



Full wwPDB EM Validation Report ⓘ

Jan 9, 2023 – 04:37 PM JST

PDB ID : 7W20
EMDB ID : EMD-32260
Title : Active state CI from Rotenone-NADH dataset, Subclass 3
Authors : Gu, J.K.; Yang, M.J.
Deposited on : 2021-11-21
Resolution : 3.00 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:

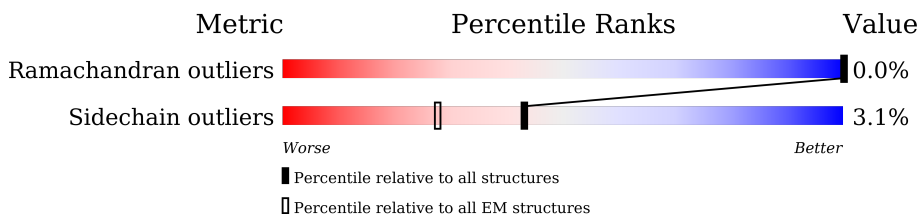
EMDB validation analysis : 0.0.1.dev43
Mogul : 1.8.5 (274361), CSD as541be (2020)
MolProbity : 4.02b-467
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.9
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (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 3.00 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.



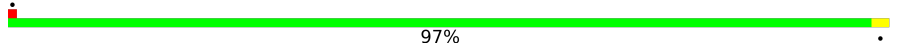
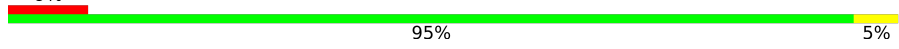
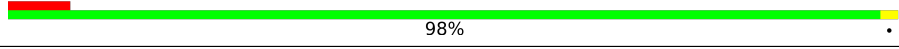
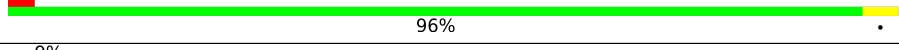
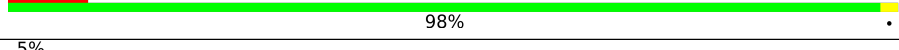
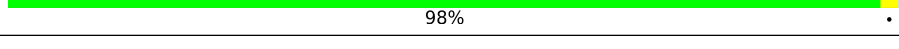
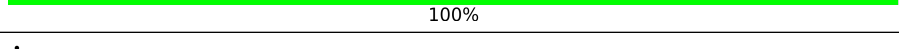
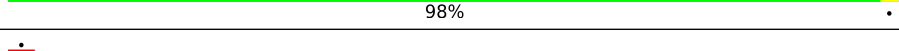
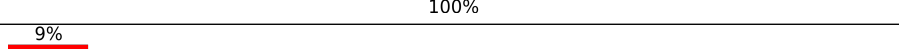
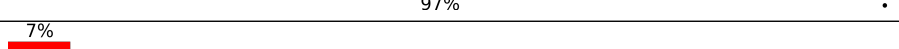
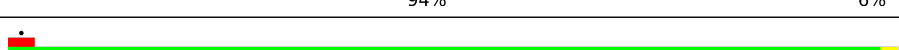
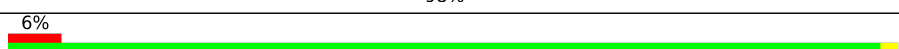
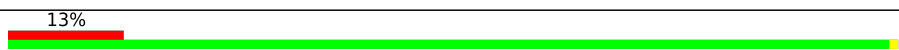
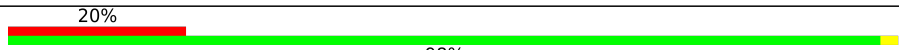
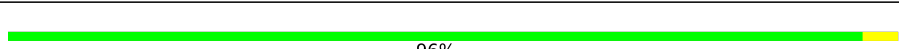

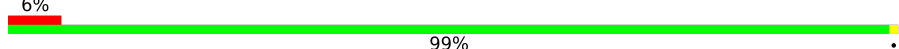
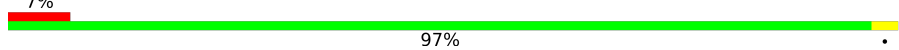
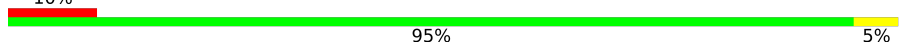
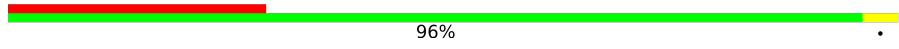
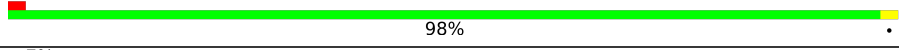
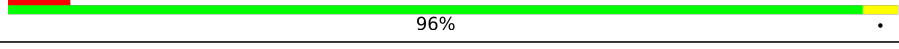
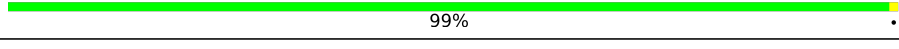
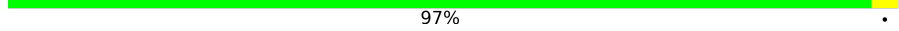

Metric	Whole archive (#Entries)	EM structures (#Entries)
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826

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	
2	B	176	
3	C	156	
4	E	115	
5	F	86	
6	G	88	
6	X	88	
7	H	112	
8	I	112	

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

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Mol	Chain	Length	Quality of chain
34	k	98	 95% 5%
35	l	606	 97%
36	m	175	 15% 97%
37	n	56	 21% 100%
38	o	128	 5% 97%
39	p	178	 98%
40	r	459	 97%
41	s	318	 98%
42	u	171	 94% 6%
43	v	125	 12% 94% 5%
44	w	320	 8% 98%

2 Entry composition

There are 58 unique types of molecules in this entry. The entry contains 68136 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	967	618	179	165	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	684	431	129	122	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
			696	449	103	139	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
			5293	3319	923	1012	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	1738	1124	298	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	819	537	144	137	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	377	246	65	66	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	1000	651	174	169	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	4797	3181	743	822	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	1276	850	187	226	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	3624	2406	572	608	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	1036	646	196	185	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	2586	1646	439	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).



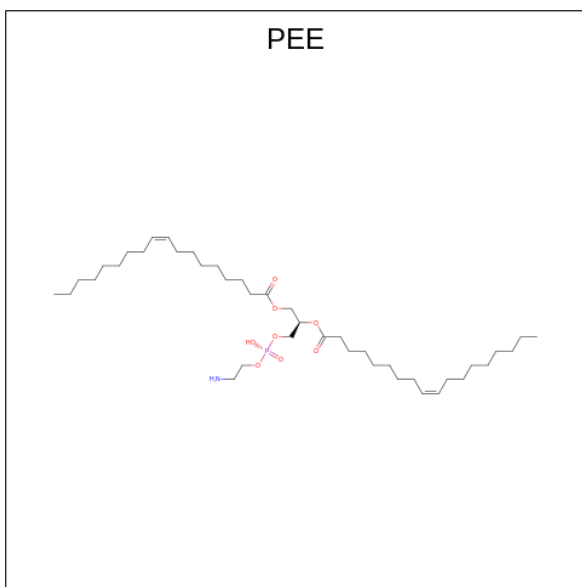
Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
46	A	1	31	17	4	9	1	0

- 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).



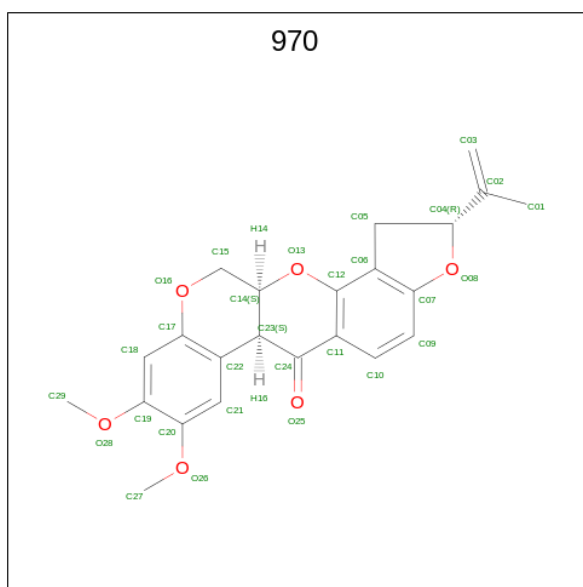
Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
48	B	1	Total 51	41	1	8	1	0
48	C	1	Total 47	37	1	8	1	0
48	U	1	Total 51	41	1	8	1	0
48	W	1	Total 41	31	1	8	1	0
48	i	1	Total 47	37	1	8	1	0
48	j	1	Total 41	31	1	8	1	0
48	l	1	Total 96	76	2	16	2	0
48	l	1	Total 96	76	2	16	2	0
48	r	1	Total 51	41	1	8	1	0

- 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).



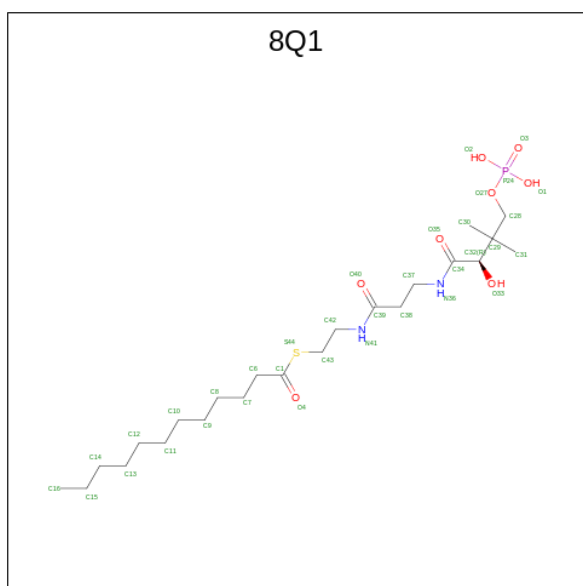
Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
49	C	1	Total 52	42	1	8	1	0
49	J	1	Total 52	42	1	8	1	0
49	a	1	Total 52	42	1	8	1	0
49	g	1	Total 52	42	1	8	1	0
49	j	1	Total 52	42	1	8	1	0
49	r	1	Total 104	84	2	16	2	0
49	r	1	Total 104	84	2	16	2	0

- Molecule 50 is (2R,6aS,12aS)-8,9-dimethoxy-2-(prop-1-en-2-yl)-1,2,12,12a-tetrahydrofuro[2',3':7,8][1]benzopyrano[2,3-c][1]benzopyran-6(6aH)-one (three-letter code: 970) (formula: C₂₃H₂₂O₆) (labeled as "Ligand of Interest" by depositor).



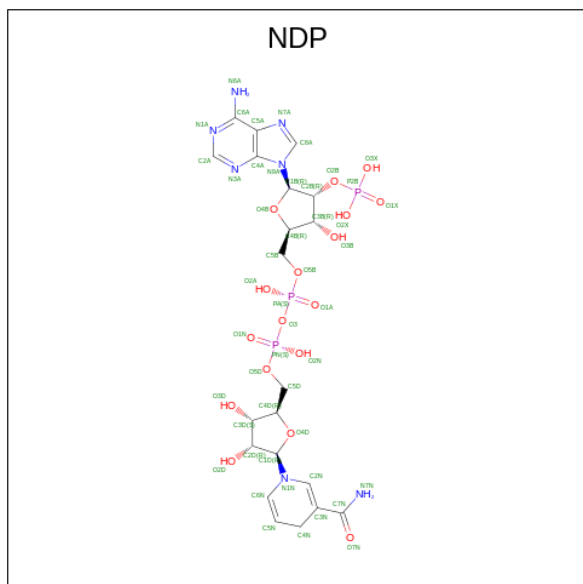
Mol	Chain	Residues	Atoms			AltConf
50	C	1	Total	C	O	0
			29	23	6	

- 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: C₂₃H₄₅N₂O₈PS) (labeled as "Ligand of Interest" by depositor).



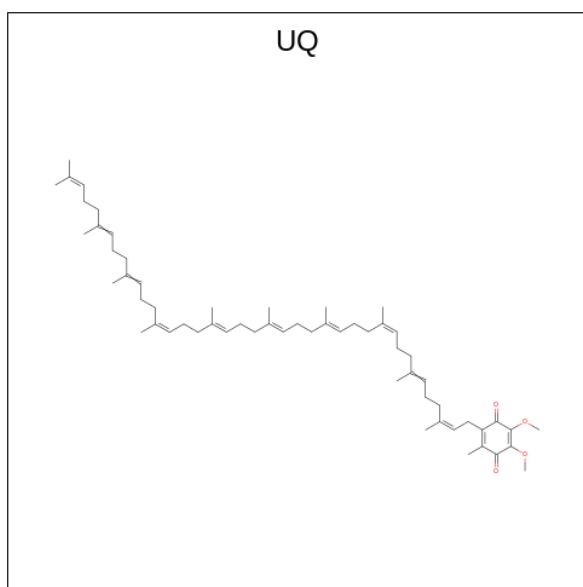
Mol	Chain	Residues	Atoms					AltConf	
51	G	1	Total	C	N	O	P	S	0
			35	23	2	8	1	1	
51	X	1	Total	C	N	O	P	S	0
			35	23	2	8	1	1	

- Molecule 52 is 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).



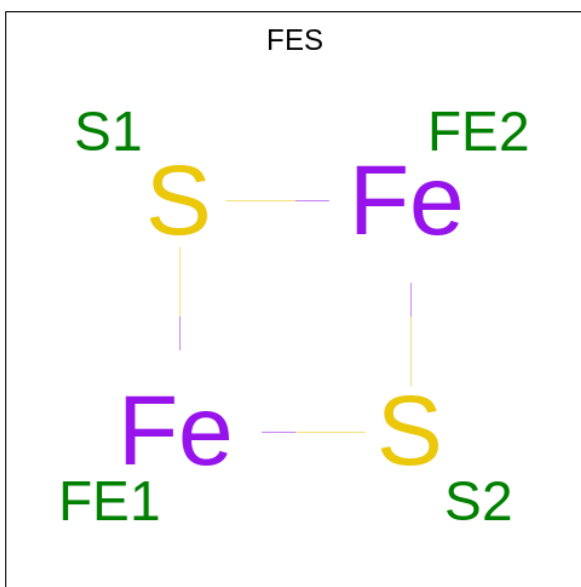
Mol	Chain	Residues	Atoms				AltConf	
			Total	C	N	O		P
52	J	1	48	21	7	17	3	0

- Molecule 53 is Coenzyme Q10, (2Z,6E,10Z,14E,18E,22E,26Z)-isomer (three-letter code: UQ) (formula: $C_{59}H_{90}O_4$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms			AltConf
53	J	1	Total	C	O	0
			33	29	4	
53	s	1	Total	C	O	0
			38	34	4	

- Molecule 54 is FE2/S2 (INORGANIC) CLUSTER (three-letter code: FES) (formula: Fe₂S₂) (labeled as "Ligand of Interest" by depositor).

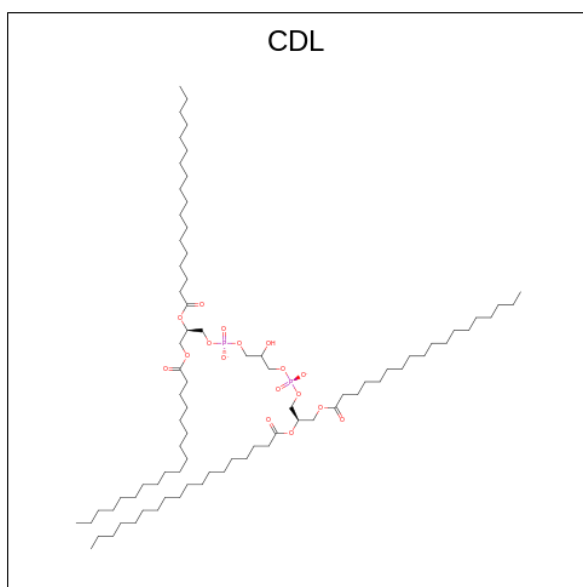


Mol	Chain	Residues	Atoms			AltConf
54	M	1	Total	Fe	S	0
			4	2	2	
54	O	1	Total	Fe	S	0
			4	2	2	

- Molecule 55 is MAGNESIUM ION (three-letter code: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

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

- Molecule 56 is CARDIOLIPIN (three-letter code: CDL) (formula: C₈₁H₁₅₆O₁₇P₂) (labeled as "Ligand of Interest" by depositor).

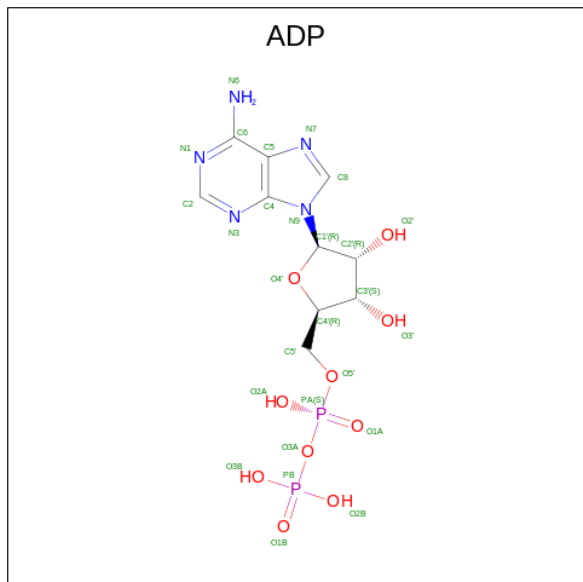


Mol	Chain	Residues	Atoms				AltConf
			Total	C	O	P	
56	N	1	51	32	17	2	0
56	V	1	94	75	17	2	0
56	a	1	100	81	17	2	0
56	i	1	99	80	17	2	0
56	k	1	78	59	17	2	0
56	l	1	199	161	34	4	0
56	l	1	199	161	34	4	0
56	n	1	55	36	17	2	0
56	o	1	100	81	17	2	0
56	s	1	89	70	17	2	0

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

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

- 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).

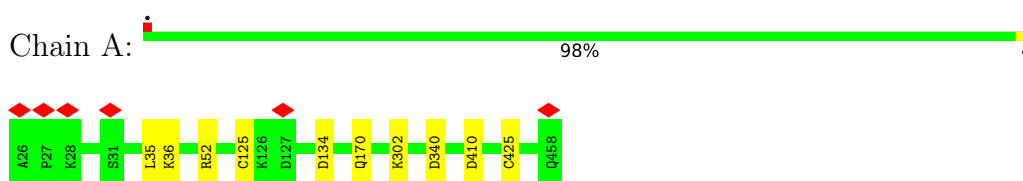


Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
58	w	1	27	10	5	10	2	0

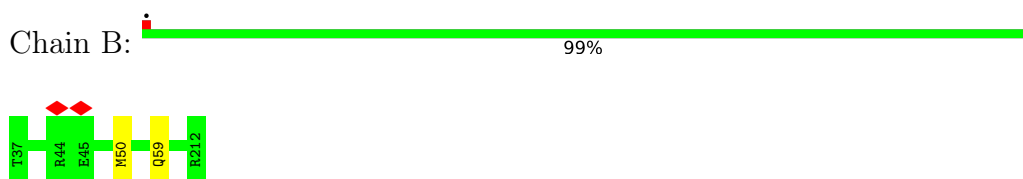
3 Residue-property plots [i](#)

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.

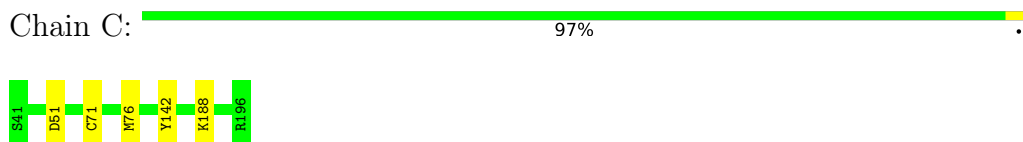
- Molecule 1: NADH dehydrogenase [ubiquinone] flavoprotein 1, mitochondrial



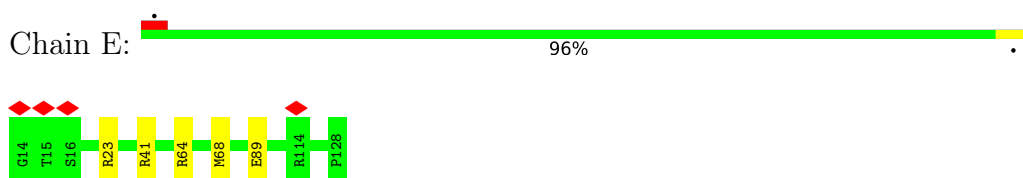
- Molecule 2: NADH dehydrogenase [ubiquinone] iron-sulfur protein 8, mitochondrial



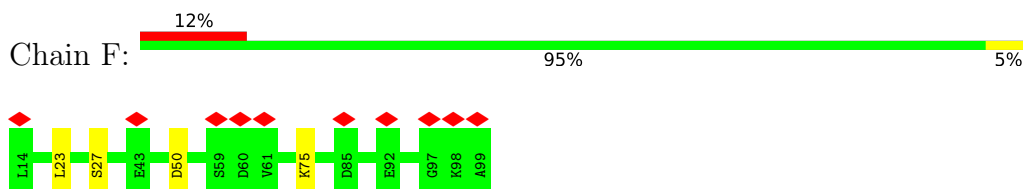
- Molecule 3: NADH dehydrogenase [ubiquinone] iron-sulfur protein 7, mitochondrial



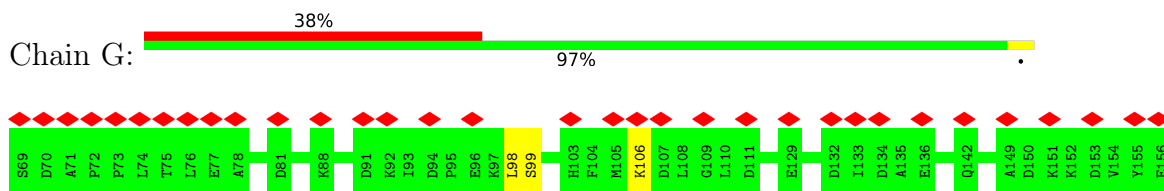
- Molecule 4: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 6



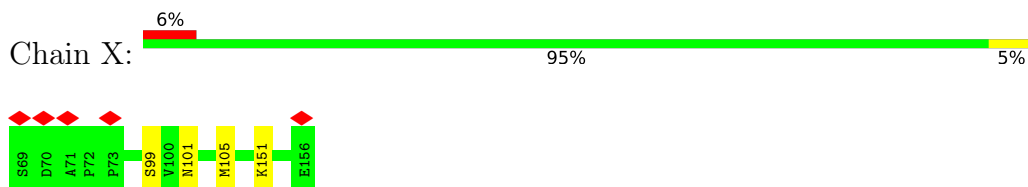
- Molecule 5: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 2



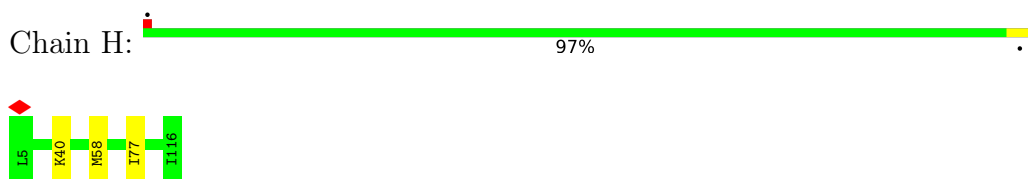
- Molecule 6: Acyl carrier protein



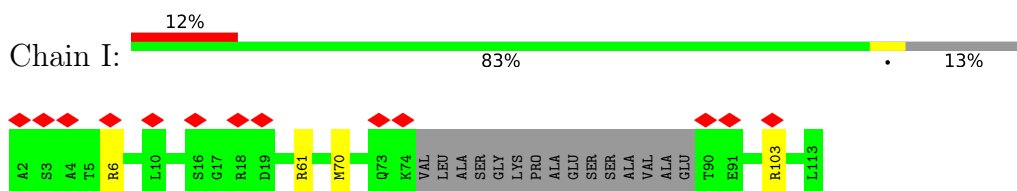
- Molecule 6: Acyl carrier protein



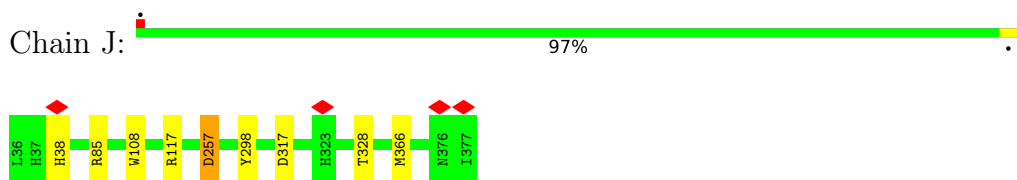
- Molecule 7: Complex I subunit B13



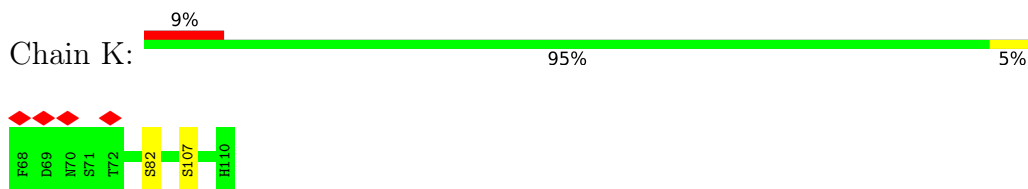
- Molecule 8: Complex I-B14.5a



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

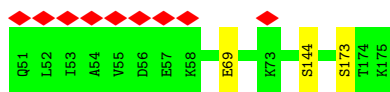


- Molecule 10: Complex I-9kD



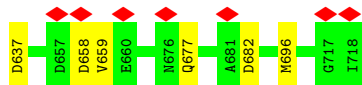
- Molecule 11: NADH dehydrogenase [ubiquinone] iron-sulfur protein 4, mitochondrial





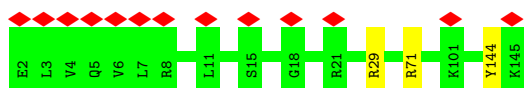
- Molecule 12: NADH-ubiquinone oxidoreductase 75 kDa subunit, mitochondrial

Chain M: 96%



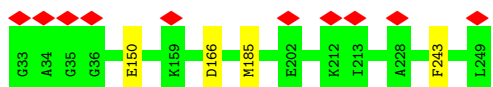
- Molecule 13: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 12

Chain N: 9% 98%



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

Chain O: 5% 98%



- Molecule 15: Complex I-30kD

Chain P: 100%



- Molecule 16: Complex I-49kD

Chain Q: 98%

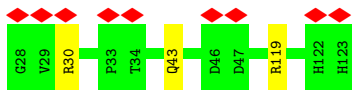


- Molecule 17: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 1

Chain S: 100%



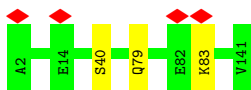
- Molecule 18: NADH dehydrogenase [ubiquinone] iron-sulfur protein 6, mitochondrial



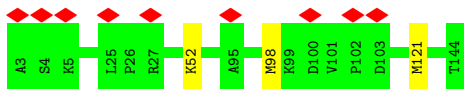
- Molecule 19: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 3



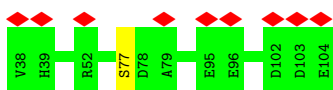
- Molecule 20: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 11



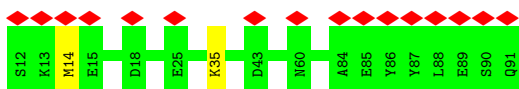
- Molecule 21: Complex I-B16.6



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



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




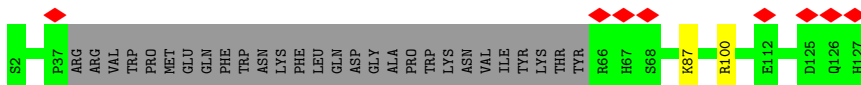
- Molecule 24: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 5, mitochondrial

Chain a:  96%



- Molecule 25: Complex I-B17

Chain b:  6% 76% 22%



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

Chain c:  6% 99%



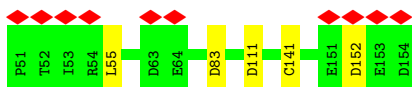
- Molecule 27: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 10

Chain d:  7% 97%



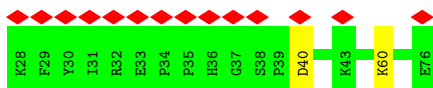
- Molecule 28: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 11, mitochondrial

Chain e:  10% 95% 5%



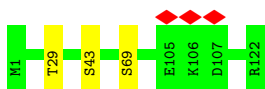
- Molecule 29: NADH dehydrogenase [ubiquinone] 1 subunit C1, mitochondrial

Chain f:  29% 96%



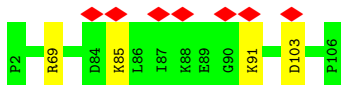
- Molecule 30: NADH dehydrogenase [ubiquinone] 1 subunit C2

Chain g:  98%



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

Chain h:  96%



- 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:  95%



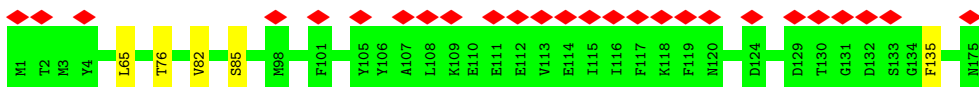
- Molecule 35: NADH-ubiquinone oxidoreductase chain 5

Chain l:  97%

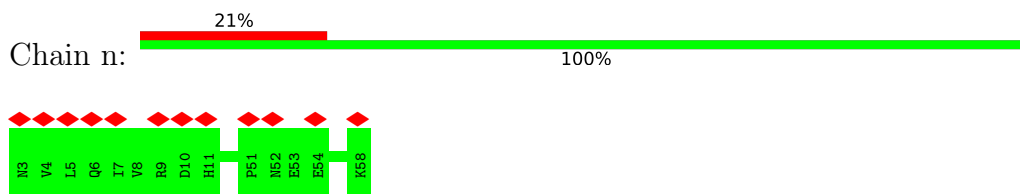


- Molecule 36: NADH-ubiquinone oxidoreductase chain 6

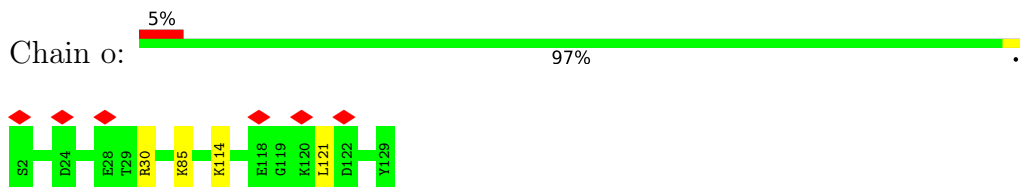
Chain m:  97%



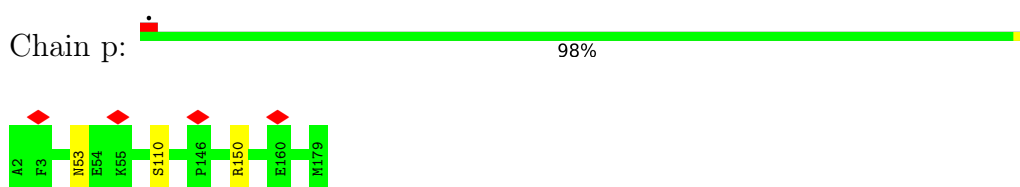
- Molecule 37: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 1



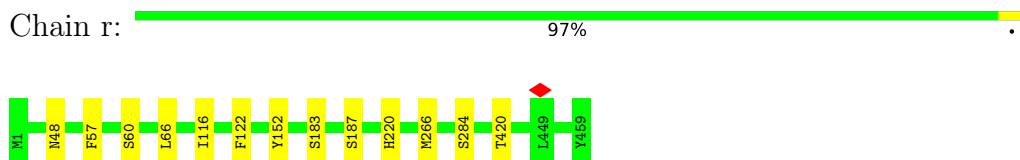
- Molecule 38: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 4



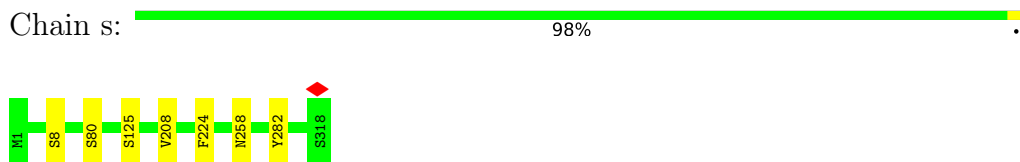
- Molecule 39: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 9



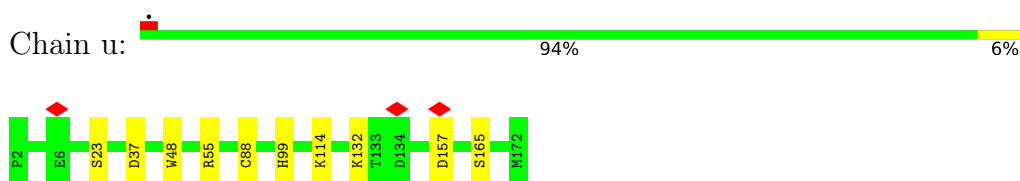
- Molecule 40: NADH-ubiquinone oxidoreductase chain 4



- Molecule 41: NADH-ubiquinone oxidoreductase chain 1

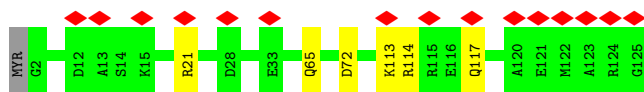


- Molecule 42: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 8

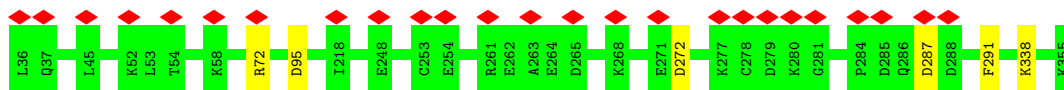


- Molecule 43: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 7





- 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	76197	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	0.207	Depositor
Minimum map value	-0.117	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.007	Depositor
Recommended contour level	0.0296	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

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: 2MR, SF4, PLX, ZN, 8Q1, FES, NAI, PEE, 970, ADP, NDP, FMN, CDL, UQ, MG

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	A	0.25	0/3406	0.49	0/4603
2	B	0.25	0/1443	0.50	0/1952
3	C	0.25	0/1279	0.50	0/1730
4	E	0.25	0/991	0.51	0/1335
5	F	0.26	0/695	0.55	0/936
6	G	0.26	0/705	0.44	0/956
6	X	0.26	0/708	0.42	0/959
7	H	0.24	0/929	0.43	0/1258
8	I	0.25	0/798	0.53	0/1079
9	J	0.25	0/2828	0.50	1/3834 (0.0%)
10	K	0.27	0/377	0.50	0/509
11	L	0.23	0/1039	0.48	0/1403
12	M	0.24	0/5381	0.49	0/7291
13	N	0.25	0/1245	0.51	0/1694
14	O	0.25	0/1711	0.48	1/2328 (0.0%)
15	P	0.25	0/1789	0.50	0/2436
16	Q	0.25	0/3538	0.47	0/4796
17	S	0.24	0/581	0.47	0/781
18	T	0.24	0/755	0.51	0/1018
19	U	0.26	0/664	0.46	0/912
20	V	0.25	0/1042	0.45	0/1411
21	W	0.27	0/1192	0.51	0/1610
22	Y	0.24	0/610	0.46	0/836
23	Z	0.25	0/660	0.46	0/892
24	a	0.26	0/1184	0.47	0/1603
25	b	0.24	0/844	0.49	0/1149
26	c	0.24	0/1371	0.44	0/1875
27	d	0.27	0/1494	0.53	1/2015 (0.0%)
28	e	0.27	0/891	0.50	0/1210
29	f	0.27	0/385	0.44	0/522
30	g	0.25	0/1031	0.46	0/1395
31	h	0.24	0/889	0.50	0/1190

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
32	i	0.24	0/2773	0.43	0/3768
33	j	0.25	0/938	0.41	0/1281
34	k	0.24	0/759	0.45	0/1029
35	l	0.25	0/4926	0.43	0/6700
36	m	0.26	0/1307	0.45	0/1777
37	n	0.23	0/491	0.48	0/663
38	o	0.25	0/1092	0.47	0/1481
39	p	0.25	0/1590	0.48	0/2155
40	r	0.24	0/3715	0.42	0/5067
41	s	0.26	0/2581	0.44	0/3529
42	u	0.25	0/1436	0.49	0/1938
43	v	0.25	0/1060	0.52	0/1421
44	w	0.24	0/2646	0.45	0/3584
All	All	0.25	0/67769	0.47	3/91911 (0.0%)

There are no bond length outliers.

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
14	O	166	ASP	CB-CG-OD1	5.50	123.25	118.30
9	J	257	ASP	CB-CG-OD1	5.35	123.11	118.30
27	d	22	PRO	CA-N-CD	-5.14	104.30	111.50

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%)	422 (98%)	9 (2%)	0	100	100
2	B	174/176 (99%)	172 (99%)	2 (1%)	0	100	100
3	C	154/156 (99%)	149 (97%)	5 (3%)	0	100	100
4	E	113/115 (98%)	109 (96%)	4 (4%)	0	100	100
5	F	84/86 (98%)	82 (98%)	2 (2%)	0	100	100
6	G	86/88 (98%)	80 (93%)	6 (7%)	0	100	100
6	X	86/88 (98%)	84 (98%)	2 (2%)	0	100	100
7	H	110/112 (98%)	104 (94%)	5 (4%)	1 (1%)	17	55
8	I	93/112 (83%)	83 (89%)	10 (11%)	0	100	100
9	J	340/342 (99%)	329 (97%)	10 (3%)	1 (0%)	41	76
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%)	672 (98%)	16 (2%)	0	100	100
13	N	142/144 (99%)	138 (97%)	4 (3%)	0	100	100
14	O	215/217 (99%)	202 (94%)	13 (6%)	0	100	100
15	P	206/208 (99%)	199 (97%)	7 (3%)	0	100	100
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%)	93 (99%)	1 (1%)	0	100	100
19	U	81/83 (98%)	79 (98%)	2 (2%)	0	100	100
20	V	138/140 (99%)	134 (97%)	4 (3%)	0	100	100
21	W	140/142 (99%)	133 (95%)	7 (5%)	0	100	100
22	Y	65/67 (97%)	62 (95%)	3 (5%)	0	100	100
23	Z	78/80 (98%)	77 (99%)	1 (1%)	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%)	169 (98%)	4 (2%)	0	100	100
28	e	102/104 (98%)	98 (96%)	4 (4%)	0	100	100
29	f	47/49 (96%)	43 (92%)	4 (8%)	0	100	100
30	g	120/122 (98%)	113 (94%)	7 (6%)	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%)	331 (96%)	13 (4%)	1 (0%)	41	76
33	j	113/115 (98%)	110 (97%)	3 (3%)	0	100	100
34	k	96/98 (98%)	94 (98%)	2 (2%)	0	100	100
35	l	604/606 (100%)	579 (96%)	25 (4%)	0	100	100
36	m	173/175 (99%)	158 (91%)	15 (9%)	0	100	100
37	n	54/56 (96%)	54 (100%)	0	0	100	100
38	o	126/128 (98%)	124 (98%)	2 (2%)	0	100	100
39	p	176/178 (99%)	172 (98%)	4 (2%)	0	100	100
40	r	457/459 (100%)	453 (99%)	4 (1%)	0	100	100
41	s	316/318 (99%)	309 (98%)	6 (2%)	1 (0%)	41	76
42	u	169/171 (99%)	165 (98%)	4 (2%)	0	100	100
43	v	122/125 (98%)	120 (98%)	2 (2%)	0	100	100
44	w	318/320 (99%)	305 (96%)	13 (4%)	0	100	100
All	All	8175/8314 (98%)	7910 (97%)	261 (3%)	4 (0%)	100	100

All (4) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
9	J	38	HIS
7	H	77	ILE
32	i	50	PRO
41	s	208	VAL

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%)	336 (97%)	10 (3%)	42	76
2	B	151/151 (100%)	149 (99%)	2 (1%)	69	89
3	C	132/132 (100%)	127 (96%)	5 (4%)	33	69

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
4	E	105/107 (98%)	100 (95%)	5 (5%)	25	62
5	F	74/76 (97%)	70 (95%)	4 (5%)	22	57
6	G	76/81 (94%)	73 (96%)	3 (4%)	32	69
6	X	77/81 (95%)	73 (95%)	4 (5%)	23	59
7	H	99/99 (100%)	97 (98%)	2 (2%)	55	83
8	I	87/97 (90%)	83 (95%)	4 (5%)	27	64
9	J	296/296 (100%)	288 (97%)	8 (3%)	44	77
10	K	42/42 (100%)	40 (95%)	2 (5%)	25	62
11	L	113/113 (100%)	110 (97%)	3 (3%)	44	77
12	M	579/580 (100%)	550 (95%)	29 (5%)	24	60
13	N	130/130 (100%)	127 (98%)	3 (2%)	50	80
14	O	183/183 (100%)	180 (98%)	3 (2%)	62	86
15	P	190/190 (100%)	189 (100%)	1 (0%)	88	96
16	Q	370/370 (100%)	363 (98%)	7 (2%)	57	84
17	S	57/58 (98%)	57 (100%)	0	100	100
18	T	79/79 (100%)	76 (96%)	3 (4%)	33	69
19	U	69/69 (100%)	64 (93%)	5 (7%)	14	45
20	V	101/101 (100%)	98 (97%)	3 (3%)	41	75
21	W	121/123 (98%)	118 (98%)	3 (2%)	47	79
22	Y	62/62 (100%)	61 (98%)	1 (2%)	62	86
23	Z	62/62 (100%)	60 (97%)	2 (3%)	39	74
24	a	121/121 (100%)	115 (95%)	6 (5%)	24	60
25	b	90/119 (76%)	88 (98%)	2 (2%)	52	81
26	c	141/141 (100%)	139 (99%)	2 (1%)	67	88
27	d	155/155 (100%)	151 (97%)	4 (3%)	46	78
28	e	96/96 (100%)	91 (95%)	5 (5%)	23	59
29	f	35/45 (78%)	33 (94%)	2 (6%)	20	56
30	g	106/109 (97%)	103 (97%)	3 (3%)	43	77
31	h	93/93 (100%)	89 (96%)	4 (4%)	29	66
32	i	311/311 (100%)	308 (99%)	3 (1%)	76	91
33	j	100/100 (100%)	96 (96%)	4 (4%)	31	68

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
34	k	85/85 (100%)	80 (94%)	5 (6%)	19	54
35	l	536/540 (99%)	518 (97%)	18 (3%)	37	72
36	m	127/141 (90%)	122 (96%)	5 (4%)	32	69
37	n	53/53 (100%)	53 (100%)	0	100	100
38	o	113/113 (100%)	109 (96%)	4 (4%)	36	71
39	p	159/159 (100%)	156 (98%)	3 (2%)	57	84
40	r	409/410 (100%)	396 (97%)	13 (3%)	39	74
41	s	275/275 (100%)	269 (98%)	6 (2%)	52	81
42	u	153/153 (100%)	143 (94%)	10 (6%)	17	50
43	v	106/111 (96%)	100 (94%)	6 (6%)	20	56
44	w	282/283 (100%)	276 (98%)	6 (2%)	53	82
All	All	7147/7241 (99%)	6924 (97%)	223 (3%)	43	75

All (223) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	35	LEU
1	A	36	LYS
1	A	52	ARG
1	A	125	CYS
1	A	134	ASP
1	A	170	GLN
1	A	302	LYS
1	A	340	ASP
1	A	410	ASP
1	A	425	CYS
2	B	50	MET
2	B	59	GLN
3	C	51	ASP
3	C	71	CYS
3	C	76	MET
3	C	142	TYR
3	C	188	LYS
4	E	23	ARG
4	E	41	ARG
4	E	64	ARG
4	E	68	MET
4	E	89	GLU

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Mol	Chain	Res	Type
5	F	23	LEU
5	F	27	SER
5	F	50	ASP
5	F	75	LYS
6	G	98	LEU
6	G	99	SER
6	G	106	LYS
7	H	40	LYS
7	H	58	MET
8	I	6	ARG
8	I	61	ARG
8	I	70	MET
8	I	103	ARG
9	J	85	ARG
9	J	108	TRP
9	J	117	ARG
9	J	257	ASP
9	J	298	TYR
9	J	317	ASP
9	J	328	THR
9	J	366	MET
10	K	82	SER
10	K	107	SER
11	L	69	GLU
11	L	144	SER
11	L	173	SER
12	M	55	LYS
12	M	75	CYS
12	M	76	ARG
12	M	80	VAL
12	M	150	ARG
12	M	194	ASP
12	M	264	SER
12	M	310	GLU
12	M	311	LYS
12	M	352	VAL
12	M	383	SER
12	M	395	GLU
12	M	427	LEU
12	M	447	ASP
12	M	454	ASP
12	M	459	ASN

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Mol	Chain	Res	Type
12	M	470	LYS
12	M	483	ARG
12	M	495	ASN
12	M	501	ARG
12	M	513	MET
12	M	539	LYS
12	M	636	TYR
12	M	637	ASP
12	M	658	ASP
12	M	659	VAL
12	M	677	GLN
12	M	682	ASP
12	M	696	MET
13	N	29	ARG
13	N	71	ARG
13	N	144	TYR
14	O	150	GLU
14	O	185	MET
14	O	243	PHE
15	P	44	ARG
16	Q	108	LYS
16	Q	192	LEU
16	Q	217	VAL
16	Q	222	MET
16	Q	323	ARG
16	Q	437	LYS
16	Q	440	LYS
18	T	30	ARG
18	T	43	GLN
18	T	119	ARG
19	U	10	LYS
19	U	34	SER
19	U	47	ARG
19	U	59	ASP
19	U	63	MET
20	V	40	SER
20	V	79	GLN
20	V	83	LYS
21	W	52	LYS
21	W	98	MET
21	W	121	MET
6	X	99	SER

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Mol	Chain	Res	Type
6	X	101	ASN
6	X	105	MET
6	X	151	LYS
22	Y	77	SER
23	Z	14	MET
23	Z	35	LYS
24	a	69	LYS
24	a	72	ARG
24	a	95	GLU
24	a	114	LYS
24	a	130	GLU
24	a	153	GLU
25	b	87	LYS
25	b	100	ARG
26	c	43	LYS
26	c	82	SER
27	d	15	ARG
27	d	38	ASP
27	d	73	ASP
27	d	144	SER
28	e	55	LEU
28	e	83	ASP
28	e	111	ASP
28	e	141	CYS
28	e	152	ASP
29	f	40	ASP
29	f	60	LYS
30	g	29	THR
30	g	43	SER
30	g	69	SER
31	h	69	ARG
31	h	85	LYS
31	h	91	LYS
31	h	103	ASP
32	i	194	LEU
32	i	204	ASN
32	i	336	VAL
33	j	31	SER
33	j	87	MET
33	j	92	LEU
33	j	105	GLU
34	k	6	MET

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Mol	Chain	Res	Type
34	k	24	SER
34	k	53	PHE
34	k	59	MET
34	k	76	SER
35	l	69	MET
35	l	79	SER
35	l	176	ARG
35	l	185	SER
35	l	271	LYS
35	l	290	LEU
35	l	331	MET
35	l	336	LYS
35	l	338	MET
35	l	340	PHE
35	l	371	THR
35	l	373	LEU
35	l	469	SER
35	l	482	MET
35	l	498	PHE
35	l	499	MET
35	l	541	ASN
35	l	554	ASP
36	m	65	LEU
36	m	76	THR
36	m	82	VAL
36	m	85	SER
36	m	135	PHE
38	o	30	ARG
38	o	85	LYS
38	o	114	LYS
38	o	121	LEU
39	p	53	ASN
39	p	110	SER
39	p	150	ARG
40	r	48	ASN
40	r	57	PHE
40	r	60	SER
40	r	66	LEU
40	r	116	ILE
40	r	122	PHE
40	r	152	TYR
40	r	183	SER

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Mol	Chain	Res	Type
40	r	187	SER
40	r	220	HIS
40	r	266	MET
40	r	284	SER
40	r	420	THR
41	s	8	SER
41	s	80	SER
41	s	125	SER
41	s	224	PHE
41	s	258	ASN
41	s	282	TYR
42	u	23	SER
42	u	37	ASP
42	u	48	TRP
42	u	55	ARG
42	u	88	CYS
42	u	99	HIS
42	u	114	LYS
42	u	132	LYS
42	u	157	ASP
42	u	165	SER
43	v	21	ARG
43	v	65	GLN
43	v	72	ASP
43	v	113	LYS
43	v	114	ARG
43	v	117	GLN
44	w	72	ARG
44	w	95	ASP
44	w	272	ASP
44	w	287	ASP
44	w	291	PHE
44	w	338	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (4) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	244	ASN
14	O	187	GLN
18	T	123	HIS
44	w	132	GLN

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	1.99	1 (10%)	5,13,15	5.89	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	5.76	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	12.05	130.53	119.48
16	Q	118	2MR	CD-NE-CZ	4.10	131.09	123.41
16	Q	118	2MR	CQ2-NH2-CZ	3.17	130.87	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
56	CDL	i	402	-	98,98,99	1.09	8 (8%)	104,110,111	0.85	4 (3%)
56	CDL	k	101	-	77,77,99	1.20	7 (9%)	83,89,111	0.94	4 (4%)
49	PLX	r	503	-	51,51,51	1.15	4 (7%)	55,59,59	0.54	1 (1%)
45	SF4	A	501	1	0,12,12	-	-	-	-	-
54	FES	M	803	12	0,4,4	-	-	-	-	-
56	CDL	N	201	-	50,50,99	1.41	8 (16%)	56,62,111	1.12	4 (7%)
58	ADP	w	401	-	24,29,29	3.12	6 (25%)	29,45,45	1.43	4 (13%)
56	CDL	l	701	-	98,98,99	1.09	8 (8%)	104,110,111	0.88	4 (3%)
45	SF4	M	802	12	0,12,12	-	-	-	-	-
52	NDP	J	401	-	45,52,52	4.56	20 (44%)	53,80,80	2.04	7 (13%)
56	CDL	l	702	-	99,99,99	1.09	8 (8%)	105,111,111	0.90	5 (4%)
48	PEE	i	401	-	46,46,50	1.21	6 (13%)	49,51,55	0.98	2 (4%)
50	970	C	304	-	33,33,33	4.89	16 (48%)	48,50,50	2.49	17 (35%)
45	SF4	M	801	12	0,12,12	-	-	-	-	-
48	PEE	l	703	-	49,49,50	1.18	6 (12%)	52,54,55	0.94	2 (3%)
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
53	UQ	J	402	-	33,33,63	3.45	9 (27%)	40,43,79	2.73	13 (32%)
54	FES	O	301	14	0,4,4	-	-	-	-	-
53	UQ	s	402	-	38,38,63	3.54	9 (23%)	46,49,79	2.86	16 (34%)
46	FMN	A	502	-	33,33,33	1.08	2 (6%)	48,50,50	1.23	8 (16%)
49	PLX	a	202	-	51,51,51	1.15	4 (7%)	55,59,59	0.60	1 (1%)
49	PLX	C	303	-	51,51,51	1.16	4 (7%)	55,59,59	0.59	1 (1%)
48	PEE	r	501	-	50,50,50	1.16	6 (12%)	53,55,55	0.97	2 (3%)
48	PEE	W	201	-	40,40,50	1.15	5 (12%)	43,45,55	0.99	2 (4%)
49	PLX	g	201	-	51,51,51	1.15	4 (7%)	55,59,59	0.60	1 (1%)
45	SF4	B	301	2	0,12,12	-	-	-	-	-
49	PLX	r	502	-	51,51,51	1.15	5 (9%)	55,59,59	0.60	1 (1%)
48	PEE	l	704	-	45,45,50	1.22	6 (13%)	48,50,55	1.00	2 (4%)
48	PEE	U	101	-	50,50,50	1.16	5 (10%)	53,55,55	0.92	2 (3%)
51	8Q1	X	201	6	31,34,34	1.71	6 (19%)	40,43,43	1.57	6 (15%)
56	CDL	V	201	-	93,93,99	1.12	8 (8%)	99,105,111	0.87	4 (4%)
45	SF4	C	301	3	0,12,12	-	-	-	-	-
48	PEE	B	303	-	50,50,50	1.17	6 (12%)	53,55,55	0.98	2 (3%)
48	PEE	j	201	-	40,40,50	1.15	5 (12%)	43,45,55	1.02	2 (4%)
49	PLX	j	202	-	51,51,51	1.15	4 (7%)	55,59,59	0.59	1 (1%)
51	8Q1	G	201	-	31,34,34	1.69	6 (19%)	40,43,43	1.58	5 (12%)
56	CDL	n	101	-	54,54,99	1.37	9 (16%)	60,66,111	1.14	4 (6%)
56	CDL	o	201	-	99,99,99	1.09	8 (8%)	105,111,111	0.87	4 (3%)
49	PLX	J	403	-	51,51,51	1.15	4 (7%)	55,59,59	0.60	1 (1%)
56	CDL	a	201	-	99,99,99	1.09	8 (8%)	105,111,111	0.85	4 (3%)
56	CDL	s	401	-	88,88,99	1.14	8 (9%)	94,100,111	0.91	4 (4%)
47	NAI	A	503	-	42,48,48	4.94	18 (42%)	47,73,73	1.31	7 (14%)
48	PEE	C	302	-	46,46,50	1.20	6 (13%)	49,51,55	0.98	2 (4%)

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
56	CDL	i	402	-	-	58/109/109/110	-
56	CDL	k	101	-	-	52/88/88/110	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
49	PLX	r	503	-	-	35/55/55/55	-
56	CDL	N	201	-	-	32/61/61/110	-
45	SF4	A	501	1	-	-	0/6/5/5
54	FES	M	803	12	-	-	0/1/1/1
58	ADP	w	401	-	-	4/12/32/32	0/3/3/3
56	CDL	l	701	-	-	54/109/109/110	-
45	SF4	M	802	12	-	-	0/6/5/5
52	NDP	J	401	-	-	11/30/77/77	0/4/5/5
56	CDL	l	702	-	-	53/110/110/110	-
48	PEE	i	401	-	-	27/50/50/54	-
50	970	C	304	-	-	4/8/41/41	0/5/5/5
48	PEE	l	703	-	-	25/53/53/54	-
53	UQ	J	402	-	-	9/27/51/87	0/1/1/1
45	SF4	B	302	2	-	-	0/6/5/5
45	SF4	M	801	12	-	-	0/6/5/5
54	FES	O	301	14	-	-	0/1/1/1
53	UQ	s	402	-	-	11/33/57/87	0/1/1/1
46	FMN	A	502	-	-	4/18/18/18	0/3/3/3
49	PLX	a	202	-	-	29/55/55/55	-
49	PLX	C	303	-	-	28/55/55/55	-
48	PEE	r	501	-	-	32/54/54/54	-
48	PEE	W	201	-	-	24/44/44/54	-
49	PLX	g	201	-	-	33/55/55/55	-
49	PLX	r	502	-	-	29/55/55/55	-
45	SF4	B	301	2	-	-	0/6/5/5
48	PEE	l	704	-	-	20/49/49/54	-
48	PEE	U	101	-	-	23/54/54/54	-
51	8Q1	X	201	6	-	25/41/41/41	-
56	CDL	V	201	-	-	55/104/104/110	-
45	SF4	C	301	3	-	-	0/6/5/5
48	PEE	B	303	-	-	25/54/54/54	-
48	PEE	j	201	-	-	20/44/44/54	-
49	PLX	j	202	-	-	32/55/55/55	-
51	8Q1	G	201	-	-	10/41/41/41	-
56	CDL	n	101	-	-	30/65/65/110	-
56	CDL	o	201	-	-	56/110/110/110	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
49	PLX	J	403	-	-	25/55/55/55	-
56	CDL	a	201	-	-	56/110/110/110	-
56	CDL	s	401	-	-	53/99/99/110	-
47	NAI	A	503	-	-	6/25/72/72	0/5/5/5
48	PEE	C	302	-	-	30/50/50/54	-

All (252) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
50	C	304	970	O16-C17	17.90	1.57	1.37
47	A	503	NAI	O4B-C1B	16.23	1.63	1.41
47	A	503	NAI	C2B-C1B	-15.44	1.30	1.53
52	J	401	NDP	C3B-C2B	-12.70	1.24	1.52
52	J	401	NDP	C6N-C5N	12.49	1.55	1.33
50	C	304	970	O25-C24	11.10	1.37	1.22
52	J	401	NDP	O4D-C4D	10.75	1.69	1.45
47	A	503	NAI	C3D-C4D	-10.23	1.26	1.53
50	C	304	970	C23-C24	9.92	1.63	1.52
52	J	401	NDP	C3D-C4D	-9.85	1.27	1.53
53	s	402	UQ	C18-C19	9.63	1.56	1.33
53	J	402	UQ	C18-C19	9.63	1.56	1.33
53	J	402	UQ	C13-C14	9.34	1.55	1.33
53	s	402	UQ	C13-C14	9.24	1.55	1.33
53	s	402	UQ	C23-C24	9.06	1.54	1.33
53	s	402	UQ	C8-C9	8.97	1.54	1.33
53	J	402	UQ	C8-C9	8.89	1.54	1.33
58	w	401	ADP	C3'-C4'	-8.85	1.30	1.53
52	J	401	NDP	O4B-C1B	8.31	1.52	1.41
47	A	503	NAI	O4B-C4B	-8.20	1.26	1.45
52	J	401	NDP	O4B-C4B	-7.98	1.27	1.45
53	J	402	UQ	C23-C24	7.82	1.54	1.32
58	w	401	ADP	O4'-C4'	7.76	1.62	1.45
53	s	402	UQ	C28-C29	7.70	1.54	1.32
47	A	503	NAI	C2D-C1D	-7.52	1.29	1.53
52	J	401	NDP	C2N-C3N	7.35	1.55	1.34
47	A	503	NAI	O4D-C4D	6.95	1.60	1.45
50	C	304	970	C14-C23	-6.83	1.46	1.52
58	w	401	ADP	O4'-C1'	-6.82	1.31	1.41
50	C	304	970	O08-C07	6.37	1.47	1.37
47	A	503	NAI	C2D-C3D	5.96	1.69	1.53
52	J	401	NDP	P2B-O2B	5.76	1.70	1.59

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
47	A	503	NAI	C7N-N7N	5.75	1.48	1.33
51	X	201	8Q1	C34-N36	5.52	1.45	1.33
52	J	401	NDP	C3B-C4B	5.49	1.67	1.53
47	A	503	NAI	O4D-C1D	5.47	1.55	1.42
51	G	201	8Q1	C34-N36	5.43	1.45	1.33
51	X	201	8Q1	C39-N41	5.37	1.45	1.33
50	C	304	970	O13-C12	5.36	1.45	1.37
51	G	201	8Q1	C39-N41	5.29	1.45	1.33
47	A	503	NAI	C4N-C3N	-5.07	1.40	1.49
50	C	304	970	C05-C04	-4.90	1.47	1.54
52	J	401	NDP	O4D-C1D	-4.88	1.30	1.42
52	J	401	NDP	C6N-N1N	4.84	1.49	1.37
50	C	304	970	C03-C02	4.72	1.53	1.34
47	A	503	NAI	O2B-C2B	4.56	1.53	1.43
52	J	401	NDP	C7N-N7N	4.18	1.44	1.33
52	J	401	NDP	O2D-C2D	-4.17	1.33	1.43
52	J	401	NDP	C6A-N6A	4.11	1.49	1.34
47	A	503	NAI	C6N-C5N	3.96	1.40	1.33
46	A	502	FMN	C4A-N5	3.85	1.38	1.30
58	w	401	ADP	C6-N6	3.84	1.48	1.34
48	B	303	PEE	C18-C19	3.74	1.53	1.31
48	W	201	PEE	C18-C19	3.73	1.53	1.31
48	r	501	PEE	C18-C19	3.73	1.53	1.31
48	j	201	PEE	C18-C19	3.73	1.53	1.31
48	l	704	PEE	C18-C19	3.72	1.53	1.31
48	C	302	PEE	C18-C19	3.72	1.53	1.31
48	i	401	PEE	C18-C19	3.72	1.53	1.31
48	U	101	PEE	C18-C19	3.72	1.53	1.31
48	l	703	PEE	C18-C19	3.72	1.53	1.31
48	l	703	PEE	C39-C38	3.66	1.53	1.31
48	U	101	PEE	C39-C38	3.66	1.53	1.31
48	r	501	PEE	C39-C38	3.65	1.52	1.31
48	B	303	PEE	C39-C38	3.65	1.52	1.31
48	i	401	PEE	C39-C38	3.64	1.52	1.31
48	C	302	PEE	C39-C38	3.64	1.52	1.31
48	l	704	PEE	C39-C38	3.64	1.52	1.31
47	A	503	NAI	C6A-N6A	3.62	1.47	1.34
47	A	503	NAI	C7N-C3N	3.62	1.56	1.48
56	n	101	CDL	OA8-CA7	3.49	1.43	1.33
56	o	201	CDL	OA8-CA7	3.47	1.43	1.33
56	k	101	CDL	OA8-CA7	3.47	1.43	1.33
56	l	702	CDL	OA8-CA7	3.46	1.43	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
56	V	201	CDL	OA8-CA7	3.46	1.43	1.33
56	N	201	CDL	OA8-CA7	3.46	1.43	1.33
56	l	701	CDL	OA8-CA7	3.45	1.43	1.33
50	C	304	970	C15-C14	3.43	1.57	1.51
56	s	401	CDL	OA8-CA7	3.42	1.43	1.33
56	i	402	CDL	OA8-CA7	3.41	1.43	1.33
56	a	201	CDL	OA8-CA7	3.39	1.43	1.33
58	w	401	ADP	O2'-C2'	-3.34	1.35	1.43
50	C	304	970	C11-C24	3.29	1.54	1.48
56	k	101	CDL	OA6-CA5	3.27	1.43	1.34
47	A	503	NAI	C4N-C5N	-3.26	1.40	1.48
50	C	304	970	O16-C15	3.15	1.52	1.44
58	w	401	ADP	O3'-C3'	3.13	1.50	1.43
52	J	401	NDP	O3D-C3D	3.11	1.50	1.43
56	V	201	CDL	OA6-CA5	3.09	1.43	1.34
56	l	702	CDL	OB8-CB7	3.09	1.42	1.33
56	l	702	CDL	OB6-CB5	3.06	1.42	1.34
56	k	101	CDL	OB8-CB7	3.04	1.42	1.33
56	k	101	CDL	OB6-CB5	3.03	1.42	1.34
56	N	201	CDL	OB6-CB5	3.03	1.42	1.34
56	o	201	CDL	OB8-CB7	3.02	1.42	1.33
56	a	201	CDL	OB6-CB5	3.02	1.42	1.34
56	i	402	CDL	OB8-CB7	3.02	1.42	1.33
56	V	201	CDL	OB6-CB5	3.02	1.42	1.34
56	s	401	CDL	OB6-CB5	3.02	1.42	1.34
52	J	401	NDP	C7N-C3N	3.02	1.55	1.48
56	N	201	CDL	OB8-CB7	3.02	1.42	1.33
56	o	201	CDL	OB6-CB5	3.02	1.42	1.34
56	l	701	CDL	OB8-CB7	3.01	1.42	1.33
56	l	701	CDL	OB6-CB5	3.00	1.42	1.34
56	n	101	CDL	OB6-CB5	3.00	1.42	1.34
56	i	402	CDL	OB6-CB5	3.00	1.42	1.34
56	n	101	CDL	OB8-CB7	3.00	1.42	1.33
56	V	201	CDL	OB8-CB7	2.99	1.42	1.33
56	a	201	CDL	OB8-CB7	2.98	1.42	1.33
56	n	101	CDL	OA6-CA5	2.98	1.42	1.34
56	N	201	CDL	OA6-CA5	2.96	1.42	1.34
56	s	401	CDL	OA6-CA5	2.95	1.42	1.34
56	o	201	CDL	OA6-CA5	2.95	1.42	1.34
56	s	401	CDL	OB8-CB7	2.95	1.41	1.33
56	a	201	CDL	OA6-CA5	2.94	1.42	1.34
56	i	402	CDL	OA6-CA5	2.94	1.42	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
56	l	702	CDL	OA6-CA5	2.92	1.42	1.34
56	l	701	CDL	OA6-CA5	2.88	1.42	1.34
50	C	304	970	C12-C06	2.87	1.44	1.39
53	J	402	UQ	C6-C1	2.78	1.54	1.46
49	r	503	PLX	O6-C4	-2.71	1.41	1.44
53	s	402	UQ	C6-C1	2.70	1.54	1.46
49	g	201	PLX	O6-C4	-2.68	1.41	1.44
49	C	303	PLX	O6-C4	-2.68	1.41	1.44
49	a	202	PLX	O6-C4	-2.67	1.41	1.44
49	j	202	PLX	O6-C4	-2.59	1.41	1.44
49	r	502	PLX	O6-C4	-2.58	1.41	1.44
50	C	304	970	C09-C07	2.57	1.45	1.39
46	A	502	FMN	C10-N1	2.53	1.38	1.33
48	j	201	PEE	O3-C30	2.51	1.40	1.33
48	l	703	PEE	O3-C30	2.50	1.40	1.33
48	U	101	PEE	O3-C30	2.49	1.40	1.33
48	l	704	PEE	O3-C30	2.47	1.40	1.33
53	s	402	UQ	C7-C8	2.46	1.54	1.50
48	B	303	PEE	O3-C30	2.45	1.40	1.33
47	A	503	NAI	O3B-C3B	-2.45	1.37	1.43
48	W	201	PEE	O3-C30	2.45	1.40	1.33
49	J	403	PLX	O6-C4	-2.44	1.41	1.44
52	J	401	NDP	O2B-C2B	2.44	1.53	1.44
56	a	201	CDL	OA6-CA4	-2.44	1.40	1.46
47	A	503	NAI	PN-O5D	2.44	1.69	1.59
48	i	401	PEE	O2-C2	-2.43	1.40	1.46
56	l	701	CDL	OA6-CA4	-2.43	1.40	1.46
56	l	702	CDL	OA6-CA4	-2.43	1.40	1.46
56	i	402	CDL	OA6-CA4	-2.42	1.40	1.46
48	C	302	PEE	O3-C30	2.42	1.40	1.33
48	C	302	PEE	O2-C2	-2.42	1.40	1.46
48	r	501	PEE	O3-C30	2.42	1.40	1.33
48	W	201	PEE	O2-C2	-2.40	1.40	1.46
48	i	401	PEE	O3-C30	2.40	1.40	1.33
48	B	303	PEE	O2-C10	2.40	1.41	1.34
49	a	202	PLX	C7-C6	2.40	1.55	1.50
48	U	101	PEE	O2-C2	-2.40	1.40	1.46
49	J	403	PLX	C7-C6	2.40	1.55	1.50
48	r	501	PEE	O2-C2	-2.39	1.40	1.46
53	J	402	UQ	C7-C8	2.39	1.54	1.50
48	l	703	PEE	O2-C2	-2.38	1.40	1.46
56	s	401	CDL	OA6-CA4	-2.38	1.40	1.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
49	j	202	PLX	C7-C6	2.38	1.55	1.50
51	X	201	8Q1	C1-S44	2.38	1.81	1.76
49	r	502	PLX	C7-C6	2.37	1.55	1.50
51	G	201	8Q1	C1-S44	2.37	1.81	1.76
56	N	201	CDL	OA6-CA4	-2.36	1.40	1.46
56	n	101	CDL	OA6-CA4	-2.35	1.40	1.46
48	l	704	PEE	O2-C2	-2.35	1.40	1.46
49	C	303	PLX	C7-C6	2.35	1.55	1.50
48	j	201	PEE	O2-C2	-2.35	1.40	1.46
56	o	201	CDL	OA6-CA4	-2.34	1.40	1.46
49	g	201	PLX	C7-C6	2.34	1.55	1.50
48	l	703	PEE	O2-C10	2.33	1.40	1.34
48	B	303	PEE	O2-C2	-2.32	1.40	1.46
48	l	704	PEE	O2-C10	2.31	1.40	1.34
52	J	401	NDP	C2D-C3D	2.31	1.59	1.53
51	X	201	8Q1	O35-C34	-2.30	1.18	1.23
48	W	201	PEE	O2-C10	2.30	1.40	1.34
48	U	101	PEE	O2-C10	2.29	1.40	1.34
47	A	503	NAI	C5B-C4B	2.29	1.58	1.51
49	r	503	PLX	C7-C6	2.28	1.55	1.50
48	C	302	PEE	O2-C10	2.28	1.40	1.34
48	i	401	PEE	O2-C10	2.27	1.40	1.34
48	r	501	PEE	O2-C10	2.26	1.40	1.34
48	j	201	PEE	O2-C10	2.26	1.40	1.34
56	V	201	CDL	PB2-OB2	2.25	1.68	1.59
51	X	201	8Q1	C6-C1	2.25	1.53	1.50
56	l	701	CDL	PB2-OB2	2.23	1.68	1.59
56	n	101	CDL	PB2-OB2	2.22	1.68	1.59
51	G	201	8Q1	O40-C39	-2.22	1.18	1.23
56	i	402	CDL	PB2-OB2	2.22	1.68	1.59
56	o	201	CDL	PB2-OB2	2.22	1.68	1.59
56	l	702	CDL	PB2-OB2	2.22	1.68	1.59
56	a	201	CDL	PB2-OB2	2.22	1.68	1.59
56	s	401	CDL	PB2-OB2	2.22	1.68	1.59
51	X	201	8Q1	O40-C39	-2.21	1.18	1.23
56	V	201	CDL	PB2-OB5	2.21	1.68	1.59
51	G	201	8Q1	O35-C34	-2.21	1.19	1.23
56	o	201	CDL	PB2-OB5	2.20	1.68	1.59
51	G	201	8Q1	C6-C1	2.20	1.53	1.50
56	l	701	CDL	PB2-OB5	2.20	1.68	1.59
56	n	101	CDL	PB2-OB5	2.19	1.68	1.59
56	N	201	CDL	PB2-OB2	2.19	1.68	1.59

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
56	k	101	CDL	PB2-OB2	2.18	1.68	1.59
56	a	201	CDL	PB2-OB5	2.18	1.68	1.59
56	l	702	CDL	PB2-OB5	2.18	1.68	1.59
53	J	402	UQ	O4-C4	-2.18	1.18	1.23
56	N	201	CDL	OB6-CB4	-2.17	1.41	1.46
50	C	304	970	C04-C02	2.17	1.53	1.50
49	r	502	PLX	P1-O4	2.17	1.68	1.59
56	i	402	CDL	PB2-OB5	2.17	1.68	1.59
49	J	403	PLX	P1-O4	2.17	1.68	1.59
56	s	401	CDL	PB2-OB5	2.17	1.68	1.59
56	l	702	CDL	OB6-CB4	-2.16	1.41	1.46
56	k	101	CDL	PB2-OB5	2.16	1.68	1.59
49	C	303	PLX	P1-O4	2.16	1.68	1.59
53	s	402	UQ	O4-C4	-2.15	1.18	1.23
56	a	201	CDL	OB6-CB4	-2.15	1.41	1.46
56	n	101	CDL	OB6-CB4	-2.15	1.41	1.46
56	l	701	CDL	OB6-CB4	-2.15	1.41	1.46
56	o	201	CDL	OB6-CB4	-2.15	1.41	1.46
49	j	202	PLX	P1-O4	2.15	1.68	1.59
56	k	101	CDL	OB6-CB4	-2.15	1.41	1.46
50	C	304	970	O28-C19	2.14	1.40	1.37
56	V	201	CDL	OB6-CB4	-2.14	1.41	1.46
49	g	201	PLX	P1-O4	2.14	1.68	1.59
49	a	202	PLX	P1-O4	2.14	1.68	1.59
56	i	402	CDL	OB6-CB4	-2.14	1.41	1.46
56	s	401	CDL	OB6-CB4	-2.13	1.41	1.46
52	J	401	NDP	PA-O5B	2.13	1.67	1.59
56	N	201	CDL	PB2-OB5	2.13	1.67	1.59
56	V	201	CDL	OA6-CA4	-2.12	1.41	1.46
52	J	401	NDP	O7N-C7N	-2.12	1.19	1.24
49	r	503	PLX	P1-O4	2.10	1.67	1.59
48	i	401	PEE	O3-C3	-2.09	1.40	1.45
48	l	703	PEE	O3-C3	-2.08	1.40	1.45
48	l	704	PEE	O3-C3	-2.08	1.40	1.45
49	r	502	PLX	P1-O1	2.08	1.67	1.59
48	C	302	PEE	O3-C3	-2.08	1.40	1.45
48	j	201	PEE	O3-C3	-2.07	1.40	1.45
50	C	304	970	O26-C20	2.07	1.40	1.37
48	W	201	PEE	O3-C3	-2.07	1.40	1.45
48	B	303	PEE	O3-C3	-2.07	1.40	1.45
49	J	403	PLX	P1-O1	2.05	1.67	1.59
49	C	303	PLX	P1-O1	2.04	1.67	1.59

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
49	g	201	PLX	P1-O1	2.04	1.67	1.59
53	J	402	UQ	O3-CM3	-2.03	1.40	1.45
49	r	503	PLX	P1-O1	2.03	1.67	1.59
49	j	202	PLX	P1-O1	2.03	1.67	1.59
48	r	501	PEE	O3-C3	-2.02	1.40	1.45
53	s	402	UQ	O1-C1	-2.02	1.19	1.23
56	n	101	CDL	C11-CA5	2.01	1.56	1.50
53	J	402	UQ	C21-C19	2.01	1.55	1.51
49	a	202	PLX	P1-O1	2.00	1.67	1.59
49	r	502	PLX	C25-C24	2.00	1.55	1.50

All (149) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
52	J	401	NDP	C3N-C2N-N1N	-9.04	110.20	123.10
53	s	402	UQ	C7-C8-C9	-8.25	113.05	126.79
50	C	304	970	O25-C24-C11	-7.75	109.56	121.98
53	J	402	UQ	C7-C8-C9	-7.73	113.93	126.79
50	C	304	970	O08-C07-C06	-6.75	108.88	113.00
52	J	401	NDP	C1D-N1N-C2N	-6.63	110.07	121.11
53	s	402	UQ	C22-C23-C24	-6.13	112.89	127.66
51	G	201	8Q1	C6-C1-S44	5.98	120.42	113.46
53	s	402	UQ	C12-C13-C14	-5.93	113.38	127.66
53	J	402	UQ	C17-C18-C19	-5.89	113.49	127.66
53	s	402	UQ	C17-C18-C19	-5.80	113.70	127.66
53	J	402	UQ	C12-C13-C14	-5.78	113.75	127.66
51	X	201	8Q1	C6-C1-S44	5.70	120.09	113.46
50	C	304	970	C06-C05-C04	5.30	106.20	101.45
52	J	401	NDP	C1D-N1N-C6N	-5.15	109.73	120.83
53	J	402	UQ	C10-C9-C8	-4.69	111.65	123.68
58	w	401	ADP	N3-C2-N1	-4.51	121.63	128.68
53	J	402	UQ	C22-C23-C24	-4.41	112.68	127.75
47	A	503	NAI	N3A-C2A-N1A	-4.38	121.83	128.68
53	s	402	UQ	C10-C9-C8	-4.29	112.66	123.68
53	s	402	UQ	C25-C24-C23	-4.27	112.72	123.68
53	s	402	UQ	C27-C28-C29	-4.25	113.23	127.75
53	J	402	UQ	C11-C9-C8	-4.22	112.58	121.12
50	C	304	970	C01-C02-C03	-4.21	111.26	121.38
53	s	402	UQ	C26-C24-C23	-4.15	112.71	121.12
53	J	402	UQ	C21-C19-C18	-4.13	112.76	121.12
56	l	702	CDL	OA6-CA5-C11	4.13	120.40	111.50
48	B	303	PEE	O2-C10-C11	4.12	120.39	111.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
56	n	101	CDL	OB6-CB5-C51	4.12	120.38	111.50
48	j	201	PEE	O2-C10-C11	4.12	120.38	111.50
56	a	201	CDL	OB6-CB5-C51	4.10	120.35	111.50
53	s	402	UQ	C11-C9-C8	-4.06	112.89	121.12
52	J	401	NDP	N3A-C2A-N1A	-4.06	122.34	128.68
48	l	704	PEE	O2-C10-C11	4.04	120.22	111.50
51	X	201	8Q1	C37-C38-C39	4.04	119.09	112.36
56	n	101	CDL	OA6-CA5-C11	4.04	120.20	111.50
48	r	501	PEE	O2-C10-C11	4.03	120.19	111.50
56	s	401	CDL	OB6-CB5-C51	4.03	120.18	111.50
56	V	201	CDL	OB6-CB5-C51	4.01	120.15	111.50
56	o	201	CDL	OB6-CB5-C51	4.00	120.11	111.50
53	s	402	UQ	C21-C19-C18	-3.99	113.05	121.12
56	l	702	CDL	OB6-CB5-C51	3.97	120.06	111.50
56	s	401	CDL	OA6-CA5-C11	3.95	120.02	111.50
48	C	302	PEE	O2-C10-C11	3.95	120.02	111.50
56	o	201	CDL	OA6-CA5-C11	3.95	120.01	111.50
53	J	402	UQ	C20-C19-C18	-3.93	113.61	123.68
56	N	201	CDL	OA6-CA5-C11	3.92	119.95	111.50
48	W	201	PEE	O2-C10-C11	3.91	119.93	111.50
56	k	101	CDL	OB6-CB5-C51	3.91	119.92	111.50
56	l	701	CDL	OA6-CA5-C11	3.90	119.90	111.50
56	l	701	CDL	OB6-CB5-C51	3.89	119.88	111.50
56	N	201	CDL	OB6-CB5-C51	3.88	119.87	111.50
53	s	402	UQ	C20-C19-C18	-3.88	113.72	123.68
56	i	402	CDL	OA6-CA5-C11	3.87	119.83	111.50
56	i	402	CDL	OB6-CB5-C51	3.87	119.83	111.50
53	s	402	UQ	C16-C14-C13	-3.86	113.31	121.12
56	a	201	CDL	OA6-CA5-C11	3.85	119.81	111.50
53	s	402	UQ	C15-C14-C13	-3.85	113.81	123.68
48	i	401	PEE	O2-C10-C11	3.82	119.73	111.50
56	V	201	CDL	OA6-CA5-C11	3.81	119.72	111.50
53	J	402	UQ	C15-C14-C13	-3.81	113.91	123.68
48	l	703	PEE	O2-C10-C11	3.80	119.69	111.50
50	C	304	970	O25-C24-C23	-3.64	115.77	121.00
50	C	304	970	O08-C07-C09	3.62	131.24	123.89
48	U	101	PEE	O2-C10-C11	3.58	119.22	111.50
50	C	304	970	O13-C14-C23	3.58	116.02	112.40
51	G	201	8Q1	O4-C1-C6	-3.47	119.89	123.99
53	J	402	UQ	C16-C14-C13	-3.44	114.16	121.12
56	k	101	CDL	OA6-CA5-C11	3.42	118.87	111.50
53	s	402	UQ	C30-C29-C28	-3.40	112.81	122.65

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
53	J	402	UQ	C25-C24-C23	-3.38	112.88	122.65
53	J	402	UQ	C26-C24-C23	-3.37	112.90	122.65
51	X	201	8Q1	O4-C1-C6	-3.33	120.06	123.99
47	A	503	NAI	C3D-C2D-C1D	3.28	107.65	101.43
56	n	101	CDL	OA8-CA7-C31	3.23	119.85	111.38
50	C	304	970	O26-C20-C19	3.12	119.75	115.41
50	C	304	970	C09-C07-C06	-3.10	119.88	123.20
53	s	402	UQ	C31-C29-C28	-3.07	113.78	122.65
46	A	502	FMN	C4-N3-C2	-3.06	120.00	125.64
50	C	304	970	O28-C19-C20	2.96	119.53	115.41
50	C	304	970	C04-C02-C03	-2.93	113.70	120.31
51	G	201	8Q1	C37-C38-C39	2.86	117.13	112.36
50	C	304	970	C22-C23-C14	2.85	113.54	109.56
48	B	303	PEE	O3-C30-C31	2.80	120.71	111.91
47	A	503	NAI	C2D-C3D-C4D	2.79	108.06	102.64
56	l	702	CDL	OA8-CA7-C31	2.76	120.57	111.91
52	J	401	NDP	C2B-C3B-C4B	2.76	107.98	101.99
56	k	101	CDL	OA8-CA7-C31	2.75	120.53	111.91
56	l	702	CDL	OB8-CB7-C71	2.73	120.48	111.91
56	n	101	CDL	OB8-CB7-C71	2.71	120.41	111.91
46	A	502	FMN	C4A-C4-N3	2.71	120.06	113.19
48	l	703	PEE	O3-C30-C31	2.69	120.36	111.91
48	U	101	PEE	O3-C30-C31	2.68	120.32	111.91
56	V	201	CDL	OB8-CB7-C71	2.67	120.29	111.91
48	r	501	PEE	O3-C30-C31	2.66	120.25	111.91
56	N	201	CDL	OB8-CB7-C71	2.65	120.23	111.91
47	A	503	NAI	C4A-C5A-N7A	-2.65	106.64	109.40
56	l	701	CDL	OB8-CB7-C71	2.64	120.20	111.91
58	w	401	ADP	PA-O3A-PB	-2.64	123.76	132.83
56	l	701	CDL	OA8-CA7-C31	2.64	120.20	111.91
56	N	201	CDL	OA8-CA7-C31	2.64	120.18	111.91
56	o	201	CDL	OA8-CA7-C31	2.62	120.12	111.91
50	C	304	970	C11-C12-C06	-2.61	118.94	123.16
56	o	201	CDL	OB8-CB7-C71	2.60	120.07	111.91
56	a	201	CDL	OB8-CB7-C71	2.60	120.05	111.91
48	i	401	PEE	O3-C30-C31	2.60	120.05	111.91
52	J	401	NDP	PN-O3-PA	-2.59	123.93	132.83
56	i	402	CDL	OB8-CB7-C71	2.58	120.00	111.91
48	W	201	PEE	O3-C30-C31	2.57	119.97	111.91
47	A	503	NAI	C4D-O4D-C1D	-2.56	103.81	109.47
56	k	101	CDL	OB8-CB7-C71	2.56	119.95	111.91
56	s	401	CDL	OA8-CA7-C31	2.55	119.91	111.91

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
56	i	402	CDL	OA8-CA7-C31	2.55	119.90	111.91
56	s	401	CDL	OB8-CB7-C71	2.54	119.89	111.91
48	j	201	PEE	O3-C30-C31	2.54	119.86	111.91
53	J	402	UQ	CM5-C5-C6	-2.52	120.28	124.40
47	A	503	NAI	PN-O3-PA	-2.52	124.17	132.83
46	A	502	FMN	O4-C4-C4A	-2.52	119.92	126.60
48	l	704	PEE	O3-C30-C31	2.52	119.80	111.91
56	a	201	CDL	OA8-CA7-C31	2.50	119.75	111.91
48	C	302	PEE	O3-C30-C31	2.50	119.74	111.91
56	V	201	CDL	OA8-CA7-C31	2.49	119.72	111.91
53	s	402	UQ	CM5-C5-C6	-2.47	120.37	124.40
49	g	201	PLX	C1A-N1-C1	2.43	119.87	109.92
49	r	502	PLX	C1A-N1-C1	2.42	119.81	109.92
58	w	401	ADP	O4'-C1'-C2'	-2.38	103.44	106.93
49	a	202	PLX	C1A-N1-C1	2.37	119.62	109.92
52	J	401	NDP	C4A-C5A-N7A	-2.35	106.94	109.40
49	J	403	PLX	C1A-N1-C1	2.33	119.46	109.92
46	A	502	FMN	C4A-C10-N10	2.33	119.88	116.48
49	j	202	PLX	C1A-N1-C1	2.32	119.40	109.92
46	A	502	FMN	C4A-C10-N1	-2.31	119.37	124.73
51	G	201	8Q1	C38-C39-N41	2.30	120.29	116.42
51	X	201	8Q1	C32-C34-N36	2.30	121.15	116.58
51	X	201	8Q1	C43-S44-C1	2.28	108.98	101.87
51	G	201	8Q1	O4-C1-S44	-2.25	119.69	122.61
47	A	503	NAI	C3B-C2B-C1B	2.24	104.36	100.98
49	C	303	PLX	C1A-N1-C1	2.24	119.10	109.92
46	A	502	FMN	C9A-C5A-N5	-2.21	120.03	122.43
46	A	502	FMN	C10-C4A-N5	-2.18	120.23	124.86
49	r	503	PLX	C1A-N1-C1	2.17	118.81	109.92
50	C	304	970	C05-C04-C02	-2.16	112.46	115.62
58	w	401	ADP	C4-C5-N7	-2.13	107.17	109.40
51	X	201	8Q1	O4-C1-S44	-2.13	119.85	122.61
56	l	702	CDL	CA4-OA6-CA5	-2.12	112.56	117.79
50	C	304	970	C15-C14-C23	2.12	112.33	110.62
50	C	304	970	O26-C20-C21	-2.09	120.52	124.12
46	A	502	FMN	C5A-C9A-N10	2.09	120.11	117.95
50	C	304	970	C07-C06-C12	2.06	120.76	118.74

There are no chirality outliers.

All (1020) 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'
47	A	503	NAI	C5B-O5B-PA-O1A
48	B	303	PEE	C1-O3P-P-O1P
48	B	303	PEE	O4P-C4-C5-N
48	C	302	PEE	C1-O3P-P-O2P
48	C	302	PEE	C1-O3P-P-O1P
48	C	302	PEE	C1-O3P-P-O4P
48	U	101	PEE	C4-O4P-P-O3P
48	W	201	PEE	C1-O3P-P-O2P
48	W	201	PEE	C1-O3P-P-O1P
48	W	201	PEE	C1-O3P-P-O4P
48	i	401	PEE	C11-C10-O2-C2
48	i	401	PEE	C4-O4P-P-O3P
48	i	401	PEE	C4-O4P-P-O2P
48	i	401	PEE	C4-O4P-P-O1P
48	j	201	PEE	C11-C10-O2-C2
48	j	201	PEE	C4-O4P-P-O2P
48	j	201	PEE	O4P-C4-C5-N
48	l	703	PEE	O3P-C1-C2-O2
48	r	501	PEE	C1-O3P-P-O2P
48	r	501	PEE	C1-O3P-P-O1P
48	r	501	PEE	C1-O3P-P-O4P
48	r	501	PEE	C4-O4P-P-O2P
48	r	501	PEE	C4-O4P-P-O1P
49	C	303	PLX	O6-C4-C5-O8
49	C	303	PLX	N1-C1-C2-O1
49	J	403	PLX	O7-C6-O6-C4
49	J	403	PLX	N1-C1-C2-O1
49	a	202	PLX	O7-C6-O6-C4
49	a	202	PLX	C3-O4-P1-O3
49	a	202	PLX	C2-O1-P1-O4
49	a	202	PLX	C2-O1-P1-O2
49	a	202	PLX	C2-O1-P1-O3
49	a	202	PLX	O9-C24-O8-C5
49	a	202	PLX	O9-C24-C25-C26
49	g	201	PLX	O7-C6-C7-C8
49	g	201	PLX	O7-C6-O6-C4
49	g	201	PLX	C3-O4-P1-O1
49	g	201	PLX	C3-O4-P1-O2
49	g	201	PLX	C3-O4-P1-O3
49	g	201	PLX	C2-O1-P1-O2

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Mol	Chain	Res	Type	Atoms
49	g	201	PLX	C2-O1-P1-O3
49	j	202	PLX	O7-C6-C7-C8
49	j	202	PLX	C7-C6-O6-C4
49	j	202	PLX	C3-O4-P1-O2
49	j	202	PLX	C3-O4-P1-O3
49	j	202	PLX	O9-C24-O8-C5
49	r	502	PLX	O6-C6-C7-C8
49	r	502	PLX	O7-C6-O6-C4
49	r	502	PLX	C3-C4-O6-C6
49	r	502	PLX	C5-C4-O6-C6
49	r	502	PLX	O9-C24-C25-C26
49	r	503	PLX	O7-C6-O6-C4
49	r	503	PLX	C3-O4-P1-O2
49	r	503	PLX	O9-C24-C25-C26
50	C	304	970	C03-C02-C04-C05
50	C	304	970	C03-C02-C04-O08
51	G	201	8Q1	C28-C29-C32-C34
51	G	201	8Q1	C28-C29-C32-O33
51	G	201	8Q1	C30-C29-C32-C34
51	G	201	8Q1	C30-C29-C32-O33
51	G	201	8Q1	C31-C29-C32-C34
51	G	201	8Q1	C31-C29-C32-O33
51	G	201	8Q1	C42-C43-S44-C1
51	G	201	8Q1	C28-O27-P24-O3
51	X	201	8Q1	C28-C29-C32-C34
51	X	201	8Q1	C28-C29-C32-O33
51	X	201	8Q1	C30-C29-C32-C34
51	X	201	8Q1	C30-C29-C32-O33
51	X	201	8Q1	C31-C29-C32-C34
51	X	201	8Q1	C29-C32-C34-N36
51	X	201	8Q1	C29-C32-C34-O35
51	X	201	8Q1	O33-C32-C34-N36
51	X	201	8Q1	N41-C42-C43-S44
51	X	201	8Q1	C28-O27-P24-O3
51	X	201	8Q1	C28-O27-P24-O2
51	X	201	8Q1	C28-O27-P24-O1
52	J	401	NDP	C5B-O5B-PA-O1A
52	J	401	NDP	C5B-O5B-PA-O3
53	J	402	UQ	C7-C8-C9-C10
53	J	402	UQ	C7-C8-C9-C11
53	s	402	UQ	C7-C8-C9-C10
53	s	402	UQ	C7-C8-C9-C11

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Mol	Chain	Res	Type	Atoms
53	s	402	UQ	C18-C19-C21-C22
53	s	402	UQ	C22-C23-C24-C26
53	s	402	UQ	C27-C28-C29-C30
56	N	201	CDL	O1-C1-CA2-OA2
56	N	201	CDL	CB2-C1-CA2-OA2
56	N	201	CDL	CA2-OA2-PA1-OA3
56	N	201	CDL	CA2-OA2-PA1-OA4
56	N	201	CDL	CA3-OA5-PA1-OA3
56	N	201	CDL	CB2-OB2-PB2-OB3
56	N	201	CDL	CB2-OB2-PB2-OB4
56	N	201	CDL	CB2-OB2-PB2-OB5
56	V	201	CDL	CB3-OB5-PB2-OB3
56	V	201	CDL	CB3-OB5-PB2-OB4
56	a	201	CDL	CA2-C1-CB2-OB2
56	a	201	CDL	CA2-OA2-PA1-OA3
56	a	201	CDL	CA3-OA5-PA1-OA2
56	a	201	CDL	CA3-OA5-PA1-OA3
56	a	201	CDL	CA3-OA5-PA1-OA4
56	a	201	CDL	CB2-OB2-PB2-OB3
56	a	201	CDL	OB7-CB5-OB6-CB4
56	a	201	CDL	C51-CB5-OB6-CB4
56	i	402	CDL	CA2-OA2-PA1-OA3
56	i	402	CDL	CA3-OA5-PA1-OA2
56	i	402	CDL	CA3-OA5-PA1-OA3
56	i	402	CDL	CB3-OB5-PB2-OB3
56	i	402	CDL	C51-CB5-OB6-CB4
56	k	101	CDL	CB2-C1-CA2-OA2
56	k	101	CDL	CA2-OA2-PA1-OA3
56	k	101	CDL	CA2-OA2-PA1-OA4
56	k	101	CDL	CA2-OA2-PA1-OA5
56	k	101	CDL	CA3-OA5-PA1-OA3
56	k	101	CDL	OA5-CA3-CA4-OA6
56	k	101	CDL	CB2-OB2-PB2-OB3
56	k	101	CDL	CB3-OB5-PB2-OB3
56	k	101	CDL	CB3-OB5-PB2-OB4
56	l	701	CDL	O1-C1-CA2-OA2
56	l	701	CDL	CB2-OB2-PB2-OB4
56	l	701	CDL	CB3-OB5-PB2-OB3
56	l	702	CDL	O1-C1-CB2-OB2
56	l	702	CDL	CA2-OA2-PA1-OA5
56	l	702	CDL	CA3-OA5-PA1-OA3
56	l	702	CDL	CA3-OA5-PA1-OA4

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Mol	Chain	Res	Type	Atoms
56	n	101	CDL	CA2-OA2-PA1-OA3
56	n	101	CDL	CA3-OA5-PA1-OA3
56	n	101	CDL	CA3-OA5-PA1-OA4
56	n	101	CDL	CB3-OB5-PB2-OB3
56	n	101	CDL	CB3-OB5-PB2-OB4
56	o	201	CDL	CA2-OA2-PA1-OA3
56	o	201	CDL	CA2-OA2-PA1-OA4
56	o	201	CDL	CA3-OA5-PA1-OA3
56	o	201	CDL	CB3-OB5-PB2-OB2
56	o	201	CDL	CB3-OB5-PB2-OB3
56	o	201	CDL	CB3-OB5-PB2-OB4
56	s	401	CDL	CA2-OA2-PA1-OA3
56	s	401	CDL	CB3-OB5-PB2-OB4
56	l	701	CDL	OA9-CA7-OA8-CA6
56	l	701	CDL	C31-CA7-OA8-CA6
48	U	101	PEE	O5-C30-O3-C3
56	l	702	CDL	OB9-CB7-OB8-CB6
48	j	201	PEE	O4-C10-O2-C2
48	l	703	PEE	O4-C10-O2-C2
56	i	402	CDL	OB7-CB5-OB6-CB4
48	U	101	PEE	C31-C30-O3-C3
56	i	402	CDL	C71-CB7-OB8-CB6
56	l	702	CDL	C71-CB7-OB8-CB6
48	C	302	PEE	C11-C10-O2-C2
53	J	402	UQ	C22-C23-C24-C26
48	B	303	PEE	C17-C18-C19-C20
48	U	101	PEE	C17-C18-C19-C20
48	l	704	PEE	C37-C38-C39-C40
49	g	201	PLX	C7-C8-C9-C10
48	C	302	PEE	O4-C10-O2-C2
48	i	401	PEE	O4-C10-O2-C2
53	J	402	UQ	C12-C13-C14-C16
53	J	402	UQ	C17-C18-C19-C21
53	s	402	UQ	C17-C18-C19-C21
56	i	402	CDL	OB9-CB7-OB8-CB6
49	r	502	PLX	C11-C12-C13-C14
56	a	201	CDL	O1-C1-CA2-OA2
56	i	402	CDL	O1-C1-CA2-OA2
56	l	701	CDL	O1-C1-CB2-OB2
56	l	702	CDL	O1-C1-CA2-OA2
56	o	201	CDL	O1-C1-CB2-OB2
56	s	401	CDL	O1-C1-CB2-OB2

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Mol	Chain	Res	Type	Atoms
49	J	403	PLX	C27-C28-C29-C30
48	l	703	PEE	C11-C10-O2-C2
48	l	704	PEE	C11-C10-O2-C2
56	V	201	CDL	C11-CA5-OA6-CA4
56	l	702	CDL	C51-CB5-OB6-CB4
56	o	201	CDL	C51-CB5-OB6-CB4
56	s	401	CDL	C51-CB5-OB6-CB4
56	V	201	CDL	C11-C12-C13-C14
49	C	303	PLX	C25-C26-C27-C28
49	C	303	PLX	C27-C28-C29-C30
49	J	403	PLX	C25-C26-C27-C28
56	n	101	CDL	C71-C72-C73-C74
49	r	502	PLX	C9-C10-C11-C12
49	r	502	PLX	C7-C8-C9-C10
56	l	702	CDL	C75-C76-C77-C78
49	g	201	PLX	C9-C10-C11-C12
52	J	401	NDP	O4B-C4B-C5B-O5B
56	V	201	CDL	OA7-CA5-OA6-CA4
56	k	101	CDL	C73-C74-C75-C76
53	J	402	UQ	C12-C11-C9-C8
56	o	201	CDL	C11-C12-C13-C14
53	s	402	UQ	C9-C11-C12-C13
53	s	402	UQ	C14-C16-C17-C18
56	l	701	CDL	C55-C56-C57-C58
56	V	201	CDL	C31-CA7-OA8-CA6
56	V	201	CDL	C71-CB7-OB8-CB6
49	j	202	PLX	C13-C14-C15-C16
56	a	201	CDL	CB2-C1-CA2-OA2
56	l	701	CDL	CB2-C1-CA2-OA2
56	l	701	CDL	CA2-C1-CB2-OB2
56	l	702	CDL	CA2-C1-CB2-OB2
56	o	201	CDL	CA2-C1-CB2-OB2
56	s	401	CDL	CA2-C1-CB2-OB2
48	l	704	PEE	O4-C10-O2-C2
56	l	702	CDL	OB7-CB5-OB6-CB4
56	o	201	CDL	OB7-CB5-OB6-CB4
56	s	401	CDL	OB7-CB5-OB6-CB4
56	s	401	CDL	C31-C32-C33-C34
49	g	201	PLX	C2-C1-N1-C1B
49	g	201	PLX	C2-C1-N1-C1A
48	i	401	PEE	C31-C30-O3-C3
48	l	703	PEE	C31-C30-O3-C3

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Mol	Chain	Res	Type	Atoms
56	a	201	CDL	C71-CB7-OB8-CB6
56	k	101	CDL	C71-CB7-OB8-CB6
56	V	201	CDL	C32-C33-C34-C35
56	s	401	CDL	C14-C15-C16-C17
56	V	201	CDL	OB5-CB3-CB4-OB6
48	B	303	PEE	C34-C35-C36-C37
56	k	101	CDL	O1-C1-CA2-OA2
56	o	201	CDL	O1-C1-CA2-OA2
56	V	201	CDL	OB6-CB4-CB6-OB8
56	s	401	CDL	OB6-CB4-CB6-OB8
56	l	702	CDL	C12-C13-C14-C15
48	l	703	PEE	O5-C30-O3-C3
56	a	201	CDL	CA5-C11-C12-C13
56	k	101	CDL	CA7-C31-C32-C33
56	s	401	CDL	CA7-C31-C32-C33
56	a	201	CDL	OB9-CB7-OB8-CB6
48	l	704	PEE	C34-C35-C36-C37
56	i	402	CDL	CA5-C11-C12-C13
56	l	702	CDL	CB5-C51-C52-C53
56	l	702	CDL	C35-C36-C37-C38
56	N	201	CDL	CA7-C31-C32-C33
56	i	402	CDL	CB7-C71-C72-C73
56	l	701	CDL	CB5-C51-C52-C53
56	l	701	CDL	CB7-C71-C72-C73
56	n	101	CDL	CB7-C71-C72-C73
56	o	201	CDL	CB7-C71-C72-C73
52	J	401	NDP	O4D-C4D-C5D-O5D
52	J	401	NDP	C3D-C4D-C5D-O5D
48	l	704	PEE	C21-C22-C23-C24
56	l	701	CDL	C58-C59-C60-C61
56	k	101	CDL	OB9-CB7-OB8-CB6
48	i	401	PEE	O5-C30-O3-C3
48	B	303	PEE	C11-C12-C13-C14
56	a	201	CDL	CB7-C71-C72-C73
56	a	201	CDL	O1-C1-CB2-OB2
56	l	701	CDL	C34-C35-C36-C37
56	s	401	CDL	C36-C37-C38-C39
56	V	201	CDL	OA9-CA7-OA8-CA6
56	V	201	CDL	OB9-CB7-OB8-CB6
56	n	101	CDL	C75-C76-C77-C78
48	W	201	PEE	C17-C18-C19-C20
56	i	402	CDL	C51-C52-C53-C54

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Mol	Chain	Res	Type	Atoms
48	C	302	PEE	C4-O4P-P-O3P
48	U	101	PEE	C1-O3P-P-O4P
48	W	201	PEE	C4-O4P-P-O3P
48	i	401	PEE	C1-O3P-P-O4P
48	r	501	PEE	C4-O4P-P-O3P
49	C	303	PLX	C3-O4-P1-O1
49	a	202	PLX	C3-O4-P1-O1
49	g	201	PLX	C2-O1-P1-O4
49	j	202	PLX	C3-O4-P1-O1
49	r	503	PLX	C2-O1-P1-O4
56	N	201	CDL	CA2-OA2-PA1-OA5
56	V	201	CDL	CB3-OB5-PB2-OB2
56	a	201	CDL	CB2-OB2-PB2-OB5
56	i	402	CDL	CB2-OB2-PB2-OB5
56	i	402	CDL	CB3-OB5-PB2-OB2
56	k	101	CDL	CA3-OA5-PA1-OA2
56	k	101	CDL	CB2-OB2-PB2-OB5
56	k	101	CDL	CB3-OB5-PB2-OB2
56	l	701	CDL	CB2-OB2-PB2-OB5
56	l	702	CDL	CA3-OA5-PA1-OA2
56	n	101	CDL	CA2-OA2-PA1-OA5
56	n	101	CDL	CA3-OA5-PA1-OA2
56	n	101	CDL	CB3-OB5-PB2-OB2
56	o	201	CDL	CA2-OA2-PA1-OA5
56	s	401	CDL	CB3-OB5-PB2-OB2
56	s	401	CDL	CB5-C51-C52-C53
52	J	401	NDP	C2D-C1D-N1N-C6N
48	B	303	PEE	C31-C30-O3-C3
56	N	201	CDL	C51-C52-C53-C54
56	s	401	CDL	CB7-C71-C72-C73
56	i	402	CDL	CB2-C1-CA2-OA2
56	l	702	CDL	CB2-C1-CA2-OA2
56	o	201	CDL	CB2-C1-CA2-OA2
56	l	702	CDL	C17-C18-C19-C20
56	a	201	CDL	C36-C37-C38-C39
56	V	201	CDL	C56-C57-C58-C59
56	V	201	CDL	C62-C63-C64-C65
56	l	701	CDL	C37-C38-C39-C40
56	l	702	CDL	C11-CA5-OA6-CA4
48	W	201	PEE	C13-C14-C15-C16
48	j	201	PEE	C12-C13-C14-C15
49	C	303	PLX	C9-C10-C11-C12

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Mol	Chain	Res	Type	Atoms
49	J	403	PLX	C7-C8-C9-C10
49	J	403	PLX	C26-C27-C28-C29
49	r	502	PLX	C11-C10-C9-C8
56	V	201	CDL	C31-C32-C33-C34
56	V	201	CDL	C34-C35-C36-C37
56	k	101	CDL	C76-C77-C78-C79
56	l	701	CDL	C11-C12-C13-C14
56	l	701	CDL	C31-C32-C33-C34
56	s	401	CDL	C71-C72-C73-C74
56	s	401	CDL	C73-C74-C75-C76
48	r	501	PEE	C14-C15-C16-C17
49	g	201	PLX	C28-C29-C30-C31
51	X	201	8Q1	C9-C10-C11-C12
56	a	201	CDL	C62-C63-C64-C65
56	l	701	CDL	C73-C74-C75-C76
56	l	702	CDL	C80-C81-C82-C83
56	l	701	CDL	CA7-C31-C32-C33
48	C	302	PEE	C13-C14-C15-C16
48	i	401	PEE	C11-C12-C13-C14
49	a	202	PLX	C12-C13-C14-C15
49	j	202	PLX	C14-C15-C16-C17
51	X	201	8Q1	C11-C12-C13-C14
56	V	201	CDL	C40-C41-C42-C43
56	l	701	CDL	C59-C60-C61-C62
56	n	101	CDL	C74-C75-C76-C77
56	o	201	CDL	C82-C83-C84-C85
48	r	501	PEE	C20-C21-C22-C23
49	g	201	PLX	C10-C11-C12-C13
49	r	502	PLX	C33-C34-C35-C36
49	r	503	PLX	C32-C33-C34-C35
56	V	201	CDL	C75-C76-C77-C78
56	i	402	CDL	C80-C81-C82-C83
56	l	702	CDL	C11-C12-C13-C14
56	o	201	CDL	C75-C76-C77-C78
56	n	101	CDL	O1-C1-CB2-OB2
49	a	202	PLX	C10-C11-C12-C13
49	g	201	PLX	C12-C13-C14-C15
56	l	701	CDL	C62-C63-C64-C65
56	s	401	CDL	C32-C33-C34-C35
49	C	303	PLX	C11-C12-C13-C14
49	C	303	PLX	C10-C11-C12-C13
49	g	201	PLX	C27-C28-C29-C30

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Mol	Chain	Res	Type	Atoms
56	i	402	CDL	C31-C32-C33-C34
56	l	702	CDL	C37-C38-C39-C40
49	J	403	PLX	C33-C34-C35-C36
49	j	202	PLX	C11-C12-C13-C14
49	j	202	PLX	C33-C34-C35-C36
49	r	502	PLX	C28-C29-C30-C31
56	a	201	CDL	C52-C53-C54-C55
56	l	702	CDL	C59-C60-C61-C62
48	i	401	PEE	C21-C22-C23-C24
48	i	401	PEE	C14-C15-C16-C17
49	J	403	PLX	C28-C29-C30-C31
49	J	403	PLX	C30-C31-C32-C33
49	a	202	PLX	C13-C14-C15-C16
49	g	201	PLX	C14-C15-C16-C17
49	g	201	PLX	C13-C14-C15-C16
49	j	202	PLX	C27-C28-C29-C30
49	r	502	PLX	C27-C28-C29-C30
56	a	201	CDL	C60-C61-C62-C63
56	i	402	CDL	C13-C14-C15-C16
56	l	701	CDL	C75-C76-C77-C78
56	l	702	CDL	C13-C14-C15-C16
56	o	201	CDL	C37-C38-C39-C40
49	C	303	PLX	C30-C31-C32-C33
49	a	202	PLX	C33-C34-C35-C36
49	g	201	PLX	C32-C33-C34-C35
56	i	402	CDL	C14-C15-C16-C17
56	l	702	CDL	C31-C32-C33-C34
48	B	303	PEE	O4-C10-O2-C2
56	l	702	CDL	OA7-CA5-OA6-CA4
48	B	303	PEE	C11-C10-O2-C2
48	U	101	PEE	C11-C12-C13-C14
49	j	202	PLX	C25-C26-C27-C28
49	r	503	PLX	C25-C26-C27-C28
56	o	201	CDL	C55-C56-C57-C58
56	o	201	CDL	C60-C61-C62-C63
56	s	401	CDL	C51-C52-C53-C54
48	B	303	PEE	C35-C36-C37-C38
48	U	101	PEE	C35-C36-C37-C38
48	r	501	PEE	C15-C16-C17-C18
48	i	401	PEE	C10-C11-C12-C13
56	l	702	CDL	CB7-C71-C72-C73
48	B	303	PEE	C23-C24-C25-C26

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Mol	Chain	Res	Type	Atoms
48	W	201	PEE	C21-C22-C23-C24
48	j	201	PEE	C23-C24-C25-C26
49	r	503	PLX	C10-C11-C12-C13
56	V	201	CDL	C71-C72-C73-C74
56	V	201	CDL	C72-C73-C74-C75
56	a	201	CDL	C17-C18-C19-C20
56	a	201	CDL	C73-C74-C75-C76
56	a	201	CDL	C75-C76-C77-C78
56	i	402	CDL	C32-C33-C34-C35
56	i	402	CDL	C52-C53-C54-C55
56	i	402	CDL	C55-C56-C57-C58
56	k	101	CDL	C11-C12-C13-C14
56	k	101	CDL	C75-C76-C77-C78
56	o	201	CDL	C17-C18-C19-C20
49	j	202	PLX	C16-C17-C18-C19
51	X	201	8Q1	C7-C8-C9-C10
56	a	201	CDL	C22-C23-C24-C25
56	l	701	CDL	C36-C37-C38-C39
56	l	701	CDL	C52-C53-C54-C55
56	n	101	CDL	C52-C53-C54-C55
56	s	401	CDL	C37-C38-C39-C40
56	s	401	CDL	C59-C60-C61-C62
48	W	201	PEE	O4P-C4-C5-N
49	a	202	PLX	C9-C10-C11-C12
49	r	503	PLX	C28-C29-C30-C31
56	V	201	CDL	C59-C60-C61-C62
56	k	101	CDL	C71-C72-C73-C74
56	o	201	CDL	C53-C54-C55-C56
49	r	503	PLX	C14-C15-C16-C17
49	r	503	PLX	C7-C8-C9-C10
56	N	201	CDL	C71-C72-C73-C74
56	n	101	CDL	C55-C56-C57-C58
56	l	701	CDL	C71-CB7-OB8-CB6
56	V	201	CDL	C35-C36-C37-C38
56	a	201	CDL	C37-C38-C39-C40
56	i	402	CDL	C36-C37-C38-C39
56	i	402	CDL	C43-C44-C45-C46
46	A	502	FMN	O4'-C4'-C5'-O5'
48	U	101	PEE	C22-C23-C24-C25
49	C	303	PLX	C15-C16-C17-C18
49	a	202	PLX	C7-C8-C9-C10
48	l	703	PEE	C30-C31-C32-C33

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Mol	Chain	Res	Type	Atoms
49	J	403	PLX	C31-C32-C33-C34
56	V	201	CDL	C73-C74-C75-C76
56	a	201	CDL	C35-C36-C37-C38
56	i	402	CDL	C41-C42-C43-C44
48	i	401	PEE	C37-C38-C39-C40
49	r	502	PLX	C25-C26-C27-C28
56	a	201	CDL	C71-C72-C73-C74
56	l	701	CDL	C82-C83-C84-C85
56	s	401	CDL	C52-C53-C54-C55
56	s	401	CDL	C31-CA7-OA8-CA6
48	W	201	PEE	C11-C10-O2-C2
56	V	201	CDL	C51-CB5-OB6-CB4
49	j	202	PLX	C10-C11-C12-C13
56	k	101	CDL	C81-C82-C83-C84
49	g	201	PLX	O9-C24-C25-C26
49	r	502	PLX	O7-C6-C7-C8
49	g	201	PLX	C11-C10-C9-C8
49	r	502	PLX	C14-C15-C16-C17
56	l	701	CDL	C14-C15-C16-C17
56	l	701	CDL	C71-C72-C73-C74
56	n	101	CDL	C73-C74-C75-C76
56	s	401	CDL	C75-C76-C77-C78
48	l	703	PEE	C15-C16-C17-C18
48	U	101	PEE	C36-C37-C38-C39
49	a	202	PLX	C27-C28-C29-C30
49	j	202	PLX	C7-C8-C9-C10
56	a	201	CDL	C11-C12-C13-C14
56	a	201	CDL	C82-C83-C84-C85
48	B	303	PEE	O5-C30-O3-C3
56	V	201	CDL	C52-C53-C54-C55
56	i	402	CDL	C59-C60-C61-C62
48	W	201	PEE	O4-C10-O2-C2
56	o	201	CDL	C12-C13-C14-C15
49	r	502	PLX	C30-C31-C32-C33
49	g	201	PLX	C2-C1-N1-C1C
49	a	202	PLX	C34-C35-C36-C37
48	W	201	PEE	C31-C30-O3-C3
56	N	201	CDL	C71-CB7-OB8-CB6
56	o	201	CDL	C57-C58-C59-C60
48	l	704	PEE	C13-C14-C15-C16
48	j	201	PEE	C13-C14-C15-C16
49	j	202	PLX	C15-C16-C17-C18

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Mol	Chain	Res	Type	Atoms
56	V	201	CDL	C55-C56-C57-C58
56	a	201	CDL	C32-C33-C34-C35
56	l	702	CDL	C39-C40-C41-C42
56	l	701	CDL	OB9-CB7-OB8-CB6
56	s	401	CDL	OA9-CA7-OA8-CA6
49	r	502	PLX	C13-C14-C15-C16
48	i	401	PEE	C19-C20-C21-C22
48	r	501	PEE	O4-C10-O2-C2
56	V	201	CDL	OB7-CB5-OB6-CB4
48	C	302	PEE	C31-C30-O3-C3
48	l	703	PEE	C31-C32-C33-C34
56	l	701	CDL	C35-C36-C37-C38
56	k	101	CDL	CB7-C71-C72-C73
56	l	702	CDL	CA7-C31-C32-C33
48	W	201	PEE	C12-C13-C14-C15
56	o	201	CDL	C14-C15-C16-C17
56	o	201	CDL	C54-C55-C56-C57
48	C	302	PEE	C42-C43-C44-C45
56	V	201	CDL	C78-C79-C80-C81
56	k	101	CDL	C23-C24-C25-C26
56	a	201	CDL	C31-CA7-OA8-CA6
49	a	202	PLX	C17-C18-C19-C20
49	r	503	PLX	C13-C14-C15-C16
56	o	201	CDL	C36-C37-C38-C39
56	s	401	CDL	C35-C36-C37-C38
48	r	501	PEE	C11-C10-O2-C2
56	N	201	CDL	C51-CB5-OB6-CB4
56	l	701	CDL	C51-CB5-OB6-CB4
49	C	303	PLX	O4-C3-C4-O6
56	o	201	CDL	OB5-CB3-CB4-OB6
49	g	201	PLX	C30-C31-C32-C33
49	r	503	PLX	C11-C12-C13-C14
51	X	201	8Q1	C6-C7-C8-C9
56	s	401	CDL	C16-C17-C18-C19
49	a	202	PLX	C30-C31-C32-C33
56	l	701	CDL	OB7-CB5-OB6-CB4
49	C	303	PLX	C13-C14-C15-C16
49	g	201	PLX	C25-C26-C27-C28
56	o	201	CDL	OA6-CA4-CA6-OA8
56	o	201	CDL	OB6-CB4-CB6-OB8
56	k	101	CDL	C52-C53-C54-C55
56	l	702	CDL	C82-C83-C84-C85

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Mol	Chain	Res	Type	Atoms
56	s	401	CDL	C12-C13-C14-C15
48	l	703	PEE	C23-C24-C25-C26
56	l	701	CDL	C56-C57-C58-C59
56	l	702	CDL	C32-C33-C34-C35
48	C	302	PEE	C19-C20-C21-C22
48	l	703	PEE	C19-C20-C21-C22
48	U	101	PEE	C31-C32-C33-C34
48	r	501	PEE	C17-C18-C19-C20
56	V	201	CDL	C51-C52-C53-C54
48	W	201	PEE	O5-C30-O3-C3
56	N	201	CDL	OB9-CB7-OB8-CB6
56	N	201	CDL	OB7-CB5-OB6-CB4
49	C	303	PLX	C11-C10-C9-C8
56	o	201	CDL	C72-C73-C74-C75
48	B	303	PEE	C38-C39-C40-C41
48	j	201	PEE	C4-O4P-P-O3P
49	r	502	PLX	C3-O4-P1-O1
56	i	402	CDL	CA2-OA2-PA1-OA5
56	l	701	CDL	CB3-OB5-PB2-OB2
56	o	201	CDL	CA3-OA5-PA1-OA2
49	j	202	PLX	C19-C20-C21-C22
48	U	101	PEE	C21-C22-C23-C24
48	C	302	PEE	O3P-C1-C2-C3
56	V	201	CDL	OB5-CB3-CB4-CB6
56	i	402	CDL	C15-C16-C17-C18
49	j	202	PLX	C11-C10-C9-C8
49	J	403	PLX	C12-C13-C14-C15
56	k	101	CDL	C18-C19-C20-C21
48	C	302	PEE	C15-C16-C17-C18
48	l	703	PEE	C11-C12-C13-C14
56	k	101	CDL	C12-C13-C14-C15
56	l	702	CDL	C16-C17-C18-C19
56	o	201	CDL	C35-C36-C37-C38
48	j	201	PEE	C31-C30-O3-C3
56	s	401	CDL	C71-CB7-OB8-CB6
49	J	403	PLX	C13-C14-C15-C16
56	i	402	CDL	C72-C73-C74-C75
48	r	501	PEE	C11-C12-C13-C14
56	i	402	CDL	C71-C72-C73-C74
56	V	201	CDL	CB7-C71-C72-C73
48	C	302	PEE	O5-C30-O3-C3
49	r	502	PLX	C16-C17-C18-C19

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Mol	Chain	Res	Type	Atoms
48	r	501	PEE	C1-C2-C3-O3
49	a	202	PLX	C3-C4-C5-O8
49	r	503	PLX	C3-C4-C5-O8
56	V	201	CDL	CA3-CA4-CA6-OA8
56	V	201	CDL	CB3-CB4-CB6-OB8
56	i	402	CDL	CB3-CB4-CB6-OB8
56	s	401	CDL	CB3-CB4-CB6-OB8
56	k	101	CDL	C17-C18-C19-C20
48	r	501	PEE	C10-C11-C12-C13
56	a	201	CDL	CB5-C51-C52-C53
49	r	502	PLX	C34-C35-C36-C37
49	a	202	PLX	O6-C6-C7-C8
49	g	201	PLX	O6-C6-C7-C8
48	i	401	PEE	C35-C36-C37-C38
48	j	201	PEE	C19-C20-C21-C22
56	N	201	CDL	C52-C53-C54-C55
56	n	101	CDL	C51-CB5-OB6-CB4
56	a	201	CDL	OA9-CA7-OA8-CA6
48	C	302	PEE	C44-C45-C46-C47
49	J	403	PLX	C11-C12-C13-C14
49	r	502	PLX	C12-C13-C14-C15
56	V	201	CDL	CA6-CA4-OA6-CA5
56	V	201	CDL	CB5-C51-C52-C53
48	U	101	PEE	C12-C13-C14-C15
56	i	402	CDL	C82-C83-C84-C85
56	V	201	CDL	C57-C58-C59-C60
56	N	201	CDL	OA5-CA3-CA4-OA6
56	l	701	CDL	OB5-CB3-CB4-OB6
56	l	702	CDL	OB5-CB3-CB4-OB6
49	C	303	PLX	C19-C20-C21-C22
49	C	303	PLX	C14-C15-C16-C17
51	X	201	8Q1	C11-C10-C9-C8
56	i	402	CDL	C35-C36-C37-C38
56	o	201	CDL	C32-C31-CA7-OA8
56	i	402	CDL	OB6-CB4-CB6-OB8
48	j	201	PEE	O5-C30-O3-C3
56	s	401	CDL	OB9-CB7-OB8-CB6
51	X	201	8Q1	C31-C29-C32-O33
48	j	201	PEE	C11-C12-C13-C14
48	r	501	PEE	C21-C22-C23-C24
56	l	702	CDL	C38-C39-C40-C41
52	J	401	NDP	PN-O3-PA-O1A

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Mol	Chain	Res	Type	Atoms
56	o	201	CDL	C62-C63-C64-C65
49	C	303	PLX	C28-C29-C30-C31
56	k	101	CDL	C32-C33-C34-C35
56	l	702	CDL	C44-C45-C46-C47
56	l	701	CDL	C16-C17-C18-C19
52	J	401	NDP	C3B-C4B-C5B-O5B
49	C	303	PLX	O4-C3-C4-C5
56	N	201	CDL	OB5-CB3-CB4-CB6
56	k	101	CDL	OA5-CA3-CA4-CA6
56	l	702	CDL	OB5-CB3-CB4-CB6
56	o	201	CDL	OB5-CB3-CB4-CB6
56	l	701	CDL	C74-C75-C76-C77
48	l	704	PEE	O4P-C4-C5-N
56	k	101	CDL	C31-CA7-OA8-CA6
56	V	201	CDL	C58-C59-C60-C61
56	V	201	CDL	C14-C15-C16-C17
48	r	501	PEE	C36-C37-C38-C39
56	i	402	CDL	C73-C74-C75-C76
48	C	302	PEE	C12-C13-C14-C15
56	a	201	CDL	C14-C15-C16-C17
56	n	101	CDL	C54-C55-C56-C57
48	i	401	PEE	C1-C2-C3-O3
48	j	201	PEE	C1-C2-C3-O3
48	l	704	PEE	C1-C2-C3-O3
49	C	303	PLX	C3-C4-C5-O8
49	J	403	PLX	C3-C4-C5-O8
49	j	202	PLX	C3-C4-C5-O8
56	o	201	CDL	CA3-CA4-CA6-OA8
56	o	201	CDL	CB3-CB4-CB6-OB8
56	s	401	CDL	CA3-CA4-CA6-OA8
48	r	501	PEE	C31-C32-C33-C34
49	j	202	PLX	C34-C35-C36-C37
49	r	503	PLX	C16-C17-C18-C19
56	V	201	CDL	C63-C64-C65-C66
49	r	503	PLX	C27-C28-C29-C30
49	J	403	PLX	C3-C4-O6-C6
49	r	503	PLX	C5-C4-O6-C6
49	r	503	PLX	C3-O4-P1-O1
56	a	201	CDL	CA2-OA2-PA1-OA5
48	l	703	PEE	C10-C11-C12-C13
56	k	101	CDL	C53-C54-C55-C56
49	C	303	PLX	O9-C24-C25-C26

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Mol	Chain	Res	Type	Atoms
48	l	704	PEE	C23-C24-C25-C26
48	r	501	PEE	C19-C20-C21-C22
56	o	201	CDL	C51-C52-C53-C54
56	i	402	CDL	C39-C40-C41-C42
48	i	401	PEE	O2-C2-C3-O3
48	l	704	PEE	O2-C2-C3-O3
56	k	101	CDL	OB6-CB4-CB6-OB8
49	r	503	PLX	C11-C10-C9-C8
56	V	201	CDL	C53-C54-C55-C56
49	j	202	PLX	C12-C13-C14-C15
56	i	402	CDL	C21-C22-C23-C24
56	l	701	CDL	C84-C85-C86-C87
56	s	401	CDL	C15-C16-C17-C18
56	o	201	CDL	C1-CB2-OB2-PB2
56	l	701	CDL	C81-C82-C83-C84
56	a	201	CDL	C56-C57-C58-C59
48	r	501	PEE	C38-C39-C40-C41
51	X	201	8Q1	O4-C1-S44-C43
56	n	101	CDL	OB7-CB5-OB6-CB4
48	l	704	PEE	C11-C12-C13-C14
48	C	302	PEE	C41-C42-C43-C44
49	g	201	PLX	O8-C24-C25-C26
49	r	502	PLX	O8-C24-C25-C26
49	r	503	PLX	O8-C24-C25-C26
48	r	501	PEE	C34-C35-C36-C37
48	l	703	PEE	O3P-C1-C2-C3
56	o	201	CDL	OA5-CA3-CA4-CA6
56	s	401	CDL	OA5-CA3-CA4-CA6
56	s	401	CDL	C39-C40-C41-C42
48	C	302	PEE	C16-C17-C18-C19
48	l	704	PEE	C18-C19-C20-C21
48	r	501	PEE	C33-C34-C35-C36
49	r	503	PLX	C30-C31-C32-C33
56	a	201	CDL	C42-C43-C44-C45
48	B	303	PEE	C20-C21-C22-C23
56	l	701	CDL	C17-C18-C19-C20
48	i	401	PEE	C24-C25-C26-C27
56	V	201	CDL	CA7-C31-C32-C33
56	i	402	CDL	CB5-C51-C52-C53
49	r	502	PLX	C31-C32-C33-C34
56	k	101	CDL	C82-C83-C84-C85
56	o	201	CDL	C64-C65-C66-C67

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Mol	Chain	Res	Type	Atoms
49	J	403	PLX	C34-C35-C36-C37
49	a	202	PLX	C25-C26-C27-C28
49	g	201	PLX	C11-C12-C13-C14
51	X	201	8Q1	C6-C1-S44-C43
49	r	503	PLX	C26-C27-C28-C29
49	r	503	PLX	C33-C34-C35-C36
56	l	701	CDL	C54-C55-C56-C57
56	V	201	CDL	C44-C45-C46-C47
49	j	202	PLX	C20-C21-C22-C23
48	W	201	PEE	C1-C2-C3-O3
56	k	101	CDL	CB3-CB4-CB6-OB8
56	k	101	CDL	OA9-CA7-OA8-CA6
49	r	503	PLX	C29-C30-C31-C32
49	r	503	PLX	C34-C35-C36-C37
48	C	302	PEE	O3P-C1-C2-O2
49	g	201	PLX	O4-C3-C4-O6
56	V	201	CDL	OA5-CA3-CA4-OA6
56	s	401	CDL	OA5-CA3-CA4-OA6
48	U	101	PEE	C23-C24-C25-C26
56	i	402	CDL	C19-C20-C21-C22
48	B	303	PEE	C36-C37-C38-C39
48	j	201	PEE	O2-C2-C3-O3
48	r	501	PEE	O2-C2-C3-O3
49	J	403	PLX	O6-C4-C5-O8
49	a	202	PLX	O6-C4-C5-O8
49	j	202	PLX	O6-C4-C5-O8
49	r	503	PLX	O6-C4-C5-O8
56	V	201	CDL	OA6-CA4-CA6-OA8
56	s	401	CDL	OA6-CA4-CA6-OA8
47	A	503	NAI	C5B-O5B-PA-O3
56	i	402	CDL	C37-C38-C39-C40
56	o	201	CDL	C59-C60-C61-C62
48	W	201	PEE	C19-C20-C21-C22
48	l	704	PEE	C15-C16-C17-C18
48	i	401	PEE	C32-C33-C34-C35
51	X	201	8Q1	C12-C13-C14-C15
56	N	201	CDL	CA5-C11-C12-C13
56	i	402	CDL	C62-C63-C64-C65
49	g	201	PLX	C16-C17-C18-C19
56	a	201	CDL	C20-C21-C22-C23
56	i	402	CDL	C64-C65-C66-C67
56	k	101	CDL	C77-C78-C79-C80

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Mol	Chain	Res	Type	Atoms
56	o	201	CDL	CA7-C31-C32-C33
49	C	303	PLX	C2-O1-P1-O4
49	J	403	PLX	C2-O1-P1-O4
49	r	502	PLX	C2-O1-P1-O4
52	J	401	NDP	O4D-C1D-N1N-C6N
56	N	201	CDL	CB3-OB5-PB2-OB2
49	r	503	PLX	C12-C13-C14-C15
56	k	101	CDL	C54-C55-C56-C57
48	i	401	PEE	C2-C1-O3P-P
56	i	402	CDL	C1-CB2-OB2-PB2
53	s	402	UQ	C13-C14-C16-C17
56	i	402	CDL	C76-C77-C78-C79
48	C	302	PEE	C4-O4P-P-O2P
48	C	302	PEE	C4-O4P-P-O1P
48	U	101	PEE	C1-O3P-P-O1P
48	W	201	PEE	C4-O4P-P-O2P
48	i	401	PEE	C1-O3P-P-O1P
48	j	201	PEE	C4-O4P-P-O1P
49	C	303	PLX	C3-O4-P1-O3
49	C	303	PLX	C2-O1-P1-O2
49	C	303	PLX	C2-O1-P1-O3
49	J	403	PLX	C2-O1-P1-O3
49	a	202	PLX	C3-O4-P1-O2
49	r	502	PLX	C3-O4-P1-O2
49	r	502	PLX	C2-O1-P1-O3
49	r	503	PLX	C2-O1-P1-O3
56	N	201	CDL	CB3-OB5-PB2-OB4
56	V	201	CDL	CA3-OA5-PA1-OA3
56	V	201	CDL	CB2-OB2-PB2-OB4
56	a	201	CDL	CA2-OA2-PA1-OA4
56	a	201	CDL	CB2-OB2-PB2-OB4
56	a	201	CDL	CB3-OB5-PB2-OB3
56	i	402	CDL	CA2-OA2-PA1-OA4
56	i	402	CDL	CB2-OB2-PB2-OB3
56	i	402	CDL	CB2-OB2-PB2-OB4
56	i	402	CDL	CB3-OB5-PB2-OB4
56	k	101	CDL	CA3-OA5-PA1-OA4
56	k	101	CDL	CB2-OB2-PB2-OB4
56	l	701	CDL	CB2-OB2-PB2-OB3
56	l	701	CDL	CB3-OB5-PB2-OB4
56	l	702	CDL	CB2-OB2-PB2-OB3
56	n	101	CDL	CA2-OA2-PA1-OA4

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Mol	Chain	Res	Type	Atoms
56	o	201	CDL	CB2-OB2-PB2-OB4
56	s	401	CDL	CA5-C11-C12-C13
48	i	401	PEE	O3P-C1-C2-C3
49	g	201	PLX	O4-C3-C4-C5
49	r	503	PLX	O4-C3-C4-C5
56	N	201	CDL	OA5-CA3-CA4-CA6
56	V	201	CDL	OA5-CA3-CA4-CA6
56	l	701	CDL	OB5-CB3-CB4-CB6
53	s	402	UQ	C22-C23-C24-C25
48	W	201	PEE	C23-C24-C25-C26
49	j	202	PLX	C30-C31-C32-C33
56	a	201	CDL	C44-C45-C46-C47
49	C	303	PLX	C25-C24-O8-C5
49	J	403	PLX	C25-C24-O8-C5
49	g	201	PLX	C25-C24-O8-C5
48	r	501	PEE	C39-C40-C41-C42
56	V	201	CDL	C33-C34-C35-C36
56	a	201	CDL	C84-C85-C86-C87
49	r	503	PLX	O4-C3-C4-O6
56	N	201	CDL	OB5-CB3-CB4-OB6
56	k	101	CDL	CA5-C11-C12-C13
56	o	201	CDL	OA5-CA3-CA4-OA6
56	l	701	CDL	C21-C22-C23-C24
47	A	503	NAI	C2D-C1D-N1N-C2N
48	C	302	PEE	C1-C2-C3-O3
51	X	201	8Q1	O27-C28-C29-C32
48	C	302	PEE	O2-C2-C3-O3
48	W	201	PEE	O2-C2-C3-O3
48	l	703	PEE	O2-C2-C3-O3
48	r	501	PEE	C23-C24-C25-C26
48	l	704	PEE	C17-C18-C19-C20
49	a	202	PLX	O8-C24-C25-C26
49	j	202	PLX	O6-C6-C7-C8
56	a	201	CDL	C74-C75-C76-C77
48	C	302	PEE	C38-C39-C40-C41
48	l	703	PEE	C24-C25-C26-C27
56	a	201	CDL	C41-C42-C43-C44
56	V	201	CDL	C64-C65-C66-C67
47	A	503	NAI	O4D-C1D-N1N-C2N
56	k	101	CDL	C80-C81-C82-C83
56	i	402	CDL	C11-C12-C13-C14
56	i	402	CDL	C83-C84-C85-C86

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Mol	Chain	Res	Type	Atoms
56	o	201	CDL	C77-C78-C79-C80
51	X	201	8Q1	O27-C28-C29-C31
58	w	401	ADP	PA-O3A-PB-O1B
56	k	101	CDL	C14-C15-C16-C17
56	k	101	CDL	CA6-CA4-OA6-CA5
49	C	303	PLX	C7-C8-C9-C10
49	C	303	PLX	C33-C34-C35-C36
48	U	101	PEE	C41-C42-C43-C44
56	s	401	CDL	C80-C81-C82-C83
56	n	101	CDL	C56-C57-C58-C59
48	l	704	PEE	C2-C1-O3P-P
48	l	704	PEE	O5-C30-O3-C3
49	j	202	PLX	O4-C3-C4-O6
48	l	704	PEE	C32-C33-C34-C35
56	s	401	CDL	C17-C18-C19-C20
56	s	401	CDL	C40-C41-C42-C43
56	s	401	CDL	C55-C56-C57-C58
48	l	704	PEE	C31-C30-O3-C3
48	C	302	PEE	C34-C35-C36-C37
48	i	401	PEE	C18-C19-C20-C21
56	l	702	CDL	C64-C65-C66-C67
48	B	303	PEE	C1-O3P-P-O4P
48	l	704	PEE	C4-O4P-P-O3P
56	V	201	CDL	CA2-OA2-PA1-OA5
56	l	701	CDL	CA2-OA2-PA1-OA5
56	n	101	CDL	CB2-OB2-PB2-OB5
56	s	401	CDL	CA2-OA2-PA1-OA5
56	s	401	CDL	CA3-OA5-PA1-OA2
49	r	503	PLX	C31-C32-C33-C34
48	l	703	PEE	C33-C34-C35-C36
56	o	201	CDL	C38-C39-C40-C41
56	n	101	CDL	C32-C31-CA7-OA8
48	r	501	PEE	C41-C42-C43-C44
56	o	201	CDL	C15-C16-C17-C18
56	a	201	CDL	C34-C35-C36-C37
48	j	201	PEE	C18-C19-C20-C21
48	l	703	PEE	C38-C39-C40-C41
56	a	201	CDL	C64-C65-C66-C67
56	l	702	CDL	C62-C63-C64-C65
49	r	503	PLX	C24-C25-C26-C27
48	B	303	PEE	C10-C11-C12-C13
49	a	202	PLX	C11-C10-C9-C8

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Mol	Chain	Res	Type	Atoms
56	i	402	CDL	C54-C55-C56-C57
49	J	403	PLX	O4-C3-C4-C5
56	a	201	CDL	C53-C54-C55-C56
48	B	303	PEE	O3P-C1-C2-O2
56	k	101	CDL	OB5-CB3-CB4-OB6
56	l	701	CDL	OA5-CA3-CA4-OA6
48	W	201	PEE	C22-C23-C24-C25
56	k	101	CDL	C84-C85-C86-C87
53	J	402	UQ	C13-C14-C16-C17
56	o	201	CDL	OB9-CB7-OB8-CB6
56	l	701	CDL	C24-C25-C26-C27
56	N	201	CDL	O1-C1-CB2-OB2
56	n	101	CDL	C32-C31-CA7-OA9
56	n	101	CDL	C72-C71-CB7-OB8
56	s	401	CDL	C13-C14-C15-C16
56	i	402	CDL	C17-C18-C19-C20
48	r	501	PEE	C12-C13-C14-C15
51	X	201	8Q1	O27-C28-C29-C30
56	i	402	CDL	C20-C21-C22-C23
56	o	201	CDL	C71-CB7-OB8-CB6
48	l	703	PEE	C3-C2-O2-C10
53	J	402	UQ	C15-C14-C16-C17
56	l	702	CDL	C55-C56-C57-C58
56	a	201	CDL	CB3-OB5-PB2-OB2
56	k	101	CDL	C21-C22-C23-C24
49	a	202	PLX	C24-C25-C26-C27
48	C	302	PEE	C35-C36-C37-C38
56	o	201	CDL	C83-C84-C85-C86
49	j	202	PLX	C18-C19-C20-C21
56	a	201	CDL	C39-C40-C41-C42
49	j	202	PLX	C31-C32-C33-C34
56	s	401	CDL	C11-C12-C13-C14
49	g	201	PLX	C33-C34-C35-C36
56	k	101	CDL	OA6-CA4-CA6-OA8
48	B	303	PEE	C42-C43-C44-C45
48	l	703	PEE	C37-C38-C39-C40
51	G	201	8Q1	C12-C13-C14-C15
47	A	503	NAI	C2D-C1D-N1N-C6N
53	s	402	UQ	C12-C13-C14-C15
56	i	402	CDL	C16-C17-C18-C19
56	l	702	CDL	C81-C82-C83-C84
48	l	703	PEE	C2-C1-O3P-P

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Mol	Chain	Res	Type	Atoms
56	o	201	CDL	C32-C31-CA7-OA9
48	B	303	PEE	C18-C19-C20-C21
48	W	201	PEE	C16-C17-C18-C19
48	l	703	PEE	C1-C2-C3-O3
56	s	401	CDL	C82-C83-C84-C85
58	w	401	ADP	O4'-C4'-C5'-O5'
56	l	702	CDL	C79-C80-C81-C82
51	X	201	8Q1	C10-C11-C12-C13
48	W	201	PEE	C15-C16-C17-C18
56	n	101	CDL	C53-C54-C55-C56
48	i	401	PEE	C16-C17-C18-C19
48	l	703	PEE	C18-C19-C20-C21
48	B	303	PEE	C44-C45-C46-C47
49	j	202	PLX	O8-C24-C25-C26
48	i	401	PEE	O4P-C4-C5-N
48	l	703	PEE	O4P-C4-C5-N
56	i	402	CDL	C44-C45-C46-C47
56	l	701	CDL	C20-C21-C22-C23
56	l	702	CDL	C33-C34-C35-C36
56	n	101	CDL	CA5-C11-C12-C13
49	r	502	PLX	O6-C4-C5-O8
49	a	202	PLX	C6-C7-C8-C9
48	B	303	PEE	C12-C13-C14-C15
56	s	401	CDL	C72-C71-CB7-OB8
56	l	701	CDL	C63-C64-C65-C66
56	s	401	CDL	C57-C58-C59-C60
48	C	302	PEE	C18-C19-C20-C21
51	G	201	8Q1	C28-O27-P24-O2
49	J	403	PLX	C14-C15-C16-C17
53	J	402	UQ	C20-C19-C21-C22
48	j	201	PEE	C1-O3P-P-O4P
56	N	201	CDL	CA3-OA5-PA1-OA2
49	a	202	PLX	C11-C12-C13-C14
56	s	401	CDL	C54-C55-C56-C57
56	V	201	CDL	C32-C31-CA7-OA8
56	l	702	CDL	C32-C31-CA7-OA8
48	U	101	PEE	C16-C17-C18-C19
48	j	201	PEE	C16-C17-C18-C19
48	l	703	PEE	C1-C2-O2-C10
56	V	201	CDL	C12-C13-C14-C15
56	l	702	CDL	C61-C62-C63-C64
56	l	702	CDL	C73-C74-C75-C76

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Mol	Chain	Res	Type	Atoms
48	r	501	PEE	C30-C31-C32-C33
48	j	201	PEE	C31-C32-C33-C34
56	o	201	CDL	C76-C77-C78-C79
56	a	201	CDL	C15-C16-C17-C18
56	s	401	CDL	C56-C57-C58-C59
56	l	701	CDL	C52-C51-CB5-OB6
48	W	201	PEE	C24-C25-C26-C27
56	i	402	CDL	C42-C43-C44-C45
48	B	303	PEE	C16-C17-C18-C19
48	W	201	PEE	C18-C19-C20-C21
48	l	703	PEE	C36-C37-C38-C39
49	r	502	PLX	C3-C4-C5-O8
56	l	702	CDL	C51-C52-C53-C54
56	a	201	CDL	C12-C11-CA5-OA6
56	n	101	CDL	C52-C51-CB5-OB6
48	r	501	PEE	C40-C41-C42-C43
48	B	303	PEE	C24-C25-C26-C27
56	k	101	CDL	C74-C75-C76-C77
56	l	701	CDL	C78-C79-C80-C81
58	w	401	ADP	PA-O3A-PB-O2B
58	w	401	ADP	PA-O3A-PB-O3B
48	U	101	PEE	C19-C20-C21-C22
48	B	303	PEE	O3P-C1-C2-C3
56	l	702	CDL	C72-C71-CB7-OB8
56	s	401	CDL	C12-C11-CA5-OA6
56	l	702	CDL	OA6-CA4-CA6-OA8
49	J	403	PLX	C11-C10-C9-C8
49	C	303	PLX	O7-C6-C7-C8
52	J	401	NDP	C2B-O2B-P2B-O2X
56	a	201	CDL	C57-C58-C59-C60
48	C	302	PEE	O3-C30-C31-C32
48	U	101	PEE	C15-C16-C17-C18
56	l	702	CDL	C74-C75-C76-C77
56	o	201	CDL	C44-C45-C46-C47
48	l	704	PEE	C38-C39-C40-C41
56	N	201	CDL	C52-C51-CB5-OB6
49	a	202	PLX	C35-C36-C37-C38
56	N	201	CDL	C72-C71-CB7-OB8
52	J	401	NDP	PN-O3-PA-O2A
56	o	201	CDL	C79-C80-C81-C82
48	U	101	PEE	C38-C39-C40-C41
49	g	201	PLX	C31-C32-C33-C34

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Mol	Chain	Res	Type	Atoms
48	i	401	PEE	C38-C39-C40-C41
48	C	302	PEE	C31-C32-C33-C34
56	n	101	CDL	C52-C51-CB5-OB7
56	V	201	CDL	C38-C39-C40-C41
48	U	101	PEE	C4-O4P-P-O2P
48	W	201	PEE	C4-O4P-P-O1P
49	J	403	PLX	C3-O4-P1-O2
49	j	202	PLX	C2-O1-P1-O2
49	r	502	PLX	C3-O4-P1-O3
49	r	503	PLX	C2-C1-N1-C1C
56	N	201	CDL	CB3-OB5-PB2-OB3
56	l	701	CDL	CA2-OA2-PA1-OA3
56	l	702	CDL	CA2-OA2-PA1-OA4
56	n	101	CDL	CB2-OB2-PB2-OB3
56	N	201	CDL	C52-C51-CB5-OB7
56	s	401	CDL	C12-C11-CA5-OA7
49	j	202	PLX	O4-C3-C4-C5
56	i	402	CDL	OB5-CB3-CB4-CB6
56	s	401	CDL	OB5-CB3-CB4-CB6
56	N	201	CDL	C72-C71-CB7-OB9
56	a	201	CDL	C12-C11-CA5-OA7
56	a	201	CDL	C12-C13-C14-C15
56	l	701	CDL	C52-C51-CB5-OB7
47	A	503	NAI	O4D-C1D-N1N-C6N
48	i	401	PEE	C5-C4-O4P-P
48	r	501	PEE	C5-C4-O4P-P
49	J	403	PLX	C1-C2-O1-P1
49	j	202	PLX	C25-C24-O8-C5
50	C	304	970	C01-C02-C04-C05
50	C	304	970	C01-C02-C04-O08
56	l	702	CDL	C54-C55-C56-C57
49	r	503	PLX	C2-C1-N1-C1B
49	r	503	PLX	C2-C1-N1-C1A
48	r	501	PEE	C16-C17-C18-C19
48	U	101	PEE	O3-C30-C31-C32
56	N	201	CDL	C12-C11-CA5-OA6
56	k	101	CDL	C32-C31-CA7-OA8
56	k	101	CDL	C52-C51-CB5-OB6
56	l	702	CDL	C72-C71-CB7-OB9
48	C	302	PEE	O2-C10-C11-C12
56	k	101	CDL	C12-C11-CA5-OA6
48	C	302	PEE	O5-C30-C31-C32

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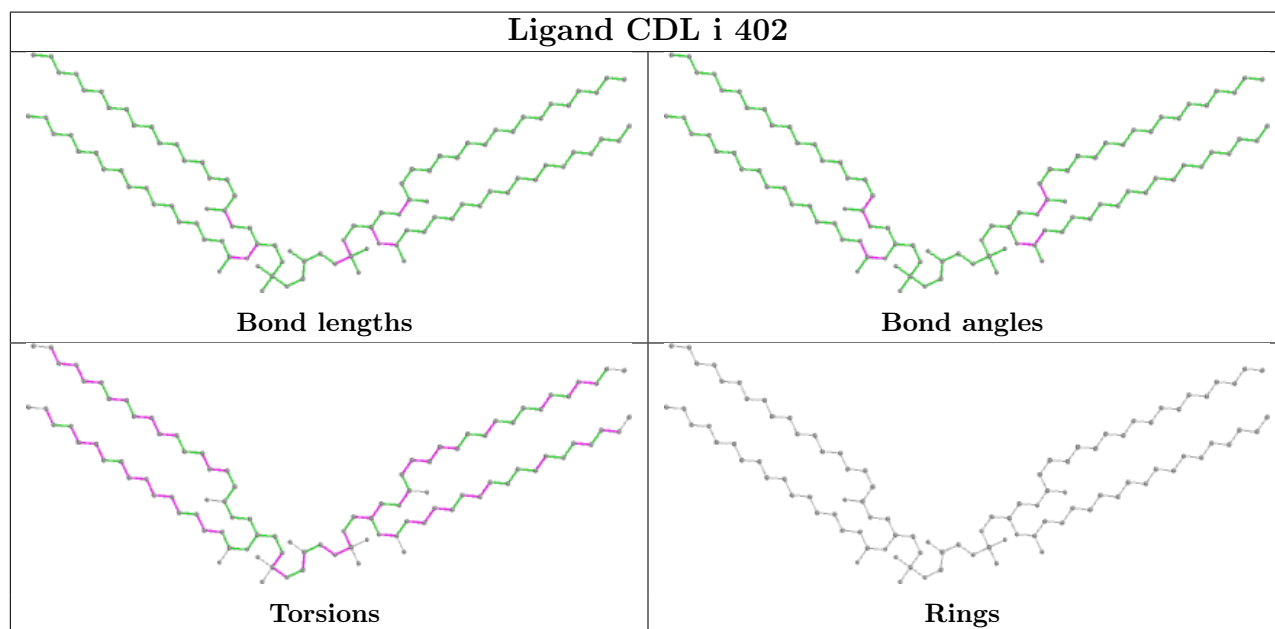
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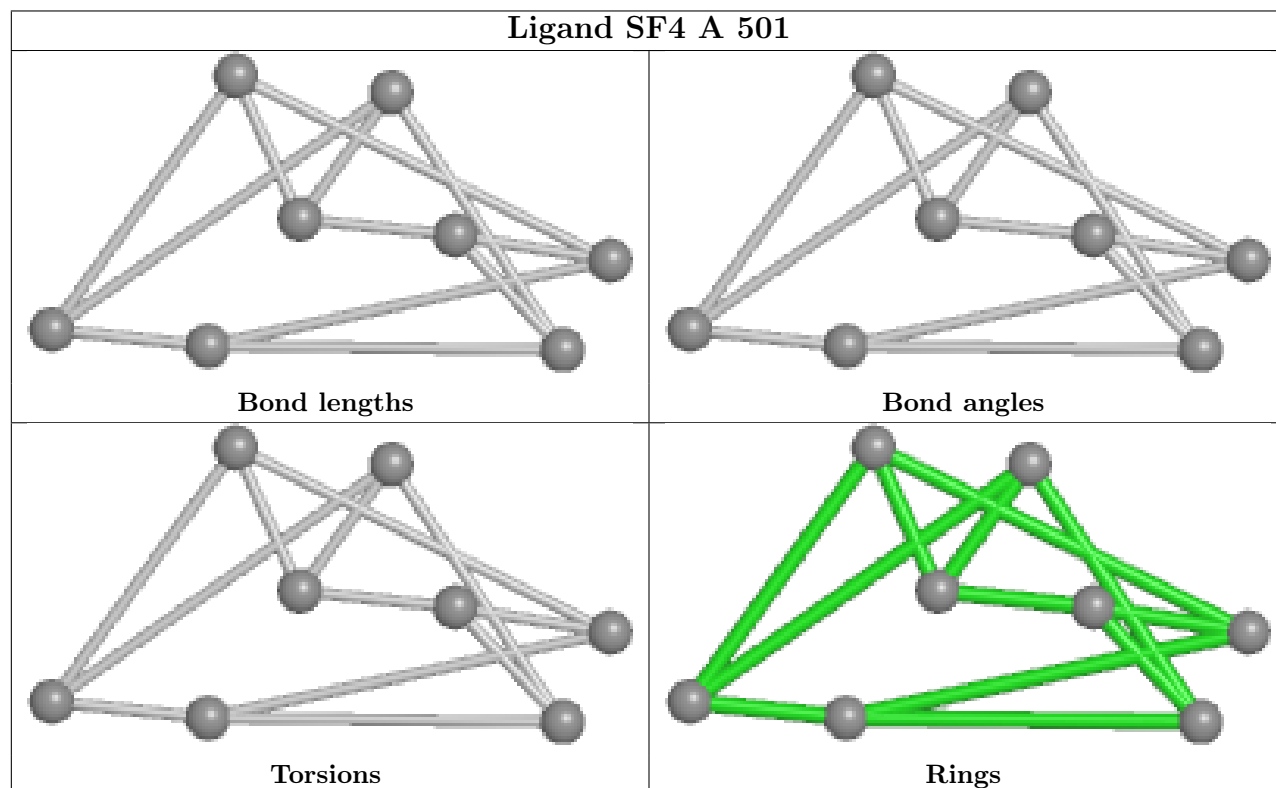
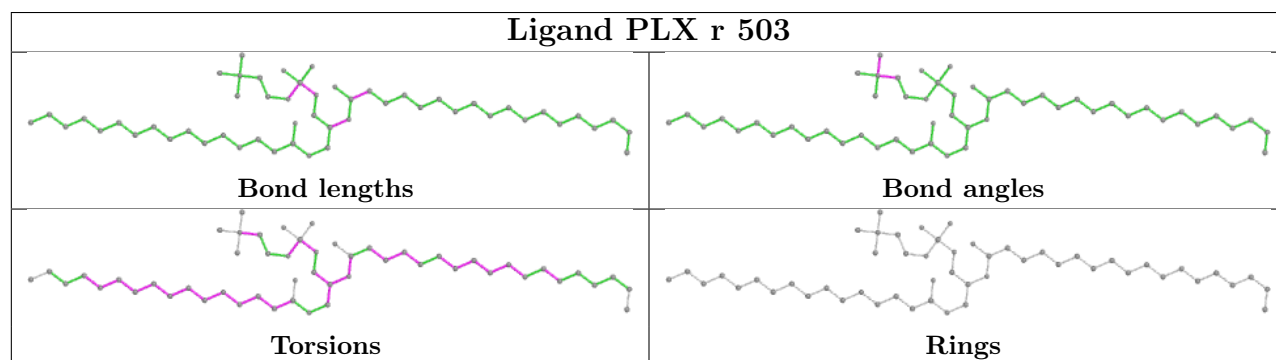
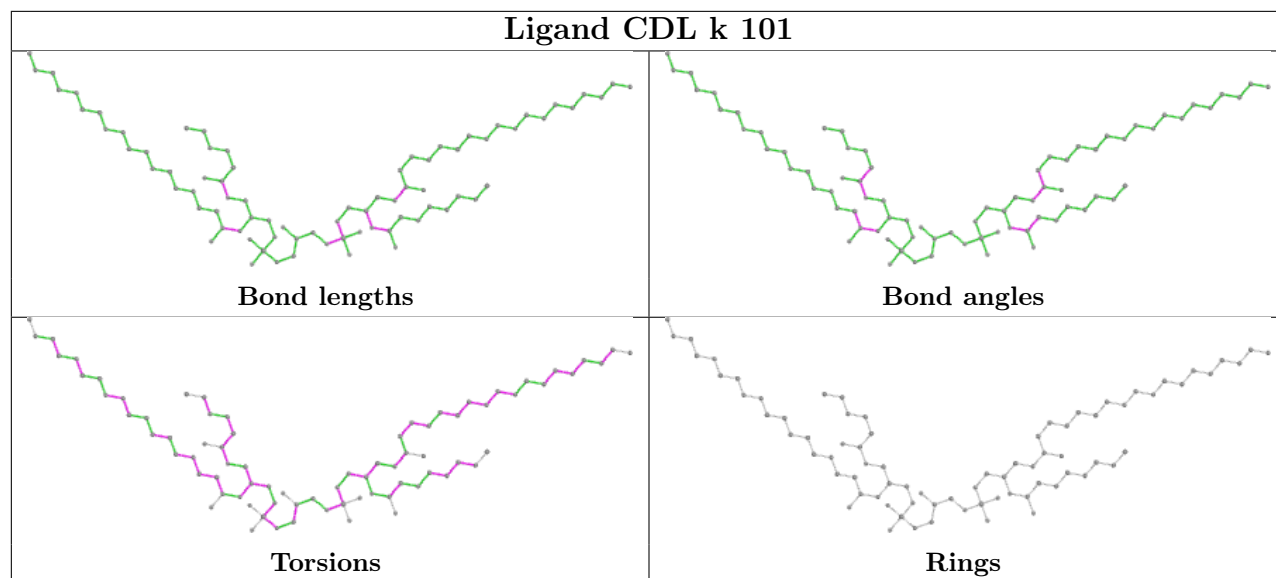
Mol	Chain	Res	Type	Atoms
48	U	101	PEE	C24-C25-C26-C27
56	V	201	CDL	C15-C16-C17-C18
49	C	303	PLX	C36-C37-C38-C39
48	j	201	PEE	O3-C30-C31-C32
48	r	501	PEE	O2-C10-C11-C12
56	a	201	CDL	C61-C62-C63-C64
48	U	101	PEE	O5-C30-C31-C32
56	l	702	CDL	C12-C11-CA5-OA6
56	i	402	CDL	C23-C24-C25-C26
49	r	503	PLX	C6-C7-C8-C9
48	B	303	PEE	C30-C31-C32-C33

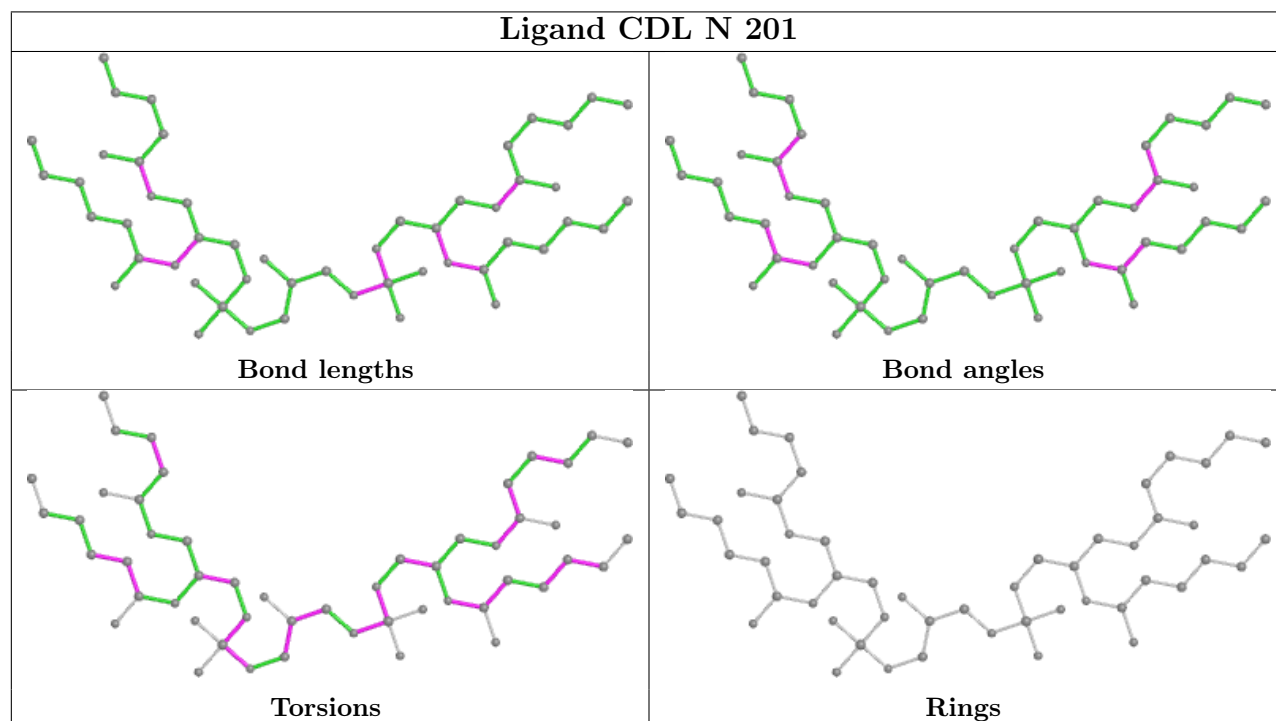
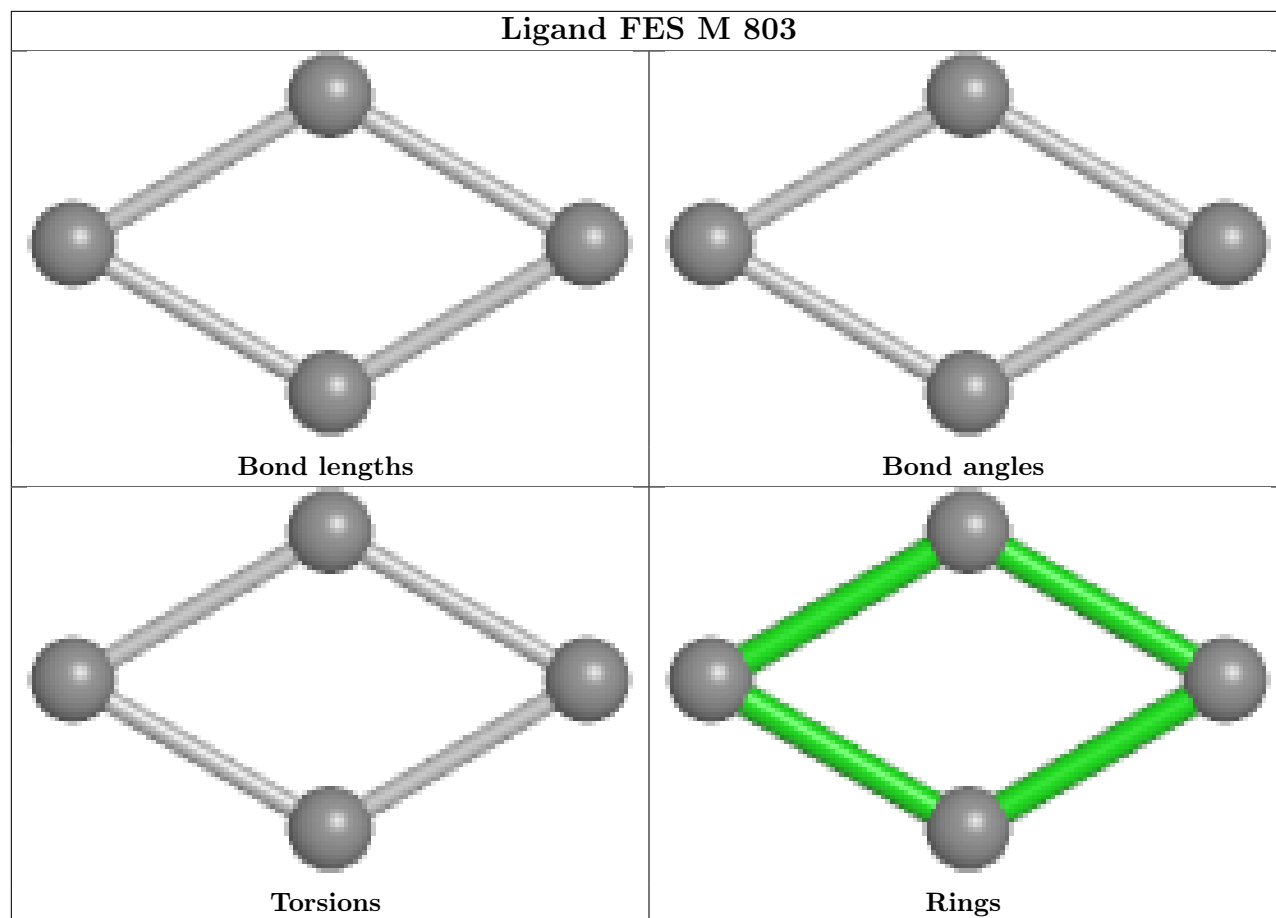
There are no ring outliers.

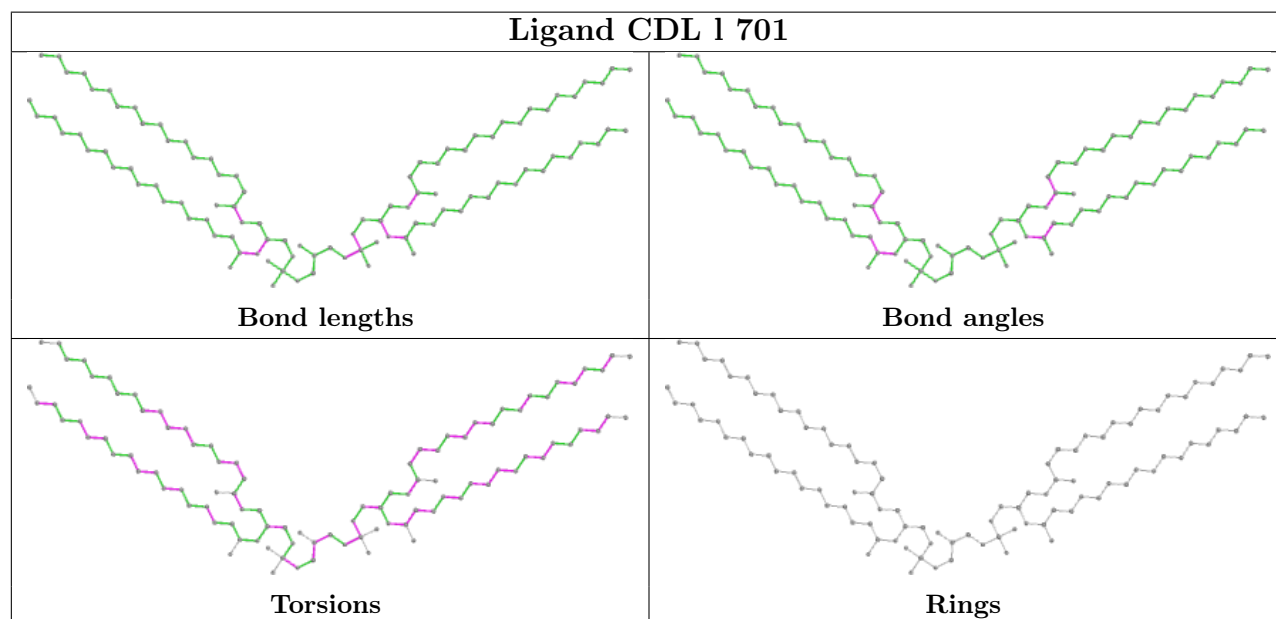
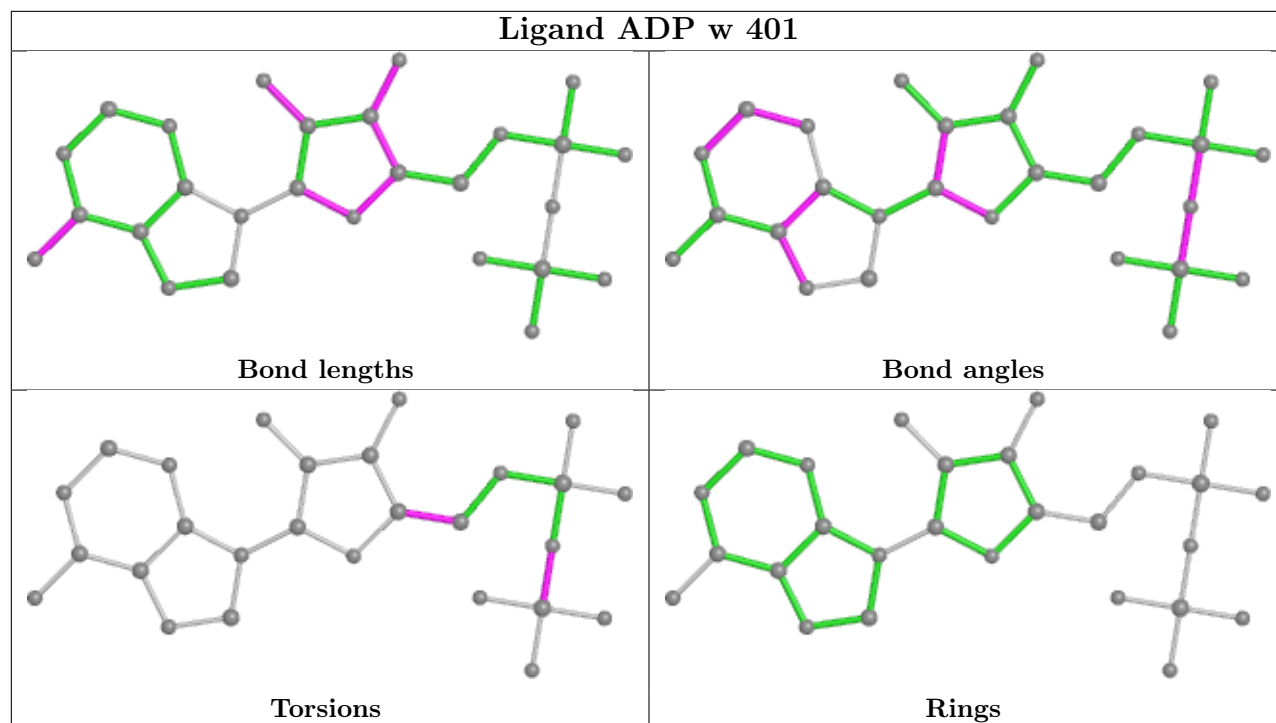
No monomer is involved in short contacts.

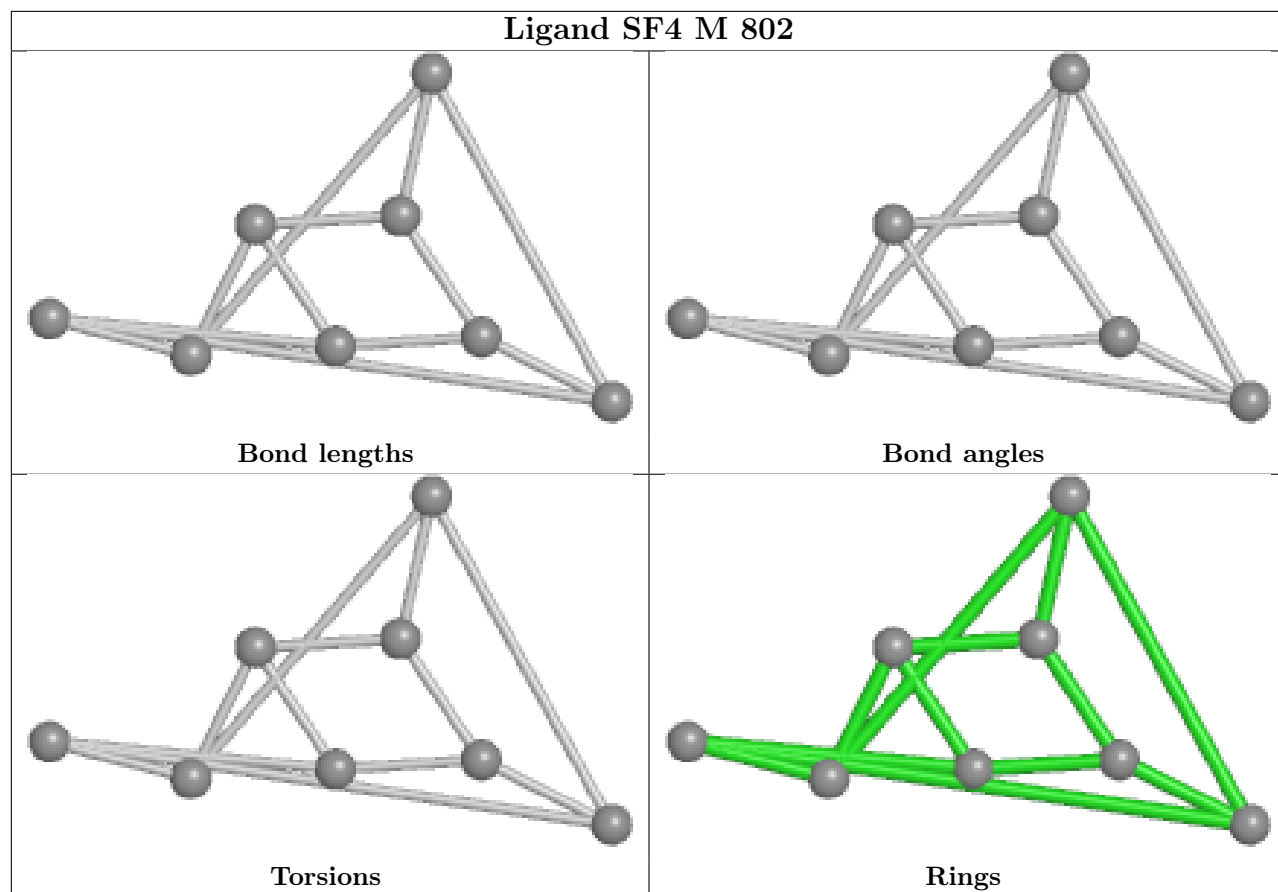
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. 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.

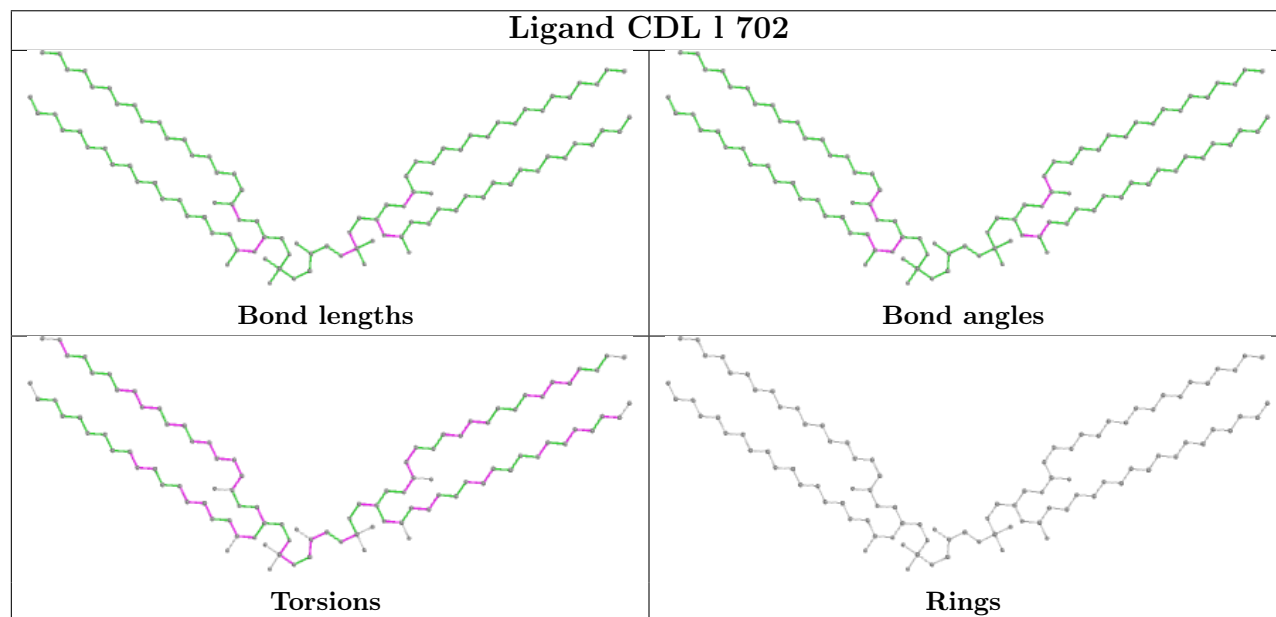
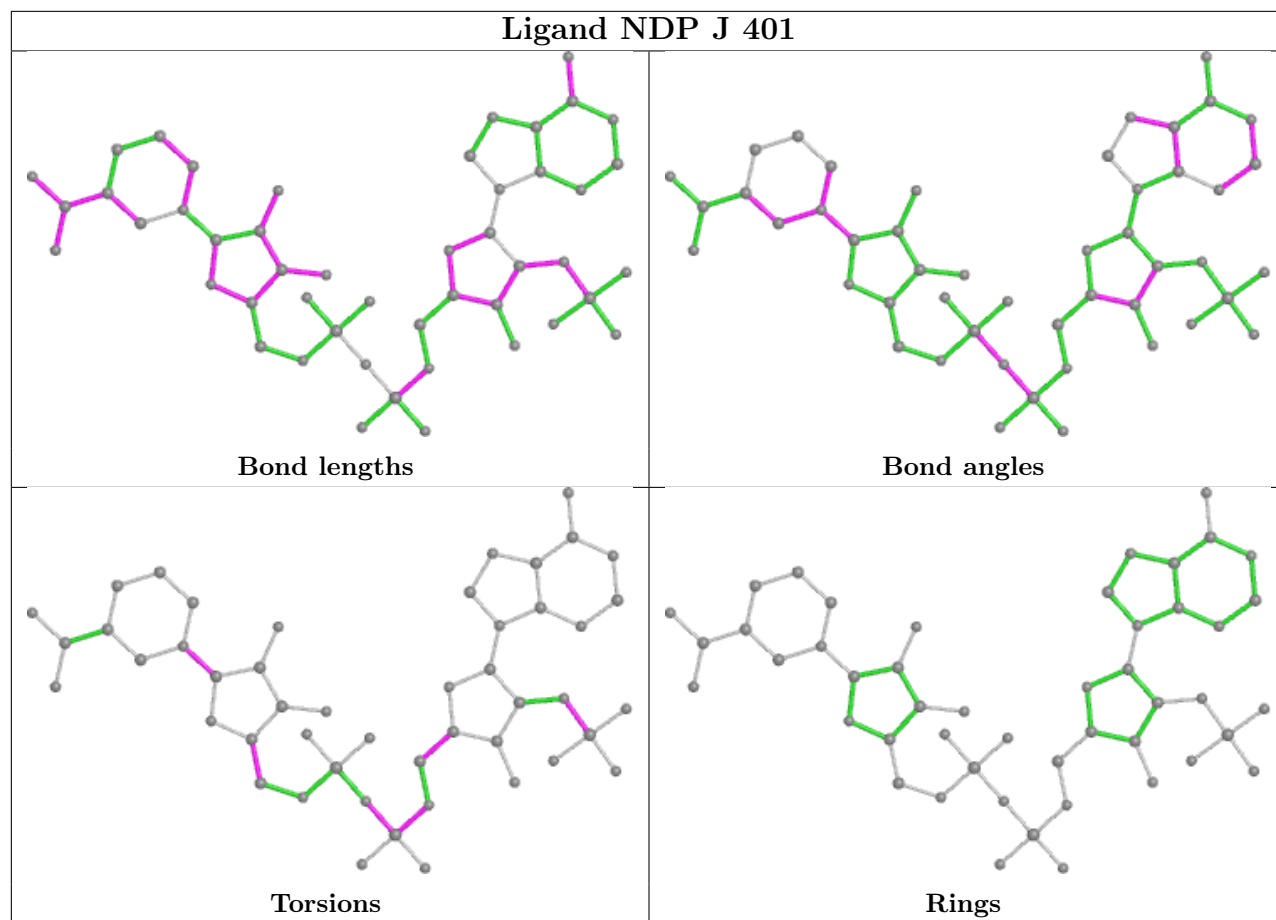


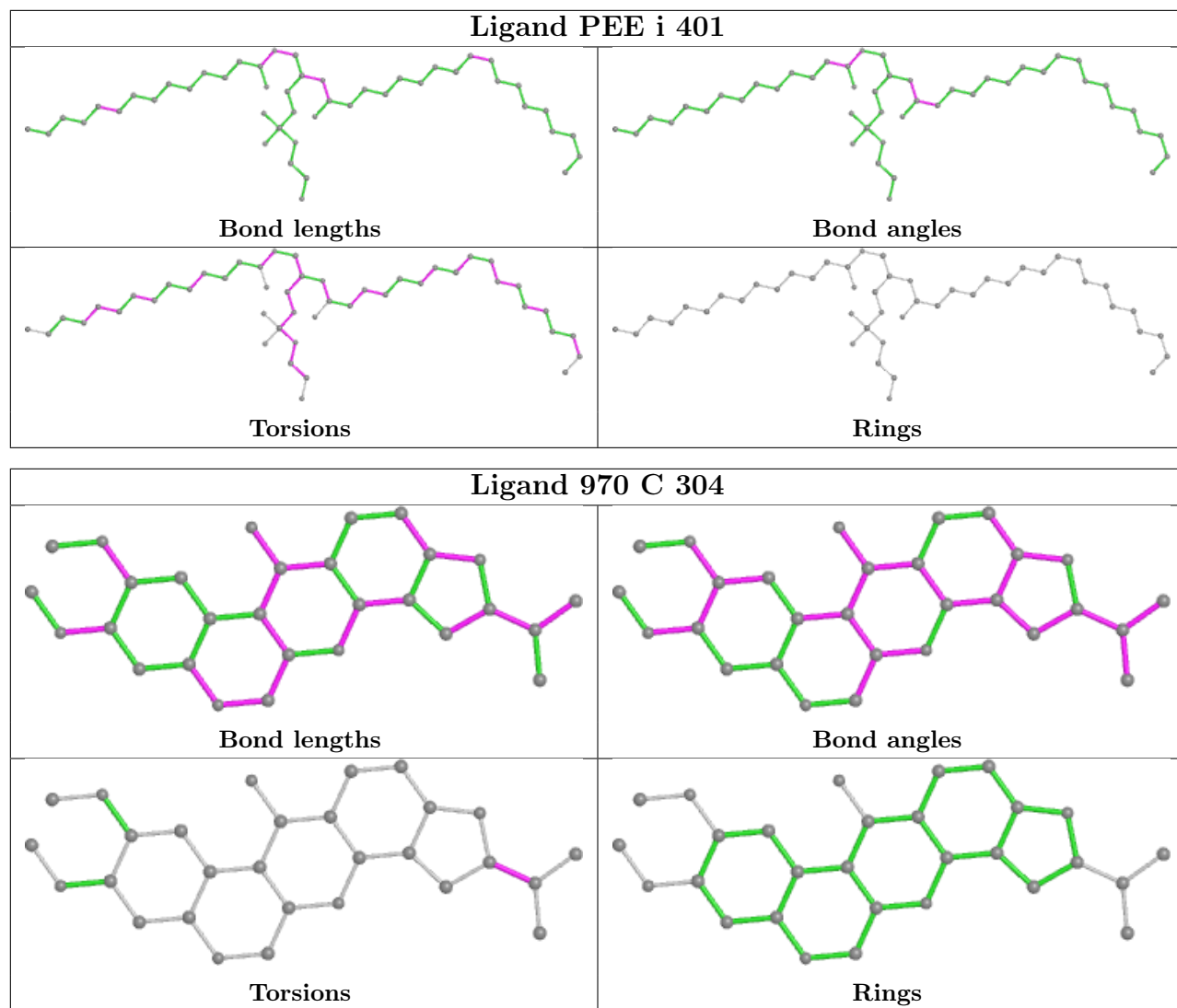


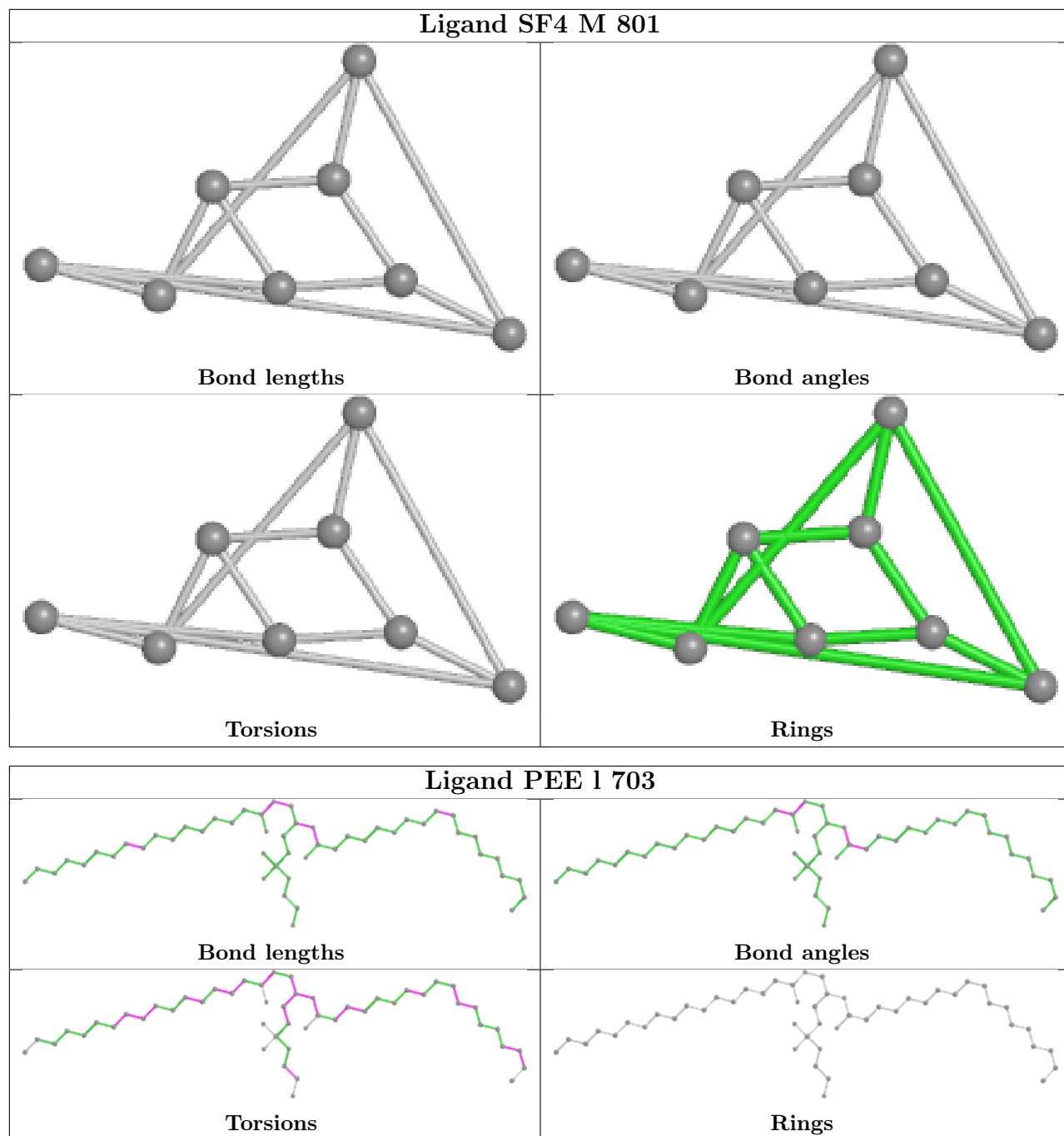


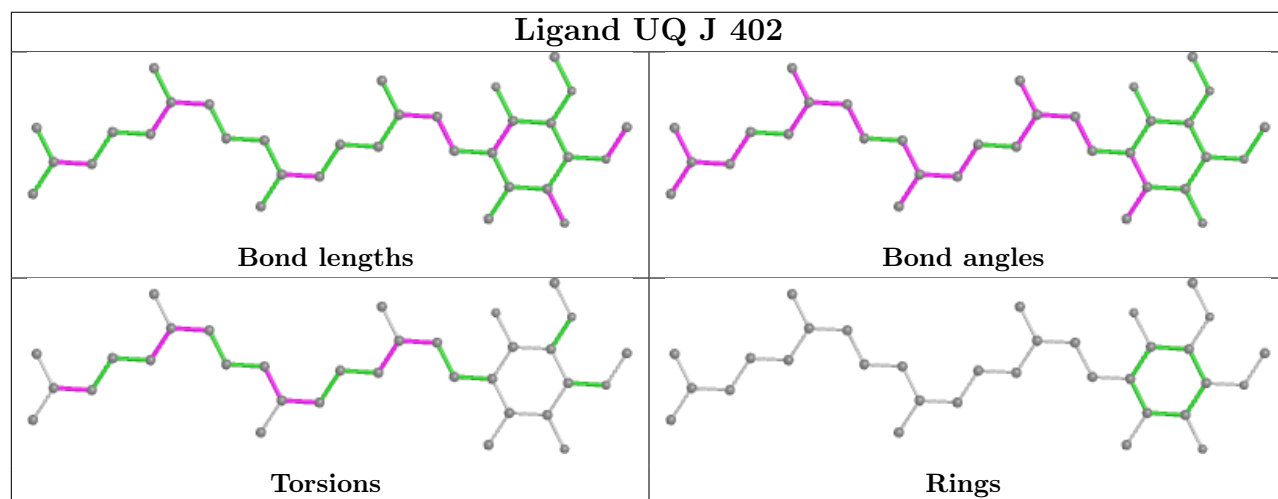
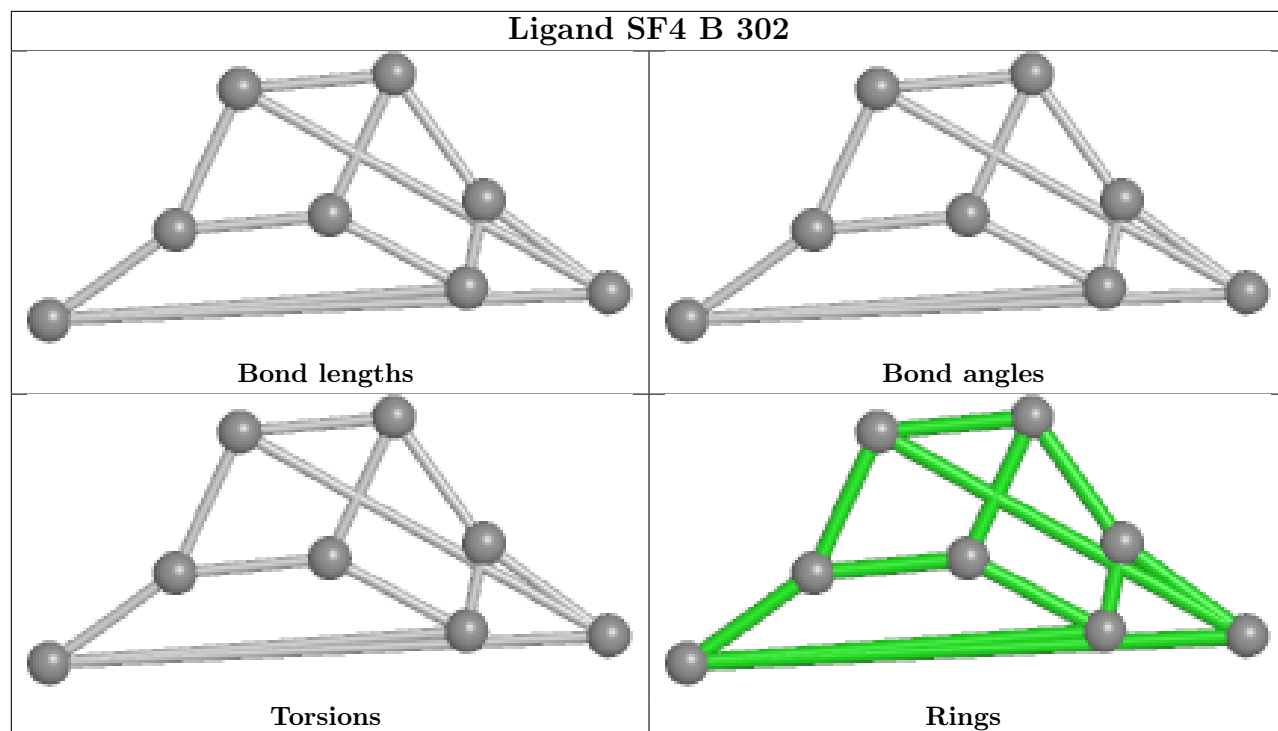


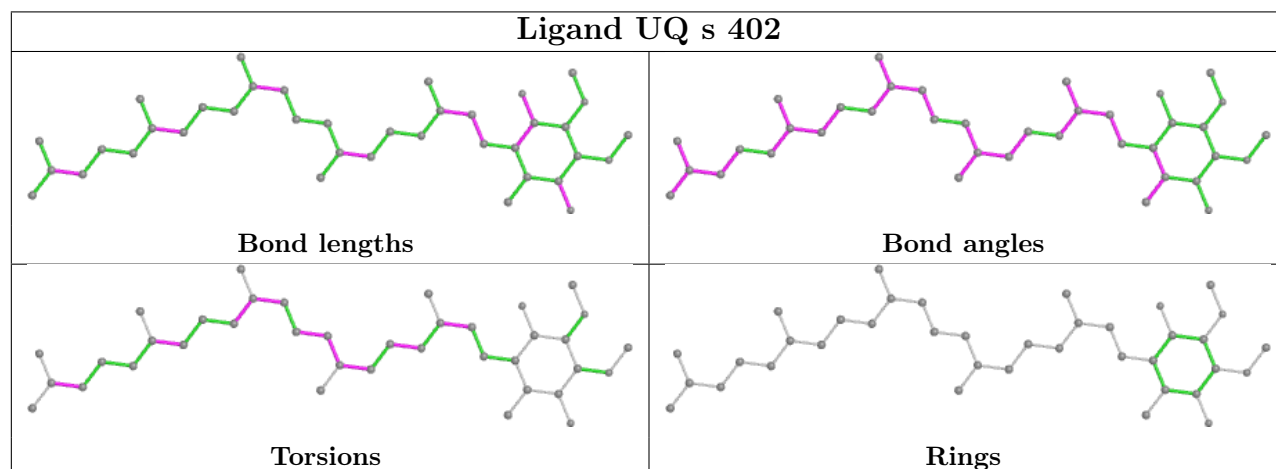
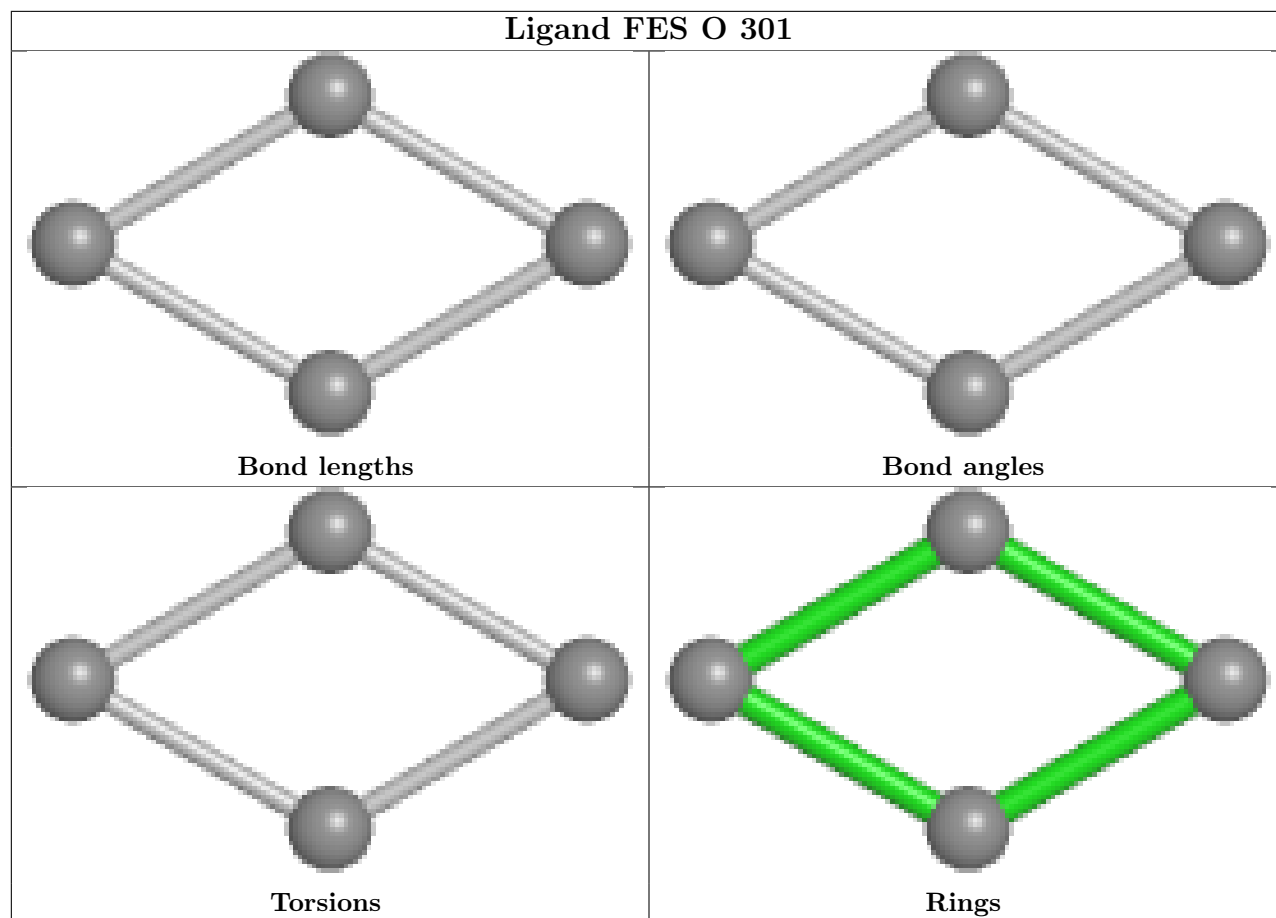


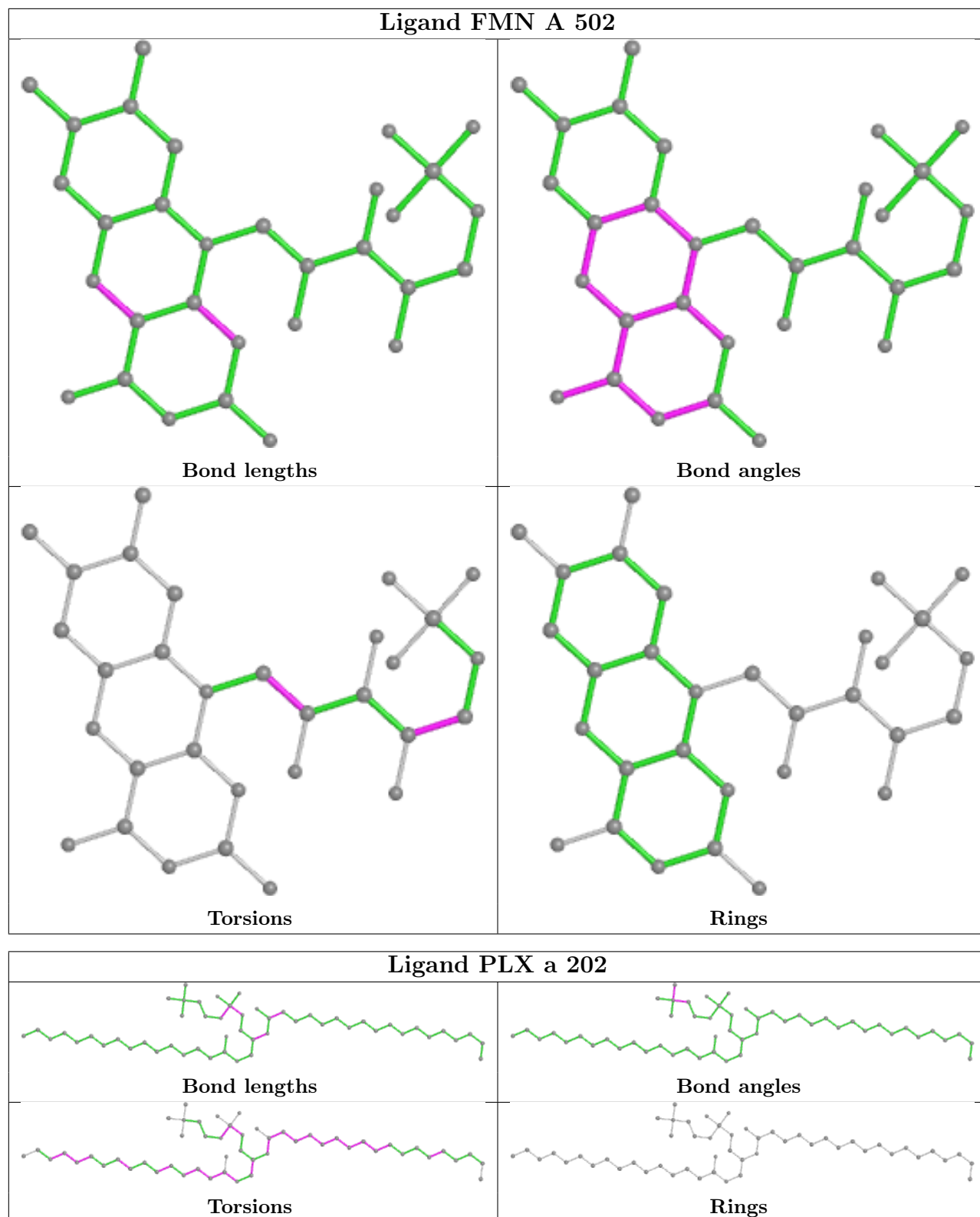


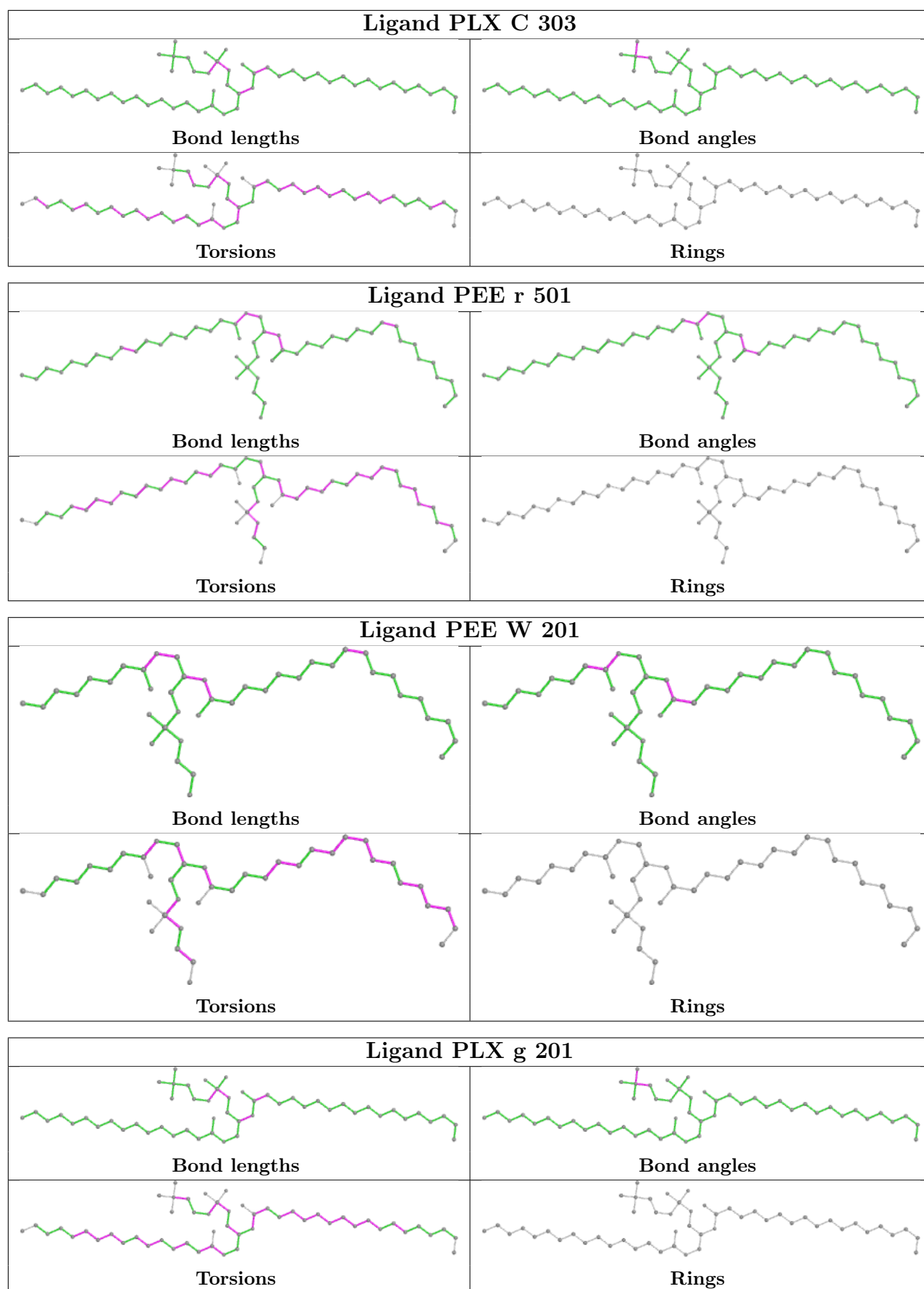


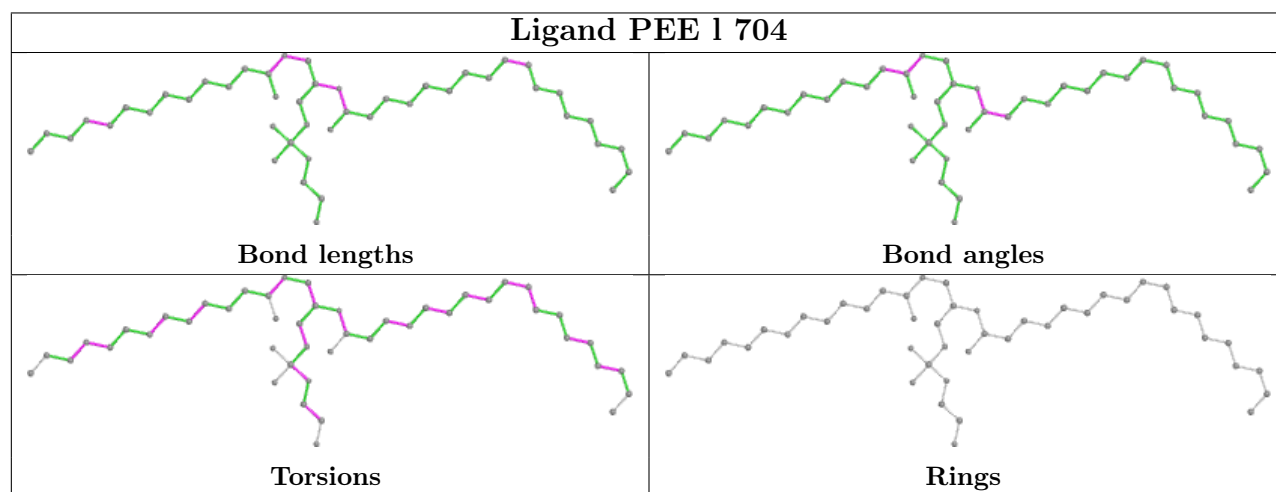
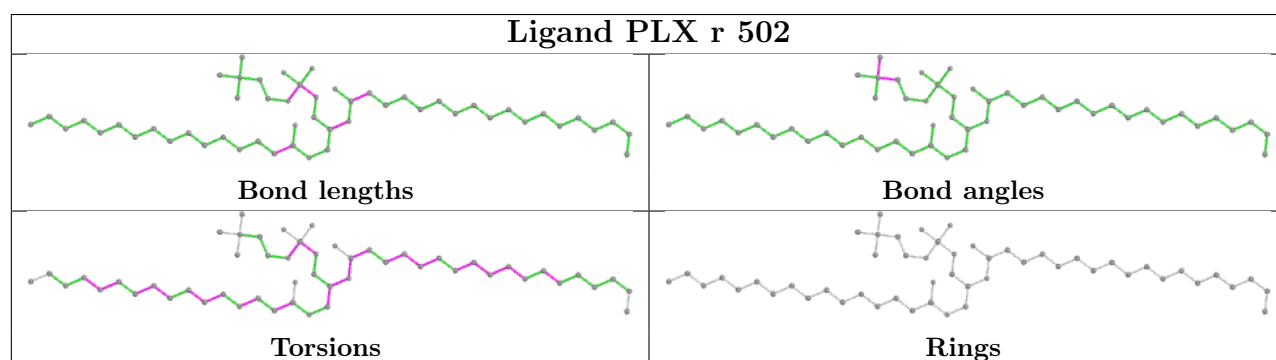
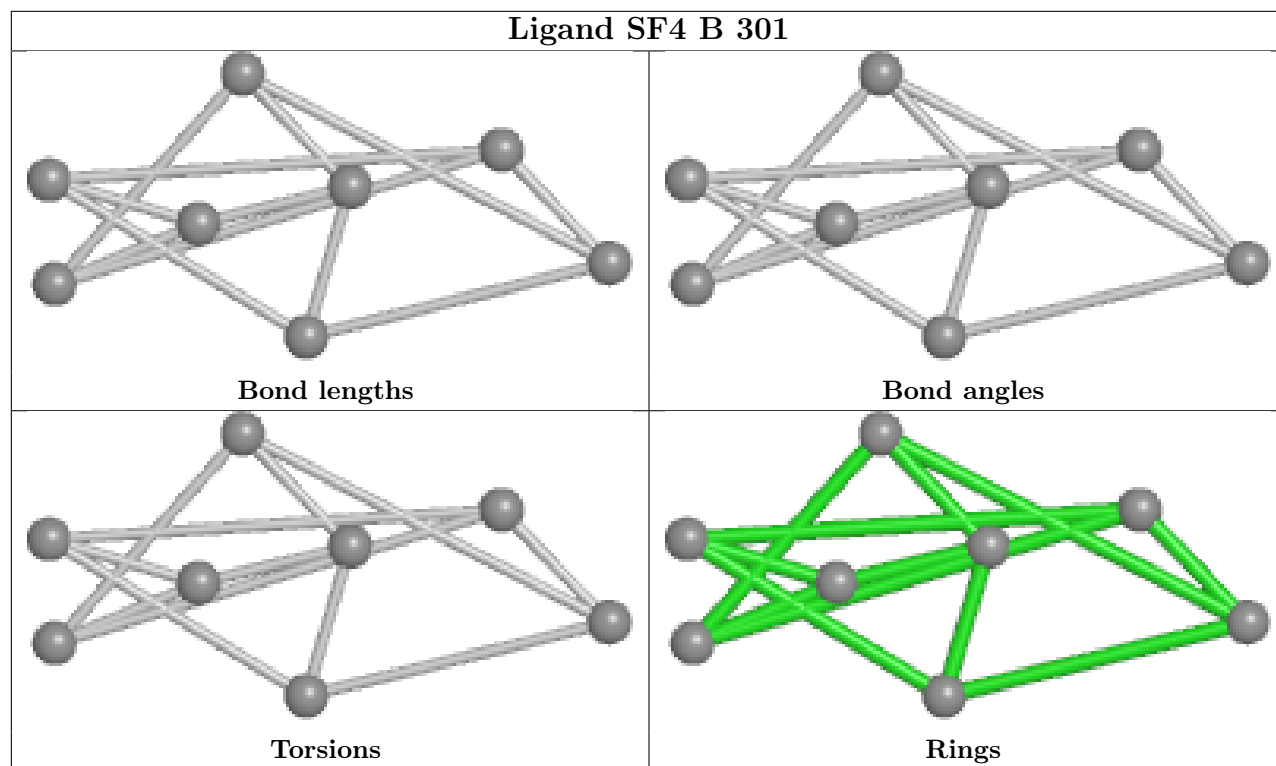


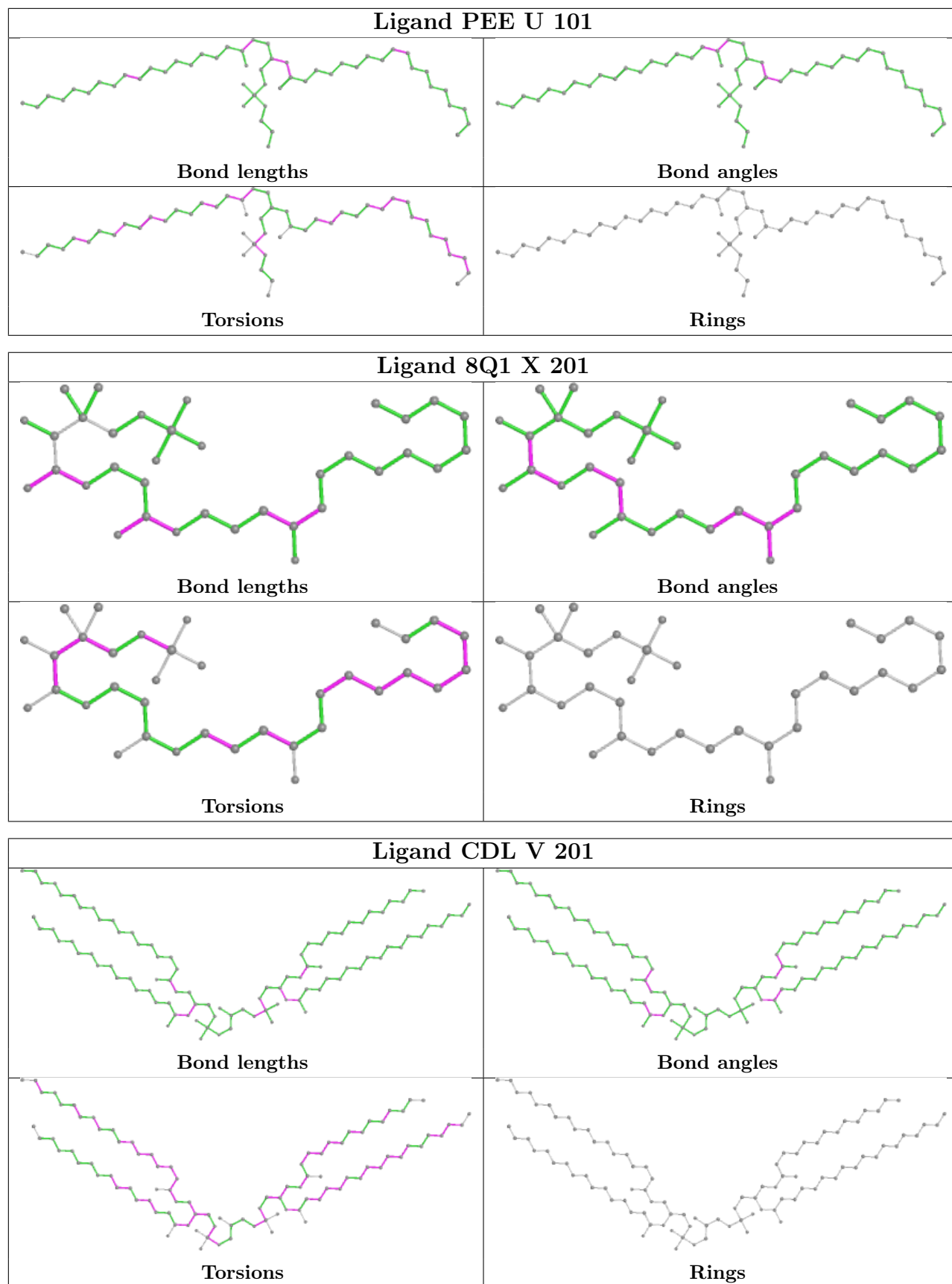


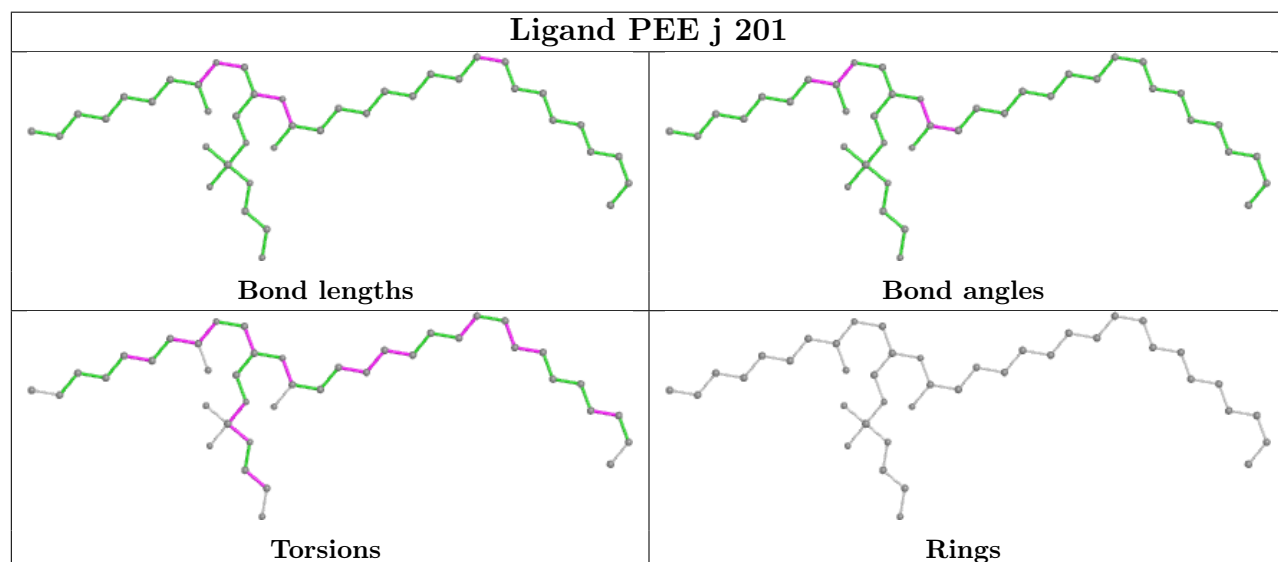
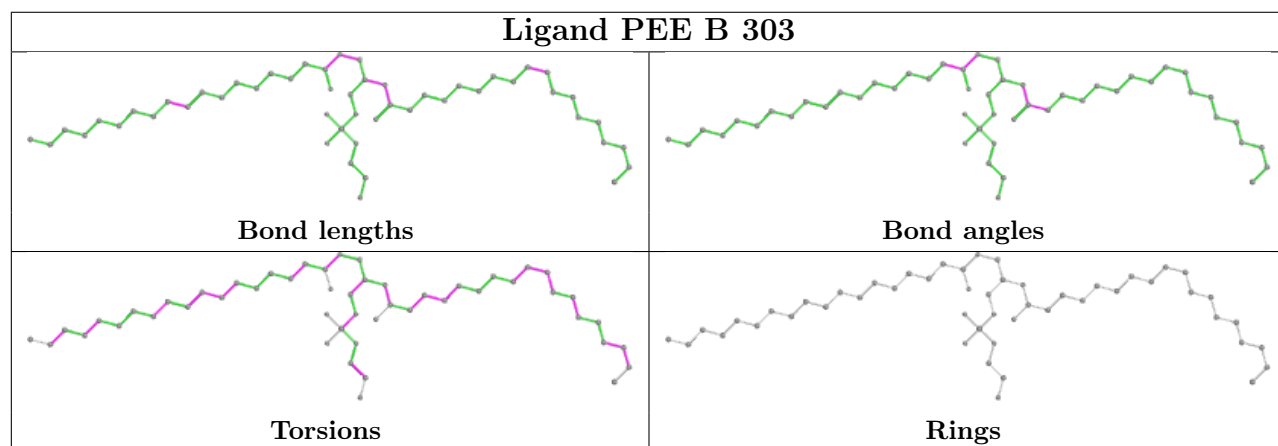
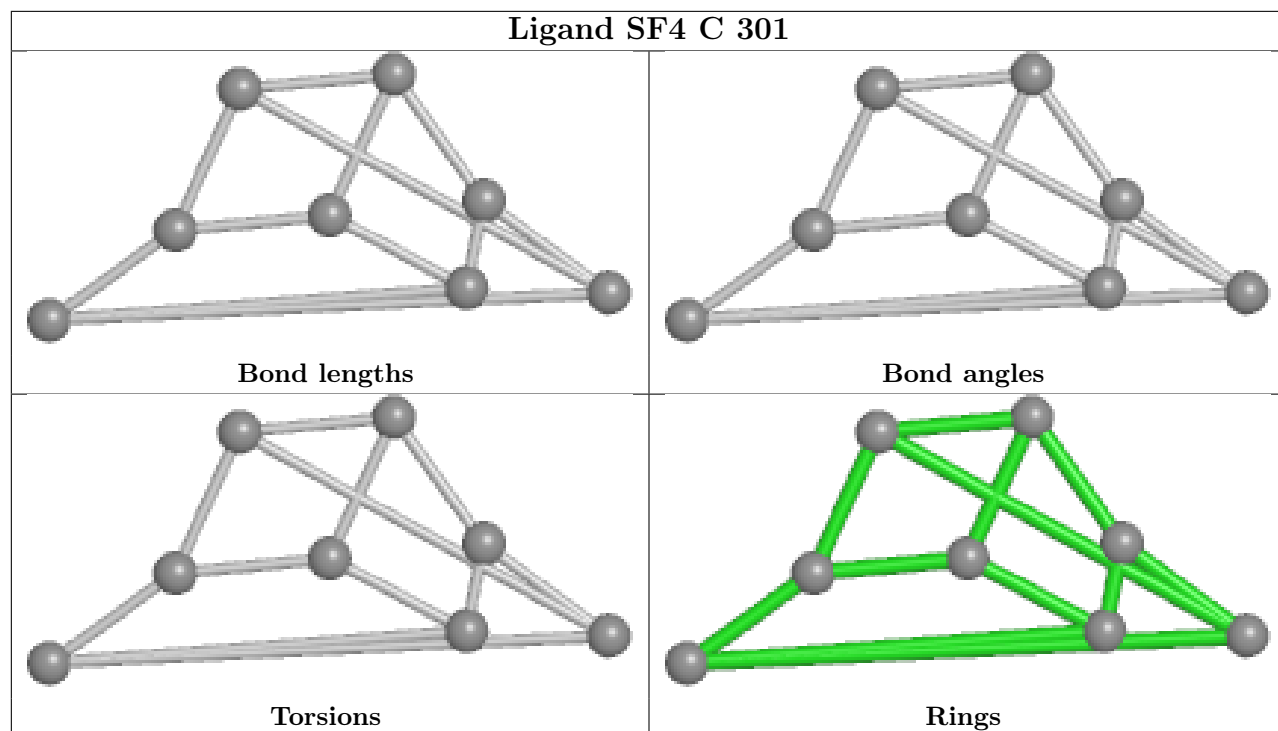


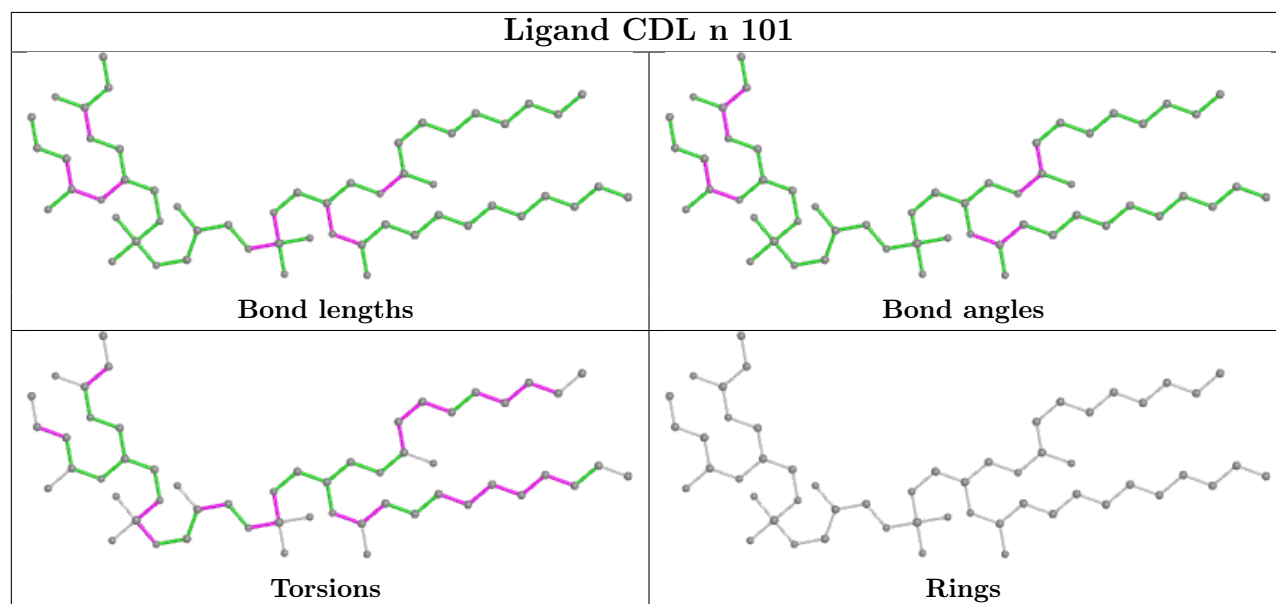
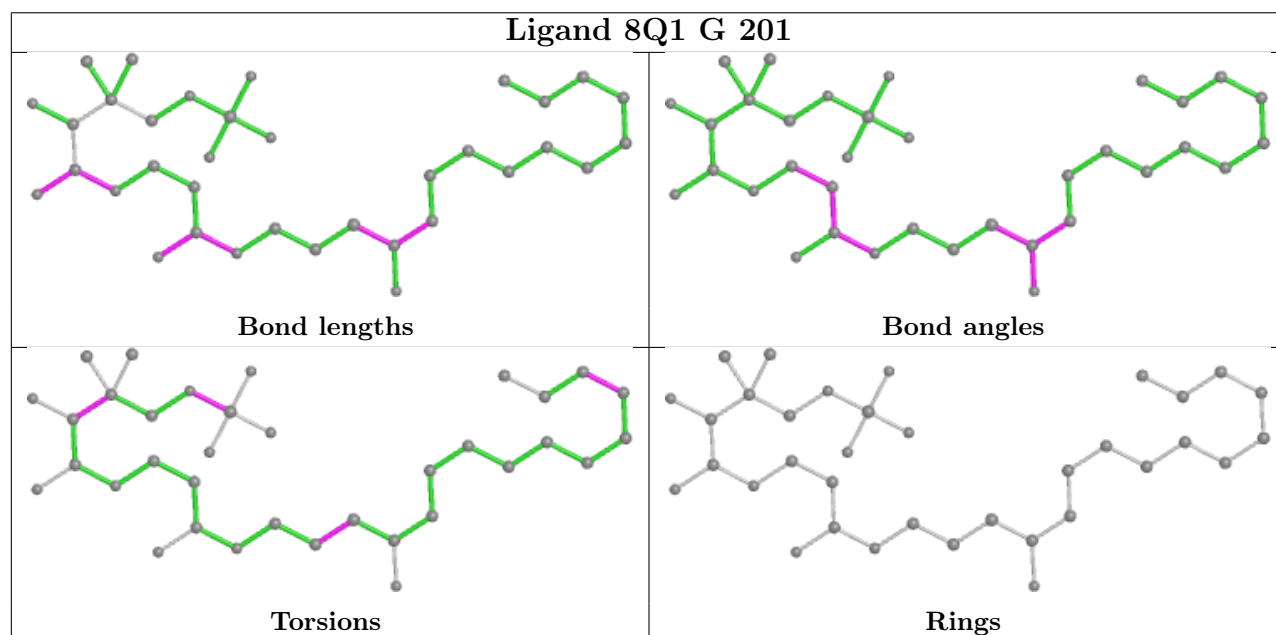
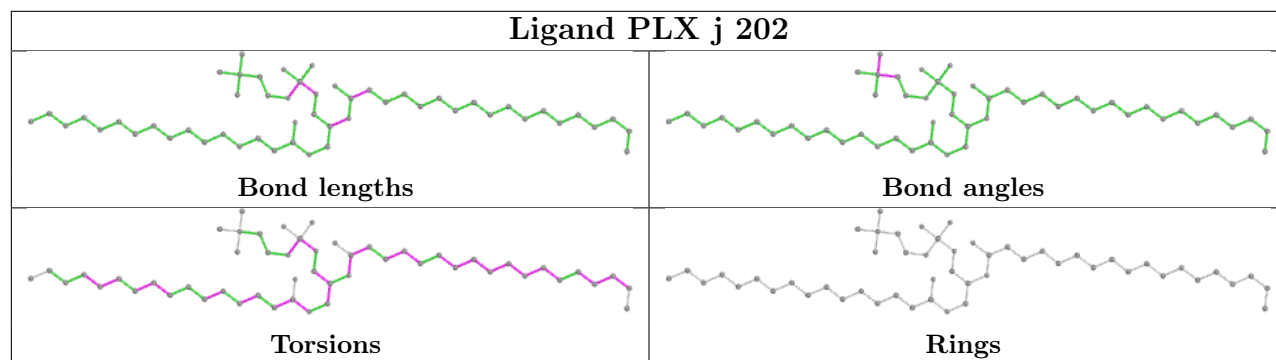


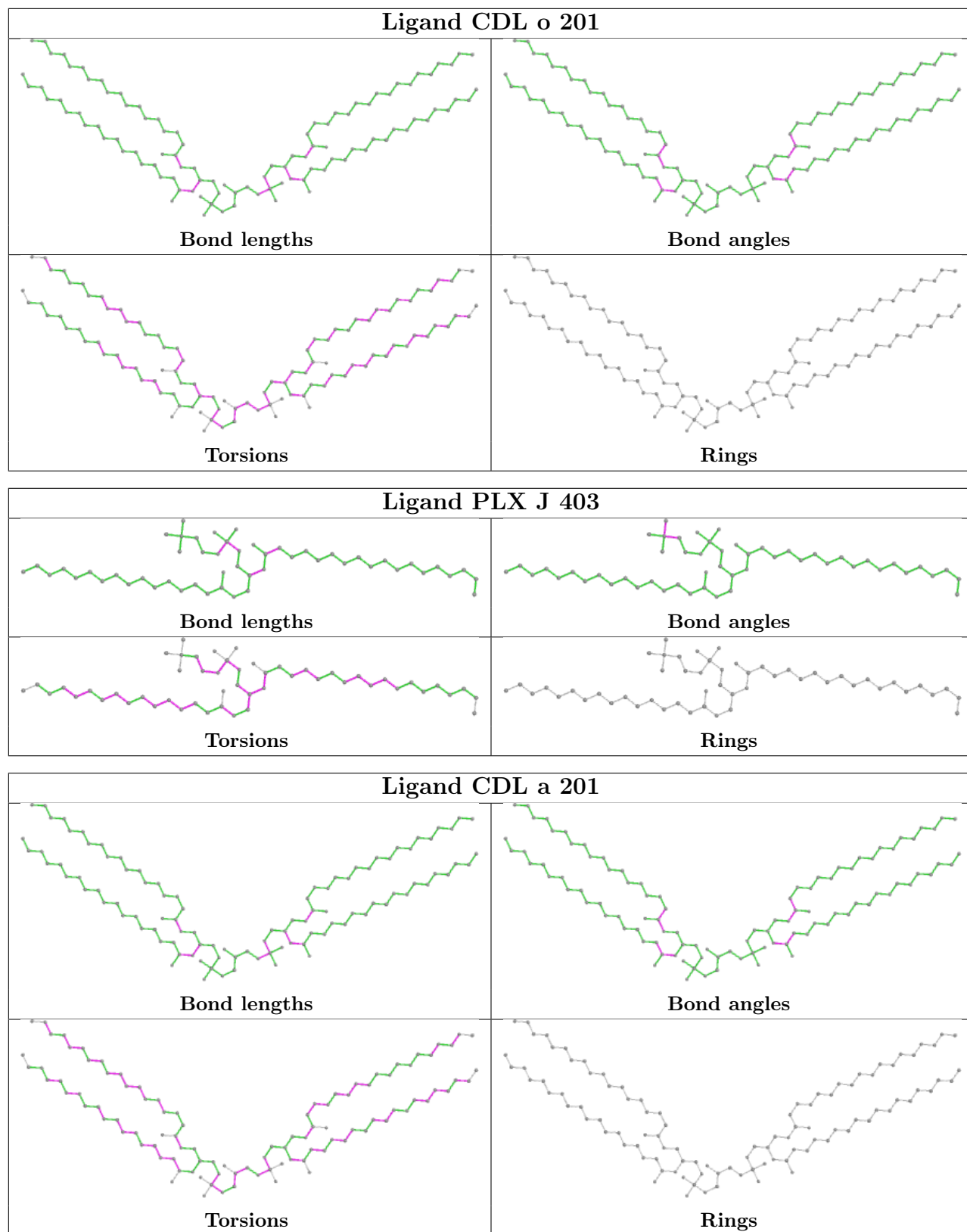


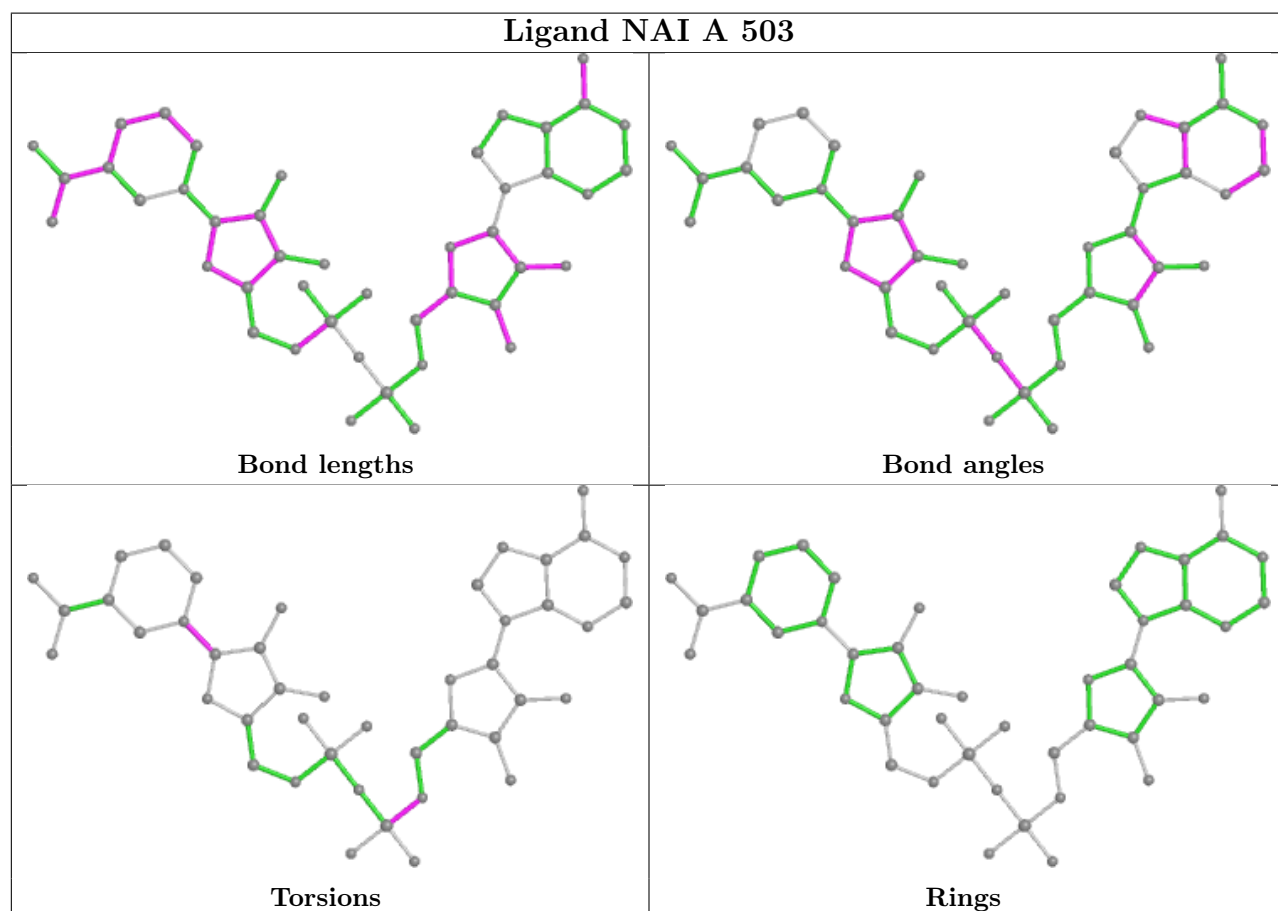
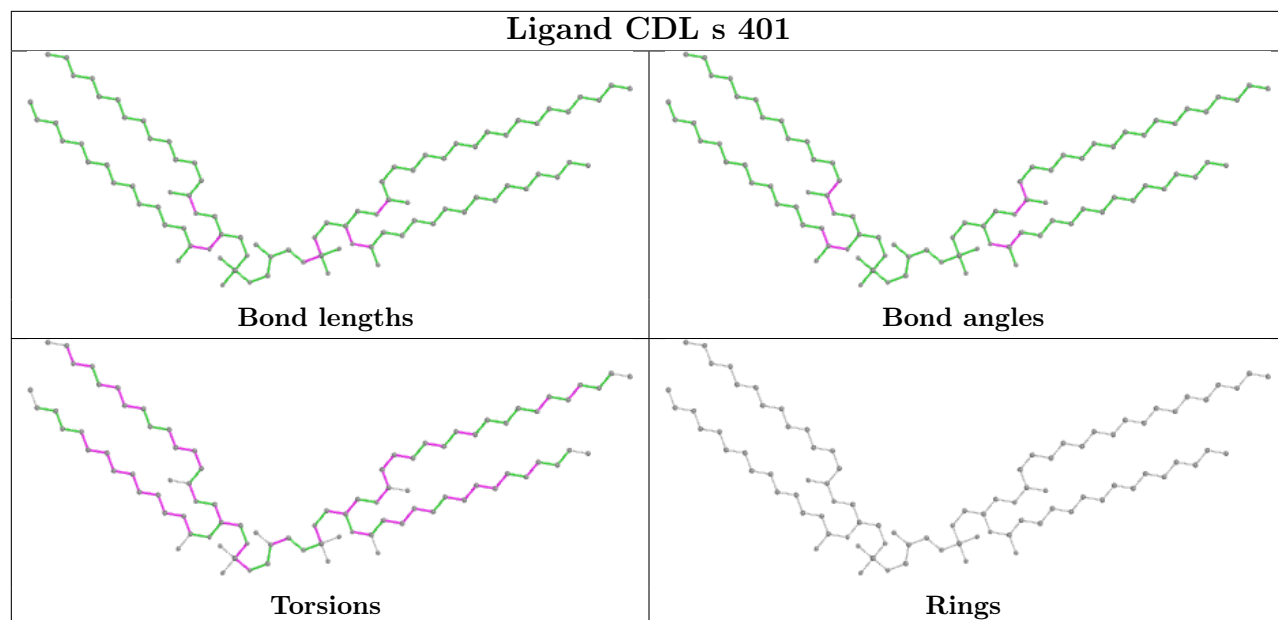


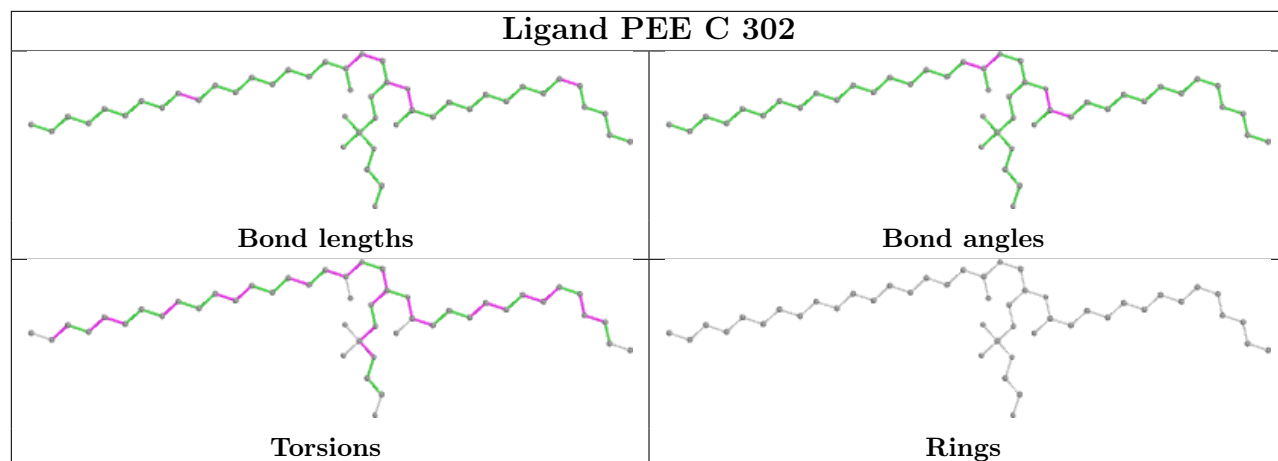












5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

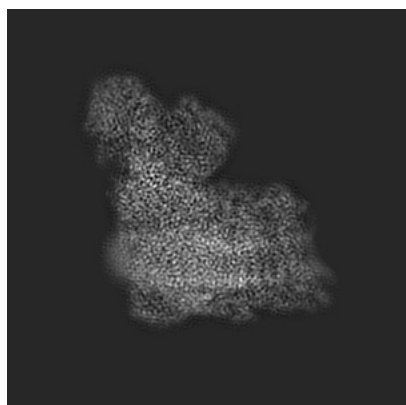
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-32260. These allow visual inspection of the internal detail of the map and identification of artifacts.

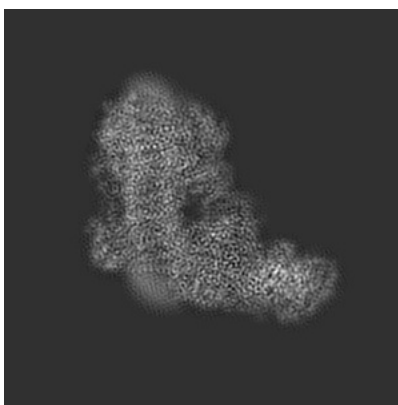
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

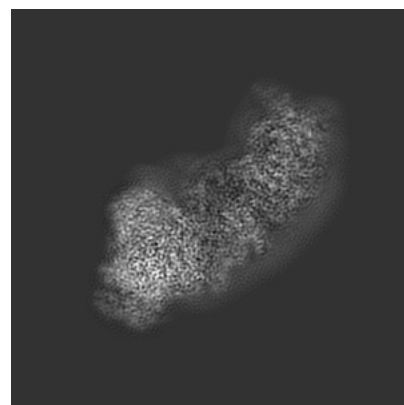
6.1.1 Primary map



X



Y

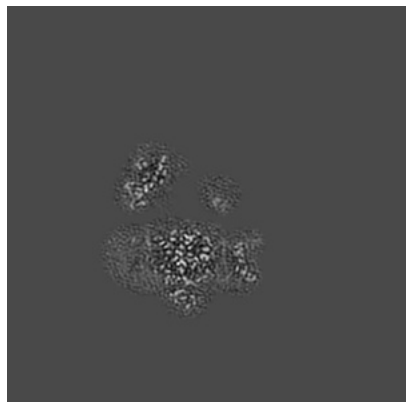


Z

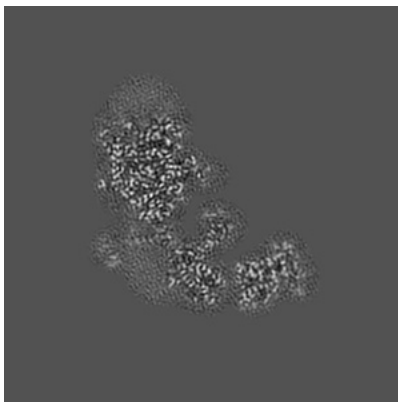
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

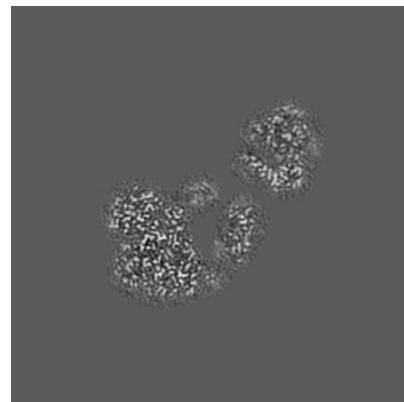
6.2.1 Primary map



X Index: 155



Y Index: 155

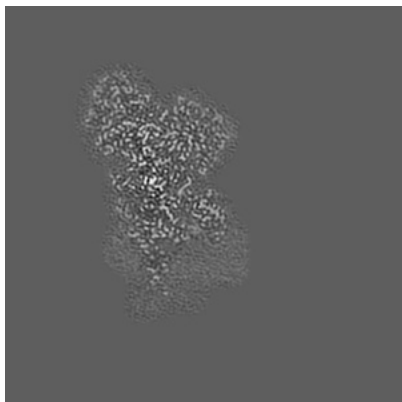


Z Index: 155

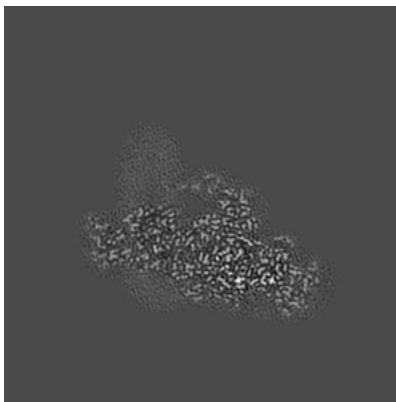
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

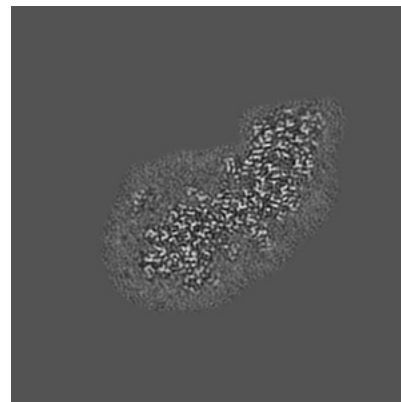
6.3.1 Primary map



X Index: 105



Y Index: 111

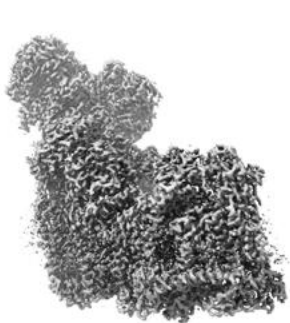


Z Index: 127

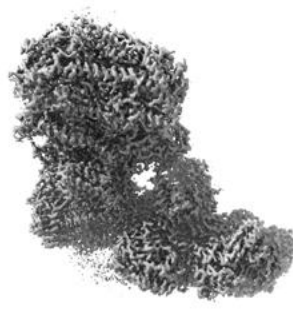
The images above show the largest variance slices of the map in three orthogonal directions.

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 0.0296. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

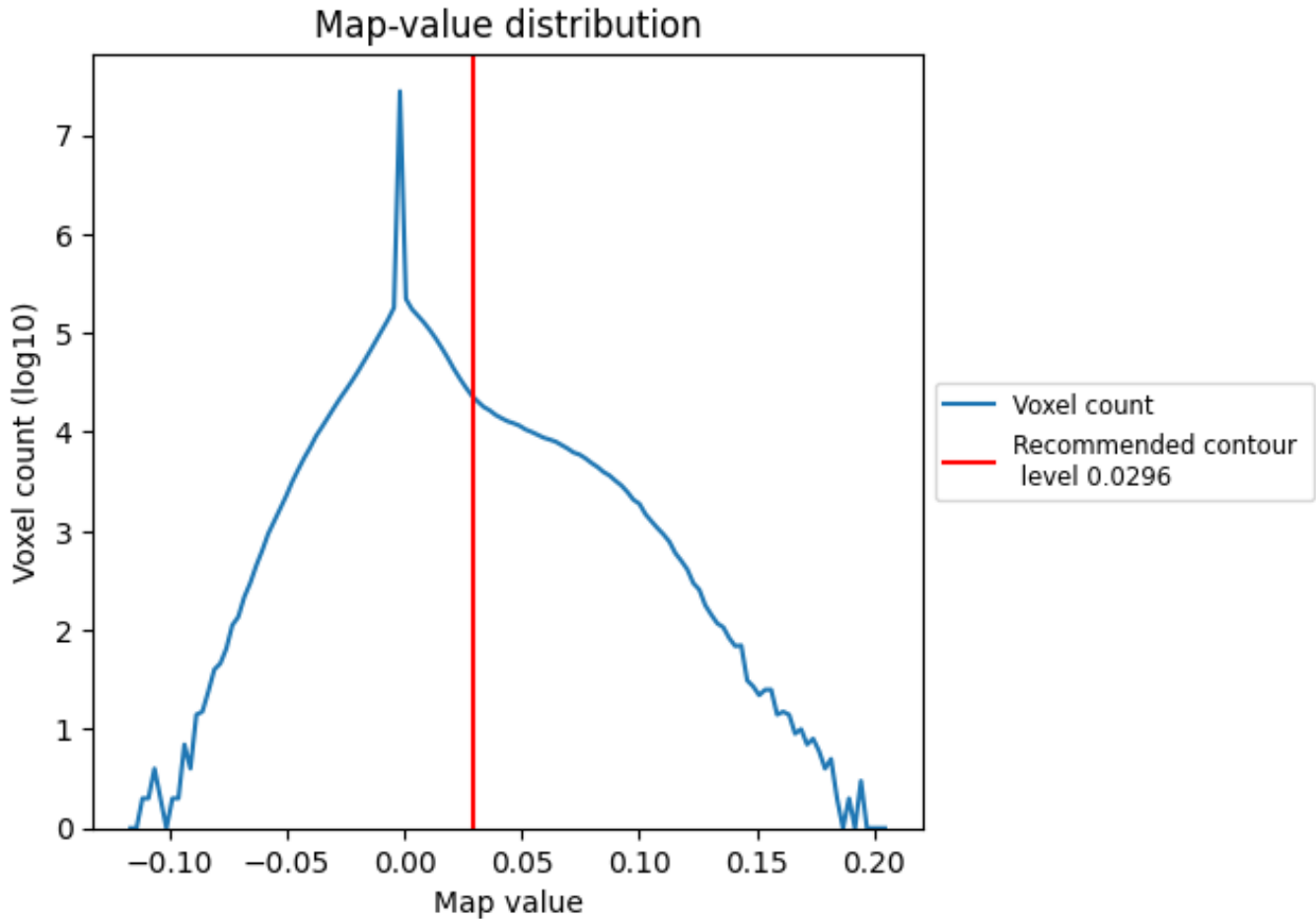
6.5 Mask visualisation

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

7 Map analysis [i](#)

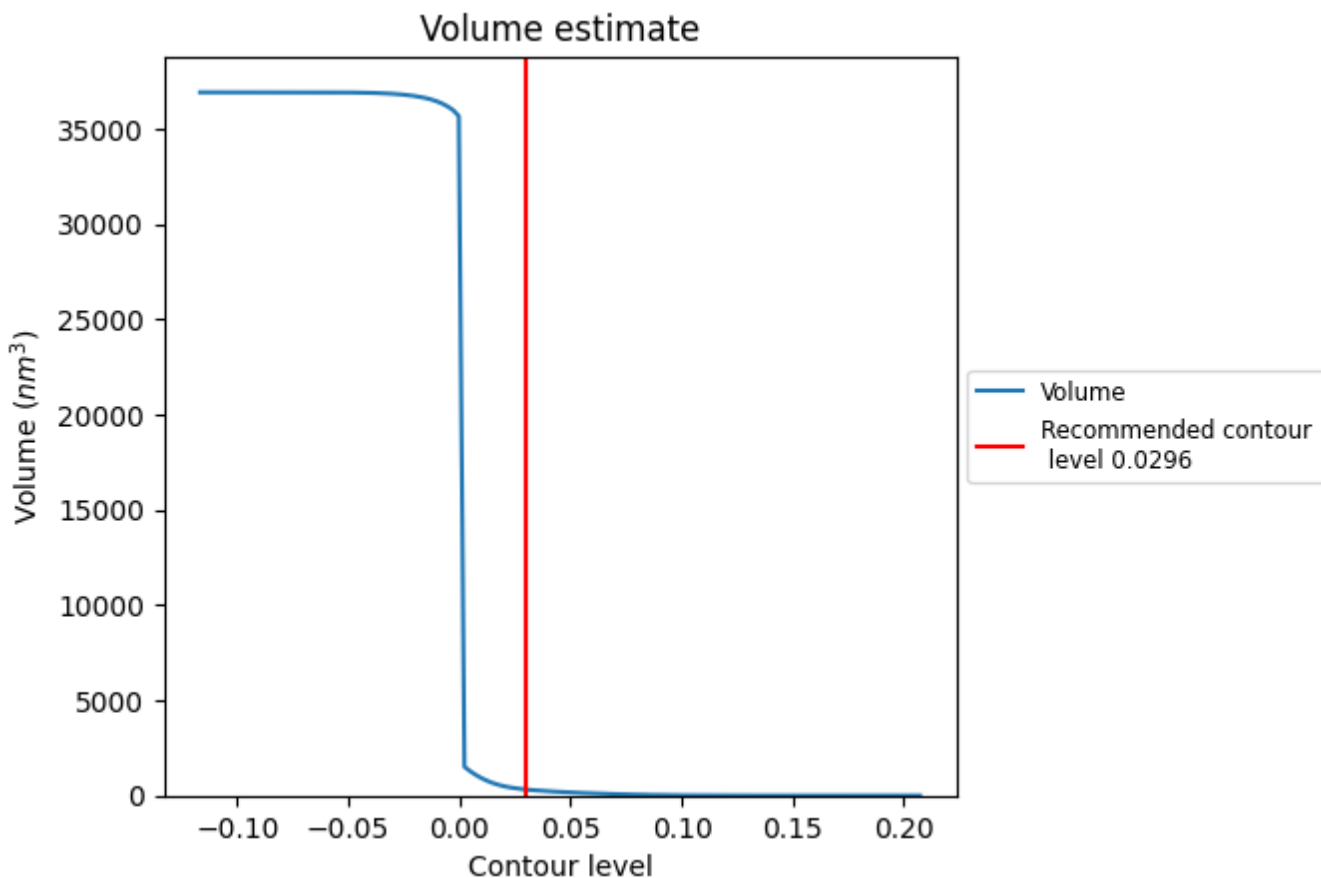
This section contains the results of statistical analysis of the map.

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.

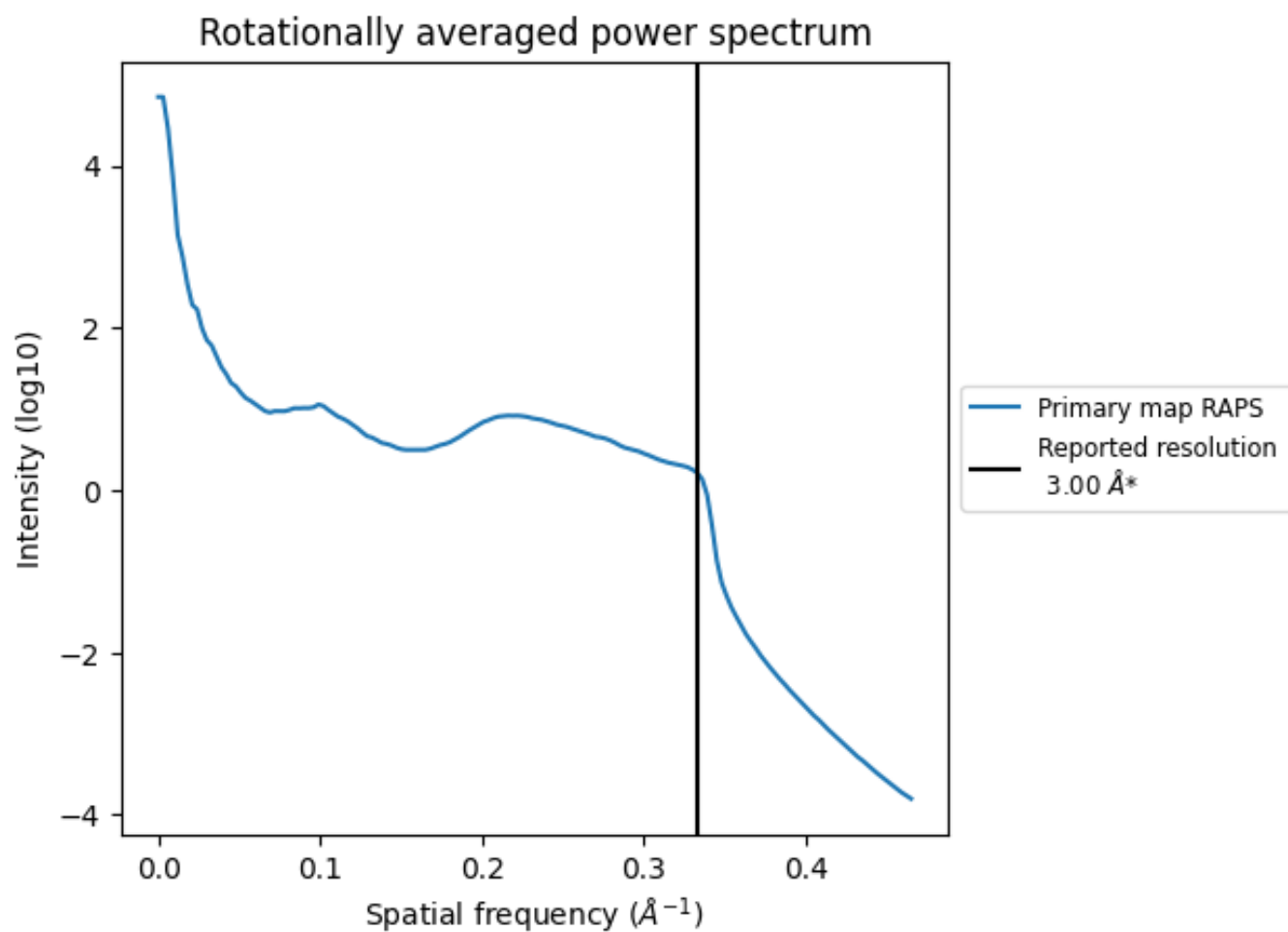
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 323 nm^3 ; this corresponds to an approximate mass of 292 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 0.333 \AA^{-1}

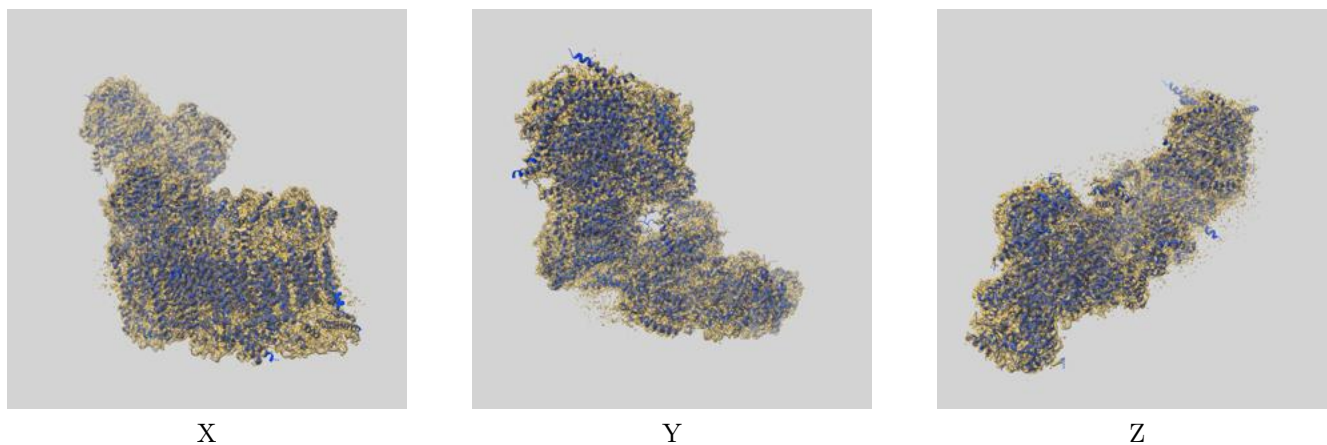
8 Fourier-Shell correlation

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

9 Map-model fit [i](#)

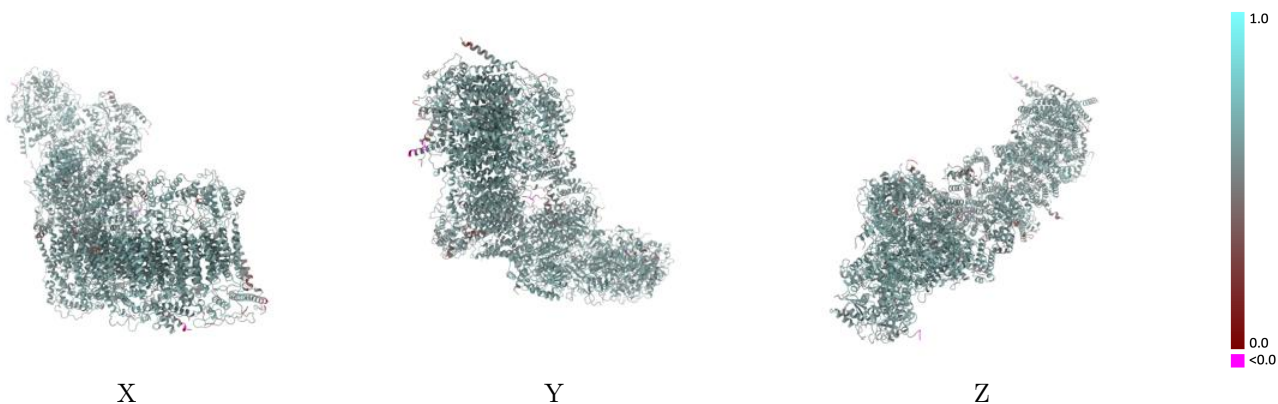
This section contains information regarding the fit between EMDB map EMD-32260 and PDB model 7W20. Per-residue inclusion information can be found in section 3 on page 21.

9.1 Map-model overlay [i](#)



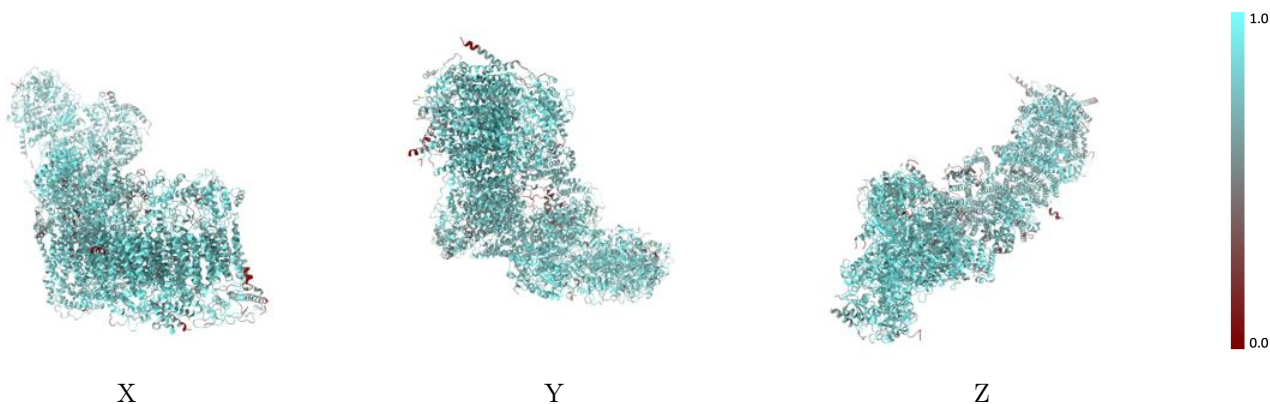
The images above show the 3D surface view of the map at the recommended contour level 0.0296 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



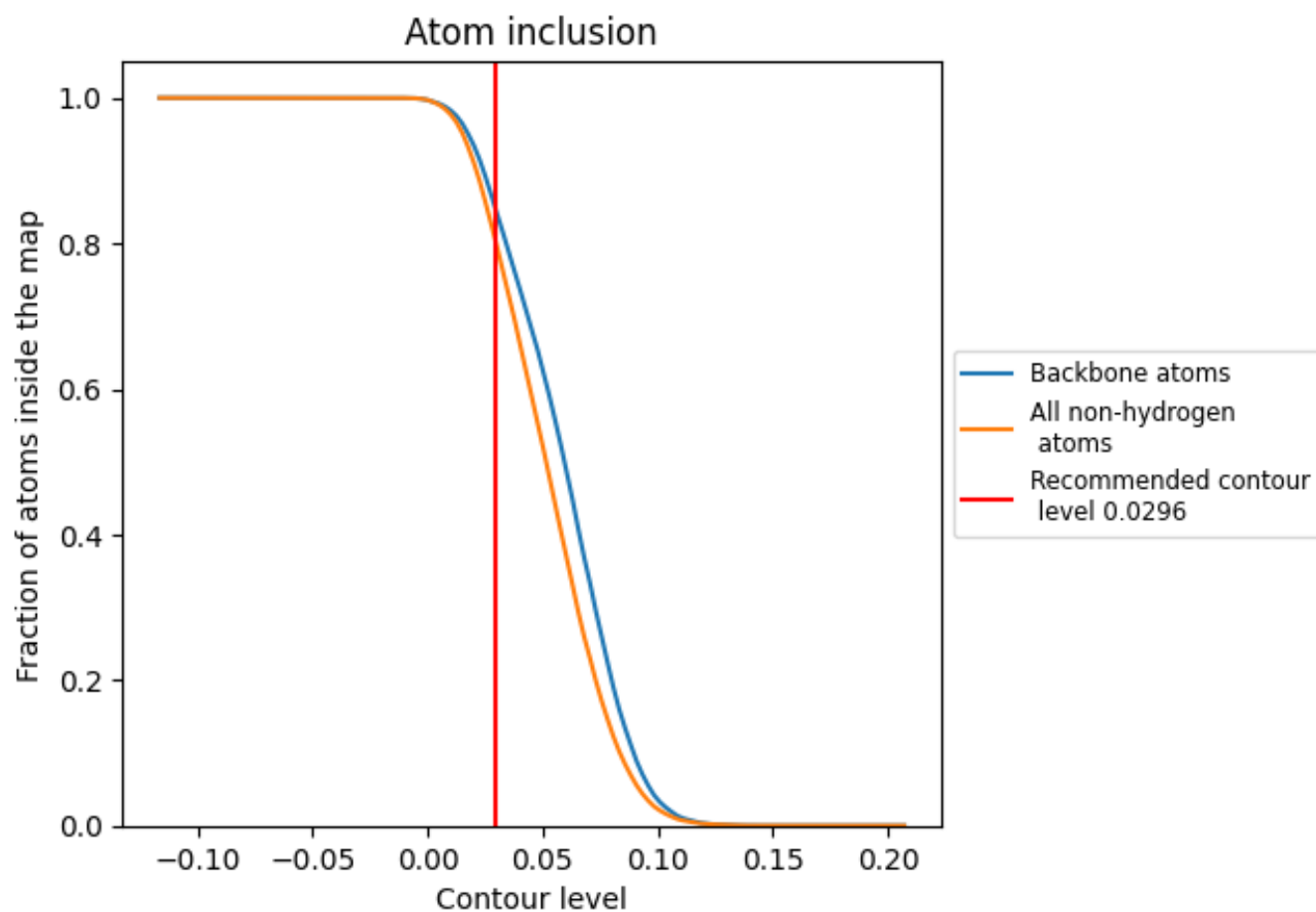
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.0296).







































































9.4 Atom inclusion [i](#)



At the recommended contour level, 85% of all backbone atoms, 80% 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 (0.0296) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.8024	 0.5910
A	 0.8087	 0.5840
B	 0.9062	 0.6290
C	 0.8892	 0.6220
E	 0.8028	 0.5950
F	 0.6962	 0.5340
G	 0.5277	 0.4710
H	 0.8190	 0.5910
I	 0.7249	 0.5720
J	 0.8273	 0.6000
K	 0.7296	 0.5650
L	 0.8330	 0.6110
M	 0.8379	 0.6030
N	 0.7451	 0.5940
O	 0.7697	 0.5690
P	 0.9048	 0.6320
Q	 0.8854	 0.6200
S	 0.8406	 0.6090
T	 0.7936	 0.5970
U	 0.7456	 0.5590
V	 0.6995	 0.5690
W	 0.7834	 0.5760
X	 0.7352	 0.5760
Y	 0.6837	 0.5380
Z	 0.6064	 0.5160
a	 0.8165	 0.6060
b	 0.7494	 0.5680
c	 0.7967	 0.5910
d	 0.7668	 0.5730
e	 0.7317	 0.5690
f	 0.6098	 0.5270
g	 0.8110	 0.5990
h	 0.7872	 0.5780
i	 0.8608	 0.6140
j	 0.7725	 0.5970



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Chain	Atom inclusion	Q-score
k	 0.8317	 0.6080
l	 0.7990	 0.5970
m	 0.7472	 0.5600
n	 0.6532	 0.5400
o	 0.7325	 0.5660
p	 0.8131	 0.5930
r	 0.8620	 0.6120
s	 0.8530	 0.6090
u	 0.7980	 0.5820
v	 0.6873	 0.5410
w	 0.7586	 0.5710