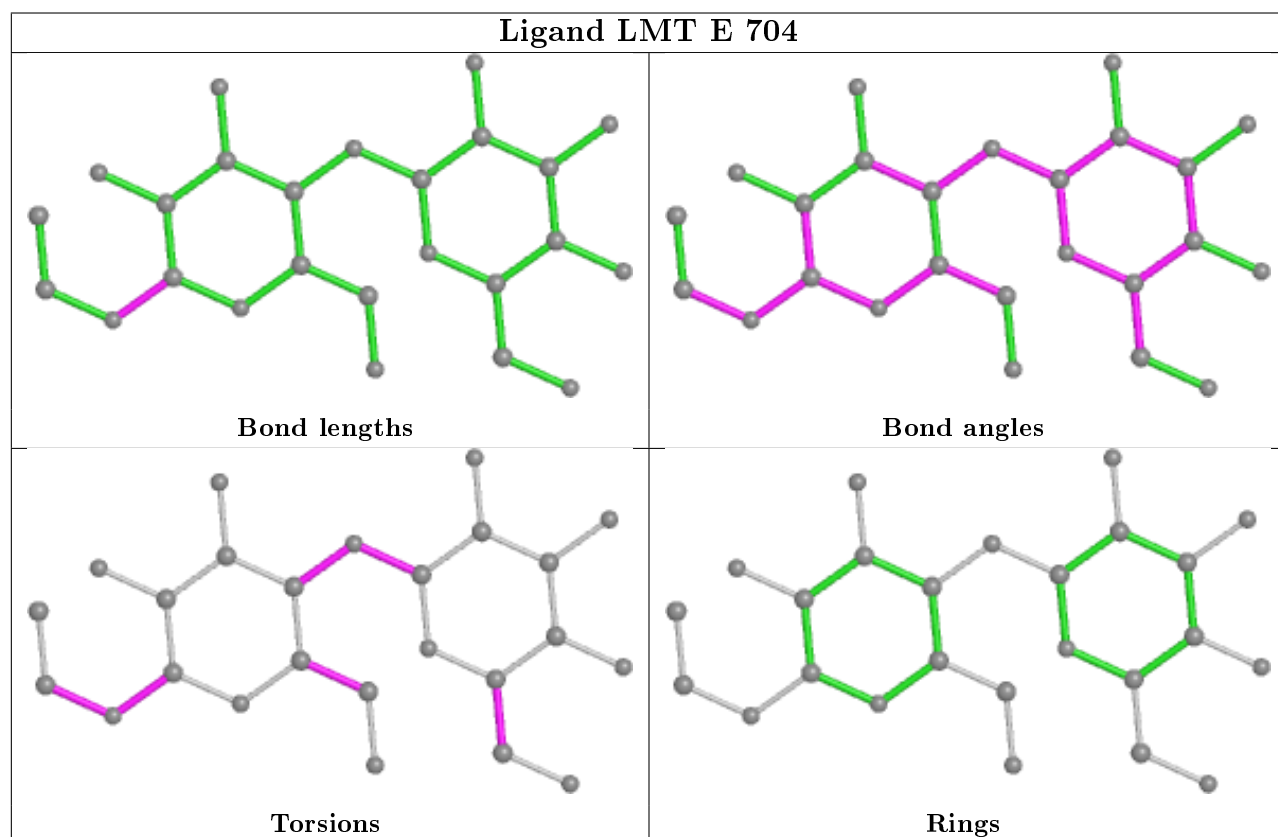
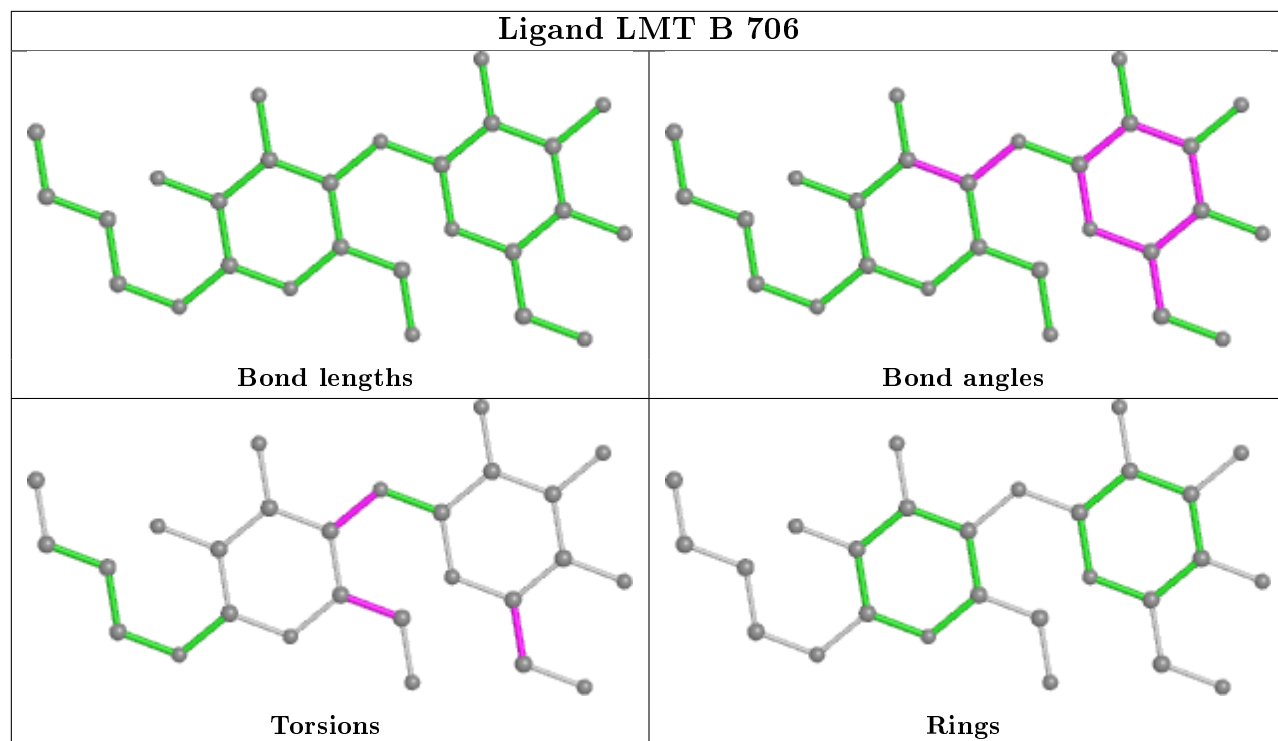
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. 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

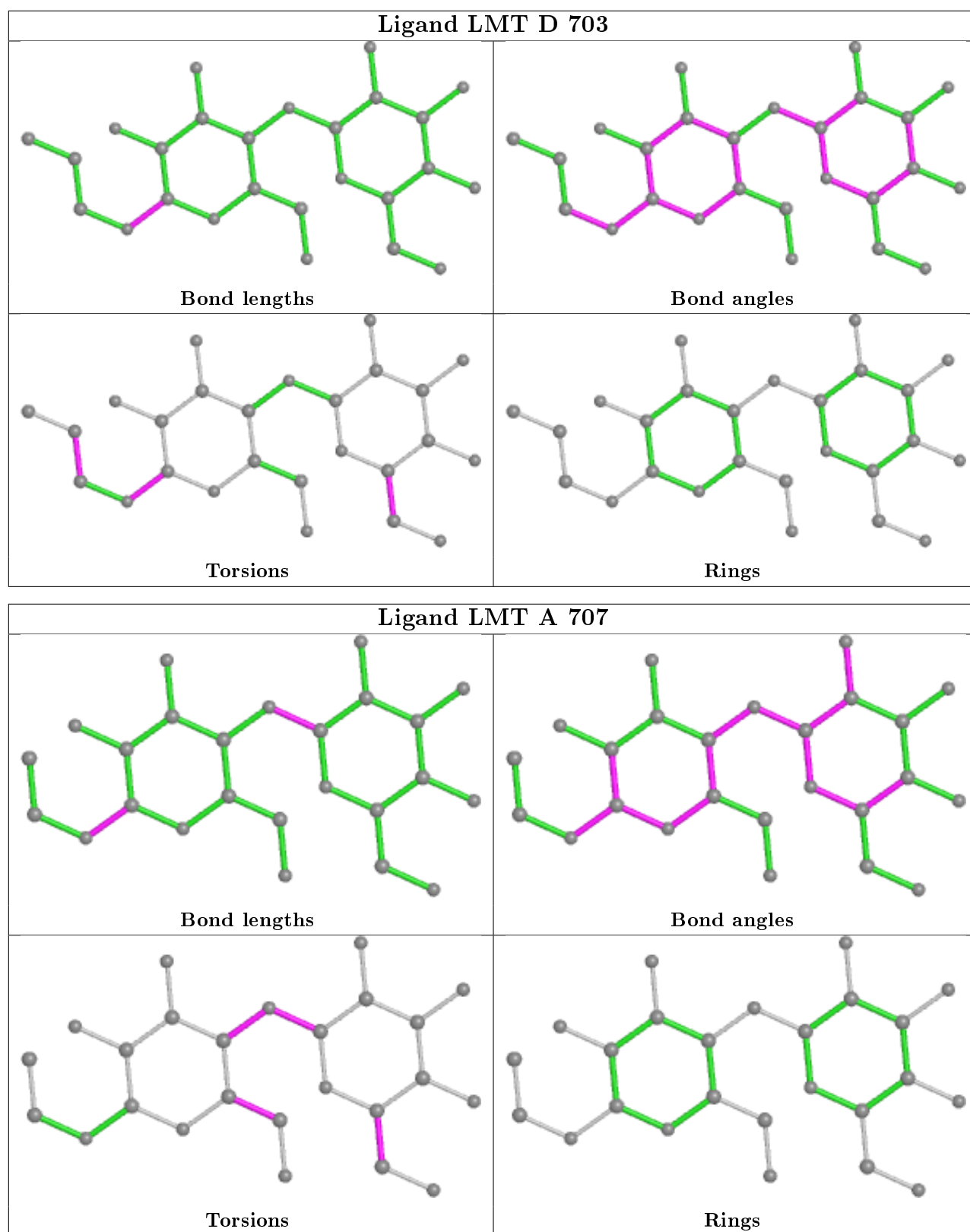
equivalents in the CSD to analyse the geometry.











5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

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, 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	585/642 (91%)	0.58	92 (15%) 2 1	58, 149, 242, 288	0
1	B	586/642 (91%)	0.26	48 (8%) 11 8	55, 137, 203, 228	0
1	C	588/642 (91%)	0.27	55 (9%) 8 5	57, 133, 208, 238	0
1	D	591/642 (92%)	0.38	65 (10%) 5 4	53, 136, 216, 239	0
1	E	591/642 (92%)	0.40	68 (11%) 4 4	52, 146, 238, 265	0
All	All	2941/3210 (91%)	0.38	328 (11%) 5 4	52, 139, 226, 288	0

The worst 5 of 328 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	66	ALA	9.7
1	C	171	ILE	9.5
1	D	80	GLY	9.5
1	A	173	GLY	9.0
1	A	226	LEU	8.7

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,

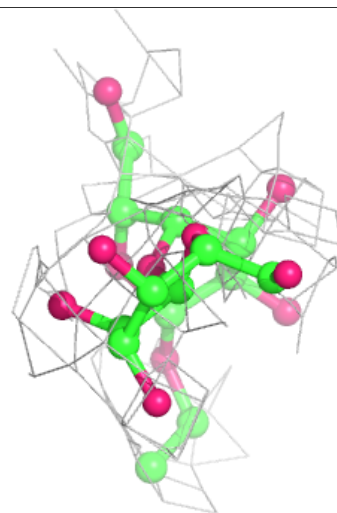
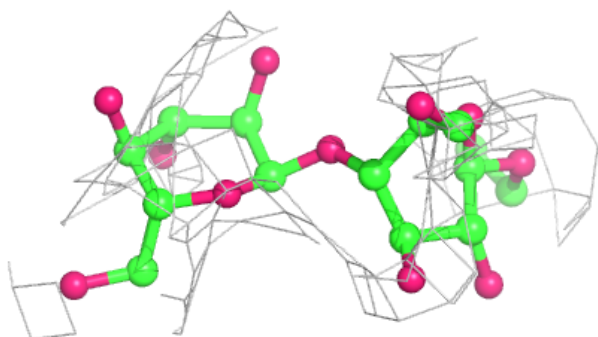
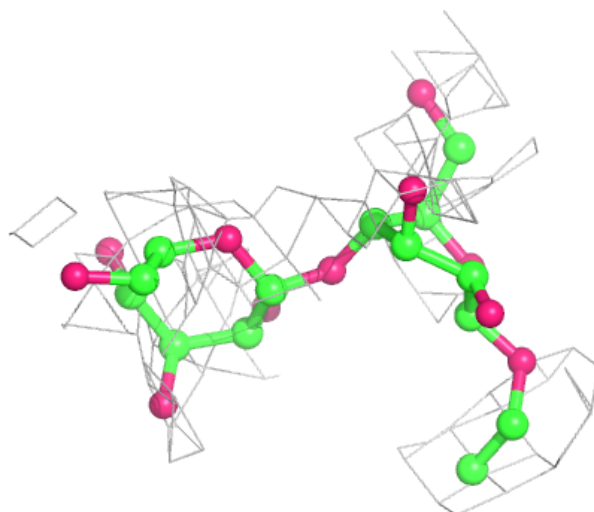
median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
2	CA	B	701	1/1	-	-	170,170,170,170	1
5	LMT	E	704	25/35	0.62	0.29	94,203,246,254	0
4	CL	D	702	1/1	0.84	0.42	110,110,110,110	0
2	CA	E	701	1/1	0.98	0.11	140,140,140,140	0
2	CA	A	701	1/1	-	-	170,170,170,170	1
4	CL	E	702	1/1	0.72	0.67	121,121,121,121	0
3	NA	A	703	1/1	0.92	0.67	66,66,66,66	0
3	NA	C	702	1/1	-	-	170,170,170,170	1
5	LMT	B	704	25/35	0.64	0.24	129,211,244,265	0
2	CA	A	702	1/1	-	-	170,170,170,170	1
5	LMT	E	705	25/35	0.61	0.25	108,205,239,256	0
5	LMT	D	703	26/35	0.64	0.26	120,205,232,245	0
5	LMT	B	705	26/35	0.64	0.28	100,211,240,272	0
4	CL	B	703	1/1	0.68	0.62	104,104,104,104	0
5	LMT	A	707	25/35	0.70	0.27	105,209,252,279	0
5	LMT	E	703	25/35	0.76	0.20	111,219,250,271	0
3	NA	A	705	1/1	0.90	0.58	71,71,71,71	0
4	CL	A	706	1/1	0.95	0.35	119,119,119,119	0
3	NA	C	703	1/1	0.95	0.51	79,79,79,79	0
2	CA	C	701	1/1	-	-	170,170,170,170	1
5	LMT	C	706	27/35	0.66	0.46	113,203,240,250	0
5	LMT	B	706	27/35	0.69	0.41	93,198,233,234	0
5	LMT	C	705	25/35	0.71	0.23	100,190,244,259	0
3	NA	A	704	1/1	0.73	0.80	107,107,107,107	0
3	NA	B	702	1/1	0.77	0.57	88,88,88,88	0
4	CL	C	704	1/1	0.87	0.39	105,105,105,105	0
3	NA	D	701	1/1	0.95	0.32	63,63,63,63	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.

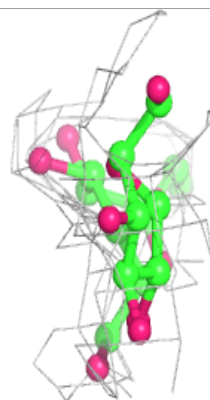
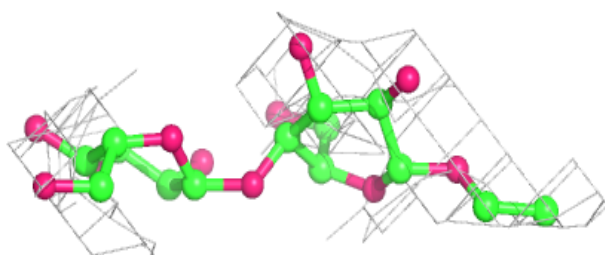
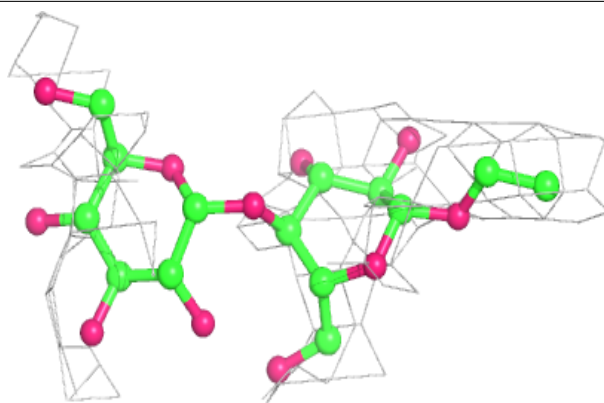
Electron density around LMT E 704:

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

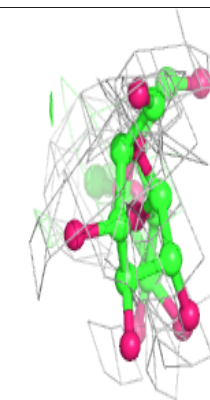
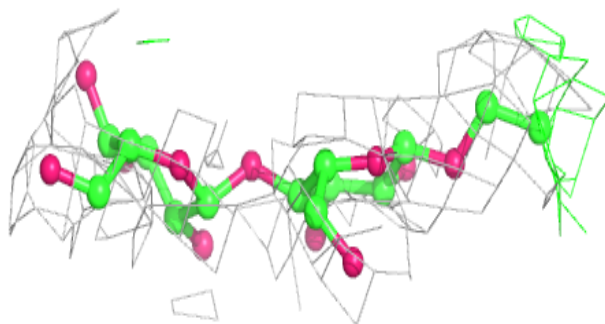
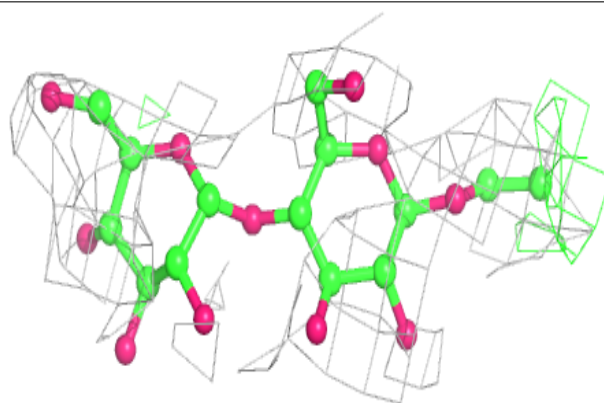


Electron density around LMT B 704:

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

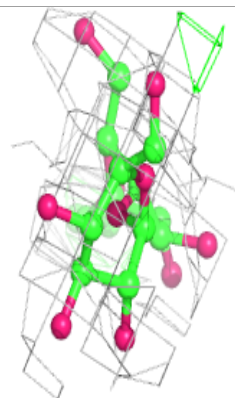
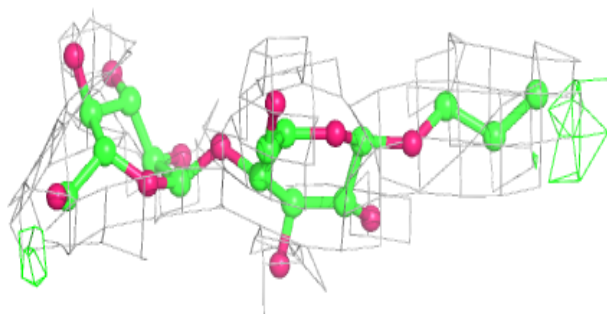
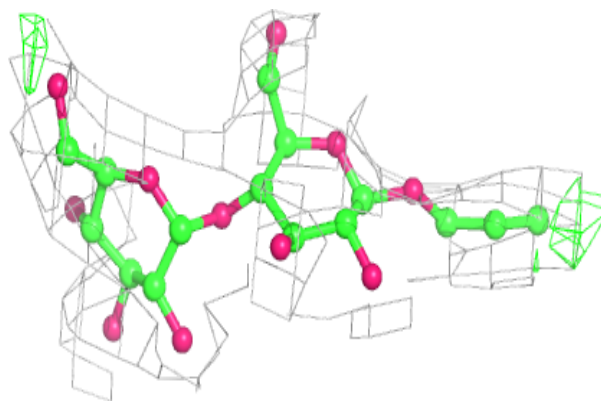
**Electron density around LMT E 705:**

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

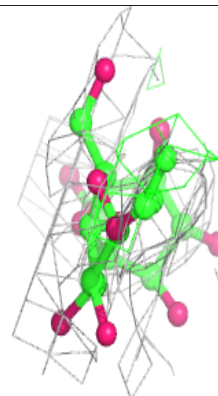
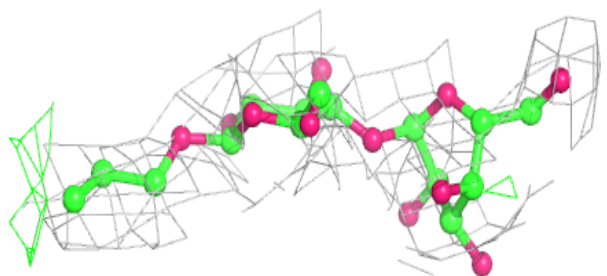
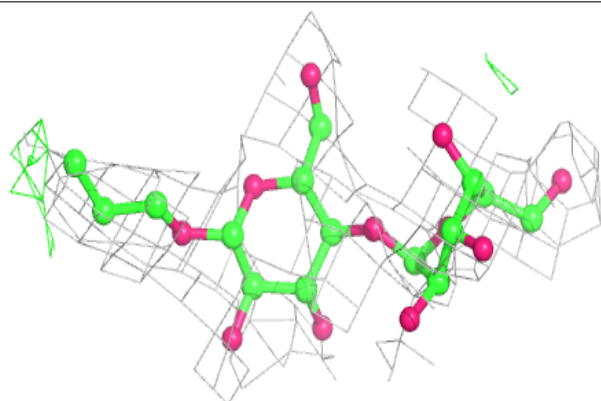


Electron density around LMT D 703:

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

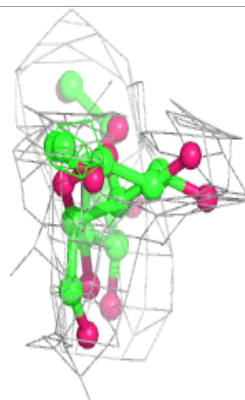
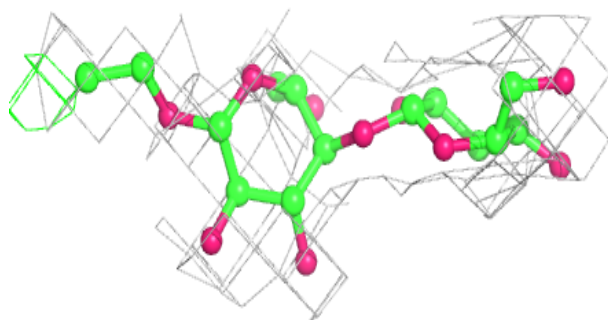
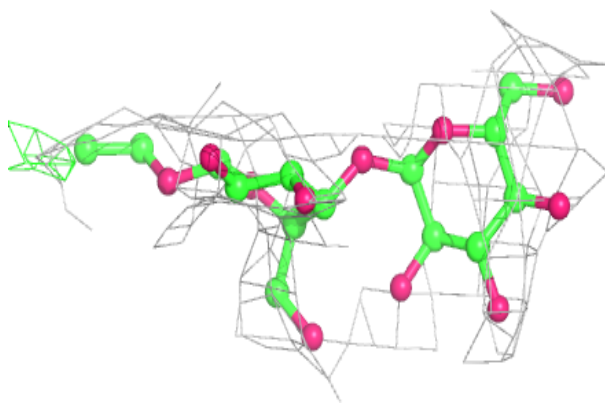
**Electron density around LMT B 705:**

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

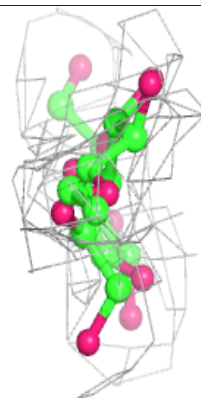
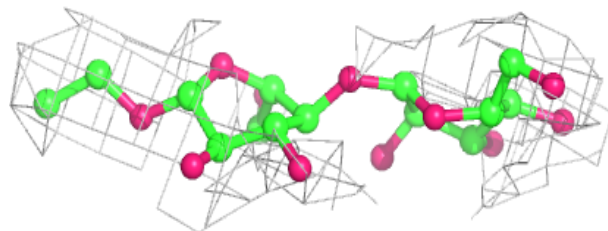
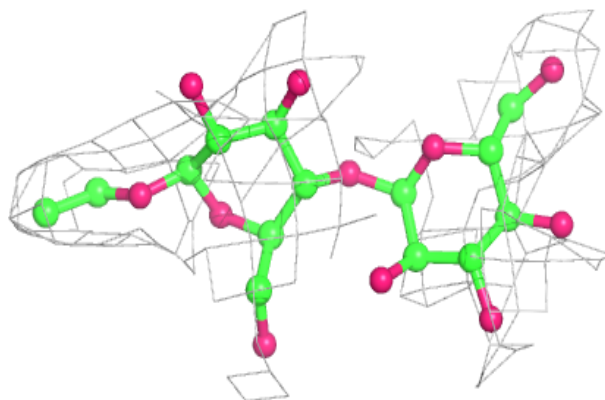


Electron density around LMT A 707:

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

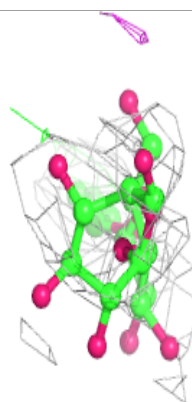
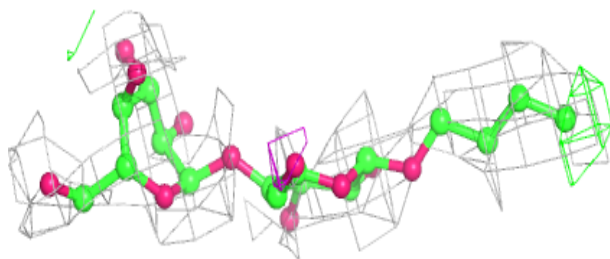
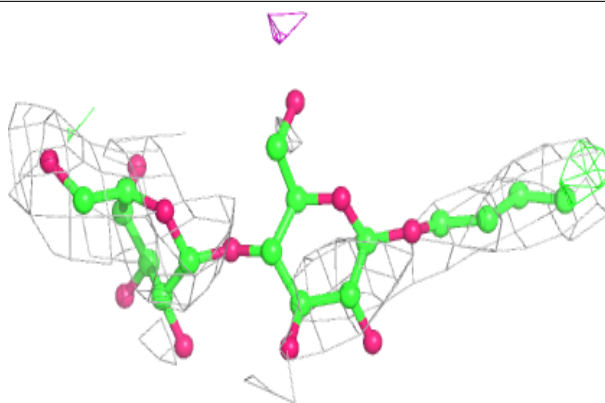
**Electron density around LMT E 703:**

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

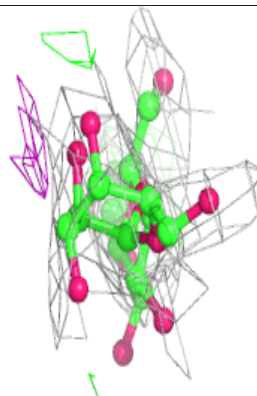
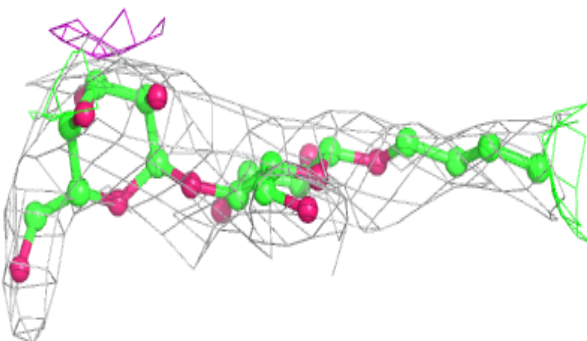
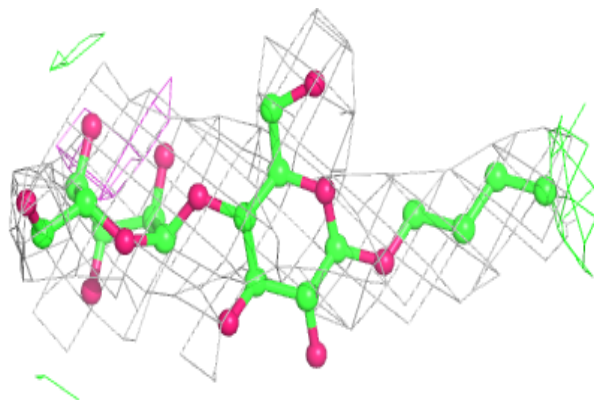


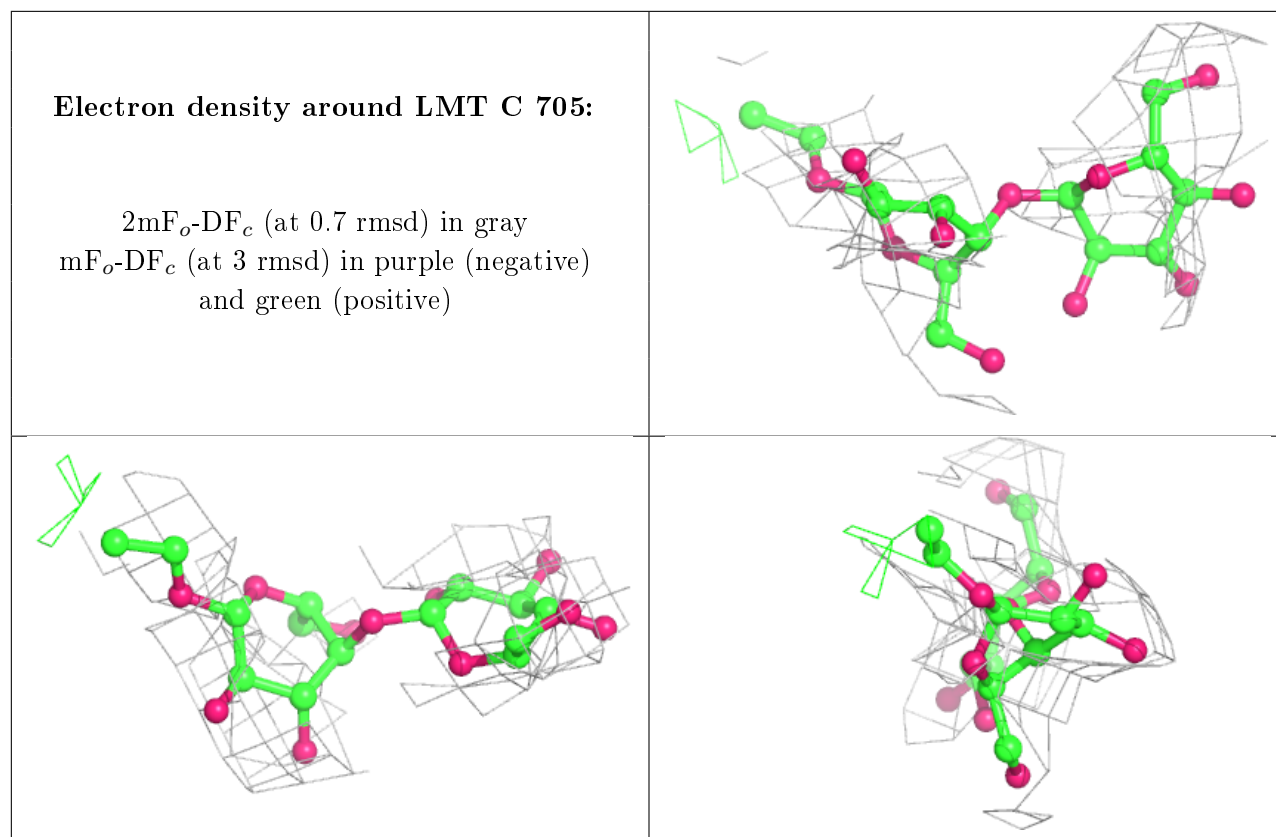
Electron density around LMT C 706:

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

**Electron density around LMT B 706:**

$2mF_o-DF_c$ (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.