



Full wwPDB EM Validation Report ⓘ

May 13, 2024 – 12:38 PM JST

PDB ID : 8JEM
EMDB ID : EMD-36192
Title : DltB tetramer in complex with inhibitor m-AMSA
Authors : Zhang, P.; Liu, Z.
Deposited on : 2023-05-16
Resolution : 3.23 Å (reported)

This is a Full wwPDB EM 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/EMValidationReportHelp>

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:

EMDB validation analysis : 0.0.1.dev92
Mogul : 1.8.5 (274361), CSD as541be (2020)
MolProbity : 4.02b-467
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.13
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.36.2

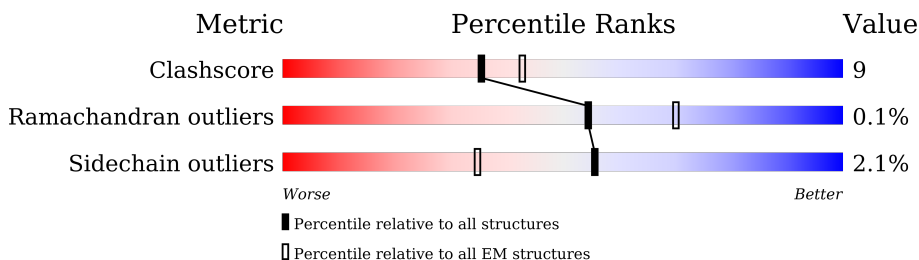
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.23 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)	EM structures (#Entries)
Clashscore	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the 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 EM map (all-atom inclusion $< 40\%$). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	440	
1	B	440	
1	C	440	
1	D	440	

2 Entry composition i

There are 5 unique types of molecules in this entry. The entry contains 15930 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, 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 Teichoic acid D-alanyltransferase.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	417	3467	2338	552	557	20	0	0
1	B	419	3481	2349	552	560	20	0	0
1	C	419	3487	2352	555	560	20	0	0
1	D	419	3487	2352	555	560	20	0	0

There are 100 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-24	MET	-	initiating methionine	UNP Q5M4V4
A	-23	GLY	-	expression tag	UNP Q5M4V4
A	-22	SER	-	expression tag	UNP Q5M4V4
A	-21	SER	-	expression tag	UNP Q5M4V4
A	-20	HIS	-	expression tag	UNP Q5M4V4
A	-19	HIS	-	expression tag	UNP Q5M4V4
A	-18	HIS	-	expression tag	UNP Q5M4V4
A	-17	HIS	-	expression tag	UNP Q5M4V4
A	-16	HIS	-	expression tag	UNP Q5M4V4
A	-15	HIS	-	expression tag	UNP Q5M4V4
A	-14	ASN	-	expression tag	UNP Q5M4V4
A	-13	TYR	-	expression tag	UNP Q5M4V4
A	-12	ASP	-	expression tag	UNP Q5M4V4
A	-11	ILE	-	expression tag	UNP Q5M4V4
A	-10	PRO	-	expression tag	UNP Q5M4V4
A	-9	THR	-	expression tag	UNP Q5M4V4
A	-8	THR	-	expression tag	UNP Q5M4V4
A	-7	GLU	-	expression tag	UNP Q5M4V4
A	-6	ASN	-	expression tag	UNP Q5M4V4
A	-5	LEU	-	expression tag	UNP Q5M4V4
A	-4	TYR	-	expression tag	UNP Q5M4V4
A	-3	PHE	-	expression tag	UNP Q5M4V4

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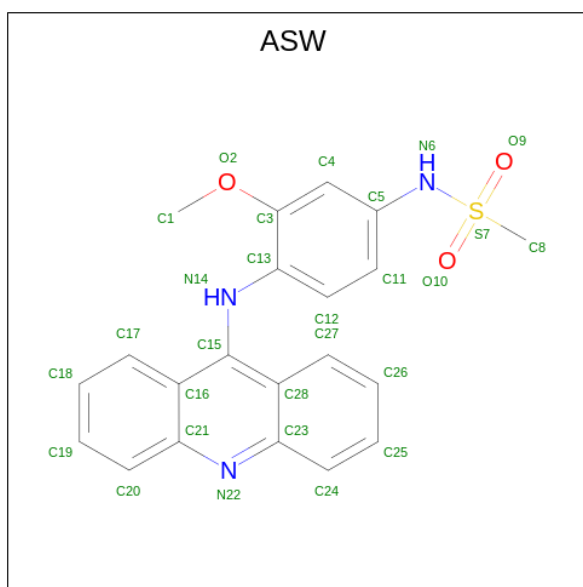
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A	-2	GLN	-	expression tag	UNP Q5M4V4
A	-1	GLY	-	expression tag	UNP Q5M4V4
A	0	SER	-	expression tag	UNP Q5M4V4
B	-24	MET	-	initiating methionine	UNP Q5M4V4
B	-23	GLY	-	expression tag	UNP Q5M4V4
B	-22	SER	-	expression tag	UNP Q5M4V4
B	-21	SER	-	expression tag	UNP Q5M4V4
B	-20	HIS	-	expression tag	UNP Q5M4V4
B	-19	HIS	-	expression tag	UNP Q5M4V4
B	-18	HIS	-	expression tag	UNP Q5M4V4
B	-17	HIS	-	expression tag	UNP Q5M4V4
B	-16	HIS	-	expression tag	UNP Q5M4V4
B	-15	HIS	-	expression tag	UNP Q5M4V4
B	-14	ASN	-	expression tag	UNP Q5M4V4
B	-13	TYR	-	expression tag	UNP Q5M4V4
B	-12	ASP	-	expression tag	UNP Q5M4V4
B	-11	ILE	-	expression tag	UNP Q5M4V4
B	-10	PRO	-	expression tag	UNP Q5M4V4
B	-9	THR	-	expression tag	UNP Q5M4V4
B	-8	THR	-	expression tag	UNP Q5M4V4
B	-7	GLU	-	expression tag	UNP Q5M4V4
B	-6	ASN	-	expression tag	UNP Q5M4V4
B	-5	LEU	-	expression tag	UNP Q5M4V4
B	-4	TYR	-	expression tag	UNP Q5M4V4
B	-3	PHE	-	expression tag	UNP Q5M4V4
B	-2	GLN	-	expression tag	UNP Q5M4V4
B	-1	GLY	-	expression tag	UNP Q5M4V4
B	0	SER	-	expression tag	UNP Q5M4V4
C	-24	MET	-	initiating methionine	UNP Q5M4V4
C	-23	GLY	-	expression tag	UNP Q5M4V4
C	-22	SER	-	expression tag	UNP Q5M4V4
C	-21	SER	-	expression tag	UNP Q5M4V4
C	-20	HIS	-	expression tag	UNP Q5M4V4
C	-19	HIS	-	expression tag	UNP Q5M4V4
C	-18	HIS	-	expression tag	UNP Q5M4V4
C	-17	HIS	-	expression tag	UNP Q5M4V4
C	-16	HIS	-	expression tag	UNP Q5M4V4
C	-15	HIS	-	expression tag	UNP Q5M4V4
C	-14	ASN	-	expression tag	UNP Q5M4V4
C	-13	TYR	-	expression tag	UNP Q5M4V4
C	-12	ASP	-	expression tag	UNP Q5M4V4
C	-11	ILE	-	expression tag	UNP Q5M4V4

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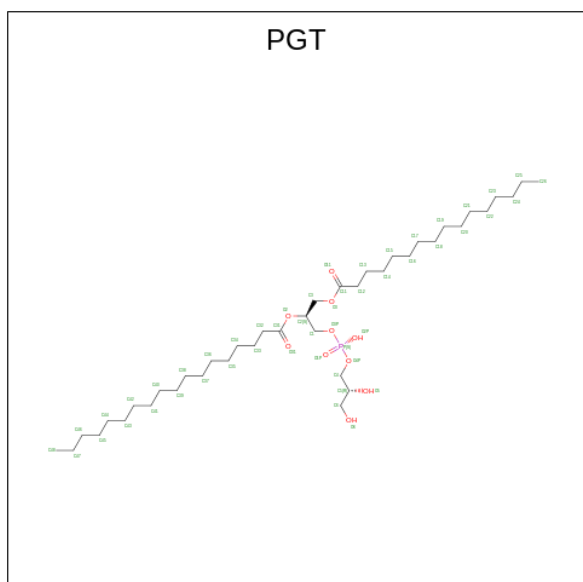
Chain	Residue	Modelled	Actual	Comment	Reference
C	-10	PRO	-	expression tag	UNP Q5M4V4
C	-9	THR	-	expression tag	UNP Q5M4V4
C	-8	THR	-	expression tag	UNP Q5M4V4
C	-7	GLU	-	expression tag	UNP Q5M4V4
C	-6	ASN	-	expression tag	UNP Q5M4V4
C	-5	LEU	-	expression tag	UNP Q5M4V4
C	-4	TYR	-	expression tag	UNP Q5M4V4
C	-3	PHE	-	expression tag	UNP Q5M4V4
C	-2	GLN	-	expression tag	UNP Q5M4V4
C	-1	GLY	-	expression tag	UNP Q5M4V4
C	0	SER	-	expression tag	UNP Q5M4V4
D	-24	MET	-	initiating methionine	UNP Q5M4V4
D	-23	GLY	-	expression tag	UNP Q5M4V4
D	-22	SER	-	expression tag	UNP Q5M4V4
D	-21	SER	-	expression tag	UNP Q5M4V4
D	-20	HIS	-	expression tag	UNP Q5M4V4
D	-19	HIS	-	expression tag	UNP Q5M4V4
D	-18	HIS	-	expression tag	UNP Q5M4V4
D	-17	HIS	-	expression tag	UNP Q5M4V4
D	-16	HIS	-	expression tag	UNP Q5M4V4
D	-15	HIS	-	expression tag	UNP Q5M4V4
D	-14	ASN	-	expression tag	UNP Q5M4V4
D	-13	TYR	-	expression tag	UNP Q5M4V4
D	-12	ASP	-	expression tag	UNP Q5M4V4
D	-11	ILE	-	expression tag	UNP Q5M4V4
D	-10	PRO	-	expression tag	UNP Q5M4V4
D	-9	THR	-	expression tag	UNP Q5M4V4
D	-8	THR	-	expression tag	UNP Q5M4V4
D	-7	GLU	-	expression tag	UNP Q5M4V4
D	-6	ASN	-	expression tag	UNP Q5M4V4
D	-5	LEU	-	expression tag	UNP Q5M4V4
D	-4	TYR	-	expression tag	UNP Q5M4V4
D	-3	PHE	-	expression tag	UNP Q5M4V4
D	-2	GLN	-	expression tag	UNP Q5M4V4
D	-1	GLY	-	expression tag	UNP Q5M4V4
D	0	SER	-	expression tag	UNP Q5M4V4

- Molecule 2 is N-[4-(acridin-9-ylamino)-3-methoxyphenyl]methanesulfonamide (three-letter code: ASW) (formula: C₂₁H₁₉N₃O₃S) (labeled as "Ligand of Interest" by depositor).



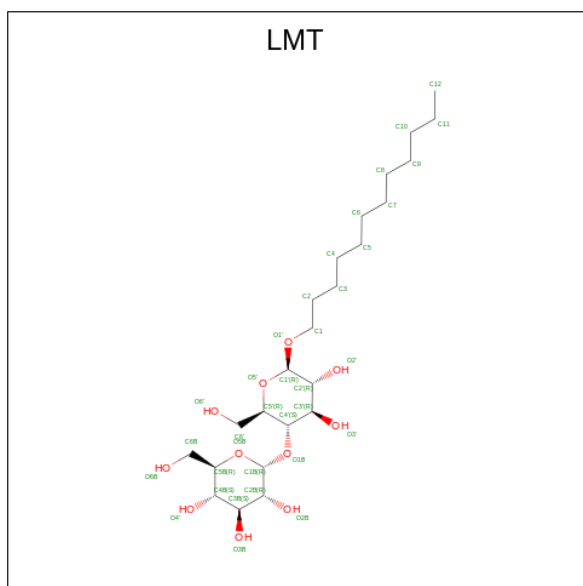
Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	S	
2	A	1	Total	C	N	O	S	0
			28	21	3	3	1	
2	B	1	Total	C	N	O	S	0
			28	21	3	3	1	
2	C	1	Total	C	N	O	S	0
			28	21	3	3	1	
2	D	1	Total	C	N	O	S	0
			28	21	3	3	1	

- Molecule 3 is (1S)-2-[[[(2R)-2,3-DIHYDROXYPROPYL]OXY}(HYDROXY)PHOSPHORYL]OXY}-1-[(PALMITOYLOXY)METHYL]ETHYL STEARATE (three-letter code: PGT) (formula: C₄₀H₇₉O₁₀P) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms			AltConf	
3	A	1	Total	C	O	P	0
			51	40	10	1	
3	A	1	Total	C	O	P	0
			51	40	10	1	
3	B	1	Total	C	O	P	0
			51	40	10	1	
3	B	1	Total	C	O	P	0
			51	40	10	1	
3	C	1	Total	C	O	P	0
			51	40	10	1	
3	C	1	Total	C	O	P	0
			51	40	10	1	
3	D	1	Total	C	O	P	0
			51	40	10	1	
3	D	1	Total	C	O	P	0
			51	40	10	1	

- Molecule 4 is DODECYL-BETA-D-MALTOSE (three-letter code: LMT) (formula: $C_{24}H_{46}O_{11}$).



Mol	Chain	Residues	Atoms			AltConf
4	A	1	Total	C	O	0
			35	24	11	
4	A	1	Total	C	O	0
			35	24	11	
4	A	1	Total	C	O	0
			35	24	11	

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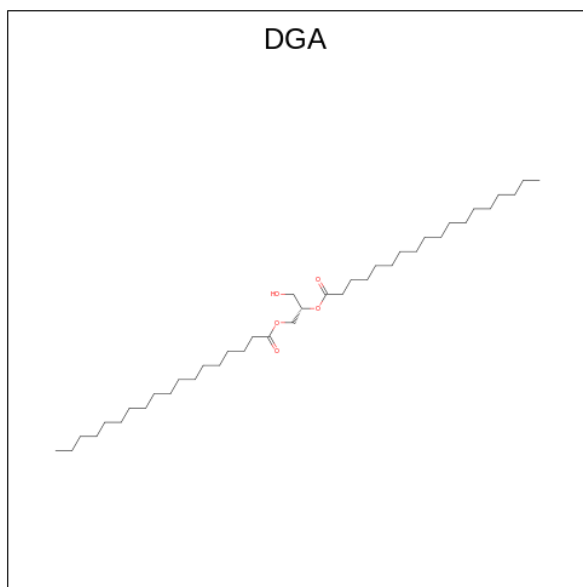
Mol	Chain	Residues	Atoms			AltConf
			Total	C	O	
4	A	1	35	24	11	0
4	A	1	35	24	11	0
4	A	1	35	24	11	0
4	A	1	35	24	11	0
4	B	1	35	24	11	0
4	B	1	35	24	11	0
4	B	1	35	24	11	0
4	B	1	35	24	11	0
4	B	1	35	24	11	0
4	B	1	35	24	11	0
4	B	1	35	24	11	0
4	B	1	35	24	11	0
4	B	1	35	24	11	0
4	B	1	35	24	11	0
4	B	1	35	24	11	0
4	B	1	35	24	11	0
4	B	1	35	24	11	0
4	C	1	35	24	11	0
4	C	1	35	24	11	0
4	C	1	35	24	11	0
4	C	1	35	24	11	0

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Mol	Chain	Residues	Atoms			AltConf
			Total	C	O	
4	C	1	35	24	11	0
4	C	1	35	24	11	0
4	C	1	35	24	11	0
4	D	1	35	24	11	0
4	D	1	35	24	11	0
4	D	1	35	24	11	0
4	D	1	35	24	11	0
4	D	1	35	24	11	0
4	D	1	35	24	11	0
4	D	1	35	24	11	0
4	D	1	35	24	11	0
4	D	1	35	24	11	0
4	D	1	35	24	11	0
4	D	1	35	24	11	0
4	D	1	35	24	11	0
4	D	1	35	24	11	0
4	D	1	35	24	11	0
4	D	1	35	24	11	0
4	D	1	35	24	11	0

- Molecule 5 is DIACYL GLYCEROL (three-letter code: DGA) (formula: C₃₉H₇₆O₅) (labeled as "Ligand of Interest" by depositor).




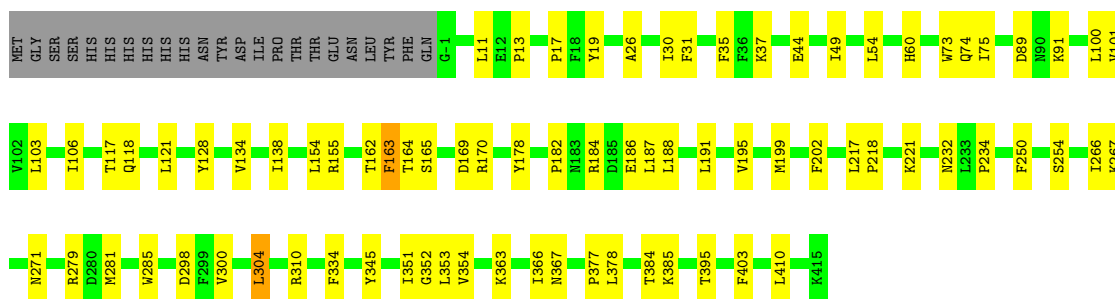
Mol	Chain	Residues	Atoms			AltConf
5	A	1	Total	C	O	0
			44	39	5	
5	C	1	Total	C	O	0
			44	39	5	

3 Residue-property plots [i](#)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map 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 diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). 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.

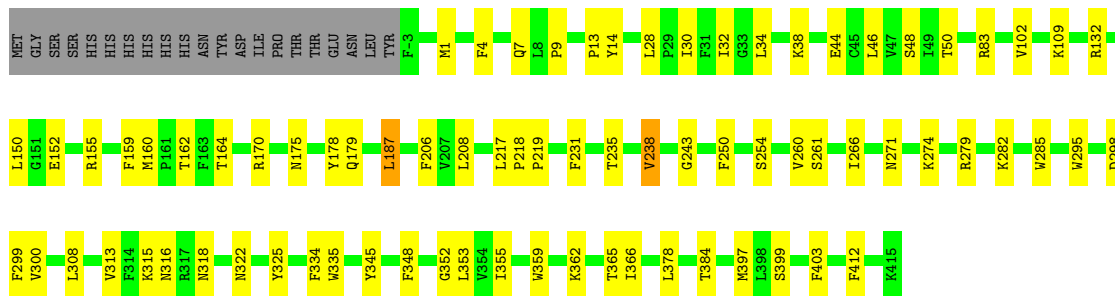
- Molecule 1: Teichoic acid D-alanyltransferase

Chain A: 



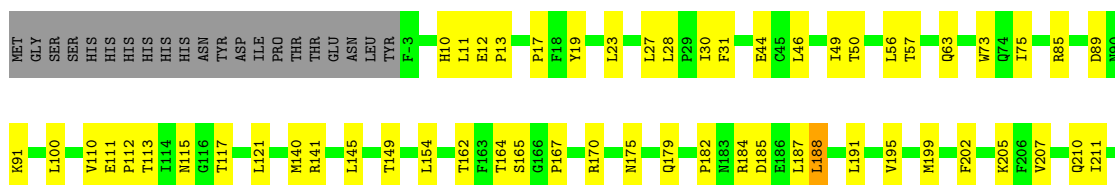
- Molecule 1: Teichoic acid D-alanyltransferase

Chain B: 



- Molecule 1: Teichoic acid D-alanyltransferase

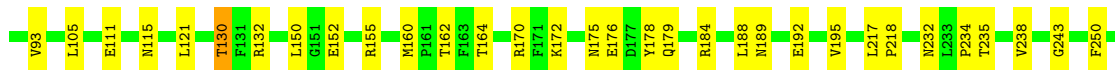
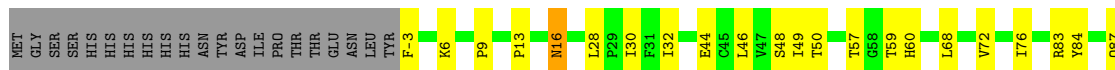
Chain C: 





- Molecule 1: Teichoic acid D-alanyltransferase

Chain D: 79% 16% 5%



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	294021	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	55	Depositor
Minimum defocus (nm)	1100	Depositor
Maximum defocus (nm)	1800	Depositor
Magnification	Not provided	
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	1.104	Depositor
Minimum map value	-0.786	Depositor
Average map value	0.002	Depositor
Map value standard deviation	0.025	Depositor
Recommended contour level	0.02	Depositor
Map size (\AA)	265.6, 265.6, 265.6	wwPDB
Map dimensions	320, 320, 320	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (\AA)	0.83000004, 0.83000004, 0.83000004	Depositor

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: DGA, LMT, ASW, PGT

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	0.34	0/3575	0.46	0/4835
1	B	0.35	0/3590	0.45	0/4856
1	C	0.33	0/3596	0.45	0/4863
1	D	0.35	0/3596	0.45	0/4863
All	All	0.34	0/14357	0.45	0/19417

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	3467	0	3548	54	0
1	B	3481	0	3554	53	0
1	C	3487	0	3565	54	0
1	D	3487	0	3565	49	0
2	A	28	0	19	0	0
2	B	28	0	19	0	0
2	C	28	0	19	0	0
2	D	28	0	19	0	0
3	A	102	0	156	15	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	B	102	0	156	5	0
3	C	102	0	156	13	0
3	D	102	0	156	7	0
4	A	245	0	317	14	0
4	B	455	0	583	35	0
4	C	245	0	319	12	0
4	D	455	0	586	37	0
5	A	44	0	76	4	0
5	C	44	0	76	6	0
All	All	15930	0	16889	282	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 9.

All (282) 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:132:ARG:NH2	1:D:162:THR:OG1	2.22	0.72
1:B:132:ARG:NH2	1:B:162:THR:OG1	2.26	0.69
4:B:514:LMT:H62	4:C:510:LMT:H12	1.77	0.66
4:B:512:LMT:H101	3:C:511:PGT:H402	1.79	0.64
1:C:338:ILE:HD11	3:C:502:PGT:H41	1.80	0.63
1:D:170:ARG:NH2	1:D:298:ASP:OD2	2.32	0.63
1:B:282:LYS:NZ	1:B:325:TYR:OH	2.32	0.62
1:C:162:THR:HG23	1:C:167:PRO:HD2	1.82	0.62
1:C:170:ARG:NH2	1:C:298:ASP:OD2	2.32	0.62
1:B:170:ARG:NH2	1:B:298:ASP:OD2	2.31	0.62
1:B:279:ARG:NH1	4:B:508:LMT:O6'	2.33	0.61
1:D:83:ARG:NH2	3:D:507:PGT:O2P	2.31	0.61
1:B:208:LEU:HD21	4:B:511:LMT:H81	1.83	0.61
1:A:17:PRO:HG3	1:A:202:PHE:HE1	1.66	0.60
1:C:50:THR:HG21	4:C:503:LMT:H102	1.84	0.60
1:A:188:LEU:HD21	4:B:516:LMT:H62	1.84	0.60
1:B:318:ASN:O	1:B:322:ASN:ND2	2.34	0.60
1:D:340:TRP:NE1	1:D:408:ASN:OD1	2.33	0.59
1:A:75:ILE:HD11	1:A:154:LEU:HD11	1.85	0.59
1:A:178:TYR:HD2	1:A:266:ILE:HD11	1.68	0.58
1:A:310:ARG:HD3	3:A:502:PGT:H483	1.84	0.58
1:C:13:PRO:HG3	1:C:164:THR:HG21	1.86	0.58
1:A:351:ILE:HA	1:A:354:VAL:HG12	1.85	0.58
1:B:13:PRO:HG3	1:B:164:THR:HG21	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:49:ILE:HD11	3:D:507:PGT:H442	1.85	0.57
1:C:149:THR:HB	4:C:507:LMT:H6D	1.84	0.57
1:A:44:GLU:OE1	1:A:178:TYR:OH	2.22	0.57
1:D:32:ILE:HD11	4:D:513:LMT:H101	1.86	0.57
1:A:13:PRO:HG3	1:A:164:THR:HG21	1.85	0.57
1:D:121:LEU:HD23	1:D:121:LEU:H	1.69	0.57
1:A:103:LEU:HA	1:A:106:ILE:HG22	1.87	0.57
1:A:199:MET:HG3	1:B:46:LEU:HD13	1.87	0.57
1:C:285:TRP:HD1	1:C:353:LEU:HD11	1.69	0.57
1:A:384:THR:HG21	4:A:506:LMT:H6'2	1.87	0.56
5:C:505:DGA:OG1	5:C:505:DGA:OXT	2.18	0.56
4:B:510:LMT:O4'	4:B:510:LMT:O6B	2.23	0.56
1:B:308:LEU:HD22	1:B:313:VAL:HG11	1.88	0.55
1:B:366:ILE:HG22	1:B:378:LEU:HD11	1.88	0.55
1:C:113:THR:HG21	1:C:338:ILE:HB	1.88	0.55
1:D:395:THR:HG21	4:D:509:LMT:H82	1.87	0.55
1:A:73:TRP:NE1	1:A:100:LEU:O	2.35	0.55
1:A:281:MET:HG3	1:A:353:LEU:HD12	1.89	0.55
1:B:4:PHE:O	1:B:7:GLN:HG3	2.07	0.54
1:C:279:ARG:NH2	4:C:506:LMT:O2B	2.40	0.54
3:A:511:PGT:O5	3:A:511:PGT:O31	2.25	0.54
1:A:117:THR:OG1	1:A:118:GLN:OE1	2.24	0.53
1:D:189:ASN:OD1	4:D:514:LMT:O2'	2.24	0.53
1:A:121:LEU:HD23	1:A:121:LEU:H	1.74	0.52
1:D:105:LEU:HB2	1:D:130:THR:HG21	1.91	0.52
1:B:345:TYR:CD2	1:B:403:PHE:HB2	2.44	0.52
1:C:184:ARG:NH1	3:C:511:PGT:HO6	2.08	0.52
1:A:54:LEU:HD11	4:A:505:LMT:H52	1.91	0.52
3:A:511:PGT:H451	1:B:28:LEU:HD23	1.91	0.52
1:A:162:THR:OG1	1:A:163:PHE:N	2.44	0.51
1:A:279:ARG:HD3	4:A:506:LMT:H4'	1.91	0.51
1:B:285:TRP:HD1	1:B:353:LEU:HD11	1.76	0.51
1:D:195:VAL:HG21	4:D:514:LMT:H92	1.92	0.51
5:A:504:DGA:OG1	5:A:504:DGA:OXT	2.16	0.50
1:C:56:LEU:O	1:C:63:GLN:NE2	2.44	0.50
1:C:28:LEU:HD21	3:C:511:PGT:H221	1.93	0.50
1:A:30:ILE:HD13	1:A:44:GLU:HG2	1.93	0.50
1:B:315:LYS:HG3	1:B:316:ASN:HD22	1.77	0.50
1:B:355:ILE:HD11	4:B:508:LMT:H72	1.93	0.50
4:B:515:LMT:H32	4:C:510:LMT:H52	1.94	0.50
1:C:182:PRO:HG2	1:C:187:LEU:HG	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:511:PGT:H371	4:D:512:LMT:H71	1.94	0.50
1:A:11:LEU:HD22	1:A:19:TYR:HD1	1.77	0.49
1:D:30:ILE:HD13	1:D:44:GLU:HG2	1.94	0.49
4:A:509:LMT:H2B	4:D:512:LMT:H4'	1.94	0.49
3:C:511:PGT:O11	3:C:511:PGT:O6	2.30	0.49
1:C:411:TRP:HB3	1:C:413:THR:HG23	1.95	0.49
1:D:9:PRO:O	1:D:57:THR:OG1	2.22	0.49
1:B:30:ILE:HD13	1:B:44:GLU:HG2	1.94	0.49
1:B:300:VAL:HG13	4:B:509:LMT:H92	1.94	0.49
1:C:164:THR:OG1	1:C:165:SER:N	2.44	0.49
1:D:111:GLU:OE2	1:D:115:ASN:ND2	2.46	0.49
1:A:395:THR:HG21	4:A:506:LMT:H91	1.95	0.49
1:B:348:PHE:HE2	1:B:399:SER:HB2	1.76	0.49
1:A:49:ILE:HG23	4:A:507:LMT:H121	1.94	0.48
4:B:512:LMT:H3'	4:D:512:LMT:H6D	1.95	0.48
1:D:184:ARG:NH1	4:D:513:LMT:O2'	2.38	0.48
4:A:507:LMT:O6'	4:A:507:LMT:O2B	2.29	0.48
1:B:44:GLU:OE1	1:B:178:TYR:OH	2.26	0.48
1:A:232:ASN:HB2	1:A:234:PRO:HD2	1.95	0.48
1:C:73:TRP:NE1	1:C:100:LEU:O	2.36	0.48
5:A:504:DGA:HA22	1:B:50:THR:HG22	1.96	0.47
4:B:515:LMT:H1B	4:B:515:LMT:H3'	1.73	0.47
1:C:11:LEU:HD22	1:C:19:TYR:HD1	1.79	0.47
1:B:206:PHE:HB3	4:B:504:LMT:H31	1.97	0.47
1:B:261:SER:OG	1:B:266:ILE:O	2.25	0.47
1:C:254:SER:HB2	1:C:271:ASN:HD22	1.79	0.47
1:D:87:GLN:NE2	4:D:508:LMT:O4'	2.47	0.47
1:C:184:ARG:NH1	3:C:511:PGT:O11	2.48	0.47
1:B:235:THR:O	1:B:238:VAL:HG12	2.14	0.47
4:D:505:LMT:H31	4:D:506:LMT:H6D	1.97	0.47
3:A:511:PGT:H221	4:B:512:LMT:H112	1.96	0.47
1:B:359:TRP:HZ2	4:B:508:LMT:H2O1	1.61	0.47
1:C:17:PRO:HB3	1:C:202:PHE:CE2	2.48	0.47
1:C:199:MET:HG3	1:D:46:LEU:HD13	1.96	0.47
1:A:217:LEU:HB3	1:A:218:PRO:HD3	1.97	0.47
4:A:509:LMT:H1B	4:A:509:LMT:H3'	1.55	0.47
1:C:232:ASN:HB2	1:C:234:PRO:HD2	1.96	0.47
3:C:511:PGT:H342	3:C:511:PGT:H152	1.97	0.47
1:C:91:LYS:HG2	1:C:141:ARG:HH22	1.80	0.47
1:D:16:ASN:OD1	1:D:16:ASN:N	2.45	0.47
1:D:44:GLU:OE1	1:D:178:TYR:OH	2.26	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:217:LEU:HB3	1:B:218:PRO:HD3	1.96	0.47
1:B:295:TRP:CE2	1:B:299:PHE:HD2	2.32	0.47
1:A:285:TRP:HD1	1:A:353:LEU:HD11	1.80	0.46
1:A:352:GLY:HA2	4:A:506:LMT:H102	1.97	0.46
4:D:511:LMT:H81	4:D:511:LMT:H52	1.65	0.46
1:B:1:MET:O	1:B:4:PHE:HB3	2.14	0.46
4:B:511:LMT:H12	4:B:511:LMT:H2'	1.52	0.46
4:C:509:LMT:H1B	4:C:509:LMT:H3'	1.63	0.46
1:B:28:LEU:O	1:B:32:ILE:HG12	2.15	0.46
1:D:150:LEU:HD22	3:D:507:PGT:H132	1.97	0.46
4:D:503:LMT:H52	4:D:503:LMT:H82	1.79	0.46
1:A:217:LEU:HD11	1:A:221:LYS:HE3	1.96	0.46
5:A:504:DGA:HAV2	5:A:504:DGA:HAW1	1.97	0.46
1:A:285:TRP:CD1	1:A:353:LEU:HD11	2.50	0.46
4:A:510:LMT:H6D	4:D:515:LMT:H5'	1.98	0.46
5:C:505:DGA:HB32	1:D:50:THR:HG22	1.97	0.46
1:D:300:VAL:HG13	4:D:503:LMT:H102	1.97	0.46
4:B:513:LMT:H122	4:B:514:LMT:H112	1.97	0.46
1:C:300:VAL:O	1:C:304:LEU:HB2	2.15	0.46
1:D:217:LEU:HB3	1:D:218:PRO:HD3	1.98	0.46
1:D:232:ASN:HB2	1:D:234:PRO:HD2	1.98	0.46
1:D:340:TRP:HE1	1:D:408:ASN:CG	2.17	0.46
1:B:334:PHE:HB3	3:B:502:PGT:O2P	2.16	0.46
3:C:511:PGT:H391	4:D:512:LMT:H111	1.97	0.46
4:B:509:LMT:H61	4:B:509:LMT:H91	1.79	0.46
4:B:514:LMT:H6E	4:C:509:LMT:H6E	1.98	0.46
4:D:505:LMT:H111	4:D:505:LMT:H81	1.71	0.46
4:B:504:LMT:H41	4:B:504:LMT:H71	1.76	0.46
1:C:30:ILE:HD13	1:C:44:GLU:HG2	1.98	0.46
1:D:235:THR:HA	1:D:238:VAL:HG12	1.96	0.46
1:B:132:ARG:NH2	1:B:162:THR:HG1	2.14	0.45
1:B:348:PHE:CE2	1:B:399:SER:HB2	2.51	0.45
1:C:23:LEU:HD23	1:C:23:LEU:HA	1.84	0.45
4:B:512:LMT:H21	4:D:512:LMT:H22	1.99	0.45
1:D:273:ASP:O	1:D:287:ARG:HD2	2.16	0.45
1:D:285:TRP:HD1	1:D:353:LEU:HD11	1.81	0.45
1:C:75:ILE:HD11	1:C:154:LEU:HD11	1.98	0.45
1:C:393:PHE:O	1:C:397:MET:HG2	2.16	0.45
1:D:184:ARG:NH1	4:D:513:LMT:H12	2.31	0.45
1:C:185:ASP:OD1	1:C:185:ASP:N	2.50	0.45
1:C:205:LYS:NZ	1:C:249:ASP:OD1	2.47	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:507:PGT:H121	3:D:507:PGT:H32	1.73	0.45
1:C:351:ILE:HA	1:C:354:VAL:HG12	1.97	0.45
4:D:513:LMT:O6B	4:D:516:LMT:O2B	2.33	0.45
1:A:170:ARG:NH2	1:A:298:ASP:OD2	2.49	0.45
1:D:254:SER:OG	1:D:271:ASN:ND2	2.28	0.45
1:A:300:VAL:O	1:A:304:LEU:HB2	2.16	0.45
1:D:48:SER:HA	1:D:160:MET:HG3	1.97	0.45
3:A:502:PGT:H191	3:A:502:PGT:H162	1.77	0.45
3:A:511:PGT:H211	4:D:512:LMT:H112	1.99	0.45
4:B:516:LMT:H32	4:B:516:LMT:H61	1.69	0.44
1:D:308:LEU:HD22	1:D:313:VAL:HG11	1.97	0.44
1:A:186:GLU:OE2	1:A:267:LYS:NZ	2.41	0.44
1:C:184:ARG:NH1	3:C:511:PGT:O6	2.50	0.44
3:C:511:PGT:H231	1:D:28:LEU:HD23	1.98	0.44
1:D:192:GLU:HB2	4:D:514:LMT:H21	1.99	0.44
4:C:510:LMT:H3'	4:C:510:LMT:H1B	1.54	0.44
1:A:128:TYR:CD2	1:A:165:SER:HA	2.53	0.44
1:B:175:ASN:O	1:B:179:GLN:HG2	2.17	0.44
4:B:507:LMT:H12	4:B:507:LMT:H41	1.78	0.44
1:D:68:LEU:HG	3:D:507:PGT:H261	2.00	0.44
1:D:410:LEU:HG	1:D:411:TRP:HD1	1.83	0.44
1:C:280:ASP:HB3	1:C:356:ASN:OD1	2.18	0.44
3:A:502:PGT:H2	3:A:502:PGT:H322	1.76	0.44
1:A:155:ARG:HD2	1:A:178:TYR:CZ	2.53	0.44
1:A:170:ARG:NH1	1:A:298:ASP:OD2	2.50	0.44
1:C:31:PHE:CZ	1:C:191:LEU:HB2	2.53	0.44
1:A:367:ASN:OD1	1:A:377:PRO:HB3	2.19	0.43
1:C:23:LEU:O	1:C:27:LEU:N	2.47	0.43
3:B:506:PGT:H422	3:B:506:PGT:H391	1.71	0.43
4:B:511:LMT:H2B	4:B:511:LMT:H4'	1.77	0.43
3:C:511:PGT:O2P	4:D:512:LMT:O3B	2.30	0.43
1:D:72:VAL:O	1:D:76:ILE:HG12	2.18	0.43
1:C:49:ILE:HG23	4:C:507:LMT:H122	2.00	0.43
1:C:345:TYR:CD1	1:C:403:PHE:HB2	2.54	0.43
3:C:511:PGT:H422	4:D:512:LMT:H111	2.00	0.43
1:A:363:LYS:HA	1:A:366:ILE:HG22	2.00	0.43
1:D:6:LYS:NZ	1:D:59:THR:O	2.51	0.43
1:D:345:TYR:CD1	1:D:403:PHE:HB2	2.54	0.43
1:A:279:ARG:NH2	1:A:385:LYS:HE2	2.33	0.43
4:A:505:LMT:H91	4:A:505:LMT:H61	1.79	0.43
1:B:152:GLU:HG2	1:B:155:ARG:NH2	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:B:505:LMT:H51	4:B:505:LMT:H22	1.81	0.43
4:D:504:LMT:H71	4:D:504:LMT:H102	1.90	0.43
1:A:195:VAL:HG13	1:B:46:LEU:HD22	2.00	0.43
1:B:30:ILE:O	1:B:34:LEU:HG	2.19	0.43
1:B:384:THR:HG21	4:B:508:LMT:H6'2	2.01	0.43
1:C:175:ASN:O	1:C:179:GLN:HG2	2.19	0.43
1:A:134:VAL:O	1:A:138:ILE:HG12	2.18	0.42
1:A:254:SER:OG	1:A:271:ASN:ND2	2.24	0.42
4:B:513:LMT:H51	4:B:514:LMT:H42	2.01	0.42
1:C:218:PRO:HB2	1:C:219:PRO:HD3	2.01	0.42
1:C:195:VAL:HG13	1:D:46:LEU:HD22	2.00	0.42
1:C:217:LEU:HB3	1:C:218:PRO:HD3	2.00	0.42
1:D:13:PRO:HG3	1:D:164:THR:HG21	2.00	0.42
3:A:502:PGT:H191	3:A:502:PGT:H222	1.81	0.42
1:A:164:THR:OG1	1:A:165:SER:N	2.50	0.42
4:B:510:LMT:H5'	4:B:510:LMT:H1B	1.80	0.42
1:A:345:TYR:CD1	1:A:403:PHE:HB2	2.54	0.42
1:B:254:SER:OG	1:B:271:ASN:ND2	2.27	0.42
1:D:175:ASN:O	1:D:179:GLN:HG2	2.19	0.42
1:B:109:LYS:HE2	1:B:335:TRP:O	2.19	0.42
1:B:187:LEU:HD12	1:B:187:LEU:HA	1.87	0.42
4:D:512:LMT:H3'	4:D:512:LMT:H1B	1.67	0.42
1:B:83:ARG:NH2	3:B:506:PGT:O4P	2.49	0.42
1:B:102:VAL:HG11	3:B:502:PGT:H352	2.00	0.42
1:B:362:LYS:HA	1:B:365:THR:HG22	2.01	0.42
1:C:188:LEU:HD13	1:C:188:LEU:HA	1.73	0.42
1:A:378:LEU:HD22	1:A:378:LEU:H	1.83	0.42
4:A:510:LMT:H12	4:D:515:LMT:H11	2.02	0.42
1:D:184:ARG:HD3	4:D:515:LMT:H31	2.01	0.42
1:D:243:GLY:HA3	1:D:397:MET:SD	2.59	0.42
3:D:507:PGT:H452	3:D:507:PGT:H222	2.01	0.42
1:A:31:PHE:CZ	1:A:191:LEU:HB2	2.55	0.42
1:A:334:PHE:HB3	3:A:502:PGT:O1P	2.19	0.42
3:A:511:PGT:H341	3:A:511:PGT:H371	1.72	0.42
5:C:505:DGA:HA31	5:C:505:DGA:HA62	1.91	0.42
1:B:9:PRO:HB2	4:B:503:LMT:H11	2.02	0.42
1:B:150:LEU:HD22	3:B:506:PGT:H321	2.02	0.42
1:B:378:LEU:HD12	1:B:378:LEU:H	1.85	0.42
4:D:512:LMT:H12	4:D:512:LMT:H41	1.75	0.42
1:B:38:LYS:HZ2	4:B:516:LMT:H1'	1.84	0.41
4:C:509:LMT:H2'	4:C:509:LMT:H12	1.64	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:84:TYR:CZ	1:D:93:VAL:HG21	2.55	0.41
4:D:508:LMT:O2B	4:D:508:LMT:O2'	2.31	0.41
1:A:74:GLN:OE1	1:A:101:VAL:HG13	2.19	0.41
1:A:182:PRO:HG2	1:A:187:LEU:HG	2.03	0.41
1:B:218:PRO:HB2	1:B:219:PRO:HD3	2.02	0.41
1:B:352:GLY:O	1:B:355:ILE:HG13	2.20	0.41
4:C:510:LMT:H11	4:C:510:LMT:H2'	1.67	0.41
4:D:503:LMT:H5'	4:D:503:LMT:H1B	1.64	0.41
4:D:505:LMT:H61	4:D:505:LMT:H32	1.66	0.41
1:B:14:TYR:HE1	1:B:260:VAL:HG21	1.85	0.41
1:B:243:GLY:HA3	1:B:397:MET:SD	2.60	0.41
4:D:503:LMT:H82	4:D:503:LMT:H112	1.64	0.41
4:D:513:LMT:H1B	4:D:513:LMT:H6'2	1.87	0.41
1:C:207:VAL:O	1:C:211:ILE:HG12	2.21	0.41
1:C:254:SER:O	1:C:258:LEU:HG	2.21	0.41
1:D:152:GLU:HG2	1:D:155:ARG:NH2	2.35	0.41
4:D:505:LMT:H5'	4:D:505:LMT:H1B	1.75	0.41
4:D:510:LMT:H2'	4:D:510:LMT:H12	1.64	0.41
4:B:507:LMT:H62	4:B:507:LMT:H91	1.63	0.41
5:C:505:DGA:HG11	5:C:505:DGA:HA21	1.90	0.41
5:A:504:DGA:H8G1	4:B:516:LMT:H122	2.03	0.41
3:A:511:PGT:H162	3:A:511:PGT:H392	2.02	0.41
1:B:48:SER:HA	1:B:160:MET:HG3	2.02	0.41
1:C:10:HIS:ND1	1:C:57:THR:O	2.45	0.41
1:A:26:ALA:HB2	4:A:505:LMT:H92	2.02	0.41
1:C:295:TRP:CE2	1:C:299:PHE:HD2	2.38	0.41
5:C:505:DGA:HA81	5:C:505:DGA:HAE1	1.80	0.41
4:C:506:LMT:H42	4:C:506:LMT:H11	1.67	0.41
1:D:28:LEU:O	1:D:32:ILE:HG12	2.20	0.41
1:A:91:LYS:HE3	1:A:91:LYS:HB3	1.91	0.41
1:C:360:LEU:HD23	1:C:360:LEU:HA	1.93	0.41
1:A:184:ARG:HE	3:A:511:PGT:H321	1.86	0.40
4:B:516:LMT:H112	4:B:516:LMT:H81	1.88	0.40
1:C:111:GLU:HB3	1:C:112:PRO:HD3	2.02	0.40
1:D:172:LYS:HE3	1:D:172:LYS:HB3	1.95	0.40
3:D:507:PGT:H241	3:D:507:PGT:H211	1.87	0.40
4:D:511:LMT:H122	4:D:511:LMT:H92	1.87	0.40
1:A:184:ARG:NE	3:A:511:PGT:H321	2.36	0.40
1:A:35:PHE:CD1	1:A:184:ARG:HG3	2.56	0.40
4:A:508:LMT:H71	4:A:508:LMT:H102	1.80	0.40
3:A:511:PGT:O11	4:B:512:LMT:O2'	2.27	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:274:LYS:NZ	4:B:510:LMT:O3'	2.39	0.40
1:C:46:LEU:HD23	1:C:46:LEU:HA	1.95	0.40
1:C:89:ASP:OD1	1:C:89:ASP:N	2.54	0.40
1:C:254:SER:OG	1:C:271:ASN:HB2	2.21	0.40
1:D:172:LYS:NZ	1:D:176:GLU:OE2	2.38	0.40
1:A:184:ARG:HD2	3:A:511:PGT:H61	2.03	0.40
4:B:510:LMT:H21	4:B:510:LMT:H1'	1.82	0.40
1:C:28:LEU:HA	5:C:505:DGA:HAN1	2.03	0.40
1:C:85:ARG:HD3	1:C:140:MET:O	2.21	0.40
4:D:516:LMT:H1B	4:D:516:LMT:H5'	1.77	0.40
1:A:37:LYS:HE2	1:A:37:LYS:HB3	1.92	0.40
1:C:242:TYR:CE2	1:C:404:SER:HB2	2.57	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 PDB entries followed by that with respect to all EM entries.

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	415/440 (94%)	391 (94%)	23 (6%)	1 (0%)	47	78
1	B	417/440 (95%)	399 (96%)	18 (4%)	0	100	100
1	C	417/440 (95%)	398 (95%)	19 (5%)	0	100	100
1	D	417/440 (95%)	394 (94%)	23 (6%)	0	100	100
All	All	1666/1760 (95%)	1582 (95%)	83 (5%)	1 (0%)	54	83

All (1) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	163	PHE

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 PDB entries followed by that with respect to all EM entries.

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	372/394 (94%)	366 (98%)	6 (2%)	62	82
1	B	373/394 (95%)	367 (98%)	6 (2%)	62	82
1	C	374/394 (95%)	362 (97%)	12 (3%)	39	69
1	D	374/394 (95%)	366 (98%)	8 (2%)	53	77
All	All	1493/1576 (95%)	1461 (98%)	32 (2%)	56	77

All (32) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	60	HIS
1	A	89	ASP
1	A	169	ASP
1	A	250	PHE
1	A	304	LEU
1	A	410	LEU
1	B	159	PHE
1	B	187	LEU
1	B	231	PHE
1	B	238	VAL
1	B	250	PHE
1	B	412	PHE
1	C	12	GLU
1	C	110	VAL
1	C	115	ASN
1	C	117	THR
1	C	121	LEU
1	C	145	LEU
1	C	188	LEU
1	C	210	GLN
1	C	250	PHE
1	C	304	LEU
1	C	332	MET
1	C	361	ARG

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Mol	Chain	Res	Type
1	D	-3	PHE
1	D	16	ASN
1	D	60	HIS
1	D	130	THR
1	D	188	LEU
1	D	250	PHE
1	D	281	MET
1	D	411	TRP

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. There are no such sidechains identified.

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains [i](#)

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

54 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
4	LMT	D	513	-	36,36,36	1.18	5 (13%)	47,47,47	0.97	2 (4%)
4	LMT	A	509	-	36,36,36	1.18	4 (11%)	47,47,47	1.04	3 (6%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
4	LMT	D	515	-	36,36,36	1.11	5 (13%)	47,47,47	0.96	2 (4%)
4	LMT	C	504	-	36,36,36	1.18	5 (13%)	47,47,47	1.06	2 (4%)
4	LMT	B	515	-	36,36,36	1.18	6 (16%)	47,47,47	1.11	2 (4%)
4	LMT	C	506	-	36,36,36	1.12	4 (11%)	47,47,47	1.15	4 (8%)
2	ASW	C	501	-	31,31,31	1.00	1 (3%)	45,45,45	1.41	8 (17%)
4	LMT	D	505	-	36,36,36	1.14	5 (13%)	47,47,47	0.97	2 (4%)
4	LMT	B	516	-	36,36,36	1.18	5 (13%)	47,47,47	0.98	1 (2%)
4	LMT	B	504	-	36,36,36	1.16	5 (13%)	47,47,47	0.93	1 (2%)
4	LMT	C	507	-	36,36,36	1.16	5 (13%)	47,47,47	0.99	1 (2%)
4	LMT	B	507	-	36,36,36	1.19	6 (16%)	47,47,47	1.01	2 (4%)
2	ASW	D	501	-	31,31,31	0.97	1 (3%)	45,45,45	1.42	7 (15%)
4	LMT	B	505	-	36,36,36	1.17	6 (16%)	47,47,47	0.97	1 (2%)
3	PGT	B	502	-	50,50,50	0.49	0	53,56,56	0.45	0
3	PGT	D	502	-	50,50,50	0.49	0	53,56,56	0.47	0
4	LMT	C	509	-	36,36,36	1.17	4 (11%)	47,47,47	1.15	3 (6%)
4	LMT	D	511	-	36,36,36	1.15	5 (13%)	47,47,47	1.10	3 (6%)
4	LMT	B	511	-	36,36,36	1.14	5 (13%)	47,47,47	1.07	2 (4%)
4	LMT	B	503	-	36,36,36	1.16	5 (13%)	47,47,47	1.00	3 (6%)
4	LMT	B	513	-	36,36,36	1.14	5 (13%)	47,47,47	0.99	2 (4%)
4	LMT	B	509	-	36,36,36	1.16	5 (13%)	47,47,47	1.00	3 (6%)
4	LMT	D	508	-	36,36,36	1.15	5 (13%)	47,47,47	0.95	2 (4%)
3	PGT	D	507	-	50,50,50	0.49	0	53,56,56	0.43	0
4	LMT	C	508	-	36,36,36	1.18	4 (11%)	47,47,47	1.04	1 (2%)
3	PGT	B	506	-	50,50,50	0.49	0	53,56,56	0.48	0
4	LMT	D	514	-	36,36,36	1.21	6 (16%)	47,47,47	1.00	1 (2%)
3	PGT	C	511	-	50,50,50	0.48	0	53,56,56	0.47	0
4	LMT	D	504	-	36,36,36	1.17	6 (16%)	47,47,47	1.02	1 (2%)
4	LMT	D	506	-	36,36,36	1.16	5 (13%)	47,47,47	0.99	2 (4%)
2	ASW	A	501	-	31,31,31	1.00	1 (3%)	45,45,45	1.43	8 (17%)
3	PGT	A	502	-	50,50,50	0.49	0	53,56,56	0.49	0
4	LMT	B	514	-	36,36,36	1.15	5 (13%)	47,47,47	1.04	1 (2%)
4	LMT	A	508	-	36,36,36	1.15	5 (13%)	47,47,47	1.04	4 (8%)
4	LMT	D	509	-	36,36,36	1.18	5 (13%)	47,47,47	1.09	2 (4%)
4	LMT	A	510	-	36,36,36	1.17	5 (13%)	47,47,47	0.94	2 (4%)
4	LMT	D	512	-	36,36,36	1.16	6 (16%)	47,47,47	0.98	1 (2%)
4	LMT	A	503	-	36,36,36	1.17	5 (13%)	47,47,47	0.99	2 (4%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
5	DGA	A	504	-	43,43,43	0.20	0	45,45,45	0.13	0
5	DGA	C	505	-	43,43,43	0.21	0	45,45,45	0.14	0
2	ASW	B	501	-	31,31,31	0.97	1 (3%)	45,45,45	1.41	8 (17%)
3	PGT	C	502	-	50,50,50	0.48	0	53,56,56	0.46	0
4	LMT	B	510	-	36,36,36	1.17	5 (13%)	47,47,47	1.04	3 (6%)
4	LMT	C	503	-	36,36,36	1.17	5 (13%)	47,47,47	0.97	1 (2%)
3	PGT	A	511	-	50,50,50	0.48	0	53,56,56	0.48	0
4	LMT	D	510	-	36,36,36	1.14	5 (13%)	47,47,47	1.06	3 (6%)
4	LMT	B	508	-	36,36,36	1.18	6 (16%)	47,47,47	0.97	1 (2%)
4	LMT	D	503	-	36,36,36	1.17	6 (16%)	47,47,47	0.97	1 (2%)
4	LMT	C	510	-	36,36,36	1.14	4 (11%)	47,47,47	1.05	2 (4%)
4	LMT	A	507	-	36,36,36	1.18	5 (13%)	47,47,47	1.09	4 (8%)
4	LMT	A	505	-	36,36,36	1.17	6 (16%)	47,47,47	0.97	1 (2%)
4	LMT	A	506	-	36,36,36	1.18	6 (16%)	47,47,47	0.90	1 (2%)
4	LMT	B	512	-	36,36,36	1.18	5 (13%)	47,47,47	1.02	2 (4%)
4	LMT	D	516	-	36,36,36	1.12	5 (13%)	47,47,47	1.00	3 (6%)

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
4	LMT	D	513	-	-	11/21/61/61	0/2/2/2
4	LMT	A	509	-	-	7/21/61/61	0/2/2/2
4	LMT	D	515	-	-	11/21/61/61	0/2/2/2
4	LMT	C	504	-	-	9/21/61/61	0/2/2/2
4	LMT	B	515	-	-	11/21/61/61	0/2/2/2
4	LMT	C	506	-	-	15/21/61/61	0/2/2/2
2	ASW	C	501	-	-	2/11/11/11	0/4/4/4
4	LMT	D	505	-	-	12/21/61/61	0/2/2/2
4	LMT	B	516	-	-	11/21/61/61	0/2/2/2
4	LMT	B	504	-	-	11/21/61/61	0/2/2/2
4	LMT	C	507	-	-	13/21/61/61	0/2/2/2
4	LMT	B	507	-	-	14/21/61/61	0/2/2/2
2	ASW	D	501	-	-	4/11/11/11	0/4/4/4
4	LMT	B	505	-	-	4/21/61/61	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	PGT	B	502	-	-	23/55/55/55	-
3	PGT	D	502	-	-	20/55/55/55	-
4	LMT	C	509	-	-	15/21/61/61	0/2/2/2
4	LMT	D	511	-	-	14/21/61/61	0/2/2/2
4	LMT	B	511	-	-	13/21/61/61	0/2/2/2
4	LMT	B	503	-	-	11/21/61/61	0/2/2/2
4	LMT	B	513	-	-	10/21/61/61	0/2/2/2
4	LMT	B	509	-	-	9/21/61/61	0/2/2/2
4	LMT	D	508	-	-	10/21/61/61	0/2/2/2
3	PGT	D	507	-	-	30/55/55/55	-
4	LMT	C	508	-	-	11/21/61/61	0/2/2/2
3	PGT	B	506	-	-	24/55/55/55	-
4	LMT	D	514	-	-	7/21/61/61	0/2/2/2
3	PGT	C	511	-	-	18/55/55/55	-
4	LMT	D	504	-	-	7/21/61/61	0/2/2/2
4	LMT	D	506	-	-	8/21/61/61	0/2/2/2
2	ASW	A	501	-	-	2/11/11/11	0/4/4/4
3	PGT	A	502	-	-	24/55/55/55	-
4	LMT	B	514	-	-	8/21/61/61	0/2/2/2
4	LMT	A	508	-	-	9/21/61/61	0/2/2/2
4	LMT	D	509	-	-	11/21/61/61	0/2/2/2
4	LMT	A	510	-	-	12/21/61/61	0/2/2/2
4	LMT	D	512	-	-	9/21/61/61	0/2/2/2
4	LMT	A	503	-	-	12/21/61/61	0/2/2/2
5	DGA	A	504	-	-	19/45/45/45	-
5	DGA	C	505	-	-	21/45/45/45	-
2	ASW	B	501	-	-	4/11/11/11	0/4/4/4
3	PGT	C	502	-	-	26/55/55/55	-
4	LMT	B	510	-	-	12/21/61/61	0/2/2/2
4	LMT	C	503	-	-	13/21/61/61	0/2/2/2
3	PGT	A	511	-	-	27/55/55/55	-
4	LMT	D	510	-	-	7/21/61/61	0/2/2/2
4	LMT	B	508	-	-	12/21/61/61	0/2/2/2
4	LMT	D	503	-	-	14/21/61/61	0/2/2/2

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	LMT	C	510	-	-	9/21/61/61	0/2/2/2
4	LMT	A	507	-	-	6/21/61/61	0/2/2/2
4	LMT	A	505	-	-	10/21/61/61	0/2/2/2
4	LMT	A	506	-	-	10/21/61/61	0/2/2/2
4	LMT	B	512	-	-	9/21/61/61	0/2/2/2
4	LMT	D	516	-	-	10/21/61/61	0/2/2/2

All (209) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	B	514	LMT	O3'-C3'	-2.85	1.36	1.43
4	D	511	LMT	O4'-C4B	-2.84	1.36	1.43
4	B	511	LMT	O3'-C3'	-2.84	1.36	1.43
4	B	508	LMT	O3'-C3'	-2.84	1.36	1.43
4	C	503	LMT	O3'-C3'	-2.78	1.36	1.43
4	B	503	LMT	O3'-C3'	-2.77	1.36	1.43
4	C	506	LMT	O3'-C3'	-2.75	1.36	1.43
4	D	508	LMT	O3'-C3'	-2.75	1.36	1.43
4	B	509	LMT	O3'-C3'	-2.73	1.36	1.43
4	D	516	LMT	O3'-C3'	-2.73	1.36	1.43
4	D	513	LMT	O3'-C3'	-2.72	1.36	1.43
4	B	510	LMT	O3B-C3B	-2.72	1.36	1.43
4	A	508	LMT	O3'-C3'	-2.71	1.36	1.43
4	D	509	LMT	O3'-C3'	-2.71	1.36	1.43
4	B	505	LMT	O3'-C3'	-2.71	1.36	1.43
4	A	507	LMT	O3'-C3'	-2.70	1.36	1.43
4	B	512	LMT	O3'-C3'	-2.69	1.36	1.43
4	D	514	LMT	O3'-C3'	-2.69	1.36	1.43
4	A	506	LMT	O3'-C3'	-2.69	1.36	1.43
4	D	505	LMT	O3'-C3'	-2.68	1.36	1.43
4	D	503	LMT	O3'-C3'	-2.68	1.36	1.43
4	B	516	LMT	O3'-C3'	-2.68	1.36	1.43
4	C	507	LMT	O3'-C3'	-2.68	1.36	1.43
4	A	505	LMT	O3'-C3'	-2.67	1.36	1.43
4	B	507	LMT	O3'-C3'	-2.66	1.36	1.43
4	B	510	LMT	O3'-C3'	-2.66	1.36	1.43
4	D	504	LMT	O3'-C3'	-2.65	1.36	1.43
4	A	503	LMT	O3'-C3'	-2.65	1.36	1.43
4	D	512	LMT	O3'-C3'	-2.65	1.36	1.43
4	B	510	LMT	O2B-C2B	-2.65	1.36	1.43
4	A	510	LMT	O3'-C3'	-2.64	1.36	1.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	B	513	LMT	O3'-C3'	-2.63	1.36	1.43
4	D	506	LMT	O3'-C3'	-2.62	1.36	1.43
4	B	504	LMT	O3'-C3'	-2.62	1.36	1.43
4	B	515	LMT	O3'-C3'	-2.62	1.36	1.43
4	D	510	LMT	O3'-C3'	-2.60	1.36	1.43
4	A	509	LMT	O3'-C3'	-2.58	1.36	1.43
4	D	515	LMT	O3'-C3'	-2.58	1.36	1.43
4	C	509	LMT	O3'-C3'	-2.58	1.36	1.43
4	C	508	LMT	O3'-C3'	-2.57	1.36	1.43
4	C	510	LMT	O3'-C3'	-2.55	1.37	1.43
4	B	507	LMT	O2B-C2B	-2.54	1.37	1.43
4	D	509	LMT	O2'-C2'	-2.53	1.37	1.43
4	D	511	LMT	O3B-C3B	-2.53	1.37	1.43
4	D	511	LMT	O2B-C2B	-2.52	1.37	1.43
4	D	514	LMT	O2'-C2'	-2.51	1.37	1.43
4	D	511	LMT	O3'-C3'	-2.50	1.37	1.43
4	D	513	LMT	O2B-C2B	-2.48	1.37	1.43
4	B	513	LMT	O2B-C2B	-2.48	1.37	1.43
4	C	504	LMT	O3'-C3'	-2.47	1.37	1.43
4	D	505	LMT	O2'-C2'	-2.45	1.37	1.43
4	C	507	LMT	O2B-C2B	-2.45	1.37	1.43
2	A	501	ASW	C8-S7	-2.44	1.69	1.75
4	B	515	LMT	O2'-C2'	-2.43	1.37	1.43
4	B	507	LMT	O2'-C2'	-2.42	1.37	1.43
4	D	510	LMT	O2B-C2B	-2.42	1.37	1.43
4	A	505	LMT	O2'-C2'	-2.42	1.37	1.43
4	C	507	LMT	O3B-C3B	-2.41	1.37	1.43
4	A	503	LMT	O2'-C2'	-2.41	1.37	1.43
4	C	506	LMT	O2'-C2'	-2.41	1.37	1.43
4	B	516	LMT	O2B-C2B	-2.41	1.37	1.43
4	B	513	LMT	O2'-C2'	-2.41	1.37	1.43
4	A	503	LMT	O2B-C2B	-2.41	1.37	1.43
4	B	511	LMT	O2'-C2'	-2.40	1.37	1.43
2	D	501	ASW	C8-S7	-2.40	1.69	1.75
4	D	503	LMT	O2'-C2'	-2.40	1.37	1.43
4	B	512	LMT	O2'-C2'	-2.39	1.37	1.43
4	B	503	LMT	O2'-C2'	-2.39	1.37	1.43
2	B	501	ASW	C8-S7	-2.39	1.69	1.75
4	D	508	LMT	O2B-C2B	-2.39	1.37	1.43
4	D	514	LMT	O2B-C2B	-2.39	1.37	1.43
4	B	514	LMT	O2B-C2B	-2.38	1.37	1.43
4	A	508	LMT	O2'-C2'	-2.38	1.37	1.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	B	515	LMT	O3B-C3B	-2.37	1.37	1.43
4	A	506	LMT	O3B-C3B	-2.37	1.37	1.43
4	A	508	LMT	O2B-C2B	-2.37	1.37	1.43
4	D	513	LMT	O2'-C2'	-2.37	1.37	1.43
4	B	516	LMT	O2'-C2'	-2.37	1.37	1.43
4	A	509	LMT	O2B-C2B	-2.36	1.37	1.43
4	B	507	LMT	O3B-C3B	-2.36	1.37	1.43
4	A	506	LMT	O2'-C2'	-2.36	1.37	1.43
2	C	501	ASW	C8-S7	-2.36	1.69	1.75
4	B	511	LMT	O3B-C3B	-2.36	1.37	1.43
4	B	509	LMT	O2'-C2'	-2.36	1.37	1.43
4	A	505	LMT	O3B-C3B	-2.35	1.37	1.43
4	A	510	LMT	O2'-C2'	-2.35	1.37	1.43
4	D	506	LMT	O2B-C2B	-2.35	1.37	1.43
4	D	506	LMT	O2'-C2'	-2.35	1.37	1.43
4	C	503	LMT	O2B-C2B	-2.35	1.37	1.43
4	D	516	LMT	O2'-C2'	-2.35	1.37	1.43
4	B	512	LMT	O3B-C3B	-2.34	1.37	1.43
4	D	510	LMT	O3B-C3B	-2.34	1.37	1.43
4	A	507	LMT	O3B-C3B	-2.34	1.37	1.43
4	C	510	LMT	O2B-C2B	-2.34	1.37	1.43
4	D	508	LMT	O3B-C3B	-2.34	1.37	1.43
4	D	510	LMT	O2'-C2'	-2.34	1.37	1.43
4	B	508	LMT	O2'-C2'	-2.34	1.37	1.43
4	A	505	LMT	O2B-C2B	-2.34	1.37	1.43
4	B	512	LMT	O2B-C2B	-2.33	1.37	1.43
4	D	505	LMT	O2B-C2B	-2.33	1.37	1.43
4	B	510	LMT	O2'-C2'	-2.33	1.37	1.43
4	B	514	LMT	O3B-C3B	-2.33	1.37	1.43
4	C	504	LMT	O2B-C2B	-2.33	1.37	1.43
4	D	503	LMT	O2B-C2B	-2.33	1.37	1.43
4	D	506	LMT	O3B-C3B	-2.33	1.37	1.43
4	A	503	LMT	O3B-C3B	-2.33	1.37	1.43
4	B	516	LMT	O3B-C3B	-2.33	1.37	1.43
4	B	504	LMT	O2B-C2B	-2.32	1.37	1.43
4	C	504	LMT	O3B-C3B	-2.32	1.37	1.43
4	C	508	LMT	O2B-C2B	-2.32	1.37	1.43
4	D	512	LMT	O2B-C2B	-2.32	1.37	1.43
4	A	507	LMT	O2B-C2B	-2.32	1.37	1.43
4	A	510	LMT	O2B-C2B	-2.32	1.37	1.43
4	D	504	LMT	O2B-C2B	-2.32	1.37	1.43
4	D	515	LMT	O2B-C2B	-2.32	1.37	1.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	B	505	LMT	O2B-C2B	-2.32	1.37	1.43
4	C	503	LMT	O3B-C3B	-2.32	1.37	1.43
4	C	509	LMT	O2B-C2B	-2.32	1.37	1.43
4	B	510	LMT	O4'-C4B	-2.32	1.37	1.43
4	D	512	LMT	O3B-C3B	-2.32	1.37	1.43
4	C	509	LMT	O3B-C3B	-2.31	1.37	1.43
4	A	506	LMT	O2B-C2B	-2.31	1.37	1.43
4	D	508	LMT	O2'-C2'	-2.31	1.37	1.43
4	C	504	LMT	O2'-C2'	-2.31	1.37	1.43
4	D	504	LMT	O2'-C2'	-2.31	1.37	1.43
4	B	503	LMT	O3B-C3B	-2.31	1.37	1.43
4	B	509	LMT	O2B-C2B	-2.31	1.37	1.43
4	D	505	LMT	O3B-C3B	-2.31	1.37	1.43
4	D	515	LMT	O3B-C3B	-2.31	1.37	1.43
4	D	503	LMT	O3B-C3B	-2.30	1.37	1.43
4	D	516	LMT	O2B-C2B	-2.30	1.37	1.43
4	C	507	LMT	O2'-C2'	-2.30	1.37	1.43
4	D	516	LMT	O3B-C3B	-2.30	1.37	1.43
4	C	508	LMT	O2'-C2'	-2.30	1.37	1.43
4	B	505	LMT	O3B-C3B	-2.29	1.37	1.43
4	B	503	LMT	O2B-C2B	-2.29	1.37	1.43
4	B	513	LMT	O3B-C3B	-2.29	1.37	1.43
4	A	509	LMT	O3B-C3B	-2.29	1.37	1.43
4	B	504	LMT	O3B-C3B	-2.28	1.37	1.43
4	D	504	LMT	O3B-C3B	-2.27	1.37	1.43
4	B	515	LMT	O2B-C2B	-2.27	1.37	1.43
4	B	505	LMT	O2'-C2'	-2.27	1.37	1.43
4	D	509	LMT	O3B-C3B	-2.26	1.37	1.43
4	D	515	LMT	O2'-C2'	-2.25	1.37	1.43
4	B	508	LMT	O3B-C3B	-2.24	1.37	1.43
4	C	506	LMT	O3B-C3B	-2.24	1.37	1.43
4	B	516	LMT	O4'-C4B	-2.24	1.37	1.43
4	A	510	LMT	O3B-C3B	-2.24	1.37	1.43
4	C	503	LMT	O2'-C2'	-2.23	1.37	1.43
4	D	514	LMT	O3B-C3B	-2.22	1.37	1.43
4	D	509	LMT	O2B-C2B	-2.22	1.37	1.43
4	A	507	LMT	O4'-C4B	-2.22	1.37	1.43
4	C	508	LMT	O3B-C3B	-2.21	1.37	1.43
4	B	511	LMT	O2B-C2B	-2.21	1.37	1.43
4	A	506	LMT	O1'-C1'	-2.20	1.36	1.40
4	A	508	LMT	O4'-C4B	-2.20	1.37	1.43
4	A	508	LMT	O3B-C3B	-2.19	1.37	1.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	B	504	LMT	O2'-C2'	-2.19	1.37	1.43
4	C	507	LMT	O4'-C4B	-2.19	1.37	1.43
4	C	506	LMT	O2B-C2B	-2.18	1.37	1.43
4	C	510	LMT	O3B-C3B	-2.18	1.37	1.43
4	D	513	LMT	O3B-C3B	-2.17	1.37	1.43
4	B	508	LMT	O4'-C4B	-2.16	1.37	1.43
4	D	511	LMT	O2'-C2'	-2.16	1.37	1.43
4	D	512	LMT	O2'-C2'	-2.16	1.37	1.43
4	B	509	LMT	O3B-C3B	-2.16	1.37	1.43
4	B	515	LMT	O4'-C4B	-2.14	1.37	1.43
4	D	506	LMT	O4'-C4B	-2.14	1.37	1.43
4	B	507	LMT	O4'-C4B	-2.14	1.37	1.43
4	D	512	LMT	O4'-C4B	-2.13	1.38	1.43
4	B	508	LMT	O2B-C2B	-2.13	1.38	1.43
4	D	513	LMT	O4'-C4B	-2.13	1.38	1.43
4	B	503	LMT	O4'-C4B	-2.12	1.38	1.43
4	D	510	LMT	O4'-C4B	-2.12	1.38	1.43
4	A	509	LMT	O4'-C4B	-2.12	1.38	1.43
4	D	514	LMT	O1'-C1'	-2.12	1.36	1.40
4	D	516	LMT	O4'-C4B	-2.12	1.38	1.43
4	A	507	LMT	O2'-C2'	-2.11	1.38	1.43
4	B	511	LMT	O4'-C4B	-2.11	1.38	1.43
4	B	514	LMT	O2'-C2'	-2.11	1.38	1.43
4	C	509	LMT	O4'-C4B	-2.11	1.38	1.43
4	B	504	LMT	O4'-C4B	-2.11	1.38	1.43
4	D	509	LMT	O4'-C4B	-2.10	1.38	1.43
4	C	504	LMT	O4'-C4B	-2.10	1.38	1.43
4	A	505	LMT	O4'-C4B	-2.10	1.38	1.43
4	B	505	LMT	O4'-C4B	-2.09	1.38	1.43
4	B	513	LMT	O4'-C4B	-2.09	1.38	1.43
4	D	505	LMT	O4'-C4B	-2.09	1.38	1.43
4	B	514	LMT	O4'-C4B	-2.09	1.38	1.43
4	A	503	LMT	O4'-C4B	-2.09	1.38	1.43
4	C	503	LMT	O4'-C4B	-2.08	1.38	1.43
4	B	512	LMT	O4'-C4B	-2.08	1.38	1.43
4	C	510	LMT	O4'-C4B	-2.08	1.38	1.43
4	D	515	LMT	O4'-C4B	-2.07	1.38	1.43
4	A	506	LMT	O4'-C4B	-2.07	1.38	1.43
4	D	504	LMT	O4'-C4B	-2.07	1.38	1.43
4	D	503	LMT	O4'-C4B	-2.06	1.38	1.43
4	D	508	LMT	O4'-C4B	-2.06	1.38	1.43
4	D	503	LMT	O1'-C1'	-2.04	1.36	1.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	B	508	LMT	O1'-C1'	-2.04	1.36	1.40
4	B	507	LMT	O1'-C1'	-2.04	1.36	1.40
4	A	510	LMT	O4'-C4B	-2.04	1.38	1.43
4	B	509	LMT	O4'-C4B	-2.04	1.38	1.43
4	B	505	LMT	O1'-C1'	-2.04	1.36	1.40
4	D	514	LMT	O4'-C4B	-2.03	1.38	1.43
4	D	504	LMT	O1'-C1'	-2.02	1.36	1.40
4	D	512	LMT	O1'-C1'	-2.02	1.36	1.40
4	B	515	LMT	O1'-C1'	-2.01	1.36	1.40
4	A	505	LMT	O1'-C1'	-2.01	1.36	1.40

All (111) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	C	506	LMT	O5B-C5B-C4B	3.72	116.45	109.69
4	A	507	LMT	C3'-C4'-C5'	-3.66	102.54	110.93
4	B	515	LMT	C1'-O5'-C5'	-3.59	106.63	113.69
4	C	508	LMT	C1'-O5'-C5'	-3.19	107.43	113.69
4	C	504	LMT	C1'-O5'-C5'	-3.09	107.62	113.69
4	D	509	LMT	C1'-O5'-C5'	-3.09	107.62	113.69
4	B	514	LMT	C3'-C4'-C5'	-3.08	103.87	110.93
4	D	514	LMT	C1'-O5'-C5'	-3.08	107.65	113.69
2	C	501	ASW	C11-C5-C4	-2.94	116.16	119.65
4	D	504	LMT	C1'-O5'-C5'	-2.94	107.92	113.69
4	B	507	LMT	C1'-O5'-C5'	-2.94	107.92	113.69
2	A	501	ASW	C24-C23-N22	-2.93	115.41	119.09
2	A	501	ASW	C11-C5-C4	-2.93	116.18	119.65
2	C	501	ASW	C24-C23-N22	-2.90	115.44	119.09
2	D	501	ASW	C24-C23-N22	-2.89	115.46	119.09
4	D	506	LMT	C1'-O5'-C5'	-2.89	108.02	113.69
2	B	501	ASW	C24-C23-N22	-2.88	115.47	119.09
4	C	503	LMT	C1'-O5'-C5'	-2.88	108.03	113.69
2	D	501	ASW	C11-C5-C4	-2.87	116.25	119.65
4	B	505	LMT	C3'-C4'-C5'	-2.81	104.48	110.93
4	B	512	LMT	C3'-C4'-C5'	-2.80	104.52	110.93
2	B	501	ASW	C11-C5-C4	-2.79	116.34	119.65
4	A	505	LMT	C1'-O5'-C5'	-2.79	108.21	113.69
4	B	516	LMT	C1'-O5'-C5'	-2.76	108.28	113.69
4	D	510	LMT	C1'-O5'-C5'	-2.75	108.29	113.69
4	B	508	LMT	C1'-O5'-C5'	-2.75	108.29	113.69
4	A	503	LMT	C1'-O5'-C5'	-2.74	108.31	113.69
4	B	512	LMT	C1'-O5'-C5'	-2.74	108.32	113.69

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	D	511	LMT	O5'-C5'-C6'	2.72	113.19	106.44
4	D	509	LMT	C3'-C4'-C5'	-2.71	104.71	110.93
4	D	512	LMT	C1'-O5'-C5'	-2.71	108.37	113.69
2	B	501	ASW	C12-C13-C3	-2.71	115.57	119.05
2	D	501	ASW	C12-C13-C3	-2.69	115.58	119.05
2	C	501	ASW	C12-C13-C3	-2.68	115.60	119.05
2	A	501	ASW	C12-C13-C3	-2.68	115.61	119.05
4	C	510	LMT	C3'-C4'-C5'	-2.67	104.80	110.93
4	D	513	LMT	C1'-O5'-C5'	-2.64	108.50	113.69
4	B	509	LMT	C1'-O5'-C5'	-2.64	108.50	113.69
4	B	511	LMT	C3'-C4'-C5'	-2.63	104.89	110.93
2	A	501	ASW	C15-C16-C21	2.60	120.33	118.33
4	A	503	LMT	C3'-C4'-C5'	-2.58	105.01	110.93
2	A	501	ASW	C20-C21-N22	-2.58	115.85	119.09
4	B	510	LMT	C3B-C4B-C5B	-2.57	105.65	110.24
4	C	509	LMT	C1'-C2'-C3'	2.57	115.35	110.00
4	B	503	LMT	C1'-O5'-C5'	-2.57	108.65	113.69
2	C	501	ASW	C20-C21-N22	-2.56	115.87	119.09
2	B	501	ASW	O2-C3-C13	2.55	117.93	114.80
4	C	509	LMT	C2'-C3'-C4'	2.55	115.50	109.68
4	B	510	LMT	C1'-O5'-C5'	-2.53	108.71	113.69
2	D	501	ASW	O2-C3-C13	2.52	117.89	114.80
2	D	501	ASW	C15-C16-C21	2.52	120.27	118.33
2	D	501	ASW	C20-C21-N22	-2.52	115.92	119.09
2	B	501	ASW	C15-C16-C21	2.51	120.26	118.33
2	B	501	ASW	C20-C21-N22	-2.51	115.93	119.09
4	B	504	LMT	C1'-O5'-C5'	-2.50	108.77	113.69
2	C	501	ASW	C15-C16-C21	2.50	120.25	118.33
4	D	515	LMT	O5'-C5'-C4'	2.49	114.99	109.75
4	D	510	LMT	O1'-C1'-C2'	2.48	112.17	108.30
4	B	511	LMT	C1'-O5'-C5'	-2.48	108.83	113.69
4	B	513	LMT	O5'-C5'-C6'	2.48	112.59	106.44
4	D	503	LMT	C1'-O5'-C5'	-2.46	108.86	113.69
4	B	503	LMT	O5B-C5B-C4B	2.42	114.09	109.69
4	D	505	LMT	O5'-C5'-C6'	2.42	112.46	106.44
4	B	510	LMT	O5B-C5B-C6B	2.41	112.43	106.44
4	A	507	LMT	O5'-C1'-C2'	2.39	115.40	110.35
4	C	504	LMT	C2'-C3'-C4'	2.39	115.13	109.68
4	C	507	LMT	C1'-O5'-C5'	-2.39	109.00	113.69
4	D	515	LMT	O5'-C5'-C6'	2.38	112.35	106.44
4	A	508	LMT	O5'-C5'-C4'	2.38	114.76	109.75
4	D	506	LMT	C3'-C4'-C5'	-2.35	105.53	110.93

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	A	509	LMT	C2'-C3'-C4'	2.35	115.06	109.68
4	D	511	LMT	O1'-C1'-C2'	2.30	111.89	108.30
4	D	508	LMT	C3'-C4'-C5'	-2.29	105.68	110.93
4	C	509	LMT	C1'-O5'-C5'	-2.28	109.21	113.69
4	A	510	LMT	C1'-O5'-C5'	-2.28	109.22	113.69
2	A	501	ASW	C3-C13-N14	2.27	122.53	117.78
2	A	501	ASW	O2-C3-C13	2.23	117.54	114.80
4	D	508	LMT	C1'-O5'-C5'	-2.23	109.31	113.69
4	B	507	LMT	O5B-C5B-C4B	2.23	113.74	109.69
2	C	501	ASW	O2-C3-C13	2.23	117.53	114.80
4	A	510	LMT	O5B-C5B-C4B	2.22	113.72	109.69
2	B	501	ASW	C3-C13-N14	2.22	122.42	117.78
4	D	516	LMT	C3'-C4'-C5'	-2.21	105.86	110.93
4	A	508	LMT	O5B-C5B-C4B	2.21	113.70	109.69
4	C	510	LMT	O5B-C5B-C4B	2.21	113.70	109.69
4	A	508	LMT	O5'-C5'-C6'	2.21	111.92	106.44
2	D	501	ASW	C3-C13-N14	2.19	122.36	117.78
2	C	501	ASW	C3-C13-N14	2.18	122.35	117.78
4	A	509	LMT	C1'-C2'-C3'	2.14	114.44	110.00
4	C	506	LMT	O5'-C5'-C4'	2.12	114.22	109.75
4	B	515	LMT	C2'-C3'-C4'	2.11	114.50	109.68
4	A	508	LMT	O1'-C1'-C2'	2.10	111.58	108.30
4	A	507	LMT	C1'-C2'-C3'	2.10	114.36	110.00
4	A	507	LMT	O5B-C5B-C4B	2.09	113.49	109.69
4	B	513	LMT	O5'-C5'-C4'	2.09	114.15	109.75
4	C	506	LMT	C1B-O5B-C5B	2.08	117.78	113.69
4	D	511	LMT	C3B-C4B-C5B	-2.08	106.53	110.24
4	C	506	LMT	O5'-C5'-C6'	2.07	111.57	106.44
4	D	516	LMT	O5'-C5'-C4'	2.05	114.08	109.75
4	D	510	LMT	O5B-C5B-C4B	2.04	113.41	109.69
4	D	505	LMT	O5'-C5'-C4'	2.04	114.05	109.75
4	B	509	LMT	C3'-C4'-C5'	-2.03	106.27	110.93
4	B	503	LMT	C3'-C4'-C5'	-2.03	106.28	110.93
4	B	509	LMT	O5B-C5B-C6B	2.02	111.47	106.44
4	D	516	LMT	O5'-C5'-C6'	2.02	111.45	106.44
2	C	501	ASW	C15-C28-C23	2.01	119.88	118.33
4	A	506	LMT	C1'-O5'-C5'	-2.01	109.74	113.69
4	D	513	LMT	O5B-C5B-C6B	2.01	111.43	106.44
4	A	509	LMT	C1'-O5'-C5'	-2.01	109.75	113.69
2	B	501	ASW	O2-C3-C4	-2.01	120.67	124.12
2	A	501	ASW	C15-C28-C23	2.00	119.87	118.33

There are no chirality outliers.

All (661) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	501	ASW	C5-N6-S7-C8
2	A	501	ASW	C5-N6-S7-O9
2	B	501	ASW	C5-N6-S7-C8
2	B	501	ASW	C5-N6-S7-O9
2	C	501	ASW	C5-N6-S7-C8
2	C	501	ASW	C5-N6-S7-O9
2	D	501	ASW	C5-N6-S7-C8
2	D	501	ASW	C5-N6-S7-O9
3	A	502	PGT	C32-C31-O2-C2
3	A	502	PGT	O31-C31-O2-C2
3	A	502	PGT	C4-O4P-P-O2P
3	A	511	PGT	C1-O3P-P-O4P
3	A	511	PGT	O4P-C4-C5-O5
3	A	511	PGT	C4-C5-C6-O6
3	B	502	PGT	C32-C31-O2-C2
3	B	506	PGT	C1-O3P-P-O2P
3	B	506	PGT	C5-C4-O4P-P
3	B	506	PGT	O4P-C4-C5-O5
3	B	506	PGT	O4P-C4-C5-C6
3	C	502	PGT	O31-C31-O2-C2
3	C	511	PGT	C32-C31-O2-C2
3	C	511	PGT	C1-O3P-P-O2P
3	C	511	PGT	C4-O4P-P-O1P
3	D	502	PGT	C32-C31-O2-C2
3	D	502	PGT	C1-O3P-P-O1P
3	D	502	PGT	C1-O3P-P-O4P
3	D	502	PGT	C4-O4P-P-O1P
3	D	502	PGT	C4-O4P-P-O2P
3	D	502	PGT	C4-C5-C6-O6
3	D	507	PGT	C4-O4P-P-O1P
4	A	503	LMT	C2'-C1'-O1'-C1
4	A	503	LMT	O5'-C1'-O1'-C1
4	A	506	LMT	C2-C1-O1'-C1'
4	A	507	LMT	C2-C1-O1'-C1'
4	A	508	LMT	C2-C1-O1'-C1'
4	A	509	LMT	O5'-C1'-O1'-C1
4	B	503	LMT	O5'-C1'-O1'-C1
4	B	504	LMT	C2'-C1'-O1'-C1
4	B	504	LMT	O5'-C1'-O1'-C1
4	B	504	LMT	C2-C1-O1'-C1'
4	B	505	LMT	C2'-C1'-O1'-C1
4	B	505	LMT	O5'-C1'-O1'-C1

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Mol	Chain	Res	Type	Atoms
4	B	507	LMT	C2'-C1'-O1'-C1
4	B	507	LMT	O5'-C1'-O1'-C1
4	B	508	LMT	C2'-C1'-O1'-C1
4	B	508	LMT	O5'-C1'-O1'-C1
4	B	509	LMT	C2-C1-O1'-C1'
4	B	510	LMT	C2'-C1'-O1'-C1
4	B	510	LMT	O5'-C1'-O1'-C1
4	B	511	LMT	C2B-C1B-O1B-C4'
4	B	516	LMT	O5'-C1'-O1'-C1
4	C	503	LMT	O5B-C1B-O1B-C4'
4	C	503	LMT	O5'-C1'-O1'-C1
4	C	503	LMT	C2-C1-O1'-C1'
4	C	504	LMT	C2-C1-O1'-C1'
4	C	506	LMT	C2-C1-O1'-C1'
4	C	507	LMT	O5'-C1'-O1'-C1
4	C	509	LMT	O5'-C1'-O1'-C1
4	C	510	LMT	O5'-C1'-O1'-C1
4	D	503	LMT	C2'-C1'-O1'-C1
4	D	503	LMT	O5'-C1'-O1'-C1
4	D	504	LMT	O5'-C1'-O1'-C1
4	D	505	LMT	C2'-C1'-O1'-C1
4	D	505	LMT	O5'-C1'-O1'-C1
4	D	505	LMT	C2-C1-O1'-C1'
4	D	506	LMT	O5'-C1'-O1'-C1
4	D	506	LMT	C2-C1-O1'-C1'
4	D	508	LMT	C2'-C1'-O1'-C1
4	D	508	LMT	O5'-C1'-O1'-C1
4	D	508	LMT	C2-C1-O1'-C1'
4	D	510	LMT	C2-C1-O1'-C1'
4	D	513	LMT	O5'-C1'-O1'-C1
4	D	513	LMT	C2-C1-O1'-C1'
4	D	514	LMT	O5B-C1B-O1B-C4'
4	D	514	LMT	C2-C1-O1'-C1'
4	D	515	LMT	C2-C1-O1'-C1'
5	A	504	DGA	OG2-CG2-CG3-OXT
5	C	505	DGA	OG2-CG2-CG3-OXT
4	A	509	LMT	C3'-C4'-O1B-C1B
4	A	507	LMT	O5B-C1B-O1B-C4'
4	A	510	LMT	O5B-C1B-O1B-C4'
4	D	511	LMT	O5B-C1B-O1B-C4'
4	D	511	LMT	C2B-C1B-O1B-C4'
4	C	510	LMT	C3'-C4'-O1B-C1B

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Mol	Chain	Res	Type	Atoms
4	D	508	LMT	C4B-C5B-C6B-O6B
4	A	508	LMT	O5B-C1B-O1B-C4'
4	A	510	LMT	C2B-C1B-O1B-C4'
3	B	506	PGT	C12-C11-O3-C3
4	C	509	LMT	C3'-C4'-O1B-C1B
3	B	506	PGT	O11-C11-O3-C3
3	C	502	PGT	O11-C11-O3-C3
3	D	507	PGT	O11-C11-O3-C3
5	A	504	DGA	OA1-CA1-OG1-CG1
5	C	505	DGA	OA1-CA1-OG1-CG1
4	B	511	LMT	O5B-C1B-O1B-C4'
4	B	507	LMT	O5'-C5'-C6'-O6'
4	B	510	LMT	C4'-C5'-C6'-O6'
4	C	508	LMT	O5B-C1B-O1B-C4'
4	B	514	LMT	C3'-C4'-O1B-C1B
4	C	509	LMT	O5B-C5B-C6B-O6B
3	B	502	PGT	O31-C31-O2-C2
3	D	502	PGT	O31-C31-O2-C2
2	B	501	ASW	C13-C3-O2-C1
5	A	504	DGA	CA2-CA1-OG1-CG1
5	C	505	DGA	CA2-CA1-OG1-CG1
4	B	512	LMT	O5B-C5B-C6B-O6B
3	C	502	PGT	C32-C31-O2-C2
4	B	509	LMT	O5B-C1B-O1B-C4'
3	B	502	PGT	O11-C11-O3-C3
4	A	503	LMT	O5'-C5'-C6'-O6'
4	D	505	LMT	C5'-C4'-O1B-C1B
4	B	510	LMT	O5'-C5'-C6'-O6'
4	D	504	LMT	C3'-C4'-O1B-C1B
2	D	501	ASW	C13-C3-O2-C1
3	C	502	PGT	C12-C11-O3-C3
3	D	507	PGT	C12-C11-O3-C3
4	C	510	LMT	O5'-C5'-C6'-O6'
4	A	507	LMT	C4B-C5B-C6B-O6B
4	B	509	LMT	C2B-C1B-O1B-C4'
4	B	515	LMT	C3'-C4'-O1B-C1B
4	D	503	LMT	C5'-C4'-O1B-C1B
4	A	506	LMT	C5'-C4'-O1B-C1B
3	C	511	PGT	O31-C31-O2-C2
4	C	506	LMT	C4'-C5'-C6'-O6'
4	C	507	LMT	C4'-C5'-C6'-O6'
4	D	503	LMT	C4'-C5'-C6'-O6'

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Mol	Chain	Res	Type	Atoms
4	D	506	LMT	C4B-C5B-C6B-O6B
4	A	503	LMT	O5B-C5B-C6B-O6B
4	A	505	LMT	O5B-C5B-C6B-O6B
4	B	503	LMT	O5B-C5B-C6B-O6B
4	B	515	LMT	O5'-C5'-C6'-O6'
4	D	512	LMT	O5B-C5B-C6B-O6B
4	B	515	LMT	C4'-C5'-C6'-O6'
4	B	516	LMT	C4B-C5B-C6B-O6B
3	B	502	PGT	O4P-C4-C5-O5
3	D	507	PGT	O4P-C4-C5-O5
3	B	502	PGT	C12-C11-O3-C3
3	D	502	PGT	C12-C11-O3-C3
3	D	502	PGT	O11-C11-O3-C3
4	C	506	LMT	O5'-C5'-C6'-O6'
4	B	507	LMT	C4'-C5'-C6'-O6'
4	C	509	LMT	C4B-C5B-C6B-O6B
3	B	506	PGT	C32-C31-O2-C2
5	A	504	DGA	CB2-CB1-OG2-CG2
4	D	512	LMT	C3'-C4'-O1B-C1B
4	B	511	LMT	O5B-C5B-C6B-O6B
4	C	507	LMT	O5'-C5'-C6'-O6'
4	D	503	LMT	O5'-C5'-C6'-O6'
4	D	508	LMT	O5B-C5B-C6B-O6B
4	C	503	LMT	C4B-C5B-C6B-O6B
4	A	505	LMT	O5'-C5'-C6'-O6'
4	B	516	LMT	O5B-C5B-C6B-O6B
4	C	503	LMT	O5'-C5'-C6'-O6'
4	D	514	LMT	O5'-C5'-C6'-O6'
4	D	515	LMT	O5'-C5'-C6'-O6'
4	A	503	LMT	C4'-C5'-C6'-O6'
4	B	512	LMT	C4B-C5B-C6B-O6B
2	B	501	ASW	C4-C3-O2-C1
4	A	510	LMT	O5'-C5'-C6'-O6'
4	B	515	LMT	O5B-C5B-C6B-O6B
4	C	506	LMT	O5B-C5B-C6B-O6B
4	A	505	LMT	C4B-C5B-C6B-O6B
2	D	501	ASW	C4-C3-O2-C1
4	B	516	LMT	O5'-C5'-C6'-O6'
4	C	510	LMT	C4'-C5'-C6'-O6'
4	D	512	LMT	C4B-C5B-C6B-O6B
4	D	513	LMT	C4B-C5B-C6B-O6B
4	B	510	LMT	C5'-C4'-O1B-C1B

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Mol	Chain	Res	Type	Atoms
4	A	507	LMT	O5B-C5B-C6B-O6B
4	B	512	LMT	O5'-C5'-C6'-O6'
4	D	506	LMT	O5B-C5B-C6B-O6B
4	B	503	LMT	C4B-C5B-C6B-O6B
4	D	505	LMT	C4B-C5B-C6B-O6B
4	D	509	LMT	C4B-C5B-C6B-O6B
3	A	511	PGT	O4P-C4-C5-C6
3	D	507	PGT	O4P-C4-C5-C6
4	B	509	LMT	O5B-C5B-C6B-O6B
4	D	515	LMT	C4'-C5'-C6'-O6'
4	C	506	LMT	C3'-C4'-O1B-C1B
3	C	502	PGT	C31-C32-C33-C34
4	C	503	LMT	C4'-C5'-C6'-O6'
4	D	514	LMT	C4'-C5'-C6'-O6'
4	A	503	LMT	C4B-C5B-C6B-O6B
4	B	516	LMT	C4'-C5'-C6'-O6'
4	B	503	LMT	C2'-C1'-O1'-C1
4	B	511	LMT	C2'-C1'-O1'-C1
4	C	507	LMT	C2'-C1'-O1'-C1
4	D	504	LMT	C2'-C1'-O1'-C1
4	D	510	LMT	C2'-C1'-O1'-C1
4	B	508	LMT	O5'-C5'-C6'-O6'
4	C	503	LMT	O5B-C5B-C6B-O6B
4	B	508	LMT	C4'-C5'-C6'-O6'
4	B	508	LMT	O5B-C1B-O1B-C4'
3	B	502	PGT	C34-C35-C36-C37
4	A	510	LMT	C3'-C4'-O1B-C1B
4	A	509	LMT	O5'-C5'-C6'-O6'
4	B	512	LMT	C4'-C5'-C6'-O6'
4	B	503	LMT	C2B-C1B-O1B-C4'
4	D	511	LMT	C3'-C4'-O1B-C1B
3	D	507	PGT	C16-C17-C18-C19
4	D	516	LMT	C5'-C4'-O1B-C1B
3	A	511	PGT	C11-C12-C13-C14
4	C	508	LMT	O5B-C5B-C6B-O6B
4	D	516	LMT	C4B-C5B-C6B-O6B
3	D	507	PGT	C21-C22-C23-C24
4	D	504	LMT	O5B-C1B-O1B-C4'
4	C	507	LMT	O5B-C5B-C6B-O6B
3	B	506	PGT	O31-C31-O2-C2
5	A	504	DGA	OB1-CB1-OG2-CG2
4	C	509	LMT	O1'-C1-C2-C3

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Mol	Chain	Res	Type	Atoms
3	B	502	PGT	C5-C4-O4P-P
4	B	503	LMT	O5B-C1B-O1B-C4'
3	C	502	PGT	C41-C42-C43-C44
4	D	515	LMT	O1'-C1-C2-C3
4	D	503	LMT	C4B-C5B-C6B-O6B
4	D	511	LMT	C4B-C5B-C6B-O6B
4	D	505	LMT	O5B-C5B-C6B-O6B
3	D	502	PGT	C41-C42-C43-C44
4	B	508	LMT	C5'-C4'-O1B-C1B
4	D	513	LMT	O5B-C5B-C6B-O6B
4	B	511	LMT	C4B-C5B-C6B-O6B
4	B	511	LMT	C4'-C5'-C6'-O6'
4	B	511	LMT	O5'-C5'-C6'-O6'
4	D	509	LMT	O5B-C5B-C6B-O6B
4	D	516	LMT	O5B-C5B-C6B-O6B
4	B	515	LMT	C4B-C5B-C6B-O6B
3	A	502	PGT	C4-O4P-P-O3P
3	B	502	PGT	C4-O4P-P-O3P
3	B	506	PGT	C1-O3P-P-O4P
3	B	506	PGT	C4-O4P-P-O3P
3	C	511	PGT	C1-O3P-P-O4P
3	D	502	PGT	C4-O4P-P-O3P
3	D	507	PGT	C1-O3P-P-O4P
3	D	507	PGT	C4-O4P-P-O3P
4	D	516	LMT	C3'-C4'-O1B-C1B
3	C	502	PGT	C38-C39-C40-C41
3	A	511	PGT	C34-C35-C36-C37
4	B	507	LMT	C5'-C4'-O1B-C1B
4	D	512	LMT	O5'-C5'-C6'-O6'
4	A	505	LMT	C4'-C5'-C6'-O6'
4	A	506	LMT	O1'-C1-C2-C3
5	C	505	DGA	CA8-CA9-CAA-CBA
3	B	502	PGT	C12-C13-C14-C15
3	B	506	PGT	C37-C38-C39-C40
3	B	506	PGT	C14-C15-C16-C17
4	B	507	LMT	C7-C8-C9-C10
4	B	508	LMT	C3-C4-C5-C6
4	D	516	LMT	O5'-C5'-C6'-O6'
3	C	511	PGT	C21-C22-C23-C24
4	A	505	LMT	C11-C10-C9-C8
4	A	510	LMT	C7-C8-C9-C10
4	D	503	LMT	C7-C8-C9-C10

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Mol	Chain	Res	Type	Atoms
5	A	504	DGA	CA9-CAA-CBA-CCA
3	B	506	PGT	C39-C40-C41-C42
3	B	506	PGT	C34-C35-C36-C37
4	A	505	LMT	C2-C3-C4-C5
4	A	508	LMT	O5'-C5'-C6'-O6'
4	D	511	LMT	O5'-C5'-C6'-O6'
4	B	508	LMT	C2-C3-C4-C5
4	C	504	LMT	C2-C3-C4-C5
4	D	511	LMT	C11-C10-C9-C8
5	A	504	DGA	CB3-CB4-CB5-CB6
4	D	511	LMT	C4'-C5'-C6'-O6'
4	B	511	LMT	C6-C7-C8-C9
4	C	507	LMT	C11-C10-C9-C8
4	D	511	LMT	C5'-C4'-O1B-C1B
5	C	505	DGA	CB9-CAB-CBB-CCB
4	D	515	LMT	O5B-C5B-C6B-O6B
4	B	513	LMT	C2'-C1'-O1'-C1
4	C	506	LMT	C2'-C1'-O1'-C1
4	C	508	LMT	C2'-C1'-O1'-C1
3	B	506	PGT	C38-C39-C40-C41
4	B	511	LMT	C4-C5-C6-C7
3	C	511	PGT	C35-C36-C37-C38
5	C	505	DGA	CCB-CDB-CEB-CFB
4	B	514	LMT	C6-C7-C8-C9
4	D	505	LMT	C2-C3-C4-C5
4	D	513	LMT	C3-C4-C5-C6
3	B	502	PGT	C4-C5-C6-O6
3	C	502	PGT	C4-C5-C6-O6
3	D	507	PGT	C4-C5-C6-O6
4	B	509	LMT	O5'-C5'-C6'-O6'
4	D	513	LMT	O5'-C5'-C6'-O6'
4	C	507	LMT	C4-C5-C6-C7
4	C	508	LMT	C3-C4-C5-C6
3	A	502	PGT	C20-C21-C22-C23
4	C	503	LMT	C7-C8-C9-C10
4	A	503	LMT	C1-C2-C3-C4
4	C	506	LMT	O5'-C1'-O1'-C1
4	C	508	LMT	O5'-C1'-O1'-C1
3	C	502	PGT	C33-C34-C35-C36
4	A	505	LMT	C7-C8-C9-C10
3	D	507	PGT	C14-C15-C16-C17
4	A	508	LMT	C11-C10-C9-C8

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Mol	Chain	Res	Type	Atoms
4	B	507	LMT	C2-C3-C4-C5
4	D	503	LMT	C6-C7-C8-C9
3	A	511	PGT	C31-C32-C33-C34
4	D	515	LMT	C11-C10-C9-C8
4	A	503	LMT	C2-C3-C4-C5
4	B	513	LMT	C6-C7-C8-C9
4	D	508	LMT	C3-C4-C5-C6
4	B	505	LMT	C2-C1-O1'-C1'
4	C	508	LMT	C2-C1-O1'-C1'
4	C	510	LMT	C2-C1-O1'-C1'
4	D	516	LMT	C2-C1-O1'-C1'
4	B	513	LMT	C5-C6-C7-C8
4	C	510	LMT	C4-C5-C6-C7
3	A	511	PGT	C33-C34-C35-C36
4	A	508	LMT	C5-C6-C7-C8
4	D	509	LMT	C5-C6-C7-C8
5	C	505	DGA	CB3-CB4-CB5-CB6
4	A	503	LMT	C11-C10-C9-C8
3	B	502	PGT	C31-C32-C33-C34
3	A	511	PGT	C32-C31-O2-C2
3	A	511	PGT	O5-C5-C6-O6
3	C	502	PGT	O5-C5-C6-O6
3	D	502	PGT	C13-C14-C15-C16
4	C	503	LMT	C6-C7-C8-C9
4	D	516	LMT	C3-C4-C5-C6
3	A	511	PGT	C16-C17-C18-C19
5	C	505	DGA	CA9-CAA-CBA-CCA
3	D	507	PGT	C20-C21-C22-C23
4	B	514	LMT	C3-C4-C5-C6
4	B	516	LMT	C6-C7-C8-C9
4	C	506	LMT	C5'-C4'-O1B-C1B
4	C	506	LMT	C4-C5-C6-C7
4	A	506	LMT	C4'-C5'-C6'-O6'
4	C	506	LMT	O1'-C1-C2-C3
4	B	514	LMT	C4'-C5'-C6'-O6'
4	B	510	LMT	C3'-C4'-O1B-C1B
4	B	513	LMT	C1-C2-C3-C4
3	C	502	PGT	C39-C40-C41-C42
3	C	502	PGT	C21-C22-C23-C24
4	D	505	LMT	C4-C5-C6-C7
4	A	510	LMT	C5'-C4'-O1B-C1B
5	A	504	DGA	CCA-CDA-CEA-CFA

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Mol	Chain	Res	Type	Atoms
3	A	511	PGT	O31-C31-O2-C2
3	D	507	PGT	C11-C12-C13-C14
3	A	502	PGT	C14-C15-C16-C17
3	A	511	PGT	C41-C42-C43-C44
3	C	502	PGT	C11-C12-C13-C14
4	C	508	LMT	C2-C3-C4-C5
4	C	504	LMT	O5'-C1'-O1'-C1
4	D	512	LMT	O5'-C1'-O1'-C1
4	B	504	LMT	C3-C4-C5-C6
3	A	502	PGT	O3P-C1-C2-O2
4	C	509	LMT	C7-C8-C9-C10
5	A	504	DGA	CEA-CFA-CGA-CHA
4	B	513	LMT	C4-C5-C6-C7
4	B	509	LMT	C2'-C1'-O1'-C1
4	B	516	LMT	C2'-C1'-O1'-C1
4	C	504	LMT	C2'-C1'-O1'-C1
4	C	509	LMT	C2'-C1'-O1'-C1
4	D	513	LMT	C2'-C1'-O1'-C1
3	A	511	PGT	O2-C2-C3-O3
4	B	513	LMT	O5B-C5B-C6B-O6B
5	A	504	DGA	CB1-CB2-CB3-CB4
4	A	509	LMT	C4'-C5'-C6'-O6'
4	A	510	LMT	C5-C6-C7-C8
4	D	505	LMT	C3-C4-C5-C6
4	B	510	LMT	C5-C6-C7-C8
4	C	504	LMT	O5B-C5B-C6B-O6B
4	B	508	LMT	C11-C10-C9-C8
4	B	504	LMT	C1-C2-C3-C4
3	B	506	PGT	C19-C20-C21-C22
4	B	508	LMT	C3'-C4'-O1B-C1B
5	A	504	DGA	CCB-CDB-CEB-CFB
4	D	513	LMT	C1-C2-C3-C4
4	B	507	LMT	C3'-C4'-O1B-C1B
3	A	511	PGT	O3P-C1-C2-C3
3	D	507	PGT	C19-C20-C21-C22
4	D	515	LMT	C5'-C4'-O1B-C1B
4	A	506	LMT	O5B-C5B-C6B-O6B
4	D	510	LMT	C5-C6-C7-C8
4	D	513	LMT	C5-C6-C7-C8
3	D	507	PGT	C39-C40-C41-C42
5	C	505	DGA	CEA-CFA-CGA-CHA
4	B	510	LMT	C2-C3-C4-C5

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Mol	Chain	Res	Type	Atoms
4	D	516	LMT	C11-C10-C9-C8
3	C	511	PGT	C1-C2-C3-O3
4	A	509	LMT	C11-C10-C9-C8
3	A	502	PGT	C23-C24-C25-C26
4	B	504	LMT	C11-C10-C9-C8
4	D	510	LMT	O1'-C1-C2-C3
4	D	503	LMT	C2B-C1B-O1B-C4'
4	B	515	LMT	O5B-C1B-O1B-C4'
4	A	506	LMT	C3'-C4'-O1B-C1B
4	B	503	LMT	O5'-C5'-C6'-O6'
4	D	503	LMT	O5B-C1B-O1B-C4'
4	B	505	LMT	O1'-C1-C2-C3
4	D	509	LMT	C11-C10-C9-C8
4	D	512	LMT	C2-C3-C4-C5
4	D	510	LMT	O5'-C5'-C6'-O6'
4	D	514	LMT	C3-C4-C5-C6
3	C	502	PGT	C32-C33-C34-C35
3	A	511	PGT	C1-C2-O2-C31
4	B	510	LMT	O5B-C5B-C6B-O6B
4	B	507	LMT	C6-C7-C8-C9
3	D	502	PGT	C15-C16-C17-C18
5	A	504	DGA	CAB-CBB-CCB-CDB
4	A	509	LMT	C2'-C1'-O1'-C1
4	C	510	LMT	C2'-C1'-O1'-C1
4	D	509	LMT	C2'-C1'-O1'-C1
4	D	512	LMT	C2'-C1'-O1'-C1
3	A	502	PGT	C43-C44-C45-C46
4	D	506	LMT	O1'-C1-C2-C3
4	C	508	LMT	C1-C2-C3-C4
4	B	514	LMT	C7-C8-C9-C10
4	D	505	LMT	O1'-C1-C2-C3
4	D	515	LMT	C1-C2-C3-C4
4	C	510	LMT	C7-C8-C9-C10
4	A	507	LMT	O1'-C1-C2-C3
4	B	504	LMT	C6-C7-C8-C9
5	C	505	DGA	CCA-CDA-CEA-CFA
4	B	511	LMT	C3-C4-C5-C6
4	B	513	LMT	C11-C10-C9-C8
4	B	509	LMT	C3-C4-C5-C6
5	A	504	DGA	CDB-CEB-CFB-CGB
4	D	512	LMT	C5'-C4'-O1B-C1B
3	A	502	PGT	O3P-C1-C2-C3

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Mol	Chain	Res	Type	Atoms
3	B	502	PGT	O3P-C1-C2-C3
4	C	509	LMT	C11-C10-C9-C8
4	C	508	LMT	C4B-C5B-C6B-O6B
4	D	505	LMT	C3'-C4'-O1B-C1B
3	D	502	PGT	C31-C32-C33-C34
4	C	506	LMT	C1-C2-C3-C4
4	D	515	LMT	C3'-C4'-O1B-C1B
3	B	506	PGT	C2-C1-O3P-P
3	C	511	PGT	C5-C4-O4P-P
4	A	509	LMT	C2-C1-O1'-C1'
4	A	510	LMT	C2-C1-O1'-C1'
4	B	507	LMT	C2-C1-O1'-C1'
4	B	508	LMT	C2-C1-O1'-C1'
4	B	510	LMT	C2-C1-O1'-C1'
4	B	511	LMT	C2-C1-O1'-C1'
4	B	513	LMT	C2-C1-O1'-C1'
4	B	515	LMT	C2-C1-O1'-C1'
4	B	516	LMT	C2-C1-O1'-C1'
4	C	507	LMT	C2-C1-O1'-C1'
4	C	509	LMT	C2-C1-O1'-C1'
4	D	503	LMT	C2-C1-O1'-C1'
4	D	509	LMT	C2-C1-O1'-C1'
4	D	511	LMT	C2-C1-O1'-C1'
4	D	512	LMT	C2-C1-O1'-C1'
4	B	514	LMT	C5'-C4'-O1B-C1B
4	D	511	LMT	C3-C4-C5-C6
3	A	502	PGT	C1-C2-C3-O3
3	A	511	PGT	C1-C2-C3-O3
3	C	502	PGT	C1-C2-C3-O3
4	A	506	LMT	O5'-C5'-C6'-O6'
4	B	507	LMT	C1-C2-C3-C4
4	B	513	LMT	O5'-C5'-C6'-O6'
5	A	504	DGA	CDA-CEA-CFA-CGA
4	B	508	LMT	C4-C5-C6-C7
5	C	505	DGA	CDA-CEA-CFA-CGA
4	D	513	LMT	C11-C10-C9-C8
3	B	502	PGT	O3P-C1-C2-O2
4	B	512	LMT	C5-C6-C7-C8
4	C	506	LMT	C4B-C5B-C6B-O6B
4	B	503	LMT	C7-C8-C9-C10
4	B	515	LMT	C5'-C4'-O1B-C1B
3	A	502	PGT	O2-C2-C3-O3

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Mol	Chain	Res	Type	Atoms
3	C	502	PGT	O2-C2-C3-O3
3	C	511	PGT	O2-C2-C3-O3
5	A	504	DGA	OG1-CG1-CG2-OG2
4	C	509	LMT	C4-C5-C6-C7
5	A	504	DGA	CG1-CG2-CG3-OXT
5	C	505	DGA	CG1-CG2-CG3-OXT
3	D	507	PGT	C40-C41-C42-C43
4	A	510	LMT	C3-C4-C5-C6
4	D	503	LMT	C3'-C4'-O1B-C1B
4	C	506	LMT	C2B-C1B-O1B-C4'
3	D	502	PGT	C2-C1-O3P-P
3	D	502	PGT	C32-C33-C34-C35
5	C	505	DGA	CA5-CA6-CA7-CA8
4	B	511	LMT	C5-C6-C7-C8
4	A	508	LMT	C1-C2-C3-C4
4	C	509	LMT	C5-C6-C7-C8
4	B	510	LMT	C3-C4-C5-C6
4	B	512	LMT	C6-C7-C8-C9
4	B	515	LMT	C11-C10-C9-C8
3	C	502	PGT	C34-C35-C36-C37
4	C	507	LMT	C1-C2-C3-C4
4	B	510	LMT	C6-C7-C8-C9
4	B	504	LMT	C7-C8-C9-C10
3	C	511	PGT	C40-C41-C42-C43
4	D	514	LMT	C6-C7-C8-C9
4	A	503	LMT	O1'-C1-C2-C3
4	D	504	LMT	C5'-C4'-O1B-C1B
4	B	513	LMT	O5'-C1'-O1'-C1
3	A	502	PGT	C5-C4-O4P-P
3	D	507	PGT	C5-C4-O4P-P
4	A	503	LMT	C5-C6-C7-C8
4	D	514	LMT	C1-C2-C3-C4
4	B	516	LMT	C4-C5-C6-C7
3	B	506	PGT	C41-C42-C43-C44
4	C	507	LMT	C7-C8-C9-C10
4	D	509	LMT	C2-C3-C4-C5
3	B	502	PGT	O5-C5-C6-O6
3	D	507	PGT	O5-C5-C6-O6
3	A	511	PGT	C36-C37-C38-C39
4	C	506	LMT	C11-C10-C9-C8
4	D	511	LMT	O5B-C5B-C6B-O6B
3	C	511	PGT	C18-C19-C20-C21

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Mol	Chain	Res	Type	Atoms
4	C	507	LMT	C3-C4-C5-C6
4	D	516	LMT	C4'-C5'-C6'-O6'
4	A	510	LMT	O1'-C1-C2-C3
4	D	510	LMT	C4B-C5B-C6B-O6B
4	D	513	LMT	C4-C5-C6-C7
4	C	503	LMT	C1-C2-C3-C4
3	C	502	PGT	C1-O3P-P-O4P
3	C	511	PGT	C4-O4P-P-O3P
3	D	507	PGT	C38-C39-C40-C41
3	A	502	PGT	C2-C1-O3P-P
3	A	511	PGT	C2-C1-O3P-P
3	A	511	PGT	C1-O3P-P-O2P
3	B	502	PGT	C4-O4P-P-O1P
3	B	506	PGT	C4-O4P-P-O1P
3	C	511	PGT	C4-O4P-P-O2P
3	D	507	PGT	C1-O3P-P-O1P
3	D	507	PGT	C4-O4P-P-O2P
4	A	505	LMT	O5'-C1'-O1'-C1
4	B	512	LMT	O5'-C1'-O1'-C1
3	C	502	PGT	O3P-C1-C2-C3
3	A	502	PGT	C19-C20-C21-C22
3	D	507	PGT	C42-C43-C44-C45
5	C	505	DGA	CA4-CA5-CA6-CA7
5	A	504	DGA	CFB-CGB-CHB-CIB
4	D	508	LMT	O1'-C1-C2-C3
3	A	511	PGT	O3P-C1-C2-O2
3	C	502	PGT	O3P-C1-C2-O2
4	C	503	LMT	C3-C4-C5-C6
4	A	510	LMT	C4'-C5'-C6'-O6'
4	B	515	LMT	C2B-C1B-O1B-C4'
4	D	505	LMT	O5'-C5'-C6'-O6'
5	C	505	DGA	OG1-CG1-CG2-CG3
5	C	505	DGA	OG1-CG1-CG2-OG2
4	D	509	LMT	O5B-C1B-O1B-C4'
4	C	507	LMT	C4B-C5B-C6B-O6B
4	D	503	LMT	O5B-C5B-C6B-O6B
3	A	502	PGT	C15-C16-C17-C18
4	D	515	LMT	C3-C4-C5-C6
4	B	504	LMT	O5'-C5'-C6'-O6'
3	D	507	PGT	C18-C19-C20-C21
3	C	502	PGT	C13-C14-C15-C16
4	C	504	LMT	C5'-C4'-O1B-C1B

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Mol	Chain	Res	Type	Atoms
4	B	503	LMT	C6-C7-C8-C9
3	C	511	PGT	C14-C15-C16-C17
4	B	514	LMT	O5'-C5'-C6'-O6'
4	C	503	LMT	C4-C5-C6-C7
5	C	505	DGA	CB6-CB7-CB8-CB9
3	B	502	PGT	C32-C33-C34-C35
3	A	511	PGT	C5-C4-O4P-P
4	D	516	LMT	O1'-C1-C2-C3
4	D	509	LMT	C2B-C1B-O1B-C4'
4	D	504	LMT	C9-C10-C11-C12
3	A	502	PGT	C1-O3P-P-O4P
3	C	502	PGT	C4-O4P-P-O3P
3	A	511	PGT	C18-C19-C20-C21
5	A	504	DGA	OG1-CG1-CG2-CG3
4	C	504	LMT	C11-C10-C9-C8
4	D	510	LMT	C7-C8-C9-C10
4	B	504	LMT	C4'-C5'-C6'-O6'
3	C	502	PGT	C40-C41-C42-C43
3	A	502	PGT	C33-C34-C35-C36
3	D	507	PGT	O31-C31-O2-C2
4	A	505	LMT	C3-C4-C5-C6
4	C	509	LMT	C1-C2-C3-C4
3	B	506	PGT	O2-C2-C3-O3
4	D	508	LMT	C11-C10-C9-C8
3	D	507	PGT	C2-C1-O3P-P
5	C	505	DGA	CB4-CB5-CB6-CB7
5	C	505	DGA	CEB-CFB-CGB-CHB
4	B	515	LMT	C3-C4-C5-C6
5	C	505	DGA	CB2-CB3-CB4-CB5
4	A	508	LMT	C4'-C5'-C6'-O6'
4	A	505	LMT	C5'-C4'-O1B-C1B
4	A	503	LMT	C3-C4-C5-C6
3	C	511	PGT	C23-C24-C25-C26
4	A	506	LMT	C3-C4-C5-C6
3	A	502	PGT	C17-C18-C19-C20
4	A	508	LMT	C4-C5-C6-C7
4	D	511	LMT	C7-C8-C9-C10
4	C	504	LMT	C1-C2-C3-C4
3	B	502	PGT	O2-C2-C3-O3
4	C	506	LMT	O5B-C1B-O1B-C4'
3	D	507	PGT	C23-C24-C25-C26
3	A	502	PGT	C22-C23-C24-C25

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Mol	Chain	Res	Type	Atoms
4	D	508	LMT	C4-C5-C6-C7
4	D	506	LMT	O5'-C5'-C6'-O6'
4	A	510	LMT	C6-C7-C8-C9
3	D	507	PGT	C32-C31-O2-C2
5	C	505	DGA	OG2-CB1-CB2-CB3
4	B	516	LMT	C2-C3-C4-C5
4	C	504	LMT	C3'-C4'-O1B-C1B
3	C	502	PGT	C19-C20-C21-C22
3	D	507	PGT	C33-C34-C35-C36
4	B	503	LMT	C1-C2-C3-C4
3	D	502	PGT	C42-C43-C44-C45
3	B	506	PGT	O3P-C1-C2-O2
4	A	506	LMT	O5'-C1'-O1'-C1
4	A	506	LMT	C11-C10-C9-C8
3	B	506	PGT	O3P-C1-C2-C3
3	C	502	PGT	C12-C13-C14-C15
3	D	507	PGT	C34-C35-C36-C37
3	B	502	PGT	C45-C46-C47-C48
3	A	511	PGT	C19-C20-C21-C22
3	C	511	PGT	O3-C11-C12-C13
3	D	502	PGT	O2-C2-C3-O3
4	B	516	LMT	O1'-C1-C2-C3
4	D	509	LMT	O5'-C5'-C6'-O6'
4	C	508	LMT	O5'-C5'-C6'-O6'
4	A	508	LMT	C7-C8-C9-C10
4	C	507	LMT	O1'-C1-C2-C3
4	D	504	LMT	C2-C1-O1'-C1'
3	A	511	PGT	C38-C39-C40-C41
4	D	503	LMT	C11-C10-C9-C8
4	B	514	LMT	O5'-C1'-O1'-C1
3	A	502	PGT	C42-C43-C44-C45
4	B	507	LMT	C5-C6-C7-C8
4	D	508	LMT	C5'-C4'-O1B-C1B
4	D	509	LMT	C4'-C5'-C6'-O6'
3	D	507	PGT	C36-C37-C38-C39
4	D	511	LMT	C2-C3-C4-C5
4	D	515	LMT	C5-C6-C7-C8
4	C	509	LMT	O5B-C1B-O1B-C4'
3	B	502	PGT	C38-C39-C40-C41
3	B	502	PGT	C14-C15-C16-C17
3	A	511	PGT	O2-C31-C32-C33
3	B	506	PGT	O5-C5-C6-O6

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Mol	Chain	Res	Type	Atoms
4	B	512	LMT	C11-C10-C9-C8
4	C	509	LMT	C3-C4-C5-C6
4	D	511	LMT	C9-C10-C11-C12
3	B	502	PGT	C41-C42-C43-C44
4	B	507	LMT	C4-C5-C6-C7
4	A	507	LMT	C5'-C4'-O1B-C1B
4	D	506	LMT	C2B-C1B-O1B-C4'
4	B	511	LMT	C11-C10-C9-C8
4	C	503	LMT	C2-C3-C4-C5
4	C	508	LMT	C5'-C4'-O1B-C1B
3	B	502	PGT	C1-C2-C3-O3
3	B	506	PGT	C1-C2-C3-O3
3	D	502	PGT	C1-C2-C3-O3
4	C	510	LMT	C1-C2-C3-C4
3	C	511	PGT	C36-C37-C38-C39
3	A	502	PGT	C1-O3P-P-O1P
4	B	509	LMT	C9-C10-C11-C12
4	B	507	LMT	C3-C4-C5-C6
3	A	511	PGT	O31-C31-C32-C33
3	B	502	PGT	C40-C41-C42-C43
4	B	509	LMT	C4B-C5B-C6B-O6B
4	B	504	LMT	C2-C3-C4-C5
3	C	502	PGT	C45-C46-C47-C48
3	D	502	PGT	C43-C44-C45-C46
3	A	502	PGT	C16-C17-C18-C19
3	A	502	PGT	O3-C11-C12-C13
4	B	512	LMT	O1'-C1-C2-C3
4	C	509	LMT	C5'-C4'-O1B-C1B
5	A	504	DGA	CA3-CA4-CA5-CA6
4	D	506	LMT	O5B-C1B-O1B-C4'
4	B	503	LMT	C4-C5-C6-C7

There are no ring outliers.

46 monomers are involved in 131 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	D	513	LMT	5	0
4	A	509	LMT	2	0
4	D	515	LMT	3	0
4	B	515	LMT	2	0
4	C	506	LMT	2	0
4	D	505	LMT	4	0

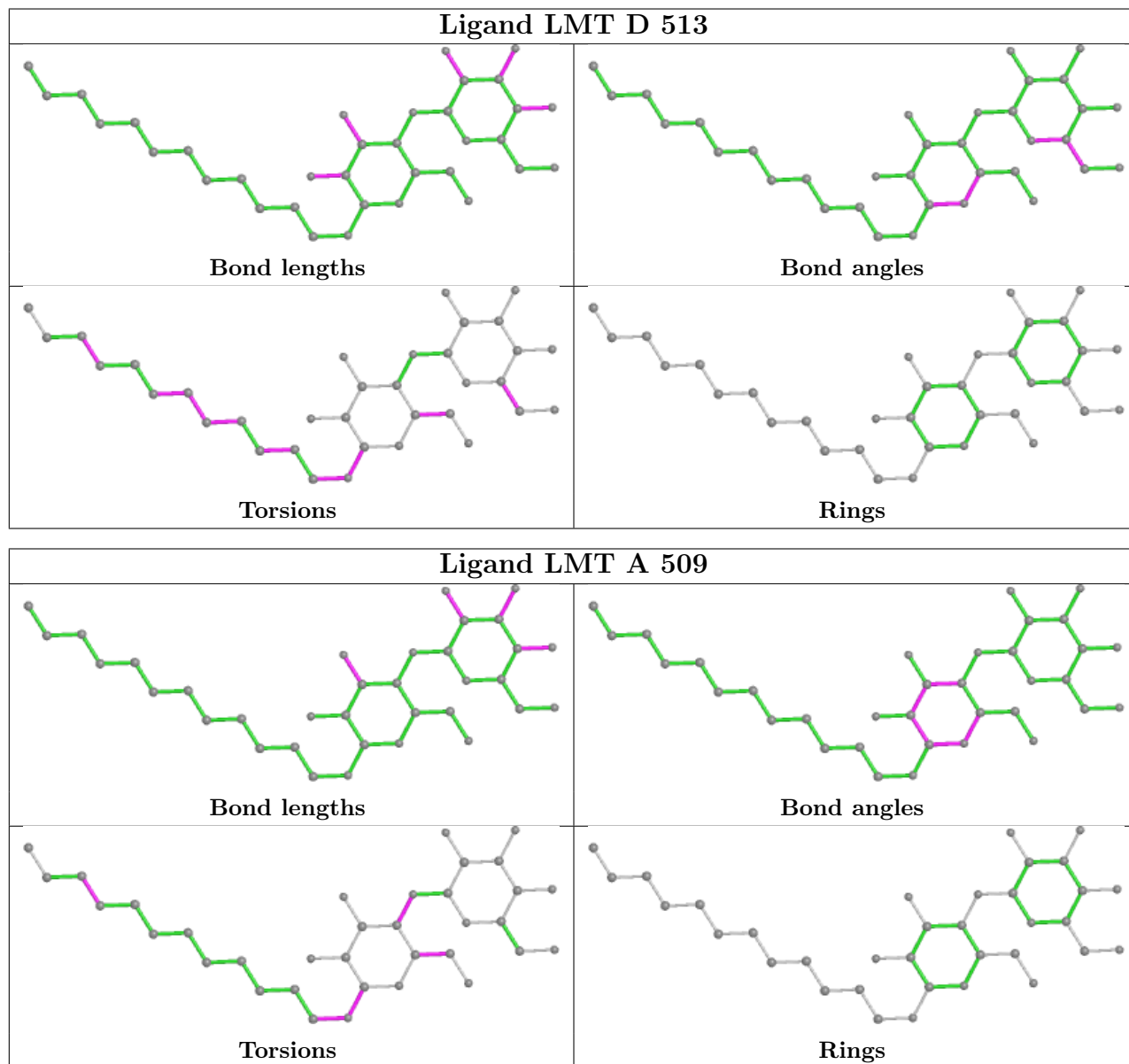
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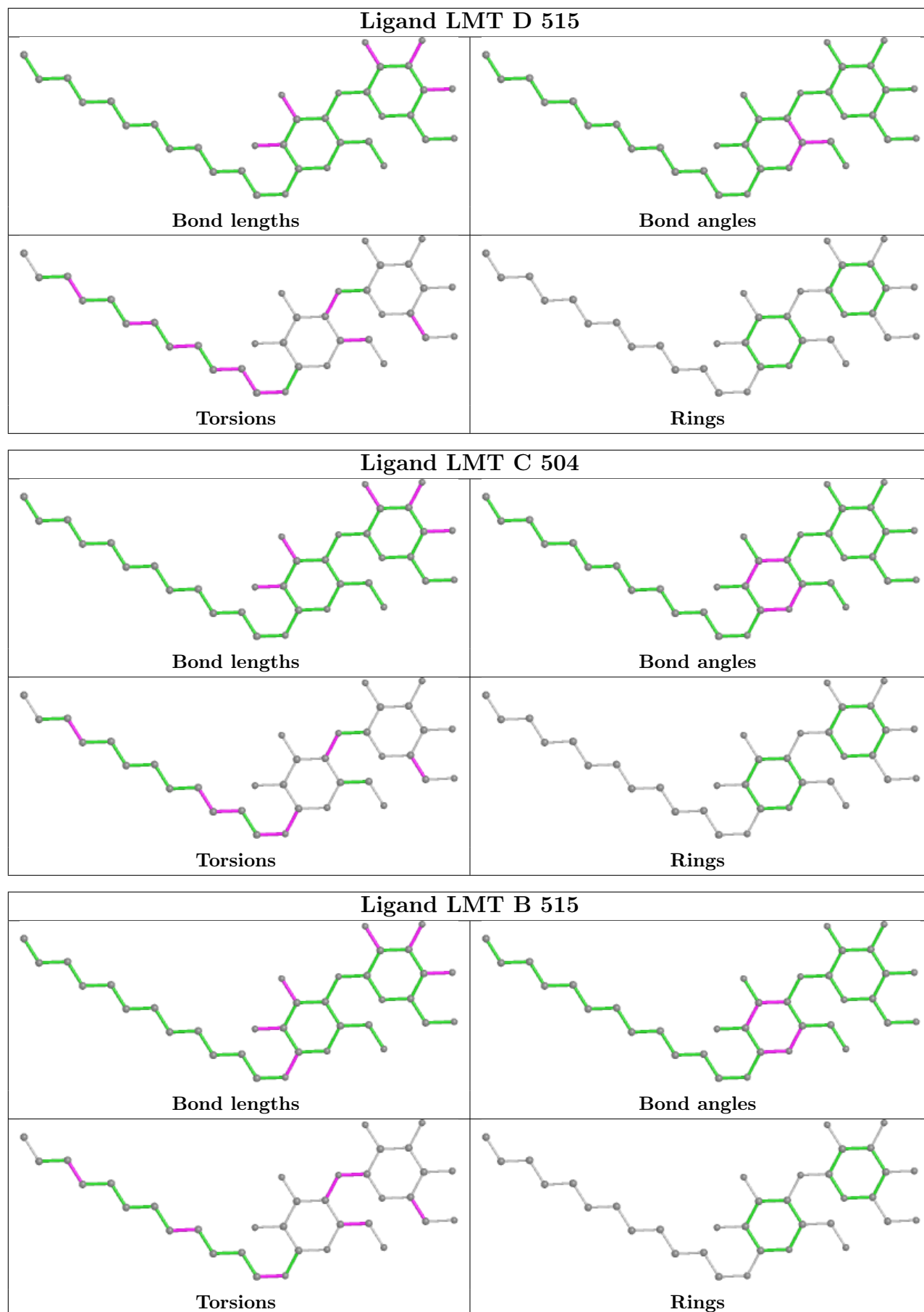
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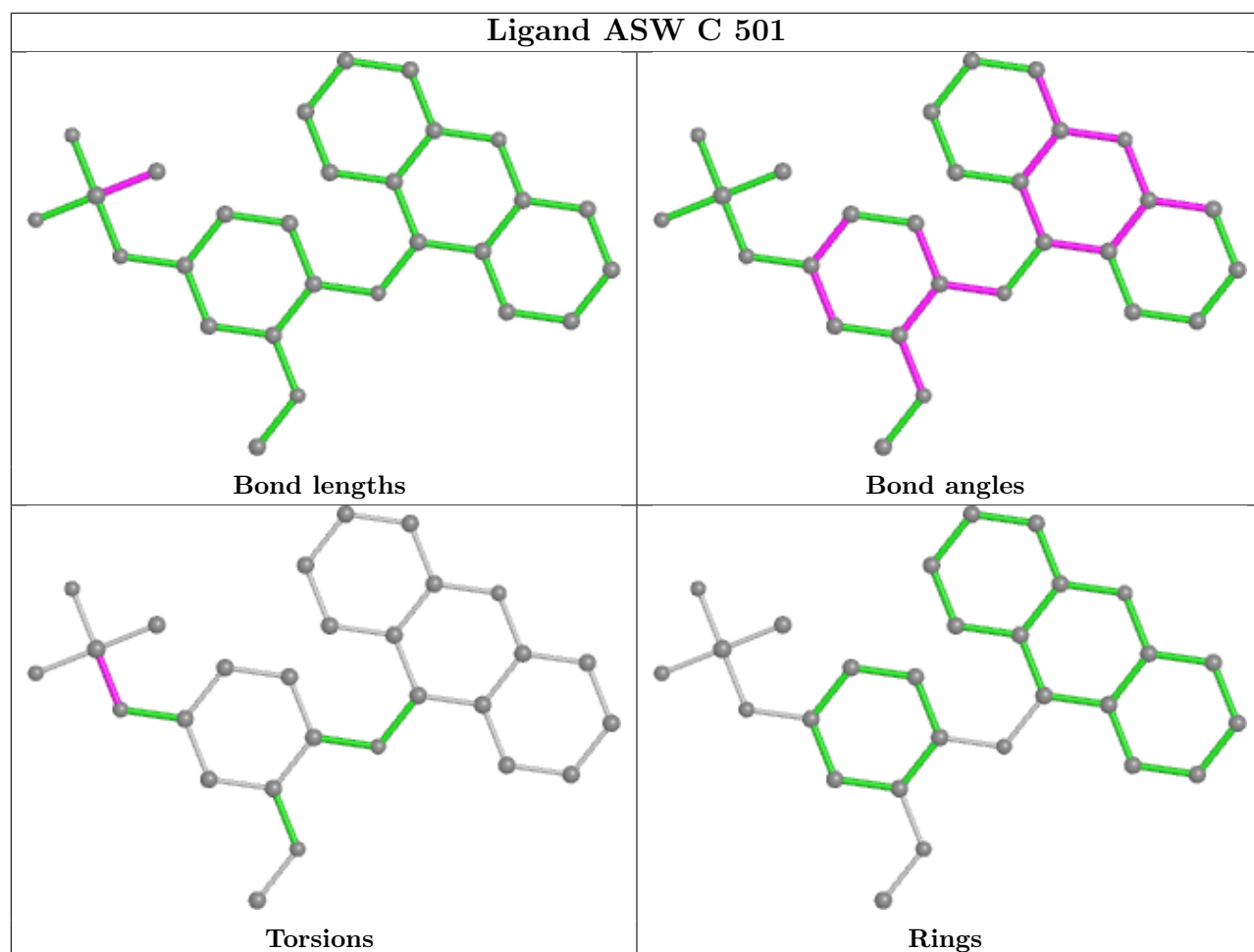
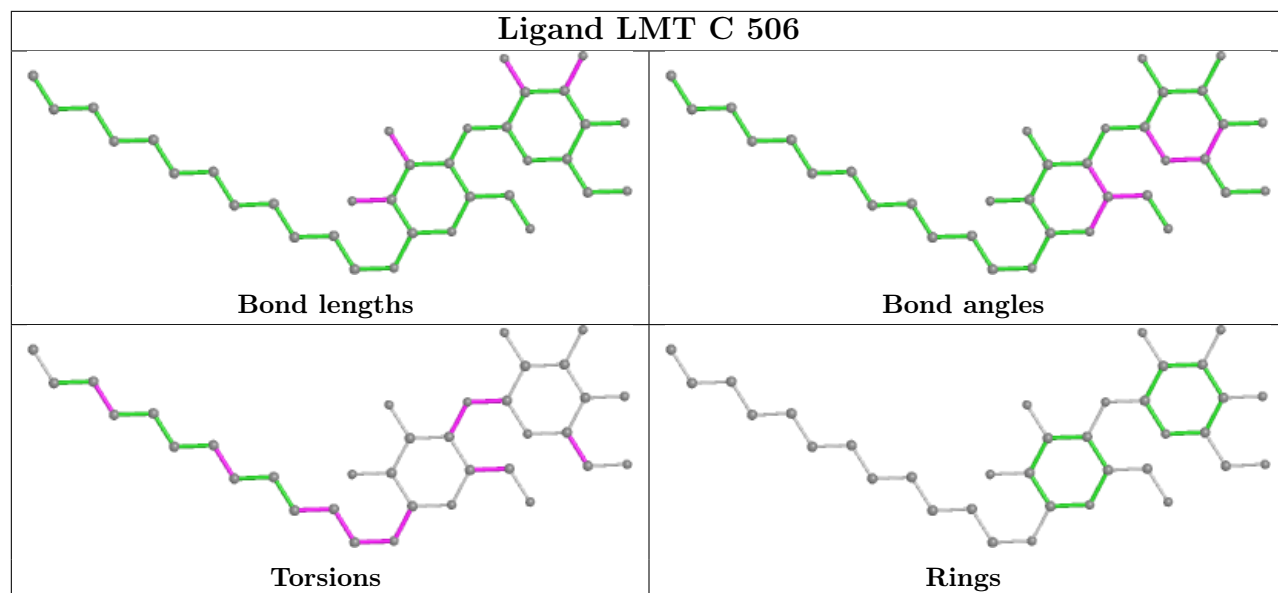
Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	B	516	LMT	5	0
4	B	504	LMT	2	0
4	C	507	LMT	2	0
4	B	507	LMT	2	0
4	B	505	LMT	1	0
3	B	502	PGT	2	0
4	C	509	LMT	3	0
4	D	511	LMT	2	0
4	B	511	LMT	3	0
4	B	503	LMT	1	0
4	B	513	LMT	2	0
4	B	509	LMT	2	0
4	D	508	LMT	2	0
3	D	507	PGT	7	0
3	B	506	PGT	3	0
4	D	514	LMT	3	0
3	C	511	PGT	12	0
4	D	504	LMT	1	0
4	D	506	LMT	1	0
3	A	502	PGT	5	0
4	B	514	LMT	4	0
4	A	508	LMT	1	0
4	D	509	LMT	1	0
4	A	510	LMT	2	0
4	D	512	LMT	10	0
5	A	504	DGA	4	0
5	C	505	DGA	6	0
3	C	502	PGT	1	0
4	B	510	LMT	4	0
4	C	503	LMT	1	0
3	A	511	PGT	10	0
4	D	510	LMT	1	0
4	B	508	LMT	4	0
4	D	503	LMT	4	0
4	C	510	LMT	4	0
4	A	507	LMT	2	0
4	A	505	LMT	3	0
4	A	506	LMT	4	0
4	B	512	LMT	5	0
4	D	516	LMT	2	0

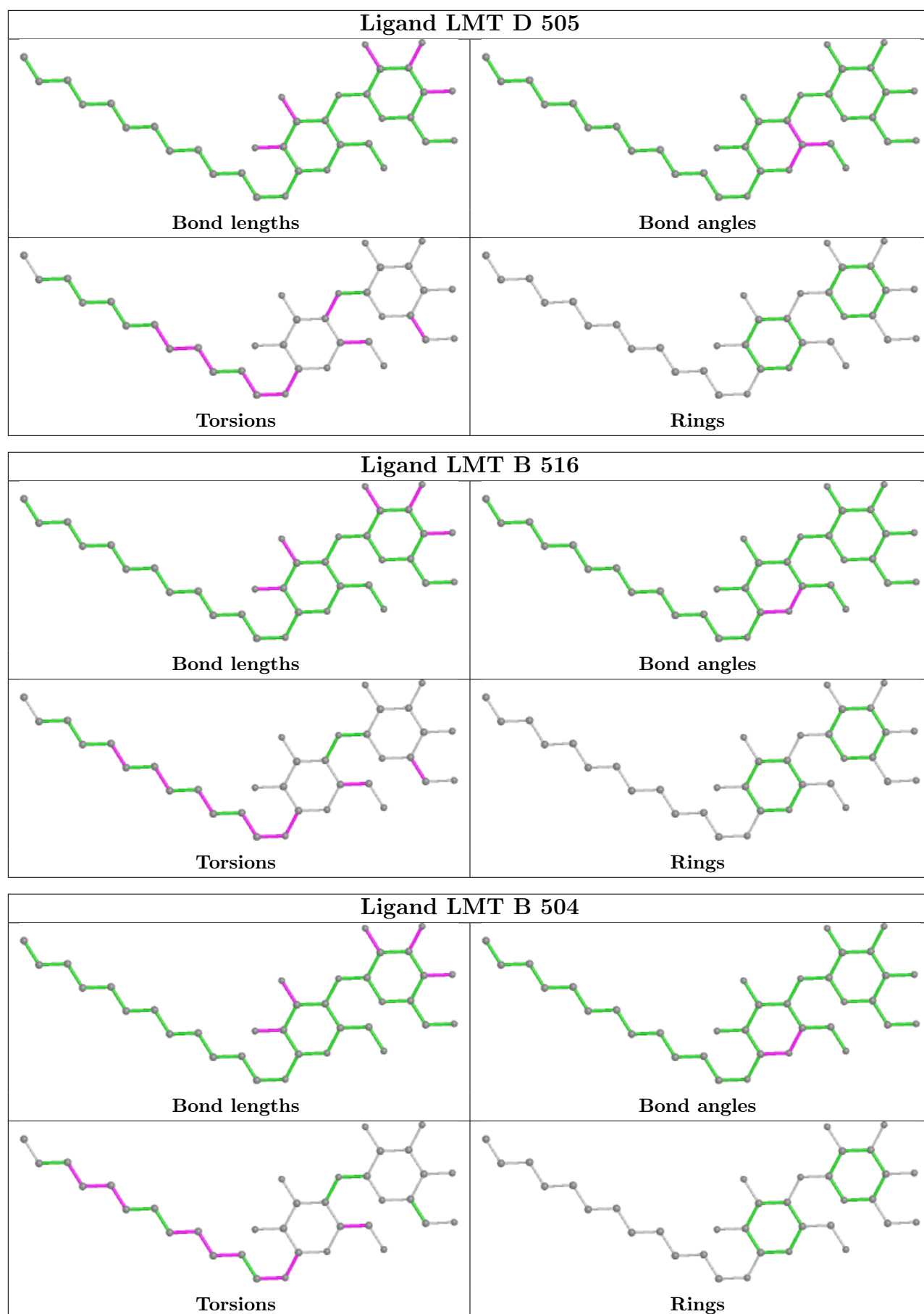
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In

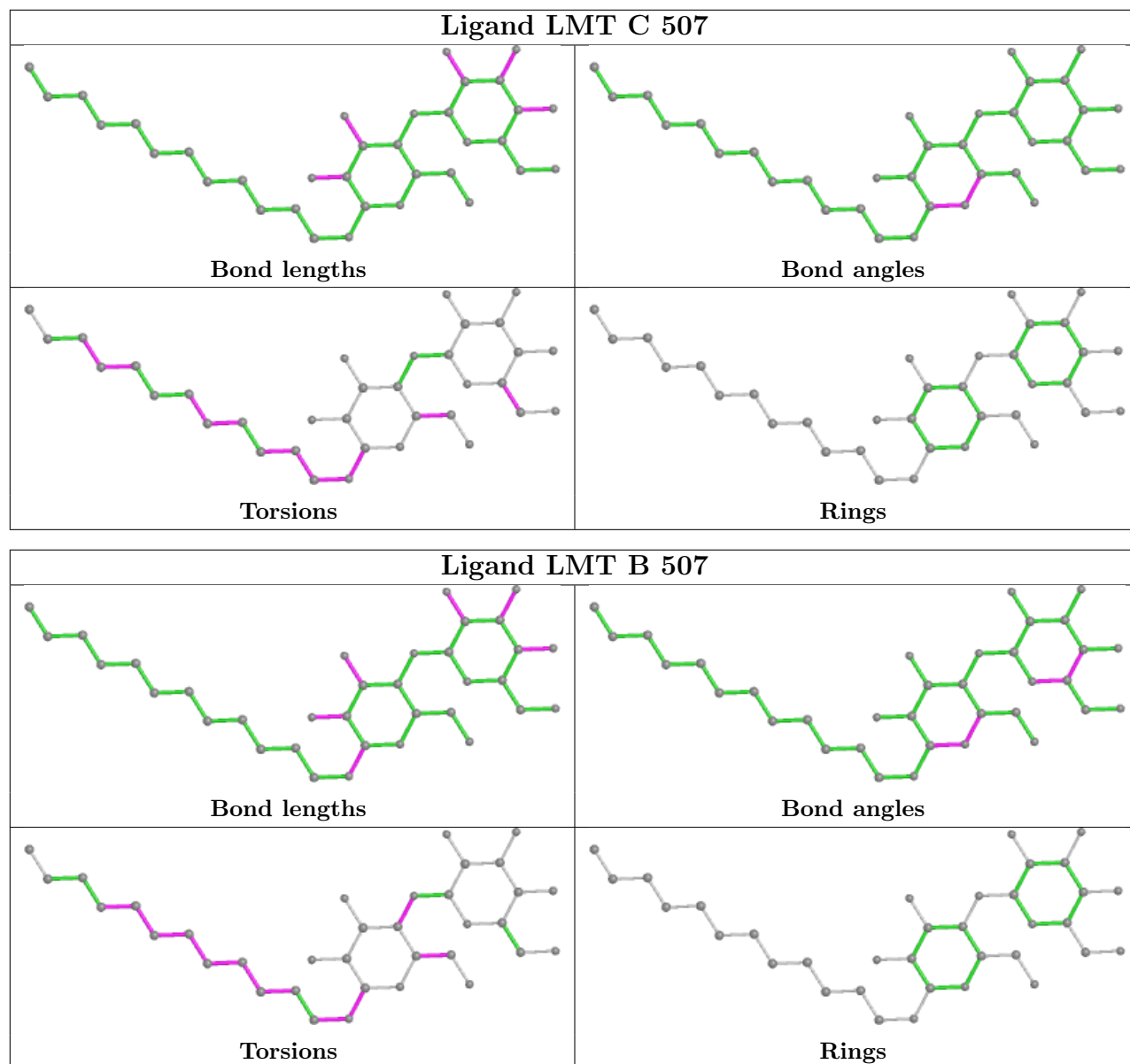
addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. 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.

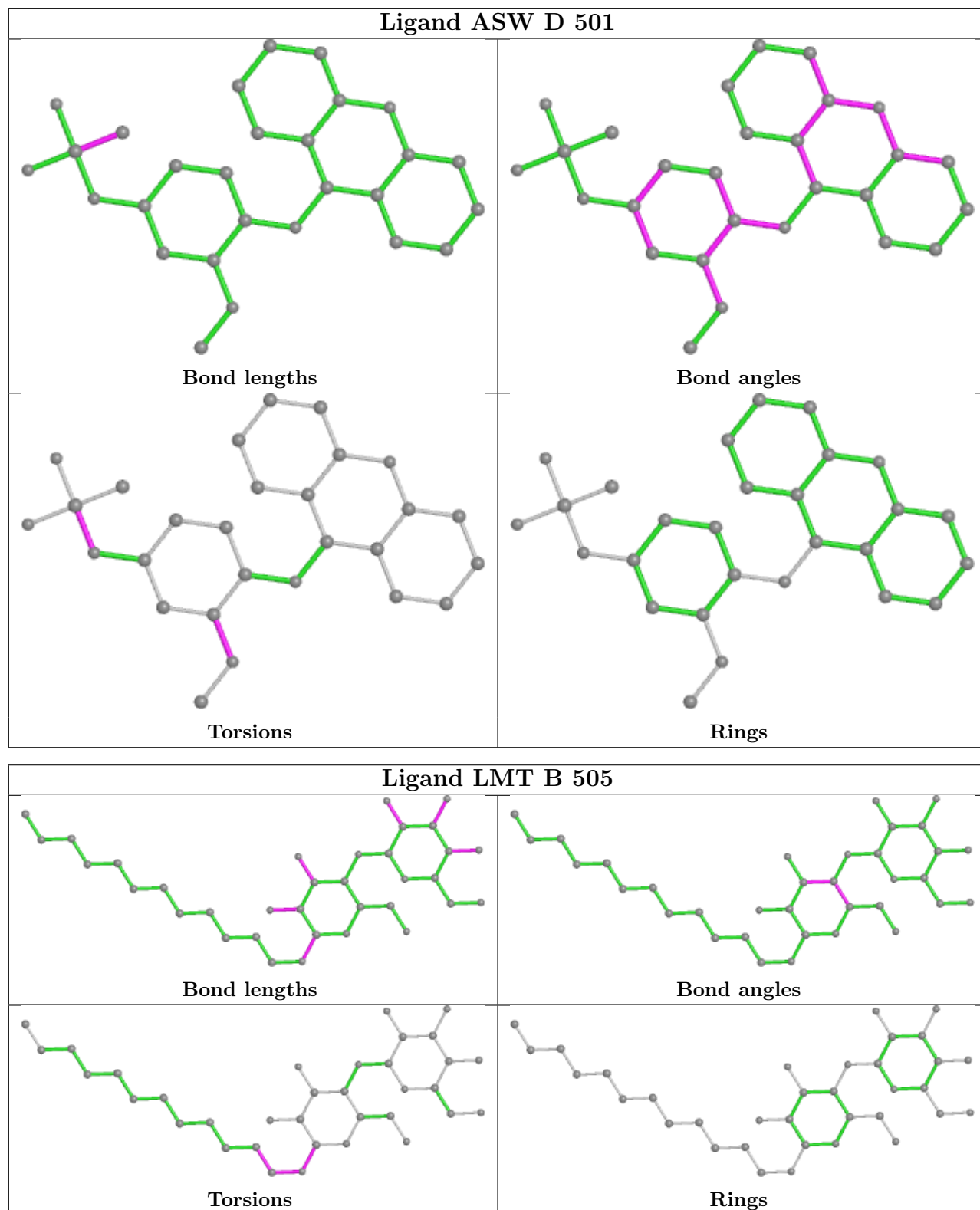


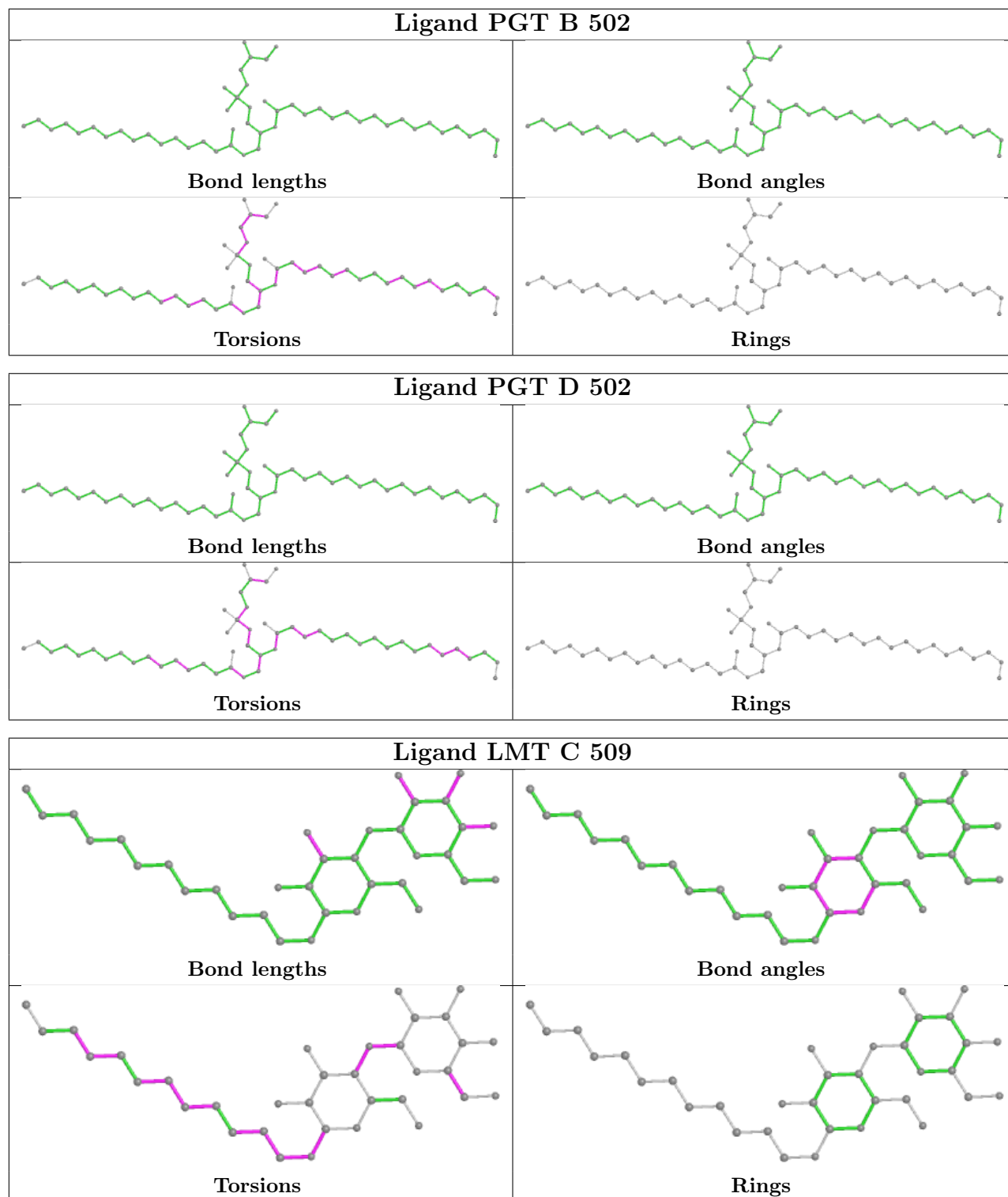


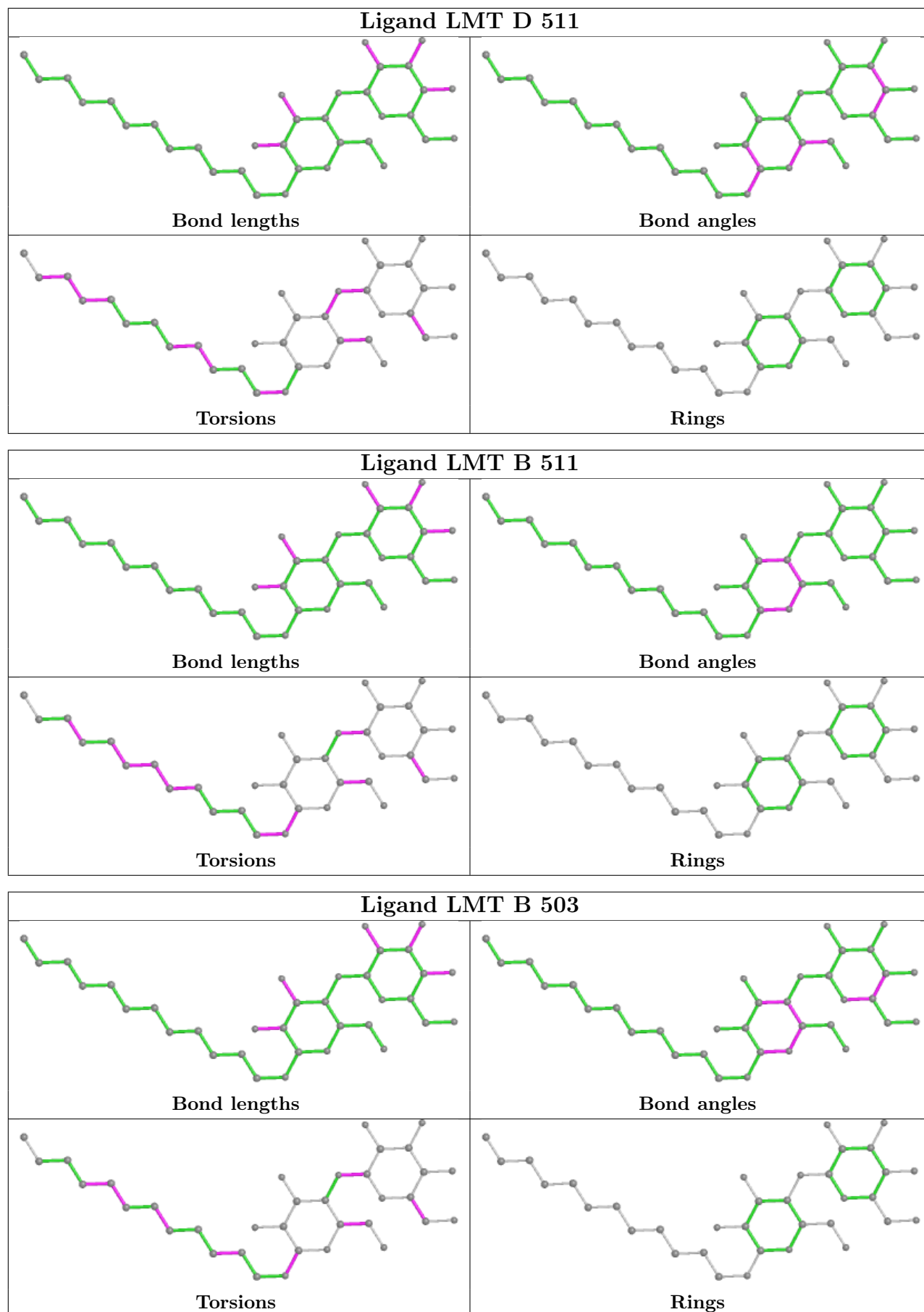


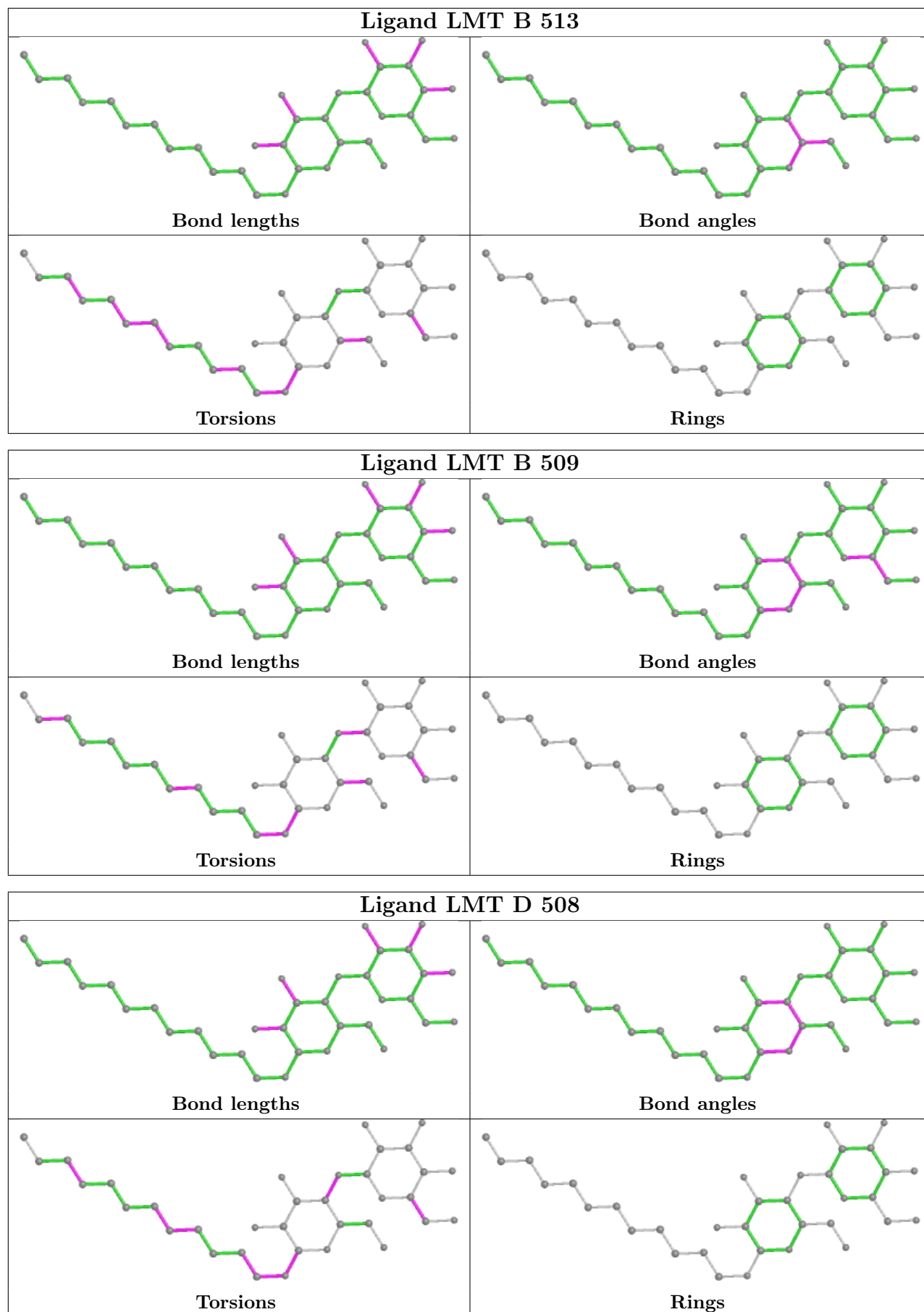


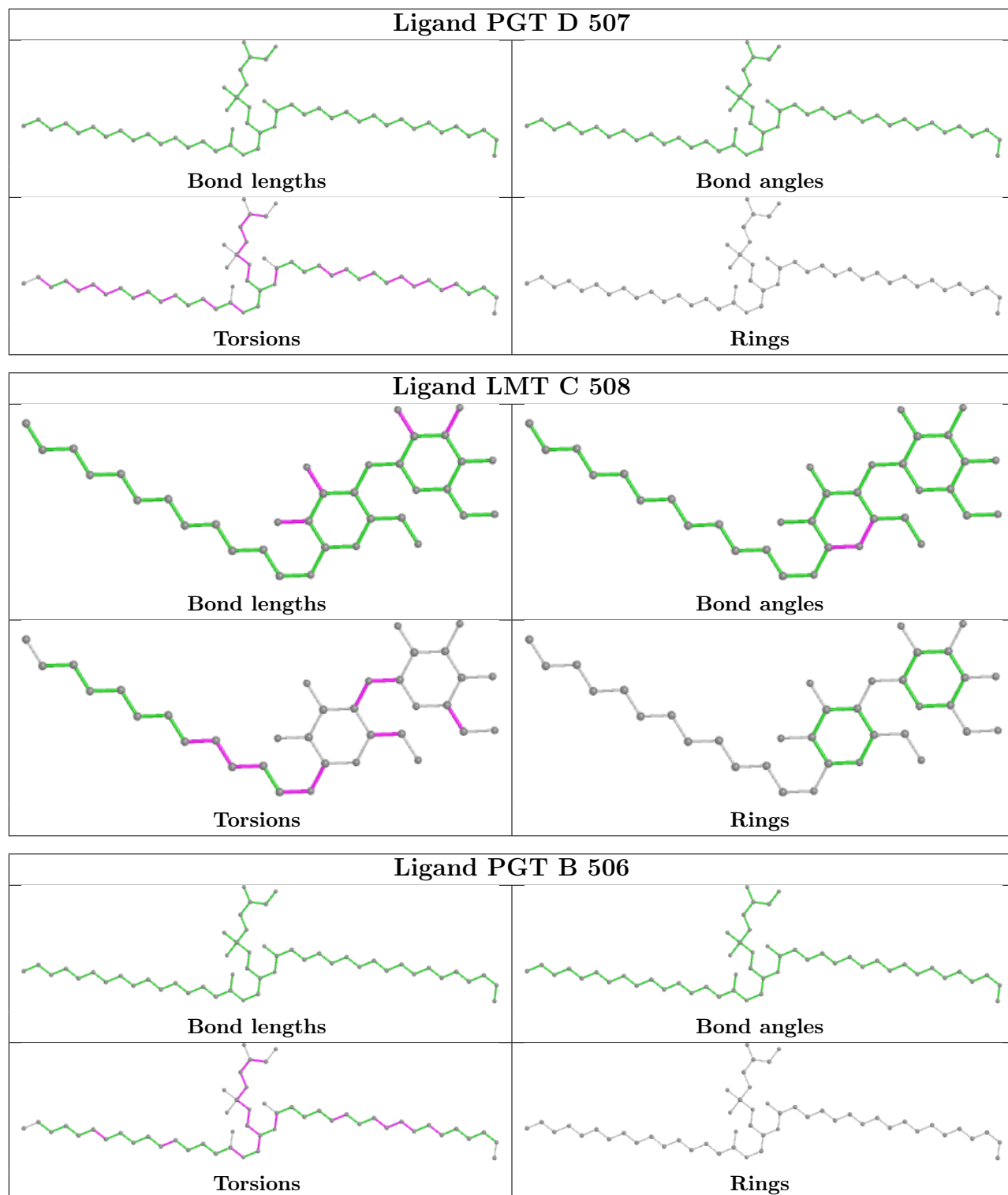


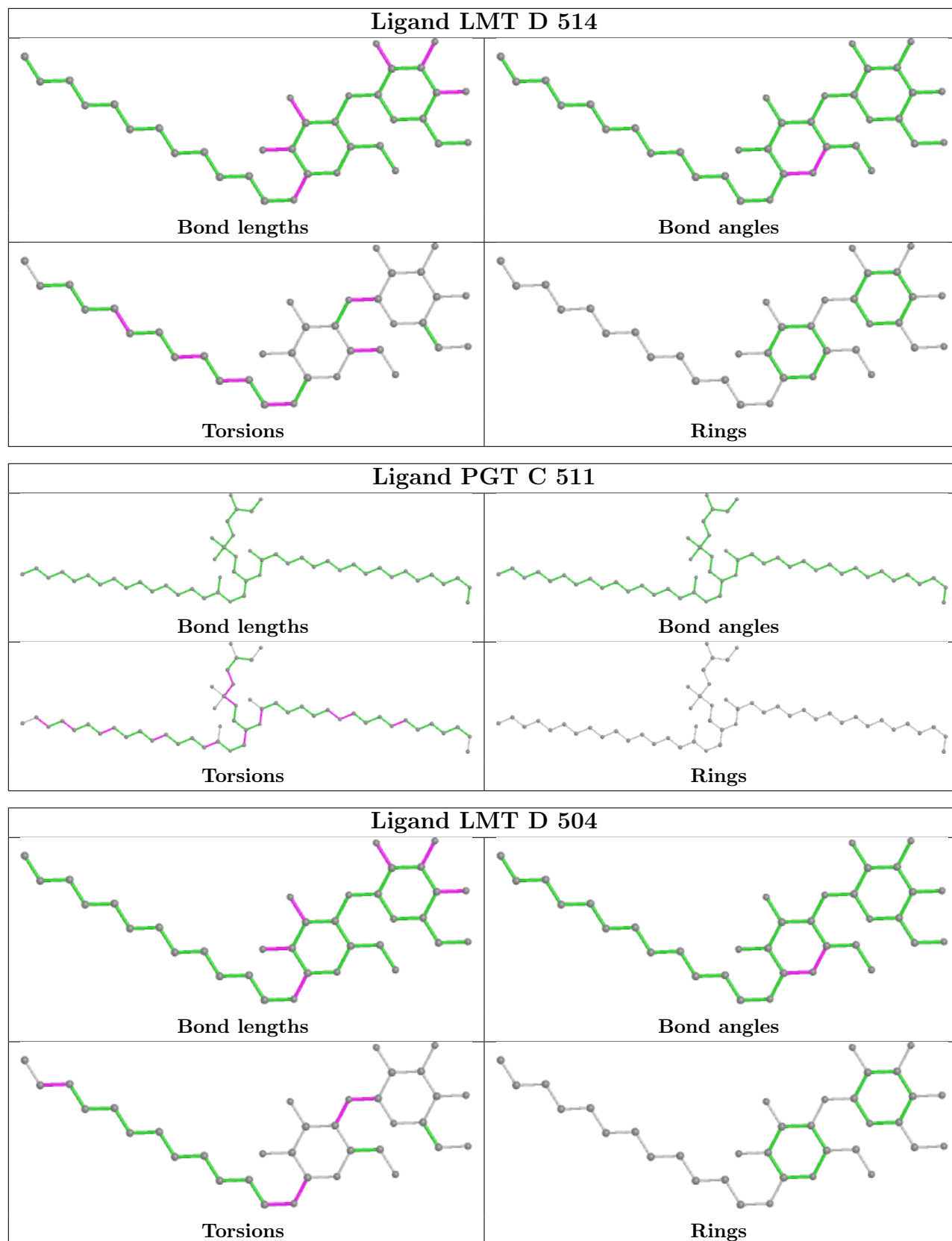


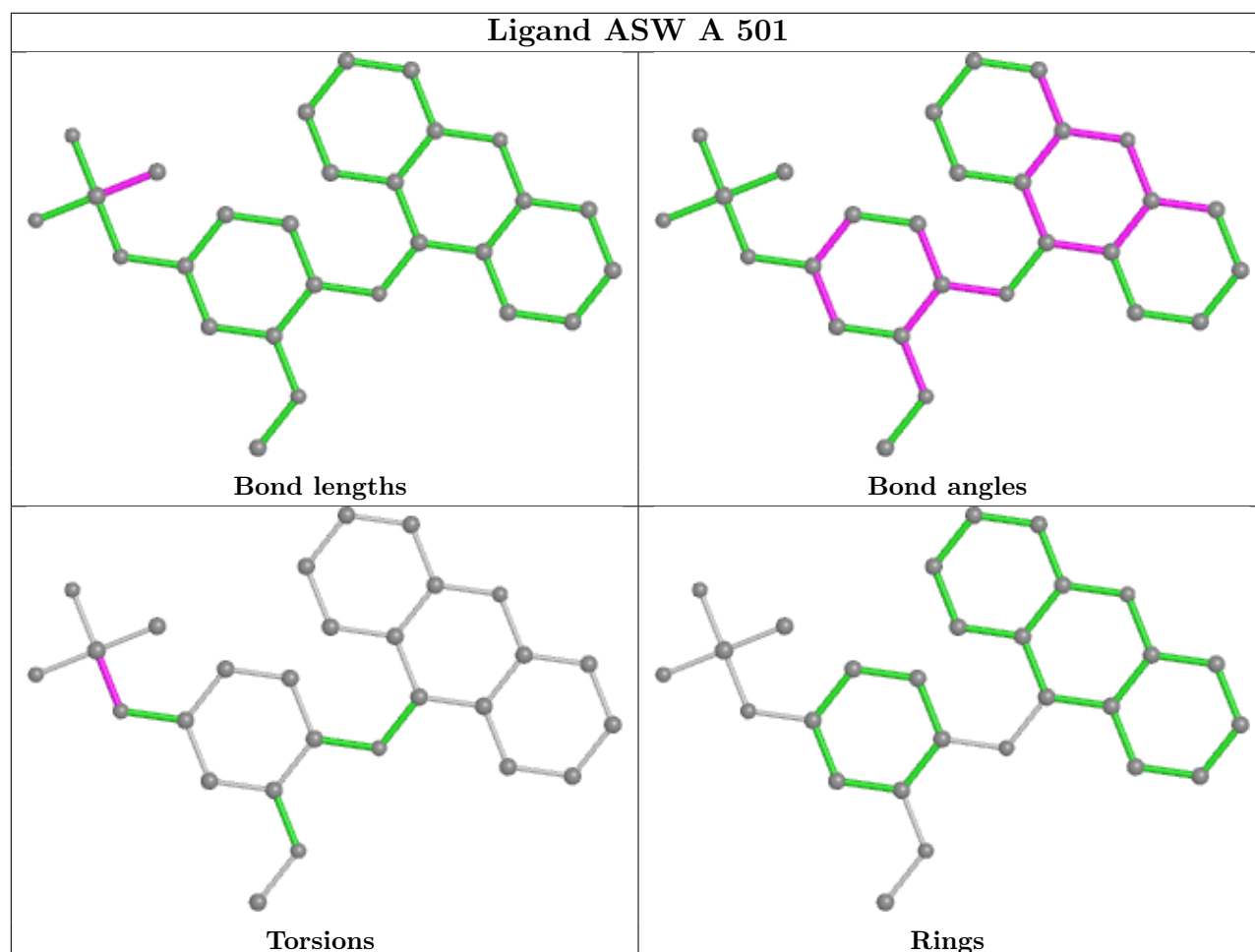
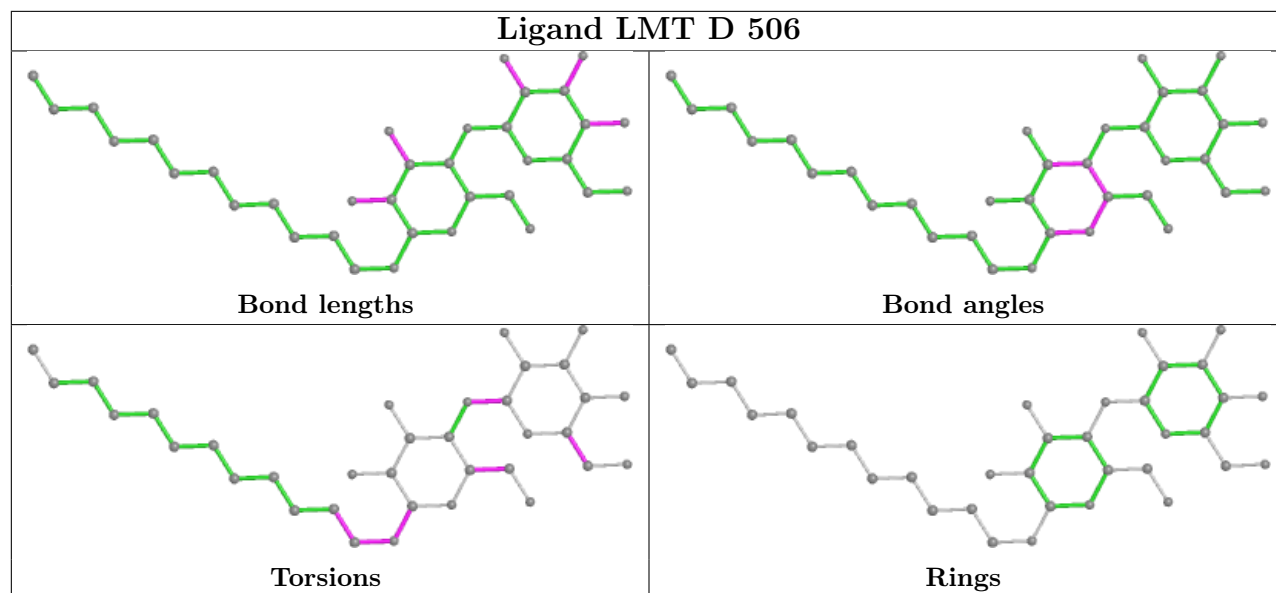


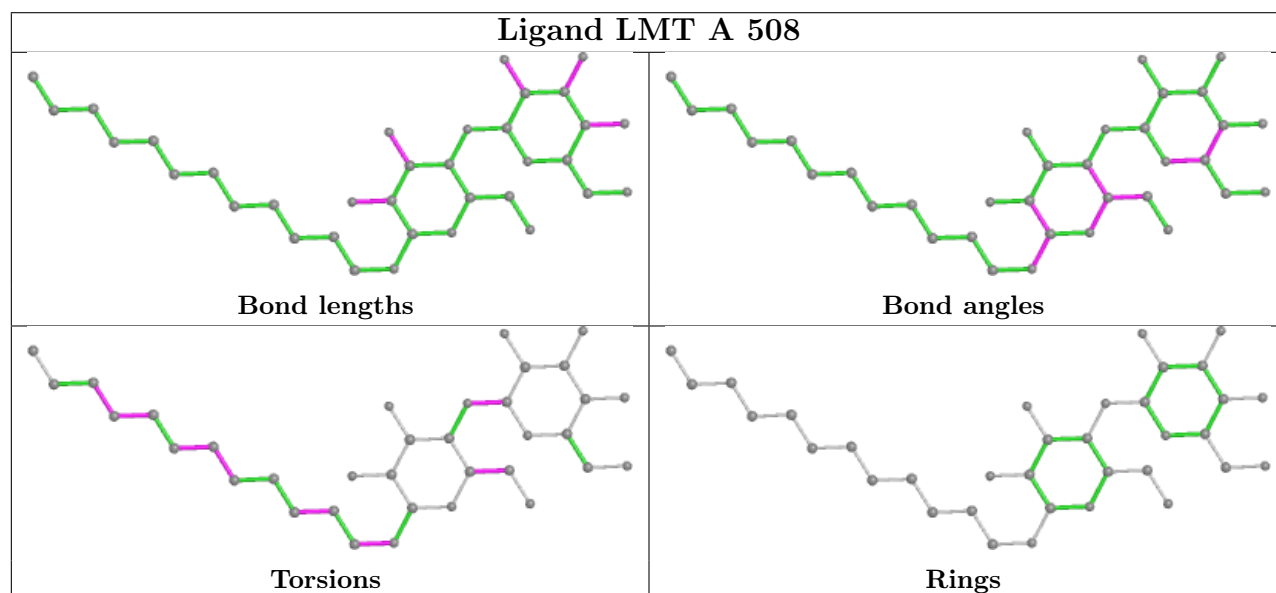
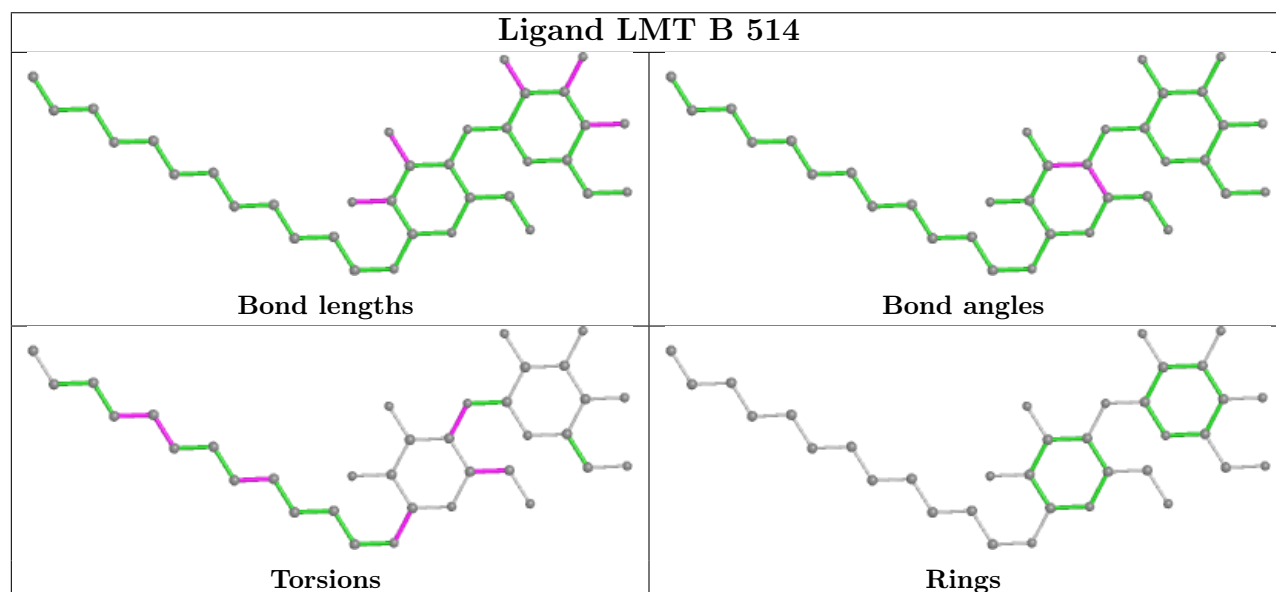
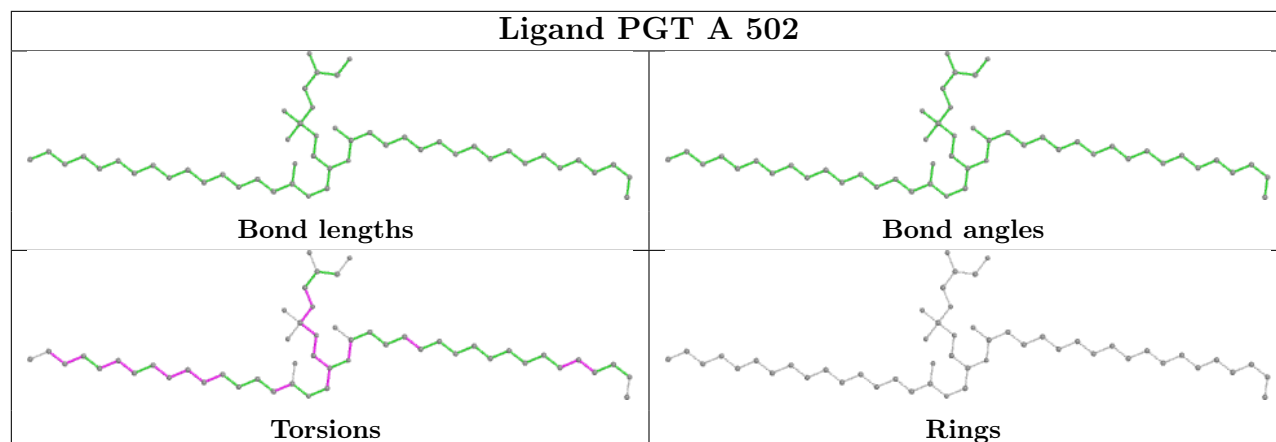


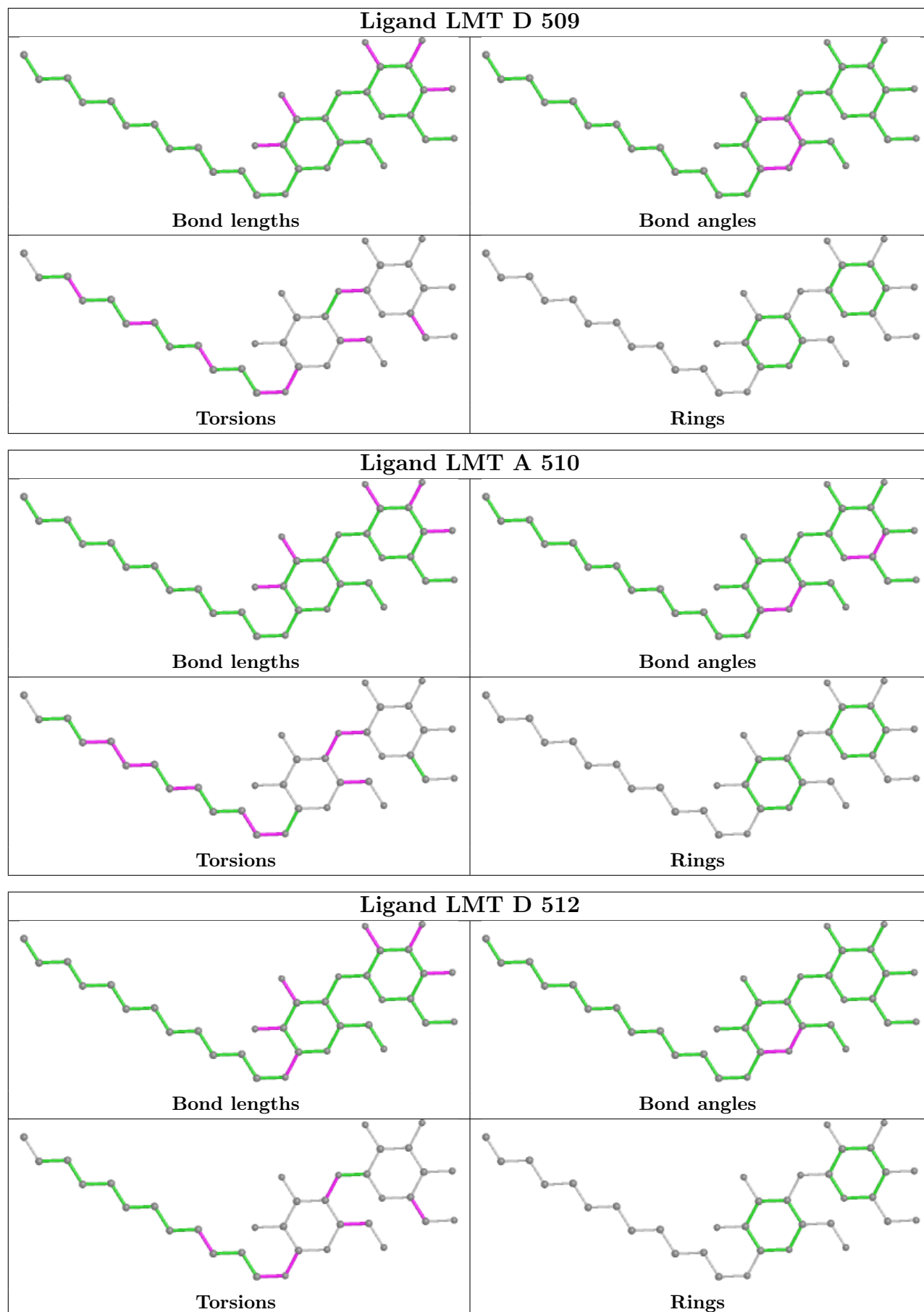


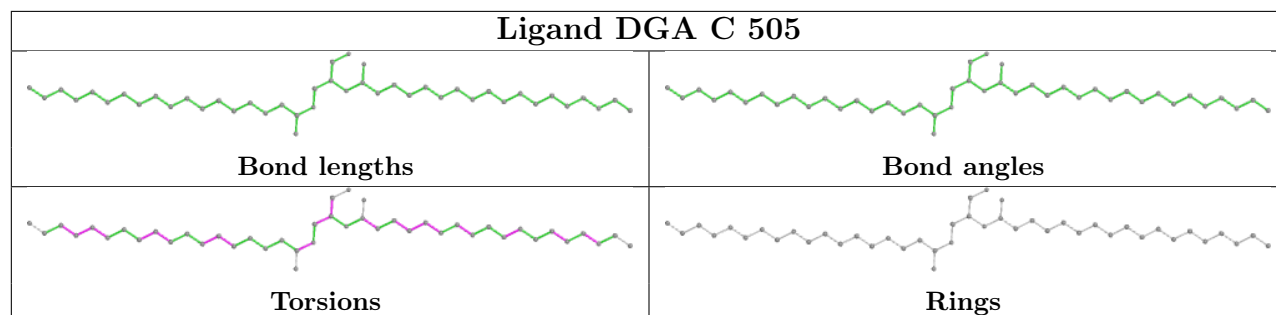
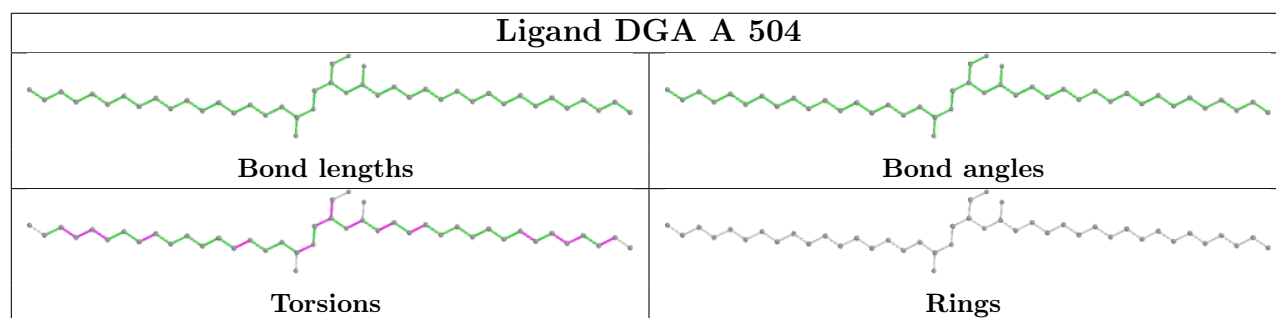
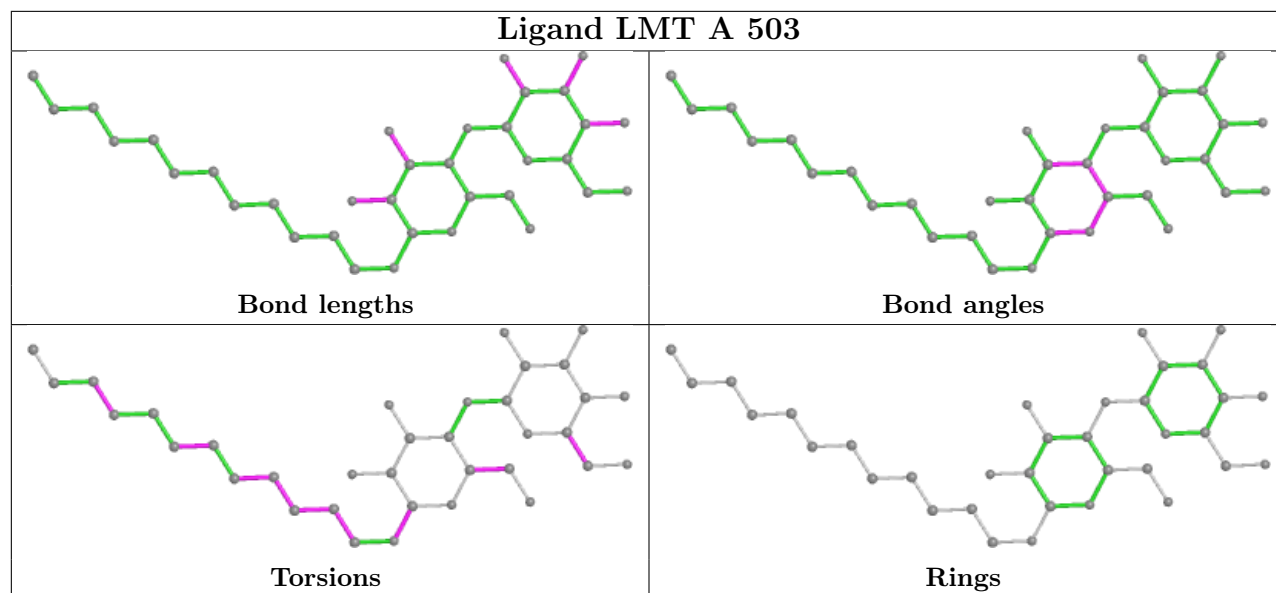


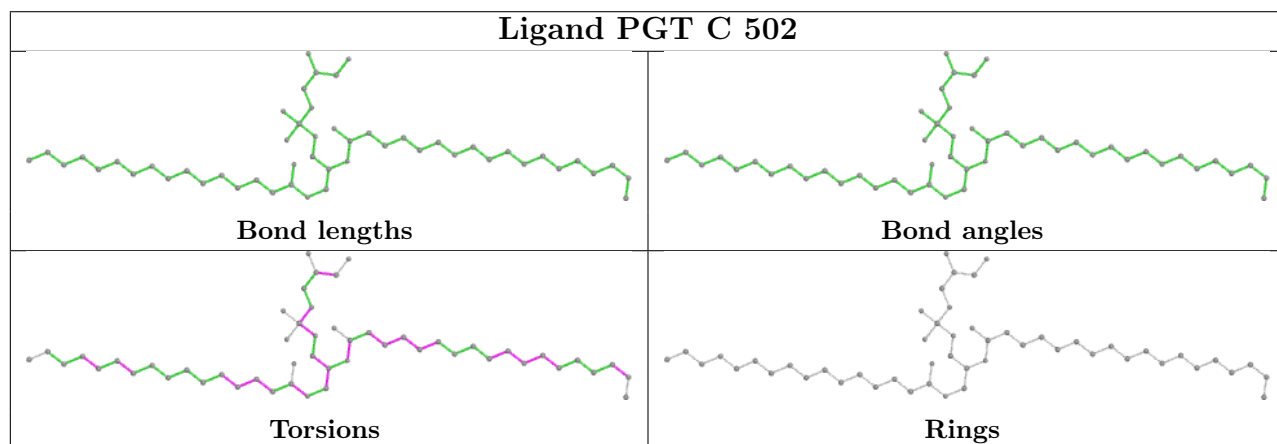
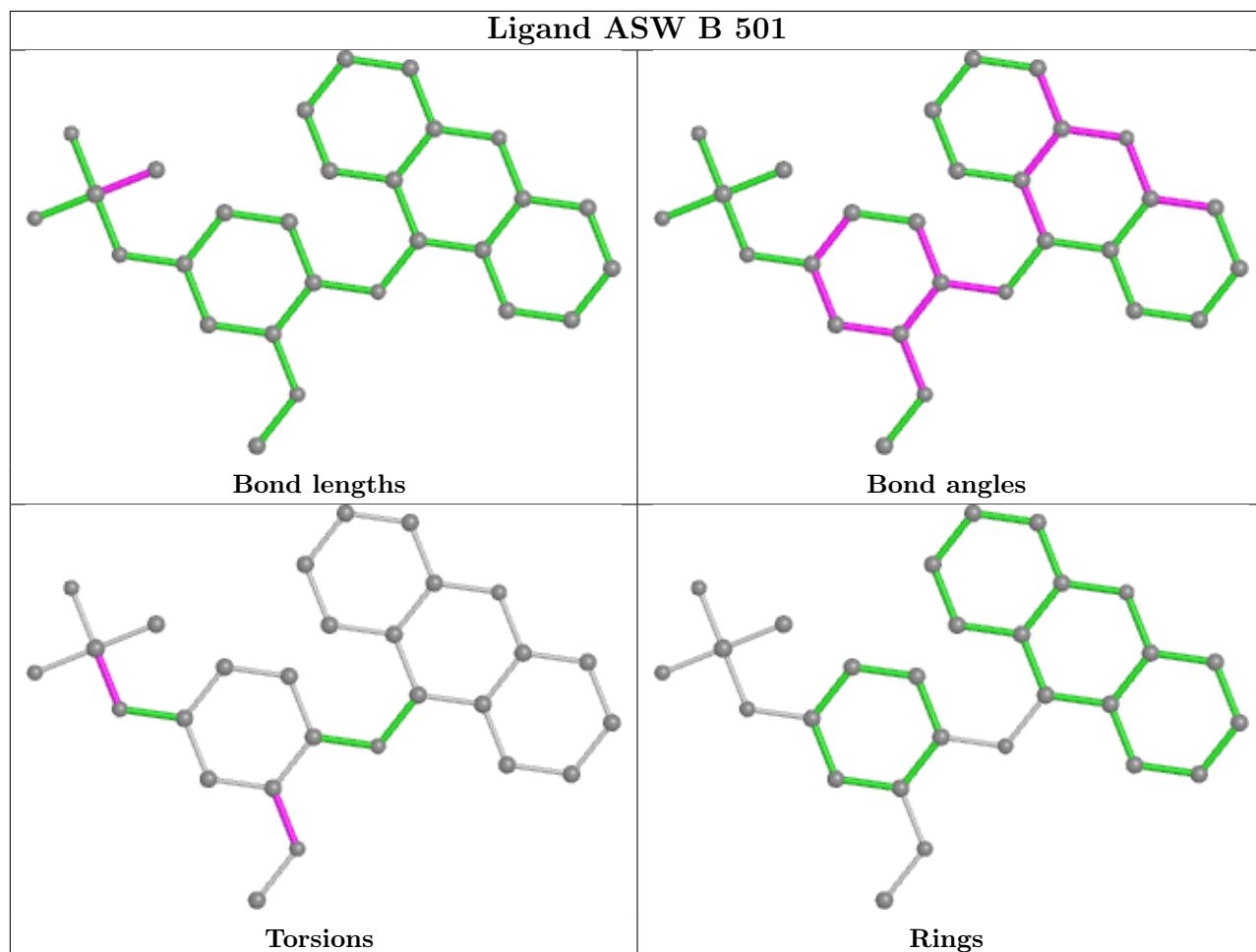


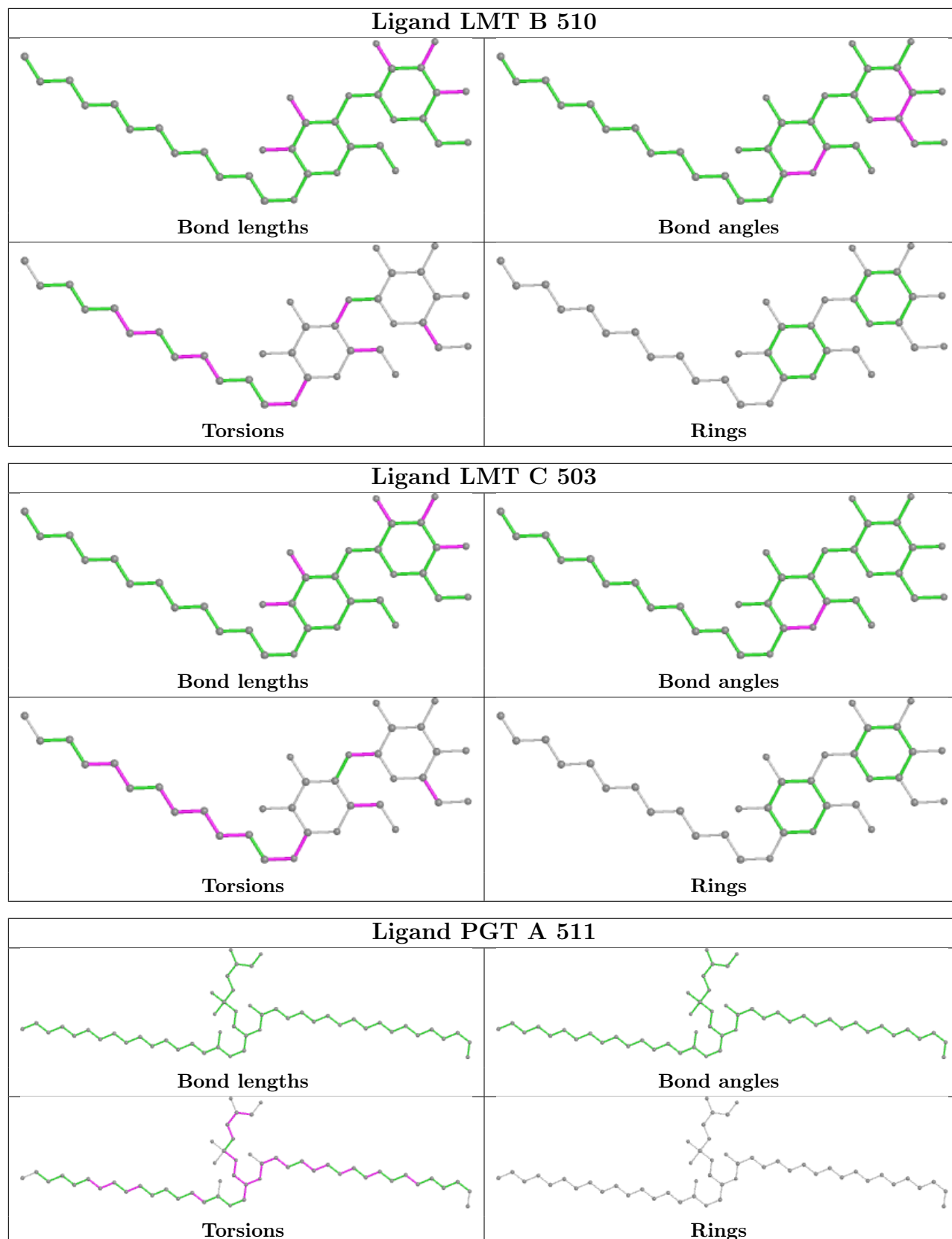


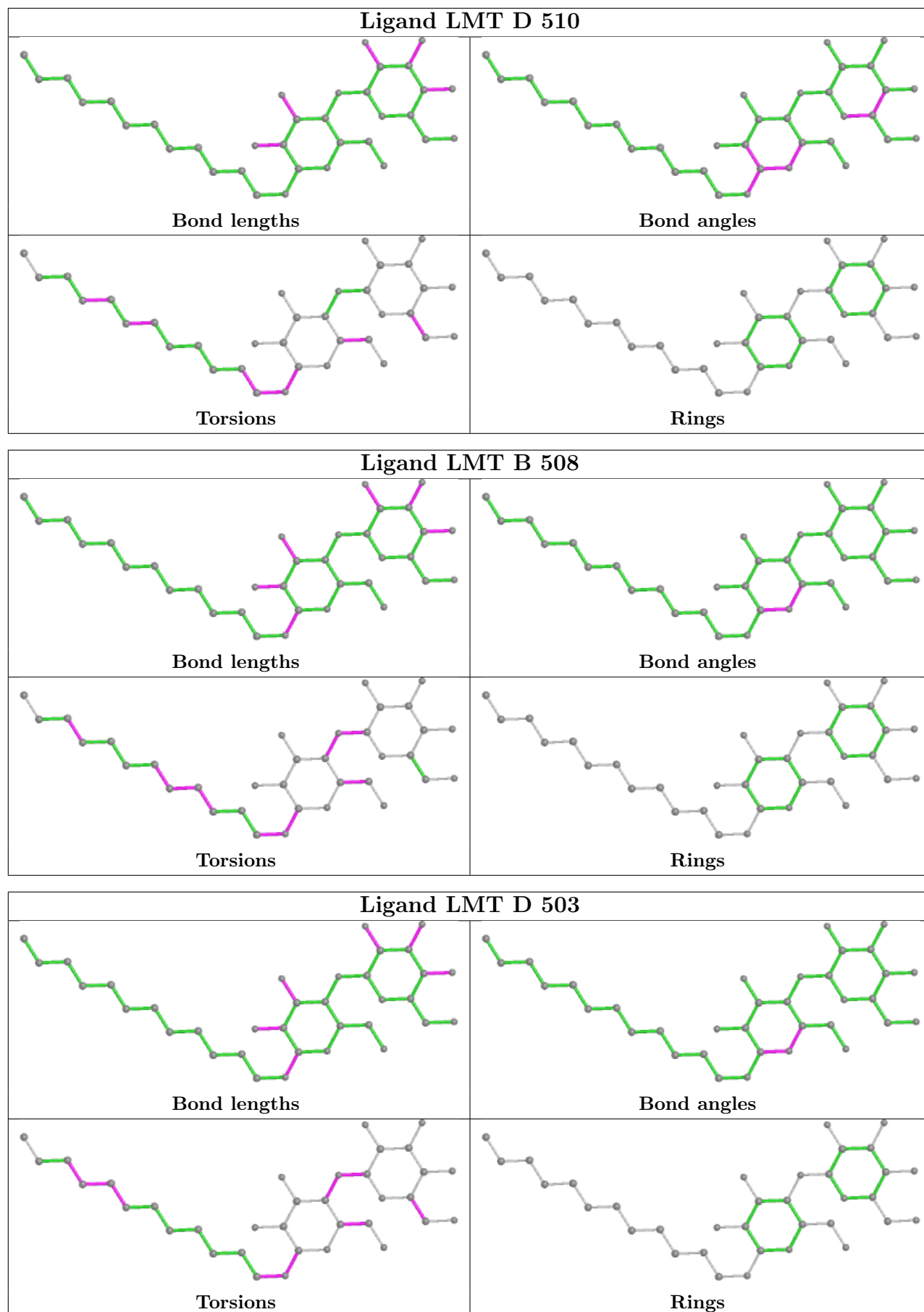


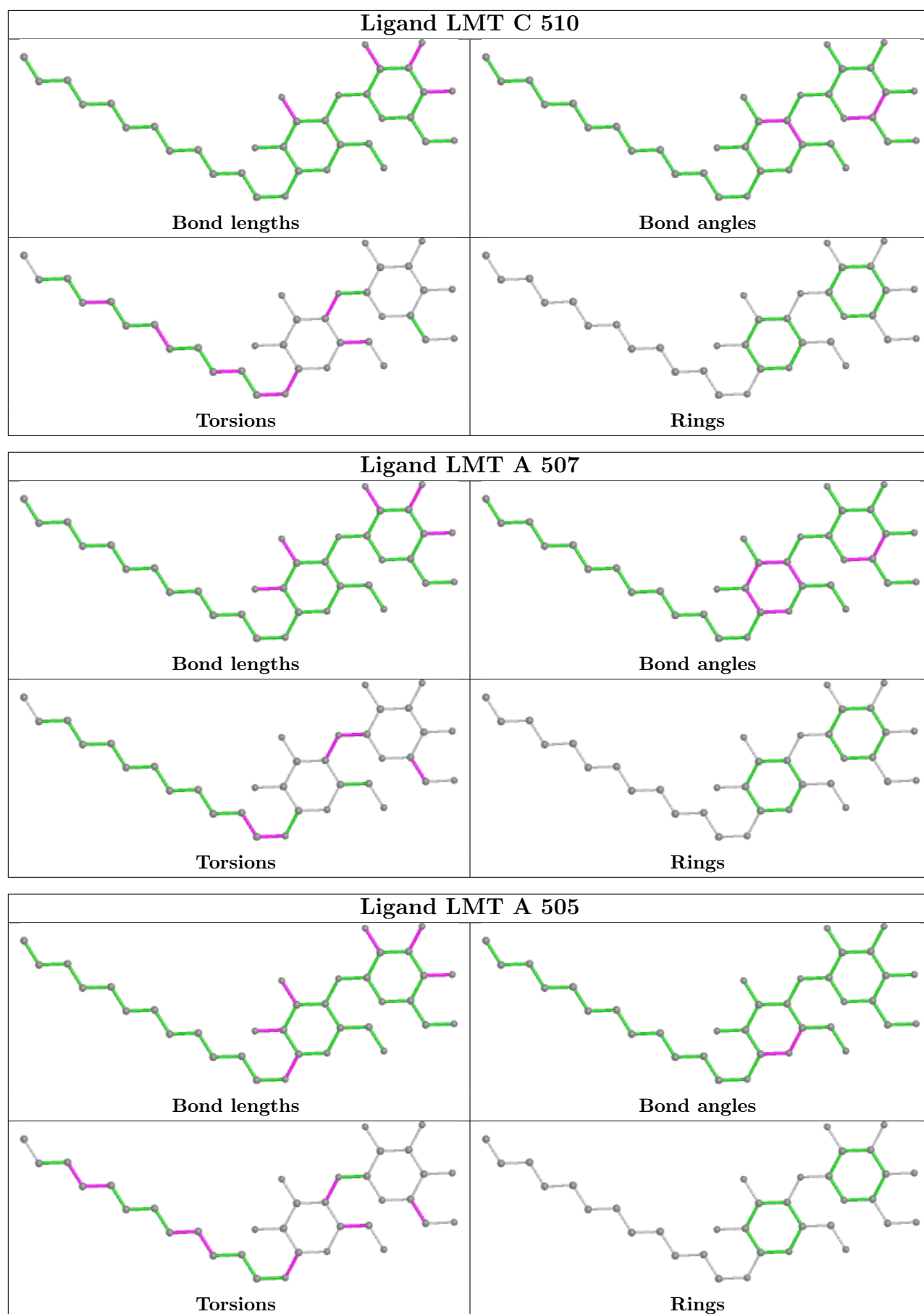


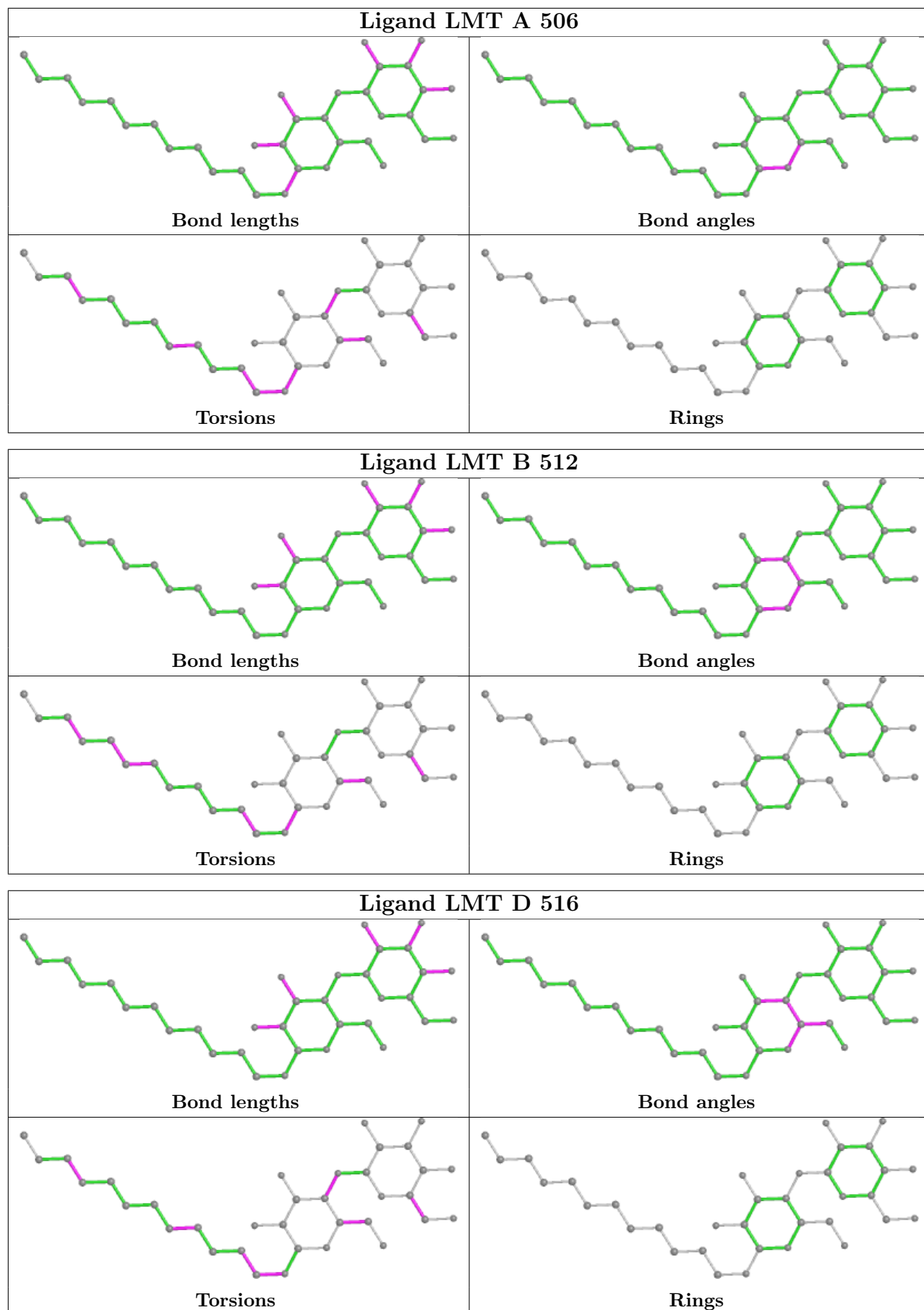












5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

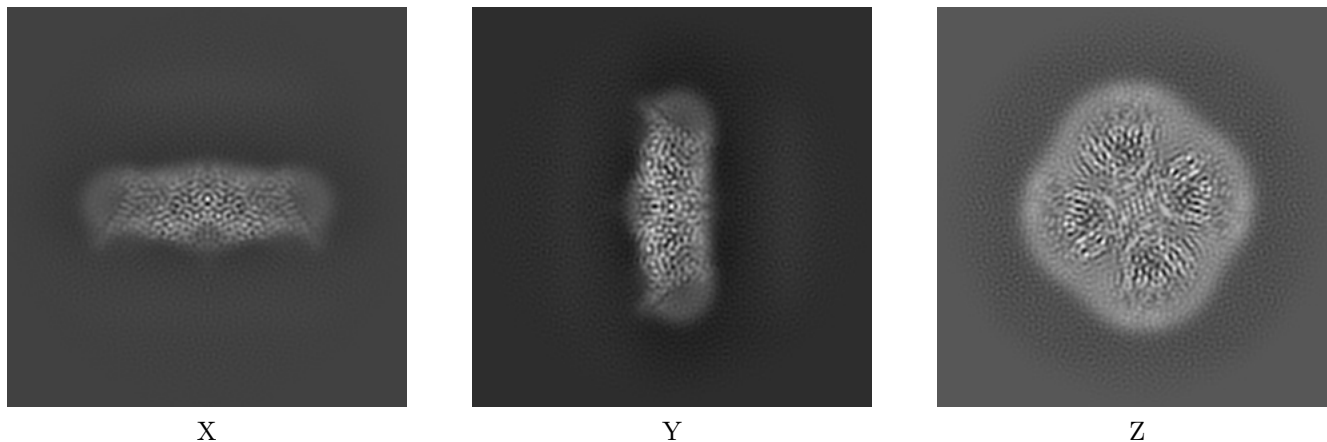
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-36192. These allow visual inspection of the internal detail of the map and identification of artifacts.

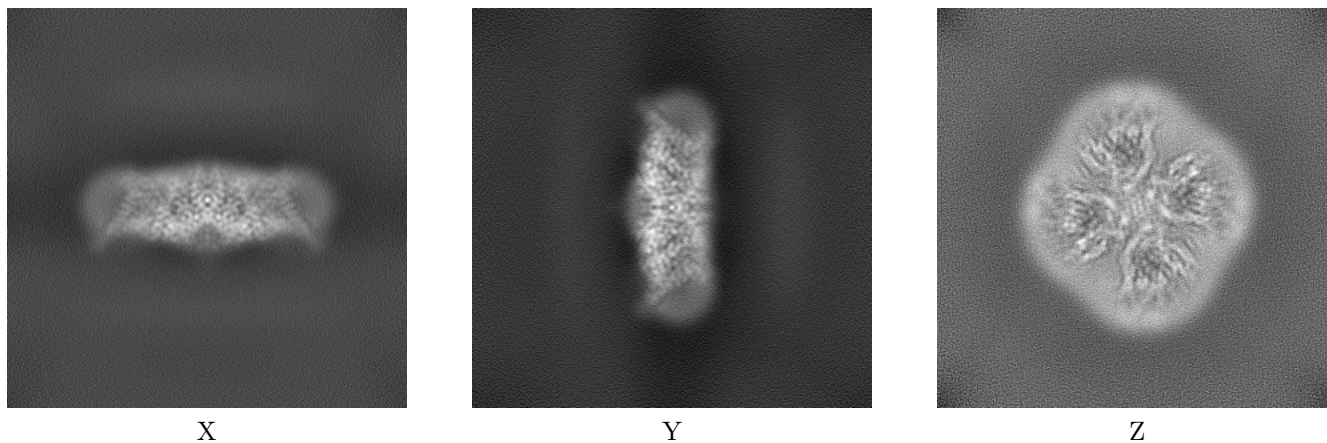
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

6.1.1 Primary map



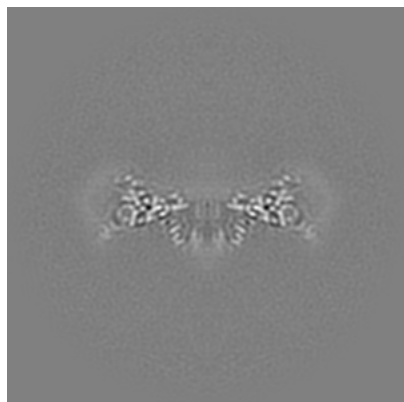
6.1.2 Raw map



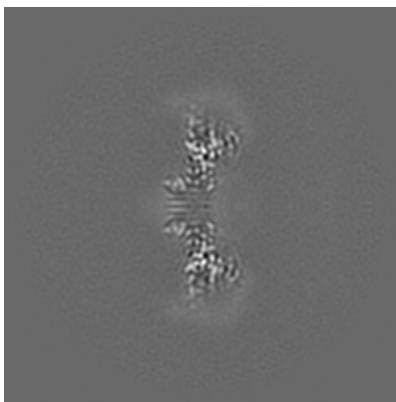
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

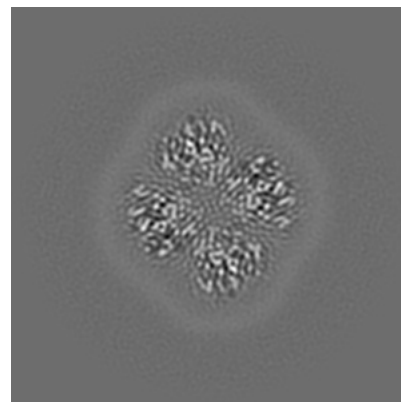
6.2.1 Primary map



X Index: 160

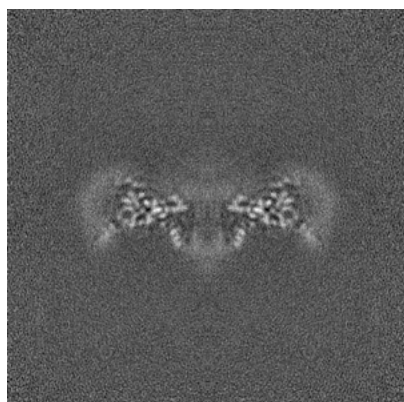


Y Index: 160

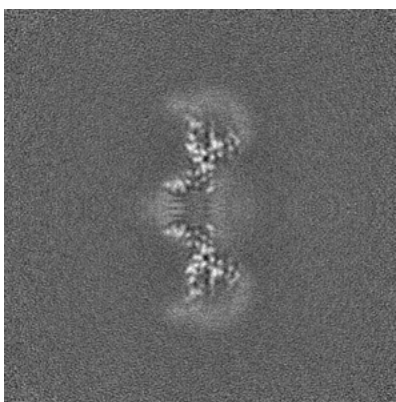


Z Index: 160

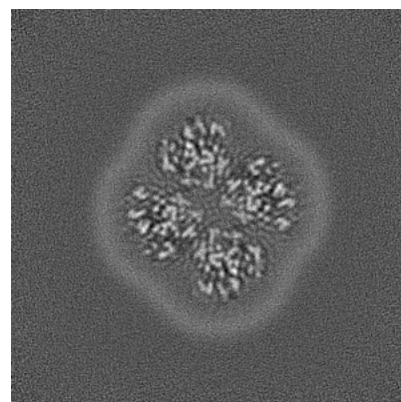
6.2.2 Raw map



X Index: 160



Y Index: 160

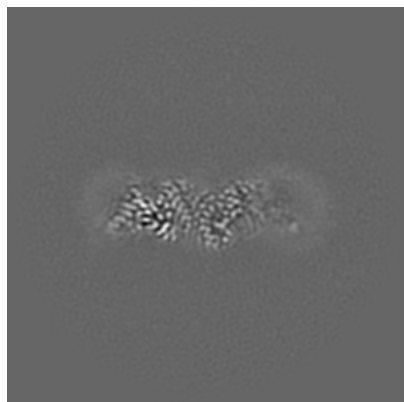


Z Index: 160

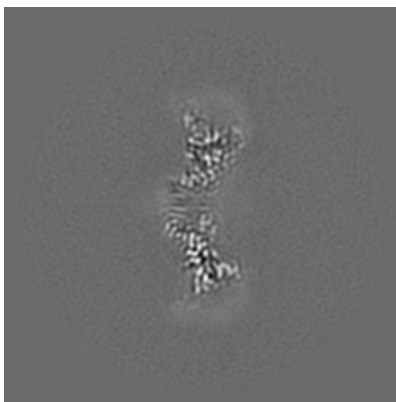
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

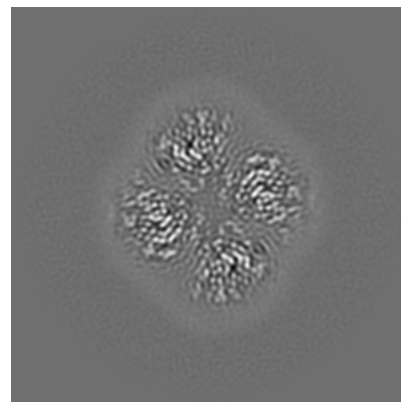
6.3.1 Primary map



X Index: 179

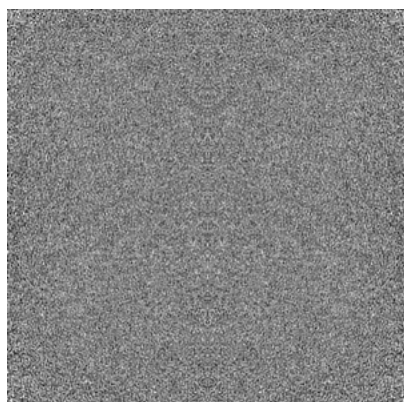


Y Index: 156

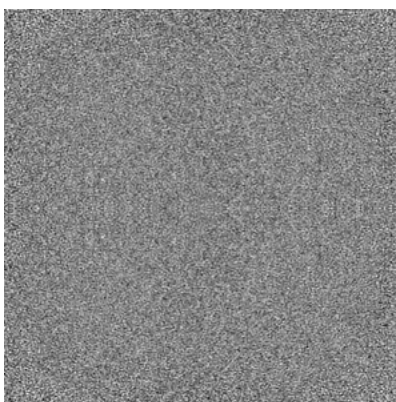


Z Index: 152

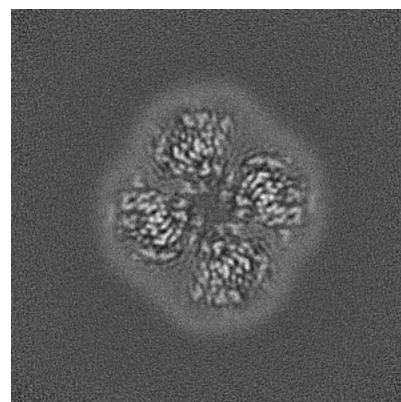
6.3.2 Raw map



X Index: 0



Y Index: 0

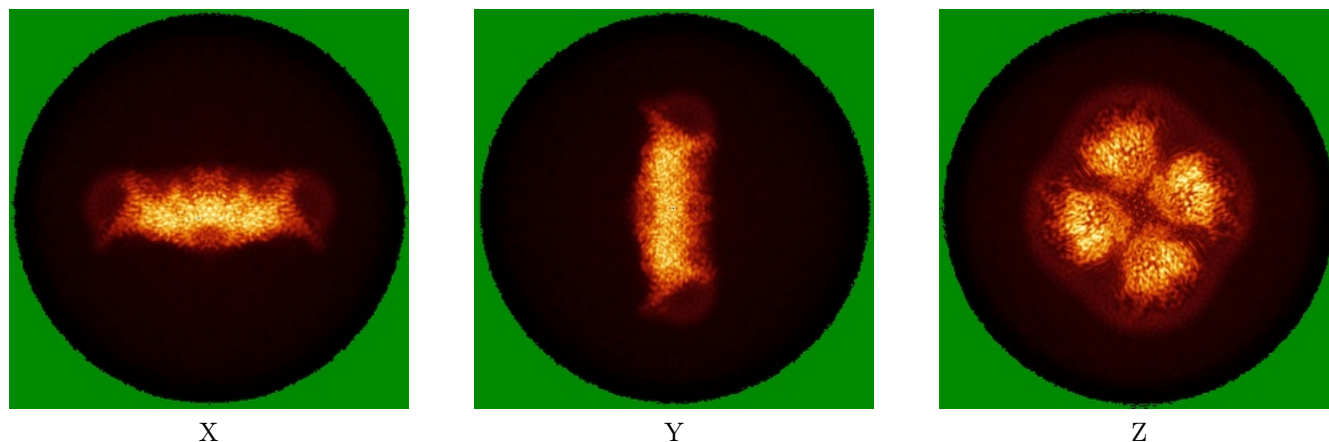


Z Index: 151

The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) [i](#)

6.4.1 Primary map

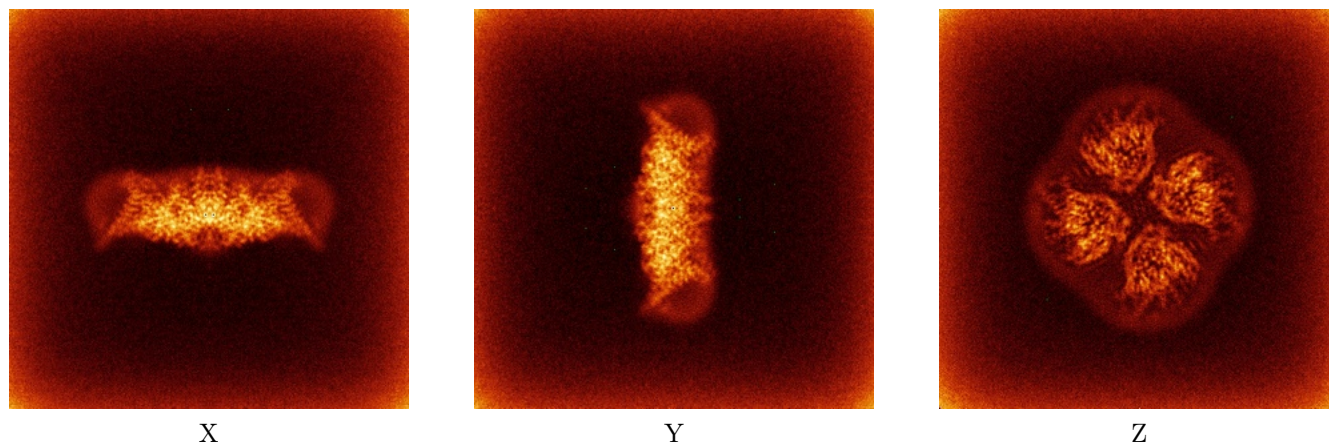


X

Y

Z

6.4.2 Raw map



X

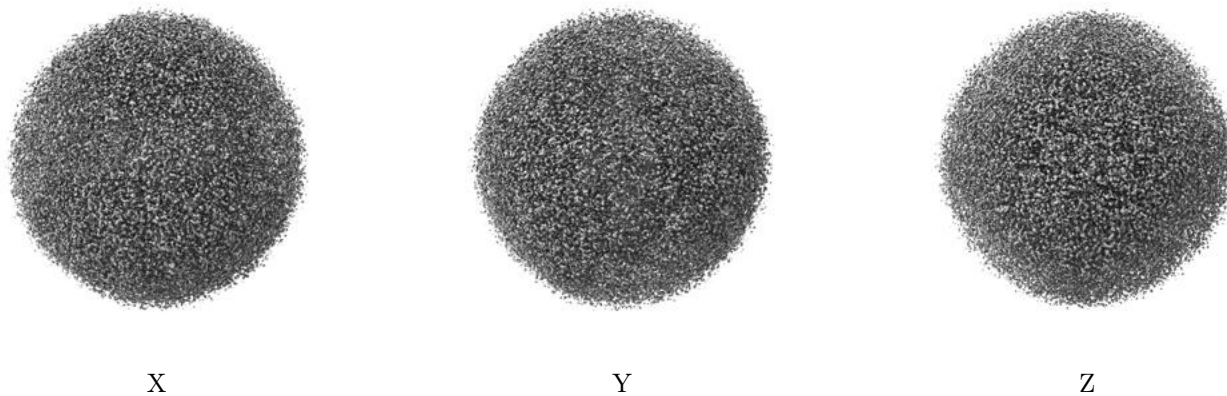
Y

Z

The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

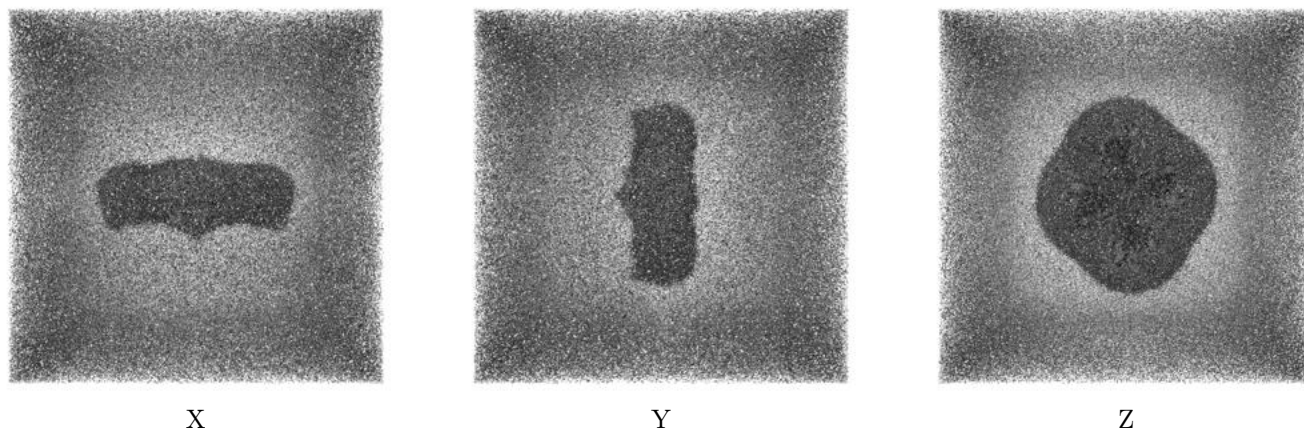
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.02. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

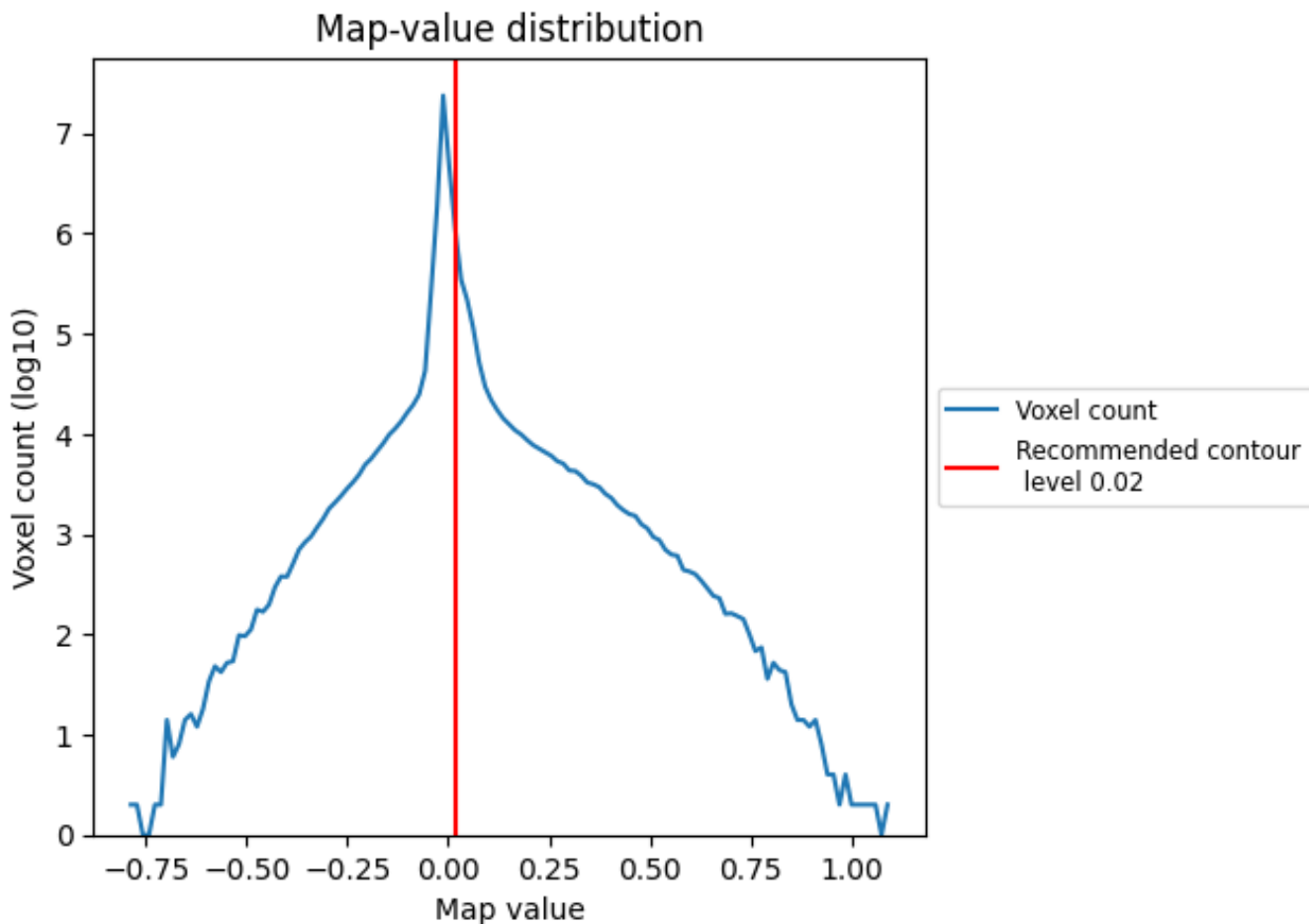
6.6 Mask visualisation [i](#)

This section was not generated. No masks/segmentation were deposited.

7 Map analysis [i](#)

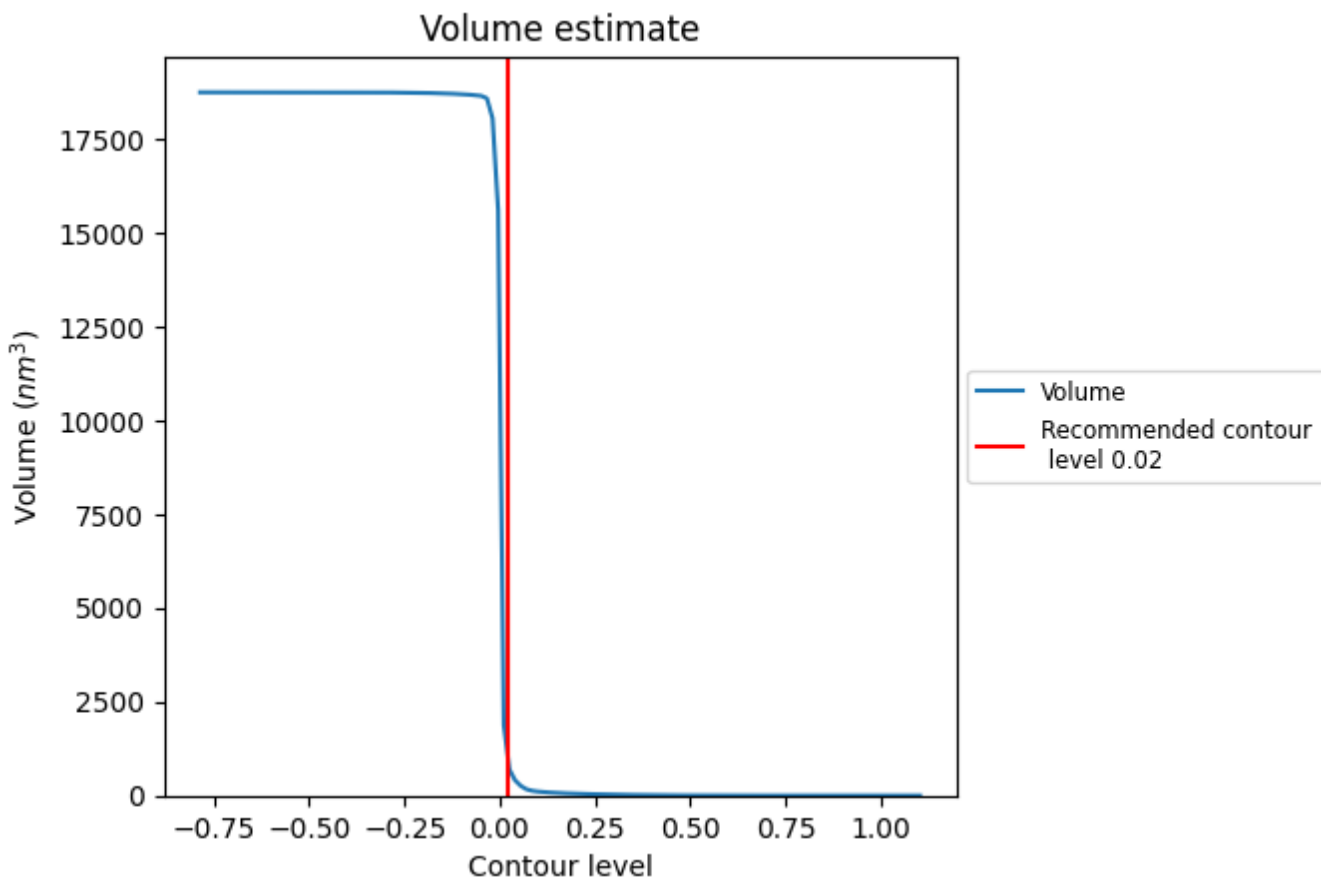
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

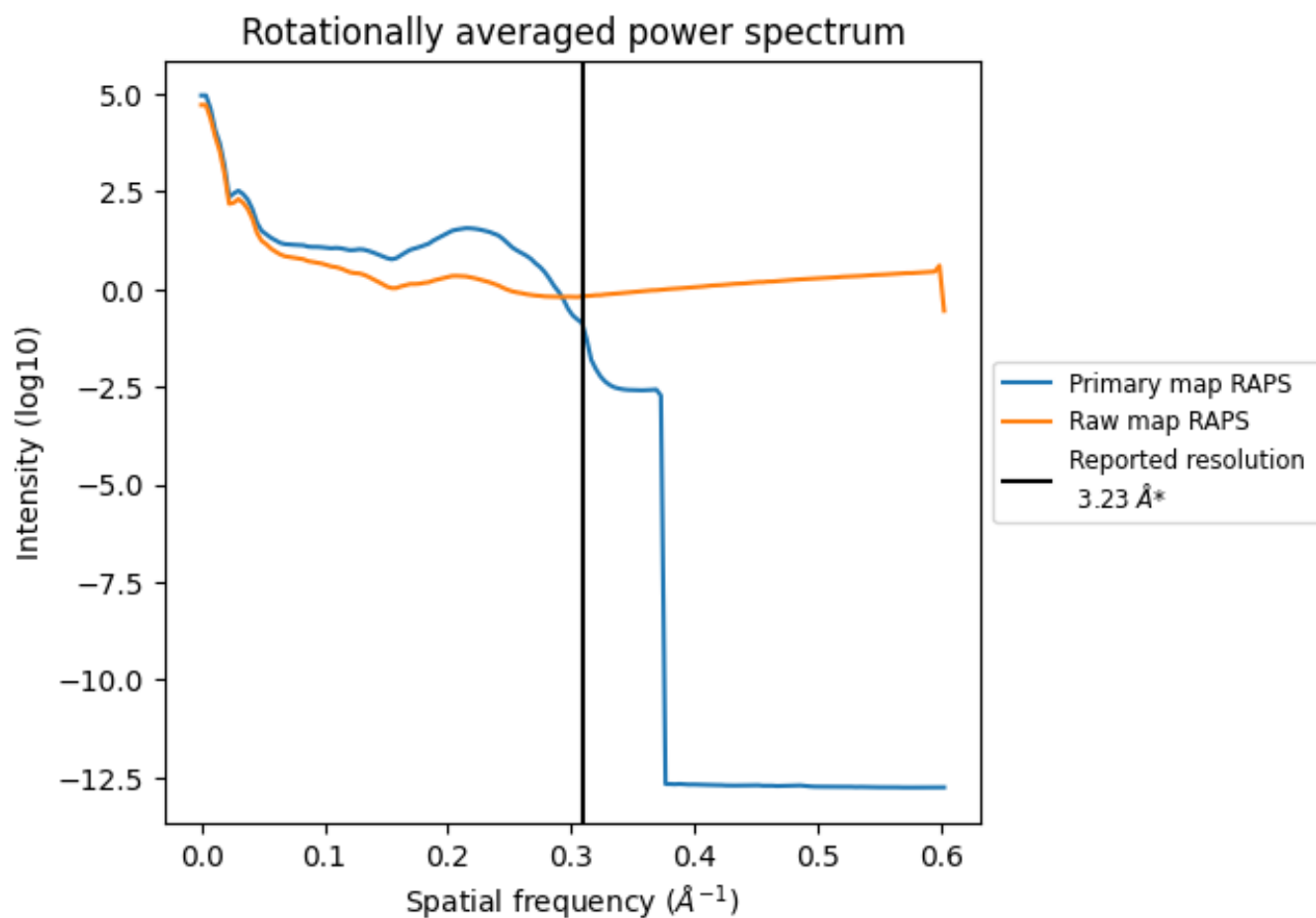
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1153 nm³; this corresponds to an approximate mass of 1041 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum [i](#)

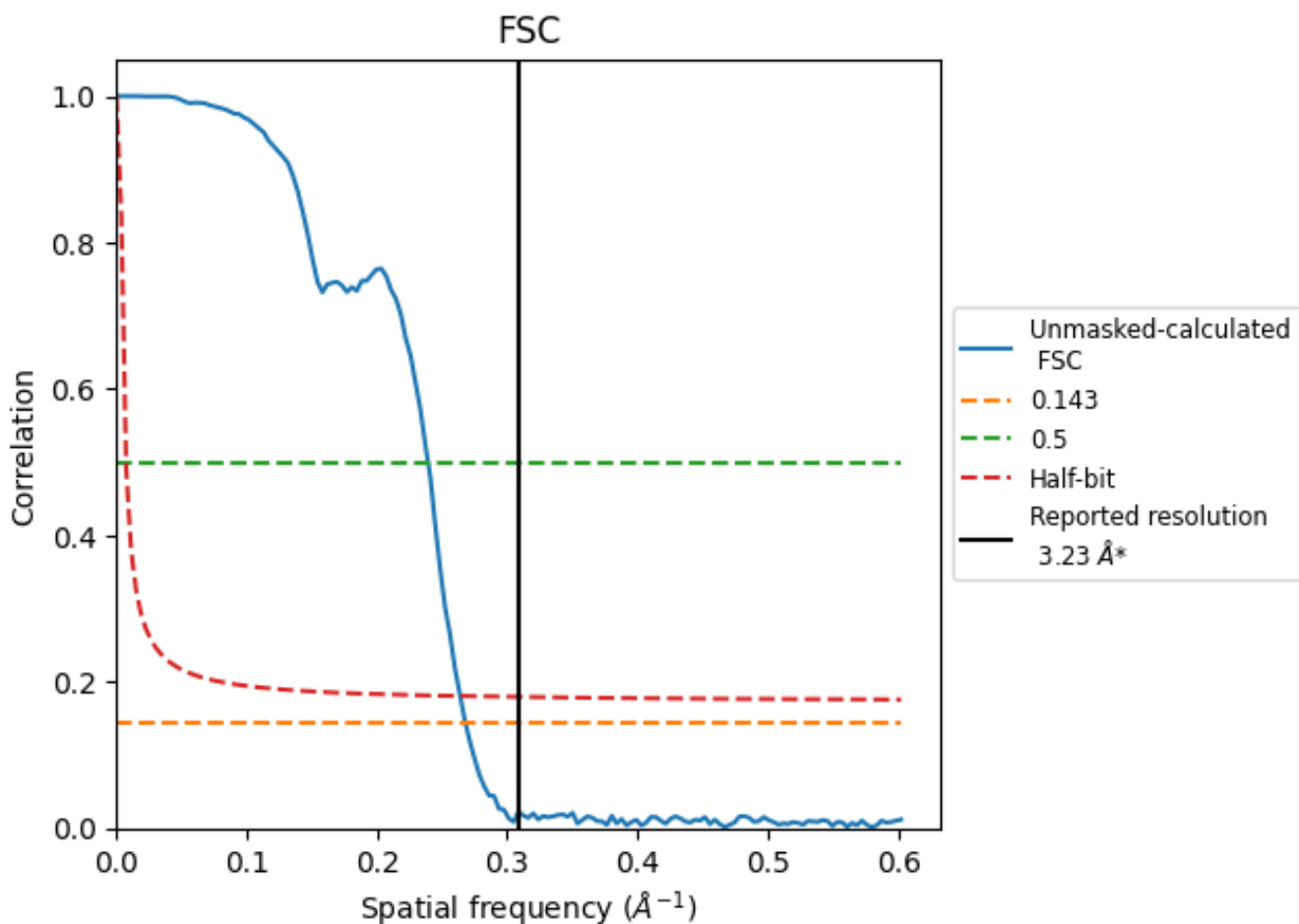


*Reported resolution corresponds to spatial frequency of 0.310 Å⁻¹

8 Fourier-Shell correlation [i](#)

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.310 Å⁻¹

8.2 Resolution estimates [i](#)

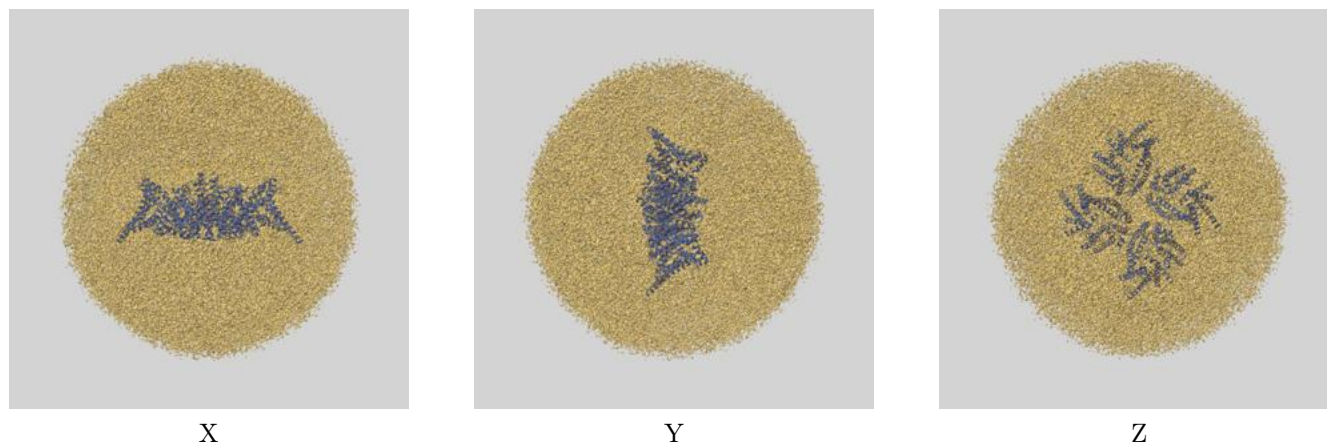
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.23	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	3.73	4.18	3.79

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 3.73 differs from the reported value 3.23 by more than 10 %

9 Map-model fit [i](#)

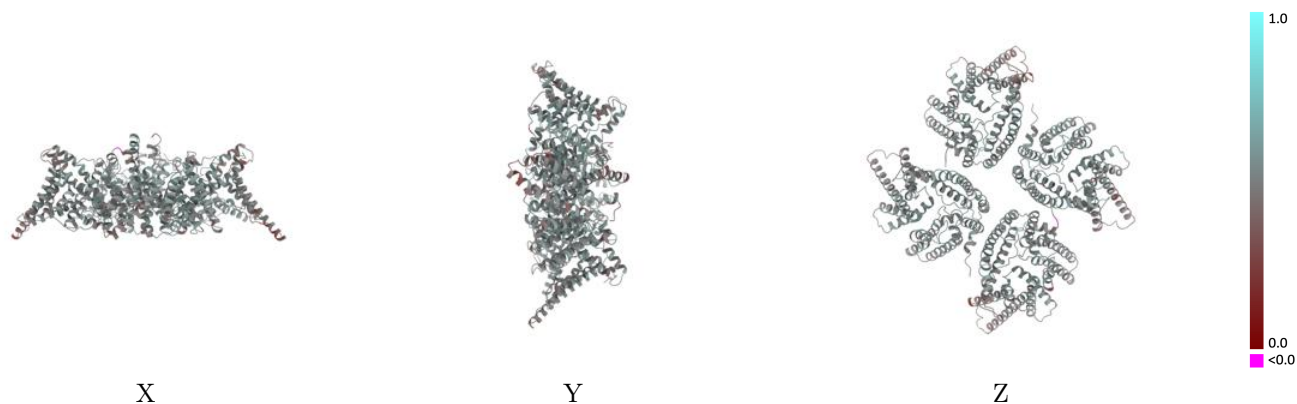
This section contains information regarding the fit between EMDB map EMD-36192 and PDB model 8JEM. Per-residue inclusion information can be found in section 3 on page 11.

9.1 Map-model overlay [i](#)



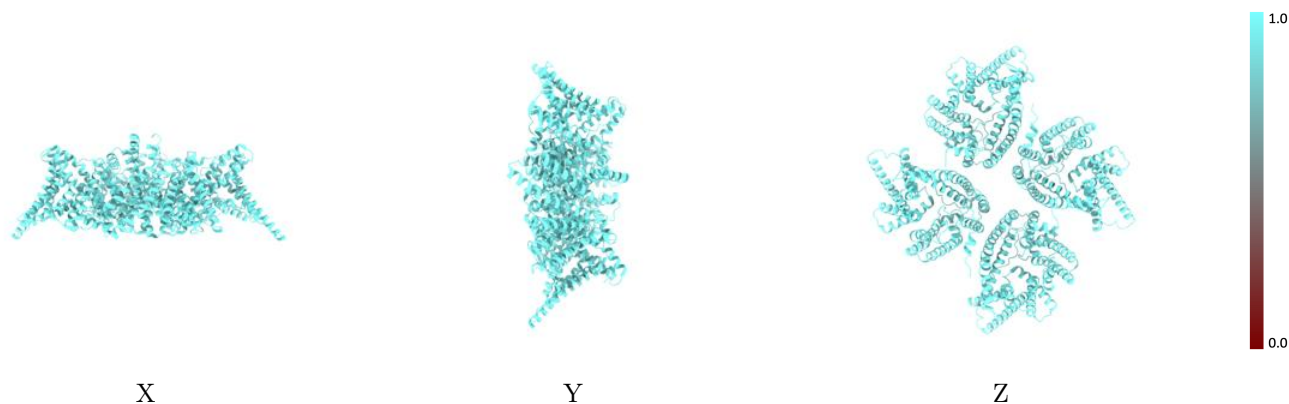
The images above show the 3D surface view of the map at the recommended contour level 0.02 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model [\(i\)](#)



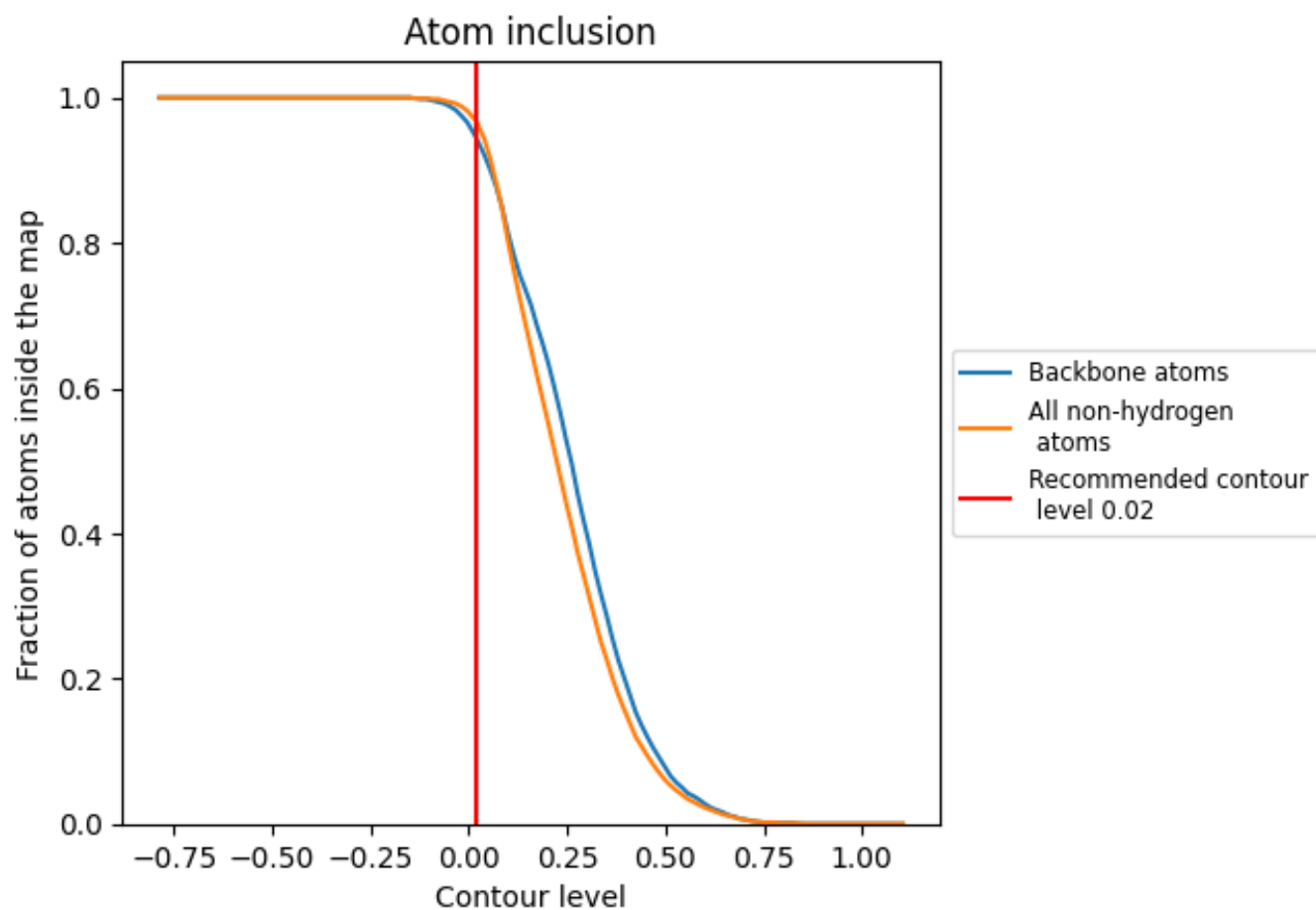
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

9.3 Atom inclusion mapped to coordinate model [\(i\)](#)



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.02).



9.4 Atom inclusion [i](#)



At the recommended contour level, 94% of all backbone atoms, 97% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.02) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9670	 0.5020
A	 0.9670	 0.4940
B	 0.9680	 0.5070
C	 0.9670	 0.4990
D	 0.9660	 0.5090

