



Full wwPDB X-ray Structure Validation Report ⓘ

Nov 13, 2023 – 02:30 PM JST

PDB ID : 5XDX
Title : Bovine heart cytochrome c oxidase in the reduced state with pH 7.3 at 1.99 angstrom resolution
Authors : Luo, F.J.; Shimada, A.; Hagimoto, N.; Shimada, S.; Shinzawa-Itoh, K.; Yamashita, E.; Yoshikawa, S.; Tsukihara, T.
Deposited on : 2017-03-30
Resolution : 1.99 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

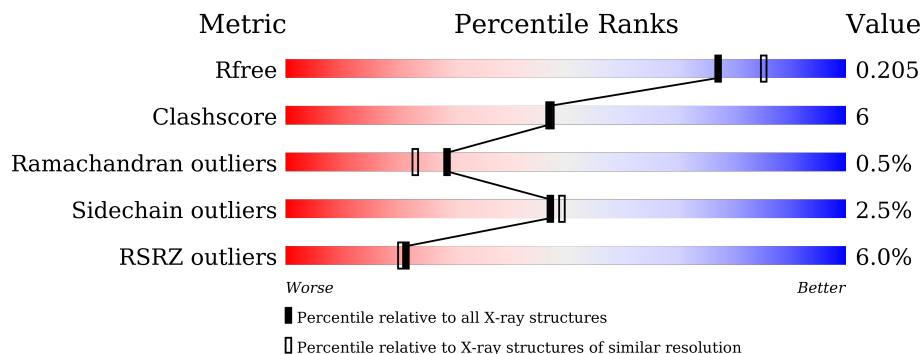
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 1.99 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	8085 (2.00-2.00)
Clashscore	141614	9178 (2.00-2.00)
Ramachandran outliers	138981	9054 (2.00-2.00)
Sidechain outliers	138945	9053 (2.00-2.00)
RSRZ outliers	127900	7900 (2.00-2.00)

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	A	514	
1	N	514	
2	B	227	
2	O	227	
3	C	260	

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Mol	Chain	Length	Quality of chain
3	P	260	
4	D	147	
4	Q	147	
5	E	109	
5	R	109	
6	F	94	
6	S	94	
7	G	85	
7	T	85	
8	H	85	
8	U	85	
9	I	73	
9	V	73	
10	J	59	
10	W	59	
11	K	56	
11	X	56	
12	L	47	
12	Y	47	
13	M	46	
13	Z	46	

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
19	PGV	N	606	-	-	-	X
20	EDO	N	613	-	-	X	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
25	DMU	C	313	-	-	-	X
25	DMU	P	309	-	-	-	X
9	SAC	V	1	-	-	-	X

2 Entry composition

There are 28 unique types of molecules in this entry. The entry contains 33247 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 Cytochrome c oxidase subunit 1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	514	Total	C	N	O	S	0	20	0
			4128	2774	626	685	43			
1	N	514	Total	C	N	O	S	0	21	0
			4132	2773	627	687	45			

- Molecule 2 is a protein called Cytochrome c oxidase subunit 2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	B	227	Total	C	N	O	S	0	7	0
			1854	1209	281	343	21			
2	O	227	Total	C	N	O	S	0	6	0
			1849	1205	281	343	20			

- Molecule 3 is a protein called Cytochrome c oxidase subunit 3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
3	C	259	Total	C	N	O	S	0	13	0
			2173	1461	338	358	16			
3	P	259	Total	C	N	O	S	0	12	0
			2168	1457	337	357	17			

- Molecule 4 is a protein called Cytochrome c oxidase subunit 4 isoform 1, mitochondrial.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
4	D	144	Total	C	N	O	S	0	0	0
			1195	777	196	218	4			
4	Q	144	Total	C	N	O	S	0	0	0
			1195	777	196	218	4			

- Molecule 5 is a protein called Cytochrome c oxidase subunit 5A, mitochondrial.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	E	105	Total	C	N	O	S	0	1	0
			857	548	144	162	3			
5	R	105	Total	C	N	O	S	0	1	0
			857	548	144	162	3			

- Molecule 6 is a protein called Cytochrome c oxidase subunit 5B, mitochondrial.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	F	94	Total	C	N	O	S	0	1	0
			721	448	127	140	6			
6	S	94	Total	C	N	O	S	0	1	0
			721	448	127	140	6			

- Molecule 7 is a protein called Cytochrome c oxidase subunit 6A2, mitochondrial.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace	
7	G	84	Total	C	N	O	P	S	0	0	0
			675	431	129	113	1	1			
7	T	84	Total	C	N	O	P	S	0	0	0
			675	431	129	113	1	1			

- Molecule 8 is a protein called Cytochrome c oxidase subunit 6B1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	H	79	Total	C	N	O	S	0	0	0
			662	417	121	119	5			
8	U	79	Total	C	N	O	S	0	0	0
			662	417	121	119	5			

- Molecule 9 is a protein called Cytochrome c oxidase polypeptide VIc.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	I	73	Total	C	N	O	S	0	0	0
			601	390	107	100	4			
9	V	73	Total	C	N	O	S	0	0	0
			601	390	107	100	4			

- Molecule 10 is a protein called Cytochrome c oxidase subunit VIIa-heart.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	J	58	Total	C	N	O	S	0	2	0
			471	305	78	84	4			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	W	58	Total	C	N	O	S	0	2	0
			471	305	78	84	4			

- Molecule 11 is a protein called Cytochrome c oxidase subunit VIIb.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	K	49	Total	C	N	O	S	0	0	0
			384	250	65	67	2			
11	X	49	Total	C	N	O	S	0	0	0
			384	250	65	67	2			

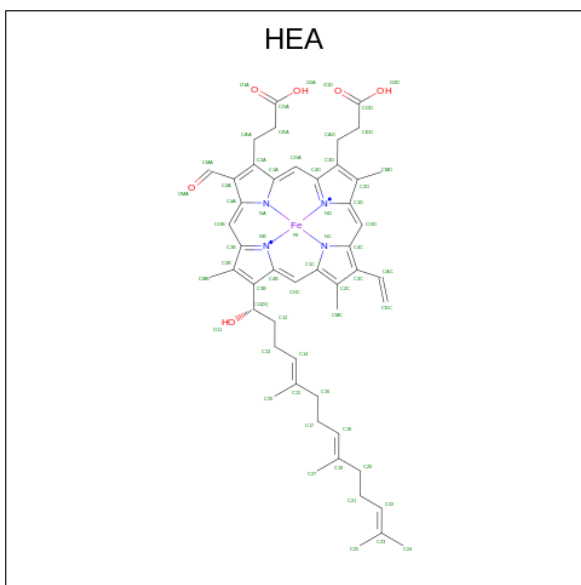
- Molecule 12 is a protein called Cytochrome c oxidase subunit VIIc.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	L	46	Total	C	N	O	S	0	0	0
			380	254	64	60	2			
12	Y	46	Total	C	N	O	S	0	1	0
			385	258	64	60	3			

- Molecule 13 is a protein called Cytochrome c oxidase subunit VIII-heart.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
13	M	43	Total	C	N	O	0	1	0
			340	228	53	59			
13	Z	43	Total	C	N	O	0	1	0
			340	228	53	59			

- Molecule 14 is HEME-A (three-letter code: HEA) (formula: C₄₉H₅₆FeN₄O₆).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	
14	A	1	Total	C	Fe	N	O	0	0
			60	49	1	4	6		
14	A	1	Total	C	Fe	N	O	0	0
			60	49	1	4	6		
14	N	1	Total	C	Fe	N	O	0	0
			60	49	1	4	6		
14	N	1	Total	C	Fe	N	O	0	0
			60	49	1	4	6		

- Molecule 15 is COPPER (II) ION (three-letter code: CU) (formula: Cu).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
15	A	1	Total	Cu	0	0
			1	1		
15	N	1	Total	Cu	0	0
			1	1		

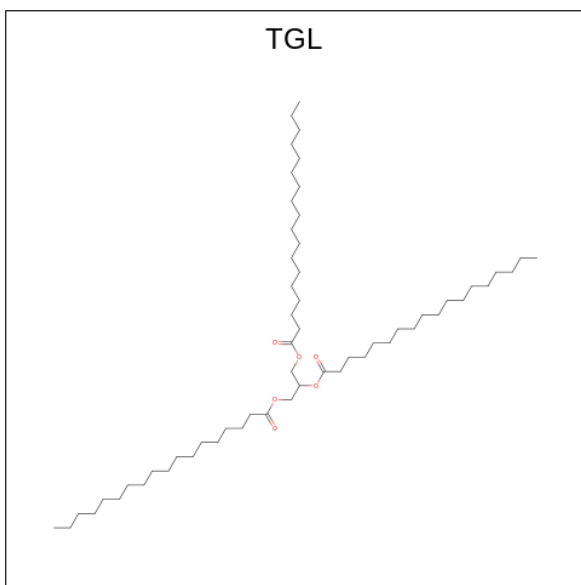
- Molecule 16 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
16	A	1	Total	Mg	0	0
			1	1		
16	N	1	Total	Mg	0	0
			1	1		

- Molecule 17 is SODIUM ION (three-letter code: NA) (formula: Na).

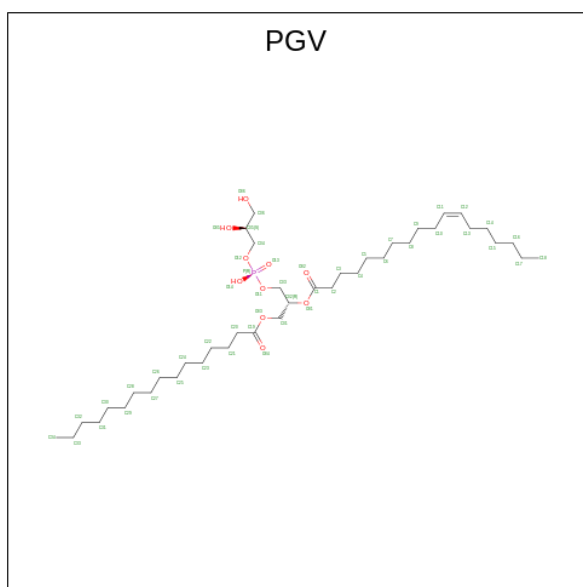
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
17	A	1	Total Na 1 1	0	0
17	C	1	Total Na 1 1	0	0
17	N	1	Total Na 1 1	0	0
17	P	1	Total Na 1 1	0	0

- Molecule 18 is TRISTEAROYLGLYCEROL (three-letter code: TGL) (formula: C₅₇H₁₁₀O₆).



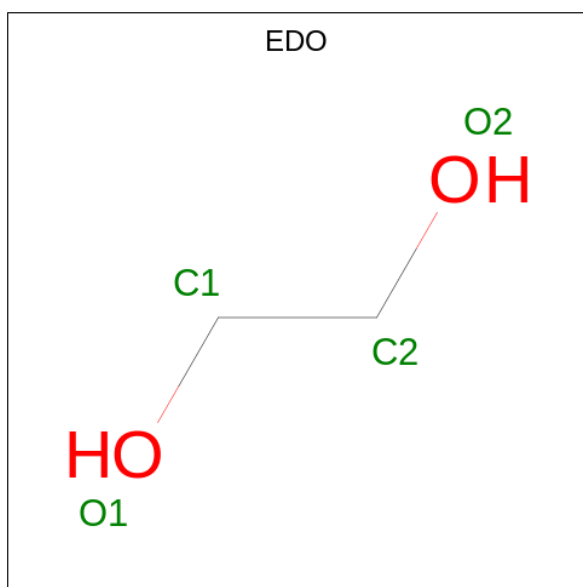
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
18	A	1	Total C O 63 57 6	0	0
18	D	1	Total C O 63 57 6	0	0
18	L	1	Total C O 63 57 6	0	0
18	O	1	Total C O 63 57 6	0	0
18	Q	1	Total C O 63 57 6	0	0
18	Y	1	Total C O 63 57 6	0	0

- Molecule 19 is (1R)-2-{{[[[(2S)-2,3-DIHYDROXYPROPYL]OXY}(HYDROXY)PHOSPHORYL]OXY}-1-[(PALMITOYLOXY)METHYL]ETHYL (11E)-OCTADEC-11-ENOATE (three-letter code: PGV) (formula: C₄₀H₇₇O₁₀P).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
			Total	C	O	P		
19	A	1	51	40	10	1	0	0
19	C	1	51	40	10	1	0	0
19	C	1	51	40	10	1	0	0
19	M	1	51	40	10	1	0	0
19	N	1	51	40	10	1	0	0
19	N	1	51	40	10	1	0	0
19	P	1	51	40	10	1	0	0
19	P	1	51	40	10	1	0	0

- Molecule 20 is 1,2-ETHANEDIOL (three-letter code: EDO) (formula: C₂H₆O₂).



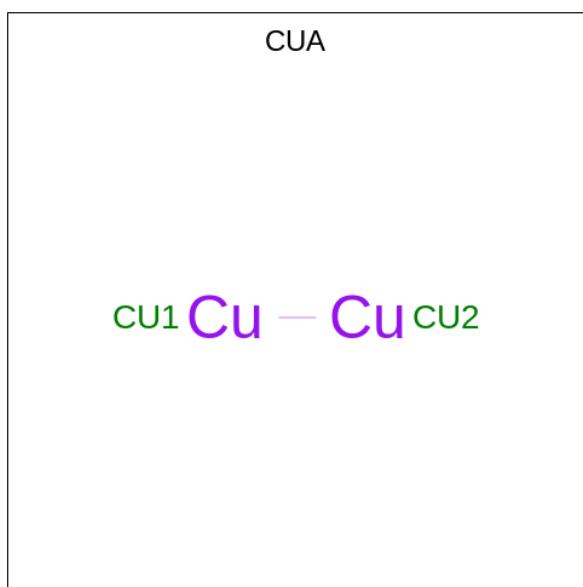
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
20	A	1	Total C O 4 2 2	0	0
20	A	1	Total C O 4 2 2	0	0
20	A	1	Total C O 4 2 2	0	0
20	A	1	Total C O 4 2 2	0	0
20	A	1	Total C O 4 2 2	0	0
20	A	1	Total C O 4 2 2	0	0
20	A	1	Total C O 4 2 2	0	0
20	A	1	Total C O 4 2 2	0	0
20	A	1	Total C O 4 2 2	0	0
20	A	1	Total C O 4 2 2	0	0
20	B	1	Total C O 4 2 2	0	0
20	C	1	Total C O 4 2 2	0	0
20	C	1	Total C O 4 2 2	0	0
20	C	1	Total C O 4 2 2	0	0
20	D	1	Total C O 4 2 2	0	0

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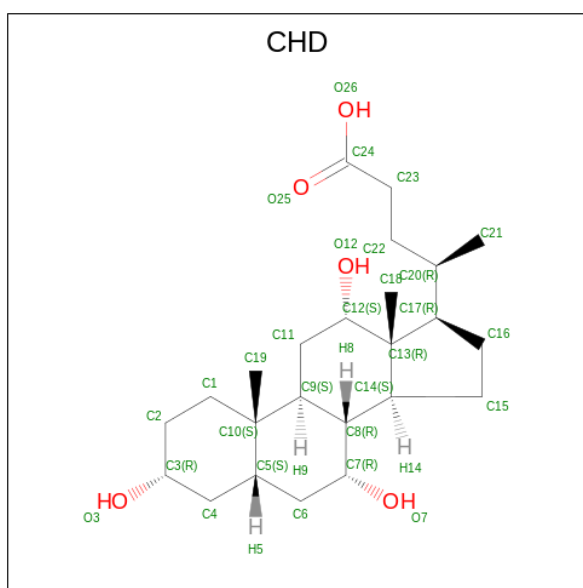
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
20	D	1	Total C O 4 2 2	0	0
20	E	1	Total C O 4 2 2	0	0
20	F	1	Total C O 4 2 2	0	0
20	F	1	Total C O 4 2 2	0	0
20	F	1	Total C O 4 2 2	0	0
20	N	1	Total C O 4 2 2	0	0
20	N	1	Total C O 4 2 2	0	0
20	N	1	Total C O 4 2 2	0	0
20	N	1	Total C O 4 2 2	0	0
20	N	1	Total C O 4 2 2	0	0
20	N	1	Total C O 4 2 2	0	0
20	N	1	Total C O 4 2 2	0	0
20	N	1	Total C O 4 2 2	0	0
20	N	1	Total C O 4 2 2	0	0
20	N	1	Total C O 4 2 2	0	0
20	P	1	Total C O 4 2 2	0	0
20	R	1	Total C O 4 2 2	0	0
20	S	1	Total C O 4 2 2	0	0
20	S	1	Total C O 4 2 2	0	0

- Molecule 21 is DINUCLEAR COPPER ION (three-letter code: CUA) (formula: Cu₂).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
21	B	1	Total Cu 2 2	0	0
21	O	1	Total Cu 2 2	0	0

- Molecule 22 is CHOLIC ACID (three-letter code: CHD) (formula: $C_{24}H_{40}O_5$).



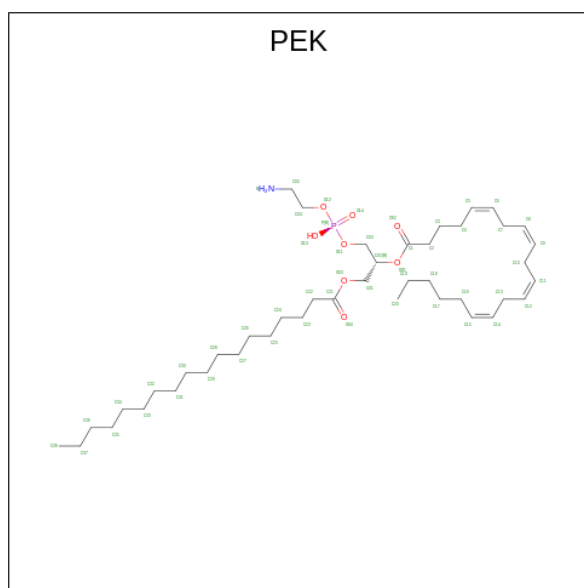
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
22	B	1	Total C O 29 24 5	0	0
22	C	1	Total C O 29 24 5	0	0

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Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
22	C	1	Total	C	O	0	0
			29	24	5		
22	J	1	Total	C	O	0	0
			29	24	5		
22	O	1	Total	C	O	0	0
			29	24	5		
22	P	1	Total	C	O	0	0
			29	24	5		
22	P	1	Total	C	O	0	0
			29	24	5		
22	W	1	Total	C	O	0	0
			29	24	5		

- Molecule 23 is (1S)-2-[[[(2-AMINOETHOXY)(HYDROXY)PHOSPHORYL]OXY}-1-[(STEAROYLOXY)METHYL]ETHYL (5E,8E,11E,14E)-ICOSA-5,8,11,14-TETRAENOATE (three-letter code: PEK) (formula: C₄₃H₇₈NO₈P).



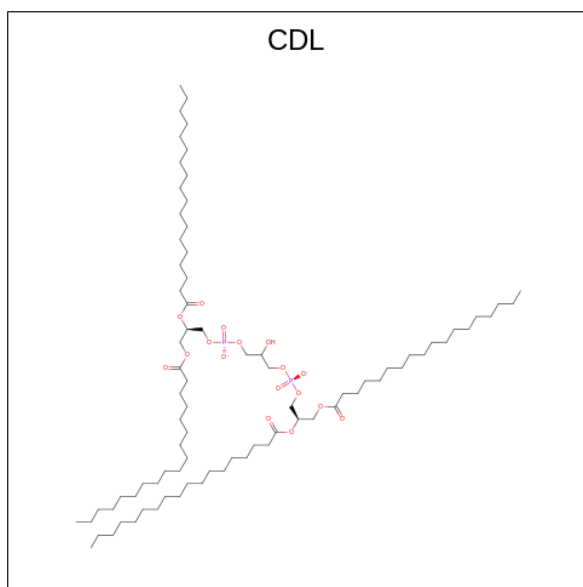
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
23	C	1	Total	C	N	O	P	0	0
			53	43	1	8	1		
23	C	1	Total	C	N	O	P	0	0
			53	43	1	8	1		
23	G	1	Total	C	N	O	P	0	0
			53	43	1	8	1		
23	T	1	Total	C	N	O	P	0	0
			53	43	1	8	1		

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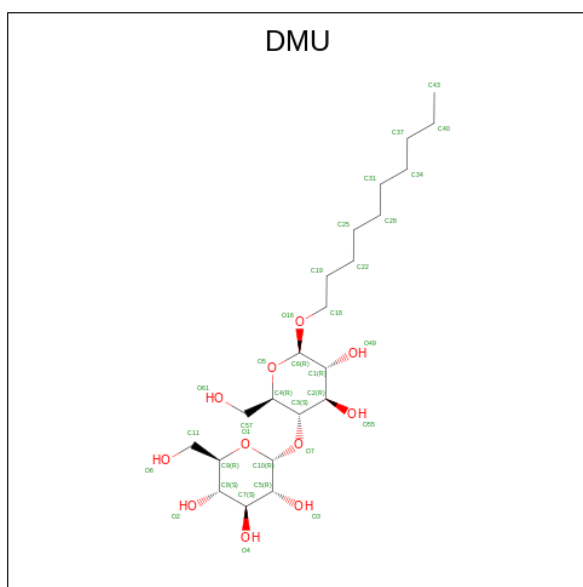
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
23	T	1	Total	C	N	O	P	0	0
			53	43	1	8	1		
23	T	1	Total	C	N	O	P	0	0
			53	43	1	8	1		

- Molecule 24 is CARDIOLIPIN (three-letter code: CDL) (formula: $C_{81}H_{156}O_{17}P_2$).



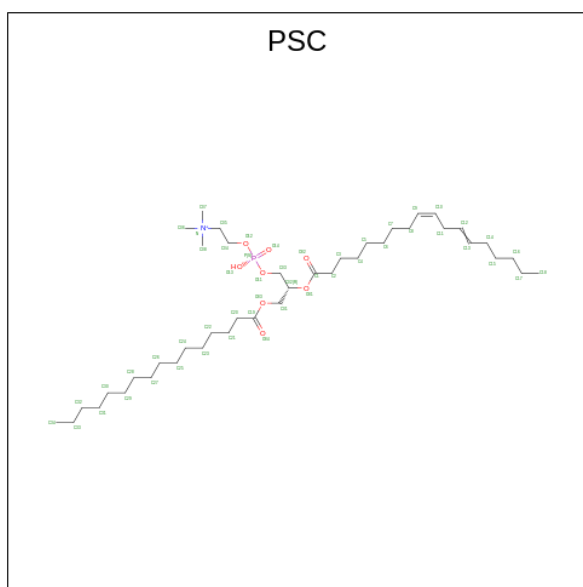
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
24	C	1	Total	C	O	P	0	0
			100	81	17	2		
24	G	1	Total	C	O	P	0	0
			100	81	17	2		
24	P	1	Total	C	O	P	0	0
			100	81	17	2		
24	T	1	Total	C	O	P	0	0
			100	81	17	2		

- Molecule 25 is DECYL-BETA-D-MALTOPYRANOSIDE (three-letter code: DMU) (formula: $C_{22}H_{42}O_{11}$).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
25	C	1	Total	C	O	0	0
			33	22	11		
25	C	1	Total	C	O	0	0
			33	22	11		
25	M	1	Total	C	O	0	0
			33	22	11		
25	P	1	Total	C	O	0	0
			33	22	11		
25	P	1	Total	C	O	0	0
			33	22	11		
25	Z	1	Total	C	O	0	0
			33	22	11		

- Molecule 26 is (7R,17E,20E)-4-HYDROXY-N,N,N-TRIMETHYL-9-OXO-7-[(PALMITOYLOXY)METHYL]-3,5,8-TRIOXA-4-PHOSPHAHEXACOSA-17,20-DIEN-1-AMINIUM 4-OXIDE (three-letter code: PSC) (formula: C₄₂H₈₁NO₈P).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
26	E	1	Total	C	N	O	P	0	0
			52	42	1	8	1		
26	O	1	Total	C	N	O	P	0	0
			52	42	1	8	1		

- Molecule 27 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
27	F	1	Total	Zn	0	0
			1	1		
27	S	1	Total	Zn	0	0
			1	1		

- Molecule 28 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
28	A	245	Total	O	0	0
			245	245		
28	B	177	Total	O	0	1
			178	178		
28	C	103	Total	O	0	0
			103	103		
28	D	130	Total	O	0	0
			130	130		
28	E	92	Total	O	0	0
			92	92		

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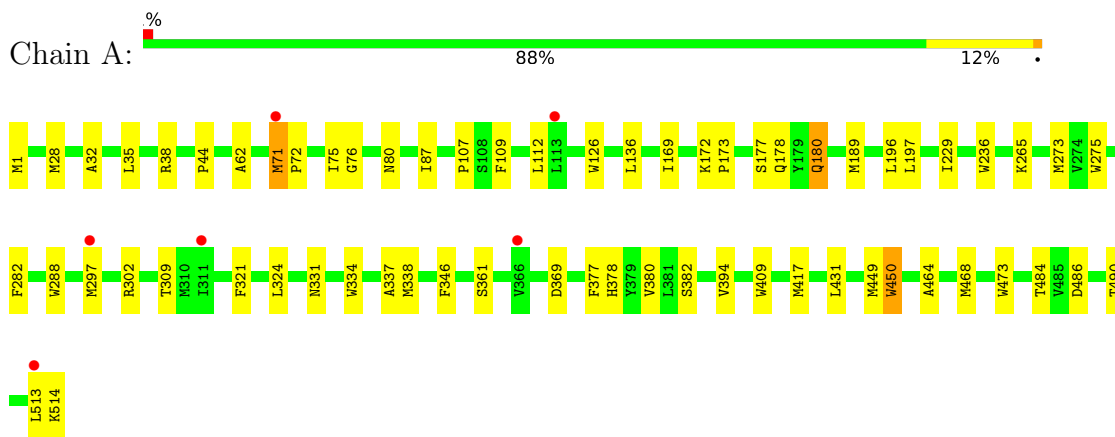
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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
28	F	92	Total 92	O 92	0	0
28	G	58	Total 58	O 58	0	0
28	H	56	Total 56	O 56	0	0
28	I	48	Total 48	O 48	0	0
28	J	28	Total 28	O 28	0	0
28	K	42	Total 42	O 42	0	0
28	L	26	Total 26	O 26	0	0
28	M	27	Total 27	O 27	0	0
28	N	214	Total 214	O 214	0	0
28	O	128	Total 128	O 128	0	0
28	P	99	Total 99	O 99	0	0
28	Q	58	Total 58	O 58	0	0
28	R	62	Total 62	O 62	0	0
28	S	64	Total 64	O 64	0	0
28	T	51	Total 51	O 51	0	0
28	U	45	Total 45	O 45	0	0
28	V	31	Total 31	O 31	0	0
28	W	19	Total 19	O 19	0	0
28	X	11	Total 11	O 11	0	0
28	Y	21	Total 21	O 21	0	0
28	Z	14	Total 14	O 14	0	0

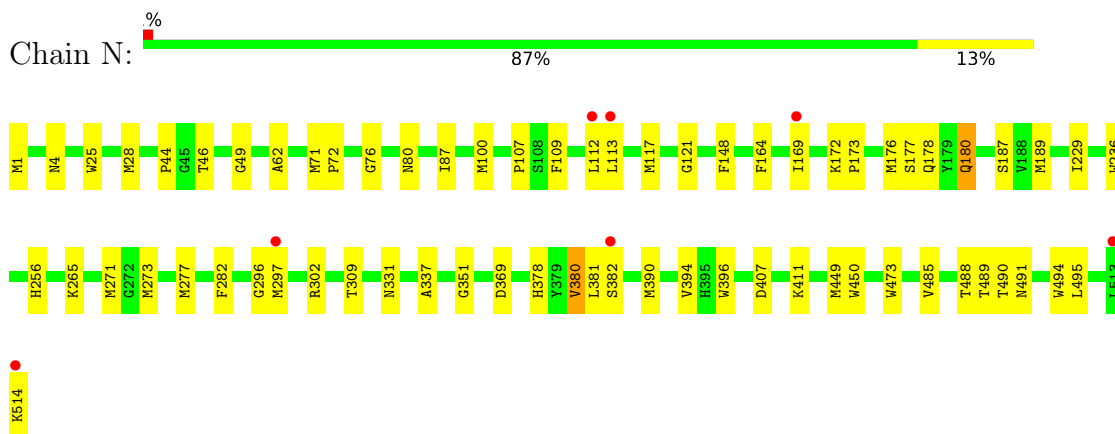
3 Residue-property plots [i](#)

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.

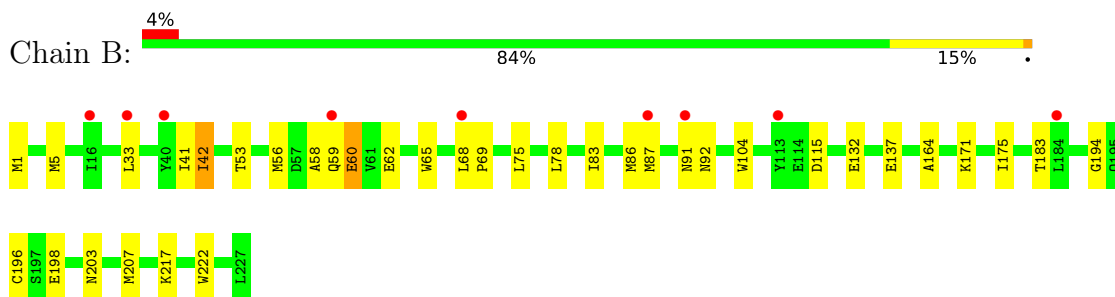
- Molecule 1: Cytochrome c oxidase subunit 1



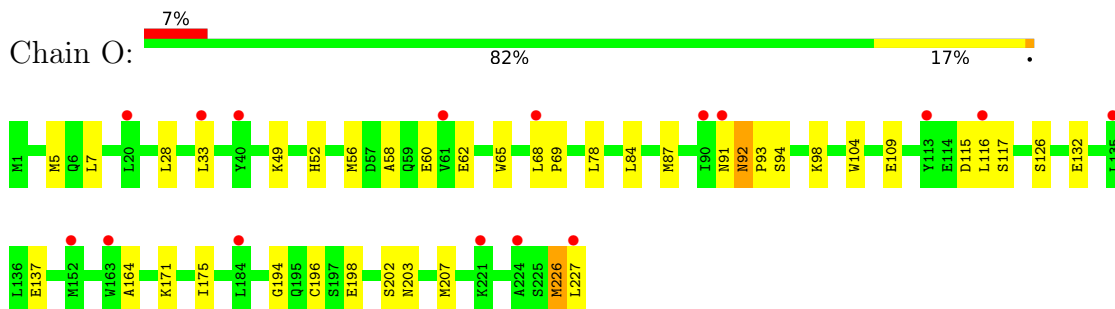
- Molecule 1: Cytochrome c oxidase subunit 1



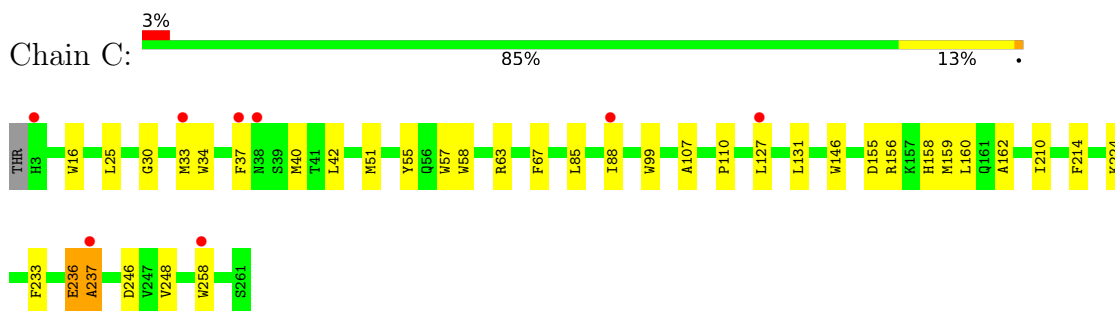
- Molecule 2: Cytochrome c oxidase subunit 2



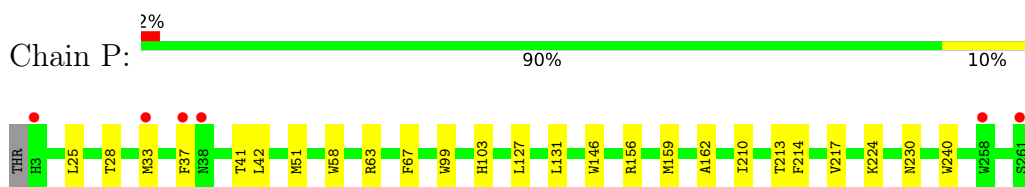
- Molecule 2: Cytochrome c oxidase subunit 2



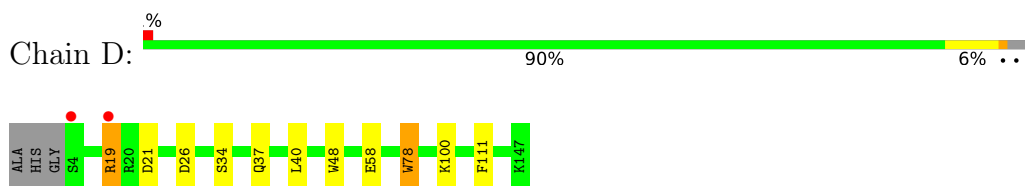
- Molecule 3: Cytochrome c oxidase subunit 3



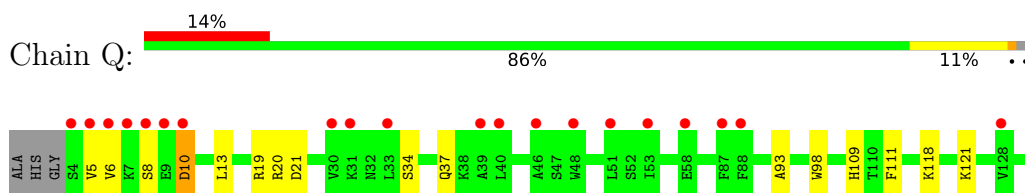
- Molecule 3: Cytochrome c oxidase subunit 3



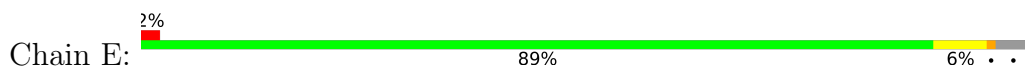
- Molecule 4: Cytochrome c oxidase subunit 4 isoform 1, mitochondrial



- Molecule 4: Cytochrome c oxidase subunit 4 isoform 1, mitochondrial

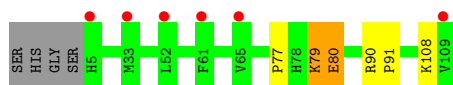
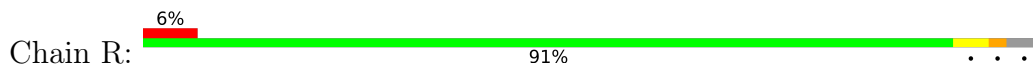


- Molecule 5: Cytochrome c oxidase subunit 5A, mitochondrial

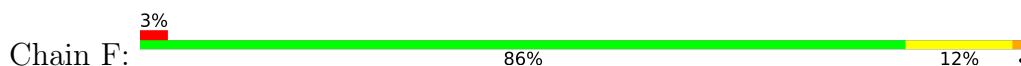




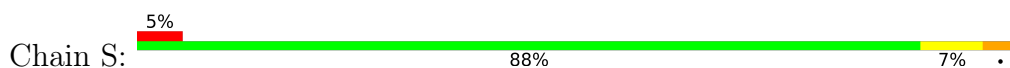
- Molecule 5: Cytochrome c oxidase subunit 5A, mitochondrial



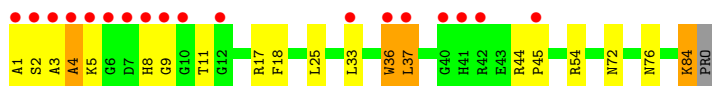
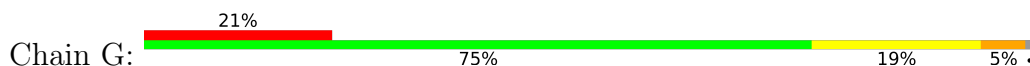
- Molecule 6: Cytochrome c oxidase subunit 5B, mitochondrial



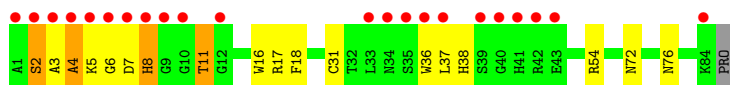
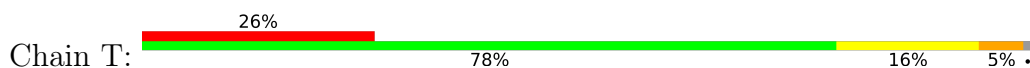
- Molecule 6: Cytochrome c oxidase subunit 5B, mitochondrial



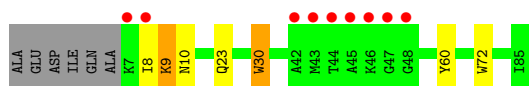
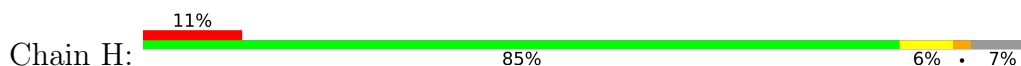
- Molecule 7: Cytochrome c oxidase subunit 6A2, mitochondrial



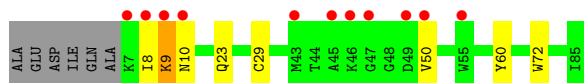
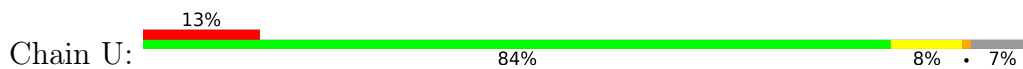
- Molecule 7: Cytochrome c oxidase subunit 6A2, mitochondrial



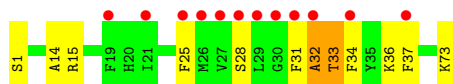
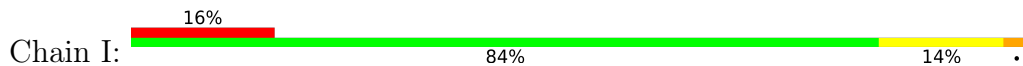
- Molecule 8: Cytochrome c oxidase subunit 6B1



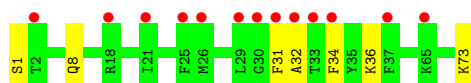
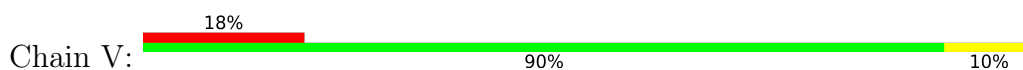
- Molecule 8: Cytochrome c oxidase subunit 6B1



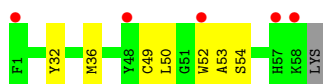
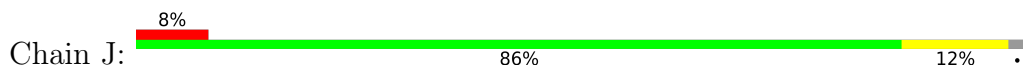
- Molecule 9: Cytochrome c oxidase polypeptide VIc



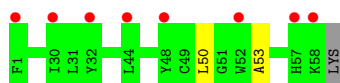
- Molecule 9: Cytochrome c oxidase polypeptide VIc



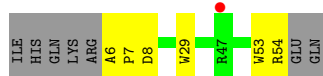
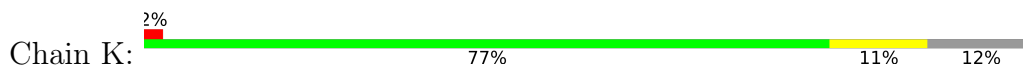
- Molecule 10: Cytochrome c oxidase subunit VIIa-heart



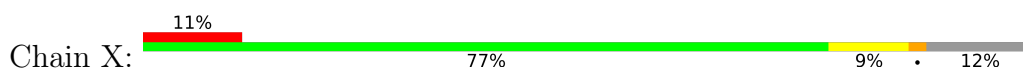
- Molecule 10: Cytochrome c oxidase subunit VIIa-heart



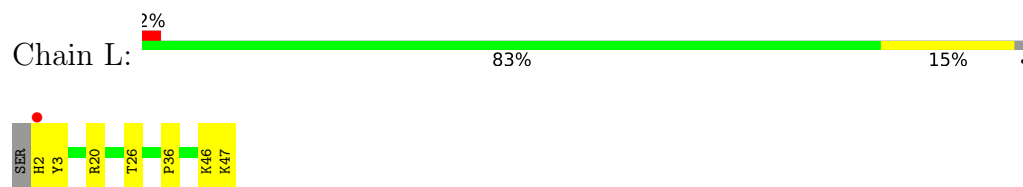
- Molecule 11: Cytochrome c oxidase subunit VIIb



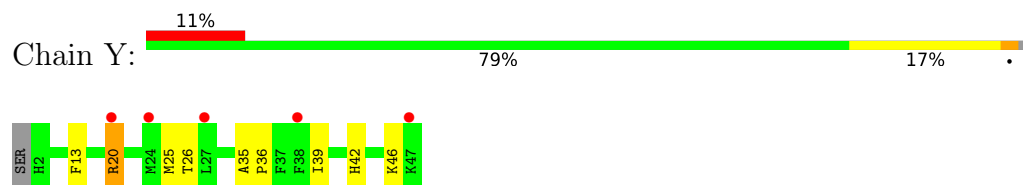
- Molecule 11: Cytochrome c oxidase subunit VIIb



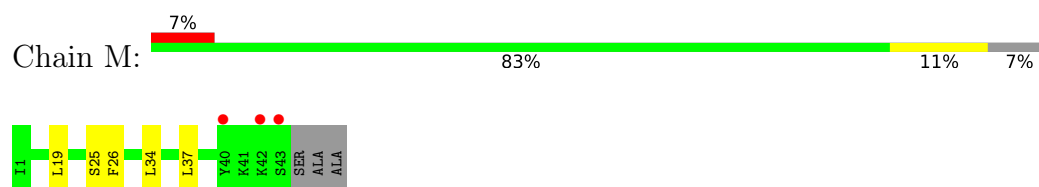
- Molecule 12: Cytochrome c oxidase subunit VIIc



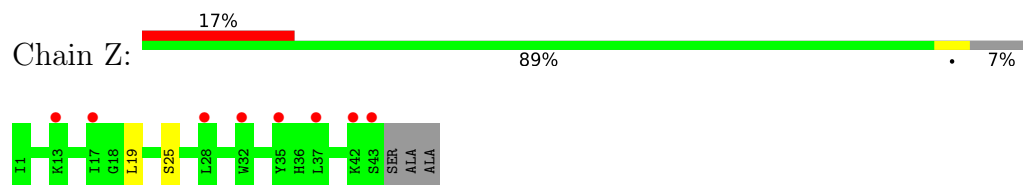
- Molecule 12: Cytochrome c oxidase subunit VIIc



- Molecule 13: Cytochrome c oxidase subunit VIII-heart



- Molecule 13: Cytochrome c oxidase subunit VIII-heart



4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	183.04Å 205.69Å 177.80Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	40.00 – 1.99 108.39 – 1.99	Depositor EDS
% Data completeness (in resolution range)	99.7 (40.00-1.99) 99.7 (108.39-1.99)	Depositor EDS
R_{merge}	0.11	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	3.30 (at 1.98Å)	Xtrriage
Refinement program	REFMAC 5.8.0048	Depositor
R, R_{free}	0.182 , 0.203 0.183 , 0.205	Depositor DCC
R_{free} test set	23139 reflections (5.06%)	wwPDB-VP
Wilson B-factor (Å ²)	36.0	Xtrriage
Anisotropy	0.540	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.36 , 62.6	EDS
L-test for twinning ²	$\langle L \rangle = 0.50$, $\langle L^2 \rangle = 0.33$	Xtrriage
Estimated twinning fraction	0.003 for l,-k,h	Xtrriage
F_o, F_c correlation	0.96	EDS
Total number of atoms	33247	wwPDB-VP
Average B, all atoms (Å ²)	49.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 5.13% 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: CU, PSC, TGL, PGV, HEA, NA, CHD, CDL, ZN, DMU, EDO, FME, MG, SAC, CUA, PEK, TPO

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	A	0.66	6/4315 (0.1%)	0.61	2/5889 (0.0%)
1	N	0.63	4/4322 (0.1%)	0.59	0/5896
2	B	0.61	3/1911 (0.2%)	0.66	0/2602
2	O	0.53	2/1903 (0.1%)	0.61	0/2592
3	C	0.71	5/2299 (0.2%)	0.58	1/3140 (0.0%)
3	P	0.69	3/2291 (0.1%)	0.53	0/3128
4	D	0.63	2/1229 (0.2%)	0.54	0/1658
4	Q	0.58	2/1229 (0.2%)	0.53	0/1658
5	E	0.52	0/879	0.55	0/1192
5	R	0.49	0/879	0.54	0/1192
6	F	0.54	0/740	0.57	0/1003
6	S	0.54	0/740	0.55	0/1003
7	G	0.68	1/690 (0.1%)	0.60	0/937
7	T	0.69	2/690 (0.3%)	0.61	0/937
8	H	0.63	2/682 (0.3%)	0.55	0/921
8	U	0.62	1/682 (0.1%)	0.57	0/921
9	I	0.45	0/605	0.56	0/802
9	V	0.38	0/605	0.50	0/802
10	J	0.52	0/488	0.52	0/658
10	W	0.52	0/488	0.50	0/658
11	K	0.70	2/398 (0.5%)	0.53	0/546
11	X	0.67	2/398 (0.5%)	0.50	0/546
12	L	0.60	0/393	0.55	0/526
12	Y	0.54	0/401	0.49	0/536
13	M	0.58	0/353	0.53	0/481
13	Z	0.54	0/353	0.50	0/481
All	All	0.62	37/29963 (0.1%)	0.57	3/40705 (0.0%)

All (37) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	198	GLU	C-O	6.34	1.35	1.23
1	A	126	TRP	CD2-CE2	5.79	1.48	1.41
2	B	65	TRP	CD2-CE2	5.54	1.48	1.41
8	H	72	TRP	CD2-CE2	5.51	1.48	1.41
11	K	29	TRP	CD2-CE2	5.46	1.47	1.41
3	C	58	TRP	CD2-CE2	5.45	1.47	1.41
2	O	65	TRP	CD2-CE2	5.43	1.47	1.41
4	D	48	TRP	CD2-CE2	5.39	1.47	1.41
2	B	222	TRP	CD2-CE2	5.39	1.47	1.41
1	N	396	TRP	CD2-CE2	5.37	1.47	1.41
7	T	36	TRP	CD2-CE2	5.34	1.47	1.41
3	P	240	TRP	CD2-CE2	5.30	1.47	1.41
8	U	72	TRP	CD2-CE2	5.29	1.47	1.41
1	A	409	TRP	CD2-CE2	5.28	1.47	1.41
1	A	288	TRP	CD2-CE2	5.27	1.47	1.41
7	G	36	TRP	CD2-CE2	5.21	1.47	1.41
3	C	57	TRP	CD2-CE2	5.20	1.47	1.41
11	K	53	TRP	CD2-CE2	5.19	1.47	1.41
1	N	25	TRP	CD2-CE2	5.16	1.47	1.41
1	N	473	TRP	CD2-CE2	5.16	1.47	1.41
3	P	58	TRP	CD2-CE2	5.15	1.47	1.41
1	A	473	TRP	CD2-CE2	5.15	1.47	1.41
7	T	16	TRP	CD2-CE2	5.14	1.47	1.41
4	D	78	TRP	CD2-CE2	5.13	1.47	1.41
3	P	99	TRP	CD2-CE2	5.13	1.47	1.41
1	A	450	TRP	CD2-CE2	5.12	1.47	1.41
8	H	30	TRP	CD2-CE2	5.11	1.47	1.41
2	O	198	GLU	C-O	5.09	1.33	1.23
3	C	99	TRP	CD2-CE2	5.08	1.47	1.41
3	C	16	TRP	CD2-CE2	5.07	1.47	1.41
11	X	29	TRP	CD2-CE2	5.07	1.47	1.41
4	Q	138	TRP	CD2-CE2	5.06	1.47	1.41
1	A	275	TRP	CD2-CE2	5.04	1.47	1.41
1	N	450	TRP	CD2-CE2	5.04	1.47	1.41
3	C	258	TRP	CD2-CE2	5.02	1.47	1.41
4	Q	98	TRP	CD2-CE2	5.01	1.47	1.41
11	X	53	TRP	CD2-CE2	5.01	1.47	1.41

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	71[A]	MET	CG-SD-CE	-5.71	91.06	100.20
1	A	71[B]	MET	CG-SD-CE	-5.71	91.06	100.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	C	236	GLU	C-N-CA	-5.35	108.33	121.70

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	4128	0	4171	59	0
1	N	4132	0	4169	75	0
2	B	1854	0	1888	23	0
2	O	1849	0	1879	21	0
3	C	2173	0	2130	34	0
3	P	2168	0	2122	23	0
4	D	1195	0	1183	14	0
4	Q	1195	0	1183	11	0
5	E	857	0	854	4	0
5	R	857	0	854	5	0
6	F	721	0	706	13	0
6	S	721	0	706	11	0
7	G	675	0	644	16	0
7	T	675	0	643	15	0
8	H	662	0	623	6	0
8	U	662	0	623	2	0
9	I	601	0	613	9	0
9	V	601	0	613	3	0
10	J	471	0	474	9	0
10	W	471	0	474	3	0
11	K	384	0	366	2	0
11	X	384	0	366	5	0
12	L	380	0	380	9	0
12	Y	385	0	389	10	0
13	M	340	0	363	5	0
13	Z	340	0	363	2	0
14	A	120	0	108	6	0
14	N	120	0	108	7	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
15	A	1	0	0	0	0
15	N	1	0	0	0	0
16	A	1	0	0	0	0
16	N	1	0	0	0	0
17	A	1	0	0	0	0
17	C	1	0	0	0	0
17	N	1	0	0	0	0
17	P	1	0	0	0	0
18	A	63	0	110	3	0
18	D	63	0	110	4	0
18	L	63	0	110	4	0
18	O	63	0	110	2	0
18	Q	63	0	110	0	0
18	Y	63	0	110	5	0
19	A	51	0	76	2	0
19	C	102	0	152	4	0
19	M	51	0	76	2	0
19	N	102	0	152	4	0
19	P	102	0	152	4	0
20	A	36	0	54	5	0
20	B	4	0	6	0	0
20	C	12	0	18	0	0
20	D	8	0	12	2	0
20	E	4	0	6	1	0
20	F	12	0	18	0	0
20	N	40	0	60	9	0
20	P	4	0	6	0	0
20	R	4	0	6	0	0
20	S	8	0	12	1	0
21	B	2	0	0	0	0
21	O	2	0	0	0	0
22	B	29	0	39	0	0
22	C	58	0	78	3	0
22	J	29	0	38	0	0
22	O	29	0	39	1	0
22	P	58	0	78	3	0
22	W	29	0	39	1	0
23	C	106	0	154	5	0
23	G	53	0	77	0	0
23	T	159	0	231	7	0
24	C	100	0	156	10	0
24	G	100	0	156	5	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
24	P	100	0	156	8	0
24	T	100	0	156	13	0
25	C	66	0	84	12	0
25	M	33	0	42	0	0
25	P	66	0	84	9	0
25	Z	33	0	42	0	0
26	E	52	0	80	10	0
26	O	52	0	80	6	0
27	F	1	0	0	0	0
27	S	1	0	0	0	0
28	A	245	0	0	12	0
28	B	178	0	0	5	0
28	C	103	0	0	2	0
28	D	130	0	0	2	0
28	E	92	0	0	0	0
28	F	92	0	0	1	0
28	G	58	0	0	0	0
28	H	56	0	0	2	0
28	I	48	0	0	0	0
28	J	28	0	0	1	0
28	K	42	0	0	1	0
28	L	26	0	0	0	0
28	M	27	0	0	0	0
28	N	214	0	0	6	0
28	O	128	0	0	1	0
28	P	99	0	0	1	0
28	Q	58	0	0	1	0
28	R	62	0	0	0	0
28	S	64	0	0	0	0
28	T	51	0	0	0	0
28	U	45	0	0	0	0
28	V	31	0	0	1	0
28	W	19	0	0	0	0
28	X	11	0	0	3	0
28	Y	21	0	0	0	0
28	Z	14	0	0	0	0
All	All	33247	0	32270	397	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 6.

All (397) 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)
3:C:236:GLU:O	3:C:237:ALA:CB	1.79	1.26
1:N:113[B]:LEU:HG	1:N:117[B]:MET:CE	1.69	1.22
20:A:615:EDO:H22	28:A:920:HOH:O	1.42	1.19
3:C:33[B]:MET:SD	25:C:313:DMU:H11	1.83	1.18
1:A:28[B]:MET:HA	1:A:28[B]:MET:CE	1.83	1.09
1:N:113[B]:LEU:HG	1:N:117[B]:MET:HE2	1.15	1.08
26:O:304:PSC:H02	26:O:304:PSC:H212	1.37	1.07
3:C:236:GLU:O	3:C:237:ALA:HB3	1.45	1.05
1:N:113[B]:LEU:CG	1:N:117[B]:MET:HE2	1.85	1.05
1:A:28[B]:MET:HA	1:A:28[B]:MET:HE3	1.07	1.03
6:S:85:CYS:SG	6:S:87:THR:HG23	1.99	1.02
25:C:313:DMU:H8	10:J:53:ALA:HB2	1.43	1.00
3:C:67:PHE:HE2	24:C:307:CDL:H1	1.24	0.99
7:G:84:LYS:H	7:G:84:LYS:HD2	1.27	0.99
20:N:615:EDO:H22	28:N:884:HOH:O	1.64	0.96
1:N:113[B]:LEU:CG	1:N:117[B]:MET:CE	2.43	0.96
3:P:33[B]:MET:SD	25:P:309:DMU:H11	2.06	0.95
25:C:313:DMU:C19	10:J:53:ALA:HB2	1.97	0.94
1:A:28[B]:MET:HE3	1:A:28[B]:MET:CA	2.00	0.91
11:X:32:MET:HB2	28:X:101:HOH:O	1.71	0.90
3:C:236:GLU:O	3:C:237:ALA:HB2	1.72	0.90
3:C:63:ARG:HE	24:C:307:CDL:HA21	1.37	0.88
1:N:491:ASN:HA	20:N:613:EDO:H12	1.56	0.87
3:P:67:PHE:HE2	24:P:305:CDL:H1	1.39	0.85
7:G:72:ASN:H	7:G:76:ASN:HD22	1.23	0.85
6:F:85:CYS:SG	6:F:87:THR:HG23	2.17	0.84
1:N:28[B]:MET:HA	1:N:28[B]:MET:CE	2.08	0.83
6:F:75:HIS:H	6:F:80:GLN:HE22	1.27	0.82
3:C:33[B]:MET:SD	25:C:313:DMU:H6	2.20	0.82
4:Q:93:ALA:HB1	28:X:101:HOH:O	1.80	0.81
9:I:31:PHE:O	9:I:34:PHE:N	2.14	0.81
26:O:304:PSC:H02	26:O:304:PSC:C21	2.11	0.80
6:S:43:LYS:HD2	6:S:43:LYS:H	1.47	0.80
25:P:309:DMU:C19	10:W:53:ALA:HB2	2.12	0.79
1:N:117[A]:MET:HE3	12:Y:39:ILE:HG23	1.65	0.79
8:H:23:GLN:NE2	28:H:101:HOH:O	2.16	0.79
23:C:303:PEK:HN2	7:G:76:ASN:HD21	1.32	0.78
1:N:113[B]:LEU:CD1	1:N:117[B]:MET:HE2	2.13	0.78
1:N:297[B]:MET:HG3	1:N:302:ARG:HG3	1.64	0.78
5:R:80:GLU:H	5:R:80:GLU:CD	1.88	0.77
4:D:34:SER:H	4:D:37:GLN:HE21	1.31	0.76
3:P:63:ARG:HE	24:P:305:CDL:HA22	1.49	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:T:72:ASN:H	7:T:76:ASN:HD22	1.33	0.76
1:N:28[B]:MET:HA	1:N:28[B]:MET:HE2	1.67	0.75
12:L:20:ARG:HH22	18:L:101:TGL:HC32	1.52	0.74
6:S:75:HIS:H	6:S:80:GLN:HE22	1.34	0.73
1:N:113[B]:LEU:HG	1:N:117[B]:MET:HE1	1.69	0.72
1:A:417[B]:MET:HE2	1:A:464:ALA:HB3	1.70	0.72
1:A:297[B]:MET:HG2	28:A:780:HOH:O	1.89	0.72
1:N:297[B]:MET:HG2	28:N:788:HOH:O	1.89	0.71
8:U:9:LYS:HD3	8:U:10:ASN:H	1.55	0.71
20:N:612:EDO:H11	20:N:613:EDO:H11	1.72	0.70
6:S:43:LYS:H	6:S:43:LYS:CD	2.04	0.70
2:O:116:LEU:HD13	2:O:226:MET:HG2	1.73	0.70
4:D:78:TRP:CA	18:D:201:TGL:HB22	2.21	0.69
4:D:78:TRP:HA	18:D:201:TGL:HB22	1.74	0.69
7:T:2:SER:OG	23:T:101:PEK:H311	1.94	0.68
24:T:104:CDL:H251	24:T:104:CDL:H542	1.75	0.68
1:N:113[B]:LEU:CG	1:N:117[B]:MET:HE1	2.22	0.68
3:C:67:PHE:CE2	24:C:307:CDL:H1	2.17	0.67
7:T:76:ASN:HD21	23:T:102:PEK:HN2	1.40	0.67
1:N:46:THR:HG22	1:N:49:GLY:H	1.58	0.67
6:S:85:CYS:SG	6:S:87:THR:CG2	2.81	0.67
4:D:19:ARG:HG2	4:D:19:ARG:HH21	1.59	0.67
25:P:309:DMU:H9	10:W:53:ALA:HB2	1.76	0.67
9:I:33:THR:HA	9:I:36:LYS:HB3	1.77	0.67
6:F:54:ASN:H	6:F:54:ASN:HD22	1.42	0.66
2:B:53:THR:HG21	28:D:305:HOH:O	1.94	0.66
1:A:28[B]:MET:CE	1:A:28[B]:MET:CA	2.59	0.66
19:N:606:PGV:H311	13:Z:19:LEU:HD23	1.76	0.66
23:T:103:PEK:H382	24:T:104:CDL:H273	1.77	0.65
7:G:84:LYS:H	7:G:84:LYS:CD	2.04	0.65
1:A:361[A]:SER:OG	28:A:701:HOH:O	2.15	0.64
1:N:113[B]:LEU:CD2	1:N:117[B]:MET:HE1	2.27	0.64
14:A:601:HEA:HMC1	14:A:601:HEA:HBC1	1.79	0.64
25:C:313:DMU:H20	10:J:50:LEU:HB2	1.78	0.64
25:P:309:DMU:H8	10:W:53:ALA:HB2	1.79	0.64
1:A:394[A]:VAL:HG12	20:A:611:EDO:H22	1.80	0.63
6:S:43:LYS:HD2	6:S:43:LYS:N	2.13	0.63
4:D:26:ASP:HB3	20:D:202:EDO:H21	1.81	0.63
1:N:117[A]:MET:HE2	1:N:117[A]:MET:HA	1.80	0.63
3:P:210:ILE:HD13	19:P:303:PGV:H301	1.80	0.63
7:T:31:CYS:SG	24:T:104:CDL:H552	2.38	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:337:ALA:HB2	1:A:394[A]:VAL:HG23	1.79	0.62
25:C:313:DMU:H9	10:J:49:CYS:O	1.99	0.62
1:A:417[B]:MET:HE2	1:A:464:ALA:CB	2.29	0.62
4:D:40:LEU:CD2	4:D:58:GLU:HG2	2.30	0.62
25:C:313:DMU:H9	10:J:53:ALA:HB2	1.78	0.61
1:N:28[B]:MET:CE	1:N:28[B]:MET:CA	2.79	0.61
3:C:233:PHE:O	3:C:236:GLU:O	2.19	0.61
1:N:46:THR:CG2	1:N:49:GLY:H	2.13	0.61
1:A:71[B]:MET:HB3	1:A:72:PRO:HD3	1.83	0.60
1:A:112:LEU:C	1:A:112:LEU:HD23	2.21	0.60
2:O:28:LEU:HD21	18:O:302:TGL:HG12	1.83	0.60
9:V:8:GLN:CD	28:V:103:HOH:O	2.40	0.60
3:P:63:ARG:HE	24:P:305:CDL:CA2	2.14	0.60
7:T:31:CYS:SG	24:T:104:CDL:H532	2.42	0.60
24:C:307:CDL:HB21	24:C:307:CDL:OB6	2.02	0.60
2:B:56:MET:HA	26:E:201:PSC:H201	1.84	0.60
24:C:307:CDL:HA22	28:J:201:HOH:O	2.02	0.59
4:D:34:SER:H	4:D:37:GLN:NE2	1.99	0.59
18:L:101:TGL:OC1	18:L:101:TGL:HC41	2.02	0.59
1:A:282:PHE:HA	7:T:4:ALA:HB3	1.84	0.59
1:N:256:HIS:HE1	20:N:613:EDO:H22	1.67	0.59
2:B:104:TRP:CG	2:B:203:ASN:HB2	2.38	0.58
14:N:601:HEA:HBC1	14:N:601:HEA:HMC1	1.85	0.58
12:L:20:ARG:NH2	18:L:101:TGL:HC32	2.17	0.58
3:P:37:PHE:CE2	25:P:309:DMU:H13	2.38	0.58
1:A:297[B]:MET:HG3	1:A:302:ARG:HG3	1.84	0.58
4:Q:10:ASP:HB3	4:Q:13:LEU:HD12	1.86	0.58
1:A:297[B]:MET:CG	1:A:302:ARG:HG3	2.34	0.57
1:N:113[B]:LEU:CD1	1:N:117[B]:MET:CE	2.78	0.57
1:N:113[B]:LEU:HD21	1:N:117[B]:MET:HE1	1.86	0.57
7:G:4:ALA:HB3	1:N:282:PHE:HA	1.87	0.57
2:O:56:MET:HA	26:O:304:PSC:H201	1.85	0.57
1:N:297[B]:MET:SD	1:N:302:ARG:HG2	2.44	0.57
3:P:33[B]:MET:SD	25:P:309:DMU:H6	2.45	0.56
1:N:87:ILE:O	1:N:173:PRO:HD3	2.06	0.56
7:T:3:ALA:O	7:T:4:ALA:HB2	2.05	0.56
1:A:112:LEU:HG	28:A:932:HOH:O	2.05	0.56
3:C:30:GLY:HA2	3:C:42[B]:LEU:HB3	1.88	0.56
24:T:104:CDL:OA7	24:T:104:CDL:H331	2.05	0.56
1:A:282:PHE:HA	7:T:4:ALA:CB	2.35	0.56
9:I:31:PHE:O	9:I:32:ALA:C	2.42	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:P:33[B]:MET:SD	25:P:309:DMU:C22	2.90	0.55
12:Y:13:PHE:HB3	18:Y:101:TGL:HA21	1.89	0.55
2:B:183:THR:HG23	28:B:556:HOH:O	2.06	0.55
13:M:19:LEU:HD23	19:M:101:PGV:H311	1.87	0.55
3:C:156:ARG:HE	22:C:308:CHD:C24	2.20	0.55
1:N:265:LYS:HB2	1:N:490:THR:HG21	1.89	0.55
1:A:177:SER:H	1:A:180:GLN:NE2	2.06	0.54
26:E:201:PSC:H21	26:E:201:PSC:H231	1.88	0.54
2:B:132:GLU:HB3	2:B:137:GLU:HG3	1.88	0.54
9:I:33:THR:O	9:I:37:PHE:N	2.33	0.54
9:I:28:SER:O	9:I:32:ALA:N	2.31	0.54
1:N:107:PRO:HB3	3:P:25:LEU:HB2	1.89	0.54
1:A:324:LEU:HD22	2:B:42:ILE:HG13	1.89	0.54
14:A:602:HEA:HBD2	14:A:602:HEA:HMD1	1.90	0.54
2:B:87:MET:HE2	28:B:413:HOH:O	2.08	0.54
2:O:58:ALA:O	2:O:62:GLU:HG3	2.08	0.54
1:A:484:THR:HG22	28:A:933:HOH:O	2.07	0.54
19:P:303:PGV:H171	24:P:305:CDL:H651	1.89	0.54
3:C:85:LEU:HD23	3:C:88[B]:ILE:HD11	1.90	0.53
25:C:313:DMU:H10	10:J:49:CYS:HB3	1.90	0.53
4:D:78:TRP:N	18:D:201:TGL:HB22	2.23	0.53
6:S:43:LYS:HE2	6:S:88:HIS:CE1	2.43	0.53
1:A:331[B]:ASN:ND2	4:D:21:ASP:HB3	2.24	0.53
1:A:309:THR:HG22	14:A:602:HEA:HMB2	1.91	0.53
1:A:71[B]:MET:HG3	1:A:75:ILE:HD12	1.91	0.53
1:A:334:TRP:CZ3	18:D:201:TGL:HA52	2.44	0.53
7:G:3:ALA:O	7:G:4:ALA:HB2	2.09	0.53
1:N:273:MET:HE2	28:N:827:HOH:O	2.09	0.53
1:A:321:PHE:CD1	26:E:201:PSC:H341	2.44	0.53
1:N:297[B]:MET:CG	1:N:302:ARG:HG3	2.38	0.52
2:B:58:ALA:O	2:B:62:GLU:HG3	2.09	0.52
1:N:117[A]:MET:HE2	12:Y:42:HIS:CD2	2.45	0.52
19:N:607:PGV:H322	23:T:102:PEK:H371	1.90	0.52
3:C:33[B]:MET:SD	25:C:313:DMU:C22	2.76	0.52
3:C:210:ILE:HG12	19:C:305:PGV:H132	1.90	0.52
6:F:54:ASN:HD22	6:F:54:ASN:N	2.04	0.52
6:S:67:SER:OG	20:S:103:EDO:H21	2.10	0.52
1:N:28[B]:MET:CA	1:N:28[B]:MET:HE3	2.40	0.52
1:A:297[A]:MET:HB2	28:A:780:HOH:O	2.09	0.51
1:N:76:GLY:O	1:N:80:ASN:HB2	2.09	0.51
1:N:236:TRP:CH2	14:N:602:HEA:HBD1	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:514:LYS:HA	6:S:38:ALA:HB3	1.93	0.51
11:X:7:PRO:HB2	11:X:12:LYS:HE3	1.91	0.51
12:Y:25:MET:HG2	18:Y:101:TGL:HA62	1.92	0.51
26:E:201:PSC:H41	26:E:201:PSC:H252	1.93	0.51
1:N:256:HIS:CE1	20:N:613:EDO:H22	2.43	0.51
1:A:28[B]:MET:HE1	13:M:26:PHE:HE2	1.76	0.51
12:L:2:HIS:CG	12:L:3:TYR:H	2.28	0.51
1:A:62:ALA:HB2	14:A:601:HEA:HBD1	1.93	0.51
20:A:616:EDO:H22	28:A:715:HOH:O	2.10	0.51
7:G:3:ALA:O	7:G:4:ALA:CB	2.59	0.50
7:G:72:ASN:H	7:G:76:ASN:ND2	2.00	0.50
3:C:33[B]:MET:SD	25:C:313:DMU:C18	2.95	0.50
2:B:104:TRP:CD2	2:B:203:ASN:HB2	2.47	0.50
23:C:304:PEK:H132	7:G:25:LEU:HD22	1.92	0.50
1:N:177:SER:H	1:N:180:GLN:HE21	1.60	0.50
3:C:210:ILE:HG21	19:C:305:PGV:H282	1.92	0.50
1:A:449[A]:MET:SD	2:B:5[A]:MET:HG2	2.52	0.50
2:B:68[B]:LEU:HD23	26:E:201:PSC:H171	1.93	0.50
7:G:1:ALA:HB2	19:P:304:PGV:H321	1.92	0.50
7:T:38:HIS:NE2	24:T:104:CDL:H111	2.26	0.50
6:F:51:SER:O	6:F:94:HIS:N	2.35	0.49
1:N:4[B]:ASN:ND2	28:N:702:HOH:O	2.44	0.49
25:P:308:DMU:H35	28:P:426:HOH:O	2.11	0.49
1:A:417[B]:MET:HE3	28:A:841:HOH:O	2.12	0.49
19:M:101:PGV:H32	19:M:101:PGV:H012	1.94	0.49
1:N:236:TRP:HH2	14:N:602:HEA:HBD1	1.77	0.49
1:N:337:ALA:HB2	1:N:394[A]:VAL:HG23	1.95	0.49
25:P:309:DMU:H32	25:P:309:DMU:H29	1.94	0.49
1:A:76:GLY:O	1:A:80:ASN:HB2	2.13	0.49
12:L:46:LYS:O	12:L:47:LYS:HB2	2.12	0.49
3:C:51[A]:MET:SD	24:C:307:CDL:H612	2.53	0.49
1:N:177:SER:H	1:N:180:GLN:NE2	2.11	0.49
5:R:80:GLU:CD	5:R:80:GLU:N	2.64	0.49
7:T:72:ASN:H	7:T:76:ASN:ND2	2.08	0.49
3:C:155:ASP:OD2	6:F:2:SER:HA	2.13	0.49
4:D:19:ARG:NH2	28:D:302:HOH:O	2.45	0.49
1:N:309:THR:HG22	14:N:602:HEA:HMB2	1.95	0.49
24:T:104:CDL:H581	24:T:104:CDL:H762	1.95	0.49
7:T:37:LEU:HD23	24:T:104:CDL:H381	1.95	0.48
24:T:104:CDL:H542	24:T:104:CDL:C25	2.42	0.48
3:C:37:PHE:CE2	25:C:313:DMU:H13	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:Q:19:ARG:HD2	4:Q:21:ASP:OD1	2.13	0.48
1:A:431:LEU:HD21	1:A:450:TRP:HB2	1.95	0.48
5:E:86:ILE:O	5:E:90:ARG:HG2	2.13	0.48
8:H:23:GLN:HG3	28:H:141:HOH:O	2.13	0.48
9:I:31:PHE:O	9:I:33:THR:N	2.46	0.48
3:C:248:VAL:HG22	23:T:101:PEK:H161	1.95	0.48
7:T:3:ALA:O	7:T:4:ALA:CB	2.61	0.48
1:A:177:SER:H	1:A:180:GLN:HE21	1.61	0.48
5:R:77:PRO:HA	5:R:79:LYS:HE3	1.94	0.48
3:C:160:LEU:HD13	22:C:308:CHD:H181	1.95	0.48
1:N:100[B]:MET:CE	19:N:607:PGV:H82	2.44	0.48
2:B:164:ALA:O	2:B:194:GLY:HA3	2.13	0.48
1:N:112:LEU:HD23	1:N:112:LEU:C	2.34	0.48
10:J:54:SER:O	12:L:46:LYS:HE2	2.14	0.47
12:Y:20:ARG:HD3	12:Y:20:ARG:C	2.34	0.47
25:C:313:DMU:H7	10:J:52:TRP:CE3	2.49	0.47
1:N:71[A]:MET:HB2	1:N:72:PRO:HD3	1.94	0.47
6:F:54:ASN:H	6:F:54:ASN:ND2	2.09	0.47
7:T:17:ARG:HH22	23:T:103:PEK:H041	1.79	0.47
12:Y:13:PHE:HB3	18:Y:101:TGL:CA2	2.45	0.47
4:Q:34:SER:H	4:Q:37:GLN:HE21	1.62	0.47
4:D:19:ARG:HH21	4:D:19:ARG:CG	2.25	0.47
3:P:33[A]:MET:HE1	3:P:41:THR:HB	1.96	0.47
5:E:82:TYR:HB3	5:E:83:PRO:HD3	1.96	0.47
3:P:127:LEU:HB3	24:T:104:CDL:OB3	2.15	0.47
1:N:46:THR:HG21	1:N:49:GLY:HA2	1.96	0.47
1:N:488:THR:HB	1:N:495:LEU:HD13	1.97	0.47
2:O:126:SER:OG	28:O:401:HOH:O	2.20	0.47
1:A:136[B]:LEU:HD11	28:A:937:HOH:O	2.13	0.47
18:A:606:TGL:HA41	18:A:606:TGL:HA92	1.97	0.46
2:B:41:ILE:HG21	26:E:201:PSC:H342	1.96	0.46
7:G:37:LEU:HD22	24:G:101:CDL:H381	1.96	0.46
1:N:351:GLY:C	1:N:380:VAL:HG13	2.35	0.46
2:B:41:ILE:HD13	26:E:201:PSC:H342	1.97	0.46
7:G:72:ASN:N	7:G:76:ASN:HD22	2.02	0.46
9:I:31:PHE:CD1	9:I:31:PHE:C	2.88	0.46
1:A:229:ILE:HD11	2:B:175:ILE:HD13	1.97	0.46
22:C:308:CHD:H42	28:C:499:HOH:O	2.14	0.46
1:N:297[B]:MET:SD	1:N:302:ARG:CG	3.03	0.46
2:O:196:CYS:HB2	2:O:207:MET:HG3	1.97	0.46
1:N:62:ALA:HB2	14:N:601:HEA:HBD1	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:O:84:LEU:HA	2:O:87:MET:HE2	1.96	0.46
24:C:307:CDL:H191	24:C:307:CDL:H752	1.98	0.46
8:H:9:LYS:O	8:H:10:ASN:HB2	2.14	0.46
3:P:224:LYS:HE3	24:P:305:CDL:HB32	1.97	0.46
1:A:324:LEU:CD2	2:B:42:ILE:HG13	2.46	0.46
2:B:217:LYS:HG2	28:B:506:HOH:O	2.16	0.46
1:A:107:PRO:HB3	3:C:25:LEU:HB2	1.97	0.46
1:A:514:LYS:HA	6:F:38:ALA:HB3	1.98	0.46
22:O:301:CHD:H212	22:O:301:CHD:H12	1.96	0.46
19:N:606:PGV:H221	19:N:606:PGV:H011	1.98	0.46
14:N:602:HEA:HBC1	14:N:602:HEA:HMC1	1.98	0.46
3:P:213:THR:HG23	24:P:305:CDL:H771	1.98	0.46
1:A:377:PHE:HA	1:A:380:VAL:HG12	1.97	0.45
2:B:196:CYS:HB2	2:B:207:MET:HG3	1.97	0.45
3:C:107:ALA:HB2	19:C:306:PGV:H031	1.96	0.45
28:N:728:HOH:O	2:O:87:MET:SD	2.61	0.45
4:Q:121:LYS:HG2	11:X:53:TRP:CD1	2.51	0.45
4:Q:109:HIS:HD2	28:Q:338:HOH:O	1.99	0.45
1:A:87:ILE:O	1:A:173:PRO:HD3	2.15	0.45
3:C:110:PRO:HB3	8:H:30:TRP:CE3	2.52	0.45
7:G:4:ALA:CB	1:N:282:PHE:HA	2.46	0.45
2:B:68[B]:LEU:HB3	2:B:69:PRO:HD3	1.99	0.45
1:A:172:LYS:NZ	1:A:178[A]:GLN:HE22	2.14	0.45
26:E:201:PSC:H31	9:I:14:ALA:HB1	1.99	0.44
1:N:271:MET:HB2	20:N:617:EDO:H12	1.98	0.44
4:Q:118:LYS:HB3	11:X:53:TRP:HB3	1.99	0.44
12:Y:20:ARG:NH2	18:Y:101:TGL:HC32	2.32	0.44
19:A:607:PGV:H262	19:C:305:PGV:H292	1.99	0.44
6:F:92:VAL:HG23	6:F:92:VAL:O	2.17	0.44
8:H:9:LYS:HD3	8:H:9:LYS:HA	1.63	0.44
3:P:210:ILE:HG21	19:P:303:PGV:H282	1.98	0.44
7:T:11:TPO:HA	7:T:11:TPO:O2P	2.16	0.44
4:Q:34:SER:H	4:Q:37:GLN:NE2	2.16	0.44
23:T:102:PEK:H71	23:T:102:PEK:H32	1.98	0.44
12:Y:35:ALA:HB3	12:Y:36:PRO:HD3	2.00	0.44
1:N:297[B]:MET:HG3	1:N:302:ARG:CG	2.43	0.44
1:A:486:ASP:OD2	4:D:19:ARG:HD2	2.18	0.44
1:N:169:ILE:HG13	1:N:189[A]:MET:CE	2.48	0.44
2:O:52:HIS:HE1	26:O:304:PSC:H211	1.82	0.44
9:V:31:PHE:O	9:V:34:PHE:N	2.46	0.44
2:B:83:ILE:HA	2:B:86[B]:MET:HG2	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:L:46:LYS:O	12:L:47:LYS:CB	2.66	0.43
1:N:44:PRO:HG3	4:Q:111:PHE:CZ	2.52	0.43
26:O:304:PSC:H222	26:O:304:PSC:H251	1.56	0.43
1:A:273:MET:HE2	28:A:725:HOH:O	2.18	0.43
2:B:56:MET:HB3	26:E:201:PSC:H222	2.00	0.43
7:G:84:LYS:HD2	7:G:84:LYS:N	2.10	0.43
2:O:92:ASN:HA	2:O:93:PRO:HD2	1.92	0.43
2:O:164:ALA:O	2:O:194:GLY:HA3	2.18	0.43
1:A:32:ALA:HB3	12:L:36:PRO:HG2	2.01	0.43
1:A:196:LEU:HD21	3:C:88[B]:ILE:HG13	2.00	0.43
24:C:307:CDL:OA5	24:C:307:CDL:HB22	2.18	0.43
1:A:169:ILE:HD11	1:A:189[A]:MET:HE3	2.01	0.43
2:B:60:GLU:H	2:B:60:GLU:CD	2.21	0.43
23:C:303:PEK:H11	23:C:303:PEK:H172	2.00	0.43
3:P:217:VAL:HG22	24:P:305:CDL:H732	2.00	0.43
6:F:10:GLU:OE2	6:F:25:ARG:NH2	2.47	0.43
10:J:32:TYR:CZ	10:J:36[B]:MET:HG3	2.54	0.43
1:N:378:HIS:O	1:N:382:SER:HB2	2.19	0.43
1:N:331[B]:ASN:ND2	4:Q:21:ASP:HB3	2.33	0.43
1:A:513:LEU:HA	1:A:513:LEU:HD23	1.81	0.43
3:C:131:LEU:HD21	24:G:101:CDL:H521	2.00	0.43
1:N:164:PHE:HE2	20:N:615:EDO:H21	1.84	0.43
2:O:68[B]:LEU:HB3	2:O:69:PRO:HD3	2.00	0.43
2:O:104:TRP:CG	2:O:203:ASN:HB2	2.53	0.43
2:O:116:LEU:HD12	2:O:117:SER:N	2.33	0.43
1:A:71[B]:MET:HE3	1:A:71[B]:MET:HB2	1.96	0.43
18:A:606:TGL:H142	18:A:606:TGL:HA82	2.00	0.43
2:B:183:THR:HG22	28:B:428:HOH:O	2.19	0.43
8:H:9:LYS:O	8:H:10:ASN:CB	2.67	0.43
3:C:224:LYS:CD	24:C:307:CDL:HB31	2.49	0.42
2:O:7:LEU:HD11	18:O:302:TGL:H191	2.01	0.42
2:O:49:LYS:O	4:Q:20:ARG:NH2	2.42	0.42
6:S:54:ASN:HD22	6:S:54:ASN:C	2.22	0.42
19:A:607:PGV:H183	23:C:303:PEK:H322	2.01	0.42
3:C:158:HIS:CE1	6:F:2:SER:H	2.36	0.42
1:N:173:PRO:HD2	1:N:176[B]:MET:HE2	2.01	0.42
3:C:158:HIS:HE1	6:F:2:SER:H	1.67	0.42
5:E:18:TYR:CE2	20:E:202:EDO:H22	2.54	0.42
24:G:101:CDL:H212	24:G:101:CDL:H511	2.01	0.42
24:G:101:CDL:H361	2:O:78:LEU:HD12	2.00	0.42
1:N:187:SER:HB3	1:N:277[B]:MET:CE	2.50	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:489:THR:HA	6:S:71:TRP:O	2.19	0.42
5:R:90:ARG:HB3	5:R:91:PRO:HD3	2.01	0.42
12:L:26:THR:HG23	13:M:25:SER:CB	2.49	0.42
22:W:101:CHD:H183	22:W:101:CHD:H222	2.02	0.42
13:M:34:LEU:HA	13:M:37[A]:LEU:HG	2.02	0.42
3:C:55:TYR:HA	24:C:307:CDL:H551	2.02	0.42
2:O:132:GLU:HB3	2:O:137:GLU:HG3	2.02	0.42
3:P:103:HIS:ND1	22:P:301:CHD:O25	2.53	0.42
3:C:246:ASP:HB2	28:C:481:HOH:O	2.19	0.42
23:C:304:PEK:H041	7:G:17:ARG:HH22	1.84	0.42
1:N:187:SER:HB3	1:N:277[B]:MET:HE1	2.01	0.42
1:A:197:LEU:HD21	7:T:2:SER:HB2	2.02	0.42
26:E:201:PSC:H062	26:E:201:PSC:H042	1.80	0.42
3:C:34:TRP:CD1	3:C:40:MET:HG2	2.55	0.42
18:L:101:TGL:H202	18:L:101:TGL:H231	1.84	0.42
1:N:169:ILE:HG13	1:N:189[A]:MET:HE1	2.02	0.42
1:N:180:GLN:HE21	1:N:180:GLN:HB2	1.69	0.42
1:N:296:GLY:HA2	8:U:23:GLN:OE1	2.20	0.42
1:N:309:THR:CG2	14:N:602:HEA:HMB2	2.50	0.42
1:A:169:ILE:CD1	1:A:189[A]:MET:HE3	2.50	0.42
1:A:309:THR:CG2	14:A:602:HEA:HMB2	2.50	0.42
28:B:455:HOH:O	24:T:104:CDL:H332	2.20	0.42
1:A:236:TRP:HH2	14:A:602:HEA:HBD1	1.85	0.41
1:A:346[A]:PHE:HZ	18:A:606:TGL:H122	1.85	0.41
3:C:146:TRP:CD2	3:C:162:ALA:HB2	2.55	0.41
1:N:229:ILE:HD11	2:O:175:ILE:HD13	2.02	0.41
1:A:417[B]:MET:CE	28:A:841:HOH:O	2.68	0.41
1:A:514:LYS:HE2	28:F:220:HOH:O	2.19	0.41
20:A:608:EDO:H22	6:F:32:ASN:HD21	1.84	0.41
1:N:494:TRP:CH2	20:N:608:EDO:H12	2.55	0.41
20:D:202:EDO:C2	5:E:30:ARG:HH21	2.33	0.41
3:P:67:PHE:CE2	24:P:305:CDL:H1	2.32	0.41
3:C:85:LEU:HA	3:C:88[B]:ILE:HG12	2.01	0.41
5:R:108:LYS:HA	5:R:108:LYS:HD3	1.78	0.41
1:A:468:MET:HG3	20:A:611:EDO:O1	2.19	0.41
3:P:146:TRP:CD2	3:P:162:ALA:HB2	2.56	0.41
24:T:104:CDL:H541	24:T:104:CDL:H712	2.02	0.41
11:K:6:ALA:HA	11:K:7:PRO:HD3	1.96	0.41
11:X:52:GLU:HG2	28:X:103:HOH:O	2.20	0.41
28:A:814:HOH:O	4:D:100:LYS:HD3	2.19	0.41
1:N:407:ASP:O	1:N:411:LYS:HG3	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:449:MET:SD	2:O:5:MET:HG2	2.60	0.41
26:O:304:PSC:H042	26:O:304:PSC:H063	1.85	0.41
3:P:156:ARG:HH21	22:P:306:CHD:C24	2.34	0.41
1:A:44:PRO:HG3	4:D:111:PHE:CZ	2.56	0.41
1:A:378:HIS:HA	1:A:382:SER:HB2	2.03	0.41
20:N:614:EDO:H11	28:N:884:HOH:O	2.21	0.41
3:P:51[B]:MET:HE2	3:P:51[B]:MET:HB2	1.83	0.41
7:G:44:ARG:HA	7:G:45:PRO:HD3	1.90	0.41
2:O:98:LYS:HB2	2:O:109:GLU:HB2	2.03	0.41
3:P:33[B]:MET:HG3	3:P:42:LEU:HD12	2.02	0.41
12:Y:26:THR:HG23	13:Z:25:SER:HB2	2.03	0.41
1:A:265:LYS:HB2	1:A:490:THR:HG21	2.03	0.40
11:K:8:ASP:HB2	28:K:117:HOH:O	2.20	0.40
1:N:148:PHE:HB3	3:P:28:THR:HB	2.02	0.40
1:N:390:MET:O	1:N:394[A]:VAL:HG22	2.21	0.40
9:I:73:LYS:HA	9:I:73:LYS:HD3	1.90	0.40
1:N:117[A]:MET:CE	12:Y:42:HIS:CD2	3.04	0.40
9:V:32:ALA:O	9:V:36:LYS:HB2	2.20	0.40
1:N:172:LYS:NZ	1:N:178[A]:GLN:HE22	2.19	0.40
18:Y:101:TGL:H231	18:Y:101:TGL:H202	1.95	0.40
24:G:101:CDL:H751	24:G:101:CDL:H561	2.03	0.40
12:L:26:THR:HG23	13:M:25:SER:HB3	2.04	0.40
1:N:113[B]:LEU:HD11	1:N:117[B]:MET:CE	2.50	0.40
3:P:131:LEU:HD11	24:T:104:CDL:H561	2.04	0.40
22:P:301:CHD:H12	22:P:301:CHD:H212	2.03	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	A	532/514 (104%)	520 (98%)	12 (2%)	0	100 100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	N	533/514 (104%)	520 (98%)	13 (2%)	0	100	100
2	B	232/227 (102%)	227 (98%)	4 (2%)	1 (0%)	34	30
2	O	231/227 (102%)	225 (97%)	5 (2%)	1 (0%)	34	30
3	C	270/260 (104%)	263 (97%)	6 (2%)	1 (0%)	34	30
3	P	269/260 (104%)	262 (97%)	7 (3%)	0	100	100
4	D	142/147 (97%)	139 (98%)	3 (2%)	0	100	100
4	Q	142/147 (97%)	136 (96%)	5 (4%)	1 (1%)	22	16
5	E	104/109 (95%)	103 (99%)	0	1 (1%)	15	9
5	R	104/109 (95%)	104 (100%)	0	0	100	100
6	F	93/94 (99%)	91 (98%)	2 (2%)	0	100	100
6	S	93/94 (99%)	91 (98%)	2 (2%)	0	100	100
7	G	81/85 (95%)	71 (88%)	6 (7%)	4 (5%)	2	0
7	T	81/85 (95%)	69 (85%)	7 (9%)	5 (6%)	1	0
8	H	77/85 (91%)	74 (96%)	2 (3%)	1 (1%)	12	6
8	U	77/85 (91%)	72 (94%)	5 (6%)	0	100	100
9	I	71/73 (97%)	68 (96%)	2 (3%)	1 (1%)	11	5
9	V	71/73 (97%)	70 (99%)	1 (1%)	0	100	100
10	J	58/59 (98%)	57 (98%)	1 (2%)	0	100	100
10	W	58/59 (98%)	57 (98%)	1 (2%)	0	100	100
11	K	47/56 (84%)	46 (98%)	1 (2%)	0	100	100
11	X	47/56 (84%)	46 (98%)	1 (2%)	0	100	100
12	L	44/47 (94%)	42 (96%)	2 (4%)	0	100	100
12	Y	45/47 (96%)	43 (96%)	1 (2%)	1 (2%)	6	2
13	M	42/46 (91%)	41 (98%)	1 (2%)	0	100	100
13	Z	42/46 (91%)	41 (98%)	1 (2%)	0	100	100
All	All	3586/3604 (100%)	3478 (97%)	91 (2%)	17 (0%)	29	23

All (17) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	C	237	ALA
7	G	4	ALA
7	G	8	HIS

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Mol	Chain	Res	Type
4	Q	8	SER
7	T	4	ALA
7	G	5	LYS
7	T	8	HIS
5	E	6	GLU
7	T	5	LYS
7	T	7	ASP
9	I	32	ALA
12	Y	46	LYS
8	H	8	ILE
2	O	92	ASN
2	B	92	ASN
7	G	9	GLY
7	T	6	GLY

5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	446/426 (105%)	439 (98%)	7 (2%)	62	67
1	N	447/426 (105%)	441 (99%)	6 (1%)	69	74
2	B	217/210 (103%)	208 (96%)	9 (4%)	30	28
2	O	216/210 (103%)	207 (96%)	9 (4%)	30	27
3	C	237/225 (105%)	234 (99%)	3 (1%)	69	74
3	P	236/225 (105%)	233 (99%)	3 (1%)	69	74
4	D	128/129 (99%)	127 (99%)	1 (1%)	81	86
4	Q	128/129 (99%)	125 (98%)	3 (2%)	50	53
5	E	93/95 (98%)	91 (98%)	2 (2%)	52	55
5	R	93/95 (98%)	91 (98%)	2 (2%)	52	55
6	F	79/78 (101%)	77 (98%)	2 (2%)	47	49
6	S	79/78 (101%)	74 (94%)	5 (6%)	18	13
7	G	67/68 (98%)	60 (90%)	7 (10%)	7	4

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
7	T	67/68 (98%)	63 (94%)	4 (6%)	19	14
8	H	71/75 (95%)	69 (97%)	2 (3%)	43	44
8	U	71/75 (95%)	66 (93%)	5 (7%)	15	10
9	I	57/57 (100%)	54 (95%)	3 (5%)	22	18
9	V	57/57 (100%)	56 (98%)	1 (2%)	59	63
10	J	51/50 (102%)	51 (100%)	0	100	100
10	W	51/50 (102%)	50 (98%)	1 (2%)	55	58
11	K	39/46 (85%)	38 (97%)	1 (3%)	46	48
11	X	39/46 (85%)	39 (100%)	0	100	100
12	L	39/40 (98%)	39 (100%)	0	100	100
12	Y	40/40 (100%)	39 (98%)	1 (2%)	47	49
13	M	38/38 (100%)	38 (100%)	0	100	100
13	Z	38/38 (100%)	38 (100%)	0	100	100
All	All	3124/3074 (102%)	3047 (98%)	77 (2%)	47	49

All (77) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	35[A]	LEU
1	A	35[B]	LEU
1	A	38	ARG
1	A	109	PHE
1	A	180	GLN
1	A	338	MET
1	A	369	ASP
2	B	33	LEU
2	B	42	ILE
2	B	59	GLN
2	B	60	GLU
2	B	75	LEU
2	B	78	LEU
2	B	91	ASN
2	B	115	ASP
2	B	171	LYS
3	C	127	LEU
3	C	159	MET
3	C	214	PHE

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Mol	Chain	Res	Type
4	D	19	ARG
5	E	70	VAL
5	E	90	ARG
6	F	54	ASN
6	F	80	GLN
7	G	2	SER
7	G	18	PHE
7	G	33	LEU
7	G	36	TRP
7	G	37	LEU
7	G	54	ARG
7	G	84	LYS
8	H	9	LYS
8	H	60	TYR
9	I	15	ARG
9	I	25	PHE
9	I	33	THR
11	K	54	ARG
1	N	109	PHE
1	N	180	GLN
1	N	369	ASP
1	N	380	VAL
1	N	381	LEU
1	N	485	VAL
2	O	33	LEU
2	O	60	GLU
2	O	91	ASN
2	O	94	SER
2	O	115	ASP
2	O	171	LYS
2	O	202	SER
2	O	226	MET
2	O	227	LEU
3	P	159	MET
3	P	214	PHE
3	P	230	ASN
4	Q	5	VAL
4	Q	6	VAL
4	Q	10	ASP
5	R	79	LYS
5	R	80	GLU
6	S	43	LYS

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Mol	Chain	Res	Type
6	S	54	ASN
6	S	80	GLN
6	S	87	THR
6	S	94	HIS
7	T	2	SER
7	T	8	HIS
7	T	18	PHE
7	T	54	ARG
8	U	8	ILE
8	U	9	LYS
8	U	29	CYS
8	U	50	VAL
8	U	60	TYR
9	V	73	LYS
10	W	50	LEU
12	Y	20	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (37) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	180	GLN
2	B	10	GLN
2	B	52	HIS
2	B	59	GLN
2	B	181	GLN
3	C	50	ASN
3	C	68	GLN
3	C	76	GLN
3	C	149	HIS
4	D	37	GLN
4	D	143	ASN
5	E	94	ASN
6	F	54	ASN
6	F	80	GLN
7	G	34	ASN
7	G	38	HIS
7	G	76	ASN
1	N	180	GLN
2	O	10	GLN
2	O	52	HIS
2	O	181	GLN
2	O	195	GLN

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Mol	Chain	Res	Type
2	O	203	ASN
3	P	3	HIS
3	P	68	GLN
3	P	149	HIS
4	Q	37	GLN
4	Q	101	HIS
4	Q	109	HIS
5	R	94	ASN
6	S	54	ASN
6	S	80	GLN
7	T	76	ASN
10	W	29	ASN
11	X	35	GLN
12	Y	42	HIS
13	Z	39	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](#)

8 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
9	SAC	I	1	9	7,8,9	2.00	2 (28%)	8,9,11	1.11	0
1	FME	A	1	1	8,9,10	0.57	0	7,9,11	1.71	2 (28%)
2	FME	B	1	2	8,9,10	0.76	0	7,9,11	1.28	1 (14%)
1	FME	N	1	1	8,9,10	0.51	0	7,9,11	1.33	2 (28%)
7	TPO	G	11	7	8,10,11	1.39	1 (12%)	10,14,16	0.83	0
2	FME	O	1	2	8,9,10	0.59	0	7,9,11	1.12	0
7	TPO	T	11	7	8,10,11	1.40	1 (12%)	10,14,16	0.87	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
9	SAC	V	1	9	7,8,9	2.09	2 (28%)	8,9,11	1.21	0

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
9	SAC	I	1	9	-	2/7/8/10	-
1	FME	A	1	1	-	4/7/9/11	-
2	FME	B	1	2	-	0/7/9/11	-
1	FME	N	1	1	-	2/7/9/11	-
7	TPO	G	11	7	-	4/9/11/13	-
2	FME	O	1	2	-	0/7/9/11	-
7	TPO	T	11	7	-	5/9/11/13	-
9	SAC	V	1	9	-	2/7/8/10	-

All (6) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
9	I	1	SAC	OAC-C1A	4.62	1.33	1.23
9	V	1	SAC	OAC-C1A	4.59	1.33	1.23
9	V	1	SAC	CA-N	2.93	1.50	1.46
7	G	11	TPO	P-O1P	2.80	1.59	1.50
7	T	11	TPO	P-O1P	2.76	1.59	1.50
9	I	1	SAC	CA-N	2.32	1.49	1.46

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	1	FME	C-CA-N	3.18	115.47	109.73
1	N	1	FME	C-CA-N	2.22	113.74	109.73
1	N	1	FME	O-C-CA	-2.08	119.32	124.78
2	B	1	FME	O-C-CA	-2.07	119.36	124.78
1	A	1	FME	O-C-CA	-2.03	119.45	124.78

There are no chirality outliers.

All (19) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
1	A	1	FME	N-CA-CB-CG
7	G	11	TPO	N-CA-CB-CG2
7	G	11	TPO	N-CA-CB-OG1
7	G	11	TPO	C-CA-CB-CG2
1	N	1	FME	N-CA-CB-CG
1	N	1	FME	C-CA-CB-CG
7	T	11	TPO	N-CA-CB-CG2
7	T	11	TPO	N-CA-CB-OG1
7	T	11	TPO	C-CA-CB-CG2
7	T	11	TPO	CA-CB-OG1-P
9	V	1	SAC	C2A-C1A-N-CA
9	V	1	SAC	OAC-C1A-N-CA
9	I	1	SAC	N-CA-CB-OG
9	I	1	SAC	C-CA-CB-OG
1	A	1	FME	CA-CB-CG-SD
1	A	1	FME	CB-CG-SD-CE
1	A	1	FME	C-CA-CB-CG
7	T	11	TPO	CG2-CB-OG1-P
7	G	11	TPO	O-C-CA-CB

There are no ring outliers.

1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
7	T	11	TPO	1	0

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 89 ligands modelled in this entry, 10 are monoatomic - leaving 79 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
20	EDO	N	616	-	3,3,3	0.46	0	2,2,2	0.32	0
14	HEA	A	602	1	57,67,67	1.54	13 (22%)	61,103,103	1.40	11 (18%)
20	EDO	A	610	-	3,3,3	0.47	0	2,2,2	0.50	0
20	EDO	C	310	-	3,3,3	0.48	0	2,2,2	0.35	0
24	CDL	G	101	-	99,99,99	1.32	12 (12%)	105,111,111	1.07	5 (4%)
20	EDO	N	608	-	3,3,3	0.51	0	2,2,2	0.25	0
20	EDO	S	103	-	3,3,3	0.48	0	2,2,2	0.13	0
25	DMU	M	102	-	34,34,34	0.47	0	45,45,45	0.70	0
20	EDO	A	616	-	3,3,3	0.43	0	2,2,2	0.18	0
23	PEK	C	303	-	52,52,52	0.83	2 (3%)	55,57,57	0.86	1 (1%)
20	EDO	B	303	-	3,3,3	0.41	0	2,2,2	0.39	0
22	CHD	C	308	-	32,32,32	0.59	0	51,51,51	1.53	11 (21%)
24	CDL	P	305	-	99,99,99	1.32	12 (12%)	105,111,111	1.10	7 (6%)
22	CHD	W	101	-	32,32,32	0.56	0	51,51,51	1.49	8 (15%)
19	PGV	N	607	-	50,50,50	0.89	2 (4%)	53,56,56	0.86	2 (3%)
20	EDO	E	202	-	3,3,3	0.43	0	2,2,2	0.33	0
20	EDO	C	311	-	3,3,3	0.58	0	2,2,2	0.23	0
20	EDO	D	202	-	3,3,3	0.50	0	2,2,2	0.25	0
20	EDO	N	613	-	3,3,3	0.35	0	2,2,2	0.61	0
14	HEA	N	601	1	57,67,67	1.62	14 (24%)	61,103,103	1.49	14 (22%)
20	EDO	A	609	-	3,3,3	0.55	0	2,2,2	0.51	0
25	DMU	P	309	-	34,34,34	0.59	1 (2%)	45,45,45	0.83	1 (2%)
22	CHD	B	302	-	32,32,32	0.69	0	51,51,51	1.08	2 (3%)
20	EDO	N	612	-	3,3,3	0.58	0	2,2,2	0.18	0
24	CDL	C	307	-	99,99,99	1.33	12 (12%)	105,111,111	1.10	4 (3%)
20	EDO	F	104	-	3,3,3	0.48	0	2,2,2	0.48	0
21	CUA	B	301	2	0,1,1	-	-	-	-	-
21	CUA	O	303	2	0,1,1	-	-	-	-	-
23	PEK	T	101	-	52,52,52	0.95	2 (3%)	55,57,57	0.93	2 (3%)
20	EDO	N	614	-	3,3,3	0.48	0	2,2,2	0.12	0
20	EDO	P	307	-	3,3,3	0.46	0	2,2,2	0.33	0
25	DMU	P	308	-	34,34,34	0.59	1 (2%)	45,45,45	1.01	2 (4%)
19	PGV	C	306	-	50,50,50	0.96	2 (4%)	53,56,56	0.96	2 (3%)
24	CDL	T	104	-	99,99,99	1.32	12 (12%)	105,111,111	1.10	5 (4%)
20	EDO	N	610	-	3,3,3	0.48	0	2,2,2	0.37	0
20	EDO	F	103	-	3,3,3	0.61	0	2,2,2	0.42	0
20	EDO	N	611	-	3,3,3	0.42	0	2,2,2	0.25	0
26	PSC	O	304	-	51,51,51	1.11	3 (5%)	57,59,59	1.01	2 (3%)
20	EDO	A	612	-	3,3,3	0.52	0	2,2,2	0.41	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
20	EDO	N	609	-	3,3,3	0.40	0	2,2,2	0.43	0
14	HEA	N	602	1	57,67,67	1.57	11 (19%)	61,103,103	1.37	10 (16%)
23	PEK	G	102	-	52,52,52	0.94	2 (3%)	55,57,57	0.95	2 (3%)
20	EDO	N	617	-	3,3,3	0.41	0	2,2,2	0.42	0
20	EDO	F	102	-	3,3,3	0.41	0	2,2,2	0.43	0
26	PSC	E	201	-	51,51,51	1.11	3 (5%)	57,59,59	1.01	2 (3%)
22	CHD	C	301	-	32,32,32	0.64	0	51,51,51	0.99	2 (3%)
25	DMU	C	313	-	34,34,34	0.60	1 (2%)	45,45,45	1.03	3 (6%)
19	PGV	C	305	-	50,50,50	0.85	2 (4%)	53,56,56	0.81	1 (1%)
19	PGV	A	607	-	50,50,50	0.88	2 (4%)	53,56,56	0.91	3 (5%)
18	TGL	Q	201	-	62,62,62	1.25	6 (9%)	65,65,65	1.11	6 (9%)
20	EDO	A	613	-	3,3,3	0.51	0	2,2,2	0.46	0
18	TGL	L	101	-	62,62,62	1.26	6 (9%)	65,65,65	1.06	4 (6%)
20	EDO	C	309	-	3,3,3	0.46	0	2,2,2	0.32	0
20	EDO	S	102	-	3,3,3	0.46	0	2,2,2	0.39	0
18	TGL	A	606	-	62,62,62	1.25	6 (9%)	65,65,65	1.41	8 (12%)
20	EDO	R	201	-	3,3,3	0.52	0	2,2,2	0.41	0
25	DMU	C	312	-	34,34,34	0.57	1 (2%)	45,45,45	1.25	5 (11%)
18	TGL	D	201	-	62,62,62	1.26	6 (9%)	65,65,65	0.96	3 (4%)
20	EDO	D	203	-	3,3,3	0.50	0	2,2,2	0.39	0
23	PEK	T	102	-	52,52,52	0.89	3 (5%)	55,57,57	0.86	2 (3%)
20	EDO	N	615	-	3,3,3	0.39	0	2,2,2	0.41	0
19	PGV	N	606	-	50,50,50	0.97	2 (4%)	53,56,56	0.97	2 (3%)
22	CHD	P	306	-	32,32,32	0.57	0	51,51,51	1.65	11 (21%)
25	DMU	Z	101	-	34,34,34	0.46	0	45,45,45	0.71	2 (4%)
20	EDO	A	608	-	3,3,3	0.42	0	2,2,2	0.40	0
22	CHD	J	101	-	32,32,32	0.58	0	51,51,51	1.58	8 (15%)
19	PGV	P	303	-	50,50,50	0.90	2 (4%)	53,56,56	0.83	2 (3%)
22	CHD	O	301	-	32,32,32	0.68	1 (3%)	51,51,51	1.15	4 (7%)
18	TGL	Y	101	-	62,62,62	1.25	6 (9%)	65,65,65	1.02	3 (4%)
14	HEA	A	601	1	57,67,67	1.65	13 (22%)	61,103,103	1.53	16 (26%)
22	CHD	P	301	-	32,32,32	0.63	0	51,51,51	1.01	2 (3%)
23	PEK	T	103	-	52,52,52	0.97	2 (3%)	55,57,57	0.87	3 (5%)
20	EDO	A	614	-	3,3,3	0.36	0	2,2,2	0.40	0
19	PGV	P	304	-	50,50,50	0.97	2 (4%)	53,56,56	0.93	2 (3%)
18	TGL	O	302	-	62,62,62	1.25	6 (9%)	65,65,65	1.10	3 (4%)
23	PEK	C	304	-	52,52,52	0.96	2 (3%)	55,57,57	0.94	2 (3%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
20	EDO	A	611	-	3,3,3	0.43	0	2,2,2	0.29	0
20	EDO	A	615	-	3,3,3	0.42	0	2,2,2	0.43	0
19	PGV	M	101	-	50,50,50	0.98	2 (4%)	53,56,56	1.00	2 (3%)

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
20	EDO	N	616	-	-	0/1/1/1	-
14	HEA	A	602	1	-	7/32/76/76	-
20	EDO	A	610	-	-	0/1/1/1	-
20	EDO	C	310	-	-	0/1/1/1	-
24	CDL	G	101	-	-	63/110/110/110	-
20	EDO	N	608	-	-	1/1/1/1	-
20	EDO	S	103	-	-	0/1/1/1	-
25	DMU	M	102	-	-	4/19/59/59	0/2/2/2
20	EDO	A	616	-	-	1/1/1/1	-
23	PEK	C	303	-	-	17/56/56/56	-
20	EDO	B	303	-	-	1/1/1/1	-
22	CHD	C	308	-	-	9/9/74/74	0/4/4/4
24	CDL	P	305	-	-	64/110/110/110	-
22	CHD	W	101	-	-	6/9/74/74	0/4/4/4
19	PGV	N	607	-	-	11/55/55/55	-
20	EDO	E	202	-	-	0/1/1/1	-
20	EDO	C	311	-	-	0/1/1/1	-
20	EDO	D	202	-	-	1/1/1/1	-
20	EDO	N	613	-	-	1/1/1/1	-
14	HEA	N	601	1	-	2/32/76/76	-
20	EDO	A	609	-	-	0/1/1/1	-
25	DMU	P	309	-	-	7/19/59/59	0/2/2/2
22	CHD	B	302	-	-	2/9/74/74	0/4/4/4
20	EDO	N	612	-	-	0/1/1/1	-
24	CDL	C	307	-	-	59/110/110/110	-
20	EDO	F	104	-	-	1/1/1/1	-
23	PEK	T	101	-	-	34/56/56/56	-
20	EDO	N	614	-	-	0/1/1/1	-
20	EDO	P	307	-	-	0/1/1/1	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
25	DMU	P	308	-	-	9/19/59/59	0/2/2/2
19	PGV	C	306	-	-	25/55/55/55	-
24	CDL	T	104	-	-	61/110/110/110	-
20	EDO	N	610	-	-	0/1/1/1	-
20	EDO	F	103	-	-	0/1/1/1	-
20	EDO	N	611	-	-	0/1/1/1	-
26	PSC	O	304	-	-	34/55/55/55	-
20	EDO	A	612	-	-	0/1/1/1	-
20	EDO	N	609	-	-	1/1/1/1	-
14	HEA	N	602	1	-	7/32/76/76	-
23	PEK	G	102	-	-	34/56/56/56	-
20	EDO	N	617	-	-	0/1/1/1	-
20	EDO	F	102	-	-	0/1/1/1	-
26	PSC	E	201	-	-	32/55/55/55	-
22	CHD	C	301	-	-	2/9/74/74	0/4/4/4
25	DMU	C	313	-	-	8/19/59/59	0/2/2/2
19	PGV	C	305	-	-	16/55/55/55	-
19	PGV	A	607	-	-	11/55/55/55	-
18	TGL	Q	201	-	-	35/65/65/65	-
20	EDO	A	613	-	-	0/1/1/1	-
18	TGL	L	101	-	-	36/65/65/65	-
20	EDO	C	309	-	-	0/1/1/1	-
20	EDO	S	102	-	-	0/1/1/1	-
18	TGL	A	606	-	-	37/65/65/65	-
20	EDO	R	201	-	-	0/1/1/1	-
25	DMU	C	312	-	-	6/19/59/59	0/2/2/2
18	TGL	D	201	-	-	39/65/65/65	-
20	EDO	D	203	-	-	0/1/1/1	-
23	PEK	T	102	-	-	20/56/56/56	-
20	EDO	N	615	-	-	1/1/1/1	-
19	PGV	N	606	-	-	31/55/55/55	-
22	CHD	P	306	-	-	8/9/74/74	0/4/4/4
25	DMU	Z	101	-	-	7/19/59/59	0/2/2/2
20	EDO	A	608	-	-	0/1/1/1	-
22	CHD	J	101	-	-	5/9/74/74	0/4/4/4
19	PGV	P	303	-	-	16/55/55/55	-
22	CHD	O	301	-	-	2/9/74/74	0/4/4/4

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
18	TGL	Y	101	-	-	36/65/65/65	-
14	HEA	A	601	1	-	4/32/76/76	-
22	CHD	P	301	-	-	2/9/74/74	0/4/4/4
23	PEK	T	103	-	-	29/56/56/56	-
20	EDO	A	614	-	-	1/1/1/1	-
19	PGV	P	304	-	-	32/55/55/55	-
18	TGL	O	302	-	-	34/65/65/65	-
23	PEK	C	304	-	-	31/56/56/56	-
20	EDO	A	611	-	-	0/1/1/1	-
20	EDO	A	615	-	-	0/1/1/1	-
19	PGV	M	101	-	-	31/55/55/55	-

All (175) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
18	D	201	TGL	OG1-CA1	4.73	1.47	1.33
18	A	606	TGL	OG2-CB1	4.66	1.47	1.34
24	C	307	CDL	OA8-CA7	4.63	1.46	1.33
24	C	307	CDL	OB8-CB7	4.60	1.46	1.33
18	L	101	TGL	OG2-CB1	4.60	1.47	1.34
18	Q	201	TGL	OG2-CB1	4.57	1.47	1.34
24	P	305	CDL	OA8-CA7	4.56	1.46	1.33
18	O	302	TGL	OG2-CB1	4.56	1.47	1.34
18	Y	101	TGL	OG2-CB1	4.55	1.47	1.34
18	L	101	TGL	OG1-CA1	4.55	1.46	1.33
19	N	606	PGV	O03-C19	4.54	1.46	1.33
24	T	104	CDL	OB8-CB7	4.54	1.46	1.33
24	G	101	CDL	OB8-CB7	4.52	1.46	1.33
19	M	101	PGV	O03-C19	4.50	1.46	1.33
18	Y	101	TGL	OG3-CC1	4.50	1.46	1.33
24	G	101	CDL	OB6-CB5	4.50	1.47	1.34
24	P	305	CDL	OB8-CB7	4.50	1.46	1.33
23	C	304	PEK	O01-C1	4.49	1.47	1.34
23	C	304	PEK	O03-C21	4.49	1.46	1.33
18	D	201	TGL	OG3-CC1	4.48	1.46	1.33
24	T	104	CDL	OB6-CB5	4.48	1.46	1.34
18	O	302	TGL	OG1-CA1	4.48	1.46	1.33
19	P	304	PGV	O03-C19	4.47	1.46	1.33
18	Q	201	TGL	OG3-CC1	4.47	1.46	1.33
26	O	304	PSC	O03-C19	4.47	1.46	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
23	T	103	PEK	O03-C21	4.45	1.46	1.33
23	T	103	PEK	O01-C1	4.45	1.46	1.34
26	E	201	PSC	O01-C1	4.45	1.46	1.34
18	A	606	TGL	OG1-CA1	4.44	1.46	1.33
19	C	306	PGV	O01-C1	4.42	1.46	1.34
23	T	101	PEK	O03-C21	4.42	1.46	1.33
18	A	606	TGL	OG3-CC1	4.41	1.46	1.33
18	Q	201	TGL	OG1-CA1	4.39	1.46	1.33
24	G	101	CDL	OA8-CA7	4.39	1.46	1.33
19	P	304	PGV	O01-C1	4.38	1.46	1.34
18	O	302	TGL	OG3-CC1	4.38	1.46	1.33
23	T	101	PEK	O01-C1	4.37	1.46	1.34
23	G	102	PEK	O03-C21	4.37	1.46	1.33
26	E	201	PSC	O03-C19	4.36	1.46	1.33
19	N	606	PGV	O01-C1	4.35	1.46	1.34
24	C	307	CDL	OB6-CB5	4.34	1.46	1.34
23	G	102	PEK	O01-C1	4.34	1.46	1.34
26	O	304	PSC	O01-C1	4.33	1.46	1.34
24	T	104	CDL	OA8-CA7	4.32	1.46	1.33
19	M	101	PGV	O01-C1	4.32	1.46	1.34
19	N	607	PGV	O03-C19	4.31	1.45	1.33
24	C	307	CDL	OA6-CA5	4.31	1.46	1.34
18	L	101	TGL	OG3-CC1	4.30	1.45	1.33
24	T	104	CDL	OA6-CA5	4.29	1.46	1.34
19	C	306	PGV	O03-C19	4.27	1.45	1.33
24	G	101	CDL	OA6-CA5	4.26	1.46	1.34
19	A	607	PGV	O03-C19	4.26	1.45	1.33
24	P	305	CDL	OA6-CA5	4.25	1.46	1.34
24	P	305	CDL	OB6-CB5	4.22	1.46	1.34
14	A	602	HEA	CHD-C1D	4.18	1.45	1.35
18	Y	101	TGL	OG1-CA1	4.13	1.45	1.33
14	N	602	HEA	CHD-C1D	4.12	1.45	1.35
23	T	102	PEK	O03-C21	4.06	1.45	1.33
14	A	601	HEA	CHD-C1D	4.04	1.45	1.35
18	D	201	TGL	OG2-CB1	4.04	1.45	1.34
14	N	601	HEA	CHD-C1D	3.98	1.45	1.35
14	A	601	HEA	CHC-C4B	3.96	1.45	1.35
19	P	303	PGV	O03-C19	3.88	1.44	1.33
14	N	601	HEA	CHC-C4B	3.87	1.44	1.35
19	C	305	PGV	O03-C19	3.82	1.44	1.33
19	P	303	PGV	O01-C1	3.79	1.45	1.34
23	C	303	PEK	O01-C1	3.77	1.44	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
14	A	602	HEA	CHC-C4B	3.73	1.44	1.35
23	T	102	PEK	O01-C1	3.73	1.44	1.34
14	N	601	HEA	C4B-C3B	-3.72	1.38	1.44
26	O	304	PSC	C13-C12	3.68	1.53	1.31
14	A	601	HEA	C4B-C3B	-3.66	1.38	1.44
14	A	601	HEA	C1D-ND	-3.66	1.34	1.40
26	E	201	PSC	C13-C12	3.65	1.52	1.31
23	C	303	PEK	O03-C21	3.62	1.43	1.33
19	C	305	PGV	O01-C1	3.53	1.44	1.34
14	N	602	HEA	CHC-C4B	3.52	1.44	1.35
14	N	602	HEA	C4B-NB	-3.45	1.34	1.40
19	N	607	PGV	O01-C1	3.39	1.43	1.34
14	N	601	HEA	C4B-NB	-3.38	1.34	1.40
19	A	607	PGV	O01-C1	3.38	1.43	1.34
14	N	602	HEA	C4D-C3D	-3.35	1.39	1.45
18	Y	101	TGL	C20-CA9	-3.31	1.33	1.51
14	A	601	HEA	C4D-C3D	-3.30	1.39	1.45
18	L	101	TGL	C20-CA9	-3.27	1.33	1.51
24	T	104	CDL	C62-C61	-3.23	1.33	1.51
24	C	307	CDL	C59-C58	-3.23	1.33	1.51
18	L	101	TGL	C10-CB9	-3.23	1.33	1.51
24	G	101	CDL	C22-C21	-3.22	1.33	1.51
24	G	101	CDL	C19-C18	-3.22	1.33	1.51
14	N	602	HEA	C1D-ND	-3.22	1.34	1.40
24	P	305	CDL	C22-C21	-3.21	1.33	1.51
24	T	104	CDL	C19-C18	-3.21	1.33	1.51
18	O	302	TGL	C20-CA9	-3.21	1.33	1.51
24	P	305	CDL	C59-C58	-3.21	1.33	1.51
24	T	104	CDL	C22-C21	-3.20	1.33	1.51
24	C	307	CDL	C62-C61	-3.20	1.33	1.51
24	T	104	CDL	C59-C58	-3.20	1.33	1.51
24	C	307	CDL	C82-C81	-3.20	1.33	1.51
24	P	305	CDL	C19-C18	-3.19	1.33	1.51
18	O	302	TGL	C15-CC9	-3.19	1.33	1.51
18	Y	101	TGL	C15-CC9	-3.19	1.33	1.51
24	C	307	CDL	C79-C78	-3.19	1.33	1.51
24	P	305	CDL	C42-C41	-3.18	1.33	1.51
24	G	101	CDL	C39-C38	-3.18	1.33	1.51
18	Y	101	TGL	C10-CB9	-3.18	1.33	1.51
24	T	104	CDL	C42-C41	-3.18	1.33	1.51
24	T	104	CDL	C39-C38	-3.18	1.33	1.51
24	C	307	CDL	C22-C21	-3.17	1.33	1.51

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
18	A	606	TGL	C20-CA9	-3.17	1.33	1.51
24	T	104	CDL	C79-C78	-3.16	1.33	1.51
18	Q	201	TGL	C10-CB9	-3.16	1.33	1.51
24	C	307	CDL	C19-C18	-3.16	1.33	1.51
24	P	305	CDL	C62-C61	-3.16	1.33	1.51
24	G	101	CDL	C62-C61	-3.15	1.33	1.51
18	A	606	TGL	C10-CB9	-3.15	1.33	1.51
24	G	101	CDL	C59-C58	-3.15	1.33	1.51
24	G	101	CDL	C42-C41	-3.15	1.33	1.51
24	P	305	CDL	C79-C78	-3.15	1.33	1.51
18	O	302	TGL	C10-CB9	-3.15	1.33	1.51
24	C	307	CDL	C42-C41	-3.15	1.33	1.51
18	A	606	TGL	C15-CC9	-3.14	1.33	1.51
14	A	602	HEA	C4D-C3D	-3.14	1.39	1.45
18	D	201	TGL	C10-CB9	-3.14	1.34	1.51
18	D	201	TGL	C15-CC9	-3.14	1.34	1.51
18	L	101	TGL	C15-CC9	-3.14	1.34	1.51
24	P	305	CDL	C82-C81	-3.13	1.34	1.51
24	P	305	CDL	C39-C38	-3.13	1.34	1.51
14	N	601	HEA	C1D-ND	-3.12	1.34	1.40
24	G	101	CDL	C79-C78	-3.11	1.34	1.51
18	Q	201	TGL	C20-CA9	-3.11	1.34	1.51
24	G	101	CDL	C82-C81	-3.11	1.34	1.51
14	A	601	HEA	C4B-NB	-3.10	1.35	1.40
24	T	104	CDL	C82-C81	-3.10	1.34	1.51
18	D	201	TGL	C20-CA9	-3.10	1.34	1.51
18	Q	201	TGL	C15-CC9	-3.10	1.34	1.51
24	C	307	CDL	C39-C38	-3.07	1.34	1.51
14	A	601	HEA	FE-ND	3.04	2.11	1.96
14	N	601	HEA	C4D-C3D	-2.98	1.39	1.45
14	N	601	HEA	C1D-C2D	-2.92	1.38	1.44
14	N	602	HEA	FE-ND	2.83	2.10	1.96
14	A	602	HEA	C4B-C3B	-2.82	1.39	1.44
14	A	602	HEA	FE-ND	2.81	2.10	1.96
14	N	602	HEA	FE-NB	2.80	2.10	1.96
14	A	601	HEA	C1D-C2D	-2.75	1.39	1.44
14	A	602	HEA	C4B-NB	-2.72	1.35	1.40
14	A	602	HEA	C1B-NB	-2.58	1.33	1.38
14	N	601	HEA	C1B-C2B	-2.58	1.39	1.44
14	N	601	HEA	FE-ND	2.57	2.09	1.96
14	N	602	HEA	C4B-C3B	-2.53	1.40	1.44
14	A	602	HEA	C1D-ND	-2.53	1.35	1.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
25	C	313	DMU	O16-C6	2.52	1.44	1.40
14	A	602	HEA	C4D-ND	-2.45	1.33	1.38
14	A	601	HEA	C1B-NB	-2.41	1.33	1.38
25	P	308	DMU	O16-C6	2.41	1.44	1.40
14	A	601	HEA	O11-C11	2.38	1.48	1.42
14	N	602	HEA	C4D-ND	-2.33	1.34	1.38
25	C	312	DMU	O16-C6	2.32	1.44	1.40
14	A	602	HEA	C1B-C2B	-2.30	1.40	1.44
25	P	309	DMU	O16-C6	2.25	1.44	1.40
14	N	601	HEA	FE-NB	2.24	2.07	1.96
14	N	602	HEA	C1D-C2D	-2.23	1.40	1.44
14	A	602	HEA	C1D-C2D	-2.23	1.40	1.44
14	A	601	HEA	C4D-ND	-2.22	1.34	1.38
14	A	602	HEA	O11-C11	2.22	1.47	1.42
14	N	601	HEA	C1B-NB	-2.17	1.34	1.38
14	A	601	HEA	FE-NB	2.17	2.07	1.96
14	N	601	HEA	O11-C11	2.17	1.47	1.42
14	A	601	HEA	C1B-C2B	-2.13	1.40	1.44
14	N	601	HEA	C4D-ND	-2.10	1.34	1.38
14	A	602	HEA	FE-NB	2.09	2.07	1.96
14	N	601	HEA	C3B-C2B	2.08	1.39	1.34
14	N	602	HEA	O11-C11	2.03	1.47	1.42
23	T	102	PEK	O01-C02	-2.01	1.41	1.46
22	O	301	CHD	O26-C24	-2.00	1.24	1.30

All (192) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	J	101	CHD	C17-C13-C14	-4.98	95.08	100.09
18	A	606	TGL	OG2-CB1-CB2	4.60	121.41	111.50
24	T	104	CDL	OB6-CB5-C51	4.42	121.02	111.50
24	C	307	CDL	OA6-CA5-C11	4.26	120.69	111.50
24	G	101	CDL	OB6-CB5-C51	4.24	120.64	111.50
22	P	306	CHD	C10-C9-C8	4.21	116.34	111.82
19	N	606	PGV	O01-C1-C2	4.20	120.56	111.50
26	O	304	PSC	O01-C1-C2	4.20	120.55	111.50
26	E	201	PSC	O01-C1-C2	4.19	120.53	111.50
18	Y	101	TGL	OG2-CB1-CB2	4.14	120.41	111.50
23	G	102	PEK	O01-C1-C2	4.04	120.21	111.50
22	J	101	CHD	C14-C13-C12	4.03	111.15	107.40
18	O	302	TGL	OG2-CB1-CB2	4.02	120.17	111.50
22	W	101	CHD	C17-C13-C14	-4.00	96.06	100.09

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
19	M	101	PGV	O01-C1-C2	3.98	120.08	111.50
24	G	101	CDL	OA6-CA5-C11	3.97	120.06	111.50
22	J	101	CHD	C16-C17-C20	3.96	118.28	112.15
23	C	304	PEK	O01-C1-C2	3.92	119.96	111.50
18	A	606	TGL	OG3-CC1-CC2	3.92	124.22	111.91
19	C	306	PGV	O01-C1-C2	3.90	119.92	111.50
18	A	606	TGL	CG2-OG2-CB1	3.90	127.38	117.79
24	C	307	CDL	OB6-CB5-C51	3.87	119.83	111.50
24	T	104	CDL	OA6-CA5-C11	3.85	119.80	111.50
24	P	305	CDL	OA6-CA5-C11	3.76	119.61	111.50
23	T	101	PEK	O01-C1-C2	3.73	119.55	111.50
24	P	305	CDL	OB6-CB5-C51	3.73	119.54	111.50
25	C	312	DMU	O16-C6-C1	3.71	114.09	108.30
18	L	101	TGL	OG2-CB1-CB2	3.60	119.25	111.50
25	C	312	DMU	C1-C2-C3	3.59	117.89	109.68
22	W	101	CHD	C16-C17-C20	3.59	117.71	112.15
22	C	308	CHD	C10-C9-C8	3.54	115.62	111.82
22	P	306	CHD	C1-C2-C3	3.54	115.01	110.47
19	A	607	PGV	O03-C19-C20	3.49	122.87	111.91
22	B	302	CHD	C15-C14-C13	3.49	106.97	103.55
23	T	103	PEK	O01-C1-C2	3.47	118.99	111.50
22	W	101	CHD	C14-C13-C12	3.47	110.63	107.40
14	N	601	HEA	CBA-CAA-C2A	3.45	118.41	112.60
14	N	602	HEA	OMA-CMA-C3A	-3.42	117.46	124.91
19	P	304	PGV	O01-C1-C2	3.39	118.81	111.50
14	A	601	HEA	C13-C12-C11	-3.30	109.39	114.35
14	N	602	HEA	CAD-CBD-CGD	-3.29	106.52	113.60
19	P	304	PGV	O03-C19-C20	3.26	122.15	111.91
19	N	607	PGV	O03-C19-C20	3.26	122.14	111.91
22	P	306	CHD	C9-C10-C5	3.24	113.14	108.58
14	A	601	HEA	C26-C15-C16	3.16	120.59	115.27
19	M	101	PGV	O03-C19-C20	3.12	121.70	111.91
24	P	305	CDL	OB8-CB7-C71	3.12	121.70	111.91
22	P	306	CHD	C6-C5-C10	3.12	115.97	112.66
18	A	606	TGL	OG3-CC1-OC1	-3.10	115.77	123.59
23	T	102	PEK	O03-C21-C22	3.09	121.61	111.91
14	A	601	HEA	CBA-CAA-C2A	3.09	117.81	112.60
18	Q	201	TGL	OG1-CA1-CA2	3.06	121.50	111.91
18	L	101	TGL	OG1-CA1-CA2	3.05	121.49	111.91
18	Q	201	TGL	OG2-CB1-CB2	3.05	118.07	111.50
14	A	602	HEA	CAD-C3D-C2D	3.03	133.53	127.88
18	Q	201	TGL	OG3-CC1-CC2	3.03	121.41	111.91

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
25	C	312	DMU	C6-O5-C4	-3.03	107.75	113.69
22	O	301	CHD	C6-C5-C4	-2.97	107.77	111.19
18	A	606	TGL	OG2-CG2-CG1	2.95	119.09	108.40
18	D	201	TGL	OG3-CC1-CC2	2.92	121.06	111.91
24	T	104	CDL	OA8-CA7-C31	2.91	121.04	111.91
19	C	306	PGV	O03-C19-C20	2.90	121.02	111.91
22	J	101	CHD	C22-C20-C17	2.89	116.26	110.28
22	C	308	CHD	C15-C14-C13	2.89	106.39	103.55
24	C	307	CDL	OB8-CB7-C71	2.86	120.90	111.91
14	A	602	HEA	C20-C19-C18	-2.86	115.33	121.12
23	C	303	PEK	O01-C1-C2	2.86	117.66	111.50
22	C	308	CHD	C15-C14-C8	2.85	122.31	118.33
14	A	602	HEA	CAD-C3D-C4D	-2.84	119.69	124.66
14	N	601	HEA	C13-C12-C11	-2.82	110.12	114.35
22	C	308	CHD	C1-C2-C3	2.81	114.08	110.47
22	P	306	CHD	C15-C14-C8	2.79	122.24	118.33
22	C	308	CHD	C14-C8-C9	-2.79	105.88	109.71
23	T	103	PEK	O03-C21-C22	2.79	120.65	111.91
14	A	601	HEA	C4D-CHA-C1A	2.77	126.22	122.56
22	W	101	CHD	C22-C20-C17	2.77	116.01	110.28
23	C	304	PEK	O03-C21-C22	2.76	120.57	111.91
25	C	313	DMU	C1-C2-C3	2.75	115.97	109.68
22	C	308	CHD	C9-C10-C5	2.75	112.44	108.58
14	N	601	HEA	C26-C15-C16	2.74	119.88	115.27
23	T	101	PEK	O03-C21-C22	2.74	120.50	111.91
25	C	312	DMU	C6-C1-C2	2.73	115.67	110.00
25	C	313	DMU	C2-C3-C4	2.72	117.17	110.93
22	C	308	CHD	C17-C13-C12	-2.72	115.18	117.67
14	N	602	HEA	C27-C19-C20	2.70	119.82	115.27
19	A	607	PGV	O03-C19-O04	-2.70	116.77	123.59
22	P	306	CHD	C14-C8-C9	-2.69	106.02	109.71
24	G	101	CDL	OA8-CA7-C31	2.68	120.33	111.91
14	A	601	HEA	CMC-C2C-C1C	-2.68	124.35	128.46
22	C	308	CHD	C23-C22-C20	-2.68	109.63	114.52
22	W	101	CHD	C6-C5-C10	2.67	115.50	112.66
14	N	602	HEA	CMB-C2B-C3B	-2.67	125.25	130.34
18	O	302	TGL	OG3-CC1-CC2	2.66	120.27	111.91
22	P	301	CHD	C6-C7-C8	2.66	114.32	111.48
14	A	602	HEA	O2A-CGA-CBA	2.66	122.58	114.03
14	N	601	HEA	CHC-C4B-NB	2.64	127.64	124.38
14	A	602	HEA	O1A-CGA-CBA	-2.63	114.63	123.08
18	A	606	TGL	CG3-OG3-CC1	2.62	126.83	117.12

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
24	P	305	CDL	CB4-OB6-CB5	-2.62	111.34	117.79
24	P	305	CDL	OA8-CA7-C31	2.62	120.13	111.91
25	P	309	DMU	O7-C3-C4	2.62	116.63	109.45
22	C	301	CHD	C15-C14-C13	2.62	106.12	103.55
22	P	306	CHD	C15-C14-C13	2.62	106.12	103.55
14	N	601	HEA	CAA-CBA-CGA	-2.61	106.43	113.76
18	L	101	TGL	OG3-CC1-CC2	2.61	120.10	111.91
23	G	102	PEK	O03-C21-C22	2.60	120.07	111.91
14	A	601	HEA	OMA-CMA-C3A	-2.60	119.25	124.91
14	A	602	HEA	C27-C19-C20	2.59	119.63	115.27
23	T	102	PEK	O01-C1-C2	2.59	117.08	111.50
26	O	304	PSC	O03-C19-C20	2.58	120.00	111.91
22	P	306	CHD	C1-C10-C9	-2.58	107.31	111.35
14	A	601	HEA	CMC-C2C-C3C	2.57	129.49	124.68
14	N	601	HEA	C3C-C4C-NC	2.56	112.52	109.21
14	N	601	HEA	C4B-NB-C1B	2.56	107.72	105.07
18	O	302	TGL	OG1-CA1-CA2	2.56	119.93	111.91
14	N	601	HEA	C4D-CHA-C1A	2.55	125.92	122.56
19	N	606	PGV	O03-C19-C20	2.54	119.88	111.91
22	O	301	CHD	C15-C14-C13	2.54	106.05	103.55
14	N	601	HEA	O1A-CGA-CBA	-2.53	114.94	123.08
26	E	201	PSC	O03-C19-C20	2.53	119.86	111.91
25	C	313	DMU	O5-C4-C3	2.53	115.08	109.75
14	A	601	HEA	C4A-CHB-C1B	2.53	125.89	122.56
18	A	606	TGL	OG1-CA1-CA2	2.50	119.77	111.91
18	A	606	TGL	CG3-CG2-CG1	-2.50	105.88	111.79
24	P	305	CDL	OB8-CB7-OB9	-2.49	117.31	123.59
14	A	602	HEA	C13-C12-C11	-2.48	110.62	114.35
14	N	602	HEA	CMB-C2B-C1B	2.47	128.81	125.04
22	J	101	CHD	C6-C5-C4	-2.47	108.35	111.19
14	N	601	HEA	C4A-CHB-C1B	2.46	125.81	122.56
18	D	201	TGL	OG1-CA1-CA2	2.46	119.64	111.91
22	C	308	CHD	C16-C17-C13	2.46	105.97	103.55
22	P	306	CHD	C6-C7-C8	2.46	114.10	111.48
22	C	308	CHD	C13-C17-C20	-2.45	116.57	119.50
14	A	602	HEA	CMB-C2B-C3B	-2.45	125.67	130.34
24	G	101	CDL	OB8-CB7-C71	2.43	119.55	111.91
18	Q	201	TGL	OG3-CC1-OC1	-2.43	117.46	123.59
14	A	601	HEA	C13-C14-C15	-2.41	121.86	127.66
24	C	307	CDL	OA8-CA7-C31	2.40	119.43	111.91
22	O	301	CHD	C13-C17-C20	-2.39	116.64	119.50
19	C	305	PGV	O01-C1-C2	2.39	116.64	111.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	O	301	CHD	C11-C9-C8	2.37	114.34	110.88
18	Y	101	TGL	OG3-CC1-CC2	2.37	119.33	111.91
25	C	312	DMU	C18-O16-C6	2.36	117.75	113.84
18	Y	101	TGL	OG1-CA1-CA2	2.35	119.28	111.91
24	T	104	CDL	OB8-CB7-C71	2.35	119.27	111.91
14	N	601	HEA	O2A-CGA-CBA	2.34	121.54	114.03
14	A	601	HEA	O1A-CGA-CBA	-2.34	115.57	123.08
14	A	601	HEA	CHC-C4B-NB	2.33	127.26	124.38
14	A	601	HEA	C17-C18-C19	-2.33	122.05	127.66
14	A	601	HEA	C26-C15-C14	-2.31	117.75	123.68
14	A	602	HEA	CMC-C2C-C3C	2.29	128.96	124.68
18	Q	201	TGL	OG1-CG1-CG2	2.27	115.06	108.43
14	A	602	HEA	C1D-C2D-C3D	-2.27	104.57	106.96
22	B	302	CHD	C14-C8-C7	2.27	114.82	111.81
14	N	601	HEA	CMC-C2C-C3C	2.26	128.91	124.68
14	N	602	HEA	C4A-CHB-C1B	2.26	125.54	122.56
14	A	601	HEA	C4B-NB-C1B	2.26	107.40	105.07
19	N	607	PGV	O03-C19-O04	-2.23	117.97	123.59
22	W	101	CHD	C9-C10-C5	2.22	111.70	108.58
14	N	602	HEA	C4D-CHA-C1A	2.22	125.49	122.56
23	T	103	PEK	O03-C21-O04	-2.20	118.04	123.59
14	N	601	HEA	CMC-C2C-C1C	-2.20	125.08	128.46
14	A	602	HEA	C4A-CHB-C1B	2.19	125.45	122.56
25	P	308	DMU	O16-C6-C1	2.18	111.70	108.30
14	A	601	HEA	CAA-CBA-CGA	-2.18	107.66	113.76
18	D	201	TGL	OG3-CC1-OC1	-2.17	118.11	123.59
22	C	301	CHD	O25-C24-C23	-2.17	116.12	123.08
22	P	306	CHD	C5-C4-C3	-2.17	109.58	112.76
22	P	306	CHD	C2-C1-C10	2.15	116.47	112.78
24	G	101	CDL	OA6-CA5-OA7	-2.15	118.50	123.70
18	Q	201	TGL	OG1-CA1-OA1	-2.15	118.16	123.59
22	J	101	CHD	C21-C20-C17	-2.15	109.63	112.92
22	P	301	CHD	C19-C10-C1	-2.13	104.84	108.26
14	N	602	HEA	CBD-CAD-C3D	2.12	118.53	112.63
25	Z	101	DMU	C1-C2-C3	2.12	114.52	109.68
18	L	101	TGL	OG3-CC1-OC1	-2.11	118.26	123.59
14	N	602	HEA	CMC-C2C-C3C	2.10	128.61	124.68
14	A	601	HEA	O2A-CGA-CBA	2.10	120.77	114.03
14	N	602	HEA	O2A-CGA-CBA	2.10	120.76	114.03
22	C	308	CHD	C22-C23-C24	-2.08	106.97	112.51
19	P	303	PGV	O01-C1-C2	2.08	115.99	111.50
25	P	308	DMU	C18-O16-C6	2.06	117.26	113.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
22	J	101	CHD	C15-C14-C13	2.05	105.57	103.55
25	Z	101	DMU	C10-O7-C3	-2.05	112.88	117.96
19	A	607	PGV	O01-C1-C2	2.05	115.92	111.50
19	P	303	PGV	O14-P-O13	2.04	122.35	112.24
22	J	101	CHD	C1-C10-C5	2.04	110.79	107.77
24	P	305	CDL	OA6-CA5-OA7	-2.03	118.79	123.70
22	W	101	CHD	C1-C10-C5	2.03	110.77	107.77
24	T	104	CDL	OA8-CA7-OA9	-2.02	118.48	123.59
14	N	601	HEA	C13-C14-C15	-2.02	122.80	127.66
22	W	101	CHD	C6-C5-C4	-2.01	108.88	111.19

There are no chirality outliers.

All (974) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
14	A	602	HEA	C2D-C3D-CAD-CBD
14	A	602	HEA	C4D-C3D-CAD-CBD
18	A	606	TGL	CB2-CB1-OG2-CG2
18	A	606	TGL	CC2-CC1-OG3-CG3
18	A	606	TGL	OC1-CC1-OG3-CG3
18	D	201	TGL	OB1-CB1-OG2-CG2
18	D	201	TGL	OG1-CG1-CG2-OG2
18	L	101	TGL	CB2-CB1-OG2-CG2
18	O	302	TGL	OB1-CB1-OG2-CG2
18	Y	101	TGL	CB2-CB1-OG2-CG2
19	M	101	PGV	C03-O11-P-O12
19	M	101	PGV	C03-O11-P-O13
19	M	101	PGV	C04-O12-P-O11
19	M	101	PGV	C04-C05-C06-O06
19	N	606	PGV	C03-O11-P-O12
19	N	606	PGV	C03-O11-P-O13
19	N	606	PGV	C03-O11-P-O14
19	N	606	PGV	C04-O12-P-O11
19	N	606	PGV	C04-O12-P-O13
19	N	606	PGV	C04-O12-P-O14
19	N	606	PGV	O01-C02-C03-O11
19	N	606	PGV	C04-C05-C06-O06
19	N	606	PGV	O02-C1-O01-C02
19	N	606	PGV	C2-C1-O01-C02
19	P	304	PGV	C02-C03-O11-P
23	C	303	PEK	C13-C14-C15-C16
23	C	304	PEK	C04-O12-P-O14

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Mol	Chain	Res	Type	Atoms
23	C	304	PEK	O12-C04-C05-N
23	G	102	PEK	C03-O11-P-O13
23	G	102	PEK	O12-C04-C05-N
23	G	102	PEK	C2-C1-O01-C02
23	T	101	PEK	O12-C04-C05-N
23	T	101	PEK	C2-C1-O01-C02
23	T	101	PEK	C7-C8-C9-C10
23	T	101	PEK	C12-C13-C14-C15
23	T	102	PEK	C4-C5-C6-C7
24	C	307	CDL	CA3-OA5-PA1-OA3
24	C	307	CDL	C11-CA5-OA6-CA4
24	C	307	CDL	C51-CB5-OB6-CB4
24	G	101	CDL	CA2-C1-CB2-OB2
24	G	101	CDL	CA2-OA2-PA1-OA3
24	G	101	CDL	CA2-OA2-PA1-OA4
24	G	101	CDL	C11-CA5-OA6-CA4
24	G	101	CDL	CB2-OB2-PB2-OB3
24	G	101	CDL	OB6-CB4-CB6-OB8
24	P	305	CDL	CA2-C1-CB2-OB2
24	P	305	CDL	CA2-OA2-PA1-OA4
24	P	305	CDL	C11-CA5-OA6-CA4
24	P	305	CDL	CB3-OB5-PB2-OB3
24	P	305	CDL	CB3-OB5-PB2-OB4
24	P	305	CDL	C51-CB5-OB6-CB4
24	P	305	CDL	CB4-CB6-OB8-CB7
24	T	104	CDL	CA2-OA2-PA1-OA3
24	T	104	CDL	CA3-OA5-PA1-OA3
24	T	104	CDL	CA3-OA5-PA1-OA4
24	T	104	CDL	C11-CA5-OA6-CA4
24	T	104	CDL	OA9-CA7-OA8-CA6
24	T	104	CDL	C1-CB2-OB2-PB2
24	T	104	CDL	CB2-OB2-PB2-OB4
24	T	104	CDL	OB6-CB4-CB6-OB8
25	C	313	DMU	O5-C6-O16-C18
25	P	308	DMU	C1-C6-O16-C18
25	P	308	DMU	O5-C6-O16-C18
25	P	309	DMU	O5-C6-O16-C18
26	E	201	PSC	C03-O11-P-O12
26	E	201	PSC	C04-O12-P-O11
26	E	201	PSC	O12-C04-C05-N
26	E	201	PSC	C2-C1-O01-C02
26	O	304	PSC	C03-O11-P-O13

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Mol	Chain	Res	Type	Atoms
26	O	304	PSC	C04-O12-P-O13
26	O	304	PSC	O12-C04-C05-N
26	O	304	PSC	C2-C1-O01-C02
18	D	201	TGL	OC1-CC1-OG3-CG3
18	Q	201	TGL	OC1-CC1-OG3-CG3
19	N	606	PGV	O04-C19-O03-C01
18	D	201	TGL	CC2-CC1-OG3-CG3
24	T	104	CDL	C31-CA7-OA8-CA6
18	Q	201	TGL	OA1-CA1-OG1-CG1
18	Y	101	TGL	OA1-CA1-OG1-CG1
25	P	308	DMU	O1-C10-O7-C3
18	A	606	TGL	OB1-CB1-OG2-CG2
18	L	101	TGL	OB1-CB1-OG2-CG2
18	Y	101	TGL	OB1-CB1-OG2-CG2
19	M	101	PGV	O02-C1-O01-C02
23	G	102	PEK	O02-C1-O01-C02
23	T	101	PEK	O02-C1-O01-C02
24	C	307	CDL	OB7-CB5-OB6-CB4
24	G	101	CDL	OA7-CA5-OA6-CA4
24	P	305	CDL	OA7-CA5-OA6-CA4
24	P	305	CDL	OB7-CB5-OB6-CB4
24	T	104	CDL	OA7-CA5-OA6-CA4
26	O	304	PSC	O02-C1-O01-C02
24	P	305	CDL	OB9-CB7-OB8-CB6
25	P	309	DMU	C4-C3-O7-C10
18	Q	201	TGL	CC2-CC1-OG3-CG3
19	N	606	PGV	C20-C19-O03-C01
23	T	101	PEK	C22-C21-O03-C01
24	G	101	CDL	C31-CA7-OA8-CA6
26	O	304	PSC	C20-C19-O03-C01
18	D	201	TGL	CB2-CB1-OG2-CG2
18	O	302	TGL	CB2-CB1-OG2-CG2
19	M	101	PGV	C2-C1-O01-C02
25	P	308	DMU	O6-C11-C9-O1
22	C	308	CHD	C20-C22-C23-C24
18	O	302	TGL	CC2-CC1-OG3-CG3
18	Q	201	TGL	CA2-CA1-OG1-CG1
18	Y	101	TGL	CA2-CA1-OG1-CG1
23	C	304	PEK	C22-C21-O03-C01
25	C	313	DMU	O5-C4-C57-O61
19	N	606	PGV	C10-C11-C12-C13
19	P	304	PGV	C10-C11-C12-C13

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Mol	Chain	Res	Type	Atoms
23	C	304	PEK	C7-C8-C9-C10
23	C	304	PEK	C13-C14-C15-C16
23	G	102	PEK	C4-C5-C6-C7
23	T	102	PEK	C13-C14-C15-C16
23	T	103	PEK	C4-C5-C6-C7
23	T	103	PEK	C13-C14-C15-C16
24	C	307	CDL	OA7-CA5-OA6-CA4
26	E	201	PSC	O02-C1-O01-C02
18	O	302	TGL	OC1-CC1-OG3-CG3
23	T	101	PEK	O04-C21-O03-C01
26	E	201	PSC	O04-C19-O03-C01
26	O	304	PSC	O04-C19-O03-C01
24	G	101	CDL	O1-C1-CA2-OA2
24	P	305	CDL	O1-C1-CB2-OB2
19	M	101	PGV	C20-C19-O03-C01
24	P	305	CDL	C71-CB7-OB8-CB6
26	E	201	PSC	C20-C19-O03-C01
24	G	101	CDL	OA9-CA7-OA8-CA6
19	M	101	PGV	O04-C19-O03-C01
24	T	104	CDL	C79-C80-C81-C82
25	Z	101	DMU	O6-C11-C9-O1
19	M	101	PGV	C02-C03-O11-P
23	C	304	PEK	O04-C21-O03-C01
18	L	101	TGL	CA2-CA1-OG1-CG1
22	J	101	CHD	C13-C17-C20-C22
19	C	305	PGV	C10-C11-C12-C13
24	P	305	CDL	CB2-C1-CA2-OA2
23	G	102	PEK	C22-C21-O03-C01
25	C	313	DMU	C3-C4-C57-O61
25	P	308	DMU	O6-C11-C9-C8
25	Z	101	DMU	O6-C11-C9-C8
19	C	305	PGV	C28-C29-C30-C31
24	G	101	CDL	O1-C1-CB2-OB2
24	P	305	CDL	O1-C1-CA2-OA2
22	J	101	CHD	C16-C17-C20-C21
22	W	101	CHD	C13-C17-C20-C22
22	C	308	CHD	C17-C20-C22-C23
22	P	306	CHD	C17-C20-C22-C23
18	A	606	TGL	CA1-CA2-CA3-CA4
18	A	606	TGL	CB1-CB2-CB3-CB4
24	P	305	CDL	CA7-C31-C32-C33
26	O	304	PSC	C19-C20-C21-C22

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Mol	Chain	Res	Type	Atoms
19	C	306	PGV	C10-C11-C12-C13
26	O	304	PSC	C11-C12-C13-C14
22	J	101	CHD	C13-C17-C20-C21
18	D	201	TGL	CA1-CA2-CA3-CA4
18	O	302	TGL	CB1-CB2-CB3-CB4
23	T	101	PEK	C21-C22-C23-C24
24	T	104	CDL	CA7-C31-C32-C33
18	L	101	TGL	C20-C21-C22-C23
22	P	306	CHD	C21-C20-C22-C23
24	C	307	CDL	CB7-C71-C72-C73
24	G	101	CDL	CB7-C71-C72-C73
24	G	101	CDL	C51-CB5-OB6-CB4
22	W	101	CHD	C13-C17-C20-C21
23	G	102	PEK	O04-C21-O03-C01
22	C	308	CHD	C21-C20-C22-C23
26	O	304	PSC	C1-C2-C3-C4
24	C	307	CDL	O1-C1-CB2-OB2
24	T	104	CDL	O1-C1-CB2-OB2
24	C	307	CDL	C71-CB7-OB8-CB6
22	W	101	CHD	C16-C17-C20-C21
18	L	101	TGL	OA1-CA1-OG1-CG1
18	Q	201	TGL	CC1-CC2-CC3-CC4
23	C	303	PEK	C10-C11-C12-C13
23	T	102	PEK	C10-C11-C12-C13
26	E	201	PSC	C11-C12-C13-C14
19	P	304	PGV	C03-O11-P-O12
23	C	304	PEK	C03-O11-P-O12
23	G	102	PEK	C03-O11-P-O12
24	C	307	CDL	CB2-OB2-PB2-OB5
24	G	101	CDL	CA2-OA2-PA1-OA5
24	G	101	CDL	CB3-OB5-PB2-OB2
24	P	305	CDL	CA2-OA2-PA1-OA5
24	P	305	CDL	CA3-OA5-PA1-OA2
24	P	305	CDL	CB2-OB2-PB2-OB5
24	P	305	CDL	CB3-OB5-PB2-OB2
24	T	104	CDL	CA3-OA5-PA1-OA2
24	T	104	CDL	CB2-OB2-PB2-OB5
26	O	304	PSC	C03-O11-P-O12
26	O	304	PSC	C04-O12-P-O11
25	Z	101	DMU	O16-C18-C19-C22
24	C	307	CDL	CA5-C11-C12-C13
24	C	307	CDL	CA2-C1-CB2-OB2

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Mol	Chain	Res	Type	Atoms
24	G	101	CDL	CB2-C1-CA2-OA2
24	T	104	CDL	CA2-C1-CB2-OB2
18	Q	201	TGL	OB1-CB1-OG2-CG2
23	C	304	PEK	O02-C1-O01-C02
24	G	101	CDL	OB7-CB5-OB6-CB4
19	P	304	PGV	C14-C15-C16-C17
24	G	101	CDL	C52-C53-C54-C55
18	Q	201	TGL	CB2-CB1-OG2-CG2
23	C	304	PEK	C2-C1-O01-C02
18	A	606	TGL	C21-C20-CA9-CA8
18	D	201	TGL	C10-C11-C12-C13
18	D	201	TGL	C18-C19-C33-C34
18	L	101	TGL	C12-C13-C14-C29
18	O	302	TGL	CA5-CA6-CA7-CA8
18	Y	101	TGL	CA7-CA8-CA9-C20
18	Y	101	TGL	CC2-CC3-CC4-CC5
19	P	303	PGV	C14-C15-C16-C17
19	P	304	PGV	C2-C3-C4-C5
23	C	304	PEK	C24-C25-C26-C27
23	G	102	PEK	C32-C33-C34-C35
24	C	307	CDL	C31-C32-C33-C34
24	C	307	CDL	C71-C72-C73-C74
18	A	606	TGL	CB5-CB6-CB7-CB8
18	A	606	TGL	C16-C17-C18-C19
18	D	201	TGL	C11-C10-CB9-CB8
18	L	101	TGL	CB5-CB6-CB7-CB8
18	O	302	TGL	CC9-C15-C16-C17
19	C	305	PGV	C13-C14-C15-C16
19	M	101	PGV	C22-C23-C24-C25
23	C	304	PEK	C22-C23-C24-C25
23	G	102	PEK	C33-C34-C35-C36
24	P	305	CDL	C15-C16-C17-C18
24	P	305	CDL	C82-C83-C84-C85
25	C	313	DMU	C28-C31-C34-C37
26	O	304	PSC	C24-C25-C26-C27
18	O	302	TGL	CG1-CG2-OG2-CB1
18	A	606	TGL	C22-C23-C24-C25
23	C	303	PEK	C34-C35-C36-C37
23	G	102	PEK	C26-C27-C28-C29
24	C	307	CDL	C63-C64-C65-C66
24	C	307	CDL	C83-C84-C85-C86
24	G	101	CDL	C32-C33-C34-C35

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Mol	Chain	Res	Type	Atoms
26	E	201	PSC	C5-C6-C7-C8
24	C	307	CDL	OB9-CB7-OB8-CB6
19	M	101	PGV	C10-C11-C12-C13
23	T	101	PEK	C13-C14-C15-C16
18	A	606	TGL	CC4-CC5-CC6-CC7
18	O	302	TGL	C11-C10-CB9-CB8
18	O	302	TGL	C20-C21-C22-C23
18	Q	201	TGL	CB9-C10-C11-C12
18	Q	201	TGL	CC4-CC5-CC6-CC7
19	C	306	PGV	C23-C24-C25-C26
23	T	101	PEK	C32-C33-C34-C35
24	C	307	CDL	C82-C83-C84-C85
24	G	101	CDL	C79-C80-C81-C82
24	P	305	CDL	C40-C41-C42-C43
18	Q	201	TGL	C23-C24-C25-C26
18	Y	101	TGL	CB5-CB6-CB7-CB8
24	C	307	CDL	C21-C22-C23-C24
26	O	304	PSC	C27-C28-C29-C30
26	O	304	PSC	C28-C29-C30-C31
18	Y	101	TGL	CA1-CA2-CA3-CA4
18	D	201	TGL	C21-C20-CA9-CA8
18	L	101	TGL	C21-C20-CA9-CA8
18	O	302	TGL	CC4-CC5-CC6-CC7
18	O	302	TGL	CA9-C20-C21-C22
19	C	306	PGV	C6-C7-C8-C9
19	N	607	PGV	C26-C27-C28-C29
19	P	303	PGV	C7-C8-C9-C10
23	C	304	PEK	C23-C24-C25-C26
23	G	102	PEK	C30-C31-C32-C33
24	G	101	CDL	C36-C37-C38-C39
24	P	305	CDL	C73-C74-C75-C76
25	P	308	DMU	O16-C18-C19-C22
26	O	304	PSC	C26-C27-C28-C29
18	D	201	TGL	CC4-CC5-CC6-CC7
18	Q	201	TGL	CA2-CA3-CA4-CA5
18	Q	201	TGL	CA6-CA7-CA8-CA9
18	Y	101	TGL	CC3-CC4-CC5-CC6
24	G	101	CDL	C59-C60-C61-C62
18	A	606	TGL	C23-C24-C25-C26
18	D	201	TGL	C23-C24-C25-C26
18	L	101	TGL	CC3-CC4-CC5-CC6
18	L	101	TGL	CC6-CC7-CC8-CC9

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Mol	Chain	Res	Type	Atoms
18	O	302	TGL	C10-C11-C12-C13
18	Q	201	TGL	CC7-CC8-CC9-C15
19	C	305	PGV	C7-C8-C9-C10
19	P	304	PGV	C4-C5-C6-C7
23	G	102	PEK	C22-C23-C24-C25
23	G	102	PEK	C23-C24-C25-C26
23	T	102	PEK	C34-C35-C36-C37
24	G	101	CDL	C12-C13-C14-C15
24	G	101	CDL	C77-C78-C79-C80
24	P	305	CDL	C12-C13-C14-C15
24	P	305	CDL	C13-C14-C15-C16
25	Z	101	DMU	C25-C28-C31-C34
18	A	606	TGL	CA3-CA4-CA5-CA6
18	O	302	TGL	CB7-CB8-CB9-C10
19	P	303	PGV	C24-C25-C26-C27
23	C	303	PEK	C16-C17-C18-C19
23	C	304	PEK	C29-C30-C31-C32
24	C	307	CDL	C79-C80-C81-C82
19	P	304	PGV	C04-C05-C06-O06
18	Q	201	TGL	C21-C22-C23-C24
19	C	306	PGV	C21-C22-C23-C24
23	C	303	PEK	C28-C29-C30-C31
26	E	201	PSC	C20-C21-C22-C23
26	E	201	PSC	C25-C26-C27-C28
26	O	304	PSC	C6-C7-C8-C9
23	C	304	PEK	C21-C22-C23-C24
18	A	606	TGL	CA2-CA3-CA4-CA5
18	A	606	TGL	CC9-C15-C16-C17
18	L	101	TGL	C19-C33-C34-C35
18	O	302	TGL	C16-C15-CC9-CC8
18	Y	101	TGL	C10-C11-C12-C13
19	M	101	PGV	C24-C25-C26-C27
23	T	101	PEK	C25-C26-C27-C28
23	T	101	PEK	C28-C29-C30-C31
23	T	103	PEK	C29-C30-C31-C32
24	G	101	CDL	C37-C38-C39-C40
24	G	101	CDL	C54-C55-C56-C57
24	P	305	CDL	C42-C43-C44-C45
24	P	305	CDL	C43-C44-C45-C46
24	T	104	CDL	C11-C12-C13-C14
25	C	313	DMU	C19-C22-C25-C28
25	P	309	DMU	C19-C22-C25-C28

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Mol	Chain	Res	Type	Atoms
26	O	304	PSC	C29-C30-C31-C32
18	Y	101	TGL	C16-C15-CC9-CC8
23	C	304	PEK	C31-C32-C33-C34
23	G	102	PEK	C28-C29-C30-C31
23	T	103	PEK	C26-C27-C28-C29
24	C	307	CDL	C23-C24-C25-C26
24	C	307	CDL	C55-C56-C57-C58
24	P	305	CDL	C52-C53-C54-C55
24	T	104	CDL	C23-C24-C25-C26
24	T	104	CDL	C73-C74-C75-C76
26	E	201	PSC	C21-C22-C23-C24
26	O	304	PSC	C2-C3-C4-C5
23	T	102	PEK	O12-C04-C05-N
18	D	201	TGL	CC7-CC8-CC9-C15
18	L	101	TGL	CA3-CA4-CA5-CA6
19	C	306	PGV	C7-C8-C9-C10
24	P	305	CDL	C35-C36-C37-C38
24	P	305	CDL	C41-C42-C43-C44
24	P	305	CDL	C81-C82-C83-C84
23	G	102	PEK	C1-C2-C3-C4
18	D	201	TGL	CC6-CC7-CC8-CC9
18	Q	201	TGL	CB4-CB5-CB6-CB7
18	Q	201	TGL	C16-C17-C18-C19
19	C	305	PGV	C14-C15-C16-C17
19	N	606	PGV	C22-C23-C24-C25
19	P	304	PGV	C5-C6-C7-C8
23	C	303	PEK	C26-C27-C28-C29
25	P	309	DMU	C18-C19-C22-C25
24	P	305	CDL	C34-C35-C36-C37
24	T	104	CDL	C62-C63-C64-C65
24	T	104	CDL	C63-C64-C65-C66
24	T	104	CDL	C71-C72-C73-C74
18	A	606	TGL	C13-C14-C29-C30
18	O	302	TGL	CA7-CA8-CA9-C20
18	Y	101	TGL	CB6-CB7-CB8-CB9
19	C	306	PGV	C30-C31-C32-C33
19	P	303	PGV	C22-C23-C24-C25
23	C	303	PEK	C25-C26-C27-C28
24	C	307	CDL	C41-C42-C43-C44
24	T	104	CDL	C39-C40-C41-C42
19	P	303	PGV	C10-C11-C12-C13
23	C	303	PEK	C7-C8-C9-C10

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Mol	Chain	Res	Type	Atoms
23	T	102	PEK	C7-C8-C9-C10
23	T	103	PEK	C7-C8-C9-C10
18	A	606	TGL	C16-C15-CC9-CC8
18	Y	101	TGL	C12-C13-C14-C29
23	C	304	PEK	C25-C26-C27-C28
24	T	104	CDL	C33-C34-C35-C36
26	E	201	PSC	C23-C24-C25-C26
14	N	602	HEA	C4D-C3D-CAD-CBD
19	N	606	PGV	C24-C25-C26-C27
18	O	302	TGL	C12-C13-C14-C29
18	Y	101	TGL	CB3-CB4-CB5-CB6
18	Y	101	TGL	C17-C18-C19-C33
19	C	305	PGV	C22-C23-C24-C25
19	P	304	PGV	C13-C14-C15-C16
19	N	606	PGV	O05-C05-C06-O06
18	A	606	TGL	C11-C10-CB9-CB8
18	O	302	TGL	CA4-CA5-CA6-CA7
18	Y	101	TGL	CA6-CA7-CA8-CA9
19	N	606	PGV	C23-C24-C25-C26
19	N	607	PGV	C23-C24-C25-C26
23	T	101	PEK	C34-C35-C36-C37
24	T	104	CDL	C32-C33-C34-C35
24	T	104	CDL	C34-C35-C36-C37
24	T	104	CDL	C53-C54-C55-C56
18	A	606	TGL	C12-C13-C14-C29
19	N	606	PGV	C7-C8-C9-C10
23	G	102	PEK	C29-C30-C31-C32
18	Y	101	TGL	C11-C12-C13-C14
18	Y	101	TGL	CB2-CB3-CB4-CB5
24	G	101	CDL	C15-C16-C17-C18
18	A	606	TGL	C11-C12-C13-C14
18	L	101	TGL	C21-C22-C23-C24
18	Q	201	TGL	C10-C11-C12-C13
18	Y	101	TGL	C18-C19-C33-C34
19	P	303	PGV	C30-C31-C32-C33
23	C	304	PEK	C26-C27-C28-C29
24	G	101	CDL	C57-C58-C59-C60
26	E	201	PSC	C2-C3-C4-C5
25	C	313	DMU	C18-C19-C22-C25
18	A	606	TGL	CB4-CB5-CB6-CB7
18	Q	201	TGL	C13-C14-C29-C30
19	P	304	PGV	C29-C30-C31-C32

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Mol	Chain	Res	Type	Atoms
24	C	307	CDL	C80-C81-C82-C83
24	T	104	CDL	C52-C53-C54-C55
18	A	606	TGL	CA5-CA6-CA7-CA8
23	T	103	PEK	C24-C25-C26-C27
24	G	101	CDL	C34-C35-C36-C37
20	A	614	EDO	O1-C1-C2-O2
20	D	202	EDO	O1-C1-C2-O2
19	C	305	PGV	C24-C25-C26-C27
24	G	101	CDL	C73-C74-C75-C76
18	A	606	TGL	C15-C16-C17-C18
18	L	101	TGL	CB3-CB4-CB5-CB6
24	C	307	CDL	C54-C55-C56-C57
24	P	305	CDL	C56-C57-C58-C59
25	P	308	DMU	C18-C19-C22-C25
26	E	201	PSC	C24-C25-C26-C27
23	G	102	PEK	C13-C14-C15-C16
24	C	307	CDL	C76-C77-C78-C79
19	C	306	PGV	C12-C13-C14-C15
19	P	304	PGV	C11-C10-C9-C8
23	G	102	PEK	C2-C3-C4-C5
23	T	102	PEK	C15-C16-C17-C18
24	T	104	CDL	OB7-CB5-OB6-CB4
24	P	305	CDL	CB7-C71-C72-C73
23	T	103	PEK	C22-C21-O03-C01
24	G	101	CDL	C71-CB7-OB8-CB6
18	O	302	TGL	CA2-CA3-CA4-CA5
24	P	305	CDL	C18-C19-C20-C21
26	O	304	PSC	C20-C21-C22-C23
22	P	306	CHD	C20-C22-C23-C24
19	C	306	PGV	C2-C3-C4-C5
23	T	102	PEK	C33-C34-C35-C36
18	L	101	TGL	C10-C11-C12-C13
18	O	302	TGL	C23-C24-C25-C26
19	C	306	PGV	C3-C4-C5-C6
19	C	306	PGV	C28-C29-C30-C31
23	G	102	PEK	C21-C22-C23-C24
18	D	201	TGL	CC9-C15-C16-C17
18	L	101	TGL	C24-C25-C26-C27
18	Y	101	TGL	CA4-CA5-CA6-CA7
19	P	304	PGV	C24-C25-C26-C27
19	P	304	PGV	C20-C21-C22-C23
19	P	304	PGV	C23-C24-C25-C26

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Mol	Chain	Res	Type	Atoms
24	P	305	CDL	C23-C24-C25-C26
18	D	201	TGL	C13-C14-C29-C30
19	N	606	PGV	C2-C3-C4-C5
18	D	201	TGL	CB1-CB2-CB3-CB4
19	C	306	PGV	C2-C1-O01-C02
24	T	104	CDL	C51-CB5-OB6-CB4
18	O	302	TGL	CA6-CA7-CA8-CA9
18	Q	201	TGL	C21-C20-CA9-CA8
18	Y	101	TGL	CA2-CA3-CA4-CA5
23	T	102	PEK	C3-C4-C5-C6
24	T	104	CDL	C56-C57-C58-C59
24	T	104	CDL	C58-C59-C60-C61
24	T	104	CDL	C81-C82-C83-C84
19	C	306	PGV	O02-C1-O01-C02
18	O	302	TGL	CA1-CA2-CA3-CA4
18	Y	101	TGL	C19-C33-C34-C35
24	G	101	CDL	C17-C18-C19-C20
24	T	104	CDL	C15-C16-C17-C18
18	Y	101	TGL	CA9-C20-C21-C22
25	Z	101	DMU	C28-C31-C34-C37
19	C	305	PGV	C12-C13-C14-C15
19	M	101	PGV	C12-C13-C14-C15
19	N	606	PGV	C11-C10-C9-C8
19	N	607	PGV	C11-C10-C9-C8
23	T	101	PEK	C15-C16-C17-C18
19	P	303	PGV	C1-C2-C3-C4
18	L	101	TGL	C17-C18-C19-C33
19	P	304	PGV	C22-C23-C24-C25
24	G	101	CDL	C42-C43-C44-C45
24	P	305	CDL	C62-C63-C64-C65
19	P	304	PGV	C6-C7-C8-C9
24	T	104	CDL	C80-C81-C82-C83
18	Q	201	TGL	C19-C33-C34-C35
19	N	606	PGV	C21-C22-C23-C24
24	C	307	CDL	C14-C15-C16-C17
24	G	101	CDL	C55-C56-C57-C58
26	O	304	PSC	C22-C23-C24-C25
19	P	304	PGV	C26-C27-C28-C29
24	T	104	CDL	CA2-OA2-PA1-OA5
18	O	302	TGL	C16-C17-C18-C19
19	P	304	PGV	C1-C2-C3-C4
19	N	606	PGV	C01-C02-C03-O11

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Mol	Chain	Res	Type	Atoms
24	C	307	CDL	OA5-CA3-CA4-CA6
23	T	102	PEK	C26-C27-C28-C29
24	C	307	CDL	C60-C61-C62-C63
24	P	305	CDL	C31-C32-C33-C34
26	O	304	PSC	C5-C6-C7-C8
24	T	104	CDL	C12-C13-C14-C15
19	P	304	PGV	O12-C04-C05-C06
23	C	304	PEK	C30-C31-C32-C33
24	P	305	CDL	C76-C77-C78-C79
24	C	307	CDL	C77-C78-C79-C80
24	G	101	CDL	C18-C19-C20-C21
23	T	103	PEK	O04-C21-O03-C01
18	Y	101	TGL	C14-C29-C30-C31
23	T	101	PEK	C30-C31-C32-C33
24	C	307	CDL	C52-C53-C54-C55
24	C	307	CDL	C81-C82-C83-C84
14	N	602	HEA	C2D-C3D-CAD-CBD
18	O	302	TGL	C13-C14-C29-C30
23	C	304	PEK	O03-C01-C02-C03
24	C	307	CDL	CA3-CA4-CA6-OA8
24	C	307	CDL	CB3-CB4-CB6-OB8
24	P	305	CDL	CA3-CA4-CA6-OA8
24	T	104	CDL	CB3-CB4-CB6-OB8
24	T	104	CDL	C60-C61-C62-C63
24	P	305	CDL	C44-C45-C46-C47
18	D	201	TGL	CA6-CA7-CA8-CA9
19	A	607	PGV	C27-C28-C29-C30
19	M	101	PGV	C15-C16-C17-C18
19	P	304	PGV	C31-C32-C33-C34
19	C	306	PGV	C15-C16-C17-C18
24	G	101	CDL	OB9-CB7-OB8-CB6
24	G	101	CDL	C72-C73-C74-C75
23	C	303	PEK	C17-C18-C19-C20
19	M	101	PGV	O05-C05-C06-O06
18	Y	101	TGL	C23-C24-C25-C26
24	C	307	CDL	C37-C38-C39-C40
19	M	101	PGV	C11-C10-C9-C8
23	C	304	PEK	C2-C3-C4-C5
23	T	102	PEK	C2-C3-C4-C5
18	O	302	TGL	C25-C26-C27-C28
23	T	101	PEK	C16-C17-C18-C19
24	T	104	CDL	C24-C25-C26-C27

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Mol	Chain	Res	Type	Atoms
18	L	101	TGL	C18-C19-C33-C34
18	Y	101	TGL	C33-C34-C35-C36
23	T	103	PEK	C17-C18-C19-C20
26	O	304	PSC	C23-C24-C25-C26
22	C	308	CHD	C16-C17-C20-C21
18	Y	101	TGL	C29-C30-C31-C32
23	T	103	PEK	C16-C17-C18-C19
25	C	312	DMU	O6-C11-C9-C8
18	L	101	TGL	C29-C30-C31-C32
18	Q	201	TGL	C12-C13-C14-C29
23	T	102	PEK	C17-C18-C19-C20
18	A	606	TGL	C25-C26-C27-C28
23	G	102	PEK	C35-C36-C37-C38
19	N	607	PGV	C31-C32-C33-C34
23	C	304	PEK	C35-C36-C37-C38
26	E	201	PSC	C30-C31-C32-C33
18	L	101	TGL	C11-C10-CB9-CB8
18	L	101	TGL	C11-C12-C13-C14
19	A	607	PGV	C30-C31-C32-C33
19	N	606	PGV	C3-C4-C5-C6
23	T	103	PEK	C35-C36-C37-C38
19	C	306	PGV	O01-C02-C03-O11
24	G	101	CDL	OA5-CA3-CA4-OA6
24	G	101	CDL	OB5-CB3-CB4-OB6
19	A	607	PGV	C10-C11-C12-C13
23	C	303	PEK	C4-C5-C6-C7
19	P	303	PGV	C31-C32-C33-C34
25	C	312	DMU	C34-C37-C40-C43
18	D	201	TGL	CA4-CA5-CA6-CA7
19	A	607	PGV	C31-C32-C33-C34
24	G	101	CDL	C76-C77-C78-C79
25	C	312	DMU	C1-C6-O16-C18
23	T	101	PEK	O03-C01-C02-O01
24	C	307	CDL	C40-C41-C42-C43
18	Q	201	TGL	CA9-C20-C21-C22
19	C	306	PGV	C19-C20-C21-C22
24	G	101	CDL	C21-C22-C23-C24
24	G	101	CDL	C75-C76-C77-C78
24	C	307	CDL	C13-C14-C15-C16
19	A	607	PGV	C23-C24-C25-C26
19	M	101	PGV	C31-C32-C33-C34
24	P	305	CDL	C14-C15-C16-C17

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Mol	Chain	Res	Type	Atoms
19	M	101	PGV	C28-C29-C30-C31
24	C	307	CDL	C44-C45-C46-C47
24	P	305	CDL	C19-C20-C21-C22
19	C	306	PGV	C20-C21-C22-C23
18	D	201	TGL	C21-C22-C23-C24
19	P	304	PGV	C01-C02-C03-O11
23	T	103	PEK	C01-C02-C03-O11
24	G	101	CDL	C60-C61-C62-C63
24	P	305	CDL	C74-C75-C76-C77
18	L	101	TGL	CA6-CA7-CA8-CA9
18	Q	201	TGL	CA4-CA5-CA6-CA7
23	T	103	PEK	C22-C23-C24-C25
23	T	101	PEK	C26-C27-C28-C29
23	T	102	PEK	C28-C29-C30-C31
23	T	103	PEK	C28-C29-C30-C31
24	G	101	CDL	C82-C83-C84-C85
18	A	606	TGL	C17-C18-C19-C33
24	P	305	CDL	C57-C58-C59-C60
18	D	201	TGL	C33-C34-C35-C36
22	C	308	CHD	C16-C17-C20-C22
25	P	309	DMU	C19-C18-O16-C6
25	C	313	DMU	O6-C11-C9-C8
18	O	302	TGL	C14-C29-C30-C31
19	M	101	PGV	C23-C24-C25-C26
18	A	606	TGL	CG1-CG2-CG3-OG3
24	G	101	CDL	CB3-CB4-CB6-OB8
24	T	104	CDL	CA3-CA4-CA6-OA8
18	D	201	TGL	C16-C17-C18-C19
18	Q	201	TGL	CC6-CC7-CC8-CC9
24	P	305	CDL	C53-C54-C55-C56
18	D	201	TGL	CC5-CC6-CC7-CC8
18	D	201	TGL	CA9-C20-C21-C22
23	C	304	PEK	C6-C7-C8-C9
23	G	102	PEK	C9-C10-C11-C12
23	G	102	PEK	C12-C13-C14-C15
23	T	101	PEK	C11-C10-C9-C8
23	T	102	PEK	C9-C10-C11-C12
23	T	103	PEK	C11-C10-C9-C8
23	T	103	PEK	C9-C10-C11-C12
26	E	201	PSC	C9-C10-C11-C12
26	O	304	PSC	C9-C10-C11-C12
26	O	304	PSC	C10-C11-C12-C13

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Mol	Chain	Res	Type	Atoms
19	P	304	PGV	O05-C05-C06-O06
26	O	304	PSC	O01-C02-C03-O11
23	C	303	PEK	C15-C16-C17-C18
19	C	305	PGV	C1-C2-C3-C4
19	M	101	PGV	C21-C22-C23-C24
19	P	304	PGV	C30-C31-C32-C33
23	G	102	PEK	C34-C35-C36-C37
24	G	101	CDL	C64-C65-C66-C67
23	T	102	PEK	C23-C24-C25-C26
18	A	606	TGL	OG1-CG1-CG2-OG2
18	Y	101	TGL	OG2-CG2-CG3-OG3
19	P	304	PGV	O03-C01-C02-O01
23	C	304	PEK	O03-C01-C02-O01
24	C	307	CDL	OB6-CB4-CB6-OB8
24	T	104	CDL	OA6-CA4-CA6-OA8
18	Q	201	TGL	CA5-CA6-CA7-CA8
19	C	305	PGV	C15-C16-C17-C18
24	P	305	CDL	C16-C17-C18-C19
24	T	104	CDL	C16-C17-C18-C19
19	N	607	PGV	C27-C28-C29-C30
24	P	305	CDL	C33-C34-C35-C36
25	M	102	DMU	O16-C18-C19-C22
24	T	104	CDL	C64-C65-C66-C67
19	C	305	PGV	C02-C03-O11-P
19	P	303	PGV	C02-C03-O11-P
24	C	307	CDL	CA4-CA3-OA5-PA1
24	G	101	CDL	C1-CB2-OB2-PB2
24	P	305	CDL	C1-CA2-OA2-PA1
18	A	606	TGL	CB2-CB3-CB4-CB5
20	B	303	EDO	O1-C1-C2-O2
26	E	201	PSC	C31-C32-C33-C34
18	A	606	TGL	C29-C30-C31-C32
24	T	104	CDL	C82-C83-C84-C85
23	T	101	PEK	C1-C2-C3-C4
25	M	102	DMU	O6-C11-C9-C8
24	T	104	CDL	C57-C58-C59-C60
19	M	101	PGV	C19-C20-C21-C22
22	C	308	CHD	C13-C17-C20-C21
18	A	606	TGL	CC7-CC8-CC9-C15
18	O	302	TGL	CA3-CA4-CA5-CA6
24	G	101	CDL	C56-C57-C58-C59
19	P	304	PGV	C12-C13-C14-C15

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Mol	Chain	Res	Type	Atoms
19	C	306	PGV	C13-C14-C15-C16
24	T	104	CDL	C20-C21-C22-C23
19	C	305	PGV	C29-C30-C31-C32
23	C	303	PEK	C29-C30-C31-C32
24	G	101	CDL	C23-C24-C25-C26
18	D	201	TGL	C11-C12-C13-C14
19	C	306	PGV	C29-C30-C31-C32
24	G	101	CDL	C22-C23-C24-C25
24	P	305	CDL	C38-C39-C40-C41
25	Z	101	DMU	C19-C22-C25-C28
24	T	104	CDL	C38-C39-C40-C41
18	A	606	TGL	CG1-CG2-OG2-CB1
18	Q	201	TGL	CG3-CG2-OG2-CB1
23	G	102	PEK	C25-C26-C27-C28
18	A	606	TGL	C20-C21-C22-C23
24	C	307	CDL	C15-C16-C17-C18
18	D	201	TGL	OG1-CG1-CG2-CG3
18	Q	201	TGL	CG1-CG2-CG3-OG3
19	M	101	PGV	O03-C01-C02-C03
19	N	606	PGV	C02-C03-O11-P
19	P	304	PGV	O03-C01-C02-C03
24	C	307	CDL	C56-C57-C58-C59
19	P	304	PGV	O01-C02-C03-O11
26	E	201	PSC	O01-C02-C03-O11
19	N	607	PGV	C10-C11-C12-C13
18	Y	101	TGL	C16-C17-C18-C19
24	C	307	CDL	C17-C18-C19-C20
19	P	303	PGV	C21-C22-C23-C24
23	T	101	PEK	C23-C24-C25-C26
18	A	606	TGL	OG2-CG2-CG3-OG3
18	Q	201	TGL	OG2-CG2-CG3-OG3
19	M	101	PGV	O03-C01-C02-O01
24	C	307	CDL	OA6-CA4-CA6-OA8
18	O	302	TGL	CC5-CC6-CC7-CC8
24	P	305	CDL	CA5-C11-C12-C13
18	Q	201	TGL	CB5-CB6-CB7-CB8
24	C	307	CDL	C39-C40-C41-C42
25	P	309	DMU	C28-C31-C34-C37
22	C	308	CHD	C13-C17-C20-C22
18	Q	201	TGL	C29-C30-C31-C32
24	T	104	CDL	C55-C56-C57-C58
19	P	304	PGV	O12-C04-C05-O05

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Mol	Chain	Res	Type	Atoms
19	M	101	PGV	C05-C04-O12-P
24	G	101	CDL	C1-CA2-OA2-PA1
23	T	103	PEK	C31-C32-C33-C34
24	C	307	CDL	C12-C13-C14-C15
19	M	101	PGV	C04-O12-P-O13
19	P	304	PGV	C03-O11-P-O13
23	C	304	PEK	C03-O11-P-O14
24	C	307	CDL	CB2-OB2-PB2-OB3
24	G	101	CDL	CB3-OB5-PB2-OB3
24	P	305	CDL	CA3-OA5-PA1-OA3
24	P	305	CDL	CB2-OB2-PB2-OB3
24	T	104	CDL	CA2-OA2-PA1-OA4
26	E	201	PSC	C03-O11-P-O13
26	E	201	PSC	C04-O12-P-O13
26	E	201	PSC	C01-C02-C03-O11
26	O	304	PSC	C01-C02-C03-O11
24	T	104	CDL	C61-C62-C63-C64
23	T	102	PEK	C31-C32-C33-C34
19	C	305	PGV	C30-C31-C32-C33
26	O	304	PSC	C05-C04-O12-P
19	P	303	PGV	C12-C13-C14-C15
19	M	101	PGV	O12-C04-C05-C06
23	T	103	PEK	O01-C02-C03-O11
24	C	307	CDL	OA5-CA3-CA4-OA6
24	T	104	CDL	C54-C55-C56-C57
24	T	104	CDL	C31-C32-C33-C34
18	D	201	TGL	CB2-CB3-CB4-CB5
19	N	606	PGV	C15-C16-C17-C18
19	N	607	PGV	C30-C31-C32-C33
18	L	101	TGL	CG1-CG2-CG3-OG3
18	Y	101	TGL	CG1-CG2-CG3-OG3
25	C	312	DMU	O6-C11-C9-O1
18	L	101	TGL	OG2-CG2-CG3-OG3
24	P	305	CDL	OA6-CA4-CA6-OA8
24	G	101	CDL	C33-C34-C35-C36
23	G	102	PEK	C10-C11-C12-C13
18	L	101	TGL	C14-C29-C30-C31
19	M	101	PGV	C2-C3-C4-C5
19	P	303	PGV	C11-C12-C13-C14
19	A	607	PGV	C14-C15-C16-C17
19	N	606	PGV	C31-C32-C33-C34
23	C	303	PEK	C23-C24-C25-C26

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Mol	Chain	Res	Type	Atoms
26	O	304	PSC	C15-C16-C17-C18
18	D	201	TGL	CB7-CB8-CB9-C10
23	T	101	PEK	C29-C30-C31-C32
24	T	104	CDL	C59-C60-C61-C62
23	T	101	PEK	C10-C11-C12-C13
25	C	313	DMU	O6-C11-C9-O1
19	M	101	PGV	C14-C15-C16-C17
18	O	302	TGL	CB3-CB4-CB5-CB6
24	C	307	CDL	C57-C58-C59-C60
19	C	306	PGV	C01-C02-C03-O11
24	G	101	CDL	OA5-CA3-CA4-CA6
24	G	101	CDL	OB5-CB3-CB4-CB6
23	T	102	PEK	C25-C26-C27-C28
25	M	102	DMU	C34-C37-C40-C43
24	C	307	CDL	C22-C23-C24-C25
24	P	305	CDL	CA4-CA3-OA5-PA1
24	T	104	CDL	CB4-CB3-OB5-PB2
18	D	201	TGL	OG2-CB1-CB2-CB3
19	P	303	PGV	C28-C29-C30-C31
24	P	305	CDL	C79-C80-C81-C82
20	A	616	EDO	O1-C1-C2-O2
20	F	104	EDO	O1-C1-C2-O2
20	N	609	EDO	O1-C1-C2-O2
20	N	613	EDO	O1-C1-C2-O2
19	C	305	PGV	C23-C24-C25-C26
25	C	312	DMU	C18-C19-C22-C25
19	C	306	PGV	C14-C15-C16-C17
19	C	305	PGV	C9-C10-C11-C12
24	C	307	CDL	C59-C60-C61-C62
24	T	104	CDL	C13-C14-C15-C16
19	C	306	PGV	C04-O12-P-O11
19	P	304	PGV	C04-O12-P-O11
23	C	304	PEK	C04-O12-P-O11
23	G	102	PEK	C04-O12-P-O11
23	T	101	PEK	C03-O11-P-O12
23	T	103	PEK	C04-O12-P-O11
24	C	307	CDL	CA3-OA5-PA1-OA2
24	G	101	CDL	CB2-OB2-PB2-OB5
24	C	307	CDL	C61-C62-C63-C64
23	T	101	PEK	O03-C01-C02-C03
18	Y	101	TGL	C20-C21-C22-C23
23	T	103	PEK	C27-C28-C29-C30

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Mol	Chain	Res	Type	Atoms
24	T	104	CDL	C35-C36-C37-C38
26	E	201	PSC	C3-C4-C5-C6
19	N	607	PGV	C20-C21-C22-C23
26	O	304	PSC	C02-C03-O11-P
25	Z	101	DMU	C22-C25-C28-C31
23	G	102	PEK	C7-C8-C9-C10
18	D	201	TGL	C12-C13-C14-C29
18	D	201	TGL	CA2-CA1-OG1-CG1
14	A	602	HEA	CAA-CBA-CGA-O1A
18	Q	201	TGL	C24-C25-C26-C27
25	C	312	DMU	O16-C18-C19-C22
14	N	602	HEA	CAA-CBA-CGA-O1A
23	T	101	PEK	C2-C3-C4-C5
26	E	201	PSC	C6-C7-C8-C9
24	C	307	CDL	C16-C17-C18-C19
22	C	308	CHD	C22-C23-C24-O26
19	M	101	PGV	O01-C1-C2-C3
18	L	101	TGL	OG1-CG1-CG2-OG2
19	P	303	PGV	C05-C04-O12-P
24	G	101	CDL	CA4-CA3-OA5-PA1
19	C	305	PGV	C11-C12-C13-C14
19	N	607	PGV	C24-C25-C26-C27
19	M	101	PGV	C13-C14-C15-C16
24	C	307	CDL	C62-C63-C64-C65
19	N	606	PGV	C30-C31-C32-C33
14	N	601	HEA	CAD-CBD-CGD-O1D
22	C	308	CHD	C22-C23-C24-O25
19	P	303	PGV	C19-C20-C21-C22
22	P	306	CHD	C16-C17-C20-C22
22	P	306	CHD	C22-C23-C24-O25
26	E	201	PSC	C01-C02-O01-C1
26	E	201	PSC	C03-C02-O01-C1
19	N	606	PGV	C19-C20-C21-C22
14	A	602	HEA	CAA-CBA-CGA-O2A
23	G	102	PEK	C5-C6-C7-C8
23	G	102	PEK	C6-C7-C8-C9
23	T	103	PEK	C12-C13-C14-C15
22	P	306	CHD	C22-C23-C24-O26
19	C	306	PGV	C02-C03-O11-P
24	P	305	CDL	C72-C73-C74-C75
14	N	602	HEA	CAA-CBA-CGA-O2A
22	C	301	CHD	C22-C23-C24-O26

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Mol	Chain	Res	Type	Atoms
18	L	101	TGL	C33-C34-C35-C36
18	A	606	TGL	CC5-CC6-CC7-CC8
14	N	601	HEA	CAD-CBD-CGD-O2D
22	P	301	CHD	C22-C23-C24-O26
19	N	606	PGV	C20-C21-C22-C23
19	M	101	PGV	O12-C04-C05-O05
22	J	101	CHD	C22-C23-C24-O25
19	P	304	PGV	C3-C4-C5-C6
23	T	103	PEK	C23-C24-C25-C26
18	Y	101	TGL	CA3-CA4-CA5-CA6
26	O	304	PSC	C02-C01-O03-C19
22	W	101	CHD	C22-C23-C24-O25
18	D	201	TGL	CA5-CA6-CA7-CA8
18	D	201	TGL	OA1-CA1-OG1-CG1
20	N	615	EDO	O1-C1-C2-O2
23	T	103	PEK	C32-C33-C34-C35
24	P	305	CDL	C54-C55-C56-C57
23	C	304	PEK	C10-C11-C12-C13
24	P	305	CDL	C37-C38-C39-C40
19	A	607	PGV	O03-C19-C20-C21
22	O	301	CHD	C22-C23-C24-O26
26	E	201	PSC	C4-C5-C6-C7
23	T	103	PEK	C3-C4-C5-C6
23	T	103	PEK	C14-C15-C16-C17
24	C	307	CDL	C58-C59-C60-C61
14	N	602	HEA	CAD-CBD-CGD-O2D
22	B	302	CHD	C22-C23-C24-O26
14	A	602	HEA	C26-C15-C16-C17
22	W	101	CHD	C22-C23-C24-O26
23	C	304	PEK	C17-C18-C19-C20
14	A	601	HEA	CAD-CBD-CGD-O1D
22	J	101	CHD	C22-C23-C24-O26
26	E	201	PSC	C12-C13-C14-C15
18	Q	201	TGL	C11-C10-CB9-CB8
22	P	301	CHD	C22-C23-C24-O25
18	L	101	TGL	CC1-CC2-CC3-CC4
24	C	307	CDL	C33-C34-C35-C36
22	C	301	CHD	C22-C23-C24-O25
18	O	302	TGL	C15-C16-C17-C18
24	T	104	CDL	C52-C51-CB5-OB6
14	A	602	HEA	CAD-CBD-CGD-O2D
14	N	602	HEA	C26-C15-C16-C17

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Mol	Chain	Res	Type	Atoms
24	P	305	CDL	C36-C37-C38-C39
23	C	304	PEK	O01-C1-C2-C3
19	A	607	PGV	C11-C10-C9-C8
14	A	602	HEA	CAD-CBD-CGD-O1D
19	C	306	PGV	O04-C19-O03-C01
24	G	101	CDL	C35-C36-C37-C38
23	T	101	PEK	O01-C1-C2-C3
24	C	307	CDL	C12-C11-CA5-OA6
19	A	607	PGV	C15-C16-C17-C18
14	N	602	HEA	CAD-CBD-CGD-O1D
22	O	301	CHD	C22-C23-C24-O25
18	A	606	TGL	CB3-CB4-CB5-CB6
26	E	201	PSC	O03-C19-C20-C21
20	N	608	EDO	O1-C1-C2-O2
19	C	306	PGV	C24-C25-C26-C27
23	T	102	PEK	C14-C15-C16-C17
25	M	102	DMU	O6-C11-C9-O1
22	B	302	CHD	C22-C23-C24-O25
18	D	201	TGL	OG3-CC1-CC2-CC3
19	C	306	PGV	C20-C19-O03-C01
23	T	101	PEK	C01-C02-C03-O11
18	D	201	TGL	OG1-CA1-CA2-CA3
18	L	101	TGL	OG2-CB1-CB2-CB3
24	P	305	CDL	OB6-CB4-CB6-OB8
26	O	304	PSC	O03-C01-C02-O01
22	P	306	CHD	C16-C17-C20-C21
19	A	607	PGV	C13-C14-C15-C16
19	N	607	PGV	C11-C12-C13-C14
23	T	101	PEK	C14-C15-C16-C17
26	O	304	PSC	C12-C13-C14-C15
18	O	302	TGL	OG3-CC1-CC2-CC3
18	Y	101	TGL	OG1-CA1-CA2-CA3
23	C	303	PEK	C21-C22-C23-C24
23	T	102	PEK	O01-C1-C2-C3
24	T	104	CDL	C32-C31-CA7-OA8
24	P	305	CDL	C32-C33-C34-C35
19	P	303	PGV	C29-C30-C31-C32
19	N	606	PGV	C9-C10-C11-C12
22	W	101	CHD	C20-C22-C23-C24
23	G	102	PEK	C3-C4-C5-C6
23	C	304	PEK	C15-C16-C17-C18
18	L	101	TGL	C16-C17-C18-C19

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Mol	Chain	Res	Type	Atoms
18	Q	201	TGL	C15-C16-C17-C18
14	A	601	HEA	CAD-CBD-CGD-O2D
24	G	101	CDL	C74-C75-C76-C77
18	L	101	TGL	C23-C24-C25-C26
23	C	304	PEK	O02-C1-C2-C3
24	C	307	CDL	C12-C11-CA5-OA7
24	T	104	CDL	C52-C51-CB5-OB7
18	L	101	TGL	OG1-CG1-CG2-CG3
26	O	304	PSC	C13-C14-C15-C16
18	Q	201	TGL	C18-C19-C33-C34
18	O	302	TGL	C11-C12-C13-C14
18	A	606	TGL	OG1-CA1-CA2-CA3
18	Y	101	TGL	OA1-CA1-CA2-CA3
18	L	101	TGL	CA9-C20-C21-C22
19	P	304	PGV	C04-O12-P-O13
23	G	102	PEK	C04-O12-P-O14
23	T	101	PEK	C03-O11-P-O14
23	T	103	PEK	C04-O12-P-O14
24	C	307	CDL	CB2-OB2-PB2-OB4
18	Q	201	TGL	C20-C21-C22-C23
18	D	201	TGL	OC1-CC1-CC2-CC3
24	T	104	CDL	C32-C31-CA7-OA9
26	E	201	PSC	O04-C19-C20-C21
25	P	308	DMU	O5-C4-C57-O61
18	L	101	TGL	CA7-CA8-CA9-C20
26	E	201	PSC	C19-C20-C21-C22
23	C	303	PEK	O12-C04-C05-N
23	T	103	PEK	O12-C04-C05-N
19	A	607	PGV	C26-C27-C28-C29
24	G	101	CDL	C80-C81-C82-C83
23	C	303	PEK	C30-C31-C32-C33
18	D	201	TGL	CG1-CG2-OG2-CB1
18	D	201	TGL	CG3-CG2-OG2-CB1
23	G	102	PEK	C05-C04-O12-P
26	E	201	PSC	C05-C04-O12-P
23	T	101	PEK	O02-C1-C2-C3
23	C	303	PEK	C24-C25-C26-C27
23	T	101	PEK	O03-C21-C22-C23
23	T	102	PEK	O02-C1-C2-C3
23	T	103	PEK	O01-C1-C2-C3
24	P	305	CDL	C52-C51-CB5-OB6
18	L	101	TGL	OB1-CB1-CB2-CB3

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Mol	Chain	Res	Type	Atoms
18	O	302	TGL	OC1-CC1-CC2-CC3
23	G	102	PEK	C02-C03-O11-P
14	A	601	HEA	C26-C15-C16-C17
23	T	101	PEK	O01-C02-C03-O11
24	G	101	CDL	C32-C31-CA7-OA8
25	P	309	DMU	C22-C25-C28-C31
23	T	103	PEK	O02-C1-C2-C3
24	G	101	CDL	C32-C31-CA7-OA9
14	A	601	HEA	CAA-CBA-CGA-O1A
25	P	308	DMU	C19-C18-O16-C6
18	Y	101	TGL	OG2-CB1-CB2-CB3
24	G	101	CDL	C52-C51-CB5-OB6
24	P	305	CDL	C32-C31-CA7-OA8
22	P	306	CHD	C13-C17-C20-C21
18	D	201	TGL	OA1-CA1-CA2-CA3
23	T	101	PEK	O04-C21-C22-C23
18	O	302	TGL	CC3-CC4-CC5-CC6
18	A	606	TGL	OA1-CA1-CA2-CA3
23	C	304	PEK	C14-C15-C16-C17
19	N	607	PGV	C21-C22-C23-C24
18	Y	101	TGL	OB1-CB1-CB2-CB3
18	L	101	TGL	OG1-CA1-CA2-CA3
19	N	606	PGV	O03-C19-C20-C21

There are no ring outliers.

49 monomers are involved in 153 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
14	A	602	HEA	4	0
24	G	101	CDL	5	0
20	N	608	EDO	1	0
20	S	103	EDO	1	0
20	A	616	EDO	1	0
23	C	303	PEK	3	0
22	C	308	CHD	3	0
24	P	305	CDL	8	0
22	W	101	CHD	1	0
19	N	607	PGV	2	0
20	E	202	EDO	1	0
20	D	202	EDO	2	0
20	N	613	EDO	4	0
14	N	601	HEA	2	0

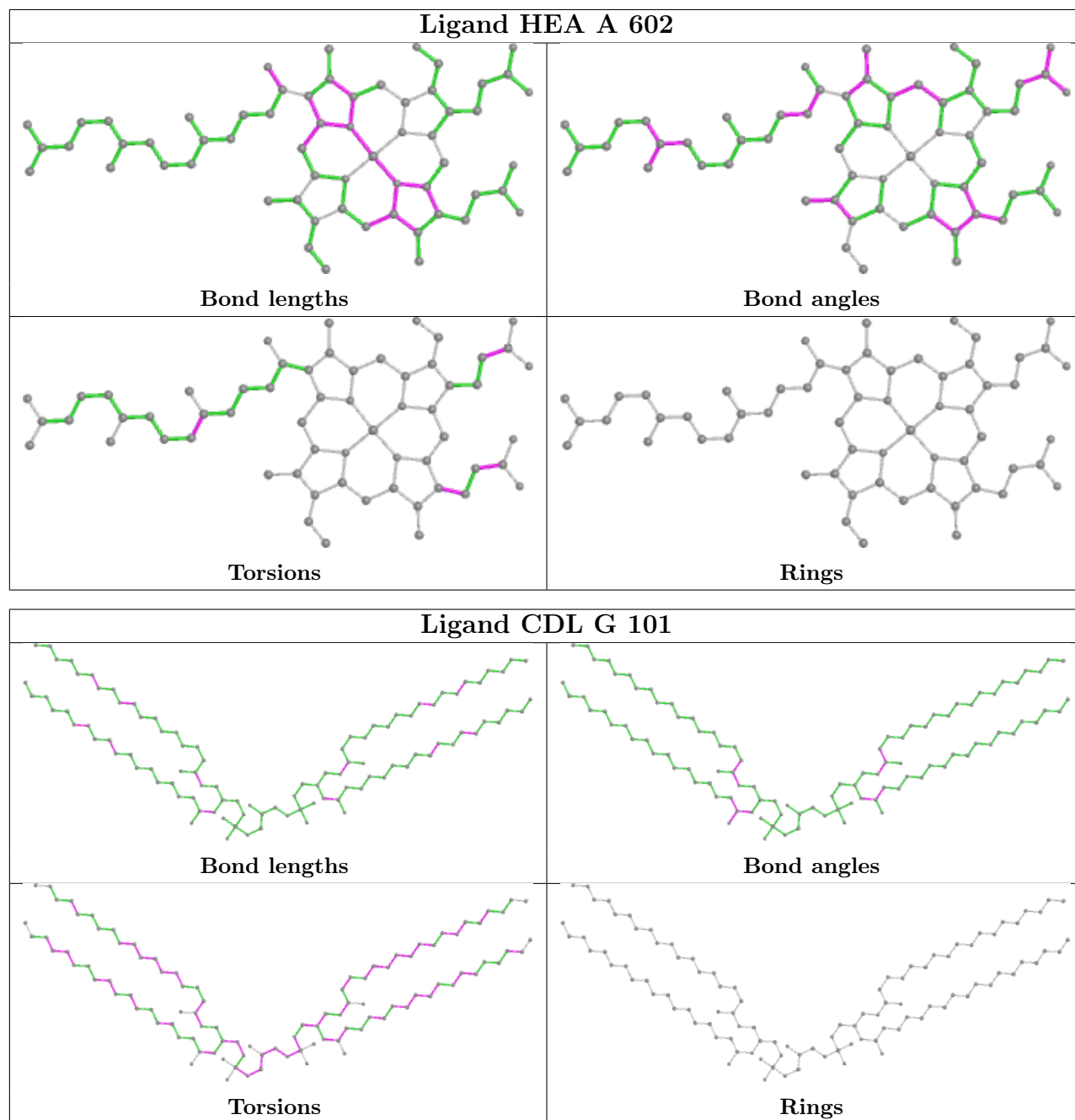
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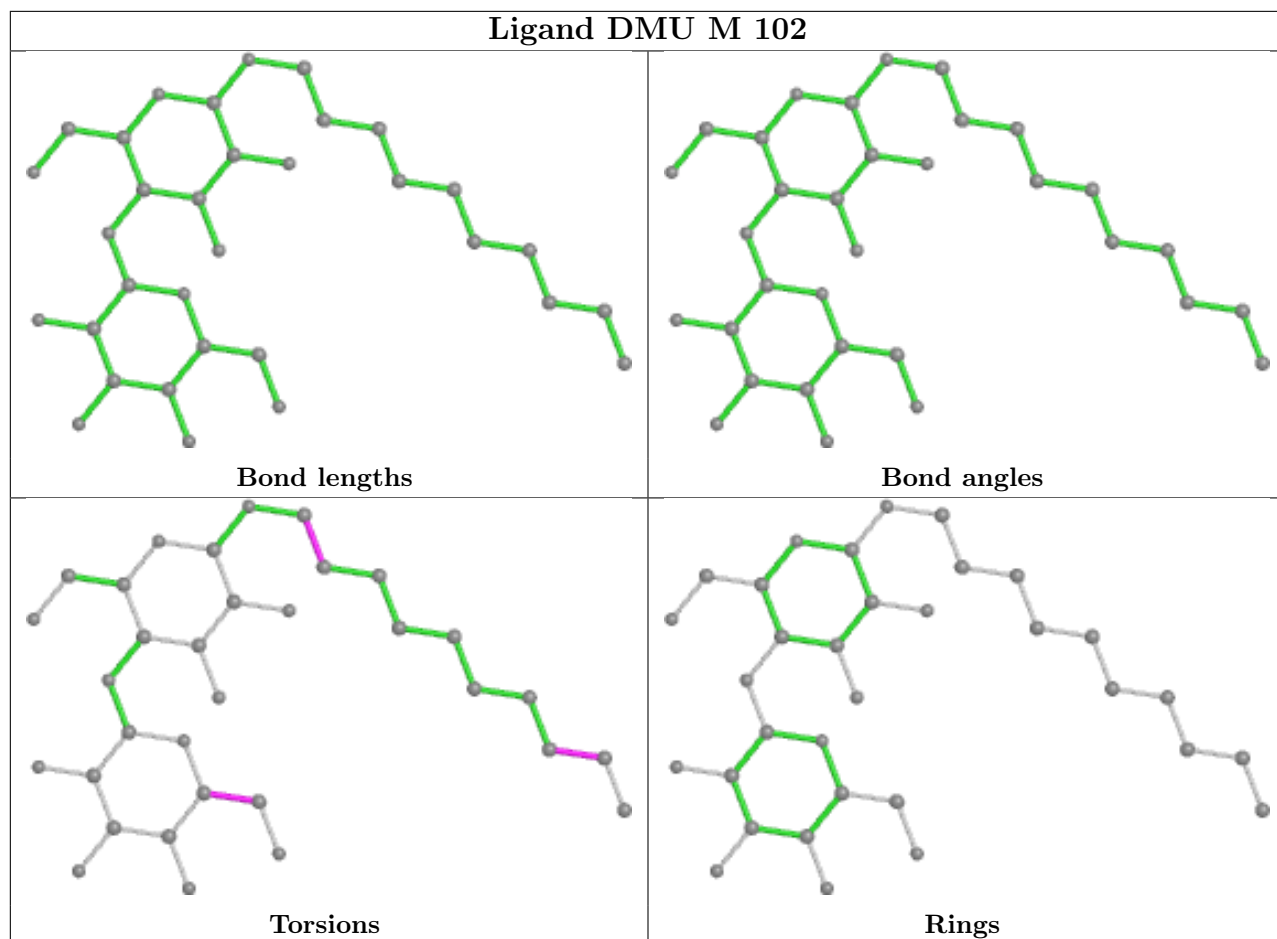
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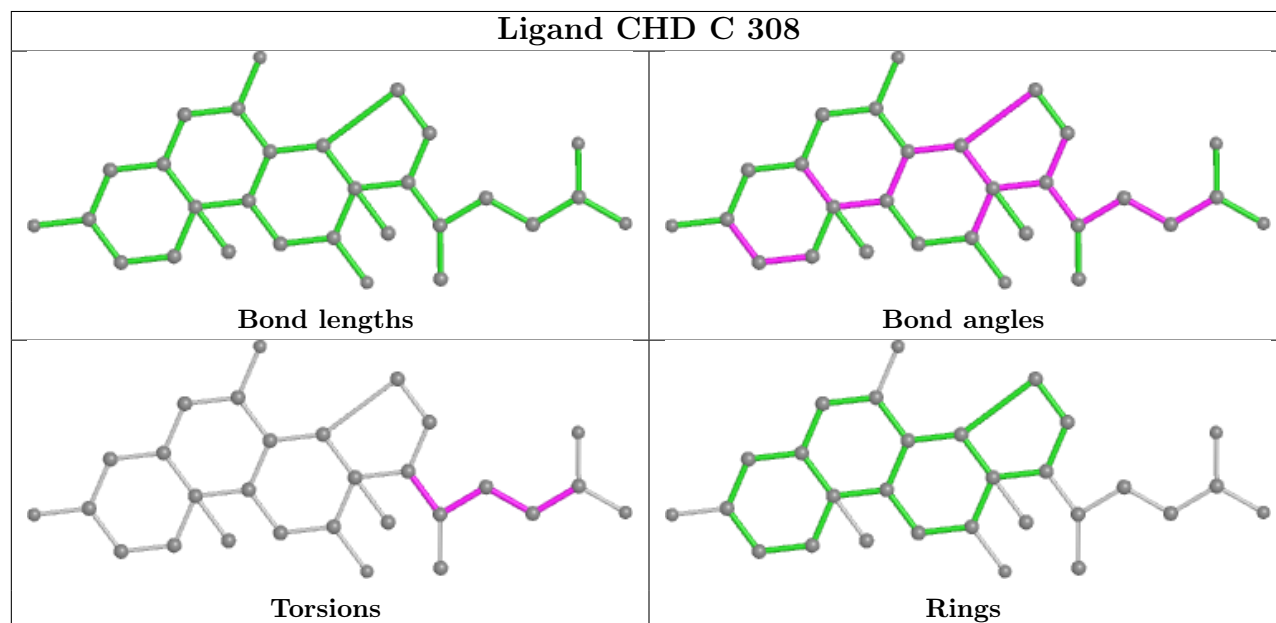
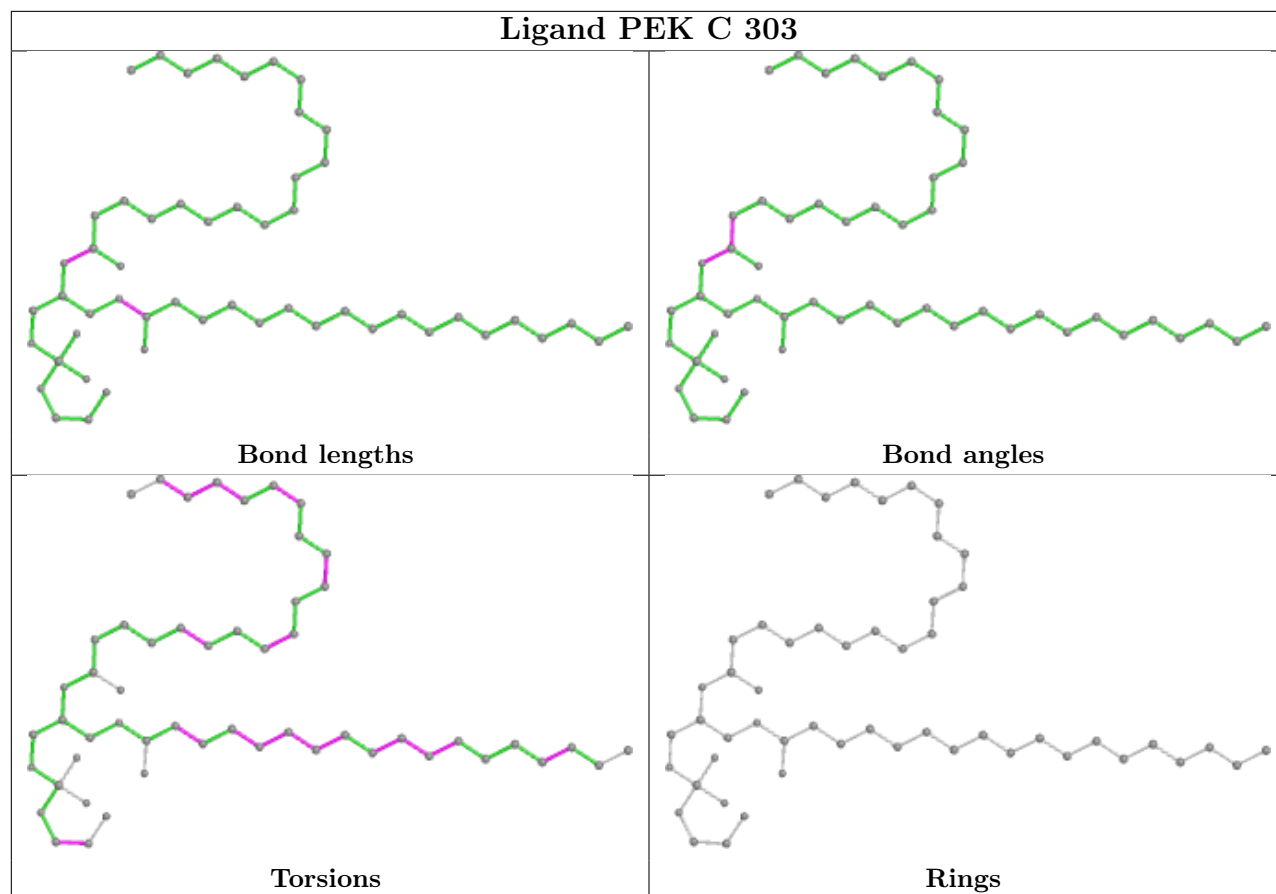
Mol	Chain	Res	Type	Clashes	Symm-Clashes
25	P	309	DMU	8	0
20	N	612	EDO	1	0
24	C	307	CDL	10	0
23	T	101	PEK	2	0
20	N	614	EDO	1	0
25	P	308	DMU	1	0
19	C	306	PGV	1	0
24	T	104	CDL	13	0
26	O	304	PSC	6	0
14	N	602	HEA	5	0
20	N	617	EDO	1	0
26	E	201	PSC	10	0
25	C	313	DMU	12	0
19	C	305	PGV	3	0
19	A	607	PGV	2	0
18	L	101	TGL	4	0
18	A	606	TGL	3	0
18	D	201	TGL	4	0
23	T	102	PEK	3	0
20	N	615	EDO	2	0
19	N	606	PGV	2	0
22	P	306	CHD	1	0
20	A	608	EDO	1	0
19	P	303	PGV	3	0
22	O	301	CHD	1	0
18	Y	101	TGL	5	0
14	A	601	HEA	2	0
22	P	301	CHD	2	0
23	T	103	PEK	2	0
19	P	304	PGV	1	0
18	O	302	TGL	2	0
23	C	304	PEK	2	0
20	A	611	EDO	2	0
20	A	615	EDO	1	0
19	M	101	PGV	2	0

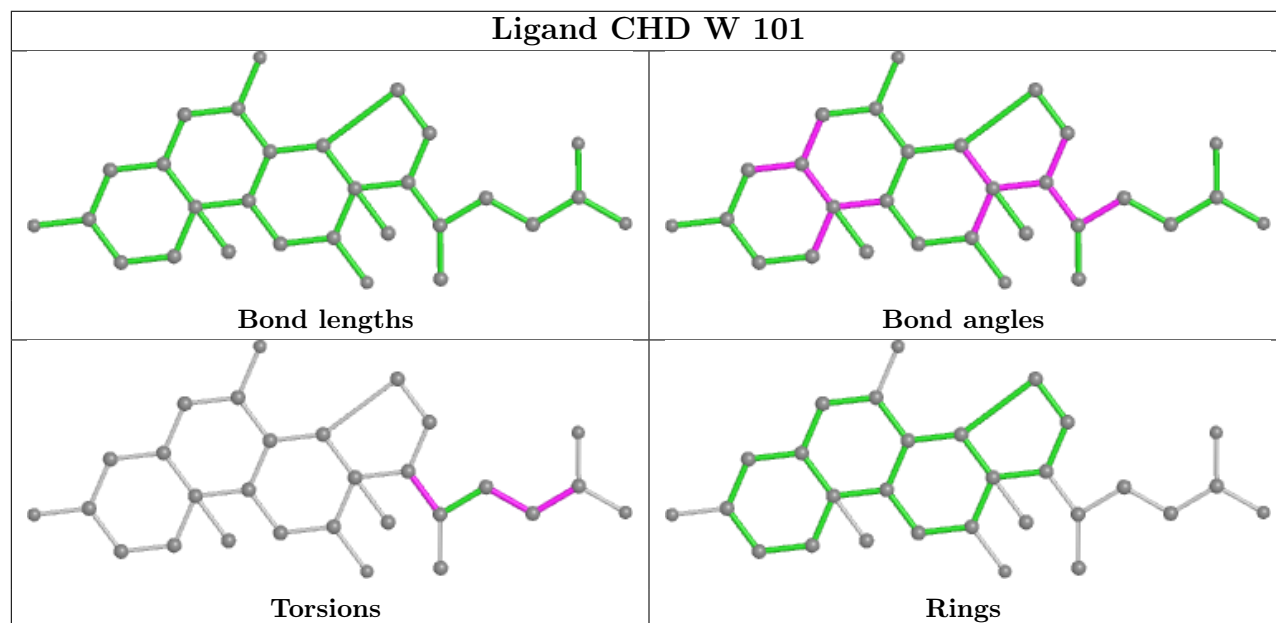
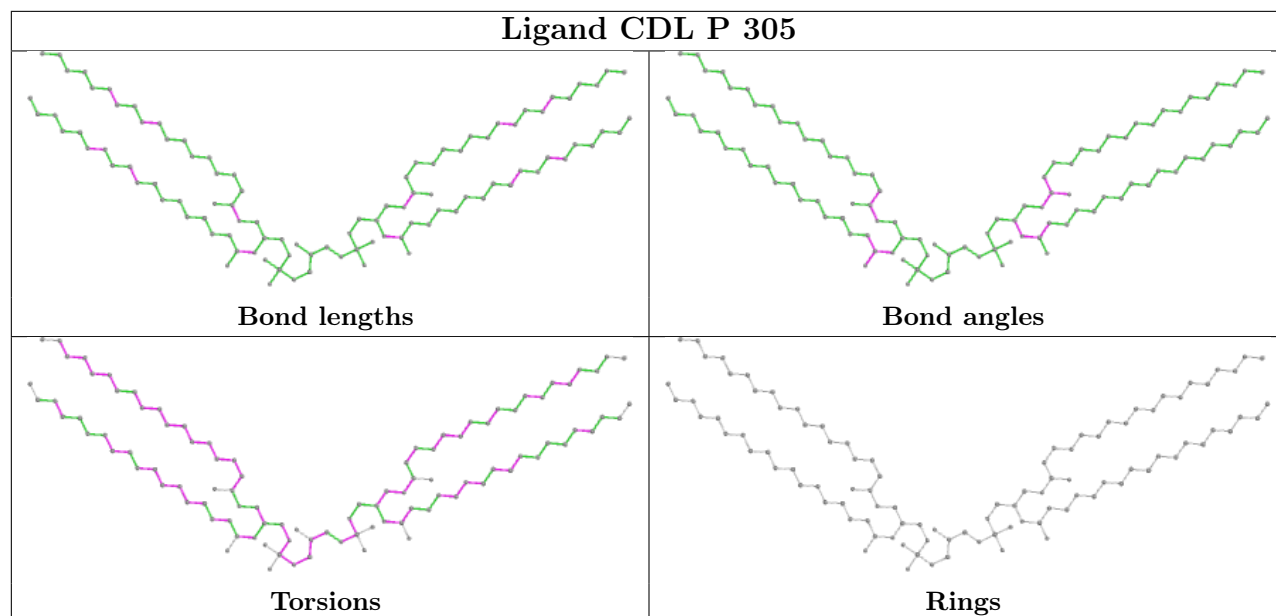
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring

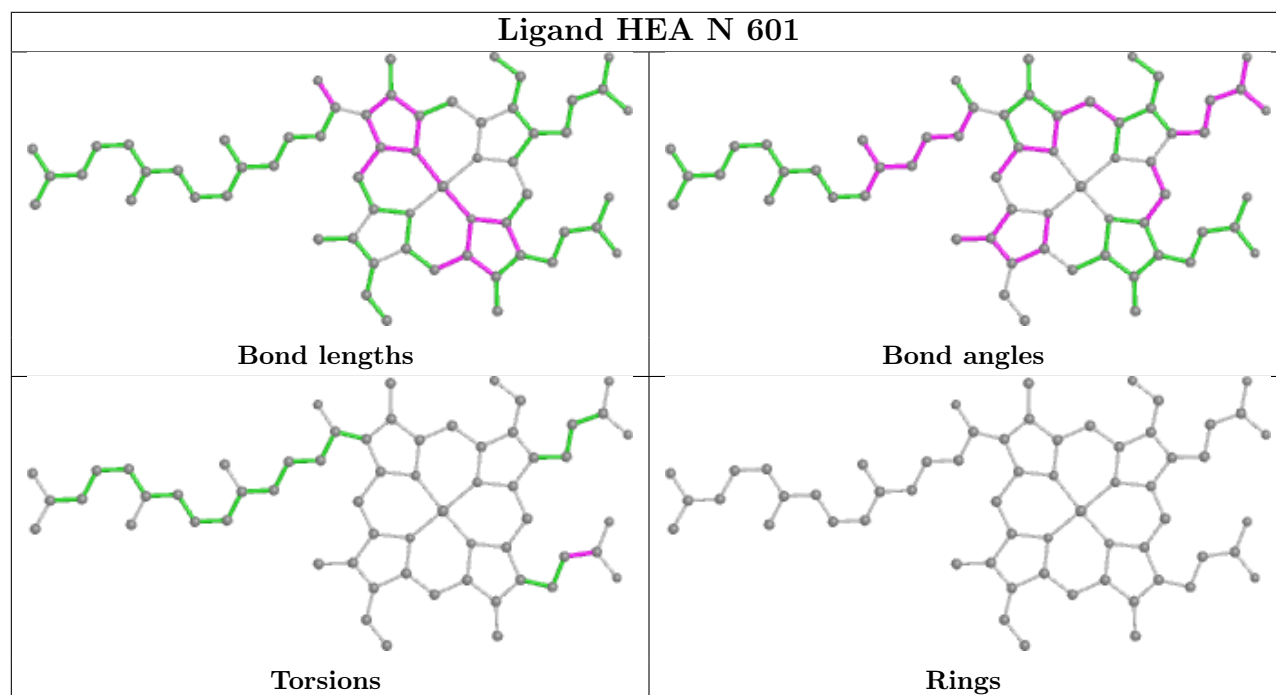
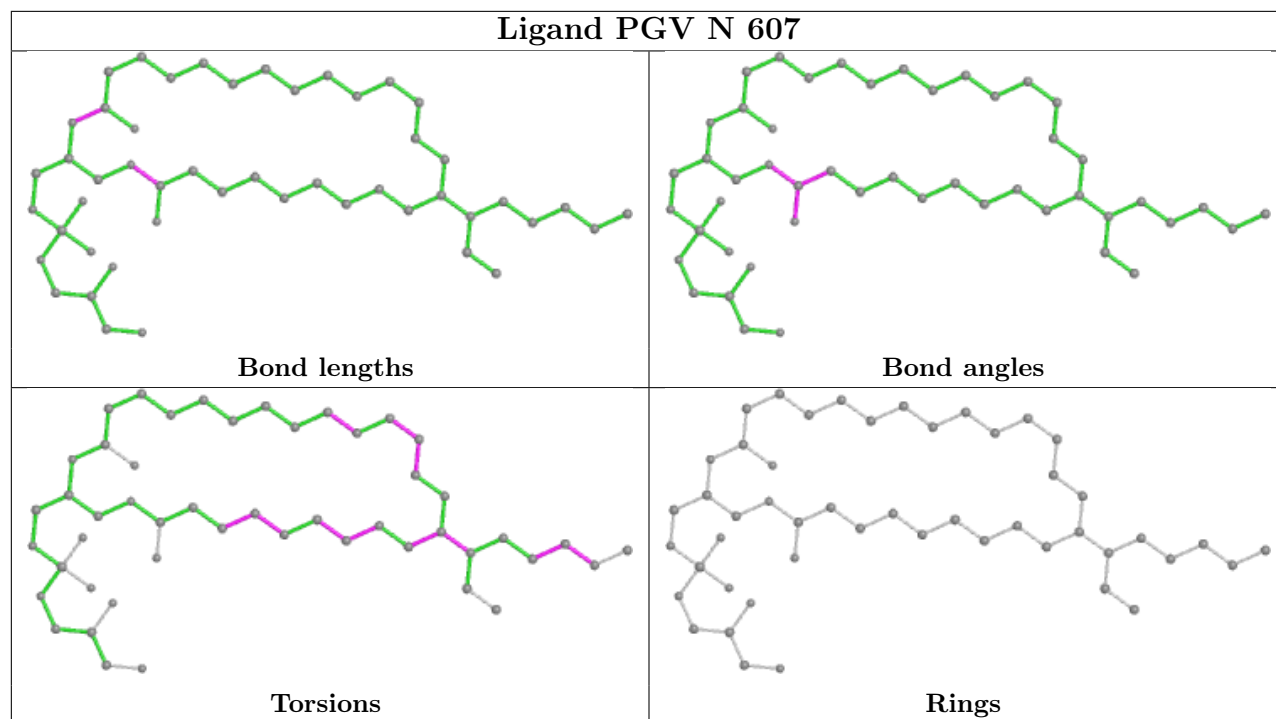
in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

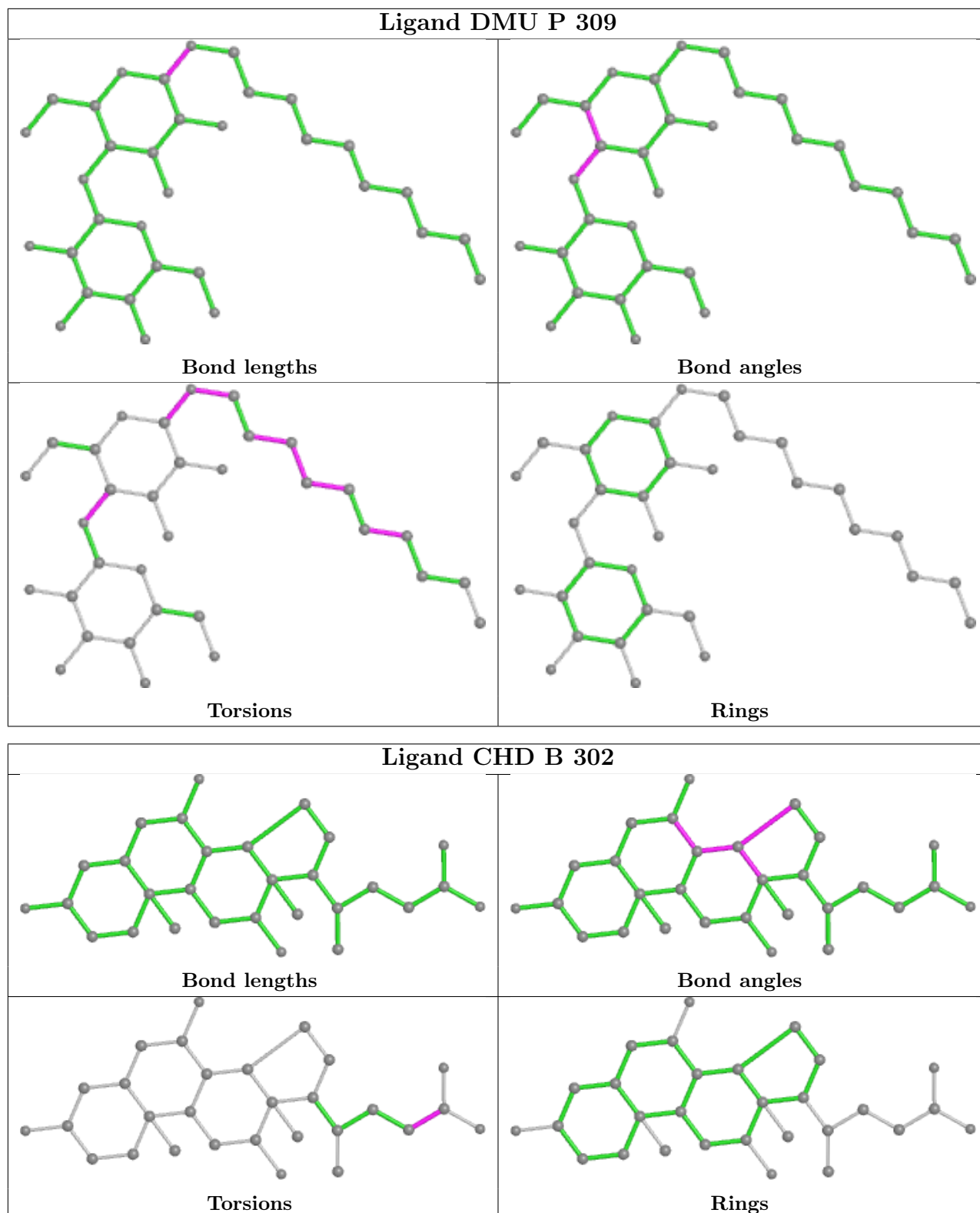


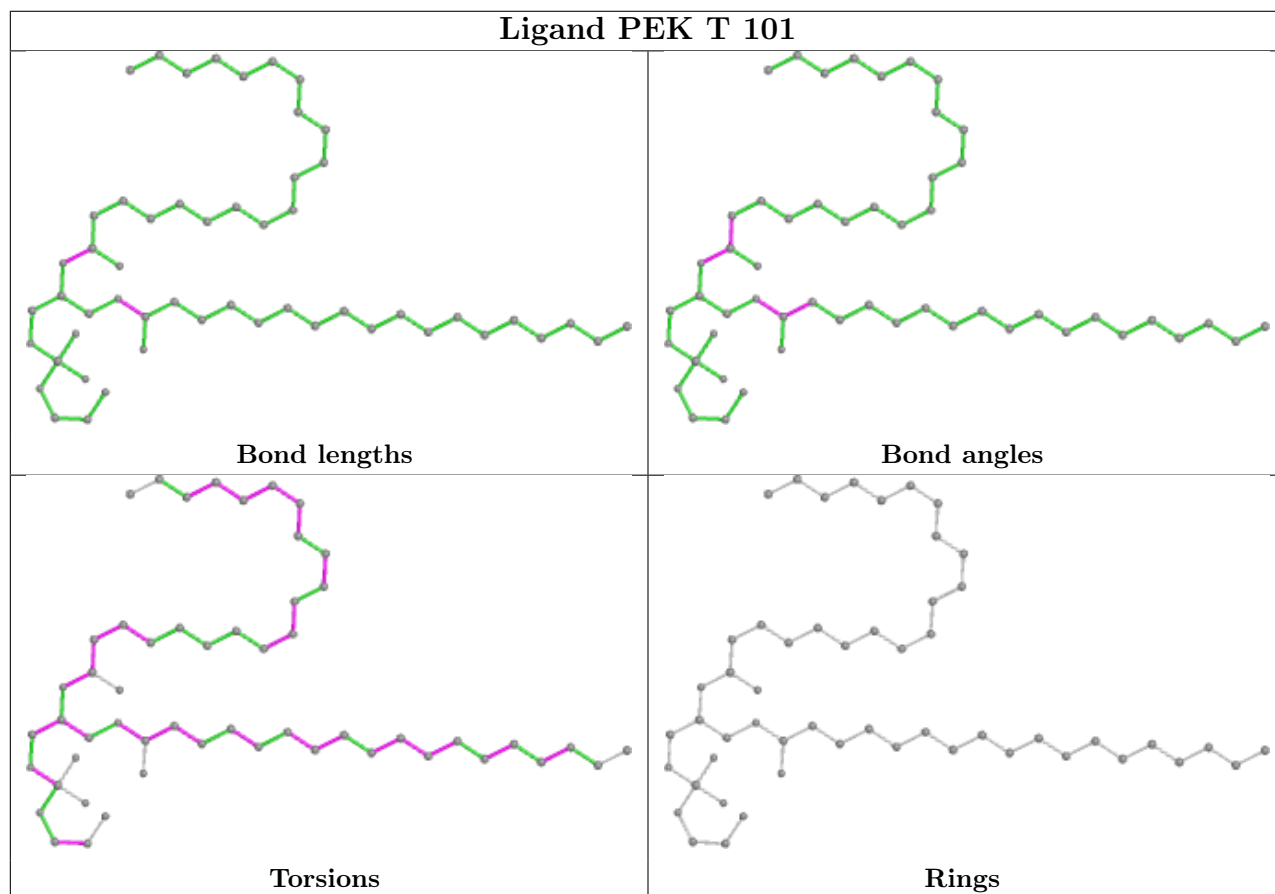
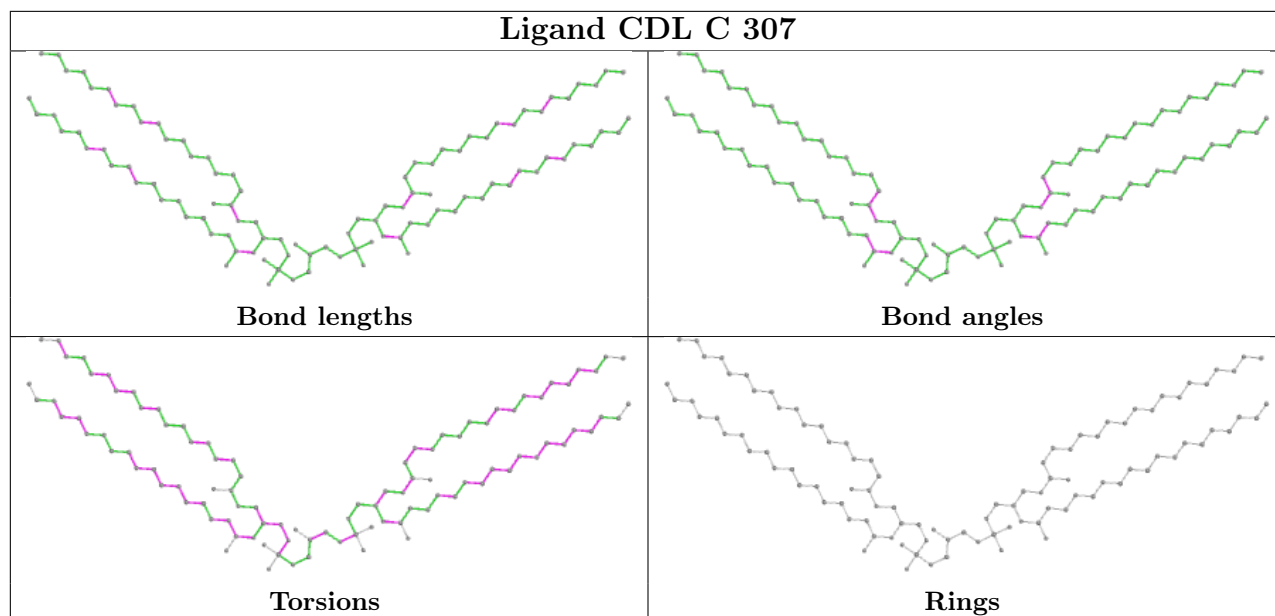


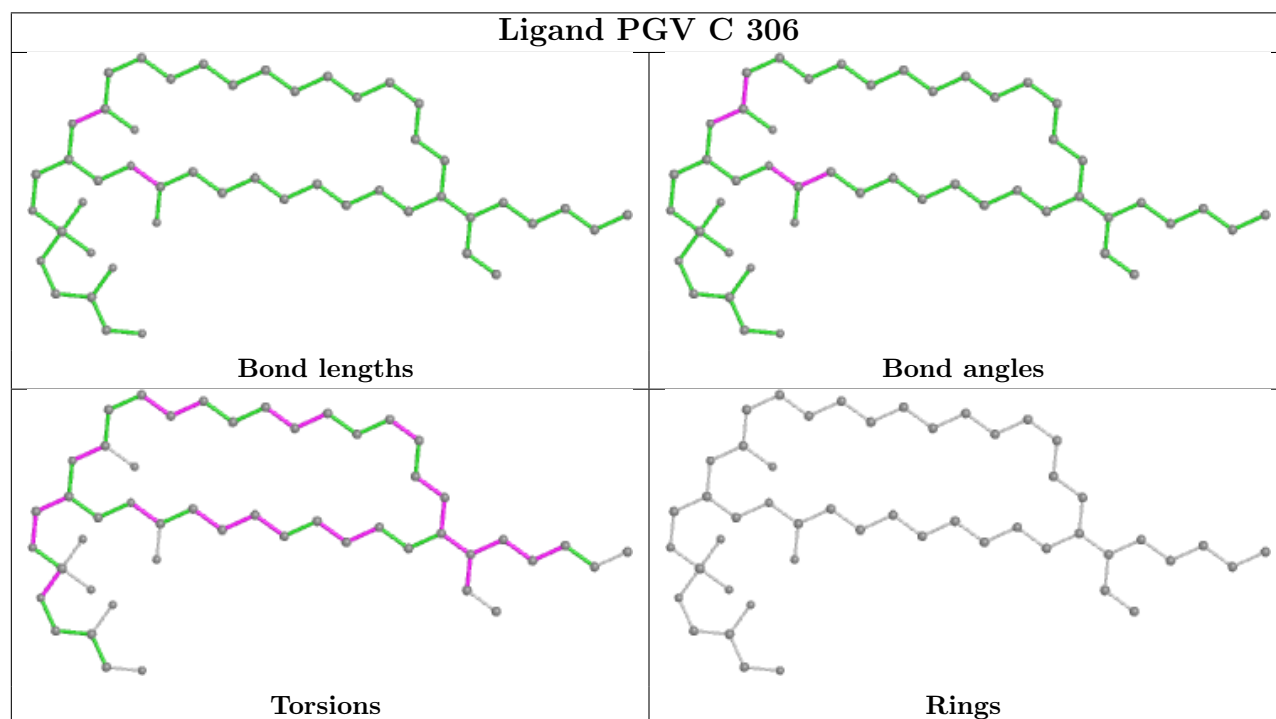
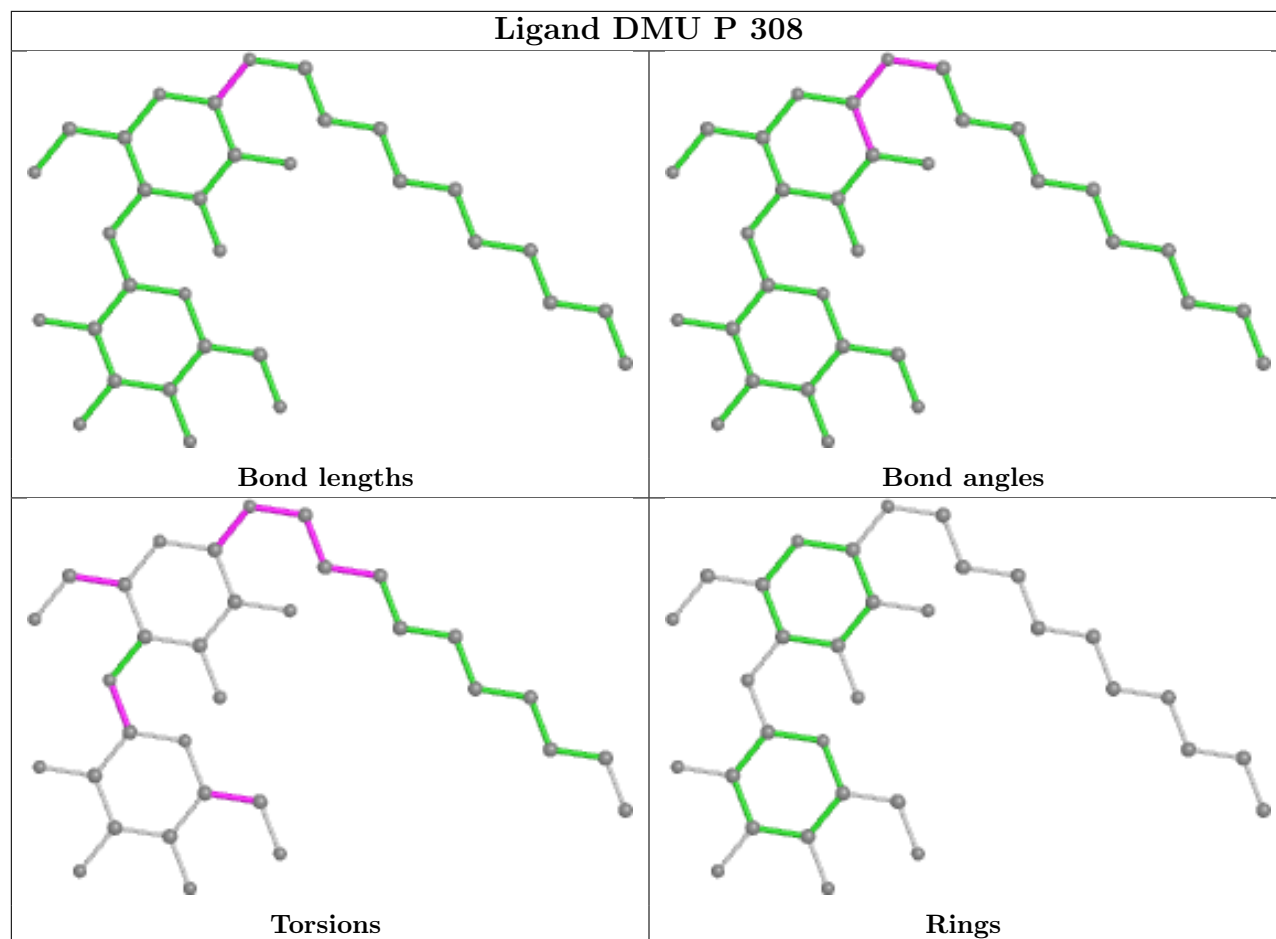


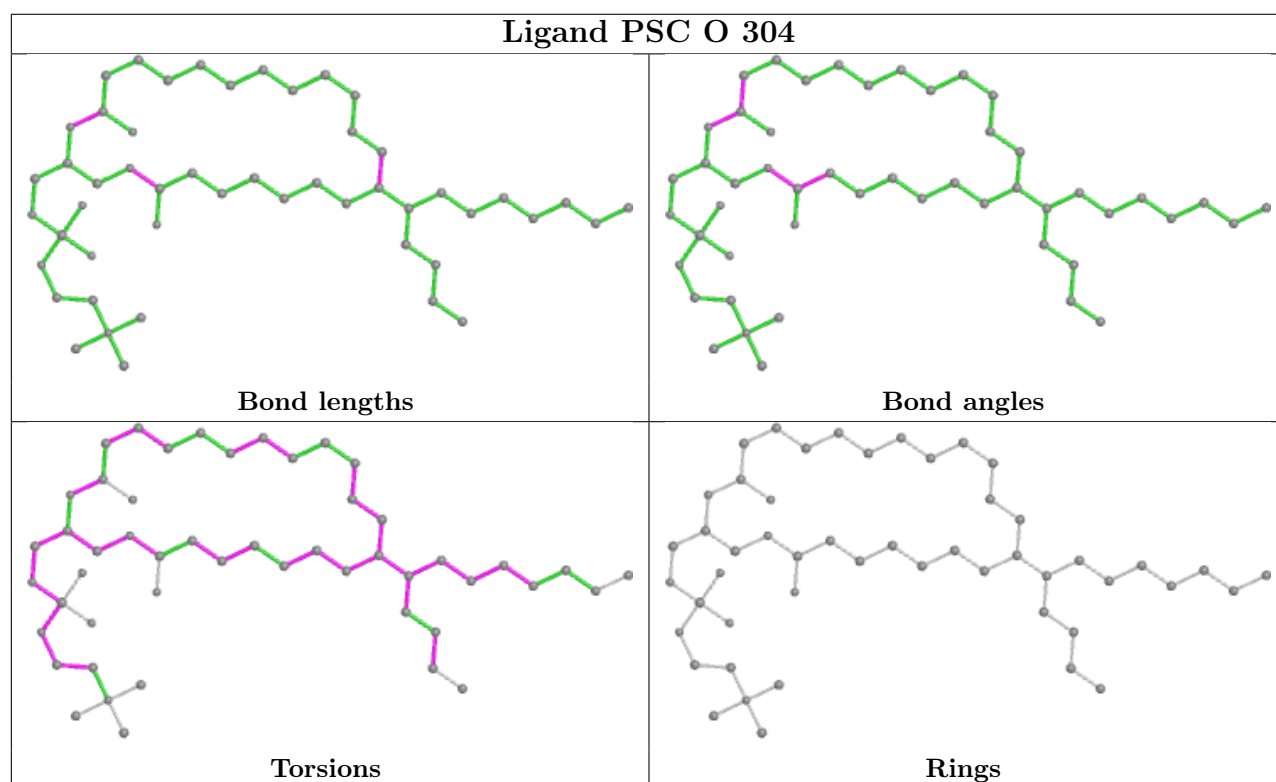
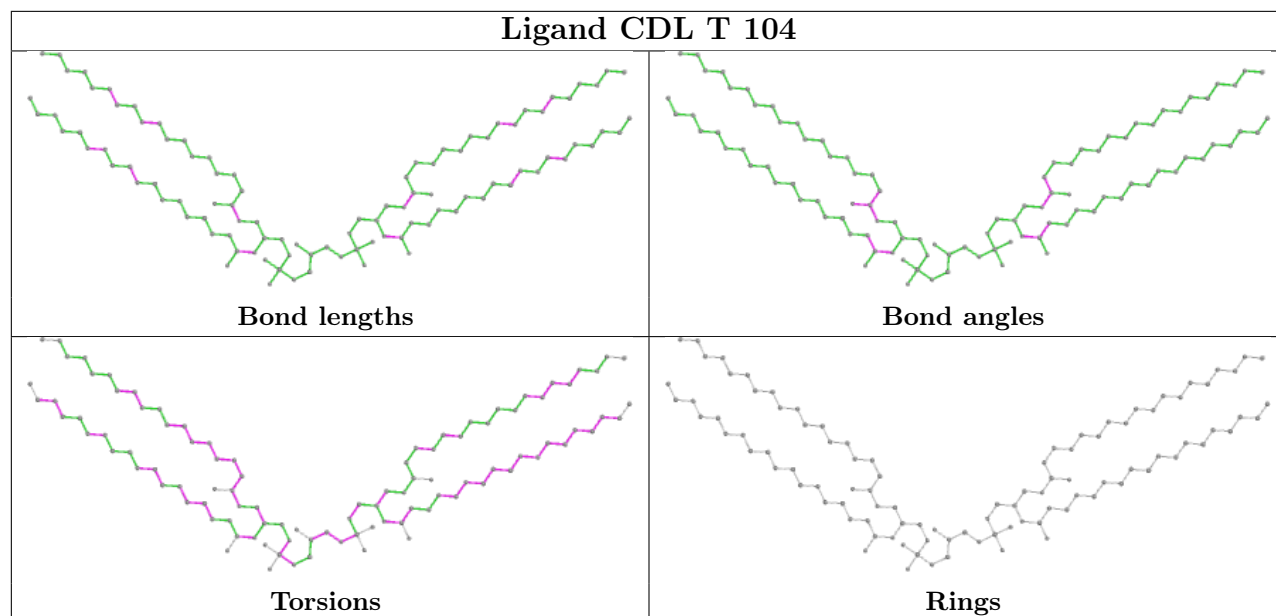


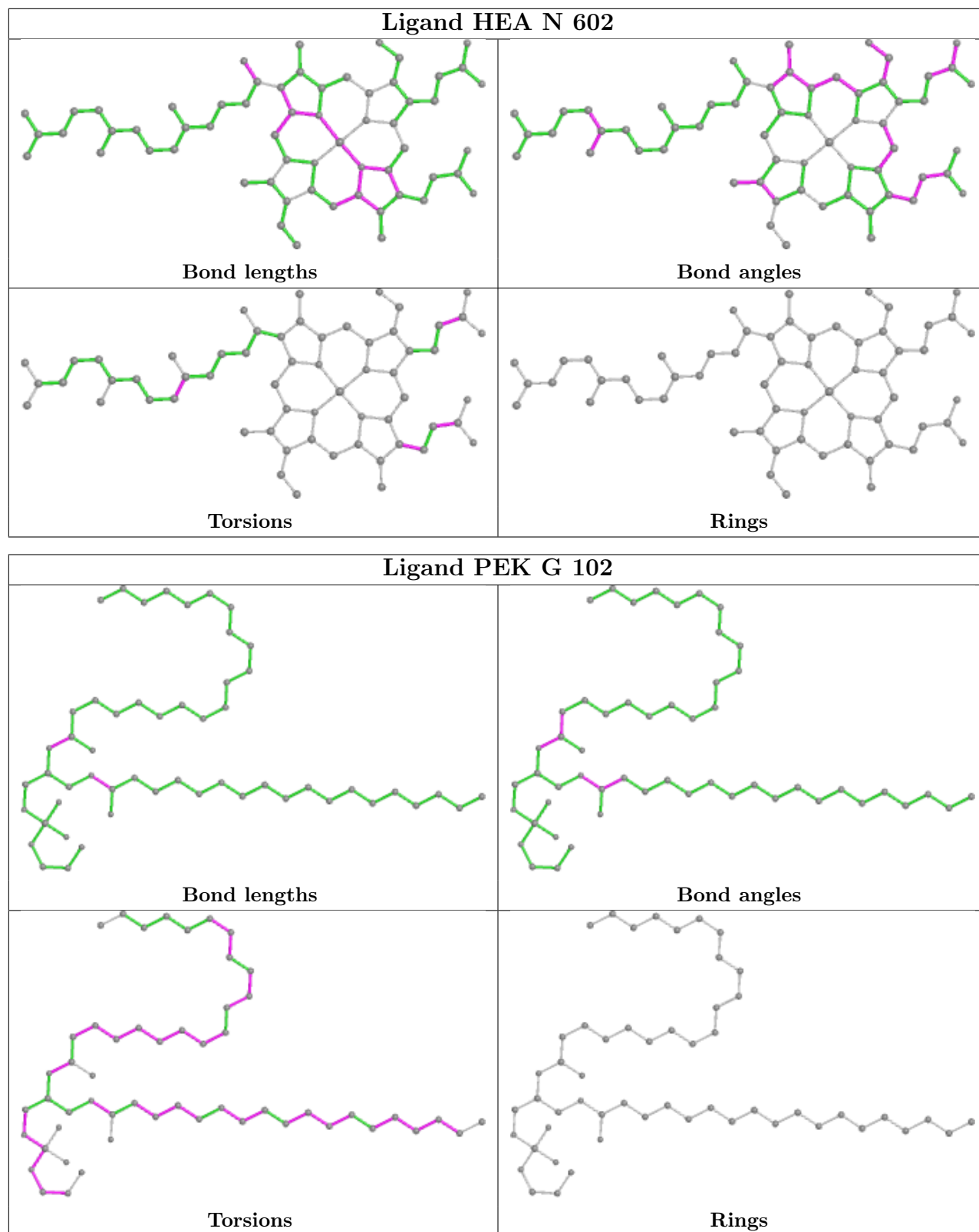


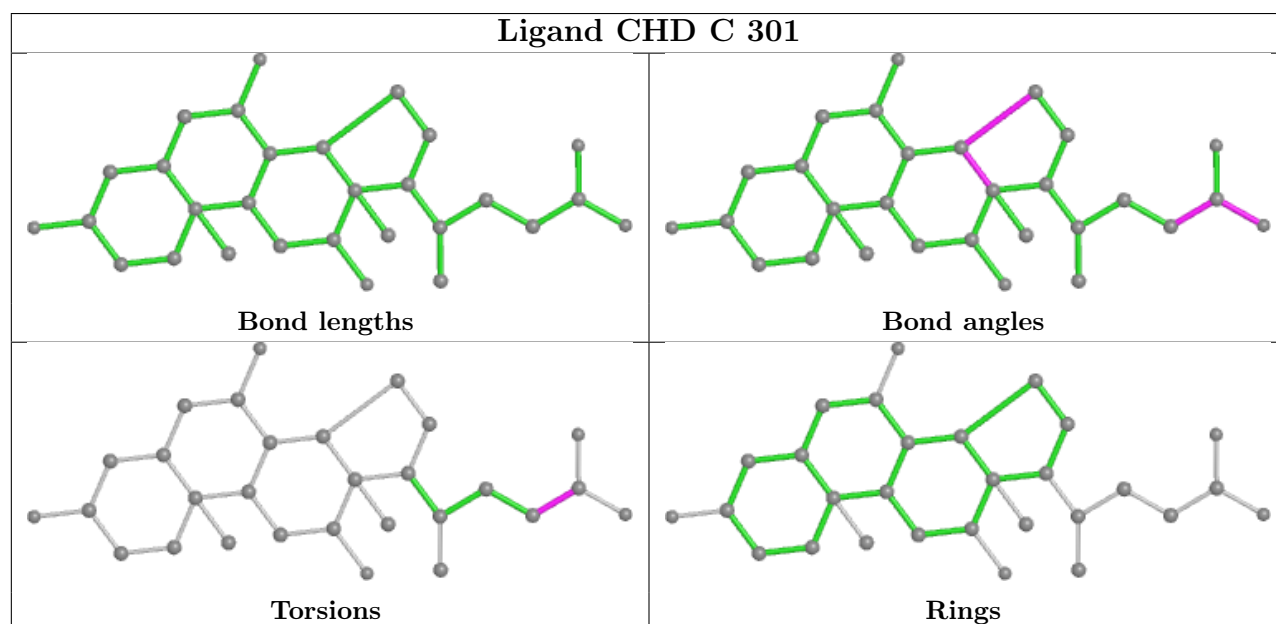
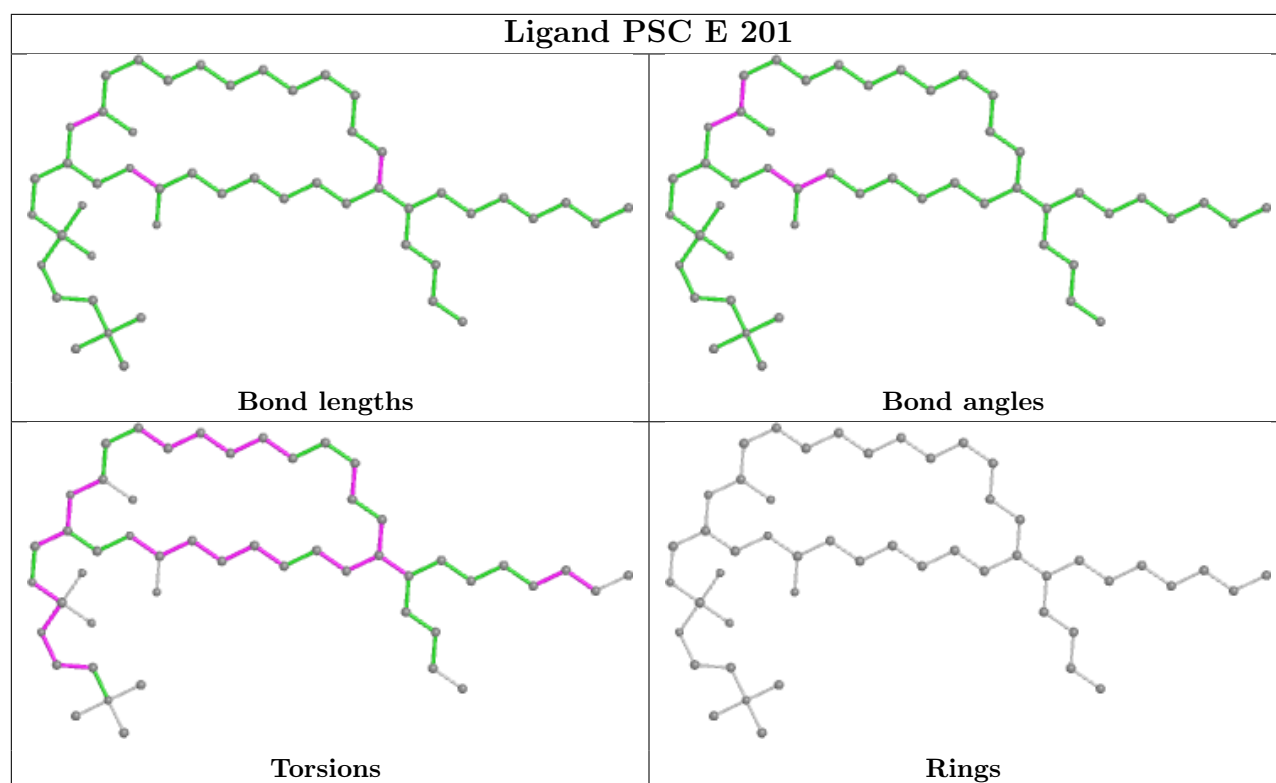


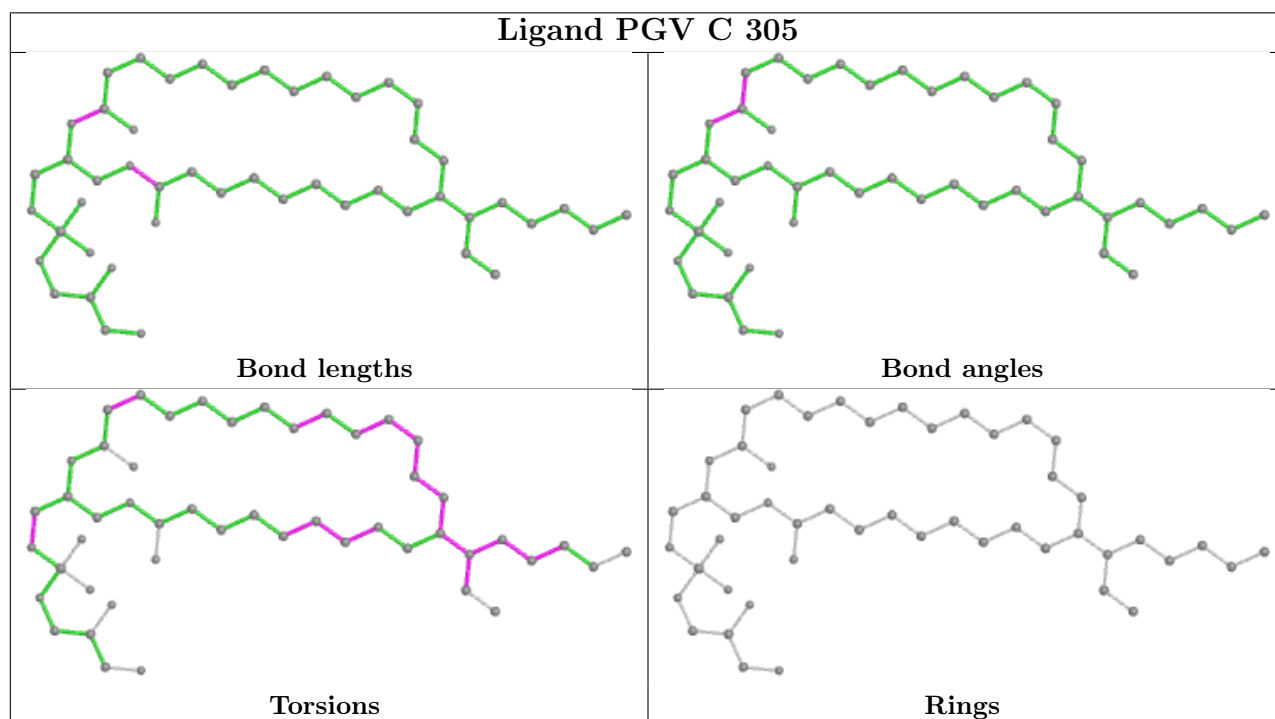
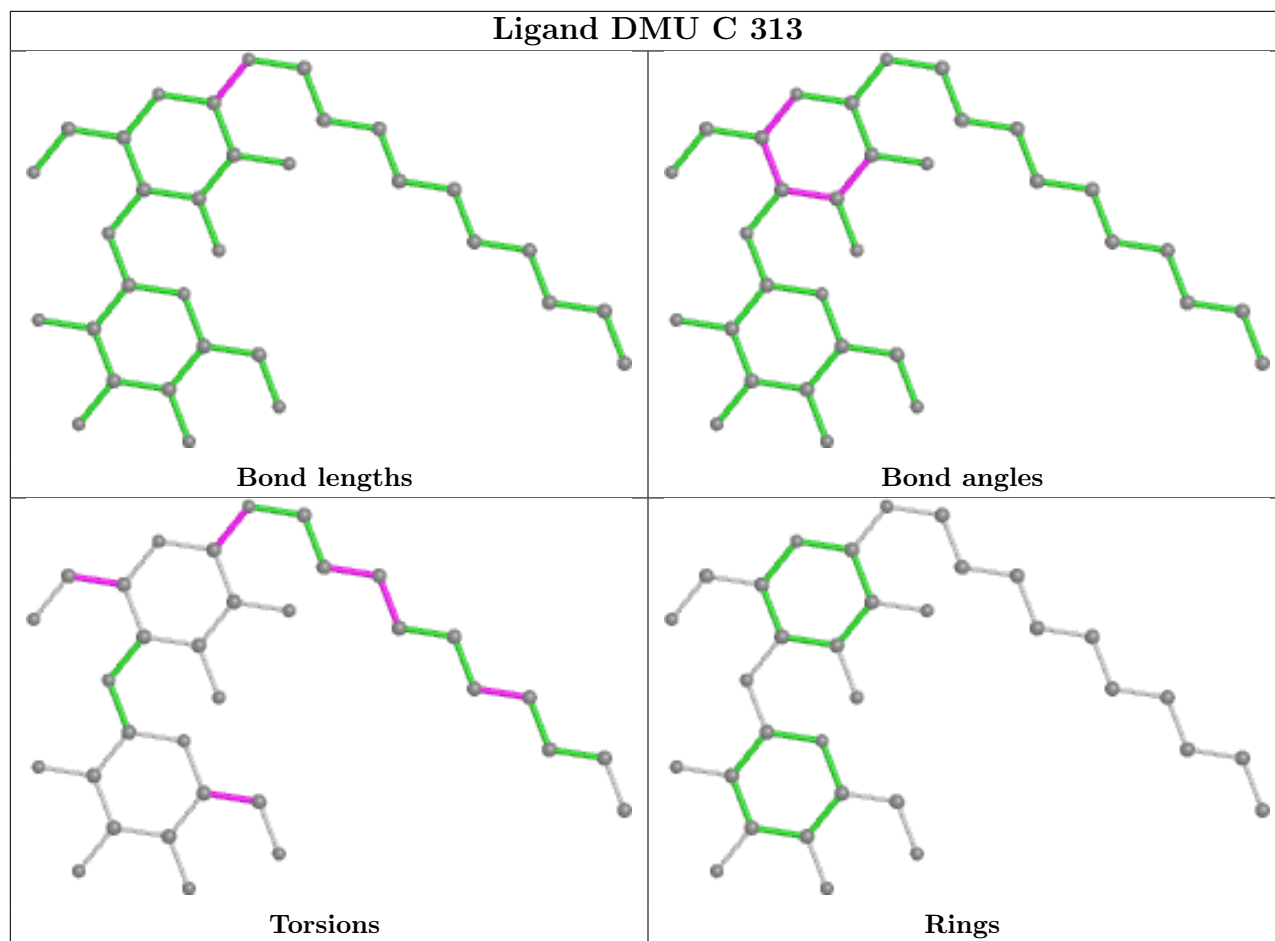


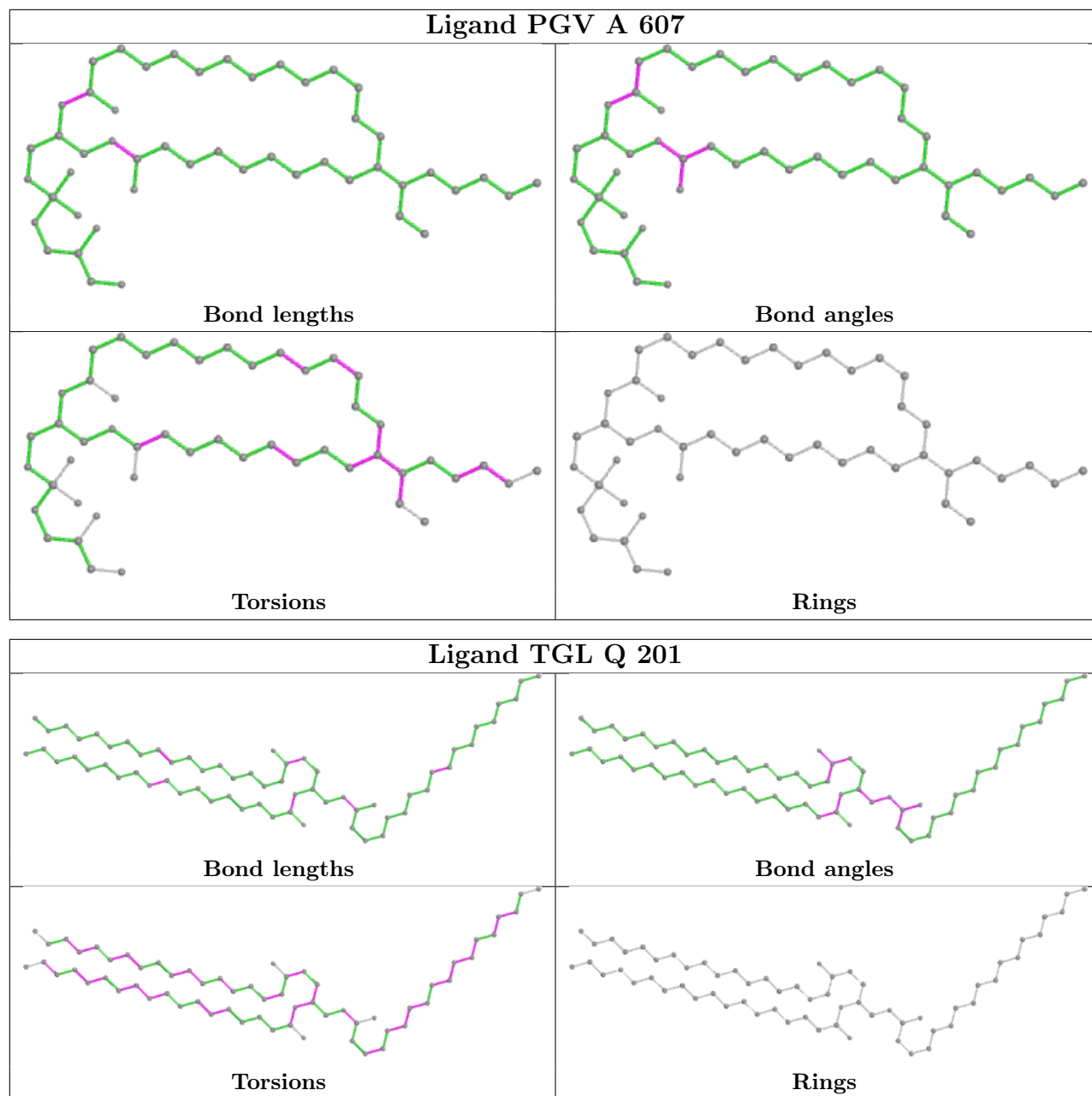


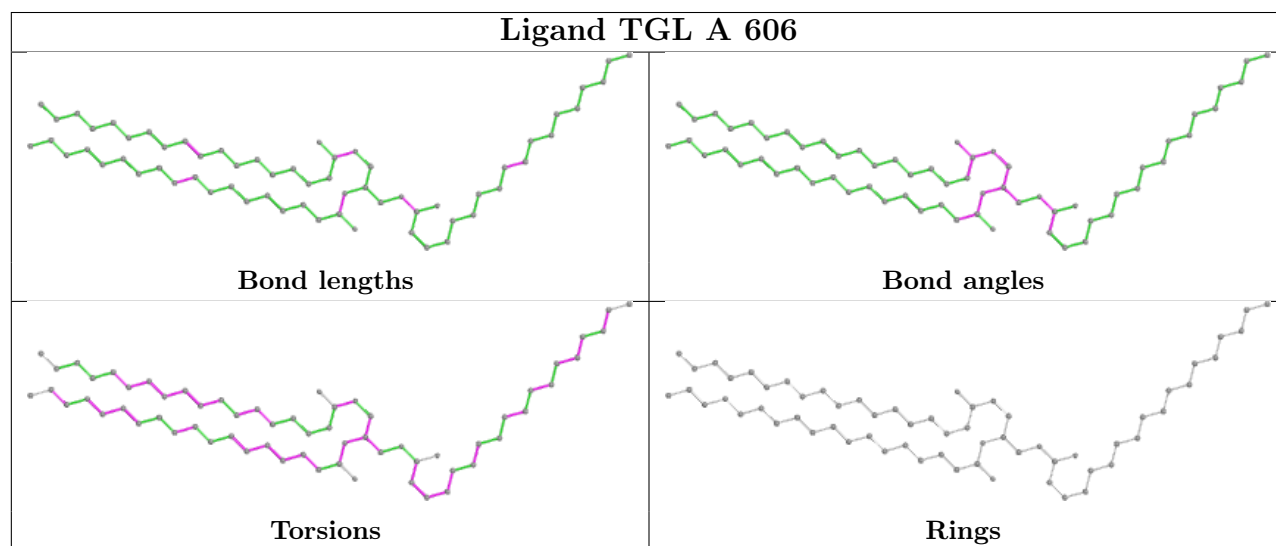
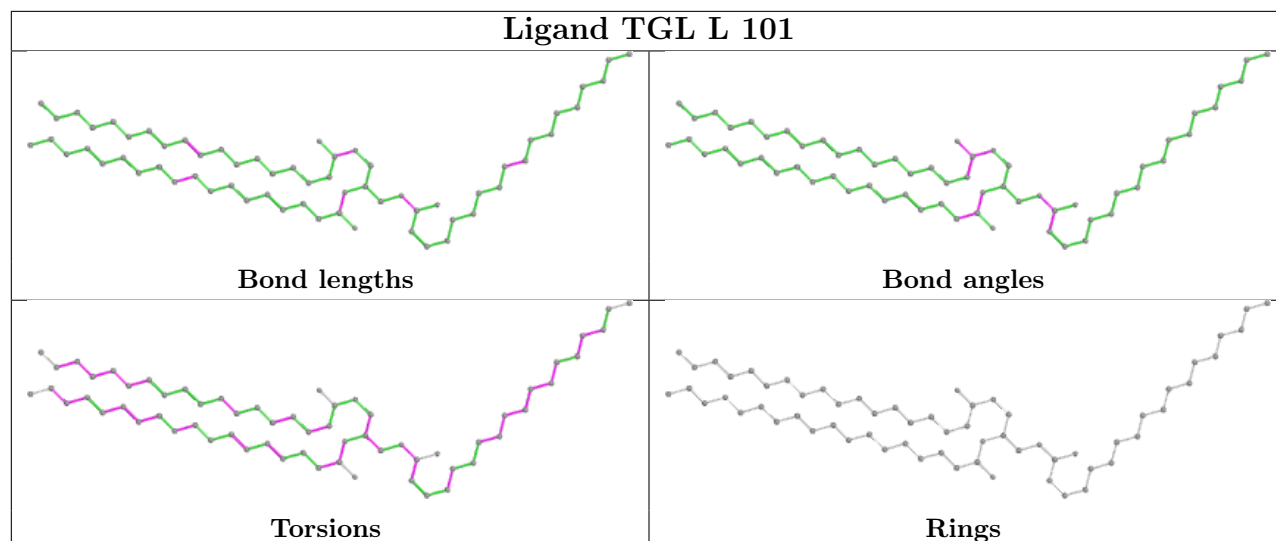


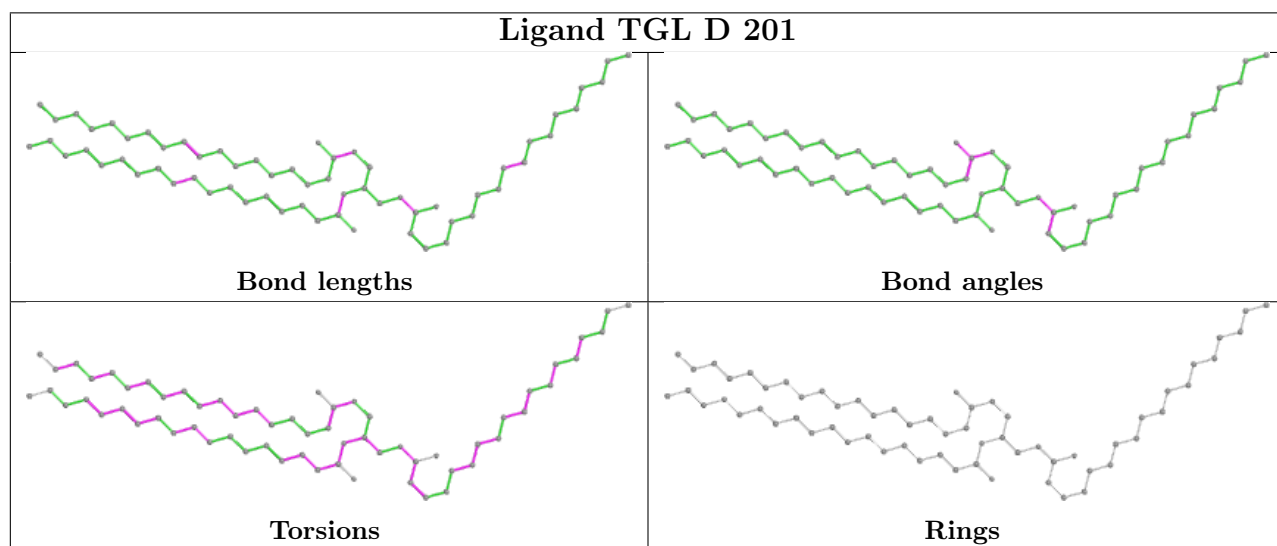
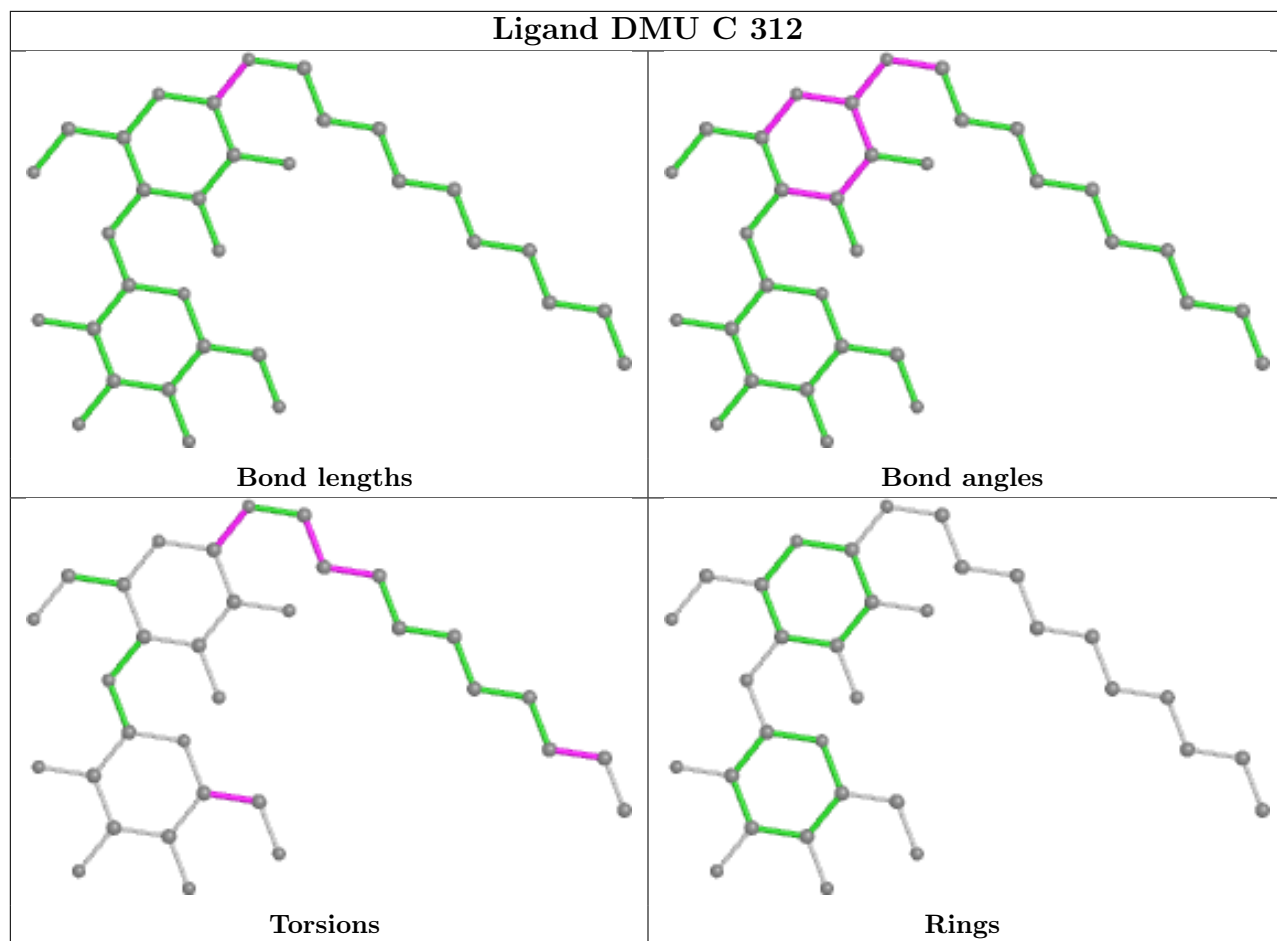


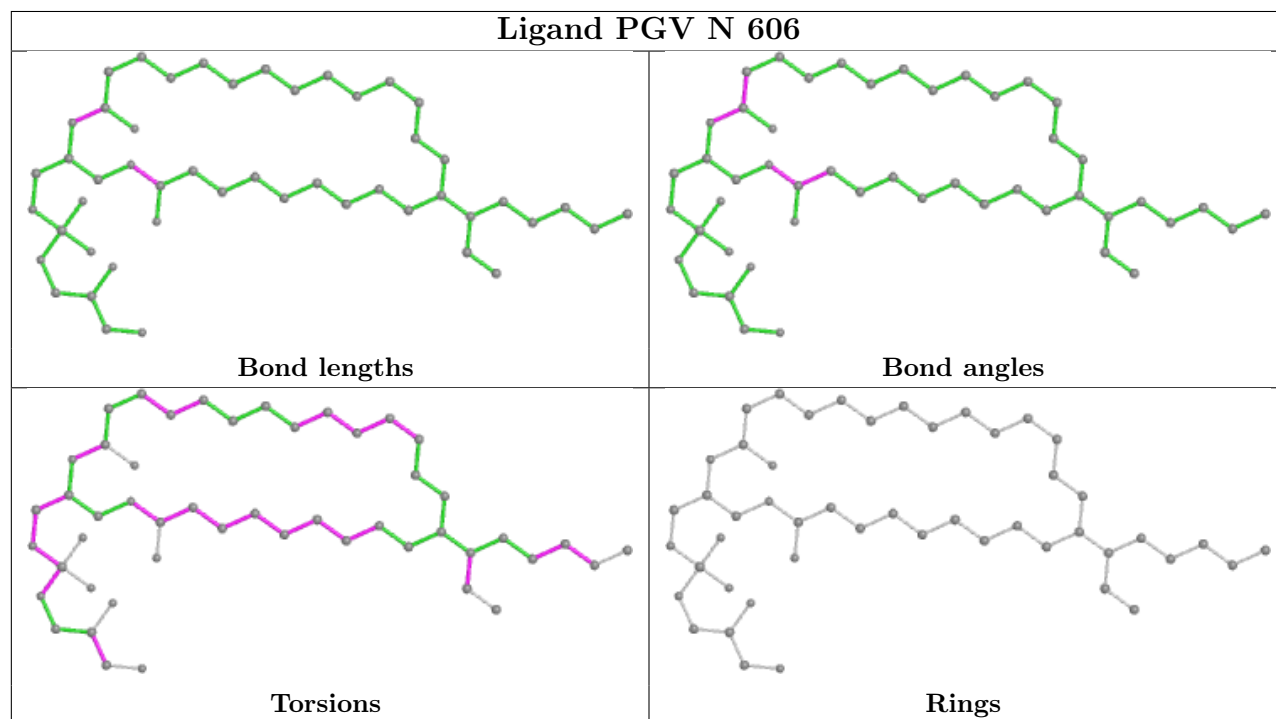
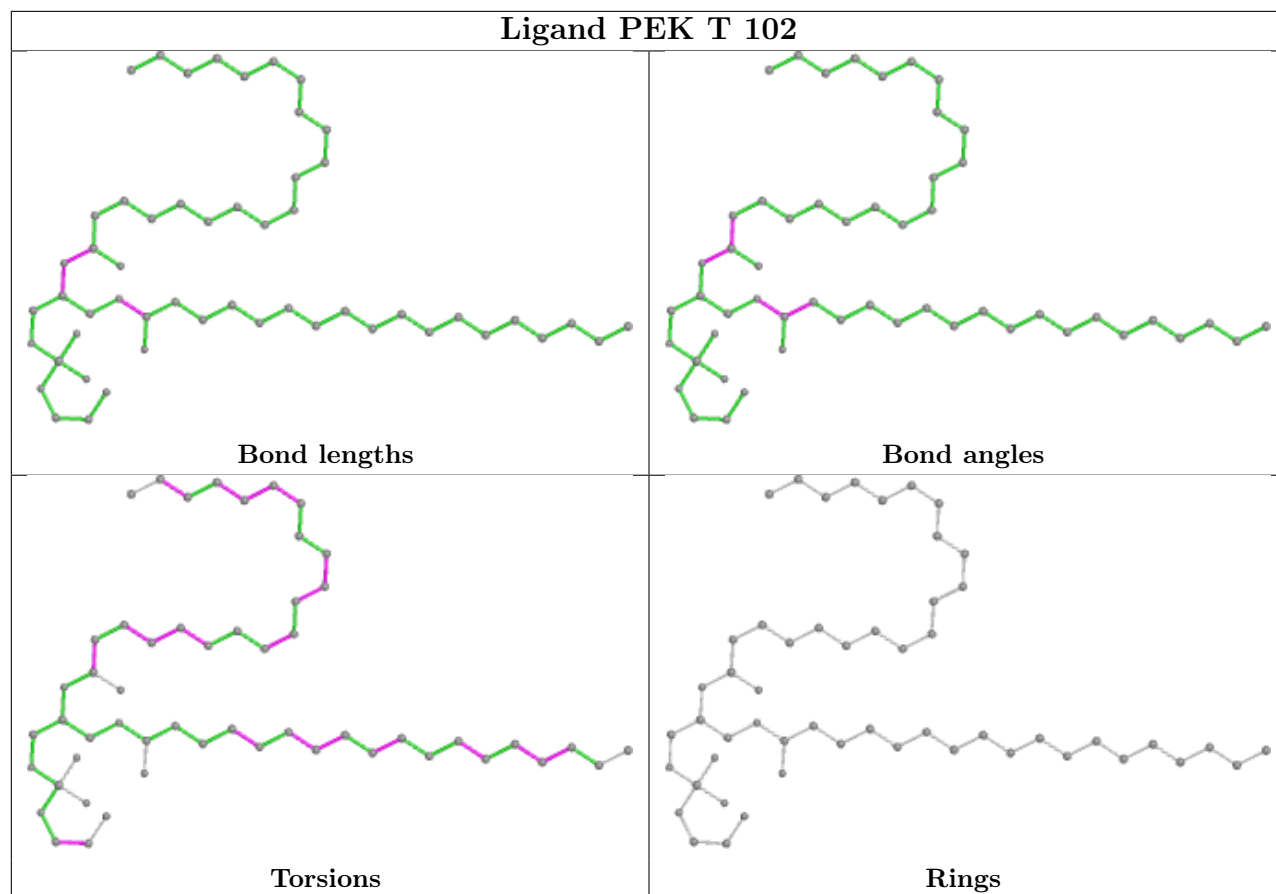


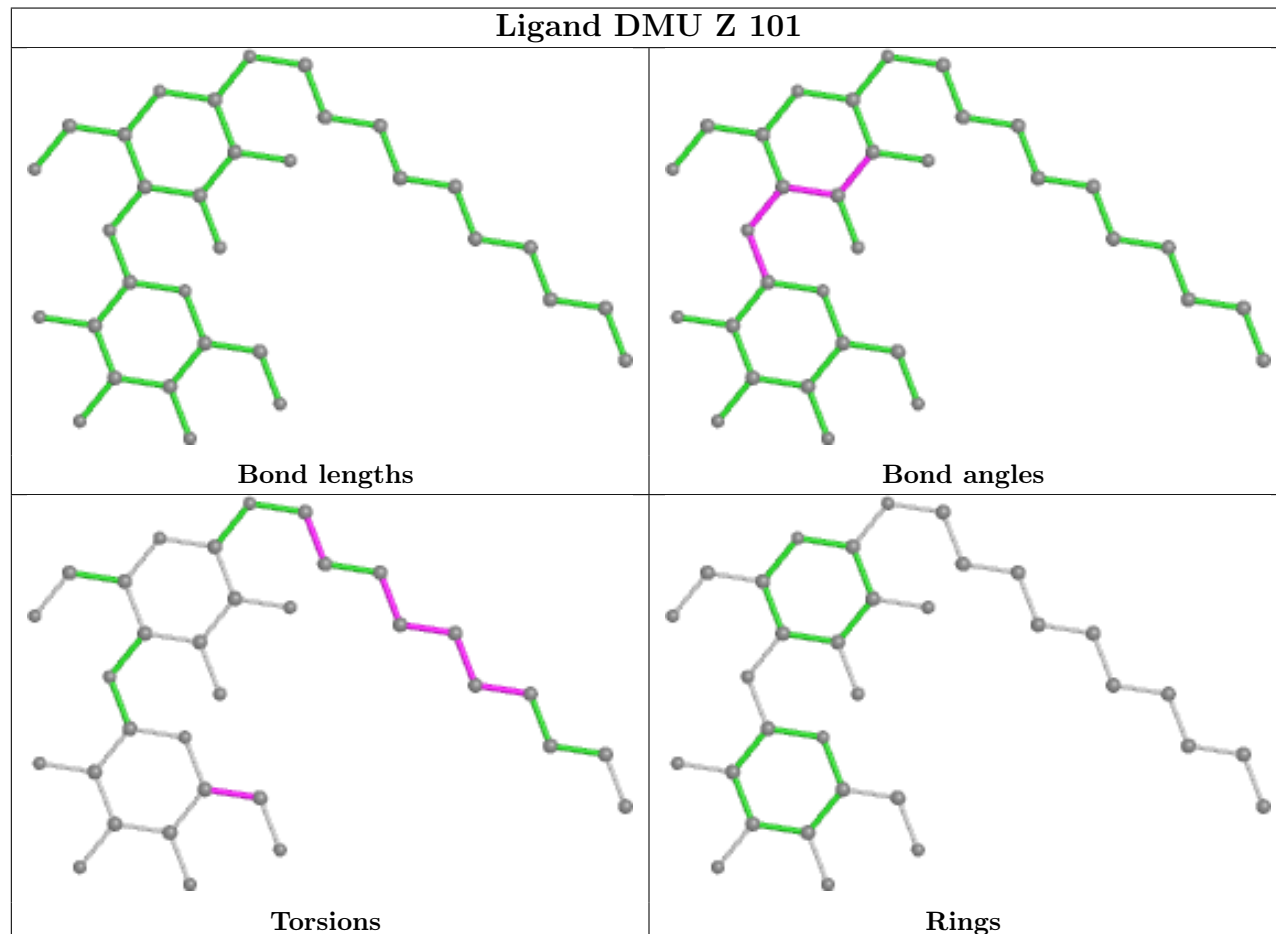
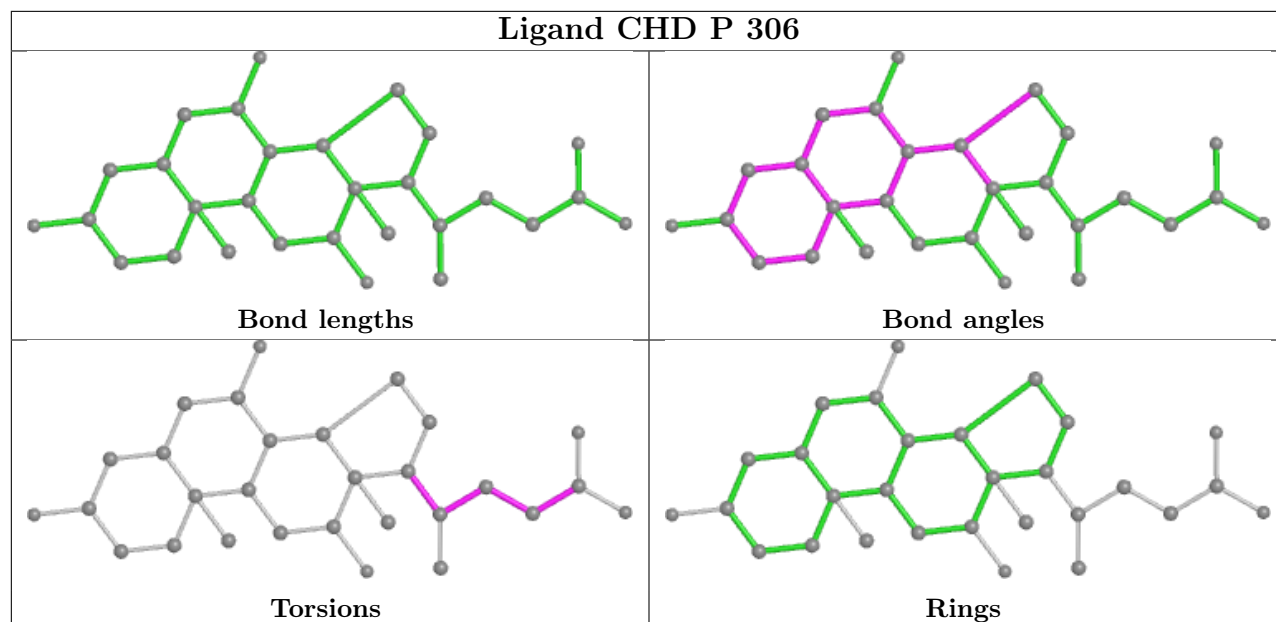


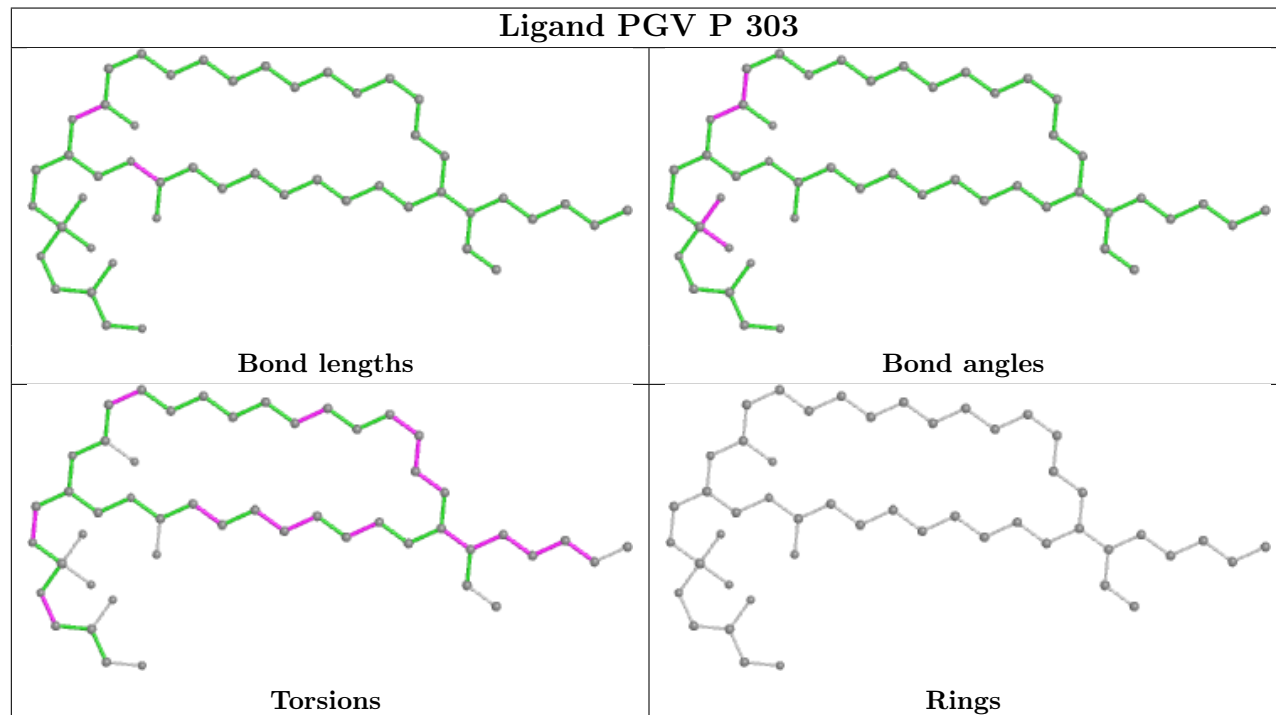
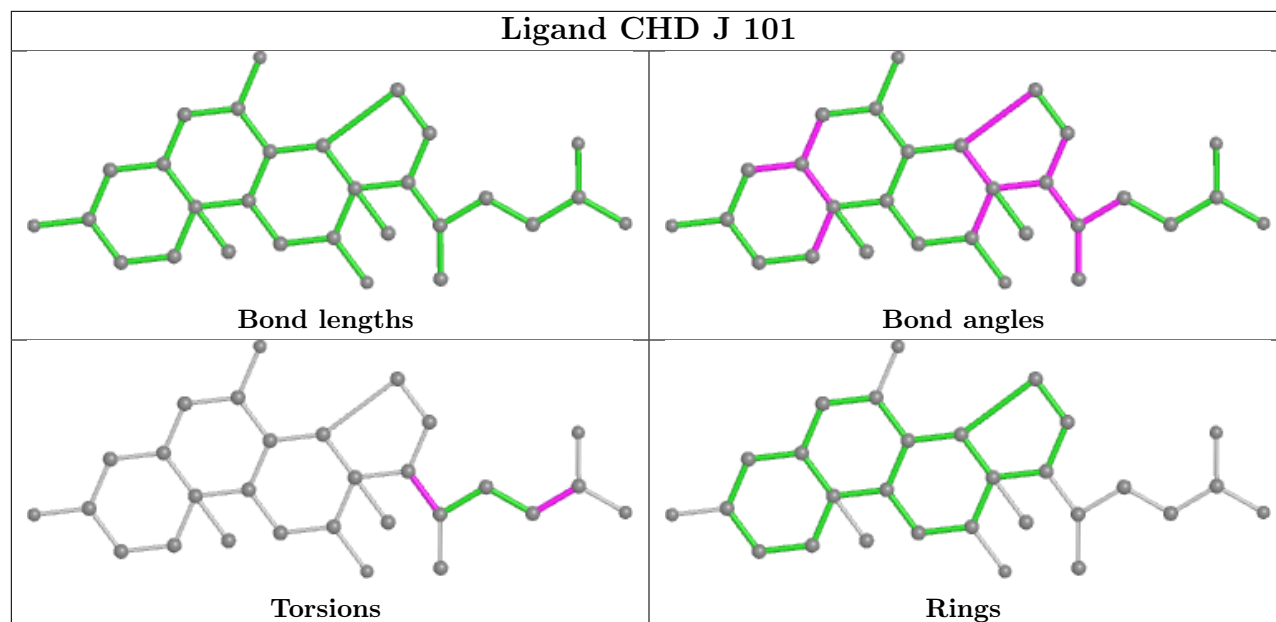


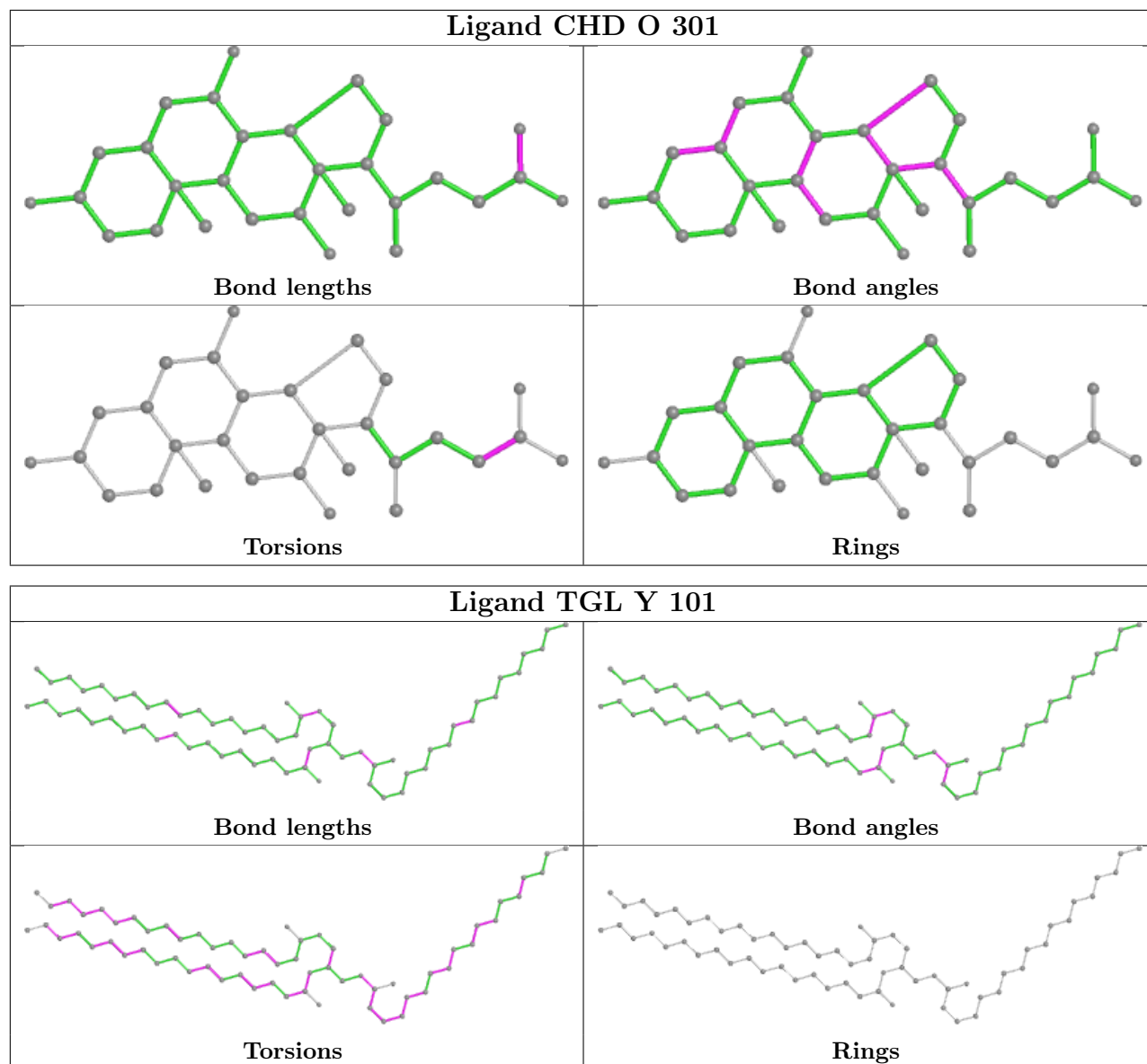


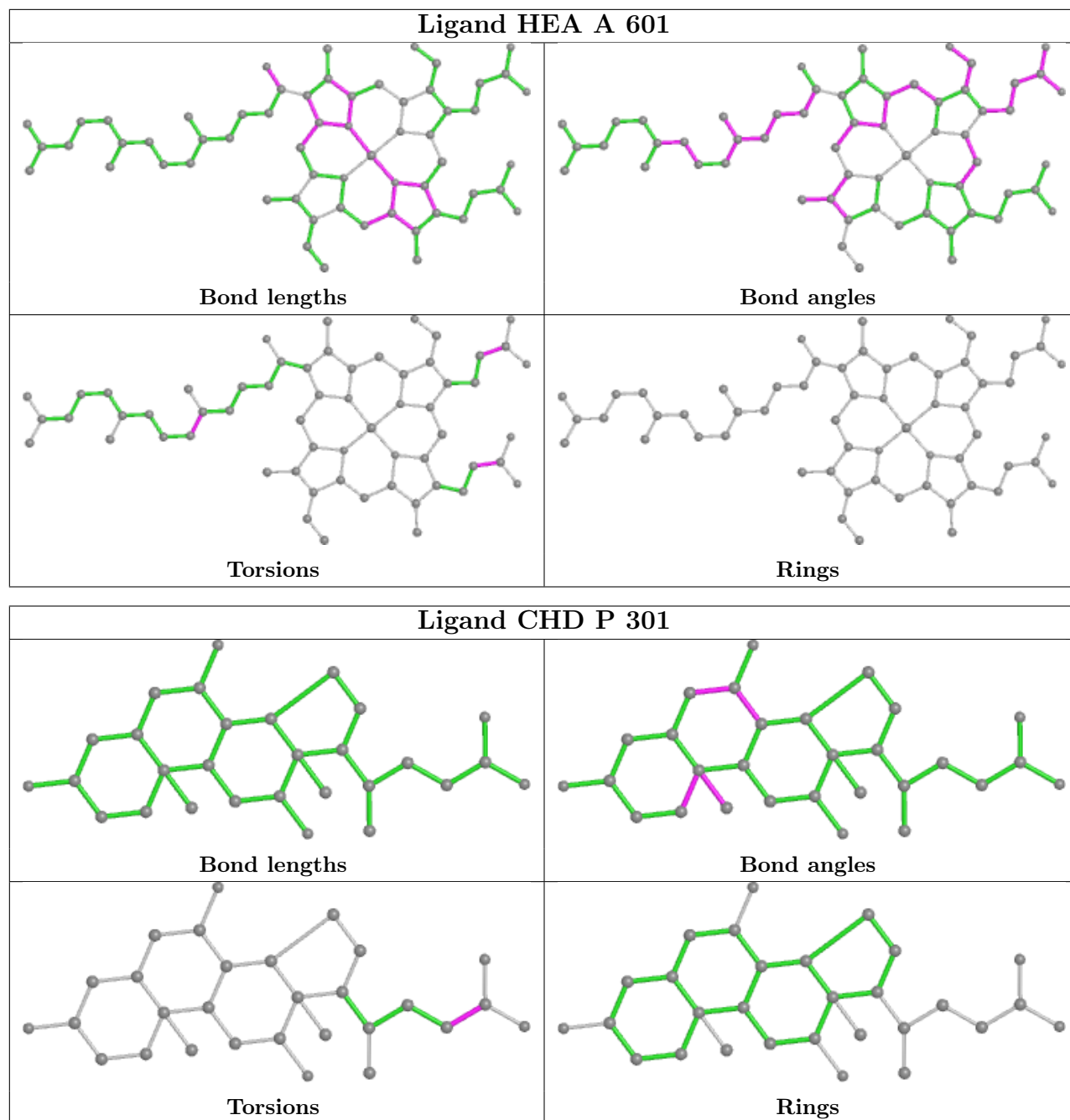


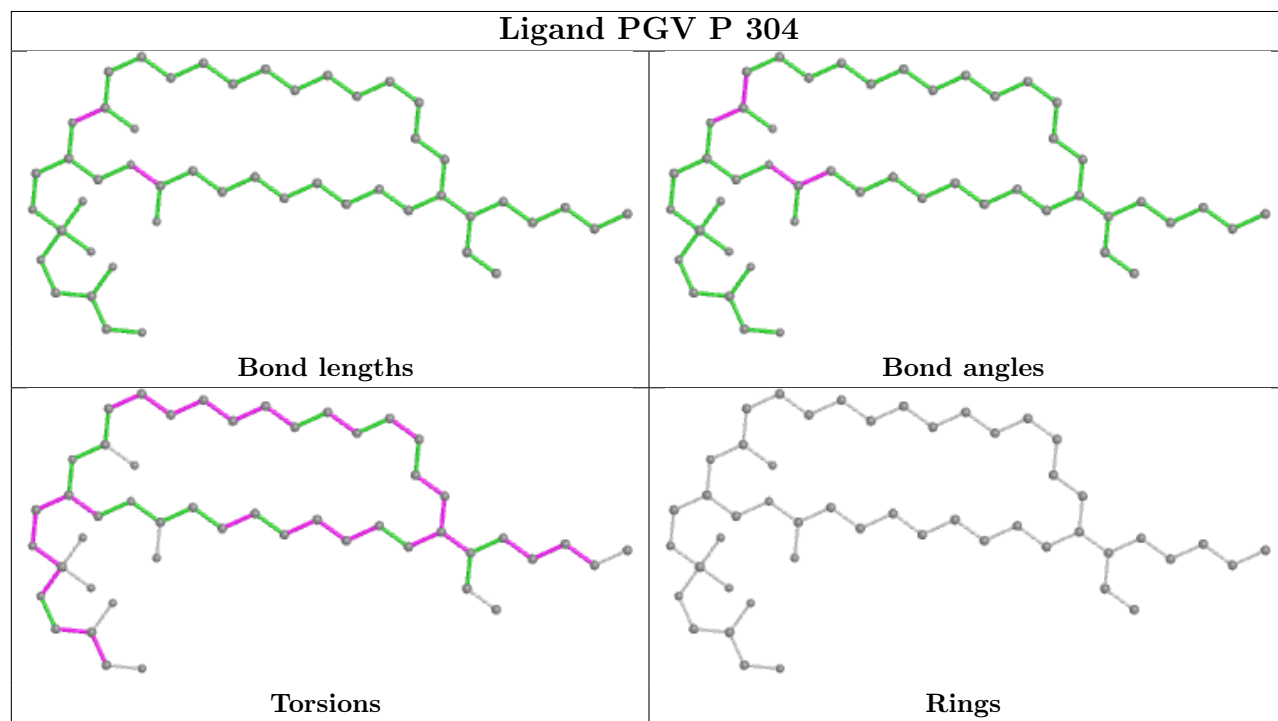
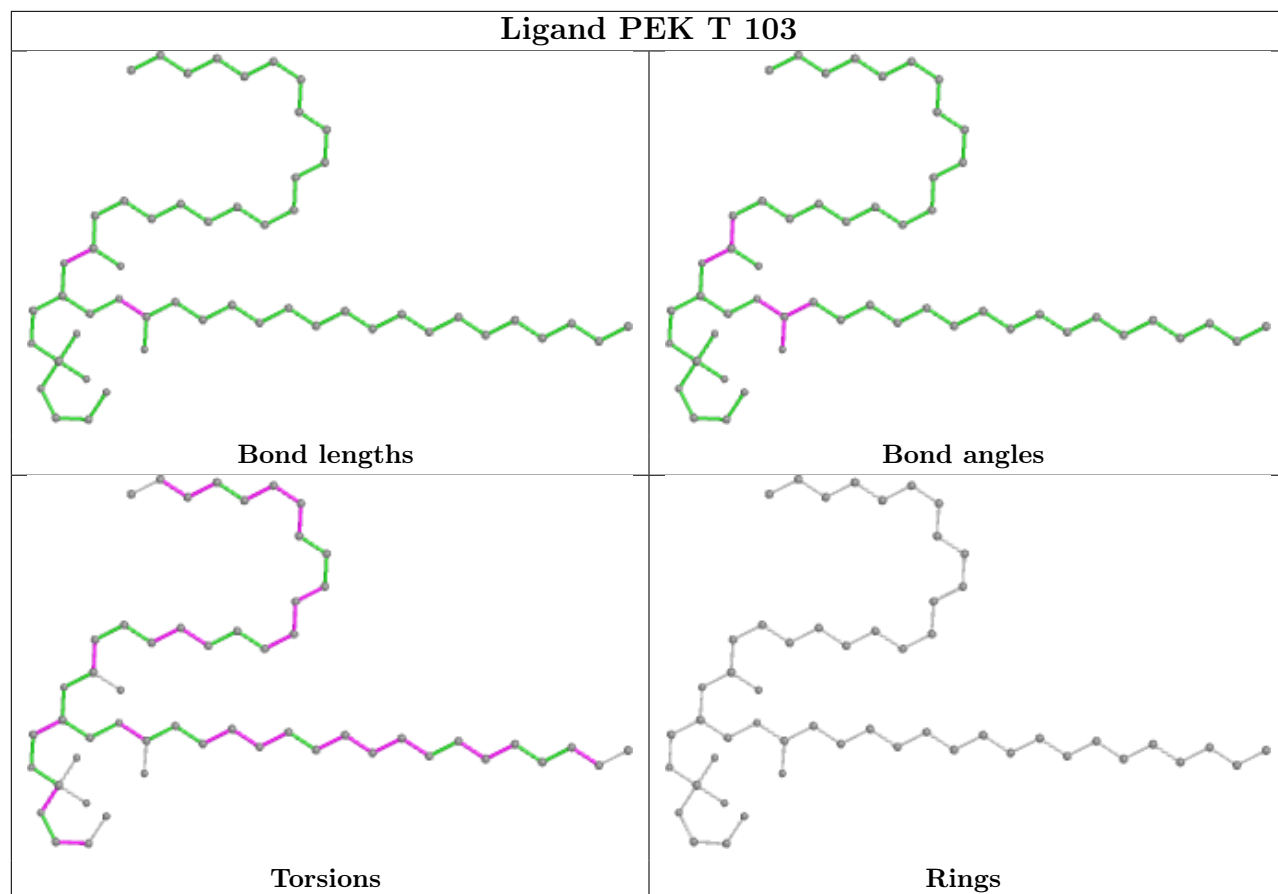


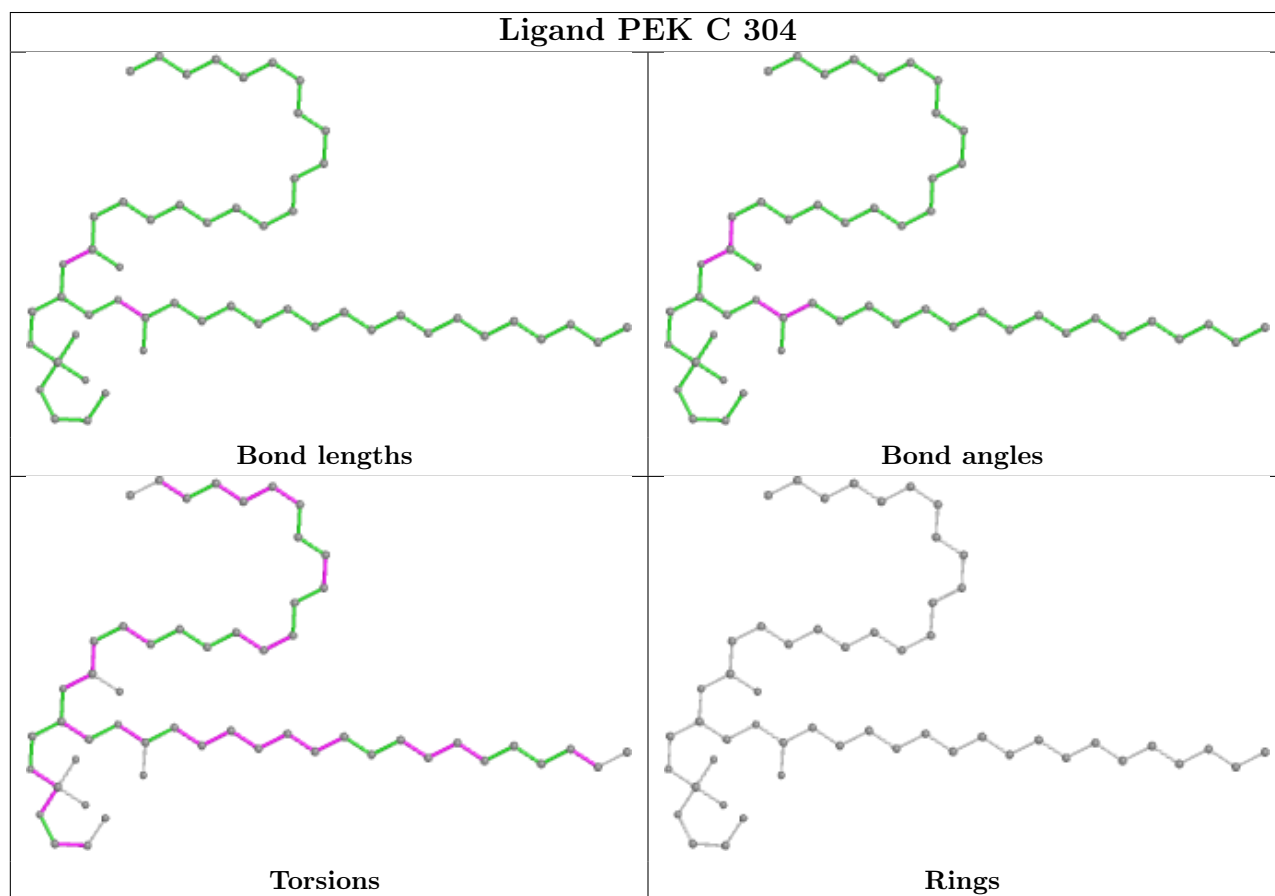
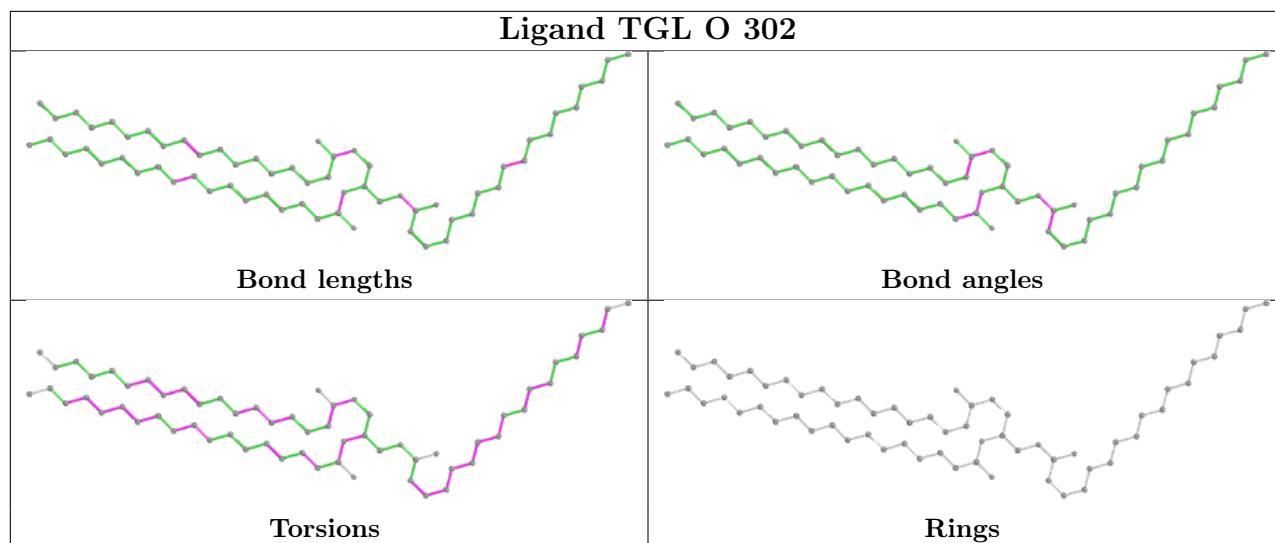


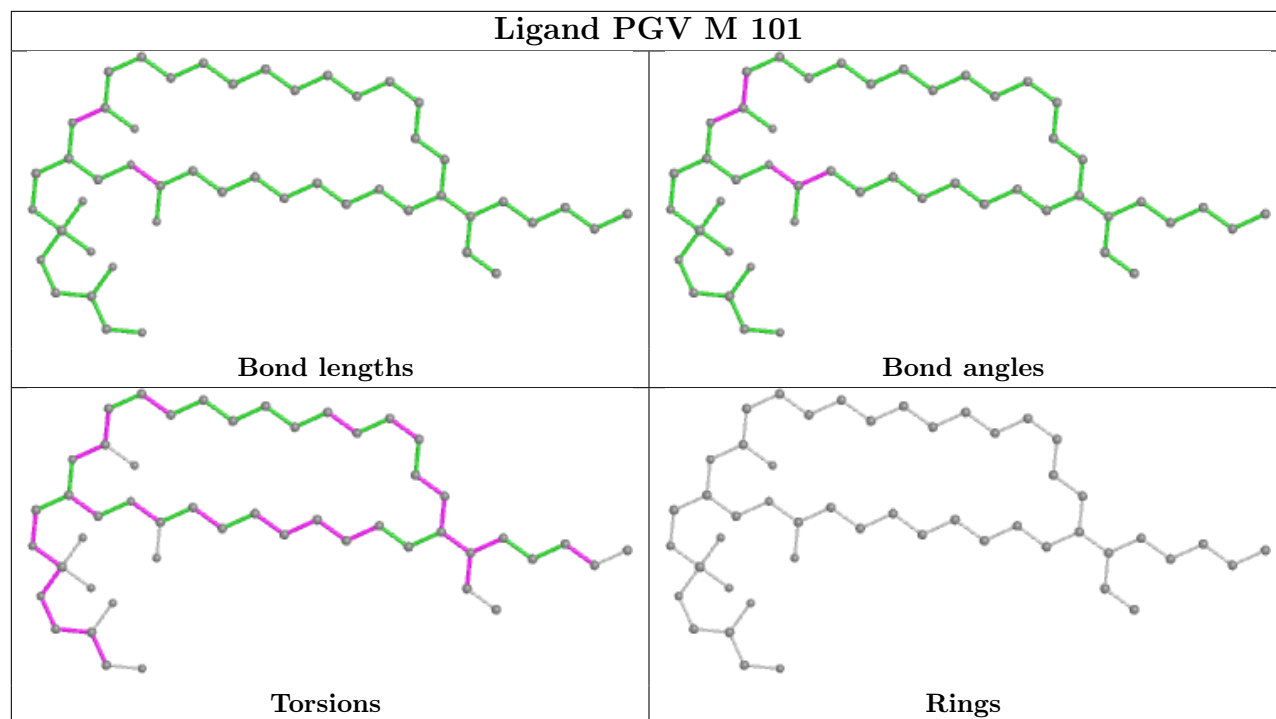












5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

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

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

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	A	513/514 (99%)	0.56	6 (1%) 79 78	25, 31, 39, 76	0
1	N	513/514 (99%)	0.44	7 (1%) 75 74	32, 41, 53, 77	0
2	B	226/227 (99%)	0.50	9 (3%) 38 37	28, 38, 58, 75	0
2	O	226/227 (99%)	0.74	16 (7%) 16 15	40, 52, 72, 99	0
3	C	259/260 (99%)	0.68	8 (3%) 49 48	27, 36, 48, 82	0
3	P	259/260 (99%)	0.55	6 (2%) 60 59	33, 40, 51, 78	0
4	D	144/147 (97%)	0.32	2 (1%) 75 74	34, 43, 55, 75	0
4	Q	144/147 (97%)	1.26	21 (14%) 2 2	48, 63, 88, 137	0
5	E	105/109 (96%)	0.36	2 (1%) 66 65	35, 44, 63, 109	0
5	R	105/109 (96%)	0.63	6 (5%) 23 23	45, 55, 71, 115	0
6	F	94/94 (100%)	0.71	3 (3%) 47 46	32, 46, 64, 119	0
6	S	94/94 (100%)	0.66	5 (5%) 26 25	37, 51, 75, 117	0
7	G	83/85 (97%)	1.47	18 (21%) 0 0	34, 44, 114, 145	0
7	T	83/85 (97%)	1.82	22 (26%) 0 0	35, 48, 108, 150	0
8	H	79/85 (92%)	0.69	9 (11%) 5 4	36, 47, 80, 99	0
8	U	79/85 (92%)	0.99	11 (13%) 2 2	43, 54, 93, 109	0
9	I	72/73 (98%)	1.18	12 (16%) 1 1	36, 50, 82, 91	0
9	V	72/73 (98%)	1.44	13 (18%) 1 1	42, 67, 95, 103	0
10	J	58/59 (98%)	0.83	5 (8%) 10 9	38, 47, 73, 117	0
10	W	58/59 (98%)	1.04	8 (13%) 2 2	44, 55, 81, 128	0
11	K	49/56 (87%)	0.38	1 (2%) 65 63	38, 45, 58, 66	0
11	X	49/56 (87%)	0.87	6 (12%) 4 3	56, 66, 83, 90	0
12	L	46/47 (97%)	0.44	1 (2%) 62 60	31, 38, 53, 84	0
12	Y	46/47 (97%)	0.82	5 (10%) 5 5	46, 54, 70, 108	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
13	M	43/46 (93%)	0.56	3 (6%) 16 15	35, 38, 66, 104	0
13	Z	43/46 (93%)	0.97	8 (18%) 1 1	52, 58, 85, 118	0
All	All	3542/3604 (98%)	0.70	213 (6%) 21 20	25, 43, 75, 150	0

All (213) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
4	Q	6	VAL	23.2
4	Q	5	VAL	17.0
7	T	8	HIS	13.0
7	G	3	ALA	12.7
6	F	1	ALA	12.5
7	T	3	ALA	11.9
9	I	29	LEU	11.6
6	S	1	ALA	10.8
8	U	8	ILE	10.4
7	G	2	SER	10.1
4	Q	8	SER	9.8
6	F	2	SER	9.6
9	I	30	GLY	9.2
7	T	10	GLY	8.8
9	V	29	LEU	8.5
7	T	36	TRP	8.4
9	V	30	GLY	8.1
9	V	25	PHE	8.0
8	H	45	ALA	7.8
4	Q	4	SER	7.7
5	R	109	VAL	7.5
7	T	2	SER	7.4
7	G	6	GLY	7.0
10	W	58	LYS	7.0
3	P	38[A]	ASN	6.9
4	Q	7	LYS	6.7
7	T	5	LYS	6.7
8	U	7	LYS	6.5
7	G	1	ALA	6.5
9	I	25	PHE	6.4
7	G	5	LYS	6.4
5	E	5	HIS	6.3
6	S	2	SER	6.2
10	W	57	HIS	6.1

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Mol	Chain	Res	Type	RSRZ
9	V	33	THR	6.0
9	V	2	THR	6.0
9	V	34	PHE	5.9
2	O	227	LEU	5.8
7	T	7	ASP	5.6
10	W	52	TRP	5.5
7	T	37	LEU	5.5
10	J	58	LYS	5.5
7	T	42	ARG	5.4
10	J	57	HIS	5.3
7	T	33	LEU	5.3
8	U	45	ALA	5.2
9	V	37	PHE	5.1
7	G	36	TRP	5.1
7	T	1	ALA	5.1
7	T	4	ALA	5.0
4	Q	33	LEU	4.9
7	G	4	ALA	4.8
9	I	37	PHE	4.8
12	Y	47	LYS	4.6
7	T	9	GLY	4.6
4	Q	87	PHE	4.6
7	G	40	GLY	4.5
11	X	13	TYR	4.5
7	T	39	SER	4.5
4	Q	10	ASP	4.4
3	C	38[A]	ASN	4.4
9	V	31	PHE	4.3
5	R	5	HIS	4.3
13	Z	32	TRP	4.3
2	O	113	TYR	4.3
3	P	37	PHE	4.2
13	Z	37[A]	LEU	4.2
10	J	52	TRP	4.2
8	H	8	ILE	4.2
7	T	40	GLY	4.1
9	I	34	PHE	4.0
6	F	94	HIS	4.0
9	I	19	PHE	3.9
7	G	8	HIS	3.9
1	N	513	LEU	3.9
9	V	32	ALA	3.8

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Mol	Chain	Res	Type	RSRZ
7	G	42	ARG	3.7
11	X	6	ALA	3.7
7	G	37	LEU	3.6
10	J	1	PHE	3.6
7	T	41	HIS	3.6
4	Q	51	LEU	3.6
5	E	109	VAL	3.6
8	U	9	LYS	3.6
10	W	48	TYR	3.6
11	X	7	PRO	3.6
3	P	3	HIS	3.6
11	X	27	ALA	3.6
7	T	84	LYS	3.5
8	H	47	GLY	3.5
3	C	258	TRP	3.5
2	O	40	TYR	3.5
5	R	65	VAL	3.4
9	I	31	PHE	3.4
2	O	224	ALA	3.3
4	Q	48	TRP	3.3
8	U	50	VAL	3.3
3	C	37	PHE	3.2
2	B	68[A]	LEU	3.2
2	O	184	LEU	3.2
12	Y	20	ARG	3.2
4	Q	9	GLU	3.2
4	Q	30	VAL	3.2
9	V	21	ILE	3.2
7	G	7	ASP	3.2
12	Y	27	LEU	3.1
9	I	28	SER	3.1
2	B	113	TYR	3.1
2	B	87	MET	3.0
13	Z	17	ILE	3.0
13	Z	42	LYS	3.0
8	H	43	MET	3.0
10	J	48	TYR	2.9
4	Q	39	ALA	2.9
7	G	33	LEU	2.9
2	O	90	ILE	2.9
3	C	237	ALA	2.9
7	T	6	GLY	2.9

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Mol	Chain	Res	Type	RSRZ
8	H	46	LYS	2.8
7	T	43	GLU	2.8
8	U	10	ASN	2.8
8	H	48	GLY	2.8
11	X	52	GLU	2.8
2	B	91	ASN	2.7
2	O	91	ASN	2.7
2	O	61	VAL	2.7
8	U	47	GLY	2.7
7	G	9	GLY	2.7
13	Z	43	SER	2.7
9	V	18	ARG	2.7
4	D	4	SER	2.7
13	M	42	LYS	2.6
10	W	1	PHE	2.6
8	U	55	TRP	2.6
1	N	113[A]	LEU	2.6
7	G	41	HIS	2.6
2	B	59	GLN	2.6
9	I	26	MET	2.6
12	Y	24[A]	MET	2.6
6	S	94	HIS	2.5
9	I	32	ALA	2.5
8	H	44	THR	2.5
9	V	26	MET	2.5
13	M	43	SER	2.5
4	Q	31	LYS	2.5
4	Q	46	ALA	2.4
1	A	297[A]	MET	2.4
13	Z	28	LEU	2.4
2	O	163	TRP	2.4
7	T	12	GLY	2.4
9	I	21	ILE	2.4
5	R	52	LEU	2.3
9	V	65	LYS	2.3
2	O	152[A]	MET	2.3
4	Q	128	VAL	2.3
1	A	113[A]	LEU	2.3
2	O	135	LEU	2.3
7	G	45	PRO	2.3
13	M	40	TYR	2.3
3	C	33[A]	MET	2.3

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Mol	Chain	Res	Type	RSRZ
6	S	43	LYS	2.3
13	Z	35	TYR	2.2
2	O	68[A]	LEU	2.2
3	C	127	LEU	2.2
13	Z	13	LYS	2.2
1	N	297[A]	MET	2.2
3	P	258	TRP	2.2
4	Q	58	GLU	2.2
1	A	513	LEU	2.2
2	O	116	LEU	2.2
4	Q	40	LEU	2.2
3	P	33[A]	MET	2.2
6	S	3	GLY	2.2
7	G	12	GLY	2.2
1	N	112	LEU	2.2
2	O	33	LEU	2.2
10	W	44	LEU	2.2
4	Q	88	PHE	2.2
11	X	24	PHE	2.2
11	K	47	ARG	2.2
8	U	49	ASP	2.2
5	R	33[A]	MET	2.2
4	D	19	ARG	2.2
12	Y	38	PHE	2.2
4	Q	147	LYS	2.2
3	C	3	HIS	2.1
10	W	30	ILE	2.1
2	O	20	LEU	2.1
2	B	16	ILE	2.1
2	B	184	LEU	2.1
12	L	2	HIS	2.1
8	H	7	LYS	2.1
4	Q	53	ILE	2.1
1	N	514	LYS	2.1
2	O	221	LYS	2.1
7	T	35	SER	2.1
7	T	34	ASN	2.1
1	N	382	SER	2.1
8	U	43	MET	2.1
8	U	46	LYS	2.1
5	R	61	PHE	2.0
8	H	42	ALA	2.0

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Mol	Chain	Res	Type	RSRZ
1	N	169	ILE	2.0
3	C	88[A]	ILE	2.0
2	B	40	TYR	2.0
10	W	32	TYR	2.0
1	A	366[A]	VAL	2.0
9	I	27	VAL	2.0
7	G	10	GLY	2.0
1	A	311	ILE	2.0
2	B	33	LEU	2.0
1	A	71[A]	MET	2.0
3	P	261	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
7	TPO	T	11	11/12	0.48	0.35	93,108,122,125	0
7	TPO	G	11	11/12	0.58	0.30	88,102,120,124	0
9	SAC	V	1	9/10	0.73	0.60	118,123,127,131	0
9	SAC	I	1	9/10	0.82	0.20	74,75,78,79	0
1	FME	A	1	10/11	0.93	0.16	46,53,70,78	0
1	FME	N	1	10/11	0.94	0.21	58,63,83,86	0
2	FME	O	1	10/11	0.96	0.21	52,53,59,60	0
2	FME	B	1	10/11	0.97	0.15	35,36,44,47	0

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(\AA^2)	Q<0.9
20	EDO	C	310	4/4	0.37	0.22	71,76,80,84	0
25	DMU	P	308	33/33	0.43	0.28	71,126,142,143	0
23	PEK	C	304	53/53	0.47	0.27	60,91,135,141	0
17	NA	C	302	1/1	0.52	0.20	51,51,51,51	0
23	PEK	T	103	53/53	0.54	0.26	59,85,124,134	0
23	PEK	T	101	53/53	0.59	0.33	56,94,139,144	0
24	CDL	G	101	100/100	0.60	0.40	65,97,136,145	0
24	CDL	T	104	100/100	0.61	0.38	63,92,121,138	0
18	TGL	Y	101	63/63	0.61	0.31	63,83,104,107	0
18	TGL	Q	201	63/63	0.63	0.25	67,86,96,100	0
24	CDL	P	305	100/100	0.63	0.33	65,90,111,114	0
25	DMU	C	313	33/33	0.64	0.53	49,130,146,147	0
19	PGV	N	606	51/51	0.65	0.40	70,87,126,128	0
23	PEK	G	102	53/53	0.66	0.29	55,101,139,150	0
22	CHD	W	101	29/29	0.66	0.36	89,96,106,107	0
26	PSC	E	201	52/52	0.67	0.36	56,87,141,150	0
19	PGV	P	304	51/51	0.68	0.33	66,92,122,129	0
25	DMU	P	309	33/33	0.69	0.46	64,128,146,149	0
24	CDL	C	307	100/100	0.69	0.34	56,85,110,116	0
20	EDO	C	309	4/4	0.70	0.27	82,86,90,92	0
25	DMU	C	312	33/33	0.70	0.25	65,100,138,139	0
19	PGV	M	101	51/51	0.70	0.31	49,77,115,124	0
19	PGV	C	306	51/51	0.72	0.30	62,82,121,124	0
18	TGL	D	201	63/63	0.73	0.21	56,71,89,92	0
22	CHD	J	101	29/29	0.73	0.27	73,78,100,104	0
18	TGL	L	101	63/63	0.73	0.29	46,71,85,86	0
17	NA	P	302	1/1	0.73	0.12	51,51,51,51	0
26	PSC	O	304	52/52	0.73	0.31	60,92,142,154	0
18	TGL	O	302	63/63	0.75	0.32	64,87,99,105	0
18	TGL	A	606	63/63	0.80	0.28	53,78,95,98	0
20	EDO	N	611	4/4	0.81	0.17	60,62,64,66	0
20	EDO	F	104	4/4	0.83	0.29	56,58,60,62	0
25	DMU	Z	101	33/33	0.84	0.26	57,80,91,94	0
20	EDO	A	615	4/4	0.84	0.37	49,50,56,58	0
20	EDO	D	203	4/4	0.84	0.23	61,65,70,71	0
16	MG	N	604	1/1	0.85	0.17	44,44,44,44	0
20	EDO	B	303	4/4	0.85	0.52	62,72,75,79	0
20	EDO	A	611	4/4	0.85	0.75	62,67,67,69	0
20	EDO	P	307	4/4	0.86	0.29	82,88,90,97	0
20	EDO	D	202	4/4	0.86	0.32	54,63,65,68	0
20	EDO	S	103	4/4	0.87	0.21	57,66,69,72	0
22	CHD	P	306	29/29	0.87	0.19	71,76,81,81	0
22	CHD	C	308	29/29	0.87	0.25	72,74,79,80	0

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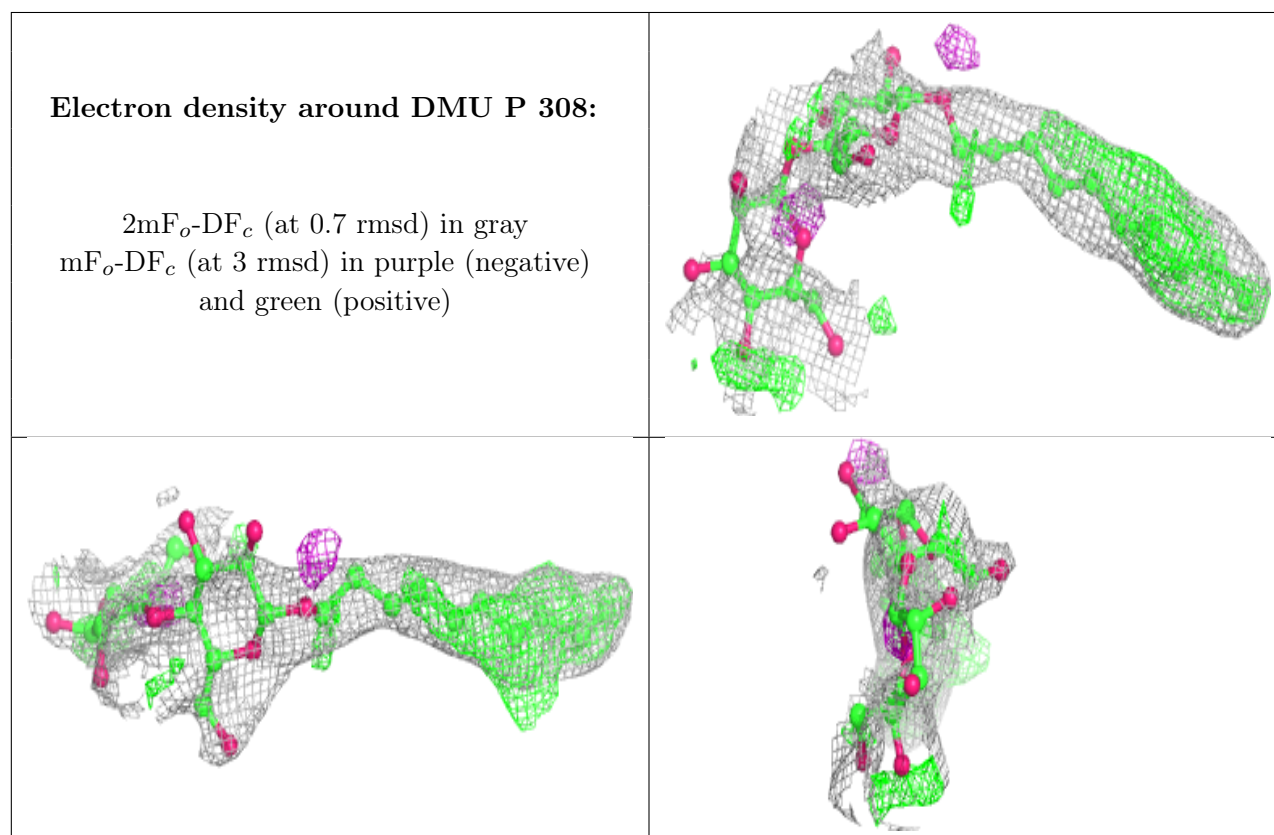
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20	EDO	N	610	4/4	0.89	0.21	62,64,65,66	0
25	DMU	M	102	33/33	0.90	0.15	48,58,74,77	0
20	EDO	R	201	4/4	0.91	0.34	52,53,53,53	0
20	EDO	A	613	4/4	0.92	0.15	46,49,51,52	0
20	EDO	N	615	4/4	0.93	0.39	54,58,59,65	0
20	EDO	N	608	4/4	0.93	0.14	37,39,40,40	0
20	EDO	A	616	4/4	0.94	0.23	43,45,49,49	0
20	EDO	A	610	4/4	0.94	0.21	54,56,56,57	0
20	EDO	N	614	4/4	0.94	0.19	46,48,49,50	0
20	EDO	A	614	4/4	0.94	0.24	50,53,54,59	0
20	EDO	N	617	4/4	0.94	0.21	58,70,75,86	0
20	EDO	A	612	4/4	0.94	0.22	38,39,43,43	0
20	EDO	N	609	4/4	0.94	0.28	63,69,69,74	0
20	EDO	E	202	4/4	0.95	0.13	51,52,52,53	0
16	MG	A	604	1/1	0.95	0.16	30,30,30,30	0
23	PEK	T	102	53/53	0.95	0.20	40,58,95,98	0
22	CHD	P	301	29/29	0.95	0.11	37,40,42,45	0
20	EDO	F	102	4/4	0.96	0.16	41,44,45,47	0
19	PGV	P	303	51/51	0.96	0.19	38,46,76,79	0
22	CHD	B	302	29/29	0.96	0.14	36,38,40,44	0
23	PEK	C	303	53/53	0.96	0.18	35,52,84,86	0
22	CHD	C	301	29/29	0.96	0.11	34,37,39,42	0
20	EDO	N	612	4/4	0.96	0.17	45,46,46,47	0
20	EDO	N	613	4/4	0.96	0.35	49,51,53,55	0
20	EDO	N	616	4/4	0.97	0.23	59,59,61,61	0
19	PGV	N	607	51/51	0.97	0.15	38,46,68,70	0
22	CHD	O	301	29/29	0.97	0.14	40,42,44,47	0
19	PGV	C	305	51/51	0.97	0.18	35,41,90,101	0
14	HEA	N	601	60/60	0.97	0.14	36,42,49,51	0
14	HEA	N	602	60/60	0.97	0.14	35,37,42,44	0
20	EDO	C	311	4/4	0.97	0.11	40,43,45,48	0
19	PGV	A	607	51/51	0.97	0.17	33,40,61,66	0
14	HEA	A	602	60/60	0.98	0.13	26,28,34,38	0
21	CUA	B	301	2/2	0.98	0.17	30,30,30,30	0
20	EDO	F	103	4/4	0.98	0.14	31,33,33,33	0
20	EDO	A	609	4/4	0.98	0.14	30,32,32,33	0
17	NA	A	605	1/1	0.98	0.08	30,30,30,30	0
14	HEA	A	601	60/60	0.98	0.14	25,28,38,40	0
20	EDO	S	102	4/4	0.98	0.13	37,39,40,42	0
17	NA	N	605	1/1	0.99	0.09	49,49,49,49	0
21	CUA	O	303	2/2	0.99	0.14	42,42,42,43	0

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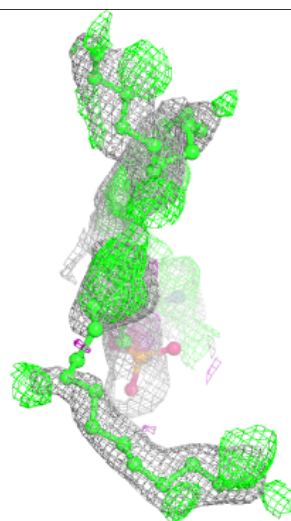
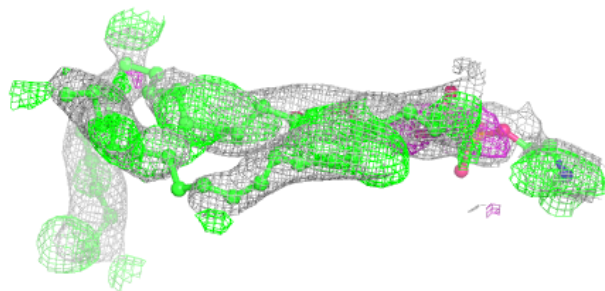
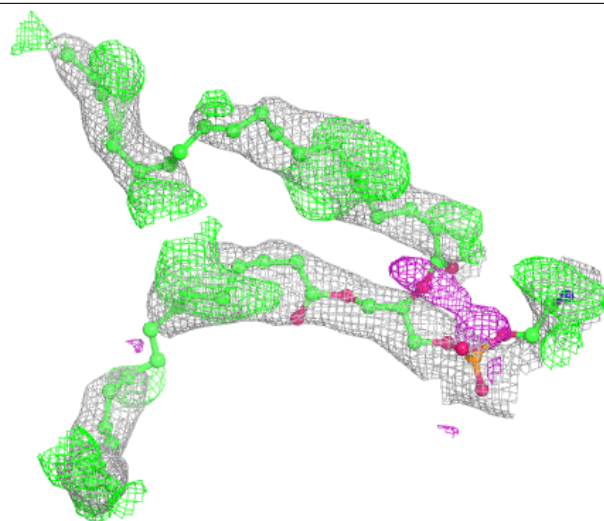
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
27	ZN	S	101	1/1	0.99	0.15	46,46,46,46	0
15	CU	A	603	1/1	1.00	0.19	28,28,28,28	0
27	ZN	F	101	1/1	1.00	0.18	39,39,39,39	0
15	CU	N	603	1/1	1.00	0.20	37,37,37,37	0

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.



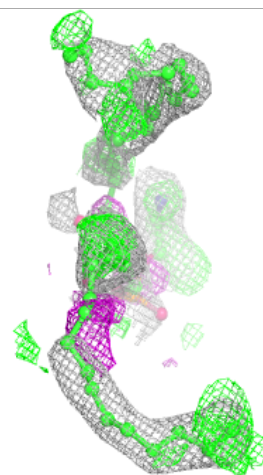
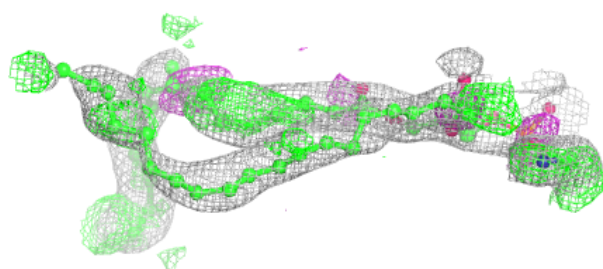
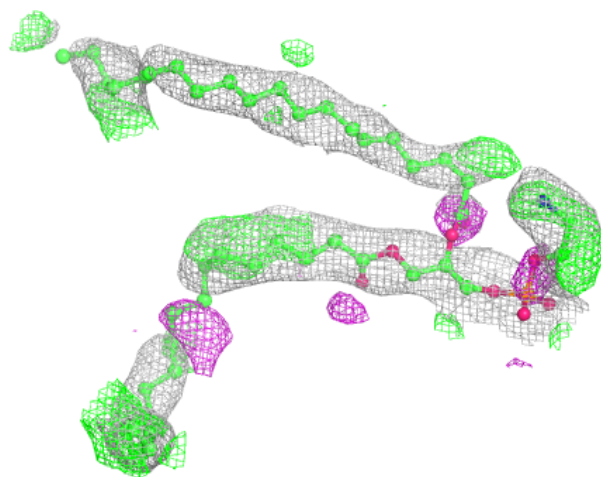
Electron density around PEK C 304:

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



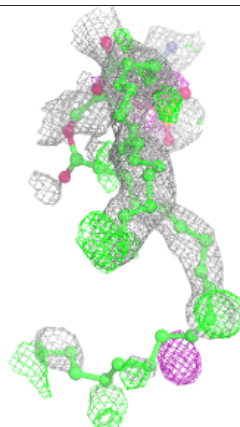
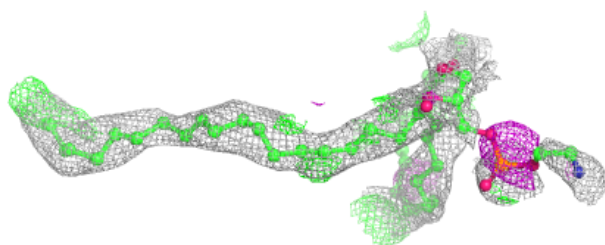
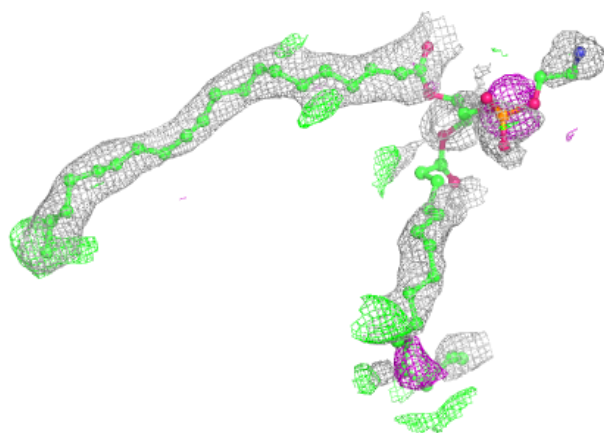
Electron density around PEK T 103:

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

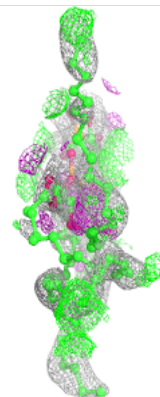
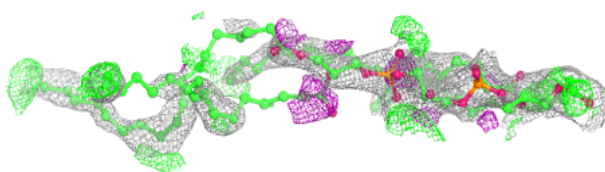
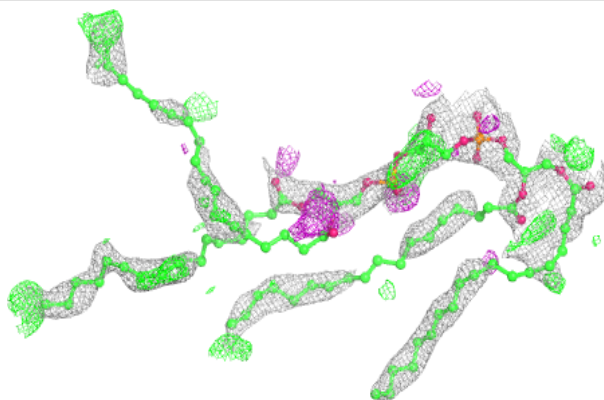


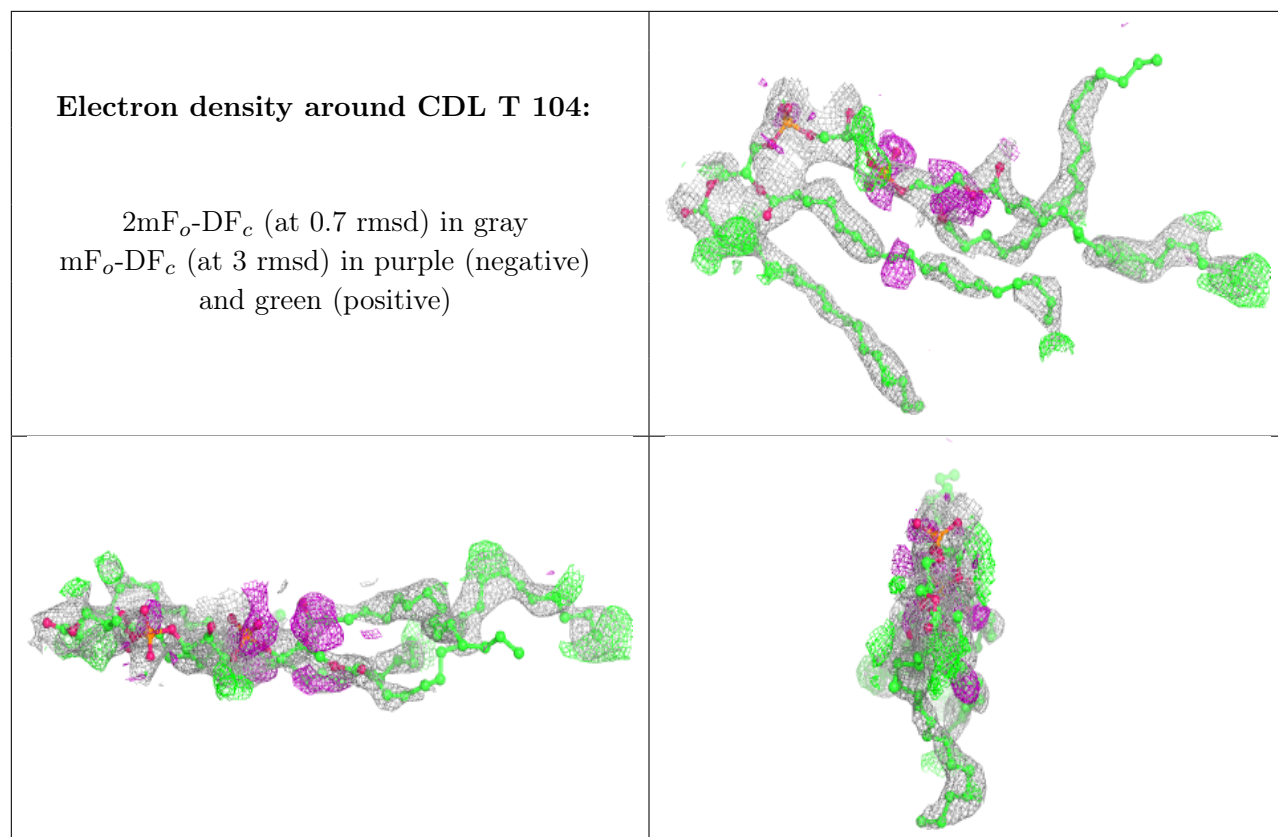
Electron density around PEK T 101:

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

**Electron density around CDL G 101:**

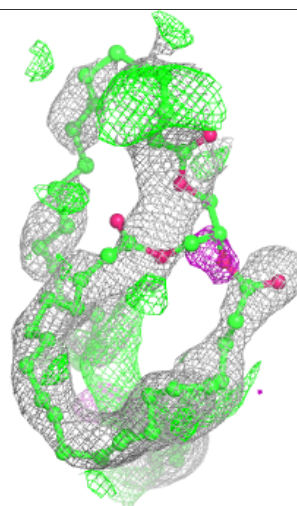
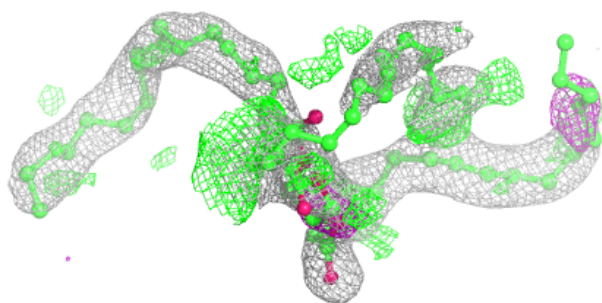
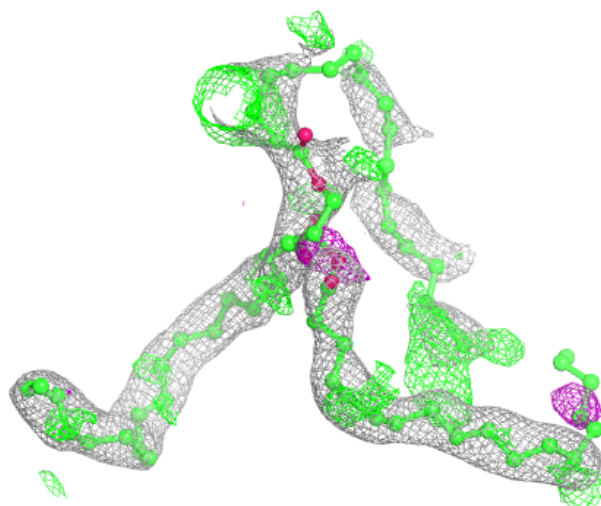
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)





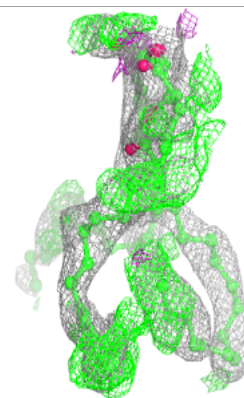
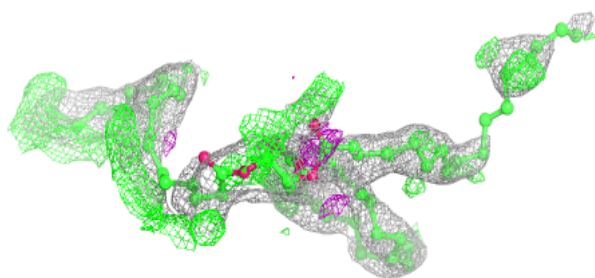
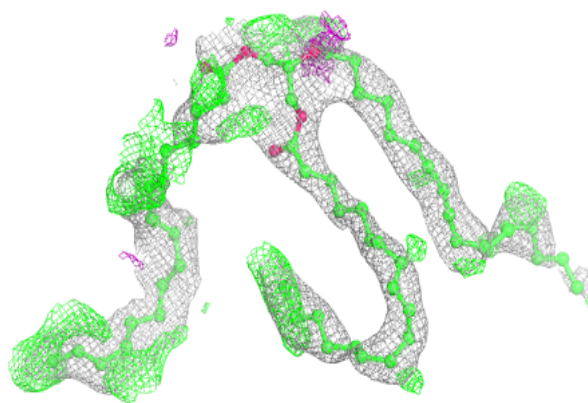
Electron density around TGL Y 101:

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

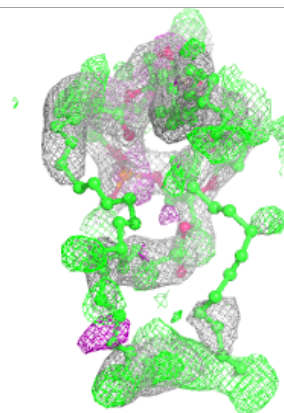
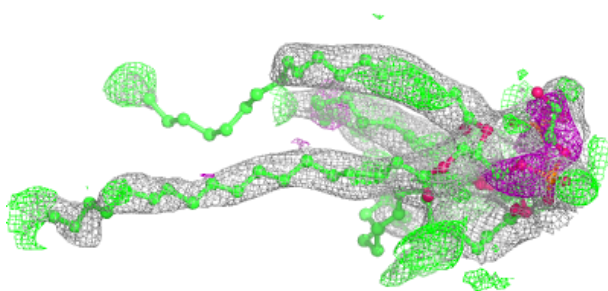
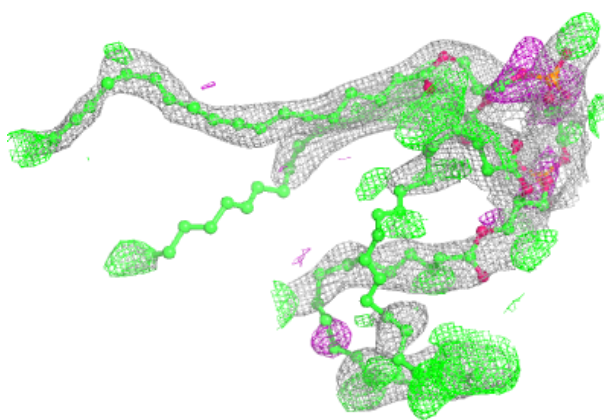


Electron density around TGL Q 201:

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

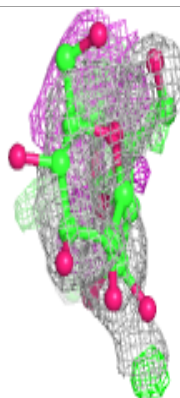
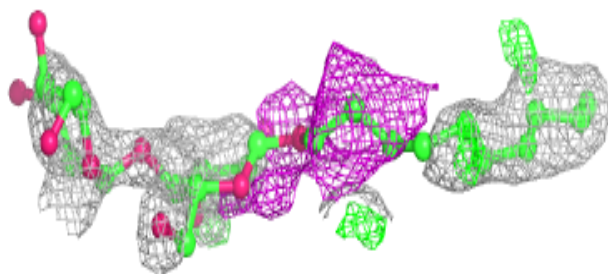
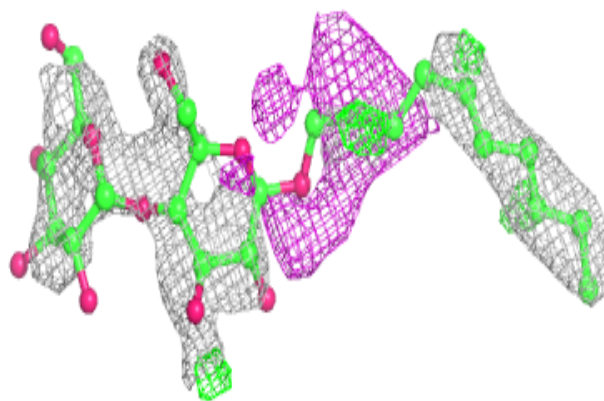
**Electron density around CDL P 305:**

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

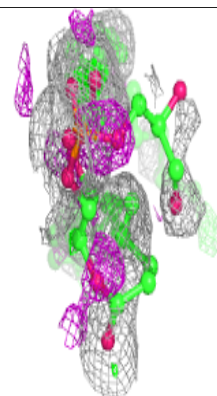
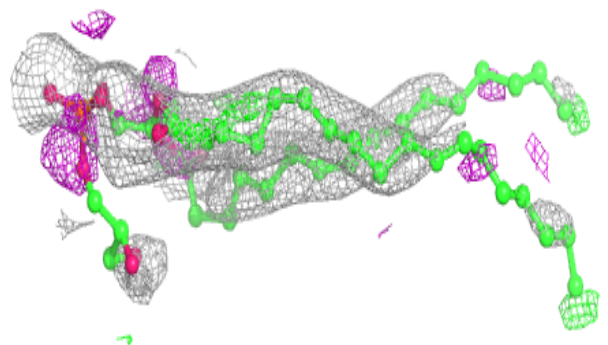
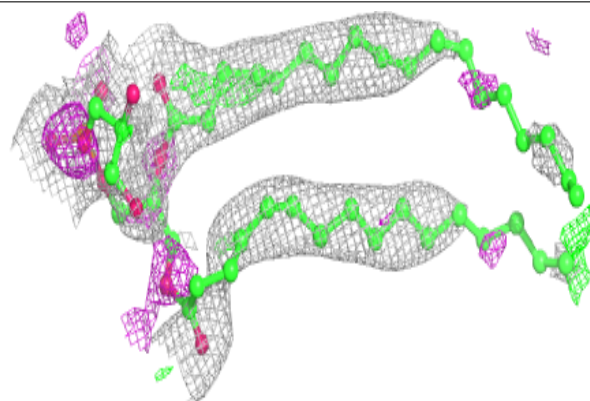


Electron density around DMU C 313:

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

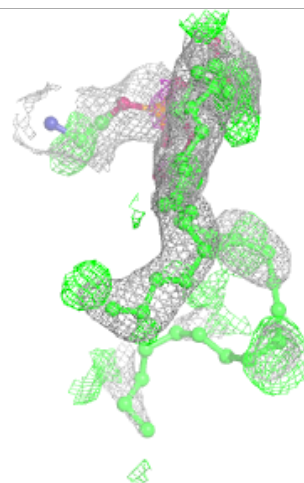
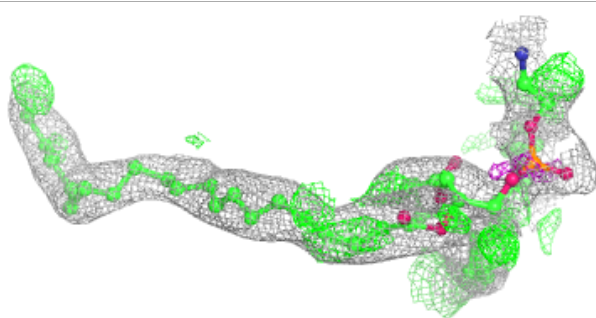
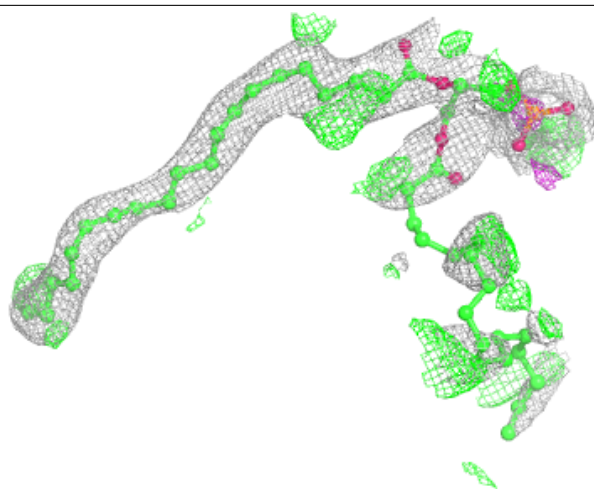
**Electron density around PGV N 606:**

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



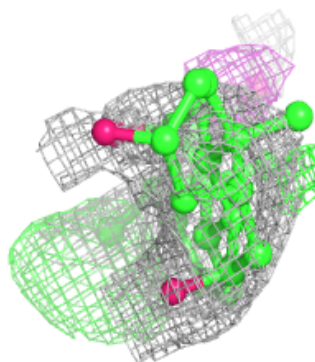
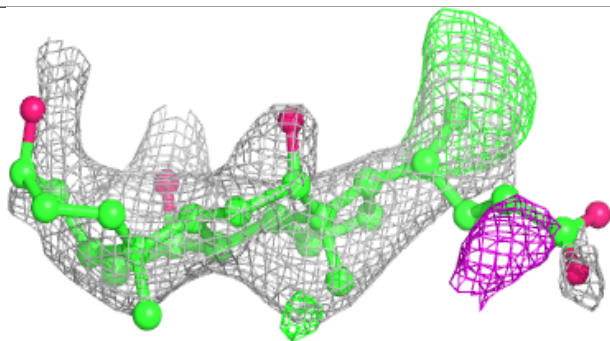
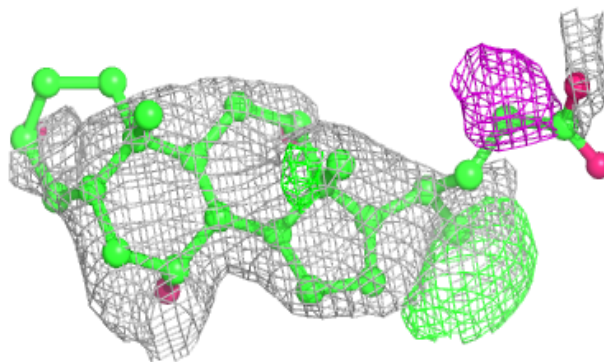
Electron density around PEK G 102:

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

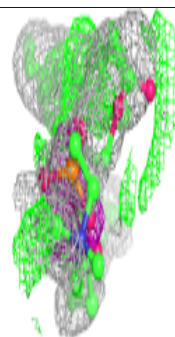
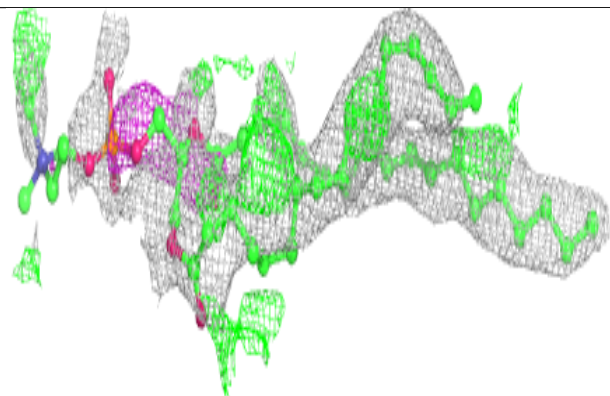
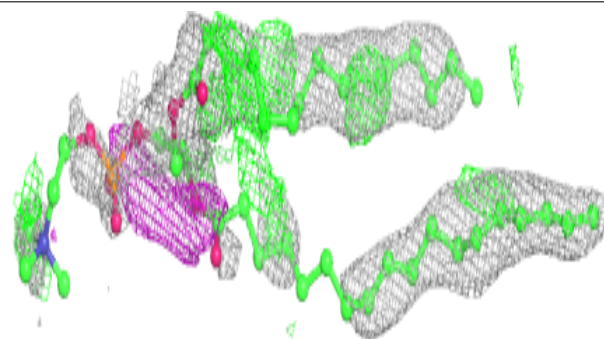


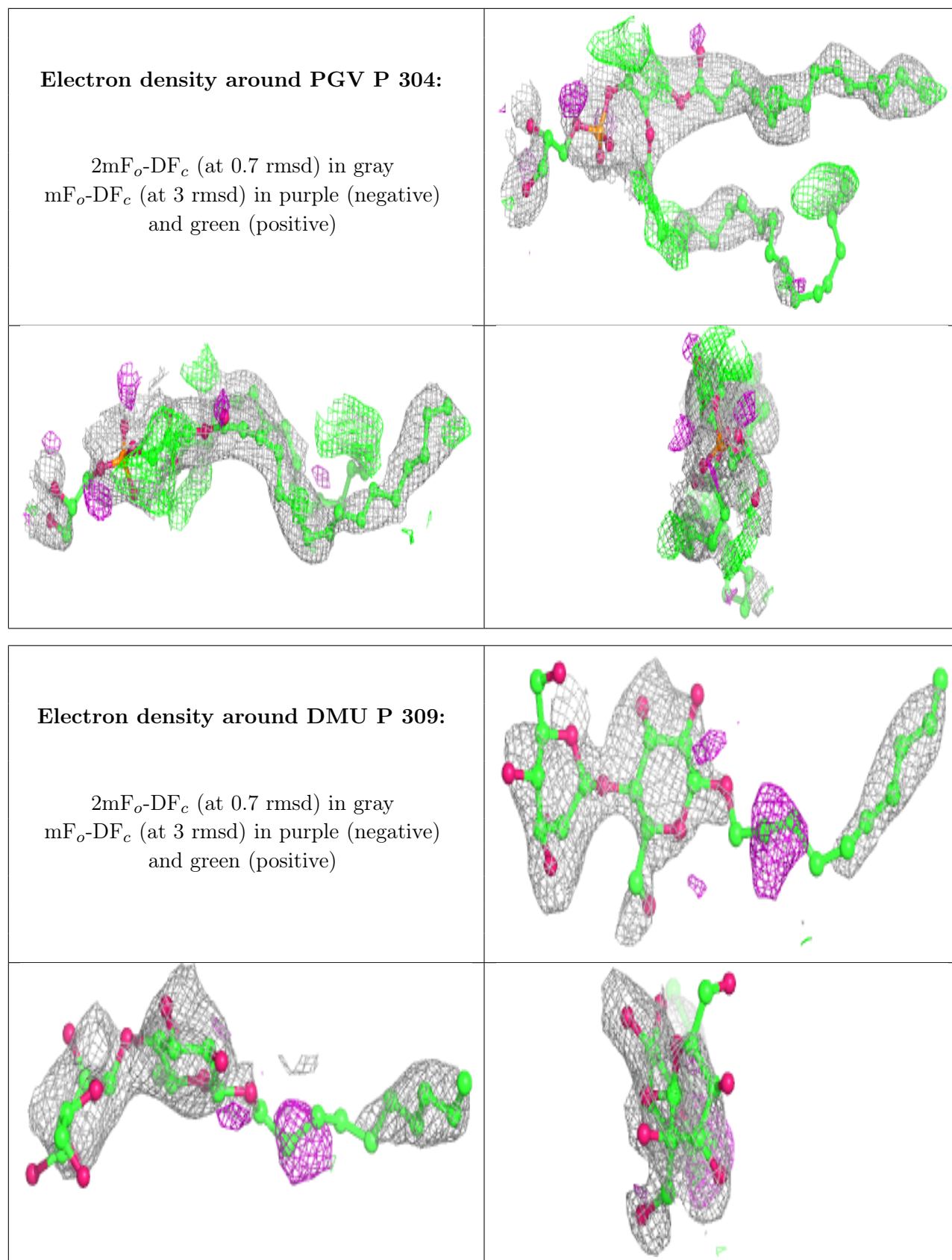
Electron density around CHD W 101:

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

**Electron density around PSC E 201:**

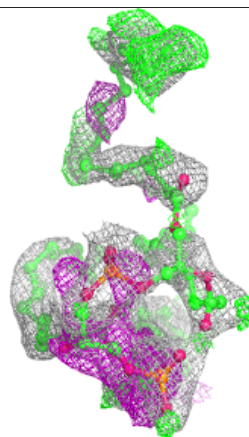
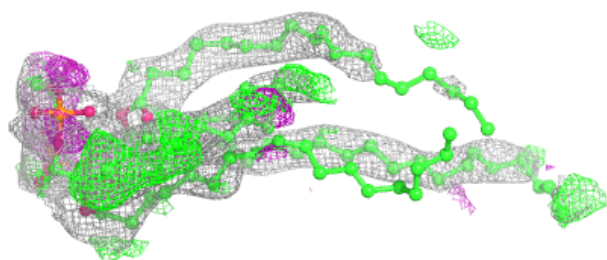
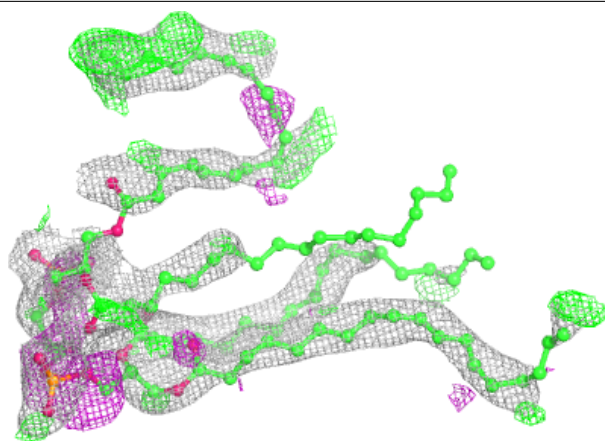
$2mF_o-DF_c$ (at 0.7 rmsd) in gray
 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)



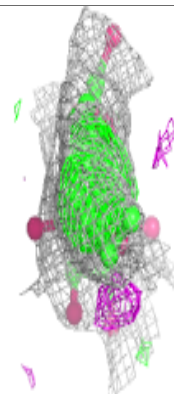
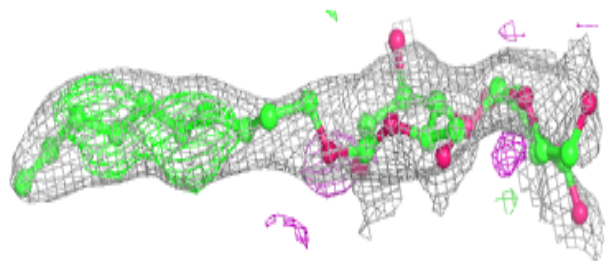
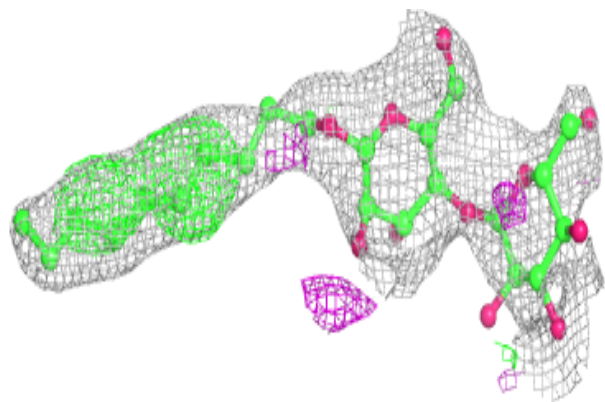


Electron density around CDL C 307:

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

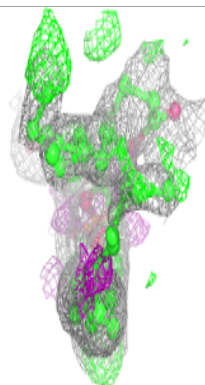
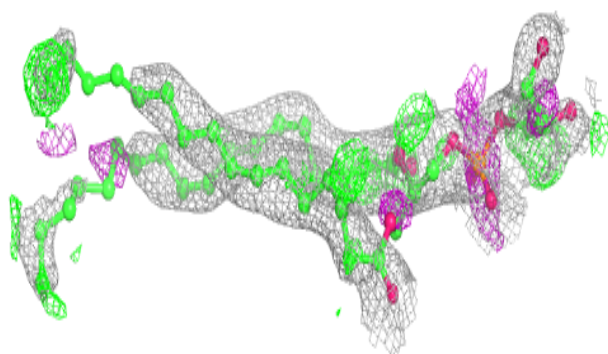
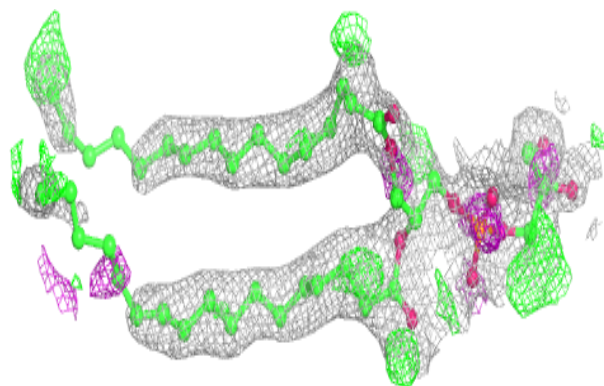
**Electron density around DMU C 312:**

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

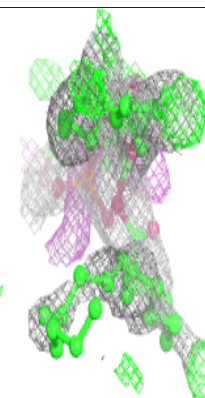
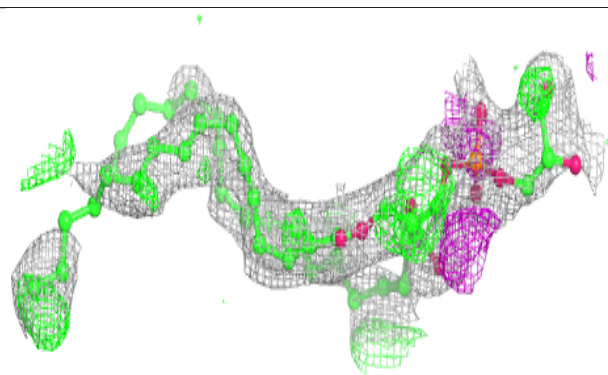
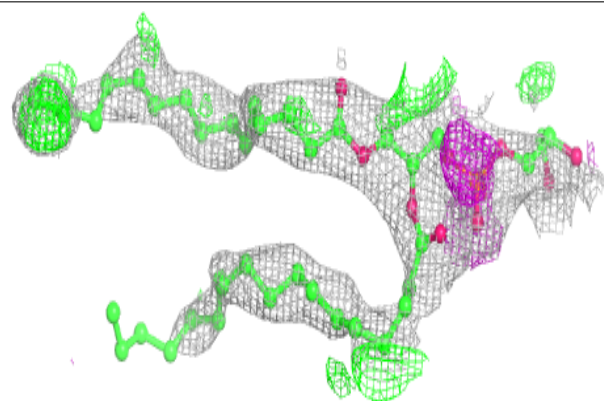


Electron density around PGV M 101:

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

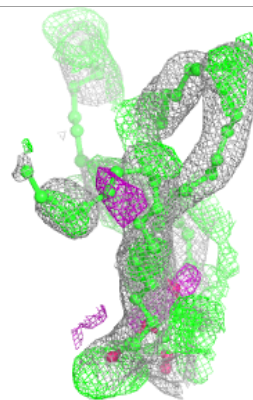
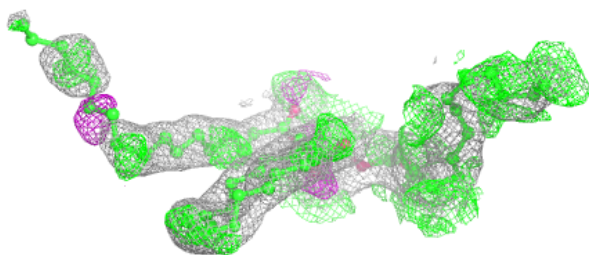
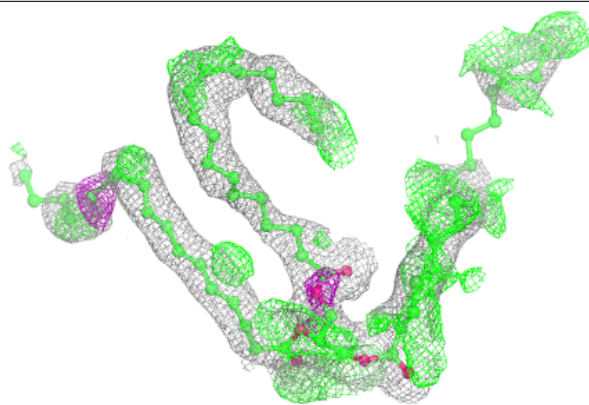
**Electron density around PGV C 306:**

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

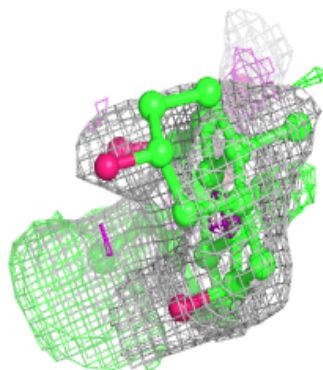
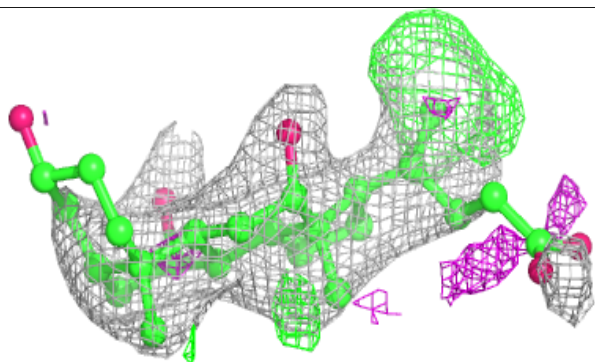
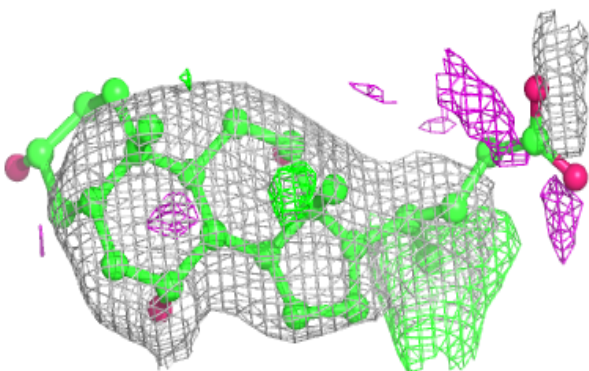


Electron density around TGL D 201:

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

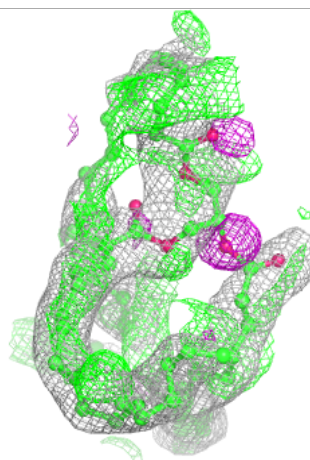
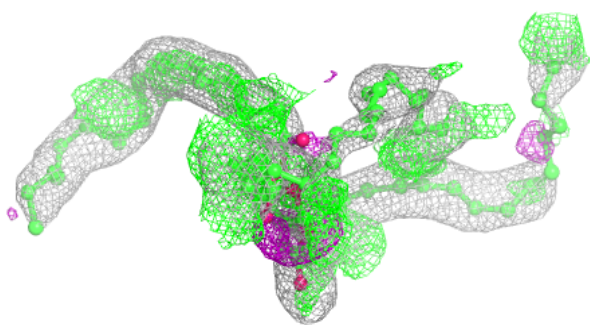
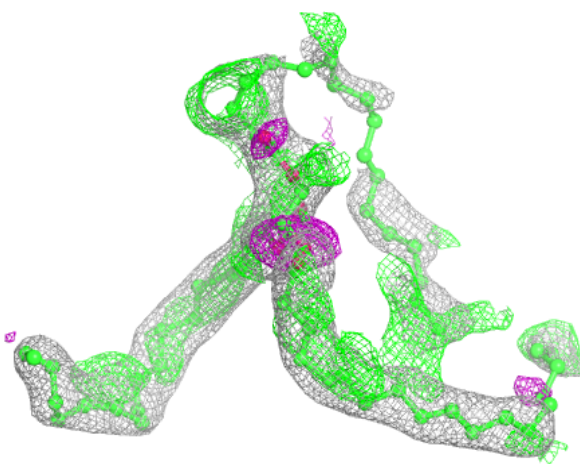
**Electron density around CHD J 101:**

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



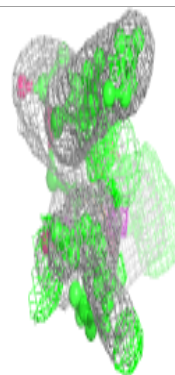
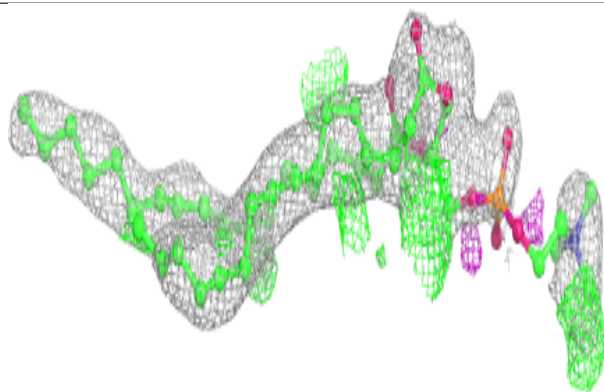
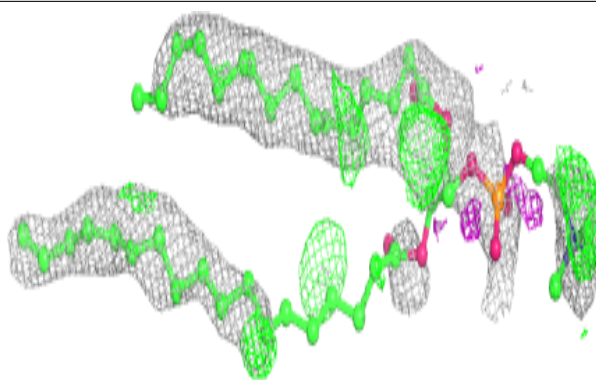
Electron density around TGL L 101:

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

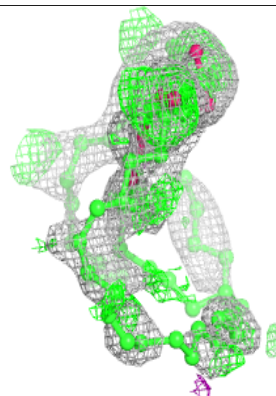
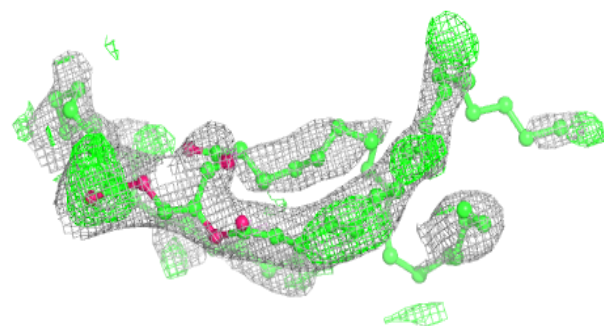
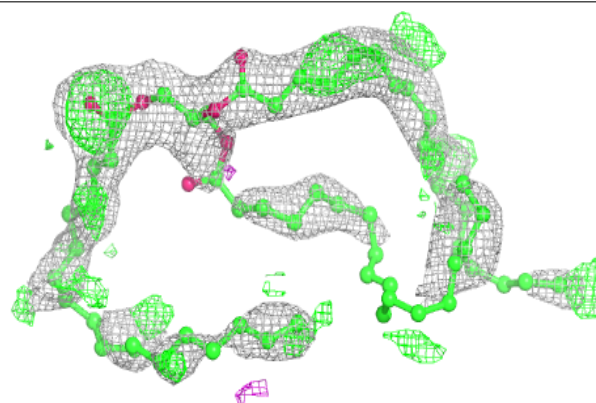


Electron density around PSC O 304:

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

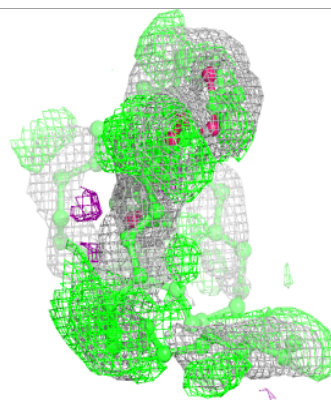
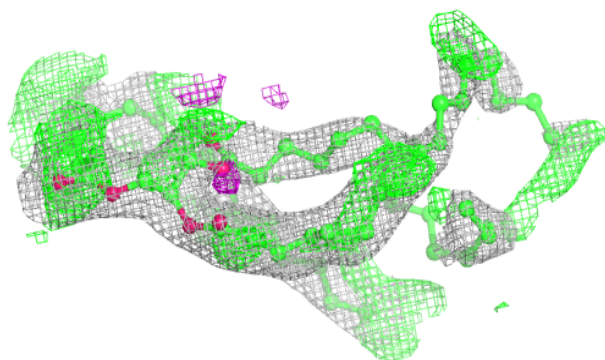
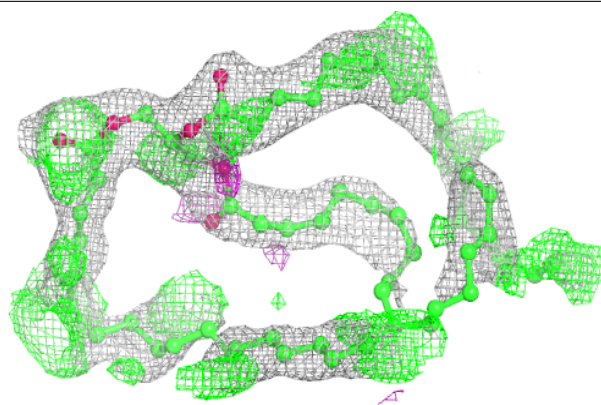
**Electron density around TGL O 302:**

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

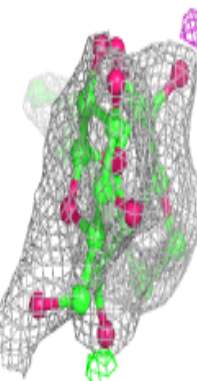
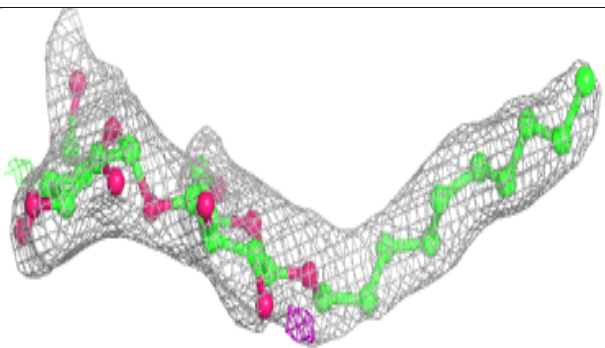
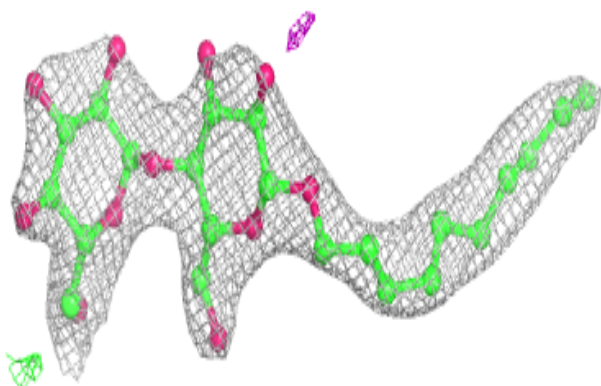


Electron density around TGL A 606:

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

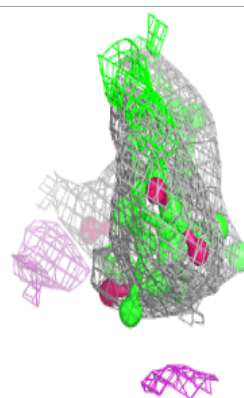
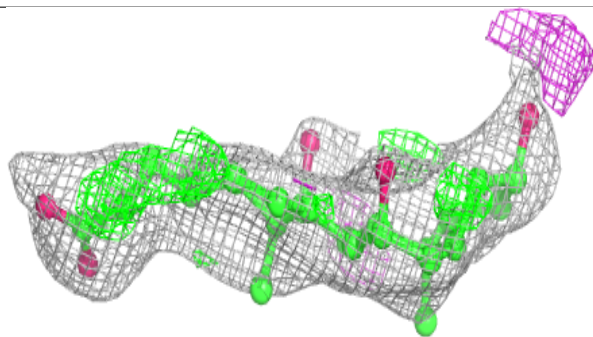
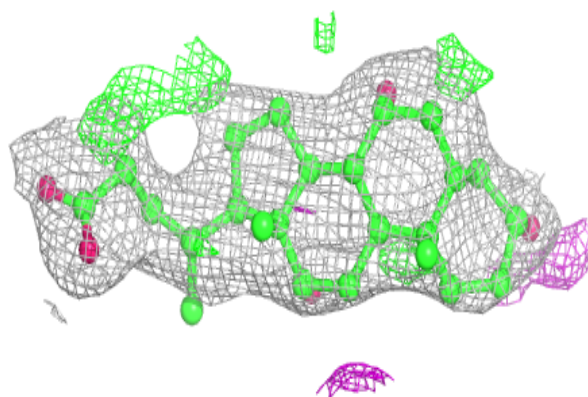
**Electron density around DMU Z 101:**

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

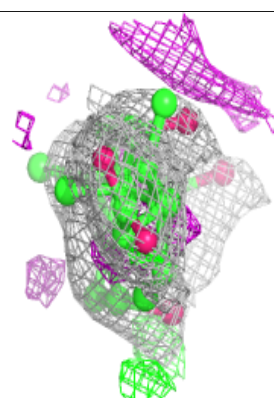
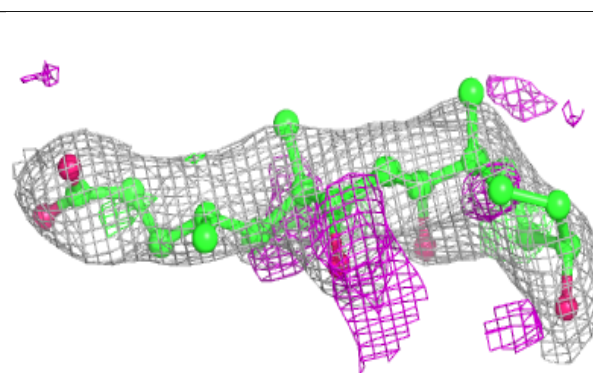
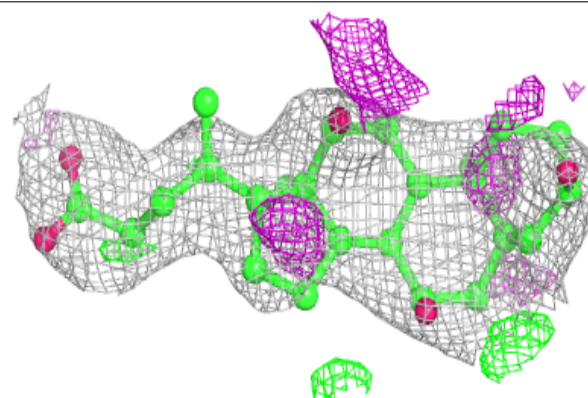


Electron density around CHD P 306:

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

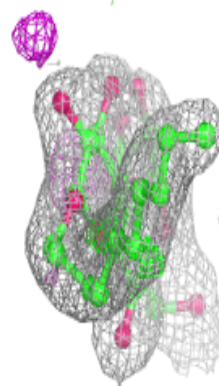
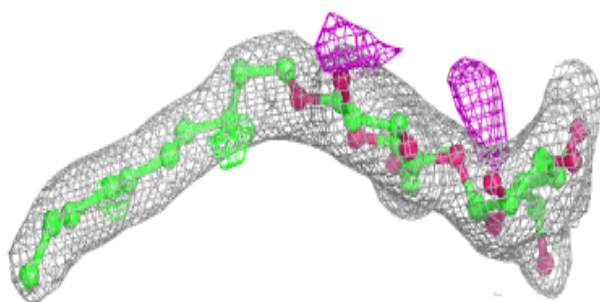
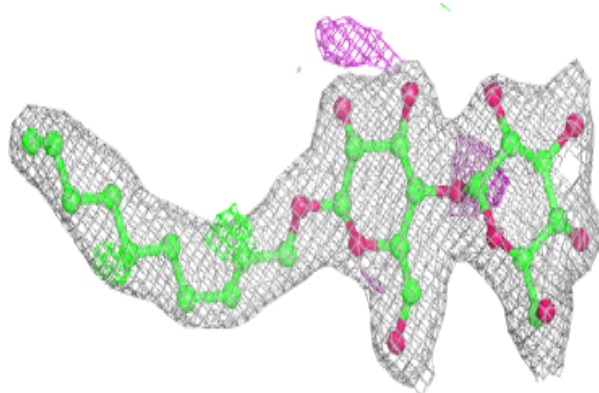
**Electron density around CHD C 308:**

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

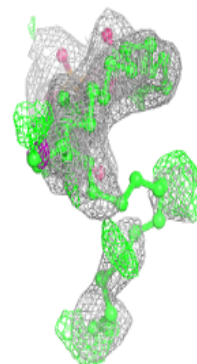
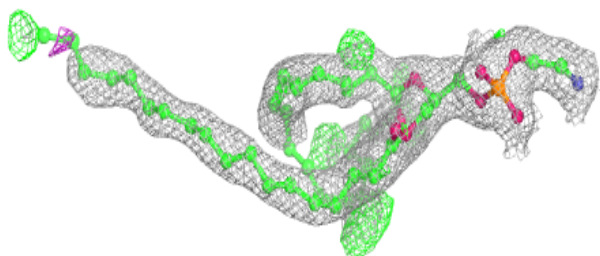
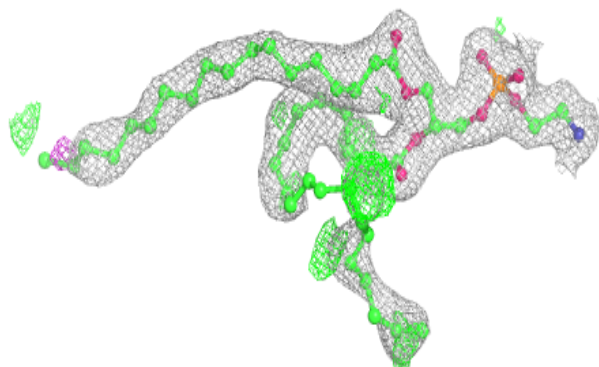


Electron density around DMU M 102:

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

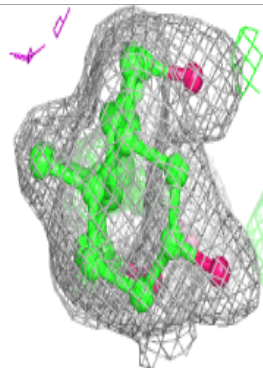
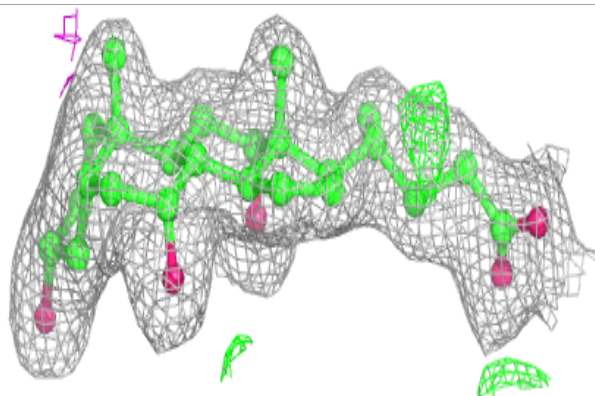
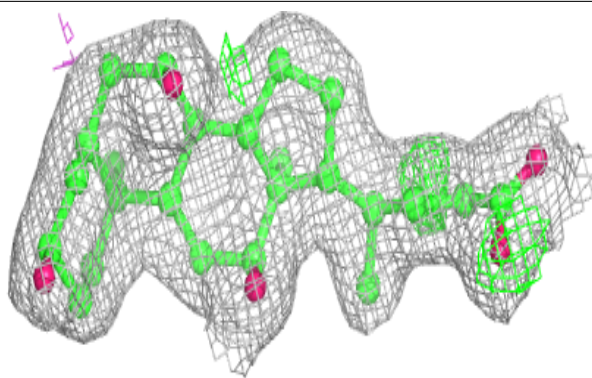
**Electron density around PEK T 102:**

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

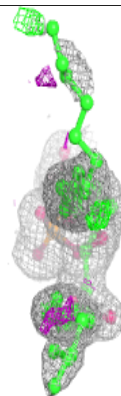
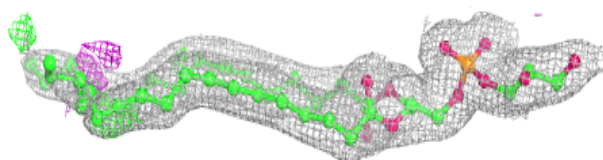
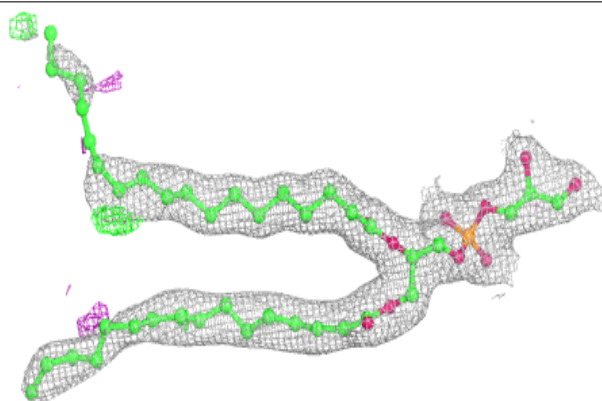


Electron density around CHD P 301:

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

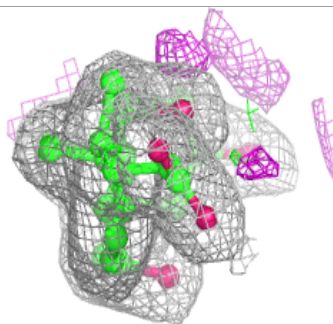
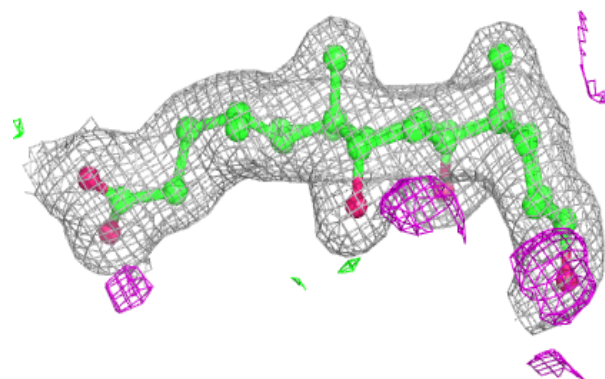
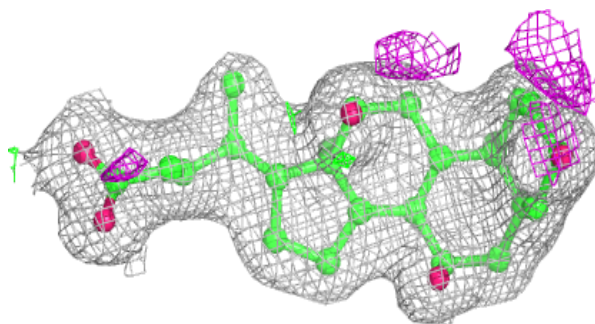
**Electron density around PGV P 303:**

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

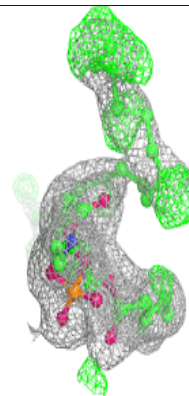
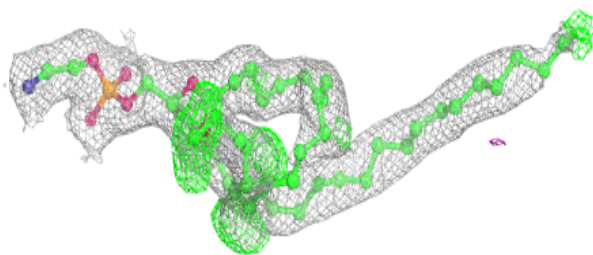
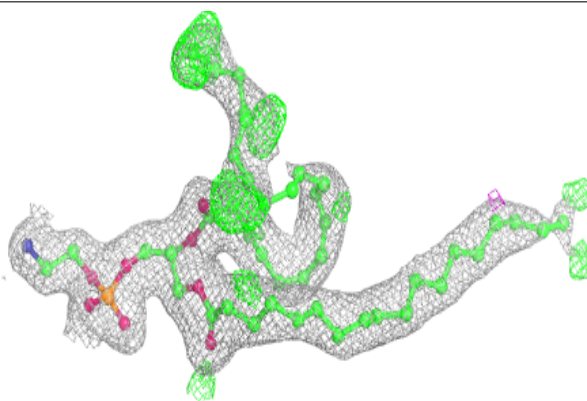


Electron density around CHD B 302:

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

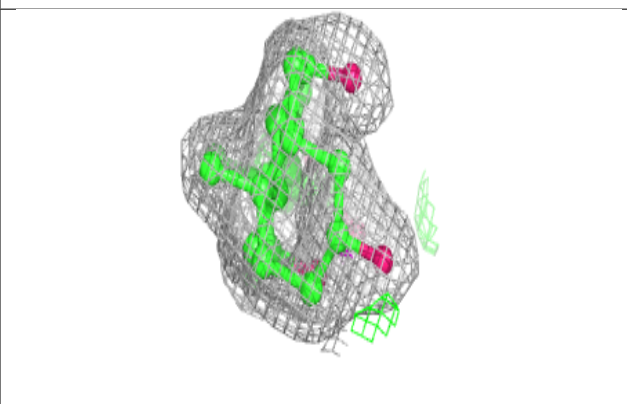
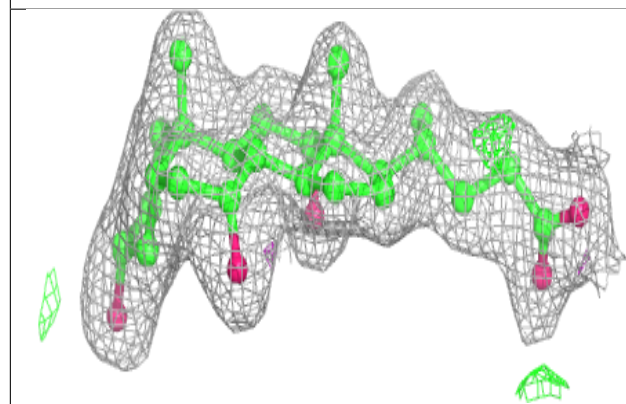
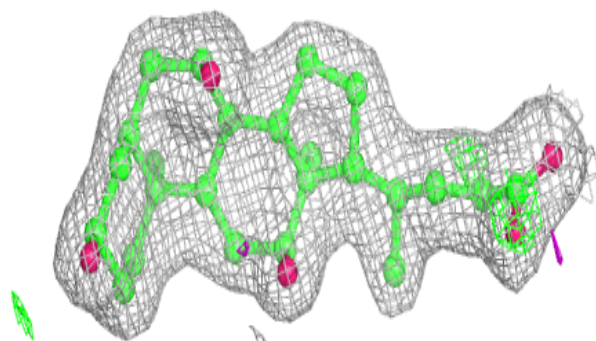
**Electron density around PEK C 303:**

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

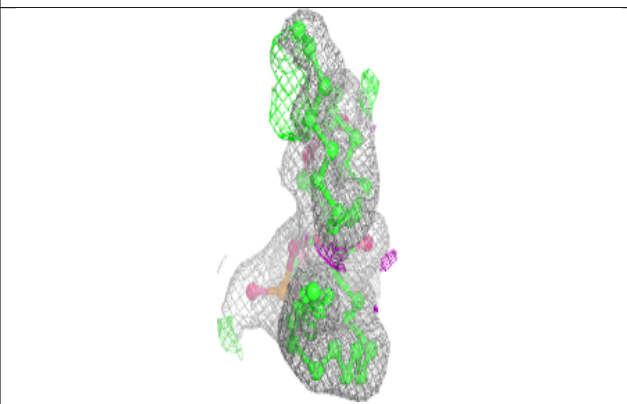
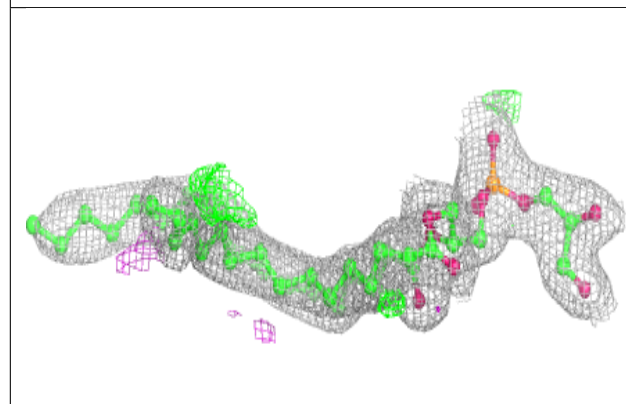
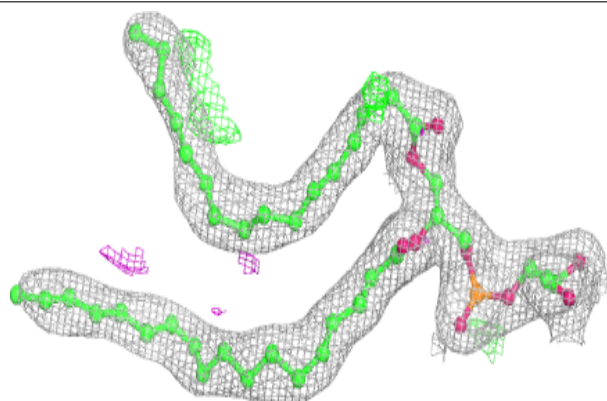


Electron density around CHD C 301:

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

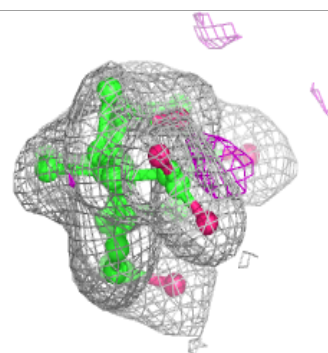
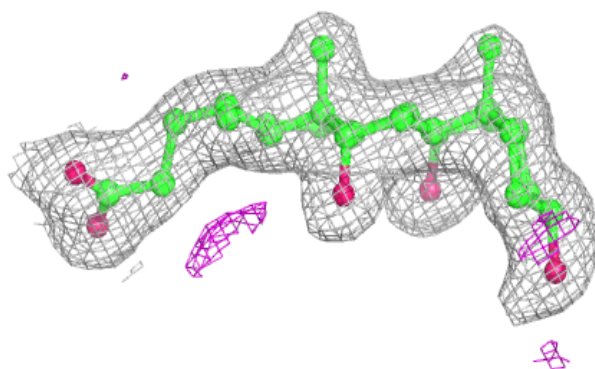
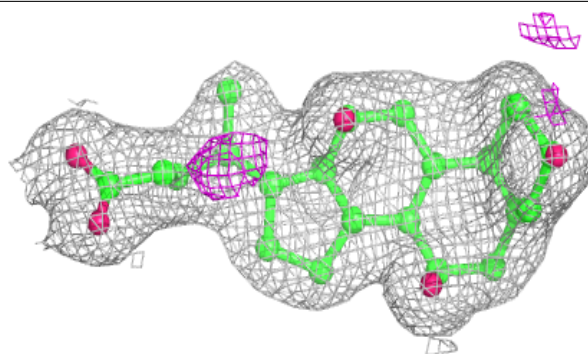
**Electron density around PGV N 607:**

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

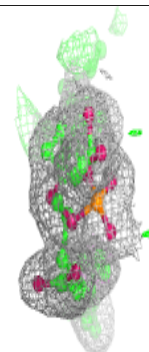
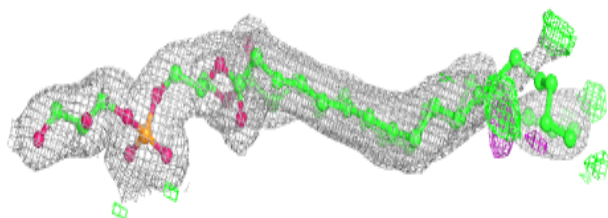
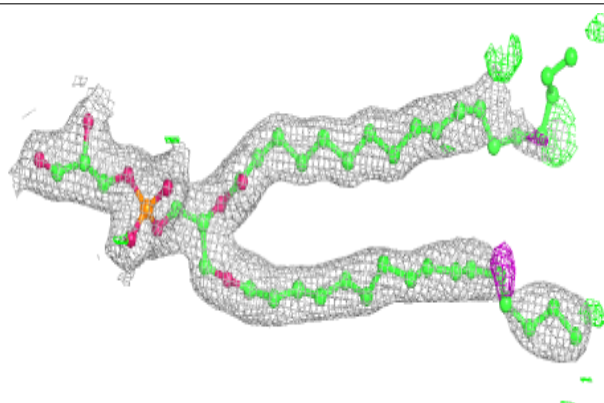


Electron density around CHD O 301:

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

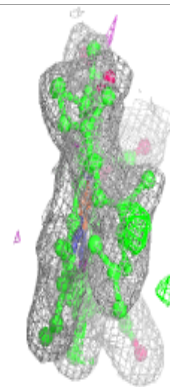
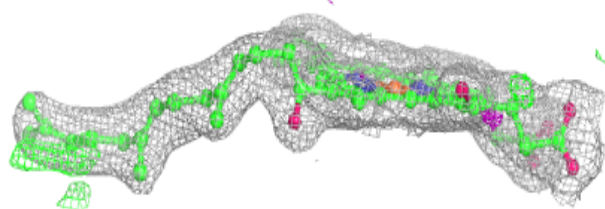
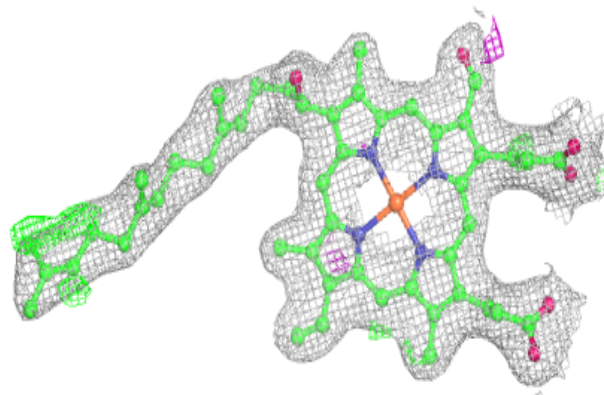
**Electron density around PGV C 305:**

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

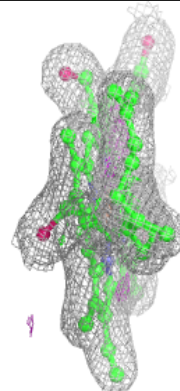
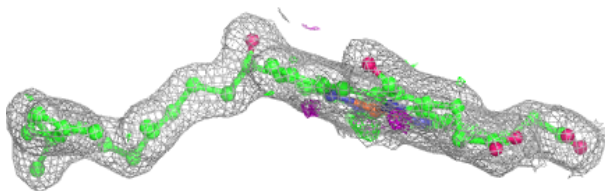
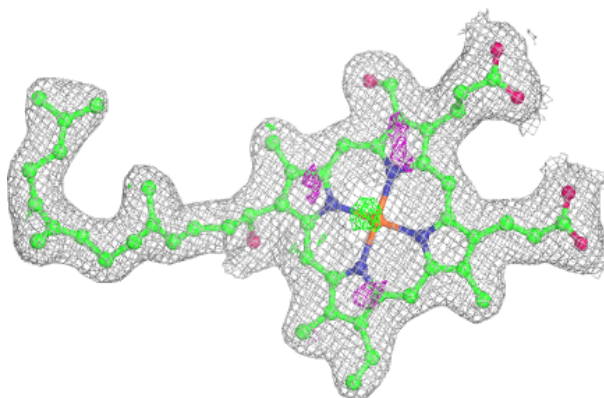


Electron density around HEA N 601:

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

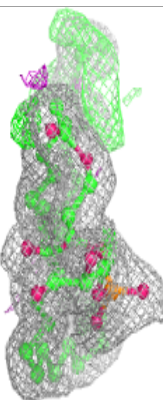
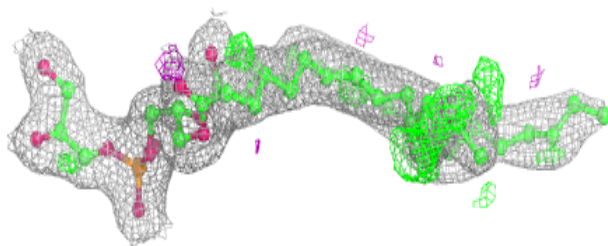
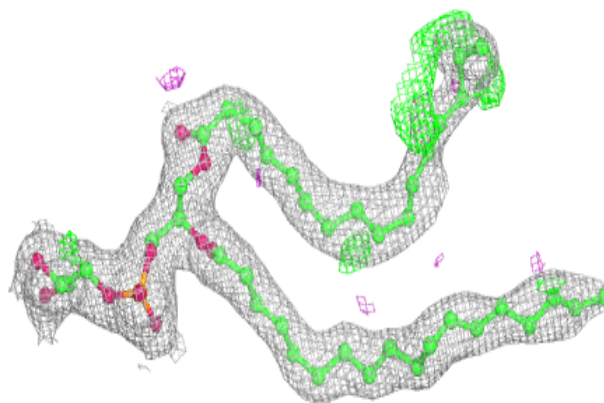
**Electron density around HEA N 602:**

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

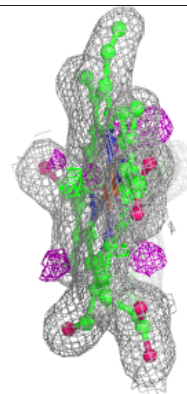
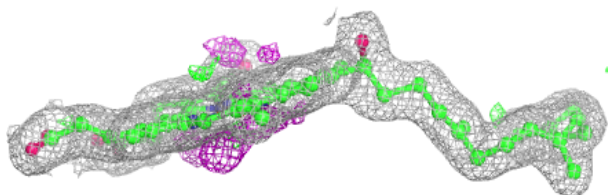
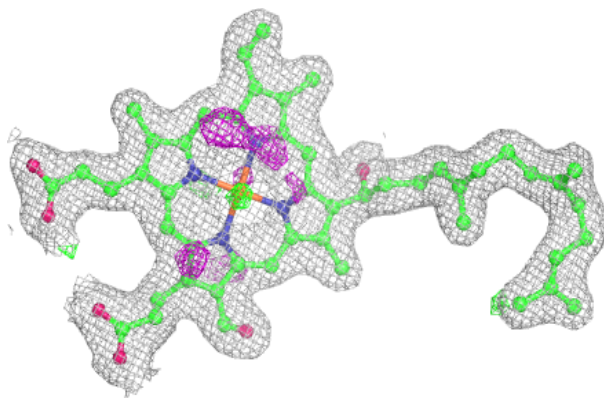


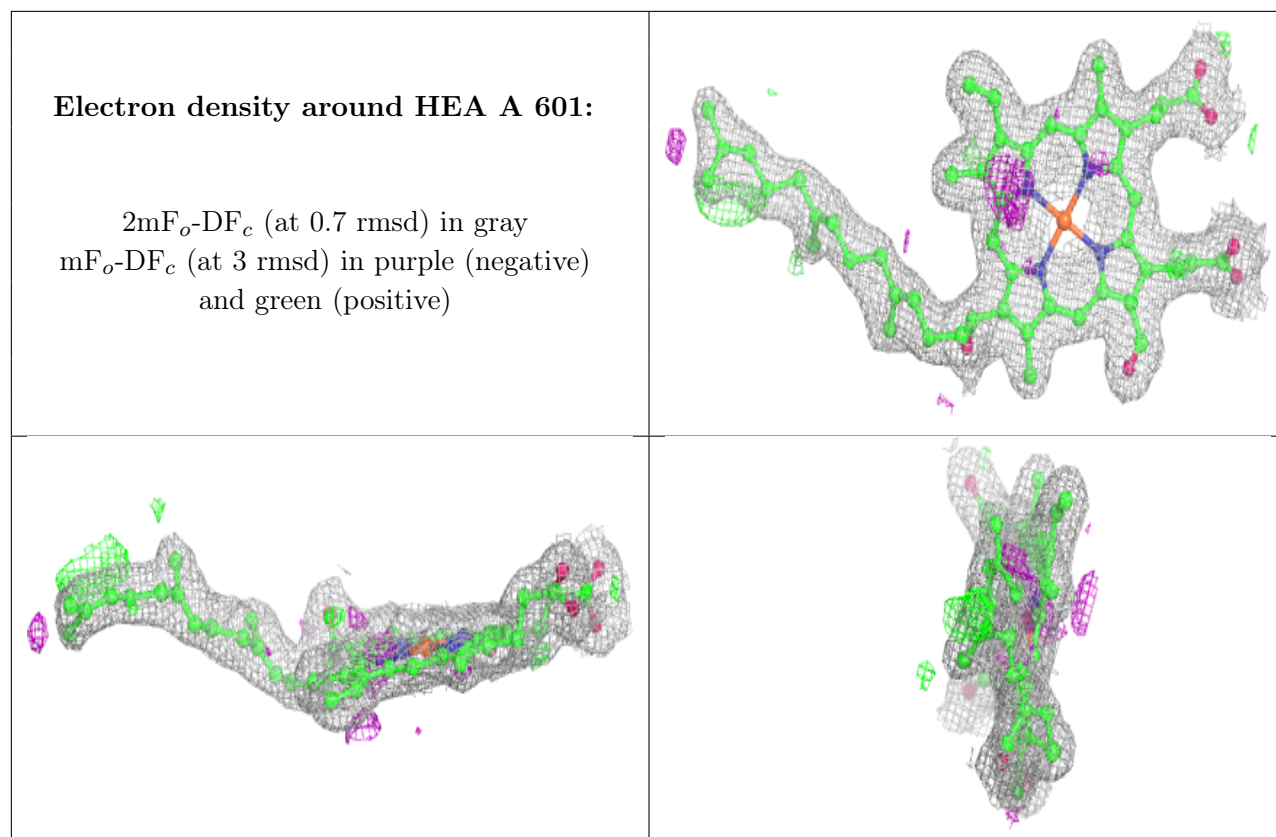
Electron density around PGV A 607:

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

**Electron density around HEA A 602:**

$2mF_o-DF_c$ (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.