



Full wwPDB EM Validation Report ⓘ

Jan 25, 2023 – 01:09 PM JST

PDB ID : 7W2U
EMDB ID : EMD-32266
Title : Active state CI from DQ-NADH dataset, Subclass 2
Authors : Gu, J.K.; Yang, M.J.
Deposited on : 2021-11-24
Resolution : 2.60 Å (reported)

This is a Full wwPDB EM Validation Report for a publicly released PDB entry.

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

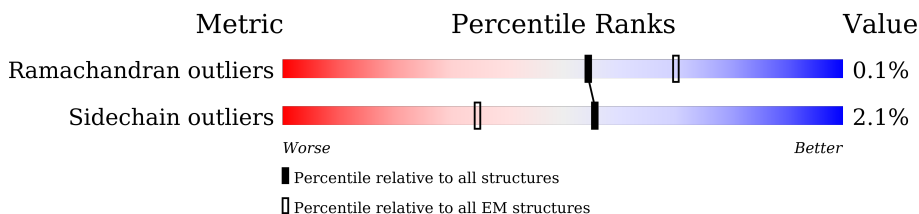
EMDB validation analysis : 0.0.1.dev43
Mogul : 1.8.5 (274361), CSD as541be (2020)
MolProbity : 4.02b-467
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.9
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.31.3

1 Overall quality at a glance

The following experimental techniques were used to determine the structure:
ELECTRON MICROSCOPY

The reported resolution of this entry is 2.60 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



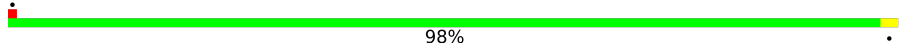
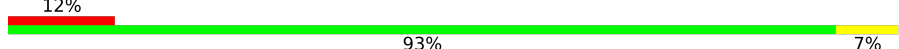
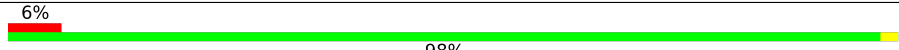
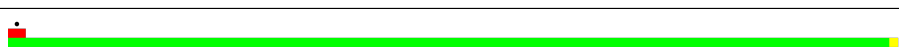
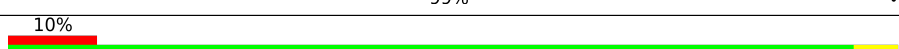
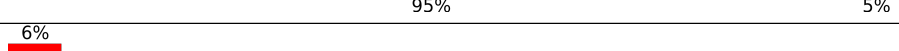
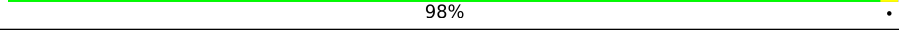
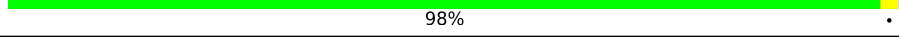
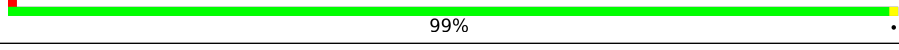
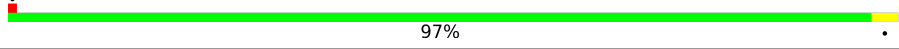
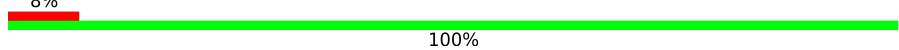
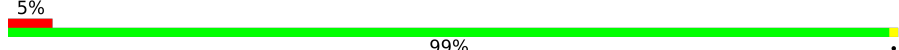
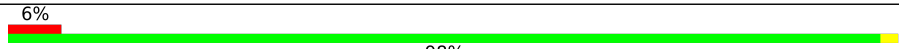

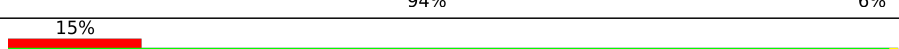
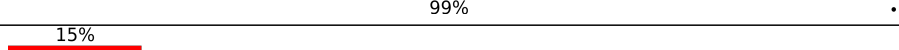
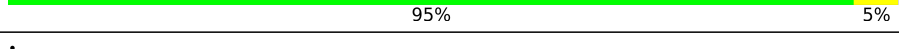
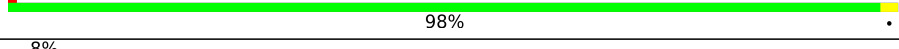

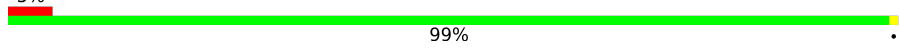
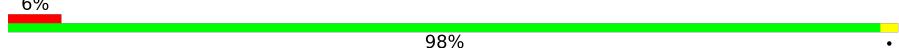
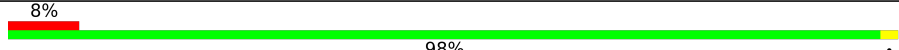

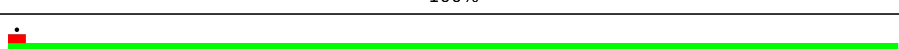
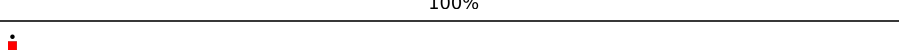
Metric	Whole archive (#Entries)	EM structures (#Entries)
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion $< 40\%$). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	433	100%
2	B	176	99%
3	C	156	96%
4	E	115	98%
5	F	86	8% 94% 6%
6	G	88	20% 93% 7%
6	X	88	5% 93% 7%
7	H	112	98%
8	I	112	9% 84% 13%

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Mol	Chain	Length	Quality of chain
9	J	342	 98%
10	K	43	 12% 93% 7%
11	L	125	 6% 98%
12	M	690	 99%
13	N	144	 10% 95% 5%
14	O	217	 6% 98%
15	P	208	 98%
16	Q	430	 99%
17	S	70	 97%
18	T	96	 8% 100%
19	U	83	 5% 99%
20	V	140	 6% 98%
21	W	142	 94% 6%
22	Y	67	 15% 99%
23	Z	80	 15% 95% 5%
24	a	138	 98%
25	b	126	 8% 76% 22%
26	c	156	 5% 99%
27	d	175	 6% 98%
28	e	104	 8% 98%
29	f	49	 22% 100%
30	g	122	 100%
31	h	105	 97%
32	i	347	 99%
33	j	115	 97%

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Mol	Chain	Length	Quality of chain
34	k	98	 97%
35	l	606	 98%
36	m	175	 13% 97%
37	n	56	 12% 96%
38	o	128	 99%
39	p	178	 98%
40	r	459	 100%
41	s	318	 98%
42	u	171	 98%
43	v	125	 8% 98%
44	w	320	 98%

2 Entry composition [i](#)

There are 58 unique types of molecules in this entry. The entry contains 68170 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a protein called NADH dehydrogenase [ubiquinone] flavoprotein 1, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	433	3330	2103	593	614	20	0	0

- Molecule 2 is a protein called NADH dehydrogenase [ubiquinone] iron-sulfur protein 8, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	B	176	1412	887	243	269	13	0	0

- Molecule 3 is a protein called NADH dehydrogenase [ubiquinone] iron-sulfur protein 7, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	C	156	1248	794	227	213	14	0	0

- Molecule 4 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 6.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	E	115	971	619	179	168	5	0	0

- Molecule 5 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	F	86	681	429	126	124	2	0	0

- Molecule 6 is a protein called Acyl carrier protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	G	88	Total	C	N	O	S	0	0
			693	447	102	139	5		
6	X	88	Total	C	N	O	S	0	0
			693	447	103	138	5		

- Molecule 7 is a protein called Complex I subunit B13.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	H	112	Total	C	N	O	S	0	0
			910	588	154	165	3		

- Molecule 8 is a protein called Complex I-B14.5a.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	I	97	Total	C	N	O	S	0	0
			780	491	147	139	3		

- Molecule 9 is a protein called NADH dehydrogenase ubiquinone 1 alpha subcomplex subunit 9, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	J	342	Total	C	N	O	S	0	0
			2751	1783	481	478	9		

- Molecule 10 is a protein called Complex I-9kD.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	K	43	Total	C	N	O	S	0	0
			366	228	68	69	1		

- Molecule 11 is a protein called NADH dehydrogenase [ubiquinone] iron-sulfur protein 4, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	L	125	Total	C	N	O	S	0	0
			1016	642	181	190	3		

- Molecule 12 is a protein called NADH-ubiquinone oxidoreductase 75 kDa subunit, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	M	690	Total	C	N	O	S	0	0
			5296	3320	923	1014	39		

- Molecule 13 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 12.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
13	N	144	1204	770	218	212	4	0	0

- Molecule 14 is a protein called NADH dehydrogenase [ubiquinone] flavoprotein 2, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
14	O	217	1671	1065	281	315	10	0	0

- Molecule 15 is a protein called Complex I-30kD.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
15	P	208	1732	1121	295	314	2	0	0

- Molecule 16 is a protein called Complex I-49kD.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
16	Q	430	3459	2212	594	629	24	0	0

- Molecule 17 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
17	S	70	566	364	103	94	5	0	0

- Molecule 18 is a protein called NADH dehydrogenase [ubiquinone] iron-sulfur protein 6, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
18	T	96	741	452	140	146	3	0	0

- Molecule 19 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
19	U	83	643	417	110	115	1	0	0

- Molecule 20 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 11.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
20	V	140	1021	651	174	190	6	0	0

- Molecule 21 is a protein called Complex I-B16.6.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
21	W	142	1161	749	197	206	9	0	0

- Molecule 22 is a protein called NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 2, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
22	Y	67	584	385	95	103	1	0	0

- Molecule 23 is a protein called NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
23	Z	80	641	418	108	114	1	0	0

- Molecule 24 is a protein called NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 5, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
24	a	138	1151	754	195	199	3	0	0

- Molecule 25 is a protein called Complex I-B17.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
25	b	98	815	535	144	135	1	0	0

- Molecule 26 is a protein called NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 8, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
26	c	156	1315	853	213	241	8	0	0

- Molecule 27 is a protein called NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 10.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
27	d	175	1461	916	265	272	8	0	0

- Molecule 28 is a protein called NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 11, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
28	e	104	867	553	142	168	4	0	0

- Molecule 29 is a protein called NADH dehydrogenase [ubiquinone] 1 subunit C1, mitochondrial.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
29	f	49	378	246	65	67	0	0

- Molecule 30 is a protein called NADH dehydrogenase [ubiquinone] 1 subunit C2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
30	g	122	1005	653	174	172	6	0	0

- Molecule 31 is a protein called NADH dehydrogenase [ubiquinone] iron-sulfur protein 5.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
31	h	105	867	550	161	150	6	0	0

- Molecule 32 is a protein called NADH-ubiquinone oxidoreductase chain 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
32	i	347	2710	1782	420	462	46	0	0

- Molecule 33 is a protein called NADH-ubiquinone oxidoreductase chain 3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
33	j	115	914	615	134	158	7	0	0

- Molecule 34 is a protein called NADH-ubiquinone oxidoreductase chain 4L.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
34	k	98	748	493	113	128	14	0	0

- Molecule 35 is a protein called NADH-ubiquinone oxidoreductase chain 5.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
35	l	606	4800	3182	744	823	51	0	0

- Molecule 36 is a protein called NADH-ubiquinone oxidoreductase chain 6.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
36	m	175	1277	852	187	225	13	0	0

- Molecule 37 is a protein called NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
37	n	56	479	311	88	79	1	0	0

- Molecule 38 is a protein called NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 4.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
38	o	128	1062	691	182	189	0	0

- Molecule 39 is a protein called NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 9.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
39	p	178	1534	982	279	265	8	0	0

- Molecule 40 is a protein called NADH-ubiquinone oxidoreductase chain 4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
40	r	459	3631	2412	572	609	38	0	0

- Molecule 41 is a protein called NADH-ubiquinone oxidoreductase chain 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
41	s	318	2508	1678	385	424	21	0	0

- Molecule 42 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 8.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
42	u	171	1398	887	250	251	10	0	0

- Molecule 43 is a protein called NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 7.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
43	v	124	1028	642	195	182	9	0	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
v	1	MYR	-	acetylation	UNP F1SCH1

- Molecule 44 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 10, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
44	w	320	2582	1643	438	491	10	0	0

- Molecule 45 is IRON/SULFUR CLUSTER (three-letter code: SF4) (formula: Fe₄S₄) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms			AltConf
			Total	Fe	S	
45	A	1	8	4	4	0
45	B	1	16	8	8	0
45	B	1	16	8	8	0
45	C	1	8	4	4	0
45	M	1	16	8	8	0
45	M	1	16	8	8	0

- Molecule 46 is FLAVIN MONONUCLEOTIDE (three-letter code: FMN) (formula: C₁₇H₂₁N₄O₉P) (labeled as "Ligand of Interest" by depositor).



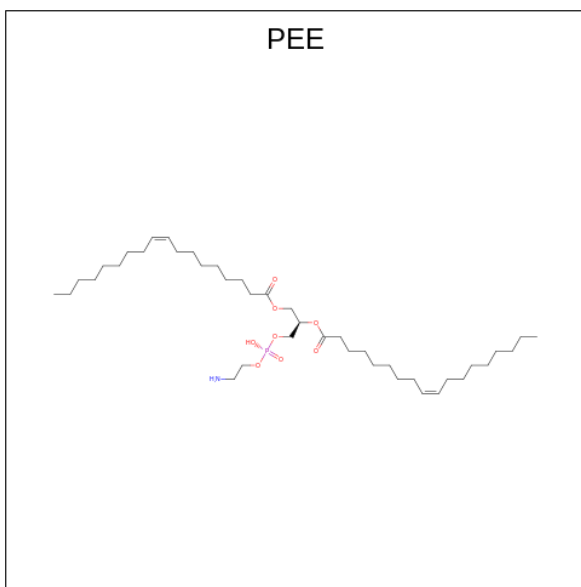
Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
46	A	1	31	17	4	9	1	0

- Molecule 47 is 1,4-DIHYDRONICOTINAMIDE ADENINE DINUCLEOTIDE (three-letter code: NAI) (formula: $C_{21}H_{29}N_7O_{14}P_2$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
47	A	1	44	21	7	14	2	0

- Molecule 48 is 1,2-dioleoyl-sn-glycero-3-phosphoethanolamine (three-letter code: PEE) (formula: $C_{41}H_{78}NO_8P$) (labeled as "Ligand of Interest" by depositor).



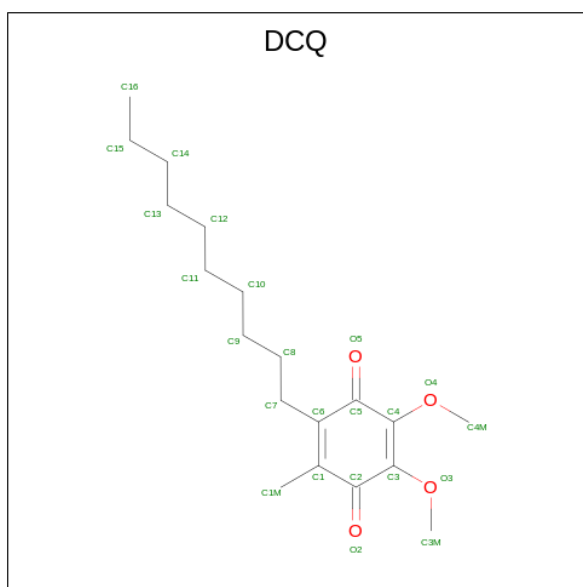
Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
48	B	1	Total 51	C 41	N 1	O 8	P 1	0
48	C	1	Total 47	C 37	N 1	O 8	P 1	0
48	V	1	Total 40	C 30	N 1	O 8	P 1	0
48	W	1	Total 41	C 31	N 1	O 8	P 1	0
48	j	1	Total 92	C 72	N 2	O 16	P 2	0
48	j	1	Total 92	C 72	N 2	O 16	P 2	0
48	l	1	Total 97	C 77	N 2	O 16	P 2	0
48	l	1	Total 97	C 77	N 2	O 16	P 2	0
48	r	1	Total 51	C 41	N 1	O 8	P 1	0

- Molecule 49 is (9R,11S)-9-({[(1S)-1-HYDROXYHEXADECYL]OXY}METHYL)-2,2-DIMETHYL-5,7,10-TRIOXA-2LAMBDA 5 -AZA-6LAMBDA 5 -PHOSPHAOCTACOSANE-6,6,11-TRIOL (three-letter code: PLX) (formula: C₄₂H₈₉NO₈P) (labeled as "Ligand of Interest" by depositor).



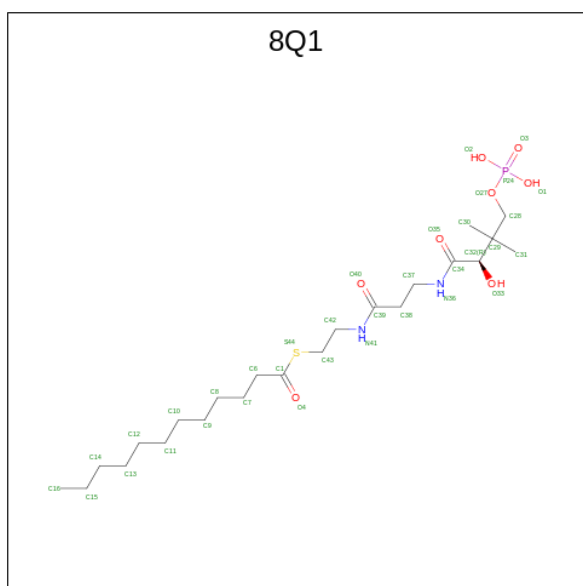
Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
49	C	1	Total 52	42	1	8	1	0
49	J	1	Total 52	42	1	8	1	0
49	a	1	Total 52	42	1	8	1	0
49	e	1	Total 52	42	1	8	1	0
49	g	1	Total 52	42	1	8	1	0
49	j	1	Total 52	42	1	8	1	0

- Molecule 50 is 2-decyl-5,6-dimethoxy-3-methylcyclohexa-2,5-diene-1,4-dione (three-letter code: DCQ) (formula: C₁₉H₃₀O₄) (labeled as "Ligand of Interest" by depositor).



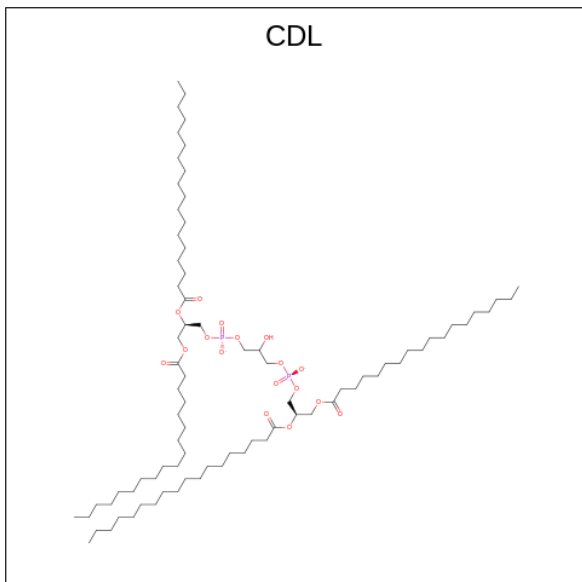
Mol	Chain	Residues	Atoms			AltConf
50	C	1	Total	C	O	0
			23	19	4	

- Molecule 51 is S-[2-({N-[(2R)-2-hydroxy-3,3-dimethyl-4-(phosphonoxy)butanoyl]-beta-alanyl}amino)ethyl] dodecanethioate (three-letter code: 8Q1) (formula: $C_{23}H_{45}N_2O_8PS$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					AltConf	
51	G	1	Total	C	N	O	P	S	0
			35	23	2	8	1	1	
51	X	1	Total	C	N	O	P	S	0
			35	23	2	8	1	1	

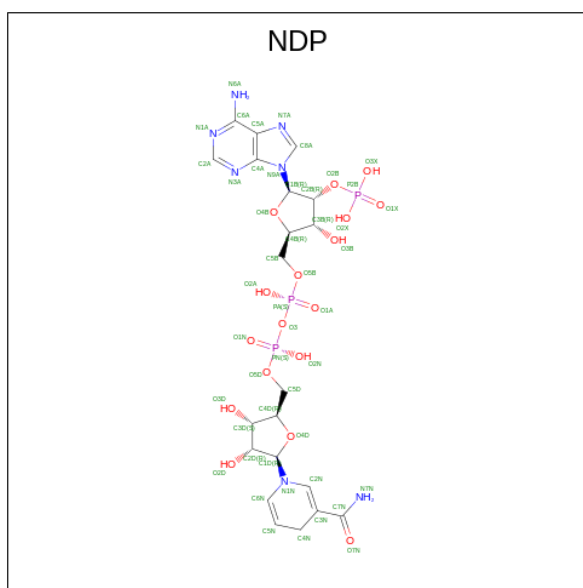
- Molecule 52 is CARDIOLIPIN (three-letter code: CDL) (formula: $C_{81}H_{156}O_{17}P_2$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms				AltConf
			Total	C	O	P	
52	I	1	51	32	17	2	0
52	V	1	94	75	17	2	0
52	a	1	100	81	17	2	0
52	g	1	100	81	17	2	0
52	i	1	87	68	17	2	0
52	k	1	100	81	17	2	0
52	l	1	92	73	17	2	0
52	o	1	100	81	17	2	0
52	r	1	99	80	17	2	0
52	s	1	89	70	17	2	0
52	u	1	55	36	17	2	0

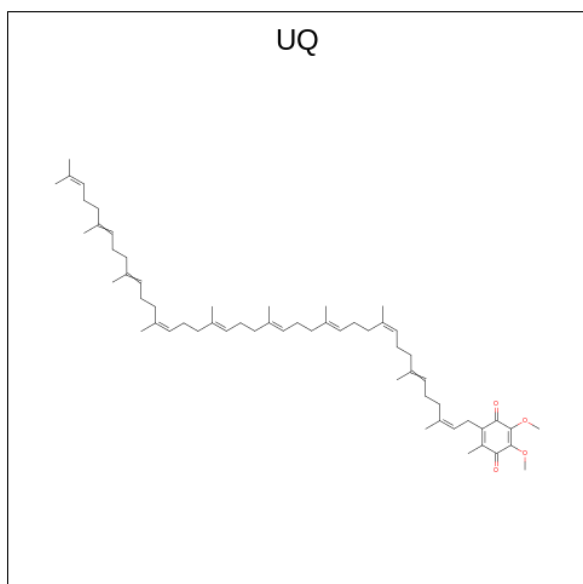
- Molecule 53 is NADPH DIHYDRO-NICOTINAMIDE-ADENINE-DINUCLEOTIDE PHOSPHATE (three-letter code: NDP) (formula: $C_{21}H_{30}N_7O_{17}P_3$) (labeled as "Ligand of

Interest" by depositor).



Mol	Chain	Residues	Atoms				AltConf	
			Total	C	N	O		P
53	J	1	48	21	7	17	3	0

- Molecule 54 is Coenzyme Q10, (2Z,6E,10Z,14E,18E,22E,26Z)-isomer (three-letter code: UQ) (formula: C₅₉H₉₀O₄) (labeled as "Ligand of Interest" by depositor).



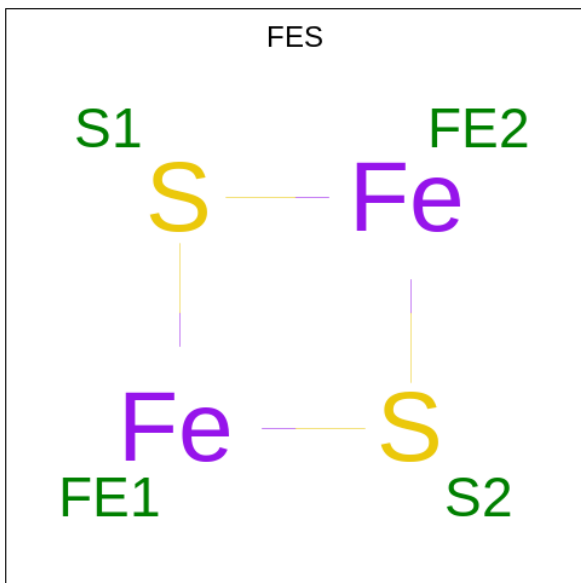
Mol	Chain	Residues	Atoms		AltConf
			Total	C O	
54	J	1	33	29 4	0

Continued on next page...

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Mol	Chain	Residues	Atoms			AltConf
			Total	C	O	
54	s	1	38	34	4	0

- Molecule 55 is FE2/S2 (INORGANIC) CLUSTER (three-letter code: FES) (formula: Fe₂S₂) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms			AltConf
			Total	Fe	S	
55	M	1	4	2	2	0
55	O	1	4	2	2	0

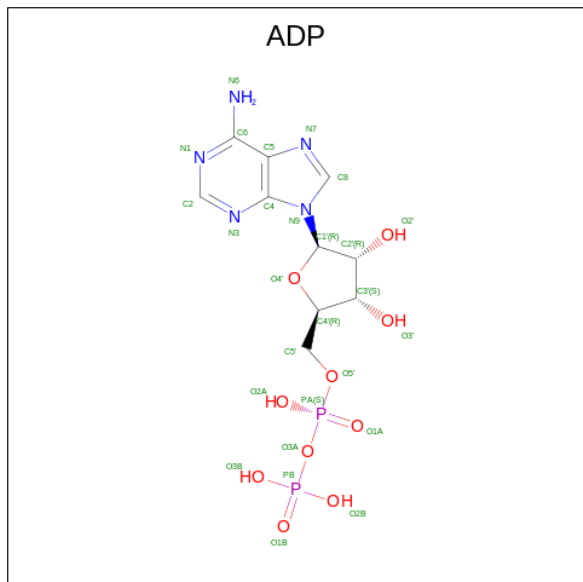
- Molecule 56 is MAGNESIUM ION (three-letter code: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		AltConf
			Total	Mg	
56	M	1	1	1	0

- Molecule 57 is ZINC ION (three-letter code: ZN) (formula: Zn) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		AltConf
			Total	Zn	
57	T	1	1	1	0

- Molecule 58 is ADENOSINE-5'-DIPHOSPHATE (three-letter code: ADP) (formula: $C_{10}H_{15}N_5O_{10}P_2$) (labeled as "Ligand of Interest" by depositor).

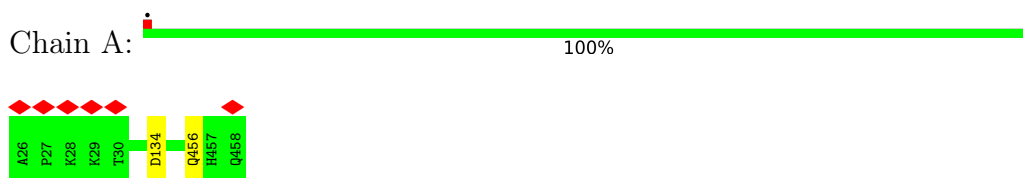


Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
58	w	1	27	10	5	10	2	0

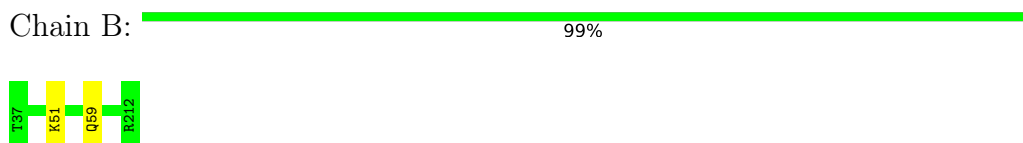
3 Residue-property plots [i](#)

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 atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

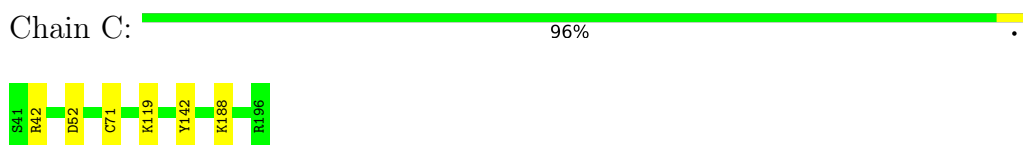
- Molecule 1: NADH dehydrogenase [ubiquinone] flavoprotein 1, mitochondrial



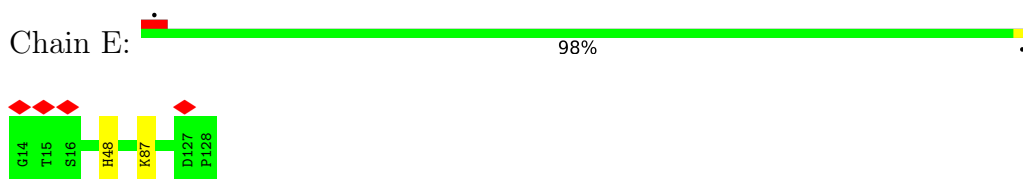
- Molecule 2: NADH dehydrogenase [ubiquinone] iron-sulfur protein 8, mitochondrial



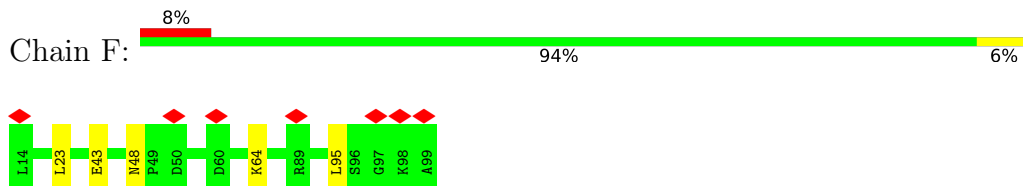
- Molecule 3: NADH dehydrogenase [ubiquinone] iron-sulfur protein 7, mitochondrial



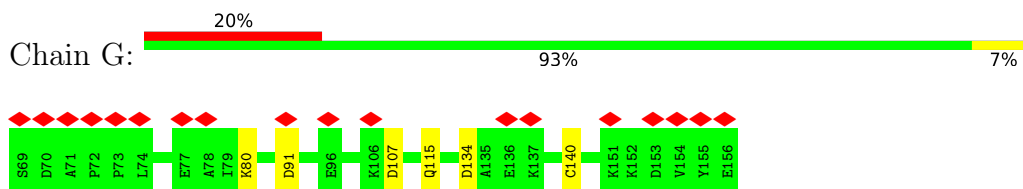
- Molecule 4: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 6



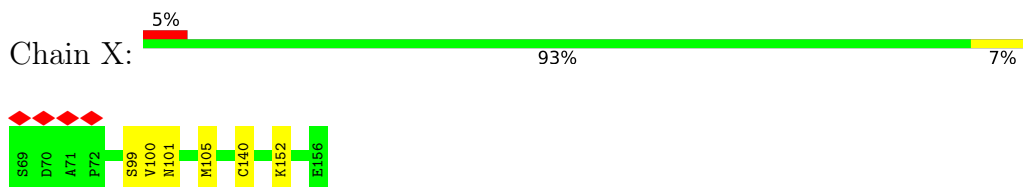
- Molecule 5: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 2



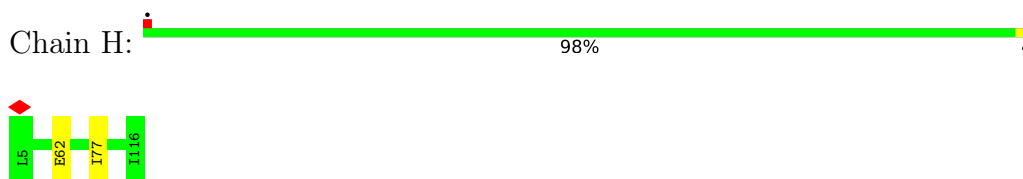
- Molecule 6: Acyl carrier protein



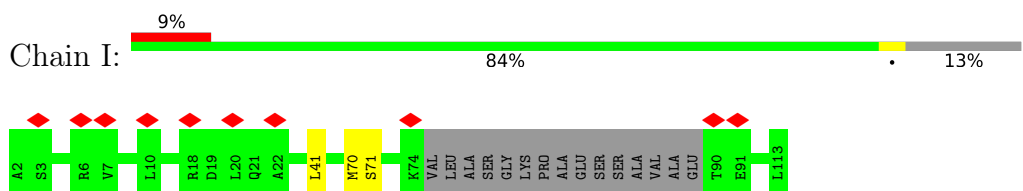
- Molecule 6: Acyl carrier protein



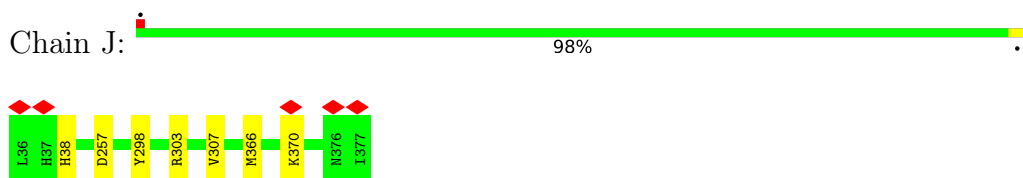
- Molecule 7: Complex I subunit B13



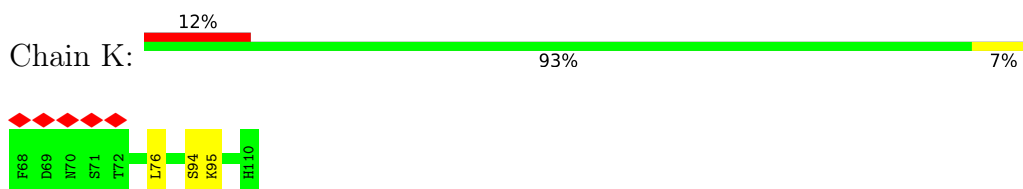
- Molecule 8: Complex I-B14.5a



- Molecule 9: NADH dehydrogenase ubiquinone 1 alpha subcomplex subunit 9, mitochondrial

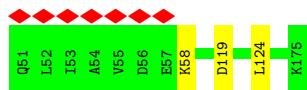


- Molecule 10: Complex I-9kD

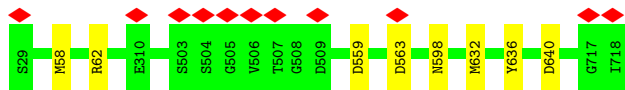


- Molecule 11: NADH dehydrogenase [ubiquinone] iron-sulfur protein 4, mitochondrial





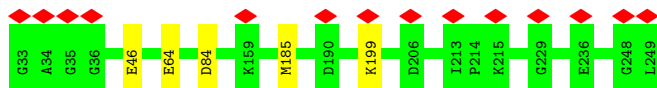
- Molecule 12: NADH-ubiquinone oxidoreductase 75 kDa subunit, mitochondrial



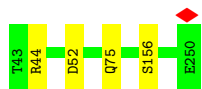
- Molecule 13: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 12



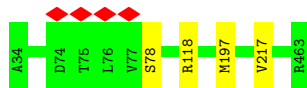
- Molecule 14: NADH dehydrogenase [ubiquinone] flavoprotein 2, mitochondrial



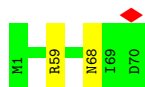
- Molecule 15: Complex I-30kD



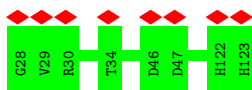
- Molecule 16: Complex I-49kD



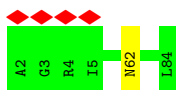
- Molecule 17: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 1



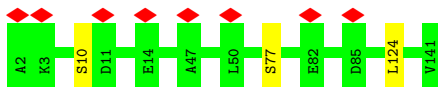
- Molecule 18: NADH dehydrogenase [ubiquinone] iron-sulfur protein 6, mitochondrial



- Molecule 19: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 3



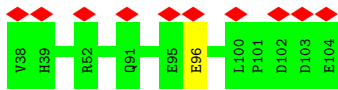
- Molecule 20: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 11



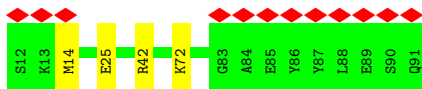
- Molecule 21: Complex I-B16.6



- Molecule 22: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 2, mitochondrial



- Molecule 23: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 3

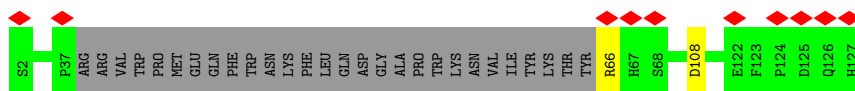
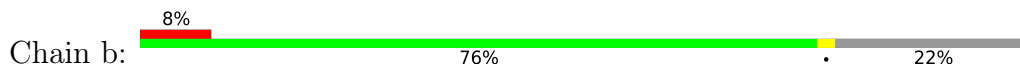


- Molecule 24: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 5, mitochondrial

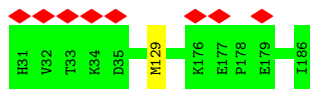




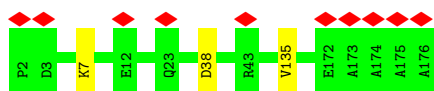
- Molecule 25: Complex I-B17



- Molecule 26: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 8, mitochondrial



- Molecule 27: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 10



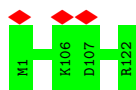
- Molecule 28: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 11, mitochondrial



- Molecule 29: NADH dehydrogenase [ubiquinone] 1 subunit C1, mitochondrial

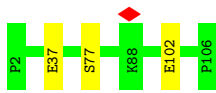


- Molecule 30: NADH dehydrogenase [ubiquinone] 1 subunit C2



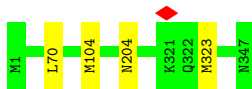
- Molecule 31: NADH dehydrogenase [ubiquinone] iron-sulfur protein 5

Chain h:  97%



- Molecule 32: NADH-ubiquinone oxidoreductase chain 2

Chain i:  99%



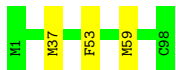
- Molecule 33: NADH-ubiquinone oxidoreductase chain 3

Chain j:  97%



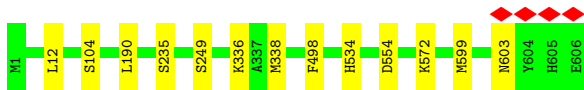
- Molecule 34: NADH-ubiquinone oxidoreductase chain 4L

Chain k:  97%



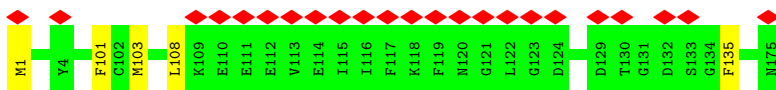
- Molecule 35: NADH-ubiquinone oxidoreductase chain 5

Chain l:  98%



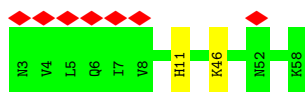
- Molecule 36: NADH-ubiquinone oxidoreductase chain 6

Chain m:  13% 97%

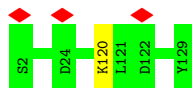


- Molecule 37: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 1

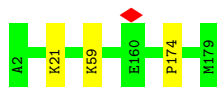
Chain n:  12% 96%



- Molecule 38: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 4



- Molecule 39: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 9



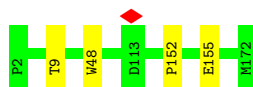
- Molecule 40: NADH-ubiquinone oxidoreductase chain 4



- Molecule 41: NADH-ubiquinone oxidoreductase chain 1



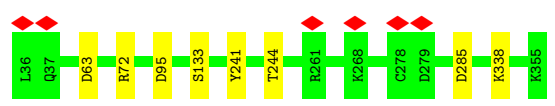
- Molecule 42: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 8



- Molecule 43: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 7



- Molecule 44: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 10, mitochondrial



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	187567	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	50	Depositor
Minimum defocus (nm)	1300	Depositor
Maximum defocus (nm)	1800	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	0.202	Depositor
Minimum map value	-0.109	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.006	Depositor
Recommended contour level	0.0265	Depositor
Map size (Å)	333.002, 333.002, 333.002	wwPDB
Map dimensions	310, 310, 310	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.0742, 1.0742, 1.0742	Depositor

5 Model quality [i](#)

5.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section: NAI, SF4, FMN, MG, ZN, PEE, ADP, 8Q1, NDP, 2MR, UQ, FES, CDL, PLX, DCQ

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	0.25	0/3406	0.48	0/4603
2	B	0.26	0/1443	0.52	0/1952
3	C	0.26	0/1279	0.51	0/1730
4	E	0.25	0/995	0.50	0/1340
5	F	0.25	0/692	0.57	1/933 (0.1%)
6	G	0.25	0/705	0.44	0/956
6	X	0.25	0/704	0.39	0/953
7	H	0.24	0/929	0.43	0/1258
8	I	0.26	0/798	0.53	0/1079
9	J	0.25	0/2828	0.49	0/3834
10	K	0.26	0/377	0.51	0/509
11	L	0.25	0/1039	0.52	0/1403
12	M	0.25	0/5384	0.50	1/7295 (0.0%)
13	N	0.25	0/1245	0.51	0/1694
14	O	0.26	0/1711	0.47	0/2328
15	P	0.27	0/1783	0.51	0/2429
16	Q	0.27	0/3538	0.50	0/4796
17	S	0.26	0/581	0.51	0/781
18	T	0.25	0/755	0.51	0/1018
19	U	0.25	0/664	0.47	0/912
20	V	0.25	0/1042	0.46	0/1411
21	W	0.27	0/1192	0.49	0/1610
22	Y	0.26	0/610	0.50	0/836
23	Z	0.26	0/660	0.46	0/892
24	a	0.27	0/1184	0.49	0/1603
25	b	0.25	0/840	0.54	0/1144
26	c	0.27	0/1371	0.48	0/1875
27	d	0.25	0/1494	0.50	0/2015
28	e	0.27	0/891	0.52	0/1210
29	f	0.24	0/386	0.39	0/523
30	g	0.28	0/1036	0.48	0/1401
31	h	0.26	0/889	0.50	0/1190

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
32	i	0.26	0/2773	0.45	1/3768 (0.0%)
33	j	0.26	0/938	0.43	0/1281
34	k	0.26	0/759	0.43	0/1029
35	l	0.26	0/4929	0.45	0/6704
36	m	0.27	0/1309	0.47	0/1780
37	n	0.24	0/491	0.51	0/663
38	o	0.26	0/1092	0.49	0/1481
39	p	0.25	0/1590	0.48	0/2155
40	r	0.26	0/3723	0.45	0/5078
41	s	0.26	0/2581	0.46	0/3529
42	u	0.26	0/1436	0.49	0/1938
43	v	0.26	0/1052	0.58	0/1411
44	w	0.25	0/2642	0.47	0/3580
All	All	0.26	0/67766	0.48	3/91910 (0.0%)

There are no bond length outliers.

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
12	M	563	ASP	CB-CG-OD1	5.47	123.22	118.30
5	F	95	LEU	CA-CB-CG	5.40	127.73	115.30
32	i	70	LEU	CA-CB-CG	5.18	127.21	115.30

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [i](#)

Due to software issues we are unable to calculate clashes - this section is therefore empty.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	431/433 (100%)	421 (98%)	10 (2%)	0	100	100
2	B	174/176 (99%)	172 (99%)	2 (1%)	0	100	100
3	C	154/156 (99%)	150 (97%)	4 (3%)	0	100	100
4	E	113/115 (98%)	108 (96%)	5 (4%)	0	100	100
5	F	84/86 (98%)	80 (95%)	4 (5%)	0	100	100
6	G	86/88 (98%)	81 (94%)	5 (6%)	0	100	100
6	X	86/88 (98%)	85 (99%)	1 (1%)	0	100	100
7	H	110/112 (98%)	106 (96%)	3 (3%)	1 (1%)	17	35
8	I	93/112 (83%)	85 (91%)	8 (9%)	0	100	100
9	J	340/342 (99%)	329 (97%)	10 (3%)	1 (0%)	41	64
10	K	41/43 (95%)	41 (100%)	0	0	100	100
11	L	123/125 (98%)	121 (98%)	2 (2%)	0	100	100
12	M	688/690 (100%)	676 (98%)	12 (2%)	0	100	100
13	N	142/144 (99%)	138 (97%)	4 (3%)	0	100	100
14	O	215/217 (99%)	201 (94%)	14 (6%)	0	100	100
15	P	206/208 (99%)	200 (97%)	5 (2%)	1 (0%)	29	52
16	Q	427/430 (99%)	416 (97%)	11 (3%)	0	100	100
17	S	68/70 (97%)	65 (96%)	3 (4%)	0	100	100
18	T	94/96 (98%)	94 (100%)	0	0	100	100
19	U	81/83 (98%)	80 (99%)	1 (1%)	0	100	100
20	V	138/140 (99%)	135 (98%)	3 (2%)	0	100	100
21	W	140/142 (99%)	136 (97%)	4 (3%)	0	100	100
22	Y	65/67 (97%)	58 (89%)	7 (11%)	0	100	100
23	Z	78/80 (98%)	74 (95%)	4 (5%)	0	100	100
24	a	136/138 (99%)	132 (97%)	4 (3%)	0	100	100
25	b	94/126 (75%)	89 (95%)	5 (5%)	0	100	100
26	c	154/156 (99%)	145 (94%)	9 (6%)	0	100	100
27	d	173/175 (99%)	170 (98%)	3 (2%)	0	100	100
28	e	102/104 (98%)	97 (95%)	5 (5%)	0	100	100
29	f	47/49 (96%)	43 (92%)	4 (8%)	0	100	100
30	g	120/122 (98%)	114 (95%)	6 (5%)	0	100	100
31	h	103/105 (98%)	101 (98%)	2 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
32	i	345/347 (99%)	335 (97%)	10 (3%)	0	100	100
33	j	113/115 (98%)	109 (96%)	3 (3%)	1 (1%)	17	35
34	k	96/98 (98%)	95 (99%)	1 (1%)	0	100	100
35	l	604/606 (100%)	586 (97%)	18 (3%)	0	100	100
36	m	173/175 (99%)	161 (93%)	12 (7%)	0	100	100
37	n	54/56 (96%)	53 (98%)	1 (2%)	0	100	100
38	o	126/128 (98%)	124 (98%)	2 (2%)	0	100	100
39	p	176/178 (99%)	169 (96%)	6 (3%)	1 (1%)	25	47
40	r	457/459 (100%)	449 (98%)	8 (2%)	0	100	100
41	s	316/318 (99%)	305 (96%)	10 (3%)	1 (0%)	41	64
42	u	169/171 (99%)	165 (98%)	3 (2%)	1 (1%)	25	47
43	v	122/125 (98%)	118 (97%)	4 (3%)	0	100	100
44	w	318/320 (99%)	305 (96%)	13 (4%)	0	100	100
All	All	8175/8314 (98%)	7917 (97%)	251 (3%)	7 (0%)	54	75

All (7) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
15	P	44	ARG
7	H	77	ILE
9	J	38	HIS
33	j	40	GLY
39	p	174	PRO
41	s	208	VAL
42	u	152	PRO

5.3.2 Protein sidechains [i](#)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM entries.

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	346/346 (100%)	344 (99%)	2 (1%)	86	95

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
2	B	151/151 (100%)	149 (99%)	2 (1%)	69	86
3	C	132/132 (100%)	126 (96%)	6 (4%)	27	52
4	E	107/107 (100%)	105 (98%)	2 (2%)	57	79
5	F	74/76 (97%)	70 (95%)	4 (5%)	22	44
6	G	76/81 (94%)	70 (92%)	6 (8%)	12	24
6	X	75/81 (93%)	69 (92%)	6 (8%)	12	24
7	H	99/99 (100%)	98 (99%)	1 (1%)	76	90
8	I	87/97 (90%)	84 (97%)	3 (3%)	37	63
9	J	296/296 (100%)	290 (98%)	6 (2%)	55	78
10	K	42/42 (100%)	39 (93%)	3 (7%)	14	29
11	L	113/113 (100%)	110 (97%)	3 (3%)	44	71
12	M	580/580 (100%)	573 (99%)	7 (1%)	71	87
13	N	130/130 (100%)	123 (95%)	7 (5%)	22	44
14	O	183/183 (100%)	178 (97%)	5 (3%)	44	71
15	P	189/190 (100%)	186 (98%)	3 (2%)	62	82
16	Q	370/370 (100%)	367 (99%)	3 (1%)	81	92
17	S	57/58 (98%)	55 (96%)	2 (4%)	36	62
18	T	79/79 (100%)	79 (100%)	0	100	100
19	U	69/69 (100%)	68 (99%)	1 (1%)	67	85
20	V	101/101 (100%)	98 (97%)	3 (3%)	41	67
21	W	121/123 (98%)	113 (93%)	8 (7%)	16	33
22	Y	62/62 (100%)	61 (98%)	1 (2%)	62	82
23	Z	62/62 (100%)	58 (94%)	4 (6%)	17	34
24	a	121/121 (100%)	118 (98%)	3 (2%)	47	73
25	b	89/119 (75%)	87 (98%)	2 (2%)	52	76
26	c	141/141 (100%)	140 (99%)	1 (1%)	84	94
27	d	155/155 (100%)	152 (98%)	3 (2%)	57	79
28	e	96/96 (100%)	94 (98%)	2 (2%)	53	77
29	f	36/45 (80%)	36 (100%)	0	100	100
30	g	108/109 (99%)	108 (100%)	0	100	100
31	h	93/93 (100%)	90 (97%)	3 (3%)	39	65

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
32	i	311/311 (100%)	308 (99%)	3 (1%)	76	90
33	j	100/100 (100%)	98 (98%)	2 (2%)	55	78
34	k	85/85 (100%)	82 (96%)	3 (4%)	36	62
35	l	537/540 (99%)	524 (98%)	13 (2%)	49	74
36	m	126/141 (89%)	121 (96%)	5 (4%)	31	57
37	n	53/53 (100%)	51 (96%)	2 (4%)	33	59
38	o	113/113 (100%)	112 (99%)	1 (1%)	78	91
39	p	159/159 (100%)	157 (99%)	2 (1%)	69	86
40	r	410/410 (100%)	408 (100%)	2 (0%)	88	96
41	s	275/275 (100%)	271 (98%)	4 (2%)	65	83
42	u	153/153 (100%)	150 (98%)	3 (2%)	55	78
43	v	104/111 (94%)	103 (99%)	1 (1%)	76	90
44	w	281/283 (99%)	273 (97%)	8 (3%)	43	69
All	All	7147/7241 (99%)	6996 (98%)	151 (2%)	56	77

All (151) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	134	ASP
1	A	456	GLN
2	B	51	LYS
2	B	59	GLN
3	C	42	ARG
3	C	52	ASP
3	C	71	CYS
3	C	119	LYS
3	C	142	TYR
3	C	188	LYS
4	E	48	HIS
4	E	87	LYS
5	F	23	LEU
5	F	43	GLU
5	F	48	ASN
5	F	64	LYS
6	G	80	LYS
6	G	91	ASP
6	G	107	ASP

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Mol	Chain	Res	Type
6	G	115	GLN
6	G	134	ASP
6	G	140	CYS
7	H	62	GLU
8	I	41	LEU
8	I	70	MET
8	I	71	SER
9	J	257	ASP
9	J	298	TYR
9	J	303	ARG
9	J	307	VAL
9	J	366	MET
9	J	370	LYS
10	K	76	LEU
10	K	94	SER
10	K	95	LYS
11	L	58	LYS
11	L	119	ASP
11	L	124	LEU
12	M	58	MET
12	M	62	ARG
12	M	559	ASP
12	M	598	ASN
12	M	632	MET
12	M	636	TYR
12	M	640	ASP
13	N	21	ARG
13	N	37	THR
13	N	43	LYS
13	N	68	MET
13	N	76	ASP
13	N	93	MET
13	N	107	LYS
14	O	46	GLU
14	O	64	GLU
14	O	84	ASP
14	O	185	MET
14	O	199	LYS
15	P	52	ASP
15	P	75	GLN
15	P	156	SER
16	Q	78	SER

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Mol	Chain	Res	Type
16	Q	197	MET
16	Q	217	VAL
17	S	59	ARG
17	S	68	ASN
19	U	62	ASN
20	V	10	SER
20	V	77	SER
20	V	124	LEU
21	W	7	LYS
21	W	49	SER
21	W	51	MET
21	W	52	LYS
21	W	82	ARG
21	W	88	ARG
21	W	99	LYS
21	W	144	THR
6	X	99	SER
6	X	100	VAL
6	X	101	ASN
6	X	105	MET
6	X	140	CYS
6	X	152	LYS
22	Y	96	GLU
23	Z	14	MET
23	Z	25	GLU
23	Z	42	ARG
23	Z	72	LYS
24	a	77	LEU
24	a	103	GLU
24	a	123	ARG
25	b	66	ARG
25	b	108	ASP
26	c	129	MET
27	d	7	LYS
27	d	38	ASP
27	d	135	VAL
28	e	63	ASP
28	e	121	GLU
31	h	37	GLU
31	h	77	SER
31	h	102	GLU
32	i	104	MET

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Mol	Chain	Res	Type
32	i	204	ASN
32	i	323	MET
33	j	87	MET
33	j	101	SER
34	k	37	MET
34	k	53	PHE
34	k	59	MET
35	l	12	LEU
35	l	104	SER
35	l	190	LEU
35	l	235	SER
35	l	249	SER
35	l	336	LYS
35	l	338	MET
35	l	498	PHE
35	l	534	HIS
35	l	554	ASP
35	l	572	LYS
35	l	599	MET
35	l	603	ASN
36	m	1	MET
36	m	101	PHE
36	m	103	MET
36	m	108	LEU
36	m	135	PHE
37	n	11	HIS
37	n	46	LYS
38	o	120	LYS
39	p	21	LYS
39	p	59	LYS
40	r	256	TYR
40	r	304	GLN
41	s	81	LEU
41	s	204	GLU
41	s	258	ASN
41	s	286	MET
42	u	9	THR
42	u	48	TRP
42	u	155	GLU
43	v	104	ARG
44	w	63	ASP
44	w	72	ARG

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Mol	Chain	Res	Type
44	w	95	ASP
44	w	133	SER
44	w	241	TYR
44	w	244	THR
44	w	285	ASP
44	w	338	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (12) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	456	GLN
1	A	457	HIS
10	K	79	HIS
11	L	109	ASN
12	M	598	ASN
12	M	677	GLN
14	O	41	HIS
22	Y	75	HIS
38	o	79	ASN
40	r	51	ASN
44	w	223	ASN
44	w	225	HIS

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

1 non-standard protein/DNA/RNA residue is 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
16	2MR	Q	118	16	10,12,13	1.98	1 (10%)	5,13,15	5.90	3 (60%)

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
16	2MR	Q	118	16	-	2/10/13/15	-

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
16	Q	118	2MR	CZ-NE	5.64	1.46	1.34

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
16	Q	118	2MR	NE-CZ-NH2	12.04	130.52	119.48
16	Q	118	2MR	CD-NE-CZ	3.91	130.74	123.41
16	Q	118	2MR	CQ2-NH2-CZ	3.37	131.32	123.86

There are no chirality outliers.

All (2) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
16	Q	118	2MR	NE-CD-CG-CB
16	Q	118	2MR	CA-CB-CG-CD

There are no ring outliers.

No monomer is involved in short contacts.

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 45 ligands modelled in this entry, 2 are monoatomic - leaving 43 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$
48	PEE	r	501	-	50,50,50	1.16	6 (12%)	53,55,55	0.97	2 (3%)
49	PLX	C	303	-	51,51,51	1.14	4 (7%)	55,59,59	0.60	1 (1%)
48	PEE	B	303	-	50,50,50	1.17	6 (12%)	53,55,55	1.00	2 (3%)
50	DCQ	C	304	-	23,23,23	1.31	4 (17%)	26,29,29	0.98	1 (3%)
52	CDL	o	201	-	99,99,99	1.08	8 (8%)	105,111,111	0.89	4 (3%)
48	PEE	W	201	-	40,40,50	1.15	5 (12%)	43,45,55	1.00	2 (4%)
52	CDL	g	202	-	99,99,99	1.08	8 (8%)	105,111,111	0.88	4 (3%)
52	CDL	l	701	-	91,91,99	1.11	8 (8%)	97,103,111	0.89	4 (4%)
52	CDL	s	401	-	88,88,99	1.14	8 (9%)	94,100,111	0.92	5 (5%)
54	UQ	J	402	-	33,33,63	3.44	8 (24%)	40,43,79	2.80	13 (32%)
45	SF4	M	802	12	0,12,12	-	-	-	-	-
45	SF4	A	501	1	0,12,12	-	-	-	-	-
48	PEE	j	202	-	40,40,50	1.15	5 (12%)	43,45,55	1.01	2 (4%)
49	PLX	J	403	-	51,51,51	1.14	4 (7%)	55,59,59	0.59	1 (1%)
48	PEE	l	702	-	50,50,50	1.16	6 (12%)	53,55,55	0.95	2 (3%)
52	CDL	V	201	-	93,93,99	1.11	8 (8%)	99,105,111	0.88	4 (4%)
51	8Q1	G	201	-	31,34,34	1.71	6 (19%)	40,43,43	1.67	5 (12%)
49	PLX	e	201	-	51,51,51	1.15	3 (5%)	55,59,59	0.55	1 (1%)
52	CDL	u	201	-	54,54,99	1.36	8 (14%)	60,66,111	1.11	4 (6%)
52	CDL	k	101	-	99,99,99	1.09	8 (8%)	105,111,111	0.84	4 (3%)
54	UQ	s	402	-	38,38,63	3.52	9 (23%)	46,49,79	2.87	16 (34%)
45	SF4	B	301	2	0,12,12	-	-	-	-	-
55	FES	O	301	14	0,4,4	-	-	-	-	-
58	ADP	w	401	-	24,29,29	3.13	6 (25%)	29,45,45	1.43	4 (13%)
48	PEE	l	703	-	45,45,50	1.22	6 (13%)	48,50,55	1.01	2 (4%)
45	SF4	M	801	12	0,12,12	-	-	-	-	-
46	FMN	A	502	-	33,33,33	1.09	2 (6%)	48,50,50	1.25	9 (18%)
52	CDL	I	201	-	50,50,99	1.41	8 (16%)	56,62,111	1.13	4 (7%)
53	NDP	J	401	-	45,52,52	4.56	20 (44%)	53,80,80	1.94	6 (11%)
45	SF4	B	302	2	0,12,12	-	-	-	-	-

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
49	PLX	g	201	-	51,51,51	1.14	4 (7%)	55,59,59	0.60	1 (1%)
52	CDL	a	201	-	99,99,99	1.08	8 (8%)	105,111,111	0.86	4 (3%)
55	FES	M	803	12	0,4,4	-	-	-	-	-
48	PEE	V	202	-	39,39,50	1.31	6 (15%)	41,44,55	1.04	2 (4%)
48	PEE	j	201	-	50,50,50	1.15	6 (12%)	53,55,55	0.95	2 (3%)
49	PLX	j	203	-	51,51,51	1.14	4 (7%)	55,59,59	0.60	1 (1%)
47	NAI	A	503	-	42,48,48	4.94	18 (42%)	47,73,73	1.35	7 (14%)
52	CDL	i	401	-	86,86,99	1.15	8 (9%)	92,98,111	0.89	4 (4%)
49	PLX	a	202	-	51,51,51	1.15	4 (7%)	55,59,59	0.61	1 (1%)
52	CDL	r	502	-	98,98,99	1.09	8 (8%)	104,110,111	0.91	5 (4%)
48	PEE	C	302	-	46,46,50	1.21	6 (13%)	49,51,55	0.98	2 (4%)
51	8Q1	X	201	-	31,34,34	1.68	6 (19%)	40,43,43	1.61	7 (17%)
45	SF4	C	301	3	0,12,12	-	-	-	-	-

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
48	PEE	r	501	-	-	25/54/54/54	-
49	PLX	C	303	-	-	31/55/55/55	-
48	PEE	B	303	-	-	24/54/54/54	-
50	DCQ	C	304	-	-	4/14/38/38	0/1/1/1
52	CDL	o	201	-	-	54/110/110/110	-
48	PEE	W	201	-	-	14/44/44/54	-
52	CDL	g	202	-	-	60/110/110/110	-
52	CDL	l	701	-	-	53/102/102/110	-
52	CDL	s	401	-	-	60/99/99/110	-
54	UQ	J	402	-	-	14/27/51/87	0/1/1/1
45	SF4	M	802	12	-	-	0/6/5/5
48	PEE	j	202	-	-	26/44/44/54	-
45	SF4	A	501	1	-	-	0/6/5/5
49	PLX	J	403	-	-	37/55/55/55	-
48	PEE	l	702	-	-	30/54/54/54	-
52	CDL	V	201	-	-	62/104/104/110	-
51	8Q1	G	201	-	-	13/41/41/41	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
49	PLX	e	201	-	-	35/55/55/55	-
52	CDL	u	201	-	-	34/65/65/110	-
52	CDL	k	101	-	-	62/110/110/110	-
54	UQ	s	402	-	-	11/33/57/87	0/1/1/1
45	SF4	B	301	2	-	-	0/6/5/5
55	FES	O	301	14	-	-	0/1/1/1
58	ADP	w	401	-	-	3/12/32/32	0/3/3/3
48	PEE	l	703	-	-	23/49/49/54	-
53	NDP	J	401	-	-	6/30/77/77	0/4/5/5
46	FMN	A	502	-	-	8/18/18/18	0/3/3/3
52	CDL	I	201	-	-	33/61/61/110	-
45	SF4	M	801	12	-	-	0/6/5/5
45	SF4	B	302	2	-	-	0/6/5/5
49	PLX	g	201	-	-	31/55/55/55	-
52	CDL	a	201	-	-	51/110/110/110	-
55	FES	M	803	12	-	-	0/1/1/1
48	PEE	V	202	-	-	26/43/43/54	-
48	PEE	j	201	-	-	26/54/54/54	-
49	PLX	j	203	-	-	33/55/55/55	-
47	NAI	A	503	-	-	6/25/72/72	0/5/5/5
52	CDL	i	401	-	-	54/97/97/110	-
49	PLX	a	202	-	-	31/55/55/55	-
52	CDL	r	502	-	-	62/109/109/110	-
48	PEE	C	302	-	-	23/50/50/54	-
51	8Q1	X	201	-	-	4/41/41/41	-
45	SF4	C	301	3	-	-	0/6/5/5

All (242) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
47	A	503	NAI	O4B-C1B	16.20	1.63	1.41
47	A	503	NAI	C2B-C1B	-15.46	1.30	1.53
53	J	401	NDP	C3B-C2B	-12.92	1.24	1.52
53	J	401	NDP	C6N-C5N	12.55	1.55	1.33
53	J	401	NDP	O4D-C4D	10.62	1.68	1.45
47	A	503	NAI	C3D-C4D	-10.25	1.26	1.53
53	J	401	NDP	C3D-C4D	-9.89	1.27	1.53
54	J	402	UQ	C18-C19	9.63	1.56	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
54	s	402	UQ	C18-C19	9.53	1.55	1.33
54	J	402	UQ	C13-C14	9.22	1.55	1.33
54	s	402	UQ	C13-C14	9.22	1.55	1.33
54	s	402	UQ	C23-C24	9.06	1.54	1.33
54	s	402	UQ	C8-C9	8.88	1.54	1.33
54	J	402	UQ	C8-C9	8.86	1.54	1.33
58	w	401	ADP	C3'-C4'	-8.85	1.30	1.53
53	J	401	NDP	O4B-C1B	8.46	1.52	1.41
47	A	503	NAI	O4B-C4B	-8.31	1.26	1.45
54	J	402	UQ	C23-C24	7.85	1.54	1.32
53	J	401	NDP	O4B-C4B	-7.81	1.27	1.45
58	w	401	ADP	O4'-C4'	7.70	1.62	1.45
54	s	402	UQ	C28-C29	7.66	1.54	1.32
47	A	503	NAI	C2D-C1D	-7.55	1.29	1.53
53	J	401	NDP	C2N-C3N	7.32	1.55	1.34
58	w	401	ADP	O4'-C1'	-6.99	1.31	1.41
47	A	503	NAI	O4D-C4D	6.93	1.60	1.45
47	A	503	NAI	C2D-C3D	5.93	1.69	1.53
47	A	503	NAI	C7N-N7N	5.74	1.48	1.33
47	A	503	NAI	O4D-C1D	5.52	1.55	1.42
51	X	201	8Q1	C34-N36	5.46	1.45	1.33
51	G	201	8Q1	C39-N41	5.46	1.45	1.33
53	J	401	NDP	P2B-O2B	5.44	1.69	1.59
51	G	201	8Q1	C34-N36	5.39	1.45	1.33
53	J	401	NDP	C3B-C4B	5.34	1.66	1.53
51	X	201	8Q1	C39-N41	5.24	1.45	1.33
47	A	503	NAI	C4N-C3N	-5.04	1.40	1.49
53	J	401	NDP	C6N-N1N	4.91	1.49	1.37
53	J	401	NDP	O4D-C1D	-4.83	1.30	1.42
47	A	503	NAI	O2B-C2B	4.54	1.53	1.43
53	J	401	NDP	O2D-C2D	-4.17	1.33	1.43
53	J	401	NDP	C7N-N7N	4.15	1.44	1.33
53	J	401	NDP	C6A-N6A	4.08	1.49	1.34
47	A	503	NAI	C6N-C5N	3.97	1.40	1.33
58	w	401	ADP	C6-N6	3.82	1.48	1.34
48	V	202	PEE	C18-C19	3.75	1.53	1.31
48	l	702	PEE	C18-C19	3.74	1.53	1.31
48	B	303	PEE	C18-C19	3.74	1.53	1.31
48	r	501	PEE	C18-C19	3.74	1.53	1.31
48	j	202	PEE	C18-C19	3.73	1.53	1.31
48	C	302	PEE	C18-C19	3.73	1.53	1.31
48	l	703	PEE	C18-C19	3.72	1.53	1.31

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	W	201	PEE	C18-C19	3.72	1.53	1.31
46	A	502	FMN	C4A-N5	3.71	1.38	1.30
48	j	201	PEE	C18-C19	3.70	1.53	1.31
48	C	302	PEE	C39-C38	3.66	1.53	1.31
48	l	703	PEE	C39-C38	3.66	1.53	1.31
48	B	303	PEE	C39-C38	3.65	1.53	1.31
48	r	501	PEE	C39-C38	3.65	1.52	1.31
48	j	201	PEE	C39-C38	3.64	1.52	1.31
48	l	702	PEE	C39-C38	3.63	1.52	1.31
48	V	202	PEE	C39-C38	3.62	1.52	1.31
47	A	503	NAI	C7N-C3N	3.61	1.56	1.48
47	A	503	NAI	C6A-N6A	3.59	1.47	1.34
52	u	201	CDL	OA8-CA7	3.53	1.43	1.33
52	i	401	CDL	OA8-CA7	3.50	1.43	1.33
52	l	701	CDL	OA8-CA7	3.45	1.43	1.33
52	s	401	CDL	OA8-CA7	3.45	1.43	1.33
52	k	101	CDL	OA8-CA7	3.45	1.43	1.33
52	r	502	CDL	OA8-CA7	3.44	1.43	1.33
52	V	201	CDL	OA8-CA7	3.44	1.43	1.33
52	I	201	CDL	OA8-CA7	3.42	1.43	1.33
52	a	201	CDL	OA8-CA7	3.42	1.43	1.33
52	g	202	CDL	OA8-CA7	3.39	1.43	1.33
52	o	201	CDL	OA8-CA7	3.37	1.43	1.33
58	w	401	ADP	O2'-C2'	-3.31	1.35	1.43
47	A	503	NAI	C4N-C5N	-3.26	1.40	1.48
52	V	201	CDL	OA6-CA5	3.14	1.43	1.34
58	w	401	ADP	O3'-C3'	3.12	1.50	1.43
52	k	101	CDL	OA6-CA5	3.10	1.43	1.34
52	i	401	CDL	OB6-CB5	3.06	1.42	1.34
52	i	401	CDL	OB8-CB7	3.05	1.42	1.33
52	l	701	CDL	OB6-CB5	3.05	1.42	1.34
52	I	201	CDL	OB8-CB7	3.05	1.42	1.33
52	l	701	CDL	OB8-CB7	3.04	1.42	1.33
52	r	502	CDL	OB6-CB5	3.04	1.42	1.34
53	J	401	NDP	C7N-C3N	3.04	1.55	1.48
53	J	401	NDP	O3D-C3D	3.03	1.50	1.43
52	a	201	CDL	OB6-CB5	3.02	1.42	1.34
52	s	401	CDL	OB6-CB5	3.02	1.42	1.34
52	a	201	CDL	OB8-CB7	3.01	1.42	1.33
52	r	502	CDL	OB8-CB7	3.01	1.42	1.33
52	o	201	CDL	OA6-CA5	3.00	1.42	1.34
52	I	201	CDL	OB6-CB5	3.00	1.42	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
52	g	202	CDL	OB6-CB5	3.00	1.42	1.34
52	k	101	CDL	OB8-CB7	3.00	1.42	1.33
52	u	201	CDL	OB6-CB5	2.98	1.42	1.34
52	I	201	CDL	OA6-CA5	2.98	1.42	1.34
52	u	201	CDL	OB8-CB7	2.98	1.42	1.33
52	i	401	CDL	OA6-CA5	2.97	1.42	1.34
52	V	201	CDL	OB8-CB7	2.97	1.42	1.33
52	k	101	CDL	OB6-CB5	2.96	1.42	1.34
52	o	201	CDL	OB6-CB5	2.95	1.42	1.34
52	s	401	CDL	OB8-CB7	2.95	1.42	1.33
52	l	701	CDL	OA6-CA5	2.94	1.42	1.34
52	g	202	CDL	OB8-CB7	2.94	1.41	1.33
52	s	401	CDL	OA6-CA5	2.93	1.42	1.34
52	o	201	CDL	OB8-CB7	2.93	1.41	1.33
52	V	201	CDL	OB6-CB5	2.93	1.42	1.34
52	u	201	CDL	OA6-CA5	2.93	1.42	1.34
52	a	201	CDL	OA6-CA5	2.92	1.42	1.34
52	g	202	CDL	OA6-CA5	2.86	1.42	1.34
52	r	502	CDL	OA6-CA5	2.83	1.42	1.34
54	J	402	UQ	C6-C1	2.76	1.54	1.46
54	s	402	UQ	C6-C1	2.71	1.54	1.46
49	a	202	PLX	O6-C4	-2.70	1.41	1.44
49	e	201	PLX	O6-C4	-2.67	1.41	1.44
49	g	201	PLX	O6-C4	-2.61	1.41	1.44
49	j	203	PLX	O6-C4	-2.60	1.41	1.44
49	C	303	PLX	O6-C4	-2.57	1.41	1.44
48	V	202	PEE	O3-C30	2.55	1.40	1.33
49	J	403	PLX	O6-C4	-2.53	1.41	1.44
54	s	402	UQ	C7-C8	2.51	1.54	1.50
48	C	302	PEE	O2-C2	-2.50	1.40	1.46
48	j	202	PEE	O3-C30	2.50	1.40	1.33
47	A	503	NAI	O3B-C3B	-2.47	1.37	1.43
46	A	502	FMN	C10-N1	2.47	1.38	1.33
48	j	201	PEE	O3-C30	2.46	1.40	1.33
52	a	201	CDL	OA6-CA4	-2.46	1.40	1.46
48	W	201	PEE	O3-C30	2.45	1.40	1.33
52	g	202	CDL	OA6-CA4	-2.45	1.40	1.46
48	W	201	PEE	O2-C2	-2.45	1.40	1.46
48	B	303	PEE	O3-C30	2.44	1.40	1.33
48	l	702	PEE	O2-C2	-2.43	1.40	1.46
48	l	703	PEE	O3-C30	2.42	1.40	1.33
48	j	201	PEE	O2-C2	-2.41	1.40	1.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	C	302	PEE	O3-C30	2.41	1.40	1.33
52	u	201	CDL	OA6-CA4	-2.41	1.40	1.46
51	G	201	8Q1	C1-S44	2.41	1.82	1.76
48	B	303	PEE	O2-C2	-2.41	1.40	1.46
48	l	702	PEE	O3-C30	2.41	1.40	1.33
52	o	201	CDL	OA6-CA4	-2.41	1.40	1.46
52	s	401	CDL	OA6-CA4	-2.40	1.40	1.46
49	e	201	PLX	C7-C6	2.40	1.55	1.50
52	r	502	CDL	OA6-CA4	-2.39	1.40	1.46
53	J	401	NDP	C2D-C3D	2.38	1.59	1.53
52	I	201	CDL	OA6-CA4	-2.38	1.40	1.46
48	r	501	PEE	O2-C2	-2.37	1.40	1.46
48	j	202	PEE	O2-C2	-2.36	1.40	1.46
47	A	503	NAI	PN-O5D	2.36	1.68	1.59
51	X	201	8Q1	C1-S44	2.36	1.81	1.76
48	r	501	PEE	O3-C30	2.35	1.40	1.33
48	l	703	PEE	O2-C2	-2.35	1.40	1.46
53	J	401	NDP	O2B-C2B	2.35	1.52	1.44
54	J	402	UQ	C7-C8	2.35	1.54	1.50
49	C	303	PLX	C7-C6	2.35	1.55	1.50
49	j	203	PLX	C7-C6	2.35	1.55	1.50
52	i	401	CDL	OA6-CA4	-2.34	1.40	1.46
48	V	202	PEE	O2-C10	2.34	1.40	1.34
48	W	201	PEE	O2-C10	2.33	1.40	1.34
49	J	403	PLX	C7-C6	2.32	1.55	1.50
49	g	201	PLX	C7-C6	2.32	1.55	1.50
51	G	201	8Q1	O40-C39	-2.31	1.18	1.23
48	l	703	PEE	O2-C10	2.31	1.40	1.34
52	l	701	CDL	OA6-CA4	-2.30	1.40	1.46
48	V	202	PEE	O2-C2	-2.29	1.40	1.46
49	a	202	PLX	C7-C6	2.29	1.55	1.50
48	B	303	PEE	O2-C10	2.28	1.40	1.34
51	X	201	8Q1	O40-C39	-2.26	1.18	1.23
51	G	201	8Q1	O35-C34	-2.25	1.18	1.23
48	j	202	PEE	O2-C10	2.25	1.40	1.34
52	k	101	CDL	OB6-CB4	-2.25	1.41	1.46
52	V	201	CDL	PB2-OB2	2.25	1.68	1.59
48	C	302	PEE	O2-C10	2.24	1.40	1.34
47	A	503	NAI	C5B-C4B	2.24	1.58	1.51
48	r	501	PEE	O2-C10	2.24	1.40	1.34
48	l	702	PEE	O2-C10	2.24	1.40	1.34
51	X	201	8Q1	O35-C34	-2.23	1.19	1.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
52	V	201	CDL	OB6-CB4	-2.23	1.41	1.46
50	C	304	DCQ	C6-C5	2.23	1.52	1.46
52	k	101	CDL	PB2-OB2	2.21	1.68	1.59
48	j	201	PEE	O2-C10	2.21	1.40	1.34
52	g	202	CDL	PB2-OB2	2.21	1.68	1.59
52	u	201	CDL	PB2-OB2	2.21	1.68	1.59
52	o	201	CDL	PB2-OB2	2.20	1.68	1.59
52	i	401	CDL	PB2-OB5	2.20	1.68	1.59
52	i	401	CDL	PB2-OB2	2.20	1.68	1.59
52	I	201	CDL	PB2-OB2	2.19	1.68	1.59
52	l	701	CDL	PB2-OB2	2.19	1.68	1.59
52	l	701	CDL	OB6-CB4	-2.19	1.41	1.46
54	s	402	UQ	O4-C4	-2.19	1.18	1.23
52	o	201	CDL	OB6-CB4	-2.19	1.41	1.46
52	r	502	CDL	PB2-OB5	2.19	1.68	1.59
48	C	302	PEE	O3-C3	-2.19	1.40	1.45
50	C	304	DCQ	O4-C4M	-2.19	1.40	1.45
52	I	201	CDL	PB2-OB5	2.18	1.68	1.59
52	V	201	CDL	PB2-OB5	2.18	1.68	1.59
52	I	201	CDL	OB6-CB4	-2.18	1.41	1.46
52	u	201	CDL	OB6-CB4	-2.17	1.41	1.46
48	l	702	PEE	O3-C3	-2.17	1.40	1.45
48	r	501	PEE	O3-C3	-2.17	1.40	1.45
52	s	401	CDL	OB6-CB4	-2.17	1.41	1.46
52	r	502	CDL	PB2-OB2	2.17	1.68	1.59
52	g	202	CDL	PB2-OB5	2.16	1.68	1.59
52	o	201	CDL	PB2-OB5	2.16	1.68	1.59
52	k	101	CDL	OA6-CA4	-2.16	1.41	1.46
52	s	401	CDL	PB2-OB2	2.15	1.68	1.59
54	J	402	UQ	O4-C4	-2.15	1.18	1.23
49	g	201	PLX	P1-O4	2.14	1.68	1.59
49	a	202	PLX	P1-O4	2.14	1.68	1.59
48	W	201	PEE	O3-C3	-2.14	1.40	1.45
51	G	201	8Q1	C6-C1	2.14	1.53	1.50
52	s	401	CDL	PB2-OB5	2.14	1.68	1.59
52	u	201	CDL	PB2-OB5	2.13	1.67	1.59
50	C	304	DCQ	O3-C3M	-2.13	1.40	1.45
53	J	401	NDP	O7N-C7N	-2.13	1.19	1.24
52	a	201	CDL	PB2-OB2	2.13	1.67	1.59
48	B	303	PEE	O3-C3	-2.13	1.40	1.45
52	k	101	CDL	PB2-OB5	2.13	1.67	1.59
52	r	502	CDL	OB6-CB4	-2.12	1.41	1.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
51	X	201	8Q1	C6-C1	2.12	1.53	1.50
48	j	201	PEE	O3-C3	-2.12	1.40	1.45
52	a	201	CDL	OB6-CB4	-2.11	1.41	1.46
49	e	201	PLX	P1-O4	2.11	1.67	1.59
49	j	203	PLX	P1-O4	2.11	1.67	1.59
53	J	401	NDP	PA-O5B	2.11	1.67	1.59
52	a	201	CDL	PB2-OB5	2.10	1.67	1.59
49	C	303	PLX	P1-O4	2.10	1.67	1.59
52	i	401	CDL	OB6-CB4	-2.10	1.41	1.46
49	J	403	PLX	P1-O4	2.10	1.67	1.59
48	j	202	PEE	O3-C3	-2.09	1.40	1.45
52	l	701	CDL	PB2-OB5	2.09	1.67	1.59
52	g	202	CDL	OB6-CB4	-2.09	1.41	1.46
48	V	202	PEE	O3-C3	-2.08	1.40	1.45
48	l	703	PEE	O3-C3	-2.08	1.40	1.45
52	V	201	CDL	C11-CA5	2.07	1.56	1.50
49	j	203	PLX	P1-O1	2.05	1.67	1.59
54	J	402	UQ	C21-C19	2.03	1.55	1.51
49	a	202	PLX	P1-O1	2.03	1.67	1.59
50	C	304	DCQ	O2-C2	-2.03	1.19	1.23
54	s	402	UQ	O1-C1	-2.02	1.19	1.23
49	g	201	PLX	P1-O1	2.02	1.67	1.59
49	J	403	PLX	P1-O1	2.01	1.67	1.59
49	C	303	PLX	P1-O1	2.01	1.67	1.59

All (138) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
53	J	401	NDP	C3N-C2N-N1N	-9.47	109.58	123.10
54	s	402	UQ	C7-C8-C9	-8.03	113.42	126.79
54	J	402	UQ	C7-C8-C9	-7.87	113.69	126.79
51	G	201	8Q1	C6-C1-S44	6.84	121.42	113.46
54	J	402	UQ	C17-C18-C19	-6.14	112.87	127.66
54	s	402	UQ	C22-C23-C24	-6.14	112.87	127.66
54	J	402	UQ	C12-C13-C14	-6.14	112.89	127.66
51	X	201	8Q1	C6-C1-S44	6.00	120.45	113.46
54	s	402	UQ	C17-C18-C19	-5.98	113.26	127.66
54	s	402	UQ	C12-C13-C14	-5.82	113.64	127.66
53	J	401	NDP	C1D-N1N-C2N	-5.68	111.65	121.11
54	J	402	UQ	C10-C9-C8	-4.69	111.64	123.68
53	J	401	NDP	C1D-N1N-C6N	-4.60	110.91	120.83
58	w	401	ADP	N3-C2-N1	-4.59	121.51	128.68

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
54	s	402	UQ	C10-C9-C8	-4.46	112.24	123.68
47	A	503	NAI	N3A-C2A-N1A	-4.39	121.82	128.68
54	s	402	UQ	C25-C24-C23	-4.31	112.63	123.68
54	J	402	UQ	C16-C14-C13	-4.30	112.42	121.12
54	J	402	UQ	C15-C14-C13	-4.29	112.67	123.68
54	s	402	UQ	C27-C28-C29	-4.26	113.19	127.75
54	s	402	UQ	C26-C24-C23	-4.24	112.53	121.12
54	J	402	UQ	C20-C19-C18	-4.17	112.98	123.68
54	J	402	UQ	C22-C23-C24	-4.16	113.53	127.75
52	l	701	CDL	OA6-CA5-C11	4.15	120.45	111.50
54	J	402	UQ	C11-C9-C8	-4.15	112.72	121.12
52	s	401	CDL	OA6-CA5-C11	4.15	120.44	111.50
54	s	402	UQ	C11-C9-C8	-4.14	112.73	121.12
54	s	402	UQ	C16-C14-C13	-4.14	112.75	121.12
48	B	303	PEE	O2-C10-C11	4.13	120.41	111.50
52	g	202	CDL	OA6-CA5-C11	4.13	120.40	111.50
52	r	502	CDL	OA6-CA5-C11	4.13	120.40	111.50
48	j	202	PEE	O2-C10-C11	4.12	120.38	111.50
52	r	502	CDL	OB6-CB5-C51	4.11	120.36	111.50
52	V	201	CDL	OA6-CA5-C11	4.05	120.23	111.50
52	o	201	CDL	OA6-CA5-C11	4.04	120.20	111.50
52	o	201	CDL	OB6-CB5-C51	4.04	120.20	111.50
52	g	202	CDL	OB6-CB5-C51	4.03	120.19	111.50
52	k	101	CDL	OB6-CB5-C51	4.01	120.14	111.50
53	J	401	NDP	N3A-C2A-N1A	-4.00	122.43	128.68
54	s	402	UQ	C21-C19-C18	-3.99	113.04	121.12
52	u	201	CDL	OA6-CA5-C11	3.98	120.08	111.50
48	V	202	PEE	O2-C10-C11	3.98	120.08	111.50
48	r	501	PEE	O2-C10-C11	3.97	120.06	111.50
52	I	201	CDL	OA6-CA5-C11	3.96	120.03	111.50
52	a	201	CDL	OB6-CB5-C51	3.95	120.02	111.50
54	s	402	UQ	C20-C19-C18	-3.94	113.56	123.68
48	l	703	PEE	O2-C10-C11	3.94	119.99	111.50
52	V	201	CDL	OB6-CB5-C51	3.93	119.97	111.50
52	u	201	CDL	OB6-CB5-C51	3.93	119.97	111.50
52	I	201	CDL	OB6-CB5-C51	3.91	119.93	111.50
48	l	702	PEE	O2-C10-C11	3.91	119.93	111.50
48	C	302	PEE	O2-C10-C11	3.90	119.91	111.50
52	i	401	CDL	OB6-CB5-C51	3.90	119.90	111.50
52	i	401	CDL	OA6-CA5-C11	3.89	119.89	111.50
51	G	201	8Q1	O4-C1-C6	-3.89	119.40	123.99
48	j	201	PEE	O2-C10-C11	3.85	119.81	111.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
52	s	401	CDL	OB6-CB5-C51	3.84	119.78	111.50
48	W	201	PEE	O2-C10-C11	3.84	119.78	111.50
54	J	402	UQ	C21-C19-C18	-3.84	113.35	121.12
52	a	201	CDL	OA6-CA5-C11	3.82	119.74	111.50
54	s	402	UQ	C15-C14-C13	-3.76	114.03	123.68
52	k	101	CDL	OA6-CA5-C11	3.74	119.55	111.50
52	l	701	CDL	OB6-CB5-C51	3.68	119.44	111.50
51	X	201	8Q1	O4-C1-C6	-3.61	119.72	123.99
47	A	503	NAI	C3D-C2D-C1D	3.46	108.00	101.43
51	G	201	8Q1	C37-C38-C39	3.44	118.09	112.36
54	s	402	UQ	C30-C29-C28	-3.41	112.80	122.65
54	J	402	UQ	C26-C24-C23	-3.30	113.12	122.65
54	J	402	UQ	C25-C24-C23	-3.28	113.16	122.65
54	s	402	UQ	C31-C29-C28	-3.28	113.18	122.65
52	u	201	CDL	OA8-CA7-C31	3.19	119.75	111.38
46	A	502	FMN	C4-N3-C2	-3.17	119.78	125.64
51	X	201	8Q1	C37-C38-C39	3.07	117.46	112.36
47	A	503	NAI	C2D-C3D-C4D	2.96	108.40	102.64
48	B	303	PEE	O3-C30-C31	2.86	120.87	111.91
47	A	503	NAI	C3B-C2B-C1B	2.85	105.27	100.98
58	w	401	ADP	O4'-C1'-C2'	-2.83	102.79	106.93
52	I	201	CDL	OB8-CB7-C71	2.75	120.53	111.91
52	g	202	CDL	OB8-CB7-C71	2.74	120.51	111.91
52	i	401	CDL	OA8-CA7-C31	2.74	120.51	111.91
48	l	703	PEE	O3-C30-C31	2.74	120.50	111.91
52	a	201	CDL	OB8-CB7-C71	2.73	120.46	111.91
52	u	201	CDL	OB8-CB7-C71	2.72	120.44	111.91
52	o	201	CDL	OB8-CB7-C71	2.72	120.44	111.91
46	A	502	FMN	C4A-C4-N3	2.71	120.08	113.19
52	k	101	CDL	OA8-CA7-C31	2.70	120.39	111.91
52	r	502	CDL	OA8-CA7-C31	2.69	120.36	111.91
48	l	702	PEE	O3-C30-C31	2.68	120.31	111.91
54	J	402	UQ	CM5-C5-C6	-2.67	120.04	124.40
48	r	501	PEE	O3-C30-C31	2.67	120.29	111.91
48	V	202	PEE	O3-C30-C31	2.67	120.28	111.91
52	l	701	CDL	OB8-CB7-C71	2.66	120.26	111.91
48	W	201	PEE	O3-C30-C31	2.65	120.24	111.91
51	G	201	8Q1	O4-C1-S44	-2.64	119.18	122.61
52	r	502	CDL	OB8-CB7-C71	2.62	120.14	111.91
52	s	401	CDL	OB8-CB7-C71	2.60	120.07	111.91
52	V	201	CDL	OB8-CB7-C71	2.60	120.07	111.91
52	s	401	CDL	OA8-CA7-C31	2.59	120.05	111.91

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	j	201	PEE	O3-C30-C31	2.59	120.03	111.91
48	j	202	PEE	O3-C30-C31	2.59	120.02	111.91
52	a	201	CDL	OA8-CA7-C31	2.59	120.02	111.91
52	l	701	CDL	OA8-CA7-C31	2.57	119.96	111.91
52	k	101	CDL	OB8-CB7-C71	2.57	119.96	111.91
51	X	201	8Q1	C38-C39-N41	2.56	120.73	116.42
47	A	503	NAI	C4A-C5A-N7A	-2.56	106.73	109.40
52	g	202	CDL	OA8-CA7-C31	2.56	119.93	111.91
52	i	401	CDL	OB8-CB7-C71	2.53	119.86	111.91
50	C	304	DCQ	C1M-C1-C6	-2.52	120.29	124.40
46	A	502	FMN	O4-C4-C4A	-2.51	119.94	126.60
48	C	302	PEE	O3-C30-C31	2.51	119.77	111.91
52	I	201	CDL	OA8-CA7-C31	2.50	119.75	111.91
49	a	202	PLX	C1A-N1-C1	2.47	120.02	109.92
46	A	502	FMN	C4A-C10-N1	-2.46	119.02	124.73
53	J	401	NDP	C4A-C5A-N7A	-2.45	106.84	109.40
52	V	201	CDL	OA8-CA7-C31	2.45	119.58	111.91
52	o	201	CDL	OA8-CA7-C31	2.44	119.56	111.91
47	A	503	NAI	PN-O3-PA	-2.44	124.46	132.83
53	J	401	NDP	PN-O3-PA	-2.42	124.52	132.83
49	g	201	PLX	C1A-N1-C1	2.40	119.74	109.92
49	j	203	PLX	C1A-N1-C1	2.35	119.54	109.92
46	A	502	FMN	C4A-C10-N10	2.34	119.91	116.48
58	w	401	ADP	PA-O3A-PB	-2.34	124.80	132.83
49	J	403	PLX	C1A-N1-C1	2.30	119.31	109.92
49	C	303	PLX	C1A-N1-C1	2.25	119.10	109.92
46	A	502	FMN	C5A-C9A-N10	2.24	120.27	117.95
47	A	503	NAI	C4D-O4D-C1D	-2.22	104.58	109.47
52	s	401	CDL	CA4-OA6-CA5	-2.20	112.37	117.79
46	A	502	FMN	C9A-C5A-N5	-2.20	120.04	122.43
54	s	402	UQ	CM5-C5-C6	-2.16	120.88	124.40
49	e	201	PLX	C1A-N1-C1	2.15	118.71	109.92
46	A	502	FMN	C10-C4A-N5	-2.15	120.30	124.86
51	X	201	8Q1	O4-C1-S44	-2.14	119.83	122.61
51	X	201	8Q1	C42-N41-C39	-2.13	118.89	122.84
51	X	201	8Q1	C43-S44-C1	2.09	108.39	101.87
52	r	502	CDL	CA4-OA6-CA5	-2.09	112.64	117.79
58	w	401	ADP	C4-C5-N7	-2.07	107.24	109.40
51	G	201	8Q1	C43-S44-C1	2.04	108.23	101.87
46	A	502	FMN	C4-C4A-C10	2.02	120.18	116.79

There are no chirality outliers.

All (1069) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
46	A	502	FMN	N10-C1'-C2'-O2'
46	A	502	FMN	N10-C1'-C2'-C3'
46	A	502	FMN	C3'-C4'-C5'-O5'
46	A	502	FMN	O4'-C4'-C5'-O5'
46	A	502	FMN	C5'-O5'-P-O1P
47	A	503	NAI	PN-O3-PA-O5B
48	C	302	PEE	C1-O3P-P-O1P
48	V	202	PEE	C17-C18-C19-C20
48	V	202	PEE	C11-C10-O2-C2
48	V	202	PEE	C1-O3P-P-O2P
48	V	202	PEE	C1-O3P-P-O1P
48	j	201	PEE	C4-O4P-P-O1P
48	j	202	PEE	C1-O3P-P-O2P
48	j	202	PEE	C4-O4P-P-O2P
48	j	202	PEE	C4-O4P-P-O1P
48	j	202	PEE	O4P-C4-C5-N
48	l	702	PEE	C11-C10-O2-C2
48	l	702	PEE	O3P-C1-C2-O2
48	l	702	PEE	C1-O3P-P-O1P
48	l	702	PEE	C4-O4P-P-O3P
48	l	703	PEE	C11-C10-O2-C2
48	l	703	PEE	C37-C38-C39-C40
48	r	501	PEE	C1-O3P-P-O2P
49	C	303	PLX	O7-C6-C7-C8
49	C	303	PLX	O6-C6-C7-C8
49	C	303	PLX	O6-C4-C5-O8
49	C	303	PLX	C2-O1-P1-O2
49	C	303	PLX	O9-C24-O8-C5
49	J	403	PLX	O7-C6-C7-C8
49	J	403	PLX	O7-C6-O6-C4
49	J	403	PLX	C3-O4-P1-O3
49	J	403	PLX	C25-C24-O8-C5
49	J	403	PLX	O9-C24-C25-C26
49	a	202	PLX	O7-C6-O6-C4
49	a	202	PLX	C2-O1-P1-O4
49	a	202	PLX	O9-C24-C25-C26
49	e	201	PLX	O7-C6-O6-C4
49	e	201	PLX	C3-O4-P1-O1
49	e	201	PLX	C3-O4-P1-O2
49	e	201	PLX	C3-O4-P1-O3
49	e	201	PLX	C2-O1-P1-O4
49	e	201	PLX	C2-O1-P1-O2

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Mol	Chain	Res	Type	Atoms
49	e	201	PLX	C25-C24-O8-C5
49	e	201	PLX	O9-C24-C25-C26
49	g	201	PLX	C3-O4-P1-O2
49	g	201	PLX	C3-O4-P1-O3
49	g	201	PLX	C2-O1-P1-O4
49	g	201	PLX	C2-O1-P1-O2
49	g	201	PLX	C2-O1-P1-O3
49	g	201	PLX	O9-C24-O8-C5
49	j	203	PLX	O7-C6-C7-C8
49	j	203	PLX	O7-C6-O6-C4
49	j	203	PLX	C3-O4-P1-O1
49	j	203	PLX	C3-O4-P1-O2
49	j	203	PLX	C3-O4-P1-O3
49	j	203	PLX	O9-C24-O8-C5
49	j	203	PLX	O9-C24-C25-C26
51	G	201	8Q1	O4-C1-S44-C43
51	G	201	8Q1	C6-C1-S44-C43
51	G	201	8Q1	O27-C28-C29-C30
51	G	201	8Q1	O27-C28-C29-C32
51	G	201	8Q1	N41-C42-C43-S44
51	G	201	8Q1	C42-C43-S44-C1
51	G	201	8Q1	C28-O27-P24-O3
51	G	201	8Q1	C28-O27-P24-O2
51	G	201	8Q1	C28-O27-P24-O1
51	X	201	8Q1	C42-C43-S44-C1
51	X	201	8Q1	C28-O27-P24-O2
52	I	201	CDL	OA5-CA3-CA4-OA6
52	I	201	CDL	CB2-OB2-PB2-OB3
52	I	201	CDL	CB2-OB2-PB2-OB4
52	I	201	CDL	CB3-OB5-PB2-OB3
52	I	201	CDL	CB3-OB5-PB2-OB4
52	I	201	CDL	C51-CB5-OB6-CB4
52	V	201	CDL	CA3-OA5-PA1-OA3
52	V	201	CDL	CA3-OA5-PA1-OA4
52	V	201	CDL	C11-CA5-OA6-CA4
52	V	201	CDL	CB2-OB2-PB2-OB3
52	V	201	CDL	CB2-OB2-PB2-OB4
52	V	201	CDL	CB2-OB2-PB2-OB5
52	V	201	CDL	CB3-OB5-PB2-OB3
52	V	201	CDL	CB3-OB5-PB2-OB4
52	a	201	CDL	CA2-OA2-PA1-OA3
52	a	201	CDL	CA2-OA2-PA1-OA4

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Mol	Chain	Res	Type	Atoms
52	a	201	CDL	CA2-OA2-PA1-OA5
52	a	201	CDL	CB2-OB2-PB2-OB3
52	a	201	CDL	CB2-OB2-PB2-OB4
52	a	201	CDL	CB2-OB2-PB2-OB5
52	g	202	CDL	CA2-OA2-PA1-OA3
52	g	202	CDL	CA3-OA5-PA1-OA3
52	g	202	CDL	CB2-OB2-PB2-OB3
52	g	202	CDL	CB2-OB2-PB2-OB4
52	g	202	CDL	CB2-OB2-PB2-OB5
52	g	202	CDL	CB3-OB5-PB2-OB3
52	i	401	CDL	CA2-C1-CB2-OB2
52	i	401	CDL	C31-CA7-OA8-CA6
52	i	401	CDL	CB3-OB5-PB2-OB3
52	k	101	CDL	CA2-C1-CB2-OB2
52	k	101	CDL	CA2-OA2-PA1-OA3
52	k	101	CDL	OA5-CA3-CA4-OA6
52	k	101	CDL	CB2-OB2-PB2-OB4
52	k	101	CDL	CB3-OB5-PB2-OB3
52	l	701	CDL	O1-C1-CA2-OA2
52	l	701	CDL	CB2-OB2-PB2-OB3
52	l	701	CDL	CB2-OB2-PB2-OB4
52	l	701	CDL	CB2-OB2-PB2-OB5
52	l	701	CDL	OB6-CB4-CB6-OB8
52	o	201	CDL	CA2-OA2-PA1-OA5
52	o	201	CDL	C51-CB5-OB6-CB4
52	r	502	CDL	CB2-C1-CA2-OA2
52	r	502	CDL	CA2-C1-CB2-OB2
52	r	502	CDL	OA5-CA3-CA4-OA6
52	r	502	CDL	OA9-CA7-OA8-CA6
52	r	502	CDL	C31-CA7-OA8-CA6
52	r	502	CDL	CB2-OB2-PB2-OB3
52	r	502	CDL	CB2-OB2-PB2-OB4
52	r	502	CDL	CB2-OB2-PB2-OB5
52	r	502	CDL	CB3-OB5-PB2-OB3
52	r	502	CDL	CB3-OB5-PB2-OB4
52	s	401	CDL	CA2-OA2-PA1-OA3
52	s	401	CDL	CA2-OA2-PA1-OA4
52	s	401	CDL	OA9-CA7-OA8-CA6
52	s	401	CDL	C31-CA7-OA8-CA6
52	s	401	CDL	CB3-OB5-PB2-OB3
52	u	201	CDL	O1-C1-CA2-OA2
52	u	201	CDL	CB2-C1-CA2-OA2

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Mol	Chain	Res	Type	Atoms
52	u	201	CDL	CA2-OA2-PA1-OA5
52	u	201	CDL	CA3-OA5-PA1-OA4
52	u	201	CDL	CB3-OB5-PB2-OB3
52	u	201	CDL	CB3-OB5-PB2-OB4
53	J	401	NDP	O4D-C1D-N1N-C6N
54	J	402	UQ	C7-C8-C9-C11
54	J	402	UQ	C12-C11-C9-C8
54	J	402	UQ	C12-C13-C14-C15
54	J	402	UQ	C12-C13-C14-C16
54	J	402	UQ	C14-C16-C17-C18
54	J	402	UQ	C16-C17-C18-C19
54	J	402	UQ	C17-C18-C19-C21
54	s	402	UQ	C7-C8-C9-C10
54	s	402	UQ	C22-C23-C24-C26
54	s	402	UQ	C23-C24-C26-C27
52	i	401	CDL	OA9-CA7-OA8-CA6
54	J	402	UQ	C22-C23-C24-C25
54	J	402	UQ	C22-C23-C24-C26
48	V	202	PEE	O4-C10-O2-C2
48	l	702	PEE	O4-C10-O2-C2
48	l	703	PEE	O4-C10-O2-C2
52	V	201	CDL	OA7-CA5-OA6-CA4
52	g	202	CDL	OB7-CB5-OB6-CB4
52	o	201	CDL	OB7-CB5-OB6-CB4
52	s	401	CDL	OB7-CB5-OB6-CB4
52	g	202	CDL	C51-CB5-OB6-CB4
52	s	401	CDL	C51-CB5-OB6-CB4
54	J	402	UQ	C12-C11-C9-C10
54	s	402	UQ	C18-C19-C21-C22
50	C	304	DCQ	C6-C7-C8-C9
52	V	201	CDL	C71-CB7-OB8-CB6
48	W	201	PEE	C17-C18-C19-C20
48	j	201	PEE	C17-C18-C19-C20
54	J	402	UQ	C7-C8-C9-C10
54	J	402	UQ	C17-C18-C19-C20
52	I	201	CDL	OB7-CB5-OB6-CB4
54	s	402	UQ	C7-C8-C9-C11
54	s	402	UQ	C17-C18-C19-C21
52	I	201	CDL	O1-C1-CA2-OA2
52	g	202	CDL	O1-C1-CA2-OA2
52	i	401	CDL	O1-C1-CB2-OB2
52	k	101	CDL	O1-C1-CB2-OB2

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Mol	Chain	Res	Type	Atoms
52	l	701	CDL	O1-C1-CB2-OB2
52	s	401	CDL	O1-C1-CA2-OA2
48	l	702	PEE	C31-C30-O3-C3
49	g	201	PLX	C7-C8-C9-C10
52	l	701	CDL	C35-C36-C37-C38
48	r	501	PEE	C11-C10-O2-C2
52	k	101	CDL	C11-CA5-OA6-CA4
49	j	203	PLX	C28-C29-C30-C31
49	g	201	PLX	C9-C10-C11-C12
52	k	101	CDL	C62-C63-C64-C65
52	V	201	CDL	C32-C33-C34-C35
52	V	201	CDL	C59-C60-C61-C62
52	k	101	CDL	OA7-CA5-OA6-CA4
49	j	203	PLX	C13-C14-C15-C16
52	l	701	CDL	C71-C72-C73-C74
52	o	201	CDL	C17-C18-C19-C20
52	V	201	CDL	OB9-CB7-OB8-CB6
54	J	402	UQ	C13-C14-C16-C17
52	u	201	CDL	C71-C72-C73-C74
52	o	201	CDL	C33-C34-C35-C36
48	j	201	PEE	C31-C30-O3-C3
49	J	403	PLX	C11-C10-C9-C8
52	u	201	CDL	C55-C56-C57-C58
48	l	702	PEE	O5-C30-O3-C3
48	j	201	PEE	C11-C10-O2-C2
54	s	402	UQ	C27-C28-C29-C31
52	V	201	CDL	C62-C63-C64-C65
52	I	201	CDL	CB2-C1-CA2-OA2
52	a	201	CDL	CA2-C1-CB2-OB2
52	k	101	CDL	CB2-C1-CA2-OA2
52	l	701	CDL	CB2-C1-CA2-OA2
52	s	401	CDL	CA2-C1-CB2-OB2
48	B	303	PEE	C11-C12-C13-C14
49	g	201	PLX	C2-C1-N1-C1A
52	g	202	CDL	C71-CB7-OB8-CB6
52	l	701	CDL	C71-CB7-OB8-CB6
52	o	201	CDL	C31-CA7-OA8-CA6
52	r	502	CDL	C71-CB7-OB8-CB6
52	r	502	CDL	CB5-C51-C52-C53
49	J	403	PLX	C13-C14-C15-C16
49	J	403	PLX	C29-C30-C31-C32
52	g	202	CDL	C74-C75-C76-C77

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Mol	Chain	Res	Type	Atoms
52	V	201	CDL	OB5-CB3-CB4-OB6
52	I	201	CDL	O1-C1-CB2-OB2
52	r	502	CDL	O1-C1-CB2-OB2
52	u	201	CDL	O1-C1-CB2-OB2
48	r	501	PEE	O4-C10-O2-C2
52	i	401	CDL	CA5-C11-C12-C13
52	k	101	CDL	CA7-C31-C32-C33
52	o	201	CDL	OA9-CA7-OA8-CA6
52	l	701	CDL	C31-C32-C33-C34
48	j	202	PEE	C31-C30-O3-C3
52	l	701	CDL	CA7-C31-C32-C33
48	V	202	PEE	C30-C31-C32-C33
52	I	201	CDL	CB5-C51-C52-C53
52	g	202	CDL	CB5-C51-C52-C53
52	l	701	CDL	CB7-C71-C72-C73
52	u	201	CDL	CB5-C51-C52-C53
52	g	202	CDL	C76-C77-C78-C79
58	w	401	ADP	O4'-C4'-C5'-O5'
52	V	201	CDL	C31-CA7-OA8-CA6
49	j	203	PLX	C32-C33-C34-C35
52	l	701	CDL	C33-C34-C35-C36
52	r	502	CDL	C34-C35-C36-C37
49	g	201	PLX	C2-C1-N1-C1B
48	j	201	PEE	C30-C31-C32-C33
52	I	201	CDL	CA7-C31-C32-C33
52	i	401	CDL	CB7-C71-C72-C73
52	r	502	CDL	C32-C33-C34-C35
52	r	502	CDL	C58-C59-C60-C61
52	l	701	CDL	OB9-CB7-OB8-CB6
52	a	201	CDL	C36-C37-C38-C39
52	k	101	CDL	C60-C61-C62-C63
52	g	202	CDL	OB9-CB7-OB8-CB6
52	r	502	CDL	OB9-CB7-OB8-CB6
54	s	402	UQ	C14-C16-C17-C18
52	o	201	CDL	C76-C77-C78-C79
48	B	303	PEE	C34-C35-C36-C37
52	V	201	CDL	O1-C1-CB2-OB2
52	a	201	CDL	O1-C1-CA2-OA2
52	i	401	CDL	O1-C1-CA2-OA2
52	o	201	CDL	O1-C1-CB2-OB2
52	r	502	CDL	O1-C1-CA2-OA2
52	s	401	CDL	O1-C1-CB2-OB2

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Mol	Chain	Res	Type	Atoms
48	j	201	PEE	O4-C10-O2-C2
48	W	201	PEE	C31-C30-O3-C3
48	j	201	PEE	O5-C30-O3-C3
52	V	201	CDL	C53-C54-C55-C56
48	j	202	PEE	O5-C30-O3-C3
52	k	101	CDL	C51-CB5-OB6-CB4
52	k	101	CDL	C43-C44-C45-C46
48	V	202	PEE	C1-O3P-P-O4P
48	j	202	PEE	C1-O3P-P-O4P
48	j	202	PEE	C4-O4P-P-O3P
48	l	702	PEE	C1-O3P-P-O4P
48	l	703	PEE	C1-O3P-P-O4P
48	r	501	PEE	C1-O3P-P-O4P
49	C	303	PLX	C2-O1-P1-O4
49	a	202	PLX	C3-O4-P1-O1
49	g	201	PLX	C3-O4-P1-O1
52	I	201	CDL	CA2-OA2-PA1-OA5
52	I	201	CDL	CA3-OA5-PA1-OA2
52	I	201	CDL	CB2-OB2-PB2-OB5
52	I	201	CDL	CB3-OB5-PB2-OB2
52	V	201	CDL	CA3-OA5-PA1-OA2
52	V	201	CDL	CB3-OB5-PB2-OB2
52	g	202	CDL	CA2-OA2-PA1-OA5
52	g	202	CDL	CB3-OB5-PB2-OB2
52	i	401	CDL	CA2-OA2-PA1-OA5
52	i	401	CDL	CA3-OA5-PA1-OA2
52	k	101	CDL	CA3-OA5-PA1-OA2
52	k	101	CDL	CB2-OB2-PB2-OB5
52	l	701	CDL	CB3-OB5-PB2-OB2
52	o	201	CDL	CA3-OA5-PA1-OA2
52	r	502	CDL	CB3-OB5-PB2-OB2
52	s	401	CDL	CA2-OA2-PA1-OA5
52	s	401	CDL	CB2-OB2-PB2-OB5
52	s	401	CDL	CB3-OB5-PB2-OB2
52	u	201	CDL	CB3-OB5-PB2-OB2
52	a	201	CDL	CB7-C71-C72-C73
52	r	502	CDL	CB7-C71-C72-C73
52	a	201	CDL	CB2-C1-CA2-OA2
52	i	401	CDL	CB2-C1-CA2-OA2
52	o	201	CDL	CA2-C1-CB2-OB2
52	s	401	CDL	CB2-C1-CA2-OA2
52	s	401	CDL	C14-C15-C16-C17

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Mol	Chain	Res	Type	Atoms
52	a	201	CDL	C71-CB7-OB8-CB6
52	V	201	CDL	C51-C52-C53-C54
49	J	403	PLX	O8-C24-C25-C26
49	j	203	PLX	O6-C6-C7-C8
52	u	201	CDL	C75-C76-C77-C78
48	j	201	PEE	C21-C22-C23-C24
49	J	403	PLX	C10-C11-C12-C13
52	s	401	CDL	C18-C19-C20-C21
48	j	202	PEE	C11-C10-O2-C2
48	W	201	PEE	C12-C13-C14-C15
48	j	202	PEE	C23-C24-C25-C26
49	C	303	PLX	C14-C15-C16-C17
49	g	201	PLX	C12-C13-C14-C15
49	g	201	PLX	C30-C31-C32-C33
52	g	202	CDL	C33-C34-C35-C36
52	i	401	CDL	C59-C60-C61-C62
52	i	401	CDL	C81-C82-C83-C84
52	k	101	CDL	C14-C15-C16-C17
52	k	101	CDL	C73-C74-C75-C76
52	r	502	CDL	C14-C15-C16-C17
52	r	502	CDL	C52-C53-C54-C55
52	r	502	CDL	C74-C75-C76-C77
52	s	401	CDL	C12-C13-C14-C15
52	s	401	CDL	C19-C20-C21-C22
52	s	401	CDL	C52-C53-C54-C55
52	s	401	CDL	C71-C72-C73-C74
52	u	201	CDL	C54-C55-C56-C57
52	V	201	CDL	OA9-CA7-OA8-CA6
51	G	201	8Q1	O27-C28-C29-C31
48	r	501	PEE	C11-C12-C13-C14
49	J	403	PLX	C11-C12-C13-C14
52	V	201	CDL	C12-C13-C14-C15
52	i	401	CDL	C34-C35-C36-C37
52	r	502	CDL	C35-C36-C37-C38
52	s	401	CDL	C31-C32-C33-C34
48	j	202	PEE	O4-C10-O2-C2
52	k	101	CDL	OB7-CB5-OB6-CB4
52	k	101	CDL	CB5-C51-C52-C53
48	V	202	PEE	C11-C12-C13-C14
48	V	202	PEE	C32-C33-C34-C35
49	a	202	PLX	C31-C32-C33-C34
49	j	203	PLX	C12-C13-C14-C15

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Mol	Chain	Res	Type	Atoms
52	o	201	CDL	C59-C60-C61-C62
48	B	303	PEE	C17-C18-C19-C20
48	C	302	PEE	C13-C14-C15-C16
49	C	303	PLX	C27-C28-C29-C30
52	a	201	CDL	C21-C22-C23-C24
52	g	202	CDL	C59-C60-C61-C62
52	o	201	CDL	C32-C33-C34-C35
52	a	201	CDL	O1-C1-CB2-OB2
52	k	101	CDL	O1-C1-CA2-OA2
48	j	202	PEE	C13-C14-C15-C16
49	e	201	PLX	C27-C28-C29-C30
49	j	203	PLX	C27-C28-C29-C30
52	V	201	CDL	C37-C38-C39-C40
52	V	201	CDL	C72-C73-C74-C75
52	l	701	CDL	C15-C16-C17-C18
52	l	701	CDL	C21-C22-C23-C24
52	s	401	CDL	C37-C38-C39-C40
52	i	401	CDL	OB6-CB4-CB6-OB8
48	r	501	PEE	C31-C32-C33-C34
49	g	201	PLX	C33-C34-C35-C36
52	a	201	CDL	C62-C63-C64-C65
52	g	202	CDL	C43-C44-C45-C46
52	s	401	CDL	C15-C16-C17-C18
52	u	201	CDL	C52-C53-C54-C55
48	C	302	PEE	C11-C12-C13-C14
48	l	702	PEE	C32-C33-C34-C35
49	J	403	PLX	C30-C31-C32-C33
49	g	201	PLX	C13-C14-C15-C16
49	g	201	PLX	C28-C29-C30-C31
49	g	201	PLX	C32-C33-C34-C35
49	j	203	PLX	C33-C34-C35-C36
52	g	202	CDL	C34-C35-C36-C37
52	k	101	CDL	C39-C40-C41-C42
52	l	701	CDL	C55-C56-C57-C58
52	r	502	CDL	C62-C63-C64-C65
52	u	201	CDL	C74-C75-C76-C77
52	s	401	CDL	CB7-C71-C72-C73
49	C	303	PLX	C10-C11-C12-C13
49	a	202	PLX	C9-C10-C11-C12
49	e	201	PLX	C13-C14-C15-C16
51	G	201	8Q1	C11-C10-C9-C8
52	V	201	CDL	C52-C53-C54-C55

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Mol	Chain	Res	Type	Atoms
52	a	201	CDL	C12-C13-C14-C15
52	k	101	CDL	C35-C36-C37-C38
52	l	701	CDL	C73-C74-C75-C76
52	o	201	CDL	C11-C12-C13-C14
52	o	201	CDL	C13-C14-C15-C16
52	r	502	CDL	C36-C37-C38-C39
52	s	401	CDL	C73-C74-C75-C76
48	W	201	PEE	O5-C30-O3-C3
49	J	403	PLX	C12-C13-C14-C15
52	k	101	CDL	C37-C38-C39-C40
52	r	502	CDL	C78-C79-C80-C81
52	s	401	CDL	C35-C36-C37-C38
49	a	202	PLX	C10-C11-C12-C13
49	j	203	PLX	C7-C8-C9-C10
52	o	201	CDL	C73-C74-C75-C76
52	r	502	CDL	C71-C72-C73-C74
52	s	401	CDL	C82-C83-C84-C85
48	B	303	PEE	C35-C36-C37-C38
52	o	201	CDL	CA7-C31-C32-C33
48	B	303	PEE	C23-C24-C25-C26
48	j	202	PEE	C11-C12-C13-C14
48	l	702	PEE	C23-C24-C25-C26
49	C	303	PLX	C11-C12-C13-C14
49	C	303	PLX	C9-C10-C11-C12
49	a	202	PLX	C12-C13-C14-C15
49	e	201	PLX	C25-C26-C27-C28
49	g	201	PLX	C27-C28-C29-C30
49	j	203	PLX	C11-C12-C13-C14
49	j	203	PLX	C25-C26-C27-C28
52	k	101	CDL	C55-C56-C57-C58
52	l	701	CDL	C59-C60-C61-C62
52	o	201	CDL	C55-C56-C57-C58
52	r	502	CDL	C31-C32-C33-C34
52	r	502	CDL	C56-C57-C58-C59
49	j	203	PLX	C29-C30-C31-C32
52	V	201	CDL	C31-C32-C33-C34
52	a	201	CDL	C60-C61-C62-C63
52	r	502	CDL	C11-C12-C13-C14
52	r	502	CDL	C75-C76-C77-C78
48	W	201	PEE	C13-C14-C15-C16
49	J	403	PLX	C32-C33-C34-C35
52	k	101	CDL	C81-C82-C83-C84

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Mol	Chain	Res	Type	Atoms
52	s	401	CDL	C75-C76-C77-C78
52	a	201	CDL	CB5-C51-C52-C53
49	J	403	PLX	C27-C28-C29-C30
52	g	202	CDL	C73-C74-C75-C76
52	k	101	CDL	C78-C79-C80-C81
52	l	701	CDL	C11-C12-C13-C14
52	I	201	CDL	C31-CA7-OA8-CA6
48	C	302	PEE	C12-C13-C14-C15
48	V	202	PEE	C33-C34-C35-C36
49	J	403	PLX	C7-C8-C9-C10
49	a	202	PLX	C14-C15-C16-C17
52	g	202	CDL	C41-C42-C43-C44
52	g	202	CDL	C82-C83-C84-C85
52	s	401	CDL	C54-C55-C56-C57
48	C	302	PEE	C42-C43-C44-C45
51	G	201	8Q1	C12-C13-C14-C15
52	a	201	CDL	C35-C36-C37-C38
52	s	401	CDL	C83-C84-C85-C86
48	W	201	PEE	C22-C23-C24-C25
49	C	303	PLX	C13-C14-C15-C16
52	k	101	CDL	C56-C57-C58-C59
52	I	201	CDL	CA3-CA4-CA6-OA8
48	l	703	PEE	C32-C33-C34-C35
49	a	202	PLX	C13-C14-C15-C16
52	V	201	CDL	C75-C76-C77-C78
52	g	202	CDL	C75-C76-C77-C78
52	k	101	CDL	C51-C52-C53-C54
52	o	201	CDL	C41-C42-C43-C44
52	o	201	CDL	C56-C57-C58-C59
51	X	201	8Q1	C12-C13-C14-C15
48	B	303	PEE	C11-C10-O2-C2
48	r	501	PEE	C33-C34-C35-C36
52	o	201	CDL	C52-C53-C54-C55
52	r	502	CDL	C73-C74-C75-C76
49	J	403	PLX	C9-C10-C11-C12
52	V	201	CDL	C42-C43-C44-C45
48	C	302	PEE	C41-C42-C43-C44
48	r	501	PEE	C41-C42-C43-C44
58	w	401	ADP	C3'-C4'-C5'-O5'
48	C	302	PEE	C34-C35-C36-C37
48	B	303	PEE	C20-C21-C22-C23
52	g	202	CDL	C71-C72-C73-C74

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Mol	Chain	Res	Type	Atoms
52	l	701	CDL	C75-C76-C77-C78
52	u	201	CDL	C73-C74-C75-C76
52	a	201	CDL	OB9-CB7-OB8-CB6
52	V	201	CDL	CA2-C1-CB2-OB2
52	g	202	CDL	CB2-C1-CA2-OA2
52	i	401	CDL	C52-C53-C54-C55
52	s	401	CDL	C32-C33-C34-C35
49	J	403	PLX	C34-C35-C36-C37
52	s	401	CDL	C60-C61-C62-C63
49	a	202	PLX	C7-C8-C9-C10
49	j	203	PLX	C14-C15-C16-C17
52	i	401	CDL	C14-C15-C16-C17
52	o	201	CDL	C62-C63-C64-C65
49	g	201	PLX	C2-C1-N1-C1C
48	W	201	PEE	C10-C11-C12-C13
52	o	201	CDL	C83-C84-C85-C86
48	B	303	PEE	C31-C30-O3-C3
48	j	202	PEE	C14-C15-C16-C17
53	J	401	NDP	C2D-C1D-N1N-C2N
52	g	202	CDL	C37-C38-C39-C40
54	s	402	UQ	C27-C28-C29-C30
49	e	201	PLX	C11-C10-C9-C8
52	i	401	CDL	C75-C76-C77-C78
48	j	201	PEE	C37-C38-C39-C40
52	I	201	CDL	OA9-CA7-OA8-CA6
49	C	303	PLX	C28-C29-C30-C31
52	V	201	CDL	OB7-CB5-OB6-CB4
52	s	401	CDL	OA7-CA5-OA6-CA4
52	g	202	CDL	C13-C14-C15-C16
52	i	401	CDL	C76-C77-C78-C79
52	k	101	CDL	C64-C65-C66-C67
52	s	401	CDL	C55-C56-C57-C58
49	C	303	PLX	C26-C27-C28-C29
52	k	101	CDL	C18-C19-C20-C21
49	a	202	PLX	C11-C12-C13-C14
52	a	201	CDL	C32-C33-C34-C35
52	s	401	CDL	C33-C34-C35-C36
49	a	202	PLX	C34-C35-C36-C37
52	g	202	CDL	C12-C13-C14-C15
52	g	202	CDL	C55-C56-C57-C58
50	C	304	DCQ	C7-C8-C9-C10
51	G	201	8Q1	C11-C12-C13-C14

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Mol	Chain	Res	Type	Atoms
52	g	202	CDL	C32-C33-C34-C35
52	k	101	CDL	C17-C18-C19-C20
52	r	502	CDL	C37-C38-C39-C40
48	l	702	PEE	C30-C31-C32-C33
52	V	201	CDL	C51-CB5-OB6-CB4
52	a	201	CDL	C11-CA5-OA6-CA4
52	a	201	CDL	C51-CB5-OB6-CB4
52	s	401	CDL	C11-CA5-OA6-CA4
52	r	502	CDL	OB5-CB3-CB4-OB6
49	g	201	PLX	C31-C32-C33-C34
52	V	201	CDL	C33-C34-C35-C36
52	k	101	CDL	C38-C39-C40-C41
52	k	101	CDL	C75-C76-C77-C78
49	g	201	PLX	C25-C26-C27-C28
48	B	303	PEE	O4-C10-O2-C2
48	l	703	PEE	C20-C21-C22-C23
52	i	401	CDL	C73-C74-C75-C76
52	k	101	CDL	C15-C16-C17-C18
52	o	201	CDL	C12-C13-C14-C15
52	r	502	CDL	OA6-CA4-CA6-OA8
52	s	401	CDL	OB6-CB4-CB6-OB8
52	u	201	CDL	OA6-CA4-CA6-OA8
48	j	202	PEE	C12-C13-C14-C15
49	C	303	PLX	C25-C26-C27-C28
52	a	201	CDL	C37-C38-C39-C40
52	i	401	CDL	C55-C56-C57-C58
48	C	302	PEE	C15-C16-C17-C18
48	r	501	PEE	C30-C31-C32-C33
52	V	201	CDL	CA5-C11-C12-C13
52	k	101	CDL	C52-C53-C54-C55
52	k	101	CDL	C76-C77-C78-C79
52	r	502	CDL	C51-C52-C53-C54
52	g	202	CDL	C56-C57-C58-C59
52	k	101	CDL	C34-C35-C36-C37
52	l	701	CDL	C51-C52-C53-C54
48	B	303	PEE	C13-C14-C15-C16
48	C	302	PEE	C32-C33-C34-C35
49	j	203	PLX	C9-C10-C11-C12
52	i	401	CDL	C35-C36-C37-C38
52	o	201	CDL	C75-C76-C77-C78
48	B	303	PEE	O5-C30-O3-C3
48	j	201	PEE	C36-C37-C38-C39

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Mol	Chain	Res	Type	Atoms
49	J	403	PLX	C3-O4-P1-O1
52	u	201	CDL	CA3-OA5-PA1-OA2
49	J	403	PLX	C28-C29-C30-C31
52	g	202	CDL	C62-C63-C64-C65
52	I	201	CDL	OA5-CA3-CA4-CA6
52	V	201	CDL	OB5-CB3-CB4-CB6
48	j	201	PEE	C43-C44-C45-C46
52	V	201	CDL	C74-C75-C76-C77
52	r	502	CDL	C16-C17-C18-C19
52	r	502	CDL	C55-C56-C57-C58
48	V	202	PEE	C34-C35-C36-C37
52	i	401	CDL	C37-C38-C39-C40
49	e	201	PLX	C30-C31-C32-C33
52	k	101	CDL	C53-C54-C55-C56
52	l	701	CDL	CA2-C1-CB2-OB2
52	o	201	CDL	CB2-C1-CA2-OA2
52	a	201	CDL	OA7-CA5-OA6-CA4
52	g	202	CDL	C15-C16-C17-C18
48	C	302	PEE	C11-C10-O2-C2
48	r	501	PEE	C14-C15-C16-C17
52	k	101	CDL	C71-C72-C73-C74
52	o	201	CDL	C74-C75-C76-C77
48	C	302	PEE	C1-C2-C3-O3
48	V	202	PEE	C1-C2-C3-O3
48	W	201	PEE	C1-C2-C3-O3
48	j	202	PEE	C1-C2-C3-O3
48	r	501	PEE	C1-C2-C3-O3
49	C	303	PLX	C3-C4-C5-O8
49	a	202	PLX	C3-C4-C5-O8
52	V	201	CDL	CA3-CA4-CA6-OA8
52	l	701	CDL	CB3-CB4-CB6-OB8
52	l	701	CDL	C72-C73-C74-C75
52	r	502	CDL	CB3-CB4-CB6-OB8
52	s	401	CDL	CB3-CB4-CB6-OB8
52	V	201	CDL	C55-C56-C57-C58
49	a	202	PLX	C16-C17-C18-C19
52	g	202	CDL	CB7-C71-C72-C73
52	I	201	CDL	C52-C53-C54-C55
52	i	401	CDL	C71-C72-C73-C74
48	B	303	PEE	C38-C39-C40-C41
49	C	303	PLX	C33-C34-C35-C36
49	J	403	PLX	C25-C26-C27-C28

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Mol	Chain	Res	Type	Atoms
52	a	201	CDL	C84-C85-C86-C87
52	g	202	CDL	C14-C15-C16-C17
48	C	302	PEE	C19-C20-C21-C22
48	j	201	PEE	C19-C20-C21-C22
49	j	203	PLX	C30-C31-C32-C33
52	k	101	CDL	C54-C55-C56-C57
48	V	202	PEE	C31-C30-O3-C3
52	k	101	CDL	C41-C42-C43-C44
52	k	101	CDL	C84-C85-C86-C87
52	k	101	CDL	CA6-CA4-OA6-CA5
52	a	201	CDL	OB7-CB5-OB6-CB4
49	a	202	PLX	C28-C29-C30-C31
49	a	202	PLX	C29-C30-C31-C32
52	g	202	CDL	C58-C59-C60-C61
52	i	401	CDL	C54-C55-C56-C57
52	i	401	CDL	C71-CB7-OB8-CB6
48	r	501	PEE	O3P-C1-C2-O2
52	a	201	CDL	OA5-CA3-CA4-OA6
48	l	702	PEE	C24-C25-C26-C27
49	a	202	PLX	C11-C10-C9-C8
52	l	701	CDL	C36-C37-C38-C39
52	r	502	CDL	C81-C82-C83-C84
48	j	201	PEE	C41-C42-C43-C44
52	V	201	CDL	C43-C44-C45-C46
48	j	201	PEE	C22-C23-C24-C25
48	l	703	PEE	C31-C32-C33-C34
52	k	101	CDL	C61-C62-C63-C64
52	o	201	CDL	C19-C20-C21-C22
52	r	502	CDL	OB6-CB4-CB6-OB8
49	g	201	PLX	C11-C12-C13-C14
52	l	701	CDL	C14-C15-C16-C17
52	i	401	CDL	CA7-C31-C32-C33
52	k	101	CDL	C33-C34-C35-C36
48	l	703	PEE	C31-C30-O3-C3
52	a	201	CDL	C34-C35-C36-C37
52	i	401	CDL	C11-CA5-OA6-CA4
52	g	202	CDL	C81-C82-C83-C84
48	r	501	PEE	C17-C18-C19-C20
48	W	201	PEE	C23-C24-C25-C26
52	i	401	CDL	C77-C78-C79-C80
52	r	502	CDL	C82-C83-C84-C85
52	l	701	CDL	C24-C25-C26-C27

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Mol	Chain	Res	Type	Atoms
48	l	702	PEE	O3P-C1-C2-C3
52	i	401	CDL	OB5-CB3-CB4-CB6
52	k	101	CDL	OA5-CA3-CA4-CA6
52	l	701	CDL	OA5-CA3-CA4-CA6
52	r	502	CDL	OB5-CB3-CB4-CB6
48	l	703	PEE	O4P-C4-C5-N
48	l	703	PEE	C14-C15-C16-C17
48	l	703	PEE	C12-C13-C14-C15
52	V	201	CDL	C71-C72-C73-C74
52	o	201	CDL	C51-C52-C53-C54
52	a	201	CDL	CA5-C11-C12-C13
52	i	401	CDL	CB5-C51-C52-C53
52	o	201	CDL	C37-C38-C39-C40
48	V	202	PEE	C39-C40-C41-C42
48	W	201	PEE	C31-C32-C33-C34
52	u	201	CDL	C51-C52-C53-C54
49	e	201	PLX	C10-C11-C12-C13
52	s	401	CDL	C40-C41-C42-C43
52	s	401	CDL	CA7-C31-C32-C33
49	a	202	PLX	C27-C28-C29-C30
52	g	202	CDL	C64-C65-C66-C67
52	a	201	CDL	C14-C15-C16-C17
52	o	201	CDL	C60-C61-C62-C63
52	s	401	CDL	CA5-C11-C12-C13
52	g	202	CDL	C60-C61-C62-C63
48	j	201	PEE	C44-C45-C46-C47
48	l	702	PEE	C14-C15-C16-C17
48	l	702	PEE	C1-C2-C3-O3
49	e	201	PLX	C3-C4-C5-O8
52	i	401	CDL	CA3-CA4-CA6-OA8
52	i	401	CDL	CB3-CB4-CB6-OB8
52	r	502	CDL	CA3-CA4-CA6-OA8
52	u	201	CDL	CA3-CA4-CA6-OA8
52	r	502	CDL	C39-C40-C41-C42
48	V	202	PEE	O5-C30-O3-C3
49	e	201	PLX	C17-C18-C19-C20
48	l	702	PEE	C13-C14-C15-C16
49	J	403	PLX	C3-C4-O6-C6
49	J	403	PLX	C5-C4-O6-C6
49	a	202	PLX	C5-C4-O6-C6
49	e	201	PLX	C5-C4-O6-C6
52	i	401	CDL	OB9-CB7-OB8-CB6

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Mol	Chain	Res	Type	Atoms
52	l	701	CDL	C64-C65-C66-C67
48	j	202	PEE	O3P-C1-C2-O2
52	l	701	CDL	C74-C75-C76-C77
48	W	201	PEE	C15-C16-C17-C18
52	k	101	CDL	C63-C64-C65-C66
52	o	201	CDL	O1-C1-CA2-OA2
49	g	201	PLX	C10-C11-C12-C13
52	g	202	CDL	C53-C54-C55-C56
48	W	201	PEE	O2-C2-C3-O3
48	r	501	PEE	O2-C2-C3-O3
49	J	403	PLX	O6-C4-C5-O8
49	e	201	PLX	O6-C4-C5-O8
52	s	401	CDL	OA6-CA4-CA6-OA8
48	j	202	PEE	C24-C25-C26-C27
52	a	201	CDL	C82-C83-C84-C85
52	k	101	CDL	C44-C45-C46-C47
52	o	201	CDL	C77-C78-C79-C80
48	r	501	PEE	C24-C25-C26-C27
48	C	302	PEE	O4-C10-O2-C2
52	g	202	CDL	C84-C85-C86-C87
49	e	201	PLX	C31-C32-C33-C34
52	k	101	CDL	C19-C20-C21-C22
52	i	401	CDL	C1-CB2-OB2-PB2
48	l	703	PEE	O5-C30-O3-C3
50	C	304	DCQ	C10-C11-C12-C13
52	i	401	CDL	C56-C57-C58-C59
49	a	202	PLX	C25-C26-C27-C28
49	e	201	PLX	C11-C12-C13-C14
49	j	203	PLX	C10-C11-C12-C13
52	k	101	CDL	C13-C14-C15-C16
49	e	201	PLX	C26-C27-C28-C29
49	J	403	PLX	O6-C6-C7-C8
49	a	202	PLX	O8-C24-C25-C26
49	j	203	PLX	O8-C24-C25-C26
49	J	403	PLX	O4-C3-C4-C5
52	i	401	CDL	OA5-CA3-CA4-CA6
52	r	502	CDL	OA5-CA3-CA4-CA6
48	B	303	PEE	C44-C45-C46-C47
49	C	303	PLX	C12-C13-C14-C15
52	V	201	CDL	C39-C40-C41-C42
52	i	401	CDL	C64-C65-C66-C67
52	i	401	CDL	OA7-CA5-OA6-CA4

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Mol	Chain	Res	Type	Atoms
52	a	201	CDL	C38-C39-C40-C41
46	A	502	FMN	C5'-O5'-P-O2P
48	W	201	PEE	C21-C22-C23-C24
48	j	201	PEE	C34-C35-C36-C37
48	B	303	PEE	C31-C32-C33-C34
48	l	702	PEE	C43-C44-C45-C46
52	l	701	CDL	C12-C13-C14-C15
48	r	501	PEE	C36-C37-C38-C39
52	o	201	CDL	C84-C85-C86-C87
52	l	701	CDL	C32-C33-C34-C35
48	j	202	PEE	C19-C20-C21-C22
48	l	703	PEE	C1-C2-C3-O3
49	J	403	PLX	C7-C6-O6-C4
49	J	403	PLX	C3-C4-C5-O8
49	j	203	PLX	C7-C6-O6-C4
52	g	202	CDL	C1-CB2-OB2-PB2
52	k	101	CDL	CA4-CA3-OA5-PA1
48	B	303	PEE	O3P-C1-C2-O2
52	i	401	CDL	OA5-CA3-CA4-OA6
52	i	401	CDL	OB5-CB3-CB4-OB6
52	a	201	CDL	C71-C72-C73-C74
47	A	503	NAI	C2D-C1D-N1N-C2N
52	I	201	CDL	CA2-C1-CB2-OB2
52	g	202	CDL	C17-C18-C19-C20
48	C	302	PEE	O2-C2-C3-O3
48	V	202	PEE	O2-C2-C3-O3
48	l	702	PEE	O2-C2-C3-O3
49	a	202	PLX	O6-C4-C5-O8
52	V	201	CDL	OA6-CA4-CA6-OA8
52	i	401	CDL	OA6-CA4-CA6-OA8
52	o	201	CDL	OB6-CB4-CB6-OB8
49	g	201	PLX	C14-C15-C16-C17
58	w	401	ADP	C5'-O5'-PA-O3A
52	s	401	CDL	C84-C85-C86-C87
52	r	502	CDL	C11-CA5-OA6-CA4
52	r	502	CDL	C54-C55-C56-C57
52	s	401	CDL	OB9-CB7-OB8-CB6
48	B	303	PEE	C10-C11-C12-C13
48	V	202	PEE	C10-C11-C12-C13
48	C	302	PEE	C44-C45-C46-C47
52	s	401	CDL	C71-CB7-OB8-CB6
49	e	201	PLX	C34-C35-C36-C37

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Mol	Chain	Res	Type	Atoms
48	C	302	PEE	C1-O3P-P-O4P
48	j	201	PEE	C1-O3P-P-O4P
48	j	201	PEE	C4-O4P-P-O3P
52	g	202	CDL	CA3-OA5-PA1-OA2
52	i	401	CDL	CB3-OB5-PB2-OB2
52	l	701	CDL	CA3-OA5-PA1-OA2
52	o	201	CDL	CB2-OB2-PB2-OB5
52	u	201	CDL	CB2-OB2-PB2-OB5
52	s	401	CDL	C34-C35-C36-C37
48	C	302	PEE	C1-O3P-P-O2P
48	C	302	PEE	C4-O4P-P-O2P
48	j	201	PEE	C1-O3P-P-O2P
48	j	201	PEE	C1-O3P-P-O1P
48	j	202	PEE	C1-O3P-P-O1P
48	l	702	PEE	C4-O4P-P-O2P
48	l	703	PEE	C1-O3P-P-O2P
48	l	703	PEE	C1-O3P-P-O1P
48	r	501	PEE	C1-O3P-P-O1P
49	C	303	PLX	C2-O1-P1-O3
49	J	403	PLX	C3-O4-P1-O2
49	a	202	PLX	C3-O4-P1-O2
49	a	202	PLX	C3-O4-P1-O3
52	I	201	CDL	CA2-OA2-PA1-OA4
52	I	201	CDL	CA3-OA5-PA1-OA3
52	I	201	CDL	CA3-OA5-PA1-OA4
52	a	201	CDL	CB3-OB5-PB2-OB3
52	g	202	CDL	CA2-OA2-PA1-OA4
52	g	202	CDL	CB3-OB5-PB2-OB4
52	i	401	CDL	CA2-OA2-PA1-OA3
52	i	401	CDL	CA2-OA2-PA1-OA4
52	i	401	CDL	CA3-OA5-PA1-OA4
52	i	401	CDL	CB3-OB5-PB2-OB4
52	k	101	CDL	CA3-OA5-PA1-OA4
52	l	701	CDL	CA3-OA5-PA1-OA3
52	l	701	CDL	CB3-OB5-PB2-OB3
52	l	701	CDL	CB3-OB5-PB2-OB4
52	o	201	CDL	CA3-OA5-PA1-OA3
52	o	201	CDL	CA3-OA5-PA1-OA4
52	o	201	CDL	CB2-OB2-PB2-OB3
52	o	201	CDL	CB2-OB2-PB2-OB4
52	s	401	CDL	CB2-OB2-PB2-OB3
52	s	401	CDL	CB2-OB2-PB2-OB4

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Mol	Chain	Res	Type	Atoms
52	u	201	CDL	CA3-OA5-PA1-OA3
48	B	303	PEE	O3P-C1-C2-C3
48	j	202	PEE	O3P-C1-C2-C3
48	r	501	PEE	O3P-C1-C2-C3
52	a	201	CDL	OA5-CA3-CA4-CA6
52	r	502	CDL	C22-C23-C24-C25
51	X	201	8Q1	C11-C10-C9-C8
49	C	303	PLX	C25-C24-O8-C5
49	J	403	PLX	C1-C2-O1-P1
49	a	202	PLX	C25-C24-O8-C5
49	j	203	PLX	C25-C24-O8-C5
49	g	201	PLX	C6-C7-C8-C9
52	u	201	CDL	C72-C71-CB7-OB8
48	l	702	PEE	C34-C35-C36-C37
52	s	401	CDL	C17-C18-C19-C20
52	u	201	CDL	CA2-C1-CB2-OB2
49	J	403	PLX	C26-C27-C28-C29
47	A	503	NAI	C3D-C4D-C5D-O5D
49	J	403	PLX	O4-C3-C4-O6
49	g	201	PLX	O4-C3-C4-O6
52	a	201	CDL	OB5-CB3-CB4-OB6
52	l	701	CDL	OA5-CA3-CA4-OA6
49	C	303	PLX	C31-C32-C33-C34
49	C	303	PLX	C16-C17-C18-C19
52	r	502	CDL	C51-CB5-OB6-CB4
52	V	201	CDL	C19-C20-C21-C22
52	o	201	CDL	C54-C55-C56-C57
52	V	201	CDL	C64-C65-C66-C67
48	r	501	PEE	C20-C21-C22-C23
52	r	502	CDL	C63-C64-C65-C66
49	C	303	PLX	N1-C1-C2-O1
49	J	403	PLX	N1-C1-C2-O1
52	o	201	CDL	C15-C16-C17-C18
52	r	502	CDL	C44-C45-C46-C47
52	s	401	CDL	CA3-CA4-CA6-OA8
52	r	502	CDL	OA7-CA5-OA6-CA4
48	j	202	PEE	O2-C2-C3-O3
48	l	703	PEE	O2-C2-C3-O3
52	I	201	CDL	OA6-CA4-CA6-OA8
52	i	401	CDL	C51-C52-C53-C54
52	V	201	CDL	CA7-C31-C32-C33
52	V	201	CDL	C1-CB2-OB2-PB2

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Mol	Chain	Res	Type	Atoms
52	k	101	CDL	C1-CA2-OA2-PA1
52	l	701	CDL	CA4-CA3-OA5-PA1
52	o	201	CDL	C24-C25-C26-C27
49	e	201	PLX	C15-C16-C17-C18
49	e	201	PLX	O8-C24-C25-C26
52	k	101	CDL	OB9-CB7-OB8-CB6
49	g	201	PLX	O7-C6-C7-C8
53	J	401	NDP	O4D-C1D-N1N-C2N
48	j	202	PEE	C34-C35-C36-C37
49	e	201	PLX	C7-C8-C9-C10
49	J	403	PLX	C24-C25-C26-C27
52	l	701	CDL	C53-C54-C55-C56
48	l	703	PEE	C30-C31-C32-C33
52	l	701	CDL	C78-C79-C80-C81
48	j	201	PEE	C24-C25-C26-C27
52	r	502	CDL	C20-C21-C22-C23
52	V	201	CDL	CA6-CA4-OA6-CA5
49	g	201	PLX	O4-C3-C4-C5
52	a	201	CDL	C18-C19-C20-C21
52	r	502	CDL	OB7-CB5-OB6-CB4
48	l	702	PEE	C31-C32-C33-C34
52	o	201	CDL	C61-C62-C63-C64
49	e	201	PLX	C29-C30-C31-C32
49	J	403	PLX	C33-C34-C35-C36
52	o	201	CDL	C57-C58-C59-C60
52	V	201	CDL	CA4-CA3-OA5-PA1
52	s	401	CDL	CB4-CB3-OB5-PB2
52	s	401	CDL	C81-C82-C83-C84
52	o	201	CDL	OB9-CB7-OB8-CB6
49	e	201	PLX	O4-C3-C4-O6
48	r	501	PEE	C44-C45-C46-C47
49	C	303	PLX	C7-C8-C9-C10
47	A	503	NAI	O4D-C1D-N1N-C2N
48	l	702	PEE	C44-C45-C46-C47
52	a	201	CDL	C54-C55-C56-C57
52	o	201	CDL	C72-C73-C74-C75
52	k	101	CDL	C71-CB7-OB8-CB6
52	i	401	CDL	C15-C16-C17-C18
52	u	201	CDL	C72-C73-C74-C75
48	B	303	PEE	C18-C19-C20-C21
48	l	703	PEE	C18-C19-C20-C21
48	l	703	PEE	C38-C39-C40-C41

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Mol	Chain	Res	Type	Atoms
54	J	402	UQ	C19-C21-C22-C23
52	I	201	CDL	OB6-CB4-CB6-OB8
48	V	202	PEE	C4-O4P-P-O3P
49	C	303	PLX	C3-O4-P1-O1
52	V	201	CDL	CA2-OA2-PA1-OA5
52	l	701	CDL	CA2-OA2-PA1-OA5
52	r	502	CDL	C59-C60-C61-C62
49	a	202	PLX	C2-C1-N1-C1A
49	C	303	PLX	C35-C36-C37-C38
52	a	201	CDL	C58-C59-C60-C61
52	V	201	CDL	C58-C59-C60-C61
52	a	201	CDL	C31-C32-C33-C34
52	g	202	CDL	C79-C80-C81-C82
48	l	703	PEE	C13-C14-C15-C16
52	a	201	CDL	C55-C56-C57-C58
52	o	201	CDL	C21-C22-C23-C24
52	o	201	CDL	C71-CB7-OB8-CB6
52	a	201	CDL	C57-C58-C59-C60
48	j	202	PEE	C15-C16-C17-C18
52	a	201	CDL	OB5-CB3-CB4-CB6
52	u	201	CDL	OA5-CA3-CA4-CA6
49	j	203	PLX	C24-C25-C26-C27
48	V	202	PEE	O4P-C4-C5-N
49	C	303	PLX	C11-C10-C9-C8
49	e	201	PLX	C28-C29-C30-C31
52	s	401	CDL	C56-C57-C58-C59
49	J	403	PLX	C31-C32-C33-C34
49	g	201	PLX	C36-C37-C38-C39
52	o	201	CDL	C34-C35-C36-C37
48	r	501	PEE	C38-C39-C40-C41
52	s	401	CDL	C74-C75-C76-C77
52	V	201	CDL	C44-C45-C46-C47
52	g	202	CDL	C20-C21-C22-C23
48	l	703	PEE	C34-C35-C36-C37
48	B	303	PEE	C2-C1-O3P-P
48	l	702	PEE	C38-C39-C40-C41
49	e	201	PLX	C9-C10-C11-C12
52	s	401	CDL	C39-C40-C41-C42
49	C	303	PLX	C24-C25-C26-C27
52	l	701	CDL	C77-C78-C79-C80
52	k	101	CDL	C21-C22-C23-C24
52	o	201	CDL	CB3-CB4-CB6-OB8

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Mol	Chain	Res	Type	Atoms
52	g	202	CDL	OA7-CA5-OA6-CA4
48	l	702	PEE	C15-C16-C17-C18
52	V	201	CDL	C40-C41-C42-C43
48	V	202	PEE	C13-C14-C15-C16
52	o	201	CDL	C44-C45-C46-C47
47	A	503	NAI	C2D-C1D-N1N-C6N
49	g	201	PLX	C11-C10-C9-C8
49	e	201	PLX	C16-C17-C18-C19
54	s	402	UQ	C6-C7-C8-C9
49	a	202	PLX	C15-C16-C17-C18
52	a	201	CDL	C11-C12-C13-C14
48	l	702	PEE	C42-C43-C44-C45
49	e	201	PLX	C18-C19-C20-C21
48	V	202	PEE	C35-C36-C37-C38
52	g	202	CDL	C11-CA5-OA6-CA4
49	C	303	PLX	C29-C30-C31-C32
52	l	701	CDL	C16-C17-C18-C19
52	k	101	CDL	C82-C83-C84-C85
48	B	303	PEE	O2-C2-C3-O3
52	u	201	CDL	OB6-CB4-CB6-OB8
52	s	401	CDL	C38-C39-C40-C41
52	i	401	CDL	C38-C39-C40-C41
49	j	203	PLX	C15-C16-C17-C18
52	k	101	CDL	C11-C12-C13-C14
52	k	101	CDL	C52-C51-CB5-OB6
53	J	401	NDP	O4B-C4B-C5B-O5B
53	J	401	NDP	O4D-C4D-C5D-O5D
48	r	501	PEE	C34-C35-C36-C37
49	e	201	PLX	C32-C33-C34-C35
52	V	201	CDL	C56-C57-C58-C59
48	l	702	PEE	C36-C37-C38-C39
49	j	203	PLX	O4-C3-C4-O6
52	l	701	CDL	OB5-CB3-CB4-OB6
52	s	401	CDL	OA5-CA3-CA4-OA6
48	B	303	PEE	C12-C13-C14-C15
49	g	201	PLX	O6-C6-C7-C8
48	B	303	PEE	C33-C34-C35-C36
48	V	202	PEE	C14-C15-C16-C17
52	l	701	CDL	OB5-CB3-CB4-CB6
52	a	201	CDL	C39-C40-C41-C42
48	j	201	PEE	C38-C39-C40-C41
48	V	202	PEE	C2-C1-O3P-P

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Mol	Chain	Res	Type	Atoms
49	J	403	PLX	C20-C21-C22-C23
52	u	201	CDL	C56-C57-C58-C59
52	l	701	CDL	C23-C24-C25-C26
48	B	303	PEE	C16-C17-C18-C19
52	r	502	CDL	C21-C22-C23-C24
52	g	202	CDL	C52-C51-CB5-OB6
49	e	201	PLX	C24-C25-C26-C27
52	V	201	CDL	C34-C35-C36-C37
52	a	201	CDL	C32-C31-CA7-OA8
52	l	701	CDL	C12-C11-CA5-OA6
52	u	201	CDL	C52-C51-CB5-OB6
48	C	302	PEE	C38-C39-C40-C41
48	V	202	PEE	C16-C17-C18-C19
48	W	201	PEE	C16-C17-C18-C19
48	l	702	PEE	C16-C17-C18-C19
47	A	503	NAI	O4D-C1D-N1N-C6N
54	s	402	UQ	C12-C13-C14-C16
52	g	202	CDL	C54-C55-C56-C57
48	j	201	PEE	O2-C10-C11-C12
52	I	201	CDL	C72-C71-CB7-OB8
52	V	201	CDL	C76-C77-C78-C79
50	C	304	DCQ	C2-C3-O3-C3M
48	C	302	PEE	C18-C19-C20-C21
52	i	401	CDL	C63-C64-C65-C66
52	o	201	CDL	OA5-CA3-CA4-OA6
52	u	201	CDL	OB5-CB3-CB4-OB6
48	C	302	PEE	O3-C30-C31-C32
49	a	202	PLX	C2-C1-N1-C1C
49	j	203	PLX	C34-C35-C36-C37
52	s	401	CDL	C61-C62-C63-C64
52	r	502	CDL	C72-C71-CB7-OB8
48	j	201	PEE	C16-C17-C18-C19
48	B	303	PEE	C22-C23-C24-C25
49	e	201	PLX	O4-C3-C4-C5
52	o	201	CDL	C78-C79-C80-C81
52	g	202	CDL	OB6-CB4-CB6-OB8
52	u	201	CDL	C53-C54-C55-C56
48	l	703	PEE	O2-C10-C11-C12
52	s	401	CDL	C12-C11-CA5-OA6
49	C	303	PLX	O9-C24-C25-C26
53	J	401	NDP	C2B-O2B-P2B-O2X
48	C	302	PEE	C35-C36-C37-C38

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Mol	Chain	Res	Type	Atoms
46	A	502	FMN	O3'-C3'-C4'-C5'
48	j	201	PEE	C23-C24-C25-C26
52	r	502	CDL	CA4-CA3-OA5-PA1
48	V	202	PEE	C38-C39-C40-C41
48	j	202	PEE	C16-C17-C18-C19
48	l	702	PEE	O2-C10-C11-C12
52	l	701	CDL	C32-C31-CA7-OA8
48	r	501	PEE	C40-C41-C42-C43
52	V	201	CDL	C12-C11-CA5-OA6
52	g	202	CDL	C72-C71-CB7-OB8
52	i	401	CDL	C12-C11-CA5-OA6
52	a	201	CDL	C33-C34-C35-C36
52	V	201	CDL	C22-C23-C24-C25
48	j	201	PEE	O4-C10-C11-C12
48	j	202	PEE	C18-C19-C20-C21
49	e	201	PLX	C14-C15-C16-C17
52	V	201	CDL	C20-C21-C22-C23
52	I	201	CDL	CB3-CB4-CB6-OB8
49	a	202	PLX	C30-C31-C32-C33
52	I	201	CDL	CA5-C11-C12-C13
52	g	202	CDL	C52-C51-CB5-OB7
48	C	302	PEE	O5-C30-C31-C32
52	a	201	CDL	C32-C31-CA7-OA9
52	s	401	CDL	C12-C11-CA5-OA7
52	i	401	CDL	C36-C37-C38-C39
48	l	702	PEE	C1-O3P-P-O2P
49	C	303	PLX	C3-O4-P1-O2
49	a	202	PLX	C2-C1-N1-C1B
49	j	203	PLX	C2-O1-P1-O2
52	i	401	CDL	CB2-OB2-PB2-OB3
52	l	701	CDL	CA3-OA5-PA1-OA4
52	g	202	CDL	C16-C17-C18-C19
52	l	701	CDL	C32-C31-CA7-OA9
52	V	201	CDL	C12-C11-CA5-OA7
52	r	502	CDL	C72-C71-CB7-OB9
52	u	201	CDL	C52-C51-CB5-OB7
52	V	201	CDL	C36-C37-C38-C39
49	j	203	PLX	C16-C17-C18-C19
48	l	702	PEE	O4-C10-C11-C12
48	l	703	PEE	O4-C10-C11-C12
52	I	201	CDL	C72-C71-CB7-OB9
52	g	202	CDL	C52-C53-C54-C55

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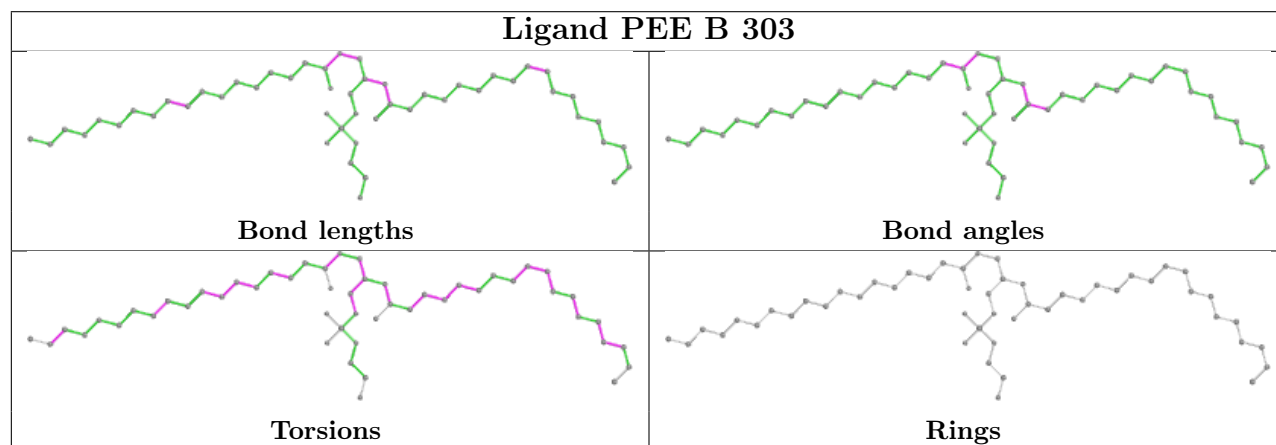
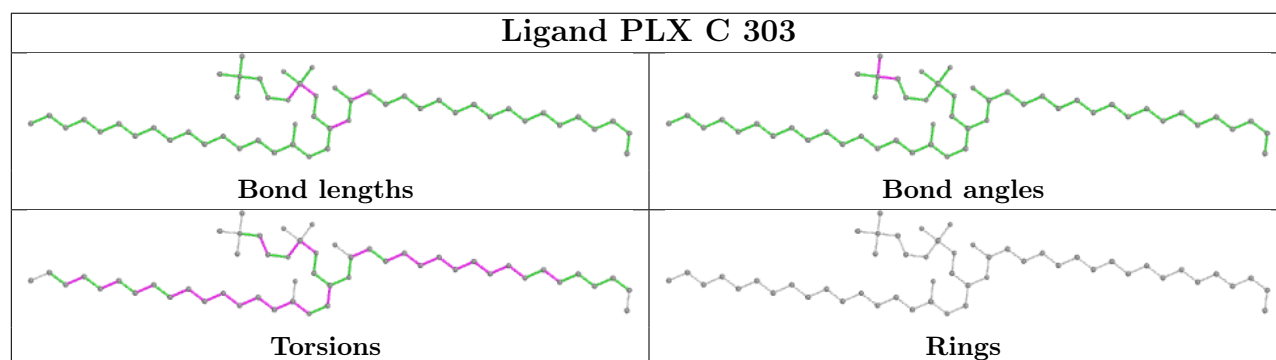
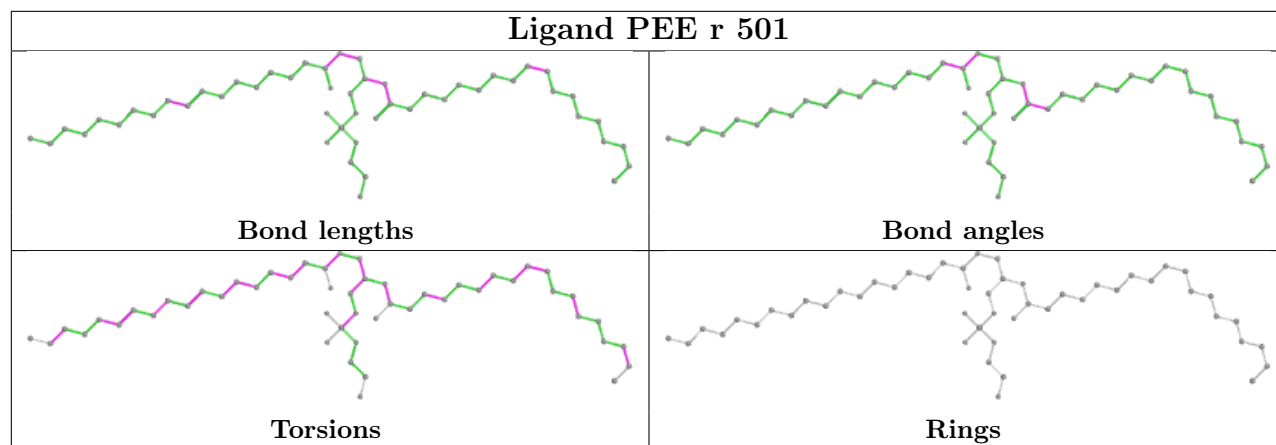
Continued from previous page...

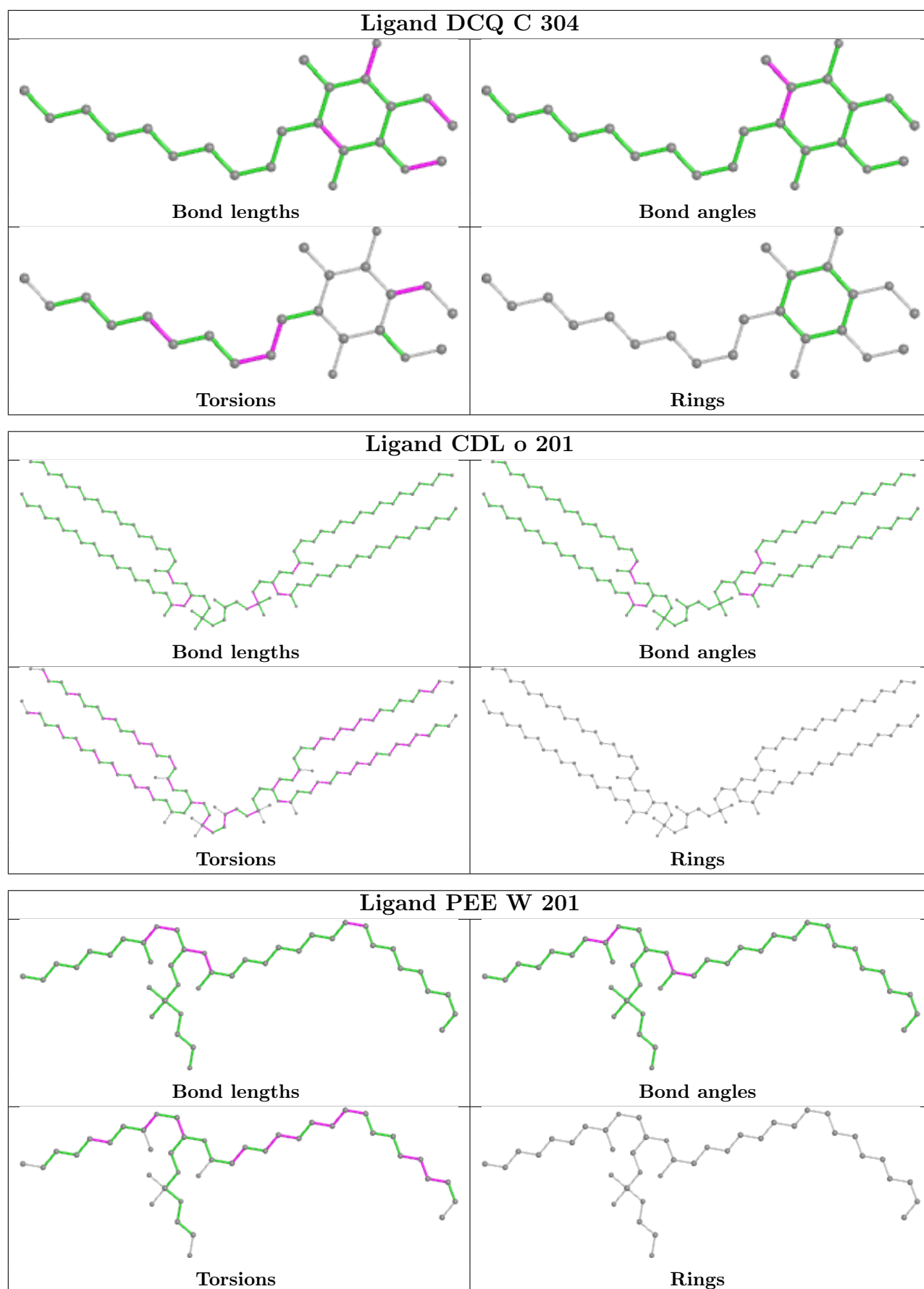
Mol	Chain	Res	Type	Atoms
52	r	502	CDL	C24-C25-C26-C27
46	A	502	FMN	O3'-C3'-C4'-O4'
52	I	201	CDL	C12-C11-CA5-OA6
52	a	201	CDL	C19-C20-C21-C22
52	g	202	CDL	C77-C78-C79-C80
52	V	201	CDL	C73-C74-C75-C76
49	j	203	PLX	C26-C27-C28-C29
52	a	201	CDL	C74-C75-C76-C77
52	u	201	CDL	CB7-C71-C72-C73
52	I	201	CDL	C12-C11-CA5-OA7
52	g	202	CDL	C57-C58-C59-C60
48	V	202	PEE	C31-C32-C33-C34
49	j	203	PLX	C31-C32-C33-C34
48	r	501	PEE	O5-C30-O3-C3
52	V	201	CDL	C78-C79-C80-C81
52	k	101	CDL	C32-C31-CA7-OA8
52	u	201	CDL	C12-C11-CA5-OA6
52	k	101	CDL	C16-C17-C18-C19
48	r	501	PEE	C16-C17-C18-C19

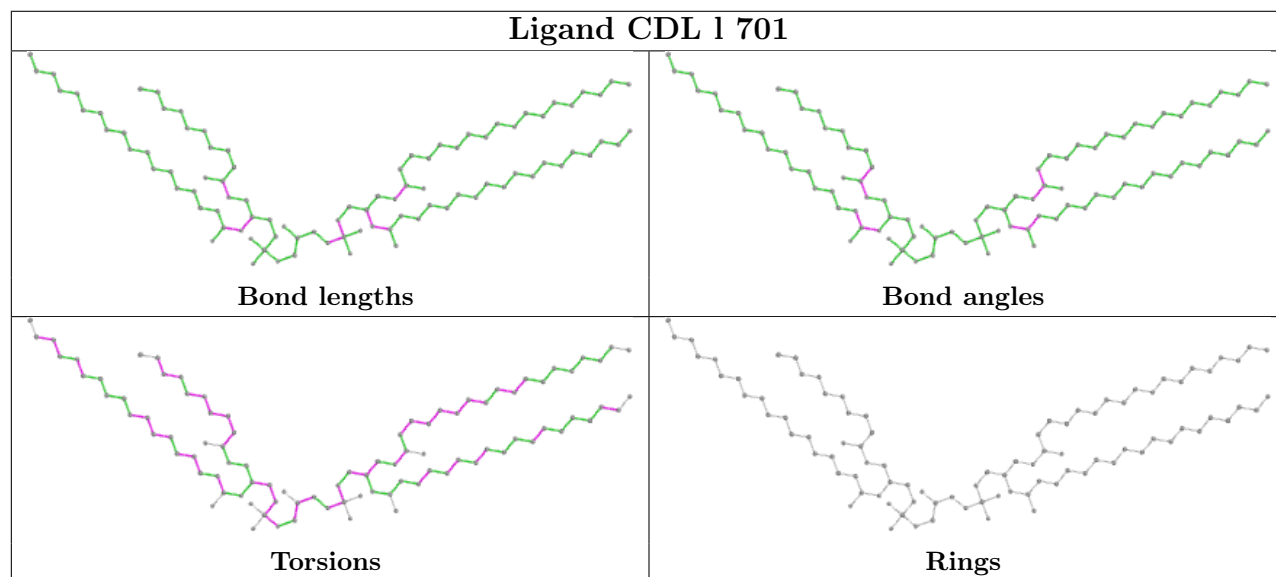
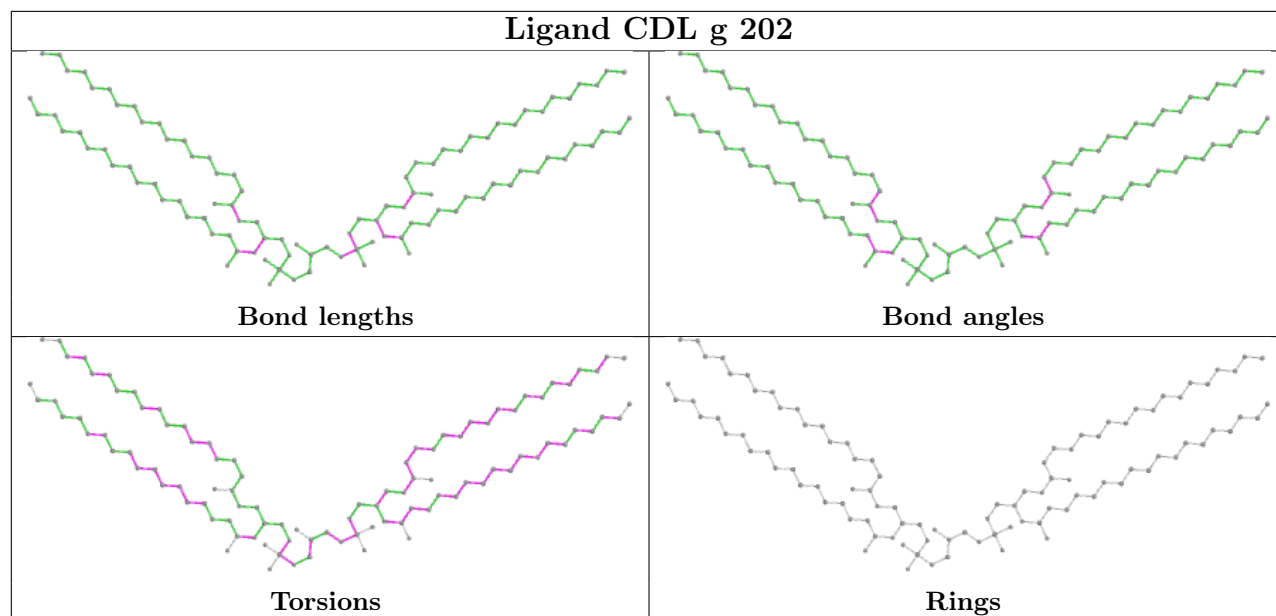
There are no ring outliers.

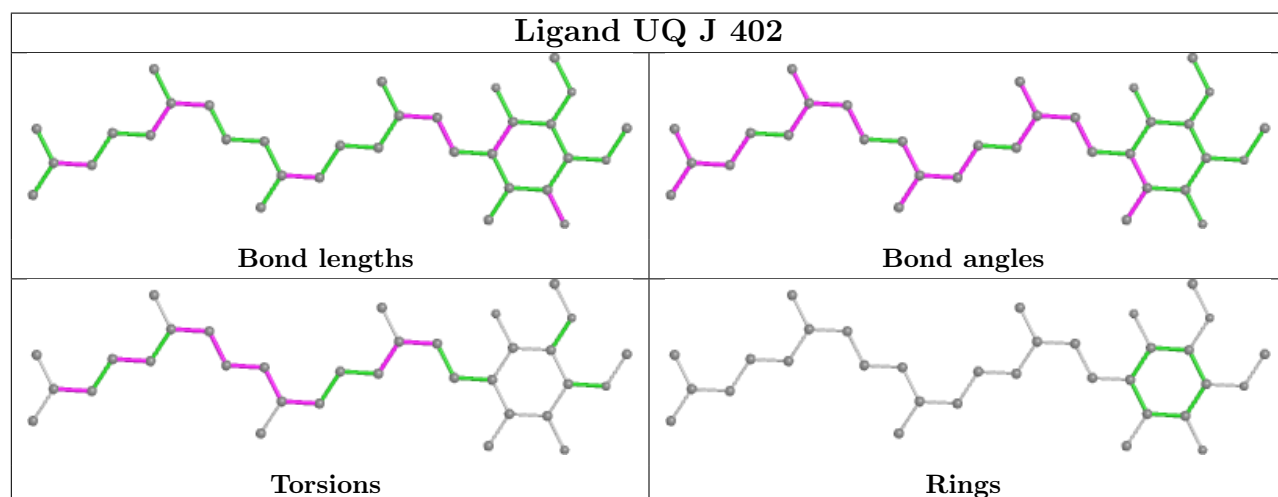
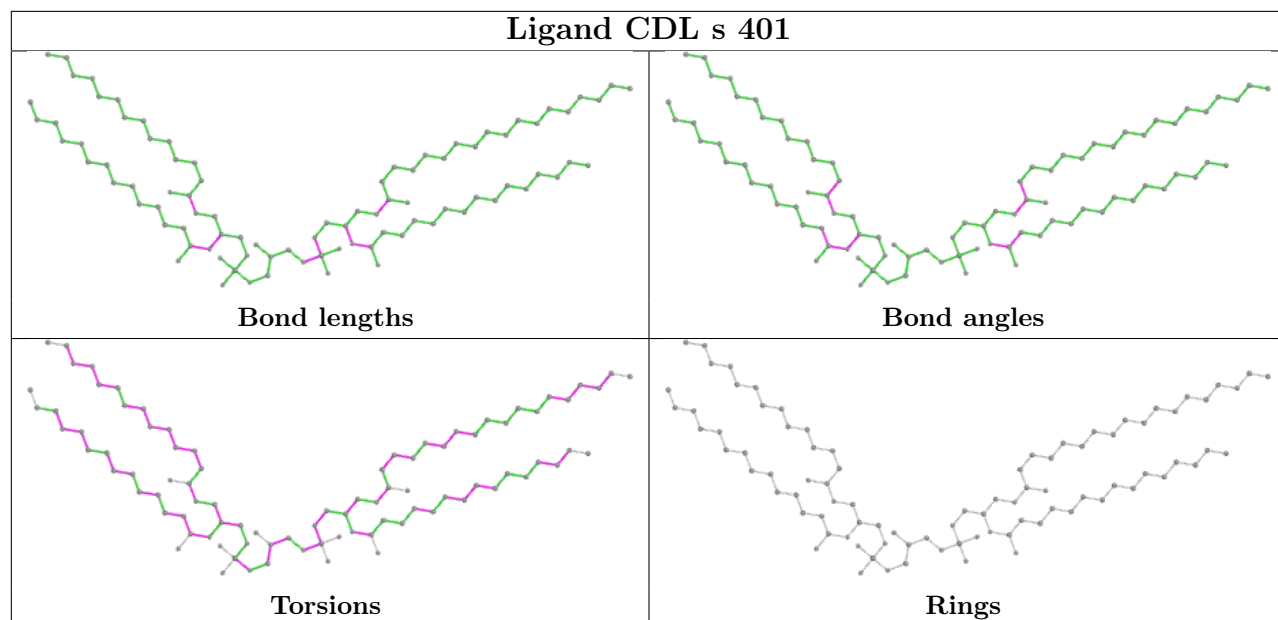
No monomer is involved in short contacts.

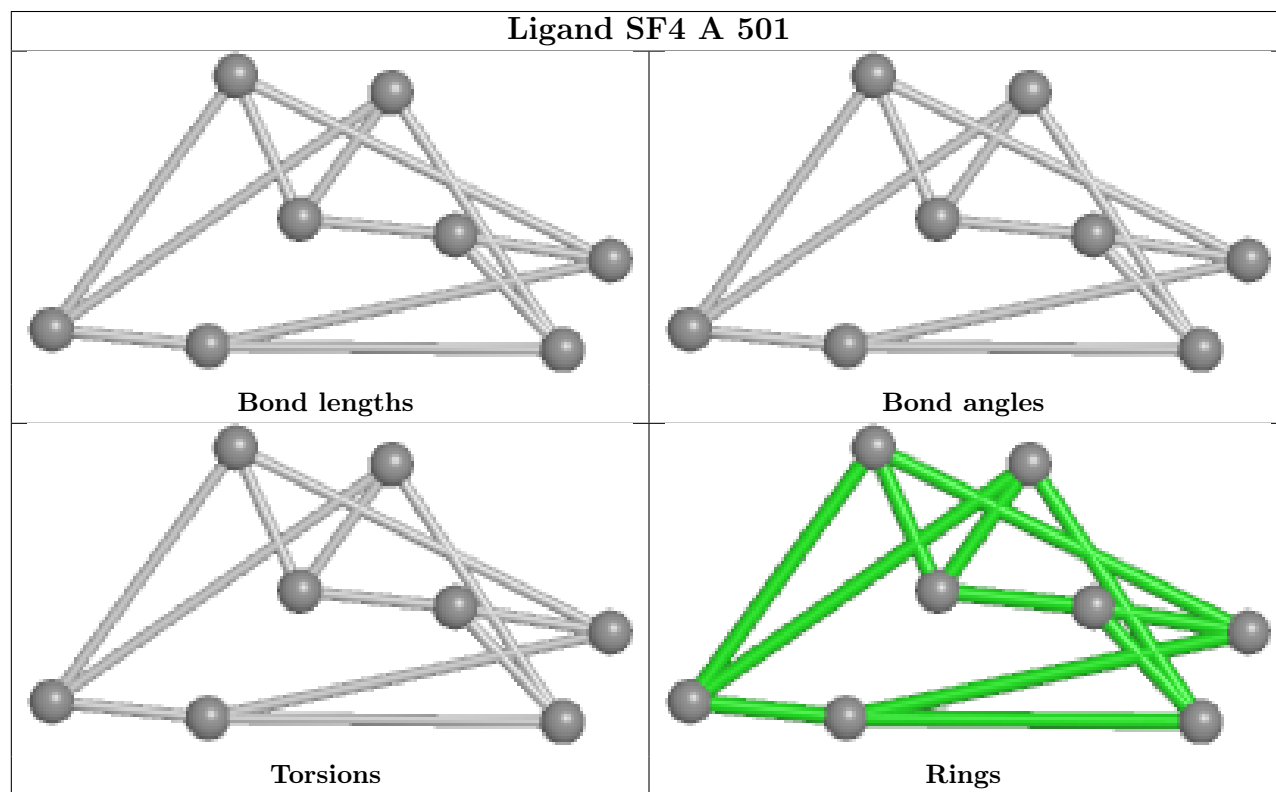
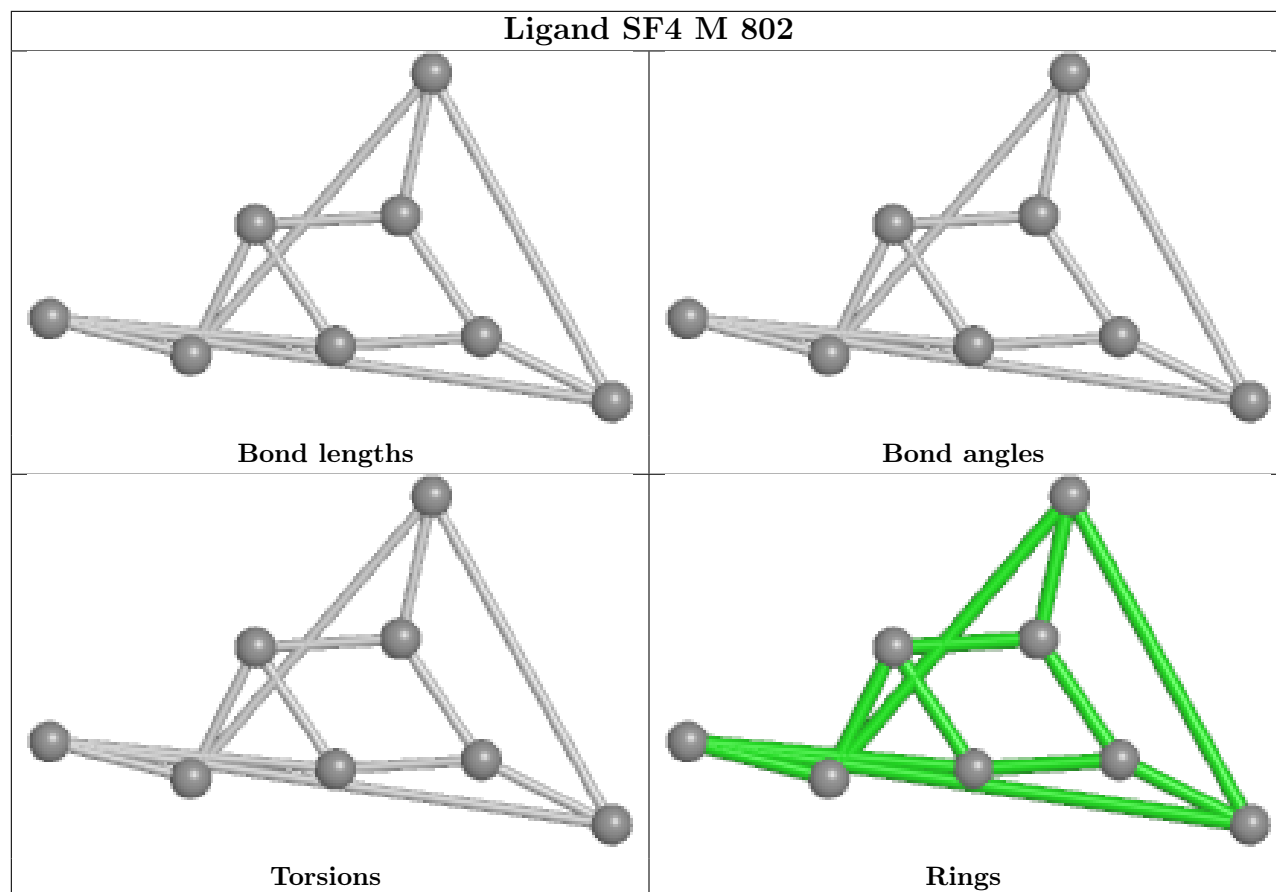
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included.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

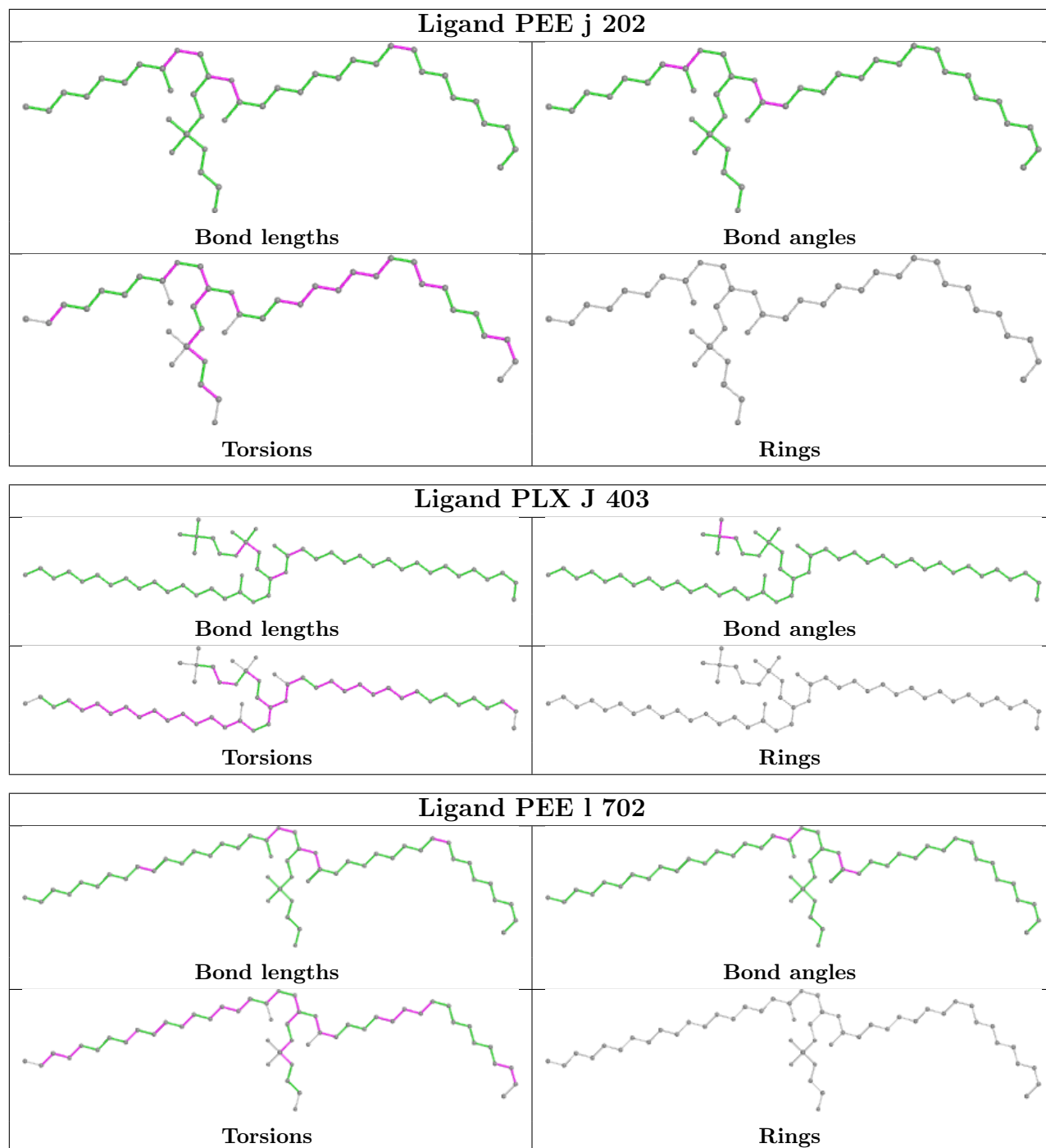


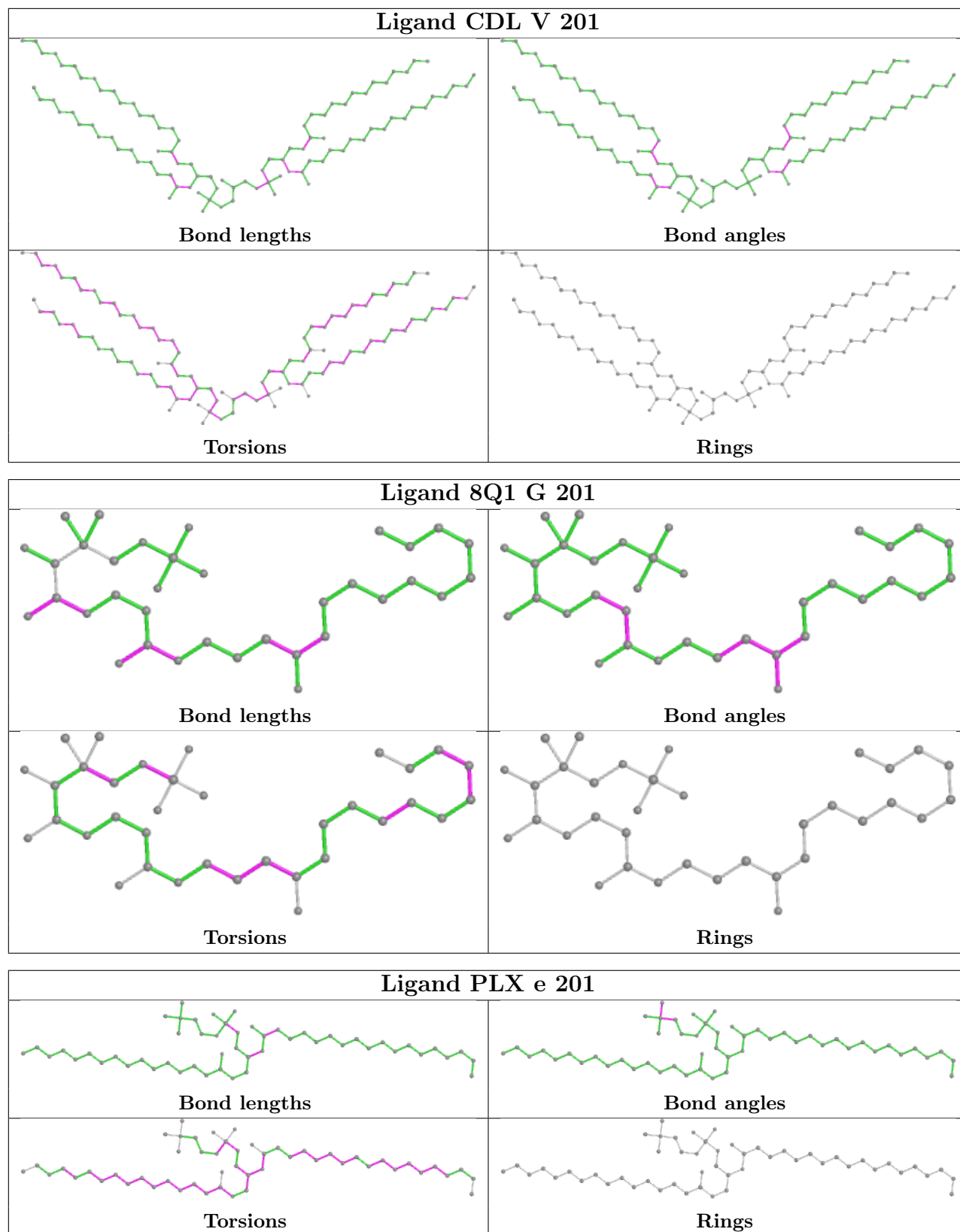


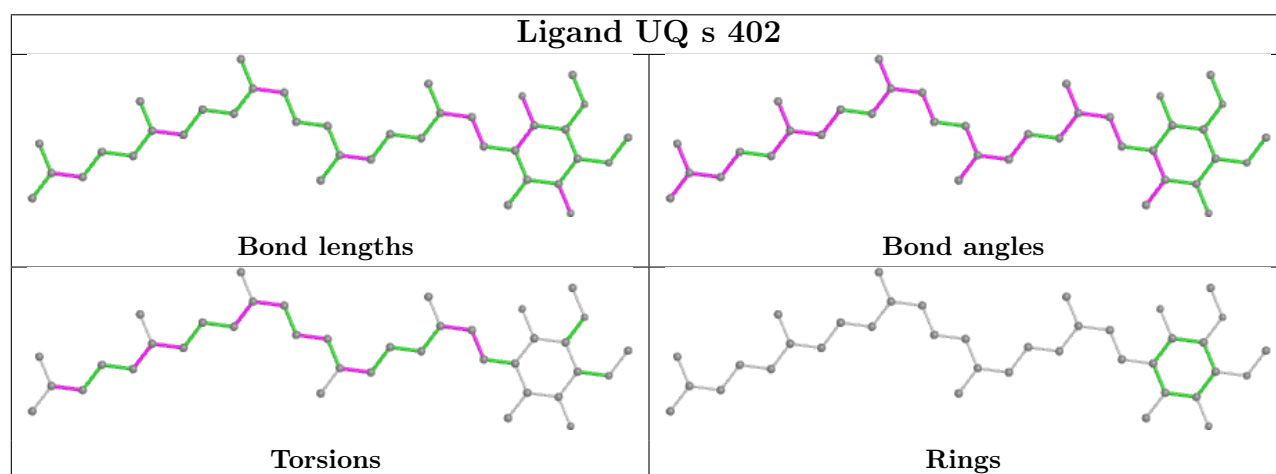
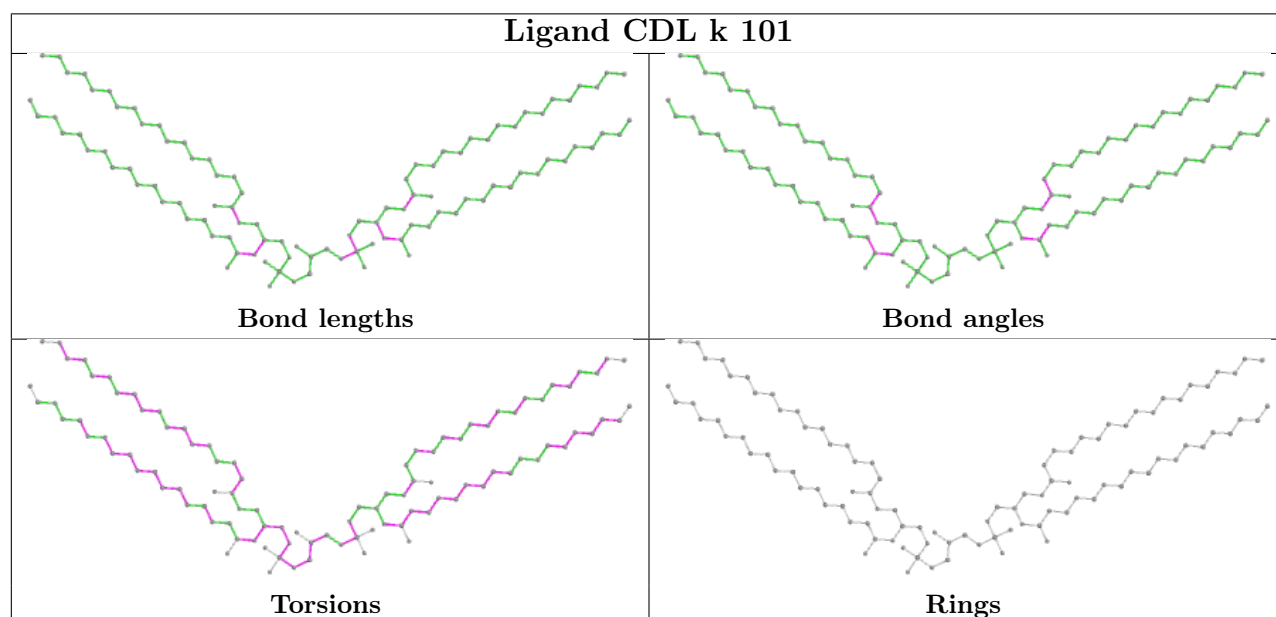
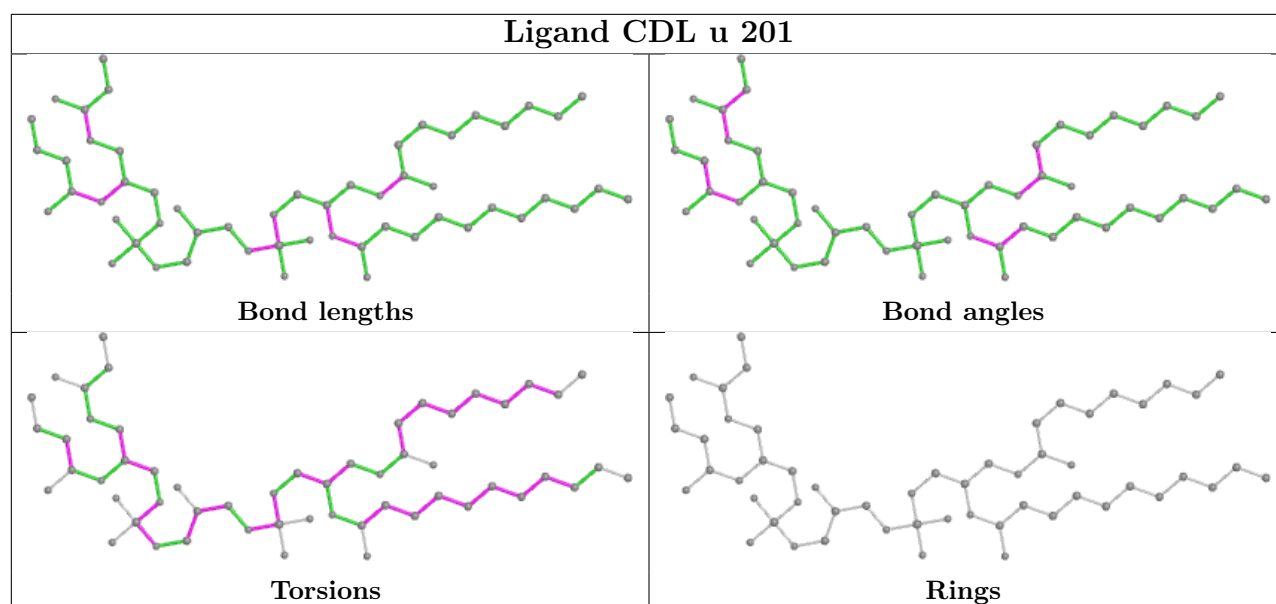


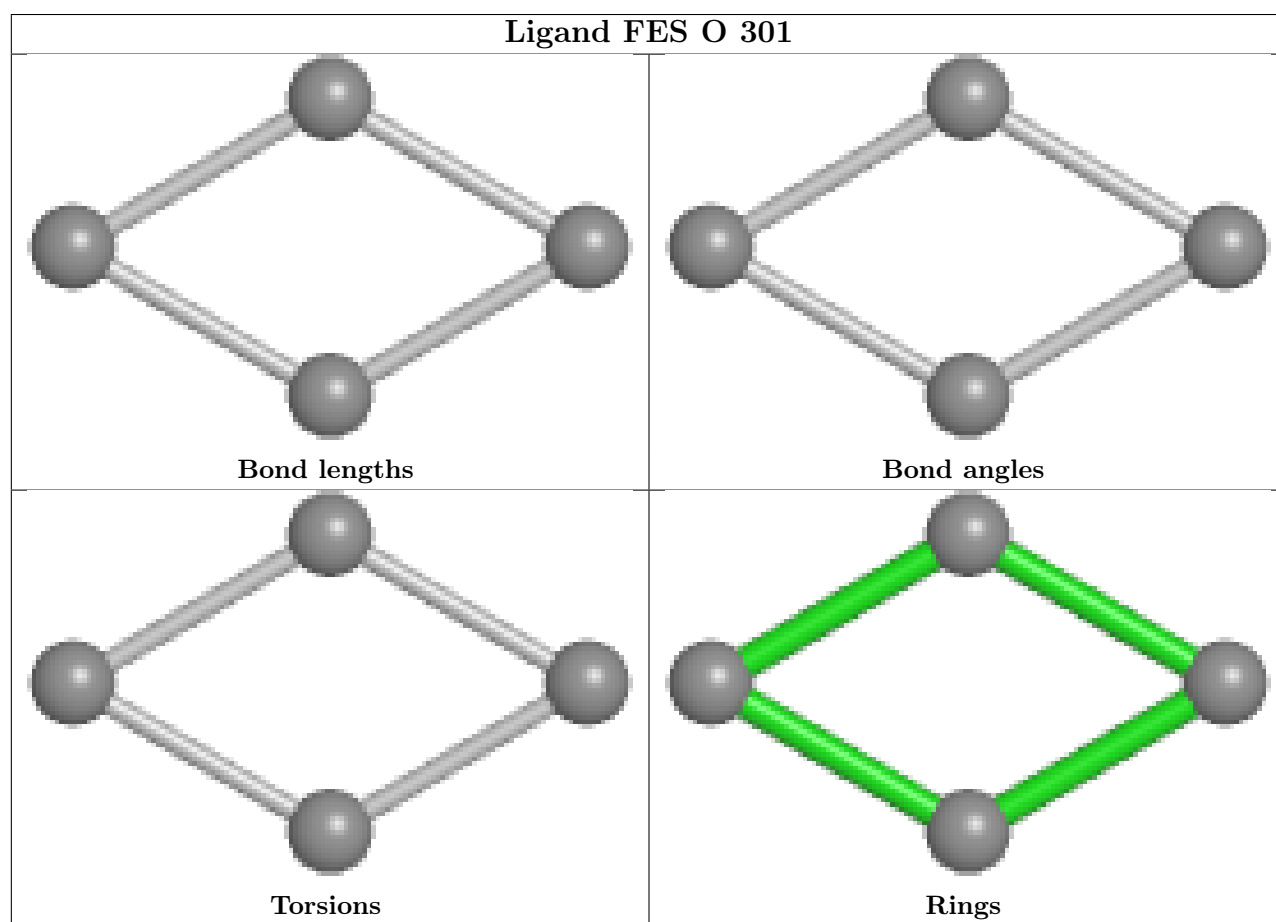
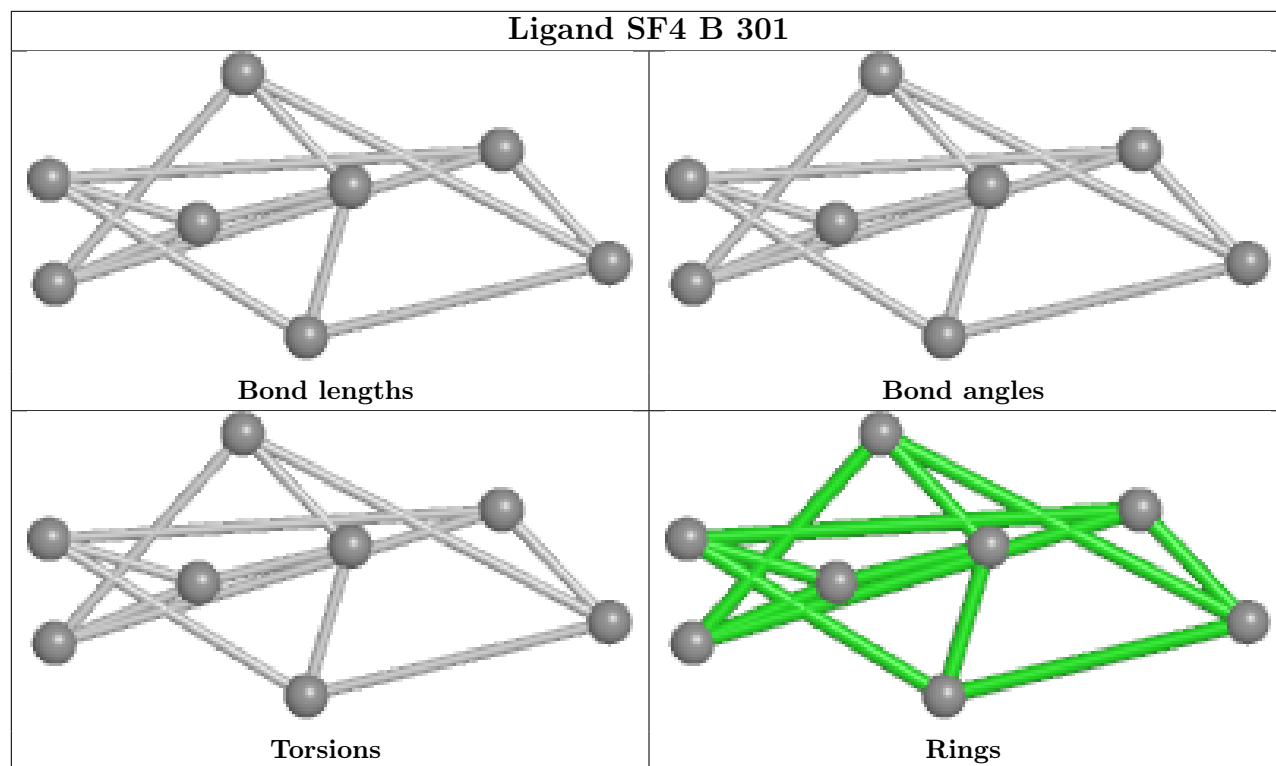


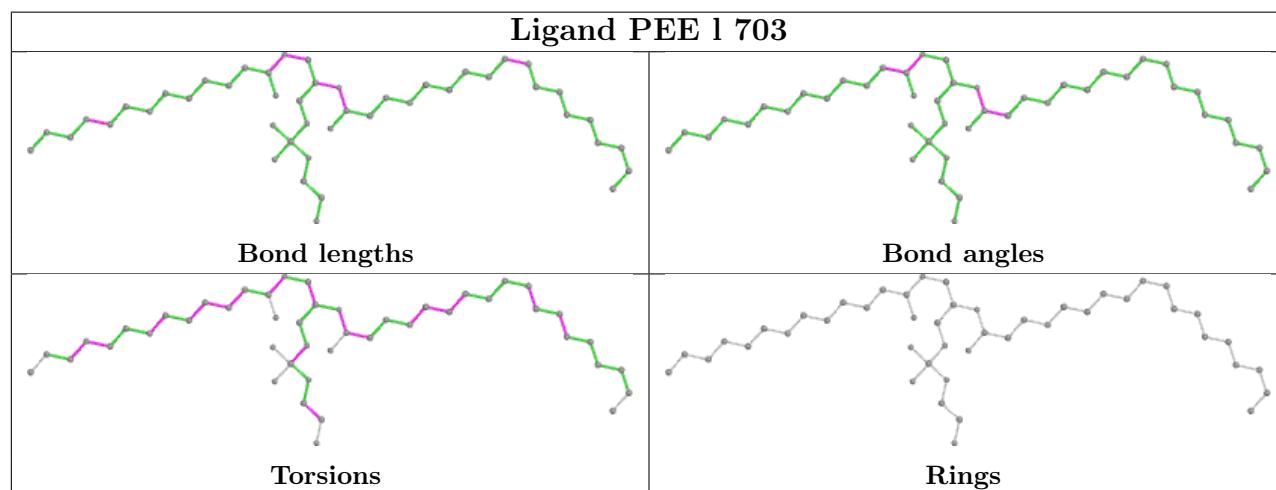
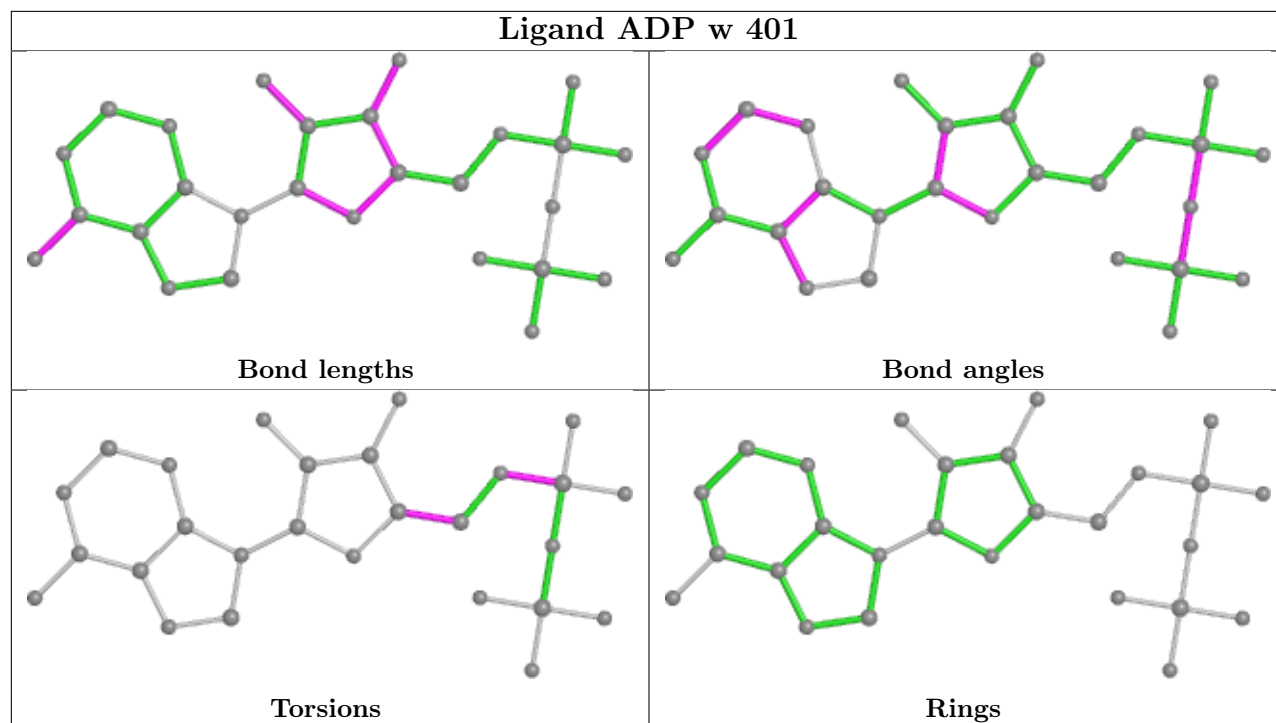


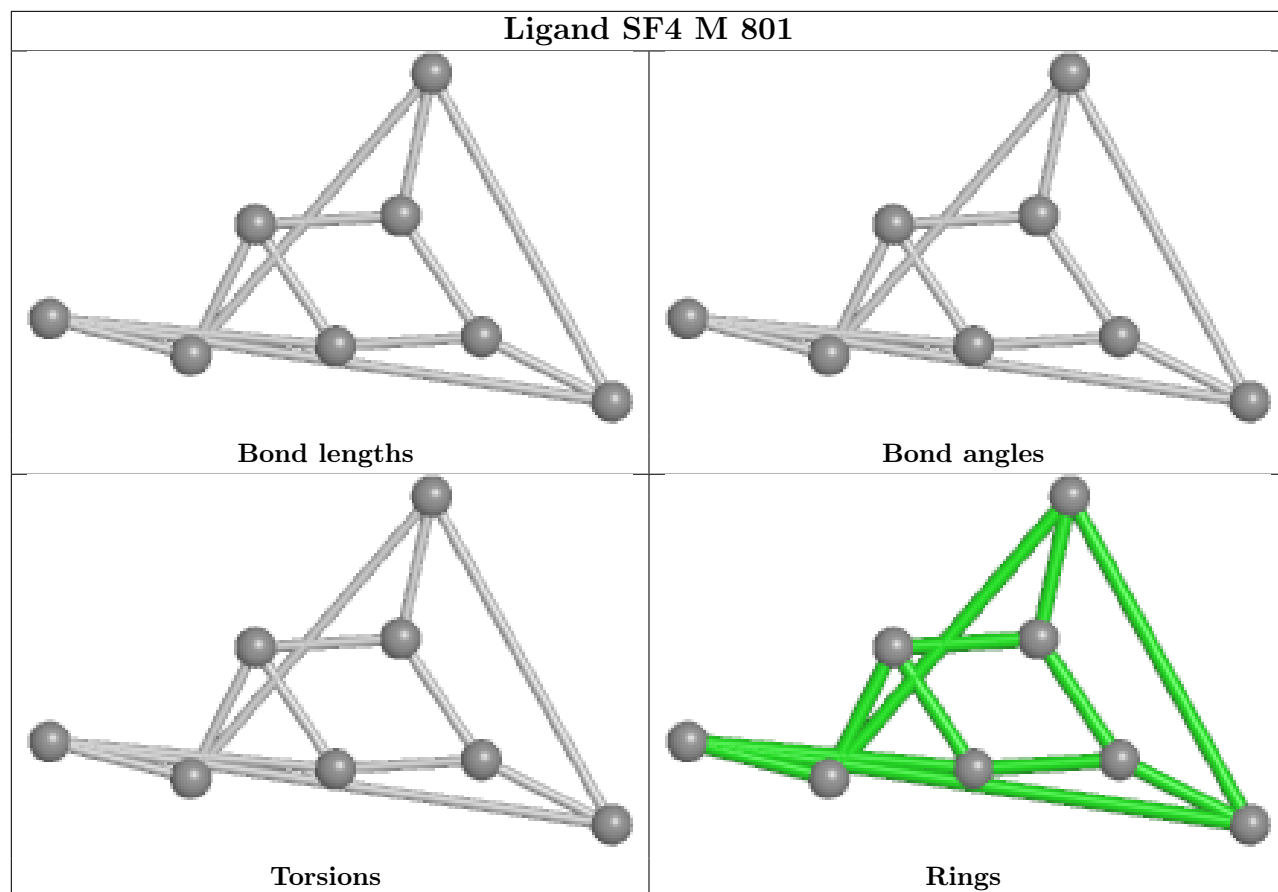


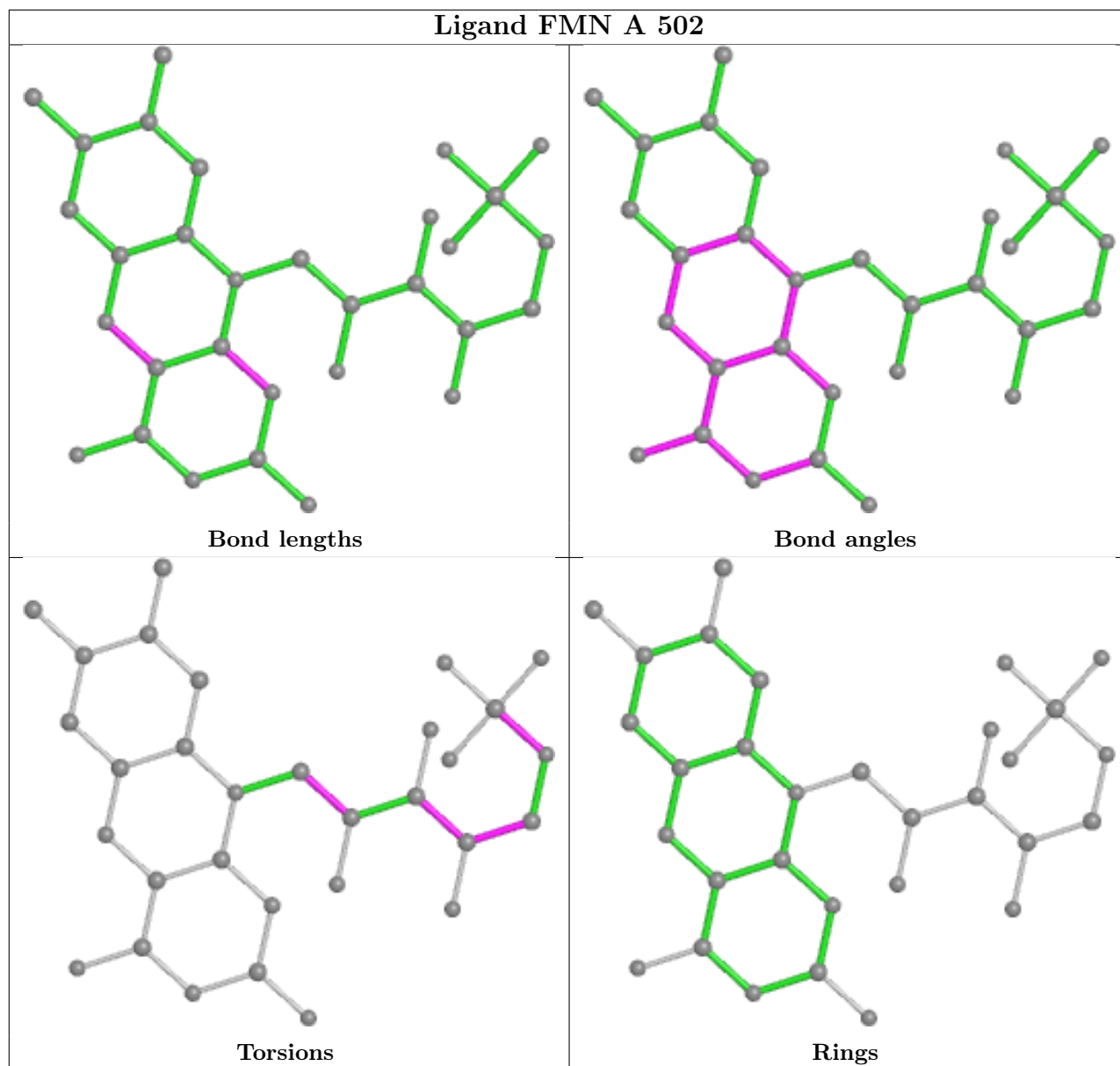


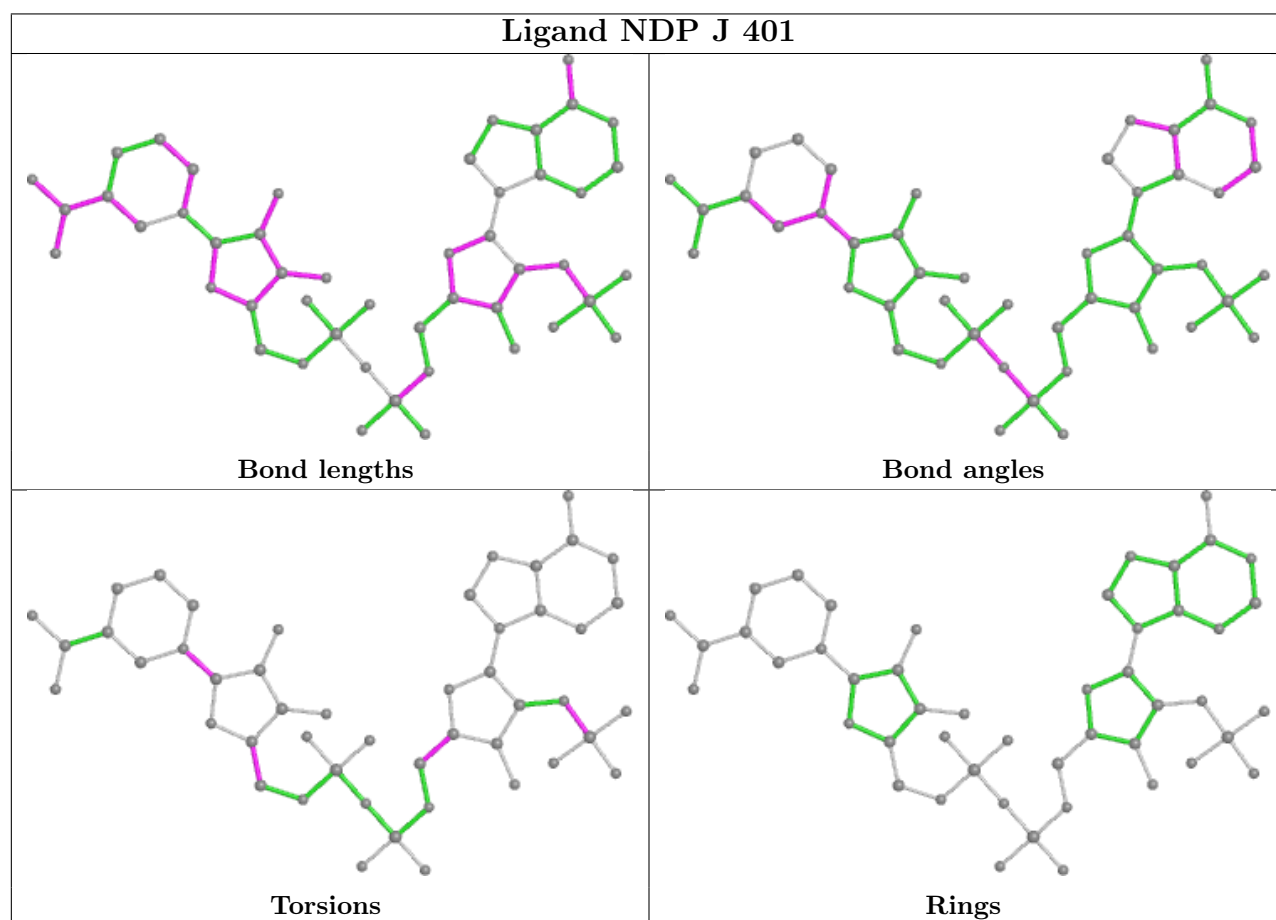
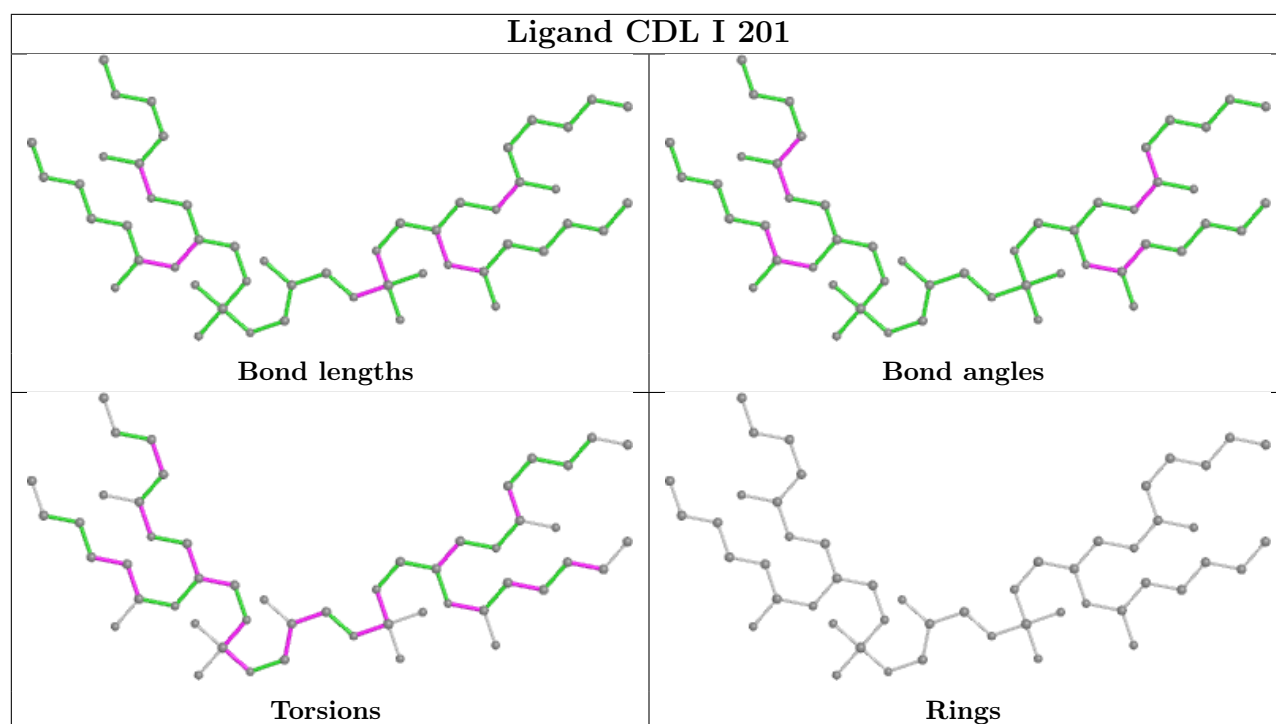


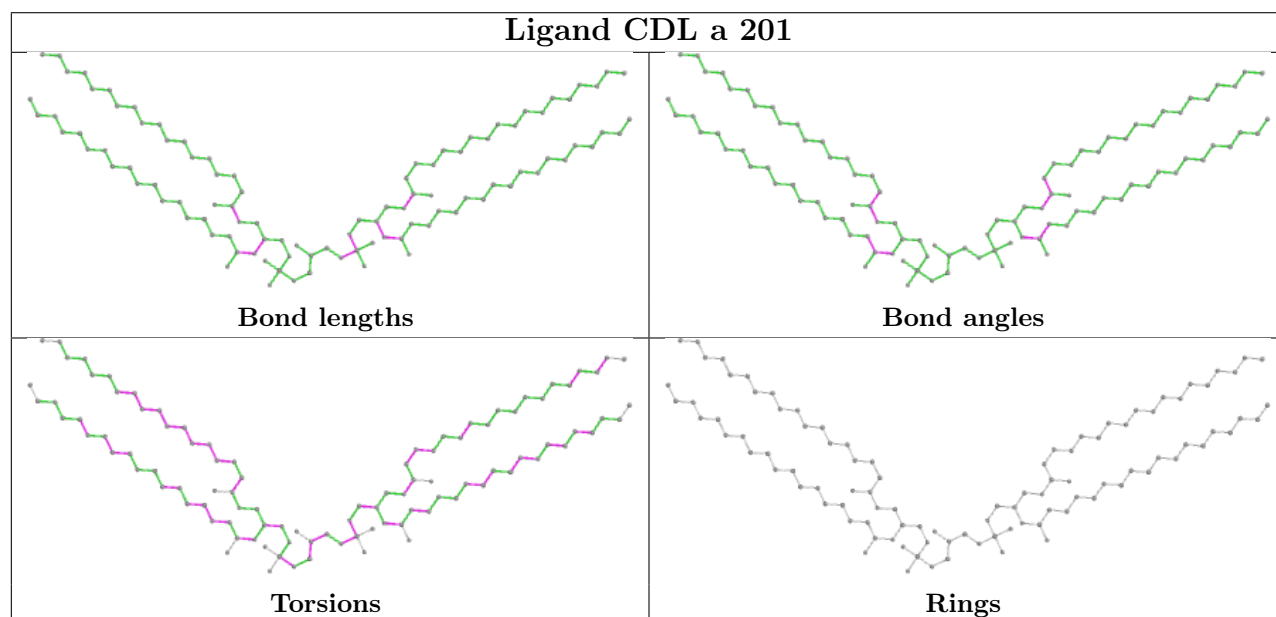
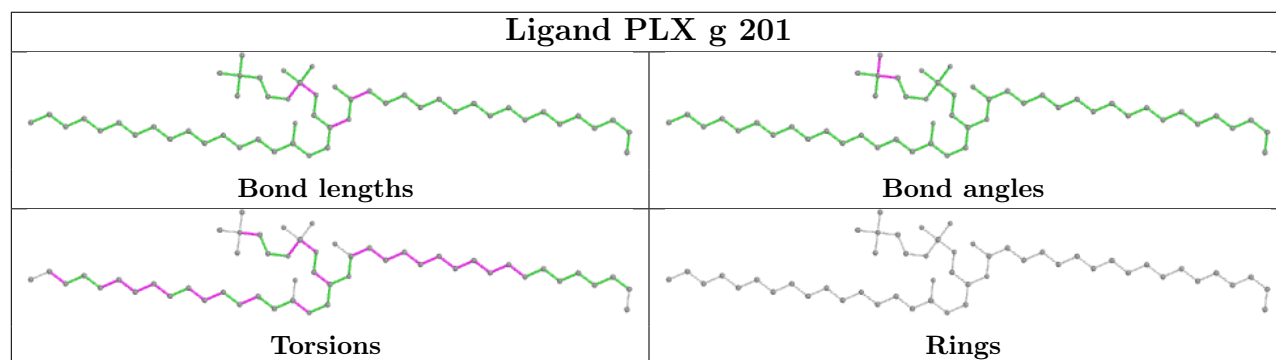
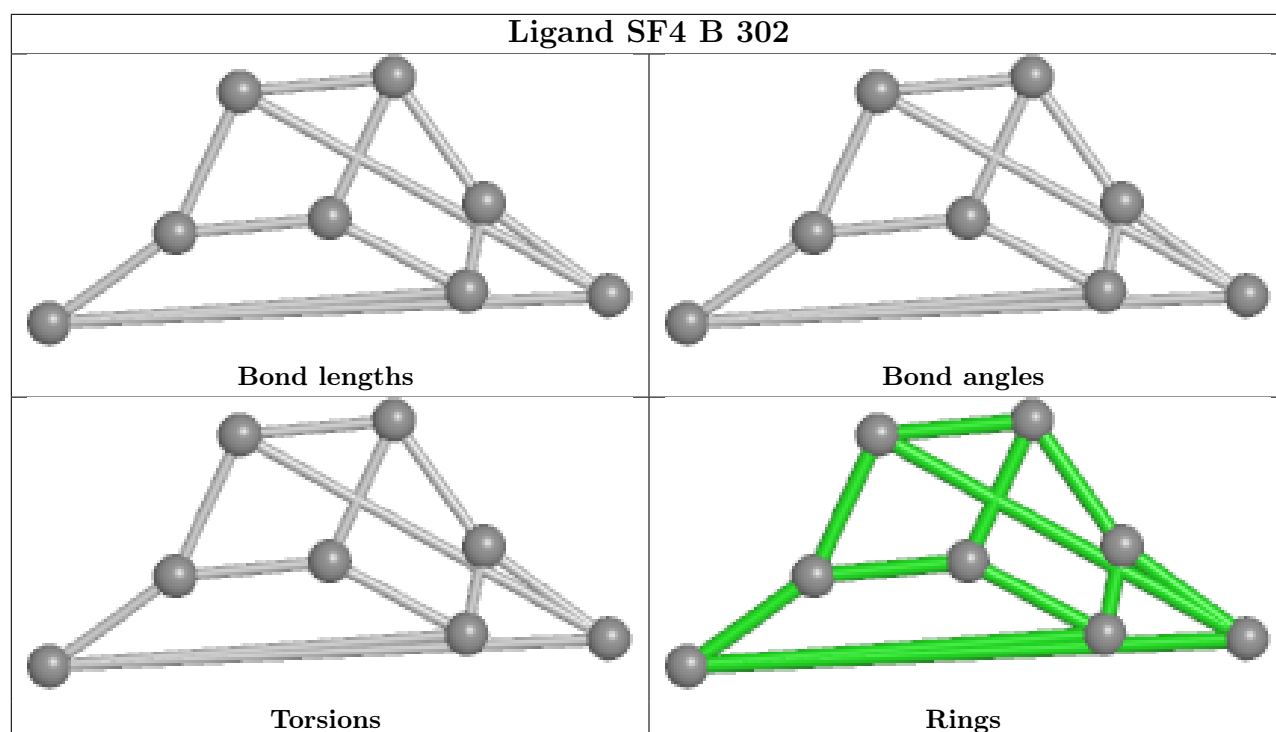


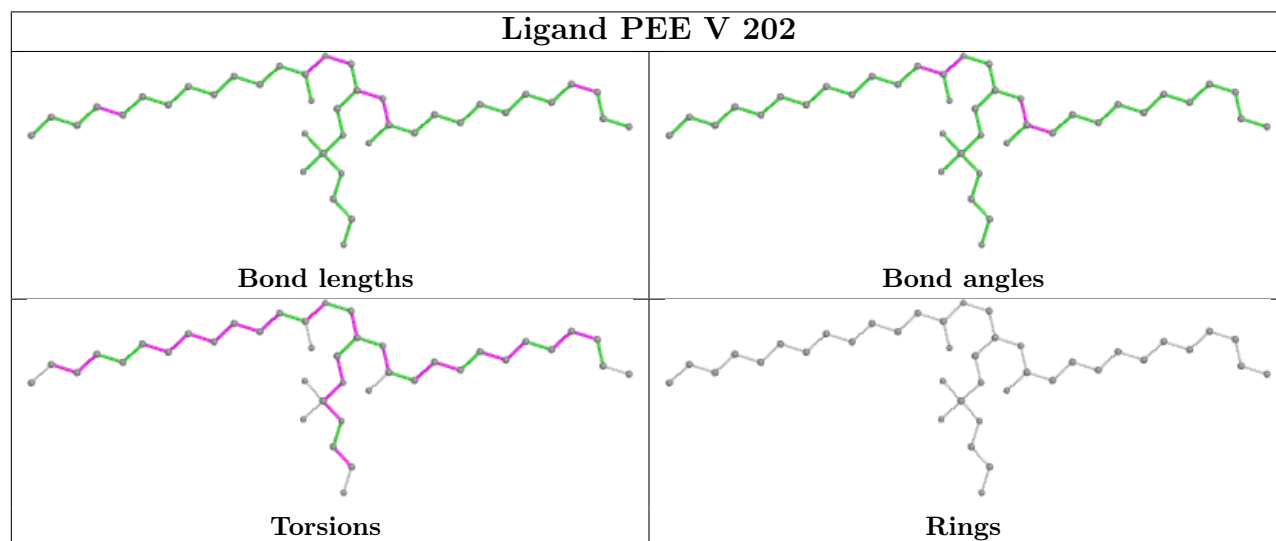
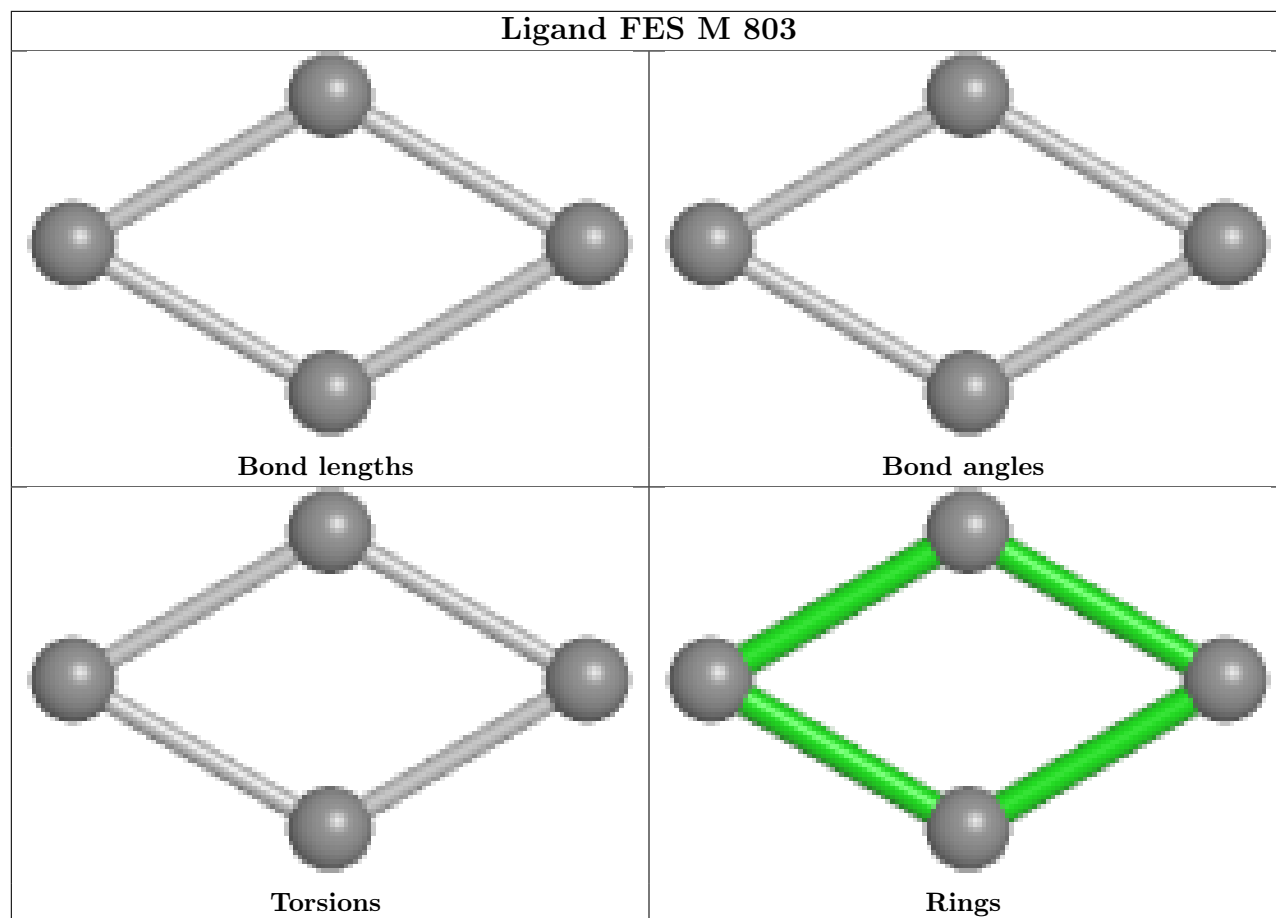


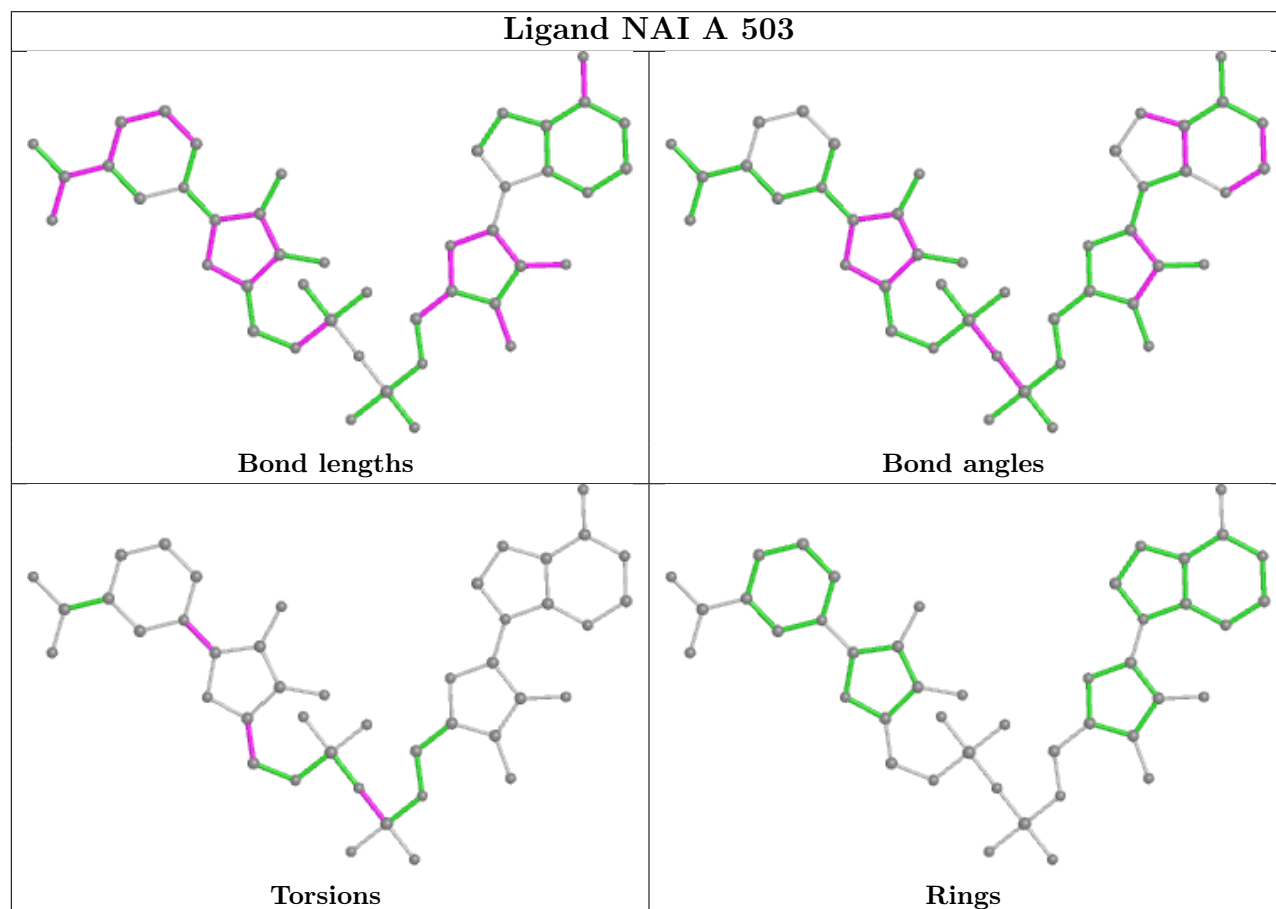
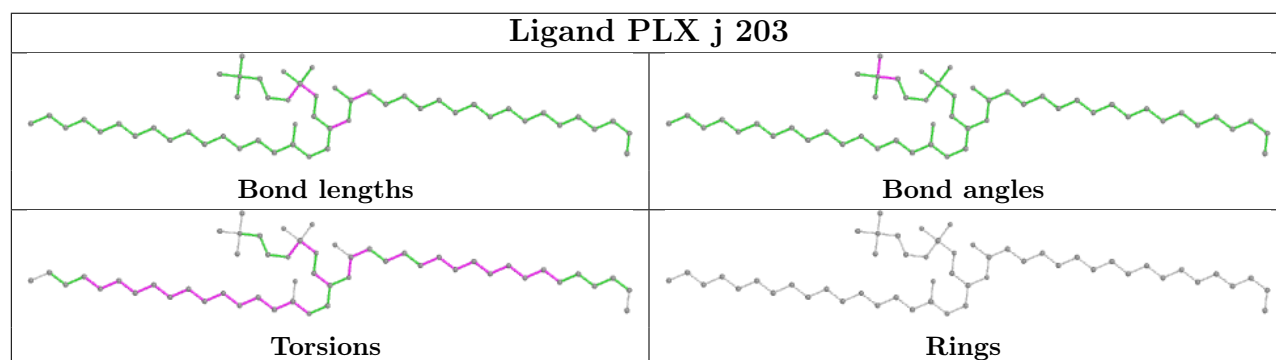
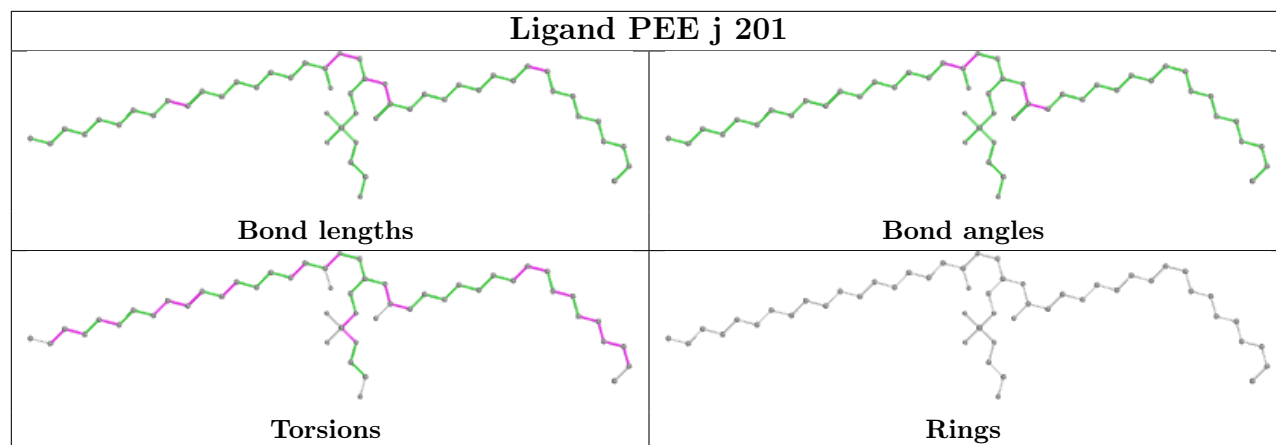


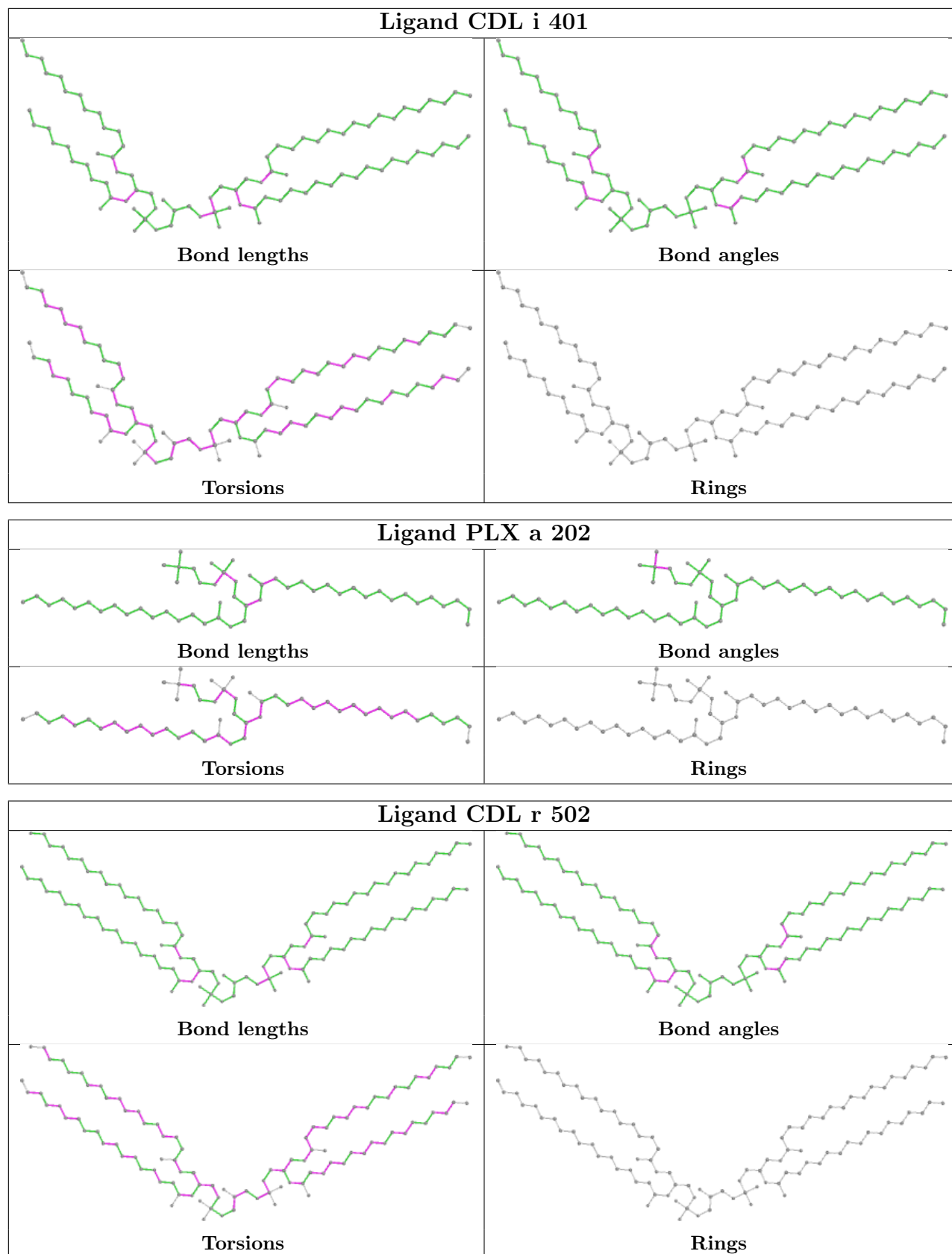


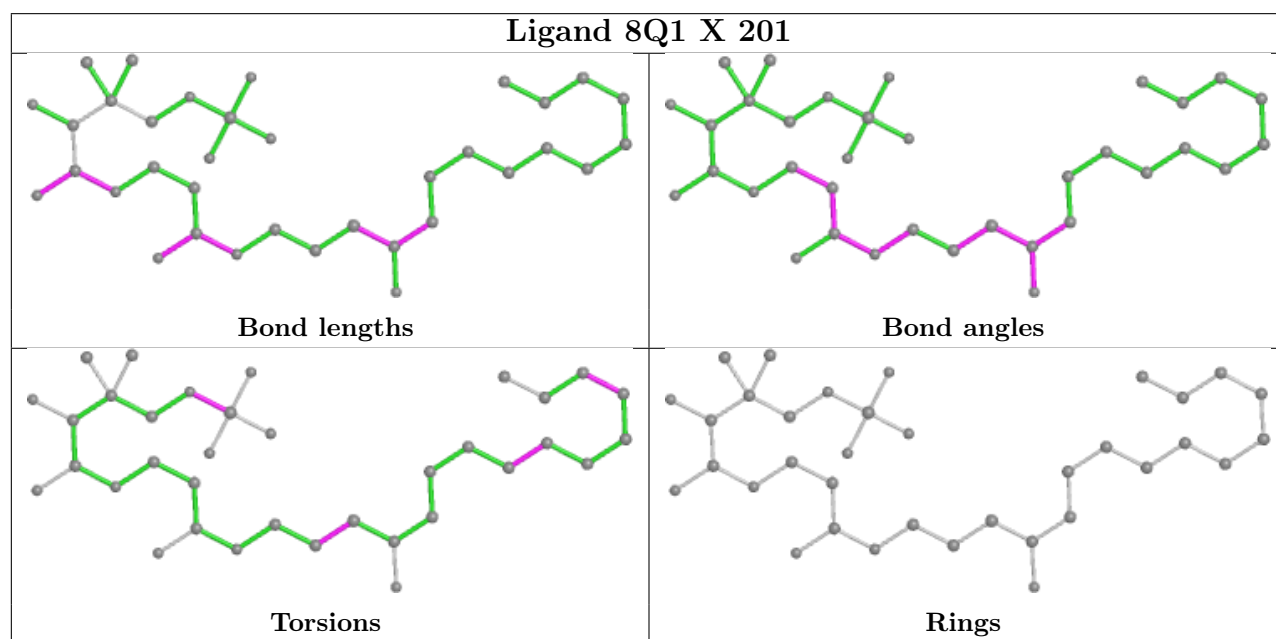
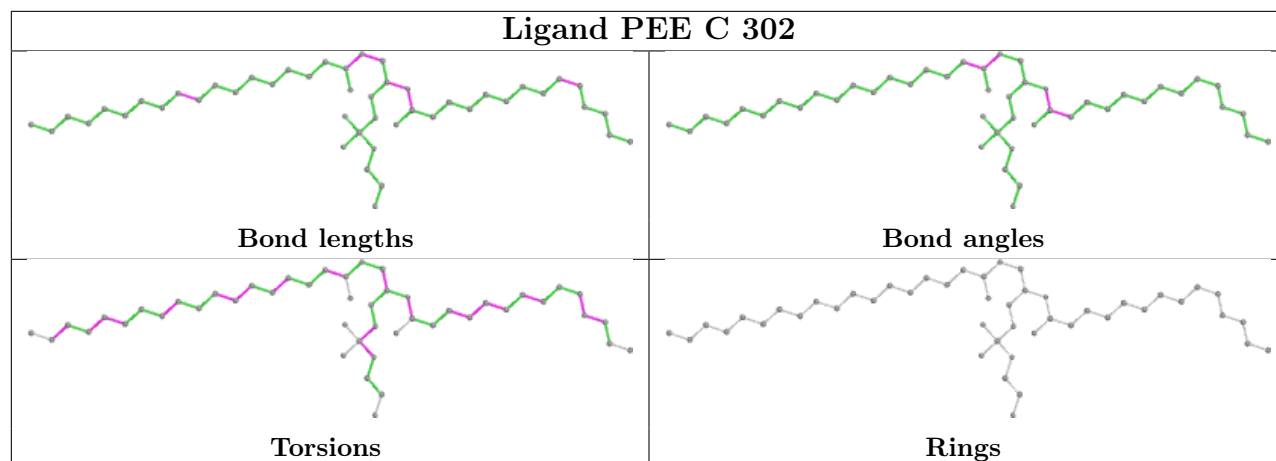


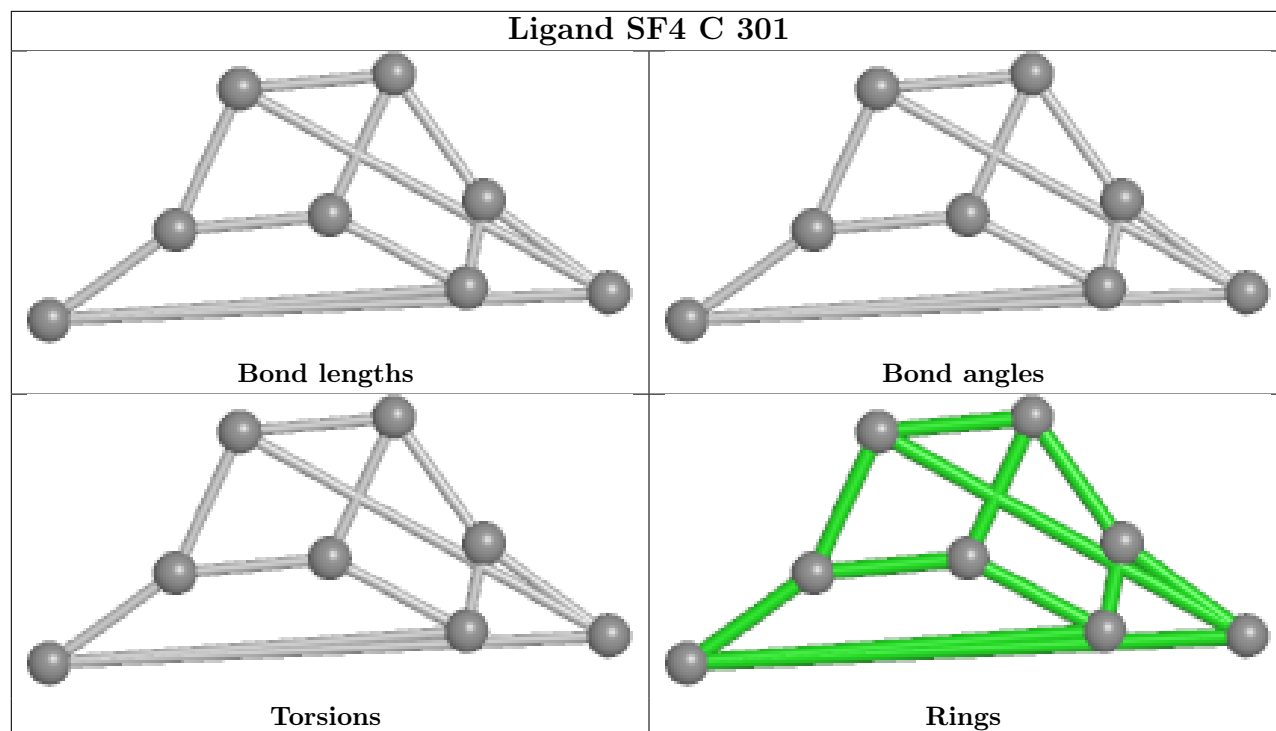












5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

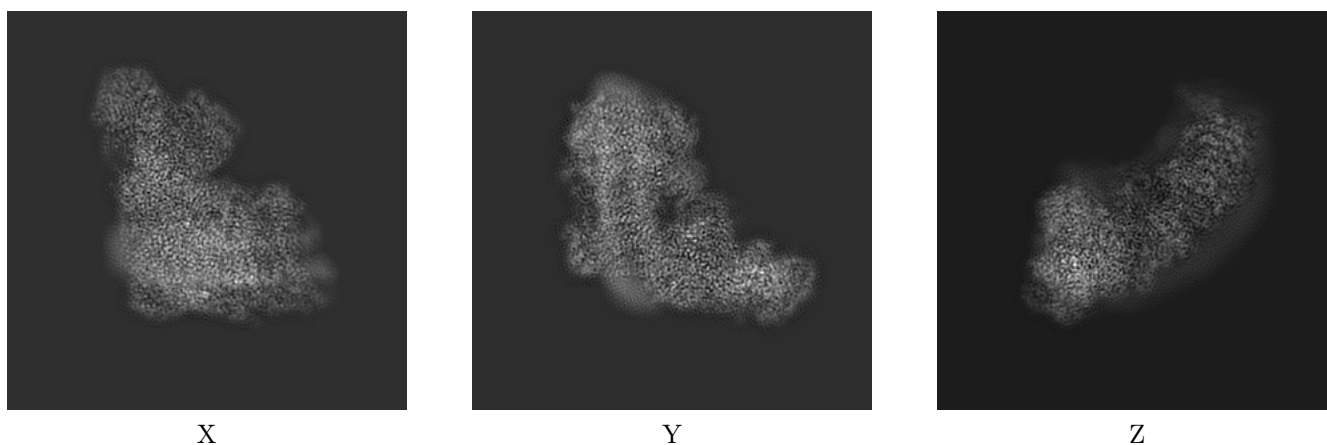
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-32266. These allow visual inspection of the internal detail of the map and identification of artifacts.

No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

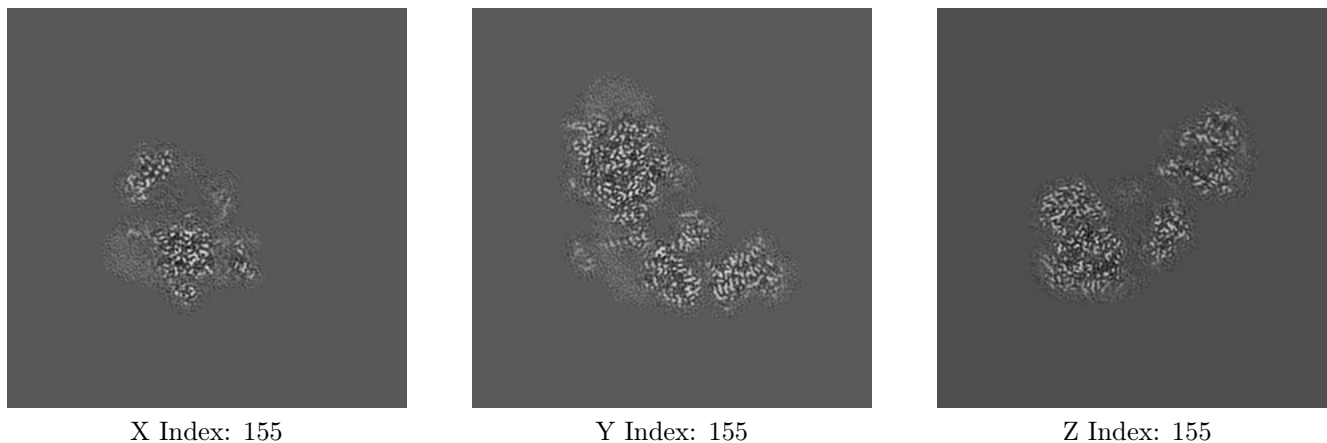
6.1.1 Primary map



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

6.2 Central slices [i](#)

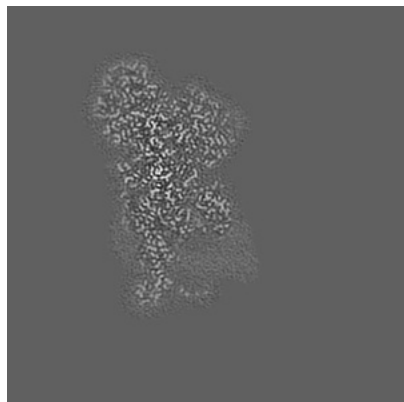
6.2.1 Primary map



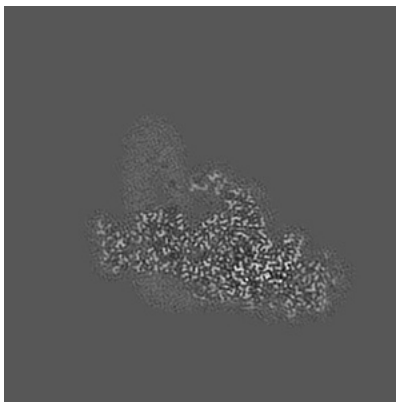
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

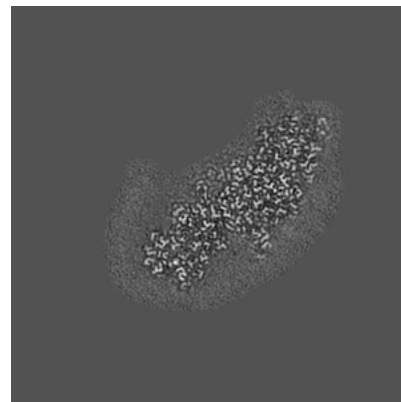
6.3.1 Primary map



X Index: 106



Y Index: 112

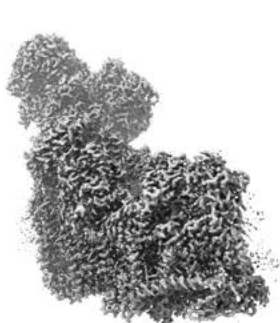


Z Index: 126

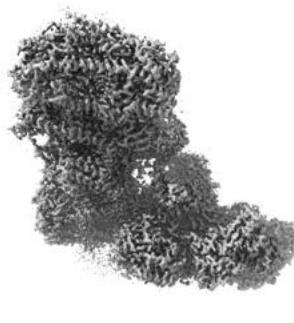
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal surface views [i](#)

6.4.1 Primary map



X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.0265. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

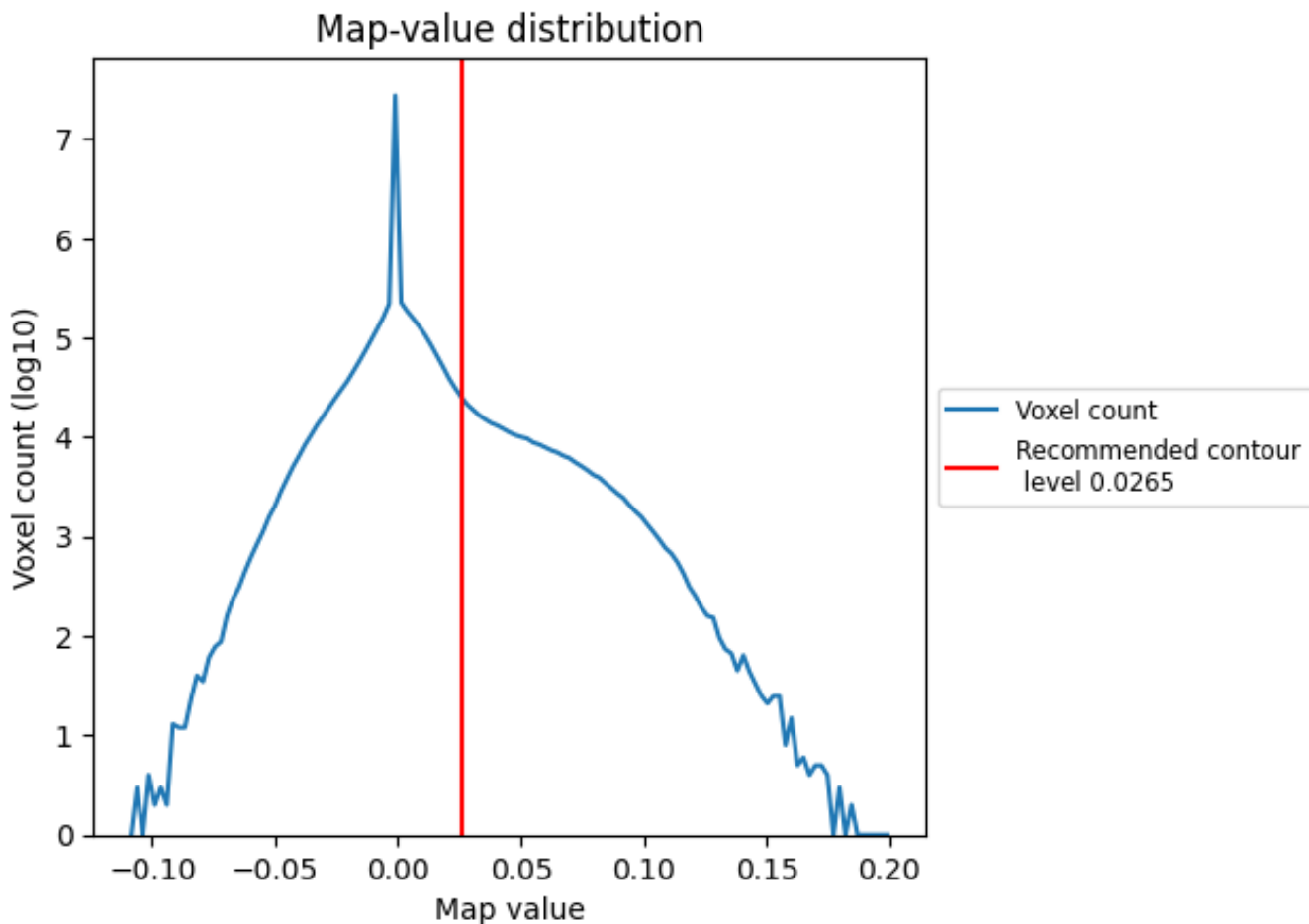
6.5 Mask visualisation

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

7 Map analysis [i](#)

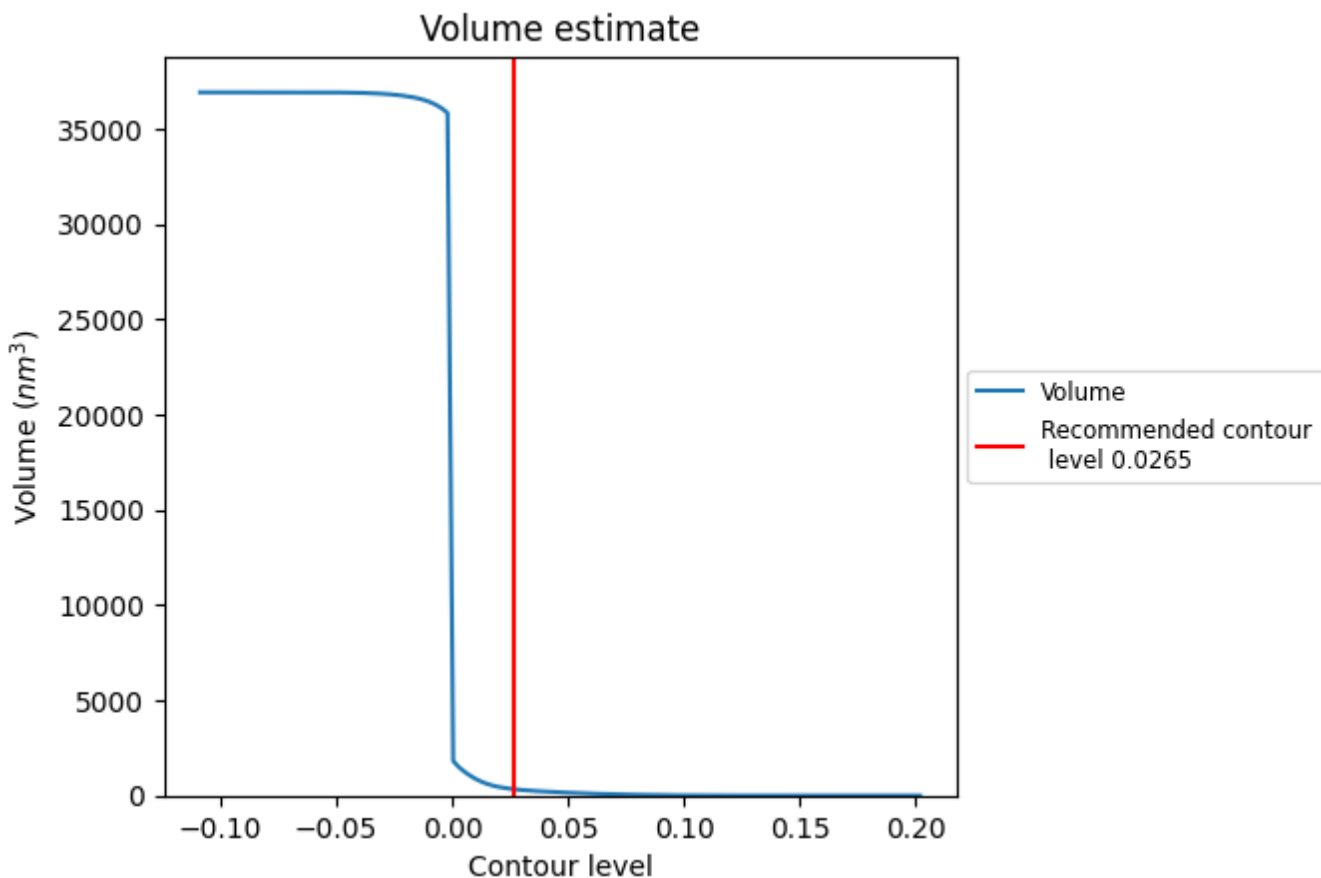
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

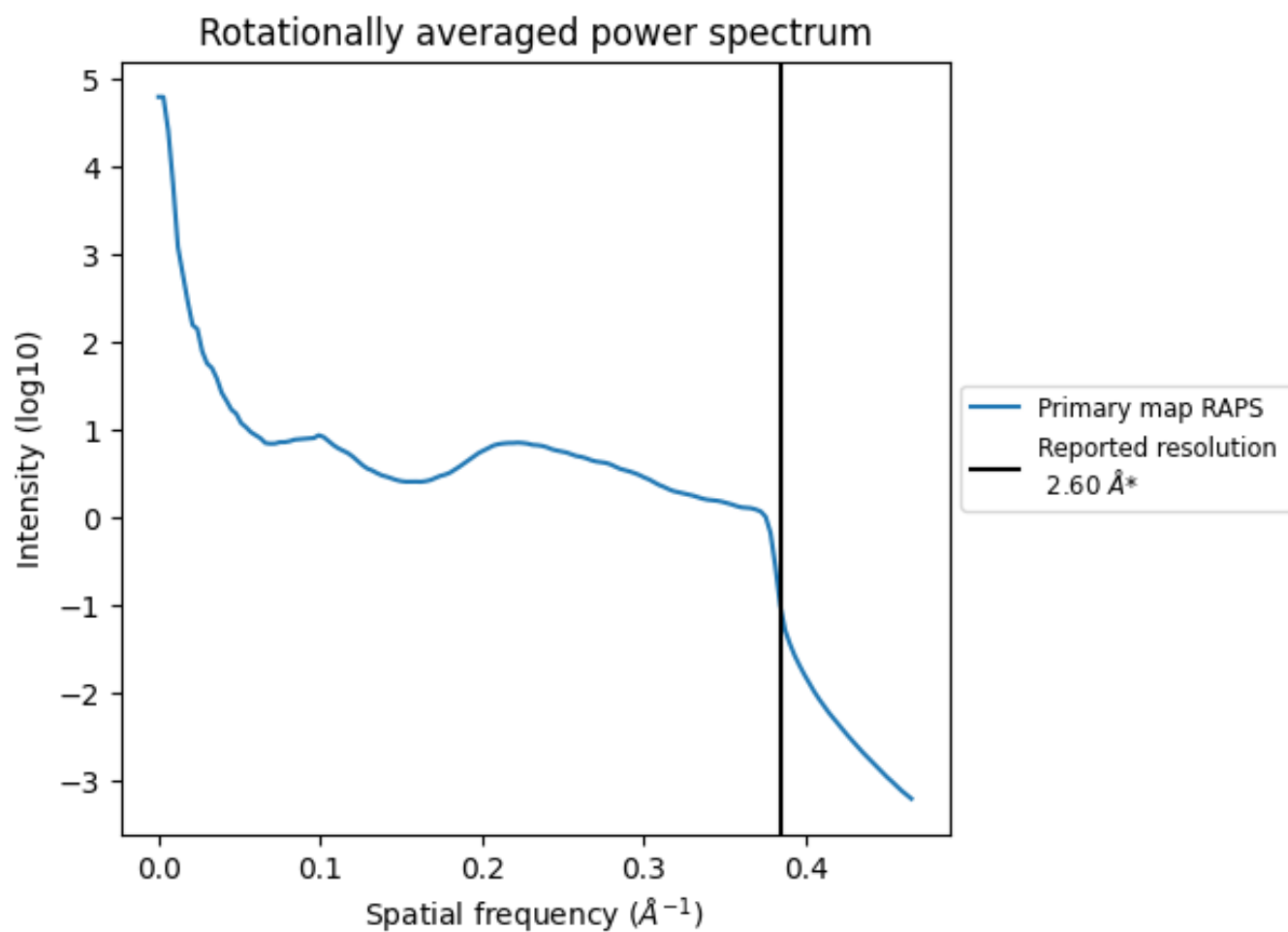
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 337 nm³; this corresponds to an approximate mass of 305 kDa.

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

7.3 Rotationally averaged power spectrum i



*Reported resolution corresponds to spatial frequency of 0.385\AA^{-1}

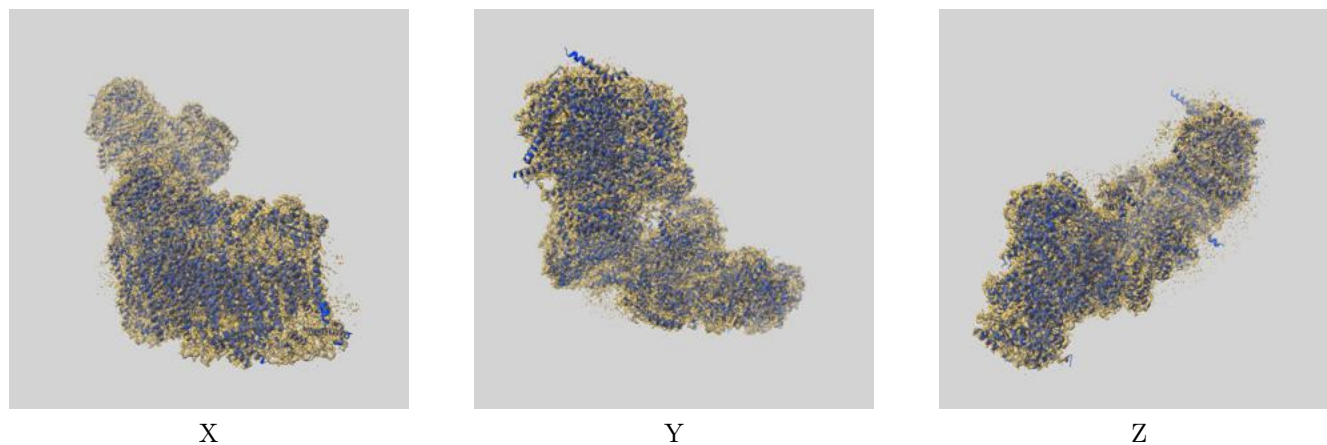
8 Fourier-Shell correlation

This section was not generated. No FSC curve or half-maps provided.

9 Map-model fit [i](#)

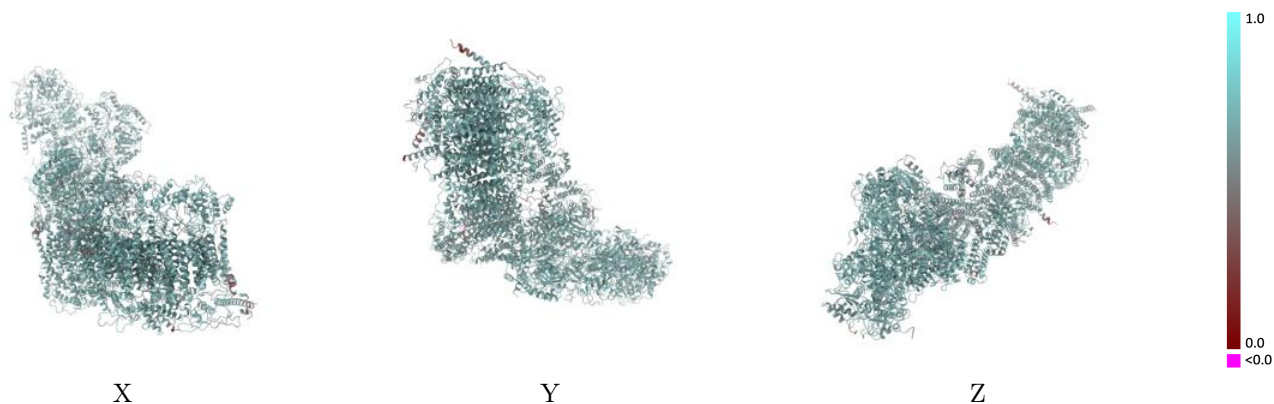
This section contains information regarding the fit between EMDB map EMD-32266 and PDB model 7W2U. Per-residue inclusion information can be found in section [3](#) on page [21](#).

9.1 Map-model overlay [i](#)



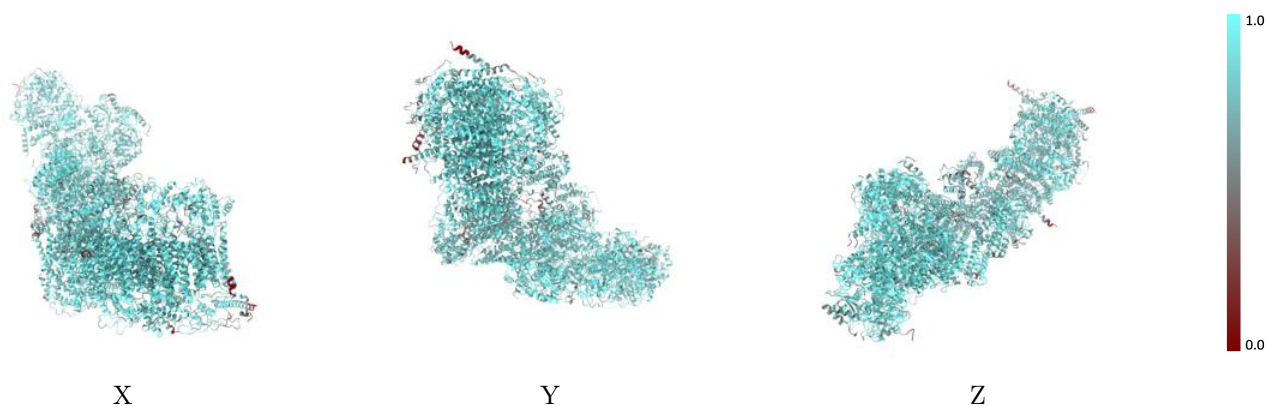
The images above show the 3D surface view of the map at the recommended contour level 0.0265 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



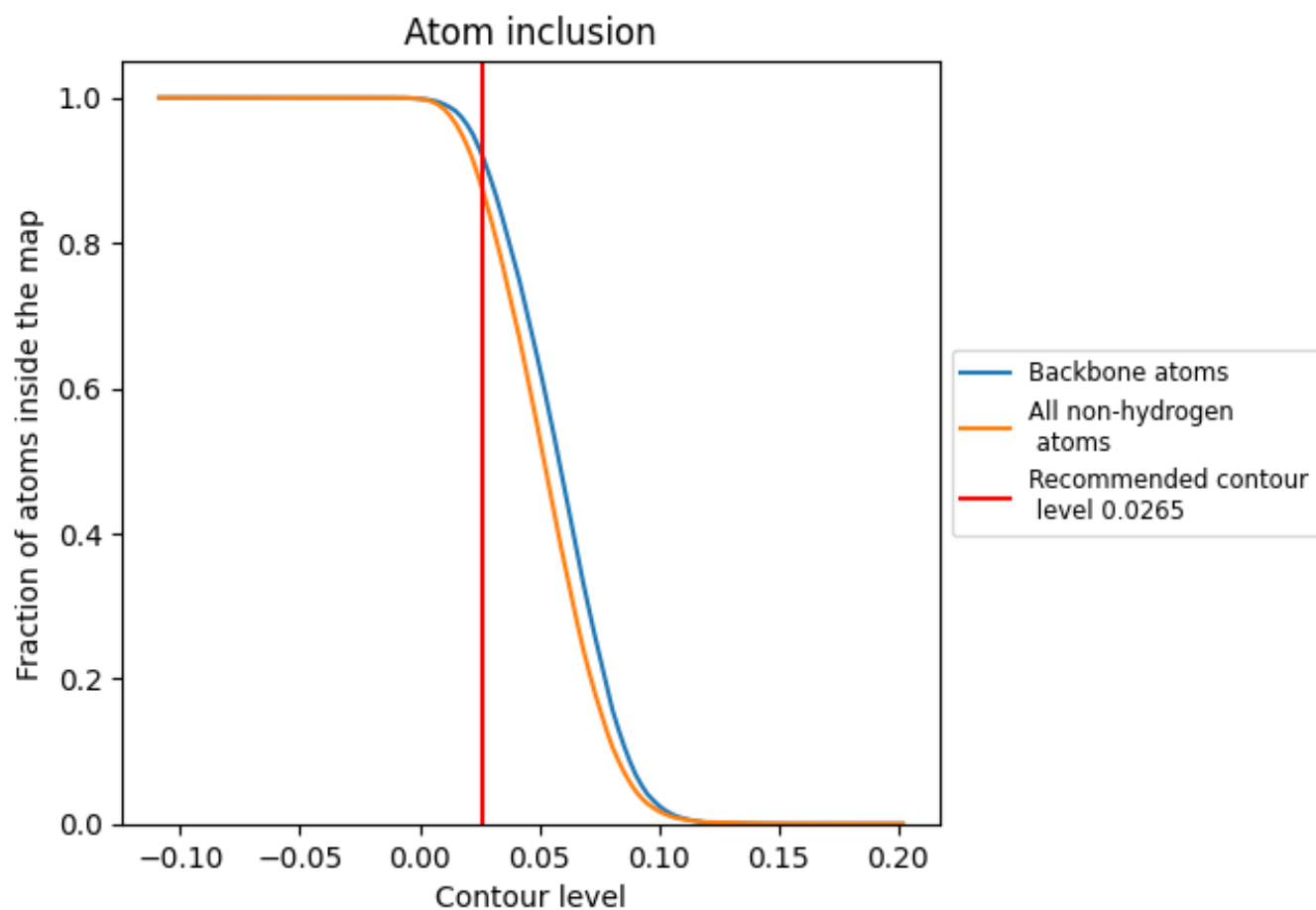
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.0265).







































































9.4 Atom inclusion [i](#)



At the recommended contour level, 92% of all backbone atoms, 87% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary























The table lists the average atom inclusion at the recommended contour level (0.0265) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.8711	 0.6380
A	 0.8638	 0.6320
B	 0.9514	 0.6740
C	 0.9353	 0.6710
E	 0.8907	 0.6470
F	 0.7756	 0.5890
G	 0.6205	 0.5170
H	 0.8905	 0.6420
I	 0.7485	 0.6030
J	 0.8947	 0.6480
K	 0.7521	 0.5940
L	 0.8954	 0.6530
M	 0.9133	 0.6530
N	 0.7854	 0.6300
O	 0.8079	 0.6160
P	 0.9632	 0.6780
Q	 0.9523	 0.6730
S	 0.9167	 0.6460
T	 0.8199	 0.6350
U	 0.8474	 0.6230
V	 0.7665	 0.6130
W	 0.8536	 0.6260
X	 0.8255	 0.6180
Y	 0.7100	 0.5770
Z	 0.6528	 0.5490
a	 0.8504	 0.6370
b	 0.7911	 0.5980
c	 0.8460	 0.6320
d	 0.8064	 0.6140
e	 0.7984	 0.6110
f	 0.6946	 0.5650
g	 0.8526	 0.6320
h	 0.8759	 0.6300
i	 0.9412	 0.6630
j	 0.8675	 0.6470



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Chain	Atom inclusion	Q-score
k	 0.8895	 0.6470
l	 0.8963	 0.6450
m	 0.8328	 0.6120
n	 0.7565	 0.5840
o	 0.8193	 0.6220
p	 0.8632	 0.6320
r	 0.9386	 0.6580
s	 0.9357	 0.6590
u	 0.8529	 0.6300
v	 0.7734	 0.5870
w	 0.8574	 0.6320