



Full wwPDB X-ray Structure Validation Report ⓘ

Nov 30, 2023 – 08:31 AM EST

PDB ID : 3T6E
Title : Crystal Structure of the Reaction Centre from *Blastochloris viridis* strain DSM 133 (ATCC 19567) substrain-94
Authors : Roszak, A.W.; Gardiner, A.T.; Isaacs, N.W.; Cogdell, R.J.
Deposited on : 2011-07-28
Resolution : 1.92 Å(reported)

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

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

<https://www.wwpdb.org/validation/2017/XrayValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

The following versions of software and data (see [references ⓘ](#)) were used in the production of this report:

MolProbity : 4.02b-467
Mogul : 1.8.5 (274361), CSD as541be (2020)
Xtrriage (Phenix) : 1.13
EDS : 2.36
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) : 2.36

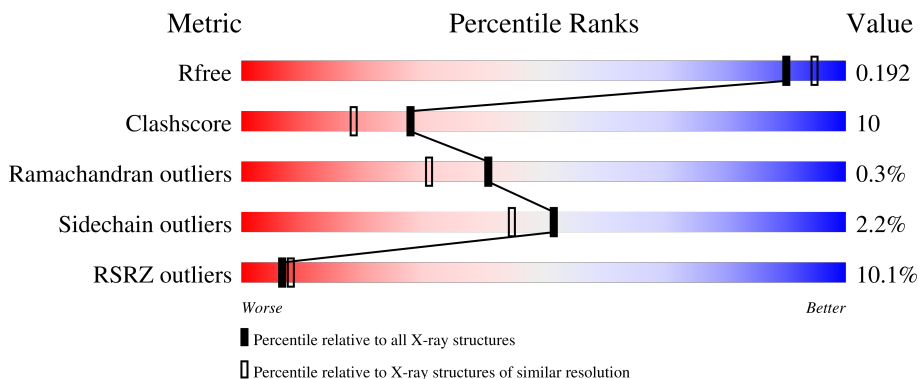
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 1.92 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	7937 (1.94-1.90)
Clashscore	141614	8644 (1.94-1.90)
Ramachandran outliers	138981	8530 (1.94-1.90)
Sidechain outliers	138945	8530 (1.94-1.90)
RSRZ outliers	127900	7793 (1.94-1.90)

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 $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	C	356	
2	H	258	
3	L	273	
4	M	323	

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
10	GOL	C	359	-	-	X	-
10	GOL	C	361	-	-	-	X
10	GOL	H	272	-	-	-	X
10	GOL	L	279	-	-	X	-
10	GOL	M	334	-	-	-	X
10	GOL	M	335	-	-	-	X
11	BCB	L	400	X	-	-	-
11	BCB	L	401	X	-	-	-
11	BCB	M	400	X	-	-	-
11	BCB	M	401	X	-	-	-
13	UQ9	L	502	-	-	X	X
6	LDA	H	707	-	-	-	X
6	LDA	L	703	-	-	-	X
6	LDA	L	720	-	-	-	X
6	LDA	M	702	-	-	X	X
6	LDA	M	706	-	-	-	X
6	LDA	M	715	-	-	-	X
7	DGA	M	732	-	-	X	-
8	SO4	C	337	-	-	X	-
8	SO4	C	338	-	-	X	-
8	SO4	C	342	-	-	X	-
8	SO4	C	344	-	-	X	-
8	SO4	H	261	-	-	X	-
8	SO4	M	329	-	-	X	-
8	SO4	M	330	-	-	-	X
9	HTO	C	348	-	-	X	X
9	HTO	H	268	-	-	-	X
9	HTO	M	332	-	X	-	-

2 Entry composition [i](#)

There are 17 unique types of molecules in this entry. The entry contains 12066 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 Photosynthetic reaction center cytochrome c subunit.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	C	334	2651	1667	480	486	18	0	4	0

- Molecule 2 is a protein called Reaction center protein H chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	H	258	2034	1298	349	384	3	45	4	0

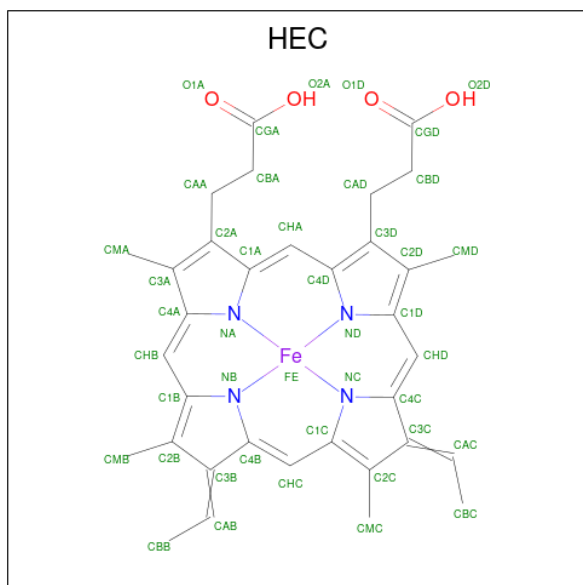
- Molecule 3 is a protein called Reaction center protein L chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
3	L	273	2207	1482	354	361	10	0	5	0

- Molecule 4 is a protein called Reaction center protein M chain.

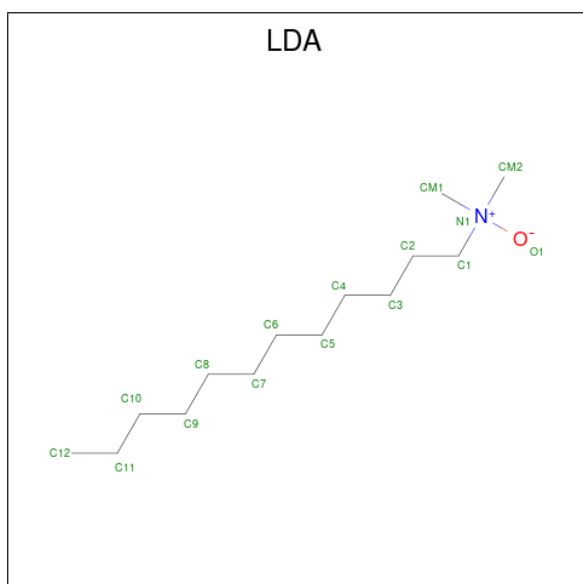
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
4	M	323	2591	1725	425	429	12	0	4	0

- Molecule 5 is HEME C (three-letter code: HEC) (formula: $C_{34}H_{34}FeN_4O_4$).



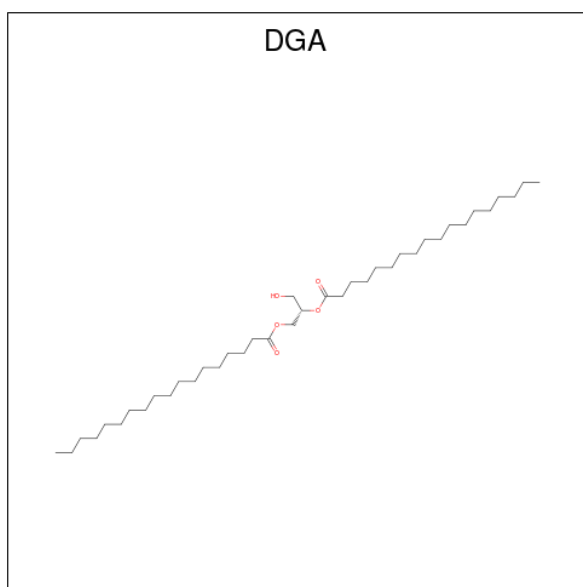
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	
			Total	C	Fe	N			O
5	C	1	43	34	1	4	4	0	0
5	C	1	43	34	1	4	4	0	0
5	C	1	43	34	1	4	4	0	0
5	C	1	55	43	1	5	6	0	1

- Molecule 6 is LAURYL DIMETHYLAMINE-N-OXIDE (three-letter code: LDA) (formula: $C_{14}H_{31}NO$).



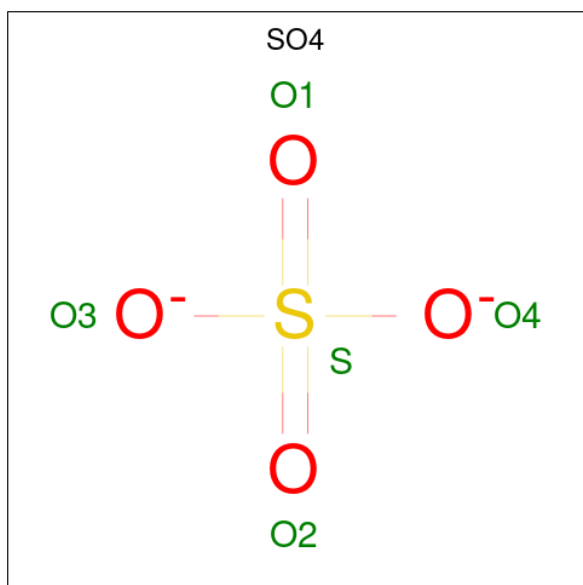
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
6	C	1	Total	C	N	O	0	0
			16	14	1	1		
6	C	1	Total	C	N	O	0	0
			16	14	1	1		
6	H	1	Total	C	N	O	0	0
			16	14	1	1		
6	H	1	Total	C	N	O	0	0
			16	14	1	1		
6	H	1	Total	C	N	O	0	0
			13	11	1	1		
6	H	1	Total	C	N	O	0	0
			16	14	1	1		
6	H	1	Total	C	N	O	0	0
			16	14	1	1		
6	L	1	Total	C	N	O	0	0
			16	14	1	1		
6	L	1	Total	C	N	O	0	0
			16	14	1	1		
6	L	1	Total	C	N	O	0	0
			16	14	1	1		
6	L	1	Total	C	N	O	0	0
			16	14	1	1		
6	M	1	Total	C	N	O	0	0
			16	14	1	1		
6	M	1	Total	C	N	O	0	0
			16	14	1	1		
6	M	1	Total	C	N	O	0	0
			16	14	1	1		
6	M	1	Total	C	N	O	0	0
			16	14	1	1		
6	M	1	Total	C	N	O	0	0
			16	14	1	1		

- Molecule 7 is DIACYL GLYCEROL (three-letter code: DGA) (formula: C₃₉H₇₆O₅).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
7	C	1	Total	C	O	0	0
			37	33	4		
7	H	1	Total	C	O	0	0
			31	26	5		
7	L	1	Total	C	O	0	0
			33	28	5		
7	M	1	Total	C	O	0	0
			34	29	5		

- Molecule 8 is SULFATE ION (three-letter code: SO4) (formula: O₄S).



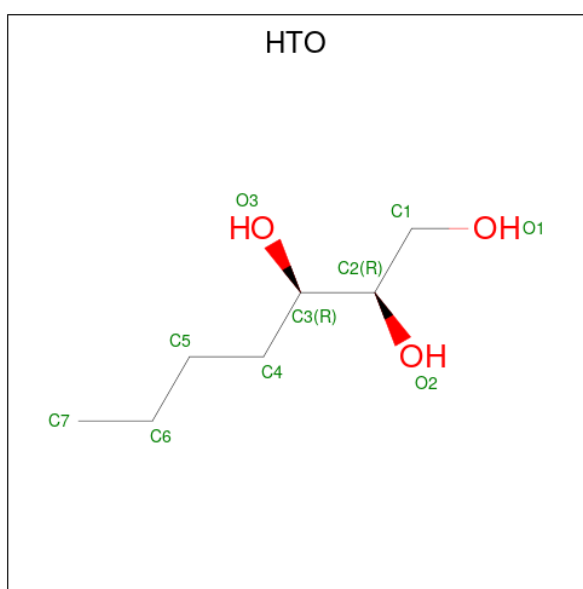
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
8	C	1	Total 5	O 4	S 1	0	0
8	C	1	Total 5	O 4	S 1	0	0
8	C	1	Total 5	O 4	S 1	0	0
8	C	1	Total 5	O 4	S 1	0	0
8	C	1	Total 5	O 4	S 1	0	0
8	C	1	Total 5	O 4	S 1	0	0
8	C	1	Total 5	O 4	S 1	0	0
8	C	1	Total 5	O 4	S 1	0	0
8	C	1	Total 5	O 4	S 1	0	0
8	C	1	Total 5	O 4	S 1	0	0
8	C	1	Total 5	O 4	S 1	0	0
8	H	1	Total 5	O 4	S 1	0	0
8	H	1	Total 5	O 4	S 1	0	0
8	H	1	Total 5	O 4	S 1	0	0
8	H	1	Total 10	O 8	S 2	0	1
8	H	1	Total 5	O 4	S 1	0	0
8	H	1	Total 5	O 4	S 1	0	0
8	H	1	Total 5	O 4	S 1	0	0
8	M	1	Total 5	O 4	S 1	0	0
8	M	1	Total 5	O 4	S 1	0	0
8	M	1	Total 5	O 4	S 1	0	0
8	M	1	Total 5	O 4	S 1	0	0

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Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
8	M	1	Total	O	S	0	0
			5	4	1		
8	M	1	Total	O	S	0	0
			5	4	1		
8	M	1	Total	O	S	0	0
			5	4	1		
8	M	1	Total	O	S	0	0
			5	4	1		

- Molecule 9 is HEPTANE-1,2,3-TRIOL (three-letter code: HTO) (formula: C₇H₁₆O₃).



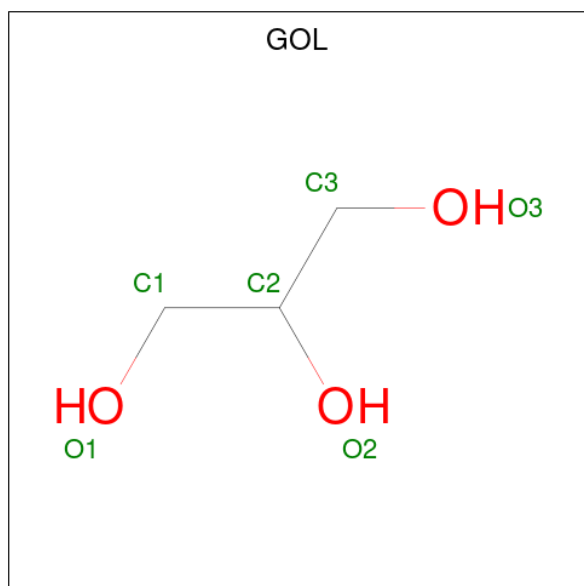
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
9	C	1	Total	C	O	0	0
			10	7	3		
9	C	1	Total	C	O	0	0
			10	7	3		
9	H	1	Total	C	O	0	0
			10	7	3		
9	H	1	Total	C	O	0	0
			10	7	3		
9	H	1	Total	C	O	0	0
			10	7	3		
9	L	1	Total	C	O	0	0
			10	7	3		
9	L	1	Total	C	O	0	0
			10	7	3		

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Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
9	M	1	Total	C	O	0	0
			10	7	3		

- Molecule 10 is GLYCEROL (three-letter code: GOL) (formula: C₃H₈O₃).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
10	C	1	Total	C	O	0	0
			6	3	3		
10	C	1	Total	C	O	0	0
			6	3	3		
10	C	1	Total	C	O	0	0
			6	3	3		
10	C	1	Total	C	O	0	1
			12	6	6		
10	C	1	Total	C	O	0	0
			6	3	3		
10	C	1	Total	C	O	0	0
			6	3	3		
10	C	1	Total	C	O	0	0
			6	3	3		
10	C	1	Total	C	O	0	0
			6	3	3		
10	C	1	Total	C	O	0	0
			6	3	3		

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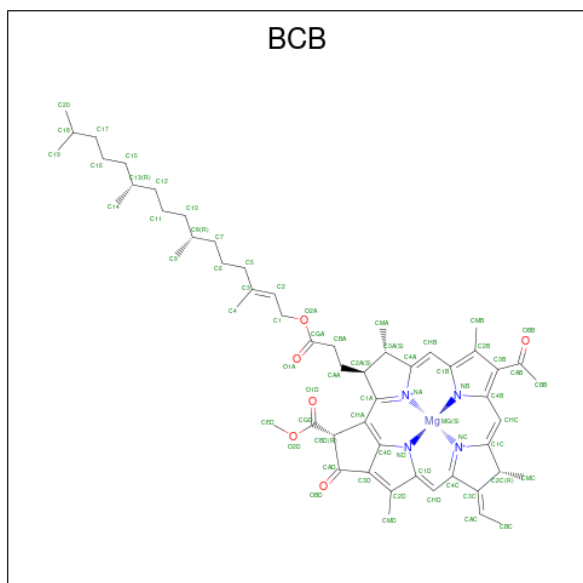
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
10	C	1	Total 6	C 3	O 3	0	0
10	C	1	Total 6	C 3	O 3	0	0
10	C	1	Total 6	C 3	O 3	0	0
10	C	1	Total 6	C 3	O 3	0	0
10	C	1	Total 6	C 3	O 3	0	0
10	C	1	Total 6	C 3	O 3	0	0
10	H	1	Total 6	C 3	O 3	0	0
10	H	1	Total 6	C 3	O 3	0	0
10	H	1	Total 6	C 3	O 3	0	0
10	H	1	Total 6	C 3	O 3	0	0
10	H	1	Total 6	C 3	O 3	0	0
10	H	1	Total 6	C 3	O 3	0	0
10	H	1	Total 6	C 3	O 3	0	0
10	H	1	Total 6	C 3	O 3	0	0
10	H	1	Total 6	C 3	O 3	0	0
10	H	1	Total 6	C 3	O 3	0	0
10	H	1	Total 6	C 3	O 3	0	0
10	L	1	Total 6	C 3	O 3	0	0
10	L	1	Total 6	C 3	O 3	0	0
10	L	1	Total 6	C 3	O 3	0	0
10	L	1	Total 6	C 3	O 3	0	0

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Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
10	L	1	Total	C	O	0	0
			6	3	3		
10	L	1	Total	C	O	0	0
			6	3	3		
10	L	1	Total	C	O	0	0
			6	3	3		
10	M	1	Total	C	O	0	0
			6	3	3		
10	M	1	Total	C	O	0	0
			6	3	3		
10	M	1	Total	C	O	0	0
			6	3	3		
10	M	1	Total	C	O	0	0
			6	3	3		
10	M	1	Total	C	O	0	0
			6	3	3		
10	M	1	Total	C	O	0	0
			6	3	3		

- Molecule 11 is BACTERIOCHLOROPHYLL B (three-letter code: BCB) (formula: $C_{55}H_{72}MgN_4O_6$).



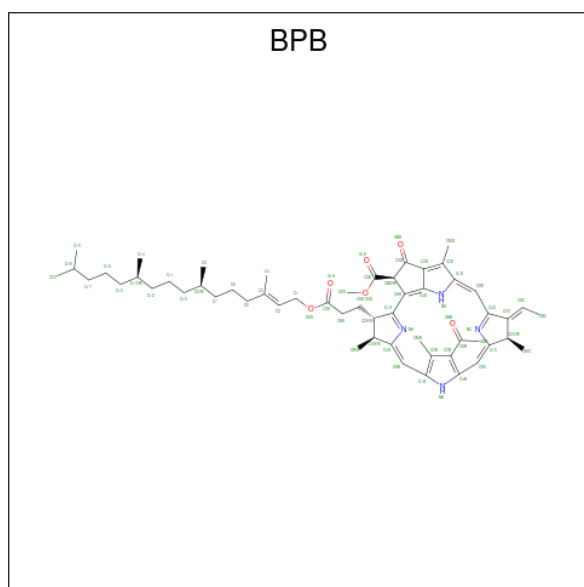
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
11	L	1	Total	C	Mg	N	O	0	0
			66	55	1	4	6		

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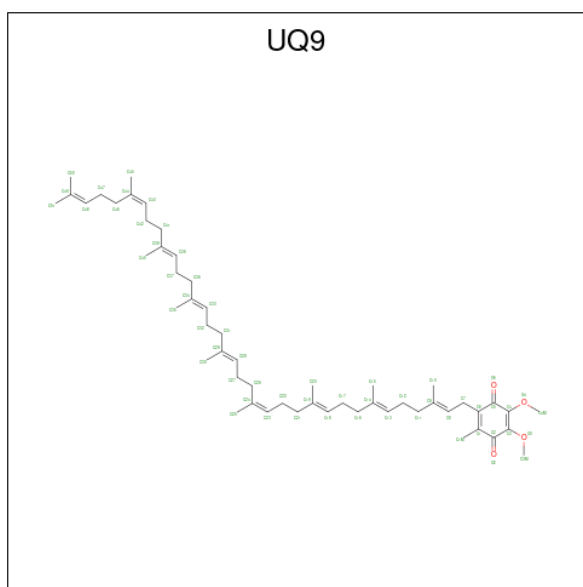
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	
11	L	1	Total	C	Mg	N	O	0	0
			66	55	1	4	6		
11	M	1	Total	C	Mg	N	O	0	0
			66	55	1	4	6		
11	M	1	Total	C	Mg	N	O	0	0
			66	55	1	4	6		

- Molecule 12 is BACTERIOPHEOPHYTIN B (three-letter code: BPB) (formula: $C_{55}H_{74}N_4O_6$).



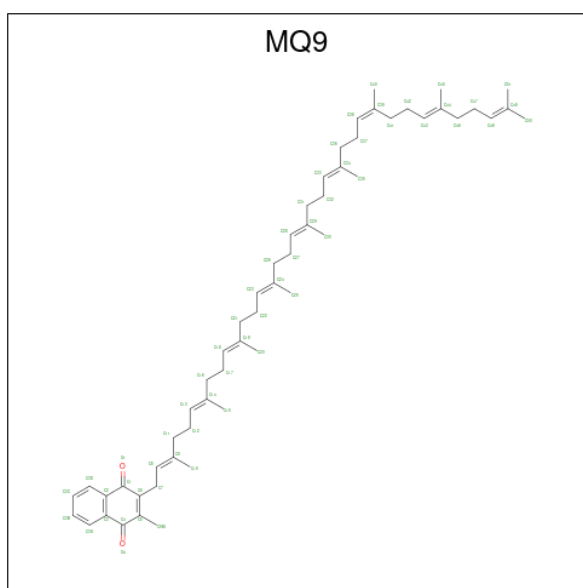
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf	
12	L	1	Total	C	N	O	0	0
			65	55	4	6		
12	M	1	Total	C	N	O	0	0
			65	55	4	6		

- Molecule 13 is Ubiquinone-9 (three-letter code: UQ9) (formula: $C_{54}H_{82}O_4$).



Mol	Chain	Residues	Atoms		ZeroOcc	AltConf	
13	L	1	Total	C	O	0	0
			58	54	4		
13	L	1	Total	C	O	0	0
			19	15	4		

- Molecule 14 is MENAQUINONE-9 (three-letter code: MQ9) (formula: $C_{56}H_{80}O_2$).

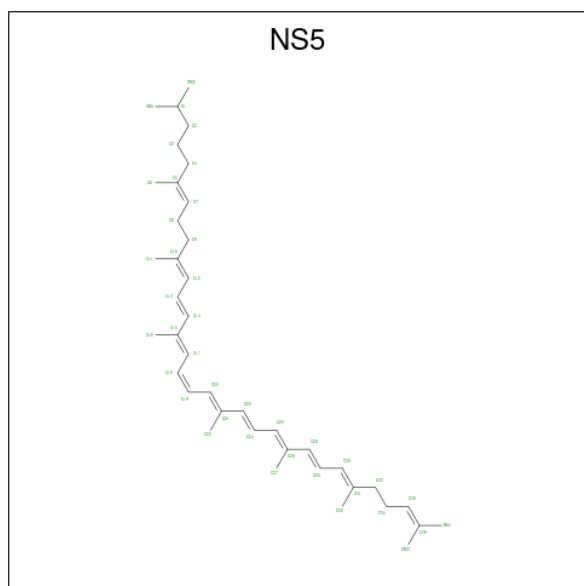


Mol	Chain	Residues	Atoms		ZeroOcc	AltConf	
14	M	1	Total	C	O	0	0
			58	56	2		

- Molecule 15 is FE (II) ION (three-letter code: FE2) (formula: Fe).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
15	M	1	Total Fe 1 1	0	0

- Molecule 16 is 15-cis-1,2-dihydroneurosporene (three-letter code: NS5) (formula: C₄₀H₆₀).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
16	M	1	Total C 40 40	0	0

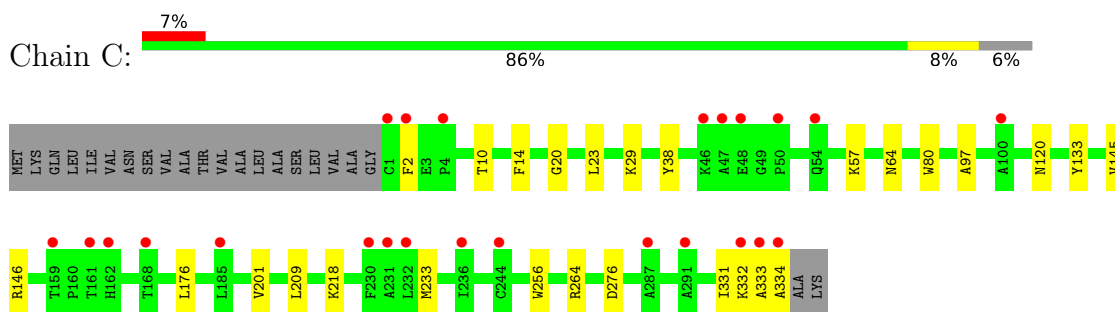
- Molecule 17 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
17	C	441	Total O 441 441	0	0
17	H	233	Total O 233 233	0	0
17	L	125	Total O 125 125	0	0
17	M	175	Total O 175 175	0	0

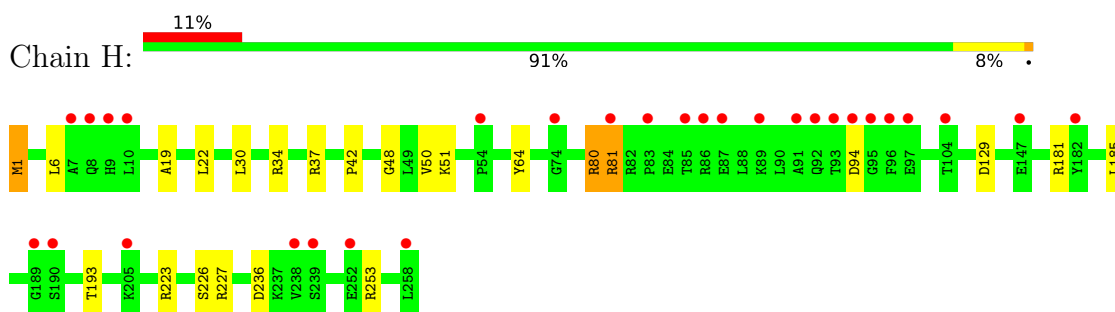
3 Residue-property plots [i](#)

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.

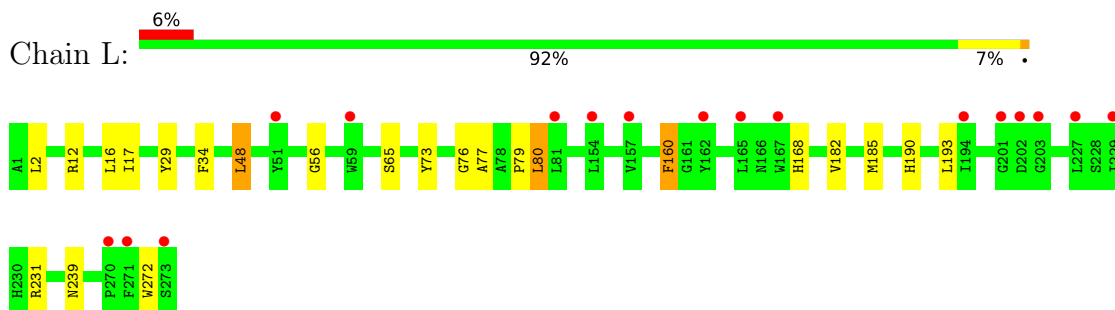
- Molecule 1: Photosynthetic reaction center cytochrome c subunit



- Molecule 2: Reaction center protein H chain

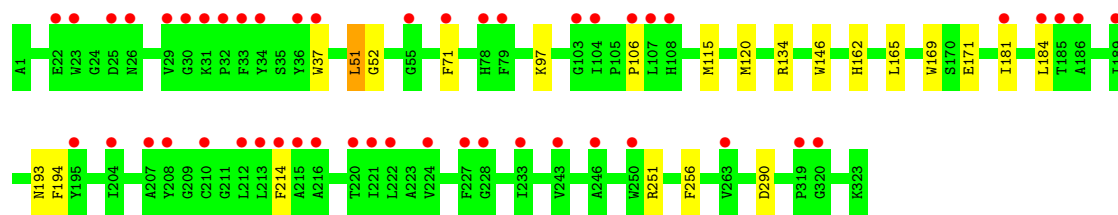


- Molecule 3: Reaction center protein L chain



- Molecule 4: Reaction center protein M chain





4 Data and refinement statistics

Property	Value	Source
Space group	P 43 21 2	Depositor
Cell constants a, b, c, α , β , γ	221.58Å 221.58Å 113.42Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	43.46 – 1.92 43.46 – 1.92	Depositor EDS
% Data completeness (in resolution range)	99.4 (43.46-1.92) 99.4 (43.46-1.92)	Depositor EDS
R_{merge}	0.12	Depositor
R_{sym}	0.12	Depositor
$\langle I/\sigma(I) \rangle$ ¹	2.14 (at 1.92Å)	Xtrriage
Refinement program	REFMAC 5.6.0101	Depositor
R, R_{free}	0.155 , 0.178 0.170 , 0.192	Depositor DCC
R_{free} test set	10655 reflections (5.02%)	wwPDB-VP
Wilson B-factor (Å ²)	40.2	Xtrriage
Anisotropy	0.042	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.32 , 79.8	EDS
L-test for twinning ²	$\langle L \rangle = 0.51$, $\langle L^2 \rangle = 0.35$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
F_o, F_c correlation	0.97	EDS
Total number of atoms	12066	wwPDB-VP
Average B, all atoms (Å ²)	55.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.52% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality [i](#)

5.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section: FE2, SO4, DGA, CSO, UQ9, HEC, BCB, BPB, FME, NS5, MQ9, LDA, GOL, HTO

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	C	0.90	1/2718 (0.0%)	0.78	1/3702 (0.0%)
2	H	0.85	0/2064	0.81	2/2820 (0.1%)
3	L	0.90	0/2298	0.77	3/3135 (0.1%)
4	M	0.86	0/2689	0.75	1/3676 (0.0%)
All	All	0.88	1/9769 (0.0%)	0.77	7/13333 (0.1%)

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	C	201	VAL	CB-CG2	5.07	1.63	1.52

All (7) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	L	160	PHE	CB-CG-CD1	5.77	124.84	120.80
4	M	251	ARG	NE-CZ-NH1	5.75	123.17	120.30
2	H	181	ARG	NE-CZ-NH1	5.62	123.11	120.30
1	C	264	ARG	NE-CZ-NH2	-5.61	117.50	120.30
2	H	80	ARG	NE-CZ-NH1	5.25	122.93	120.30
3	L	12	ARG	NE-CZ-NH1	5.14	122.87	120.30
3	L	48	LEU	CA-CB-CG	5.04	126.90	115.30

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	C	2651	0	2624	21	0
2	H	2034	0	2011	18	0
3	L	2207	0	2134	22	0
4	M	2591	0	2478	32	0
5	C	184	0	108	2	0
6	C	32	0	62	5	0
6	H	77	0	146	25	0
6	L	64	0	124	10	0
6	M	80	0	155	22	0
7	C	37	0	58	1	0
7	H	31	0	44	6	0
7	L	33	0	48	7	0
7	M	34	0	50	23	0
8	C	55	0	0	9	0
8	H	40	0	0	8	0
8	M	40	0	0	2	0
9	C	20	0	32	13	0
9	H	30	0	48	3	0
9	L	20	0	32	0	0
9	M	10	0	16	0	0
10	C	102	0	136	15	0
10	H	66	0	88	4	0
10	L	42	0	56	7	0
10	M	42	0	56	5	0
11	L	132	0	144	7	0
11	M	132	0	144	12	0
12	L	65	0	74	2	0
12	M	65	0	74	3	0
13	L	77	0	99	37	0
14	M	58	0	80	0	0
15	M	1	0	0	0	0
16	M	40	0	60	2	0
17	C	441	0	0	3	0
17	H	233	0	0	3	0
17	L	125	0	0	1	0
17	M	175	0	0	3	0
All	All	12066	0	11181	219	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 10.

All (219) 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)
4:M:71[B]:PHE:CD2	7:M:732:DGA:HA72	1.43	1.50
6:H:718:LDA:H31	6:H:718:LDA:CM1	1.39	1.38
4:M:71[B]:PHE:CE2	7:M:732:DGA:HA52	1.61	1.35
6:H:718:LDA:C3	6:H:718:LDA:HM13	1.49	1.27
6:M:706:LDA:HM13	8:M:329:SO4:O4	1.10	1.27
4:M:71[B]:PHE:CD2	7:M:732:DGA:CA7	2.27	1.17
13:L:502:UQ9:C25	13:L:502:UQ9:H28	1.71	1.17
7:L:731:DGA:CG1	7:L:731:DGA:OB1	1.91	1.16
6:M:706:LDA:CM1	8:M:329:SO4:O4	1.94	1.15
7:H:733:DGA:OA1	7:H:733:DGA:HA41	1.43	1.13
4:M:71[B]:PHE:CE2	7:M:732:DGA:CA5	2.31	1.12
7:L:731:DGA:OB1	7:L:731:DGA:HG11	1.39	1.11
13:L:502:UQ9:H47A	13:L:502:UQ9:H42A	1.22	1.10
13:L:502:UQ9:H28	13:L:502:UQ9:H25A	1.34	1.10
8:H:261:SO4:S	6:M:702:LDA:HM12	1.92	1.10
13:L:502:UQ9:O3	13:L:502:UQ9:H4MB	1.51	1.10
4:M:71[B]:PHE:CD2	7:M:732:DGA:HA52	1.87	1.09
6:M:704:LDA:H31	6:M:704:LDA:HM11	1.35	1.08
3:L:185[B]:MET:SD	11:M:400:BCB:H41	1.94	1.08
7:M:732:DGA:HB41	7:M:732:DGA:OB1	1.50	1.06
13:L:502:UQ9:H42A	13:L:502:UQ9:C47	1.85	1.05
4:M:71[B]:PHE:HE2	7:M:732:DGA:CA5	1.66	1.05
13:L:502:UQ9:H50	13:L:502:UQ9:C46	1.87	1.03
13:L:503:UQ9:O4	13:L:503:UQ9:C3M	2.05	1.02
13:L:503:UQ9:O5	13:L:503:UQ9:C4M	2.10	1.00
13:L:502:UQ9:H20	13:L:502:UQ9:H16A	1.42	0.99
13:L:502:UQ9:C25	13:L:502:UQ9:C28	2.39	0.99
1:C:332:LYS:H	9:C:349:HTO:H71	1.27	0.96
4:M:71[B]:PHE:CE2	7:M:732:DGA:CA6	2.48	0.96
6:H:707:LDA:C1	6:H:707:LDA:H51	1.95	0.96
4:M:71[B]:PHE:HD2	7:M:732:DGA:HA72	1.17	0.94
13:L:502:UQ9:C28	13:L:502:UQ9:H25B	1.99	0.92
6:M:704:LDA:HM11	6:M:704:LDA:C3	1.95	0.92
8:H:261:SO4:O1	6:M:702:LDA:HM12	1.70	0.91
4:M:115[B]:MET:CE	7:M:732:DGA:CEB	2.48	0.91
8:H:261:SO4:O2	6:M:702:LDA:HM12	1.73	0.89
13:L:502:UQ9:O3	13:L:502:UQ9:C4M	2.21	0.89
9:C:348:HTO:H72	10:C:359:GOL:H11	1.54	0.88
8:H:261:SO4:O1	6:M:702:LDA:CM1	2.22	0.88
4:M:71[B]:PHE:CD2	7:M:732:DGA:CA5	2.55	0.88
8:C:342:SO4:O3	10:M:337:GOL:H12	1.73	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:L:502:UQ9:H20	13:L:502:UQ9:C16	2.03	0.87
13:L:502:UQ9:H50	13:L:502:UQ9:H46	1.53	0.86
7:H:733:DGA:OA1	7:H:733:DGA:CA4	2.20	0.86
13:L:503:UQ9:O4	13:L:503:UQ9:H3MA	1.74	0.86
13:L:503:UQ9:O4	13:L:503:UQ9:H3MB	1.76	0.85
6:H:718:LDA:CM1	6:H:718:LDA:C3	2.25	0.85
8:H:261:SO4:S	6:M:702:LDA:CM1	2.65	0.84
6:H:718:LDA:H31	6:H:718:LDA:HM11	1.57	0.84
8:C:337:SO4:O1	8:C:338:SO4:O1	1.94	0.83
7:H:733:DGA:HA42	17:M:960:HOH:O	1.78	0.82
6:H:707:LDA:H51	6:H:707:LDA:H12	1.62	0.82
13:L:503:UQ9:O5	13:L:503:UQ9:H4MB	1.78	0.82
13:L:502:UQ9:H46	13:L:502:UQ9:C50	2.05	0.81
13:L:502:UQ9:C31	13:L:502:UQ9:H35	2.09	0.81
6:H:701:LDA:CM2	6:M:702:LDA:HM11	2.11	0.80
9:C:348:HTO:H71	10:C:359:GOL:H31	1.64	0.79
4:M:71[B]:PHE:CG	7:M:732:DGA:HA72	2.16	0.79
4:M:115[B]:MET:HE3	7:M:732:DGA:CEB	2.13	0.79
6:M:704:LDA:C3	6:M:704:LDA:CM1	2.59	0.79
4:M:71[B]:PHE:CD2	7:M:732:DGA:CA6	2.67	0.78
13:L:503:UQ9:O5	13:L:503:UQ9:H4MA	1.84	0.77
1:C:333:ALA:HB1	1:C:334:ALA:HB2	1.65	0.76
4:M:106:PRO:HB3	7:M:732:DGA:HB52	1.67	0.76
7:L:731:DGA:OB1	7:L:731:DGA:HG12	1.87	0.74
13:L:502:UQ9:H47A	13:L:502:UQ9:C42	2.04	0.73
13:L:502:UQ9:H15	11:M:400:BCB:C14	2.18	0.73
4:M:71[B]:PHE:CE2	7:M:732:DGA:HA61	2.22	0.73
6:C:712:LDA:H122	6:C:722:LDA:H102	1.71	0.73
13:L:502:UQ9:H50	13:L:502:UQ9:H46A	1.68	0.72
9:C:348:HTO:H72	10:C:359:GOL:C1	2.19	0.72
6:H:718:LDA:H31	6:H:718:LDA:HM13	0.75	0.72
11:M:400:BCB:HMB1	11:M:400:BCB:HBB2	1.70	0.71
6:H:707:LDA:H52	10:M:335:GOL:O1	1.89	0.71
12:L:402:BPB:HMB	12:L:402:BPB:HBBB	1.73	0.71
13:L:502:UQ9:H15	11:M:400:BCB:H143	1.72	0.71
3:L:77:ALA:O	6:L:720:LDA:HM11	1.90	0.71
6:H:701:LDA:HM21	6:M:702:LDA:HM11	1.71	0.70
1:C:2:PHE:CD2	6:C:722:LDA:HM13	2.25	0.70
1:C:120:ASN:ND2	8:C:344:SO4:O2	2.22	0.70
3:L:76:GLY:HA3	7:L:731:DGA:HG32	1.75	0.69
6:L:703:LDA:CM1	6:L:703:LDA:H32	2.23	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:H:707:LDA:H51	6:H:707:LDA:H11	1.72	0.69
10:C:361:GOL:O2	17:C:885:HOH:O	1.87	0.69
9:C:348:HTO:C7	10:C:359:GOL:H11	2.22	0.69
11:L:401:BCB:CBB	11:L:401:BCB:HMB1	2.23	0.68
7:M:732:DGA:OB1	7:M:732:DGA:CB4	2.15	0.68
3:L:73:TYR:CE1	6:L:720:LDA:HM12	2.28	0.67
13:L:502:UQ9:C15	11:M:400:BCB:H143	2.25	0.67
4:M:115[B]:MET:HE2	7:M:732:DGA:CEB	2.23	0.67
2:H:81:ARG:HG3	6:H:721:LDA:H122	1.75	0.67
11:M:400:BCB:HMB1	11:M:400:BCB:CBB	2.24	0.67
1:C:332:LYS:N	9:C:349:HTO:H71	2.05	0.65
13:L:502:UQ9:H35	13:L:502:UQ9:H31	1.78	0.64
6:L:703:LDA:H32	6:L:703:LDA:HM11	1.80	0.64
3:L:239:ASN:HD21	13:L:502:UQ9:C43	2.10	0.64
13:L:502:UQ9:H28	13:L:502:UQ9:H25B	1.62	0.63
6:H:707:LDA:C1	6:H:707:LDA:C5	2.76	0.63
3:L:65:SER:HB3	10:L:279:GOL:H12	1.81	0.62
6:H:701:LDA:HM23	6:M:702:LDA:HM11	1.81	0.62
9:C:348:HTO:C7	10:C:359:GOL:H31	2.28	0.62
13:L:502:UQ9:H31	13:L:502:UQ9:C35	2.29	0.61
6:L:703:LDA:CM1	6:L:703:LDA:C3	2.77	0.61
10:L:278:GOL:H11	17:L:468:HOH:O	2.00	0.61
4:M:106:PRO:CB	7:M:732:DGA:HB52	2.31	0.61
8:C:342:SO4:O3	10:M:337:GOL:C1	2.48	0.61
6:C:712:LDA:H122	6:C:722:LDA:C10	2.31	0.59
7:C:730:DGA:HB22	7:C:730:DGA:HA32	1.83	0.59
6:C:712:LDA:H122	6:C:722:LDA:C9	2.33	0.59
4:M:97:LYS:NZ	17:M:429:HOH:O	2.36	0.57
3:L:73:TYR:HE1	6:L:720:LDA:HM12	1.68	0.57
11:L:401:BCB:HMB1	11:L:401:BCB:HBB2	1.86	0.57
8:H:261:SO4:O4	8:H:262[A]:SO4:O3	2.22	0.57
3:L:29:TYR:OH	6:M:702:LDA:H22	2.04	0.56
8:C:337:SO4:O1	8:C:338:SO4:S	2.63	0.56
11:L:400:BCB:HMB1	11:L:400:BCB:HBB3	1.88	0.56
4:M:71[B]:PHE:HD2	7:M:732:DGA:CA7	1.94	0.56
9:C:348:HTO:H72	10:C:359:GOL:C2	2.35	0.55
3:L:182:VAL:HA	11:M:400:BCB:H43	1.89	0.55
4:M:256:PHE:HB3	6:M:702:LDA:HM13	1.88	0.55
13:L:502:UQ9:C16	13:L:502:UQ9:C20	2.80	0.54
3:L:17:ILE:HD12	3:L:34:PHE:CZ	2.43	0.54
10:L:276:GOL:O3	10:L:279:GOL:H31	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:402:BPB:HMB	12:L:402:BPB:CBB	2.36	0.53
13:L:502:UQ9:H35	13:L:502:UQ9:H31A	1.88	0.53
9:C:348:HTO:C6	10:C:359:GOL:H11	2.39	0.52
1:C:331:ILE:HD12	9:C:349:HTO:H2	1.91	0.52
2:H:223:ARG:NH1	10:H:274:GOL:O3	2.39	0.51
3:L:231:ARG:CG	13:L:502:UQ9:H31A	2.41	0.51
2:H:6:LEU:HD22	6:H:718:LDA:H12	1.92	0.51
1:C:209:LEU:HD12	10:C:352:GOL:H32	1.92	0.50
11:M:401:BCB:HMB1	11:M:401:BCB:HBB3	1.92	0.50
6:H:718:LDA:HM12	7:H:733:DGA:HB42	1.93	0.50
3:L:76:GLY:CA	7:L:731:DGA:HG32	2.41	0.50
7:H:733:DGA:HA52	4:M:165:LEU:HD22	1.91	0.50
6:L:703:LDA:H32	6:L:703:LDA:HM13	1.93	0.50
4:M:162[B]:HIS:HE1	4:M:171:GLU:OE1	1.95	0.50
3:L:17:ILE:HD12	3:L:34:PHE:HZ	1.77	0.50
3:L:231:ARG:HG2	13:L:502:UQ9:H27A	1.93	0.50
2:H:42:PRO:HD2	6:H:721:LDA:H121	1.94	0.49
3:L:190:HIS:HA	13:L:502:UQ9:H1M	1.94	0.49
4:M:71[B]:PHE:HD2	7:M:732:DGA:CA5	2.17	0.49
1:C:276:ASP:OD2	8:C:344:SO4:O1	2.30	0.49
6:L:703:LDA:C3	6:L:703:LDA:HM13	2.42	0.49
12:M:402:BPB:HMAA	12:M:402:BPB:H14A	1.94	0.49
1:C:218:LYS:HG3	10:C:354:GOL:H2	1.94	0.49
1:C:57:LYS:HE2	1:C:97:ALA:CB	2.42	0.48
4:M:71[B]:PHE:HE2	7:M:732:DGA:HA52	1.17	0.48
4:M:184:LEU:HD21	11:M:400:BCB:CAC	2.44	0.48
6:H:707:LDA:H62	10:M:335:GOL:H31	1.96	0.48
11:M:401:BCB:HMB1	11:M:401:BCB:CBB	2.43	0.48
2:H:227[A]:ARG:HG3	2:H:227[A]:ARG:HH11	1.79	0.47
6:M:704:LDA:H112	6:M:704:LDA:H81	1.62	0.47
9:C:348:HTO:H72	10:C:359:GOL:O2	2.13	0.47
2:H:1[B]:FME:HE1	17:H:690:HOH:O	2.14	0.47
11:L:400:BCB:HMB1	11:L:400:BCB:CBB	2.44	0.47
6:M:704:LDA:H21	6:M:704:LDA:H52	1.62	0.47
11:L:401:BCB:HMB1	11:L:401:BCB:HBB3	1.95	0.47
1:C:145:VAL:O	1:C:146:ARG:HD2	2.16	0.46
7:H:733:DGA:CB1	7:H:733:DGA:HA21	2.45	0.46
3:L:231:ARG:HD3	13:L:502:UQ9:H31A	1.97	0.46
4:M:115[B]:MET:CE	4:M:115[B]:MET:HA	2.46	0.45
7:L:731:DGA:HG11	7:L:731:DGA:HA22	1.82	0.45
1:C:256:TRP:HB2	10:C:353[B]:GOL:H2	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:H:718:LDA:HM13	6:H:718:LDA:H32	1.75	0.45
3:L:56:GLY:CA	10:L:276:GOL:H32	2.47	0.45
13:L:502:UQ9:C3M	13:L:502:UQ9:O2	2.65	0.45
3:L:79:PRO:HD3	6:L:720:LDA:HM13	1.99	0.44
4:M:51:LEU:HB3	4:M:52:GLY:H	1.61	0.44
1:C:80:TRP:CD1	1:C:133:TYR:HB2	2.53	0.44
11:M:400:BCB:H193	12:M:402:BPB:C20	2.47	0.44
1:C:64[A]:ASN:HD21	9:C:349:HTO:C2	2.29	0.44
8:C:342:SO4:O4	10:C:352:GOL:O1	2.20	0.44
6:H:719:LDA:HM13	6:H:719:LDA:H21	1.73	0.44
9:C:348:HTO:C7	10:C:359:GOL:C1	2.89	0.44
10:C:358:GOL:C1	17:C:568:HOH:O	2.65	0.44
2:H:30:LEU:O	2:H:34:ARG:HD2	2.17	0.44
2:H:37:ARG:NH2	8:H:262[B]:SO4:O1	2.39	0.44
9:H:268:HTO:O3	9:H:268:HTO:O1	2.30	0.44
6:M:704:LDA:CM1	6:M:704:LDA:H32	2.46	0.43
6:M:706:LDA:HM22	6:M:706:LDA:H21	1.81	0.43
3:L:168:HIS:CE1	11:L:400:BCB:HMC2	2.54	0.43
1:C:2:PHE:CE2	6:C:722:LDA:HM13	2.53	0.43
3:L:65:SER:HB3	10:L:279:GOL:C1	2.47	0.43
2:H:223:ARG:NH2	17:H:558:HOH:O	2.48	0.43
2:H:253:ARG:HE	9:H:268:HTO:H11	1.84	0.43
6:H:701:LDA:HM21	6:M:702:LDA:CM1	2.47	0.43
7:L:731:DGA:HB71	7:L:731:DGA:HBT1	1.76	0.43
1:C:14:PHE:CE2	10:L:279:GOL:H2	2.54	0.43
1:C:146:ARG:HD2	1:C:146:ARG:HA	1.87	0.42
8:H:264:SO4:O1	10:H:273:GOL:H32	2.19	0.42
4:M:120:MET:CE	16:M:600:NS5:H273	2.49	0.42
1:C:64[A]:ASN:ND2	8:C:346:SO4:O3	2.52	0.42
4:M:146:TRP:CE3	4:M:146:TRP:HA	2.54	0.42
11:L:401:BCB:OBB	11:L:401:BCB:HHC	2.18	0.42
3:L:80:LEU:HD13	6:L:720:LDA:H72	2.02	0.42
12:M:402:BPB:HBBB	12:M:402:BPB:HMB	2.02	0.42
4:M:37:TRP:CE3	6:M:704:LDA:HM22	2.55	0.42
1:C:10:THR:O	1:C:20:GLY:HA3	2.20	0.41
8:C:337:SO4:O4	8:C:338:SO4:S	2.79	0.41
4:M:169:TRP:CH2	16:M:600:NS5:H342	2.55	0.41
1:C:29:LYS:NZ	17:C:608:HOH:O	2.47	0.41
2:H:64:TYR:CE2	6:H:721:LDA:HM22	2.55	0.41
2:H:81:ARG:HG3	6:H:721:LDA:C12	2.47	0.41
2:H:19:ALA:HB2	6:H:719:LDA:H122	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:223:ARG:CD	10:H:274:GOL:H11	2.50	0.41
3:L:193:LEU:HD23	13:L:502:UQ9:C2	2.51	0.41
1:C:233:MET:HB3	5:C:403:HEC:C4B	2.51	0.41
6:M:715:LDA:H22	6:M:715:LDA:HM21	1.74	0.41
2:H:193:THR:HG22	17:H:858:HOH:O	2.20	0.41
2:H:226:SER:HA	9:H:267:HTO:H73	2.03	0.41
10:M:333:GOL:C3	17:M:921:HOH:O	2.69	0.41
2:H:80:ARG:HH21	10:H:270:GOL:C2	2.34	0.40
10:L:276:GOL:O3	10:L:279:GOL:C3	2.69	0.40
2:H:1[A]:FME:H	2:H:1[A]:FME:HG3	1.58	0.40
6:H:721:LDA:HM21	6:H:721:LDA:H21	1.91	0.40
4:M:71[B]:PHE:CE2	7:M:732:DGA:CA7	2.82	0.40
11:M:401:BCB:OBB	11:M:401:BCB:HHC	2.21	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	C	336/356 (94%)	326 (97%)	10 (3%)	0	100	100
2	H	259/258 (100%)	249 (96%)	7 (3%)	3 (1%)	13	4
3	L	276/273 (101%)	272 (99%)	4 (1%)	0	100	100
4	M	324/323 (100%)	318 (98%)	5 (2%)	1 (0%)	41	31
All	All	1195/1210 (99%)	1165 (98%)	26 (2%)	4 (0%)	41	31

All (4) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	H	50	VAL
4	M	193	ASN

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Mol	Chain	Res	Type
2	H	51	LYS
2	H	48	GLY

5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	C	285/297 (96%)	282 (99%)	3 (1%)	73	72
2	H	210/212 (99%)	204 (97%)	6 (3%)	42	33
3	L	223/218 (102%)	217 (97%)	6 (3%)	44	36
4	M	252/248 (102%)	246 (98%)	6 (2%)	49	41
All	All	970/975 (100%)	949 (98%)	21 (2%)	52	45

All (21) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	C	23	LEU
1	C	38	TYR
1	C	176	LEU
2	H	22	LEU
2	H	81	ARG
2	H	94	ASP
2	H	129	ASP
2	H	185	LEU
2	H	236	ASP
3	L	2	LEU
3	L	16	LEU
3	L	48	LEU
3	L	80	LEU
3	L	160	PHE
3	L	272	TRP
4	M	51	LEU
4	M	134	ARG
4	M	181	ILE
4	M	194	PHE

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Mol	Chain	Res	Type
4	M	214	PHE
4	M	290	ASP

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (7) such sidechains are listed below:

Mol	Chain	Res	Type
1	C	206	GLN
1	C	302	GLN
2	H	58	GLN
2	H	178	HIS
2	H	220	ASN
3	L	183	ASN
3	L	239	ASN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

3 non-standard protein/DNA/RNA residues 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	CSO	M	160	4	3,6,7	0.65	0	0,6,8	-	-
2	FME	H	1[B]	2	8,9,10	0.87	0	7,9,11	2.63	2 (28%)
2	FME	H	1[A]	2	8,9,10	0.78	0	7,9,11	2.27	1 (14%)

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	CSO	M	160	4	-	0/1/5/7	-
2	FME	H	1[B]	2	-	4/7/9/11	-
2	FME	H	1[A]	2	-	5/7/9/11	-

There are no bond length outliers.

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	H	1[B]	FME	CA-N-CN	-6.06	113.50	122.82
2	H	1[A]	FME	CA-N-CN	-5.04	115.06	122.82
2	H	1[B]	FME	O-C-CA	-2.00	119.53	124.78

There are no chirality outliers.

All (9) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	H	1[A]	FME	O1-CN-N-CA
2	H	1[A]	FME	N-CA-CB-CG
2	H	1[B]	FME	C-CA-CB-CG
2	H	1[B]	FME	O1-CN-N-CA
2	H	1[B]	FME	CA-CB-CG-SD
2	H	1[A]	FME	CA-CB-CG-SD
2	H	1[A]	FME	C-CA-CB-CG
2	H	1[A]	FME	CB-CA-N-CN
2	H	1[B]	FME	CB-CA-N-CN

There are no ring outliers.

2 monomers are involved in 2 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	H	1[B]	FME	1	0
2	H	1[A]	FME	1	0

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 113 ligands modelled in this entry, 1 is monoatomic - leaving 112 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$
8	SO4	M	326	-	4,4,4	0.15	0	6,6,6	0.39	0
9	HTO	L	275	-	9,9,9	0.90	0	10,10,10	3.27	4 (40%)
8	SO4	C	346	-	4,4,4	0.41	0	6,6,6	0.27	0
8	SO4	C	347	-	4,4,4	0.32	0	6,6,6	0.08	0
16	NS5	M	600	-	39,39,39	2.21	19 (48%)	44,46,46	2.11	11 (25%)
10	GOL	M	334	-	5,5,5	0.32	0	5,5,5	1.14	0
6	LDA	M	705	-	12,15,15	1.77	1 (8%)	14,17,17	0.65	0
14	MQ9	M	501	-	59,59,59	2.15	26 (44%)	72,75,75	1.28	9 (12%)
10	GOL	H	279	-	5,5,5	0.25	0	5,5,5	0.51	0
10	GOL	M	337	-	5,5,5	0.27	0	5,5,5	0.39	0
6	LDA	M	702	-	12,15,15	1.99	1 (8%)	14,17,17	0.80	0
8	SO4	H	264	-	4,4,4	0.41	0	6,6,6	0.27	0
10	GOL	H	274	-	5,5,5	0.23	0	5,5,5	0.44	0
8	SO4	M	324	-	4,4,4	0.46	0	6,6,6	1.00	0
10	GOL	C	353[B]	-	5,5,5	0.51	0	5,5,5	0.39	0
8	SO4	M	327	-	4,4,4	0.32	0	6,6,6	0.17	0
10	GOL	M	333	-	5,5,5	0.27	0	5,5,5	0.30	0
8	SO4	C	344	-	4,4,4	0.54	0	6,6,6	0.30	0
10	GOL	C	357	-	5,5,5	0.52	0	5,5,5	0.39	0
10	GOL	C	364	-	5,5,5	0.65	0	5,5,5	2.21	2 (40%)
10	GOL	L	282	-	5,5,5	0.34	0	5,5,5	0.24	0
8	SO4	M	331	-	4,4,4	0.32	0	6,6,6	0.81	0
8	SO4	M	329	-	4,4,4	0.23	0	6,6,6	0.35	0
10	GOL	M	339	-	5,5,5	0.32	0	5,5,5	0.48	0
7	DGA	M	732	-	33,33,43	0.64	0	35,35,45	1.60	4 (11%)
6	LDA	L	703	-	12,15,15	2.10	1 (8%)	14,17,17	0.62	0
8	SO4	C	340	-	4,4,4	0.30	0	6,6,6	0.37	0
6	LDA	L	709	-	12,15,15	2.01	1 (8%)	14,17,17	0.28	0
8	SO4	M	330	-	4,4,4	0.40	0	6,6,6	0.39	0
5	HEC	C	404[A]	-	32,50,50	1.04	2 (6%)	24,82,82	1.94	7 (29%)
10	GOL	C	363	-	5,5,5	0.32	0	5,5,5	0.50	0
9	HTO	L	274	-	9,9,9	0.69	0	10,10,10	1.60	4 (40%)
11	BCB	M	400	4	63,74,74	1.37	6 (9%)	74,115,115	1.89	15 (20%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
5	HEC	C	401	1	32,50,50	1.03	0	24,82,82	1.89	6 (25%)
13	UQ9	L	502	-	58,58,58	2.25	23 (39%)	70,73,73	1.48	14 (20%)
8	SO4	H	259	-	4,4,4	0.28	0	6,6,6	0.26	0
7	DGA	L	731	-	32,32,43	0.67	0	34,34,45	1.59	6 (17%)
10	GOL	H	273	-	5,5,5	0.24	0	5,5,5	0.67	0
10	GOL	C	359	-	5,5,5	0.43	0	5,5,5	0.37	0
8	SO4	C	339	-	4,4,4	0.30	0	6,6,6	0.23	0
13	UQ9	L	503	-	19,19,58	2.38	7 (36%)	23,26,73	1.66	4 (17%)
6	LDA	H	718	-	9,12,15	2.45	1 (11%)	11,14,17	0.60	0
10	GOL	M	338	-	5,5,5	0.29	0	5,5,5	1.46	1 (20%)
9	HTO	C	349	-	9,9,9	0.59	0	10,10,10	0.92	0
10	GOL	L	281	-	5,5,5	0.26	0	5,5,5	0.36	0
8	SO4	H	263	-	4,4,4	0.39	0	6,6,6	0.36	0
9	HTO	H	268	-	9,9,9	0.34	0	10,10,10	1.83	2 (20%)
10	GOL	C	354	-	5,5,5	0.73	0	5,5,5	0.54	0
6	LDA	H	701	-	12,15,15	1.47	1 (8%)	14,17,17	1.12	1 (7%)
6	LDA	H	719	-	12,15,15	2.03	1 (8%)	14,17,17	0.68	0
8	SO4	C	338	-	4,4,4	0.30	0	6,6,6	0.27	0
10	GOL	M	335	-	5,5,5	0.60	0	5,5,5	1.81	2 (40%)
5	HEC	C	402	1	32,50,50	1.25	3 (9%)	24,82,82	1.32	4 (16%)
10	GOL	C	353[A]	-	5,5,5	0.56	0	5,5,5	0.75	0
8	SO4	C	345	-	4,4,4	0.58	0	6,6,6	0.45	0
8	SO4	M	328	-	4,4,4	0.28	0	6,6,6	0.62	0
10	GOL	C	360	-	5,5,5	0.21	0	5,5,5	0.32	0
9	HTO	H	267	-	9,9,9	0.54	0	10,10,10	1.01	0
10	GOL	C	350	-	5,5,5	1.04	1 (20%)	5,5,5	1.18	1 (20%)
6	LDA	M	704	-	12,15,15	2.01	1 (8%)	14,17,17	0.55	0
8	SO4	M	325	-	4,4,4	0.24	0	6,6,6	0.28	0
6	LDA	H	707	-	12,15,15	1.97	1 (8%)	14,17,17	0.55	0
7	DGA	C	730	1	36,36,43	0.82	2 (5%)	38,38,45	1.43	3 (7%)
6	LDA	C	722	-	12,15,15	1.98	1 (8%)	14,17,17	0.50	0
8	SO4	C	343	-	4,4,4	0.22	0	6,6,6	0.40	0
10	GOL	H	270	-	5,5,5	0.34	0	5,5,5	0.58	0
10	GOL	H	271	-	5,5,5	0.51	0	5,5,5	1.23	1 (20%)
12	BPB	L	402	-	49,70,70	0.89	2 (4%)	47,101,101	1.40	5 (10%)
6	LDA	M	706	-	12,15,15	2.07	1 (8%)	14,17,17	0.57	0
11	BCB	M	401	4	63,74,74	1.31	6 (9%)	74,115,115	2.46	23 (31%)
7	DGA	H	733	-	30,30,43	0.63	1 (3%)	32,32,45	1.81	8 (25%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
10	GOL	C	352	-	5,5,5	0.35	0	5,5,5	0.54	0
8	SO4	C	341	-	4,4,4	0.36	0	6,6,6	0.28	0
8	SO4	H	261	-	4,4,4	0.40	0	6,6,6	1.07	1 (16%)
10	GOL	M	336	-	5,5,5	0.19	0	5,5,5	0.62	0
8	SO4	H	262[B]	-	4,4,4	0.40	0	6,6,6	0.54	0
11	BCB	L	401	3	63,74,74	1.34	8 (12%)	74,115,115	1.94	14 (18%)
5	HEC	C	404[B]	-	32,50,50	1.06	3 (9%)	24,82,82	1.62	5 (20%)
8	SO4	C	337	-	4,4,4	0.33	0	6,6,6	0.16	0
10	GOL	C	365	-	5,5,5	0.22	0	5,5,5	0.48	0
10	GOL	C	362	-	5,5,5	0.26	0	5,5,5	0.54	0
12	BPB	M	402	-	49,70,70	0.88	3 (6%)	47,101,101	1.56	8 (17%)
6	LDA	C	712	-	12,15,15	2.19	1 (8%)	14,17,17	0.54	0
10	GOL	C	361	-	5,5,5	0.25	0	5,5,5	0.35	0
10	GOL	L	279	-	5,5,5	0.79	0	5,5,5	1.07	0
10	GOL	L	278	-	5,5,5	0.87	0	5,5,5	1.39	1 (20%)
5	HEC	C	403	1	32,50,50	1.02	1 (3%)	24,82,82	1.34	5 (20%)
10	GOL	H	278	-	5,5,5	0.18	0	5,5,5	0.69	0
9	HTO	C	348	-	9,9,9	0.42	0	10,10,10	1.85	2 (20%)
10	GOL	L	277	-	5,5,5	0.25	0	5,5,5	1.06	0
10	GOL	C	355	-	5,5,5	0.27	0	5,5,5	0.40	0
10	GOL	H	276	-	5,5,5	0.19	0	5,5,5	0.44	0
8	SO4	H	260	-	4,4,4	0.30	0	6,6,6	0.25	0
10	GOL	C	356	-	5,5,5	0.85	0	5,5,5	1.54	1 (20%)
10	GOL	L	280	-	5,5,5	0.28	0	5,5,5	0.19	0
10	GOL	H	272	-	5,5,5	0.25	0	5,5,5	0.63	0
6	LDA	L	708	-	12,15,15	1.64	1 (8%)	14,17,17	0.84	1 (7%)
10	GOL	C	358	-	5,5,5	0.51	0	5,5,5	0.55	0
6	LDA	L	720	-	12,15,15	1.95	1 (8%)	14,17,17	1.12	2 (14%)
6	LDA	M	715	-	12,15,15	1.96	1 (8%)	14,17,17	0.47	0
10	GOL	H	275	-	5,5,5	0.31	0	5,5,5	0.35	0
9	HTO	M	332	-	9,9,9	0.56	0	10,10,10	3.41	6 (60%)
9	HTO	H	266	-	9,9,9	0.38	0	10,10,10	1.38	2 (20%)
11	BCB	L	400	3	63,74,74	1.41	6 (9%)	74,115,115	2.12	17 (22%)
8	SO4	H	262[A]	-	4,4,4	0.44	0	6,6,6	0.48	0
10	GOL	H	269	-	5,5,5	0.21	0	5,5,5	0.65	0
6	LDA	H	721	-	12,15,15	1.82	1 (8%)	14,17,17	1.05	1 (7%)
8	SO4	C	342	-	4,4,4	0.51	0	6,6,6	0.23	0
10	GOL	C	351	-	5,5,5	0.63	0	5,5,5	1.22	0
10	GOL	L	276	-	5,5,5	0.37	0	5,5,5	0.53	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
8	SO4	H	265	-	4,4,4	0.35	0	6,6,6	0.07	0
10	GOL	H	277	-	5,5,5	0.34	0	5,5,5	0.33	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. '2' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
9	HTO	L	275	-	-	7/10/10/10	-
16	NS5	M	600	-	-	9/43/43/43	-
10	GOL	M	334	-	-	2/4/4/4	-
6	LDA	M	705	-	-	5/13/13/13	-
14	MQ9	M	501	-	-	2/53/73/73	0/2/2/2
10	GOL	H	279	-	-	2/4/4/4	-
10	GOL	M	337	-	-	4/4/4/4	-
6	LDA	M	702	-	-	10/13/13/13	-
10	GOL	H	274	-	-	2/4/4/4	-
10	GOL	C	353[B]	-	-	4/4/4/4	-
10	GOL	M	333	-	-	2/4/4/4	-
10	GOL	C	357	-	-	2/4/4/4	-
10	GOL	C	364	-	-	1/4/4/4	-
10	GOL	L	282	-	-	2/4/4/4	-
10	GOL	M	339	-	-	2/4/4/4	-
7	DGA	M	732	-	-	16/35/35/45	-
6	LDA	L	703	-	-	7/13/13/13	-
6	LDA	L	709	-	-	4/13/13/13	-
5	HEC	C	404[A]	-	-	1/10/54/54	-
10	GOL	C	363	-	-	2/4/4/4	-
9	HTO	L	274	-	-	0/10/10/10	-
11	BCB	M	400	4	3/3/21/26	13/37/137/137	-
5	HEC	C	401	1	-	2/10/54/54	-
13	UQ9	L	502	-	-	24/57/81/81	0/1/1/1
7	DGA	L	731	-	-	12/34/34/45	-
10	GOL	H	273	-	-	2/4/4/4	-
10	GOL	C	359	-	-	2/4/4/4	-
13	UQ9	L	503	-	-	6/11/35/81	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
6	LDA	H	718	-	-	6/10/10/13	-
10	GOL	M	338	-	-	2/4/4/4	-
9	HTO	C	349	-	-	7/10/10/10	-
10	GOL	L	281	-	-	4/4/4/4	-
9	HTO	H	268	-	-	8/10/10/10	-
10	GOL	C	354	-	-	2/4/4/4	-
6	LDA	H	701	-	-	5/13/13/13	-
6	LDA	H	719	-	-	5/13/13/13	-
10	GOL	M	335	-	-	2/4/4/4	-
5	HEC	C	402	1	-	5/10/54/54	-
10	GOL	C	353[A]	-	-	4/4/4/4	-
10	GOL	C	360	-	-	2/4/4/4	-
9	HTO	H	267	-	-	4/10/10/10	-
10	GOL	C	350	-	-	0/4/4/4	-
6	LDA	M	704	-	-	6/13/13/13	-
6	LDA	H	707	-	-	6/13/13/13	-
7	DGA	C	730	1	-	18/37/37/45	-
6	LDA	C	722	-	-	9/13/13/13	-
10	GOL	H	270	-	-	4/4/4/4	-
10	GOL	H	271	-	-	4/4/4/4	-
12	BPB	L	402	-	-	4/37/105/105	0/5/6/6
6	LDA	M	706	-	-	8/13/13/13	-
11	BCB	M	401	4	3/3/21/26	10/37/137/137	-
7	DGA	H	733	-	-	19/32/32/45	-
10	GOL	C	352	-	-	2/4/4/4	-
10	GOL	M	336	-	-	2/4/4/4	-
11	BCB	L	401	3	3/3/21/26	6/37/137/137	-
5	HEC	C	404[B]	-	-	3/10/54/54	-
10	GOL	C	365	-	-	2/4/4/4	-
10	GOL	C	362	-	-	2/4/4/4	-
12	BPB	M	402	-	-	10/37/105/105	0/5/6/6
6	LDA	C	712	-	-	9/13/13/13	-
10	GOL	C	361	-	-	4/4/4/4	-
10	GOL	L	279	-	-	2/4/4/4	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
10	GOL	L	278	-	-	4/4/4/4	-
5	HEC	C	403	1	-	0/10/54/54	-
10	GOL	H	278	-	-	4/4/4/4	-
9	HTO	C	348	-	-	7/10/10/10	-
10	GOL	L	277	-	-	0/4/4/4	-
10	GOL	C	355	-	-	2/4/4/4	-
10	GOL	H	276	-	-	2/4/4/4	-
10	GOL	C	356	-	-	0/4/4/4	-
10	GOL	L	280	-	-	4/4/4/4	-
10	GOL	H	272	-	-	0/4/4/4	-
6	LDA	L	708	-	-	1/13/13/13	-
10	GOL	C	358	-	-	2/4/4/4	-
6	LDA	L	720	-	-	6/13/13/13	-
6	LDA	M	715	-	-	9/13/13/13	-
10	GOL	H	275	-	-	2/4/4/4	-
9	HTO	M	332	-	-	7/10/10/10	-
9	HTO	H	266	-	-	7/10/10/10	-
11	BCB	L	400	3	3/3/21/26	6/37/137/137	-
10	GOL	H	269	-	-	4/4/4/4	-
6	LDA	H	721	-	-	8/13/13/13	-
10	GOL	C	351	-	-	2/4/4/4	-
10	GOL	L	276	-	-	2/4/4/4	-
10	GOL	H	277	-	-	3/4/4/4	-

All (135) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	C	712	LDA	O1-N1	-7.52	1.24	1.42
13	L	503	UQ9	C7-C8	-7.50	1.39	1.50
13	L	502	UQ9	C7-C8	-7.49	1.39	1.50
6	H	718	LDA	O1-N1	-7.31	1.25	1.42
6	L	703	LDA	O1-N1	-7.22	1.25	1.42
6	M	706	LDA	O1-N1	-7.07	1.25	1.42
6	H	719	LDA	O1-N1	-7.00	1.25	1.42
6	L	709	LDA	O1-N1	-6.92	1.26	1.42
6	M	704	LDA	O1-N1	-6.88	1.26	1.42
6	M	702	LDA	O1-N1	-6.85	1.26	1.42
6	H	707	LDA	O1-N1	-6.80	1.26	1.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	C	722	LDA	O1-N1	-6.77	1.26	1.42
6	M	715	LDA	O1-N1	-6.73	1.26	1.42
6	L	720	LDA	O1-N1	-6.64	1.26	1.42
6	H	721	LDA	O1-N1	-6.26	1.27	1.42
6	M	705	LDA	O1-N1	-6.11	1.27	1.42
16	M	600	NS5	C30-C31	5.78	1.40	1.34
6	L	708	LDA	O1-N1	-5.61	1.29	1.42
11	M	400	BCB	C1B-NB	5.51	1.40	1.35
11	L	400	BCB	C4B-NB	5.28	1.39	1.35
11	L	401	BCB	C4B-NB	5.26	1.39	1.35
14	M	501	MQ9	C6-C5	5.23	1.44	1.35
11	M	400	BCB	C4B-NB	5.10	1.39	1.35
6	H	701	LDA	O1-N1	-4.91	1.30	1.42
16	M	600	NS5	C12-C10	4.84	1.39	1.34
11	M	401	BCB	C4D-ND	-4.20	1.31	1.37
11	M	401	BCB	C1B-NB	4.16	1.38	1.35
11	L	400	BCB	C1B-NB	4.07	1.38	1.35
13	L	502	UQ9	C4-C5	-4.02	1.37	1.48
11	L	401	BCB	C1B-NB	3.88	1.38	1.35
11	M	401	BCB	C4B-NB	3.77	1.38	1.35
14	M	501	MQ9	C43-C44	3.71	1.41	1.33
11	L	400	BCB	C4D-ND	-3.64	1.32	1.37
14	M	501	MQ9	C5M-C5	3.61	1.58	1.50
13	L	502	UQ9	C27-C28	-3.43	1.39	1.50
13	L	502	UQ9	C37-C38	-3.43	1.39	1.50
13	L	502	UQ9	C47-C48	-3.38	1.39	1.50
13	L	502	UQ9	C17-C18	-3.35	1.39	1.50
11	M	401	BCB	C1D-C2D	-3.35	1.38	1.45
14	M	501	MQ9	C37-C38	-3.34	1.39	1.50
13	L	502	UQ9	C3-C2	-3.31	1.39	1.48
13	L	502	UQ9	C22-C23	-3.30	1.39	1.50
14	M	501	MQ9	C38-C39	3.25	1.40	1.33
14	M	501	MQ9	C5-C4	-3.21	1.41	1.48
13	L	502	UQ9	C32-C33	-3.20	1.40	1.50
14	M	501	MQ9	C3-C4	-3.18	1.42	1.48
13	L	502	UQ9	C12-C13	-3.18	1.40	1.50
14	M	501	MQ9	C33-C34	3.15	1.40	1.33
16	M	600	NS5	C4-C5	3.09	1.57	1.51
13	L	502	UQ9	C18-C19	3.09	1.40	1.33
14	M	501	MQ9	C28-C29	3.07	1.40	1.33
14	M	501	MQ9	C7-C8	-3.06	1.46	1.50
13	L	502	UQ9	C28-C29	3.05	1.40	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
13	L	502	UQ9	C38-C39	3.05	1.40	1.33
16	M	600	NS5	C13-C12	3.05	1.52	1.43
16	M	600	NS5	C29-C30	3.04	1.52	1.43
11	L	401	BCB	C1D-ND	3.03	1.41	1.37
5	C	402	HEC	CAA-C2A	-3.03	1.46	1.52
11	L	400	BCB	MG-ND	-2.98	1.99	2.05
13	L	502	UQ9	C42-C43	-2.97	1.40	1.50
14	M	501	MQ9	C2-C1	-2.95	1.42	1.48
14	M	501	MQ9	C22-C23	-2.95	1.40	1.50
16	M	600	NS5	C28-C26	2.93	1.52	1.45
13	L	503	UQ9	C6-C1	2.93	1.40	1.35
14	M	501	MQ9	C47-C48	-2.84	1.41	1.50
13	L	502	UQ9	C23-C24	2.84	1.39	1.33
13	L	503	UQ9	C4-C5	-2.83	1.40	1.48
13	L	502	UQ9	C43-C44	2.82	1.39	1.33
13	L	502	UQ9	C13-C14	2.80	1.39	1.33
13	L	503	UQ9	C3-C2	-2.79	1.40	1.48
14	M	501	MQ9	C46-C44	2.78	1.57	1.51
11	L	401	BCB	CMB-C2B	2.76	1.57	1.51
14	M	501	MQ9	C48-C49	2.75	1.40	1.32
14	M	501	MQ9	C42-C43	-2.74	1.41	1.50
13	L	502	UQ9	C6-C5	-2.71	1.39	1.46
16	M	600	NS5	C17-C15	2.71	1.39	1.35
13	L	502	UQ9	C33-C34	2.70	1.39	1.33
12	L	402	BPB	CHA-CBD	2.68	1.55	1.52
14	M	501	MQ9	C11-C9	2.67	1.56	1.51
13	L	503	UQ9	C8-C9	2.66	1.39	1.33
5	C	402	HEC	C3C-C2C	2.65	1.43	1.40
14	M	501	MQ9	C41-C39	2.61	1.56	1.51
11	L	401	BCB	C1D-C2D	-2.61	1.40	1.45
13	L	502	UQ9	C8-C9	2.60	1.39	1.33
7	H	733	DGA	OG1-CG1	-2.57	1.39	1.45
5	C	404[B]	HEC	O1D-CGD	2.55	1.30	1.22
16	M	600	NS5	C20-C21	2.52	1.39	1.35
12	M	402	BPB	C3D-C2D	2.52	1.43	1.39
11	L	400	BCB	MG-NA	2.50	2.12	2.06
13	L	502	UQ9	C7-C6	2.47	1.55	1.51
14	M	501	MQ9	C8-C9	2.45	1.38	1.33
16	M	600	NS5	C22-C21	2.45	1.55	1.50
13	L	502	UQ9	C6-C1	2.43	1.39	1.35
11	L	400	BCB	O2D-CGD	2.42	1.39	1.33
14	M	501	MQ9	C27-C28	-2.41	1.42	1.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
16	M	600	NS5	C8-C7	2.39	1.58	1.50
14	M	501	MQ9	C23-C24	2.37	1.38	1.33
11	M	400	BCB	C1D-C2D	-2.35	1.40	1.45
14	M	501	MQ9	C32-C33	-2.35	1.42	1.50
7	C	730	DGA	CG1-CG2	2.35	1.56	1.50
5	C	403	HEC	CBB-CAB	2.35	1.58	1.49
14	M	501	MQ9	C18-C19	2.34	1.38	1.33
5	C	402	HEC	CBB-CAB	2.33	1.58	1.49
11	L	401	BCB	C4D-ND	-2.29	1.34	1.37
14	M	501	MQ9	C25-C24	2.28	1.56	1.50
16	M	600	NS5	C24-C25	2.27	1.50	1.43
12	M	402	BPB	CMB-C2B	2.24	1.56	1.51
11	M	401	BCB	O2D-CGD	2.18	1.38	1.33
11	M	400	BCB	CHD-C4C	2.16	1.44	1.39
16	M	600	NS5	C23-C21	2.16	1.50	1.45
12	M	402	BPB	C1-C2	2.16	1.55	1.49
5	C	404[A]	HEC	CBC-CAC	2.15	1.57	1.49
5	C	404[B]	HEC	CBC-CAC	2.15	1.57	1.49
12	L	402	BPB	C1-C2	2.15	1.55	1.49
11	M	400	BCB	CMD-C2D	2.14	1.55	1.50
16	M	600	NS5	C35-C36	2.14	1.38	1.32
7	C	730	DGA	OG1-CG1	2.13	1.50	1.45
5	C	404[A]	HEC	O2A-CGA	-2.12	1.23	1.30
5	C	404[B]	HEC	O2A-CGA	-2.12	1.23	1.30
16	M	600	NS5	C19-C20	2.10	1.50	1.43
16	M	600	NS5	C34-C35	2.10	1.57	1.50
16	M	600	NS5	C25-C26	2.09	1.38	1.35
14	M	501	MQ9	C12-C13	-2.09	1.43	1.50
11	M	400	BCB	CMB-C2B	2.06	1.55	1.51
16	M	600	NS5	C29-C28	2.06	1.39	1.34
16	M	600	NS5	C27-C26	2.05	1.55	1.50
11	M	401	BCB	MG-NA	2.05	2.11	2.06
11	L	401	BCB	CMA-C3A	2.04	1.57	1.53
16	M	600	NS5	C7-C5	2.04	1.37	1.33
14	M	501	MQ9	C17-C18	-2.03	1.43	1.50
13	L	503	UQ9	C7-C6	2.02	1.54	1.51
13	L	503	UQ9	C1-C2	-2.02	1.40	1.47
11	L	401	BCB	CMD-C2D	2.01	1.55	1.50
10	C	350	GOL	O3-C3	2.00	1.50	1.42
13	L	502	UQ9	C48-C49	2.00	1.38	1.32

All (203) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
11	M	401	BCB	C1D-ND-C4D	9.01	112.74	106.33
11	L	400	BCB	C1D-ND-C4D	8.27	112.21	106.33
11	L	401	BCB	C1D-ND-C4D	7.55	111.70	106.33
11	M	401	BCB	C4A-NA-C1A	7.47	110.06	106.71
9	L	275	HTO	O2-C2-C3	-6.93	95.50	109.72
11	M	400	BCB	C1D-ND-C4D	6.73	111.11	106.33
11	M	401	BCB	O2D-CGD-CBD	6.41	122.65	111.27
16	M	600	NS5	C19-C20-C21	-6.30	118.32	127.31
11	M	400	BCB	C1C-NC-C4C	-6.27	103.89	106.71
11	M	401	BCB	O2D-CGD-O1D	-6.03	112.05	123.84
7	M	732	DGA	OG2-CB1-CB2	5.94	124.30	111.50
9	M	332	HTO	O1-C1-C2	-5.82	98.39	111.07
9	M	332	HTO	C5-C4-C3	-5.80	104.64	114.18
11	M	401	BCB	C2D-C1D-ND	-5.69	105.91	110.10
16	M	600	NS5	C24-C25-C26	-5.53	119.41	127.31
11	L	400	BCB	C1C-NC-C4C	-5.53	104.22	106.71
9	L	275	HTO	O3-C3-C2	-5.49	98.44	109.72
12	M	402	BPB	C4A-C3A-C2A	-5.49	97.61	102.84
11	L	401	BCB	C2D-C1D-ND	-5.31	106.19	110.10
7	H	733	DGA	CG1-CG2-CG3	-5.13	99.80	111.80
11	L	401	BCB	C4-C3-C5	5.04	123.74	115.27
11	L	400	BCB	C2D-C1D-ND	-4.98	106.44	110.10
5	C	401	HEC	CMB-C2B-C3B	4.89	131.57	125.82
7	C	730	DGA	OG2-CB1-CB2	4.85	121.95	111.50
11	M	400	BCB	C4D-C3D-CAD	-4.80	102.44	108.10
7	L	731	DGA	OG2-CB1-CB2	4.70	121.63	111.50
7	C	730	DGA	CG2-OG2-CB1	-4.70	111.83	117.88
11	M	400	BCB	C2D-C1D-ND	-4.62	106.70	110.10
11	M	401	BCB	CMD-C2D-C1D	4.55	132.73	124.71
11	L	401	BCB	C4A-NA-C1A	4.52	108.74	106.71
11	L	400	BCB	C3C-C4C-NC	4.50	115.48	110.57
9	C	348	HTO	C1-C2-C3	-4.45	103.45	113.11
16	M	600	NS5	C11-C10-C9	4.42	122.71	115.27
16	M	600	NS5	C12-C13-C14	-4.35	109.65	123.22
11	M	401	BCB	C4D-C3D-CAD	-4.32	103.01	108.10
9	L	275	HTO	C1-C2-C3	4.30	122.45	113.11
9	M	332	HTO	O3-C3-C4	-4.26	99.87	109.15
9	H	268	HTO	C5-C4-C3	-4.26	107.18	114.18
7	H	733	DGA	OG2-CB1-CB2	4.22	120.60	111.50
11	L	400	BCB	C4D-C3D-CAD	-4.18	103.17	108.10
11	L	400	BCB	O2D-CGD-CBD	4.18	118.69	111.27
9	M	332	HTO	O2-C2-C1	-4.13	99.45	109.14
13	L	503	UQ9	C10-C9-C11	4.12	120.70	115.98

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
11	L	400	BCB	C1-C2-C3	-4.11	118.94	126.04
11	L	401	BCB	C4D-C3D-CAD	-4.10	103.27	108.10
5	C	404[A]	HEC	C1D-C2D-C3D	-4.09	104.15	107.00
7	M	732	DGA	CB3-CB2-CB1	-4.02	99.01	113.62
12	L	402	BPB	C4A-C3A-C2A	-4.00	99.03	102.84
13	L	502	UQ9	C1M-C1-C6	-3.97	117.92	124.40
12	M	402	BPB	CMB-C2B-C3B	3.84	131.86	124.68
5	C	401	HEC	CMB-C2B-C1B	-3.79	122.64	128.46
11	M	401	BCB	CMB-C2B-C3B	3.79	131.77	124.68
11	M	400	BCB	C3C-C4C-NC	3.78	114.69	110.57
11	L	401	BCB	CMD-C2D-C1D	3.77	131.36	124.71
10	C	364	GOL	O3-C3-C2	-3.72	92.38	110.20
12	M	402	BPB	CMD-C2D-C3D	3.70	131.60	124.68
14	M	501	MQ9	C25-C24-C26	3.68	121.46	115.27
7	H	733	DGA	OG1-CG1-CG2	-3.64	97.84	108.43
13	L	502	UQ9	C35-C34-C36	3.62	121.36	115.27
14	M	501	MQ9	C35-C34-C36	3.60	121.33	115.27
9	C	348	HTO	O3-C3-C2	-3.58	102.38	109.72
14	M	501	MQ9	C40-C39-C38	-3.54	114.61	123.68
7	L	731	DGA	OG2-CG2-CG3	3.53	121.01	108.36
11	M	401	BCB	CMD-C2D-C3D	-3.52	119.52	127.61
11	M	401	BCB	CMB-C2B-C1B	-3.42	123.21	128.46
11	M	400	BCB	CMD-C2D-C1D	3.37	130.65	124.71
11	L	401	BCB	C5-C3-C2	-3.36	114.31	121.12
12	L	402	BPB	OBD-CAD-CBD	-3.27	121.03	125.82
11	L	401	BCB	C3C-C4C-NC	3.26	114.13	110.57
16	M	600	NS5	C14-C15-C17	-3.25	113.95	118.94
12	L	402	BPB	C1B-NB-C4B	3.25	113.75	107.09
12	M	402	BPB	O2D-CGD-CBD	3.24	115.10	111.00
11	M	401	BCB	CHA-C4D-ND	3.24	139.27	132.50
13	L	502	UQ9	C30-C29-C31	3.18	120.61	115.27
5	C	404[A]	HEC	CMB-C2B-C3B	3.17	129.55	125.82
5	C	404[B]	HEC	CMB-C2B-C3B	3.17	129.55	125.82
16	M	600	NS5	C16-C15-C17	3.12	127.29	122.92
14	M	501	MQ9	C5M-C5-C6	-3.08	119.37	124.40
11	L	400	BCB	C4A-NA-C1A	3.06	108.08	106.71
16	M	600	NS5	C18-C19-C20	3.06	129.73	123.47
11	M	400	BCB	CHA-C4D-ND	3.04	138.86	132.50
5	C	403	HEC	CMB-C2B-C3B	3.03	129.39	125.82
11	L	401	BCB	CHA-C4D-ND	3.03	138.84	132.50
13	L	503	UQ9	C7-C6-C5	3.01	122.10	118.48
7	L	731	DGA	CG1-CG2-CG3	-3.00	104.77	111.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	H	721	LDA	CM2-N1-C1	-3.00	103.93	110.23
13	L	502	UQ9	C1-C6-C5	-3.00	116.76	119.58
7	H	733	DGA	CG2-OG2-CB1	-2.99	110.44	117.79
5	C	404[A]	HEC	C4C-C3C-C2C	-2.97	103.14	106.35
5	C	404[B]	HEC	C4C-C3C-C2C	-2.97	103.14	106.35
7	L	731	DGA	CG2-OG2-CB1	-2.97	110.48	117.79
7	M	732	DGA	OG1-CA1-CA2	2.96	121.19	111.91
13	L	502	UQ9	C10-C9-C11	2.94	120.21	115.27
9	H	266	HTO	C1-C2-C3	-2.93	106.76	113.11
11	L	400	BCB	CHA-C4D-ND	2.92	138.61	132.50
12	L	402	BPB	CMD-C2D-C3D	2.91	130.12	124.68
12	L	402	BPB	CMB-C2B-C3B	2.91	130.12	124.68
5	C	404[A]	HEC	CMB-C2B-C1B	-2.89	124.03	128.46
5	C	404[B]	HEC	CMB-C2B-C1B	-2.89	124.03	128.46
11	L	401	BCB	CMB-C2B-C3B	2.89	130.08	124.68
11	L	401	BCB	CMD-C2D-C3D	-2.85	121.05	127.61
9	H	266	HTO	O2-C2-C3	2.85	115.58	109.72
10	M	335	GOL	O2-C2-C3	-2.84	96.61	109.12
5	C	402	HEC	CMB-C2B-C3B	2.84	129.16	125.82
5	C	402	HEC	C1D-C2D-C3D	-2.84	105.02	107.00
13	L	502	UQ9	C3M-O3-C3	2.82	126.47	116.47
11	L	400	BCB	CMD-C2D-C1D	2.82	129.68	124.71
5	C	404[A]	HEC	CMA-C3A-C2A	2.81	130.25	124.94
5	C	404[B]	HEC	CMA-C3A-C2A	2.81	130.25	124.94
14	M	501	MQ9	C30-C29-C31	2.78	119.95	115.27
13	L	502	UQ9	C50-C49-C51	2.76	120.71	114.60
6	L	720	LDA	CM2-N1-C1	2.75	116.01	110.23
7	C	730	DGA	OG1-CA1-CA2	2.72	120.44	111.91
5	C	404[A]	HEC	O2D-CGD-CBD	2.70	122.70	114.03
11	M	401	BCB	C3D-C4D-ND	-2.68	105.90	110.24
5	C	401	HEC	CBA-CAA-C2A	-2.67	108.10	112.60
10	L	278	GOL	O2-C2-C1	-2.67	97.37	109.12
9	L	275	HTO	O1-C1-C2	2.66	116.87	111.07
11	L	401	BCB	CHD-C4C-C3C	-2.64	122.58	125.89
11	L	400	BCB	CHD-C1D-ND	2.64	126.88	124.45
11	L	400	BCB	C4-C3-C5	2.64	119.71	115.27
11	L	400	BCB	CMB-C2B-C3B	2.64	129.61	124.68
11	L	400	BCB	O2D-CGD-O1D	-2.63	118.69	123.84
11	M	401	BCB	CED-O2D-CGD	2.62	121.87	115.94
11	M	401	BCB	CMA-C3A-C4A	2.62	118.82	111.77
11	M	400	BCB	CMD-C2D-C3D	-2.62	121.59	127.61
7	L	731	DGA	OG1-CA1-CA2	2.61	120.11	111.91

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
7	M	732	DGA	OB1-CB1-CB2	-2.61	113.56	123.73
11	M	401	BCB	C1C-NC-C4C	-2.59	105.54	106.71
11	M	401	BCB	C5-C3-C2	-2.56	115.95	121.12
16	M	600	NS5	C24-C23-C21	-2.55	119.26	126.42
9	M	332	HTO	C1-C2-C3	2.54	118.63	113.11
12	M	402	BPB	C1-C2-C3	-2.53	121.66	126.04
6	H	701	LDA	CM2-N1-C1	-2.53	104.91	110.23
6	L	720	LDA	CM1-N1-C1	-2.52	104.93	110.23
9	L	274	HTO	C4-C3-C2	-2.52	107.36	113.35
12	M	402	BPB	CBC-CAC-C3C	-2.52	120.02	126.70
11	M	401	BCB	C3C-C4C-NC	2.52	113.32	110.57
16	M	600	NS5	C6-C5-C4	2.49	119.47	115.27
10	C	356	GOL	C3-C2-C1	2.49	121.40	111.70
9	L	274	HTO	O2-C2-C1	-2.48	103.32	109.14
11	L	401	BCB	C1C-NC-C4C	-2.48	105.59	106.71
5	C	404[A]	HEC	O1D-CGD-CBD	-2.47	115.15	123.08
14	M	501	MQ9	C40-C39-C41	2.44	119.38	115.27
11	L	400	BCB	C3D-C4D-ND	-2.42	106.32	110.24
13	L	502	UQ9	C15-C14-C16	2.41	119.33	115.27
14	M	501	MQ9	C41-C39-C38	2.40	125.98	121.12
11	M	400	BCB	CED-O2D-CGD	2.40	121.36	115.94
11	M	400	BCB	O2D-CGD-CBD	2.38	115.49	111.27
5	C	401	HEC	CBD-CAD-C3D	-2.38	108.57	112.62
5	C	401	HEC	O2A-CGA-CBA	2.36	121.60	114.03
13	L	502	UQ9	C25-C24-C26	2.35	119.23	115.27
13	L	503	UQ9	C4M-O4-C4	-2.35	108.14	116.47
11	M	401	BCB	C2A-C1A-CHA	2.35	127.97	123.86
13	L	502	UQ9	O3-C3-C2	2.34	124.49	116.56
6	L	708	LDA	CM1-N1-C1	-2.33	105.34	110.23
11	M	400	BCB	CHC-C1C-NC	-2.33	121.30	124.51
5	C	403	HEC	O2D-CGD-O1D	-2.32	117.52	123.30
7	H	733	DGA	CG1-OG1-CA1	-2.31	108.55	117.12
9	L	274	HTO	C1-C2-C3	2.30	118.10	113.11
11	M	401	BCB	C3A-C2A-C1A	2.30	104.78	101.34
7	H	733	DGA	OXT-CG3-CG2	-2.29	105.71	111.78
7	L	731	DGA	CG1-OG1-CA1	-2.28	108.67	117.12
11	L	400	BCB	CHD-C4C-C3C	-2.27	123.05	125.89
11	L	401	BCB	C3D-C4D-ND	-2.25	106.60	110.24
11	M	400	BCB	CAD-C3D-C2D	2.24	151.59	140.80
13	L	503	UQ9	C1M-C1-C6	-2.23	120.77	124.40
13	L	502	UQ9	C4M-O4-C4	-2.23	108.58	116.47
10	C	364	GOL	O2-C2-C3	-2.23	99.32	109.12

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
14	M	501	MQ9	C37-C38-C39	2.22	133.00	127.66
16	M	600	NS5	C25-C24-C23	-2.21	116.31	123.22
11	M	400	BCB	C3D-C4D-ND	-2.21	106.67	110.24
5	C	403	HEC	CMA-C3A-C2A	2.18	129.06	124.94
12	M	402	BPB	C5-C3-C2	2.18	125.53	121.12
13	L	502	UQ9	O2-C2-C3	-2.17	116.32	120.93
5	C	401	HEC	CMC-C2C-C1C	-2.17	125.12	128.46
16	M	600	NS5	C27-C26-C28	2.17	121.49	118.08
8	H	261	SO4	O3-S-O1	2.15	120.54	109.31
9	H	268	HTO	C1-C2-C3	-2.15	108.44	113.11
9	M	332	HTO	C4-C3-C2	2.14	118.43	113.35
14	M	501	MQ9	C45-C44-C46	2.13	118.85	115.27
11	M	401	BCB	CAA-C2A-C1A	2.12	118.92	111.97
12	M	402	BPB	C1B-NB-C4B	2.12	111.44	107.09
5	C	404[B]	HEC	C1D-C2D-C3D	-2.12	105.52	107.00
5	C	403	HEC	CMB-C2B-C1B	-2.11	125.22	128.46
11	M	400	BCB	O2A-CGA-CBA	2.09	118.47	111.91
11	L	400	BCB	CMB-C2B-C1B	-2.08	125.26	128.46
10	M	335	GOL	O1-C1-C2	2.08	120.19	110.20
10	M	338	GOL	O3-C3-C2	-2.08	100.25	110.20
10	C	350	GOL	O1-C1-C2	2.07	120.13	110.20
13	L	502	UQ9	C35-C34-C33	-2.06	118.38	123.68
11	M	401	BCB	C11-C10-C8	-2.06	109.27	115.92
7	H	733	DGA	CA3-CA2-CA1	-2.06	106.14	113.62
13	L	502	UQ9	C20-C19-C21	2.05	118.72	115.27
7	H	733	DGA	OG1-CA1-CA2	2.04	118.30	111.91
11	M	400	BCB	C1-C2-C3	-2.03	122.53	126.04
11	M	401	BCB	CAD-C3D-C2D	2.03	150.59	140.80
5	C	402	HEC	CMC-C2C-C1C	-2.03	125.35	128.46
5	C	403	HEC	O2D-CGD-CBD	2.02	120.52	114.03
5	C	402	HEC	CMB-C2B-C1B	-2.01	125.37	128.46
11	M	401	BCB	CGD-CBD-CAD	-2.01	104.22	110.73
9	L	274	HTO	O1-C1-C2	-2.01	106.70	111.07
10	H	271	GOL	O2-C2-C3	-2.00	100.31	109.12

All (12) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
11	L	400	BCB	NA
11	L	400	BCB	NC
11	L	400	BCB	ND
11	L	401	BCB	NA

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Mol	Chain	Res	Type	Atom
11	L	401	BCB	NC
11	L	401	BCB	ND
11	M	400	BCB	NA
11	M	400	BCB	NC
11	M	400	BCB	ND
11	M	401	BCB	NA
11	M	401	BCB	NC
11	M	401	BCB	ND

All (415) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
5	C	404[B]	HEC	C3D-CAD-CBD-CGD
6	C	712	LDA	C2-C1-N1-O1
6	C	712	LDA	C2-C1-N1-CM1
6	C	712	LDA	C2-C1-N1-CM2
6	C	712	LDA	N1-C1-C2-C3
6	C	722	LDA	C2-C1-N1-O1
6	C	722	LDA	C2-C1-N1-CM1
6	C	722	LDA	C2-C1-N1-CM2
6	C	722	LDA	N1-C1-C2-C3
6	H	707	LDA	C2-C1-N1-O1
6	H	707	LDA	C2-C1-N1-CM1
6	H	707	LDA	C2-C1-N1-CM2
6	H	718	LDA	N1-C1-C2-C3
6	H	721	LDA	C2-C1-N1-O1
6	H	721	LDA	C2-C1-N1-CM1
6	L	703	LDA	C2-C1-N1-CM1
6	L	703	LDA	C2-C1-N1-CM2
6	L	703	LDA	N1-C1-C2-C3
6	L	720	LDA	C2-C1-N1-O1
6	L	720	LDA	C2-C1-N1-CM1
6	L	720	LDA	C2-C1-N1-CM2
6	M	706	LDA	C2-C1-N1-O1
6	M	706	LDA	C2-C1-N1-CM1
6	M	706	LDA	C2-C1-N1-CM2
6	M	715	LDA	C2-C1-N1-O1
6	M	715	LDA	C2-C1-N1-CM1
6	M	715	LDA	C2-C1-N1-CM2
7	C	730	DGA	OG1-CG1-CG2-OG2
7	C	730	DGA	OG1-CG1-CG2-CG3
7	H	733	DGA	CA2-CA1-OG1-CG1

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Mol	Chain	Res	Type	Atoms
7	H	733	DGA	OA1-CA1-OG1-CG1
7	L	731	DGA	CA2-CA1-OG1-CG1
7	L	731	DGA	OA1-CA1-OG1-CG1
7	M	732	DGA	CB2-CB1-OG2-CG2
7	M	732	DGA	OB1-CB1-OG2-CG2
9	C	348	HTO	C1-C2-C3-O3
9	C	348	HTO	C1-C2-C3-C4
9	C	348	HTO	O2-C2-C3-O3
9	C	348	HTO	O2-C2-C3-C4
9	C	349	HTO	C1-C2-C3-O3
9	C	349	HTO	C1-C2-C3-C4
9	C	349	HTO	O2-C2-C3-O3
9	C	349	HTO	O2-C2-C3-C4
9	C	349	HTO	C2-C3-C4-C5
9	C	349	HTO	O3-C3-C4-C5
9	H	266	HTO	C1-C2-C3-O3
9	H	266	HTO	C1-C2-C3-C4
9	H	266	HTO	O2-C2-C3-O3
9	H	266	HTO	O2-C2-C3-C4
9	H	268	HTO	C1-C2-C3-O3
9	H	268	HTO	O2-C2-C3-O3
9	H	268	HTO	O2-C2-C3-C4
9	L	275	HTO	O1-C1-C2-O2
9	L	275	HTO	O1-C1-C2-C3
9	L	275	HTO	C1-C2-C3-O3
9	L	275	HTO	O2-C2-C3-O3
9	L	275	HTO	O2-C2-C3-C4
9	M	332	HTO	O3-C3-C4-C5
10	C	351	GOL	C1-C2-C3-O3
10	C	352	GOL	C1-C2-C3-O3
10	C	353[A]	GOL	O1-C1-C2-C3
10	C	354	GOL	O1-C1-C2-C3
10	C	357	GOL	C1-C2-C3-O3
10	C	358	GOL	O1-C1-C2-C3
10	C	359	GOL	O1-C1-C2-C3
10	C	361	GOL	C1-C2-C3-O3
10	C	362	GOL	C1-C2-C3-O3
10	C	363	GOL	O1-C1-C2-C3
10	C	365	GOL	O1-C1-C2-C3
10	H	269	GOL	O1-C1-C2-C3
10	H	271	GOL	O1-C1-C2-C3
10	H	271	GOL	C1-C2-C3-O3

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Mol	Chain	Res	Type	Atoms
10	H	273	GOL	C1-C2-C3-O3
10	H	274	GOL	C1-C2-C3-O3
10	H	274	GOL	O2-C2-C3-O3
10	H	275	GOL	C1-C2-C3-O3
10	H	276	GOL	C1-C2-C3-O3
10	H	276	GOL	O2-C2-C3-O3
10	H	277	GOL	C1-C2-C3-O3
10	H	278	GOL	C1-C2-C3-O3
10	H	279	GOL	C1-C2-C3-O3
10	L	278	GOL	O1-C1-C2-C3
10	L	278	GOL	C1-C2-C3-O3
10	L	279	GOL	C1-C2-C3-O3
10	L	281	GOL	C1-C2-C3-O3
10	L	282	GOL	O1-C1-C2-C3
10	M	333	GOL	C1-C2-C3-O3
10	M	334	GOL	O1-C1-C2-C3
10	M	335	GOL	C1-C2-C3-O3
10	M	336	GOL	C1-C2-C3-O3
10	M	337	GOL	O1-C1-C2-O2
10	M	337	GOL	O1-C1-C2-C3
10	M	337	GOL	C1-C2-C3-O3
10	M	339	GOL	C1-C2-C3-O3
11	L	400	BCB	C2C-C3C-CAC-CBC
11	M	400	BCB	C2C-C3C-CAC-CBC
11	M	401	BCB	C2C-C3C-CAC-CBC
11	M	401	BCB	CAD-CBD-CGD-O1D
11	M	401	BCB	CAD-CBD-CGD-O2D
13	L	502	UQ9	C46-C47-C48-C49
13	L	502	UQ9	C31-C32-C33-C34
13	L	502	UQ9	C30-C29-C31-C32
13	L	502	UQ9	C28-C29-C31-C32
13	L	502	UQ9	C16-C17-C18-C19
13	L	503	UQ9	C12-C11-C9-C10
13	L	503	UQ9	C12-C11-C9-C8
7	M	732	DGA	OA1-CA1-OG1-CG1
7	M	732	DGA	CA2-CA1-OG1-CG1
13	L	502	UQ9	C25-C24-C26-C27
13	L	502	UQ9	C23-C24-C26-C27
11	M	401	BCB	C2A-CAA-CBA-CGA
6	M	702	LDA	C1-C2-C3-C4
7	H	733	DGA	CA3-CA4-CA5-CA6
6	C	712	LDA	C3-C4-C5-C6

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Mol	Chain	Res	Type	Atoms
6	L	703	LDA	C5-C6-C7-C8
11	L	400	BCB	C4-C3-C5-C6
13	L	502	UQ9	C40-C39-C41-C42
13	L	502	UQ9	C12-C11-C9-C10
11	L	400	BCB	C2-C3-C5-C6
13	L	502	UQ9	C38-C39-C41-C42
13	L	502	UQ9	C12-C11-C9-C8
7	H	733	DGA	CA5-CA6-CA7-CA8
13	L	502	UQ9	C44-C46-C47-C48
13	L	502	UQ9	C29-C31-C32-C33
7	L	731	DGA	CB7-CB8-CB9-CAB
6	M	704	LDA	C11-C10-C9-C8
11	L	400	BCB	C15-C16-C17-C18
11	M	400	BCB	C11-C10-C8-C9
11	M	400	BCB	C11-C12-C13-C14
12	M	402	BPB	C14-C13-C15-C16
16	M	600	NS5	C13-C14-C15-C16
16	M	600	NS5	C22-C21-C23-C24
16	M	600	NS5	C1-C2-C3-C4
10	C	353[B]	GOL	O1-C1-C2-O2
10	C	354	GOL	O1-C1-C2-O2
10	C	357	GOL	O2-C2-C3-O3
10	C	363	GOL	O1-C1-C2-O2
10	L	278	GOL	O1-C1-C2-O2
10	M	335	GOL	O2-C2-C3-O3
10	M	336	GOL	O2-C2-C3-O3
7	M	732	DGA	CA1-CA2-CA3-CA4
11	M	401	BCB	C11-C12-C13-C15
12	M	402	BPB	C12-C13-C15-C16
16	M	600	NS5	C2-C3-C4-C5
13	L	502	UQ9	C4-C3-O3-C3M
13	L	503	UQ9	C3-C4-O4-C4M
9	H	268	HTO	O1-C1-C2-C3
11	M	400	BCB	C8-C10-C11-C12
7	M	732	DGA	CB4-CB5-CB6-CB7
12	M	402	BPB	C5-C6-C7-C8
6	L	703	LDA	C2-C3-C4-C5
6	M	704	LDA	C4-C5-C6-C7
7	C	730	DGA	CA6-CA7-CA8-CA9
7	M	732	DGA	CB3-CB4-CB5-CB6
7	L	731	DGA	CG1-CG2-OG2-CB1
6	H	719	LDA	C2-C3-C4-C5

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Mol	Chain	Res	Type	Atoms
6	M	702	LDA	C5-C6-C7-C8
7	C	730	DGA	CA5-CA6-CA7-CA8
7	H	733	DGA	CB6-CB7-CB8-CB9
6	L	703	LDA	C6-C7-C8-C9
6	M	715	LDA	C2-C3-C4-C5
9	H	267	HTO	O1-C1-C2-O2
9	M	332	HTO	O1-C1-C2-O2
6	H	721	LDA	C3-C4-C5-C6
11	L	401	BCB	C16-C17-C18-C19
16	M	600	NS5	CM2-C1-C2-C3
12	M	402	BPB	C11-C12-C13-C14
6	C	712	LDA	C5-C6-C7-C8
6	C	712	LDA	C6-C7-C8-C9
6	H	721	LDA	C2-C3-C4-C5
9	C	348	HTO	C2-C3-C4-C5
9	H	266	HTO	C2-C3-C4-C5
9	H	268	HTO	C2-C3-C4-C5
9	M	332	HTO	C2-C3-C4-C5
10	C	353[A]	GOL	C1-C2-C3-O3
10	C	353[B]	GOL	O1-C1-C2-C3
10	H	269	GOL	C1-C2-C3-O3
10	H	270	GOL	O1-C1-C2-C3
10	H	270	GOL	C1-C2-C3-O3
10	H	277	GOL	O1-C1-C2-C3
10	H	278	GOL	O1-C1-C2-C3
10	L	280	GOL	O1-C1-C2-C3
11	M	400	BCB	C13-C15-C16-C17
11	M	400	BCB	C15-C16-C17-C18
6	M	702	LDA	C6-C7-C8-C9
7	H	733	DGA	CA2-CA3-CA4-CA5
7	H	733	DGA	CBB-CAB-CB9-CB8
7	M	732	DGA	CB5-CB6-CB7-CB8
6	M	705	LDA	C6-C7-C8-C9
7	C	730	DGA	CA7-CA8-CA9-CAA
6	M	705	LDA	C4-C5-C6-C7
7	H	733	DGA	CB2-CB3-CB4-CB5
6	M	705	LDA	C11-C10-C9-C8
6	H	701	LDA	C4-C5-C6-C7
7	M	732	DGA	CB6-CB7-CB8-CB9
16	M	600	NS5	CM1-C1-C2-C3
7	C	730	DGA	CBB-CAB-CB9-CB8
7	L	731	DGA	CA3-CA4-CA5-CA6

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Mol	Chain	Res	Type	Atoms
6	M	706	LDA	C3-C4-C5-C6
13	L	502	UQ9	C45-C44-C46-C47
13	L	502	UQ9	C43-C44-C46-C47
10	C	351	GOL	O2-C2-C3-O3
10	C	353[A]	GOL	O1-C1-C2-O2
10	C	362	GOL	O2-C2-C3-O3
10	C	365	GOL	O1-C1-C2-O2
10	H	269	GOL	O1-C1-C2-O2
10	H	270	GOL	O1-C1-C2-O2
10	H	270	GOL	O2-C2-C3-O3
10	H	271	GOL	O1-C1-C2-O2
10	H	275	GOL	O2-C2-C3-O3
10	H	277	GOL	O2-C2-C3-O3
10	H	278	GOL	O2-C2-C3-O3
10	H	279	GOL	O2-C2-C3-O3
10	L	279	GOL	O2-C2-C3-O3
10	L	281	GOL	O2-C2-C3-O3
10	L	282	GOL	O1-C1-C2-O2
10	M	339	GOL	O2-C2-C3-O3
6	L	709	LDA	C3-C4-C5-C6
6	M	704	LDA	C2-C3-C4-C5
6	H	707	LDA	C3-C4-C5-C6
7	C	730	DGA	CB7-CB8-CB9-CAB
11	L	401	BCB	C16-C17-C18-C20
7	L	731	DGA	CA1-CA2-CA3-CA4
6	H	719	LDA	C1-C2-C3-C4
7	M	732	DGA	CBB-CAB-CB9-CB8
7	C	730	DGA	CA8-CA9-CAA-CBA
6	H	721	LDA	C4-C5-C6-C7
12	M	402	BPB	C11-C12-C13-C15
7	C	730	DGA	OB1-CB1-OG2-CG2
6	M	702	LDA	C7-C8-C9-C10
6	H	718	LDA	C1-C2-C3-C4
6	M	706	LDA	C6-C7-C8-C9
6	H	718	LDA	C6-C7-C8-C9
9	H	268	HTO	C4-C5-C6-C7
7	C	730	DGA	CB2-CB1-OG2-CG2
6	L	720	LDA	C6-C7-C8-C9
7	H	733	DGA	CB3-CB4-CB5-CB6
7	H	733	DGA	CB5-CB6-CB7-CB8
7	M	732	DGA	CA3-CA4-CA5-CA6
11	M	401	BCB	C11-C12-C13-C14

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Mol	Chain	Res	Type	Atoms
7	C	730	DGA	CB4-CB5-CB6-CB7
7	C	730	DGA	CB9-CAB-CBB-CCB
13	L	502	UQ9	C2-C3-O3-C3M
13	L	503	UQ9	C5-C4-O4-C4M
9	C	348	HTO	O3-C3-C4-C5
9	H	266	HTO	O3-C3-C4-C5
9	H	267	HTO	O3-C3-C4-C5
9	H	268	HTO	O3-C3-C4-C5
12	M	402	BPB	C15-C16-C17-C18
6	H	718	LDA	C3-C4-C5-C6
6	C	722	LDA	C1-C2-C3-C4
6	M	702	LDA	C9-C10-C11-C12
7	L	731	DGA	CA5-CA6-CA7-CA8
6	L	709	LDA	C7-C8-C9-C10
10	C	352	GOL	O2-C2-C3-O3
10	C	361	GOL	O2-C2-C3-O3
10	H	269	GOL	O2-C2-C3-O3
10	H	271	GOL	O2-C2-C3-O3
10	H	273	GOL	O2-C2-C3-O3
10	M	334	GOL	O1-C1-C2-O2
10	M	337	GOL	O2-C2-C3-O3
7	C	730	DGA	CA9-CAA-CBA-CCA
6	H	718	LDA	C2-C3-C4-C5
6	C	712	LDA	C2-C3-C4-C5
6	C	722	LDA	C11-C10-C9-C8
7	H	733	DGA	OG2-CB1-CB2-CB3
7	L	731	DGA	OG1-CG1-CG2-OG2
7	M	732	DGA	OG1-CG1-CG2-OG2
6	H	719	LDA	C3-C4-C5-C6
9	H	267	HTO	C4-C5-C6-C7
6	C	722	LDA	C6-C7-C8-C9
7	H	733	DGA	CAB-CBB-CCB-CDB
6	M	706	LDA	N1-C1-C2-C3
6	C	722	LDA	C2-C3-C4-C5
6	M	706	LDA	C5-C6-C7-C8
13	L	502	UQ9	C34-C36-C37-C38
11	M	400	BCB	C4-C3-C5-C6
11	M	400	BCB	C2-C3-C5-C6
6	H	719	LDA	C11-C10-C9-C8
9	M	332	HTO	C1-C2-C3-O3
6	M	715	LDA	C6-C7-C8-C9
7	H	733	DGA	CB1-CB2-CB3-CB4

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Mol	Chain	Res	Type	Atoms
6	M	702	LDA	C3-C4-C5-C6
12	L	402	BPB	O2A-C1-C2-C3
6	L	709	LDA	C1-C2-C3-C4
7	L	731	DGA	CB9-CAB-CBB-CCB
10	C	355	GOL	O1-C1-C2-O2
10	C	358	GOL	O1-C1-C2-O2
10	L	280	GOL	O2-C2-C3-O3
10	M	333	GOL	O2-C2-C3-O3
12	L	402	BPB	C8-C10-C11-C12
7	M	732	DGA	CAB-CBB-CCB-CDB
6	M	706	LDA	C2-C3-C4-C5
7	C	730	DGA	CBB-CCB-CDB-CEB
7	C	730	DGA	CA2-CA3-CA4-CA5
9	M	332	HTO	C4-C5-C6-C7
9	L	275	HTO	C1-C2-C3-C4
9	M	332	HTO	C1-C2-C3-C4
6	H	707	LDA	C6-C7-C8-C9
11	L	400	BCB	C16-C17-C18-C20
7	C	730	DGA	CA1-CA2-CA3-CA4
7	H	733	DGA	CA1-CA2-CA3-CA4
6	H	701	LDA	C7-C8-C9-C10
11	M	400	BCB	C11-C10-C8-C7
6	M	715	LDA	C5-C6-C7-C8
11	M	400	BCB	CAD-CBD-CGD-O2D
12	M	402	BPB	CAD-CBD-CGD-O2D
7	M	732	DGA	CB9-CAB-CBB-CCB
6	M	702	LDA	C2-C1-N1-CM1
6	M	702	LDA	C2-C1-N1-CM2
10	C	353[B]	GOL	O2-C2-C3-O3
10	C	361	GOL	O1-C1-C2-O2
9	H	267	HTO	C2-C3-C4-C5
10	C	353[B]	GOL	C1-C2-C3-O3
6	H	721	LDA	C11-C10-C9-C8
11	L	400	BCB	CAD-CBD-CGD-O1D
11	L	401	BCB	C2C-C3C-CAC-CBC
7	L	731	DGA	CB6-CB7-CB8-CB9
6	M	705	LDA	C7-C8-C9-C10
11	L	401	BCB	C12-C13-C15-C16
11	M	400	BCB	C11-C12-C13-C15
9	H	268	HTO	O1-C1-C2-O2
7	H	733	DGA	OG1-CG1-CG2-CG3
7	L	731	DGA	OG1-CG1-CG2-CG3

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Mol	Chain	Res	Type	Atoms
7	H	733	DGA	OG1-CG1-CG2-OG2
6	L	709	LDA	C2-C3-C4-C5
6	L	703	LDA	C4-C5-C6-C7
10	C	359	GOL	O1-C1-C2-O2
10	H	278	GOL	O1-C1-C2-O2
10	L	281	GOL	O1-C1-C2-O2
6	C	722	LDA	C5-C6-C7-C8
9	M	332	HTO	O1-C1-C2-C3
6	H	701	LDA	C9-C10-C11-C12
7	C	730	DGA	CEB-CFB-CGB-CHB
16	M	600	NS5	C17-C18-C19-C20
6	M	702	LDA	C4-C5-C6-C7
7	M	732	DGA	CB7-CB8-CB9-CAB
6	M	704	LDA	C7-C8-C9-C10
6	C	712	LDA	C9-C10-C11-C12
6	M	715	LDA	C7-C8-C9-C10
6	M	705	LDA	C3-C4-C5-C6
11	L	401	BCB	C14-C13-C15-C16
6	H	718	LDA	C5-C6-C7-C8
6	M	715	LDA	C1-C2-C3-C4
10	L	276	GOL	O1-C1-C2-C3
9	C	349	HTO	C3-C4-C5-C6
6	H	701	LDA	C3-C4-C5-C6
5	C	404[B]	HEC	CAD-CBD-CGD-O1D
6	H	707	LDA	C5-C6-C7-C8
6	M	715	LDA	C11-C10-C9-C8
5	C	402	HEC	CAA-CBA-CGA-O1A
7	H	733	DGA	CB9-CAB-CBB-CCB
7	H	733	DGA	OB1-CB1-CB2-CB3
6	H	721	LDA	C7-C8-C9-C10
11	M	401	BCB	C16-C17-C18-C19
6	H	719	LDA	C5-C6-C7-C8
9	L	275	HTO	C4-C5-C6-C7
5	C	401	HEC	CAA-CBA-CGA-O1A
13	L	502	UQ9	C35-C34-C36-C37
5	C	402	HEC	CAA-CBA-CGA-O2A
12	M	402	BPB	O2A-C1-C2-C3
5	C	404[B]	HEC	CAD-CBD-CGD-O2D
16	M	600	NS5	C20-C21-C23-C24
7	H	733	DGA	CG1-CG2-OG2-CB1
12	M	402	BPB	C4-C3-C5-C6
11	M	400	BCB	C6-C7-C8-C10

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Mol	Chain	Res	Type	Atoms
6	H	701	LDA	C6-C7-C8-C9
11	M	400	BCB	C5-C6-C7-C8
13	L	503	UQ9	C2-C3-O3-C3M
6	H	721	LDA	C5-C6-C7-C8
13	L	502	UQ9	C39-C41-C42-C43
5	C	401	HEC	CAA-CBA-CGA-O2A
7	C	730	DGA	CB3-CB4-CB5-CB6
6	M	704	LDA	C1-C2-C3-C4
10	C	355	GOL	O1-C1-C2-C3
10	C	360	GOL	C1-C2-C3-O3
10	L	280	GOL	C1-C2-C3-O3
10	L	281	GOL	O1-C1-C2-C3
14	M	501	MQ9	C35-C34-C36-C37
13	L	502	UQ9	C5-C4-O4-C4M
12	M	402	BPB	C2-C3-C5-C6
14	M	501	MQ9	C33-C34-C36-C37
10	C	353[A]	GOL	O2-C2-C3-O3
10	C	360	GOL	O2-C2-C3-O3
10	L	280	GOL	O1-C1-C2-O2
5	C	402	HEC	CAD-CBD-CGD-O2D
13	L	502	UQ9	C33-C34-C36-C37
11	L	401	BCB	CAD-CBD-CGD-O2D
12	L	402	BPB	CAD-CBD-CGD-O2D
13	L	502	UQ9	C15-C14-C16-C17
9	H	266	HTO	C3-C4-C5-C6
7	M	732	DGA	OG1-CG1-CG2-CG3
11	M	401	BCB	O2A-C1-C2-C3
5	C	402	HEC	CAD-CBD-CGD-O1D
6	L	708	LDA	C2-C1-N1-CM2
11	M	401	BCB	CHA-CBD-CGD-O1D
11	M	401	BCB	CHA-CBD-CGD-O2D
13	L	502	UQ9	C13-C14-C16-C17
10	C	364	GOL	O1-C1-C2-O2
7	L	731	DGA	CA9-CAA-CBA-CCA
6	M	704	LDA	C6-C7-C8-C9
9	C	348	HTO	C3-C4-C5-C6
5	C	402	HEC	C3D-CAD-CBD-CGD
10	C	361	GOL	O1-C1-C2-C3
10	M	338	GOL	C1-C2-C3-O3
16	M	600	NS5	C3-C4-C5-C6
6	M	702	LDA	C2-C1-N1-O1
10	L	276	GOL	O1-C1-C2-O2

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Mol	Chain	Res	Type	Atoms
10	L	278	GOL	O2-C2-C3-O3
10	M	338	GOL	O2-C2-C3-O3
6	L	720	LDA	C5-C6-C7-C8
6	L	720	LDA	C7-C8-C9-C10
12	L	402	BPB	C4-C3-C5-C6
13	L	503	UQ9	C4-C3-O3-C3M
5	C	404[A]	HEC	CAD-CBD-CGD-O1D

There are no ring outliers.

56 monomers are involved in 199 short contacts:

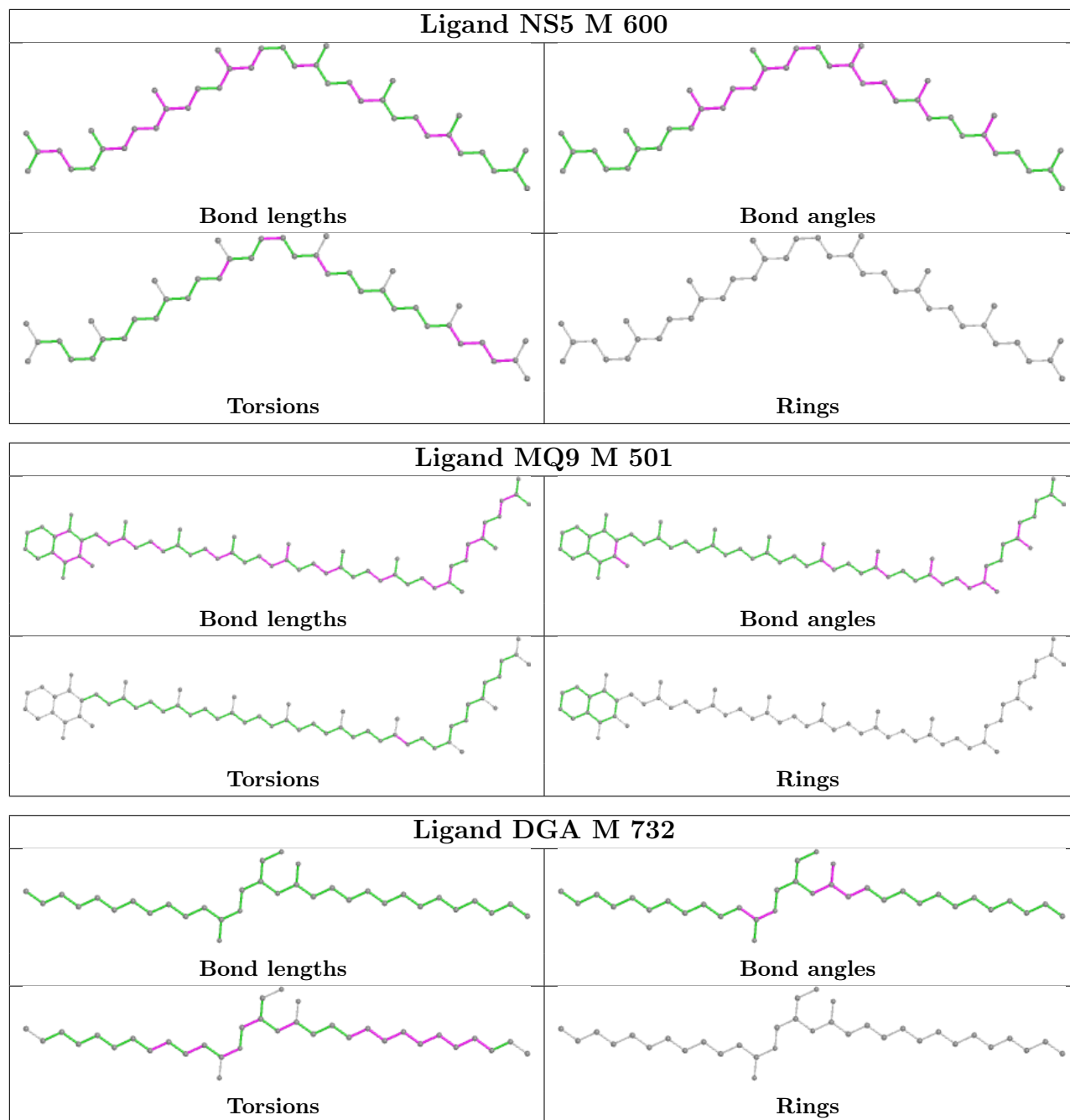
Mol	Chain	Res	Type	Clashes	Symm-Clashes
8	C	346	SO4	1	0
16	M	600	NS5	2	0
10	M	337	GOL	2	0
6	M	702	LDA	11	0
8	H	264	SO4	1	0
10	H	274	GOL	2	0
10	C	353[B]	GOL	1	0
10	M	333	GOL	1	0
8	C	344	SO4	2	0
8	M	329	SO4	2	0
7	M	732	DGA	23	0
6	L	703	LDA	5	0
11	M	400	BCB	9	0
13	L	502	UQ9	31	0
7	L	731	DGA	7	0
10	H	273	GOL	1	0
10	C	359	GOL	9	0
13	L	503	UQ9	6	0
6	H	718	LDA	8	0
9	C	349	HTO	4	0
9	H	268	HTO	2	0
10	C	354	GOL	1	0
6	H	701	LDA	4	0
6	H	719	LDA	2	0
8	C	338	SO4	3	0
10	M	335	GOL	2	0
9	H	267	HTO	1	0
6	M	704	LDA	7	0
6	H	707	LDA	6	0
7	C	730	DGA	1	0

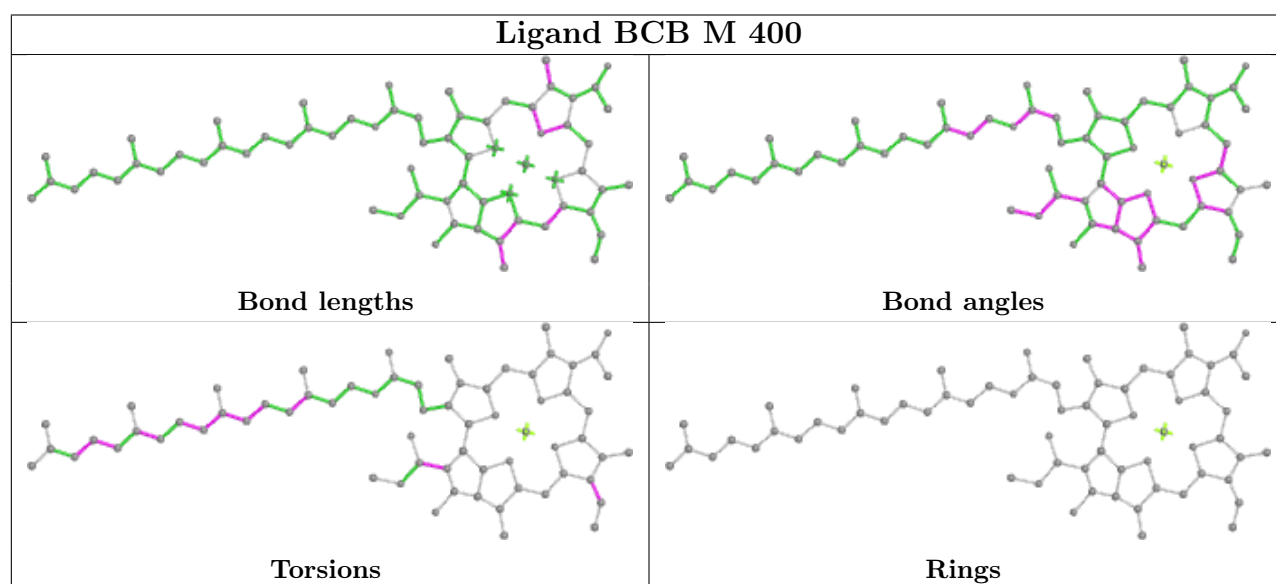
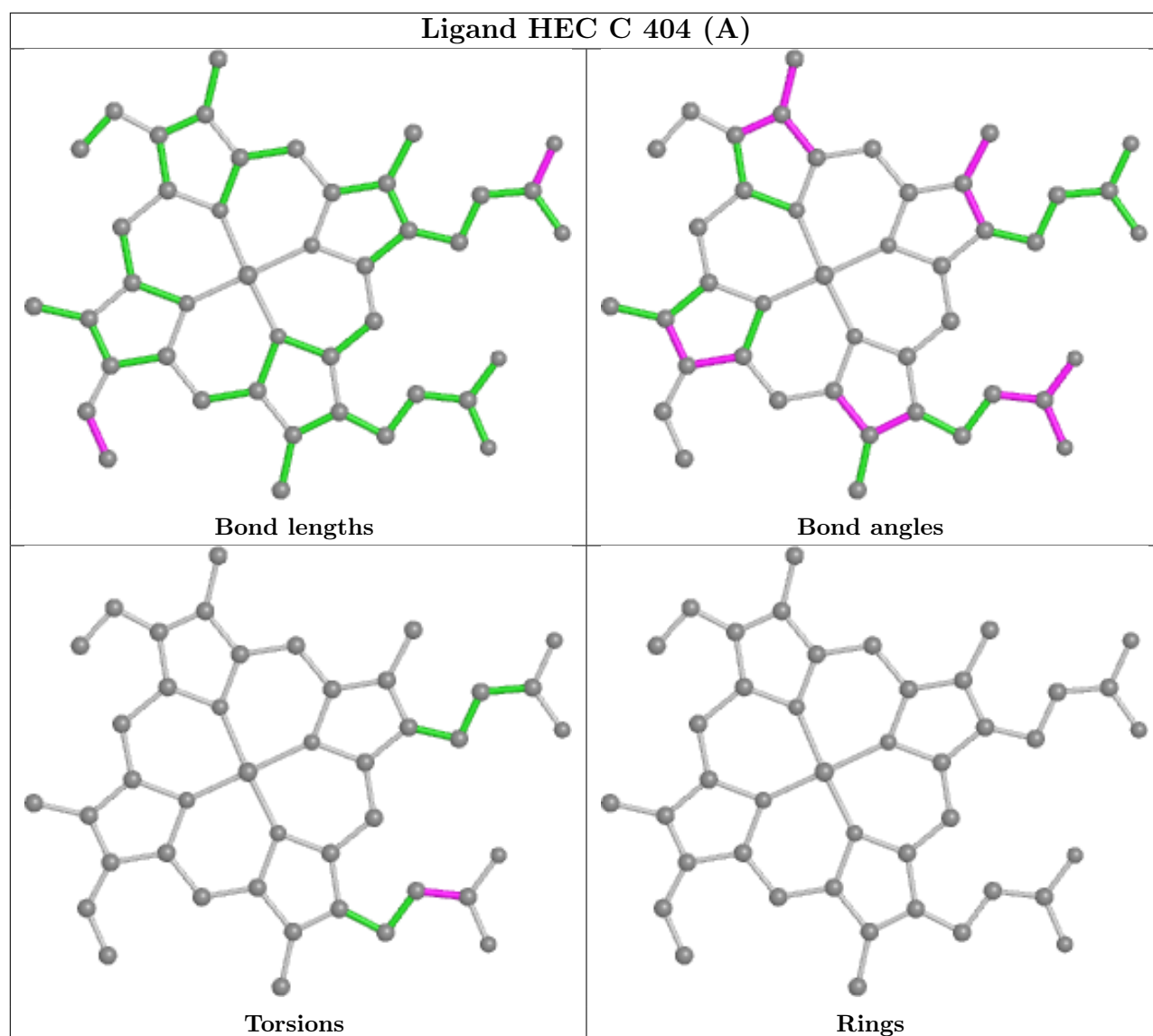
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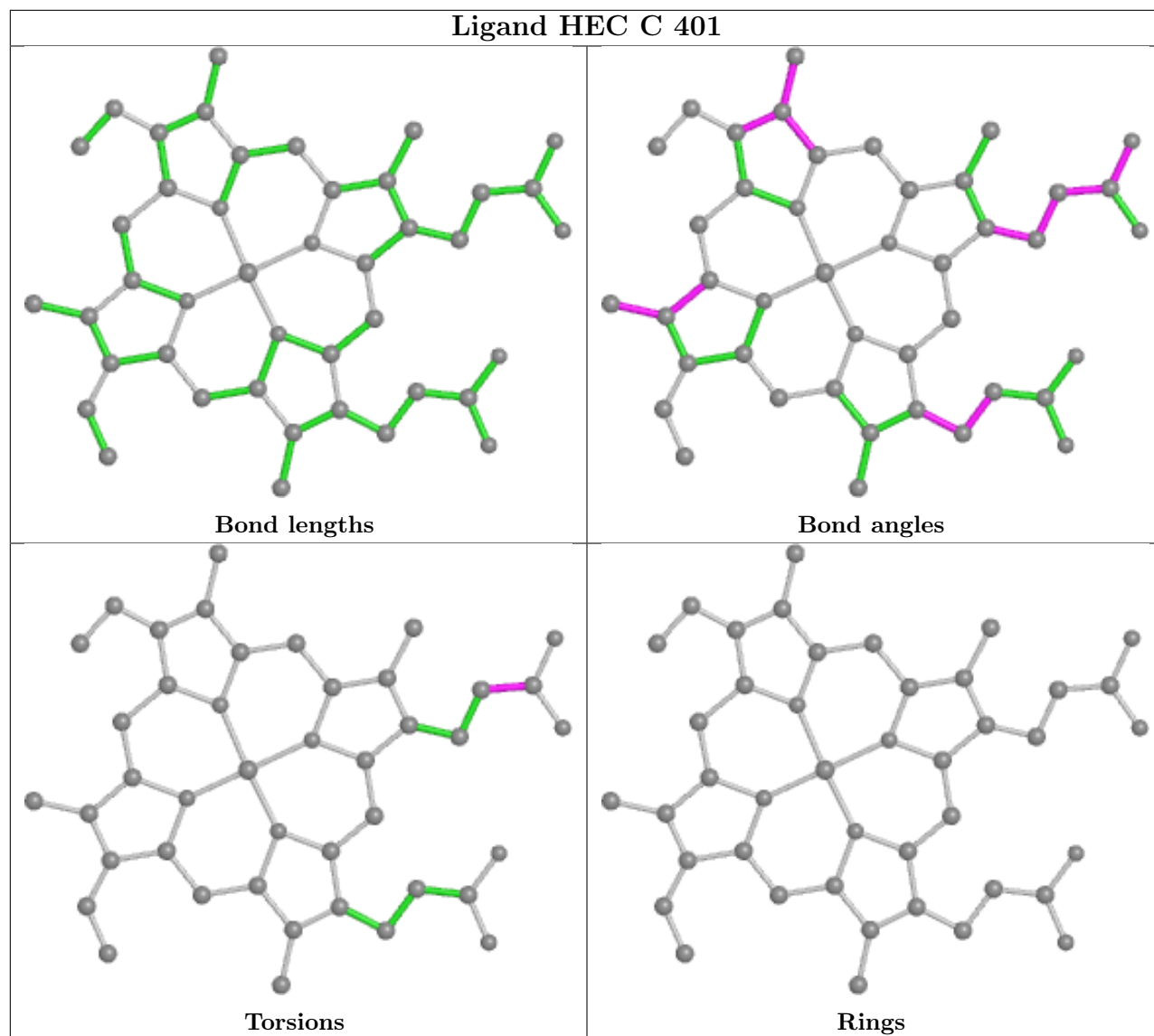
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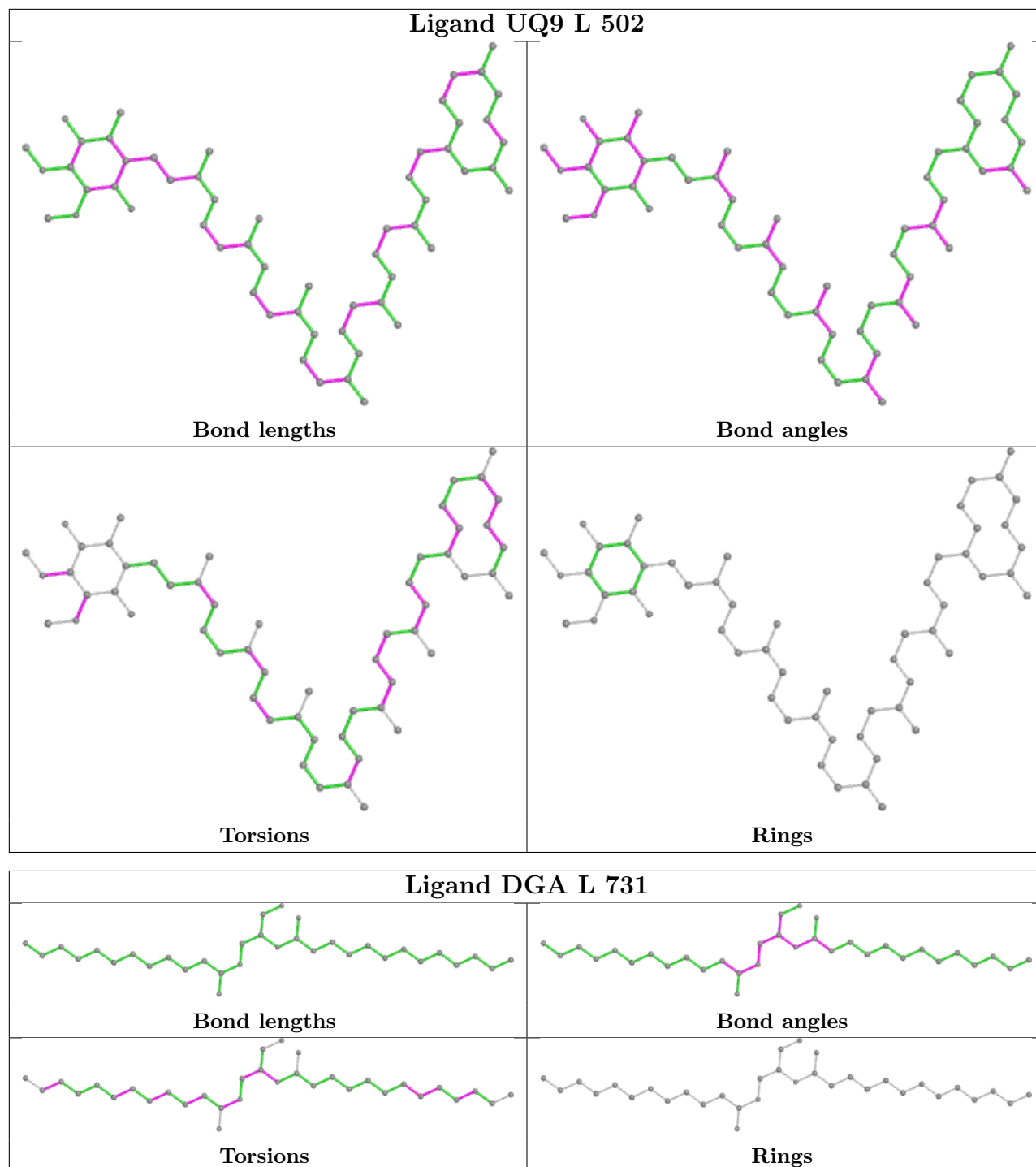
Mol	Chain	Res	Type	Clashes	Symm-Clashes
6	C	722	LDA	5	0
10	H	270	GOL	1	0
12	L	402	BPB	2	0
6	M	706	LDA	3	0
11	M	401	BCB	3	0
7	H	733	DGA	6	0
10	C	352	GOL	2	0
8	H	261	SO4	6	0
8	H	262[B]	SO4	1	0
11	L	401	BCB	4	0
8	C	337	SO4	3	0
12	M	402	BPB	3	0
6	C	712	LDA	3	0
10	C	361	GOL	1	0
10	L	279	GOL	5	0
10	L	278	GOL	1	0
5	C	403	HEC	2	0
9	C	348	HTO	9	0
10	C	358	GOL	1	0
6	L	720	LDA	5	0
6	M	715	LDA	1	0
11	L	400	BCB	3	0
8	H	262[A]	SO4	1	0
6	H	721	LDA	5	0
8	C	342	SO4	3	0
10	L	276	GOL	3	0

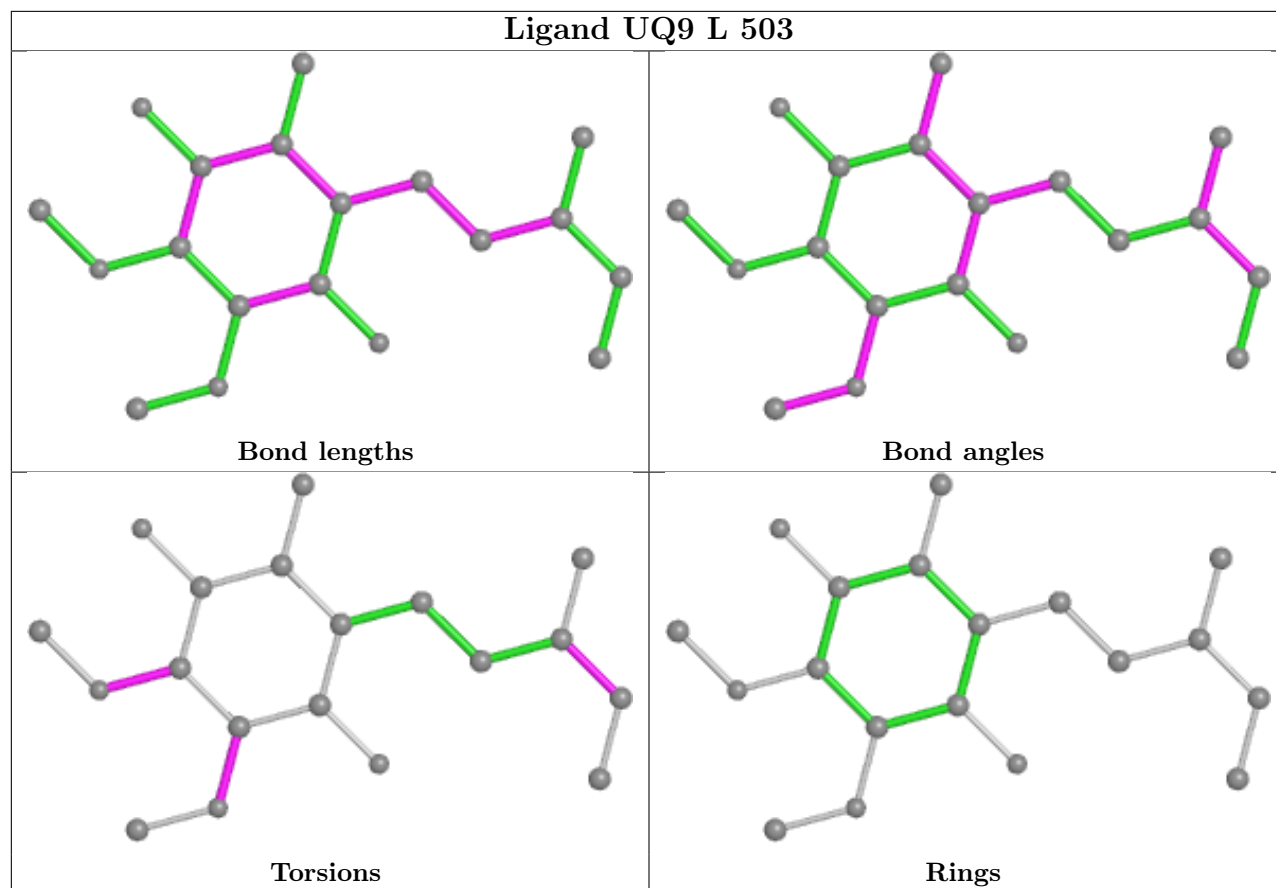
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

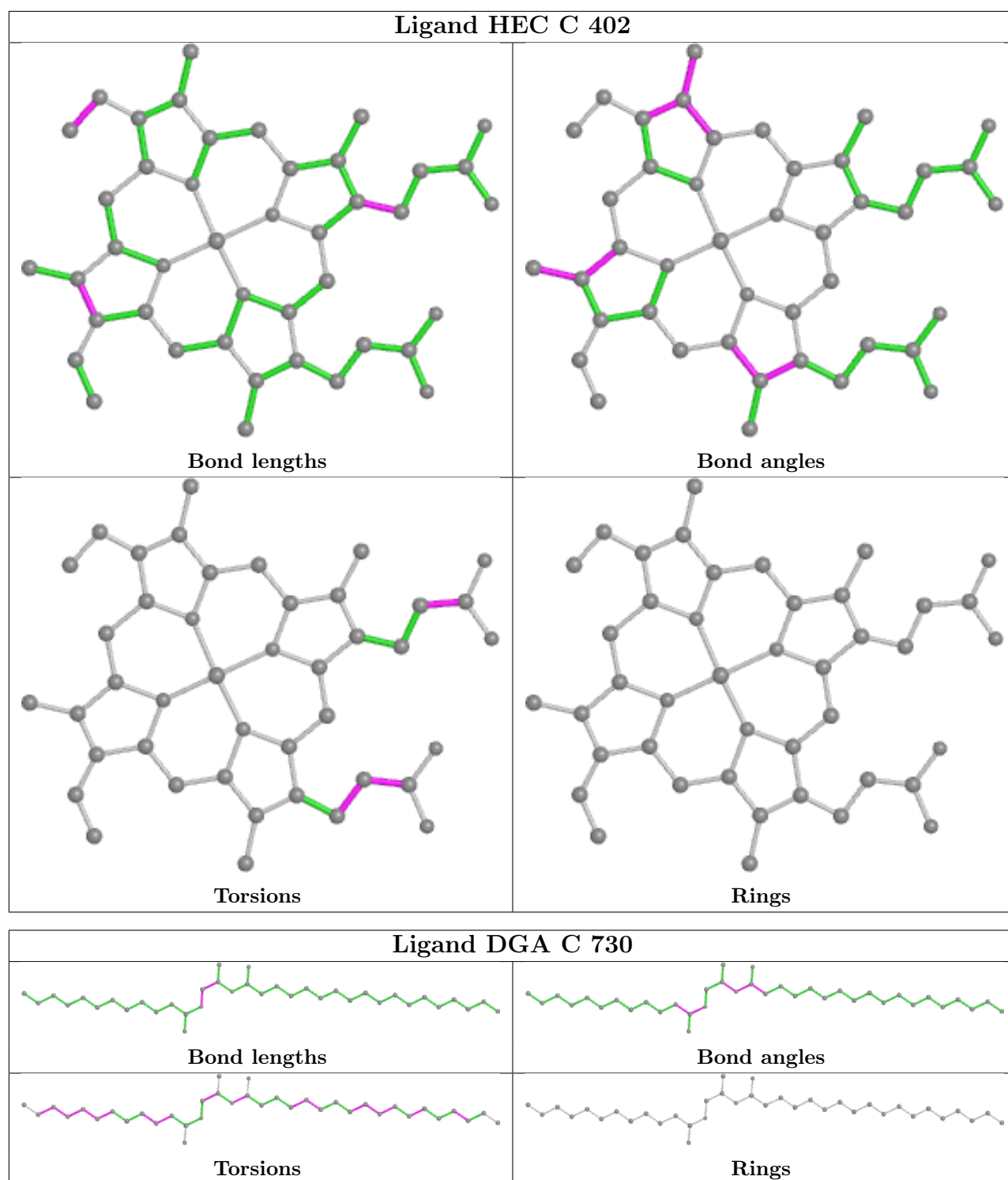


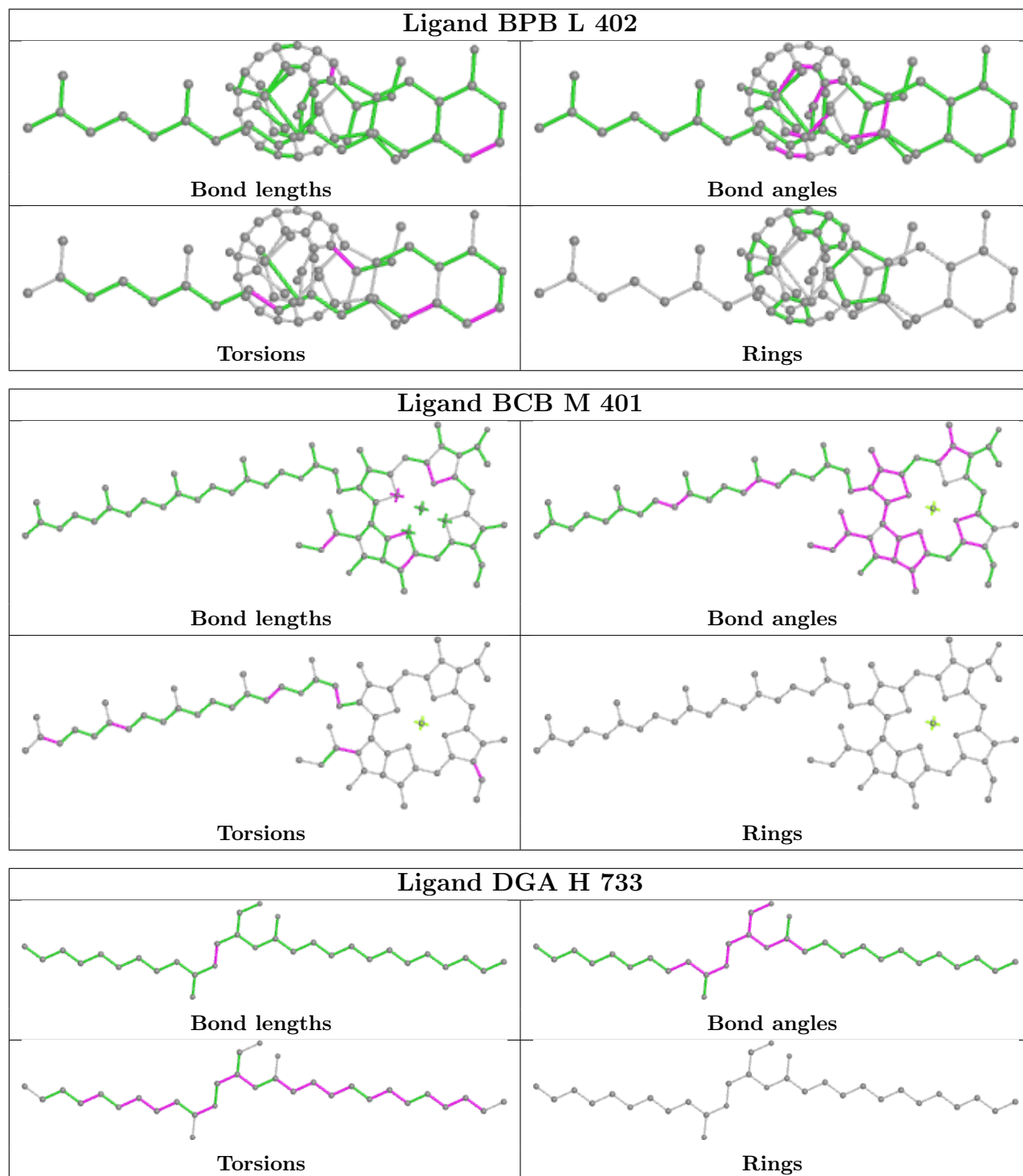


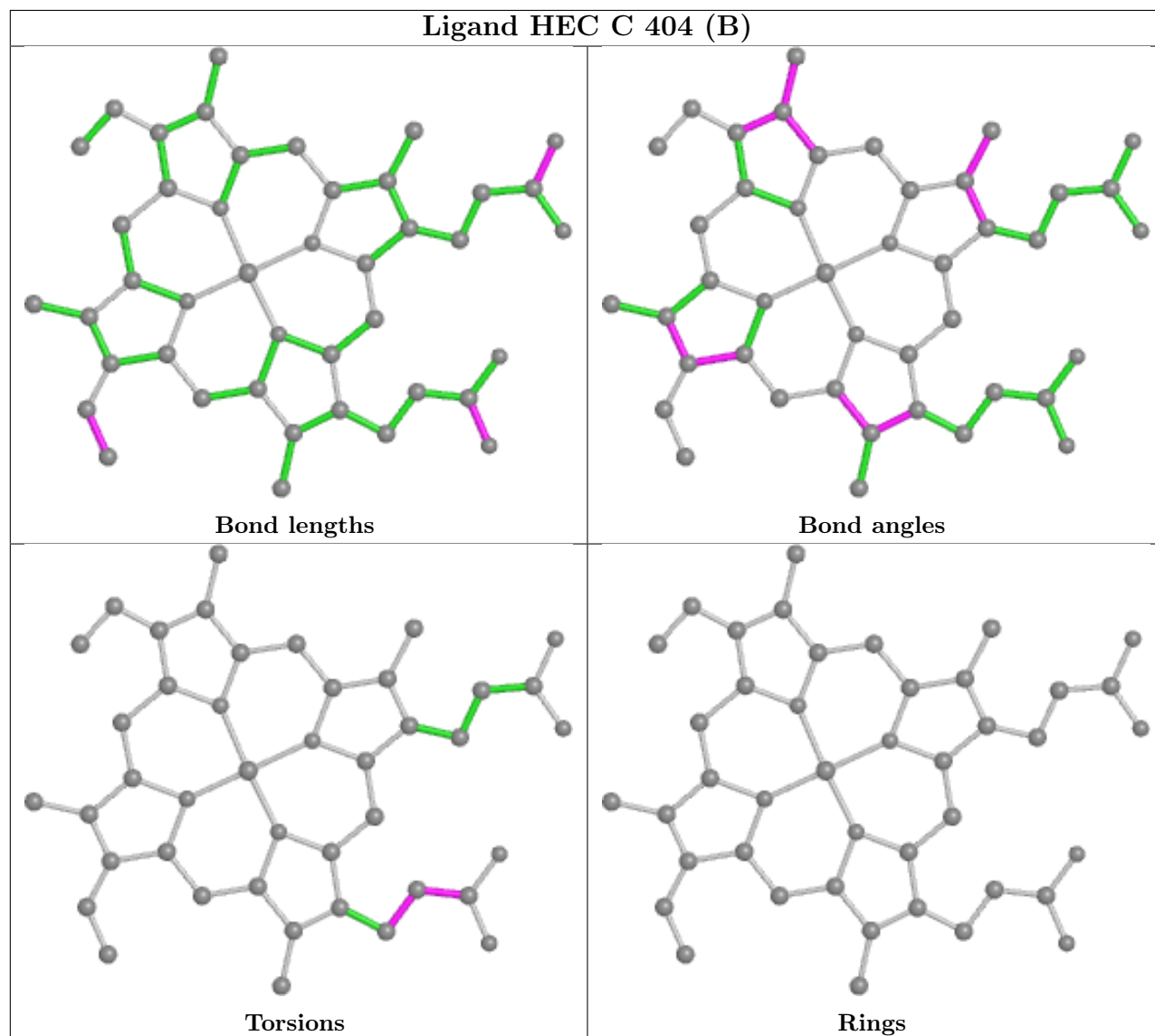
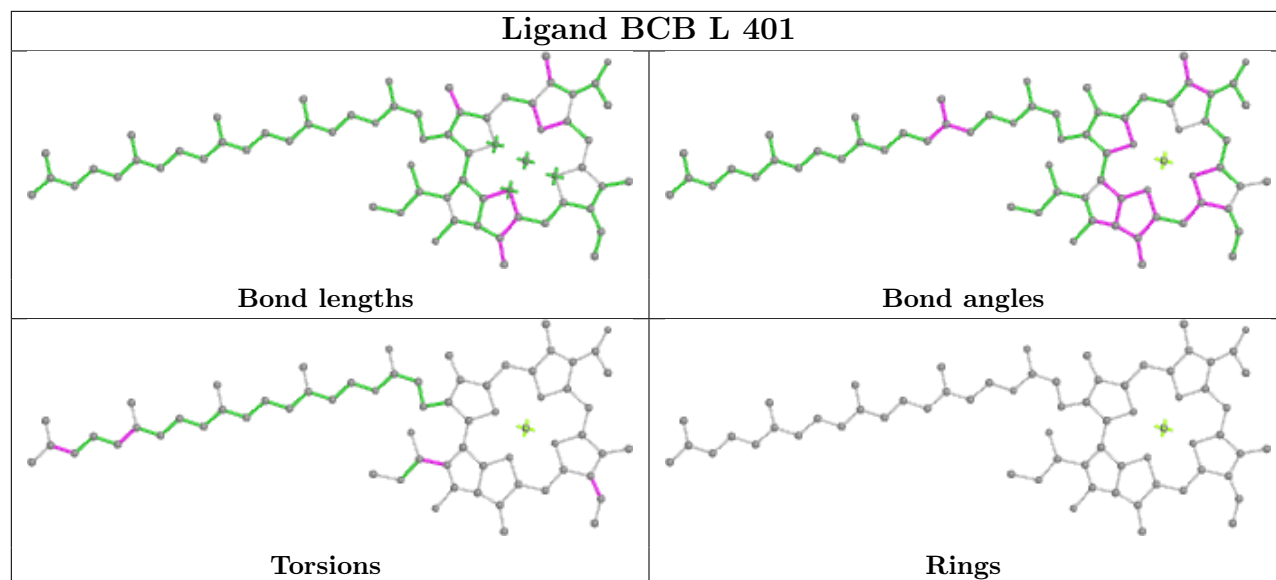


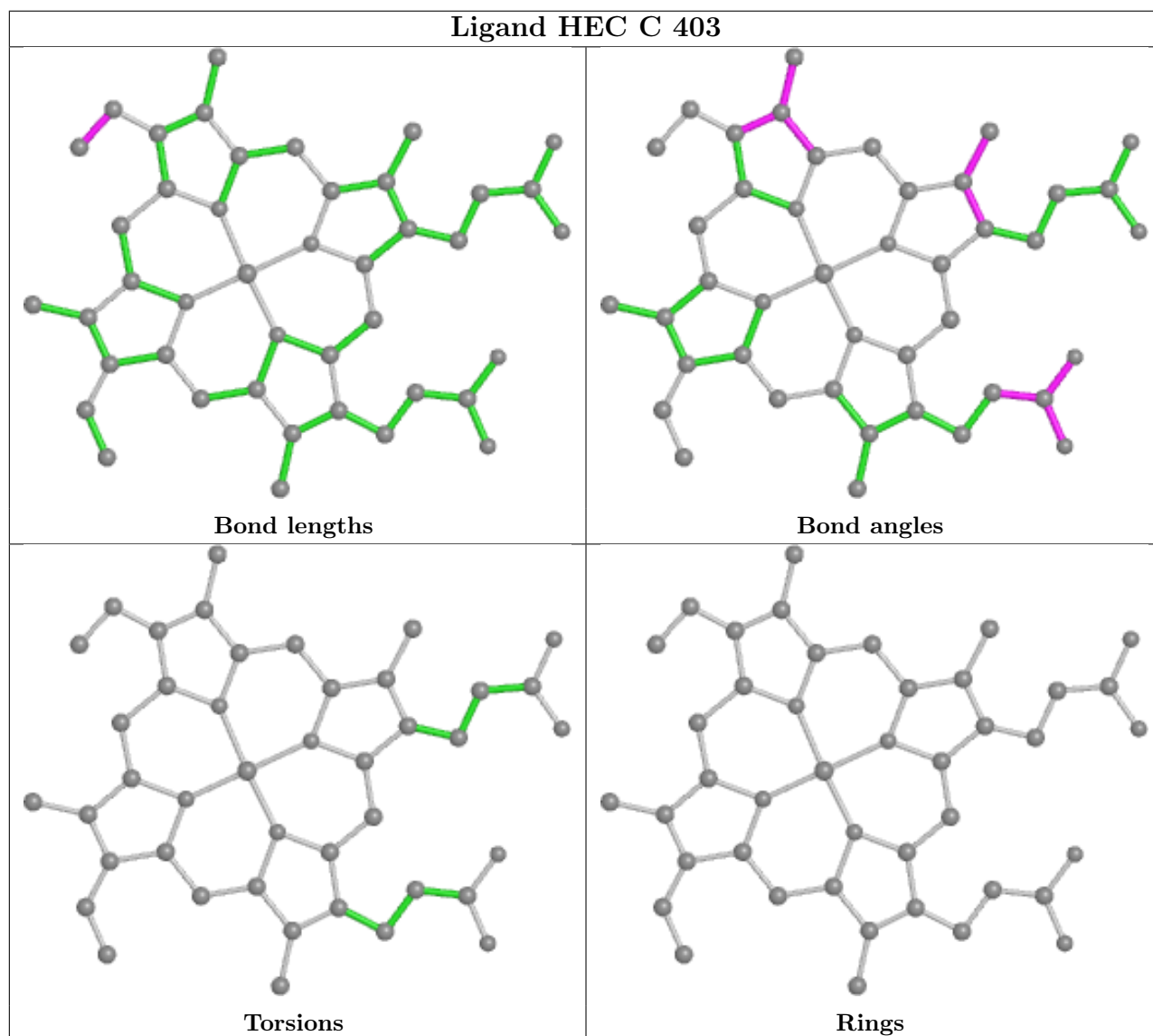
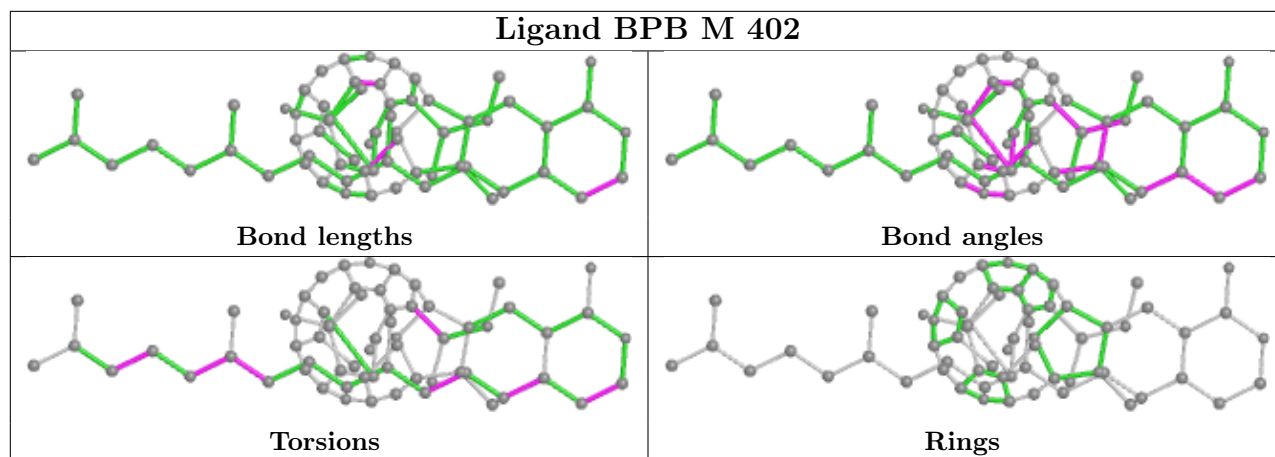


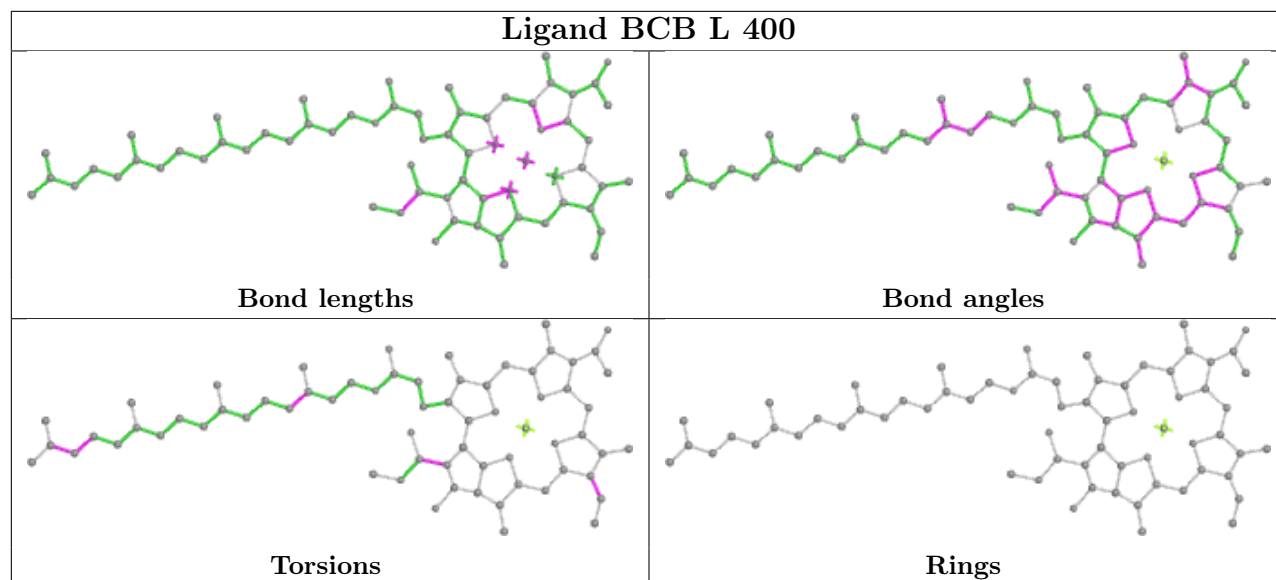












5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data [i](#)

6.1 Protein, DNA and RNA chains [i](#)

In the following table, the column labelled ‘#RSRZ > 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95th percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled ‘Q < 0.9’ lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	C	334/356 (93%)	0.30	24 (7%) 15 17	38, 49, 70, 122	0
2	H	249/258 (96%)	0.43	29 (11%) 4 5	42, 58, 85, 120	1 (0%)
3	L	273/273 (100%)	0.28	17 (6%) 20 23	37, 47, 62, 88	0
4	M	322/323 (99%)	0.52	49 (15%) 2 2	38, 49, 70, 91	0
All	All	1178/1210 (97%)	0.38	119 (10%) 7 8	37, 50, 73, 122	1 (0%)

All (119) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	C	333	ALA	8.1
1	C	334	ALA	7.9
4	M	37	TRP	7.8
3	L	51	TYR	5.9
2	H	7	ALA	5.7
2	H	8	GLN	5.6
3	L	202	ASP	5.4
2	H	85	THR	5.3
4	M	319	PRO	4.9
2	H	96	PHE	4.8
4	M	33	PHE	4.8
4	M	221	ILE	4.7
3	L	201	GLY	4.6
2	H	81	ARG	4.4
4	M	320	GLY	4.2
1	C	47	ALA	3.9
3	L	271	PHE	3.9
2	H	9	HIS	3.9
4	M	23	TRP	3.8
3	L	273	SER	3.7
4	M	108	HIS	3.7

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Mol	Chain	Res	Type	RSRZ
2	H	94	ASP	3.5
2	H	258	LEU	3.5
4	M	243	VAL	3.5
2	H	83	PRO	3.4
2	H	182	TYR	3.4
4	M	26	ASN	3.4
3	L	165	LEU	3.4
4	M	246	ALA	3.3
1	C	1	CYS	3.3
1	C	236	ILE	3.2
4	M	31	LYS	3.2
3	L	157	VAL	3.2
4	M	107	LEU	3.2
2	H	147	GLU	3.1
4	M	189	ILE	3.1
4	M	78	HIS	3.1
3	L	81	LEU	3.0
4	M	71[A]	PHE	3.0
4	M	224	VAL	3.0
4	M	212	LEU	3.0
1	C	230	PHE	3.0
3	L	154	LEU	2.9
2	H	89	LYS	2.9
4	M	214	PHE	2.9
4	M	36	TYR	2.9
3	L	203	GLY	2.9
4	M	34	TYR	2.8
3	L	162	TYR	2.8
1	C	287	ALA	2.8
2	H	54	PRO	2.8
4	M	195	TYR	2.8
4	M	204	ILE	2.8
1	C	244	CYS	2.8
4	M	213	LEU	2.7
2	H	86	ARG	2.7
4	M	103	GLY	2.7
4	M	186	ALA	2.7
2	H	87	GLU	2.7
1	C	162	HIS	2.7
1	C	54	GLN	2.7
3	L	227	LEU	2.7
4	M	104	ILE	2.6

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Mol	Chain	Res	Type	RSRZ
4	M	106	PRO	2.6
4	M	185	THR	2.6
4	M	227	PHE	2.6
2	H	205	LYS	2.6
1	C	231	ALA	2.5
2	H	97	GLU	2.5
1	C	332	LYS	2.5
4	M	32	PRO	2.5
1	C	4	PRO	2.4
4	M	263	VAL	2.4
3	L	167	TRP	2.4
4	M	222	LEU	2.4
2	H	74	GLY	2.4
2	H	93	THR	2.4
2	H	10	LEU	2.4
4	M	220	THR	2.4
2	H	104	THR	2.4
4	M	29	VAL	2.4
4	M	181	ILE	2.4
1	C	232	LEU	2.3
4	M	215	ALA	2.3
4	M	228	GLY	2.3
1	C	2	PHE	2.3
3	L	59	TRP	2.3
3	L	229	ILE	2.3
2	H	189	GLY	2.3
1	C	48	GLU	2.3
2	H	252	GLU	2.3
4	M	207	ALA	2.2
4	M	216	ALA	2.2
3	L	270	PRO	2.2
2	H	190	SER	2.2
1	C	185	LEU	2.2
2	H	238	VAL	2.2
3	L	194	ILE	2.2
4	M	25	ASP	2.2
1	C	50	PRO	2.2
1	C	46	LYS	2.2
2	H	91	ALA	2.2
2	H	95	GLY	2.2
4	M	22	GLU	2.2
4	M	184	LEU	2.1

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Mol	Chain	Res	Type	RSRZ
1	C	100	ALA	2.1
4	M	250	TRP	2.1
4	M	79	PHE	2.1
4	M	30	GLY	2.1
1	C	161	THR	2.1
4	M	233	ILE	2.1
4	M	208	TYR	2.1
1	C	168	THR	2.1
4	M	210	CYS	2.1
2	H	92	GLN	2.1
1	C	291	ALA	2.0
4	M	55	GLY	2.0
1	C	159	THR	2.0
2	H	239[A]	SER	2.0

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

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
4	CSO	M	160	7/8	0.90	0.13	46,49,73,77	0
2	FME	H	1[B]	10/11	0.93	0.13	49,52,54,64	10
2	FME	H	1[A]	10/11	0.93	0.13	50,54,59,61	10

6.3 Carbohydrates [i](#)

There are no monosaccharides in this entry.

6.4 Ligands [i](#)

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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
6	LDA	M	715	16/16	-0.06	0.47	63,77,84,85	16

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
10	GOL	M	333	6/6	0.36	0.30	70,70,73,78	6
7	DGA	L	731	33/44	0.42	0.33	47,69,78,82	33
6	LDA	L	709	16/16	0.45	0.36	49,67,91,92	16
6	LDA	L	720	16/16	0.48	0.41	58,70,76,78	16
13	UQ9	L	503	19/58	0.48	0.38	49,70,84,86	19
6	LDA	M	706	16/16	0.49	0.53	61,65,73,73	16
13	UQ9	L	502	58/58	0.52	1.40	38,58,69,73	58
8	SO4	H	264	5/5	0.52	0.36	63,65,67,73	5
6	LDA	M	702	16/16	0.53	0.79	52,56,62,65	16
6	LDA	M	704	16/16	0.56	0.39	64,67,86,88	16
9	HTO	C	348	10/10	0.57	0.61	52,62,68,74	10
10	GOL	H	277	6/6	0.58	0.35	65,69,71,72	6
10	GOL	H	279	6/6	0.59	0.25	80,86,88,91	6
7	DGA	M	732	34/44	0.59	0.27	58,72,80,84	34
6	LDA	C	712	16/16	0.60	0.31	56,62,74,74	16
7	DGA	C	730	37/44	0.64	0.31	58,76,94,99	37
10	GOL	H	270	6/6	0.66	0.32	63,69,69,71	6
6	LDA	H	707	16/16	0.67	0.45	53,67,77,85	16
10	GOL	M	337	6/6	0.67	0.29	56,64,66,69	6
9	HTO	H	268	10/10	0.69	0.41	71,76,80,80	10
6	LDA	H	718	13/16	0.69	0.27	55,61,79,84	13
10	GOL	M	338	6/6	0.70	0.26	67,71,72,73	6
8	SO4	C	345	5/5	0.70	0.37	71,79,83,86	5
10	GOL	H	273	6/6	0.70	0.32	71,75,79,80	6
8	SO4	M	327	5/5	0.71	0.26	79,82,83,86	5
10	GOL	H	272	6/6	0.71	0.40	66,72,75,76	6
8	SO4	H	265	5/5	0.72	0.38	71,74,75,76	5
9	HTO	C	349	10/10	0.72	0.22	59,68,74,75	10
9	HTO	H	267	10/10	0.72	0.26	74,77,89,91	10
6	LDA	M	705	16/16	0.72	0.22	63,70,77,78	16
10	GOL	C	360	6/6	0.72	0.26	71,73,75,78	6
8	SO4	C	346	5/5	0.73	0.32	73,73,82,82	5
6	LDA	C	722	16/16	0.74	0.40	54,61,65,65	16
10	GOL	C	353[A]	6/6	0.74	0.33	44,55,59,61	6
10	GOL	C	353[B]	6/6	0.74	0.33	42,56,71,73	6
10	GOL	C	354	6/6	0.74	0.21	57,68,78,86	6
7	DGA	H	733	31/44	0.74	0.32	45,62,78,79	31
6	LDA	L	703	16/16	0.75	0.68	56,61,69,72	16
10	GOL	H	276	6/6	0.75	0.20	71,79,85,85	6
8	SO4	M	330	5/5	0.75	0.67	58,64,67,70	5
10	GOL	C	365	6/6	0.76	0.27	59,60,61,65	6
16	NS5	M	600	40/40	0.76	0.24	53,76,118,126	0

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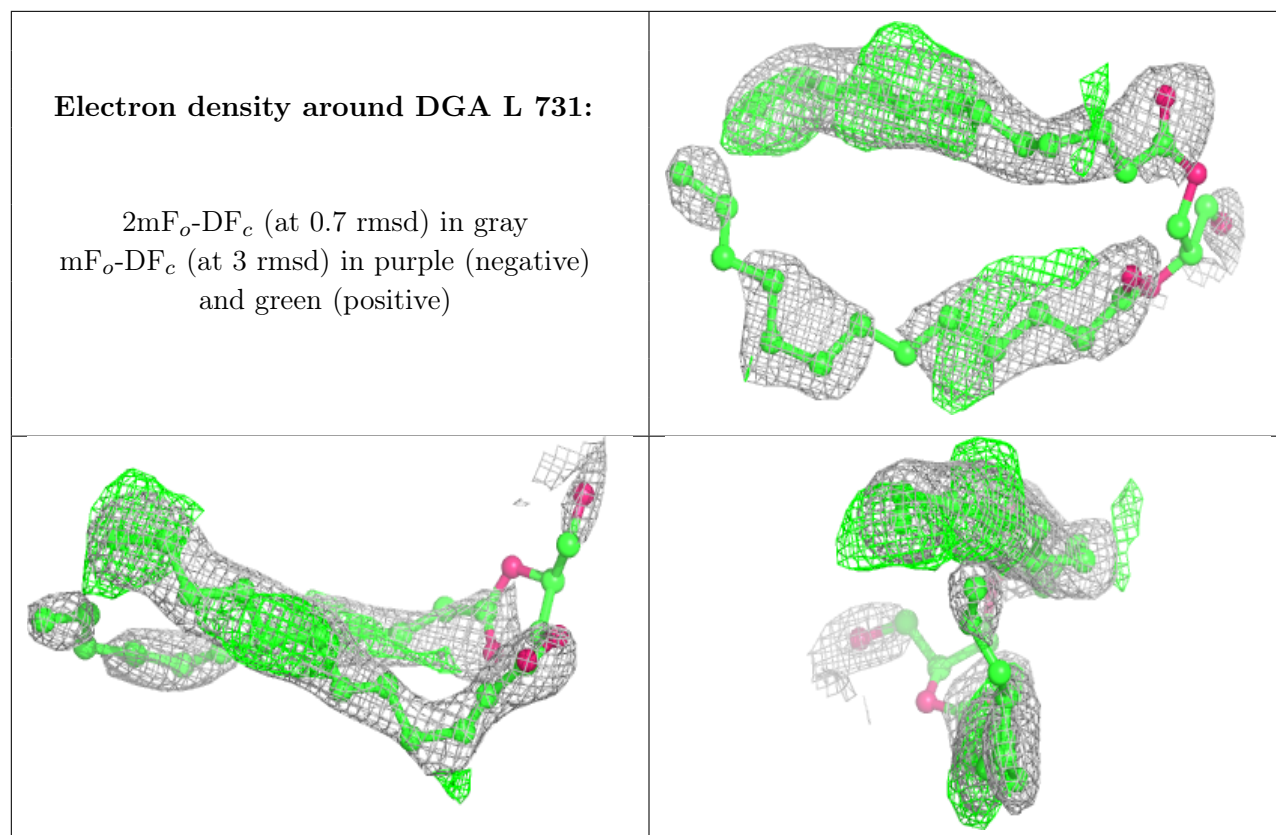
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
10	GOL	M	335	6/6	0.77	0.46	50,57,62,64	6
10	GOL	C	362	6/6	0.78	0.22	70,75,75,75	6
10	GOL	C	361	6/6	0.79	0.46	66,71,76,80	6
8	SO4	C	340	5/5	0.79	0.17	72,73,77,79	5
10	GOL	M	334	6/6	0.79	0.53	63,65,67,68	6
10	GOL	C	363	6/6	0.80	0.30	72,75,78,78	6
10	GOL	M	336	6/6	0.81	0.17	81,82,84,87	6
8	SO4	C	347	5/5	0.82	0.15	71,73,76,77	5
10	GOL	C	355	6/6	0.82	0.22	67,70,71,71	6
10	GOL	C	359	6/6	0.82	0.72	47,54,60,68	6
9	HTO	L	274	10/10	0.82	0.28	58,67,76,80	10
10	GOL	H	269	6/6	0.82	0.20	68,76,79,83	6
9	HTO	H	266	10/10	0.83	0.19	60,68,76,78	0
10	GOL	C	351	6/6	0.83	0.29	51,58,65,67	6
10	GOL	M	339	6/6	0.84	0.21	37,53,62,67	6
6	LDA	L	708	16/16	0.84	0.18	47,58,66,76	0
6	LDA	H	719	16/16	0.84	0.20	55,61,81,83	16
10	GOL	L	281	6/6	0.84	0.22	60,62,66,67	6
10	GOL	C	357	6/6	0.85	0.15	69,69,76,78	6
10	GOL	L	279	6/6	0.86	0.39	48,50,60,61	6
10	GOL	H	271	6/6	0.86	0.28	54,63,65,75	6
6	LDA	H	701	16/16	0.86	0.25	47,57,69,70	0
14	MQ9	M	501	58/58	0.86	0.20	38,46,92,98	0
9	HTO	L	275	10/10	0.86	0.23	64,69,72,74	10
10	GOL	H	274	6/6	0.87	0.32	59,71,78,81	6
10	GOL	L	280	6/6	0.87	0.34	60,65,70,74	6
10	GOL	L	282	6/6	0.88	0.20	60,67,75,75	6
8	SO4	C	338	5/5	0.88	0.17	66,66,73,74	5
10	GOL	H	278	6/6	0.88	0.16	75,77,78,79	6
8	SO4	H	261	5/5	0.88	0.21	46,55,72,75	5
10	GOL	C	364	6/6	0.89	0.17	53,55,61,62	6
9	HTO	M	332	10/10	0.89	0.85	52,59,68,70	10
10	GOL	L	278	6/6	0.89	0.27	46,54,56,58	6
10	GOL	C	358	6/6	0.90	0.14	48,64,67,68	6
10	GOL	H	275	6/6	0.91	0.18	51,66,74,75	6
10	GOL	L	276	6/6	0.92	0.14	55,56,58,60	0
10	GOL	L	277	6/6	0.92	0.41	55,61,63,65	6
8	SO4	H	262[A]	5/5	0.92	0.20	55,56,67,71	5
8	SO4	H	262[B]	5/5	0.92	0.20	58,63,71,72	5
8	SO4	C	337	5/5	0.92	0.16	70,73,78,84	5
10	GOL	C	352	6/6	0.92	0.21	37,56,61,61	6
8	SO4	C	342	5/5	0.92	0.23	47,56,60,62	5

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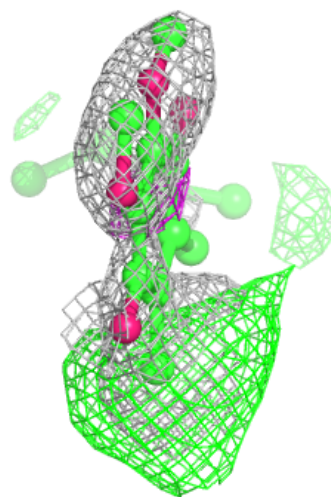
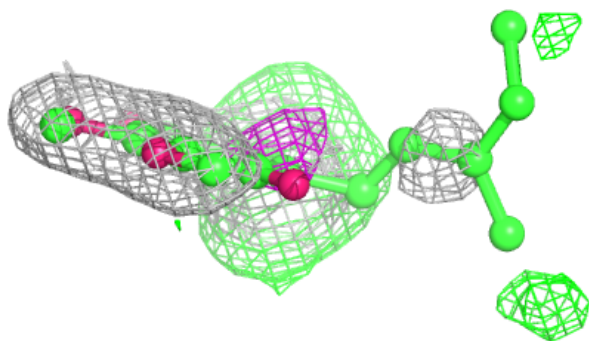
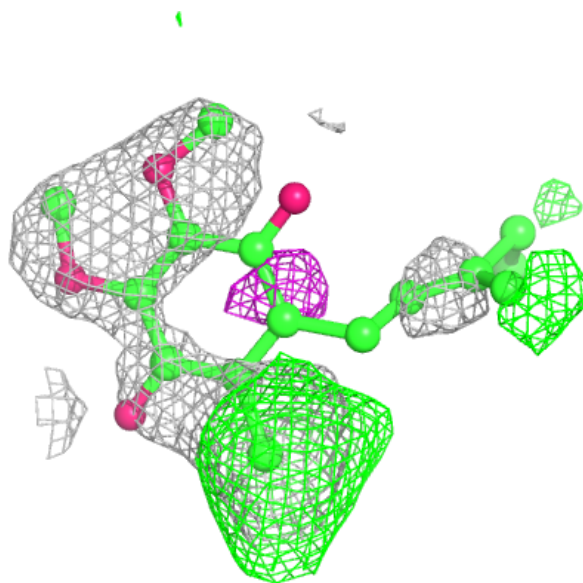
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
8	SO4	C	343	5/5	0.92	0.20	66,66,70,74	5
8	SO4	C	344	5/5	0.92	0.22	61,69,77,79	5
10	GOL	C	356	6/6	0.93	0.26	60,69,74,75	0
8	SO4	M	329	5/5	0.93	0.15	62,73,75,76	5
10	GOL	C	350	6/6	0.93	0.38	49,56,58,60	0
8	SO4	C	341	5/5	0.94	0.24	62,70,77,79	5
8	SO4	H	260	5/5	0.94	0.13	82,82,83,88	5
8	SO4	M	331	5/5	0.94	0.27	75,77,81,85	5
6	LDA	H	721	16/16	0.95	0.13	53,63,80,87	16
8	SO4	C	339	5/5	0.95	0.15	62,67,67,69	5
11	BCB	M	400	66/66	0.95	0.15	37,46,109,115	0
11	BCB	M	401	66/66	0.95	0.17	33,39,62,67	0
12	BPB	L	402	65/65	0.96	0.15	37,41,51,53	0
12	BPB	M	402	65/65	0.96	0.11	39,46,101,105	0
11	BCB	L	400	66/66	0.96	0.18	34,39,49,57	0
11	BCB	L	401	66/66	0.96	0.17	35,39,69,79	0
8	SO4	M	328	5/5	0.96	0.19	59,65,67,71	5
5	HEC	C	402	43/43	0.96	0.10	41,46,55,61	0
5	HEC	C	404[A]	43/43	0.97	0.12	38,41,49,51	12
5	HEC	C	404[B]	43/43	0.97	0.12	38,41,46,49	12
5	HEC	C	401	43/43	0.97	0.09	46,52,61,67	0
5	HEC	C	403	43/43	0.97	0.15	36,40,43,49	0
8	SO4	M	326	5/5	0.98	0.24	57,65,67,67	5
8	SO4	H	259	5/5	0.98	0.08	64,65,69,71	5
8	SO4	H	263	5/5	0.99	0.15	47,50,52,52	5
15	FE2	M	500	1/1	0.99	0.12	42,42,42,42	0
8	SO4	M	325	5/5	0.99	0.18	69,70,77,82	0
8	SO4	M	324	5/5	1.00	0.11	54,54,60,71	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.



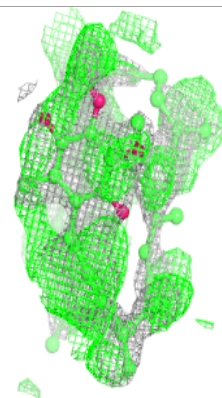
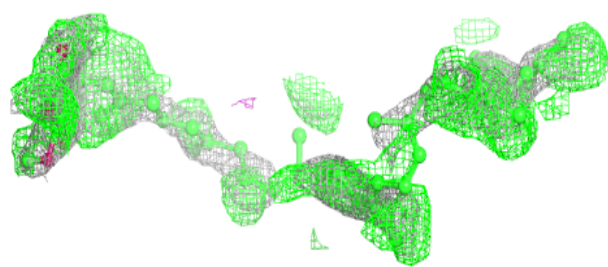
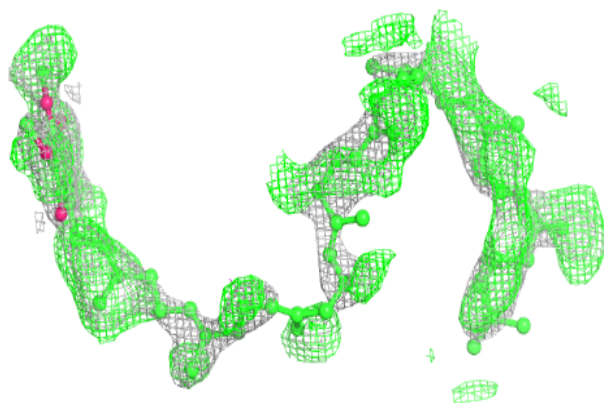
Electron density around UQ9 L 503:

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



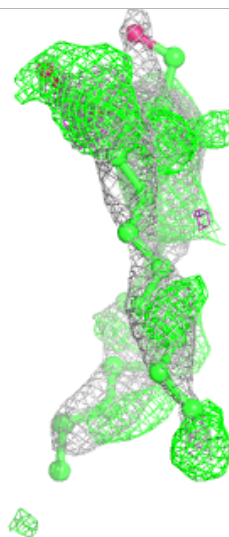
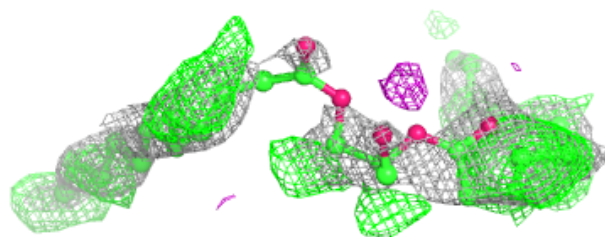
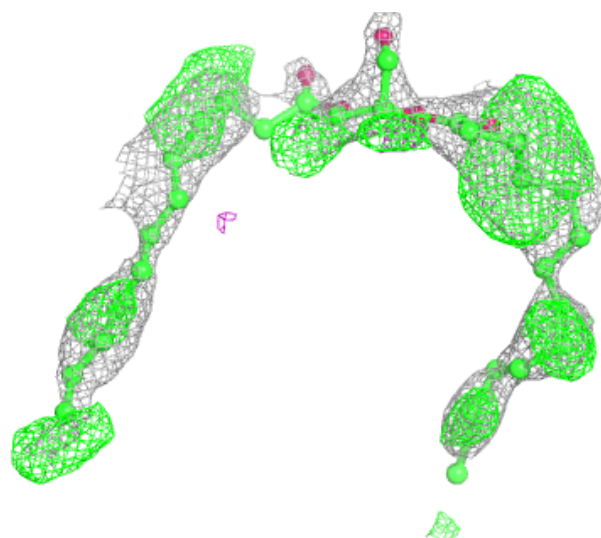
Electron density around UQ9 L 502:

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 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



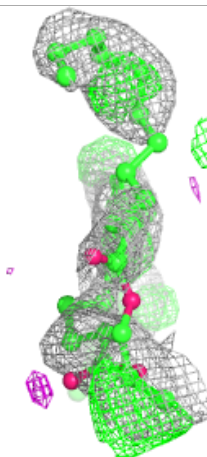
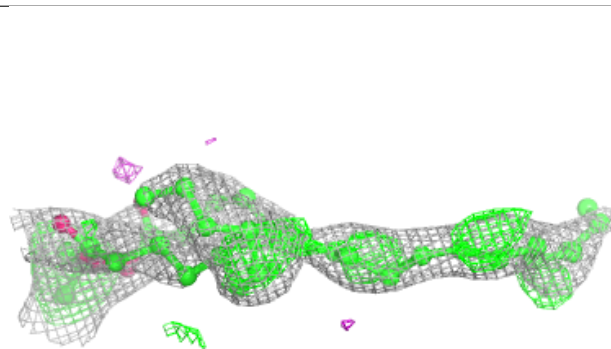
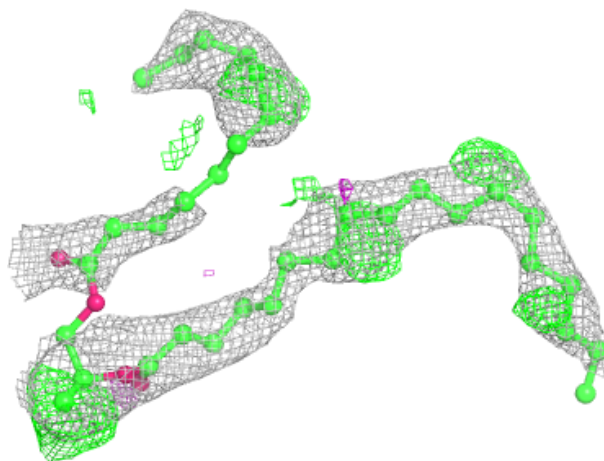
Electron density around DGA M 732:

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 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



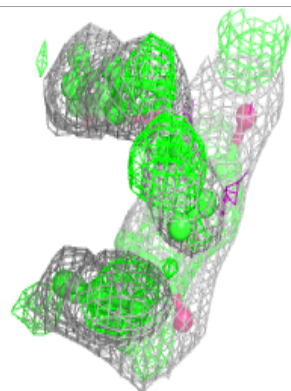
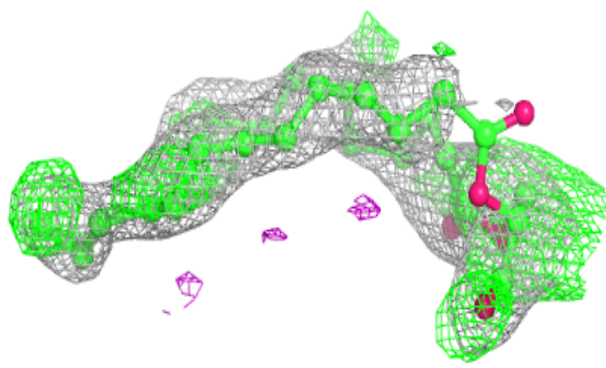
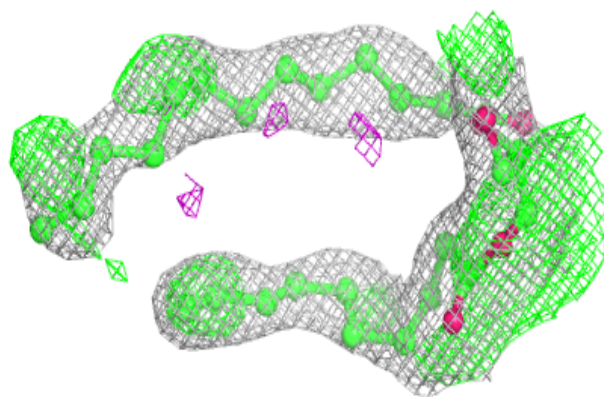
Electron density around DGA C 730:

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

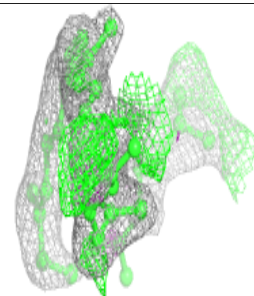
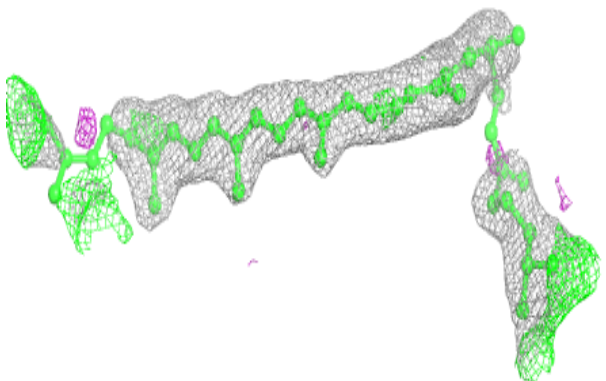
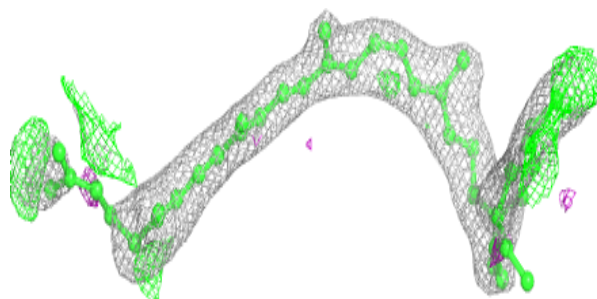


Electron density around DGA H 733:

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

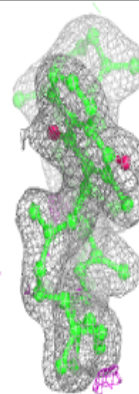
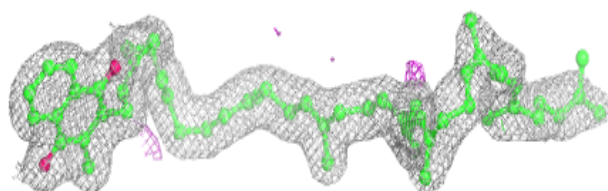
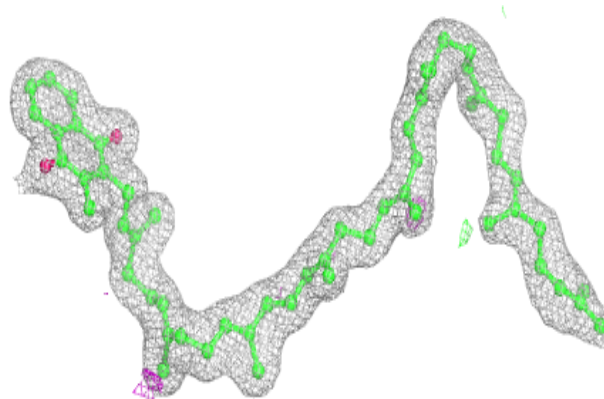
**Electron density around NS5 M 600:**

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

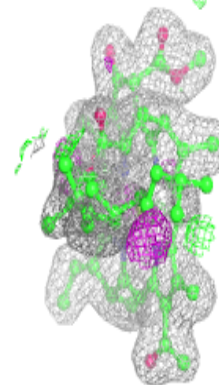
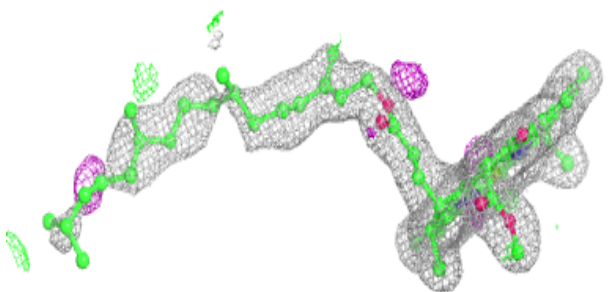
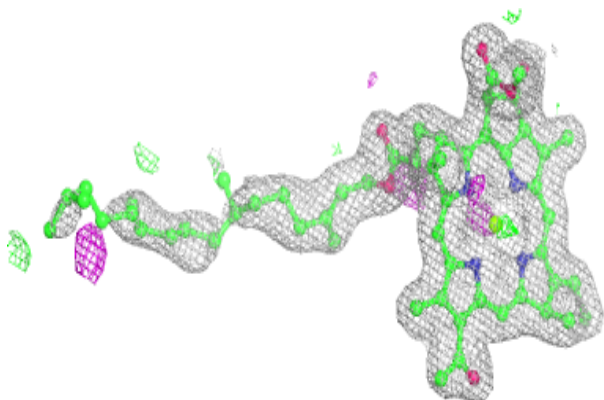


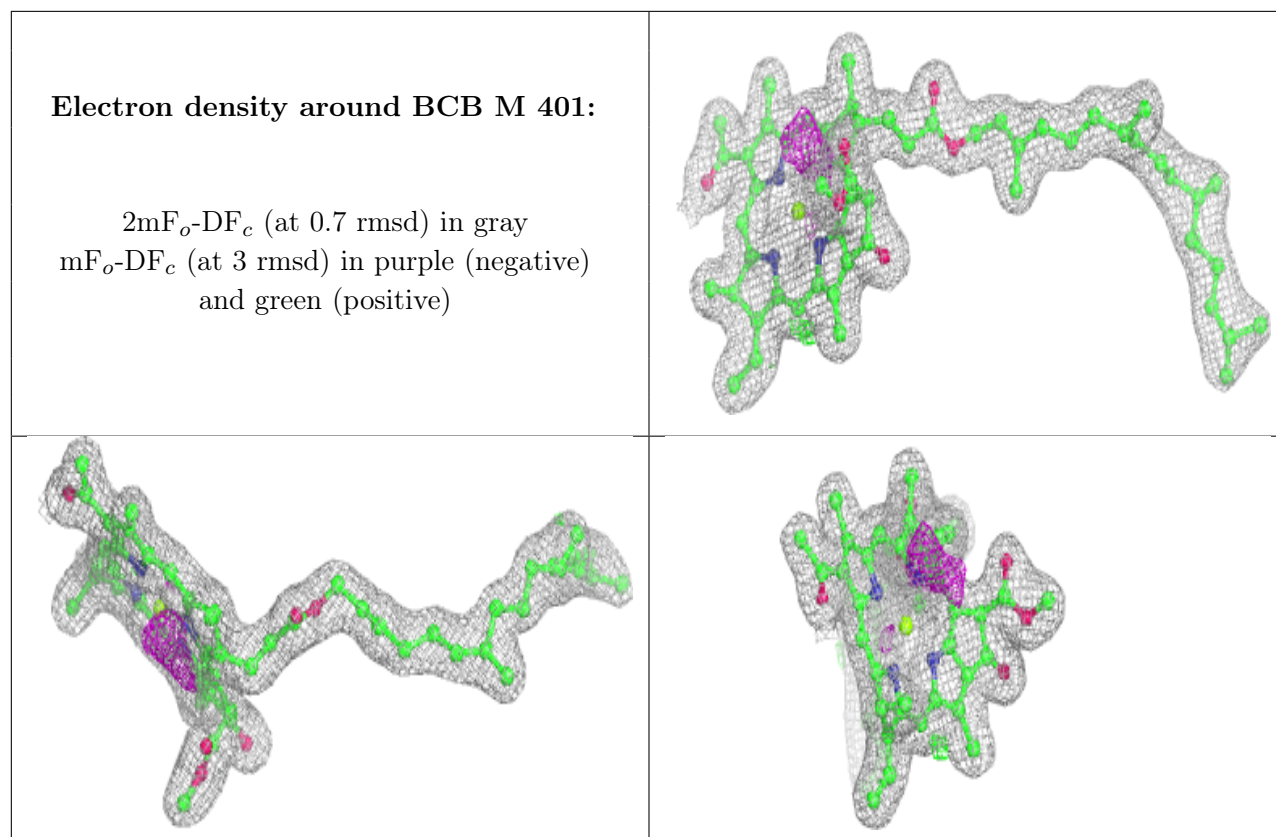
Electron density around MQ9 M 501:

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

**Electron density around BCB M 400:**

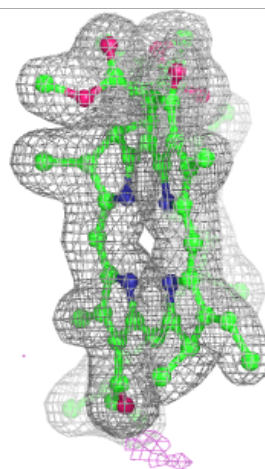
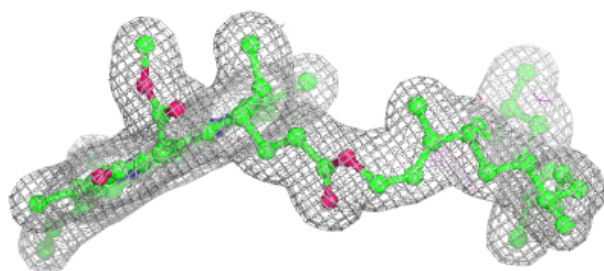
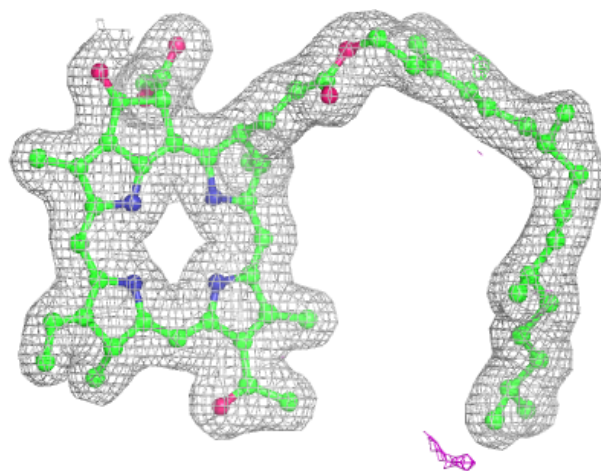
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)





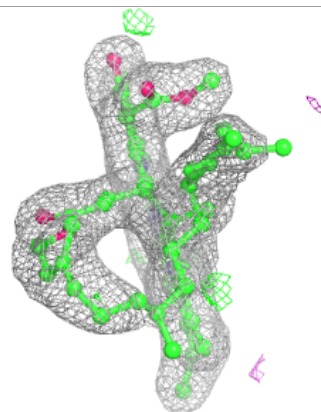
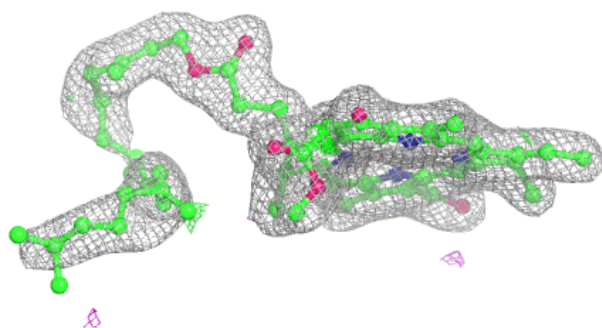
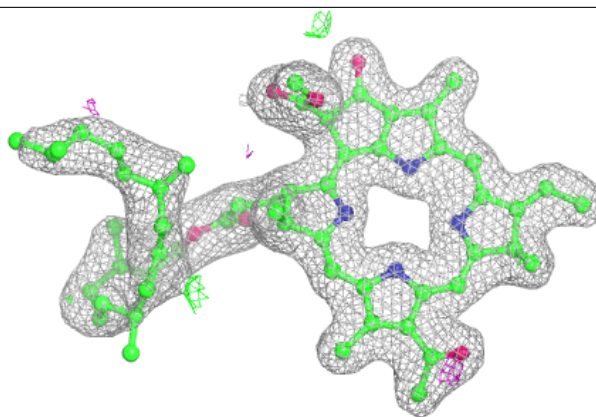
Electron density around BPB L 402:

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

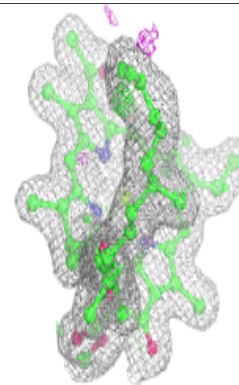
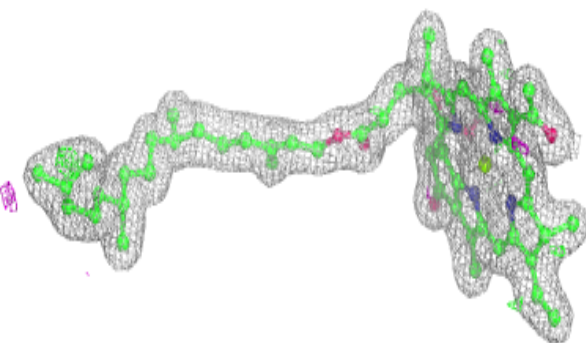
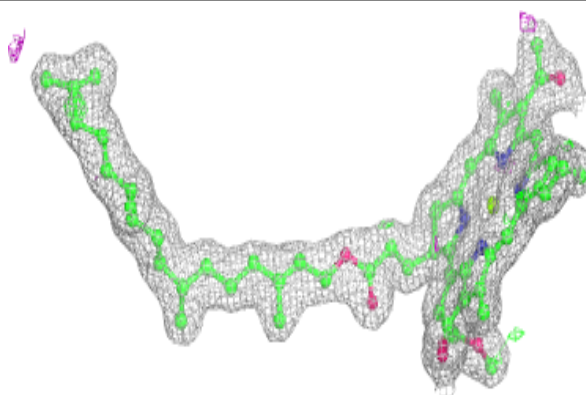


Electron density around BPB M 402:

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

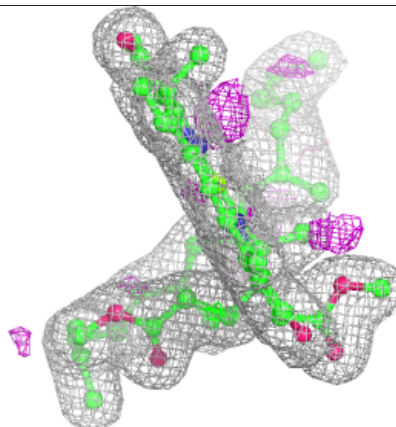
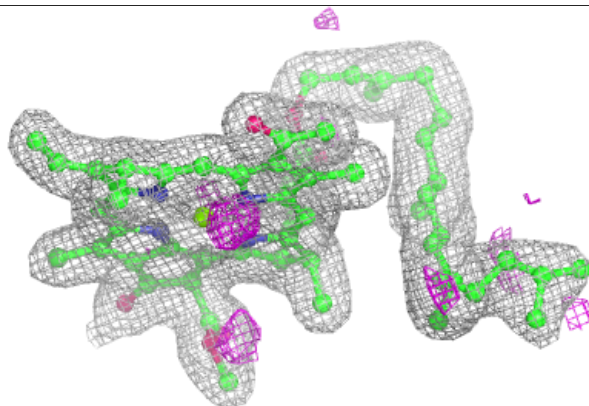
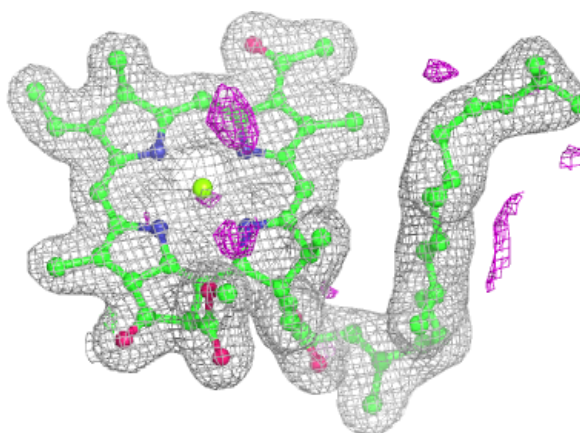
**Electron density around BCB L 400:**

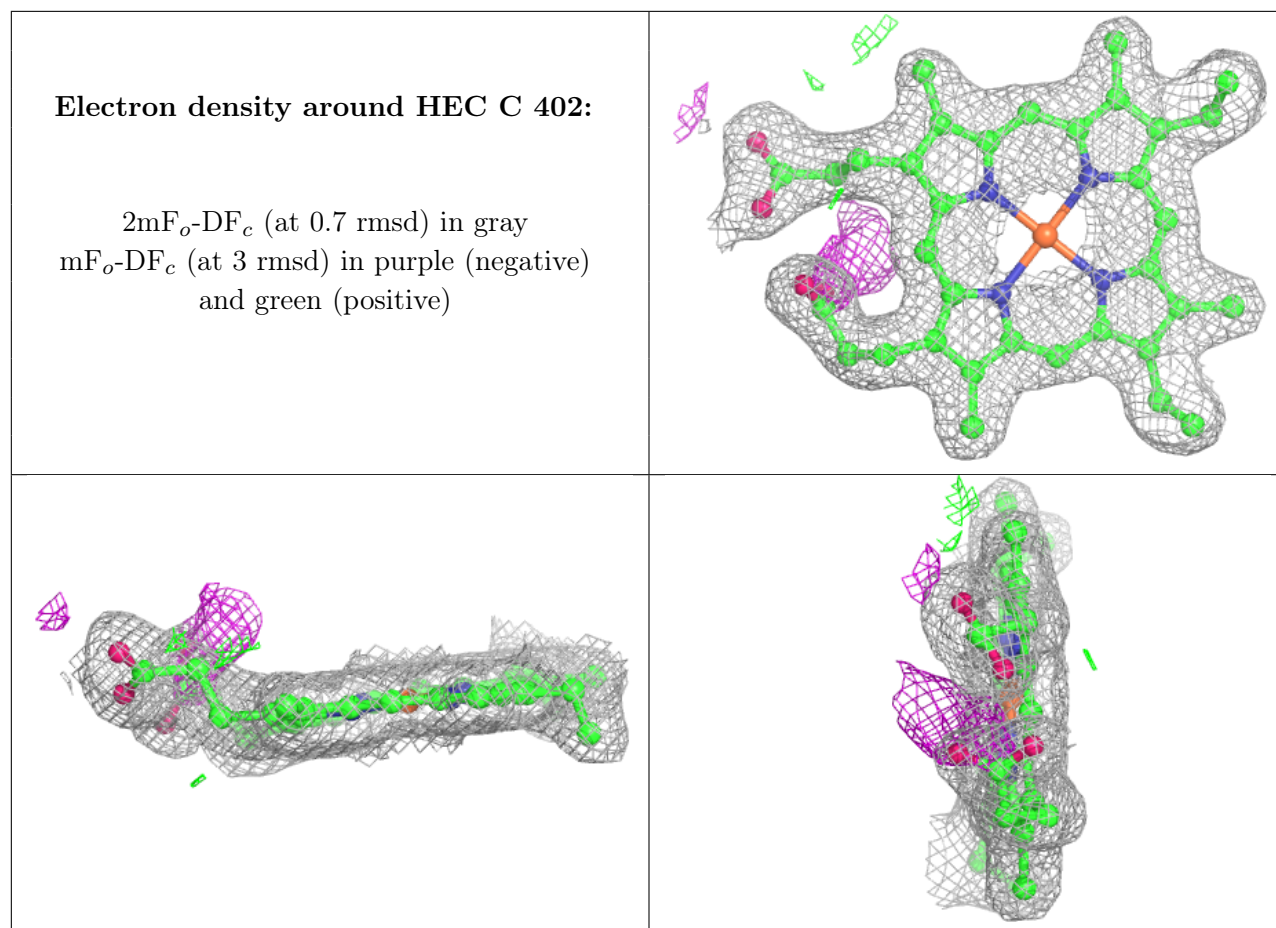
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



Electron density around BCB L 401:

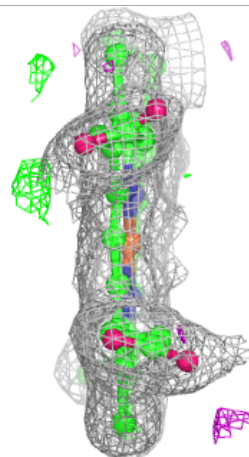
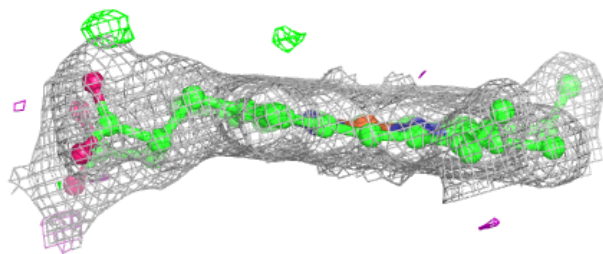
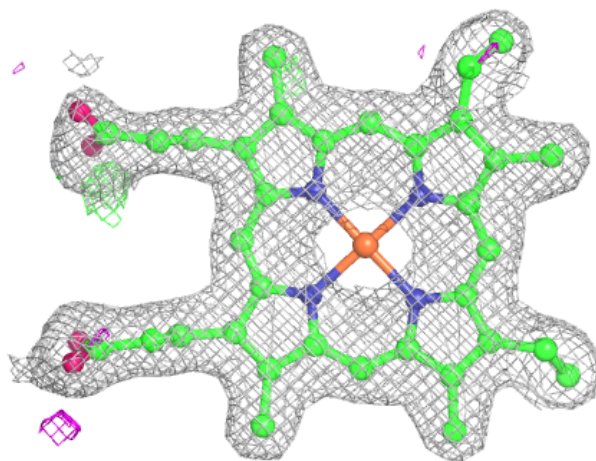
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)





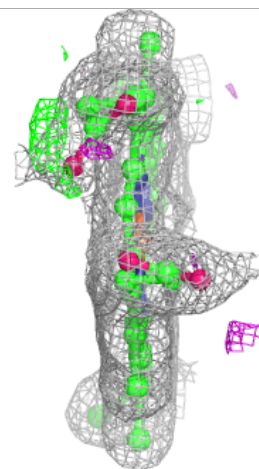
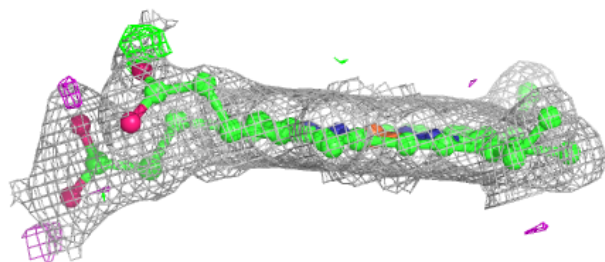
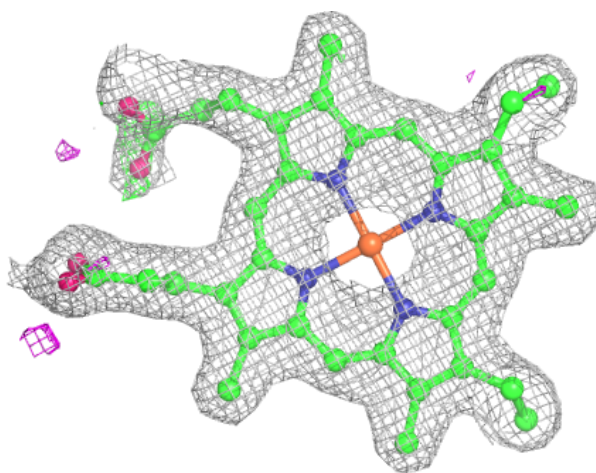
Electron density around HEC C 404 (A):

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



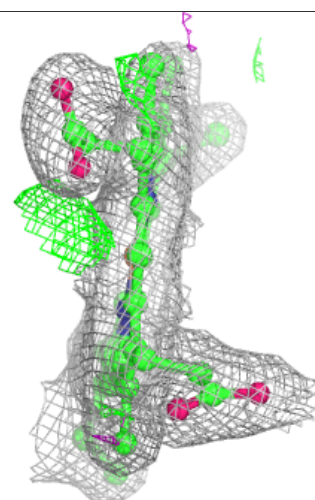
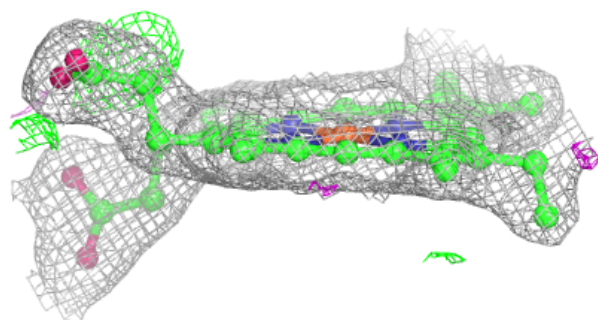
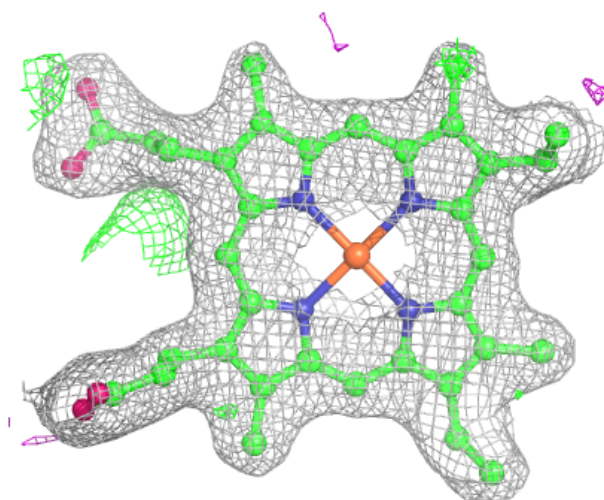
Electron density around HEC C 404 (B):

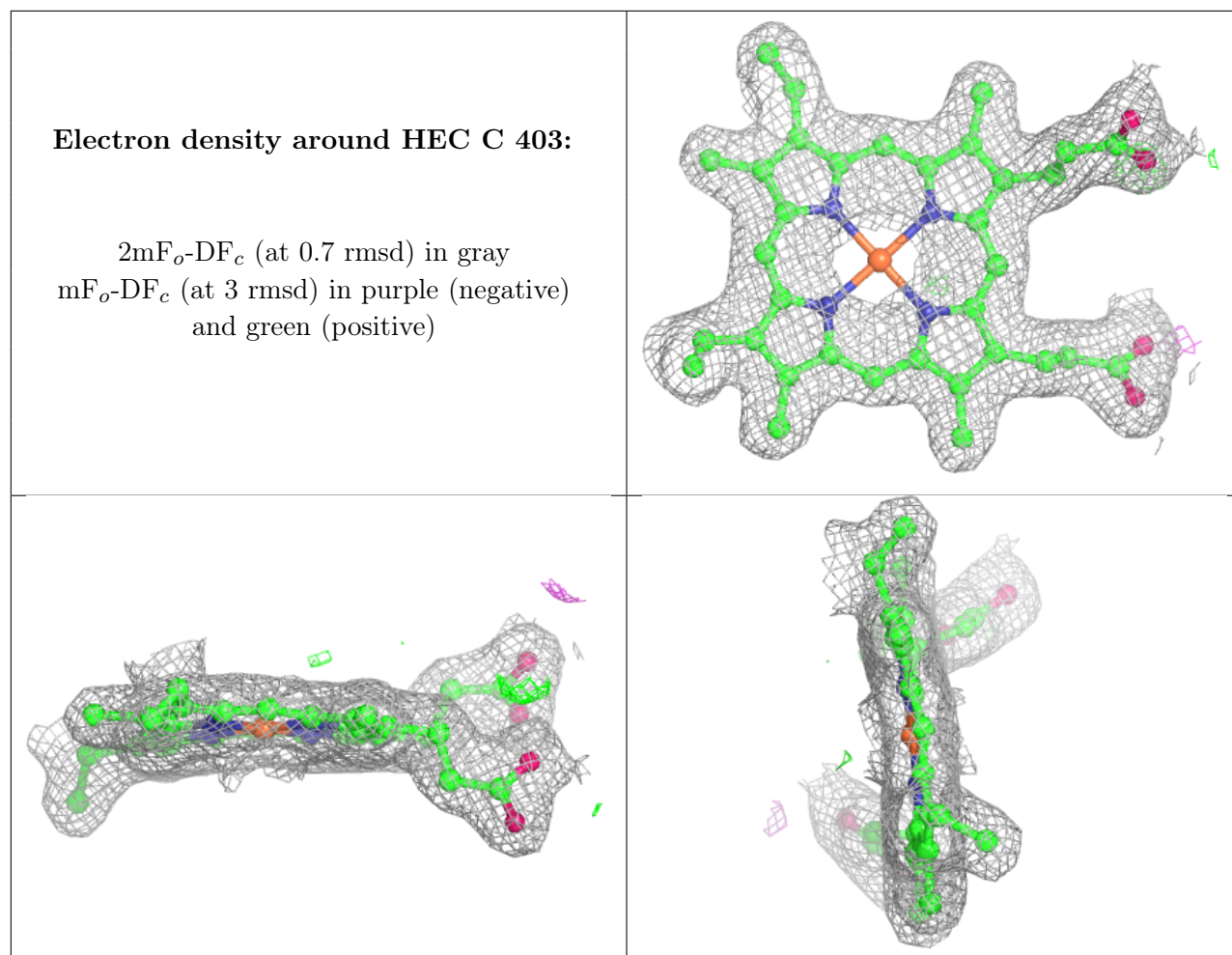
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



Electron density around HEC C 401:

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





6.5 Other polymers [i](#)

There are no such residues in this entry.