Full wwPDB X-ray Structure Validation Report (i)

Aug 10, 2022 – 10:09 AM JST

PDB ID	:	6M31
Title	:	Structural and Functional Insights into an Archaeal Lipid Synthase
Authors	:	Ren, S.; Cheng, W.
Deposited on	:	2020-03-02
Resolution	:	2.30 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/XrayValidationReportHelp
with specific help available everywhere you see the (i) 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 (i)) were used in the production of this report:

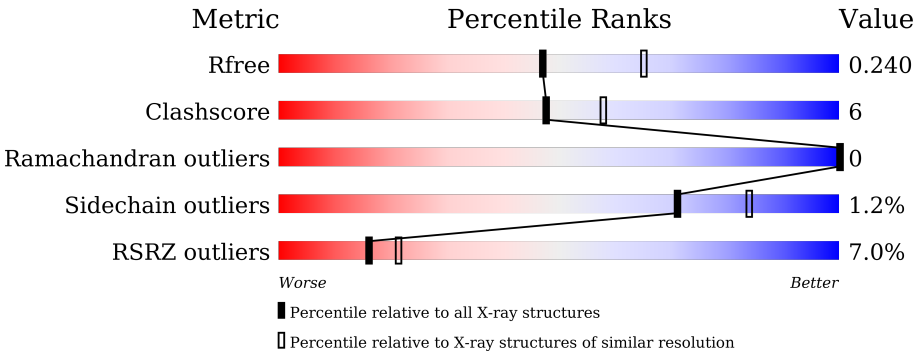
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.29
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.29

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
X-RAY DIFFRACTION

The reported resolution of this entry is 2.30 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	5042 (2.30-2.30)
Clashscore	141614	5643 (2.30-2.30)
Ramachandran outliers	138981	5575 (2.30-2.30)
Sidechain outliers	138945	5575 (2.30-2.30)
RSRZ outliers	127900	4938 (2.30-2.30)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for >=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 <=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	283	7% 89% 9%
1	B	283	7% 90% 8%

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
2	LDA	A	308	-	-	X	-
2	LDA	A	311	-	-	X	-
2	LDA	B	307	-	-	-	X
2	LDA	B	312	-	-	-	X
3	PO4	A	312	-	-	X	-
3	PO4	A	314	-	-	X	-

2 Entry composition

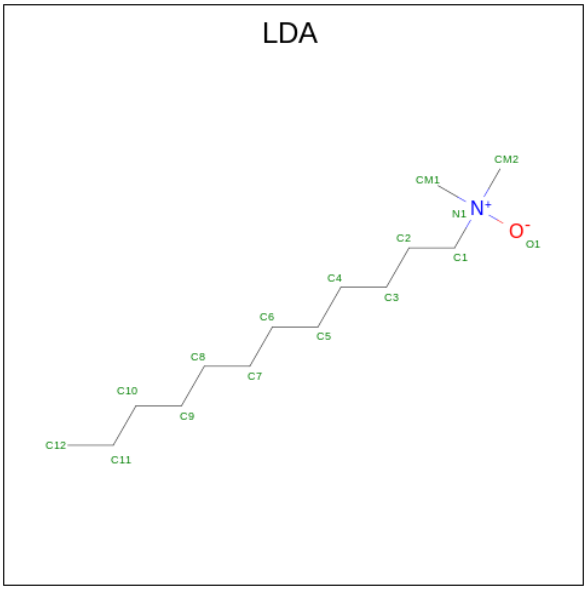
There are 6 unique types of molecules in this entry. The entry contains 5336 atoms, of which 0 are hydrogens and 0 are deuteriums.

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 Digeranylgeranylglyceryl phosphate synthase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	280	Total	C	N	O	S	0	0	0
			2224	1516	334	365	9			
1	B	280	Total	C	N	O	S	0	0	0
			2224	1516	334	365	9			

- Molecule 2 is LAURYL DIMETHYLAMINE-N-OXIDE (three-letter code: LDA) (formula: $C_{14}H_{31}NO$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
2	A	1	Total	C	N	O	0	0
			16	14	1	1		
2	A	1	Total	C	N	O	0	0
			16	14	1	1		
2	A	1	Total	C	N	O	0	0
			16	14	1	1		
2	A	1	Total	C	N	O	0	0
			16	14	1	1		

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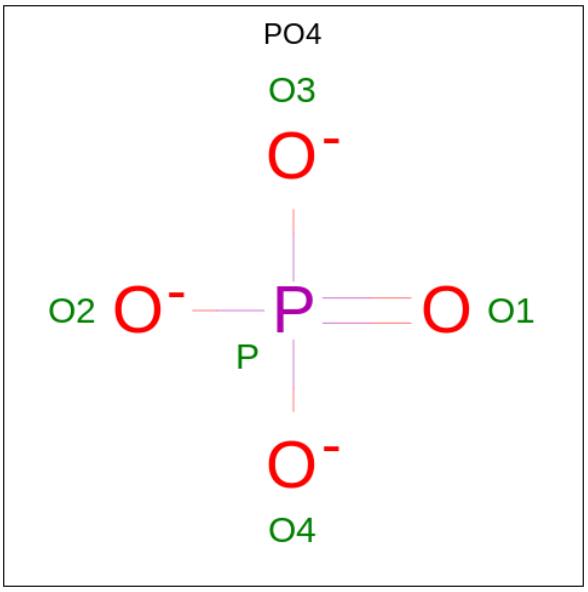
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	A	1	Total C N O 16 14 1 1	0	0
2	A	1	Total C N O 16 14 1 1	0	0
2	A	1	Total C N O 16 14 1 1	0	0
2	A	1	Total C N O 16 14 1 1	0	0
2	A	1	Total C N O 16 14 1 1	0	0
2	A	1	Total C N O 16 14 1 1	0	0
2	A	1	Total C N O 16 14 1 1	0	0
2	B	1	Total C N O 16 14 1 1	0	0
2	B	1	Total C N O 16 14 1 1	0	0
2	B	1	Total C N O 16 14 1 1	0	0
2	B	1	Total C N O 16 14 1 1	0	0
2	B	1	Total C N O 16 14 1 1	0	0
2	B	1	Total C N O 16 14 1 1	0	0
2	B	1	Total C N O 16 14 1 1	0	0
2	B	1	Total C N O 16 14 1 1	0	0
2	B	1	Total C N O 16 14 1 1	0	0
2	B	1	Total C N O 16 14 1 1	0	0
2	B	1	Total C N O 16 14 1 1	0	0
2	B	1	Total C N O 16 14 1 1	0	0

- Molecule 3 is PHOSPHATE ION (three-letter code: PO4) (formula: O_4P) (labeled as "Ligand of Interest" by depositor).



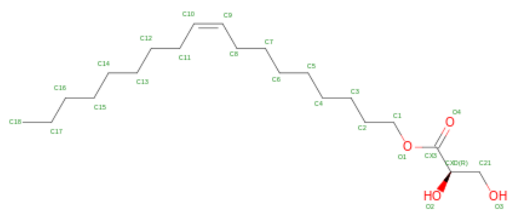
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	1	Total O P 5 4 1	0	0
3	A	1	Total O P 5 4 1	0	0
3	A	1	Total O P 5 4 1	0	0
3	B	1	Total O P 5 4 1	0	0
3	B	1	Total O P 5 4 1	0	0

- Molecule 4 is MAGNESIUM ION (three-letter code: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	1	Total Mg 1 1	0	0
4	B	1	Total Mg 1 1	0	0

- Molecule 5 is [(Z)-octadec-9-enyl] (2R)-2,3-bis(oxidanyl)propanoate (three-letter code: MPG) (formula: $C_{21}H_{40}O_4$) (labeled as "Ligand of Interest" by depositor).

MPG



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	A	1	Total C O 25 21 4	0	0
5	A	1	Total C O 25 21 4	0	0
5	A	1	Total C O 25 21 4	0	0
5	A	1	Total C O 25 21 4	0	0
5	A	1	Total C O 25 21 4	0	0
5	A	1	Total C O 25 21 4	0	0
5	A	1	Total C O 25 21 4	0	0
5	A	1	Total C O 25 21 4	0	0
5	A	1	Total C O 25 21 4	0	0
5	A	1	Total C O 25 21 4	0	0
5	A	1	Total C O 25 21 4	0	0
5	A	1	Total C O 25 21 4	0	0
5	A	1	Total C O 25 21 4	0	0
5	B	1	Total C O 25 21 4	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	B	1	Total C O 25 21 4	0	0
5	B	1	Total C O 25 21 4	0	0
5	B	1	Total C O 25 21 4	0	0
5	B	1	Total C O 25 21 4	0	0

- Molecule 6 is water.

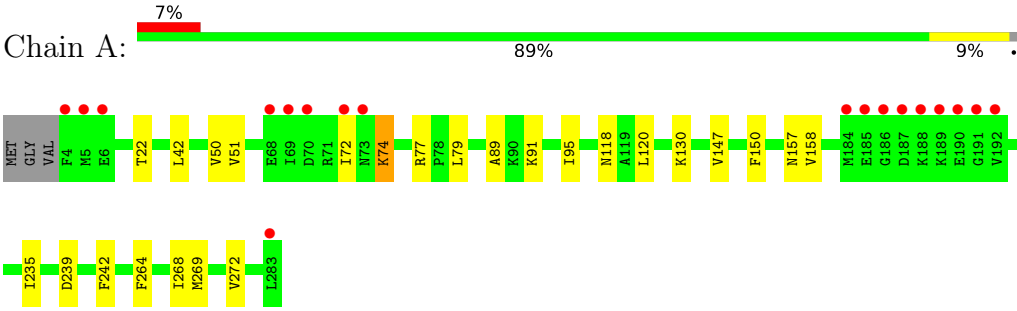
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	A	25	Total O 25 25	0	0
6	B	18	Total O 18 18	0	0

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 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.

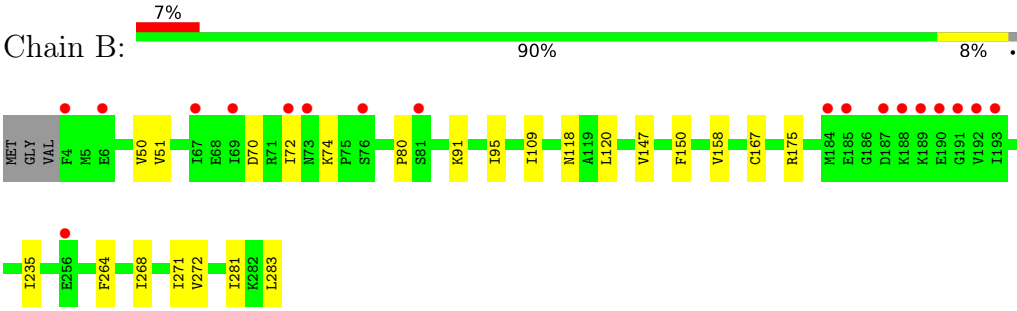
• Molecule 1: Digeranylgeranylglyceryl phosphate synthase

Chain A:



• Molecule 1: Digeranylgeranylglyceryl phosphate synthase

Chain B:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 21 21 2	Depositor
Cell constants a, b, c, α, β, γ	70.00Å 133.49Å 79.50Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	48.89 – 2.30 48.89 – 2.30	Depositor EDS
% Data completeness (in resolution range)	99.8 (48.89-2.30) 99.8 (48.89-2.30)	Depositor EDS
R_{merge}	0.09	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	2.20 (at 2.29Å)	Xtriage
Refinement program	SHELX	Depositor
R, R_{free}	0.201 , 0.230 0.208 , 0.240	Depositor DCC
R_{free} test set	1689 reflections (5.00%)	wwPDB-VP
Wilson B-factor (Å^2)	40.7	Xtriage
Anisotropy	0.613	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.36 , 75.6	EDS
L-test for twinning[2]	$< \|L\| > = 0.53$, $< L^2 > = 0.37$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.96	EDS
Total number of atoms	5336	wwPDB-VP
Average B, all atoms (Å^2)	54.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 43.23 % of the origin peak, indicating pseudo-translational symmetry. The chance of finding a peak of this or larger height randomly in a structure without pseudo-translational symmetry is equal to 1.8172e-04. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

[1] Intensities estimated from amplitudes.

[2] Theoretical values of $< |L| >$, $< L^2 >$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: PO4, MPG, LDA, MG

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\#\|Z\| > 5$	RMSZ	$\#\|Z\| > 5$
1	A	0.55	0/2271	0.64	0/3069
1	B	0.54	0/2271	0.64	0/3069
All	All	0.54	0/4542	0.64	0/6138

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

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	2224	0	2426	32	0
1	B	2224	0	2426	20	0
2	A	176	0	341	20	0
2	B	192	0	372	10	0
3	A	15	0	0	4	0
3	B	10	0	0	1	0
4	A	1	0	0	0	0
4	B	1	0	0	0	0
5	A	325	0	520	21	0
5	B	125	0	200	7	0
6	A	25	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
6	B	18	0	0	0	0
All	All	5336	0	6285	71	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 6.

All (71) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:308:LDA:H102	2:A:311:LDA:H112	1.30	1.12
2:A:308:LDA:H101	5:A:328:MPG:H112	1.46	0.95
1:A:158:VAL:HG12	2:A:311:LDA:HM13	1.54	0.88
2:A:308:LDA:H123	2:A:311:LDA:H121	1.53	0.87
2:A:308:LDA:H102	2:A:311:LDA:C11	2.08	0.82
1:A:118:ASN:HD22	5:A:324:MPG:H141	1.45	0.82
1:B:50:VAL:HG11	1:B:150:PHE:CZ	2.15	0.81
1:A:50:VAL:HG11	1:A:150:PHE:CZ	2.15	0.80
2:A:308:LDA:H82	2:A:311:LDA:H91	1.65	0.79
1:B:74:LYS:HE2	3:B:313:PO4:O3	1.83	0.78
1:B:272:VAL:HG11	5:B:318:MPG:H161	1.71	0.72
1:A:74:LYS:NZ	3:A:314:PO4:O3	2.26	0.68
2:A:308:LDA:C12	2:A:311:LDA:H121	2.22	0.68
1:A:130:LYS:NZ	3:A:314:PO4:O1	2.26	0.67
5:A:327:MPG:C18	2:B:310:LDA:H123	2.25	0.66
1:B:158:VAL:HG11	2:B:301:LDA:H42	1.78	0.64
1:A:74:LYS:HE3	3:A:312:PO4:O2	1.99	0.62
1:A:218:SER:HB3	5:A:323:MPG:H183	1.81	0.62
2:A:308:LDA:H101	5:A:328:MPG:C11	2.27	0.61
1:A:157:ASN:ND2	2:A:311:LDA:O1	2.36	0.59
1:A:150:PHE:CD1	5:A:324:MPG:H181	2.38	0.59
1:B:264:PHE:CE2	1:B:268:ILE:HD11	2.39	0.58
1:A:74:LYS:HB2	1:A:77:ARG:HG2	1.86	0.57
1:A:158:VAL:HG12	2:A:311:LDA:CM1	2.32	0.56
5:A:319:MPG:H182	2:B:308:LDA:H12	1.88	0.55
1:A:264:PHE:CZ	1:A:268:ILE:HD11	2.41	0.55
1:A:50:VAL:CG1	1:A:150:PHE:CZ	2.89	0.55
1:B:51:VAL:HA	5:B:320:MPG:H161	1.89	0.55
1:B:271:ILE:HD13	2:B:308:LDA:H52	1.87	0.55
1:A:239:ASP:OD1	5:A:323:MPG:H181	2.06	0.54
2:A:308:LDA:H42	5:A:328:MPG:H32C	1.91	0.53
1:B:72:ILE:HD12	1:B:72:ILE:N	2.24	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:50:VAL:CG1	1:B:150:PHE:CZ	2.90	0.52
2:A:305:LDA:H41	5:A:326:MPG:H152	1.92	0.52
5:A:327:MPG:H181	2:B:310:LDA:H123	1.91	0.51
1:A:118:ASN:ND2	5:A:324:MPG:H141	2.19	0.51
2:A:305:LDA:HM11	2:B:310:LDA:H81	1.92	0.51
1:A:272:VAL:HG11	5:A:323:MPG:H152	1.91	0.51
2:A:308:LDA:C10	2:A:311:LDA:H112	2.22	0.50
5:A:327:MPG:H181	2:B:310:LDA:C12	2.42	0.50
1:A:74:LYS:CE	3:A:312:PO4:O2	2.60	0.49
1:B:118:ASN:HD22	5:B:320:MPG:C14	2.25	0.49
1:A:235:ILE:HD11	1:A:272:VAL:HG13	1.94	0.48
1:B:235:ILE:HD11	1:B:272:VAL:HG13	1.95	0.48
1:A:42:LEU:HG	2:A:304:LDA:H101	1.95	0.47
1:B:118:ASN:HD22	5:B:320:MPG:H141	1.80	0.47
1:B:175:ARG:HH12	5:B:318:MPG:H22C	1.80	0.47
1:A:120:LEU:HD23	2:A:307:LDA:HM11	1.97	0.47
1:A:74:LYS:HB2	1:A:77:ARG:CG	2.46	0.46
2:A:308:LDA:C11	2:A:311:LDA:H121	2.46	0.45
1:B:120:LEU:HD23	2:B:303:LDA:HM13	1.99	0.45
5:A:327:MPG:H182	2:B:310:LDA:H123	1.98	0.44
1:A:242:PHE:CE2	5:A:323:MPG:H151	2.53	0.44
1:B:70:ASP:HB3	1:B:80:PRO:HG3	2.00	0.43
1:B:167:CYS:HB3	5:B:318:MPG:H162	2.00	0.43
2:A:308:LDA:C10	2:A:311:LDA:C11	2.89	0.43
1:B:109:ILE:HB	5:B:316:MPG:H212	2.01	0.42
2:A:302:LDA:H71	2:A:309:LDA:H22	2.00	0.42
1:B:91:LYS:O	1:B:95:ILE:HG12	2.20	0.42
1:A:235:ILE:HD13	1:A:235:ILE:HA	1.95	0.42
1:A:91:LYS:O	1:A:95:ILE:HG12	2.20	0.41
1:A:214:ALA:HB1	5:A:323:MPG:H162	2.01	0.41
1:A:22:THR:HG23	2:A:301:LDA:H91	2.02	0.41
1:A:269:MET:HG2	5:A:323:MPG:H131	2.02	0.41
1:B:225:LYS:HD2	2:B:311:LDA:H51	2.02	0.41
1:A:51:VAL:HG22	5:A:324:MPG:H172	2.03	0.41
1:A:218:SER:CB	5:A:323:MPG:H183	2.51	0.41
1:A:239:ASP:OD1	5:A:323:MPG:C18	2.69	0.40
1:A:264:PHE:O	1:A:268:ILE:HG12	2.22	0.40
1:B:264:PHE:O	1:B:268:ILE:HG13	2.22	0.40
1:A:79:LEU:HD21	1:A:89:ALA:HB2	2.02	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	278/283 (98%)	266 (96%)	12 (4%)	0	100	100
1	B	278/283 (98%)	271 (98%)	7 (2%)	0	100	100
All	All	556/566 (98%)	537 (97%)	19 (3%)	0	100	100

There are no Ramachandran outliers to report.

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	245/247 (99%)	242 (99%)	3 (1%)	71	84
1	B	245/247 (99%)	242 (99%)	3 (1%)	71	84
All	All	490/494 (99%)	484 (99%)	6 (1%)	71	84

All (6) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	72	ILE
1	A	74	LYS
1	A	147	VAL
1	B	147	VAL
1	B	281	ILE
1	B	283	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. There are

no such sidechains identified.

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 48 ligands modelled in this entry, 2 are monoatomic - leaving 46 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
2	LDA	A	309	-	12,15,15	0.18	0	14,17,17	0.34	0
3	PO4	A	313	-	4,4,4	2.46	1 (25%)	6,6,6	0.44	0
2	LDA	A	302	-	12,15,15	0.13	0	14,17,17	0.22	0
2	LDA	A	306	-	12,15,15	0.16	0	14,17,17	0.19	0
5	MPG	A	327	-	24,24,24	0.29	0	24,25,25	0.61	1 (4%)
2	LDA	B	305	-	12,15,15	0.12	0	14,17,17	0.28	0
5	MPG	A	316	-	24,24,24	0.23	0	24,25,25	0.35	0
2	LDA	A	311	-	12,15,15	0.31	0	14,17,17	0.14	0
5	MPG	A	318	-	24,24,24	0.25	0	24,25,25	0.38	0
2	LDA	A	305	-	12,15,15	0.10	0	14,17,17	0.22	0
3	PO4	B	314	-	4,4,4	2.50	1 (25%)	6,6,6	0.46	0
5	MPG	A	322	-	24,24,24	0.20	0	24,25,25	0.36	0
3	PO4	B	313	-	4,4,4	2.03	1 (25%)	6,6,6	0.34	0
2	LDA	B	301	-	12,15,15	0.15	0	14,17,17	0.27	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
5	MPG	B	317	-	24,24,24	0.21	0	24,25,25	0.47	0
5	MPG	B	318	-	24,24,24	0.20	0	24,25,25	0.36	0
2	LDA	B	308	-	12,15,15	0.10	0	14,17,17	0.24	0
5	MPG	B	320	-	24,24,24	0.21	0	24,25,25	0.37	0
2	LDA	B	306	-	12,15,15	0.11	0	14,17,17	0.26	0
5	MPG	A	328	-	24,24,24	0.44	0	24,25,25	0.41	0
3	PO4	A	314	-	4,4,4	0.66	0	6,6,6	0.43	0
5	MPG	A	324	-	24,24,24	0.22	0	24,25,25	0.39	0
5	MPG	B	316	-	24,24,24	0.22	0	24,25,25	0.43	0
2	LDA	B	310	-	12,15,15	0.10	0	14,17,17	0.18	0
2	LDA	B	311	-	12,15,15	0.16	0	14,17,17	0.15	0
3	PO4	A	312	-	4,4,4	0.89	0	6,6,6	0.42	0
2	LDA	B	307	-	12,15,15	0.10	0	14,17,17	0.24	0
2	LDA	A	308	-	12,15,15	0.13	0	14,17,17	0.17	0
5	MPG	A	323	-	24,24,24	0.28	0	24,25,25	0.46	0
2	LDA	A	304	-	12,15,15	0.13	0	14,17,17	0.29	0
2	LDA	A	307	-	12,15,15	0.16	0	14,17,17	0.31	0
2	LDA	A	310	-	12,15,15	0.08	0	14,17,17	0.16	0
2	LDA	B	303	-	12,15,15	0.14	0	14,17,17	0.27	0
2	LDA	B	309	-	12,15,15	0.12	0	14,17,17	0.27	0
5	MPG	B	319	-	24,24,24	0.22	0	24,25,25	0.34	0
5	MPG	A	319	-	24,24,24	0.20	0	24,25,25	0.44	0
2	LDA	A	303	-	12,15,15	0.14	0	14,17,17	0.11	0
5	MPG	A	326	-	24,24,24	0.24	0	24,25,25	0.43	0
5	MPG	A	317	-	24,24,24	0.24	0	24,25,25	0.36	0
5	MPG	A	321	-	24,24,24	0.19	0	24,25,25	0.46	0
5	MPG	A	325	-	24,24,24	0.37	0	24,25,25	0.35	0
2	LDA	B	312	-	12,15,15	0.38	0	14,17,17	0.35	0
2	LDA	B	302	-	12,15,15	0.12	0	14,17,17	0.18	0
2	LDA	A	301	-	12,15,15	0.10	0	14,17,17	0.18	0
5	MPG	A	320	-	24,24,24	0.21	0	24,25,25	0.41	0
2	LDA	B	304	-	12,15,15	0.11	0	14,17,17	0.31	0

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	LDA	A	309	-	-	7/13/13/13	-
2	LDA	A	302	-	-	6/13/13/13	-
2	LDA	A	306	-	-	10/13/13/13	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
5	MPG	A	327	-	-	16/25/25/25	-
2	LDA	B	305	-	-	5/13/13/13	-
5	MPG	A	316	-	-	11/25/25/25	-
2	LDA	A	311	-	-	10/13/13/13	-
5	MPG	A	318	-	-	13/25/25/25	-
2	LDA	A	305	-	-	9/13/13/13	-
5	MPG	A	322	-	-	10/25/25/25	-
2	LDA	B	301	-	-	9/13/13/13	-
5	MPG	B	317	-	-	18/25/25/25	-
5	MPG	B	318	-	-	16/25/25/25	-
2	LDA	B	308	-	-	8/13/13/13	-
5	MPG	B	320	-	-	16/25/25/25	-
2	LDA	B	306	-	-	8/13/13/13	-
5	MPG	A	328	-	-	15/25/25/25	-
5	MPG	A	324	-	-	17/25/25/25	-
5	MPG	B	316	-	-	14/25/25/25	-
2	LDA	B	310	-	-	12/13/13/13	-
2	LDA	B	311	-	-	11/13/13/13	-
2	LDA	B	307	-	-	5/13/13/13	-
2	LDA	A	308	-	-	8/13/13/13	-
5	MPG	A	323	-	-	19/25/25/25	-
2	LDA	A	304	-	-	4/13/13/13	-
2	LDA	A	307	-	-	9/13/13/13	-
2	LDA	A	310	-	-	9/13/13/13	-
2	LDA	B	303	-	-	8/13/13/13	-
2	LDA	B	309	-	-	7/13/13/13	-
5	MPG	B	319	-	-	15/25/25/25	-
5	MPG	A	319	-	-	17/25/25/25	-
2	LDA	A	303	-	-	3/13/13/13	-
5	MPG	A	326	-	-	12/25/25/25	-
5	MPG	A	317	-	-	11/25/25/25	-
5	MPG	A	321	-	-	12/25/25/25	-
5	MPG	A	325	-	-	19/25/25/25	-
2	LDA	B	312	-	-	9/13/13/13	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	LDA	B	302	-	-	4/13/13/13	-
2	LDA	A	301	-	-	10/13/13/13	-
5	MPG	A	320	-	-	16/25/25/25	-
2	LDA	B	304	-	-	11/13/13/13	-

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	B	314	PO4	P-O1	4.11	1.60	1.50
3	A	313	PO4	P-O1	4.08	1.60	1.50
3	B	313	PO4	P-O1	2.20	1.56	1.50

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
5	A	327	MPG	O3-C21-CXD	-2.15	106.61	112.01

There are no chirality outliers.

All (449) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	301	LDA	C2-C1-N1-CM1
2	A	301	LDA	N1-C1-C2-C3
2	A	302	LDA	C2-C1-N1-CM2
2	A	305	LDA	N1-C1-C2-C3
2	A	306	LDA	C2-C1-N1-CM1
2	A	306	LDA	C2-C1-N1-CM2
2	A	306	LDA	N1-C1-C2-C3
2	A	307	LDA	N1-C1-C2-C3
2	A	309	LDA	N1-C1-C2-C3
2	A	311	LDA	C2-C1-N1-O1
2	A	311	LDA	C2-C1-N1-CM1
2	B	303	LDA	C2-C1-N1-CM1
2	B	304	LDA	C2-C1-N1-O1
2	B	304	LDA	C2-C1-N1-CM1
2	B	304	LDA	N1-C1-C2-C3
2	B	305	LDA	C2-C1-N1-CM1
2	B	306	LDA	N1-C1-C2-C3
2	B	307	LDA	N1-C1-C2-C3
2	B	308	LDA	C2-C1-N1-CM1

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Mol	Chain	Res	Type	Atoms
2	B	308	LDA	C2-C1-N1-CM2
2	B	308	LDA	N1-C1-C2-C3
2	B	310	LDA	C2-C1-N1-CM1
2	B	310	LDA	C2-C1-N1-CM2
2	B	310	LDA	N1-C1-C2-C3
2	B	311	LDA	C2-C1-N1-CM1
2	B	312	LDA	C2-C1-N1-CM2
5	A	317	MPG	CXD-CX3-O1-C1
5	A	317	MPG	O3-C21-CXD-O2
5	A	317	MPG	O1-CX3-CXD-O2
5	A	319	MPG	C11-C10-C9-C8
5	A	319	MPG	CXD-CX3-O1-C1
5	A	319	MPG	O1-CX3-CXD-O2
5	A	320	MPG	CXD-CX3-O1-C1
5	A	320	MPG	O3-C21-CXD-O2
5	A	322	MPG	C11-C10-C9-C8
5	A	322	MPG	CXD-CX3-O1-C1
5	A	322	MPG	O3-C21-CXD-O2
5	A	322	MPG	O3-C21-CXD-CX3
5	A	323	MPG	O3-C21-CXD-O2
5	A	323	MPG	O1-CX3-CXD-C21
5	A	323	MPG	O4-CX3-CXD-C21
5	A	324	MPG	O3-C21-CXD-O2
5	A	325	MPG	CXD-CX3-O1-C1
5	A	325	MPG	O4-CX3-O1-C1
5	A	325	MPG	O1-CX3-CXD-O2
5	A	325	MPG	O4-CX3-CXD-O2
5	A	326	MPG	O3-C21-CXD-O2
5	A	326	MPG	O3-C21-CXD-CX3
5	A	326	MPG	O1-CX3-CXD-C21
5	A	327	MPG	CXD-CX3-O1-C1
5	A	327	MPG	O3-C21-CXD-O2
5	A	327	MPG	O1-CX3-CXD-O2
5	A	327	MPG	O4-CX3-CXD-O2
5	A	327	MPG	O4-CX3-CXD-C21
5	A	328	MPG	O3-C21-CXD-O2
5	A	328	MPG	O3-C21-CXD-CX3
5	B	316	MPG	O3-C21-CXD-O2
5	B	316	MPG	O3-C21-CXD-CX3
5	B	316	MPG	O1-CX3-CXD-O2
5	B	317	MPG	O3-C21-CXD-O2
5	B	317	MPG	O3-C21-CXD-CX3

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Mol	Chain	Res	Type	Atoms
5	B	318	MPG	C11-C10-C9-C8
5	B	318	MPG	CXD-CX3-O1-C1
5	B	318	MPG	O3-C21-CXD-O2
5	B	318	MPG	O1-CX3-CXD-O2
5	B	318	MPG	O4-CX3-CXD-C21
5	B	319	MPG	CXD-CX3-O1-C1
5	B	320	MPG	C11-C10-C9-C8
5	B	320	MPG	CXD-CX3-O1-C1
5	A	322	MPG	O4-CX3-O1-C1
5	B	318	MPG	O4-CX3-O1-C1
5	B	320	MPG	O4-CX3-O1-C1
5	A	320	MPG	O4-CX3-O1-C1
5	A	324	MPG	O4-CX3-O1-C1
5	A	323	MPG	O4-CX3-O1-C1
5	A	327	MPG	O4-CX3-O1-C1
5	B	316	MPG	O4-CX3-O1-C1
5	A	316	MPG	O4-CX3-O1-C1
5	A	317	MPG	O4-CX3-O1-C1
5	A	318	MPG	O4-CX3-O1-C1
5	A	319	MPG	O4-CX3-O1-C1
5	A	321	MPG	O4-CX3-O1-C1
5	B	319	MPG	O4-CX3-O1-C1
5	A	318	MPG	C11-C10-C9-C8
5	A	320	MPG	C11-C10-C9-C8
5	A	321	MPG	C11-C10-C9-C8
5	A	324	MPG	C11-C10-C9-C8
5	A	325	MPG	C11-C10-C9-C8
5	B	316	MPG	C11-C10-C9-C8
5	B	319	MPG	C11-C10-C9-C8
5	B	317	MPG	O4-CX3-O1-C1
5	A	316	MPG	CXD-CX3-O1-C1
5	A	318	MPG	CXD-CX3-O1-C1
5	A	321	MPG	CXD-CX3-O1-C1
5	A	323	MPG	CXD-CX3-O1-C1
5	A	324	MPG	CXD-CX3-O1-C1
5	B	316	MPG	CXD-CX3-O1-C1
5	B	319	MPG	O1-C1-C2-C3
5	A	316	MPG	O1-C1-C2-C3
5	A	328	MPG	O1-C1-C2-C3
5	B	318	MPG	O1-C1-C2-C3
5	A	325	MPG	O1-C1-C2-C3
5	A	323	MPG	O1-C1-C2-C3

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Mol	Chain	Res	Type	Atoms
5	A	317	MPG	O1-C1-C2-C3
5	A	327	MPG	O1-C1-C2-C3
2	A	310	LDA	C3-C4-C5-C6
5	A	325	MPG	C3-C4-C5-C6
2	A	302	LDA	C7-C8-C9-C10
2	A	306	LDA	C2-C3-C4-C5
5	A	320	MPG	C4-C5-C6-C7
5	A	324	MPG	C13-C14-C15-C16
5	B	317	MPG	C14-C15-C16-C17
2	A	305	LDA	C7-C8-C9-C10
2	B	301	LDA	C3-C4-C5-C6
5	A	316	MPG	C5-C6-C7-C8
5	B	319	MPG	C4-C5-C6-C7
2	B	301	LDA	C2-C3-C4-C5
5	A	324	MPG	C4-C5-C6-C7
2	B	312	LDA	C3-C4-C5-C6
5	B	316	MPG	C12-C13-C14-C15
5	A	318	MPG	O4-CX3-CXD-O2
5	A	328	MPG	O4-CX3-CXD-O2
2	A	311	LDA	C4-C5-C6-C7
2	B	311	LDA	C6-C7-C8-C9
5	A	321	MPG	O1-C1-C2-C3
5	A	322	MPG	C3-C4-C5-C6
2	B	307	LDA	C2-C3-C4-C5
2	B	309	LDA	C2-C3-C4-C5
5	A	324	MPG	O1-C1-C2-C3
2	A	307	LDA	C3-C4-C5-C6
5	A	321	MPG	C14-C15-C16-C17
2	A	305	LDA	C2-C3-C4-C5
2	B	311	LDA	C5-C6-C7-C8
5	A	318	MPG	C5-C6-C7-C8
5	A	328	MPG	C4-C5-C6-C7
5	B	317	MPG	CXD-CX3-O1-C1
2	A	309	LDA	C11-C10-C9-C8
2	B	312	LDA	C4-C5-C6-C7
2	B	312	LDA	C5-C6-C7-C8
5	A	316	MPG	C3-C4-C5-C6
5	A	327	MPG	C12-C13-C14-C15
5	B	316	MPG	C11-C12-C13-C14
2	A	306	LDA	C4-C5-C6-C7
2	A	310	LDA	C11-C10-C9-C8
2	A	311	LDA	C6-C7-C8-C9

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Mol	Chain	Res	Type	Atoms
2	A	311	LDA	C11-C10-C9-C8
2	B	303	LDA	C3-C4-C5-C6
2	B	304	LDA	C6-C7-C8-C9
2	B	308	LDA	C3-C4-C5-C6
2	B	310	LDA	C7-C8-C9-C10
2	B	310	LDA	C11-C10-C9-C8
2	B	312	LDA	C7-C8-C9-C10
5	A	318	MPG	C2-C3-C4-C5
5	A	325	MPG	C2-C3-C4-C5
5	B	317	MPG	C11-C12-C13-C14
5	B	319	MPG	C2-C3-C4-C5
5	B	320	MPG	C4-C5-C6-C7
5	A	323	MPG	C4-C5-C6-C7
5	B	319	MPG	C11-C12-C13-C14
2	A	304	LDA	C6-C7-C8-C9
2	A	307	LDA	C6-C7-C8-C9
2	A	308	LDA	C3-C4-C5-C6
2	B	310	LDA	C6-C7-C8-C9
2	A	305	LDA	C5-C6-C7-C8
2	B	301	LDA	C5-C6-C7-C8
2	B	309	LDA	C7-C8-C9-C10
2	B	305	LDA	C5-C6-C7-C8
5	B	317	MPG	C2-C3-C4-C5
2	A	310	LDA	C2-C3-C4-C5
2	A	301	LDA	C4-C5-C6-C7
5	A	319	MPG	C3-C4-C5-C6
2	A	309	LDA	C4-C5-C6-C7
2	B	306	LDA	C2-C3-C4-C5
5	B	318	MPG	C3-C4-C5-C6
2	B	301	LDA	C6-C7-C8-C9
2	B	302	LDA	C5-C6-C7-C8
5	A	323	MPG	C11-C12-C13-C14
2	A	307	LDA	C11-C10-C9-C8
2	B	304	LDA	C11-C10-C9-C8
2	B	309	LDA	C6-C7-C8-C9
5	A	316	MPG	C11-C12-C13-C14
5	A	326	MPG	C5-C6-C7-C8
2	A	303	LDA	C2-C3-C4-C5
2	B	305	LDA	C4-C5-C6-C7
2	B	306	LDA	C1-C2-C3-C4
5	A	323	MPG	C2-C3-C4-C5
5	B	319	MPG	C13-C14-C15-C16

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Mol	Chain	Res	Type	Atoms
2	A	301	LDA	C6-C7-C8-C9
2	A	310	LDA	C1-C2-C3-C4
2	A	310	LDA	C7-C8-C9-C10
2	B	307	LDA	C5-C6-C7-C8
5	A	321	MPG	C1-C2-C3-C4
2	A	305	LDA	C6-C7-C8-C9
2	A	306	LDA	C1-C2-C3-C4
5	A	321	MPG	C13-C14-C15-C16
5	A	326	MPG	C1-C2-C3-C4
2	B	309	LDA	C11-C10-C9-C8
2	B	311	LDA	C2-C3-C4-C5
5	A	325	MPG	C13-C14-C15-C16
5	B	320	MPG	C2-C3-C4-C5
2	A	308	LDA	C1-C2-C3-C4
2	B	303	LDA	C7-C8-C9-C10
2	B	304	LDA	C3-C4-C5-C6
5	A	324	MPG	C14-C15-C16-C17
2	A	306	LDA	C6-C7-C8-C9
2	A	308	LDA	C5-C6-C7-C8
2	B	311	LDA	C4-C5-C6-C7
5	A	324	MPG	C3-C4-C5-C6
5	A	325	MPG	C4-C5-C6-C7
5	A	326	MPG	C3-C4-C5-C6
5	B	319	MPG	C1-C2-C3-C4
5	A	318	MPG	C3-C4-C5-C6
5	A	320	MPG	C10-C11-C12-C13
2	A	309	LDA	C1-C2-C3-C4
2	B	310	LDA	C5-C6-C7-C8
5	A	324	MPG	C11-C12-C13-C14
2	A	303	LDA	C6-C7-C8-C9
5	A	319	MPG	C12-C13-C14-C15
5	B	317	MPG	C12-C13-C14-C15
5	A	323	MPG	C3-C4-C5-C6
2	B	303	LDA	C11-C10-C9-C8
5	A	321	MPG	C3-C4-C5-C6
5	B	318	MPG	C2-C3-C4-C5
2	B	301	LDA	C7-C8-C9-C10
2	B	310	LDA	C3-C4-C5-C6
2	A	302	LDA	C1-C2-C3-C4
2	B	303	LDA	C2-C3-C4-C5
5	B	320	MPG	C13-C14-C15-C16
5	B	317	MPG	C5-C6-C7-C8

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Mol	Chain	Res	Type	Atoms
5	A	316	MPG	C6-C7-C8-C9
5	A	319	MPG	C10-C11-C12-C13
5	A	321	MPG	C6-C7-C8-C9
5	A	323	MPG	C6-C7-C8-C9
5	A	323	MPG	C10-C11-C12-C13
5	A	324	MPG	C6-C7-C8-C9
5	A	324	MPG	C10-C11-C12-C13
5	A	325	MPG	C10-C11-C12-C13
5	A	327	MPG	C10-C11-C12-C13
5	A	328	MPG	C10-C11-C12-C13
5	B	317	MPG	C6-C7-C8-C9
5	B	318	MPG	C10-C11-C12-C13
5	B	319	MPG	C6-C7-C8-C9
2	B	308	LDA	C1-C2-C3-C4
2	B	310	LDA	C1-C2-C3-C4
2	A	307	LDA	C1-C2-C3-C4
2	A	310	LDA	C5-C6-C7-C8
2	B	303	LDA	C6-C7-C8-C9
5	B	319	MPG	C12-C13-C14-C15
2	A	302	LDA	C5-C6-C7-C8
2	A	303	LDA	C4-C5-C6-C7
5	A	325	MPG	C12-C13-C14-C15
2	B	306	LDA	C11-C10-C9-C8
2	B	305	LDA	C1-C2-C3-C4
5	B	320	MPG	C14-C15-C16-C17
2	B	306	LDA	C4-C5-C6-C7
5	A	328	MPG	C11-C12-C13-C14
2	B	302	LDA	C1-C2-C3-C4
2	B	310	LDA	C9-C10-C11-C12
5	A	326	MPG	O4-CX3-O1-C1
2	A	304	LDA	C7-C8-C9-C10
2	A	308	LDA	C2-C3-C4-C5
2	B	301	LDA	C9-C10-C11-C12
2	B	305	LDA	C9-C10-C11-C12
2	B	307	LDA	C11-C10-C9-C8
2	A	301	LDA	C3-C4-C5-C6
5	B	320	MPG	C3-C4-C5-C6
5	A	325	MPG	C11-C12-C13-C14
5	A	318	MPG	C10-C11-C12-C13
5	A	326	MPG	C10-C11-C12-C13
5	B	317	MPG	C10-C11-C12-C13
2	A	307	LDA	C7-C8-C9-C10

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Mol	Chain	Res	Type	Atoms
2	A	306	LDA	C11-C10-C9-C8
2	B	301	LDA	C1-C2-C3-C4
2	B	304	LDA	C9-C10-C11-C12
2	A	311	LDA	C3-C4-C5-C6
2	A	305	LDA	C9-C10-C11-C12
5	A	320	MPG	C5-C6-C7-C8
5	A	320	MPG	C15-C16-C17-C18
2	A	311	LDA	C2-C3-C4-C5
5	A	321	MPG	C11-C12-C13-C14
5	A	319	MPG	C11-C12-C13-C14
5	A	319	MPG	O4-CX3-CXD-O2
5	A	323	MPG	O4-CX3-CXD-O2
5	B	316	MPG	O4-CX3-CXD-O2
5	B	318	MPG	O4-CX3-CXD-O2
5	B	320	MPG	O4-CX3-CXD-O2
5	A	322	MPG	C1-C2-C3-C4
2	A	305	LDA	C11-C10-C9-C8
5	A	324	MPG	C1-C2-C3-C4
5	B	320	MPG	C1-C2-C3-C4
5	A	320	MPG	O3-C21-CXD-CX3
5	A	323	MPG	O3-C21-CXD-CX3
2	A	301	LDA	C1-C2-C3-C4
2	B	311	LDA	C3-C4-C5-C6
5	A	328	MPG	C14-C15-C16-C17
2	B	306	LDA	C5-C6-C7-C8
5	A	323	MPG	C14-C15-C16-C17
5	A	328	MPG	C13-C14-C15-C16
2	A	308	LDA	N1-C1-C2-C3
2	A	310	LDA	N1-C1-C2-C3
2	A	311	LDA	N1-C1-C2-C3
5	A	317	MPG	C15-C16-C17-C18
2	A	306	LDA	C9-C10-C11-C12
2	A	309	LDA	C7-C8-C9-C10
5	A	319	MPG	C2-C3-C4-C5
5	A	321	MPG	C15-C16-C17-C18
5	B	316	MPG	C2-C3-C4-C5
5	B	317	MPG	C4-C5-C6-C7
2	B	311	LDA	C7-C8-C9-C10
5	B	316	MPG	C3-C4-C5-C6
5	A	327	MPG	C5-C6-C7-C8
2	A	308	LDA	C6-C7-C8-C9
2	B	302	LDA	C3-C4-C5-C6

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Mol	Chain	Res	Type	Atoms
5	A	319	MPG	C14-C15-C16-C17
5	A	319	MPG	C4-C5-C6-C7
5	B	317	MPG	C15-C16-C17-C18
2	A	308	LDA	C11-C10-C9-C8
2	B	301	LDA	C11-C10-C9-C8
5	B	317	MPG	C3-C4-C5-C6
5	A	318	MPG	C15-C16-C17-C18
5	A	328	MPG	C3-C4-C5-C6
5	A	320	MPG	C11-C12-C13-C14
2	A	309	LDA	C3-C4-C5-C6
2	B	309	LDA	C5-C6-C7-C8
5	A	317	MPG	C4-C5-C6-C7
5	A	319	MPG	O4-CX3-CXD-C21
5	A	325	MPG	O1-CX3-CXD-C21
5	A	325	MPG	O4-CX3-CXD-C21
5	A	326	MPG	O4-CX3-CXD-C21
5	A	327	MPG	O1-CX3-CXD-C21
5	A	328	MPG	O1-CX3-CXD-C21
5	B	318	MPG	O1-CX3-CXD-C21
5	B	320	MPG	O4-CX3-CXD-C21
5	B	317	MPG	C13-C14-C15-C16
5	A	317	MPG	C3-C4-C5-C6
5	A	318	MPG	O1-CX3-CXD-O2
5	A	328	MPG	O1-CX3-CXD-O2
5	B	320	MPG	O1-CX3-CXD-O2
5	B	319	MPG	C15-C16-C17-C18
5	B	318	MPG	C5-C6-C7-C8
5	A	321	MPG	C12-C13-C14-C15
5	A	320	MPG	O4-CX3-CXD-O2
2	B	306	LDA	C3-C4-C5-C6
5	A	320	MPG	C1-C2-C3-C4
2	A	302	LDA	C2-C1-N1-CM1
2	A	311	LDA	C2-C1-N1-CM2
2	B	303	LDA	C2-C1-N1-CM2
2	B	304	LDA	C2-C1-N1-CM2
2	B	311	LDA	C2-C1-N1-CM2
2	B	312	LDA	C2-C1-N1-CM1
2	A	301	LDA	C11-C10-C9-C8
5	A	325	MPG	C15-C16-C17-C18
2	A	304	LDA	C2-C3-C4-C5
2	A	305	LDA	C4-C5-C6-C7
2	A	307	LDA	C9-C10-C11-C12

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Mol	Chain	Res	Type	Atoms
2	B	309	LDA	C9-C10-C11-C12
5	A	327	MPG	C14-C15-C16-C17
5	B	316	MPG	C14-C15-C16-C17
5	A	326	MPG	CXD-CX3-O1-C1
5	A	325	MPG	C1-C2-C3-C4
2	B	302	LDA	C2-C3-C4-C5
2	B	312	LDA	C11-C10-C9-C8
5	A	319	MPG	O1-C1-C2-C3
5	A	318	MPG	C12-C13-C14-C15
2	A	302	LDA	C2-C1-N1-O1
2	A	306	LDA	C2-C1-N1-O1
2	B	303	LDA	C2-C1-N1-O1
2	B	310	LDA	C2-C1-N1-O1
2	B	312	LDA	C2-C1-N1-O1
5	A	316	MPG	C4-C5-C6-C7
5	A	327	MPG	C1-C2-C3-C4
2	A	301	LDA	C7-C8-C9-C10
5	A	323	MPG	C9-C10-C11-C12
2	A	304	LDA	C3-C4-C5-C6
2	B	301	LDA	C4-C5-C6-C7
2	B	304	LDA	C4-C5-C6-C7
2	B	312	LDA	C9-C10-C11-C12
5	A	324	MPG	C12-C13-C14-C15
5	B	320	MPG	C6-C7-C8-C9
5	A	322	MPG	C5-C6-C7-C8
5	A	320	MPG	C2-C3-C4-C5
5	A	325	MPG	C9-C10-C11-C12
2	A	305	LDA	C1-C2-C3-C4
5	B	317	MPG	O1-C1-C2-C3
5	A	316	MPG	O4-CX3-CXD-O2
5	A	322	MPG	O4-CX3-CXD-O2
5	B	318	MPG	C6-C7-C8-C9
5	A	327	MPG	C11-C12-C13-C14
5	A	320	MPG	C3-C4-C5-C6
5	B	317	MPG	C9-C10-C11-C12
5	A	319	MPG	C6-C7-C8-C9
5	B	316	MPG	C1-C2-C3-C4
2	A	309	LDA	C6-C7-C8-C9
5	A	326	MPG	C13-C14-C15-C16
2	B	311	LDA	N1-C1-C2-C3
5	A	322	MPG	C6-C7-C8-C9
5	B	318	MPG	C1-C2-C3-C4

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Mol	Chain	Res	Type	Atoms
5	A	325	MPG	C14-C15-C16-C17
5	A	328	MPG	C5-C6-C7-C8
2	A	310	LDA	C6-C7-C8-C9
5	A	328	MPG	C2-C3-C4-C5
2	B	308	LDA	C4-C5-C6-C7
2	B	304	LDA	C1-C2-C3-C4
5	A	317	MPG	C6-C7-C8-C9
5	A	319	MPG	C13-C14-C15-C16
5	B	320	MPG	C11-C12-C13-C14
2	B	310	LDA	C2-C3-C4-C5
5	A	317	MPG	O4-CX3-CXD-O2
2	A	311	LDA	C5-C6-C7-C8
5	B	319	MPG	C5-C6-C7-C8
5	A	323	MPG	C12-C13-C14-C15
5	B	316	MPG	C15-C16-C17-C18
2	B	306	LDA	C7-C8-C9-C10
2	A	301	LDA	C9-C10-C11-C12
5	A	326	MPG	C14-C15-C16-C17
5	A	323	MPG	C1-C2-C3-C4
5	B	320	MPG	C15-C16-C17-C18
5	A	316	MPG	O1-CX3-CXD-C21
5	A	319	MPG	O1-CX3-CXD-C21
5	A	328	MPG	O4-CX3-CXD-C21
5	B	320	MPG	O1-CX3-CXD-C21
2	B	307	LDA	C6-C7-C8-C9
2	B	304	LDA	C7-C8-C9-C10
5	A	317	MPG	C9-C10-C11-C12
5	A	324	MPG	O1-CX3-CXD-O2
5	B	318	MPG	C7-C8-C9-C10
5	B	319	MPG	C9-C10-C11-C12
5	A	318	MPG	C6-C7-C8-C9
2	B	308	LDA	C5-C6-C7-C8
5	A	316	MPG	C14-C15-C16-C17
2	B	311	LDA	C11-C10-C9-C8
5	A	324	MPG	O4-CX3-CXD-O2
5	A	318	MPG	C7-C8-C9-C10
2	A	301	LDA	C2-C1-N1-CM2
2	A	310	LDA	C2-C1-N1-CM1
5	A	320	MPG	C7-C8-C9-C10
5	A	320	MPG	C9-C10-C11-C12
2	A	308	LDA	C4-C5-C6-C7
5	B	317	MPG	C7-C8-C9-C10

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Mol	Chain	Res	Type	Atoms
5	B	319	MPG	C14-C15-C16-C17
5	A	327	MPG	C4-C5-C6-C7
2	A	307	LDA	C5-C6-C7-C8
5	A	324	MPG	C7-C8-C9-C10
5	A	323	MPG	C15-C16-C17-C18
2	B	308	LDA	C2-C1-N1-O1
2	B	311	LDA	C2-C1-N1-O1
2	A	307	LDA	C4-C5-C6-C7
2	B	309	LDA	C1-C2-C3-C4
5	A	327	MPG	C2-C1-O1-CX3

There are no ring outliers.

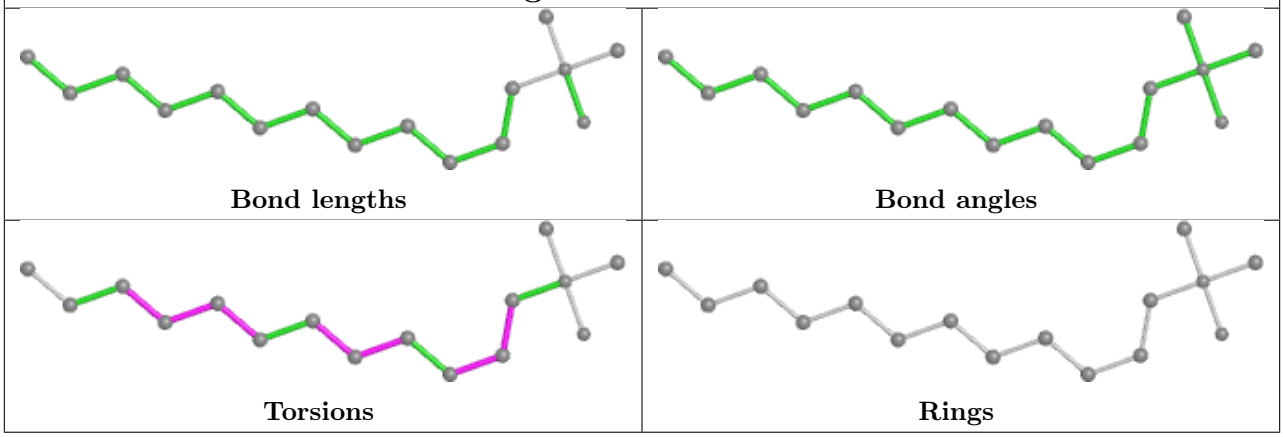
25 monomers are involved in 53 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	A	309	LDA	1	0
2	A	302	LDA	1	0
5	A	327	MPG	4	0
2	A	311	LDA	11	0
2	A	305	LDA	2	0
3	B	313	PO4	1	0
2	B	301	LDA	1	0
5	B	318	MPG	3	0
2	B	308	LDA	2	0
5	B	320	MPG	3	0
5	A	328	MPG	3	0
3	A	314	PO4	2	0
5	A	324	MPG	4	0
5	B	316	MPG	1	0
2	B	310	LDA	5	0
2	B	311	LDA	1	0
3	A	312	PO4	2	0
2	A	308	LDA	11	0
5	A	323	MPG	8	0
2	A	304	LDA	1	0
2	A	307	LDA	1	0
2	B	303	LDA	1	0
5	A	319	MPG	1	0
5	A	326	MPG	1	0
2	A	301	LDA	1	0

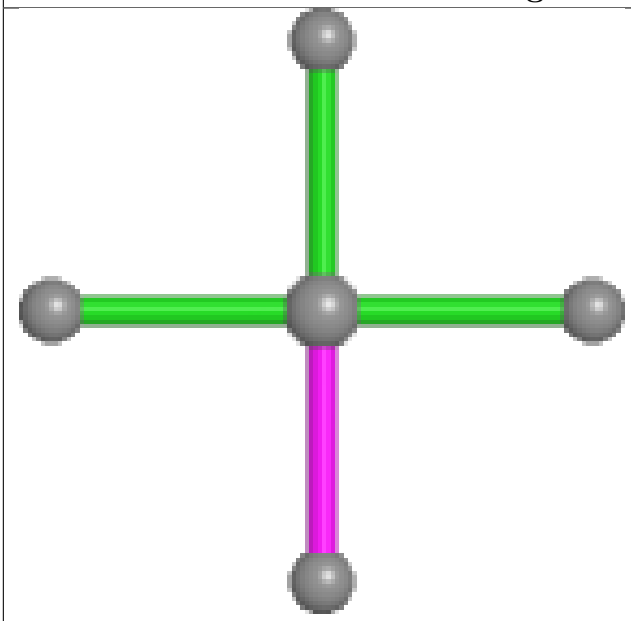
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths,

bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less then 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.

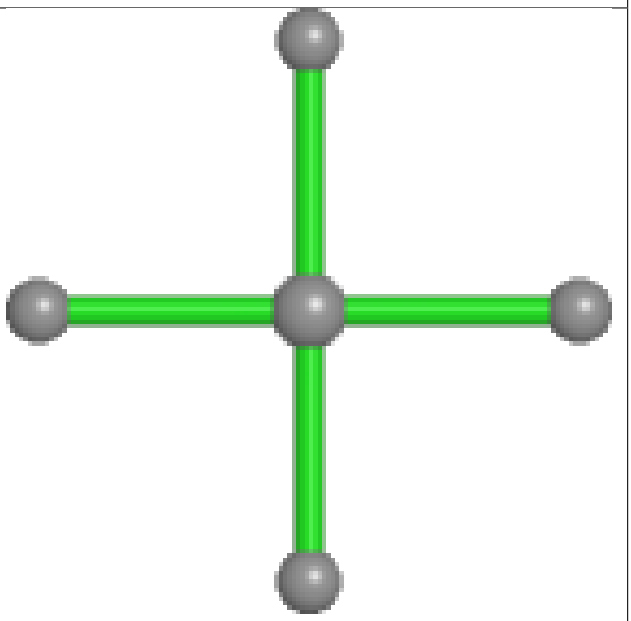
Ligand LDA A 309



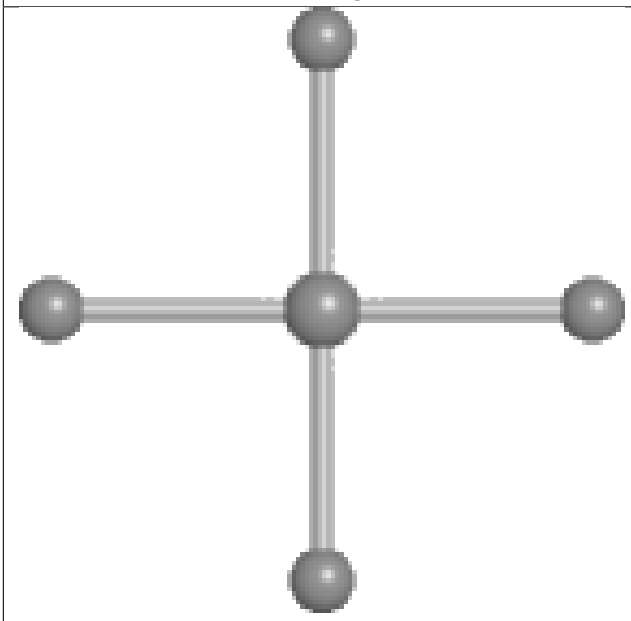
Ligand PO4 A 313



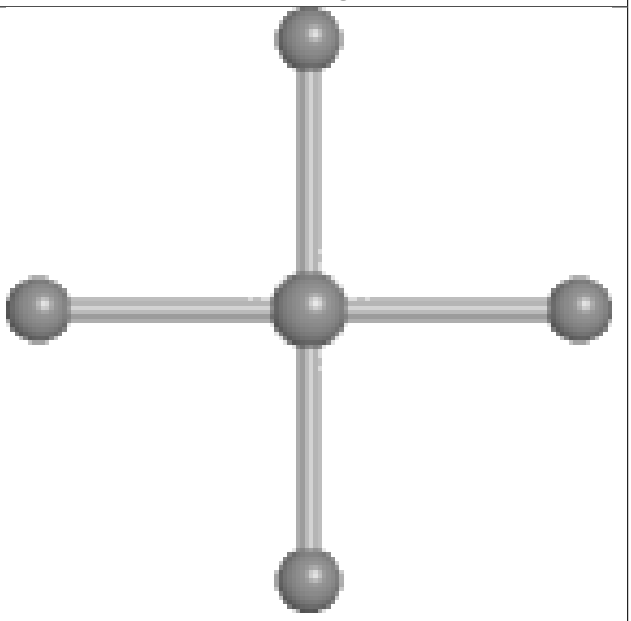
Bond lengths



Bond angles

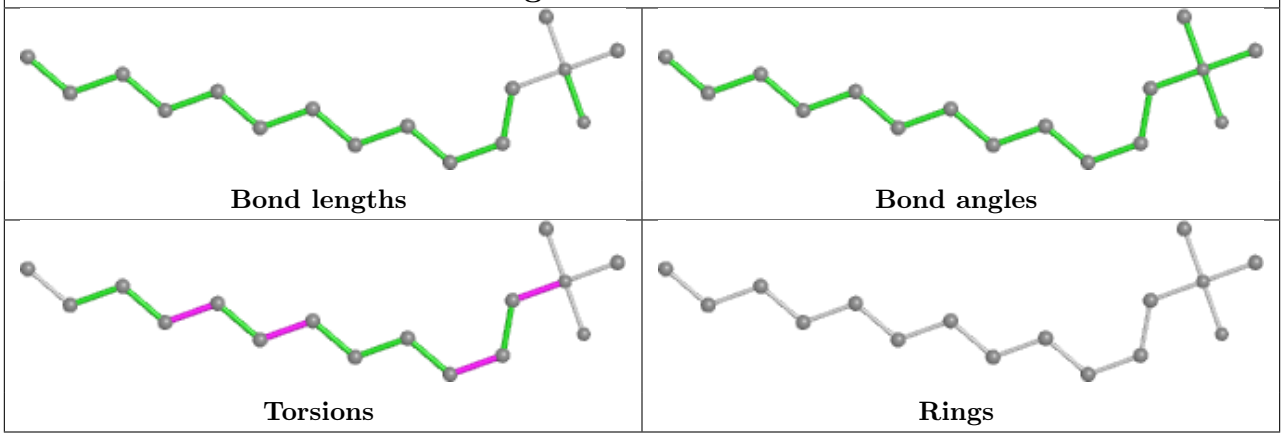


Torsions

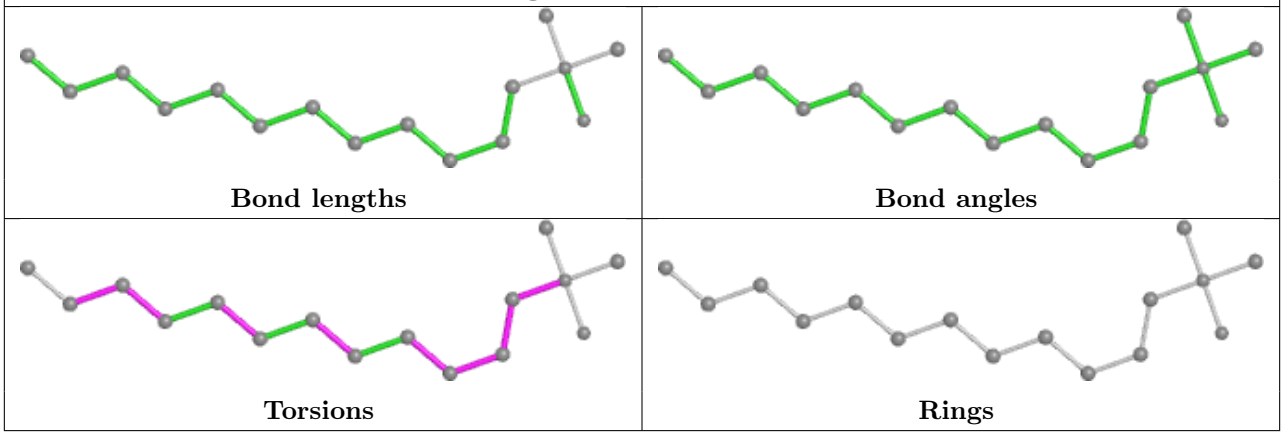


Rings

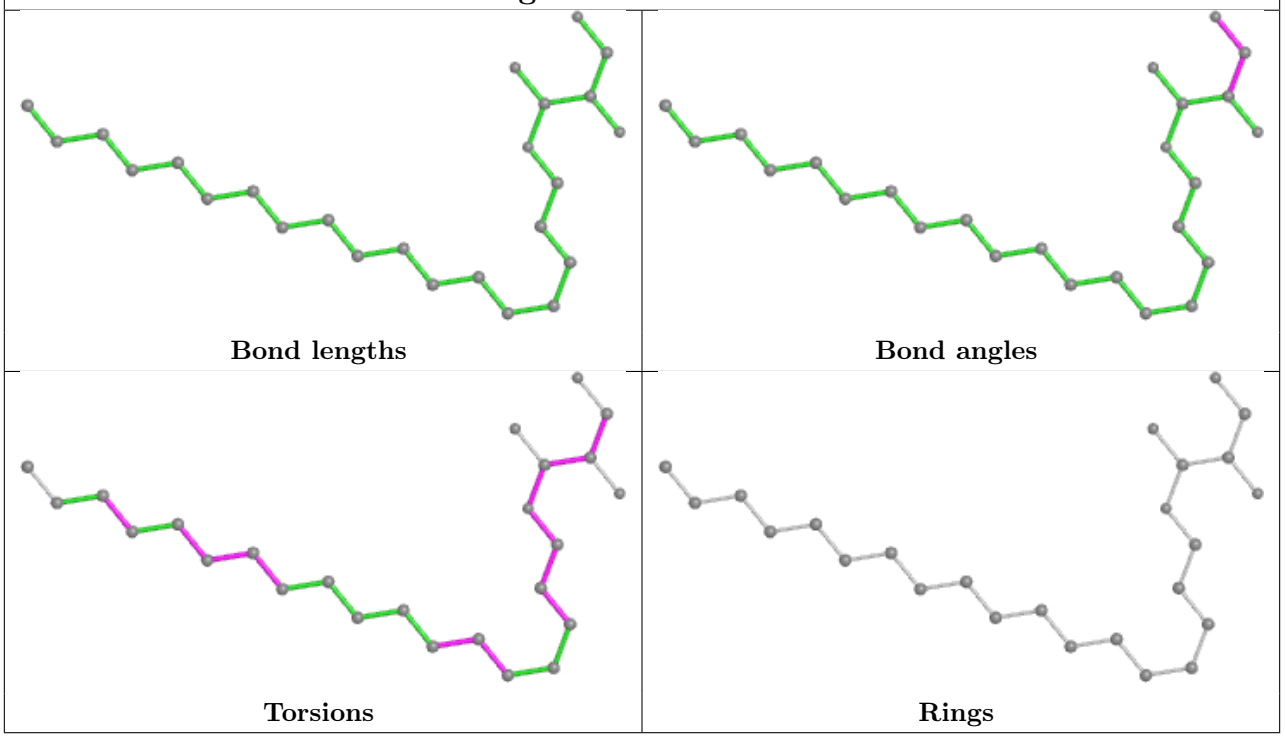
Ligand LDA A 302



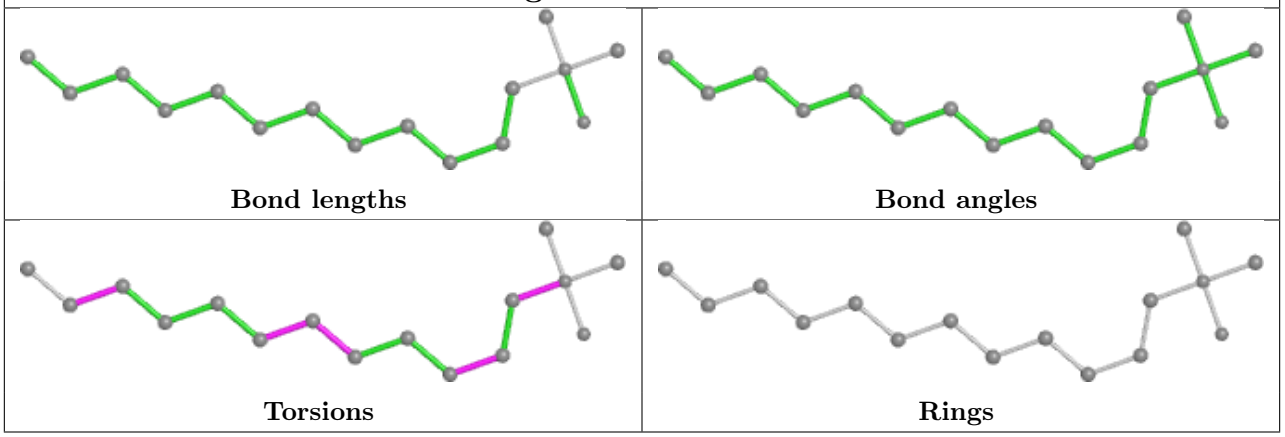
Ligand LDA A 306



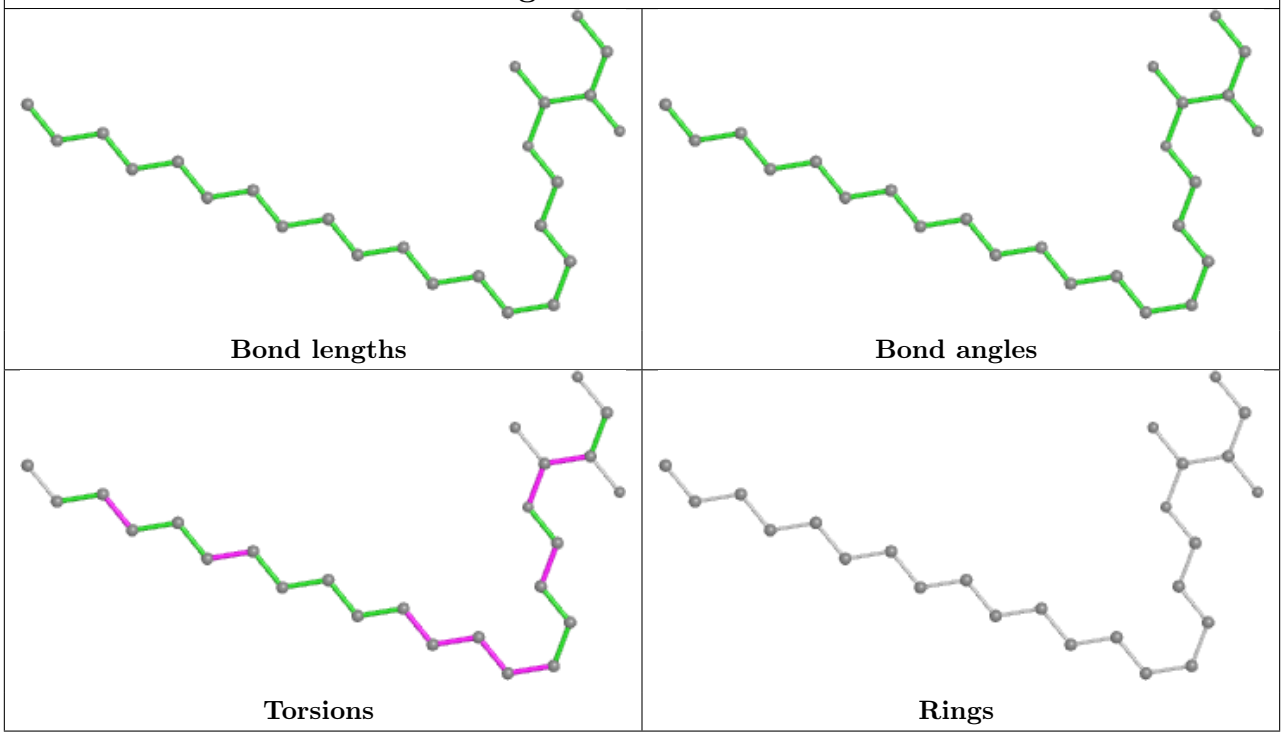
Ligand MPG A 327



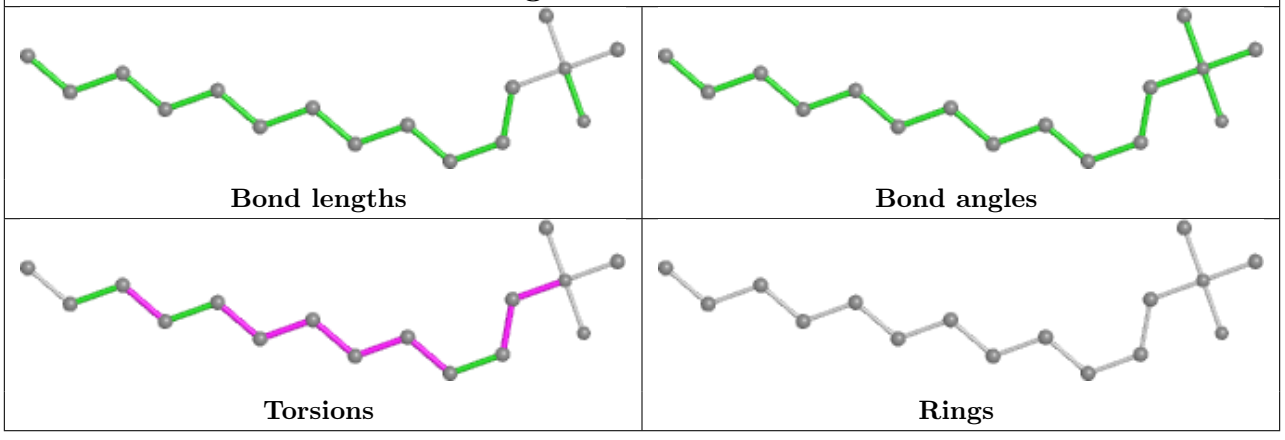
Ligand LDA B 305



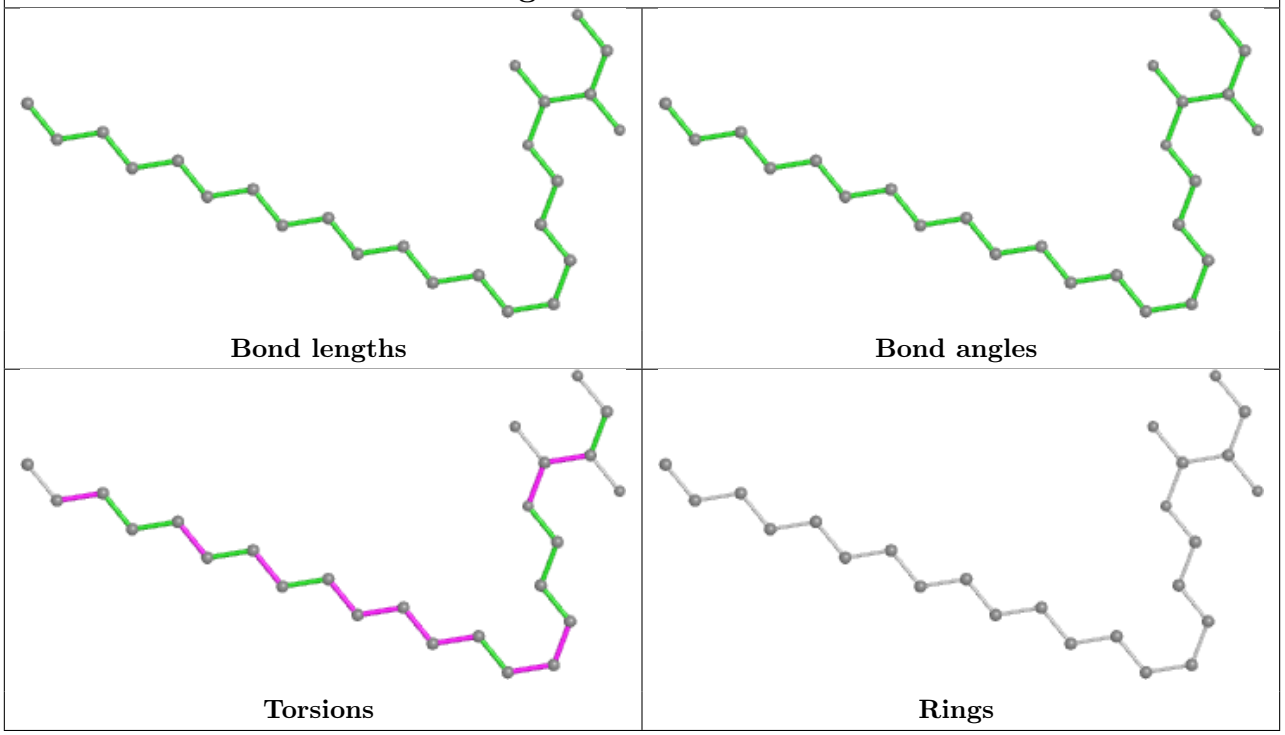
Ligand MPG A 316



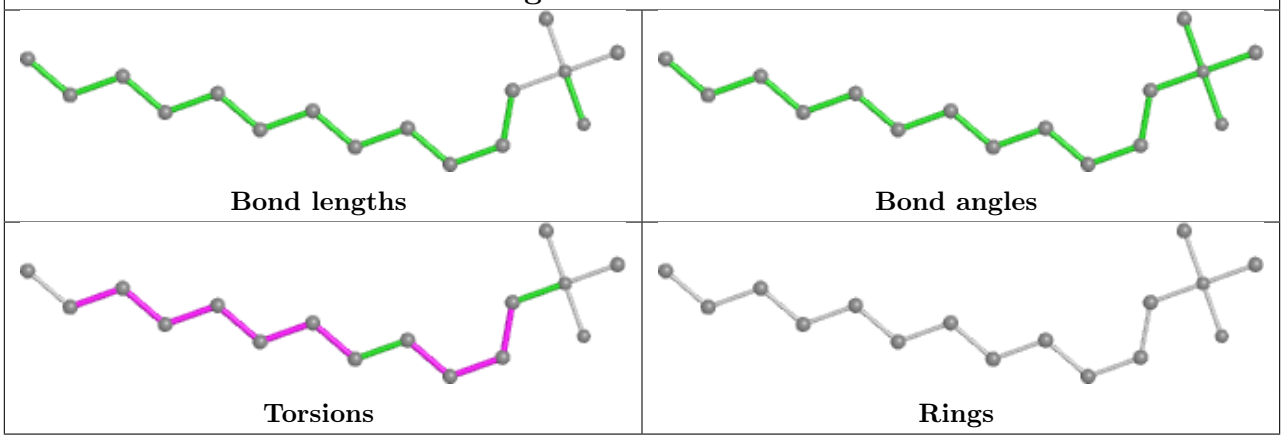
Ligand LDA A 311



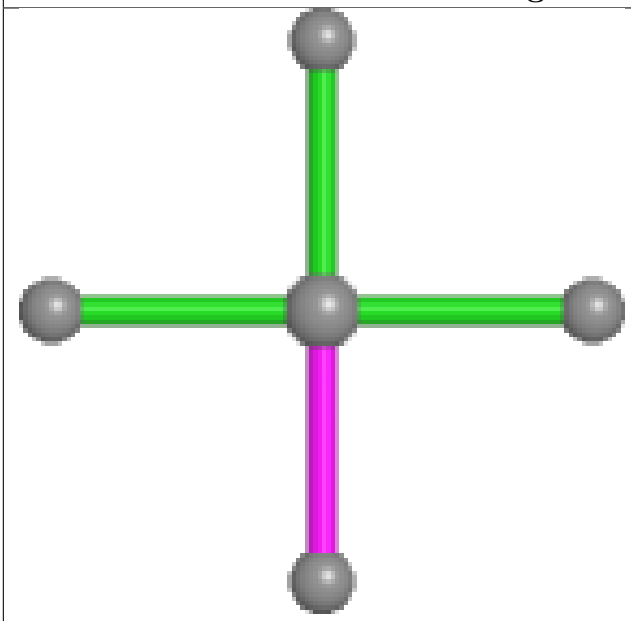
Ligand MPG A 318



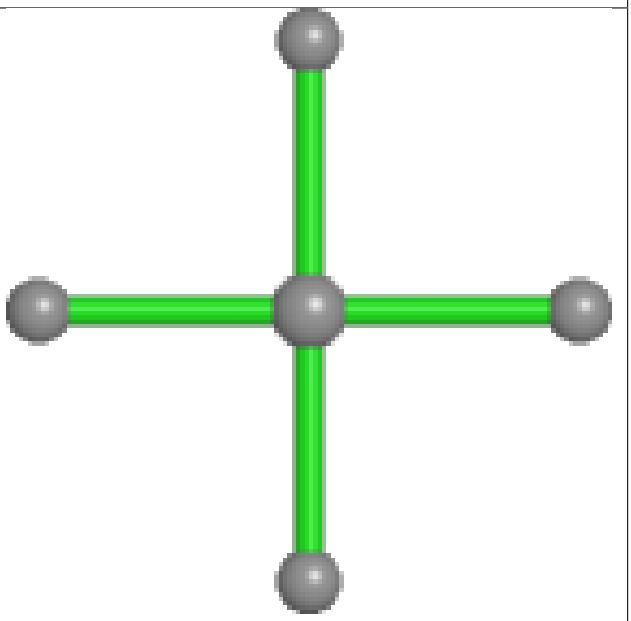
Ligand LDA A 305



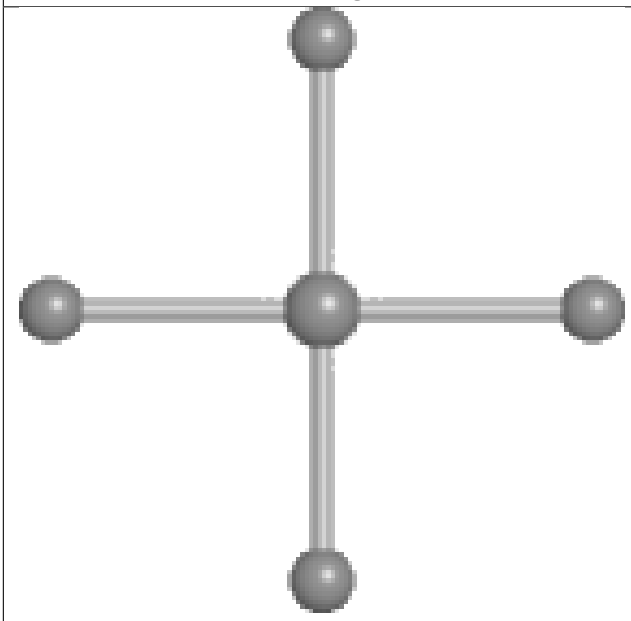
Ligand PO4 B 314



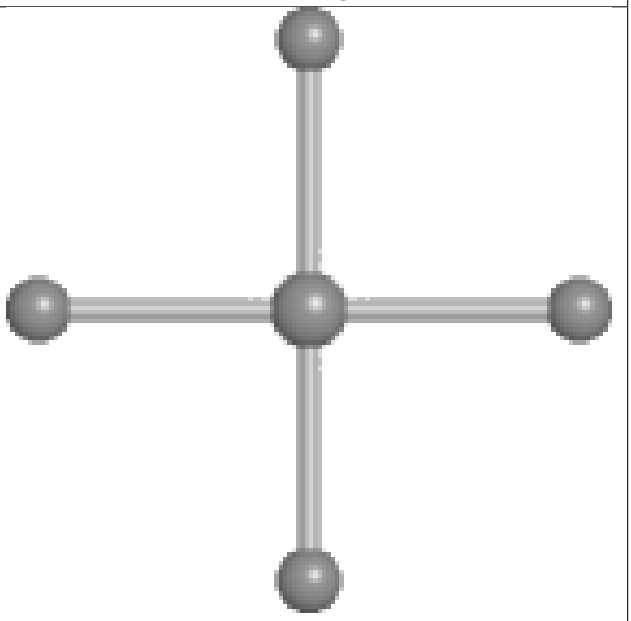
Bond lengths



Bond angles

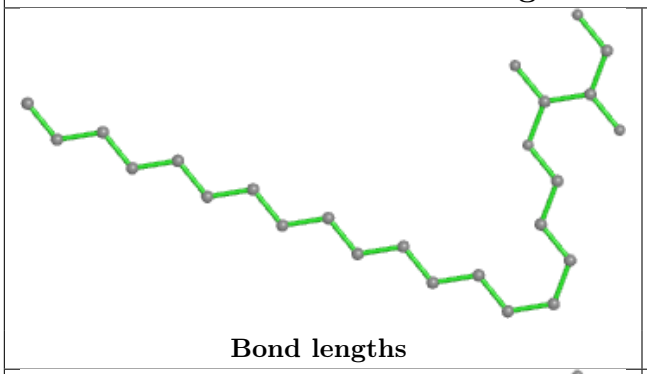


Torsions

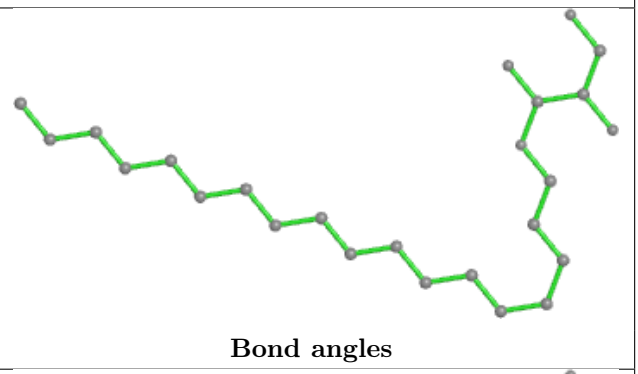


Rings

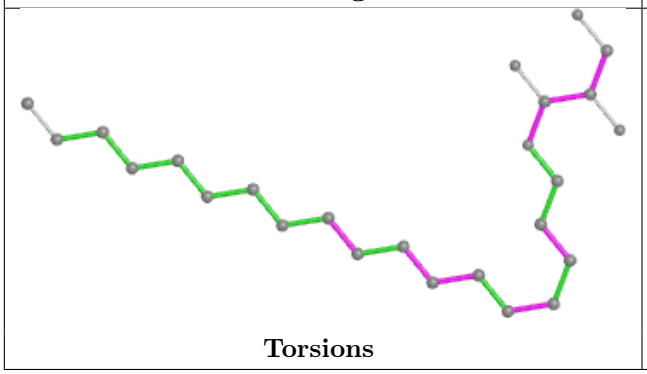
Ligand MPG A 322



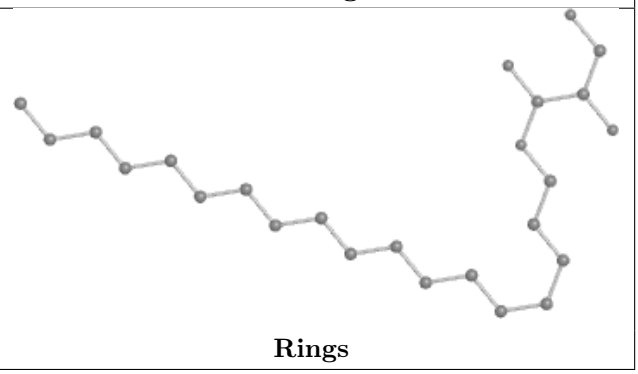
Bond lengths



Bond angles

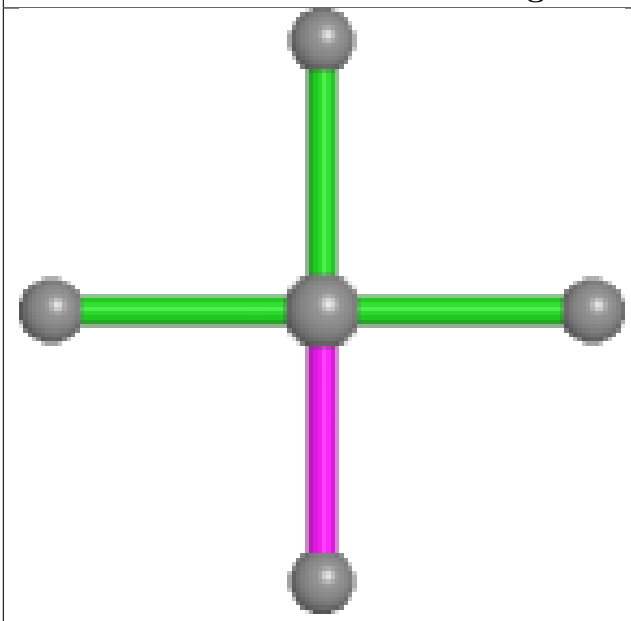


Torsions

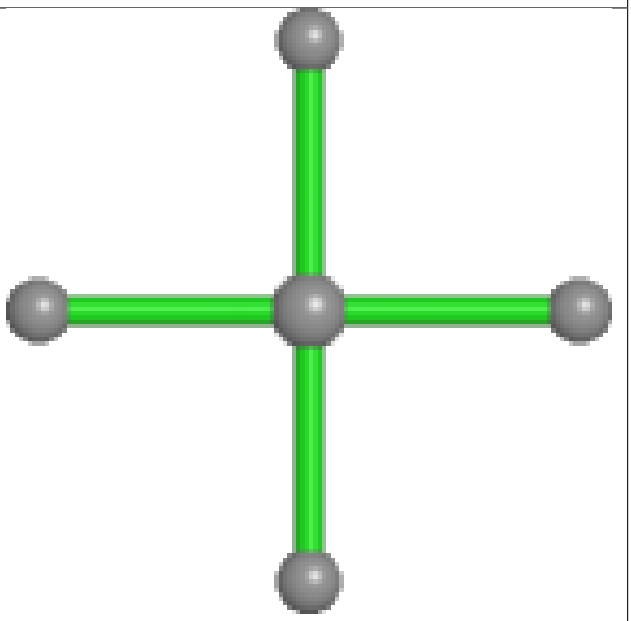


Rings

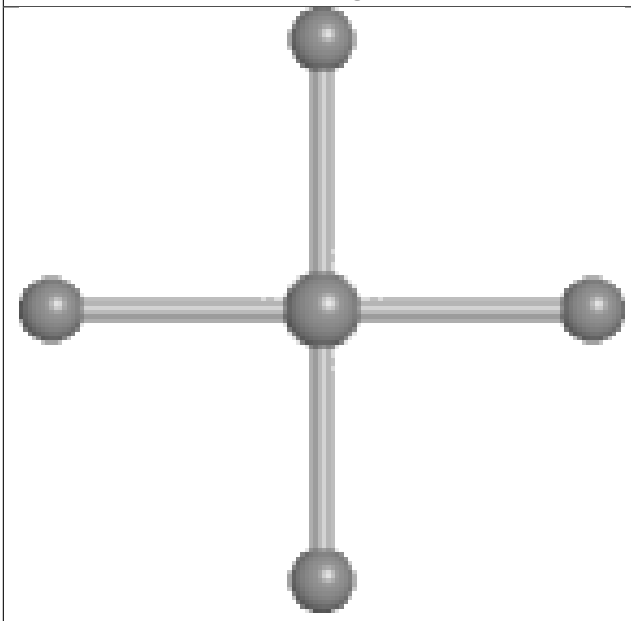
Ligand PO4 B 313



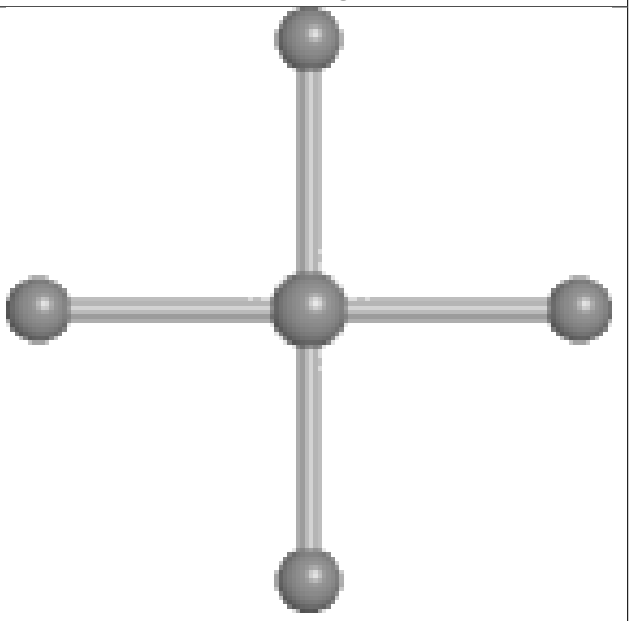
Bond lengths



Bond angles

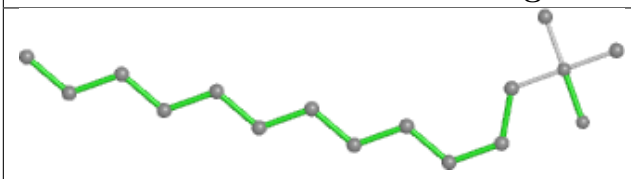


Torsions

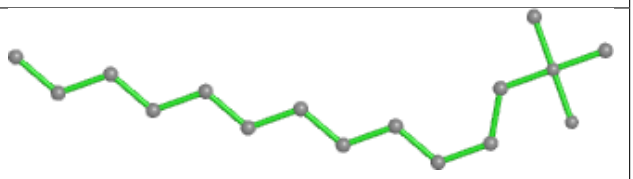


Rings

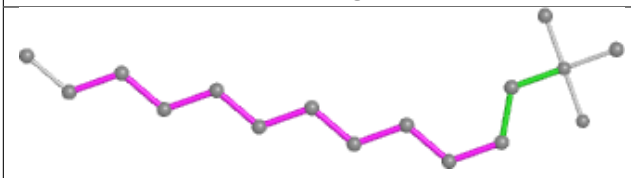
Ligand LDA B 301



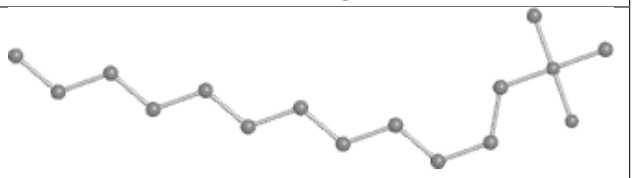
Bond lengths



Bond angles

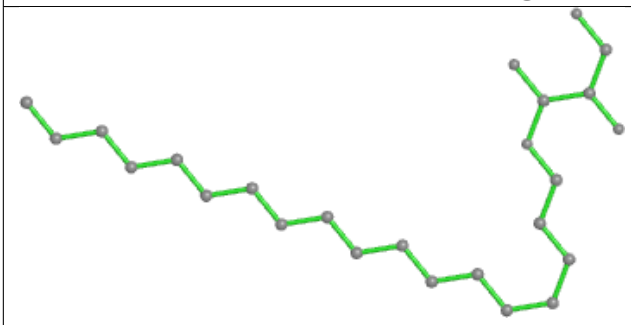


Torsions

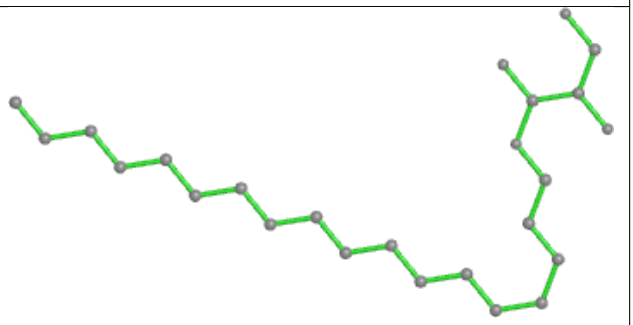


Rings

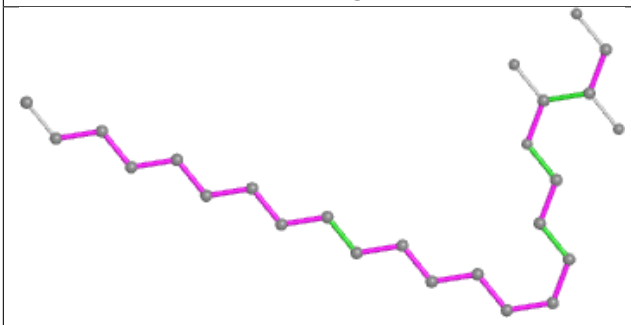
Ligand MPG B 317



Bond lengths



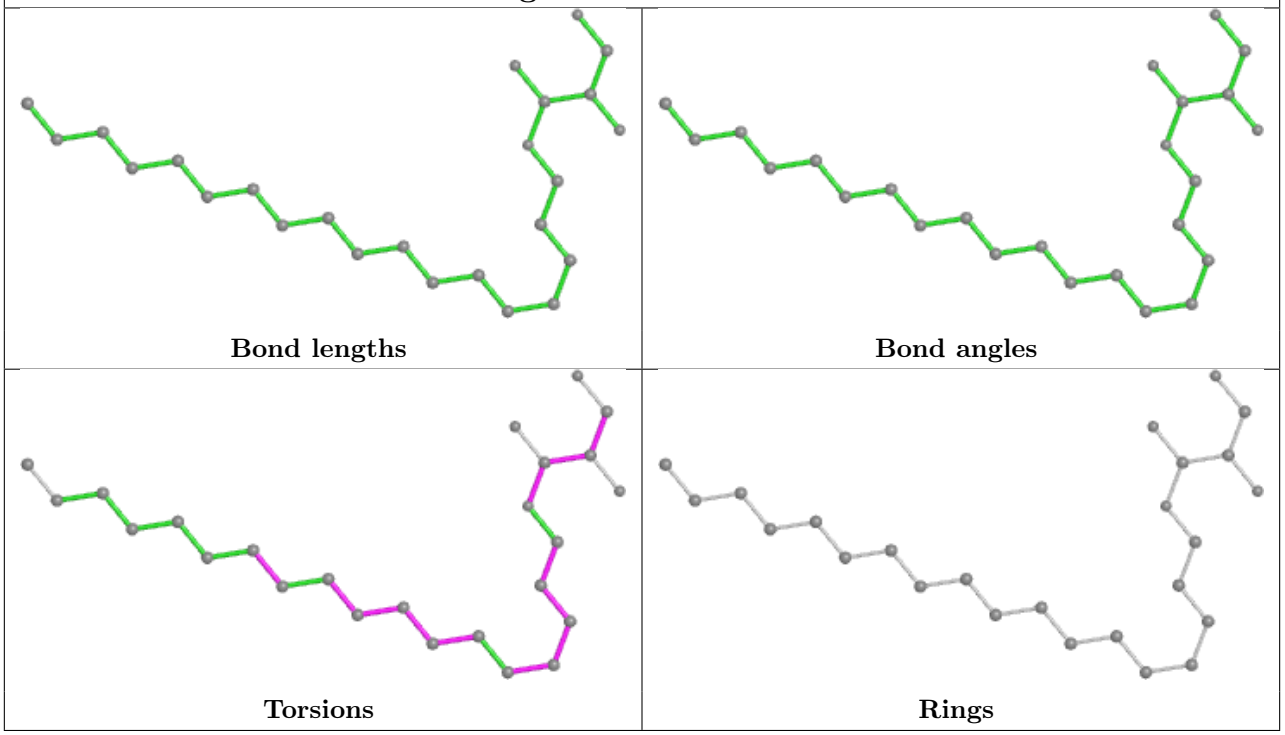
Bond angles



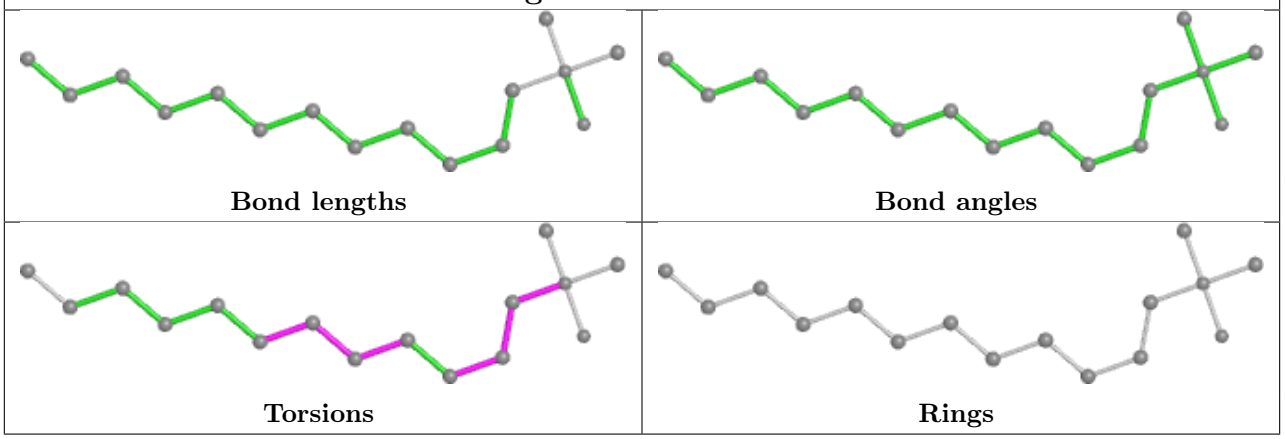
Torsions

Rings

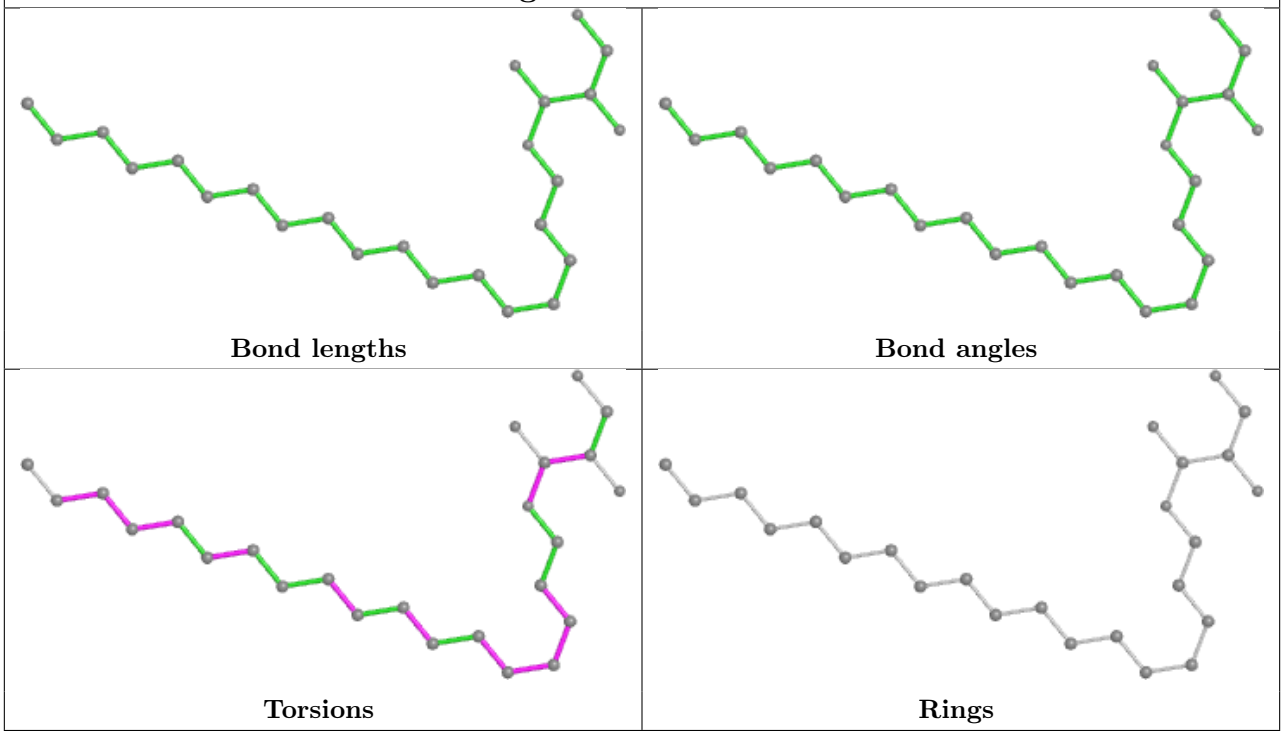
Ligand MPG B 318



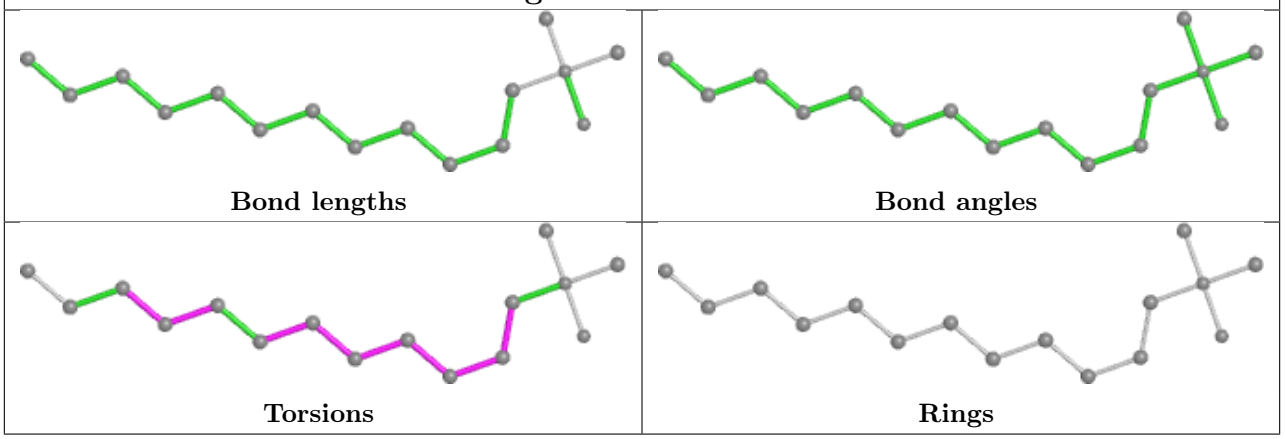
Ligand LDA B 308



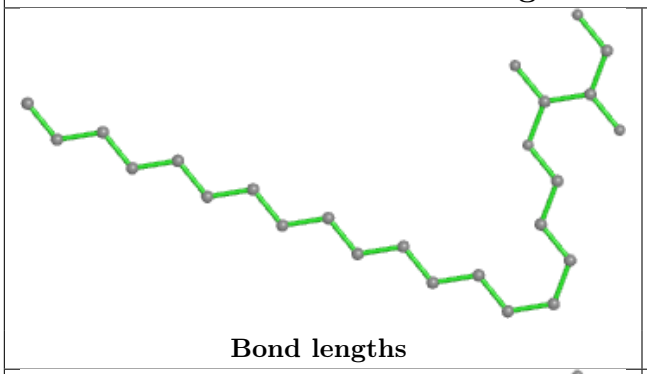
Ligand MPG B 320



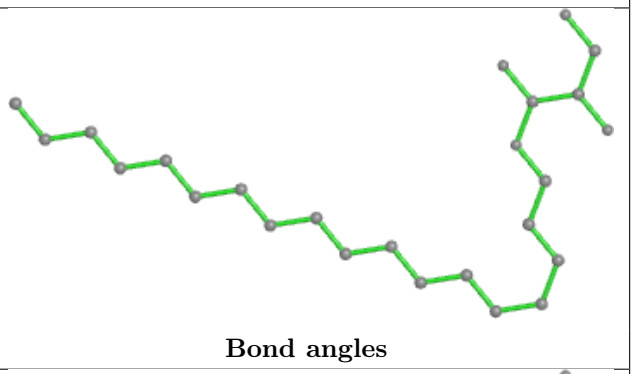
Ligand LDA B 306



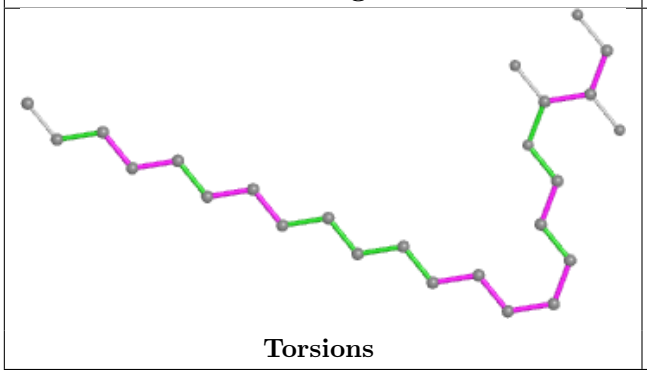
Ligand MPG A 328



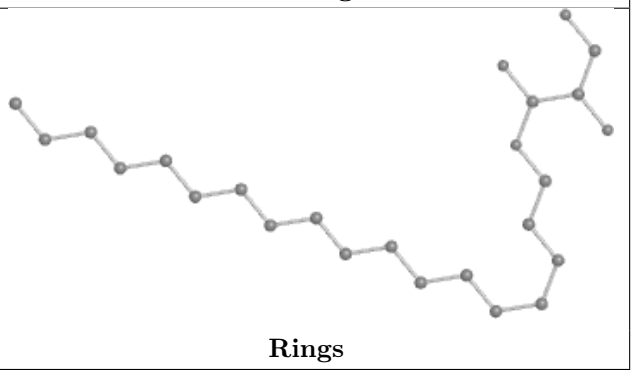
Bond lengths



Bond angles

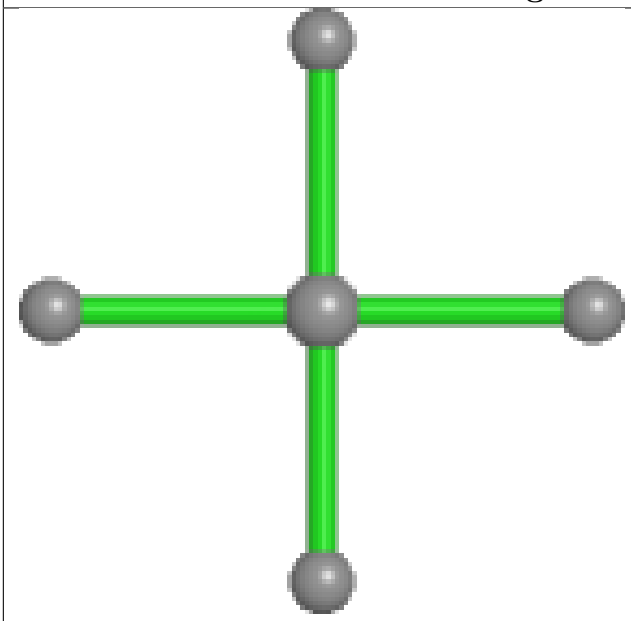


Torsions

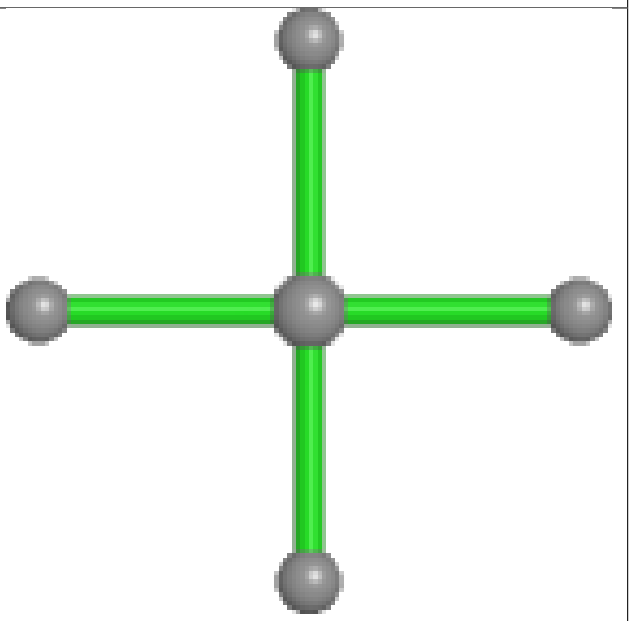


Rings

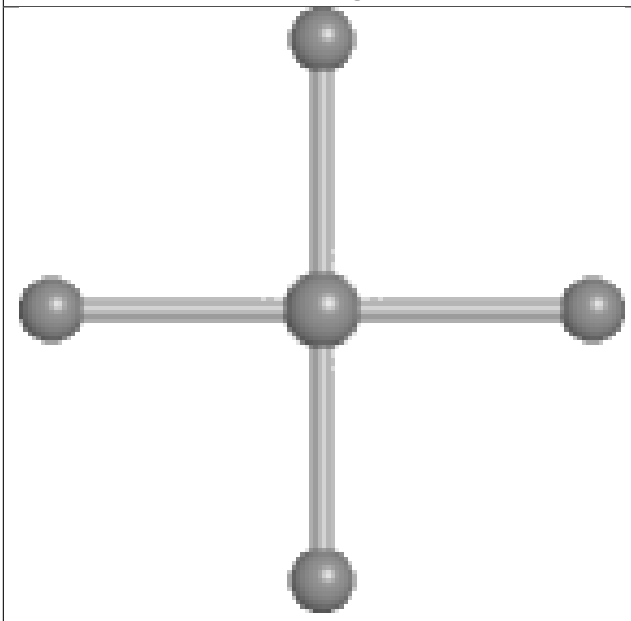
Ligand PO4 A 314



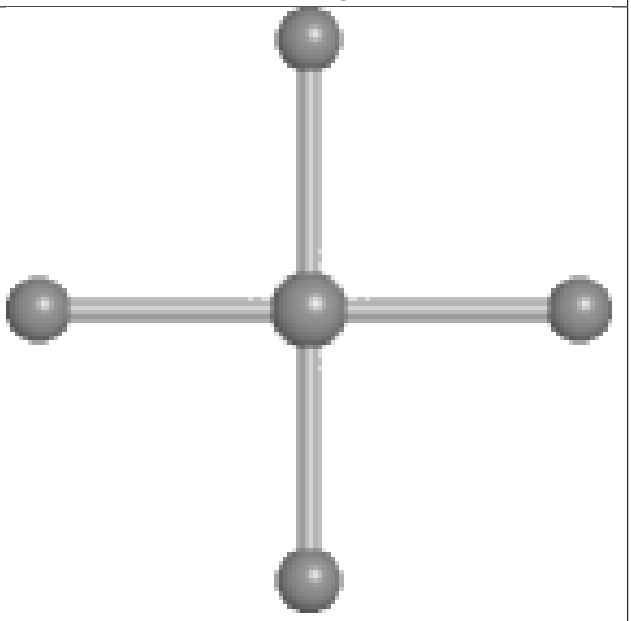
Bond lengths



Bond angles

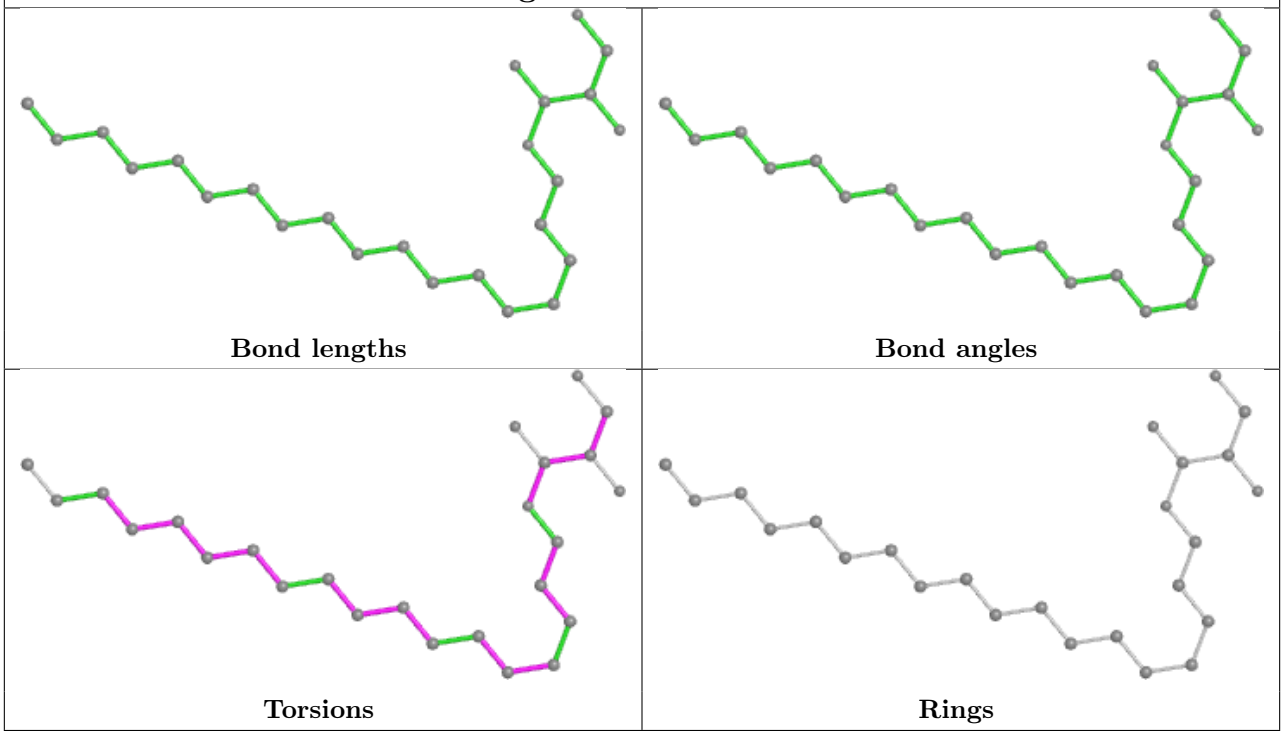


Torsions

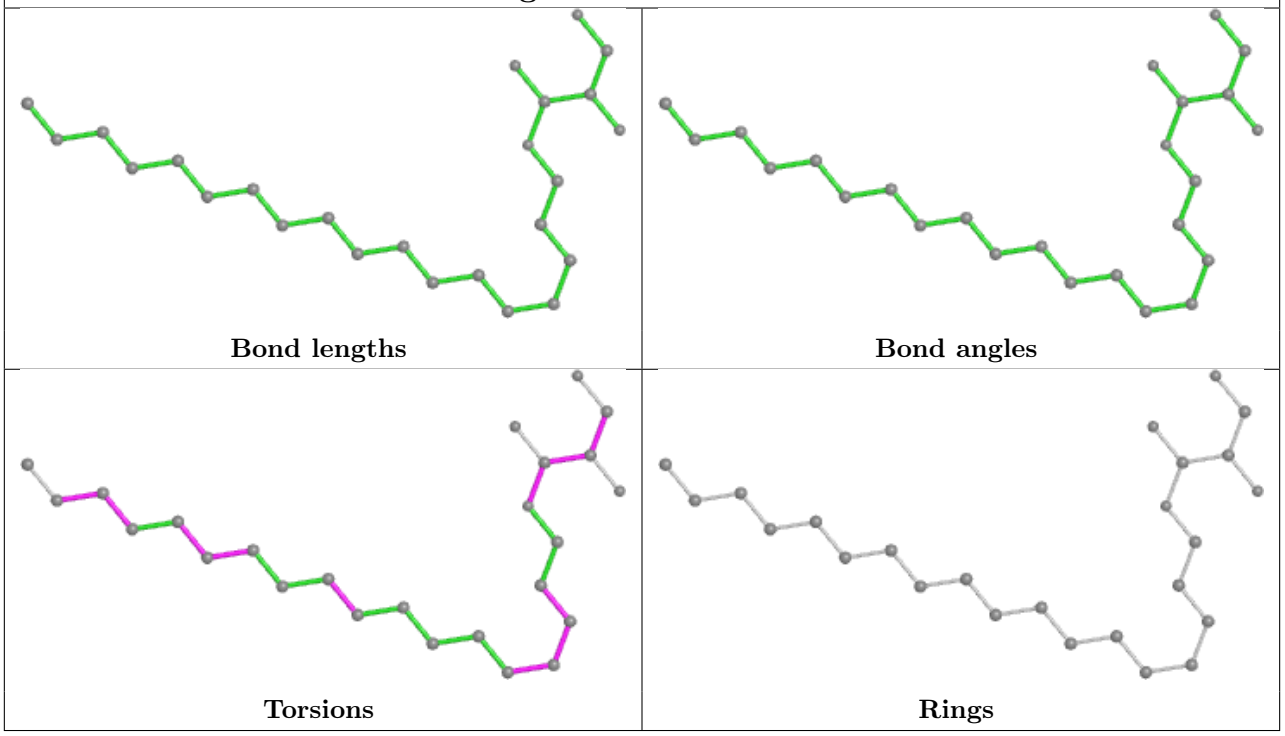


Rings

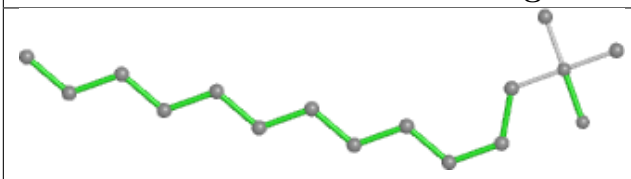
Ligand MPG A 324



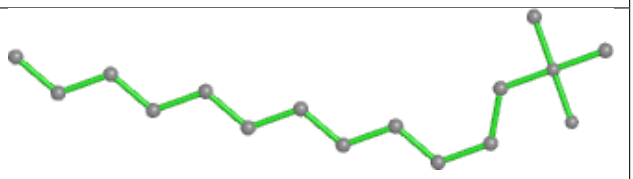
Ligand MPG B 316



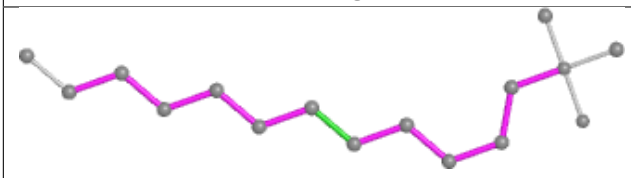
Ligand LDA B 310



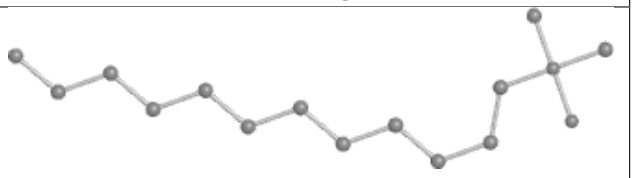
Bond lengths



Bond angles

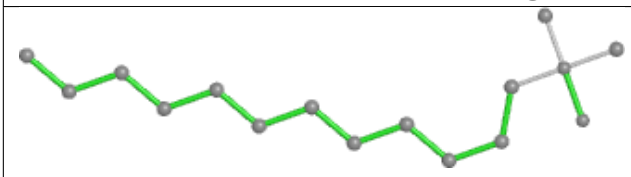


Torsions

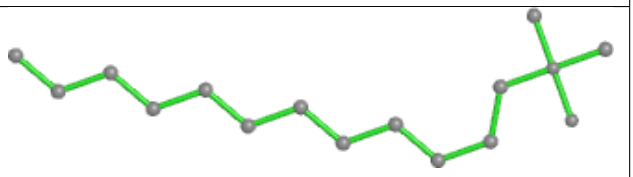


Rings

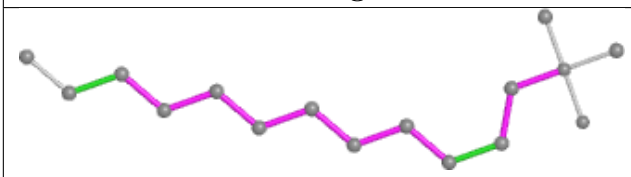
Ligand LDA B 311



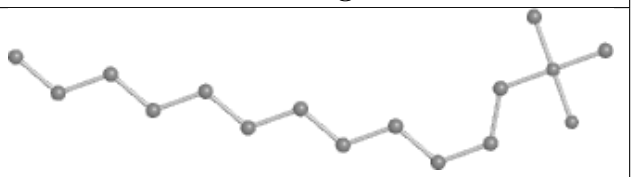
Bond lengths



Bond angles

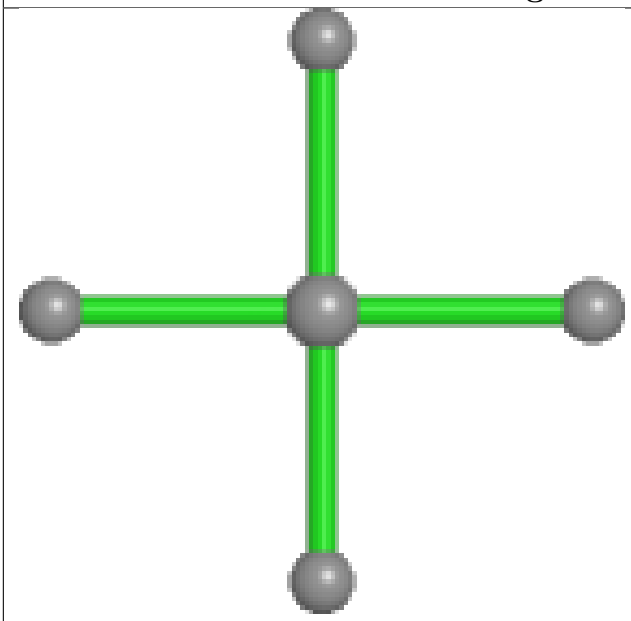


Torsions

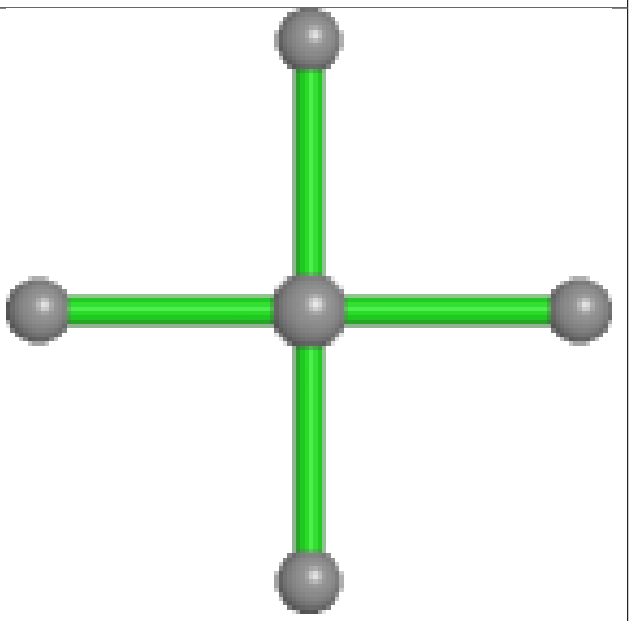


Rings

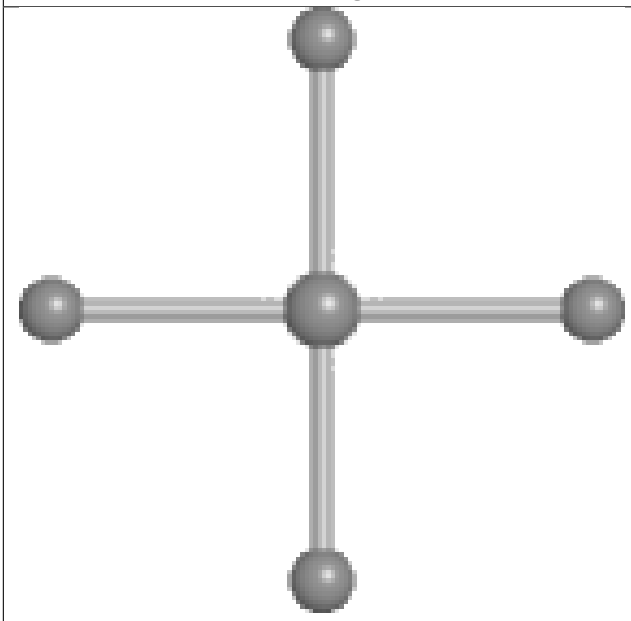
Ligand PO4 A 312



Bond lengths



Bond angles



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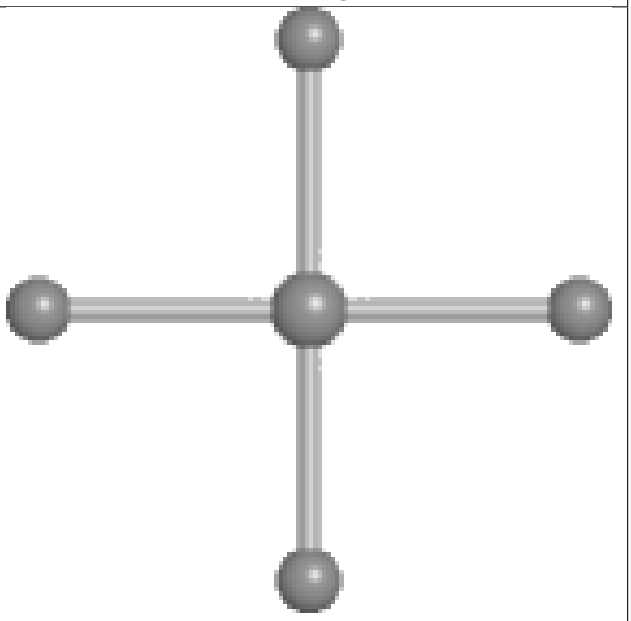
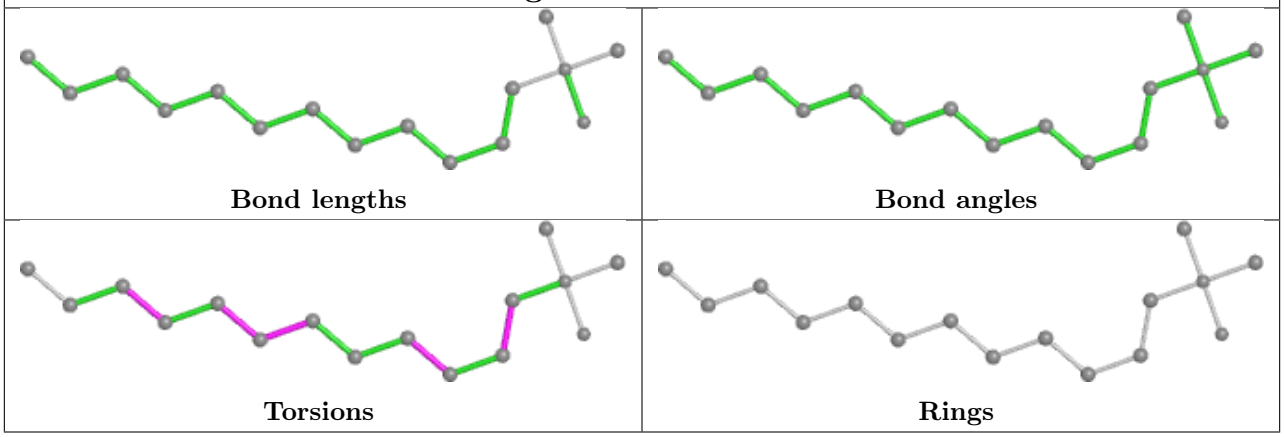
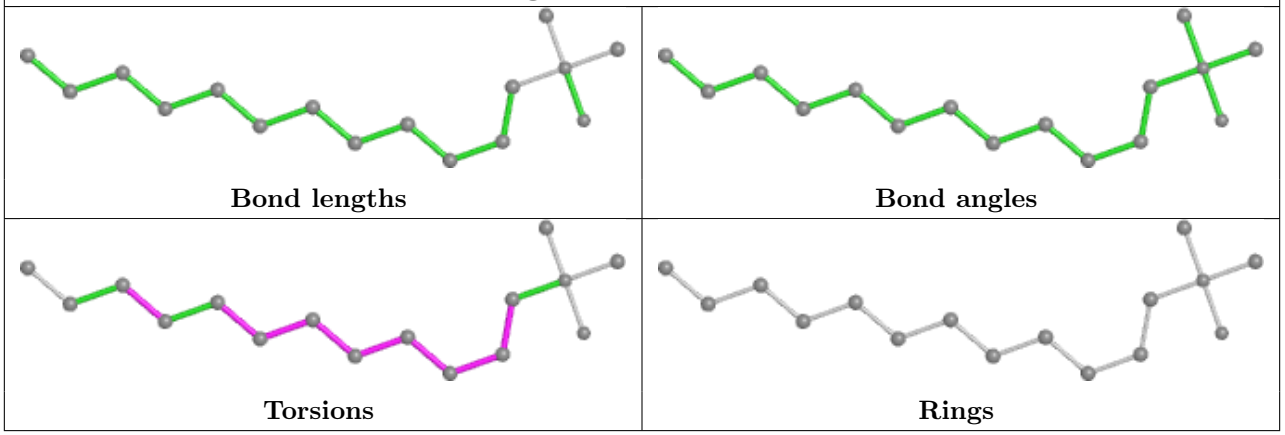


Rings

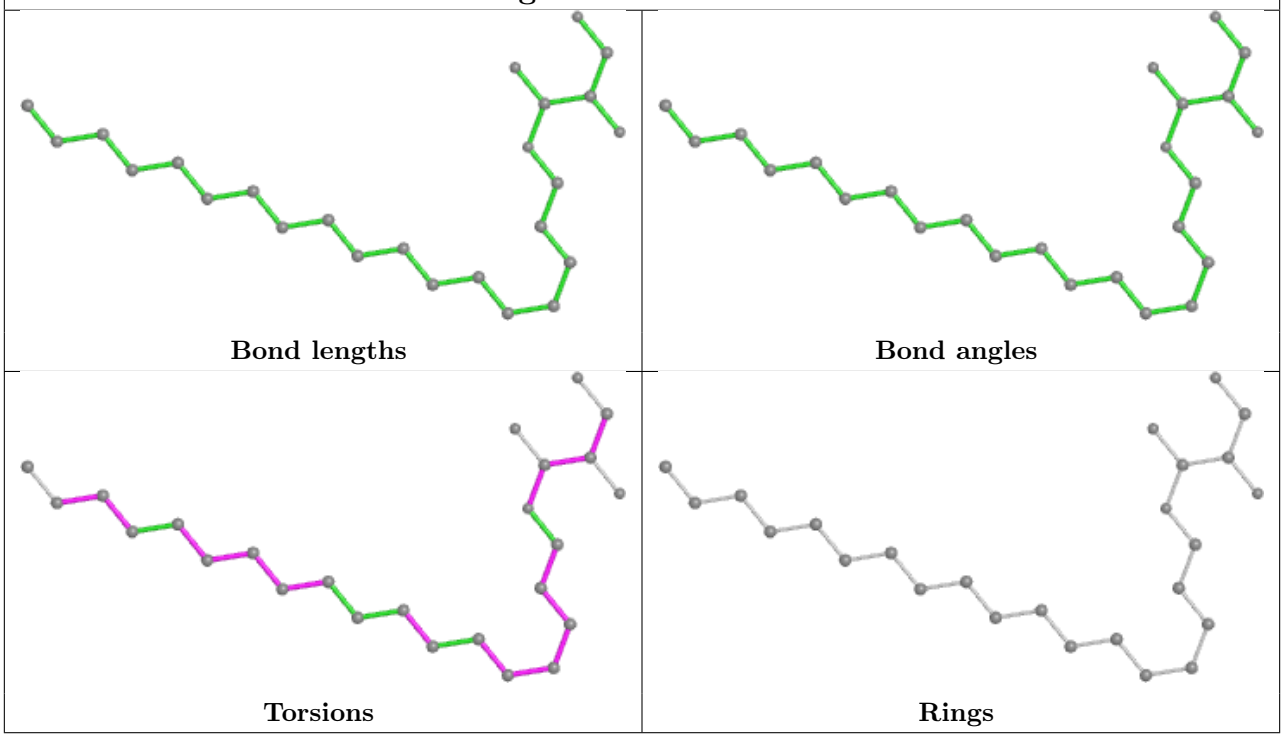
Ligand LDA B 307



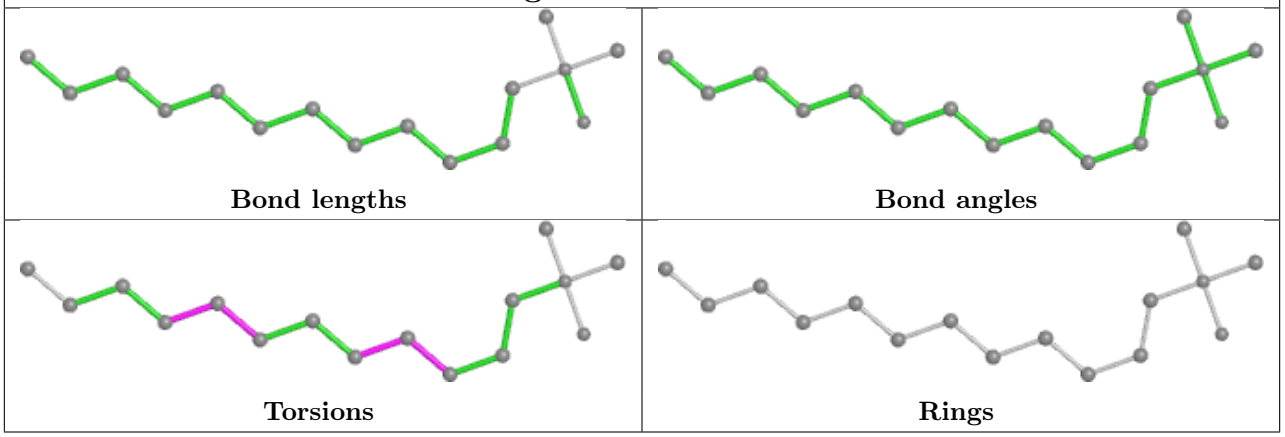
Ligand LDA A 308



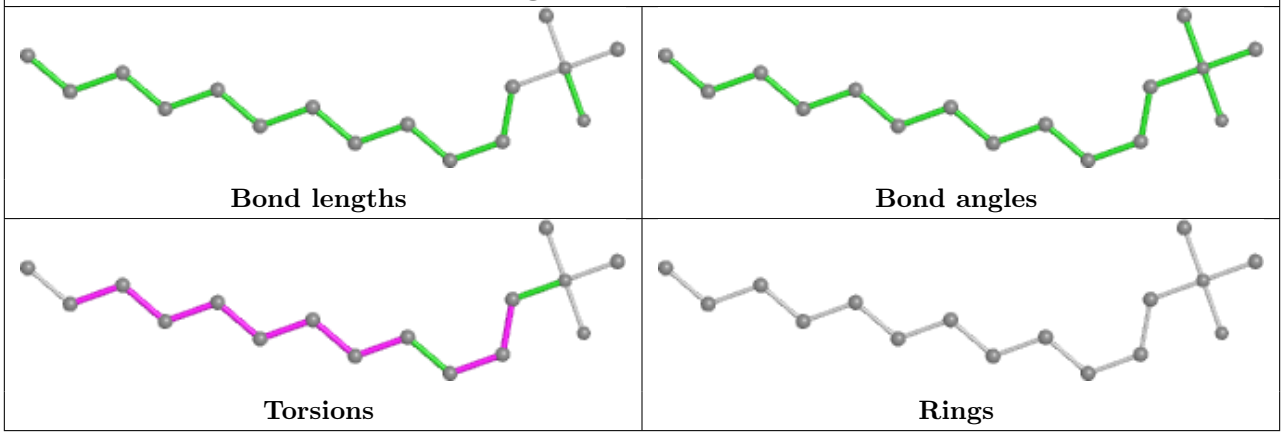
Ligand MPG A 323



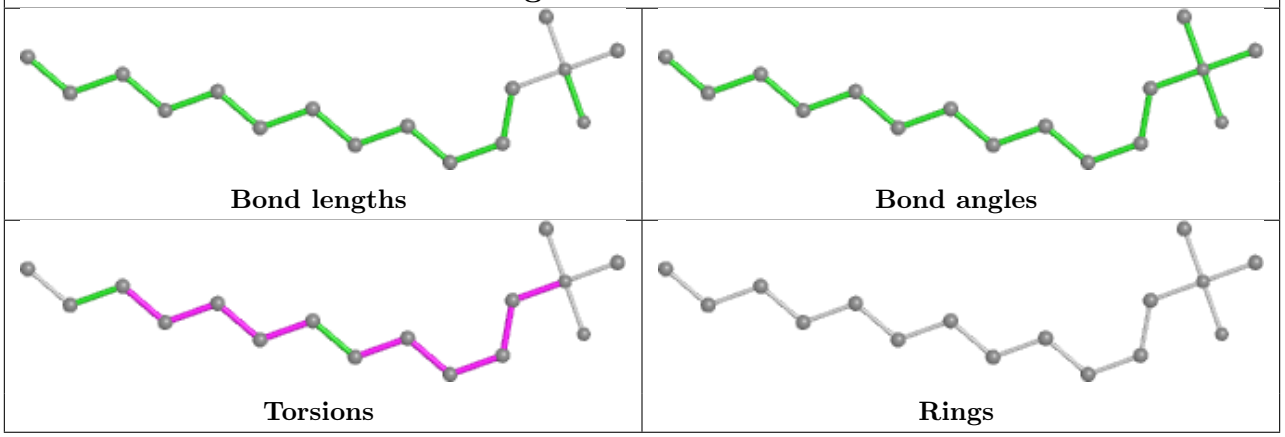
Ligand LDA A 304



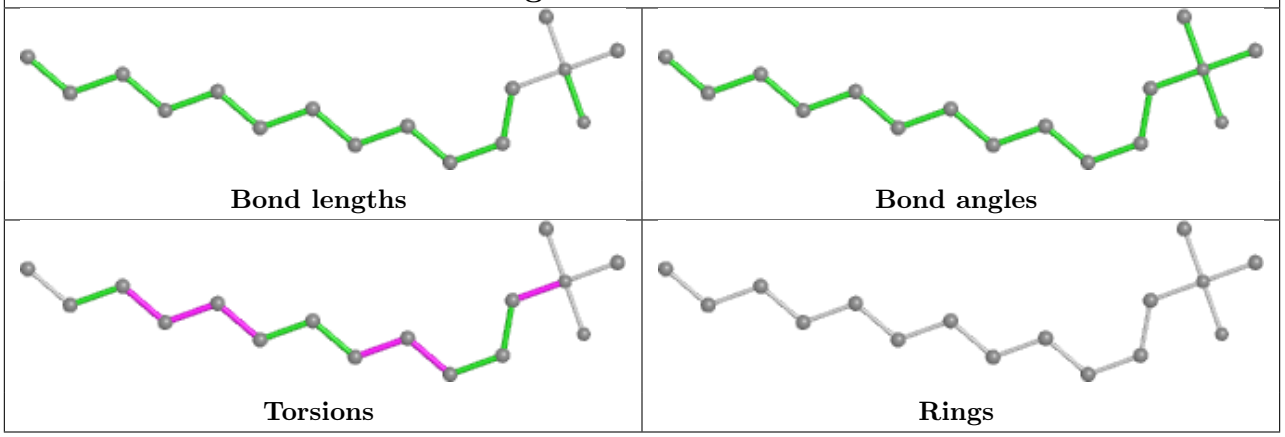
Ligand LDA A 307



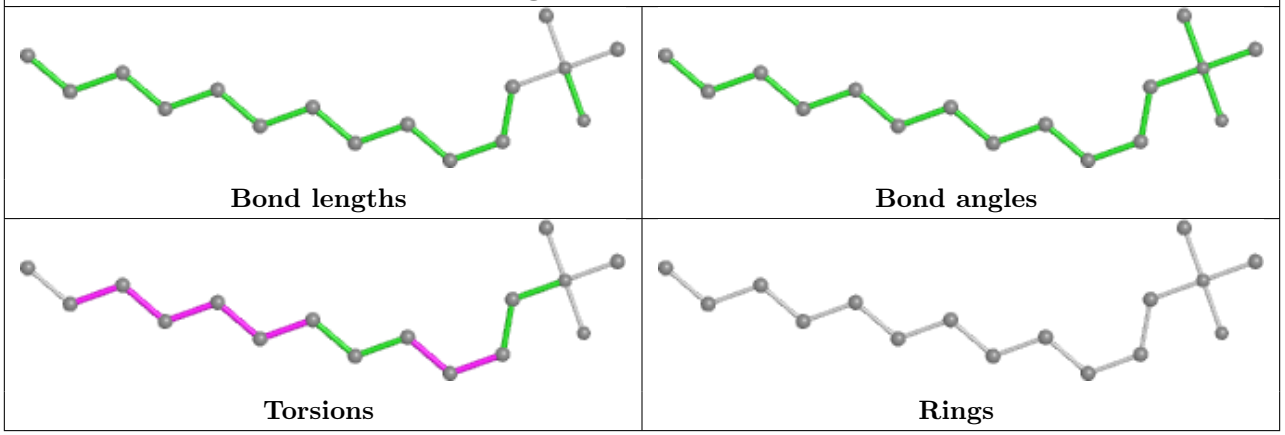
Ligand LDA A 310



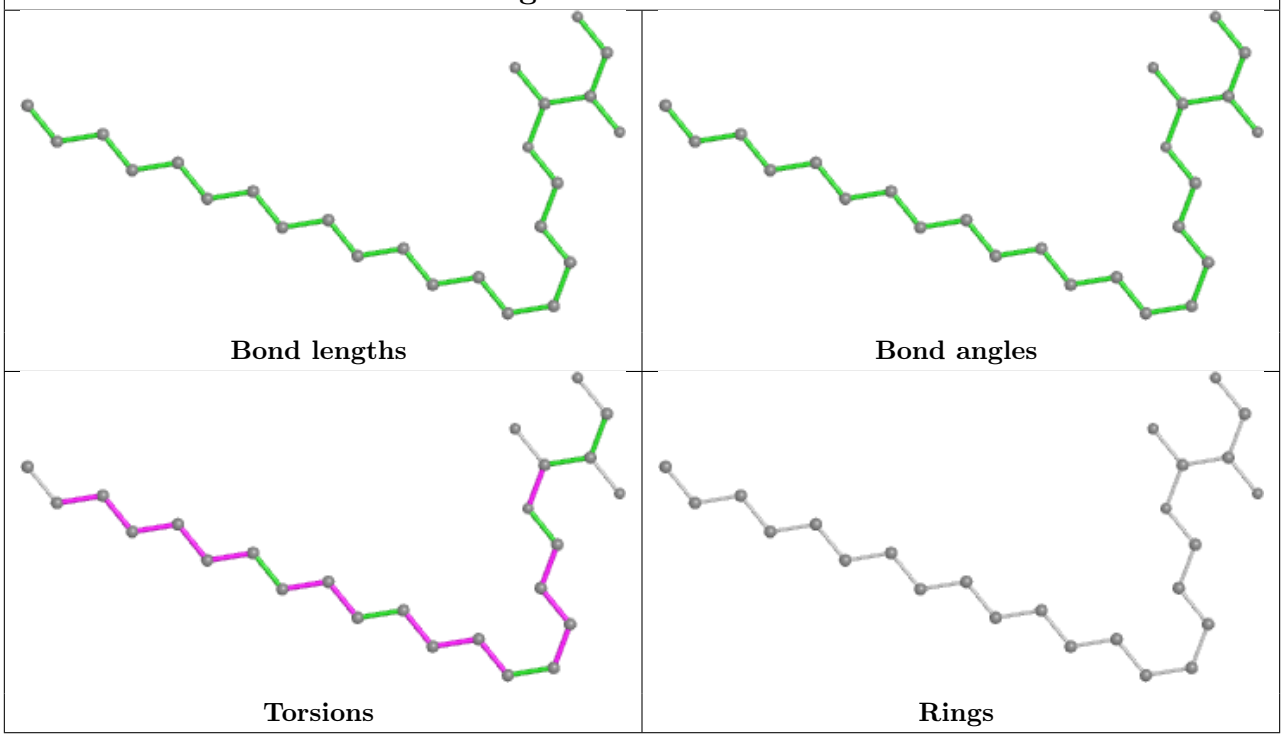
Ligand LDA B 303



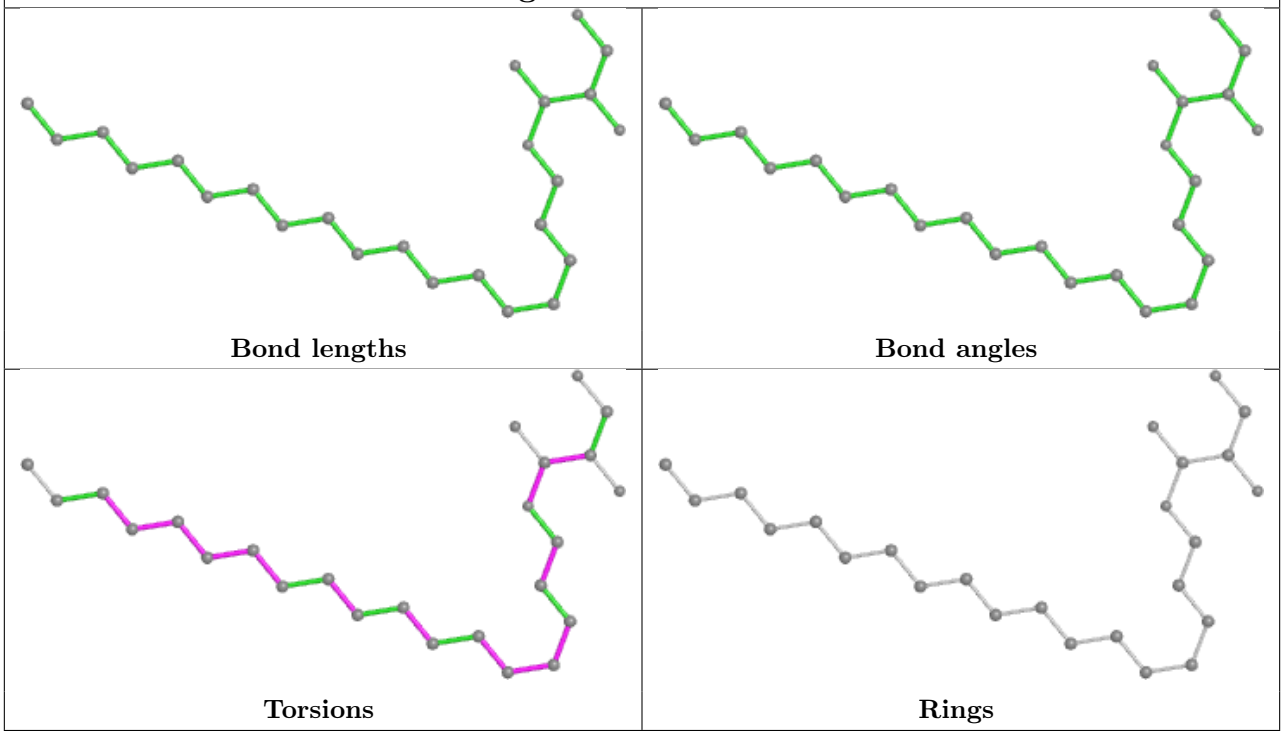
Ligand LDA B 309



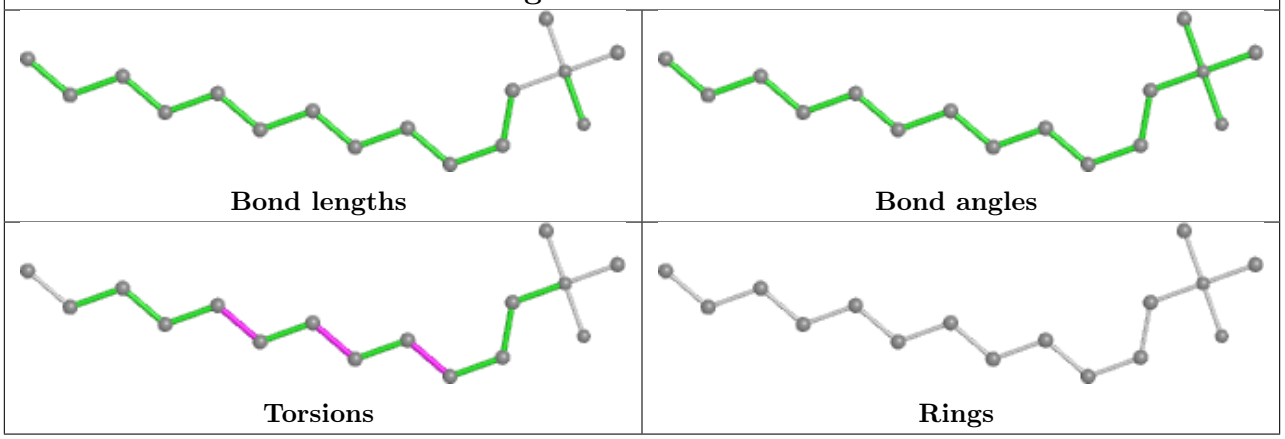
Ligand MPG B 319



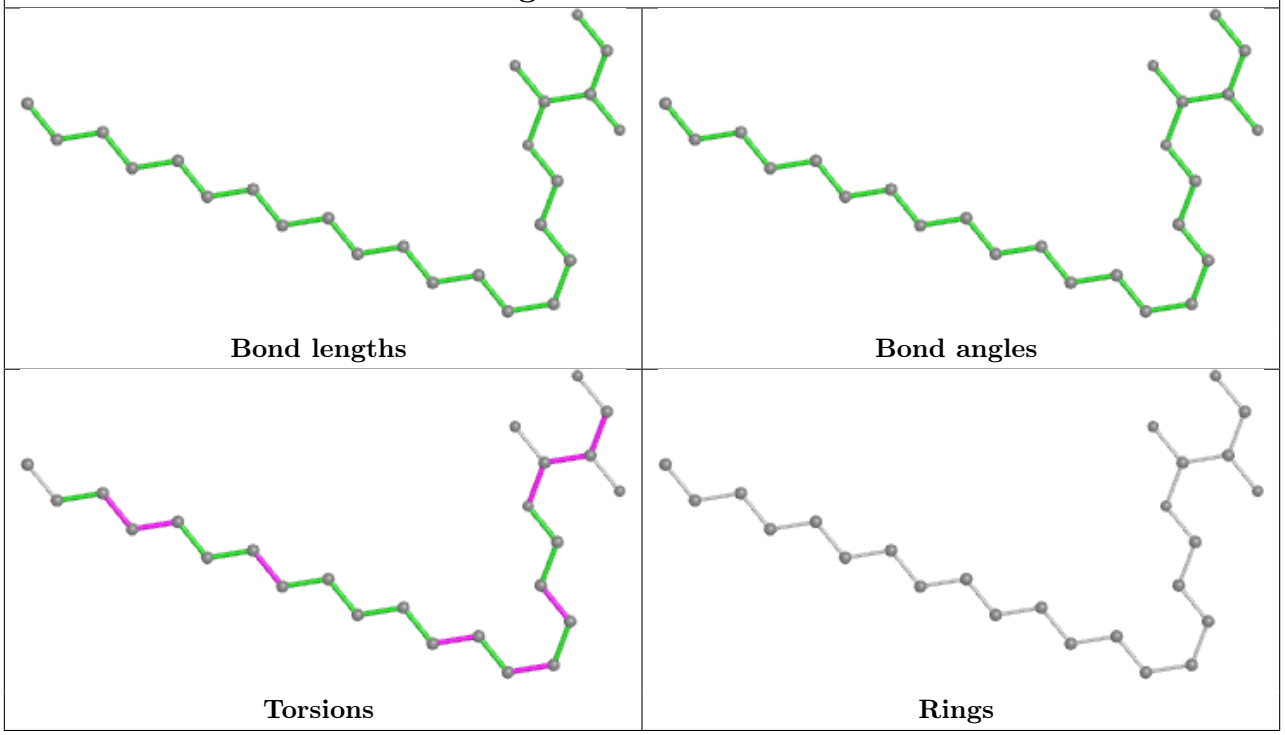
Ligand MPG A 319



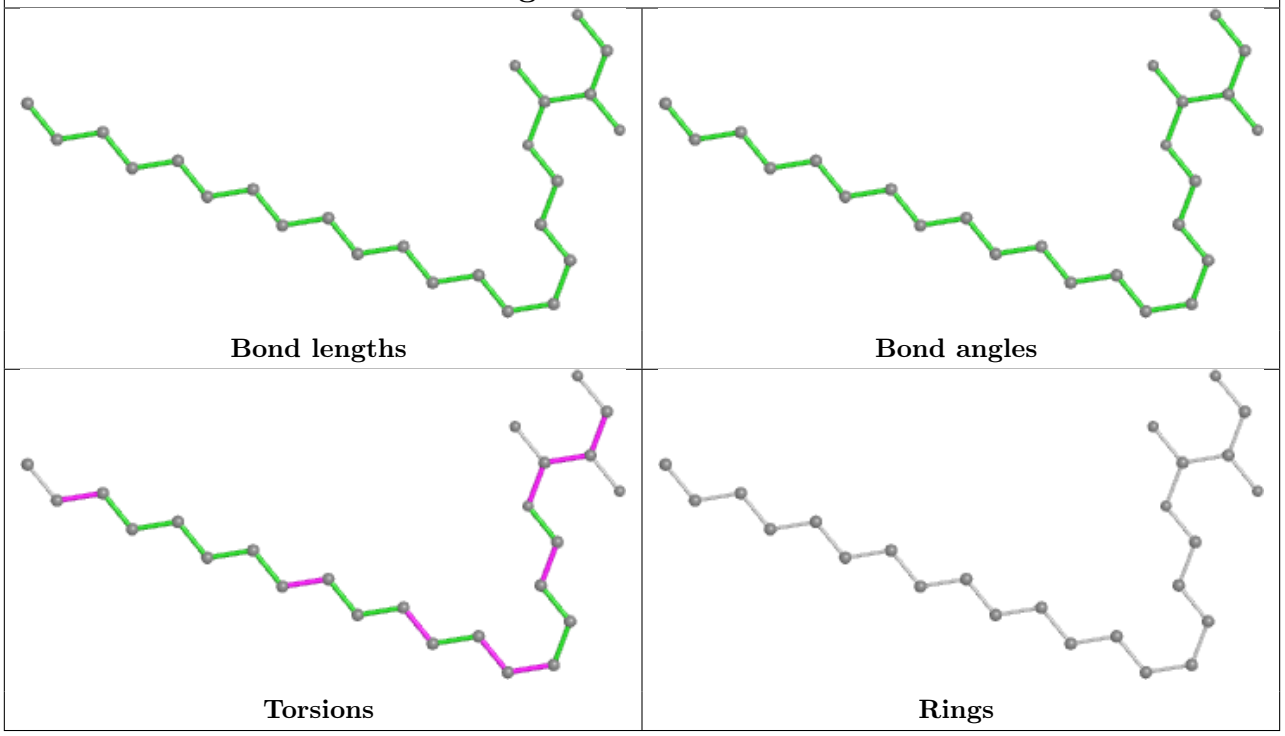
Ligand LDA A 303



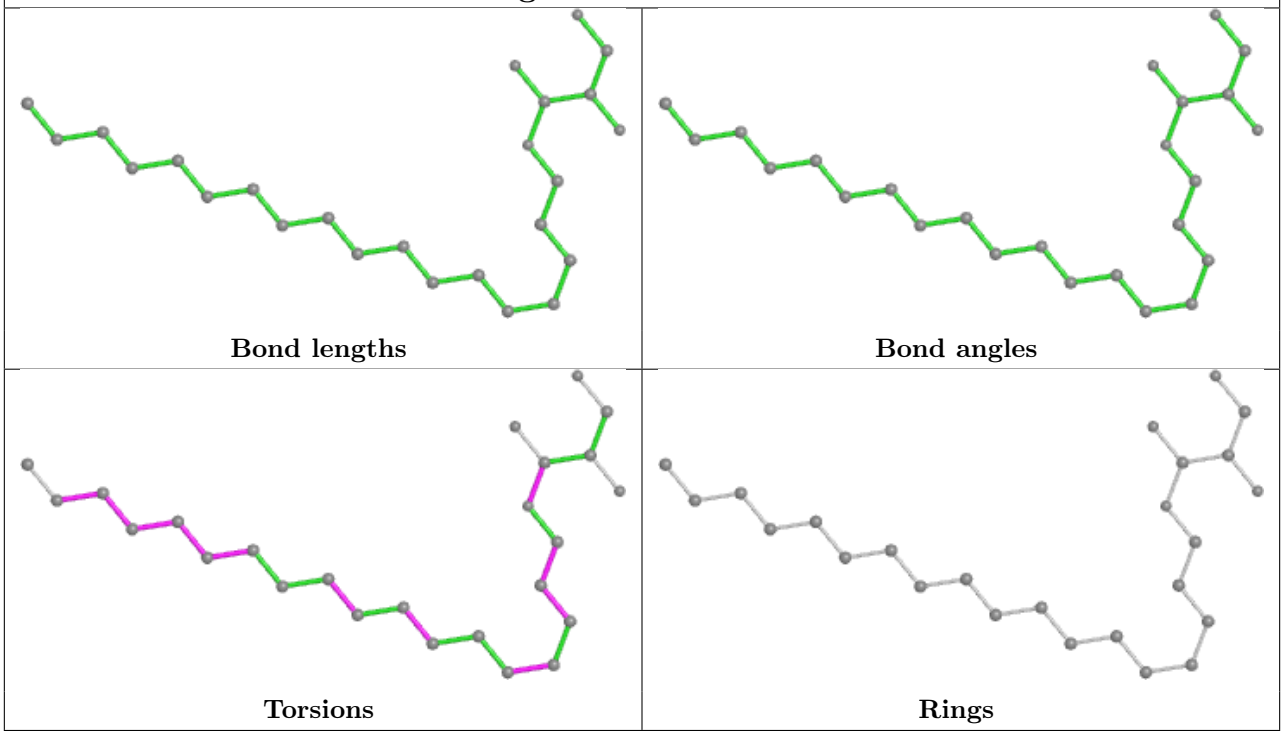
Ligand MPG A 326



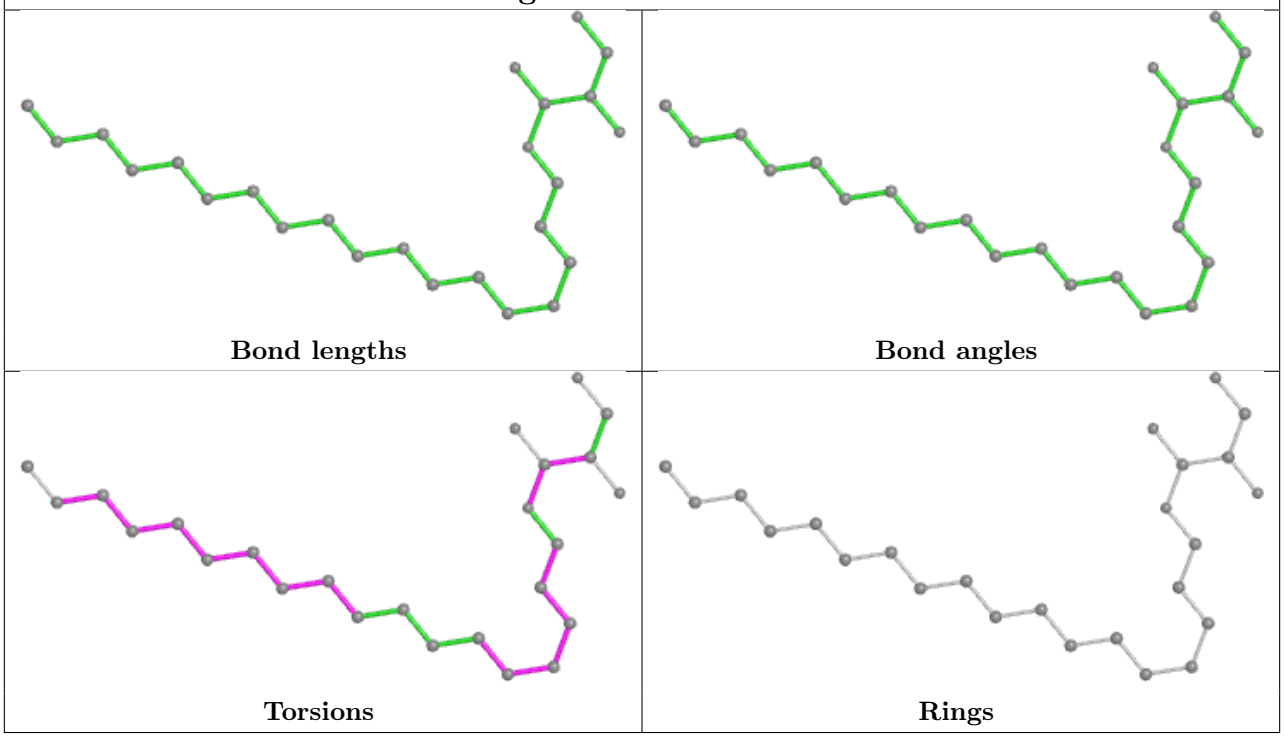
Ligand MPG A 317



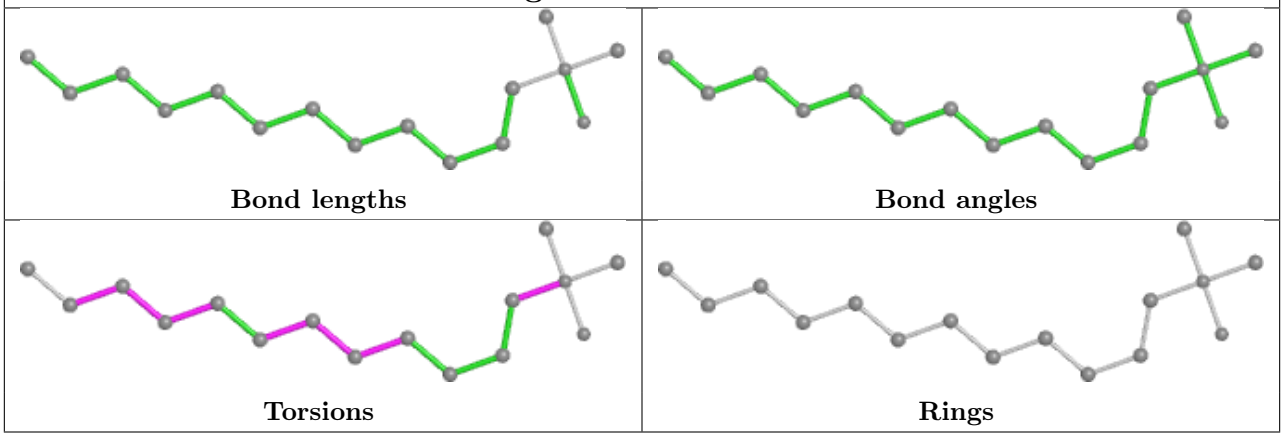
Ligand MPG A 321



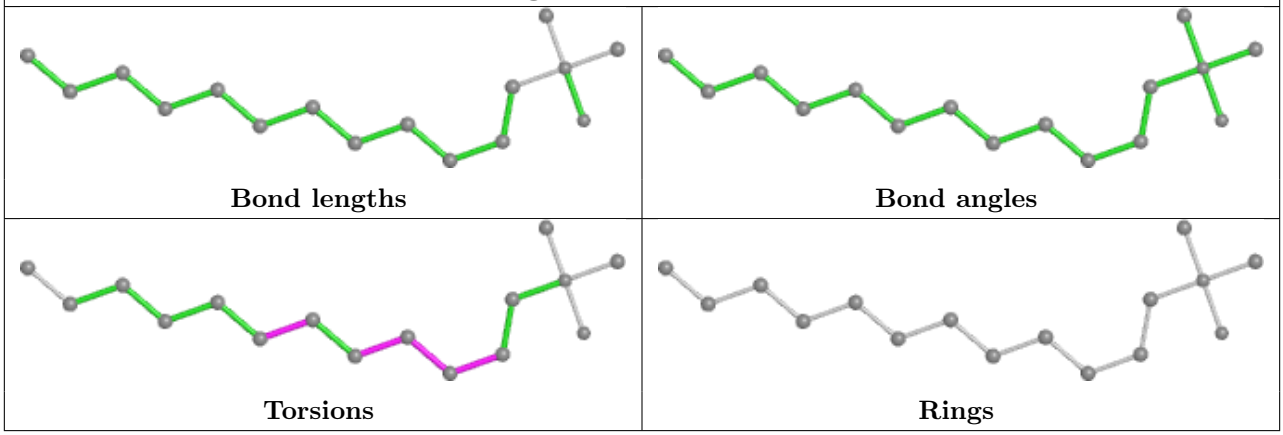
Ligand MPG A 325



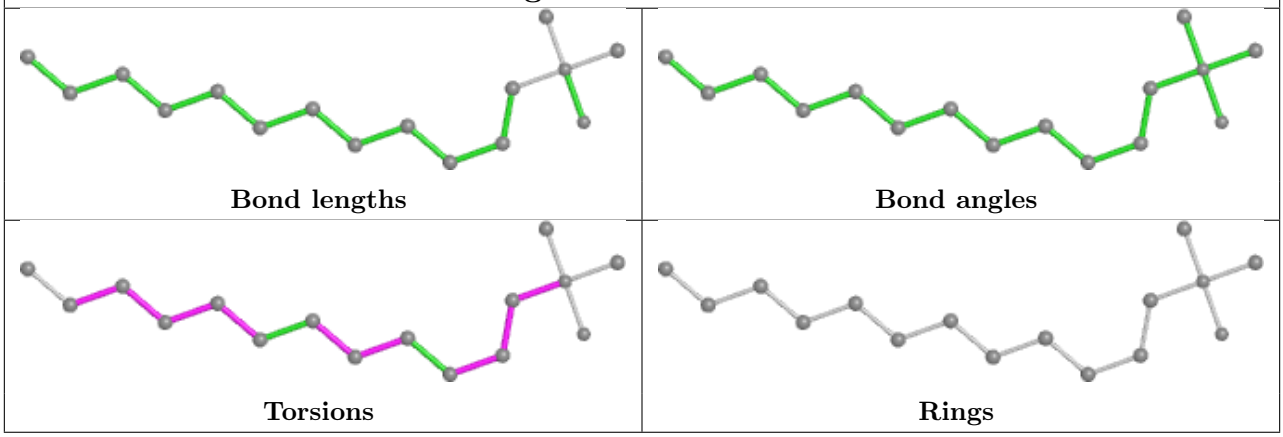
Ligand LDA B 312

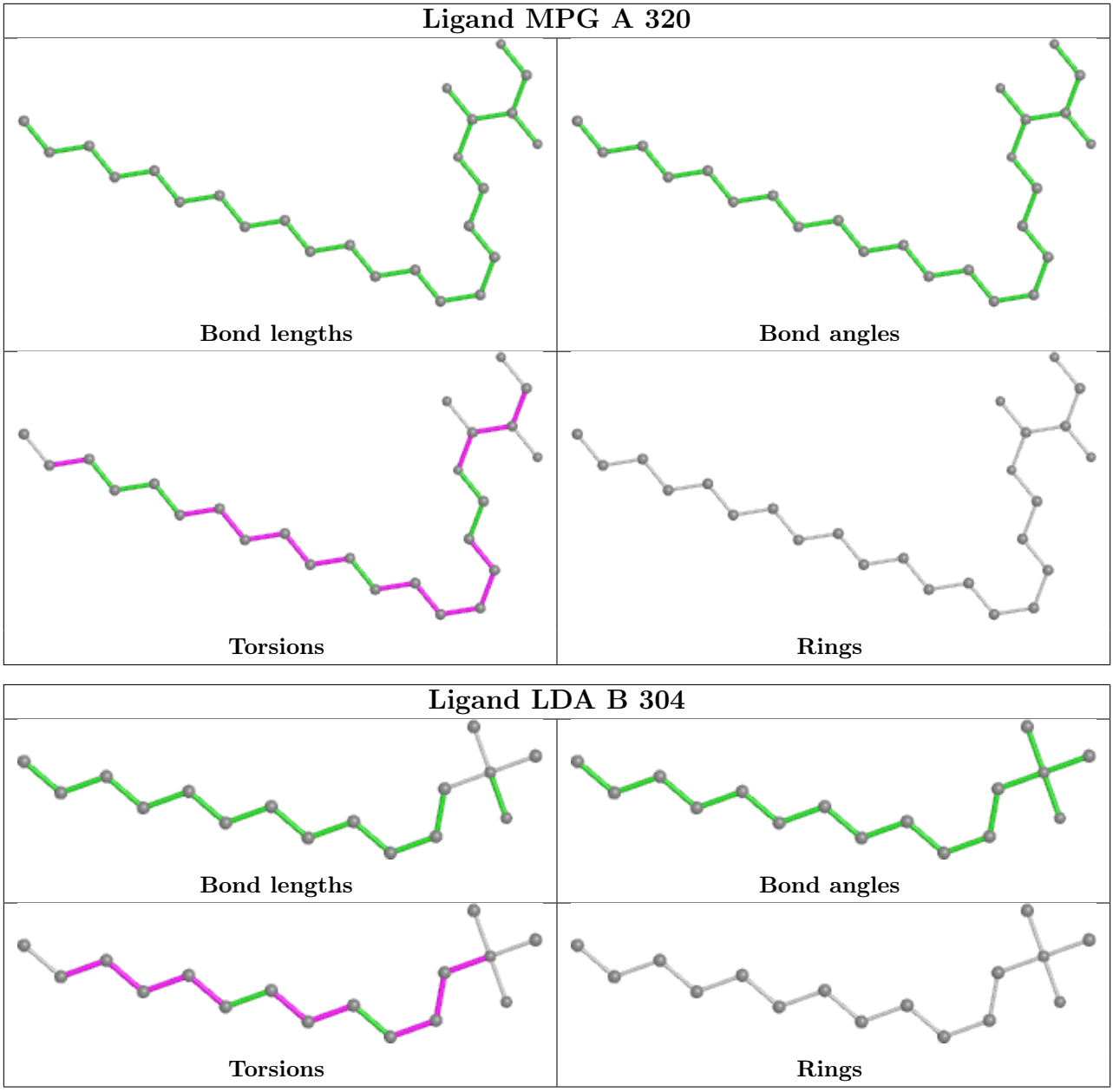


Ligand LDA B 302



Ligand LDA A 301





5.7 Other polymers

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

6.1 Protein, DNA and RNA chains

In the following table, the column labelled '#RSRZ> 2' contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95^{th} 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	280/283 (98%)	0.17	19 (6%)	17	22	32, 43, 76, 104	0
1	B	280/283 (98%)	0.16	20 (7%)	16	21	33, 43, 79, 101	0
All	All	560/566 (98%)	0.17	39 (6%)	16	21	32, 43, 79, 104	0

All (39) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	189	LYS	5.5
1	A	188	LYS	4.9
1	B	185	GLU	4.9
1	A	73	ASN	4.5
1	A	72	ILE	4.5
1	B	190	GLU	4.4
1	A	185	GLU	4.2
1	A	191	GLY	4.1
1	B	188	LYS	4.0
1	B	191	GLY	3.9
1	A	5	MET	3.8
1	A	184	MET	3.8
1	B	193	ILE	3.6
1	A	190	GLU	3.6
1	B	69	ILE	3.6
1	A	186	GLY	3.5
1	A	189	LYS	3.4
1	B	187	ASP	3.3
1	B	199	TYR	3.2
1	A	70	ASP	3.2
1	A	69	ILE	3.2
1	B	197	ILE	3.1
1	B	73	ASN	3.1
1	B	72	ILE	3.0

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Mol	Chain	Res	Type	RSRZ
1	B	81	SER	2.9
1	B	6	GLU	2.9
1	A	283	LEU	2.9
1	A	197	ILE	2.8
1	A	192	VAL	2.6
1	B	67	ILE	2.5
1	A	4	PHE	2.5
1	B	192	VAL	2.4
1	A	187	ASP	2.3
1	B	4	PHE	2.2
1	B	76	SER	2.2
1	A	6	GLU	2.1
1	B	256	GLU	2.1
1	A	68	GLU	2.1
1	B	184	MET	2.0

6.2 Non-standard residues in protein, DNA, RNA chains (i)

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

6.3 Carbohydrates (i)

There are no monosaccharides in this entry.

6.4 Ligands (i)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95^{th} 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	LDA	A	309	16/16	0.42	0.39	86,100,111,111	0
3	PO4	A	314	5/5	0.56	0.34	144,145,145,145	0
2	LDA	B	312	16/16	0.57	0.52	20,20,20,20	0
5	MPG	A	322	25/25	0.59	0.37	65,80,97,100	0
2	LDA	B	310	16/16	0.60	0.39	106,109,116,116	0
2	LDA	A	308	16/16	0.63	0.36	114,116,125,125	0
2	LDA	A	311	16/16	0.63	0.33	75,81,90,90	0
5	MPG	A	327	25/25	0.64	0.30	77,83,94,95	0

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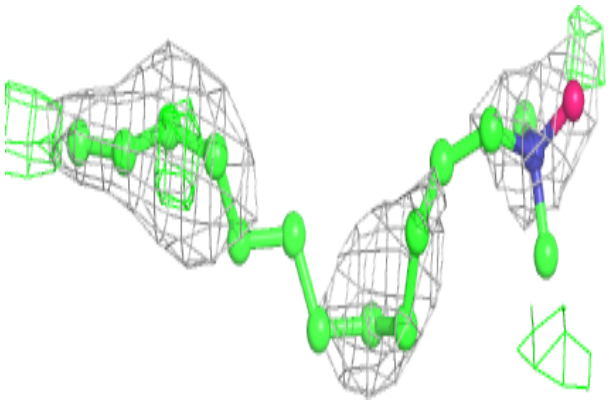
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
5	MPG	B	319	25/25	0.64	0.31	69,85,105,107	0
5	MPG	A	318	25/25	0.66	0.25	54,65,100,104	0
5	MPG	A	319	25/25	0.67	0.28	74,90,99,102	0
2	LDA	B	307	16/16	0.67	0.41	77,83,97,97	0
5	MPG	B	317	25/25	0.68	0.24	79,89,95,97	0
2	LDA	A	306	16/16	0.68	0.35	67,70,86,88	0
2	LDA	B	311	16/16	0.69	0.32	102,112,116,117	0
2	LDA	B	302	16/16	0.69	0.30	71,76,81,83	0
5	MPG	A	325	25/25	0.69	0.31	77,81,89,90	0
5	MPG	B	320	25/25	0.69	0.31	63,71,86,89	0
2	LDA	B	308	16/16	0.70	0.29	68,77,90,91	0
5	MPG	A	326	25/25	0.70	0.31	79,84,86,89	0
5	MPG	A	316	25/25	0.71	0.25	65,71,90,93	0
5	MPG	A	328	25/25	0.71	0.24	66,74,84,84	0
5	MPG	B	316	25/25	0.71	0.27	61,67,79,81	0
2	LDA	A	301	16/16	0.72	0.32	73,80,86,87	0
5	MPG	B	318	25/25	0.73	0.25	54,78,92,92	0
2	LDA	B	309	16/16	0.73	0.27	70,80,86,86	0
5	MPG	A	324	25/25	0.73	0.28	61,70,82,85	0
5	MPG	A	321	25/25	0.76	0.28	72,79,91,94	0
2	LDA	A	303	16/16	0.76	0.21	53,61,69,74	0
2	LDA	B	304	16/16	0.76	0.28	77,80,87,87	0
2	LDA	B	305	16/16	0.77	0.33	70,77,83,83	0
2	LDA	B	306	16/16	0.77	0.22	73,76,80,81	0
5	MPG	A	320	25/25	0.77	0.29	62,71,88,90	0
2	LDA	A	310	16/16	0.78	0.27	81,88,99,100	0
5	MPG	A	323	25/25	0.78	0.29	54,67,92,93	0
3	PO4	A	312	5/5	0.79	0.39	129,130,130,130	0
2	LDA	B	301	16/16	0.80	0.27	71,74,78,80	0
2	LDA	A	307	16/16	0.81	0.28	62,68,71,72	0
2	LDA	B	303	16/16	0.81	0.28	66,71,73,75	0
2	LDA	A	305	16/16	0.81	0.23	82,86,91,91	0
5	MPG	A	317	25/25	0.82	0.21	51,70,84,85	0
3	PO4	B	313	5/5	0.83	0.27	125,126,126,127	0
2	LDA	A	302	16/16	0.84	0.19	52,56,72,73	0
2	LDA	A	304	16/16	0.84	0.19	72,75,78,78	0
3	PO4	B	314	5/5	0.93	0.09	109,110,110,110	0
3	PO4	A	313	5/5	0.95	0.13	98,98,99,100	0
4	MG	A	315	1/1	0.96	0.53	55,55,55,55	0
4	MG	B	315	1/1	0.97	0.76	64,64,64,64	0

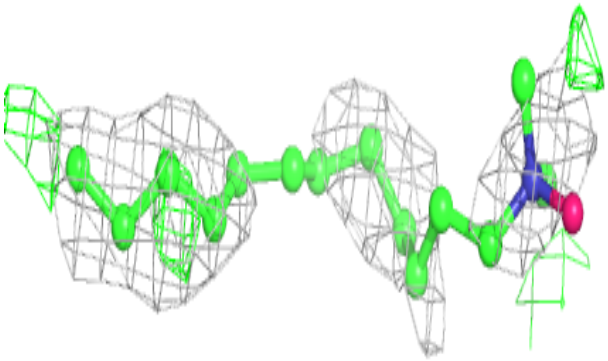
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers

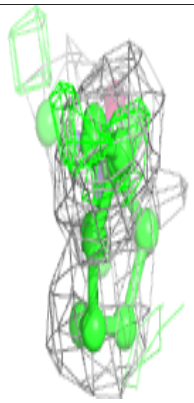
as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation to approximate a three-dimensional view.

Electron density around LDA A 309:

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

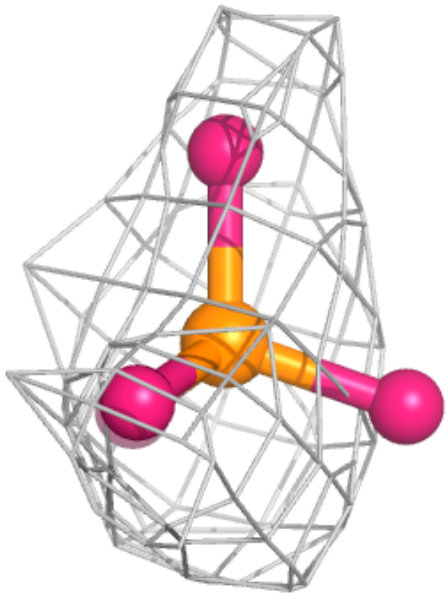


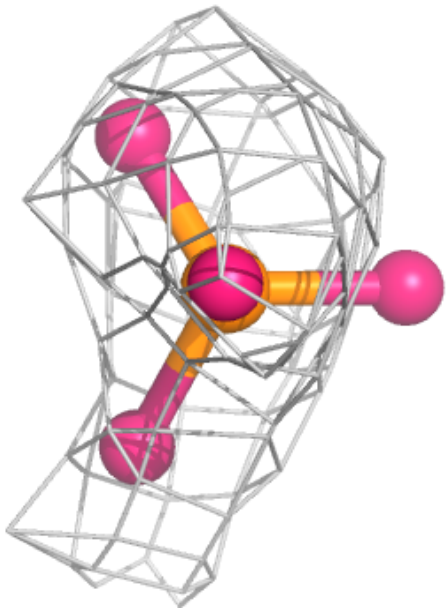


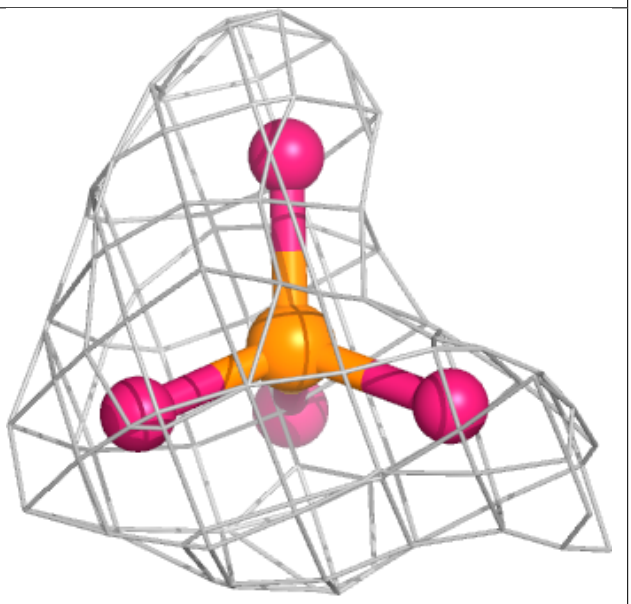


Electron density around PO4 A 314:

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

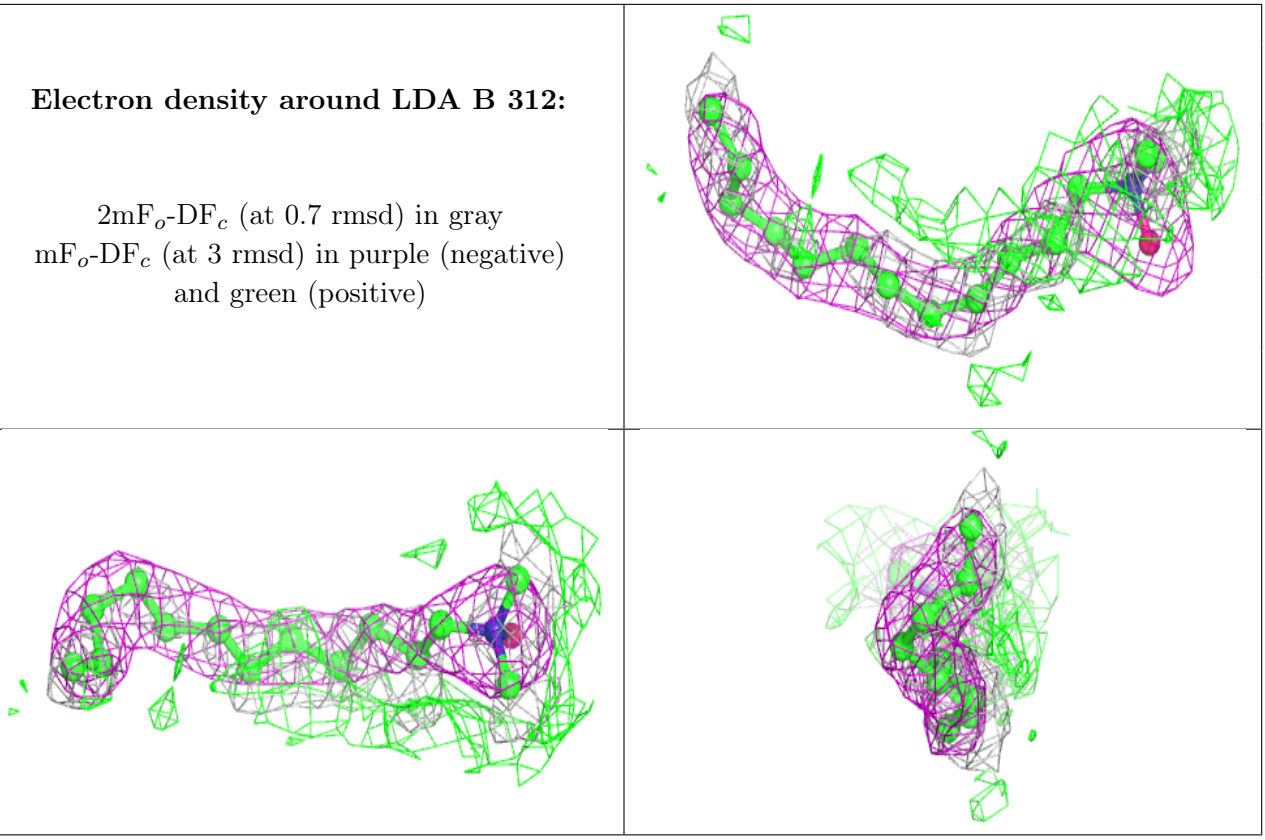






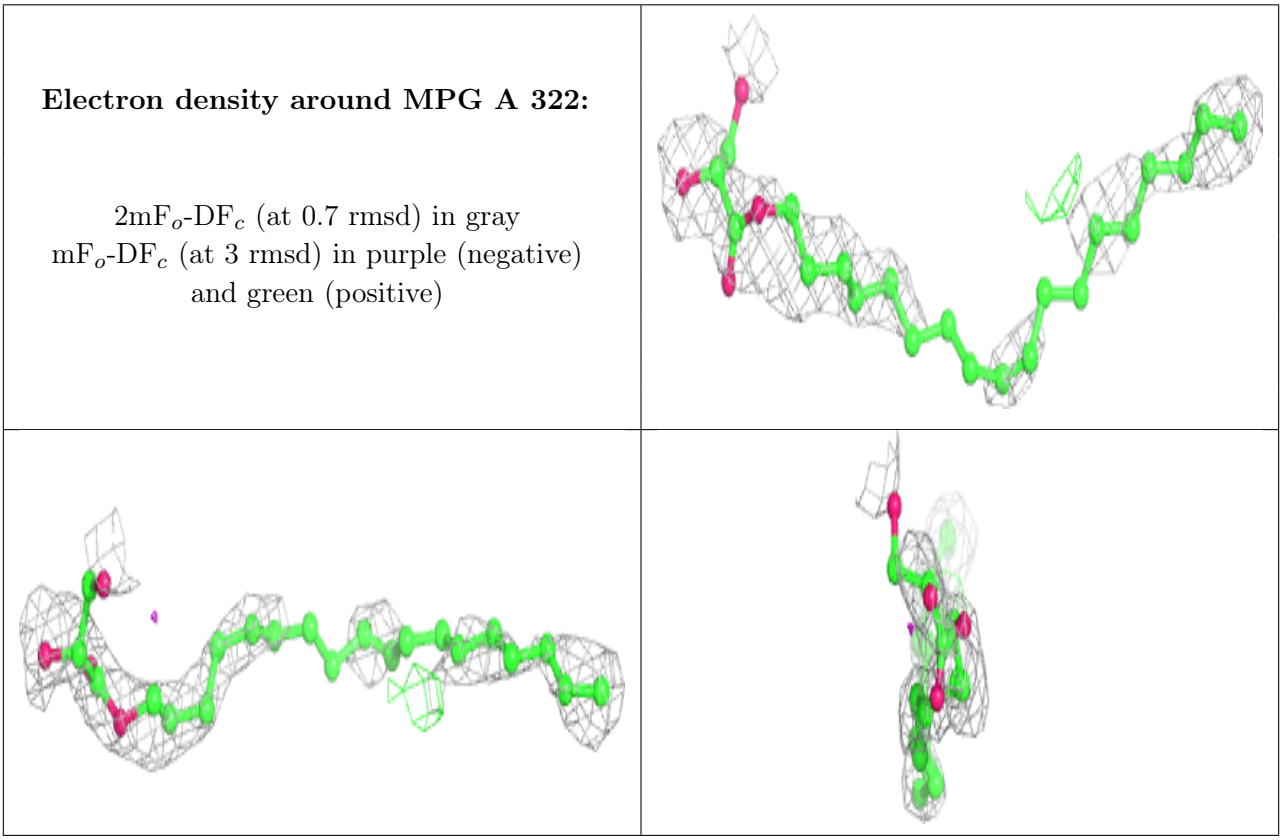
Electron density around LDA B 312:

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



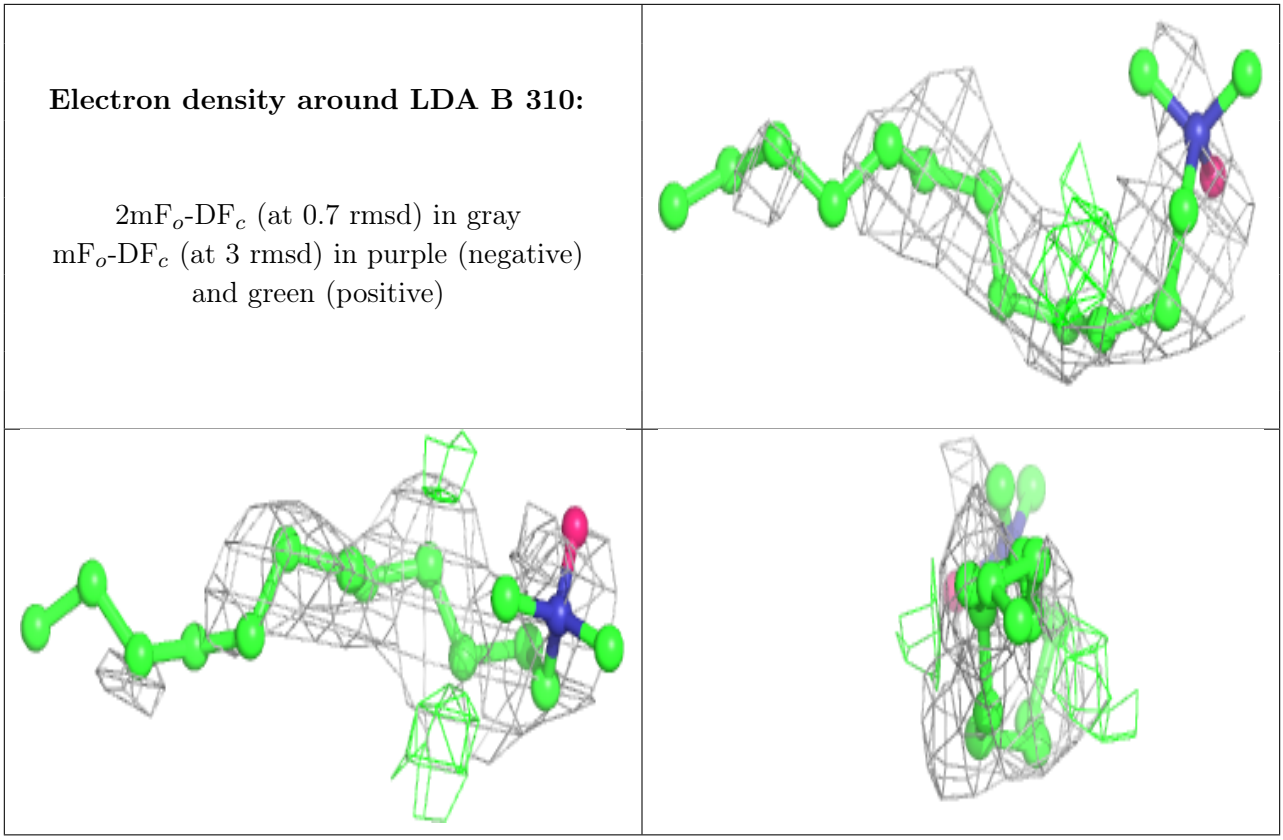
Electron density around MPG A 322:

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



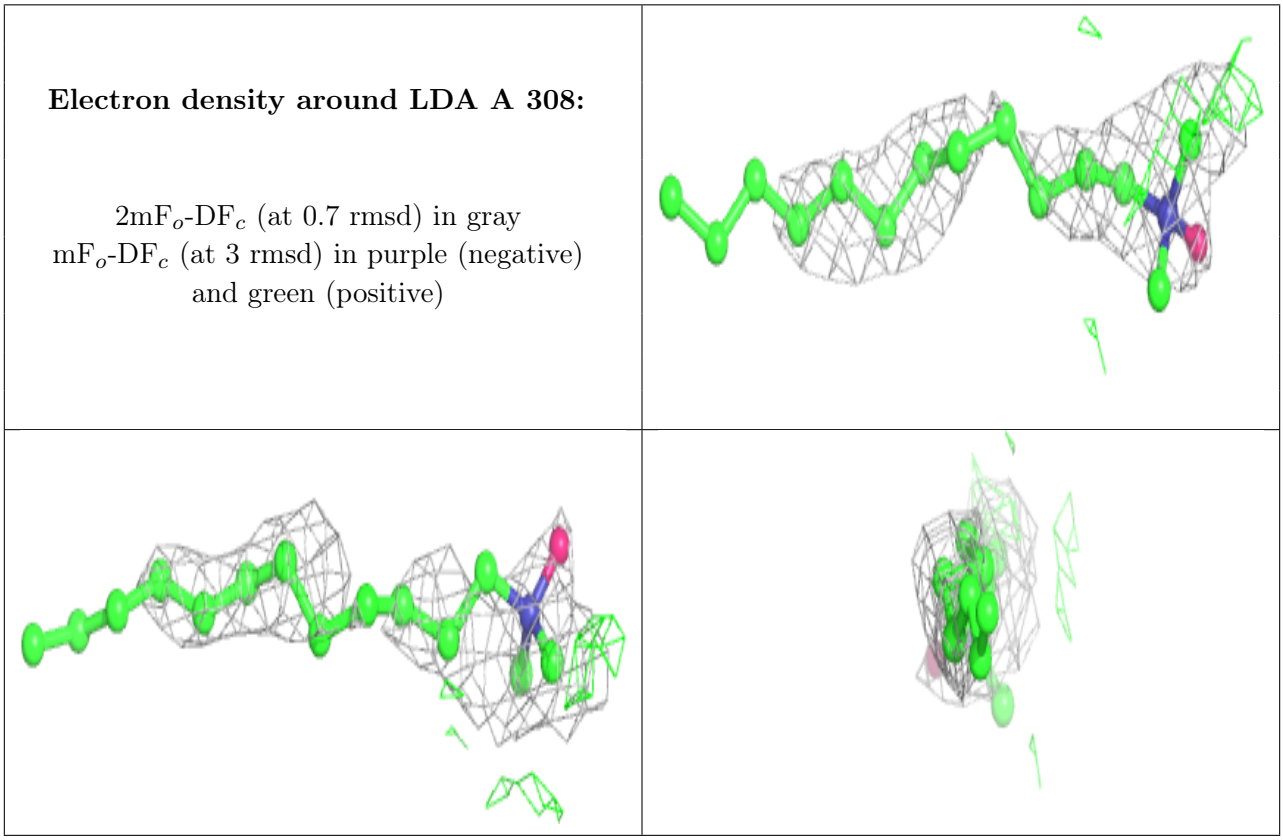
Electron density around LDA B 310:

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



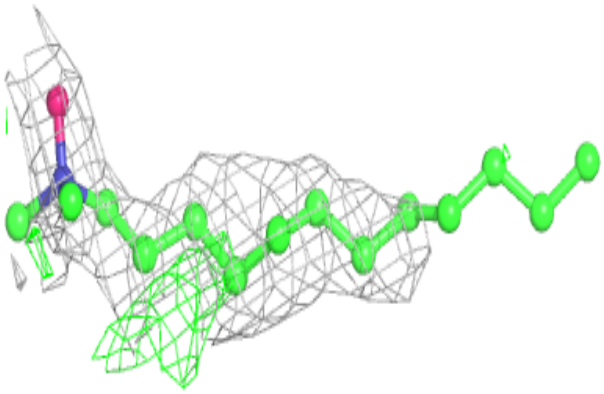
Electron density around LDA A 308:

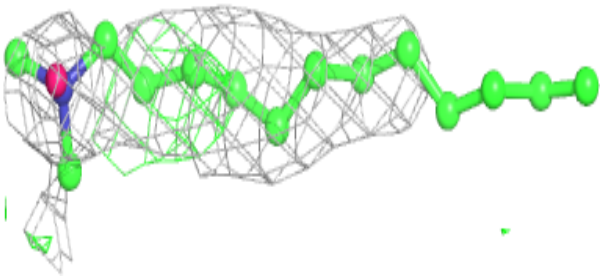
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

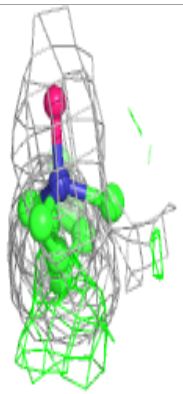


Electron density around LDA A 311:

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

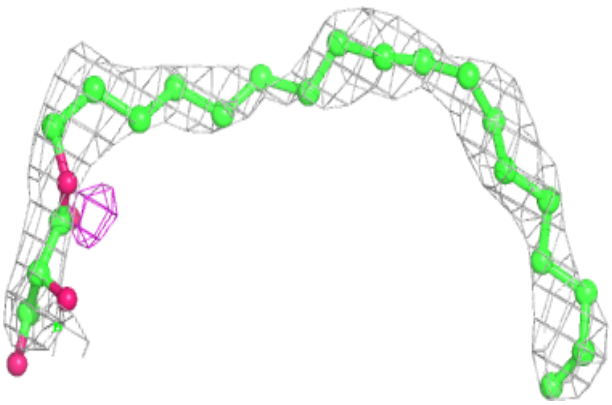


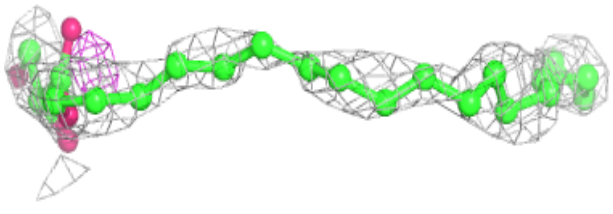


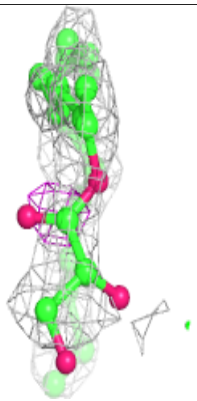


Electron density around MPG A 327:

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

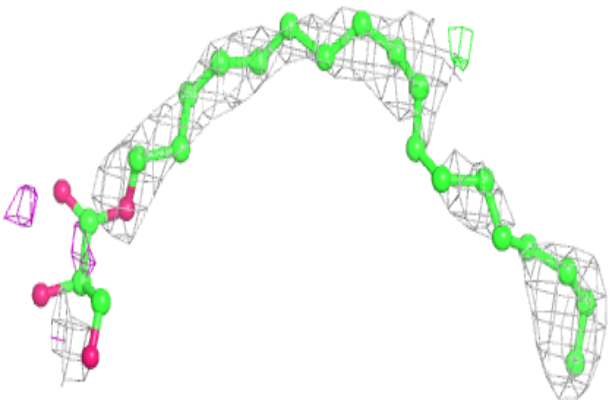


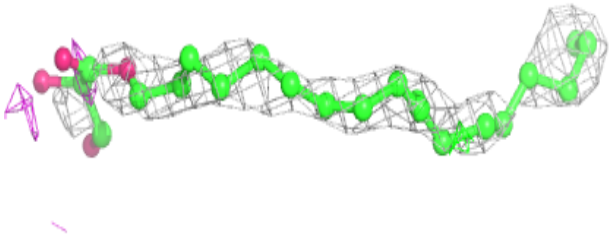


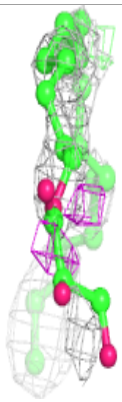


Electron density around MPG B 319:

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

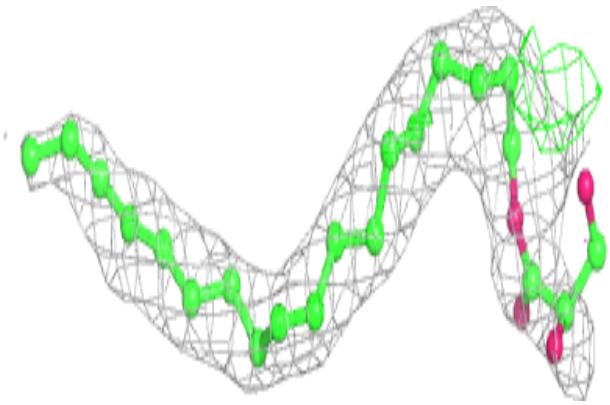


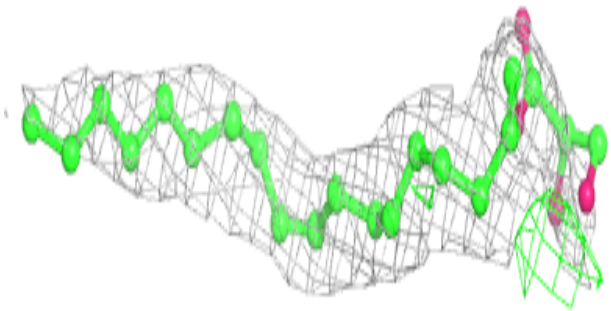


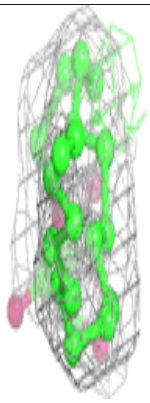


Electron density around MPG A 318:

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

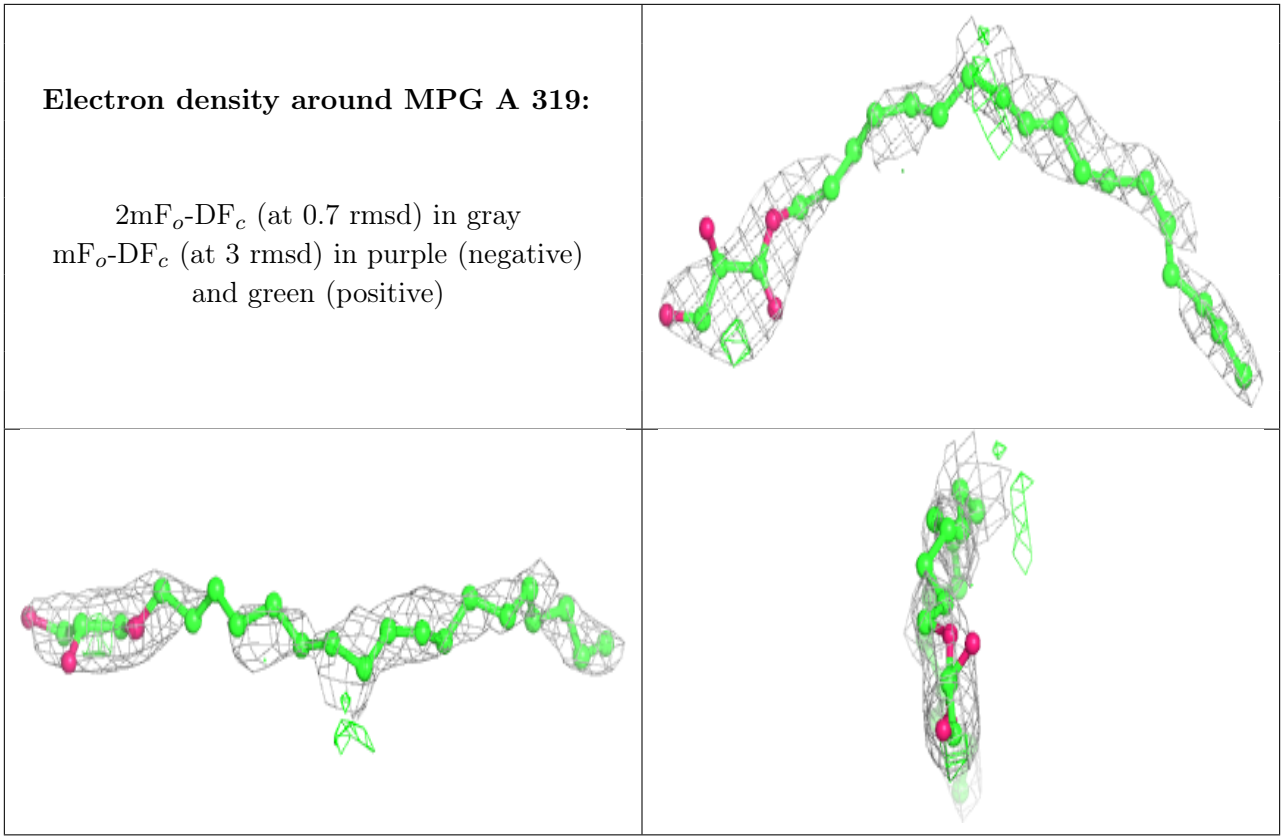






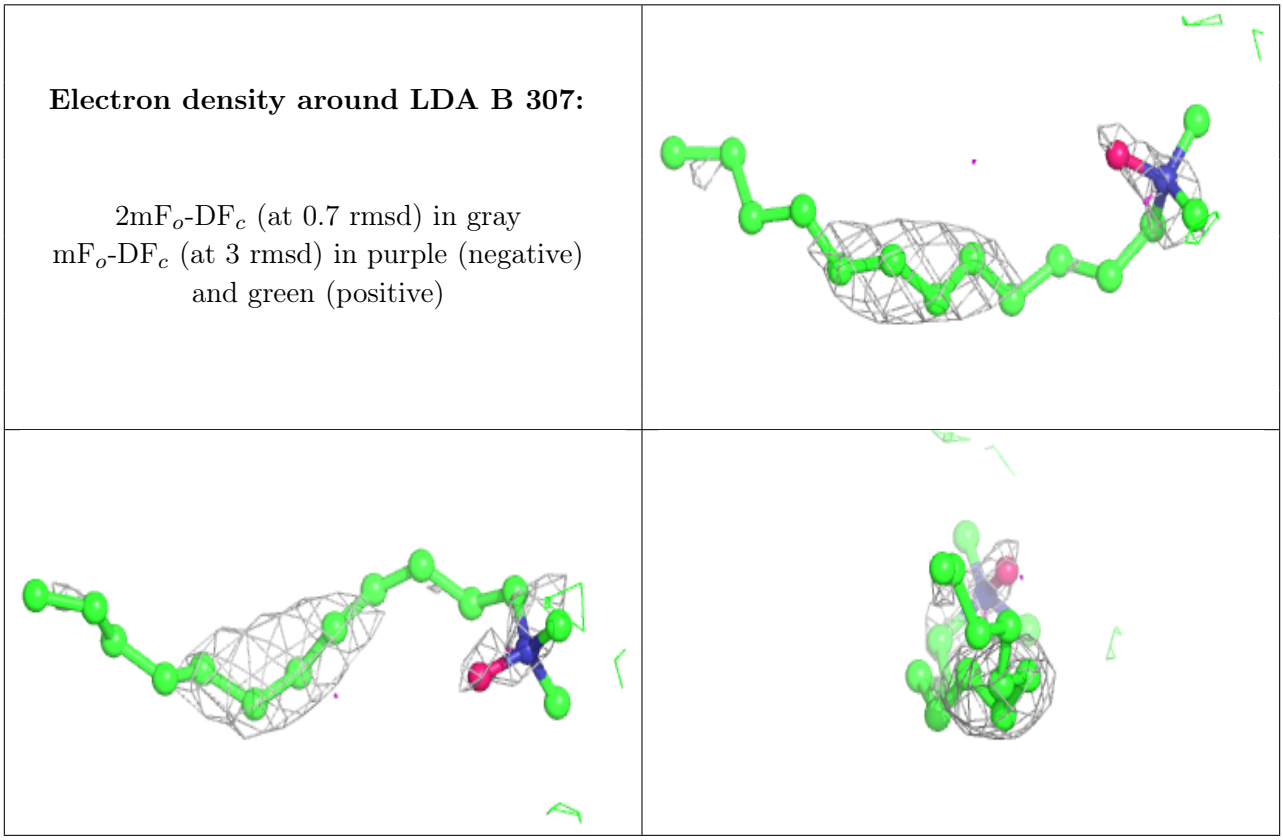
Electron density around MPG A 319:

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



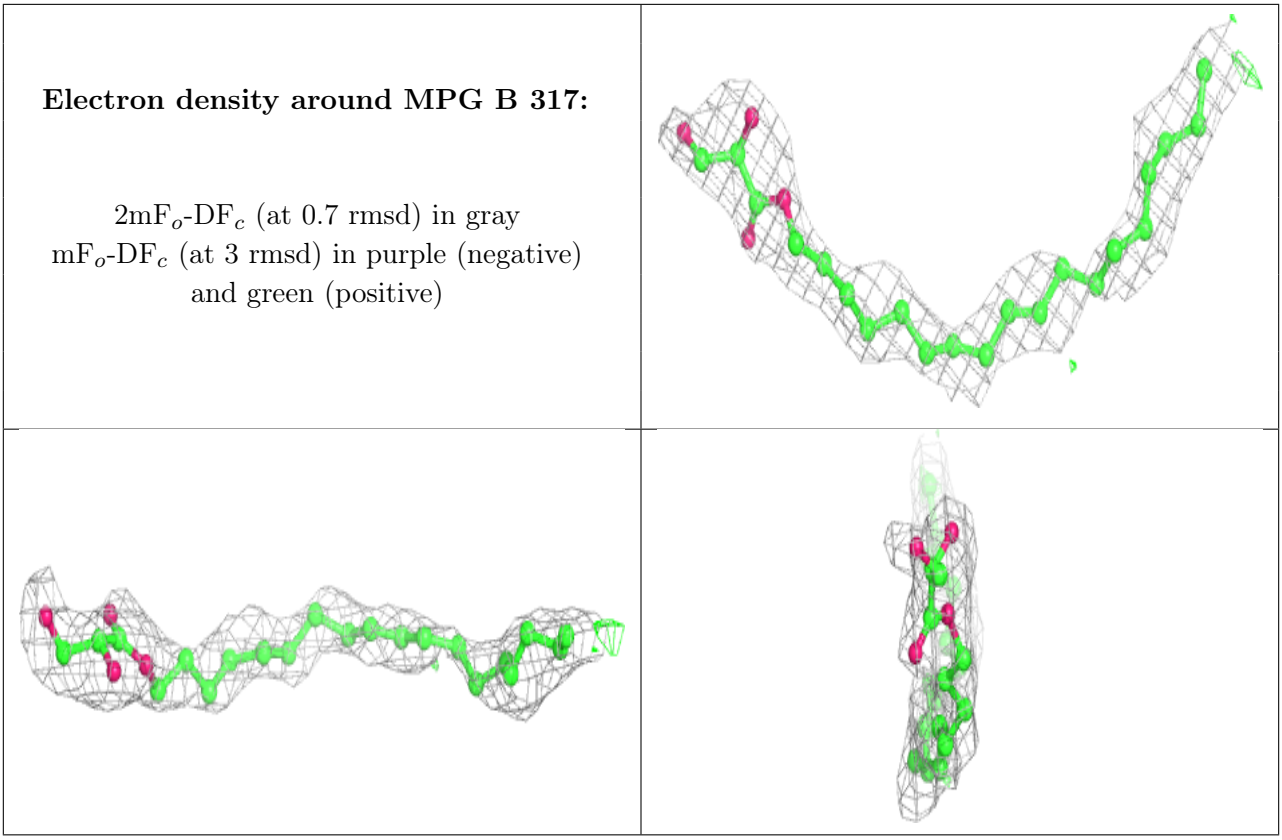
Electron density around LDA B 307:

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



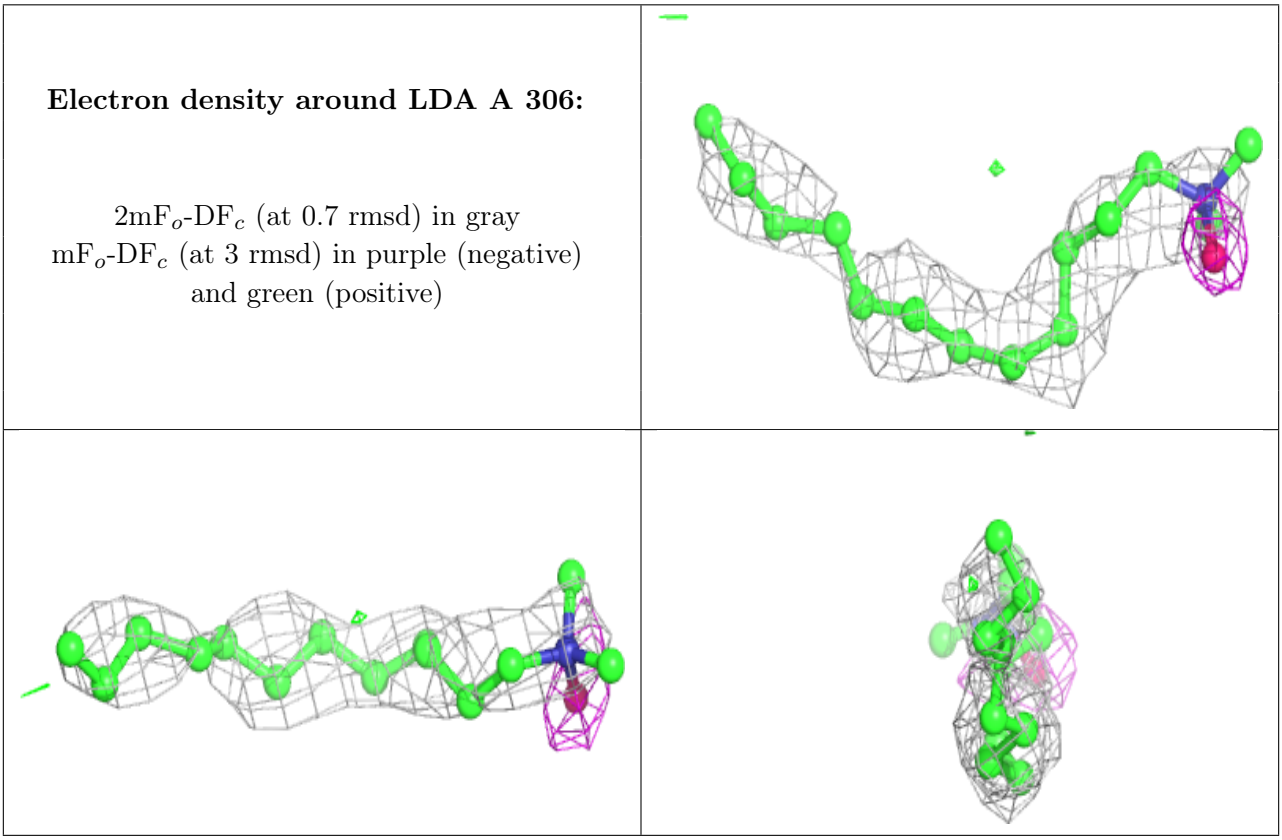
Electron density around MPG B 317:

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



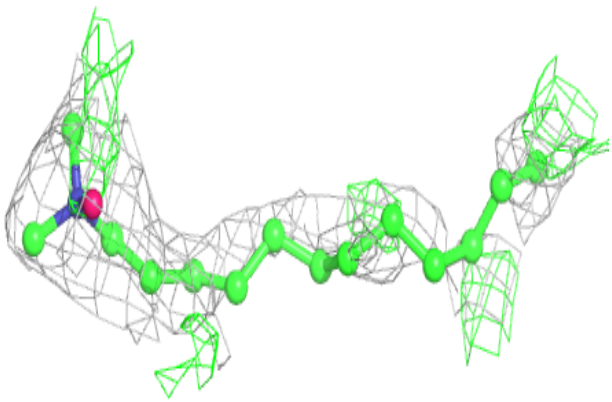
Electron density around LDA A 306:

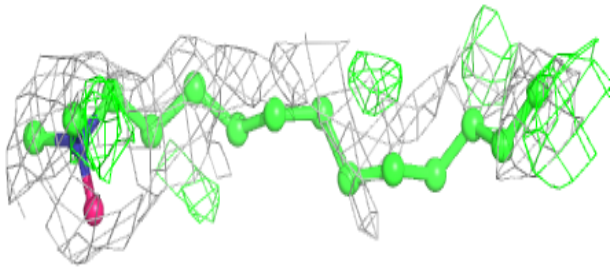
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

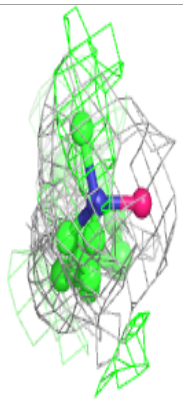


Electron density around LDA B 311:

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

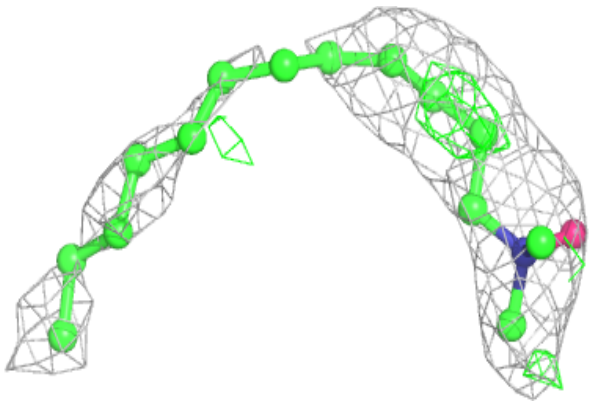


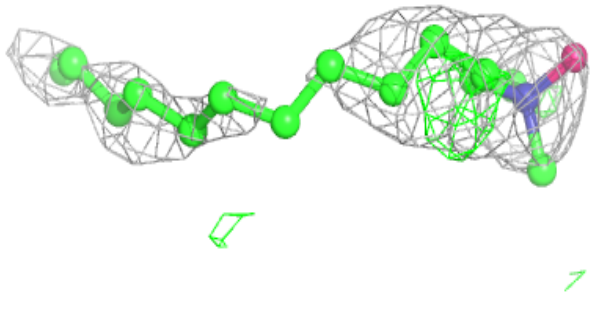


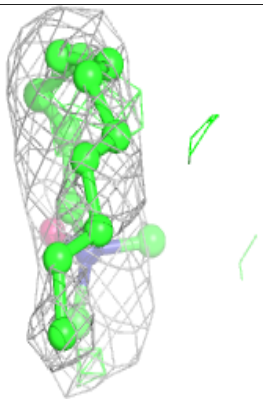


Electron density around LDA B 302:

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

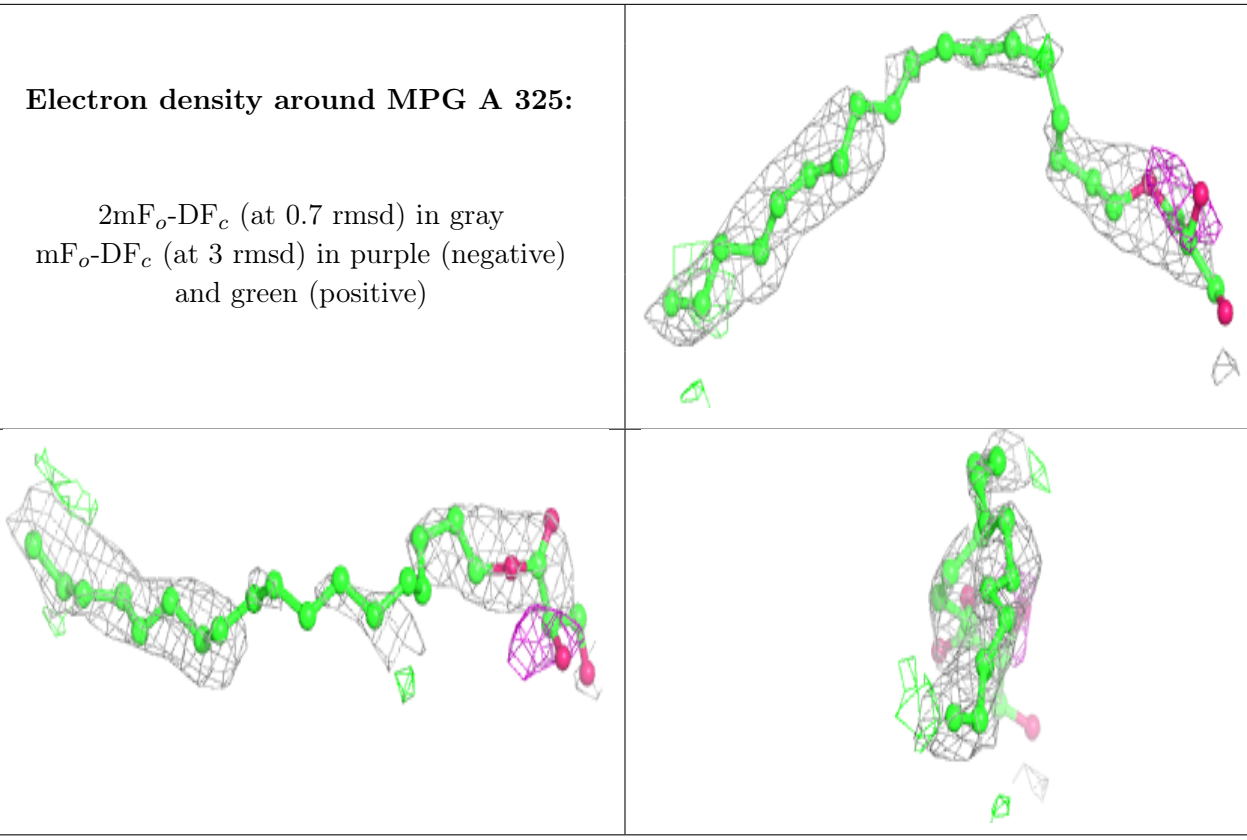






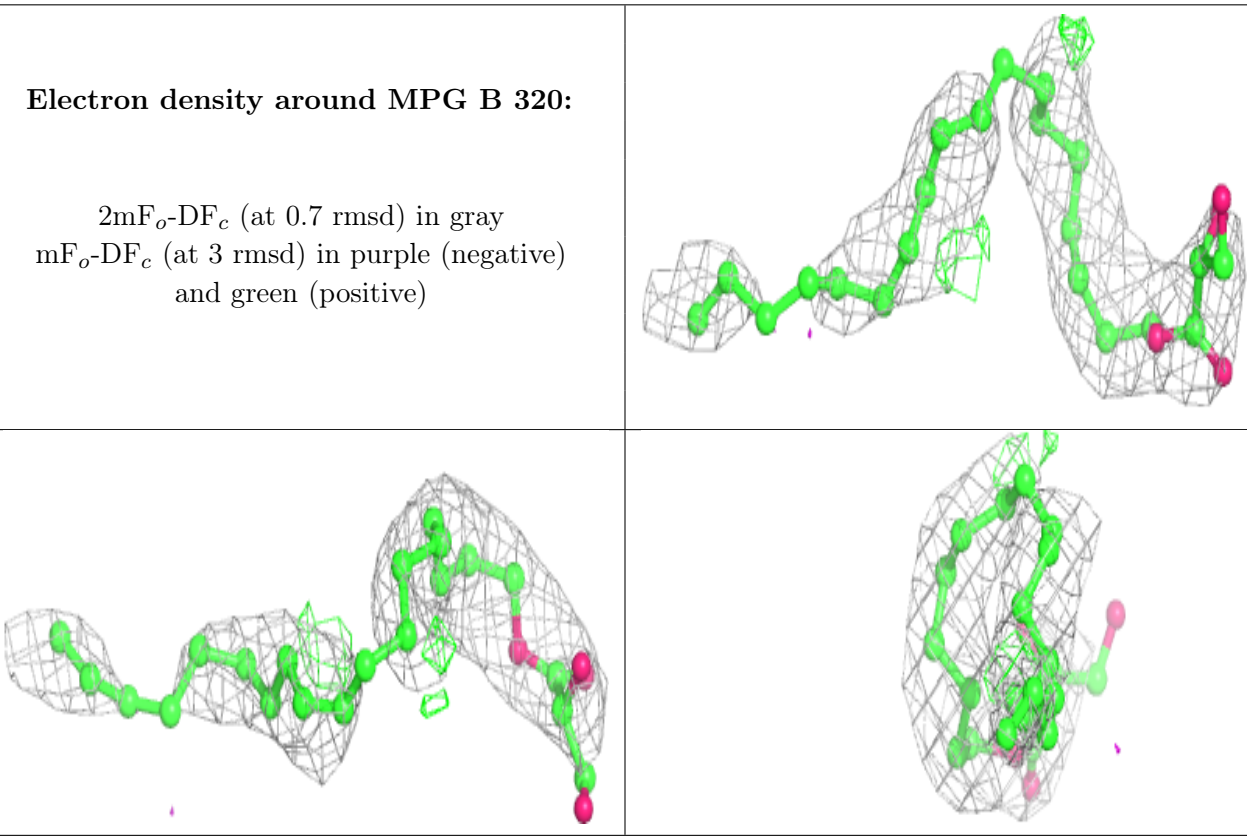
Electron density around MPG A 325:

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



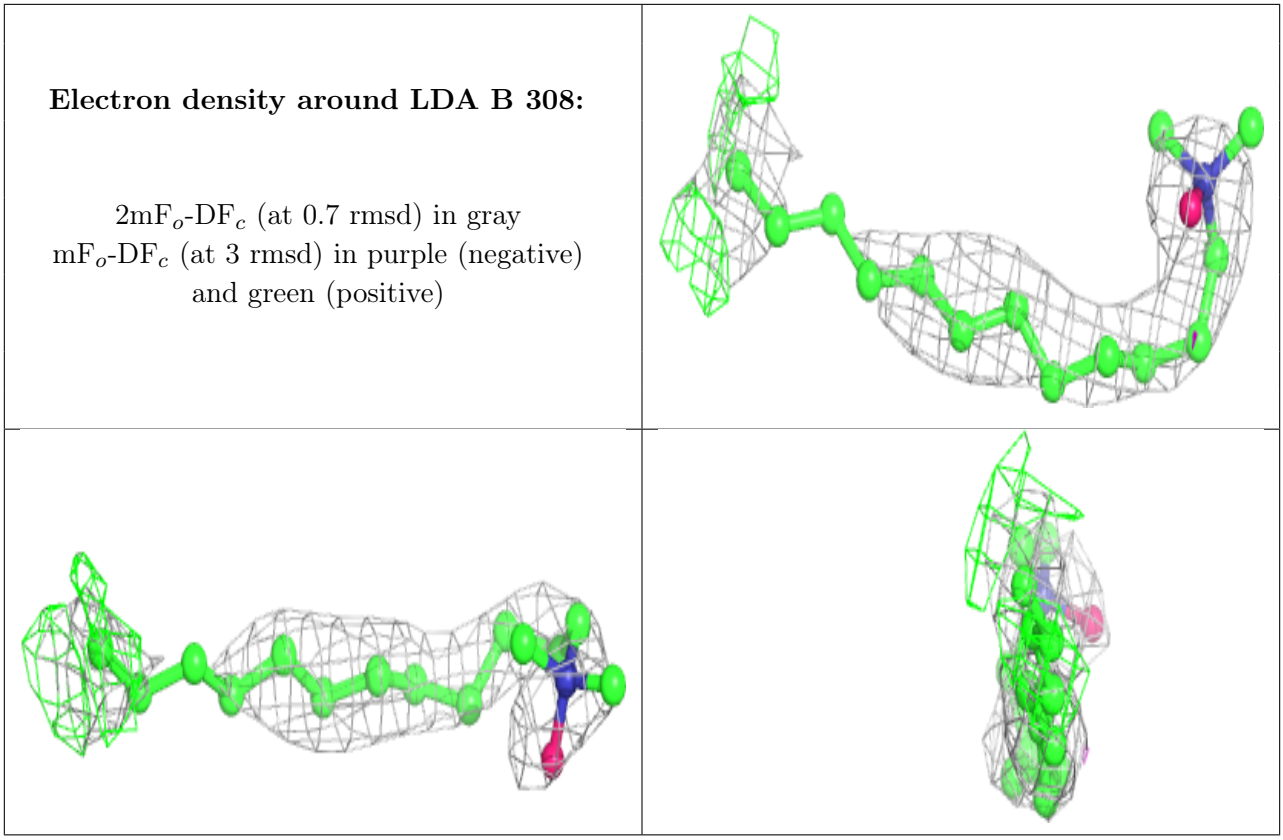
Electron density around MPG B 320:

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



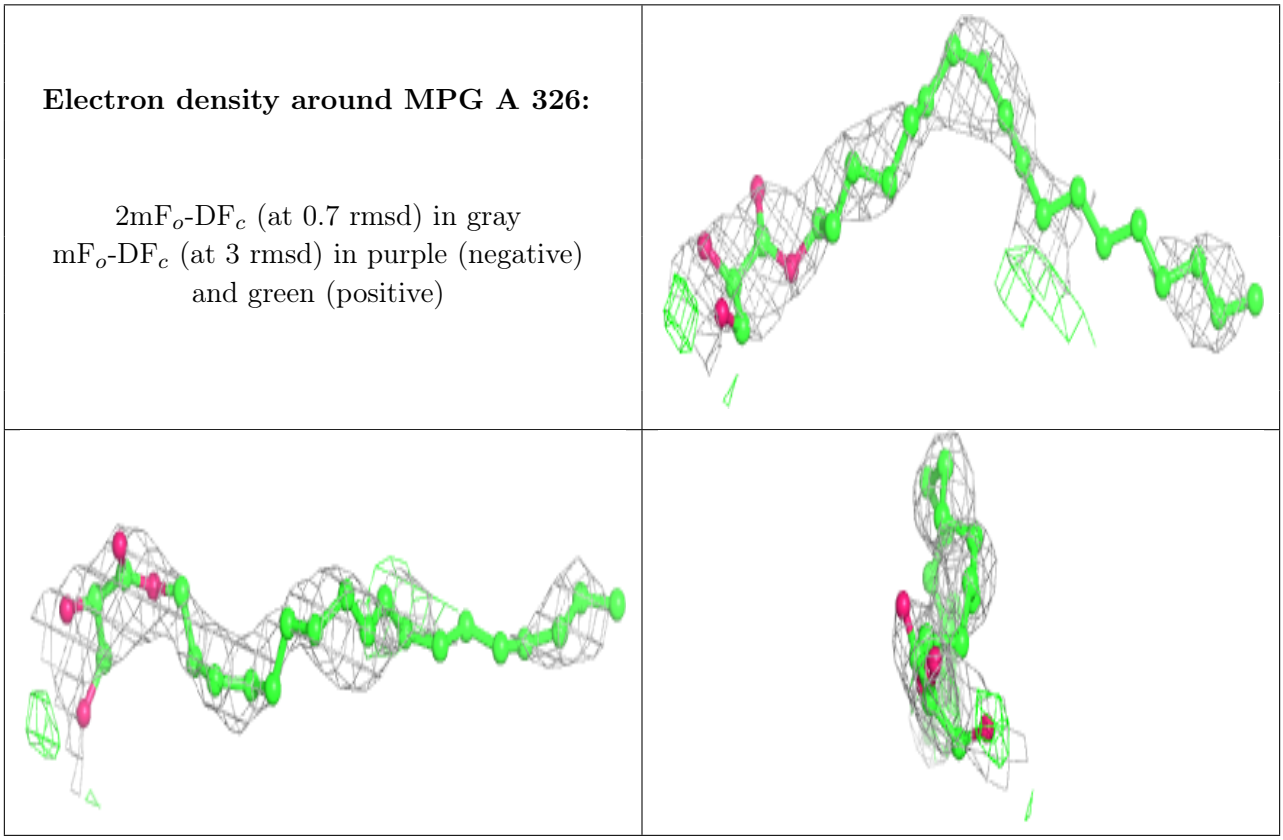
Electron density around LDA B 308:

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



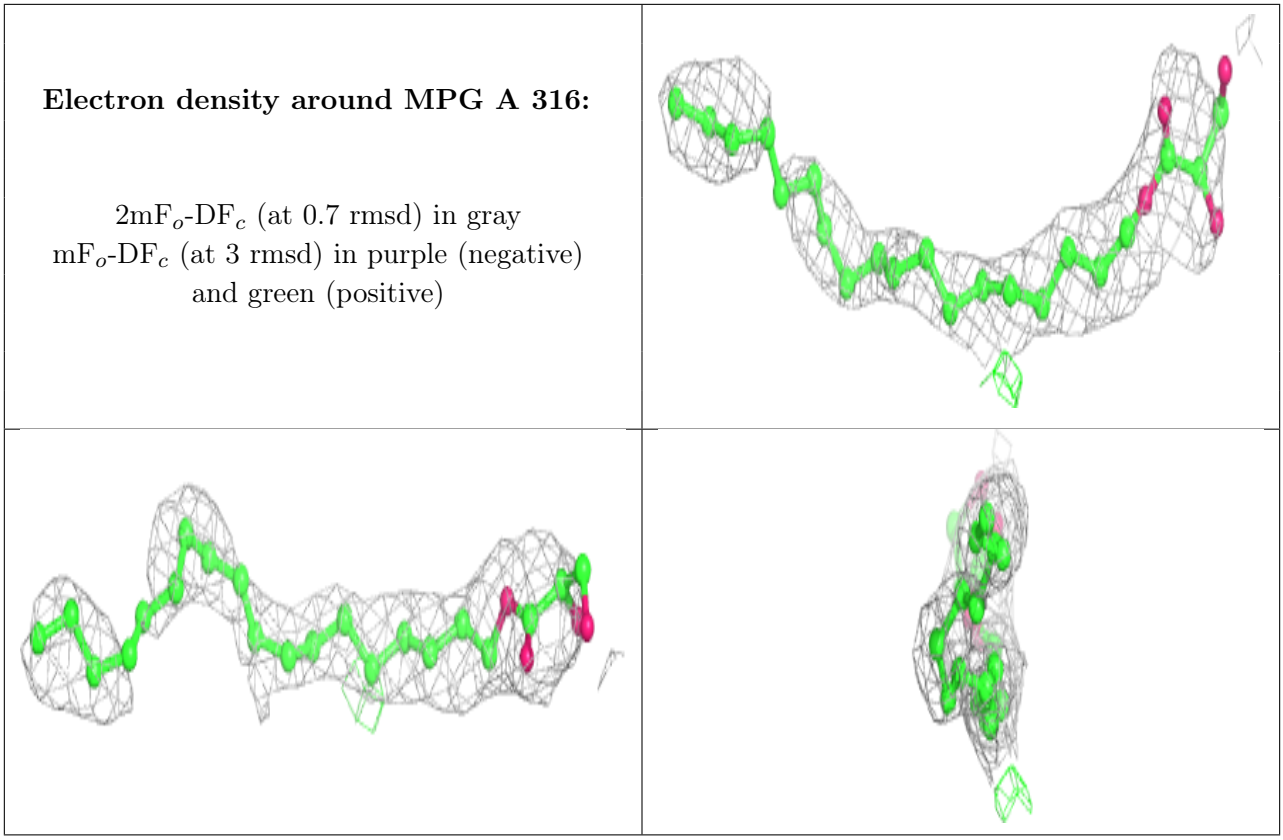
Electron density around MPG A 326:

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



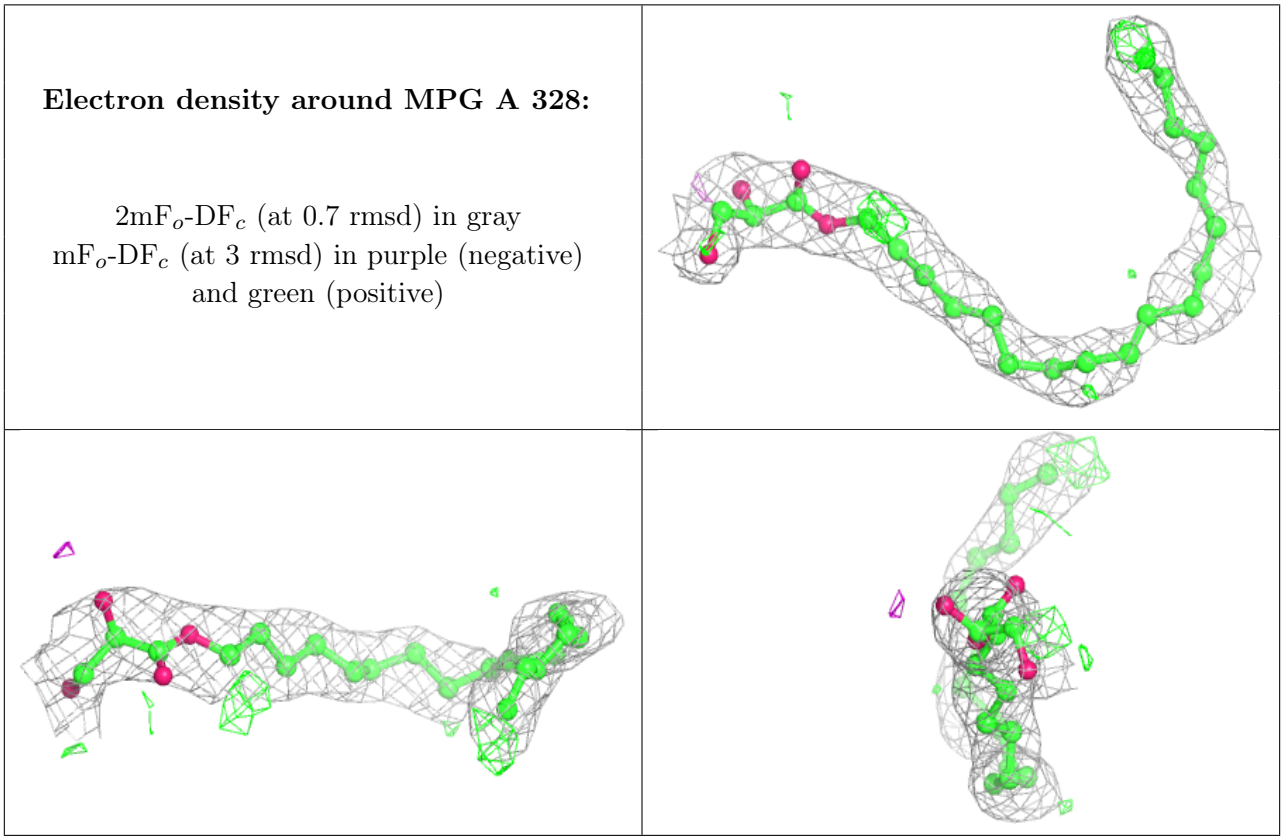
Electron density around MPG A 316:

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



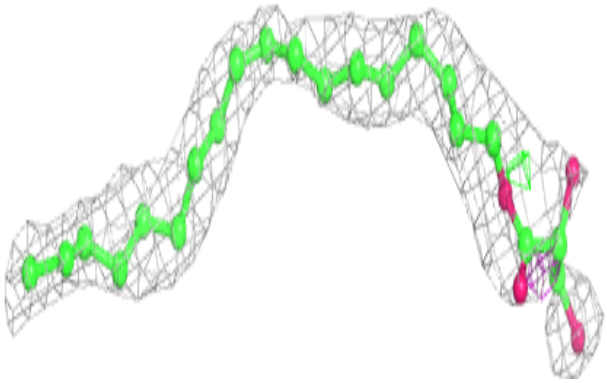
Electron density around MPG A 328:

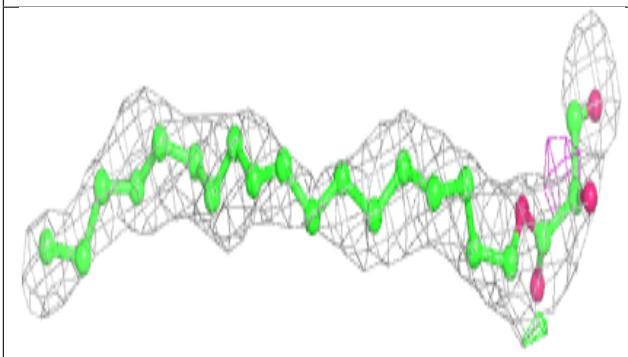
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

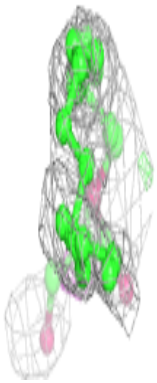


Electron density around MPG B 316:

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

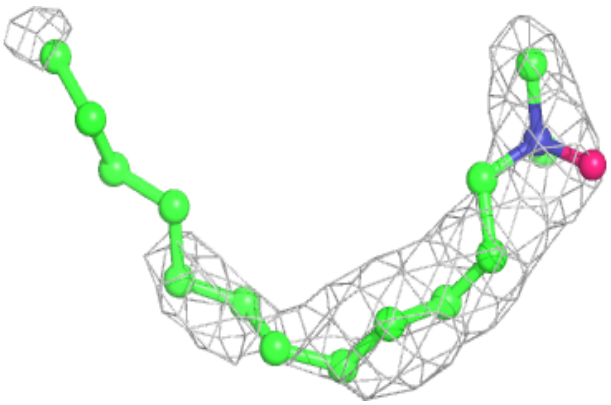


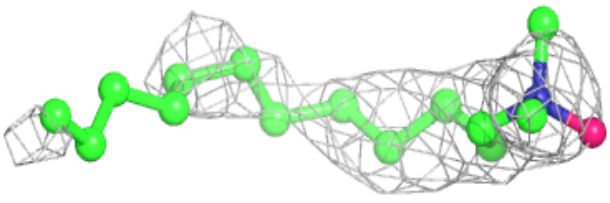


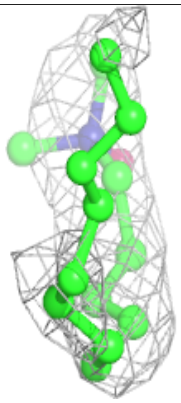


Electron density around LDA A 301:

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

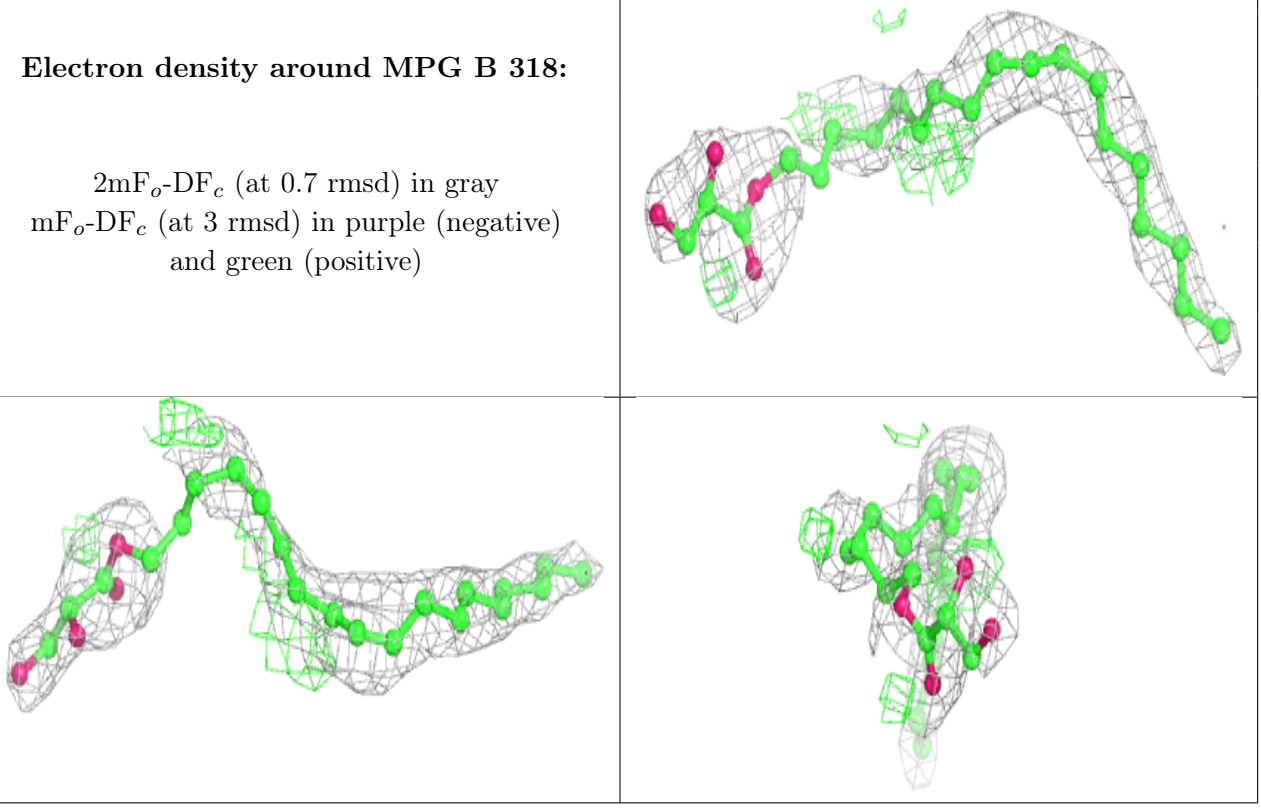






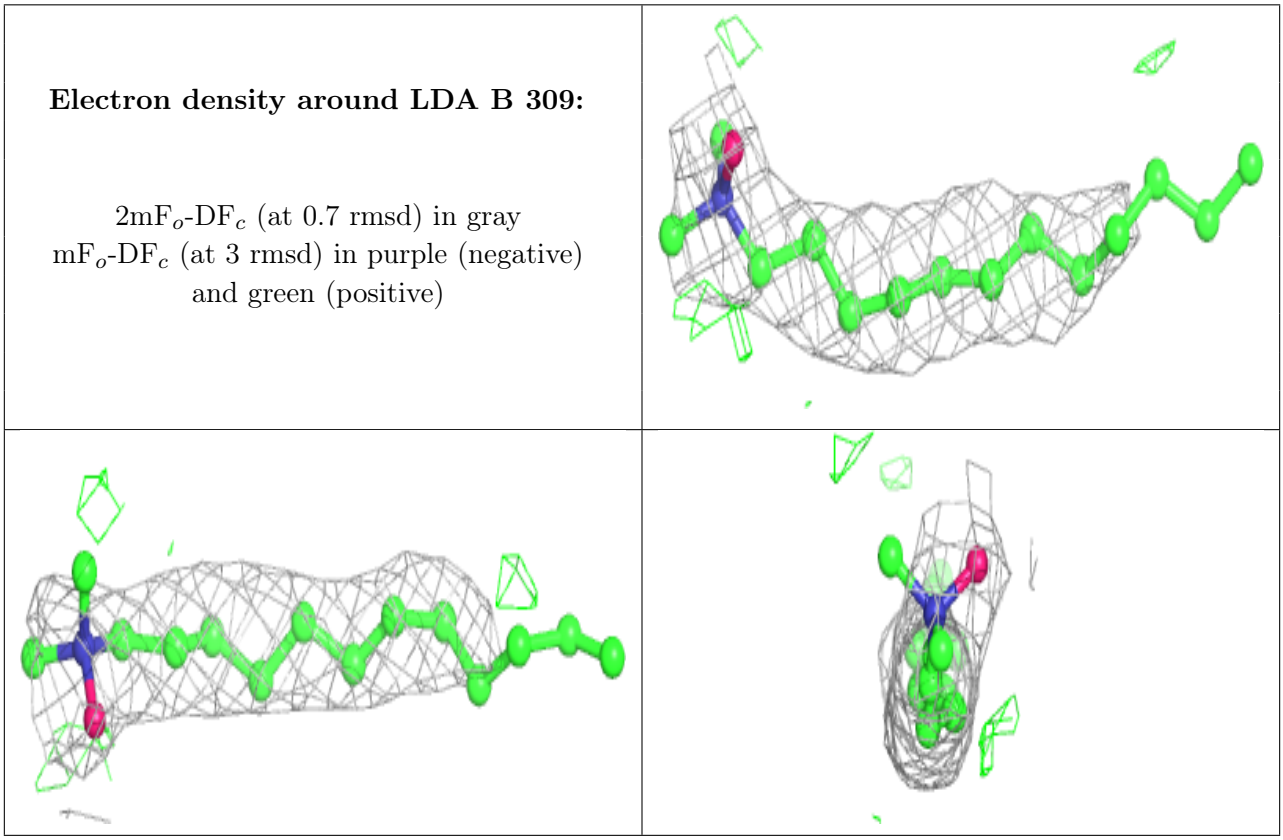
Electron density around MPG B 318:

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



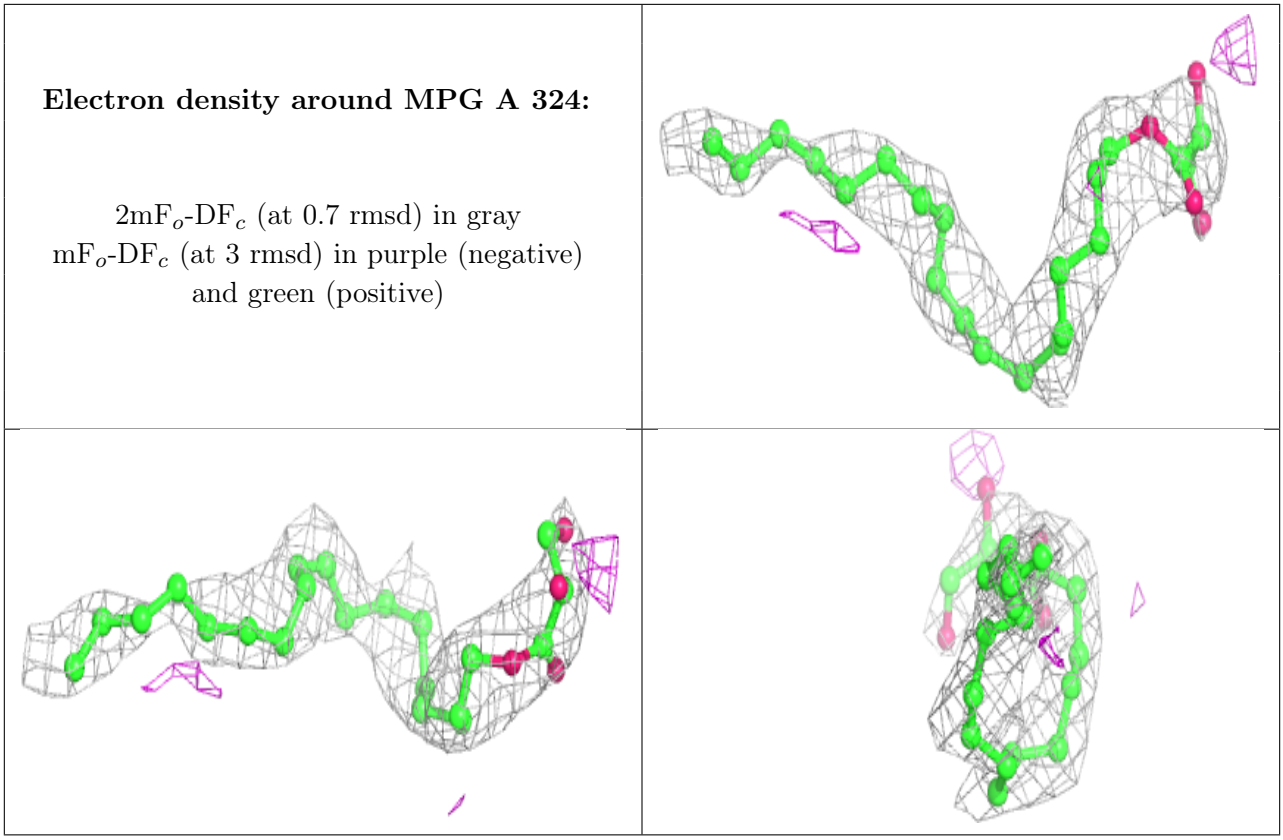
Electron density around LDA B 309:

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



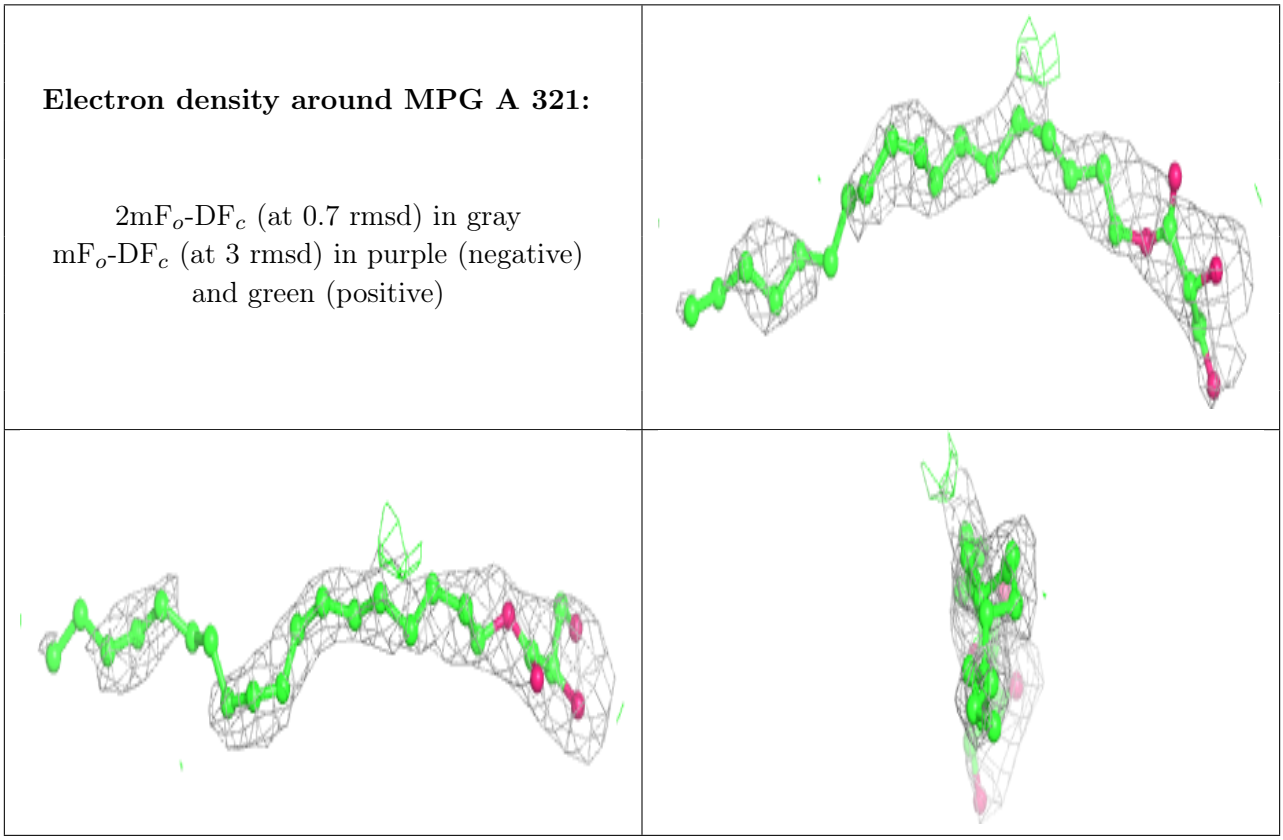
Electron density around MPG A 324:

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



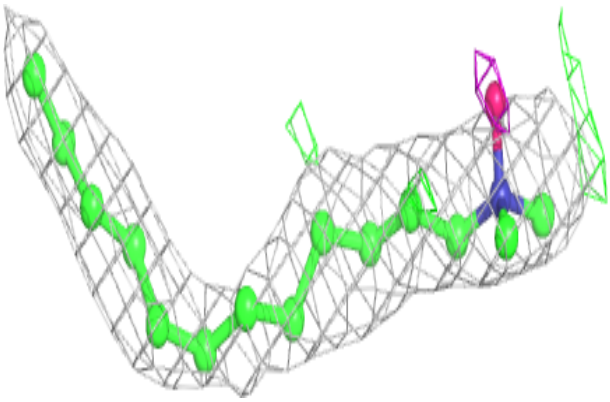
Electron density around MPG A 321:

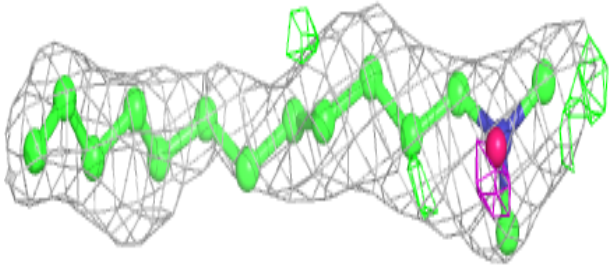
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

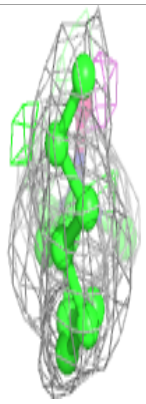


Electron density around LDA A 303:

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

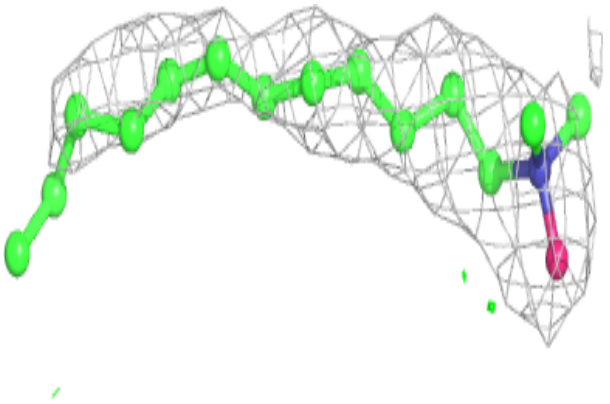


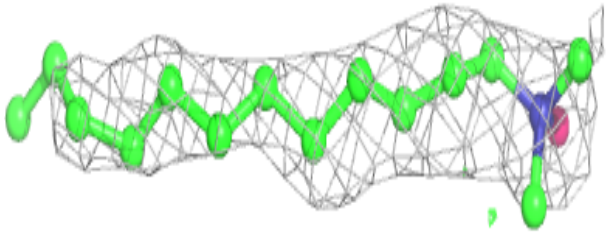


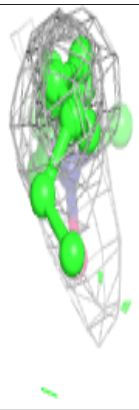


Electron density around LDA B 304:

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

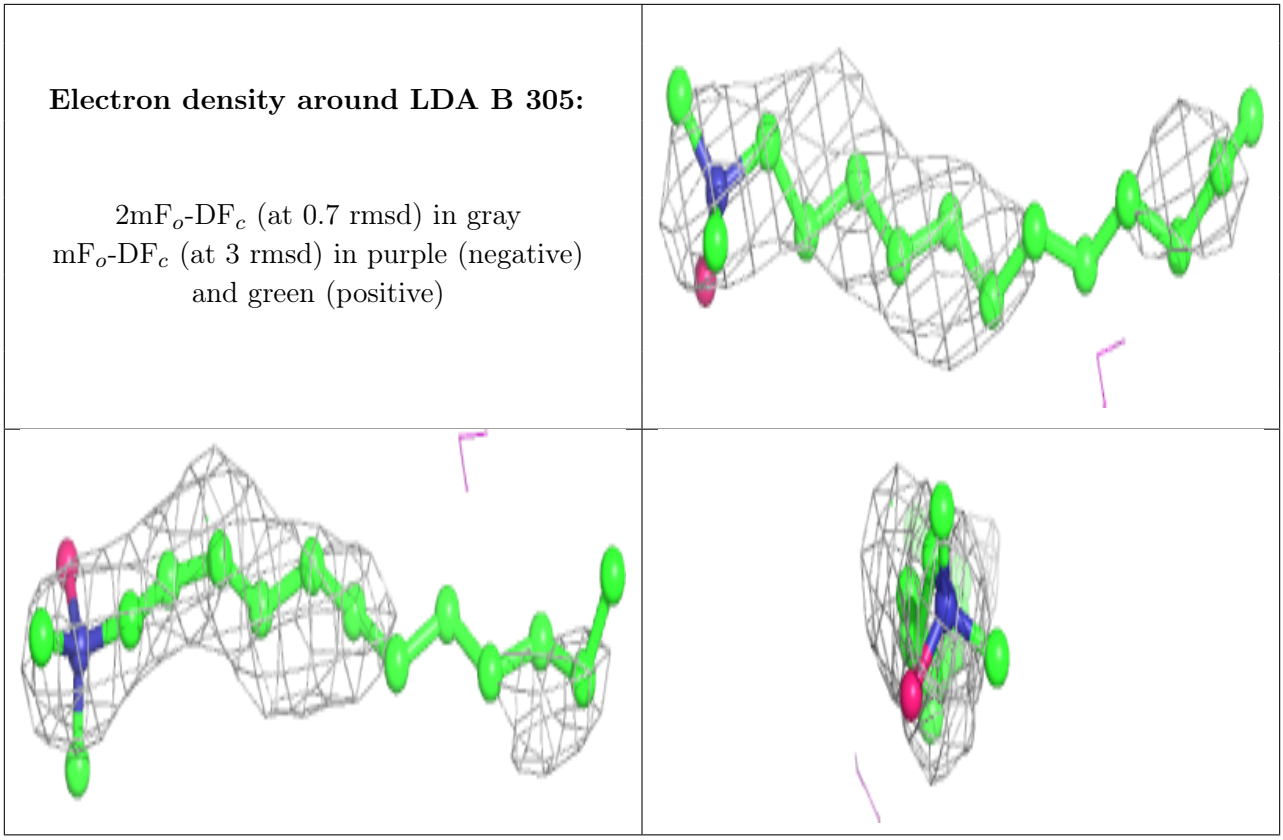






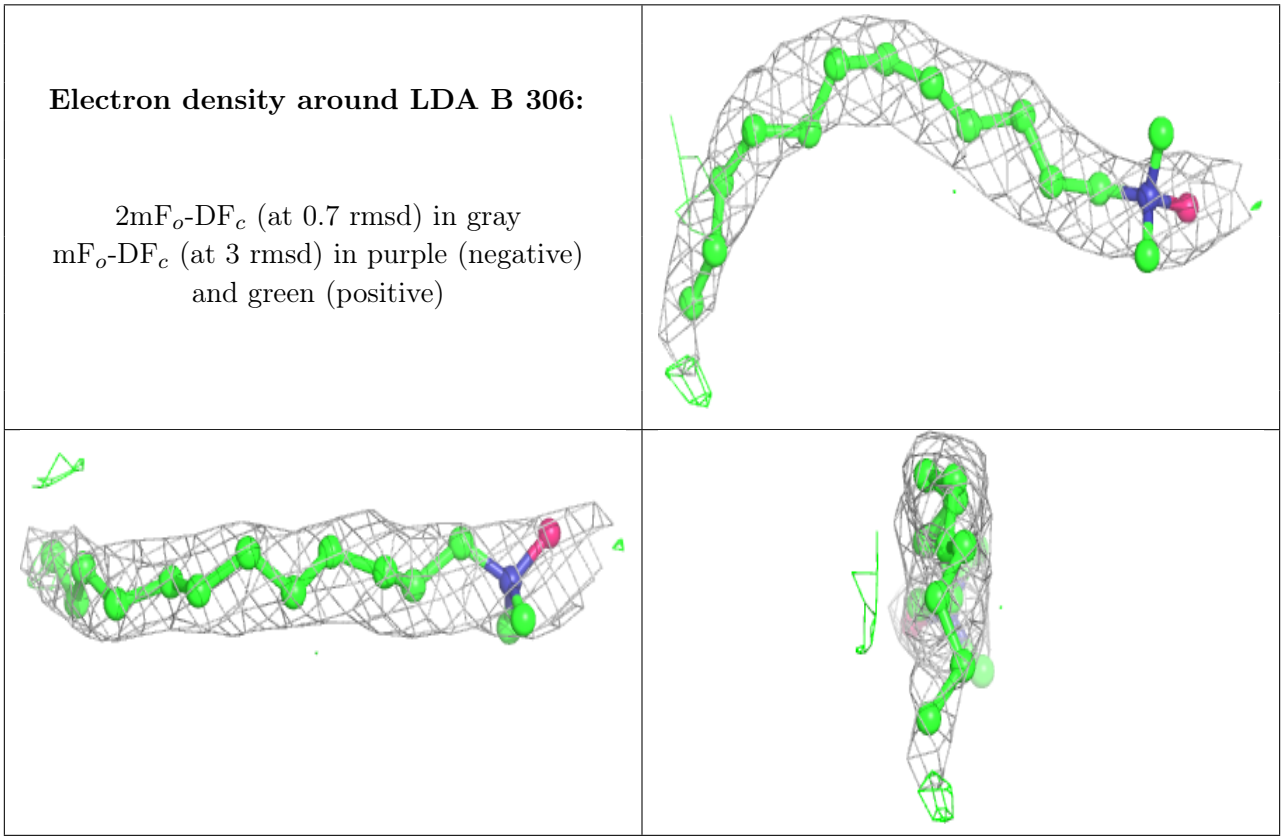
Electron density around LDA B 305:

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



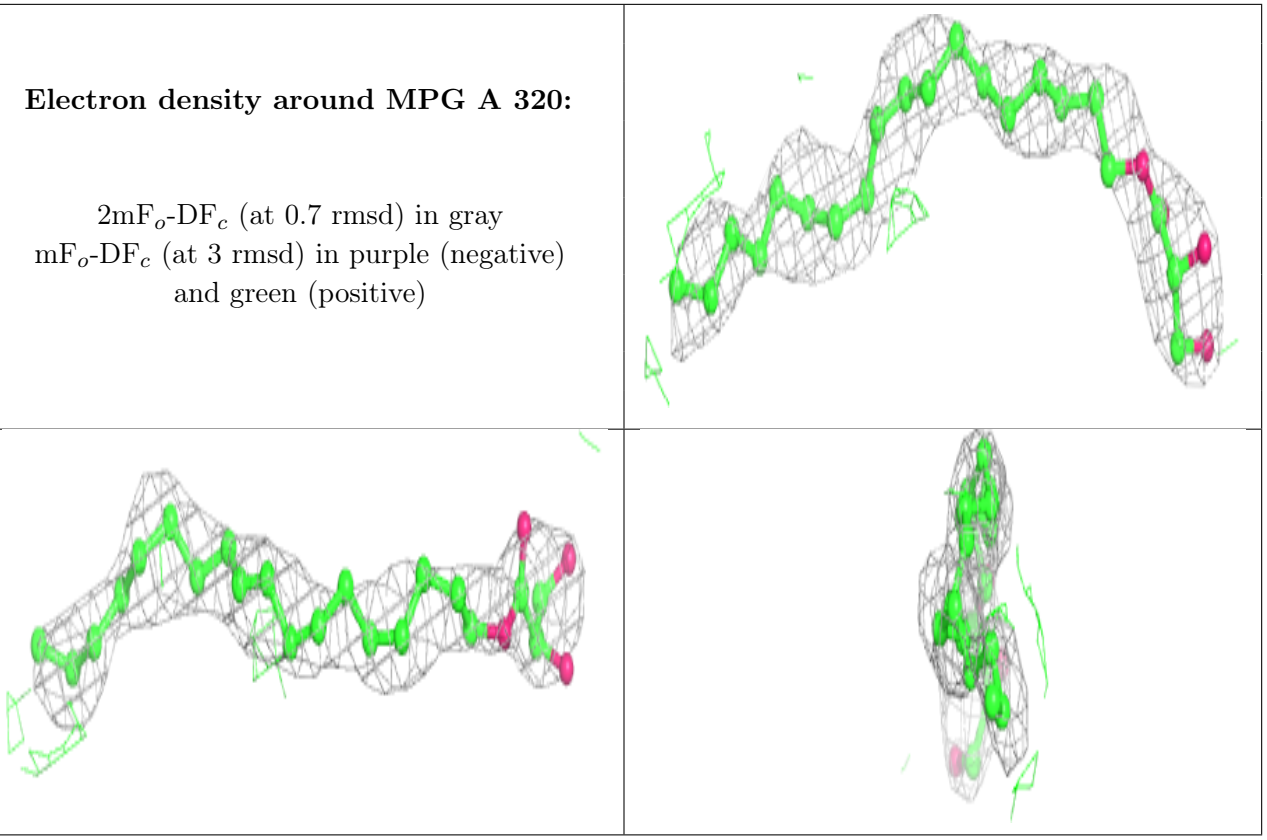
Electron density around LDA B 306:

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



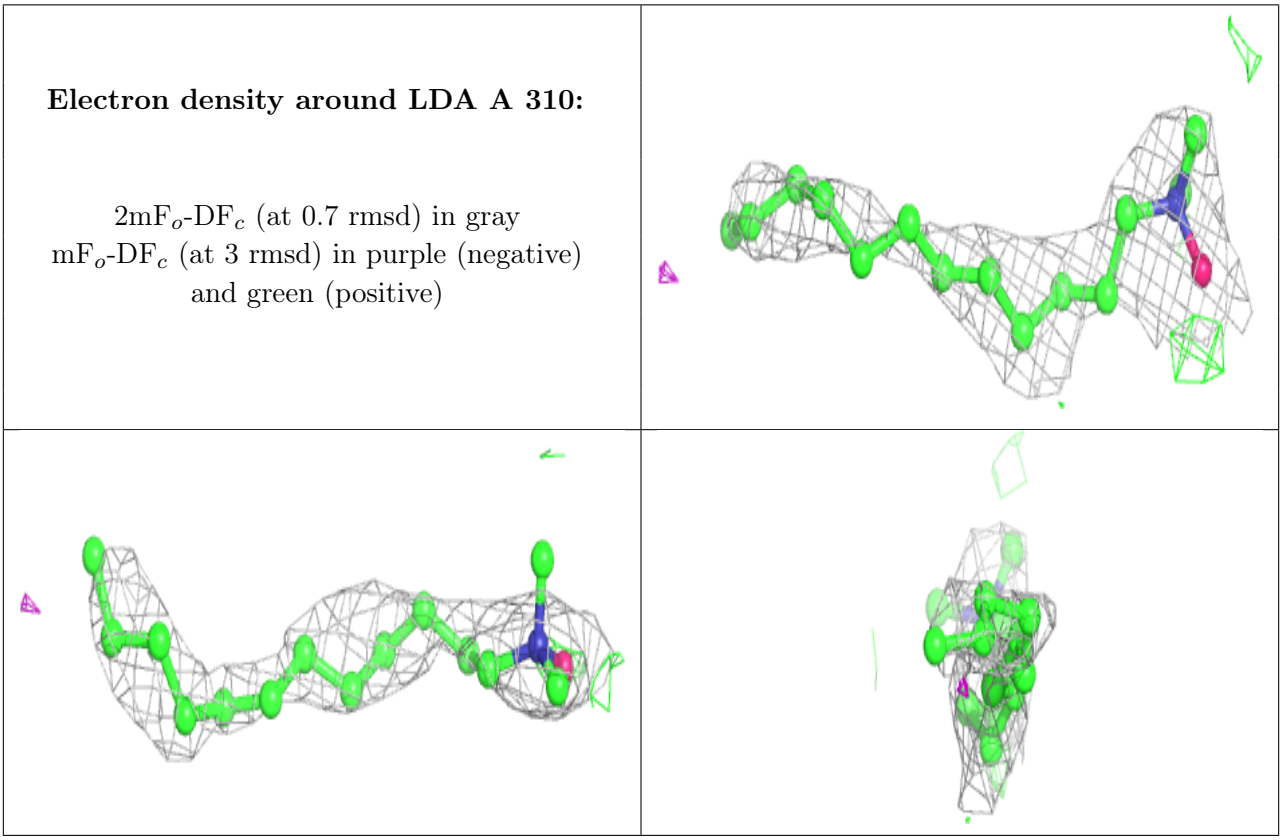
Electron density around MPG A 320:

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



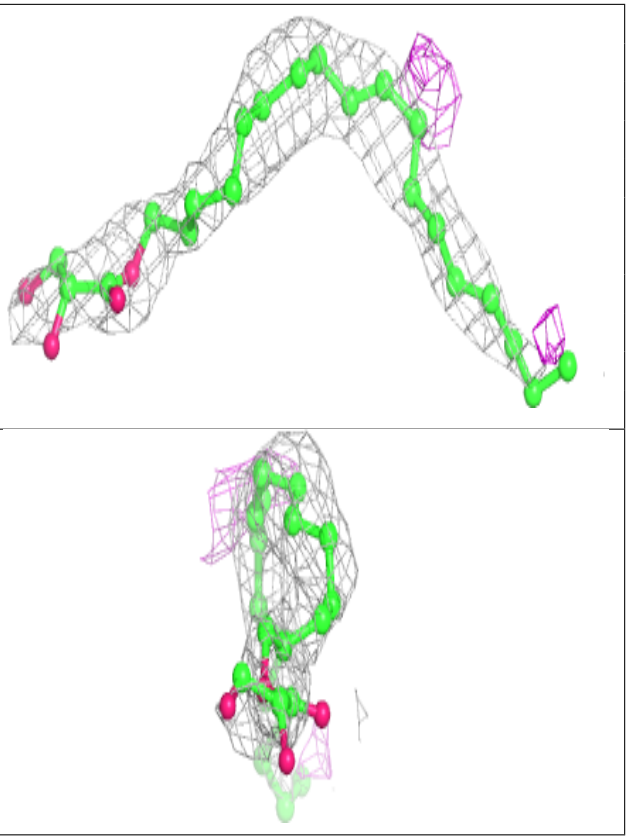
Electron density around LDA A 310:

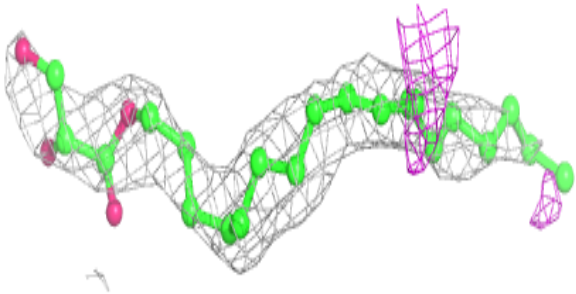
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)



Electron density around MPG A 323:

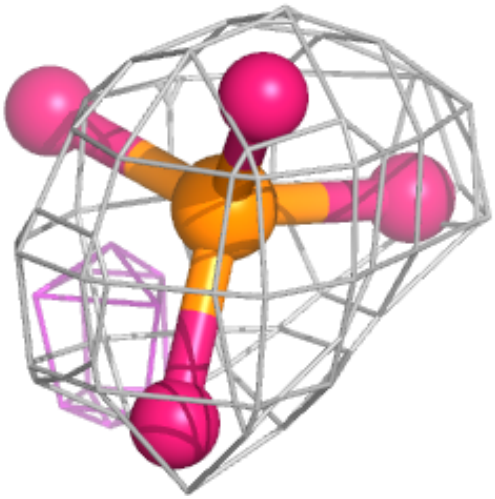
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

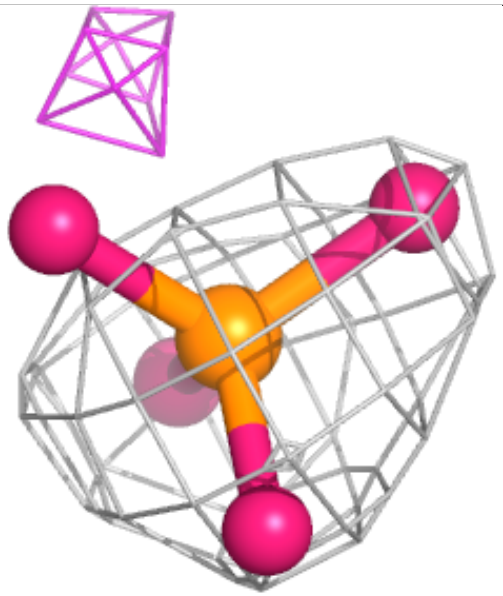


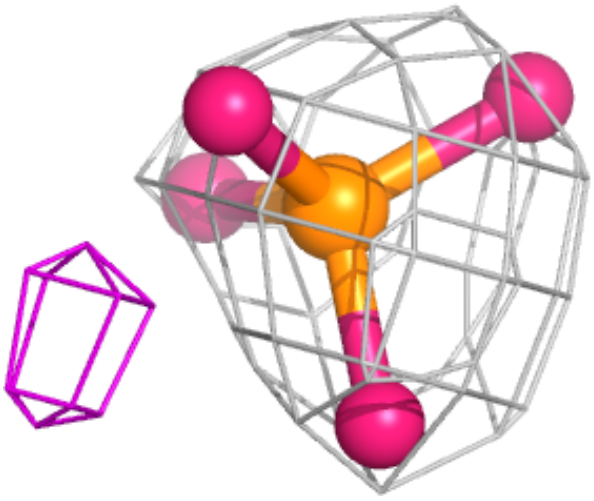


Electron density around PO4 A 312:

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

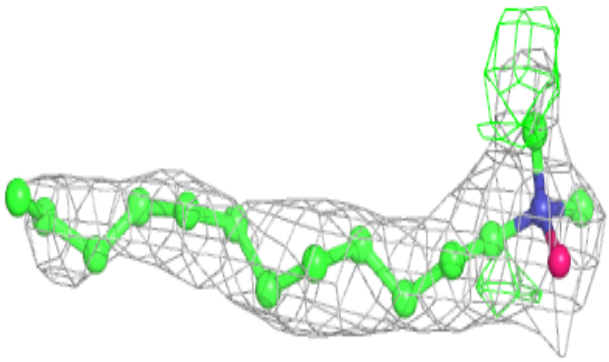


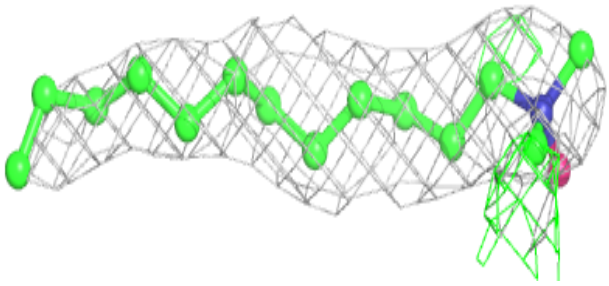




Electron density around LDA B 301:

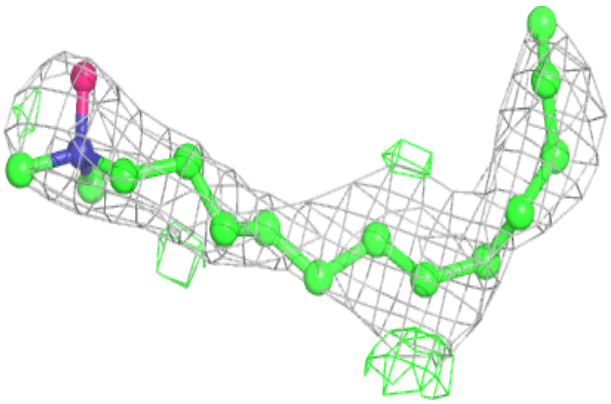
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

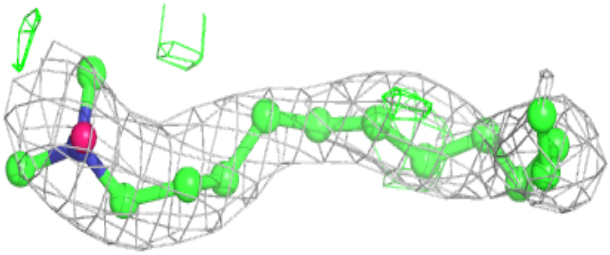


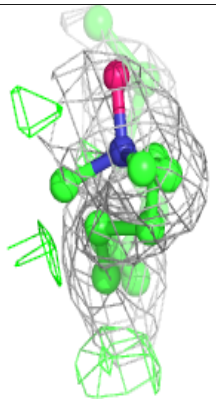


Electron density around LDA A 307:

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

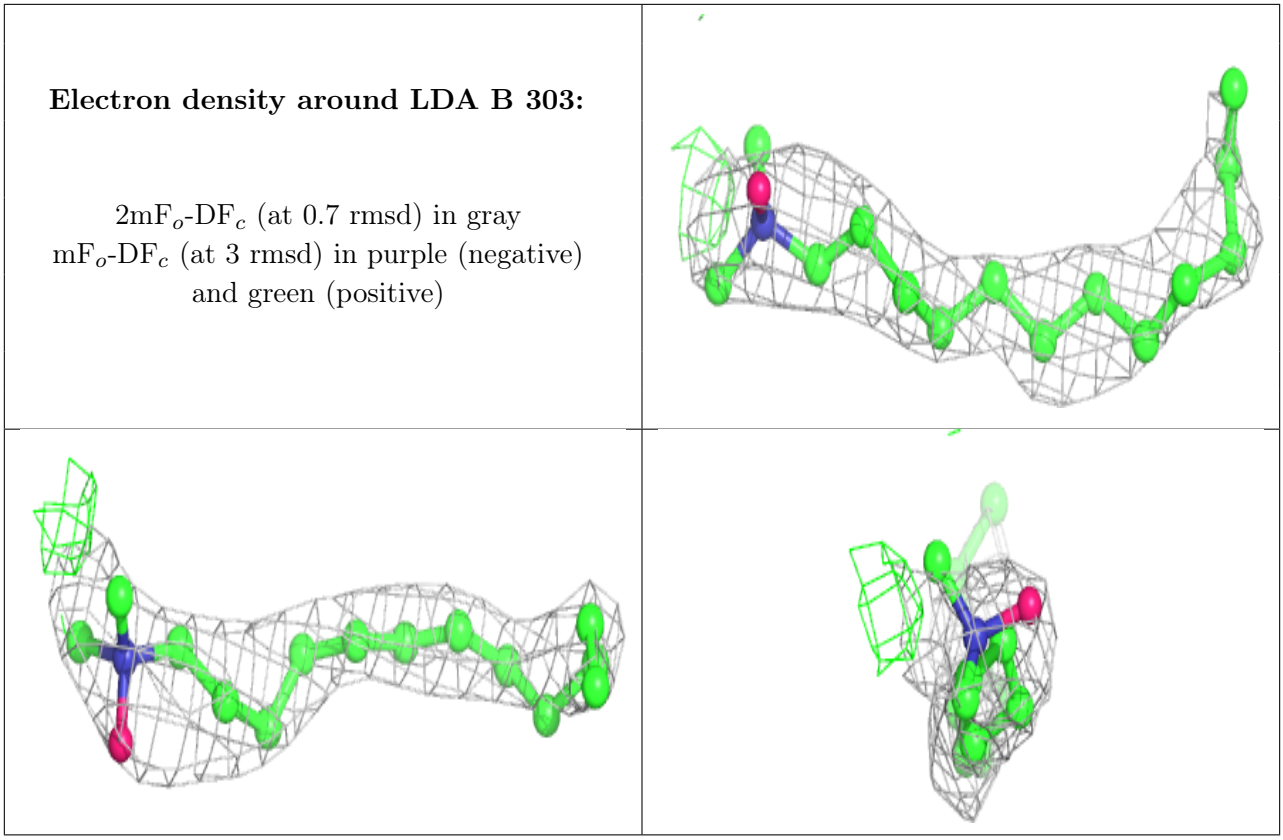






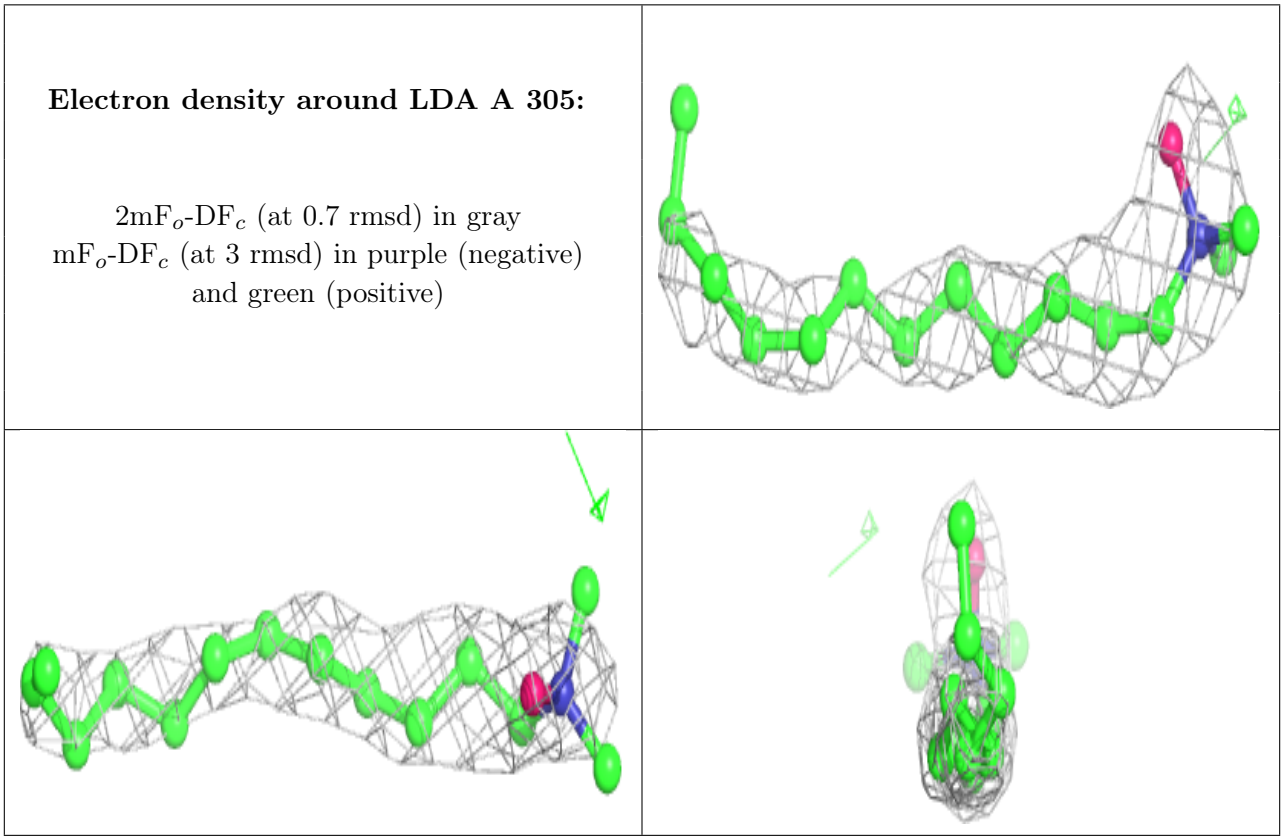
Electron density around LDA B 303:

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



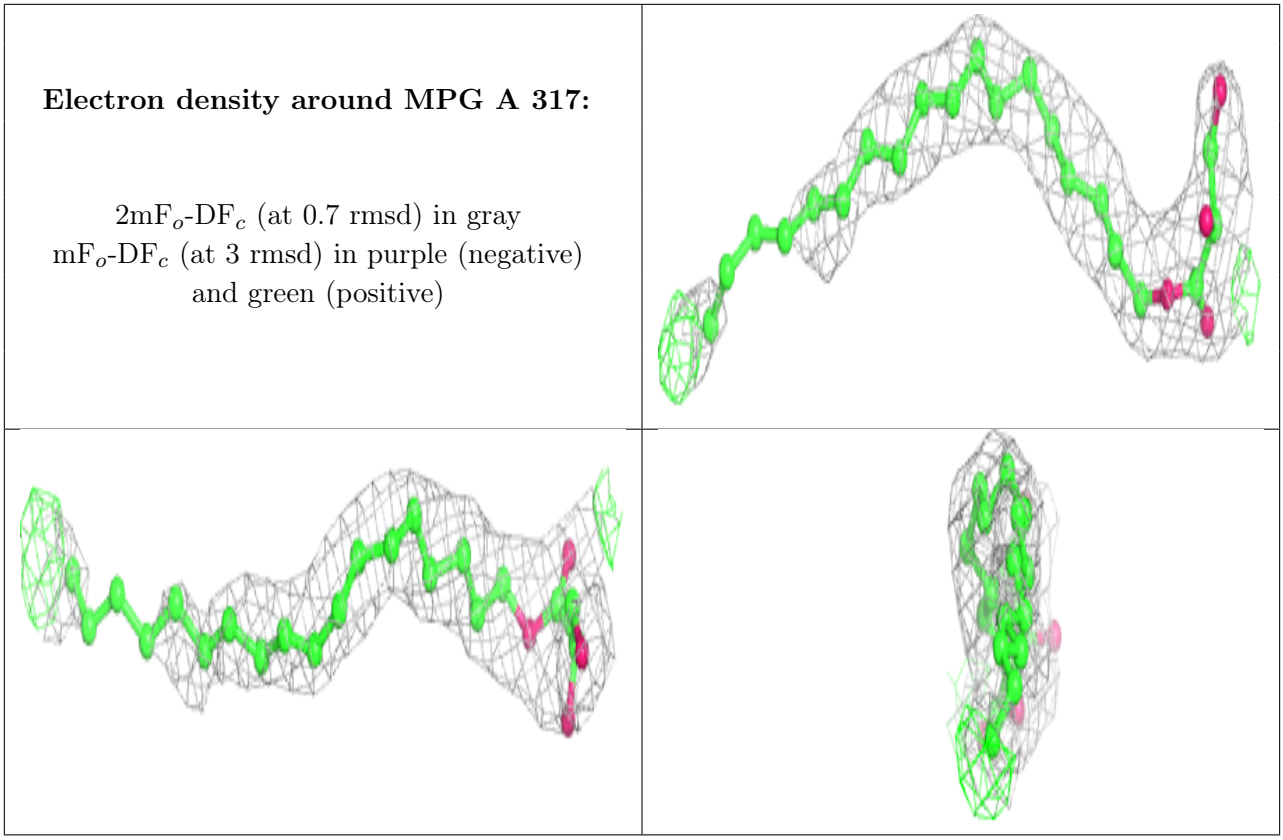
Electron density around LDA A 305:

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



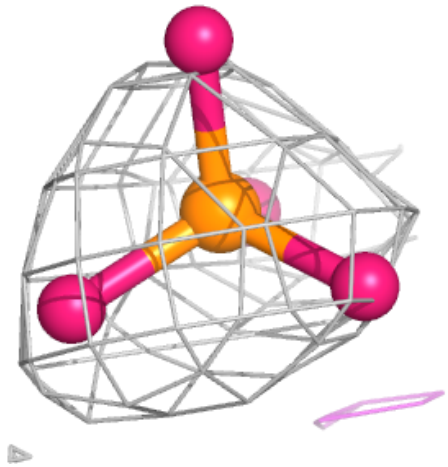
Electron density around MPG A 317:

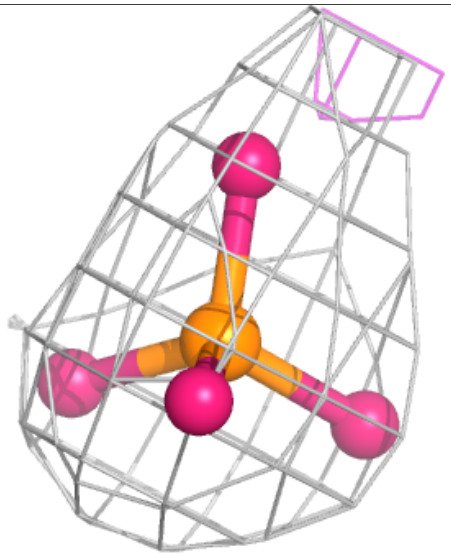
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

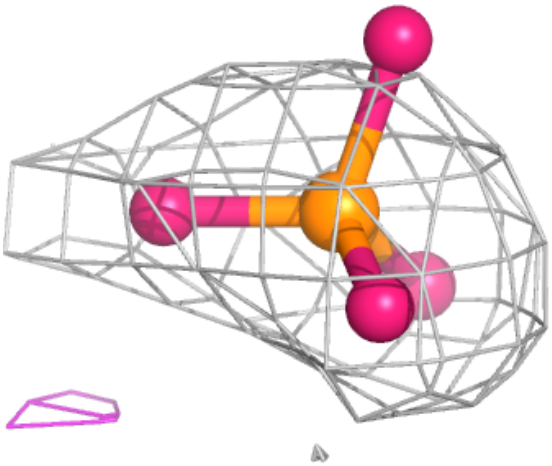


Electron density around PO4 B 313:

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

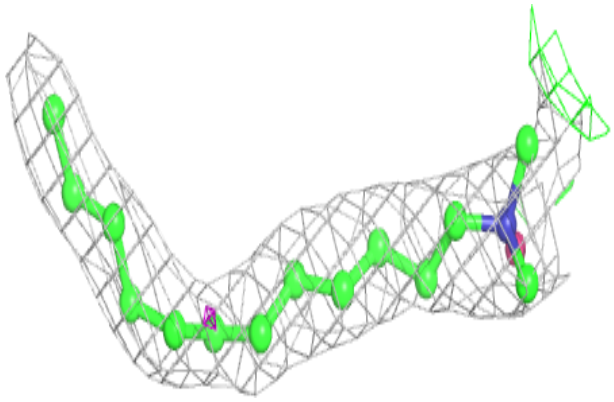


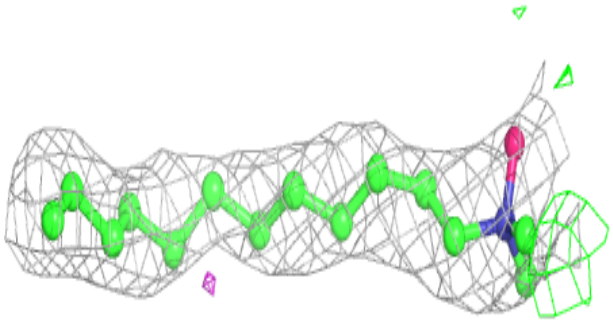


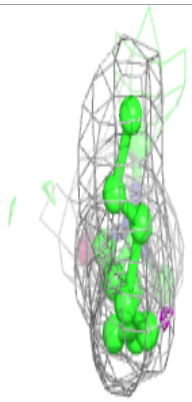


Electron density around LDA A 302:

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

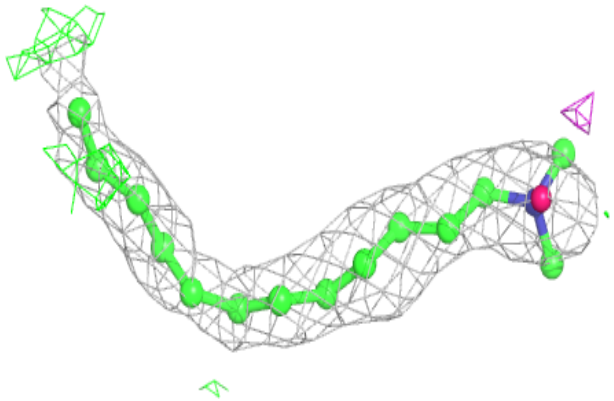


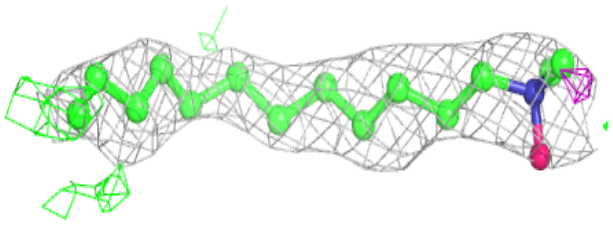


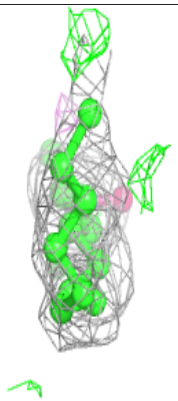


Electron density around LDA A 304:

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

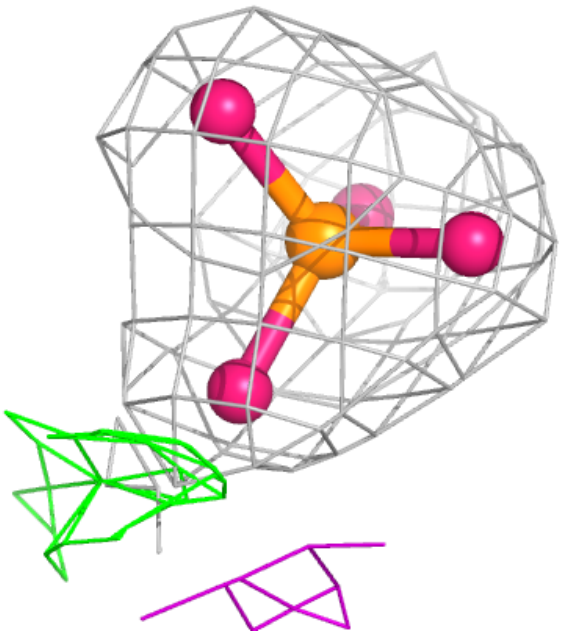


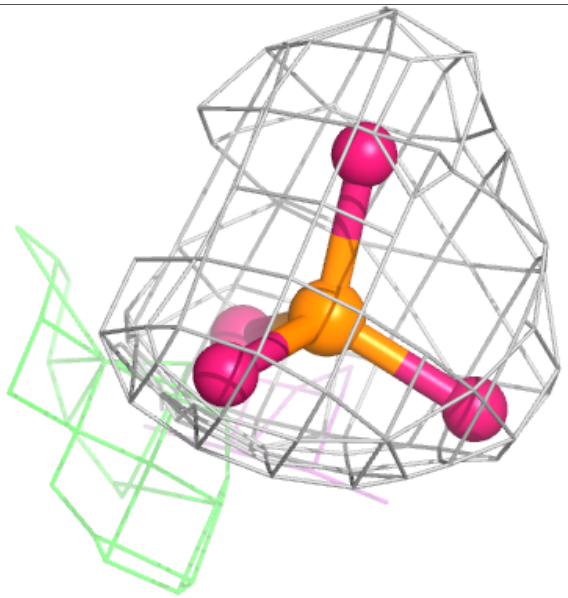


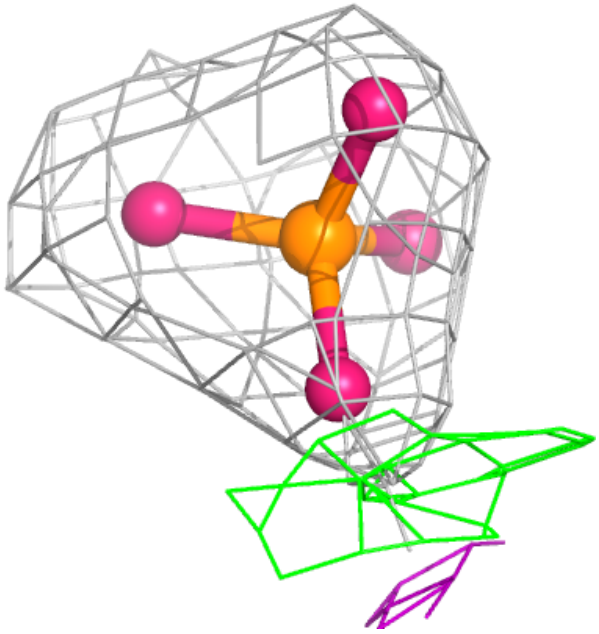


Electron density around PO4 B 314:

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

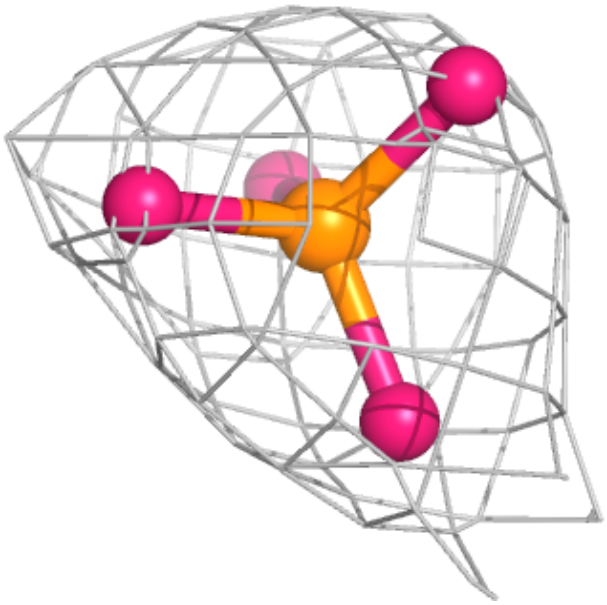


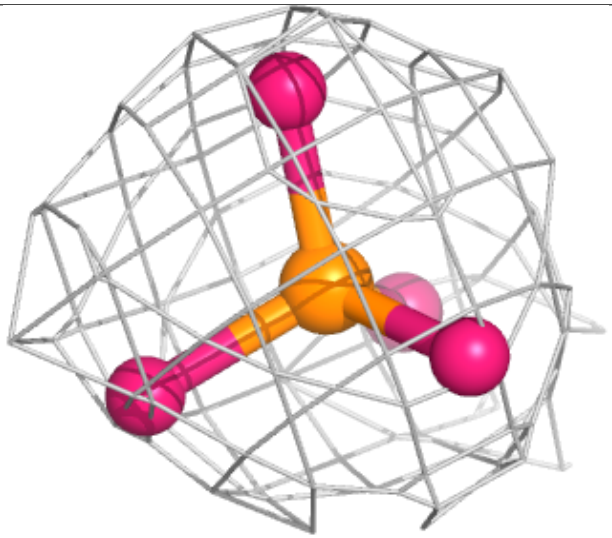


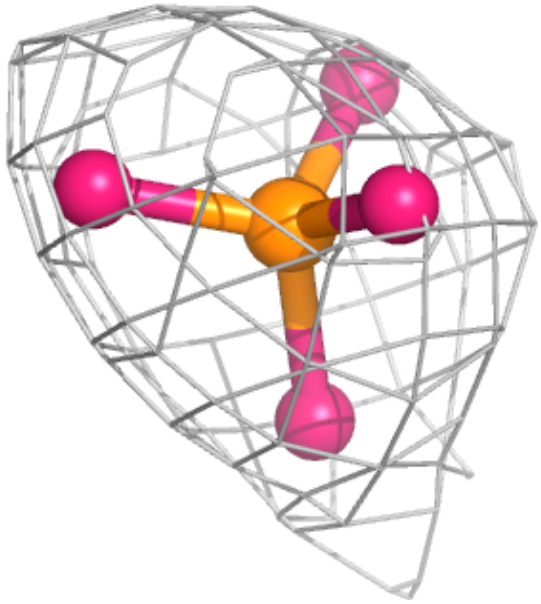


Electron density around PO4 A 313:

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

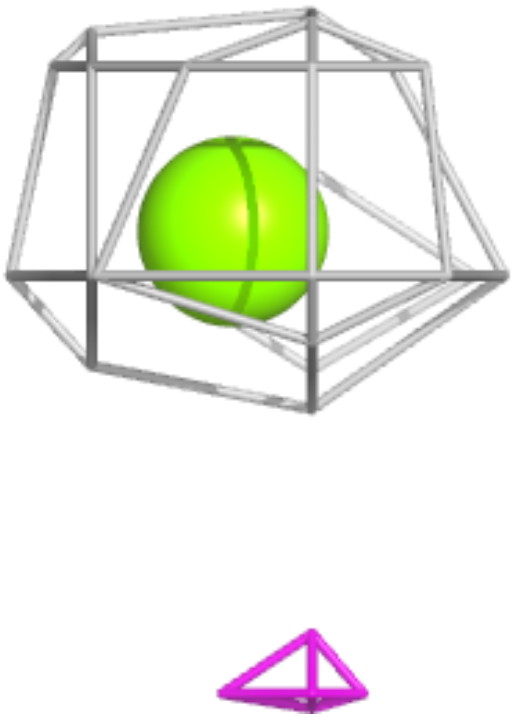


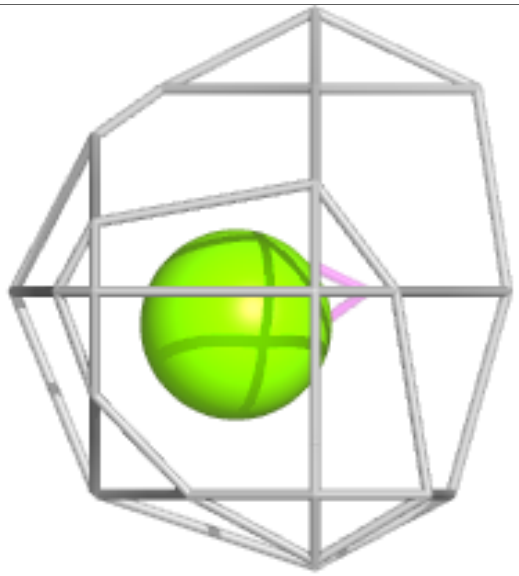


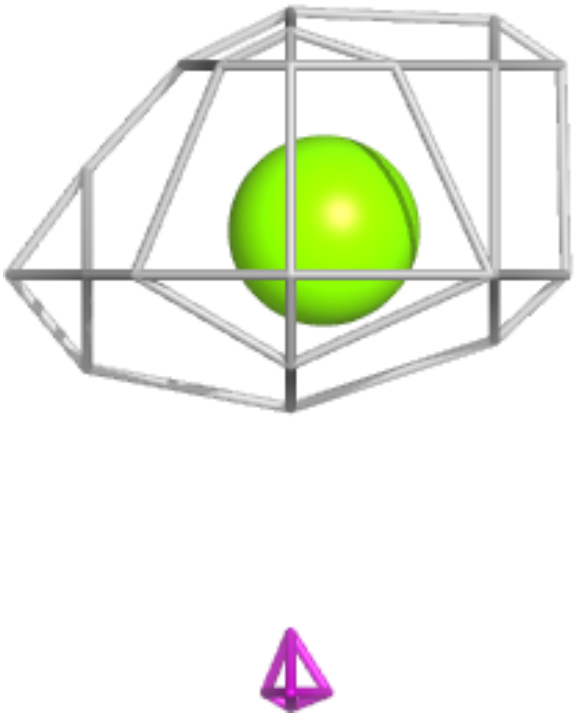


Electron density around MG A 315:

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

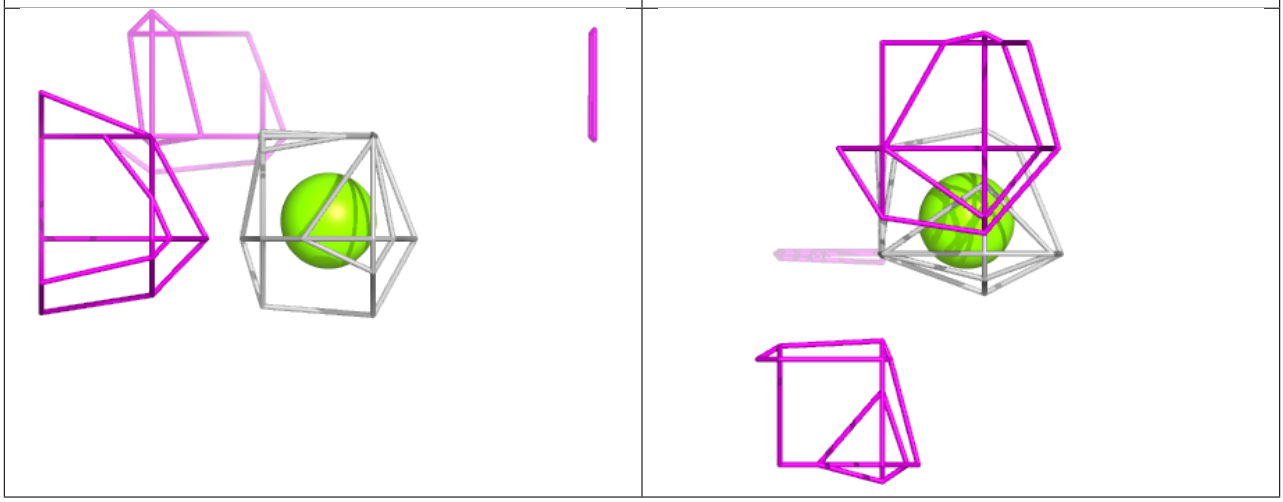






Electron density around MG B 315:

$2mF_o$-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

There are no such residues in this entry.