



## Full wwPDB EM Validation Report ⓘ

Jan 25, 2023 – 01:09 PM JST

PDB ID : 7W4C  
EMDB ID : EMD-32300  
Title : Active state CI from Q1-NADH dataset, Subclass 1  
Authors : Gu, J.K.; Yang, M.J.  
Deposited on : 2021-11-27  
Resolution : 2.70 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](mailto:validation@mail.wwpdb.org)

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

---

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

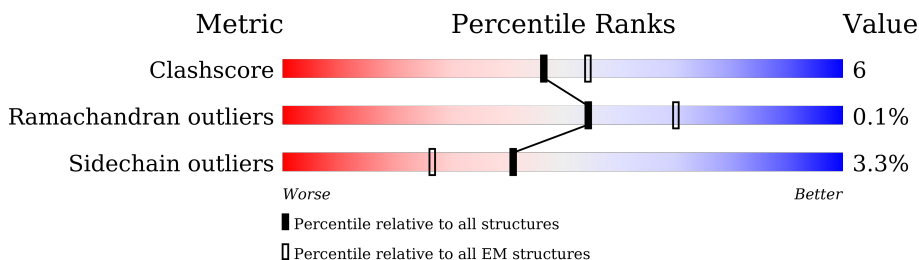
EMDB validation analysis : 0.0.1.dev43  
Mogul : 1.8.5 (274361), CSD as541be (2020)  
MolProbity : 4.02b-467  
buster-report : 1.1.7 (2018)  
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)  
MapQ : 1.9.9  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal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

# 1 Overall quality at a glance

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

The reported resolution of this entry is 2.70 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)
Clashscore	158937	4297
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  $\geq 3$ , 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	

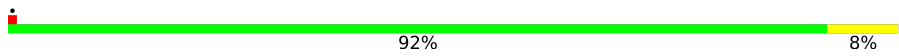
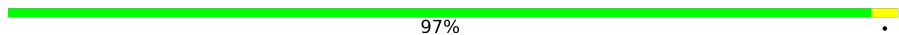
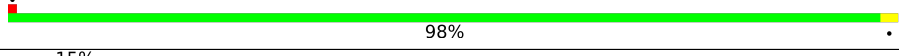
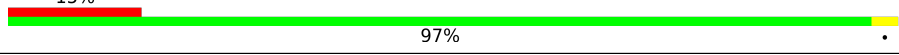
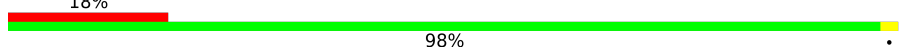
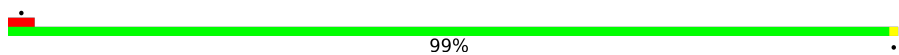
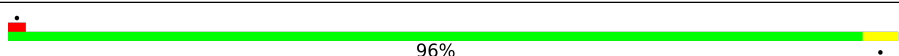
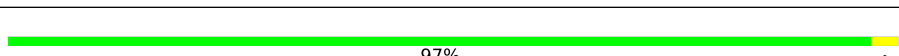
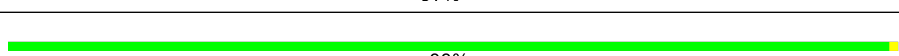
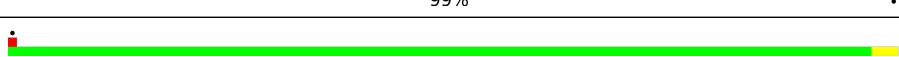
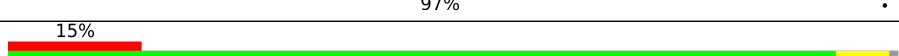
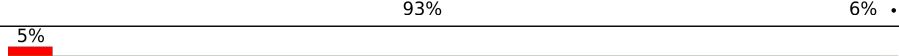
*Continued on next page...*

Continued from previous page...

Mol	Chain	Length	Quality of chain
8	I	112	67% 20% 13%
9	J	342	85% 14%
10	K	43	19% 74% 26%
11	L	125	6% 89% 11%
12	M	690	85% 14%
13	N	144	88% 11%
14	O	217	8% 82% 17%
15	P	208	87% 13%
16	Q	430	84% 16%
17	S	70	83% 16%
18	T	96	6% 92% 7%
19	U	83	5% 88% 12%
20	V	140	83% 16%
21	W	142	6% 86% 14%
22	Y	70	10% 81% 13%
23	Z	84	13% 81% 12% 5%
24	a	140	96%
25	b	126	8% 75% 22%
26	c	156	97%
27	d	175	5% 95% 5%
28	e	107	9% 93%
29	f	49	29% 100%
30	g	122	95% 5%
31	h	105	6% 93% 7%
32	i	347	98%

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
33	j	115	 92% 8%
34	k	98	 97%
35	l	606	 98%
36	m	175	 97% 15%
37	n	56	 98% 18%
38	o	128	 99%
39	p	178	 96%
40	r	459	 97%
41	s	318	 99%
42	u	171	 97%
43	v	125	 93% 6% 1%
44	w	320	 98%

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
45	SF4	A	501	-	-	X	-

## 2 Entry composition

There are 58 unique types of molecules in this entry. The entry contains 68216 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

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

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

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

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

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

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

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

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	F	86	687	432	129	124	2	0	0

- Molecule 6 is a protein called Acyl carrier protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	G	88	Total	C	N	O	S	0	0
			693	447	102	139	5		
6	X	88	Total	C	N	O	S	0	0
			703	453	104	141	5		

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
14	O	217	1657	1054	280	313	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 Complex I-AGGG.

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 Complex I-B12.

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 Complex I-SGDH.

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	1307	849	213	237	8	0	0

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

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

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

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

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

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

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

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
31	h	105	863	548	161	148	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
33	j	115	Total	C	N	O	S	0	0
			914	615	134	158	7		

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

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
35	l	606	Total	C	N	O	S	0	0
			4816	3193	746	826	51		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
36	m	175	Total	C	N	O	S	0	0
			1292	863	188	228	13		

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

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

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

Mol	Chain	Residues	Atoms				AltConf	Trace
38	o	128	Total	C	N	O	0	0
			1058	689	182	187		

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

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

- 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	2507	1678	385	423	21	0	0

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

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

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

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

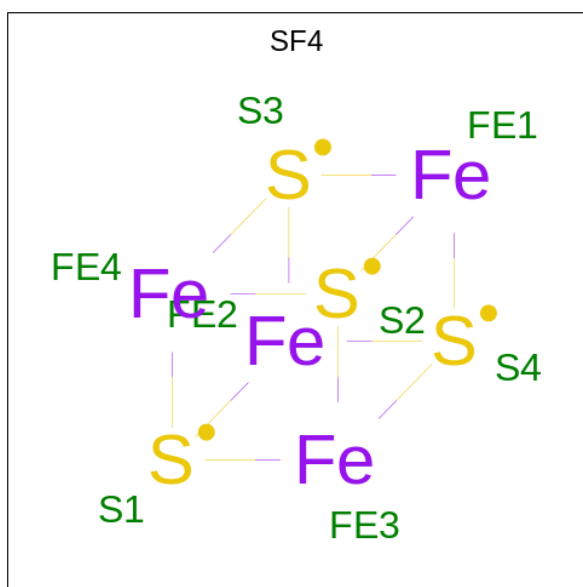
There is a discrepancy between the modelled and reference sequences:

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

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

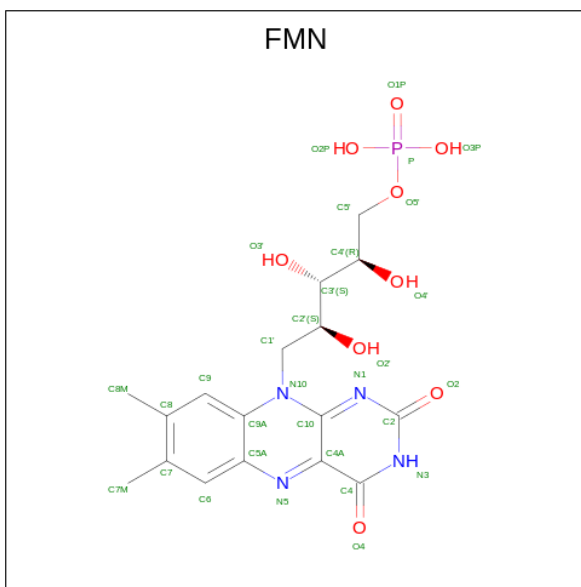
Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
44	w	320	2582	1643	438	491	10	0	0

- Molecule 45 is IRON/SULFUR CLUSTER (three-letter code: SF4) (formula: Fe<sub>4</sub>S<sub>4</sub>) (labeled as "Ligand of Interest" by depositor).



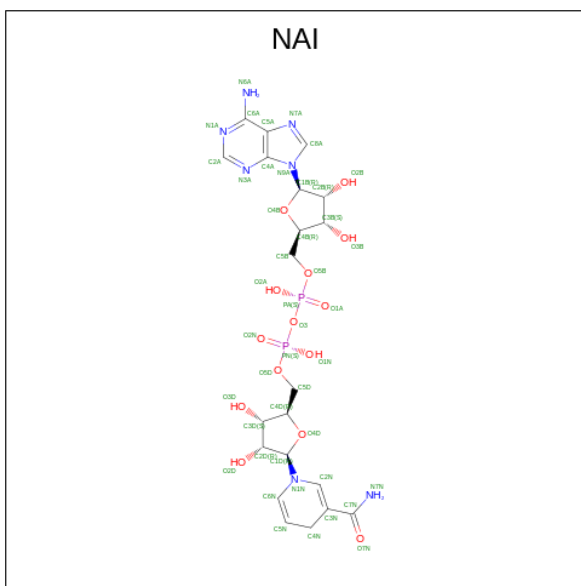
Mol	Chain	Residues	Atoms			AltConf
			Total	Fe	S	
45	A	1	8	4	4	0
45	B	1	16	8	8	0
45	B	1	16	8	8	0
45	C	1	8	4	4	0
45	M	1	16	8	8	0
45	M	1	16	8	8	0

- Molecule 46 is FLAVIN MONONUCLEOTIDE (three-letter code: FMN) (formula: C<sub>17</sub>H<sub>21</sub>N<sub>4</sub>O<sub>9</sub>P) (labeled as "Ligand of Interest" by depositor).



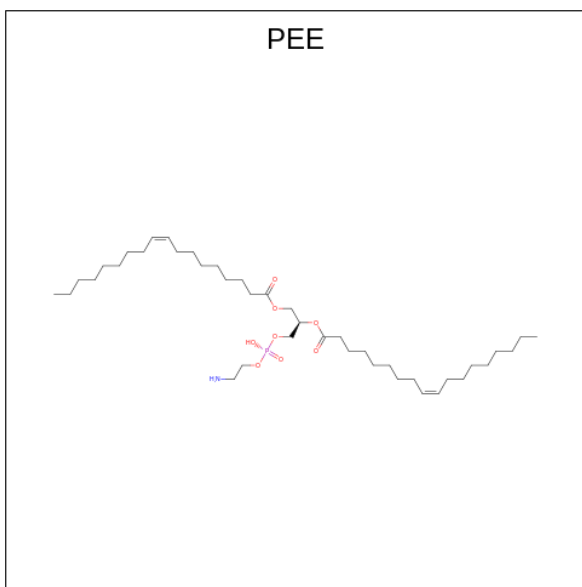
Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
46	A	1	31	17	4	9	1	0

- Molecule 47 is 1,4-DIHYDRONICOTINAMIDE ADENINE DINUCLEOTIDE (three-letter code: NAI) (formula: C<sub>21</sub>H<sub>29</sub>N<sub>7</sub>O<sub>14</sub>P<sub>2</sub>) (labeled as "Ligand of Interest" by depositor).



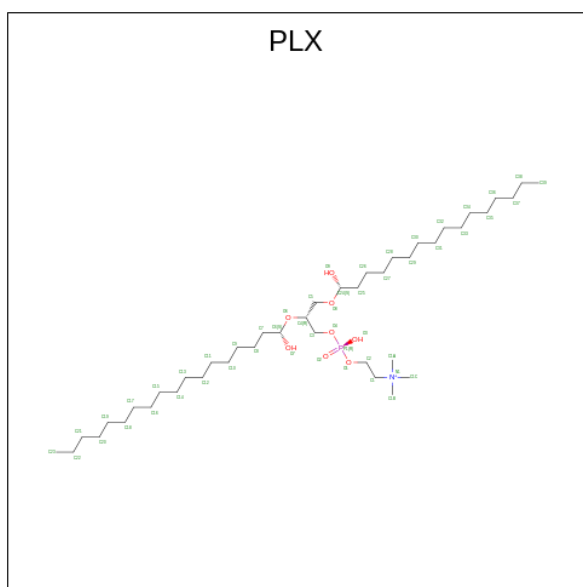
Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
47	A	1	44	21	7	14	2	0

- Molecule 48 is 1,2-dioleoyl-sn-glycero-3-phosphoethanolamine (three-letter code: PEE) (formula: C<sub>41</sub>H<sub>78</sub>NO<sub>8</sub>P) (labeled as "Ligand of Interest" by depositor).



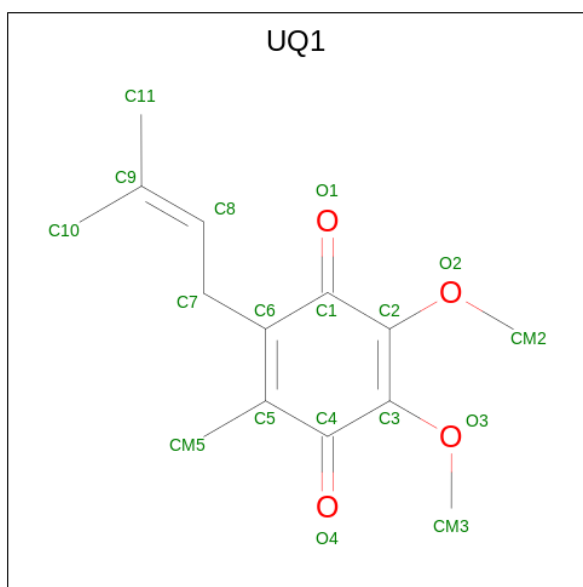
Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
48	B	1	Total	C	N	O	P	0
			51	41	1	8	1	
48	C	1	Total	C	N	O	P	0
			47	37	1	8	1	
48	U	1	Total	C	N	O	P	0
			51	41	1	8	1	
48	V	1	Total	C	N	O	P	0
			51	41	1	8	1	
48	W	1	Total	C	N	O	P	0
			41	31	1	8	1	
48	i	1	Total	C	N	O	P	0
			47	37	1	8	1	
48	l	1	Total	C	N	O	P	0
			137	107	3	24	3	
48	l	1	Total	C	N	O	P	0
			137	107	3	24	3	
48	l	1	Total	C	N	O	P	0
			137	107	3	24	3	
48	s	1	Total	C	N	O	P	0
			41	31	1	8	1	

- 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-TRIOXANE (three-letter code: PLX) (formula: C<sub>42</sub>H<sub>89</sub>NO<sub>8</sub>P) (labeled as "Ligand of Interest" by depositor).



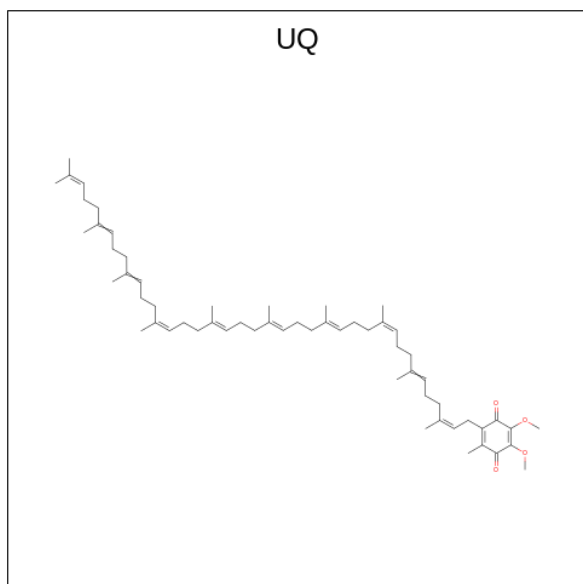
Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
49	C	1	Total 52	42	1	8	1	0
49	J	1	Total 52	42	1	8	1	0
49	a	1	Total 52	42	1	8	1	0
49	e	1	Total 52	42	1	8	1	0
49	g	1	Total 52	42	1	8	1	0
49	j	1	Total 52	42	1	8	1	0
49	r	1	Total 52	42	1	8	1	0

- Molecule 50 is UBIQUINONE-1 (three-letter code: UQ1) (formula: C<sub>14</sub>H<sub>18</sub>O<sub>4</sub>) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms		AltConf
50	C	1	Total	C O	0
			18	14 4	
50	Q	1	Total	C O	0
			18	14 4	

- Molecule 51 is Coenzyme Q10, (2Z,6E,10Z,14E,18E,22E,26Z)-isomer (three-letter code: UQ) (formula: C<sub>59</sub>H<sub>90</sub>O<sub>4</sub>) (labeled as "Ligand of Interest" by depositor).



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

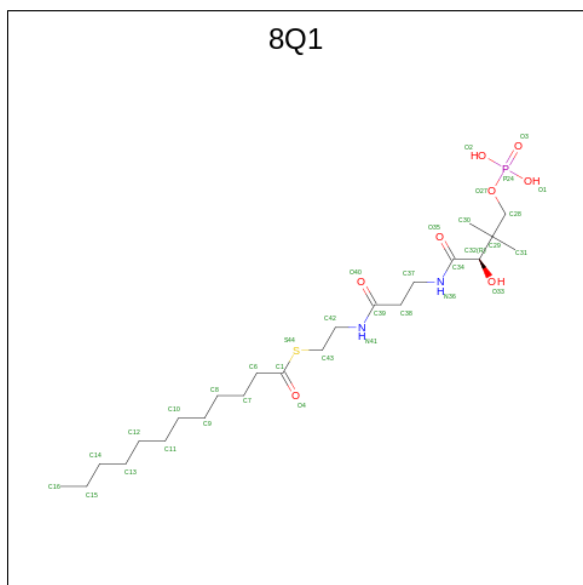
*Continued on next page...*



Continued from previous page...

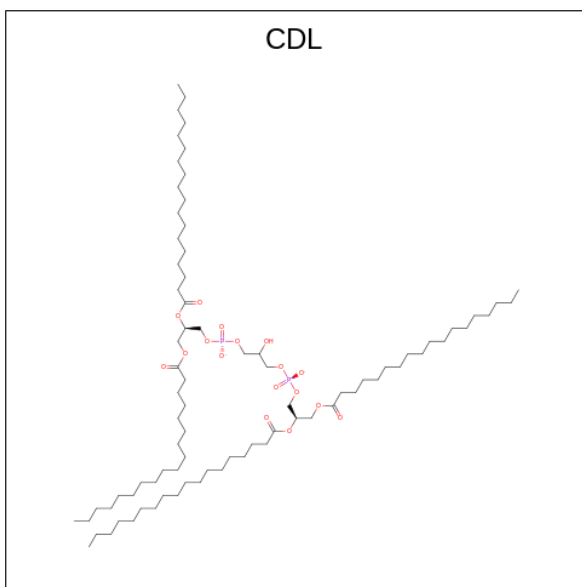
Mol	Chain	Residues	Atoms			AltConf
			Total	C	O	
51	J	1	33	29	4	0

- Molecule 52 is S-[2-({N-[(2R)-2-hydroxy-3,3-dimethyl-4-(phosphonoxy)butanoyl]-beta-alanyl}amino)ethyl] dodecanethioate (three-letter code: 8Q1) (formula: C<sub>23</sub>H<sub>45</sub>N<sub>2</sub>O<sub>8</sub>PS) (labeled as "Ligand of Interest" by depositor).



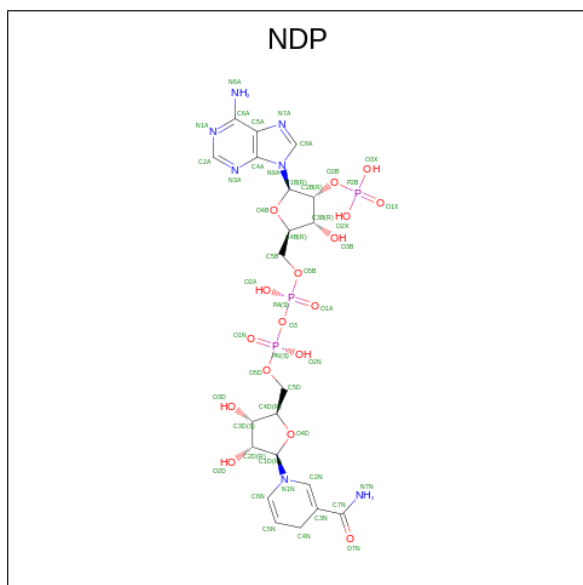
Mol	Chain	Residues	Atoms					AltConf	
			Total	C	N	O	P		S
52	G	1	35	23	2	8	1	1	0
52	X	1	35	23	2	8	1	1	0

- Molecule 53 is CARDIOLIPIN (three-letter code: CDL) (formula: C<sub>81</sub>H<sub>156</sub>O<sub>17</sub>P<sub>2</sub>) (labeled as "Ligand of Interest" by depositor).



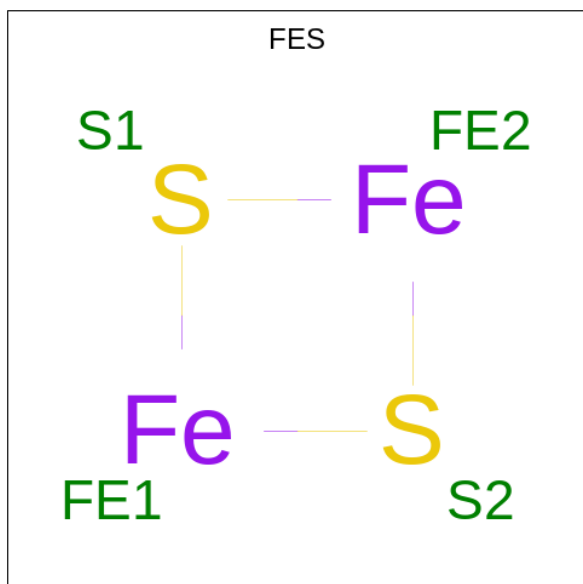
Mol	Chain	Residues	Atoms				AltConf
			Total	C	O	P	
53	I	1	51	32	17	2	0
53	V	1	288	231	51	6	0
53	V	1	288	231	51	6	0
53	V	1	288	231	51	6	0
53	a	1	100	81	17	2	0
53	g	1	100	81	17	2	0
53	l	1	199	161	34	4	0
53	l	1	199	161	34	4	0
53	n	1	55	36	17	2	0
53	s	1	89	70	17	2	0

- Molecule 54 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
54	J	1	48	21	7	17	3	0

- Molecule 55 is FE2/S2 (INORGANIC) CLUSTER (three-letter code: FES) (formula: Fe<sub>2</sub>S<sub>2</sub>) (labeled as "Ligand of Interest" by depositor).



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

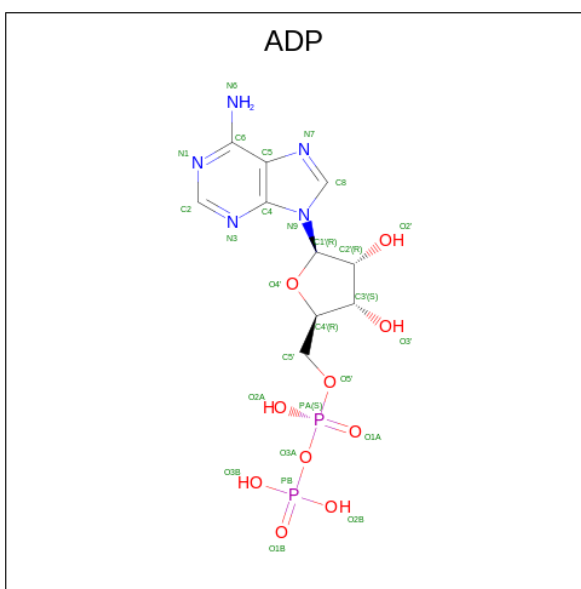
- Molecule 56 is MAGNESIUM ION (three-letter code: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

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

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

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

- Molecule 58 is ADENOSINE-5'-DIPHOSPHATE (three-letter code: ADP) (formula: C<sub>10</sub>H<sub>15</sub>N<sub>5</sub>O<sub>10</sub>P<sub>2</sub>) (labeled as "Ligand of Interest" by depositor).

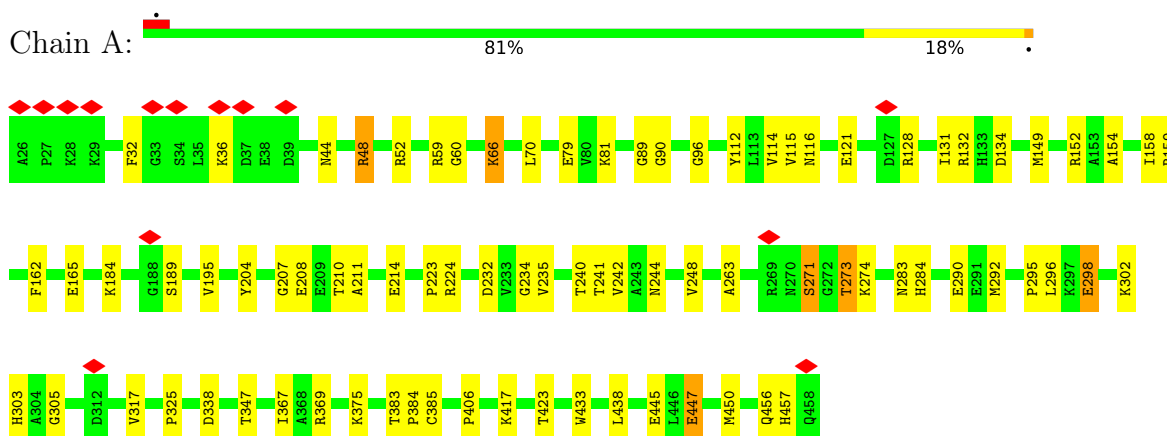


Mol	Chain	Residues	Atoms	AltConf
58	w	1	Total C N O P 27 10 5 10 2	0

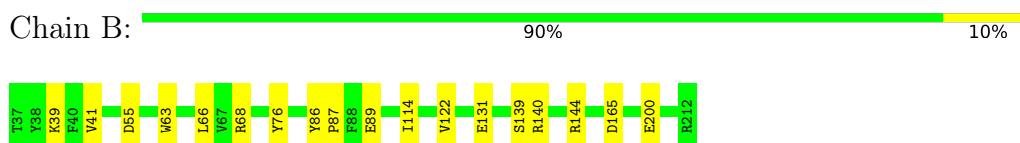
### 3 Residue-property plots

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

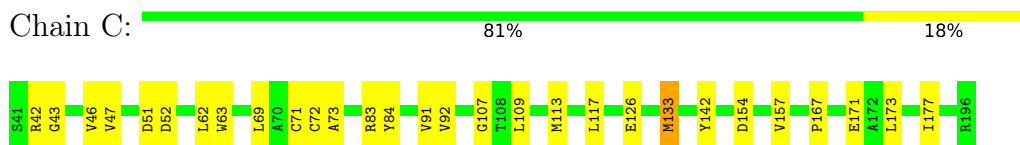
- Molecule 1: NADH dehydrogenase [ubiquinone] flavoprotein 1, mitochondrial



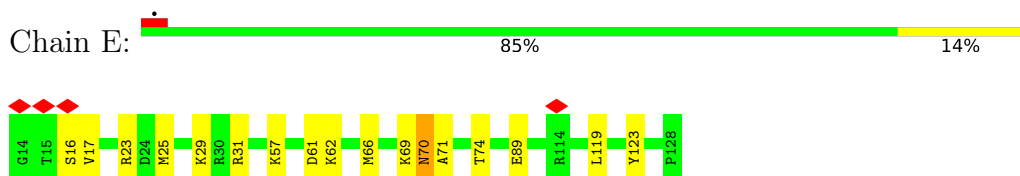
- Molecule 2: NADH dehydrogenase [ubiquinone] iron-sulfur protein 8, mitochondrial



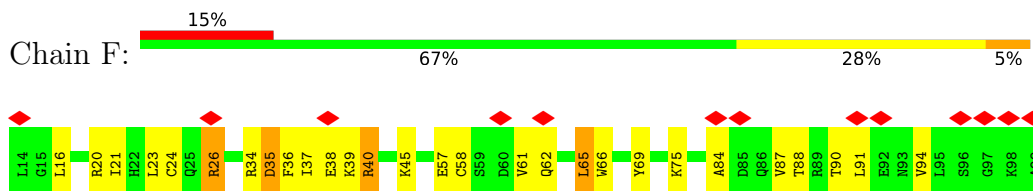
- Molecule 3: NADH dehydrogenase [ubiquinone] iron-sulfur protein 7, mitochondrial



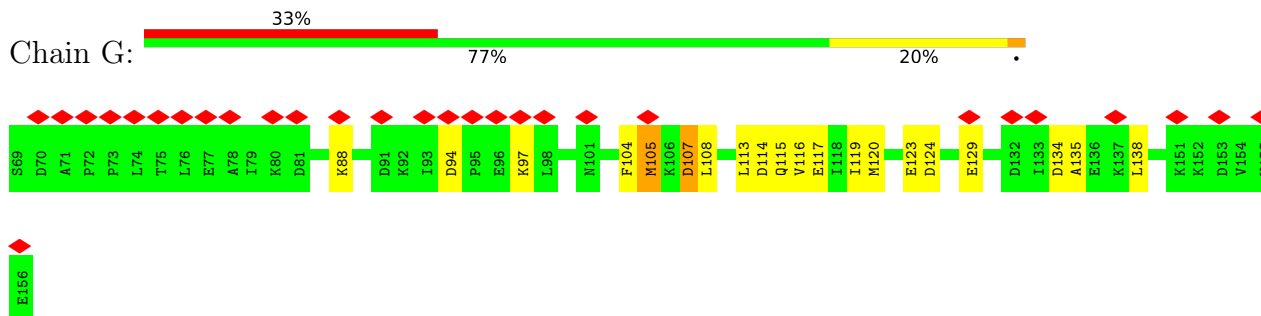
- Molecule 4: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 6



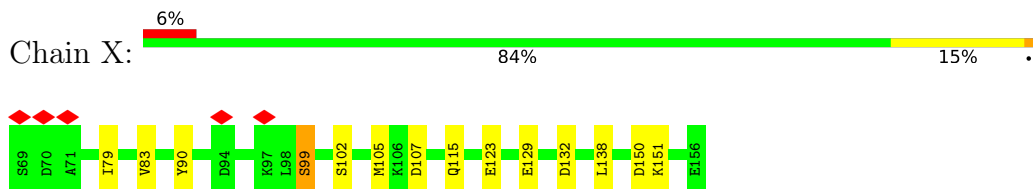
- Molecule 5: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 2



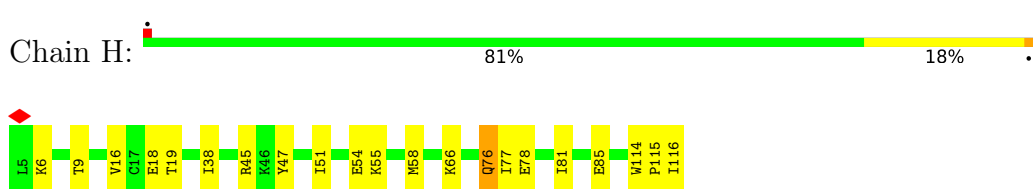
• Molecule 6: Acyl carrier protein



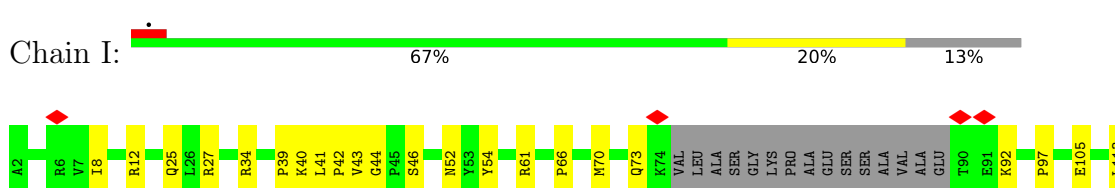
• Molecule 6: Acyl carrier protein



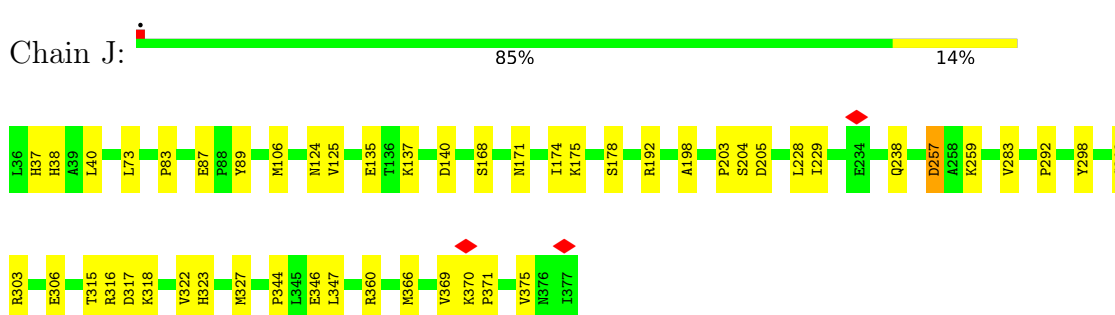
• Molecule 7: Complex I subunit B13



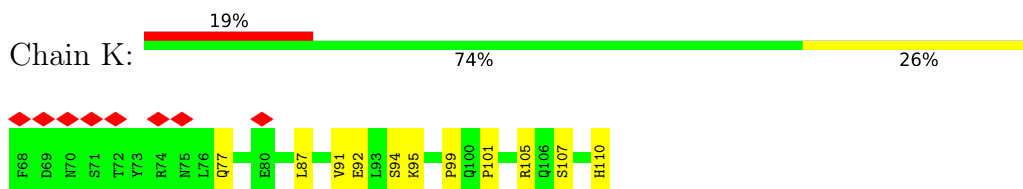
• Molecule 8: Complex I-B14.5a



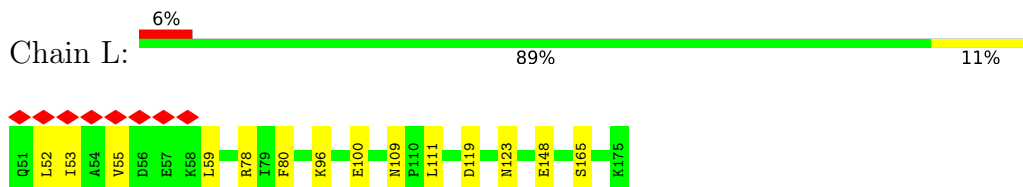
• Molecule 9: NADH dehydrogenase ubiquinone 1 alpha subcomplex subunit 9, mitochondrial



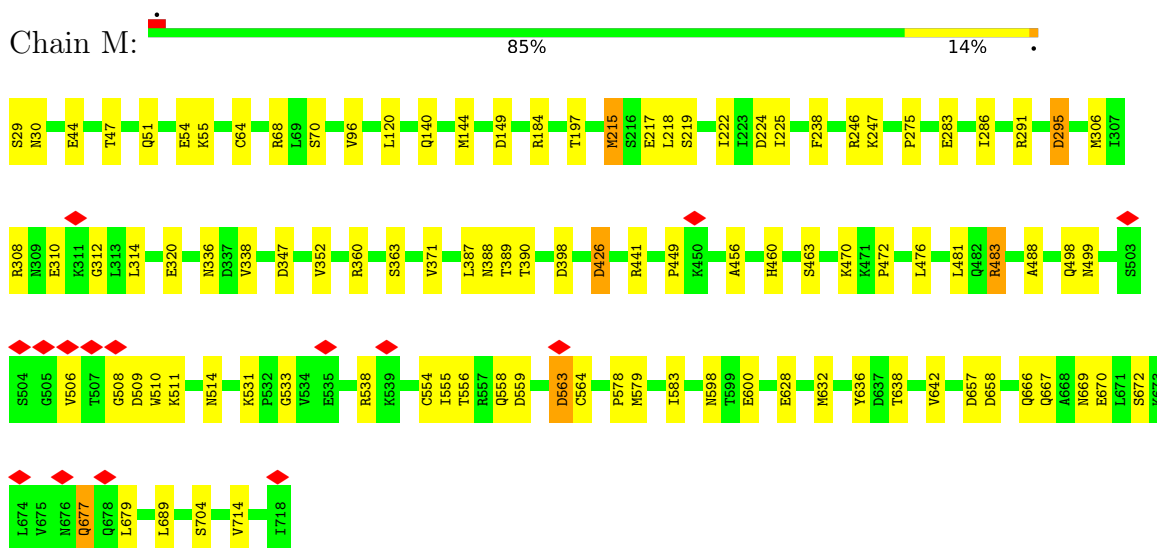
- Molecule 10: Complex I-9kD



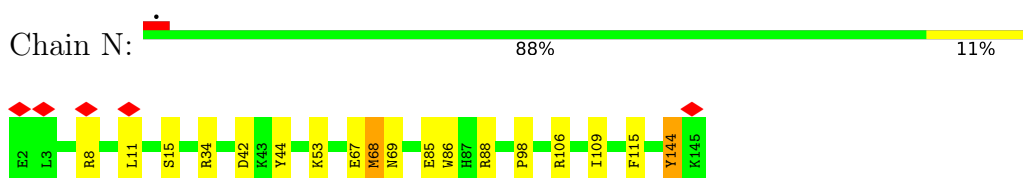
- Molecule 11: NADH dehydrogenase [ubiquinone] iron-sulfur protein 4, mitochondrial



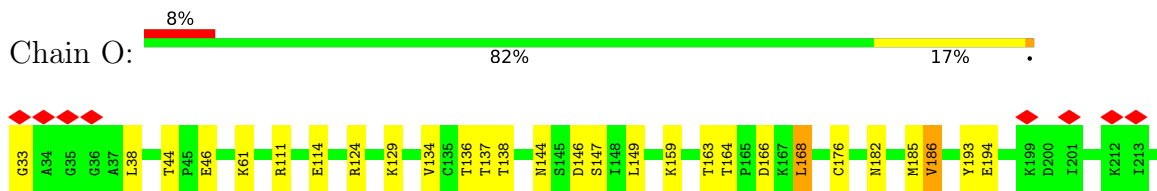
- Molecule 12: NADH-ubiquinone oxidoreductase 75 kDa subunit, mitochondrial

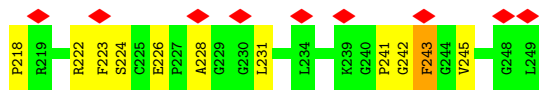


- Molecule 13: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 12

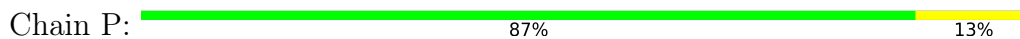


- Molecule 14: NADH dehydrogenase [ubiquinone] flavoprotein 2, mitochondrial

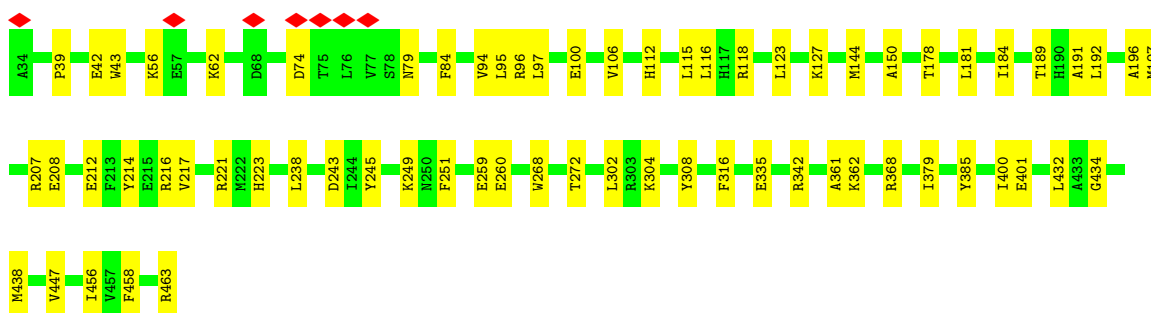
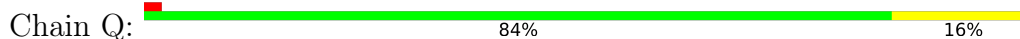




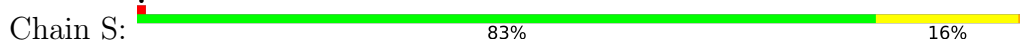
- Molecule 15: Complex I-30kD



- Molecule 16: Complex I-49kD



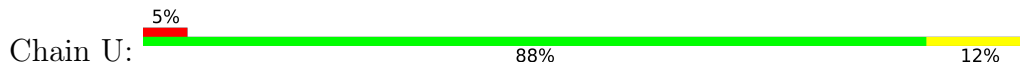
- Molecule 17: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 1



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




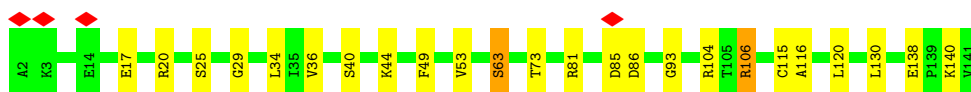
- Molecule 19: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 3




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



Chain V:  83% 16%




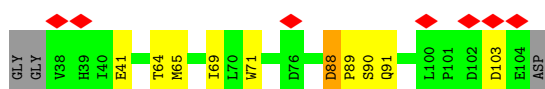
- Molecule 21: Complex I-B16.6

Chain W:  6% 86% 14%




- Molecule 22: Complex I-AGGG

Chain Y:  10% 81% 13%



- Molecule 23: Complex I-B12

Chain Z:  13% 81% 12% 5%




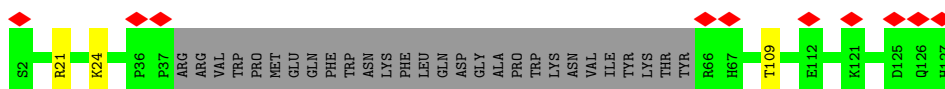
- Molecule 24: Complex I-SGDH

Chain a:  96%



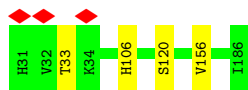
- Molecule 25: Complex I-B17

Chain b:  8% 75% 22%

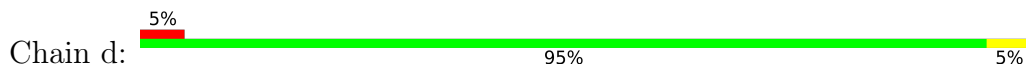


- Molecule 26: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 8, mitochondrial

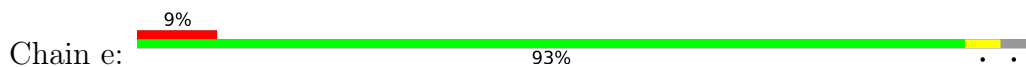
Chain c:  97%



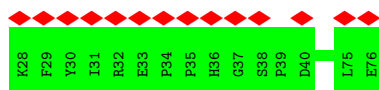
- Molecule 27: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 10



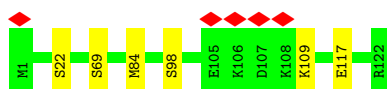
- Molecule 28: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 11, mitochondrial



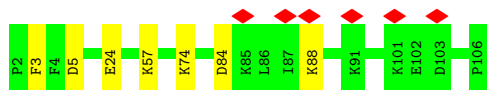
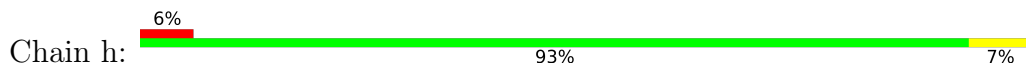
- Molecule 29: NADH dehydrogenase [ubiquinone] 1 subunit C1, mitochondrial



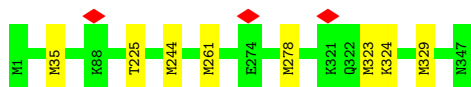
- Molecule 30: NADH dehydrogenase [ubiquinone] 1 subunit C2



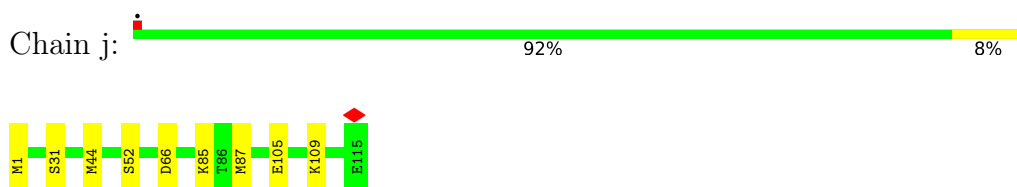
- Molecule 31: NADH dehydrogenase [ubiquinone] iron-sulfur protein 5



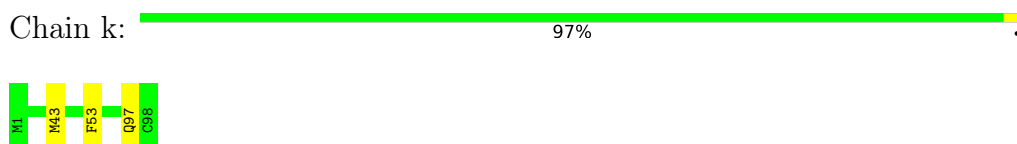
- Molecule 32: NADH-ubiquinone oxidoreductase chain 2



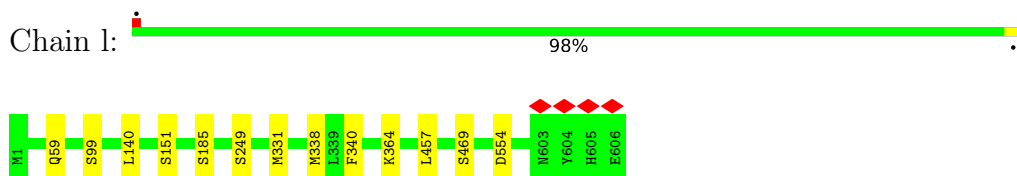
- Molecule 33: NADH-ubiquinone oxidoreductase chain 3



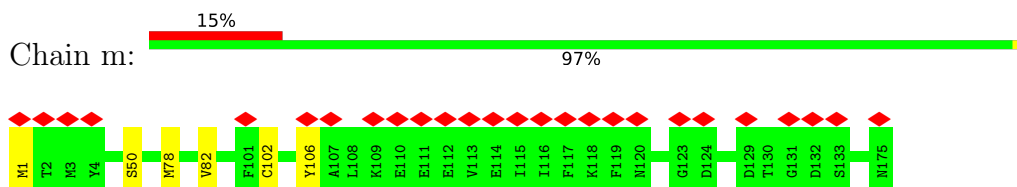
- Molecule 34: NADH-ubiquinone oxidoreductase chain 4L



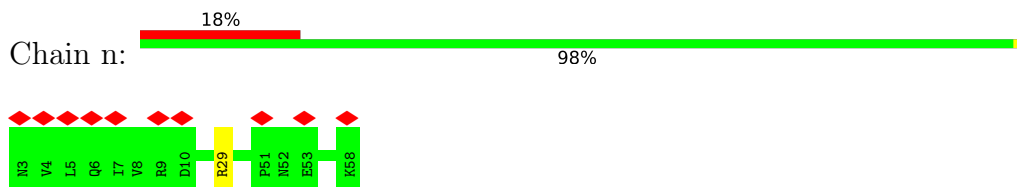
- Molecule 35: NADH-ubiquinone oxidoreductase chain 5



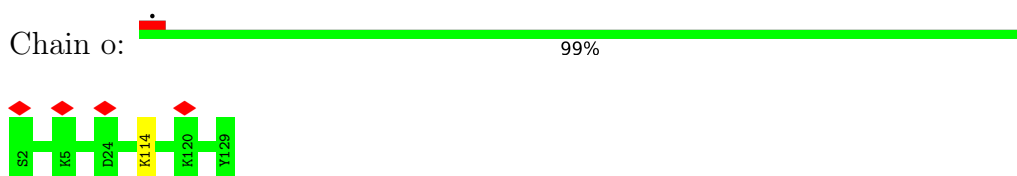
- Molecule 36: NADH-ubiquinone oxidoreductase chain 6



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

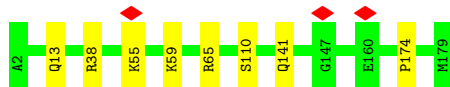


- Molecule 38: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 4



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





- Molecule 40: NADH-ubiquinone oxidoreductase chain 4



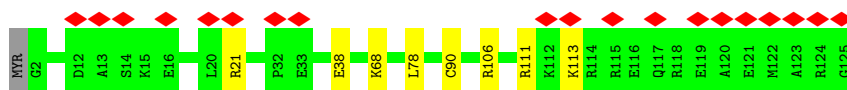
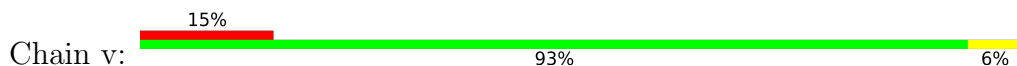
- Molecule 41: NADH-ubiquinone oxidoreductase chain 1



- 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	92672	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	0.218	Depositor
Minimum map value	-0.121	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.007	Depositor
Recommended contour level	0.0302	Depositor
Map size ( $\text{\AA}$ )	333.7616, 333.7616, 333.7616	wwPDB
Map dimensions	304, 304, 304	wwPDB
Map angles ( $^\circ$ )	90.0, 90.0, 90.0	wwPDB
Pixel spacing ( $\text{\AA}$ )	1.0979, 1.0979, 1.0979	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, NAI, SF4, PLX, ZN, MG, NDP, PEE, UQ1, CDL, FES, UQ, ADP, FMN, 8Q1

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	0.50	0/4603
2	B	0.26	0/1443	0.52	0/1952
3	C	0.25	0/1279	0.51	0/1730
4	E	0.25	0/995	0.49	0/1340
5	F	0.25	0/698	0.58	0/940
6	G	0.25	0/705	0.47	1/956 (0.1%)
6	X	0.24	0/715	0.41	0/967
7	H	0.25	0/929	0.46	0/1258
8	I	0.25	0/798	0.56	1/1079 (0.1%)
9	J	0.25	0/2828	0.48	0/3834
10	K	0.27	0/377	0.54	0/509
11	L	0.24	0/1039	0.49	0/1403
12	M	0.25	0/5384	0.50	1/7295 (0.0%)
13	N	0.25	0/1245	0.51	0/1694
14	O	0.25	0/1696	0.47	0/2310
15	P	0.26	0/1789	0.51	0/2436
16	Q	0.27	0/3538	0.50	0/4796
17	S	0.25	0/581	0.48	0/781
18	T	0.27	0/755	0.53	0/1018
19	U	0.25	0/664	0.44	0/912
20	V	0.25	0/1042	0.45	0/1411
21	W	0.26	0/1192	0.50	0/1610
22	Y	0.28	0/610	0.56	1/836 (0.1%)
23	Z	0.26	0/660	0.45	0/892
24	a	0.27	0/1184	0.47	0/1603
25	b	0.26	0/844	0.51	0/1149
26	c	0.27	0/1363	0.53	0/1865
27	d	0.26	0/1494	0.50	0/2015
28	e	0.25	0/891	0.49	0/1210
29	f	0.24	0/386	0.43	0/523
30	g	0.27	0/1036	0.48	0/1401
31	h	0.24	0/885	0.52	0/1185

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
32	i	0.25	0/2773	0.44	0/3768
33	j	0.25	0/938	0.45	0/1281
34	k	0.26	0/759	0.43	0/1029
35	l	0.26	0/4947	0.45	0/6728
36	m	0.27	0/1325	0.46	0/1800
37	n	0.24	0/491	0.51	0/663
38	o	0.26	0/1088	0.50	0/1476
39	p	0.25	0/1590	0.51	0/2155
40	r	0.25	0/3715	0.45	0/5067
41	s	0.27	0/2580	0.45	0/3528
42	u	0.26	0/1436	0.48	0/1938
43	v	0.26	0/1052	0.55	0/1411
44	w	0.26	0/2642	0.49	0/3580
All	All	0.26	0/67787	0.49	4/91937 (0.0%)

There are no bond length outliers.

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
8	I	70	MET	CB-CG-SD	5.96	130.27	112.40
12	M	563	ASP	CB-CG-OD1	5.74	123.47	118.30
22	Y	88	ASP	CB-CG-OD1	5.24	123.01	118.30
6	G	124	ASP	CB-CG-OD1	5.06	122.85	118.30

There are no chirality outliers.

There are no planarity outliers.

## 5.2 Too-close contacts [\(i\)](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	3330	0	3292	59	0
2	B	1412	0	1363	15	0
3	C	1248	0	1254	19	0
4	E	971	0	975	20	0
5	F	687	0	700	19	0

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
6	G	693	0	671	12	0
6	X	703	0	693	6	0
7	H	910	0	950	16	0
8	I	780	0	808	14	0
9	J	2751	0	2773	27	0
10	K	366	0	338	7	0
11	L	1016	0	1016	8	0
12	M	5296	0	5326	60	0
13	N	1204	0	1162	12	0
14	O	1657	0	1651	34	0
15	P	1738	0	1693	16	0
16	Q	3459	0	3396	42	0
17	S	566	0	561	6	0
18	T	741	0	702	4	0
19	U	643	0	642	7	0
20	V	1021	0	1025	14	0
21	W	1161	0	1144	12	0
22	Y	584	0	529	7	0
23	Z	641	0	620	10	0
24	a	1151	0	1164	0	0
25	b	819	0	835	0	0
26	c	1307	0	1200	0	0
27	d	1461	0	1429	0	0
28	e	867	0	817	0	0
29	f	378	0	356	0	0
30	g	1005	0	999	0	0
31	h	863	0	867	0	0
32	i	2710	0	2874	0	0
33	j	914	0	951	0	0
34	k	748	0	799	0	0
35	l	4816	0	4955	0	0
36	m	1292	0	1261	0	0
37	n	479	0	486	0	0
38	o	1058	0	1068	0	0
39	p	1534	0	1470	0	0
40	r	3624	0	3832	0	0
41	s	2507	0	2604	0	0
42	u	1398	0	1374	0	0
43	v	1028	0	982	0	0
44	w	2582	0	2531	0	0
45	A	8	0	0	2	0
45	B	16	0	0	0	0

*Continued on next page...*



*Continued from previous page...*

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
45	C	8	0	0	1	0
45	M	16	0	0	0	0
46	A	31	0	19	3	0
47	A	44	0	27	5	0
48	B	51	0	82	3	0
48	C	47	0	71	2	0
48	U	51	0	82	3	0
48	V	51	0	82	3	0
48	W	41	0	59	1	0
48	i	47	0	71	0	0
48	l	137	0	205	0	0
48	s	41	0	59	0	0
49	C	52	0	88	2	0
49	J	52	0	88	2	0
49	a	52	0	88	0	0
49	e	52	0	88	0	0
49	g	52	0	88	0	0
49	j	52	0	88	0	0
49	r	52	0	88	0	0
50	C	18	0	18	3	0
50	Q	18	0	18	1	0
51	C	38	0	47	5	0
51	J	33	0	39	1	0
52	G	35	0	0	11	0
52	X	35	0	0	0	0
53	I	51	0	46	0	0
53	V	288	0	435	11	0
53	a	100	0	156	0	0
53	g	100	0	156	0	0
53	l	199	0	307	0	0
53	n	55	0	54	0	0
53	s	89	0	125	0	0
54	J	48	0	25	1	0
55	M	4	0	0	0	0
55	O	4	0	0	0	0
56	M	1	0	0	0	0
57	T	1	0	0	0	0
58	w	27	0	11	0	0
All	All	68216	0	68948	420	0

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

All (420) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
47:A:503:NAI:C1B	47:A:503:NAI:O4B	1.63	1.26
54:J:401:NDP:O4D	54:J:401:NDP:C4D	1.68	1.13
4:E:70:ASN:HD21	52:G:201:8Q1:C43	1.87	0.86
1:A:60:GLY:HA2	14:O:241:PRO:HB3	1.59	0.84
13:N:68:MET:HG3	13:N:69:ASN:H	1.42	0.82
1:A:121:GLU:HB2	47:A:503:NAI:H42N	1.61	0.82
1:A:60:GLY:CA	14:O:241:PRO:HA	2.12	0.78
14:O:242:GLY:O	14:O:245:VAL:HG23	1.83	0.78
4:E:66:MET:HG3	52:G:201:8Q1:C11	2.14	0.78
4:E:70:ASN:ND2	52:G:201:8Q1:C43	2.47	0.77
1:A:60:GLY:HA2	14:O:241:PRO:CB	2.14	0.76
12:M:149:ASP:HB2	16:Q:361:ALA:HB3	1.67	0.75
4:E:29:LYS:NZ	52:G:201:8Q1:O35	2.20	0.74
8:I:40:LYS:HB3	21:W:7:LYS:H	1.53	0.73
1:A:60:GLY:HA2	14:O:241:PRO:HA	1.70	0.73
1:A:60:GLY:HA2	14:O:241:PRO:CA	2.19	0.72
2:B:165:ASP:OD1	16:Q:368:ARG:NH2	2.22	0.72
22:Y:41:GLU:OE2	22:Y:41:GLU:N	2.23	0.70
12:M:558:GLN:N	12:M:558:GLN:OE1	2.24	0.70
17:S:28:LYS:HG3	17:S:33:GLY:HA2	1.73	0.70
15:P:83:GLU:OE1	15:P:142:ARG:NH2	2.24	0.69
16:Q:304:LYS:NZ	16:Q:316:PHE:O	2.26	0.69
11:L:109:ASN:ND2	11:L:111:LEU:O	2.25	0.69
1:A:132:ARG:HB3	1:A:165:GLU:HG3	1.75	0.69
16:Q:302:LEU:HB2	16:Q:401:GLU:HB2	1.73	0.68
16:Q:94:VAL:HG21	16:Q:116:LEU:HB2	1.74	0.68
14:O:44:THR:HG22	14:O:46:GLU:H	1.60	0.67
1:A:159:ARG:NH2	14:O:176:CYS:O	2.28	0.67
18:T:47:ASP:O	18:T:52:ARG:NH1	2.28	0.67
1:A:244:ASN:ND2	46:A:502:FMN:O2	2.27	0.66
4:E:23:ARG:HE	11:L:53:ILE:HG22	1.60	0.66
15:P:125:ARG:NH2	15:P:201:ASP:OD1	2.27	0.66
9:J:192:ARG:NH1	9:J:198:ALA:O	2.30	0.65
12:M:68:ARG:NH1	12:M:283:GLU:OE2	2.29	0.65
48:V:202:PEE:H29	48:V:202:PEE:H71	1.79	0.65
1:A:60:GLY:HA3	14:O:241:PRO:HA	1.78	0.65
2:B:89:GLU:OE2	13:N:34:ARG:NH2	2.30	0.65
7:H:9:THR:O	7:H:76:GLN:NE2	2.29	0.65
1:A:385:CYS:HB3	45:A:501:SF4:S2	2.37	0.64
5:F:20:ARG:HB2	5:F:66:TRP:HB2	1.80	0.63

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:V:201:CDL:H742	53:V:201:CDL:H361	1.79	0.63
14:O:129:LYS:H	14:O:168:LEU:HA	1.63	0.63
2:B:63:TRP:HB3	2:B:66:LEU:HD12	1.79	0.63
3:C:92:VAL:HG11	51:C:305:UQ:H103	1.81	0.63
14:O:38:LEU:O	14:O:124:ARG:NH2	2.31	0.63
5:F:24:CYS:N	5:F:58:CYS:SG	2.72	0.62
16:Q:216:ARG:NH1	16:Q:243:ASP:OD2	2.30	0.62
10:K:105:ARG:NH2	12:M:426:ASP:OD2	2.31	0.62
13:N:106:ARG:HB2	13:N:109:ILE:HG13	1.82	0.62
14:O:182:ASN:HB3	14:O:194:GLU:HB3	1.81	0.62
14:O:242:GLY:HA2	14:O:245:VAL:CG2	2.30	0.62
16:Q:192:LEU:HD12	16:Q:197:MET:HA	1.80	0.62
4:E:70:ASN:ND2	52:G:201:8Q1:C42	2.63	0.62
7:H:55:LYS:HE3	15:P:104:THR:HG21	1.81	0.62
12:M:30:ASN:ND2	12:M:44:GLU:OE2	2.32	0.61
2:B:200:GLU:HG3	13:N:88:ARG:HB2	1.81	0.61
15:P:211:ARG:NH2	15:P:213:ASP:OD2	2.34	0.61
7:H:9:THR:HG23	7:H:16:VAL:HG22	1.82	0.61
7:H:18:GLU:OE2	7:H:18:GLU:N	2.30	0.60
12:M:217:GLU:HG2	12:M:218:LEU:HG	1.83	0.60
9:J:303:ARG:HB2	9:J:316:ARG:HD3	1.83	0.60
1:A:152:ARG:NH2	10:K:99:PRO:O	2.31	0.60
9:J:346:GLU:HG2	9:J:371:PRO:HB3	1.84	0.60
14:O:164:THR:HG22	14:O:166:ASP:H	1.66	0.59
5:F:23:LEU:HD13	5:F:37:ILE:HD12	1.85	0.59
11:L:80:PHE:HE1	11:L:100:GLU:HG2	1.68	0.59
5:F:61:VAL:HG23	5:F:62:GLN:H	1.68	0.59
16:Q:79:ASN:HB2	16:Q:100:GLU:HG2	1.84	0.59
3:C:69:LEU:HB2	3:C:107:GLY:HA3	1.84	0.58
1:A:384:PRO:HB2	1:A:423:THR:HG22	1.84	0.58
5:F:35:ASP:HA	5:F:38:GLU:HG2	1.86	0.58
14:O:134:VAL:HG21	14:O:149:LEU:HD13	1.85	0.58
12:M:51:GLN:HA	12:M:54:GLU:HG2	1.84	0.58
1:A:234:GLY:HA3	1:A:240:THR:HG22	1.85	0.58
1:A:116:ASN:ND2	1:A:207:GLY:O	2.32	0.57
12:M:509:ASP:N	12:M:509:ASP:OD1	2.35	0.57
12:M:308:ARG:NH1	12:M:312:GLY:O	2.35	0.57
12:M:498:GLN:HB2	12:M:669:ASN:HD21	1.69	0.57
14:O:222:ARG:NH1	14:O:226:GLU:O	2.34	0.57
16:Q:84:PHE:HB3	16:Q:97:LEU:HB3	1.86	0.57
17:S:49:GLU:OE2	17:S:52:ARG:NH1	2.38	0.57

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:109:LEU:HD13	3:C:117:LEU:HD13	1.87	0.57
16:Q:249:LYS:HA	21:W:19:ILE:HG23	1.85	0.57
1:A:283:ASN:ND2	1:A:305:GLY:O	2.38	0.57
12:M:456:ALA:O	12:M:499:ASN:ND2	2.38	0.57
1:A:134:ASP:N	1:A:134:ASP:OD1	2.37	0.57
5:F:87:VAL:O	5:F:91:LEU:HD12	2.05	0.57
20:V:34:LEU:HD11	53:V:204:CDL:H441	1.87	0.56
4:E:25:MET:O	4:E:29:LYS:HG3	2.05	0.56
1:A:295:PRO:HG2	1:A:298:GLU:HB2	1.88	0.56
12:M:666:GLN:O	12:M:670:GLU:HG3	2.06	0.56
21:W:90:ASN:ND2	21:W:123:GLU:O	2.39	0.56
5:F:26:ARG:HB3	5:F:26:ARG:NH1	2.21	0.56
1:A:263:ALA:HA	1:A:271:SER:HB3	1.88	0.56
20:V:81:ARG:NH2	20:V:86:ASP:OD2	2.39	0.56
53:V:201:CDL:H731	53:V:201:CDL:H601	1.88	0.55
21:W:74:LEU:O	21:W:78:GLU:HG2	2.04	0.55
4:E:66:MET:HB3	52:G:201:8Q1:C9	2.37	0.55
9:J:174:ILE:HG23	9:J:175:LYS:HG2	1.88	0.55
22:Y:88:ASP:OD1	22:Y:91:GLN:HG2	2.05	0.55
20:V:40:SER:HA	53:V:201:CDL:HB61	1.88	0.55
14:O:242:GLY:O	14:O:243:PHE:C	2.44	0.55
1:A:89:GLY:O	47:A:503:NAI:H2N	2.08	0.54
1:A:290:GLU:OE2	1:A:303:HIS:NE2	2.39	0.54
9:J:87:GLU:HG3	9:J:89:TYR:H	1.72	0.54
11:L:123:ASN:OD1	12:M:246:ARG:NH2	2.37	0.54
12:M:306:MET:HB2	12:M:583:ILE:HB	1.88	0.54
4:E:70:ASN:O	52:G:201:8Q1:N41	2.40	0.54
14:O:186:VAL:HG12	14:O:193:TYR:HB2	1.88	0.54
16:Q:95:LEU:HB2	16:Q:458:PHE:CZ	2.42	0.54
16:Q:181:LEU:HD23	16:Q:207:ARG:HG2	1.88	0.54
1:A:367:ILE:HG13	1:A:438:LEU:HD13	1.88	0.54
12:M:308:ARG:NH2	12:M:578:PRO:O	2.40	0.54
19:U:16:GLU:HG3	48:U:101:PEE:H49	1.88	0.54
8:I:27:ARG:NH2	16:Q:212:GLU:OE2	2.40	0.54
22:Y:89:PRO:HD2	22:Y:90:SER:H	1.73	0.54
20:V:49:PHE:O	20:V:53:VAL:HG23	2.08	0.54
8:I:92:LYS:HA	8:I:92:LYS:HE2	1.89	0.53
3:C:42:ARG:O	3:C:46:VAL:HG23	2.09	0.53
6:X:123:GLU:HG2	6:X:129:GLU:HA	1.90	0.53
1:A:48:ARG:HH12	14:O:231:LEU:HD21	1.72	0.53
10:K:91:VAL:O	10:K:94:SER:OG	2.27	0.53

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:Q:268:TRP:O	16:Q:272:THR:OG1	2.22	0.53
1:A:36:LYS:H	1:A:36:LYS:HD3	1.74	0.53
14:O:134:VAL:HG12	14:O:186:VAL:HG23	1.89	0.53
1:A:90:GLY:HA3	47:A:503:NAI:H1D	1.90	0.53
7:H:116:ILE:HD13	11:L:96:LYS:HD2	1.89	0.53
1:A:162:PHE:HB3	1:A:165:GLU:HB2	1.90	0.53
1:A:112:TYR:O	1:A:240:THR:HA	2.09	0.52
9:J:306:GLU:HG2	9:J:315:THR:HG22	1.91	0.52
12:M:140:GLN:HG2	16:Q:379:ILE:HG23	1.91	0.52
14:O:144:ASN:O	14:O:147:SER:OG	2.27	0.52
1:A:325:PRO:O	1:A:347:THR:OG1	2.20	0.52
1:A:66:LYS:HD3	1:A:70:LEU:HD23	1.90	0.52
6:X:115:GLN:NE2	6:X:138:LEU:O	2.42	0.52
1:A:208:GLU:OE1	1:A:210:THR:OG1	2.25	0.52
9:J:37:HIS:CE1	18:T:49:ASP:HA	2.45	0.52
9:J:283:VAL:HG22	9:J:369:VAL:HG21	1.91	0.52
3:C:83:ARG:NH1	16:Q:212:GLU:OE1	2.43	0.52
7:H:19:THR:O	7:H:19:THR:OG1	2.24	0.52
8:I:46:SER:O	8:I:52:ASN:ND2	2.39	0.52
8:I:8:ILE:O	8:I:12:ARG:HG3	2.10	0.51
12:M:275:PRO:HG3	12:M:286:ILE:HG12	1.93	0.51
12:M:449:PRO:HB2	12:M:679:LEU:HD13	1.92	0.51
4:E:71:ALA:O	52:G:201:8Q1:N36	2.42	0.51
13:N:68:MET:HG3	13:N:69:ASN:N	2.18	0.51
9:J:178:SER:OG	9:J:317:ASP:OD1	2.23	0.51
1:A:70:LEU:HD21	1:A:189:SER:HA	1.93	0.51
6:G:94:ASP:OD1	6:G:97:LYS:HB3	2.11	0.51
7:H:38:ILE:O	7:H:45:ARG:NH1	2.35	0.51
14:O:111:ARG:NH1	14:O:114:GLU:OE2	2.43	0.51
6:X:79:ILE:O	6:X:83:VAL:HG23	2.10	0.51
21:W:103:ASP:OD1	21:W:103:ASP:N	2.43	0.51
1:A:48:ARG:HH21	14:O:223:PHE:HZ	1.57	0.50
12:M:538:ARG:NH1	12:M:559:ASP:OD2	2.44	0.50
3:C:173:LEU:O	3:C:177:ILE:HG12	2.10	0.50
5:F:23:LEU:HD12	5:F:34:ARG:HG2	1.93	0.50
7:H:54:GLU:O	7:H:58:MET:HG3	2.11	0.50
16:Q:191:ALA:HB1	16:Q:196:ALA:HB3	1.92	0.50
4:E:16:SER:HA	11:L:52:LEU:HD13	1.93	0.50
12:M:390:THR:HA	12:M:600:GLU:HG2	1.93	0.50
20:V:29:GLY:O	20:V:63:SER:HB3	2.12	0.50
12:M:389:THR:O	12:M:390:THR:OG1	2.26	0.50

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:J:168:SER:O	9:J:203:PRO:HD2	2.12	0.50
14:O:218:PRO:HD2	14:O:223:PHE:HA	1.92	0.50
16:Q:208:GLU:OE2	16:Q:221:ARG:NH1	2.36	0.50
48:V:202:PEE:H21	48:V:202:PEE:H49	1.94	0.50
1:A:369:ARG:NH2	14:O:136:THR:OG1	2.41	0.49
9:J:375:VAL:HG23	9:J:375:VAL:O	2.12	0.49
12:M:140:GLN:O	12:M:144:MET:HG2	2.12	0.49
1:A:273:THR:OG1	1:A:274:LYS:N	2.46	0.49
3:C:63:TRP:HH2	51:C:305:UQ:H153	1.77	0.49
15:P:69:LEU:HD13	15:P:96:VAL:HG22	1.94	0.49
4:E:57:LYS:NZ	4:E:61:ASP:OD2	2.43	0.49
5:F:87:VAL:HA	5:F:90:THR:HG22	1.94	0.49
10:K:87:LEU:O	10:K:91:VAL:HG13	2.13	0.49
12:M:555:ILE:HG23	12:M:559:ASP:HB2	1.95	0.49
1:A:338:ASP:OD1	1:A:338:ASP:N	2.44	0.49
2:B:39:LYS:NZ	16:Q:335:GLU:OE2	2.41	0.49
3:C:113:MET:HE2	16:Q:115:LEU:HD13	1.94	0.49
6:G:113:LEU:O	6:G:117:GLU:HG3	2.12	0.49
16:Q:106:VAL:HG21	16:Q:447:VAL:HG21	1.95	0.49
9:J:344:PRO:HG2	9:J:347:LEU:HG	1.95	0.49
6:G:135:ALA:HA	6:G:138:LEU:HG	1.95	0.48
15:P:173:MET:HB3	15:P:198:PHE:HB2	1.94	0.48
12:M:488:ALA:HB2	12:M:677:GLN:HG2	1.94	0.48
1:A:456:GLN:OE1	1:A:457:HIS:ND1	2.46	0.48
6:G:107:ASP:OD1	6:G:107:ASP:N	2.53	0.48
12:M:215:MET:HG3	12:M:714:VAL:HG12	1.94	0.48
2:B:68:ARG:NH2	16:Q:260:GLU:OE1	2.47	0.48
5:F:21:ILE:HG12	5:F:65:LEU:HD12	1.95	0.48
12:M:338:VAL:O	12:M:363:SER:OG	2.29	0.48
8:I:54:TYR:CZ	16:Q:362:LYS:HD2	2.47	0.48
9:J:229:ILE:HB	9:J:323:HIS:HD2	1.79	0.48
1:A:154:ALA:HB3	1:A:195:VAL:HG12	1.95	0.48
15:P:44:ARG:HB2	15:P:44:ARG:CZ	2.44	0.48
4:E:69:LYS:HB2	4:E:69:LYS:NZ	2.28	0.47
16:Q:62:LYS:HE3	16:Q:62:LYS:HA	1.95	0.47
3:C:73:ALA:HB1	50:C:304:UQ1:H112	1.95	0.47
51:J:402:UQ:H72	51:J:402:UQ:HM51	1.60	0.47
16:Q:56:LYS:NZ	16:Q:56:LYS:HB3	2.28	0.47
17:S:31:ASN:ND2	17:S:36:LYS:HB2	2.29	0.47
7:H:66:LYS:HD3	7:H:66:LYS:HA	1.62	0.47
22:Y:103:ASP:OD1	22:Y:103:ASP:N	2.41	0.47

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:296:LEU:HD21	1:A:317:VAL:HG11	1.97	0.47
2:B:140:ARG:HG3	12:M:238:PHE:CG	2.49	0.47
1:A:385:CYS:HB2	45:A:501:SF4:S4	2.55	0.47
7:H:47:TYR:O	7:H:51:ILE:HG12	2.15	0.47
9:J:83:PRO:HA	9:J:106:MET:O	2.14	0.47
12:M:64:CYS:O	12:M:184:ARG:NH2	2.35	0.47
12:M:388:ASN:HB3	12:M:511:LYS:HD3	1.95	0.47
12:M:538:ARG:NH2	12:M:554:CYS:O	2.48	0.47
13:N:8:ARG:HA	13:N:11:LEU:HD12	1.96	0.47
18:T:105:GLU:OE2	18:T:105:GLU:HA	2.15	0.47
19:U:28:LEU:O	19:U:32:LEU:HB2	2.14	0.47
20:V:85:ASP:HB3	20:V:130:LEU:HD21	1.97	0.47
1:A:114:VAL:HB	1:A:242:VAL:HG22	1.96	0.47
16:Q:184:ILE:HD11	16:Q:251:PHE:CZ	2.49	0.47
16:Q:434:GLY:O	16:Q:438:MET:HG3	2.15	0.47
7:H:81:ILE:O	7:H:85:GLU:HG3	2.15	0.47
10:K:107:SER:HB3	10:K:110:HIS:ND1	2.29	0.47
12:M:638:THR:O	12:M:642:VAL:HG23	2.15	0.47
15:P:201:ASP:OD1	15:P:201:ASP:N	2.39	0.47
51:C:305:UQ:H221	51:C:305:UQ:H262	1.57	0.47
49:J:403:PLX:H251	49:J:403:PLX:H282	1.48	0.47
12:M:556:THR:HA	12:M:579:MET:HE1	1.96	0.47
16:Q:39:PRO:HB3	16:Q:43:TRP:CD1	2.50	0.47
4:E:70:ASN:HD21	52:G:201:8Q1:C42	2.25	0.46
5:F:45:LYS:HA	5:F:45:LYS:HD2	1.61	0.46
5:F:69:TYR:HE1	5:F:75:LYS:HE2	1.80	0.46
6:G:104:PHE:HD1	6:G:108:LEU:HD12	1.78	0.46
15:P:75:GLN:HB3	15:P:87:PHE:CD1	2.50	0.46
12:M:371:VAL:HG22	12:M:533:GLY:HA2	1.97	0.46
20:V:36:VAL:HG22	53:V:201:CDL:H741	1.97	0.46
9:J:228:LEU:O	9:J:292:PRO:HA	2.16	0.46
16:Q:96:ARG:HB3	16:Q:112:HIS:HB2	1.97	0.46
53:V:204:CDL:H362	53:V:204:CDL:H392	1.59	0.46
1:A:235:VAL:H	1:A:240:THR:HG21	1.81	0.46
6:G:123:GLU:OE2	6:G:129:GLU:HA	2.15	0.46
12:M:498:GLN:HB2	12:M:669:ASN:ND2	2.31	0.46
19:U:47:ARG:HD2	19:U:47:ARG:HA	4.42	0.46
6:G:117:GLU:H	6:G:117:GLU:CD	3.92	0.46
12:M:506:VAL:HG12	12:M:508:GLY:H	1.81	0.46
12:M:667:GLN:OE1	12:M:667:GLN:N	2.47	0.45
22:Y:71:TRP:HH2	23:Z:85:GLU:HG3	1.82	0.45

*Continued on next page...*

*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:M:70:SER:O	12:M:184:ARG:NH1	2.48	0.45
12:M:222:ILE:HA	12:M:225:ILE:HG12	1.99	0.45
14:O:137:THR:HG22	14:O:138:THR:H	1.80	0.45
20:V:116:ALA:O	20:V:120:LEU:HG	2.17	0.45
50:C:304:UQ1:HM22	50:Q:501:UQ1:H103	1.98	0.45
5:F:39:LYS:HA	5:F:39:LYS:HD3	1.62	0.45
22:Y:65:MET:O	22:Y:69:ILE:HG13	2.16	0.45
8:I:113:LEU:HD23	8:I:113:LEU:HA	1.82	0.45
12:M:306:MET:HB3	12:M:314:LEU:HD22	1.99	0.45
12:M:47:THR:HG23	12:M:51:GLN:HB2	1.99	0.45
23:Z:18:ASP:OD2	23:Z:20:LYS:HG2	2.16	0.45
5:F:61:VAL:HG23	5:F:62:GLN:N	2.30	0.45
6:G:105:MET:SD	6:G:105:MET:N	2.90	0.45
9:J:323:HIS:O	9:J:323:HIS:ND1	2.49	0.45
18:T:64:GLU:OE2	18:T:64:GLU:HA	2.17	0.45
1:A:44:ASN:HD22	1:A:59:ARG:CZ	2.28	0.45
3:C:167:PRO:HD3	16:Q:223:HIS:CD2	2.51	0.45
13:N:68:MET:HG2	13:N:115:PHE:CD2	2.52	0.45
3:C:107:GLY:HA2	45:C:301:SF4:S1	2.57	0.45
12:M:29:SER:OG	12:M:30:ASN:N	2.48	0.45
53:V:201:CDL:H612	53:V:201:CDL:H752	1.98	0.45
5:F:84:ALA:O	5:F:88:THR:OG1	2.31	0.45
6:G:116:VAL:O	6:G:120:MET:HG3	2.17	0.45
49:J:403:PLX:H6	49:J:403:PLX:H32	1.49	0.45
16:Q:150:ALA:HB2	16:Q:400:ILE:HG12	1.99	0.45
48:C:302:PEE:H31	49:C:303:PLX:H392	1.99	0.44
12:M:472:PRO:O	12:M:510:TRP:NE1	2.35	0.44
14:O:242:GLY:CA	14:O:245:VAL:HG23	2.47	0.44
20:V:138:GLU:O	20:V:140:LYS:NZ	2.44	0.44
1:A:325:PRO:HG3	1:A:433:TRP:HB3	1.98	0.44
17:S:50:ARG:O	17:S:54:ILE:HG23	2.17	0.44
19:U:67:PRO:HB3	19:U:72:ASP:HB2	1.98	0.44
4:E:70:ASN:OD1	52:G:201:8Q1:O4	2.35	0.44
14:O:242:GLY:C	14:O:245:VAL:HG23	2.36	0.44
20:V:73:THR:OG1	20:V:93:GLY:HA2	2.17	0.44
5:F:36:PHE:CD2	5:F:87:VAL:HG23	2.53	0.44
48:V:202:PEE:H40	48:V:202:PEE:H79	2.00	0.44
53:V:203:CDL:H792	53:V:203:CDL:H761	1.70	0.44
1:A:210:THR:O	1:A:214:GLU:HG2	2.18	0.44
6:X:151:LYS:HA	6:X:151:LYS:HD2	1.59	0.44
7:H:76:GLN:O	7:H:78:GLU:N	2.51	0.44

*Continued on next page...*



*Continued from previous page...*

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:M:441:ARG:HE	12:M:441:ARG:HB2	1.62	0.44
14:O:242:GLY:HA2	14:O:245:VAL:HG23	1.98	0.44
20:V:17:GLU:OE1	20:V:20:ARG:NE	2.51	0.44
21:W:52:LYS:HE2	21:W:52:LYS:HB2	1.62	0.44
48:B:303:PEE:H55	48:B:303:PEE:H61	1.78	0.44
12:M:47:THR:O	12:M:96:VAL:HG22	2.18	0.44
15:P:43:THR:HA	15:P:47:ILE:HD12	2.00	0.44
15:P:132:LEU:HB2	15:P:141:ILE:HG22	2.00	0.44
1:A:149:MET:CE	1:A:241:THR:HB	2.48	0.43
4:E:119:LEU:HD11	12:M:628:GLU:HG2	1.99	0.43
1:A:284:HIS:ND1	14:O:228:ALA:HB3	2.33	0.43
2:B:86:TYR:CD1	2:B:87:PRO:HA	2.53	0.43
3:C:62:LEU:O	3:C:91:VAL:HA	2.19	0.43
3:C:43:GLY:O	3:C:47:VAL:HG13	2.17	0.43
5:F:40:ARG:HE	5:F:40:ARG:HB3	1.63	0.43
8:I:39:PRO:HB2	8:I:41:LEU:HD13	2.00	0.43
9:J:257:ASP:OD1	9:J:257:ASP:N	2.51	0.43
12:M:387:LEU:HD12	12:M:514:ASN:HB3	1.99	0.43
20:V:104:ARG:HD2	20:V:104:ARG:HA	1.84	0.43
8:I:34:ARG:HA	8:I:34:ARG:HD2	1.90	0.43
1:A:210:THR:HB	1:A:224:ARG:HG2	2.01	0.43
4:E:123:TYR:CZ	12:M:320:GLU:HG3	2.53	0.43
8:I:66:PRO:HB3	15:P:79:SER:HA	2.00	0.43
11:L:78:ARG:NH1	11:L:148:GLU:OE2	2.50	0.43
15:P:119:VAL:HG12	15:P:121:THR:HG22	2.01	0.43
23:Z:33:GLN:HA	23:Z:33:GLN:NE2	2.33	0.43
46:A:502:FMN:H9	46:A:502:FMN:H1'1	1.74	0.43
23:Z:18:ASP:O	23:Z:21:GLN:HG2	2.19	0.43
1:A:383:THR:HG21	12:M:120:LEU:HG	2.00	0.43
5:F:90:THR:O	5:F:94:VAL:HG23	2.18	0.43
14:O:231:LEU:HD12	14:O:231:LEU:HA	1.85	0.43
6:G:117:GLU:OE1	6:G:117:GLU:N	5.00	0.43
10:K:92:GLU:OE2	10:K:92:GLU:HA	2.19	0.43
19:U:27:GLY:O	19:U:31:ILE:HG23	2.19	0.43
2:B:122:VAL:HG21	16:Q:385:TYR:HD1	1.83	0.43
17:S:45:TRP:CD1	21:W:140:PHE:HB2	2.54	0.43
1:A:81:LYS:HG2	1:A:96:GLY:HA3	2.00	0.42
3:C:52:ASP:HB3	49:C:303:PLX:H251	2.01	0.42
3:C:84:TYR:CE1	3:C:171:GLU:HG3	2.54	0.42
7:H:6:LYS:HE3	7:H:9:THR:HG22	2.01	0.42
48:U:101:PEE:H30	48:U:101:PEE:H35	1.74	0.42

*Continued on next page...*

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
53:V:204:CDL:H131	53:V:204:CDL:H161	1.82	0.42
3:C:154:ASP:HA	3:C:157:VAL:O	2.18	0.42
53:V:204:CDL:H432	53:V:204:CDL:H402	1.88	0.42
1:A:128:ARG:NH2	14:O:194:GLU:OE2	2.49	0.42
7:H:114:TRP:CD2	7:H:115:PRO:HA	2.55	0.42
12:M:689:LEU:HD23	12:M:689:LEU:HA	1.82	0.42
13:N:144:TYR:HD1	13:N:144:TYR:H	1.67	0.42
23:Z:24:ILE:HD12	23:Z:30:GLU:HA	2.01	0.42
23:Z:30:GLU:O	23:Z:34:GLU:HG3	2.20	0.42
46:A:502:FMN:N1	46:A:502:FMN:O3'	2.33	0.42
2:B:41:VAL:HA	8:I:113:LEU:HB2	2.02	0.42
22:Y:89:PRO:HD2	22:Y:90:SER:N	2.35	0.42
1:A:447:GLU:HA	1:A:450:MET:HE2	2.01	0.42
7:H:18:GLU:H	7:H:18:GLU:CD	2.20	0.42
8:I:97:PRO:HD3	15:P:61:PHE:CE1	2.54	0.42
12:M:197:THR:O	14:O:114:GLU:HG2	2.20	0.42
16:Q:432:LEU:HB2	16:Q:456:ILE:HD13	2.02	0.42
23:Z:33:GLN:CA	23:Z:33:GLN:HE21	2.32	0.42
2:B:86:TYR:CE1	3:C:171:GLU:HG2	2.54	0.42
8:I:42:PRO:HD3	21:W:6:VAL:HG13	2.02	0.42
12:M:295:ASP:OD1	12:M:704:SER:OG	2.28	0.42
1:A:115:VAL:HG22	1:A:248:VAL:HG21	2.02	0.42
12:M:347:ASP:OD1	12:M:347:ASP:N	2.46	0.42
13:N:85:GLU:HG2	13:N:86:TRP:H	1.83	0.42
16:Q:245:TYR:O	16:Q:249:LYS:HG2	2.20	0.42
1:A:131:ILE:HD13	1:A:158:ILE:HD12	2.02	0.42
2:B:131:GLU:HB2	2:B:144:ARG:HB3	2.02	0.42
20:V:106:ARG:HA	20:V:106:ARG:NE	2.34	0.42
6:X:107:ASP:OD1	6:X:107:ASP:N	2.53	0.42
8:I:43:VAL:HG23	8:I:44:GLY:H	1.85	0.42
12:M:476:LEU:HD21	12:M:481:LEU:HD21	2.01	0.42
9:J:171:ASN:HA	9:J:327:MET:SD	2.60	0.41
19:U:28:LEU:HD23	19:U:28:LEU:HA	1.89	0.41
1:A:406:PRO:HA	1:A:450:MET:HE1	2.02	0.41
9:J:204:SER:OG	9:J:238:GLN:O	2.39	0.41
13:N:85:GLU:HG2	13:N:86:TRP:N	2.35	0.41
16:Q:178:THR:OG1	16:Q:214:TYR:OH	2.37	0.41
23:Z:33:GLN:NE2	23:Z:33:GLN:CA	2.83	0.41
1:A:152:ARG:CZ	10:K:101:PRO:HD3	2.50	0.41
9:J:302:GLY:O	9:J:306:GLU:HG3	2.20	0.41
48:W:201:PEE:H46	48:W:201:PEE:H39	1.83	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:G:88:LYS:HB3	6:G:88:LYS:HE2	1.92	0.41
12:M:55:LYS:HE2	12:M:55:LYS:HB2	1.76	0.41
12:M:219:SER:O	12:M:222:ILE:HG12	2.19	0.41
12:M:460:HIS:O	12:M:463:SER:OG	2.26	0.41
9:J:318:LYS:O	9:J:322:VAL:HG23	2.21	0.41
13:N:85:GLU:HB2	13:N:98:PRO:HB3	2.03	0.41
16:Q:238:LEU:HD23	16:Q:238:LEU:HA	1.81	0.41
16:Q:342:ARG:HD2	21:W:21:TYR:CZ	2.55	0.41
15:P:94:ILE:HD13	15:P:94:ILE:HA	1.86	0.41
23:Z:59:ASN:OD1	23:Z:59:ASN:N	2.52	0.41
1:A:417:LYS:HD3	1:A:417:LYS:HA	1.90	0.41
4:E:17:VAL:HG21	11:L:55:VAL:HG22	2.02	0.41
9:J:259:LYS:HD3	9:J:259:LYS:HA	1.91	0.41
12:M:470:LYS:HE2	12:M:470:LYS:HB2	1.63	0.41
13:N:42:ASP:HB3	13:N:44:TYR:H	1.84	0.41
48:U:101:PEE:H67	48:U:101:PEE:H73	1.72	0.41
3:C:126:GLU:HG2	9:J:89:TYR:OH	2.21	0.41
50:C:304:UQ1:HM21	16:Q:189:THR:HG21	2.03	0.41
9:J:124:ASN:OD1	9:J:125:VAL:HG23	2.21	0.41
9:J:135:GLU:HG2	9:J:140:ASP:HA	2.02	0.41
12:M:360:ARG:HG2	12:M:360:ARG:HH11	1.85	0.41
12:M:483:ARG:H	12:M:483:ARG:HG3	1.69	0.41
15:P:197:PRO:HA	15:P:202:PHE:CG	2.56	0.41
16:Q:74:ASP:OD1	16:Q:74:ASP:N	2.45	0.41
16:Q:123:LEU:O	16:Q:127:LYS:HG2	2.21	0.41
20:V:34:LEU:HD23	20:V:34:LEU:HA	1.93	0.41
53:V:203:CDL:H872	53:V:203:CDL:H841	1.91	0.41
1:A:211:ALA:HB2	1:A:223:PRO:HG3	2.02	0.41
48:C:302:PEE:H66	48:C:302:PEE:H32	2.01	0.41
5:F:23:LEU:O	5:F:57:GLU:HA	2.21	0.41
7:H:6:LYS:O	7:H:16:VAL:HG11	2.20	0.41
17:S:43:TYR:CZ	21:W:68:ARG:HG3	2.56	0.41
51:C:305:UQ:H152	51:C:305:UQ:H121	1.85	0.40
4:E:66:MET:CG	52:G:201:8Q1:C11	2.93	0.40
9:J:73:LEU:HD23	9:J:73:LEU:HA	2.25	0.40
6:X:99:SER:O	6:X:102:SER:OG	2.35	0.40
47:A:503:NAI:H6N	47:A:503:NAI:H2D	1.82	0.40
2:B:63:TRP:HE1	48:B:303:PEE:H13	1.86	0.40
3:C:72:CYS:HB3	3:C:133:MET:SD	2.62	0.40
51:C:305:UQ:H72	51:C:305:UQ:HM51	1.85	0.40
4:E:62:LYS:O	4:E:66:MET:HG2	2.22	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:J:40:LEU:HD23	9:J:40:LEU:HA	1.88	0.40
12:M:224:ASP:OD2	12:M:291:ARG:NH2	2.51	0.40
19:U:53:TYR:HD1	21:W:72:MET:HE3	1.85	0.40
2:B:39:LYS:HD2	16:Q:335:GLU:HG2	2.03	0.40
48:B:303:PEE:H38	48:B:303:PEE:H43	1.87	0.40
23:Z:72:LYS:HB3	23:Z:72:LYS:HE3	1.89	0.40
1:A:298:GLU:O	1:A:302:LYS:HB2	2.22	0.40
2:B:114:ILE:H	2:B:114:ILE:HG13	1.83	0.40
6:G:119:ILE:HD13	6:G:119:ILE:HA	1.84	0.40
1:A:375:LYS:NZ	14:O:33:GLY:O	2.55	0.40
16:Q:259:GLU:OE1	21:W:23:ARG:HD3	2.22	0.40

There are no symmetry-related clashes.

## 5.3 Torsion angles [i](#)

### 5.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all 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%)	417 (97%)	14 (3%)	0	100	100
2	B	174/176 (99%)	169 (97%)	5 (3%)	0	100	100
3	C	154/156 (99%)	147 (96%)	7 (4%)	0	100	100
4	E	113/115 (98%)	109 (96%)	4 (4%)	0	100	100
5	F	84/86 (98%)	81 (96%)	3 (4%)	0	100	100
6	G	86/88 (98%)	82 (95%)	3 (4%)	1 (1%)	13	32
6	X	86/88 (98%)	82 (95%)	4 (5%)	0	100	100
7	H	110/112 (98%)	102 (93%)	7 (6%)	1 (1%)	17	40
8	I	93/112 (83%)	82 (88%)	11 (12%)	0	100	100
9	J	340/342 (99%)	329 (97%)	10 (3%)	1 (0%)	41	66
10	K	41/43 (95%)	41 (100%)	0	0	100	100

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
11	L	123/125 (98%)	122 (99%)	1 (1%)	0	100	100
12	M	688/690 (100%)	670 (97%)	18 (3%)	0	100	100
13	N	142/144 (99%)	138 (97%)	4 (3%)	0	100	100
14	O	215/217 (99%)	203 (94%)	11 (5%)	1 (0%)	29	54
15	P	206/208 (99%)	200 (97%)	6 (3%)	0	100	100
16	Q	427/430 (99%)	414 (97%)	13 (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%)	80 (99%)	1 (1%)	0	100	100
20	V	138/140 (99%)	135 (98%)	3 (2%)	0	100	100
21	W	140/142 (99%)	135 (96%)	5 (4%)	0	100	100
22	Y	65/70 (93%)	60 (92%)	5 (8%)	0	100	100
23	Z	78/84 (93%)	75 (96%)	3 (4%)	0	100	100
24	a	136/140 (97%)	131 (96%)	5 (4%)	0	100	100
25	b	94/126 (75%)	88 (94%)	6 (6%)	0	100	100
26	c	154/156 (99%)	147 (96%)	6 (4%)	1 (1%)	25	50
27	d	173/175 (99%)	170 (98%)	3 (2%)	0	100	100
28	e	102/107 (95%)	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%)	97 (94%)	6 (6%)	0	100	100
32	i	345/347 (99%)	330 (96%)	15 (4%)	0	100	100
33	j	113/115 (98%)	111 (98%)	2 (2%)	0	100	100
34	k	96/98 (98%)	94 (98%)	2 (2%)	0	100	100
35	l	604/606 (100%)	584 (97%)	20 (3%)	0	100	100
36	m	173/175 (99%)	162 (94%)	11 (6%)	0	100	100
37	n	54/56 (96%)	54 (100%)	0	0	100	100
38	o	126/128 (98%)	122 (97%)	4 (3%)	0	100	100
39	p	176/178 (99%)	170 (97%)	5 (3%)	1 (1%)	25	50
40	r	457/459 (100%)	450 (98%)	7 (2%)	0	100	100
41	s	316/318 (99%)	308 (98%)	7 (2%)	1 (0%)	41	66

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
42	u	169/171 (99%)	164 (97%)	4 (2%)	1 (1%)	25	50
43	v	122/125 (98%)	116 (95%)	6 (5%)	0	100	100
44	w	318/320 (99%)	307 (96%)	11 (4%)	0	100	100
All	All	8175/8326 (98%)	7890 (96%)	277 (3%)	8 (0%)	54	78

All (8) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
7	H	77	ILE
14	O	243	PHE
41	s	208	VAL
9	J	38	HIS
26	c	106	HIS
6	G	134	ASP
39	p	174	PRO
42	u	152	PRO

### 5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	346/346 (100%)	332 (96%)	14 (4%)	31	60
2	B	151/151 (100%)	148 (98%)	3 (2%)	55	81
3	C	132/132 (100%)	128 (97%)	4 (3%)	41	70
4	E	107/107 (100%)	103 (96%)	4 (4%)	34	63
5	F	75/76 (99%)	70 (93%)	5 (7%)	16	37
6	G	76/81 (94%)	72 (95%)	4 (5%)	22	48
6	X	79/81 (98%)	74 (94%)	5 (6%)	18	40
7	H	99/99 (100%)	98 (99%)	1 (1%)	76	91
8	I	87/97 (90%)	83 (95%)	4 (5%)	27	54
9	J	296/296 (100%)	289 (98%)	7 (2%)	49	77

Continued on next page...

*Continued from previous page...*

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
10	K	42/42 (100%)	40 (95%)	2 (5%)	25	53
11	L	113/113 (100%)	110 (97%)	3 (3%)	44	74
12	M	580/580 (100%)	561 (97%)	19 (3%)	38	67
13	N	130/130 (100%)	125 (96%)	5 (4%)	33	62
14	O	180/183 (98%)	172 (96%)	8 (4%)	28	56
15	P	190/190 (100%)	188 (99%)	2 (1%)	73	90
16	Q	370/370 (100%)	365 (99%)	5 (1%)	67	86
17	S	57/58 (98%)	54 (95%)	3 (5%)	22	48
18	T	79/79 (100%)	75 (95%)	4 (5%)	24	50
19	U	69/69 (100%)	68 (99%)	1 (1%)	67	86
20	V	101/101 (100%)	96 (95%)	5 (5%)	24	51
21	W	121/123 (98%)	115 (95%)	6 (5%)	24	51
22	Y	62/63 (98%)	61 (98%)	1 (2%)	62	85
23	Z	62/65 (95%)	58 (94%)	4 (6%)	17	38
24	a	121/122 (99%)	118 (98%)	3 (2%)	47	76
25	b	90/119 (76%)	87 (97%)	3 (3%)	38	67
26	c	139/141 (99%)	136 (98%)	3 (2%)	52	79
27	d	155/155 (100%)	146 (94%)	9 (6%)	20	43
28	e	96/99 (97%)	92 (96%)	4 (4%)	30	58
29	f	36/45 (80%)	36 (100%)	0	100	100
30	g	108/109 (99%)	102 (94%)	6 (6%)	21	45
31	h	92/93 (99%)	85 (92%)	7 (8%)	13	30
32	i	311/311 (100%)	303 (97%)	8 (3%)	46	75
33	j	100/100 (100%)	91 (91%)	9 (9%)	9	22
34	k	85/85 (100%)	82 (96%)	3 (4%)	36	65
35	l	540/540 (100%)	527 (98%)	13 (2%)	49	77
36	m	129/141 (92%)	123 (95%)	6 (5%)	26	54
37	n	53/53 (100%)	52 (98%)	1 (2%)	57	82
38	o	112/113 (99%)	111 (99%)	1 (1%)	78	92
39	p	159/159 (100%)	152 (96%)	7 (4%)	28	56
40	r	409/410 (100%)	397 (97%)	12 (3%)	42	71

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
41	s	274/275 (100%)	272 (99%)	2 (1%)	84	94
42	u	153/153 (100%)	149 (97%)	4 (3%)	46	75
43	v	104/111 (94%)	96 (92%)	8 (8%)	13	30
44	w	281/283 (99%)	273 (97%)	8 (3%)	43	73
All	All	7151/7249 (99%)	6915 (97%)	236 (3%)	41	67

All (236) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	32	PHE
1	A	48	ARG
1	A	52	ARG
1	A	66	LYS
1	A	79	GLU
1	A	184	LYS
1	A	204	TYR
1	A	232	ASP
1	A	271	SER
1	A	273	THR
1	A	292	MET
1	A	298	GLU
1	A	445	GLU
1	A	447	GLU
2	B	55	ASP
2	B	76	TYR
2	B	139	SER
3	C	51	ASP
3	C	71	CYS
3	C	133	MET
3	C	142	TYR
4	E	31	ARG
4	E	70	ASN
4	E	74	THR
4	E	89	GLU
5	F	16	LEU
5	F	26	ARG
5	F	35	ASP
5	F	40	ARG
5	F	65	LEU
6	G	105	MET
6	G	107	ASP

*Continued on next page...*



*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
6	G	114	ASP
6	G	115	GLN
7	H	76	GLN
8	I	25	GLN
8	I	61	ARG
8	I	73	GLN
8	I	105	GLU
9	J	137	LYS
9	J	205	ASP
9	J	257	ASP
9	J	298	TYR
9	J	360	ARG
9	J	366	MET
9	J	370	LYS
10	K	77	GLN
10	K	95	LYS
11	L	59	LEU
11	L	119	ASP
11	L	165	SER
12	M	215	MET
12	M	247	LYS
12	M	295	ASP
12	M	310	GLU
12	M	336	ASN
12	M	352	VAL
12	M	398	ASP
12	M	426	ASP
12	M	483	ARG
12	M	531	LYS
12	M	563	ASP
12	M	564	CYS
12	M	598	ASN
12	M	632	MET
12	M	636	TYR
12	M	657	ASP
12	M	658	ASP
12	M	672	SER
12	M	677	GLN
13	N	15	SER
13	N	53	LYS
13	N	67	GLU
13	N	68	MET

*Continued on next page...*

*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
13	N	144	TYR
14	O	61	LYS
14	O	146	ASP
14	O	159	LYS
14	O	163	THR
14	O	168	LEU
14	O	185	MET
14	O	186	VAL
14	O	224	SER
15	P	77	GLN
15	P	85	GLU
16	Q	42	GLU
16	Q	144	MET
16	Q	217	VAL
16	Q	308	TYR
16	Q	463	ARG
17	S	12	MET
17	S	28	LYS
17	S	59	ARG
18	T	47	ASP
18	T	77	SER
18	T	85	SER
18	T	122	HIS
19	U	52	ASN
20	V	25	SER
20	V	44	LYS
20	V	63	SER
20	V	106	ARG
20	V	115	CYS
21	W	50	MET
21	W	64	ASP
21	W	85	GLN
21	W	105	LYS
21	W	120	MET
21	W	135	SER
6	X	90	TYR
6	X	99	SER
6	X	105	MET
6	X	132	ASP
6	X	150	ASP
22	Y	64	THR
23	Z	14	MET

*Continued on next page...*

*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
23	Z	20	LYS
23	Z	33	GLN
23	Z	42	ARG
24	a	52	LYS
24	a	69	LYS
24	a	114	LYS
25	b	21	ARG
25	b	24	LYS
25	b	109	THR
26	c	33	THR
26	c	120	SER
26	c	156	VAL
27	d	15	ARG
27	d	16	ARG
27	d	17	THR
27	d	25	SER
27	d	93	ARG
27	d	127	LYS
27	d	136	SER
27	d	155	CYS
27	d	171	LYS
28	e	55	LEU
28	e	72	ASP
28	e	87	MET
28	e	124	ARG
30	g	22	SER
30	g	69	SER
30	g	84	MET
30	g	98	SER
30	g	109	LYS
30	g	117	GLU
31	h	3	PHE
31	h	5	ASP
31	h	24	GLU
31	h	57	LYS
31	h	74	LYS
31	h	84	ASP
31	h	88	LYS
32	i	35	MET
32	i	225	THR
32	i	244	MET
32	i	261	MET

*Continued on next page...*

*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
32	i	278	MET
32	i	323	MET
32	i	324	LYS
32	i	329	MET
33	j	1	MET
33	j	31	SER
33	j	44	MET
33	j	52	SER
33	j	66	ASP
33	j	85	LYS
33	j	87	MET
33	j	105	GLU
33	j	109	LYS
34	k	43	MET
34	k	53	PHE
34	k	97	GLN
35	l	59	GLN
35	l	99	SER
35	l	140	LEU
35	l	151	SER
35	l	185	SER
35	l	249	SER
35	l	331	MET
35	l	338	MET
35	l	340	PHE
35	l	364	LYS
35	l	457	LEU
35	l	469	SER
35	l	554	ASP
36	m	1	MET
36	m	50	SER
36	m	78	MET
36	m	82	VAL
36	m	102	CYS
36	m	106	TYR
37	n	29	ARG
38	o	114	LYS
39	p	13	GLN
39	p	38	ARG
39	p	55	LYS
39	p	59	LYS
39	p	65	ARG

*Continued on next page...*

*Continued from previous page...*

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
39	p	110	SER
39	p	141	GLN
40	r	78	MET
40	r	122	PHE
40	r	152	TYR
40	r	183	SER
40	r	195	MET
40	r	263	MET
40	r	304	GLN
40	r	336	ARG
40	r	387	SER
40	r	410	MET
40	r	418	LYS
40	r	437	MET
41	s	40	VAL
41	s	282	TYR
42	u	48	TRP
42	u	106	LYS
42	u	121	ASP
42	u	157	ASP
43	v	21	ARG
43	v	38	GLU
43	v	68	LYS
43	v	78	LEU
43	v	90	CYS
43	v	106	ARG
43	v	111	ARG
43	v	113	LYS
44	w	45	LEU
44	w	47	GLU
44	w	102	LYS
44	w	116	LYS
44	w	241	TYR
44	w	248	GLU
44	w	254	GLU
44	w	261	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (8) such sidechains are listed below:

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	44	ASN
4	E	70	ASN

*Continued on next page...*

Continued from previous page...

Mol	Chain	Res	Type
7	H	76	GLN
12	M	30	ASN
21	W	61	GLN
27	d	107	GLN
35	l	200	GLN
43	v	85	HIS

### 5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

1 non-standard protein/DNA/RNA residue is modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
16	2MR	Q	118	16	10,12,13	1.97	1 (10%)	5,13,15	5.97	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	-	3/10/13/15	-

All (1) bond length outliers are listed below:

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

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
16	Q	118	2MR	NE-CZ-NH2	12.26	130.72	119.48
16	Q	118	2MR	CD-NE-CZ	4.09	131.07	123.41
16	Q	118	2MR	CQ2-NH2-CZ	3.16	130.85	123.86

There are no chirality outliers.

All (3) 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
16	Q	118	2MR	CG-CD-NE-CZ

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 47 ligands modelled in this entry, 2 are monoatomic - leaving 45 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
46	FMN	A	502	-	33,33,33	1.07	2 (6%)	48,50,50	1.23	8 (16%)
48	PEE	l	704	-	50,50,50	1.16	6 (12%)	53,55,55	0.93	2 (3%)
53	CDL	V	203	-	99,99,99	1.09	8 (8%)	105,111,111	0.88	4 (3%)
50	UQ1	C	304	-	18,18,18	2.39	7 (38%)	22,25,25	1.95	6 (27%)
47	NAI	A	503	-	42,48,48	4.94	18 (42%)	47,73,73	1.31	7 (14%)
48	PEE	V	202	-	50,50,50	1.16	6 (12%)	53,55,55	0.96	2 (3%)
49	PLX	g	201	-	51,51,51	1.14	4 (7%)	55,59,59	0.62	1 (1%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
53	CDL	a	201	-	99,99,99	1.09	8 (8%)	105,111,111	0.86	4 (3%)
53	CDL	n	101	-	54,54,99	1.36	8 (14%)	60,66,111	1.11	4 (6%)
48	PEE	U	101	-	50,50,50	1.16	6 (12%)	53,55,55	0.94	2 (3%)
45	SF4	B	301	2	0,12,12	-	-	-		
48	PEE	i	401	-	46,46,50	1.20	6 (13%)	49,51,55	1.02	2 (4%)
45	SF4	C	301	3	0,12,12	-	-	-		
53	CDL	l	702	-	98,98,99	0.92	4 (4%)	104,110,111	1.08	7 (6%)
54	NDP	J	401	-	45,52,52	4.57	20 (44%)	53,80,80	1.95	6 (11%)
49	PLX	e	201	-	51,51,51	1.15	4 (7%)	55,59,59	0.52	1 (1%)
45	SF4	B	302	2	0,12,12	-	-	-		
45	SF4	M	802	12	0,12,12	-	-	-		
48	PEE	l	705	-	45,45,50	1.22	6 (13%)	48,50,55	1.00	2 (4%)
48	PEE	s	401	-	40,40,50	1.15	5 (12%)	43,45,55	1.01	2 (4%)
52	8Q1	G	201	-	31,34,34	1.69	6 (19%)	40,43,43	1.74	6 (15%)
51	UQ	C	305	-	38,38,63	3.55	10 (26%)	46,49,79	2.83	17 (36%)
58	ADP	w	401	-	24,29,29	3.13	6 (25%)	29,45,45	1.41	3 (10%)
48	PEE	B	303	-	50,50,50	1.17	6 (12%)	53,55,55	0.99	2 (3%)
52	8Q1	X	201	-	31,34,34	1.71	6 (19%)	40,43,43	1.54	5 (12%)
48	PEE	W	201	-	40,40,50	1.15	5 (12%)	43,45,55	0.99	2 (4%)
51	UQ	J	402	-	33,33,63	3.45	8 (24%)	40,43,79	2.82	13 (32%)
49	PLX	r	501	-	51,51,51	1.15	4 (7%)	55,59,59	0.61	1 (1%)
53	CDL	l	703	-	99,99,99	1.09	8 (8%)	105,111,111	0.90	4 (3%)
49	PLX	j	201	-	51,51,51	1.15	4 (7%)	55,59,59	0.64	1 (1%)
55	FES	M	803	12	0,4,4	-	-	-		
53	CDL	V	201	-	93,93,99	1.11	8 (8%)	99,105,111	0.86	4 (4%)
49	PLX	C	303	-	51,51,51	1.15	3 (5%)	55,59,59	0.60	1 (1%)
48	PEE	l	701	-	39,39,50	1.31	6 (15%)	41,44,55	1.06	2 (4%)
53	CDL	g	202	-	99,99,99	1.09	8 (8%)	105,111,111	0.86	4 (3%)
45	SF4	A	501	1	0,12,12	-	-	-		
53	CDL	V	204	-	93,93,99	1.12	8 (8%)	99,105,111	0.86	4 (4%)
45	SF4	M	801	12	0,12,12	-	-	-		
49	PLX	a	202	-	51,51,51	1.15	4 (7%)	55,59,59	0.61	1 (1%)
49	PLX	J	403	-	51,51,51	1.14	4 (7%)	55,59,59	0.60	1 (1%)
55	FES	O	301	14	0,4,4	-	-	-		
53	CDL	s	402	-	88,88,99	1.14	8 (9%)	94,100,111	0.89	4 (4%)
53	CDL	I	201	-	50,50,99	1.41	8 (16%)	56,62,111	1.13	4 (7%)



Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
48	PEE	C	302	-	46,46,50	1.21	6 (13%)	49,51,55	0.98	2 (4%)
50	UQ1	Q	501	-	18,18,18	2.32	6 (33%)	22,25,25	1.60	4 (18%)

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
46	FMN	A	502	-	-	7/18/18/18	0/3/3/3
48	PEE	l	704	-	-	29/54/54/54	-
53	CDL	V	203	-	-	54/110/110/110	-
50	UQ1	C	304	-	-	4/9/33/33	0/1/1/1
47	NAI	A	503	-	-	4/25/72/72	0/5/5/5
48	PEE	V	202	-	-	26/54/54/54	-
49	PLX	g	201	-	-	31/55/55/55	-
53	CDL	a	201	-	-	57/110/110/110	-
53	CDL	n	101	-	-	28/65/65/110	-
48	PEE	U	101	-	-	24/54/54/54	-
45	SF4	B	301	2	-	-	0/6/5/5
48	PEE	i	401	-	-	19/50/50/54	-
53	CDL	l	702	-	-	42/109/109/110	-
45	SF4	C	301	3	-	-	0/6/5/5
54	NDP	J	401	-	-	8/30/77/77	0/4/5/5
49	PLX	e	201	-	-	33/55/55/55	-
45	SF4	B	302	2	-	-	0/6/5/5
48	PEE	s	401	-	-	24/44/44/54	-
48	PEE	l	705	-	-	16/49/49/54	-
52	8Q1	G	201	-	-	11/41/41/41	-
45	SF4	M	802	12	-	-	0/6/5/5
51	UQ	C	305	-	-	11/33/57/87	0/1/1/1
58	ADP	w	401	-	-	5/12/32/32	0/3/3/3
48	PEE	B	303	-	-	26/54/54/54	-
52	8Q1	X	201	-	-	10/41/41/41	-
48	PEE	W	201	-	-	19/44/44/54	-
51	UQ	J	402	-	-	11/27/51/87	0/1/1/1
49	PLX	r	501	-	-	31/55/55/55	-

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
53	CDL	l	703	-	-	66/110/110/110	-
49	PLX	j	201	-	-	23/55/55/55	-
55	FES	M	803	12	-	-	0/1/1/1
53	CDL	V	201	-	-	58/104/104/110	-
49	PLX	C	303	-	-	25/55/55/55	-
48	PEE	l	701	-	-	18/43/43/54	-
53	CDL	g	202	-	-	58/110/110/110	-
45	SF4	A	501	1	-	-	0/6/5/5
53	CDL	V	204	-	-	51/104/104/110	-
45	SF4	M	801	12	-	-	0/6/5/5
49	PLX	a	202	-	-	31/55/55/55	-
49	PLX	J	403	-	-	32/55/55/55	-
55	FES	O	301	14	-	-	0/1/1/1
53	CDL	s	402	-	-	49/99/99/110	-
53	CDL	I	201	-	-	26/61/61/110	-
48	PEE	C	302	-	-	28/50/50/54	-
50	UQ1	Q	501	-	-	1/9/33/33	0/1/1/1

All (250) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
47	A	503	NAI	O4B-C1B	16.13	1.63	1.41
47	A	503	NAI	C2B-C1B	-15.50	1.30	1.53
54	J	401	NDP	C3B-C2B	-12.96	1.24	1.52
54	J	401	NDP	C6N-C5N	12.38	1.55	1.33
54	J	401	NDP	O4D-C4D	10.65	1.68	1.45
47	A	503	NAI	C3D-C4D	-10.22	1.26	1.53
54	J	401	NDP	C3D-C4D	-9.86	1.27	1.53
51	C	305	UQ	C18-C19	9.61	1.56	1.33
51	J	402	UQ	C18-C19	9.52	1.55	1.33
51	C	305	UQ	C13-C14	9.23	1.55	1.33
51	J	402	UQ	C13-C14	9.20	1.55	1.33
51	C	305	UQ	C23-C24	9.15	1.54	1.33
51	J	402	UQ	C8-C9	9.05	1.54	1.33
51	C	305	UQ	C8-C9	8.99	1.54	1.33
58	w	401	ADP	C3'-C4'	-8.92	1.30	1.53
54	J	401	NDP	O4B-C1B	8.52	1.53	1.41
47	A	503	NAI	O4B-C4B	-8.26	1.26	1.45
54	J	401	NDP	O4B-C4B	-7.87	1.27	1.45
51	J	402	UQ	C23-C24	7.83	1.54	1.32

Continued on next page...

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
58	w	401	ADP	O4'-C4'	7.72	1.62	1.45
51	C	305	UQ	C28-C29	7.67	1.54	1.32
47	A	503	NAI	C2D-C1D	-7.57	1.29	1.53
54	J	401	NDP	C2N-C3N	7.44	1.55	1.34
50	C	304	UQ1	C8-C9	7.37	1.53	1.32
50	Q	501	UQ1	C8-C9	7.23	1.53	1.32
47	A	503	NAI	O4D-C4D	6.89	1.60	1.45
58	w	401	ADP	O4'-C1'	-6.83	1.31	1.41
47	A	503	NAI	C2D-C3D	5.99	1.69	1.53
47	A	503	NAI	C7N-N7N	5.78	1.48	1.33
54	J	401	NDP	P2B-O2B	5.61	1.69	1.59
52	X	201	8Q1	C34-N36	5.50	1.45	1.33
47	A	503	NAI	O4D-C1D	5.42	1.54	1.42
54	J	401	NDP	C3B-C4B	5.42	1.66	1.53
52	X	201	8Q1	C39-N41	5.40	1.45	1.33
52	G	201	8Q1	C39-N41	5.34	1.45	1.33
52	G	201	8Q1	C34-N36	5.31	1.45	1.33
47	A	503	NAI	C4N-C3N	-5.03	1.40	1.49
54	J	401	NDP	O4D-C1D	-4.93	1.30	1.42
54	J	401	NDP	C6N-N1N	4.90	1.49	1.37
47	A	503	NAI	O2B-C2B	4.55	1.53	1.43
53	l	702	CDL	OB8-CB7	4.25	1.45	1.33
53	l	702	CDL	OA8-CA7	4.20	1.45	1.33
54	J	401	NDP	C7N-N7N	4.19	1.44	1.33
54	J	401	NDP	O2D-C2D	-4.17	1.33	1.43
54	J	401	NDP	C6A-N6A	4.08	1.49	1.34
53	l	702	CDL	OB6-CB5	4.05	1.45	1.34
47	A	503	NAI	C6N-C5N	4.02	1.40	1.33
53	l	702	CDL	OA6-CA5	3.99	1.45	1.34
58	w	401	ADP	C6-N6	3.84	1.48	1.34
48	l	704	PEE	C18-C19	3.75	1.53	1.31
48	C	302	PEE	C18-C19	3.74	1.53	1.31
48	l	701	PEE	C18-C19	3.74	1.53	1.31
48	V	202	PEE	C18-C19	3.73	1.53	1.31
48	U	101	PEE	C18-C19	3.72	1.53	1.31
46	A	502	FMN	C4A-N5	3.72	1.38	1.30
48	l	705	PEE	C18-C19	3.72	1.53	1.31
48	W	201	PEE	C18-C19	3.72	1.53	1.31
48	B	303	PEE	C18-C19	3.72	1.53	1.31
48	s	401	PEE	C18-C19	3.71	1.53	1.31
48	i	401	PEE	C18-C19	3.71	1.53	1.31
48	U	101	PEE	C39-C38	3.67	1.53	1.31

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	B	303	PEE	C39-C38	3.67	1.53	1.31
48	V	202	PEE	C39-C38	3.65	1.52	1.31
48	l	701	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	3.63	1.52	1.31
48	l	705	PEE	C39-C38	3.63	1.52	1.31
48	i	401	PEE	C39-C38	3.63	1.52	1.31
47	A	503	NAI	C7N-C3N	3.61	1.56	1.48
47	A	503	NAI	C6A-N6A	3.58	1.47	1.34
53	l	703	CDL	OA8-CA7	3.49	1.43	1.33
53	I	201	CDL	OA8-CA7	3.47	1.43	1.33
53	n	101	CDL	OA8-CA7	3.47	1.43	1.33
53	a	201	CDL	OA8-CA7	3.46	1.43	1.33
53	V	203	CDL	OA8-CA7	3.45	1.43	1.33
53	V	204	CDL	OA8-CA7	3.44	1.43	1.33
53	s	402	CDL	OA8-CA7	3.44	1.43	1.33
53	V	201	CDL	OA8-CA7	3.44	1.43	1.33
53	g	202	CDL	OA8-CA7	3.42	1.43	1.33
58	w	401	ADP	O2'-C2'	-3.37	1.35	1.43
47	A	503	NAI	C4N-C5N	-3.29	1.40	1.48
53	V	204	CDL	OA6-CA5	3.26	1.43	1.34
58	w	401	ADP	O3'-C3'	3.11	1.50	1.43
53	V	201	CDL	OA6-CA5	3.11	1.43	1.34
54	J	401	NDP	O3D-C3D	3.09	1.50	1.43
53	I	201	CDL	OB8-CB7	3.08	1.42	1.33
53	g	202	CDL	OB6-CB5	3.07	1.43	1.34
53	s	402	CDL	OB6-CB5	3.07	1.43	1.34
53	a	201	CDL	OB6-CB5	3.06	1.42	1.34
53	l	703	CDL	OB8-CB7	3.05	1.42	1.33
53	V	204	CDL	OB6-CB5	3.05	1.42	1.34
53	a	201	CDL	OB8-CB7	3.04	1.42	1.33
53	V	201	CDL	OB6-CB5	3.04	1.42	1.34
53	I	201	CDL	OB6-CB5	3.02	1.42	1.34
53	n	101	CDL	OB6-CB5	3.01	1.42	1.34
53	g	202	CDL	OB8-CB7	3.01	1.42	1.33
53	V	203	CDL	OB6-CB5	3.00	1.42	1.34
53	s	402	CDL	OB8-CB7	3.00	1.42	1.33
54	J	401	NDP	C7N-C3N	3.00	1.55	1.48
53	V	204	CDL	OB8-CB7	3.00	1.42	1.33
53	s	402	CDL	OA6-CA5	2.99	1.42	1.34
53	l	703	CDL	OB6-CB5	2.98	1.42	1.34
53	V	201	CDL	OB8-CB7	2.98	1.42	1.33

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
53	V	203	CDL	OB8-CB7	2.97	1.42	1.33
53	g	202	CDL	OA6-CA5	2.97	1.42	1.34
53	n	101	CDL	OB8-CB7	2.96	1.42	1.33
53	a	201	CDL	OA6-CA5	2.96	1.42	1.34
53	l	703	CDL	OA6-CA5	2.95	1.42	1.34
53	V	203	CDL	OA6-CA5	2.94	1.42	1.34
53	n	101	CDL	OA6-CA5	2.94	1.42	1.34
53	I	201	CDL	OA6-CA5	2.93	1.42	1.34
51	J	402	UQ	C6-C1	2.82	1.54	1.46
49	g	201	PLX	O6-C4	-2.77	1.40	1.44
49	C	303	PLX	O6-C4	-2.70	1.41	1.44
51	C	305	UQ	C6-C1	2.69	1.54	1.46
50	C	304	UQ1	C6-C1	2.68	1.54	1.46
49	j	201	PLX	O6-C4	-2.67	1.41	1.44
49	a	202	PLX	O6-C4	-2.67	1.41	1.44
49	e	201	PLX	O6-C4	-2.54	1.41	1.44
51	C	305	UQ	C7-C8	2.52	1.54	1.50
48	l	701	PEE	O3-C30	2.50	1.40	1.33
46	A	502	FMN	C10-N1	2.49	1.38	1.33
48	l	705	PEE	O3-C30	2.49	1.40	1.33
48	s	401	PEE	O3-C30	2.48	1.40	1.33
48	i	401	PEE	O3-C30	2.47	1.40	1.33
52	X	201	8Q1	C1-S44	2.46	1.82	1.76
48	B	303	PEE	O2-C2	-2.45	1.40	1.46
47	A	503	NAI	O3B-C3B	-2.45	1.37	1.43
48	U	101	PEE	O3-C30	2.45	1.40	1.33
48	B	303	PEE	O3-C30	2.45	1.40	1.33
48	C	302	PEE	O2-C2	-2.45	1.40	1.46
47	A	503	NAI	PN-O5D	2.44	1.69	1.59
48	W	201	PEE	O2-C2	-2.44	1.40	1.46
48	V	202	PEE	O3-C30	2.44	1.40	1.33
53	I	201	CDL	OA6-CA4	-2.43	1.40	1.46
53	n	101	CDL	OA6-CA4	-2.42	1.40	1.46
48	W	201	PEE	O3-C30	2.42	1.40	1.33
51	J	402	UQ	C7-C8	2.42	1.54	1.50
49	j	201	PLX	C7-C6	2.42	1.55	1.50
53	g	202	CDL	OA6-CA4	-2.42	1.40	1.46
48	i	401	PEE	O2-C2	-2.42	1.40	1.46
53	s	402	CDL	OA6-CA4	-2.41	1.40	1.46
53	a	201	CDL	OA6-CA4	-2.41	1.40	1.46
48	C	302	PEE	O3-C30	2.40	1.40	1.33
48	l	704	PEE	O3-C30	2.40	1.40	1.33

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
53	V	203	CDL	OA6-CA4	-2.39	1.40	1.46
48	V	202	PEE	O2-C2	-2.39	1.40	1.46
48	l	701	PEE	O2-C2	-2.38	1.40	1.46
52	G	201	8Q1	O40-C39	-2.38	1.18	1.23
48	U	101	PEE	O2-C2	-2.38	1.40	1.46
50	Q	501	UQ1	C6-C1	2.38	1.53	1.46
54	J	401	NDP	C2D-C3D	2.35	1.59	1.53
48	l	704	PEE	O2-C2	-2.35	1.40	1.46
54	J	401	NDP	O2B-C2B	2.35	1.52	1.44
48	l	705	PEE	O2-C2	-2.35	1.40	1.46
49	r	501	PLX	O6-C4	-2.34	1.41	1.44
49	r	501	PLX	C7-C6	2.34	1.55	1.50
49	e	201	PLX	C7-C6	2.34	1.55	1.50
48	B	303	PEE	O2-C10	2.34	1.40	1.34
49	J	403	PLX	C7-C6	2.34	1.55	1.50
53	l	703	CDL	OA6-CA4	-2.33	1.40	1.46
48	s	401	PEE	O2-C2	-2.33	1.40	1.46
48	i	401	PEE	O2-C10	2.32	1.40	1.34
52	G	201	8Q1	O35-C34	-2.32	1.18	1.23
48	l	705	PEE	O2-C10	2.31	1.40	1.34
49	a	202	PLX	C7-C6	2.31	1.55	1.50
52	X	201	8Q1	C6-C1	2.30	1.53	1.50
49	C	303	PLX	C7-C6	2.29	1.55	1.50
48	l	701	PEE	O2-C10	2.29	1.40	1.34
48	l	704	PEE	O2-C10	2.29	1.40	1.34
52	G	201	8Q1	C1-S44	2.29	1.81	1.76
49	g	201	PLX	C7-C6	2.28	1.55	1.50
48	s	401	PEE	O2-C10	2.28	1.40	1.34
48	W	201	PEE	O2-C10	2.27	1.40	1.34
48	C	302	PEE	O2-C10	2.27	1.40	1.34
48	V	202	PEE	O2-C10	2.26	1.40	1.34
47	A	503	NAI	C5B-C4B	2.26	1.58	1.51
53	V	201	CDL	PB2-OB2	2.26	1.68	1.59
50	C	304	UQ1	O2-CM2	-2.25	1.40	1.45
48	U	101	PEE	O2-C10	2.25	1.40	1.34
53	V	203	CDL	PB2-OB2	2.24	1.68	1.59
53	l	703	CDL	OB6-CB4	-2.24	1.41	1.46
53	g	202	CDL	PB2-OB2	2.23	1.68	1.59
53	s	402	CDL	PB2-OB2	2.23	1.68	1.59
53	n	101	CDL	PB2-OB2	2.23	1.68	1.59
53	V	203	CDL	OB6-CB4	-2.23	1.41	1.46
49	J	403	PLX	O6-C4	-2.23	1.41	1.44

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
52	X	201	8Q1	O40-C39	-2.23	1.18	1.23
53	a	201	CDL	PB2-OB2	2.21	1.68	1.59
51	J	402	UQ	O4-C4	-2.21	1.18	1.23
53	l	703	CDL	PB2-OB2	2.20	1.68	1.59
49	r	501	PLX	P1-O4	2.20	1.68	1.59
53	V	204	CDL	PB2-OB2	2.20	1.68	1.59
53	a	201	CDL	OB6-CB4	-2.20	1.41	1.46
53	l	703	CDL	PB2-OB5	2.20	1.68	1.59
53	a	201	CDL	PB2-OB5	2.20	1.68	1.59
53	I	201	CDL	PB2-OB2	2.19	1.68	1.59
53	g	202	CDL	PB2-OB5	2.18	1.68	1.59
52	X	201	8Q1	O35-C34	-2.17	1.19	1.23
53	I	201	CDL	OB6-CB4	-2.17	1.41	1.46
52	G	201	8Q1	C6-C1	2.16	1.53	1.50
53	n	101	CDL	OB6-CB4	-2.16	1.41	1.46
53	I	201	CDL	PB2-OB5	2.16	1.68	1.59
53	V	203	CDL	PB2-OB5	2.16	1.68	1.59
53	s	402	CDL	OB6-CB4	-2.15	1.41	1.46
53	V	204	CDL	OB6-CB4	-2.15	1.41	1.46
51	C	305	UQ	O4-C4	-2.15	1.18	1.23
53	s	402	CDL	PB2-OB5	2.15	1.68	1.59
53	V	201	CDL	OA6-CA4	-2.15	1.41	1.46
53	V	204	CDL	PB2-OB5	2.15	1.68	1.59
53	V	201	CDL	PB2-OB5	2.15	1.68	1.59
49	a	202	PLX	P1-O4	2.14	1.68	1.59
53	V	201	CDL	OB6-CB4	-2.14	1.41	1.46
53	n	101	CDL	PB2-OB5	2.13	1.67	1.59
48	B	303	PEE	O3-C3	-2.13	1.40	1.45
50	Q	501	UQ1	O2-CM2	-2.13	1.40	1.45
54	J	401	NDP	O7N-C7N	-2.13	1.19	1.24
49	j	201	PLX	P1-O4	2.13	1.67	1.59
49	J	403	PLX	P1-O4	2.12	1.67	1.59
53	g	202	CDL	OB6-CB4	-2.12	1.41	1.46
48	l	701	PEE	O3-C3	-2.12	1.40	1.45
54	J	401	NDP	PA-O5B	2.11	1.67	1.59
49	g	201	PLX	P1-O4	2.11	1.67	1.59
49	e	201	PLX	P1-O4	2.10	1.67	1.59
48	l	704	PEE	O3-C3	-2.10	1.40	1.45
48	V	202	PEE	O3-C3	-2.09	1.40	1.45
49	r	501	PLX	P1-O1	2.08	1.67	1.59
48	C	302	PEE	O3-C3	-2.08	1.40	1.45
49	C	303	PLX	P1-O4	2.08	1.67	1.59

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	W	201	PEE	O3-C3	-2.08	1.40	1.45
48	i	401	PEE	O3-C3	-2.07	1.40	1.45
50	C	304	UQ1	O1-C1	-2.06	1.18	1.23
50	C	304	UQ1	O3-CM3	-2.05	1.40	1.45
50	Q	501	UQ1	O3-CM3	-2.05	1.40	1.45
49	a	202	PLX	P1-O1	2.05	1.67	1.59
51	J	402	UQ	C21-C19	2.05	1.55	1.51
48	s	401	PEE	O3-C3	-2.04	1.40	1.45
50	C	304	UQ1	O4-C4	-2.04	1.18	1.23
50	C	304	UQ1	C7-C8	2.04	1.53	1.50
49	e	201	PLX	P1-O1	2.04	1.67	1.59
48	U	101	PEE	O3-C3	-2.04	1.40	1.45
51	C	305	UQ	C21-C19	2.03	1.55	1.51
50	Q	501	UQ1	O1-C1	-2.02	1.19	1.23
50	Q	501	UQ1	O4-C4	-2.02	1.19	1.23
49	j	201	PLX	P1-O1	2.02	1.67	1.59
49	J	403	PLX	P1-O1	2.01	1.67	1.59
48	l	705	PEE	O3-C3	-2.01	1.40	1.45
51	C	305	UQ	O3-CM3	-2.01	1.40	1.45
53	V	204	CDL	OA6-CA4	-2.01	1.41	1.46
49	g	201	PLX	P1-O1	2.00	1.67	1.59

All (145) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
51	J	402	UQ	C7-C8-C9	-8.31	112.95	126.79
51	C	305	UQ	C7-C8-C9	-7.85	113.73	126.79
54	J	401	NDP	C3N-C2N-N1N	-7.71	112.10	123.10
54	J	401	NDP	C1D-N1N-C2N	-7.21	109.11	121.11
52	G	201	8Q1	C6-C1-S44	7.06	121.68	113.46
51	C	305	UQ	C17-C18-C19	-6.02	113.16	127.66
51	J	402	UQ	C12-C13-C14	-5.92	113.40	127.66
51	J	402	UQ	C17-C18-C19	-5.90	113.45	127.66
51	C	305	UQ	C12-C13-C14	-5.89	113.48	127.66
51	C	305	UQ	C22-C23-C24	-5.67	114.00	127.66
54	J	401	NDP	C1D-N1N-C6N	-5.54	108.89	120.83
52	X	201	8Q1	C6-C1-S44	5.36	119.70	113.46
50	C	304	UQ1	C7-C6-C1	5.22	124.75	118.48
51	J	402	UQ	C16-C14-C13	-4.55	111.92	121.12
58	w	401	ADP	N3-C2-N1	-4.53	121.59	128.68
50	Q	501	UQ1	C7-C8-C9	-4.50	113.15	127.26
51	J	402	UQ	C20-C19-C18	-4.50	112.14	123.68

*Continued on next page...*



*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
51	C	305	UQ	C10-C9-C8	-4.44	112.28	123.68
51	J	402	UQ	C22-C23-C24	-4.36	112.84	127.75
47	A	503	NAI	N3A-C2A-N1A	-4.34	121.89	128.68
51	C	305	UQ	C25-C24-C23	-4.33	112.57	123.68
53	l	702	CDL	OA6-CA5-C11	4.33	120.83	111.50
51	C	305	UQ	C27-C28-C29	-4.31	113.01	127.75
51	J	402	UQ	C21-C19-C18	-4.31	112.40	121.12
48	i	401	PEE	O2-C10-C11	4.25	120.67	111.50
51	J	402	UQ	C15-C14-C13	-4.24	112.81	123.68
51	J	402	UQ	C10-C9-C8	-4.23	112.82	123.68
53	l	702	CDL	OB6-CB5-C51	4.16	120.46	111.50
48	l	701	PEE	O2-C10-C11	4.15	120.44	111.50
48	V	202	PEE	O2-C10-C11	4.14	120.43	111.50
48	s	401	PEE	O2-C10-C11	4.14	120.42	111.50
53	a	201	CDL	OB6-CB5-C51	4.12	120.39	111.50
53	l	703	CDL	OA6-CA5-C11	4.12	120.37	111.50
51	C	305	UQ	C11-C9-C8	-4.10	112.83	121.12
48	l	705	PEE	O2-C10-C11	4.08	120.30	111.50
51	C	305	UQ	C16-C14-C13	-4.06	112.90	121.12
52	G	201	8Q1	O4-C1-C6	-4.05	119.21	123.99
53	V	201	CDL	OB6-CB5-C51	4.05	120.22	111.50
48	B	303	PEE	O2-C10-C11	4.04	120.20	111.50
53	g	202	CDL	OB6-CB5-C51	3.99	120.10	111.50
53	V	203	CDL	OA6-CA5-C11	3.98	120.08	111.50
53	V	204	CDL	OB6-CB5-C51	3.98	120.08	111.50
51	C	305	UQ	C20-C19-C18	-3.98	113.47	123.68
48	U	101	PEE	O2-C10-C11	3.95	120.01	111.50
53	s	402	CDL	OB6-CB5-C51	3.95	120.01	111.50
51	C	305	UQ	C21-C19-C18	-3.95	113.13	121.12
53	I	201	CDL	OB6-CB5-C51	3.94	120.00	111.50
53	n	101	CDL	OB6-CB5-C51	3.94	120.00	111.50
48	W	201	PEE	O2-C10-C11	3.94	119.99	111.50
53	V	203	CDL	OB6-CB5-C51	3.93	119.97	111.50
53	I	201	CDL	OA6-CA5-C11	3.92	119.94	111.50
53	l	703	CDL	OB6-CB5-C51	3.91	119.92	111.50
53	n	101	CDL	OA6-CA5-C11	3.89	119.88	111.50
48	C	302	PEE	O2-C10-C11	3.88	119.87	111.50
53	g	202	CDL	OA6-CA5-C11	3.87	119.85	111.50
54	J	401	NDP	N3A-C2A-N1A	-3.86	122.64	128.68
51	C	305	UQ	C15-C14-C13	-3.82	113.88	123.68
53	V	201	CDL	OA6-CA5-C11	3.79	119.66	111.50
53	a	201	CDL	OA6-CA5-C11	3.76	119.60	111.50

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
53	s	402	CDL	OA6-CA5-C11	3.72	119.52	111.50
50	C	304	UQ1	C7-C8-C9	-3.72	115.61	127.26
51	C	305	UQ	C26-C24-C23	-3.66	113.72	121.12
48	l	704	PEE	O2-C10-C11	3.61	119.28	111.50
52	X	201	8Q1	C37-C38-C39	3.60	118.35	112.36
51	J	402	UQ	C11-C9-C8	-3.49	114.06	121.12
51	J	402	UQ	C25-C24-C23	-3.42	112.77	122.65
51	J	402	UQ	C26-C24-C23	-3.37	112.91	122.65
51	C	305	UQ	C31-C29-C28	-3.34	112.99	122.65
52	X	201	8Q1	O4-C1-C6	-3.33	120.06	123.99
51	C	305	UQ	C30-C29-C28	-3.30	113.10	122.65
53	V	204	CDL	OA6-CA5-C11	3.27	118.55	111.50
52	G	201	8Q1	C37-C38-C39	3.24	117.76	112.36
53	n	101	CDL	OA8-CA7-C31	3.24	119.87	111.38
50	Q	501	UQ1	C10-C9-C8	-3.21	113.38	122.65
46	A	502	FMN	C4-N3-C2	-3.13	119.85	125.64
50	Q	501	UQ1	C11-C9-C8	-3.12	113.62	122.65
47	A	503	NAI	C3D-C2D-C1D	3.03	107.19	101.43
50	C	304	UQ1	C10-C9-C8	-2.99	114.00	122.65
53	l	702	CDL	OB8-CB7-C71	2.85	120.85	111.91
48	B	303	PEE	O3-C30-C31	2.82	120.76	111.91
53	l	702	CDL	OA8-CA7-C31	2.81	120.72	111.91
53	l	702	CDL	CA4-OA6-CA5	-2.81	110.88	117.79
53	V	203	CDL	OB8-CB7-C71	2.77	120.61	111.91
47	A	503	NAI	C4D-O4D-C1D	-2.75	103.39	109.47
47	A	503	NAI	C2D-C3D-C4D	2.74	107.96	102.64
48	l	704	PEE	O3-C30-C31	2.73	120.48	111.91
53	l	703	CDL	OB8-CB7-C71	2.73	120.46	111.91
46	A	502	FMN	C4A-C4-N3	2.71	120.08	113.19
53	V	204	CDL	OA8-CA7-C31	2.71	120.42	111.91
53	I	201	CDL	OB8-CB7-C71	2.70	120.39	111.91
52	G	201	8Q1	O4-C1-S44	-2.70	119.11	122.61
53	a	201	CDL	OB8-CB7-C71	2.68	120.33	111.91
53	s	402	CDL	OA8-CA7-C31	2.68	120.32	111.91
53	I	201	CDL	OA8-CA7-C31	2.67	120.30	111.91
53	l	703	CDL	OA8-CA7-C31	2.67	120.30	111.91
50	C	304	UQ1	C11-C9-C8	-2.67	114.94	122.65
48	i	401	PEE	O3-C30-C31	2.66	120.26	111.91
53	V	204	CDL	OB8-CB7-C71	2.65	120.21	111.91
53	g	202	CDL	OB8-CB7-C71	2.63	120.17	111.91
51	J	402	UQ	CM5-C5-C6	-2.62	120.12	124.40
58	w	401	ADP	PA-O3A-PB	-2.62	123.85	132.83

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
53	n	101	CDL	OB8-CB7-C71	2.61	120.10	111.91
52	X	201	8Q1	C43-S44-C1	2.61	109.98	101.87
50	C	304	UQ1	C6-C5-C4	2.58	121.22	119.18
53	g	202	CDL	OA8-CA7-C31	2.58	120.00	111.91
48	V	202	PEE	O3-C30-C31	2.56	119.95	111.91
48	s	401	PEE	O3-C30-C31	2.56	119.94	111.91
53	V	203	CDL	OA8-CA7-C31	2.56	119.94	111.91
48	W	201	PEE	O3-C30-C31	2.56	119.93	111.91
54	J	401	NDP	PN-O3-PA	-2.56	124.06	132.83
48	l	705	PEE	O3-C30-C31	2.55	119.90	111.91
53	s	402	CDL	OB8-CB7-C71	2.55	119.90	111.91
53	V	201	CDL	OB8-CB7-C71	2.55	119.90	111.91
53	a	201	CDL	OA8-CA7-C31	2.53	119.86	111.91
46	A	502	FMN	O4-C4-C4A	-2.53	119.89	126.60
48	l	701	PEE	O3-C30-C31	2.53	119.84	111.91
48	C	302	PEE	O3-C30-C31	2.51	119.77	111.91
48	U	101	PEE	O3-C30-C31	2.50	119.76	111.91
47	A	503	NAI	C4A-C5A-N7A	-2.50	106.79	109.40
47	A	503	NAI	PN-O3-PA	-2.48	124.33	132.83
49	r	501	PLX	C1A-N1-C1	2.47	120.04	109.92
49	j	201	PLX	C1A-N1-C1	2.46	119.99	109.92
49	g	201	PLX	C1A-N1-C1	2.45	119.94	109.92
47	A	503	NAI	C3B-C2B-C1B	2.43	104.64	100.98
53	V	201	CDL	OA8-CA7-C31	2.43	119.52	111.91
50	Q	501	UQ1	CM5-C5-C6	-2.42	120.45	124.40
50	C	304	UQ1	CM5-C5-C6	-2.38	120.51	124.40
49	a	202	PLX	C1A-N1-C1	2.37	119.61	109.92
46	A	502	FMN	C4A-C10-N10	2.36	119.94	116.48
46	A	502	FMN	C4A-C10-N1	-2.36	119.25	124.73
52	G	201	8Q1	C38-C39-N41	2.31	120.32	116.42
52	G	201	8Q1	C43-S44-C1	2.31	109.06	101.87
54	J	401	NDP	C4A-C5A-N7A	-2.29	107.01	109.40
49	C	303	PLX	C1A-N1-C1	2.29	119.27	109.92
49	J	403	PLX	C1A-N1-C1	2.24	119.09	109.92
52	X	201	8Q1	C38-C39-N41	2.24	120.19	116.42
46	A	502	FMN	C9A-C5A-N5	-2.16	120.08	122.43
53	l	702	CDL	CB4-OB6-CB5	-2.15	112.51	117.79
51	C	305	UQ	CM5-C5-C6	-2.14	120.90	124.40
46	A	502	FMN	C5A-C9A-N10	2.14	120.16	117.95
49	e	201	PLX	C1A-N1-C1	2.13	118.62	109.92
46	A	502	FMN	C10-C4A-N5	-2.13	120.34	124.86
51	C	305	UQ	C10-C9-C11	-2.03	111.86	115.27

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
53	l	702	CDL	OA8-CA7-OA9	-2.02	118.50	123.59
58	w	401	ADP	C4-C5-N7	-2.01	107.30	109.40

There are no chirality outliers.

All (996) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
46	A	502	FMN	N10-C1'-C2'-O2'
46	A	502	FMN	N10-C1'-C2'-C3'
46	A	502	FMN	C3'-C4'-C5'-O5'
46	A	502	FMN	O4'-C4'-C5'-O5'
46	A	502	FMN	C5'-O5'-P-O1P
46	A	502	FMN	C5'-O5'-P-O2P
47	A	503	NAI	PN-O3-PA-O5B
48	B	303	PEE	C1-O3P-P-O1P
48	C	302	PEE	C4-O4P-P-O1P
48	U	101	PEE	C17-C18-C19-C20
48	V	202	PEE	C1-O3P-P-O1P
48	V	202	PEE	C4-O4P-P-O2P
48	V	202	PEE	C5-C4-O4P-P
48	i	401	PEE	C11-C10-O2-C2
48	i	401	PEE	O4-C10-O2-C2
48	i	401	PEE	C4-O4P-P-O2P
48	i	401	PEE	C4-O4P-P-O1P
48	l	701	PEE	C1-O3P-P-O4P
48	l	704	PEE	C11-C10-O2-C2
48	l	705	PEE	C11-C10-O2-C2
48	l	705	PEE	O4-C10-O2-C2
48	l	705	PEE	O4P-C4-C5-N
48	s	401	PEE	C11-C10-O2-C2
48	s	401	PEE	C4-O4P-P-O2P
48	s	401	PEE	O4P-C4-C5-N
49	C	303	PLX	O7-C6-C7-C8
49	C	303	PLX	O6-C6-C7-C8
49	C	303	PLX	O6-C4-C5-O8
49	J	403	PLX	O7-C6-O6-C4
49	J	403	PLX	C3-C4-O6-C6
49	J	403	PLX	C2-O1-P1-O2
49	a	202	PLX	O7-C6-O6-C4
49	a	202	PLX	C3-O4-P1-O2
49	a	202	PLX	C3-O4-P1-O3
49	a	202	PLX	C2-O1-P1-O4

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms
49	a	202	PLX	C2-O1-P1-O2
49	a	202	PLX	N1-C1-C2-O1
49	a	202	PLX	O9-C24-O8-C5
49	a	202	PLX	O9-C24-C25-C26
49	e	201	PLX	C2-O1-P1-O4
49	g	201	PLX	C3-O4-P1-O2
49	g	201	PLX	C3-O4-P1-O3
49	g	201	PLX	C2-O1-P1-O4
49	g	201	PLX	C2-O1-P1-O2
49	g	201	PLX	C2-O1-P1-O3
49	j	201	PLX	O7-C6-C7-C8
49	j	201	PLX	O9-C24-O8-C5
49	r	501	PLX	C5-C4-O6-C6
49	r	501	PLX	C2-O1-P1-O2
49	r	501	PLX	O9-C24-C25-C26
50	C	304	UQ1	C1-C6-C7-C8
50	C	304	UQ1	C5-C6-C7-C8
51	C	305	UQ	C7-C8-C9-C10
51	C	305	UQ	C7-C8-C9-C11
51	C	305	UQ	C12-C13-C14-C16
51	C	305	UQ	C18-C19-C21-C22
51	J	402	UQ	C7-C8-C9-C10
51	J	402	UQ	C12-C13-C14-C15
51	J	402	UQ	C15-C14-C16-C17
51	J	402	UQ	C17-C18-C19-C21
51	J	402	UQ	C18-C19-C21-C22
52	G	201	8Q1	C28-C29-C32-C34
52	G	201	8Q1	C28-C29-C32-O33
52	G	201	8Q1	C30-C29-C32-C34
52	G	201	8Q1	C30-C29-C32-O33
52	G	201	8Q1	C31-C29-C32-C34
52	G	201	8Q1	C31-C29-C32-O33
52	G	201	8Q1	C28-O27-P24-O3
52	G	201	8Q1	C28-O27-P24-O2
52	G	201	8Q1	C28-O27-P24-O1
52	X	201	8Q1	C1-C6-C7-C8
52	X	201	8Q1	C42-C43-S44-C1
52	X	201	8Q1	C28-O27-P24-O3
52	X	201	8Q1	C28-O27-P24-O2
52	X	201	8Q1	C28-O27-P24-O1
53	I	201	CDL	CB2-OB2-PB2-OB3
53	I	201	CDL	CB3-OB5-PB2-OB3

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms
53	I	201	CDL	CB3-OB5-PB2-OB4
53	V	201	CDL	CB2-C1-CA2-OA2
53	V	201	CDL	CA2-C1-CB2-OB2
53	V	201	CDL	CA3-OA5-PA1-OA4
53	V	201	CDL	C1-CB2-OB2-PB2
53	V	201	CDL	CB2-OB2-PB2-OB3
53	V	201	CDL	CB2-OB2-PB2-OB4
53	V	201	CDL	CB2-OB2-PB2-OB5
53	V	203	CDL	CA2-C1-CB2-OB2
53	V	203	CDL	CB3-OB5-PB2-OB2
53	V	203	CDL	OB5-CB3-CB4-OB6
53	V	203	CDL	OB6-CB4-CB6-OB8
53	V	204	CDL	CA2-OA2-PA1-OA3
53	V	204	CDL	CA3-OA5-PA1-OA2
53	V	204	CDL	CA3-OA5-PA1-OA3
53	V	204	CDL	CA3-OA5-PA1-OA4
53	V	204	CDL	CB2-OB2-PB2-OB3
53	V	204	CDL	CB2-OB2-PB2-OB4
53	a	201	CDL	CB2-C1-CA2-OA2
53	a	201	CDL	CA2-C1-CB2-OB2
53	a	201	CDL	CA2-OA2-PA1-OA3
53	a	201	CDL	CB2-OB2-PB2-OB3
53	a	201	CDL	CB2-OB2-PB2-OB4
53	a	201	CDL	CB3-OB5-PB2-OB3
53	a	201	CDL	CB3-OB5-PB2-OB4
53	a	201	CDL	OB7-CB5-OB6-CB4
53	g	202	CDL	O1-C1-CA2-OA2
53	g	202	CDL	CA2-OA2-PA1-OA3
53	g	202	CDL	CA3-OA5-PA1-OA2
53	g	202	CDL	CA3-OA5-PA1-OA3
53	g	202	CDL	CB3-OB5-PB2-OB3
53	g	202	CDL	OB7-CB5-OB6-CB4
53	g	202	CDL	C51-CB5-OB6-CB4
53	l	702	CDL	CA2-OA2-PA1-OA3
53	l	702	CDL	CA3-OA5-PA1-OA3
53	l	702	CDL	CB2-OB2-PB2-OB3
53	l	702	CDL	CB2-OB2-PB2-OB4
53	l	702	CDL	CB2-OB2-PB2-OB5
53	l	702	CDL	CB3-OB5-PB2-OB4
53	l	703	CDL	CA2-C1-CB2-OB2
53	l	703	CDL	CA3-OA5-PA1-OA3
53	l	703	CDL	CA3-OA5-PA1-OA4

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms
53	l	703	CDL	OA6-CA4-CA6-OA8
53	l	703	CDL	CB2-OB2-PB2-OB3
53	l	703	CDL	CB2-OB2-PB2-OB4
53	l	703	CDL	CB3-OB5-PB2-OB2
53	l	703	CDL	CB3-OB5-PB2-OB3
53	l	703	CDL	CB3-OB5-PB2-OB4
53	n	101	CDL	O1-C1-CA2-OA2
53	n	101	CDL	CB2-C1-CA2-OA2
53	n	101	CDL	CB2-OB2-PB2-OB4
53	s	402	CDL	CA2-C1-CB2-OB2
53	s	402	CDL	OA5-CA3-CA4-OA6
53	s	402	CDL	OA9-CA7-OA8-CA6
53	s	402	CDL	C31-CA7-OA8-CA6
58	w	401	ADP	C5'-O5'-PA-O2A
58	w	401	ADP	C5'-O5'-PA-O3A
48	i	401	PEE	O5-C30-O3-C3
48	i	401	PEE	C31-C30-O3-C3
50	C	304	UQ1	C7-C8-C9-C10
48	U	101	PEE	O5-C30-O3-C3
48	l	701	PEE	O5-C30-O3-C3
48	l	704	PEE	O4-C10-O2-C2
48	s	401	PEE	O4-C10-O2-C2
48	l	701	PEE	C31-C30-O3-C3
53	l	703	CDL	C71-CB7-OB8-CB6
53	a	201	CDL	C51-CB5-OB6-CB4
48	U	101	PEE	C31-C30-O3-C3
48	B	303	PEE	C17-C18-C19-C20
48	U	101	PEE	C37-C38-C39-C40
48	V	202	PEE	C17-C18-C19-C20
48	l	701	PEE	C17-C18-C19-C20
51	C	305	UQ	C22-C23-C24-C25
51	C	305	UQ	C17-C18-C19-C21
53	l	703	CDL	OB9-CB7-OB8-CB6
49	g	201	PLX	C2-C1-N1-C1A
53	I	201	CDL	O1-C1-CA2-OA2
53	V	203	CDL	O1-C1-CB2-OB2
53	V	204	CDL	O1-C1-CB2-OB2
53	a	201	CDL	O1-C1-CA2-OA2
53	l	703	CDL	O1-C1-CA2-OA2
53	l	703	CDL	O1-C1-CB2-OB2
53	V	201	CDL	C11-CA5-OA6-CA4
51	C	305	UQ	C27-C28-C29-C31

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms
51	J	402	UQ	C22-C23-C24-C26
49	j	201	PLX	C13-C14-C15-C16
49	r	501	PLX	C11-C12-C13-C14
49	J	403	PLX	C25-C26-C27-C28
49	r	501	PLX	C9-C10-C11-C12
53	l	703	CDL	C37-C38-C39-C40
53	V	201	CDL	C11-C12-C13-C14
48	B	303	PEE	C11-C12-C13-C14
50	Q	501	UQ1	C7-C8-C9-C11
51	J	402	UQ	C12-C11-C9-C8
51	C	305	UQ	C14-C16-C17-C18
53	l	702	CDL	C31-CA7-OA8-CA6
49	r	501	PLX	C7-C8-C9-C10
48	C	302	PEE	C11-C10-O2-C2
53	V	201	CDL	OA7-CA5-OA6-CA4
51	C	305	UQ	C22-C23-C24-C26
53	l	702	CDL	OA9-CA7-OA8-CA6
49	g	201	PLX	C2-C1-N1-C1B
53	V	204	CDL	C71-CB7-OB8-CB6
49	C	303	PLX	C25-C26-C27-C28
53	g	202	CDL	C74-C75-C76-C77
48	l	704	PEE	O3P-C1-C2-O2
53	I	201	CDL	OA5-CA3-CA4-OA6
53	V	204	CDL	C36-C37-C38-C39
53	V	201	CDL	O1-C1-CB2-OB2
53	a	201	CDL	O1-C1-CB2-OB2
53	s	402	CDL	O1-C1-CA2-OA2
53	V	204	CDL	CA7-C31-C32-C33
48	B	303	PEE	C23-C24-C25-C26
48	l	705	PEE	C21-C22-C23-C24
51	J	402	UQ	C20-C19-C21-C22
49	C	303	PLX	C27-C28-C29-C30
53	s	402	CDL	C14-C15-C16-C17
53	V	203	CDL	C51-CB5-OB6-CB4
48	W	201	PEE	C31-C30-O3-C3
53	V	204	CDL	C43-C44-C45-C46
53	l	702	CDL	CB5-C51-C52-C53
53	l	703	CDL	CB5-C51-C52-C53
48	B	303	PEE	C37-C38-C39-C40
53	V	203	CDL	CA5-C11-C12-C13
53	V	204	CDL	CA5-C11-C12-C13
53	V	204	CDL	C53-C54-C55-C56

*Continued on next page...*



*Continued from previous page...*

Mol	Chain	Res	Type	Atoms
53	s	402	CDL	C33-C34-C35-C36
53	a	201	CDL	C34-C35-C36-C37
53	l	703	CDL	C33-C34-C35-C36
53	g	202	CDL	CB5-C51-C52-C53
53	s	402	CDL	CA7-C31-C32-C33
53	s	402	CDL	CB7-C71-C72-C73
53	V	203	CDL	C39-C40-C41-C42
53	V	204	CDL	OB9-CB7-OB8-CB6
53	V	201	CDL	C62-C63-C64-C65
53	V	201	CDL	O1-C1-CA2-OA2
53	V	203	CDL	O1-C1-CA2-OA2
53	l	702	CDL	O1-C1-CB2-OB2
53	s	402	CDL	O1-C1-CB2-OB2
48	C	302	PEE	O4-C10-O2-C2
48	s	401	PEE	C31-C30-O3-C3
48	l	705	PEE	C34-C35-C36-C37
48	l	705	PEE	C37-C38-C39-C40
49	J	403	PLX	C34-C35-C36-C37
48	W	201	PEE	O5-C30-O3-C3
48	C	302	PEE	C4-O4P-P-O3P
48	U	101	PEE	C4-O4P-P-O3P
48	V	202	PEE	C4-O4P-P-O3P
48	i	401	PEE	C4-O4P-P-O3P
48	l	704	PEE	C4-O4P-P-O3P
48	s	401	PEE	C1-O3P-P-O4P
49	a	202	PLX	C3-O4-P1-O1
49	e	201	PLX	C3-O4-P1-O1
49	g	201	PLX	C3-O4-P1-O1
49	r	501	PLX	C3-O4-P1-O1
53	I	201	CDL	CA2-OA2-PA1-OA5
53	I	201	CDL	CB3-OB5-PB2-OB2
53	V	203	CDL	CA3-OA5-PA1-OA2
53	V	204	CDL	CB2-OB2-PB2-OB5
53	a	201	CDL	CB2-OB2-PB2-OB5
53	a	201	CDL	CB3-OB5-PB2-OB2
53	g	202	CDL	CA2-OA2-PA1-OA5
53	g	202	CDL	CB2-OB2-PB2-OB5
53	l	702	CDL	CB3-OB5-PB2-OB2
53	l	703	CDL	CA3-OA5-PA1-OA2
53	l	703	CDL	CB2-OB2-PB2-OB5
53	n	101	CDL	CB2-OB2-PB2-OB5
53	a	201	CDL	CB5-C51-C52-C53

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms
54	J	401	NDP	C2D-C1D-N1N-C6N
53	I	201	CDL	CB7-C71-C72-C73
53	n	101	CDL	CB7-C71-C72-C73
53	g	202	CDL	CB2-C1-CA2-OA2
53	l	703	CDL	CB2-C1-CA2-OA2
53	V	203	CDL	OB7-CB5-OB6-CB4
48	B	303	PEE	C31-C30-O3-C3
53	V	201	CDL	C31-CA7-OA8-CA6
49	J	403	PLX	O8-C24-C25-C26
49	e	201	PLX	O8-C24-C25-C26
48	i	401	PEE	C19-C20-C21-C22
49	r	501	PLX	C28-C29-C30-C31
53	V	203	CDL	C14-C15-C16-C17
53	V	204	CDL	C71-C72-C73-C74
53	s	402	CDL	C51-CB5-OB6-CB4
49	C	303	PLX	C14-C15-C16-C17
49	J	403	PLX	C33-C34-C35-C36
49	e	201	PLX	C25-C26-C27-C28
49	g	201	PLX	C27-C28-C29-C30
49	g	201	PLX	C28-C29-C30-C31
49	j	201	PLX	C7-C8-C9-C10
49	j	201	PLX	C25-C26-C27-C28
49	r	501	PLX	C11-C10-C9-C8
53	g	202	CDL	C75-C76-C77-C78
53	n	101	CDL	C52-C53-C54-C55
53	s	402	CDL	C71-C72-C73-C74
53	s	402	CDL	C82-C83-C84-C85
48	l	704	PEE	C21-C22-C23-C24
49	J	403	PLX	C31-C32-C33-C34
49	j	201	PLX	C33-C34-C35-C36
53	V	203	CDL	C17-C18-C19-C20
53	V	204	CDL	C11-C12-C13-C14
53	g	202	CDL	C41-C42-C43-C44
53	l	703	CDL	C32-C33-C34-C35
53	l	703	CDL	C73-C74-C75-C76
53	l	703	CDL	C75-C76-C77-C78
53	n	101	CDL	C54-C55-C56-C57
53	s	402	CDL	C51-C52-C53-C54
53	s	402	CDL	C59-C60-C61-C62
53	s	402	CDL	OB7-CB5-OB6-CB4
48	l	701	PEE	C32-C33-C34-C35
49	a	202	PLX	C7-C8-C9-C10

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms
49	a	202	PLX	C25-C26-C27-C28
53	V	204	CDL	C75-C76-C77-C78
53	a	201	CDL	C60-C61-C62-C63
48	s	401	PEE	C12-C13-C14-C15
49	J	403	PLX	C7-C8-C9-C10
53	a	201	CDL	C51-C52-C53-C54
53	n	101	CDL	C56-C57-C58-C59
48	l	705	PEE	C13-C14-C15-C16
49	r	501	PLX	C27-C28-C29-C30
52	X	201	8Q1	C9-C10-C11-C12
53	V	203	CDL	C75-C76-C77-C78
53	a	201	CDL	C35-C36-C37-C38
53	g	202	CDL	CA7-C31-C32-C33
53	s	402	CDL	CB5-C51-C52-C53
49	C	303	PLX	C10-C11-C12-C13
49	C	303	PLX	C28-C29-C30-C31
49	J	403	PLX	C27-C28-C29-C30
49	j	201	PLX	C14-C15-C16-C17
53	V	201	CDL	C55-C56-C57-C58
53	V	204	CDL	C73-C74-C75-C76
53	g	202	CDL	C33-C34-C35-C36
53	l	702	CDL	C58-C59-C60-C61
53	s	402	CDL	C32-C33-C34-C35
53	s	402	CDL	C35-C36-C37-C38
49	e	201	PLX	C14-C15-C16-C17
49	j	201	PLX	C10-C11-C12-C13
53	V	203	CDL	C12-C13-C14-C15
53	V	204	CDL	C37-C38-C39-C40
53	V	204	CDL	C54-C55-C56-C57
53	a	201	CDL	C62-C63-C64-C65
53	g	202	CDL	C34-C35-C36-C37
53	l	702	CDL	C71-C72-C73-C74
53	n	101	CDL	C73-C74-C75-C76
53	n	101	CDL	CB5-C51-C52-C53
48	V	202	PEE	C20-C21-C22-C23
48	i	401	PEE	C21-C22-C23-C24
49	C	303	PLX	C33-C34-C35-C36
49	J	403	PLX	C10-C11-C12-C13
49	e	201	PLX	C10-C11-C12-C13
49	g	201	PLX	C9-C10-C11-C12
53	V	201	CDL	C52-C53-C54-C55
53	g	202	CDL	C83-C84-C85-C86

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms
53	s	402	CDL	C73-C74-C75-C76
49	a	202	PLX	C9-C10-C11-C12
49	g	201	PLX	C11-C10-C9-C8
53	V	203	CDL	C76-C77-C78-C79
53	g	202	CDL	C43-C44-C45-C46
53	g	202	CDL	C71-C72-C73-C74
53	l	703	CDL	C14-C15-C16-C17
53	l	703	CDL	C51-CB5-OB6-CB4
49	a	202	PLX	C14-C15-C16-C17
49	g	201	PLX	C14-C15-C16-C17
49	g	201	PLX	C25-C26-C27-C28
53	V	204	CDL	C15-C16-C17-C18
48	B	303	PEE	C35-C36-C37-C38
48	U	101	PEE	C22-C23-C24-C25
49	J	403	PLX	C13-C14-C15-C16
49	a	202	PLX	C12-C13-C14-C15
49	a	202	PLX	C27-C28-C29-C30
53	V	201	CDL	C73-C74-C75-C76
53	a	201	CDL	C11-C12-C13-C14
53	a	201	CDL	C32-C33-C34-C35
53	g	202	CDL	C57-C58-C59-C60
53	s	402	CDL	C37-C38-C39-C40
53	s	402	CDL	C52-C53-C54-C55
49	C	303	PLX	C11-C12-C13-C14
49	r	501	PLX	C31-C32-C33-C34
53	a	201	CDL	C54-C55-C56-C57
53	n	101	CDL	C51-C52-C53-C54
48	V	202	PEE	C31-C32-C33-C34
49	J	403	PLX	C28-C29-C30-C31
49	a	202	PLX	C15-C16-C17-C18
49	e	201	PLX	C13-C14-C15-C16
49	g	201	PLX	C32-C33-C34-C35
53	l	702	CDL	C56-C57-C58-C59
53	l	703	CDL	C71-C72-C73-C74
53	n	101	CDL	C75-C76-C77-C78
48	l	701	PEE	C10-C11-C12-C13
48	W	201	PEE	C23-C24-C25-C26
49	J	403	PLX	C19-C20-C21-C22
49	j	201	PLX	C27-C28-C29-C30
49	r	501	PLX	C13-C14-C15-C16
53	a	201	CDL	C52-C53-C54-C55
53	g	202	CDL	C62-C63-C64-C65

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms
53	l	703	CDL	C55-C56-C57-C58
53	V	204	CDL	C14-C15-C16-C17
53	V	204	CDL	C32-C33-C34-C35
48	s	401	PEE	C21-C22-C23-C24
53	a	201	CDL	C17-C18-C19-C20
48	s	401	PEE	O5-C30-O3-C3
48	C	302	PEE	C32-C33-C34-C35
52	X	201	8Q1	C11-C10-C9-C8
53	V	201	CDL	C31-C32-C33-C34
53	a	201	CDL	C23-C24-C25-C26
53	n	101	CDL	C71-C72-C73-C74
53	s	402	CDL	C75-C76-C77-C78
53	V	204	CDL	C52-C53-C54-C55
53	a	201	CDL	CB7-C71-C72-C73
49	g	201	PLX	C17-C18-C19-C20
53	V	201	CDL	C75-C76-C77-C78
53	a	201	CDL	C22-C23-C24-C25
49	J	403	PLX	O9-C24-C25-C26
49	e	201	PLX	O9-C24-C25-C26
49	r	501	PLX	O7-C6-C7-C8
48	i	401	PEE	C12-C13-C14-C15
49	g	201	PLX	C10-C11-C12-C13
49	j	201	PLX	C12-C13-C14-C15
53	V	203	CDL	C59-C60-C61-C62
53	V	204	CDL	C33-C34-C35-C36
53	l	703	CDL	C72-C73-C74-C75
48	V	202	PEE	C19-C20-C21-C22
48	i	401	PEE	C35-C36-C37-C38
48	l	705	PEE	C15-C16-C17-C18
48	B	303	PEE	O5-C30-O3-C3
53	g	202	CDL	CA5-C11-C12-C13
48	B	303	PEE	C34-C35-C36-C37
48	U	101	PEE	C14-C15-C16-C17
49	e	201	PLX	C30-C31-C32-C33
53	l	703	CDL	C62-C63-C64-C65
53	V	201	CDL	OA9-CA7-OA8-CA6
53	I	201	CDL	CA7-C31-C32-C33
53	l	702	CDL	CA2-C1-CB2-OB2
49	a	202	PLX	C31-C32-C33-C34
53	V	201	CDL	C53-C54-C55-C56
53	V	201	CDL	C71-C72-C73-C74
53	a	201	CDL	C21-C22-C23-C24

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms
49	r	501	PLX	C16-C17-C18-C19
53	V	201	CDL	C37-C38-C39-C40
49	g	201	PLX	C2-C1-N1-C1C
48	V	202	PEE	C14-C15-C16-C17
49	J	403	PLX	C11-C10-C9-C8
49	e	201	PLX	C7-C8-C9-C10
49	r	501	PLX	C12-C13-C14-C15
53	V	203	CDL	C36-C37-C38-C39
53	l	702	CDL	C51-C52-C53-C54
53	s	402	CDL	C17-C18-C19-C20
53	V	203	CDL	C31-CA7-OA8-CA6
48	W	201	PEE	C21-C22-C23-C24
53	V	201	CDL	CA7-C31-C32-C33
49	e	201	PLX	C11-C10-C9-C8
53	V	204	CDL	C78-C79-C80-C81
53	g	202	CDL	C60-C61-C62-C63
53	V	203	CDL	C32-C33-C34-C35
53	l	703	CDL	OB7-CB5-OB6-CB4
53	s	402	CDL	OA7-CA5-OA6-CA4
53	n	101	CDL	C55-C56-C57-C58
53	V	203	CDL	C13-C14-C15-C16
53	V	204	CDL	C21-C22-C23-C24
53	V	201	CDL	CB7-C71-C72-C73
49	e	201	PLX	C19-C20-C21-C22
48	U	101	PEE	C31-C32-C33-C34
53	l	703	CDL	C77-C78-C79-C80
48	l	704	PEE	C11-C12-C13-C14
53	V	201	CDL	C56-C57-C58-C59
53	V	203	CDL	C40-C41-C42-C43
53	l	702	CDL	C36-C37-C38-C39
48	B	303	PEE	C11-C10-O2-C2
48	l	701	PEE	C11-C10-O2-C2
53	I	201	CDL	C51-CB5-OB6-CB4
53	V	201	CDL	C51-CB5-OB6-CB4
53	l	703	CDL	C11-CA5-OA6-CA4
53	s	402	CDL	C11-CA5-OA6-CA4
53	V	201	CDL	OB5-CB3-CB4-OB6
53	V	204	CDL	OA5-CA3-CA4-OA6
48	U	101	PEE	C23-C24-C25-C26
53	V	203	CDL	C37-C38-C39-C40
53	V	203	CDL	C54-C55-C56-C57
53	g	202	CDL	C37-C38-C39-C40

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms
53	g	202	CDL	C56-C57-C58-C59
53	V	203	CDL	C42-C43-C44-C45
48	B	303	PEE	O4-C10-O2-C2
48	U	101	PEE	C13-C14-C15-C16
53	l	703	CDL	C21-C22-C23-C24
53	V	204	CDL	OB6-CB4-CB6-OB8
48	l	701	PEE	C33-C34-C35-C36
49	r	501	PLX	C33-C34-C35-C36
53	s	402	CDL	C36-C37-C38-C39
48	W	201	PEE	C19-C20-C21-C22
51	C	305	UQ	C23-C24-C26-C27
51	J	402	UQ	C13-C14-C16-C17
53	V	203	CDL	OA9-CA7-OA8-CA6
54	J	401	NDP	O4D-C4D-C5D-O5D
53	V	201	CDL	C14-C15-C16-C17
53	a	201	CDL	C42-C43-C44-C45
53	l	703	CDL	C61-C62-C63-C64
49	r	501	PLX	C30-C31-C32-C33
53	s	402	CDL	C16-C17-C18-C19
48	U	101	PEE	C40-C41-C42-C43
49	a	202	PLX	C11-C12-C13-C14
53	g	202	CDL	C11-C12-C13-C14
48	l	701	PEE	O4-C10-O2-C2
48	V	202	PEE	C11-C10-O2-C2
48	B	303	PEE	C20-C21-C22-C23
48	U	101	PEE	C11-C12-C13-C14
49	C	303	PLX	C13-C14-C15-C16
53	V	204	CDL	C82-C83-C84-C85
48	B	303	PEE	C38-C39-C40-C41
48	B	303	PEE	C1-O3P-P-O4P
48	W	201	PEE	C4-O4P-P-O3P
48	l	701	PEE	C4-O4P-P-O3P
48	s	401	PEE	C4-O4P-P-O3P
49	J	403	PLX	C2-O1-P1-O4
49	r	501	PLX	C2-O1-P1-O4
53	V	201	CDL	CA3-OA5-PA1-OA2
53	V	201	CDL	CB3-OB5-PB2-OB2
53	V	204	CDL	CA2-OA2-PA1-OA5
53	g	202	CDL	CB3-OB5-PB2-OB2
48	V	202	PEE	C23-C24-C25-C26
49	a	202	PLX	C28-C29-C30-C31
49	a	202	PLX	C34-C35-C36-C37

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms
48	l	704	PEE	O3P-C1-C2-C3
49	J	403	PLX	O4-C3-C4-C5
53	I	201	CDL	OA5-CA3-CA4-CA6
53	I	201	CDL	OB5-CB3-CB4-CB6
53	V	204	CDL	OA5-CA3-CA4-CA6
53	n	101	CDL	OA5-CA3-CA4-CA6
53	s	402	CDL	OA5-CA3-CA4-CA6
53	V	201	CDL	C57-C58-C59-C60
48	V	202	PEE	C40-C41-C42-C43
53	V	201	CDL	C44-C45-C46-C47
49	j	201	PLX	C11-C12-C13-C14
53	V	203	CDL	CB2-C1-CA2-OA2
53	V	204	CDL	CA2-C1-CB2-OB2
53	V	201	CDL	OB7-CB5-OB6-CB4
49	C	303	PLX	C9-C10-C11-C12
53	l	703	CDL	C39-C40-C41-C42
48	U	101	PEE	C34-C35-C36-C37
48	W	201	PEE	C13-C14-C15-C16
48	W	201	PEE	C1-C2-C3-O3
53	V	204	CDL	CB3-CB4-CB6-OB8
53	l	703	CDL	CA3-CA4-CA6-OA8
49	e	201	PLX	C26-C27-C28-C29
53	V	204	CDL	C13-C14-C15-C16
48	C	302	PEE	C13-C14-C15-C16
53	a	201	CDL	C44-C45-C46-C47
49	e	201	PLX	C12-C13-C14-C15
53	g	202	CDL	C32-C33-C34-C35
49	j	201	PLX	O6-C6-C7-C8
49	r	501	PLX	O6-C6-C7-C8
53	a	201	CDL	C53-C54-C55-C56
48	V	202	PEE	C36-C37-C38-C39
53	l	703	CDL	C41-C42-C43-C44
53	n	101	CDL	C74-C75-C76-C77
48	C	302	PEE	C15-C16-C17-C18
48	W	201	PEE	C15-C16-C17-C18
48	l	704	PEE	C15-C16-C17-C18
53	l	703	CDL	C35-C36-C37-C38
53	g	202	CDL	C84-C85-C86-C87
52	G	201	8Q1	O27-C28-C29-C30
52	G	201	8Q1	O27-C28-C29-C31
48	l	704	PEE	C10-C11-C12-C13
48	C	302	PEE	C31-C30-O3-C3

*Continued on next page...*



*Continued from previous page...*

Mol	Chain	Res	Type	Atoms
48	l	704	PEE	C31-C30-O3-C3
53	a	201	CDL	C14-C15-C16-C17
53	g	202	CDL	C59-C60-C61-C62
53	g	202	CDL	C64-C65-C66-C67
53	g	202	CDL	C14-C15-C16-C17
53	n	101	CDL	C72-C73-C74-C75
49	C	303	PLX	C35-C36-C37-C38
53	g	202	CDL	C13-C14-C15-C16
53	s	402	CDL	C54-C55-C56-C57
53	a	201	CDL	C71-CB7-OB8-CB6
49	e	201	PLX	C16-C17-C18-C19
49	e	201	PLX	C27-C28-C29-C30
53	g	202	CDL	C17-C18-C19-C20
53	g	202	CDL	C63-C64-C65-C66
48	C	302	PEE	C39-C40-C41-C42
48	V	202	PEE	C41-C42-C43-C44
53	g	202	CDL	C72-C71-CB7-OB8
49	r	501	PLX	O6-C4-C5-O8
48	l	704	PEE	C42-C43-C44-C45
48	s	401	PEE	C13-C14-C15-C16
49	e	201	PLX	C36-C37-C38-C39
53	V	204	CDL	C34-C35-C36-C37
48	V	202	PEE	C12-C13-C14-C15
48	W	201	PEE	C22-C23-C24-C25
49	g	201	PLX	C7-C8-C9-C10
53	V	203	CDL	C64-C65-C66-C67
53	a	201	CDL	CA5-C11-C12-C13
48	C	302	PEE	C11-C12-C13-C14
48	V	202	PEE	C13-C14-C15-C16
49	J	403	PLX	C30-C31-C32-C33
49	r	501	PLX	C25-C26-C27-C28
53	V	204	CDL	C84-C85-C86-C87
48	W	201	PEE	C24-C25-C26-C27
53	V	204	CDL	C55-C56-C57-C58
48	U	101	PEE	C11-C10-O2-C2
53	l	702	CDL	C11-CA5-OA6-CA4
48	W	201	PEE	C12-C13-C14-C15
49	J	403	PLX	C14-C15-C16-C17
53	l	703	CDL	C40-C41-C42-C43
48	W	201	PEE	C17-C18-C19-C20
53	V	201	CDL	C64-C65-C66-C67
53	V	201	CDL	OB5-CB3-CB4-CB6

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms
53	l	703	CDL	OB5-CB3-CB4-CB6
53	g	202	CDL	C77-C78-C79-C80
53	a	201	CDL	C82-C83-C84-C85
48	V	202	PEE	O4-C10-O2-C2
53	I	201	CDL	OB7-CB5-OB6-CB4
53	l	703	CDL	OA7-CA5-OA6-CA4
49	g	201	PLX	C12-C13-C14-C15
49	r	501	PLX	C14-C15-C16-C17
49	C	303	PLX	C7-C8-C9-C10
49	a	202	PLX	C29-C30-C31-C32
49	e	201	PLX	C33-C34-C35-C36
53	n	101	CDL	C53-C54-C55-C56
48	l	705	PEE	C18-C19-C20-C21
53	V	203	CDL	C74-C75-C76-C77
49	e	201	PLX	C28-C29-C30-C31
48	l	704	PEE	C1-C2-C3-O3
48	l	705	PEE	C1-C2-C3-O3
48	s	401	PEE	C1-C2-C3-O3
49	J	403	PLX	C3-C4-C5-O8
49	a	202	PLX	C3-C4-C5-O8
49	e	201	PLX	C3-C4-C5-O8
53	V	203	CDL	CB3-CB4-CB6-OB8
53	s	402	CDL	CB3-CB4-CB6-OB8
48	C	302	PEE	C42-C43-C44-C45
48	U	101	PEE	C12-C13-C14-C15
53	g	202	CDL	C52-C53-C54-C55
48	i	401	PEE	C24-C25-C26-C27
49	C	303	PLX	C11-C10-C9-C8
53	V	201	CDL	C74-C75-C76-C77
48	V	202	PEE	C11-C12-C13-C14
48	B	303	PEE	C14-C15-C16-C17
49	g	201	PLX	C13-C14-C15-C16
48	B	303	PEE	C40-C41-C42-C43
49	j	201	PLX	C30-C31-C32-C33
52	X	201	8Q1	C10-C11-C12-C13
53	I	201	CDL	C11-C12-C13-C14
48	V	202	PEE	C1-O3P-P-O4P
49	e	201	PLX	C5-C4-O6-C6
53	I	201	CDL	CB2-OB2-PB2-OB5
53	V	203	CDL	CA2-OA2-PA1-OA5
48	B	303	PEE	C10-C11-C12-C13
48	C	302	PEE	O5-C30-O3-C3

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms
53	a	201	CDL	OB9-CB7-OB8-CB6
53	V	204	CDL	C17-C18-C19-C20
53	V	203	CDL	OA5-CA3-CA4-OA6
48	l	704	PEE	O5-C30-O3-C3
48	l	704	PEE	C32-C33-C34-C35
53	g	202	CDL	C44-C45-C46-C47
48	s	401	PEE	C11-C12-C13-C14
48	W	201	PEE	O2-C2-C3-O3
53	s	402	CDL	OB6-CB4-CB6-OB8
49	a	202	PLX	C13-C14-C15-C16
51	J	402	UQ	C14-C16-C17-C18
53	I	201	CDL	CB2-C1-CA2-OA2
48	U	101	PEE	O4-C10-O2-C2
48	C	302	PEE	C20-C21-C22-C23
53	V	201	CDL	C54-C55-C56-C57
53	V	203	CDL	C60-C61-C62-C63
49	a	202	PLX	C16-C17-C18-C19
49	e	201	PLX	C11-C12-C13-C14
53	g	202	CDL	C16-C17-C18-C19
53	V	201	CDL	CA4-CA3-OA5-PA1
53	V	203	CDL	C24-C25-C26-C27
48	l	704	PEE	C24-C25-C26-C27
48	l	704	PEE	C33-C34-C35-C36
53	l	702	CDL	OA7-CA5-OA6-CA4
48	l	701	PEE	C18-C19-C20-C21
49	r	501	PLX	O8-C24-C25-C26
53	V	204	CDL	C20-C21-C22-C23
53	V	203	CDL	OB5-CB3-CB4-CB6
53	s	402	CDL	C11-C12-C13-C14
48	U	101	PEE	C38-C39-C40-C41
48	i	401	PEE	C18-C19-C20-C21
49	r	501	PLX	C18-C19-C20-C21
53	V	203	CDL	C53-C54-C55-C56
49	j	201	PLX	C31-C32-C33-C34
53	V	204	CDL	C81-C82-C83-C84
46	A	502	FMN	C5'-O5'-P-O3P
49	C	303	PLX	C31-C32-C33-C34
49	J	403	PLX	C35-C36-C37-C38
49	a	202	PLX	C35-C36-C37-C38
48	C	302	PEE	C34-C35-C36-C37
53	V	201	CDL	CA6-CA4-OA6-CA5
53	V	204	CDL	CA6-CA4-OA6-CA5

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms
48	l	704	PEE	C19-C20-C21-C22
49	C	303	PLX	C3-C4-C5-O8
49	j	201	PLX	C7-C6-O6-C4
53	V	201	CDL	CA3-CA4-CA6-OA8
53	g	202	CDL	C1-CB2-OB2-PB2
49	J	403	PLX	C29-C30-C31-C32
53	g	202	CDL	C39-C40-C41-C42
53	V	204	CDL	C31-C32-C33-C34
49	e	201	PLX	C24-C25-C26-C27
53	g	202	CDL	C35-C36-C37-C38
48	V	202	PEE	C21-C22-C23-C24
48	l	704	PEE	O2-C2-C3-O3
48	l	705	PEE	O2-C2-C3-O3
48	s	401	PEE	O2-C2-C3-O3
49	J	403	PLX	O6-C4-C5-O8
49	j	201	PLX	O6-C4-C5-O8
53	l	703	CDL	OB6-CB4-CB6-OB8
49	e	201	PLX	C29-C30-C31-C32
48	C	302	PEE	C44-C45-C46-C47
53	s	402	CDL	C55-C56-C57-C58
48	C	302	PEE	C35-C36-C37-C38
48	U	101	PEE	C19-C20-C21-C22
48	s	401	PEE	C23-C24-C25-C26
48	s	401	PEE	C24-C25-C26-C27
53	V	201	CDL	C51-C52-C53-C54
53	a	201	CDL	C64-C65-C66-C67
53	a	201	CDL	C31-C32-C33-C34
53	l	703	CDL	C51-C52-C53-C54
48	C	302	PEE	C37-C38-C39-C40
48	V	202	PEE	C33-C34-C35-C36
49	e	201	PLX	C31-C32-C33-C34
53	g	202	CDL	C15-C16-C17-C18
48	i	401	PEE	C1-O3P-P-O4P
53	l	702	CDL	CA2-OA2-PA1-OA5
53	l	702	CDL	CA3-OA5-PA1-OA2
53	l	703	CDL	CA2-OA2-PA1-OA5
54	J	401	NDP	O4D-C1D-N1N-C6N
49	a	202	PLX	C30-C31-C32-C33
53	V	201	CDL	C32-C33-C34-C35
53	l	702	CDL	C35-C36-C37-C38
53	V	203	CDL	C1-CB2-OB2-PB2
53	l	702	CDL	CA4-CA3-OA5-PA1

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms
48	B	303	PEE	C41-C42-C43-C44
53	V	203	CDL	C83-C84-C85-C86
48	C	302	PEE	C1-O3P-P-O2P
48	C	302	PEE	C4-O4P-P-O2P
48	U	101	PEE	C4-O4P-P-O2P
48	W	201	PEE	C4-O4P-P-O2P
48	W	201	PEE	C4-O4P-P-O1P
48	i	401	PEE	C1-O3P-P-O2P
48	i	401	PEE	C1-O3P-P-O1P
48	l	704	PEE	C4-O4P-P-O2P
48	s	401	PEE	C1-O3P-P-O2P
48	s	401	PEE	C4-O4P-P-O1P
49	C	303	PLX	C2-O1-P1-O3
49	J	403	PLX	C2-O1-P1-O3
49	e	201	PLX	C3-O4-P1-O2
49	e	201	PLX	C3-O4-P1-O3
49	r	501	PLX	C3-O4-P1-O2
49	r	501	PLX	C3-O4-P1-O3
49	r	501	PLX	C2-O1-P1-O3
50	C	304	UQ1	C6-C7-C8-C9
53	I	201	CDL	CA2-OA2-PA1-OA4
53	I	201	CDL	CB2-OB2-PB2-OB4
53	V	201	CDL	CA3-OA5-PA1-OA3
53	V	201	CDL	CB3-OB5-PB2-OB4
53	V	203	CDL	CA3-OA5-PA1-OA3
53	V	203	CDL	CA3-OA5-PA1-OA4
53	g	202	CDL	CA2-OA2-PA1-OA4
53	g	202	CDL	CB2-OB2-PB2-OB3
53	g	202	CDL	CB2-OB2-PB2-OB4
53	g	202	CDL	CB3-OB5-PB2-OB4
53	l	702	CDL	CA3-OA5-PA1-OA4
58	w	401	ADP	C5'-O5'-PA-O1A
53	I	201	CDL	C51-C52-C53-C54
53	V	201	CDL	OA5-CA3-CA4-CA6
53	V	203	CDL	OA5-CA3-CA4-CA6
53	V	203	CDL	C35-C36-C37-C38
53	l	702	CDL	C54-C55-C56-C57
53	l	703	CDL	C82-C83-C84-C85
49	C	303	PLX	C25-C24-O8-C5
49	J	403	PLX	C25-C24-O8-C5
49	a	202	PLX	C25-C24-O8-C5
53	V	203	CDL	CA7-C31-C32-C33

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms
53	l	703	CDL	C32-C31-CA7-OA8
49	e	201	PLX	C15-C16-C17-C18
53	s	402	CDL	CB2-C1-CA2-OA2
49	J	403	PLX	C12-C13-C14-C15
52	X	201	8Q1	C13-C14-C15-C16
49	J	403	PLX	O4-C3-C4-O6
53	I	201	CDL	OB5-CB3-CB4-OB6
53	l	703	CDL	OB5-CB3-CB4-OB6
53	n	101	CDL	OA5-CA3-CA4-OA6
53	V	201	CDL	C19-C20-C21-C22
49	g	201	PLX	C33-C34-C35-C36
53	l	702	CDL	CA5-C11-C12-C13
48	C	302	PEE	C1-C2-C3-O3
49	C	303	PLX	N1-C1-C2-O1
49	J	403	PLX	N1-C1-C2-O1
49	j	201	PLX	C3-C4-C5-O8
49	r	501	PLX	C3-C4-C5-O8
53	l	703	CDL	C18-C19-C20-C21
48	C	302	PEE	O2-C2-C3-O3
49	a	202	PLX	O6-C4-C5-O8
49	e	201	PLX	O6-C4-C5-O8
53	V	201	CDL	OA6-CA4-CA6-OA8
48	l	705	PEE	C23-C24-C25-C26
48	l	705	PEE	C2-C1-O3P-P
53	V	201	CDL	C43-C44-C45-C46
53	V	203	CDL	C31-C32-C33-C34
53	a	201	CDL	C72-C73-C74-C75
53	l	702	CDL	C34-C35-C36-C37
53	l	702	CDL	C82-C83-C84-C85
53	l	703	CDL	C12-C13-C14-C15
53	V	201	CDL	C58-C59-C60-C61
53	a	201	CDL	C71-C72-C73-C74
48	C	302	PEE	C12-C13-C14-C15
53	V	204	CDL	C72-C73-C74-C75
48	B	303	PEE	C13-C14-C15-C16
48	l	704	PEE	C3-C2-O2-C10
53	s	402	CDL	CA3-CA4-OA6-CA5
53	l	702	CDL	C53-C54-C55-C56
48	l	705	PEE	C11-C12-C13-C14
53	V	204	CDL	C39-C40-C41-C42
53	V	204	CDL	CA4-CA3-OA5-PA1
52	X	201	8Q1	C7-C8-C9-C10

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms
48	l	704	PEE	C40-C41-C42-C43
49	g	201	PLX	C36-C37-C38-C39
53	s	402	CDL	C15-C16-C17-C18
48	l	705	PEE	C38-C39-C40-C41
48	C	302	PEE	C1-O3P-P-O4P
48	U	101	PEE	C1-O3P-P-O4P
48	l	705	PEE	C4-O4P-P-O3P
49	C	303	PLX	C3-O4-P1-O1
53	V	201	CDL	CA2-OA2-PA1-OA5
53	n	101	CDL	CA2-OA2-PA1-OA5
53	s	402	CDL	CB3-OB5-PB2-OB2
47	A	503	NAI	C2D-C1D-N1N-C2N
48	B	303	PEE	C44-C45-C46-C47
53	s	402	CDL	C12-C13-C14-C15
48	U	101	PEE	C21-C22-C23-C24
48	V	202	PEE	C24-C25-C26-C27
48	l	701	PEE	C31-C32-C33-C34
48	C	302	PEE	C41-C42-C43-C44
53	a	201	CDL	C41-C42-C43-C44
53	l	703	CDL	C15-C16-C17-C18
49	J	403	PLX	C24-C25-C26-C27
47	A	503	NAI	O4D-C1D-N1N-C2N
53	V	201	CDL	C35-C36-C37-C38
53	l	703	CDL	CB7-C71-C72-C73
53	s	402	CDL	C71-CB7-OB8-CB6
48	U	101	PEE	C41-C42-C43-C44
53	I	201	CDL	C71-C72-C73-C74
53	a	201	CDL	C57-C58-C59-C60
53	s	402	CDL	OB9-CB7-OB8-CB6
53	V	204	CDL	C42-C43-C44-C45
48	B	303	PEE	C15-C16-C17-C18
49	J	403	PLX	C17-C18-C19-C20
53	l	702	CDL	C39-C40-C41-C42
53	l	703	CDL	C64-C65-C66-C67
54	J	401	NDP	C3D-C4D-C5D-O5D
48	B	303	PEE	O3P-C1-C2-O2
53	V	201	CDL	OA5-CA3-CA4-OA6
53	l	702	CDL	OA5-CA3-CA4-OA6
49	g	201	PLX	C18-C19-C20-C21
53	V	203	CDL	C61-C62-C63-C64
49	j	201	PLX	C28-C29-C30-C31
48	V	202	PEE	C15-C16-C17-C18

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms
48	V	202	PEE	C38-C39-C40-C41
53	V	201	CDL	C33-C34-C35-C36
53	l	702	CDL	C16-C17-C18-C19
48	B	303	PEE	O2-C2-C3-O3
49	a	202	PLX	O8-C24-C25-C26
49	g	201	PLX	O6-C6-C7-C8
49	g	201	PLX	O8-C24-C25-C26
53	l	702	CDL	C55-C56-C57-C58
49	r	501	PLX	C4-C3-O4-P1
53	a	201	CDL	C58-C59-C60-C61
49	g	201	PLX	C30-C31-C32-C33
49	r	501	PLX	C34-C35-C36-C37
49	g	201	PLX	C20-C21-C22-C23
53	a	201	CDL	C33-C34-C35-C36
53	l	702	CDL	C21-C22-C23-C24
53	l	702	CDL	C63-C64-C65-C66
49	C	303	PLX	C19-C20-C21-C22
49	C	303	PLX	C16-C17-C18-C19
48	l	701	PEE	C35-C36-C37-C38
48	l	704	PEE	C20-C21-C22-C23
53	s	402	CDL	CA6-CA4-OA6-CA5
53	a	201	CDL	C20-C21-C22-C23
53	g	202	CDL	C73-C74-C75-C76
48	i	401	PEE	C16-C17-C18-C19
48	i	401	PEE	C38-C39-C40-C41
48	l	704	PEE	C38-C39-C40-C41
49	C	303	PLX	C5-C4-O6-C6
53	V	201	CDL	C80-C81-C82-C83
49	g	201	PLX	O9-C24-C25-C26
53	n	101	CDL	CA5-C11-C12-C13
48	W	201	PEE	C20-C21-C22-C23
49	j	201	PLX	C15-C16-C17-C18
53	s	402	CDL	C78-C79-C80-C81
48	C	302	PEE	C19-C20-C21-C22
48	l	701	PEE	C38-C39-C40-C41
53	a	201	CDL	C24-C25-C26-C27
53	l	703	CDL	C36-C37-C38-C39
53	s	402	CDL	C84-C85-C86-C87
49	J	403	PLX	C26-C27-C28-C29
49	e	201	PLX	C35-C36-C37-C38
53	V	203	CDL	C33-C34-C35-C36
53	l	702	CDL	C75-C76-C77-C78

*Continued on next page...*



*Continued from previous page...*

Mol	Chain	Res	Type	Atoms
53	l	703	CDL	C56-C57-C58-C59
53	l	702	CDL	C76-C77-C78-C79
53	V	203	CDL	C43-C44-C45-C46
53	V	203	CDL	C77-C78-C79-C80
53	n	101	CDL	C1-CB2-OB2-PB2
53	a	201	CDL	C43-C44-C45-C46
53	l	703	CDL	CB3-CB4-CB6-OB8
53	g	202	CDL	C72-C71-CB7-OB9
53	l	702	CDL	C18-C19-C20-C21
49	e	201	PLX	C2-C1-N1-C1C
53	a	201	CDL	OB5-CB3-CB4-CB6
51	C	305	UQ	C12-C11-C9-C10
53	g	202	CDL	OA6-CA4-CA6-OA8
53	n	101	CDL	OA6-CA4-CA6-OA8
53	a	201	CDL	C32-C31-CA7-OA8
53	V	203	CDL	C72-C73-C74-C75
54	J	401	NDP	C2B-O2B-P2B-O1X
48	l	704	PEE	C30-C31-C32-C33
53	V	203	CDL	C52-C51-CB5-OB6
53	a	201	CDL	C12-C11-CA5-OA6
53	g	202	CDL	C55-C56-C57-C58
49	e	201	PLX	C2-C1-N1-C1B
49	j	201	PLX	C24-C25-C26-C27
53	I	201	CDL	C72-C71-CB7-OB8
53	g	202	CDL	OB9-CB7-OB8-CB6
51	J	402	UQ	C1-C6-C7-C8
53	l	702	CDL	C37-C38-C39-C40
48	C	302	PEE	C18-C19-C20-C21
48	V	202	PEE	C16-C17-C18-C19
48	W	201	PEE	C16-C17-C18-C19
48	s	401	PEE	C18-C19-C20-C21
48	l	704	PEE	C13-C14-C15-C16
53	I	201	CDL	C52-C53-C54-C55
53	g	202	CDL	C58-C59-C60-C61
53	n	101	CDL	C52-C51-CB5-OB6
53	V	204	CDL	C58-C59-C60-C61
48	s	401	PEE	C15-C16-C17-C18
49	r	501	PLX	C35-C36-C37-C38
53	l	703	CDL	C57-C58-C59-C60
53	l	703	CDL	C79-C80-C81-C82
53	a	201	CDL	OB5-CB3-CB4-OB6
49	e	201	PLX	C2-C1-N1-C1A

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	Atoms
53	l	702	CDL	C72-C71-CB7-OB8
53	l	703	CDL	C72-C71-CB7-OB8
49	a	202	PLX	C10-C11-C12-C13
48	l	701	PEE	C36-C37-C38-C39
48	l	704	PEE	C16-C17-C18-C19
53	a	201	CDL	C81-C82-C83-C84
53	a	201	CDL	C38-C39-C40-C41
53	g	202	CDL	C71-CB7-OB8-CB6
53	l	703	CDL	C31-C32-C33-C34
48	B	303	PEE	O3P-C1-C2-C3
53	V	203	CDL	C55-C56-C57-C58
53	l	703	CDL	C78-C79-C80-C81
53	V	204	CDL	OA7-CA5-OA6-CA4
48	C	302	PEE	O3-C30-C31-C32
53	s	402	CDL	C72-C71-CB7-OB8
49	C	303	PLX	O9-C24-C25-C26
49	g	201	PLX	O7-C6-C7-C8
54	J	401	NDP	C2B-O2B-P2B-O2X
54	J	401	NDP	C2B-O2B-P2B-O3X
49	j	201	PLX	C29-C30-C31-C32
53	l	703	CDL	CA5-C11-C12-C13
48	s	401	PEE	O3-C30-C31-C32
53	V	201	CDL	C12-C13-C14-C15
53	a	201	CDL	C36-C37-C38-C39
48	l	701	PEE	C16-C17-C18-C19
48	s	401	PEE	C16-C17-C18-C19
48	s	401	PEE	C22-C23-C24-C25
53	l	703	CDL	C43-C44-C45-C46
47	A	503	NAI	C2D-C1D-N1N-C6N
54	J	401	NDP	O4B-C4B-C5B-O5B
48	l	704	PEE	C43-C44-C45-C46
53	V	203	CDL	C52-C51-CB5-OB7
53	a	201	CDL	C32-C31-CA7-OA9
58	w	401	ADP	PB-O3A-PA-O2A
53	l	703	CDL	C38-C39-C40-C41
49	a	202	PLX	O6-C6-C7-C8
48	i	401	PEE	C22-C23-C24-C25
53	a	201	CDL	C12-C11-CA5-OA7
53	l	703	CDL	C76-C77-C78-C79
53	s	402	CDL	C56-C57-C58-C59
48	l	704	PEE	C36-C37-C38-C39
53	I	201	CDL	C72-C71-CB7-OB9

*Continued on next page...*

*Continued from previous page...*

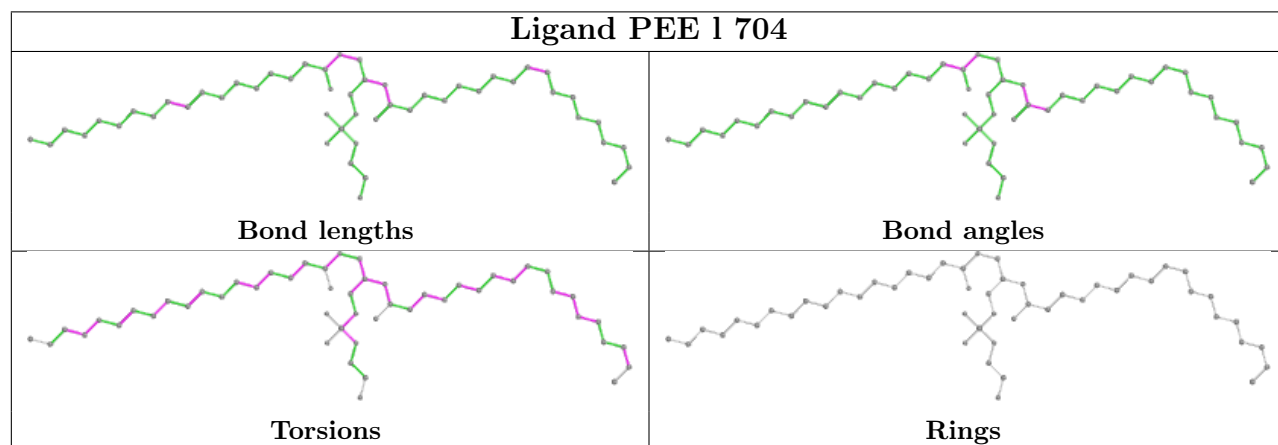
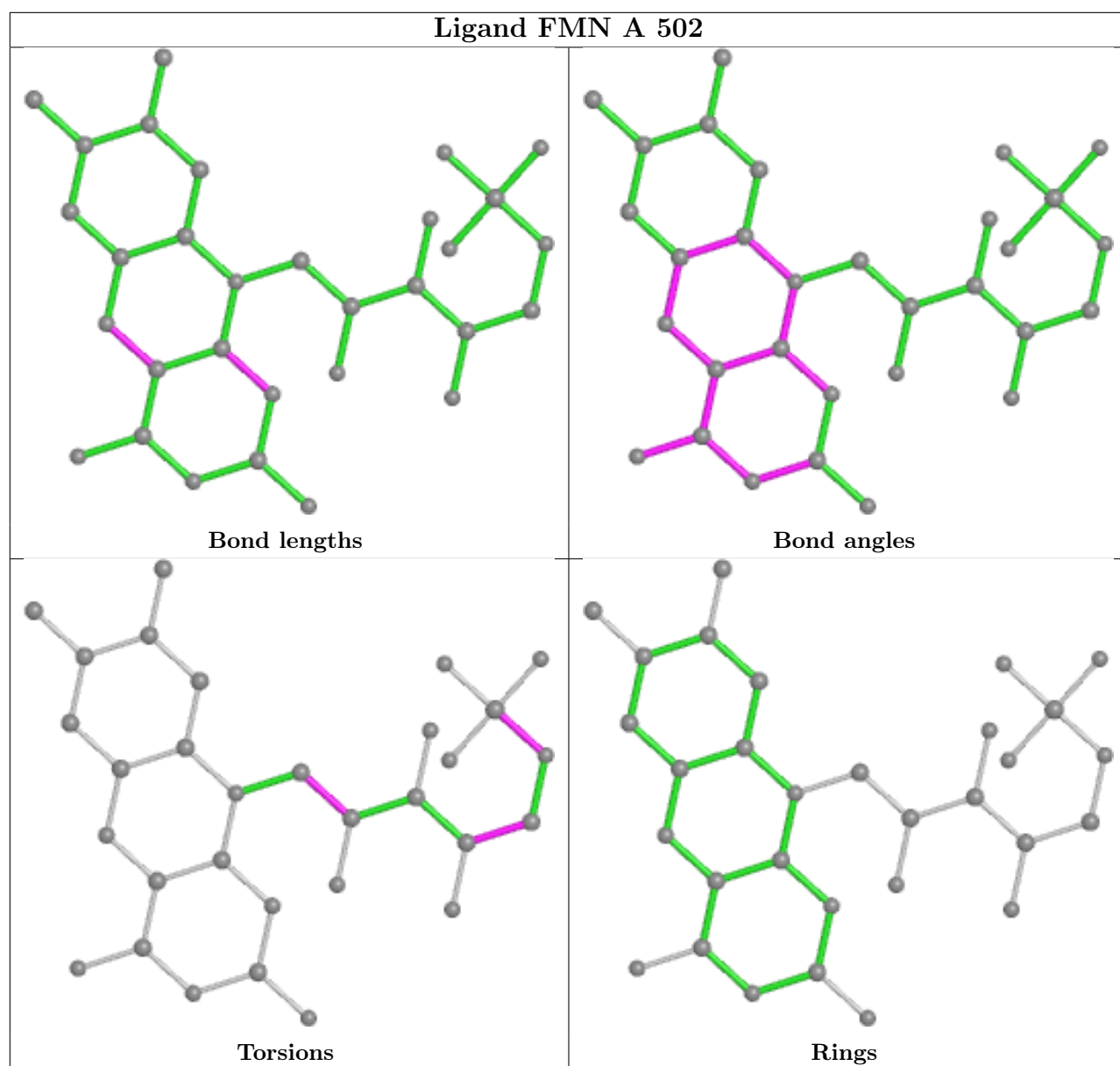
Mol	Chain	Res	Type	Atoms
48	l	701	PEE	C11-C12-C13-C14
53	V	201	CDL	C32-C31-CA7-OA8
53	V	201	CDL	C22-C23-C24-C25
53	a	201	CDL	C40-C41-C42-C43
48	l	701	PEE	C1-O3P-P-O2P
48	l	704	PEE	C1-O3P-P-O1P
49	j	201	PLX	C3-O4-P1-O3
53	n	101	CDL	CA3-OA5-PA1-OA3
53	s	402	CDL	CA2-OA2-PA1-OA3
53	s	402	CDL	CB2-OB2-PB2-OB3
58	w	401	ADP	O4'-C4'-C5'-O5'
48	C	302	PEE	O5-C30-C31-C32
53	l	703	CDL	C72-C71-CB7-OB9
48	s	401	PEE	C10-C11-C12-C13
53	I	201	CDL	C52-C51-CB5-OB6
53	g	202	CDL	C52-C51-CB5-OB6
53	s	402	CDL	C34-C35-C36-C37
53	n	101	CDL	C52-C51-CB5-OB7
49	j	201	PLX	C25-C24-O8-C5
53	l	702	CDL	CA6-CA4-OA6-CA5
53	l	702	CDL	C72-C71-CB7-OB9
53	n	101	CDL	C12-C11-CA5-OA6
53	V	203	CDL	C63-C64-C65-C66
48	W	201	PEE	C18-C19-C20-C21
48	B	303	PEE	O3-C30-C31-C32
53	l	703	CDL	OA5-CA3-CA4-OA6
53	V	203	CDL	C32-C31-CA7-OA8
53	V	204	CDL	C44-C45-C46-C47
53	l	703	CDL	C11-C12-C13-C14
48	B	303	PEE	O5-C30-C31-C32
48	V	202	PEE	C32-C33-C34-C35
48	U	101	PEE	O3-C30-C31-C32
53	g	202	CDL	C52-C51-CB5-OB7
49	g	201	PLX	C15-C16-C17-C18
53	I	201	CDL	C52-C51-CB5-OB7
53	n	101	CDL	C12-C11-CA5-OA7
48	U	101	PEE	O2-C10-C11-C12

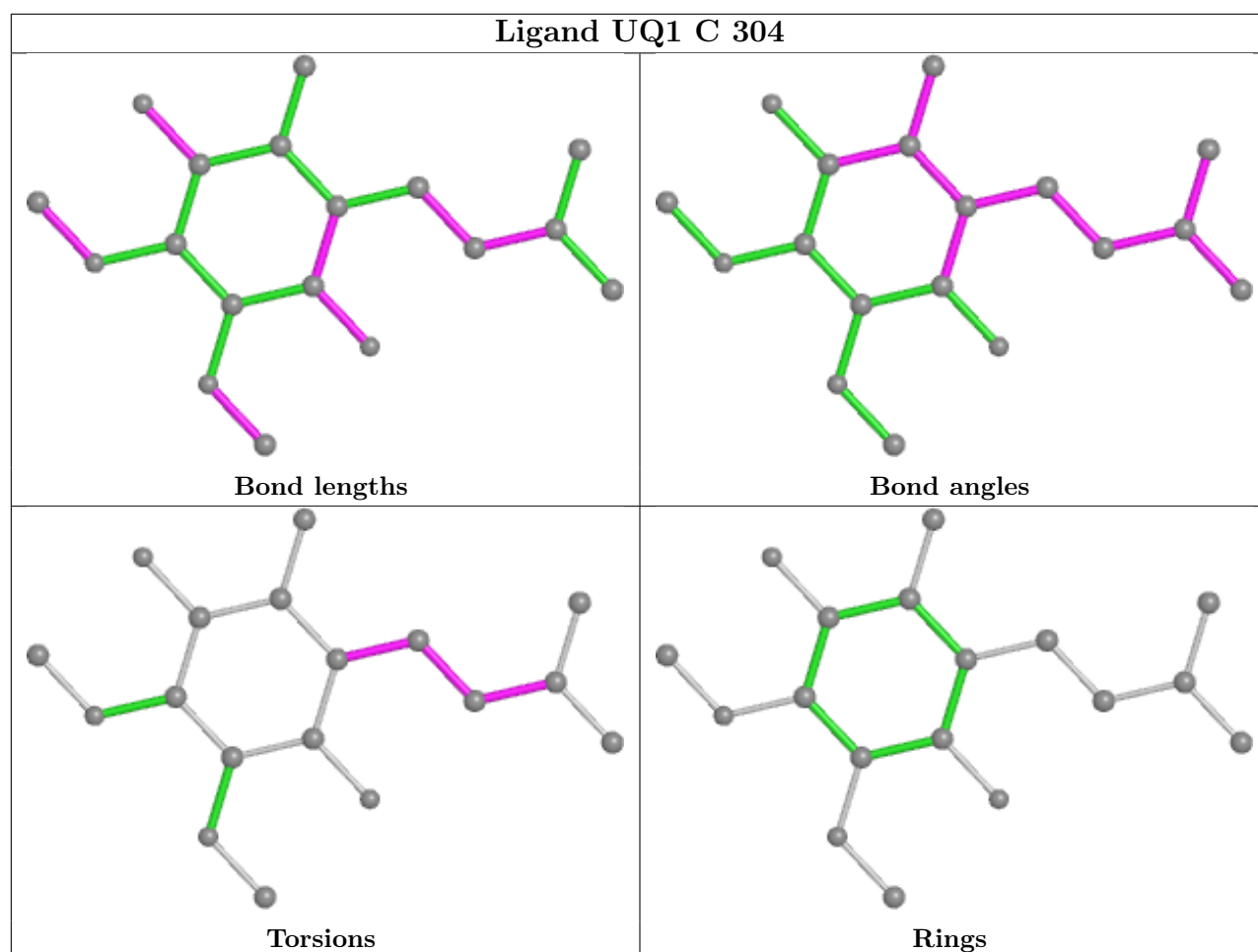
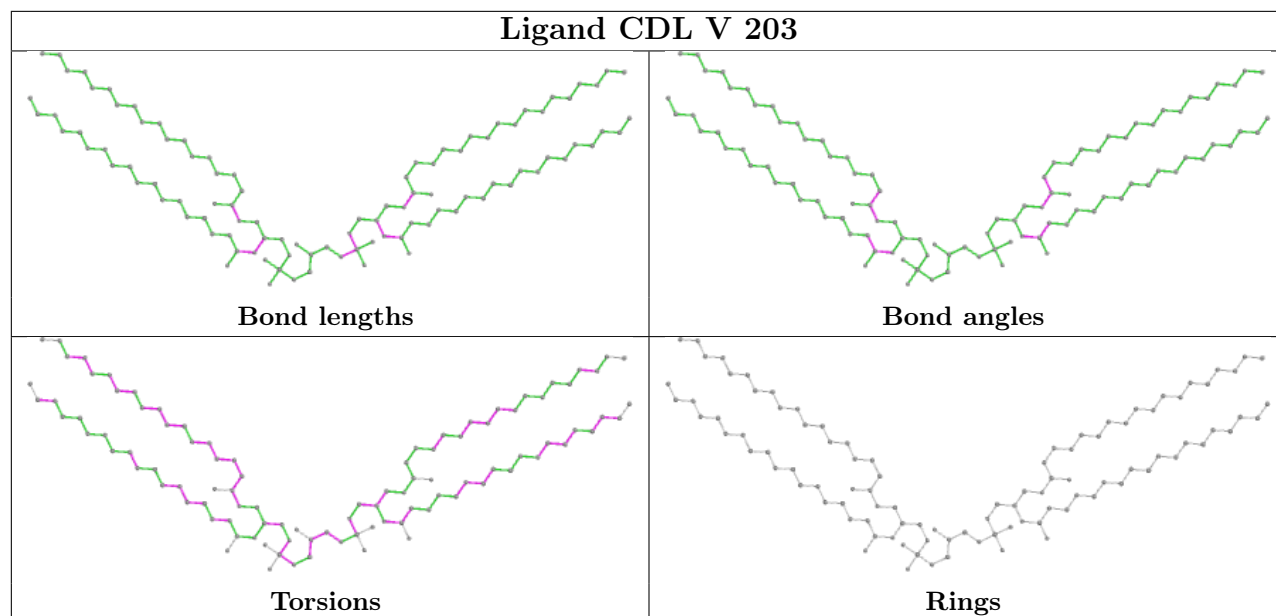
There are no ring outliers.

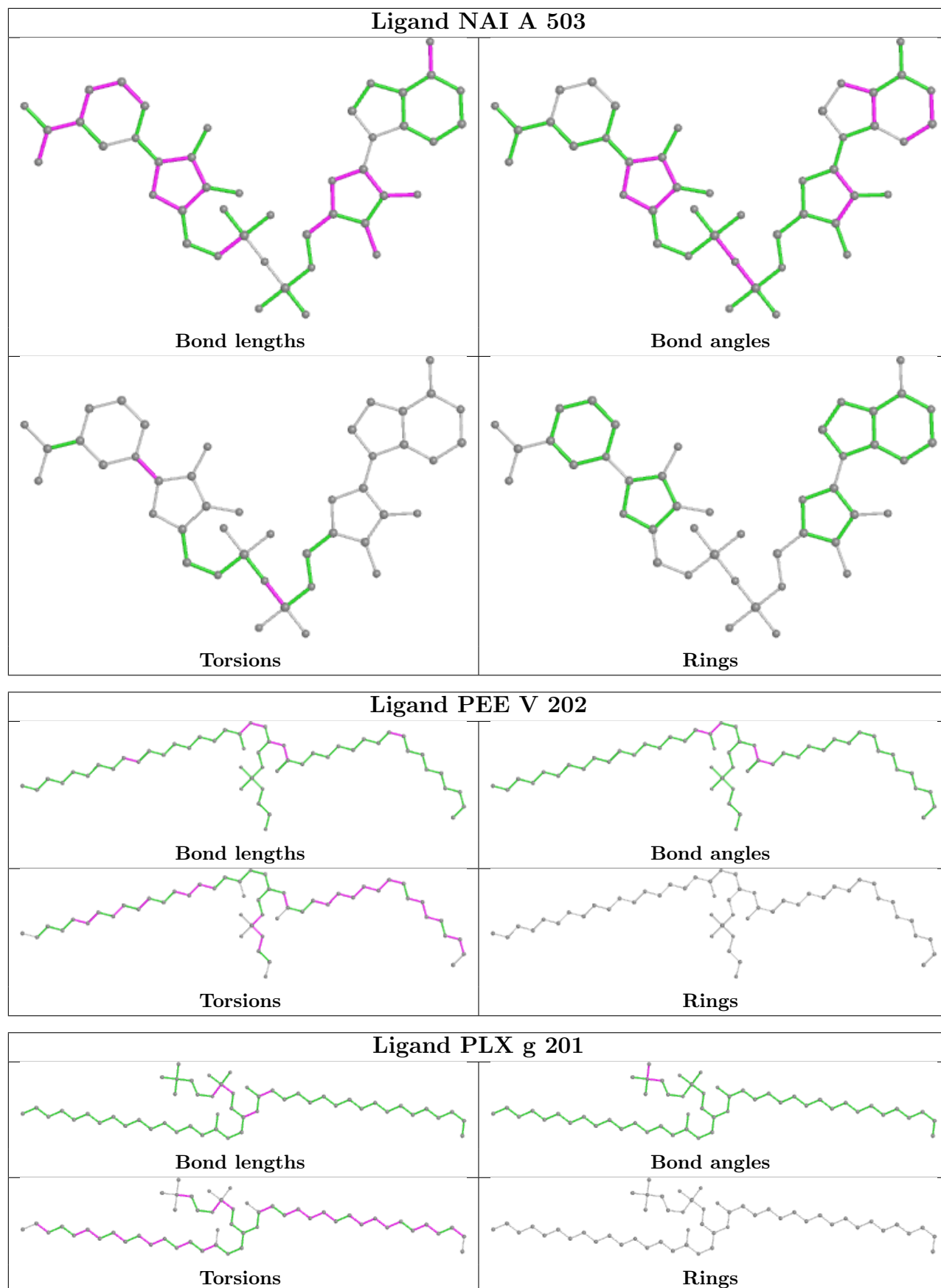
20 monomers are involved in 58 short contacts:

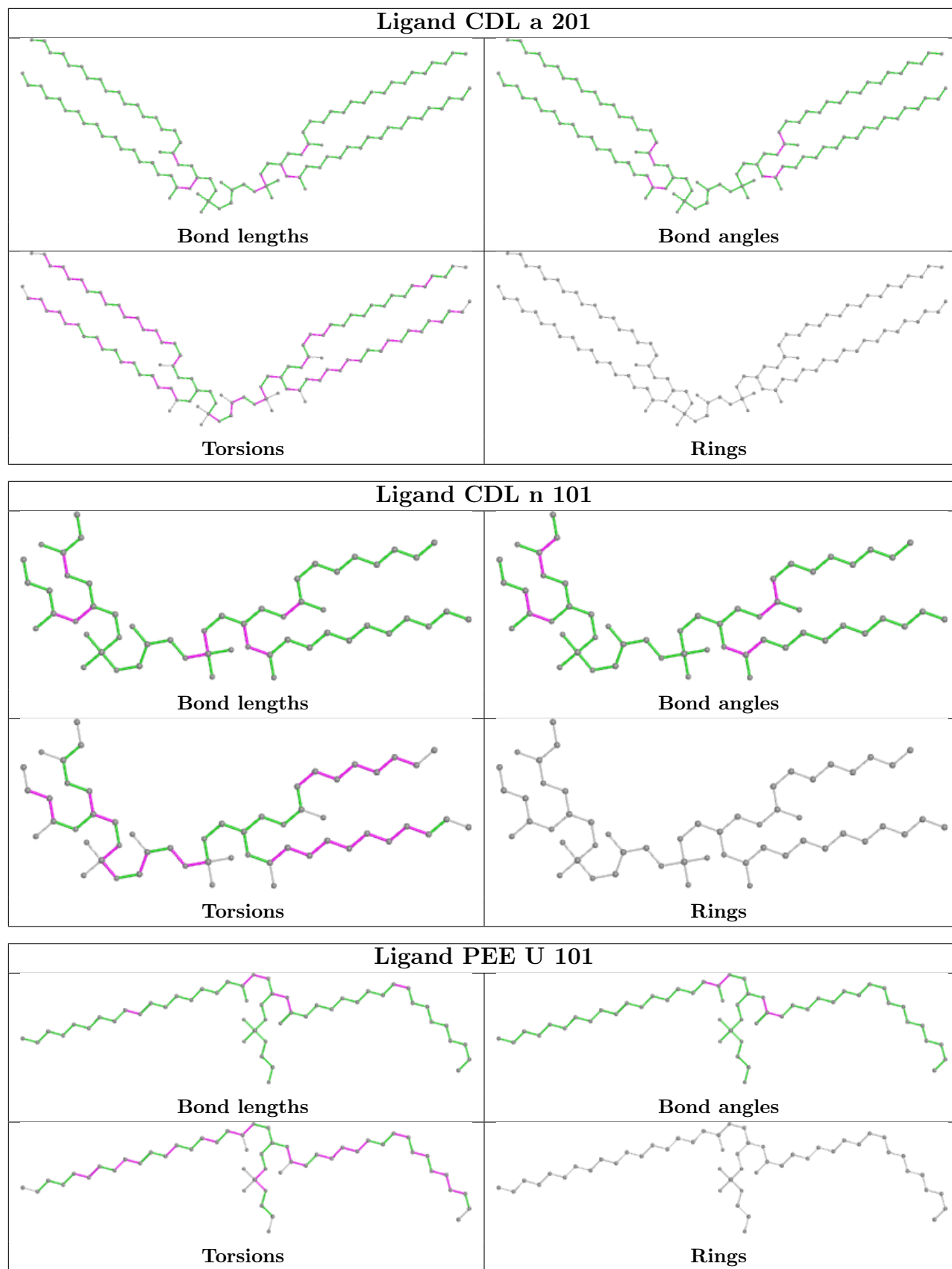
Mol	Chain	Res	Type	Clashes	Symm-Clashes
46	A	502	FMN	3	0
53	V	203	CDL	2	0
50	C	304	UQ1	3	0
47	A	503	NAI	5	0
48	V	202	PEE	3	0
48	U	101	PEE	3	0
45	C	301	SF4	1	0
54	J	401	NDP	1	0
52	G	201	8Q1	11	0
51	C	305	UQ	5	0
48	B	303	PEE	3	0
48	W	201	PEE	1	0
51	J	402	UQ	1	0
53	V	201	CDL	5	0
49	C	303	PLX	2	0
45	A	501	SF4	2	0
53	V	204	CDL	4	0
49	J	403	PLX	2	0
48	C	302	PEE	2	0
50	Q	501	UQ1	1	0

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

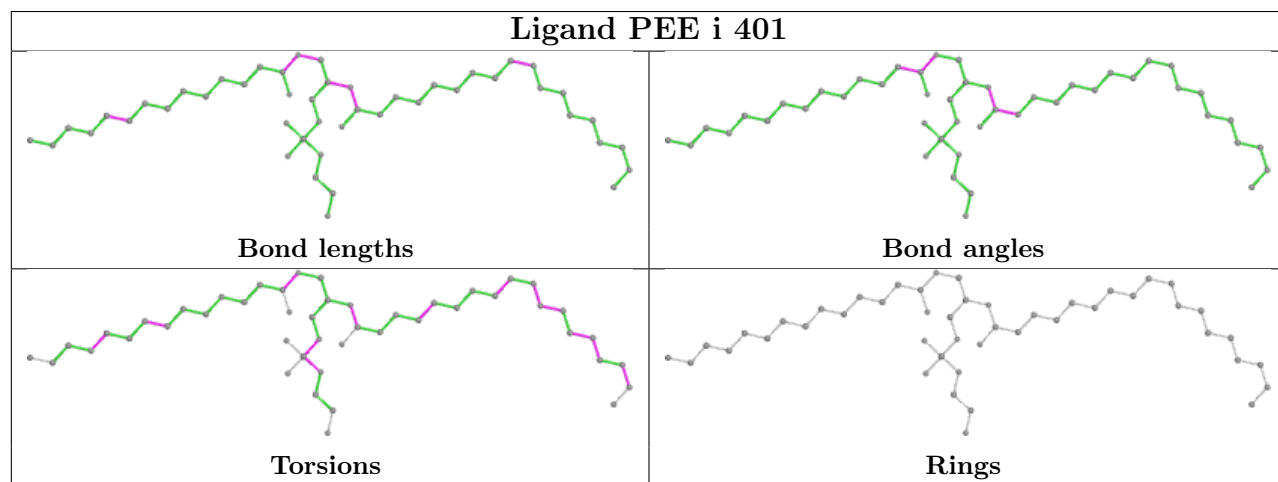
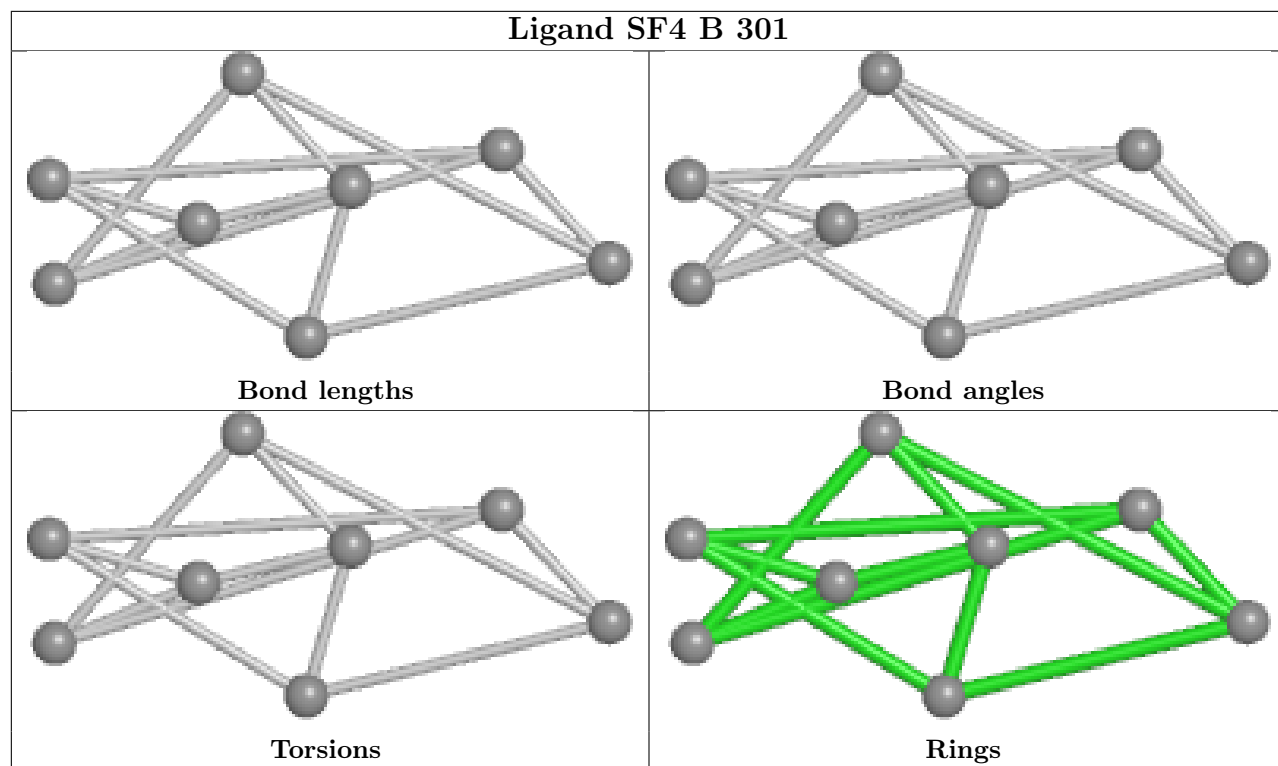


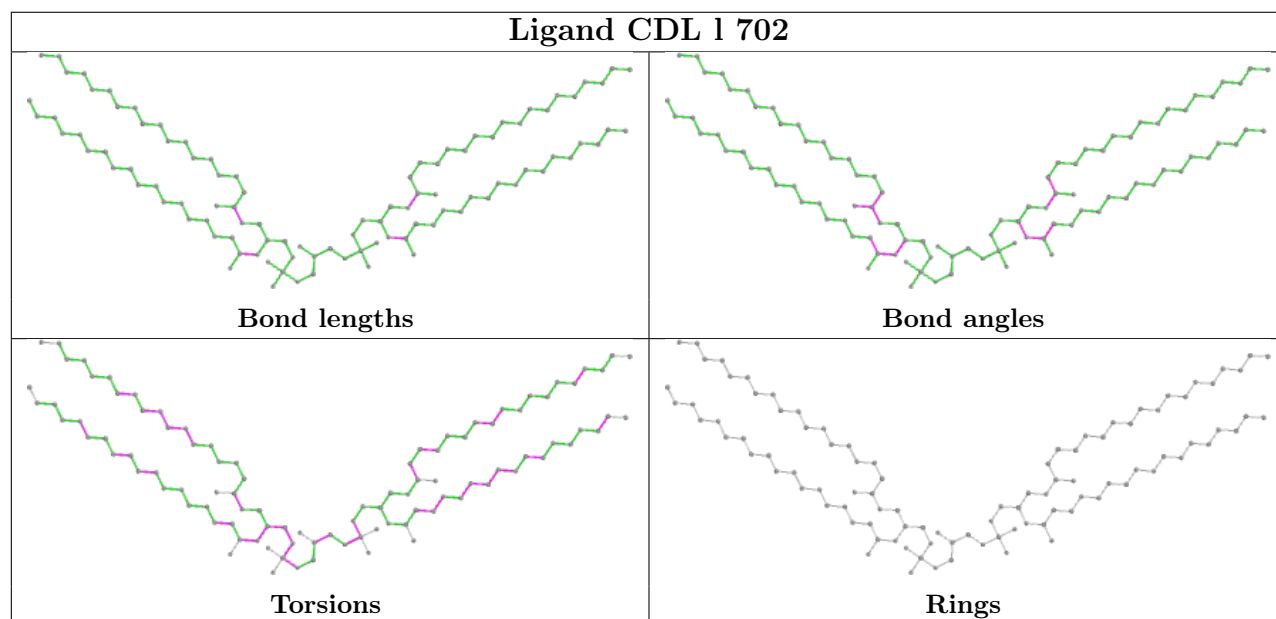
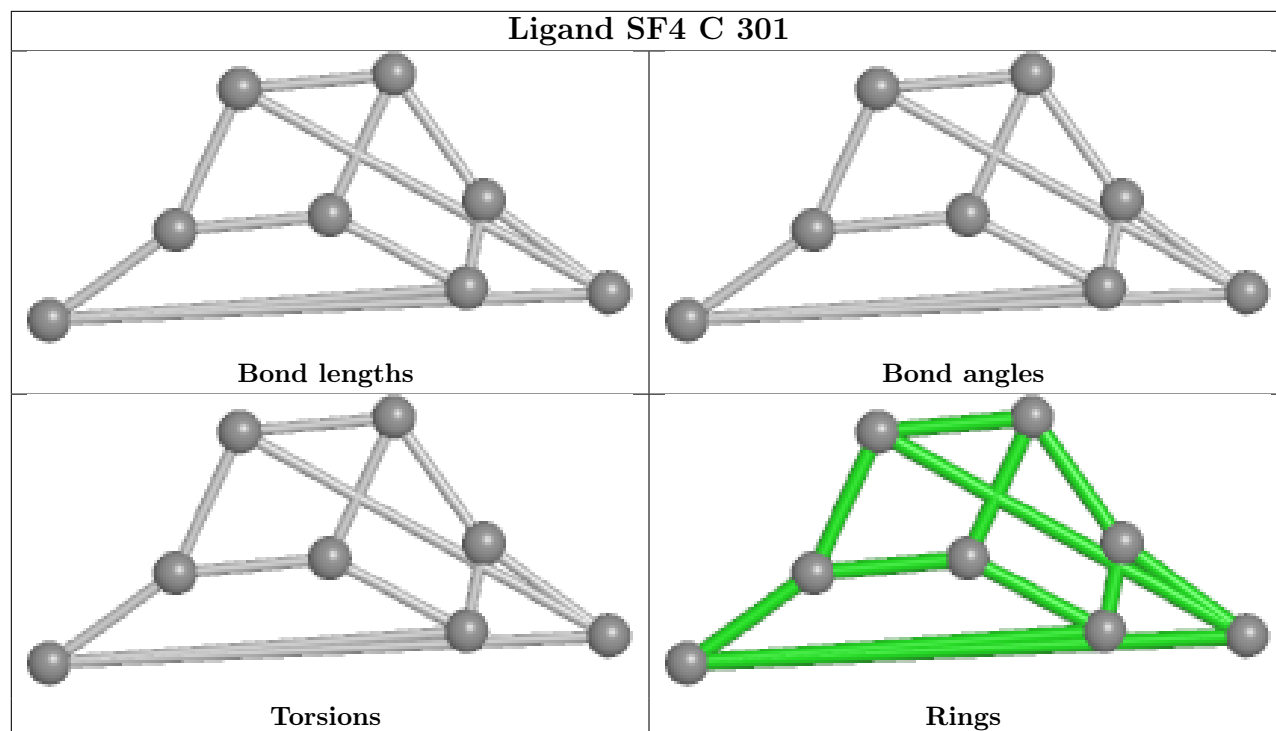


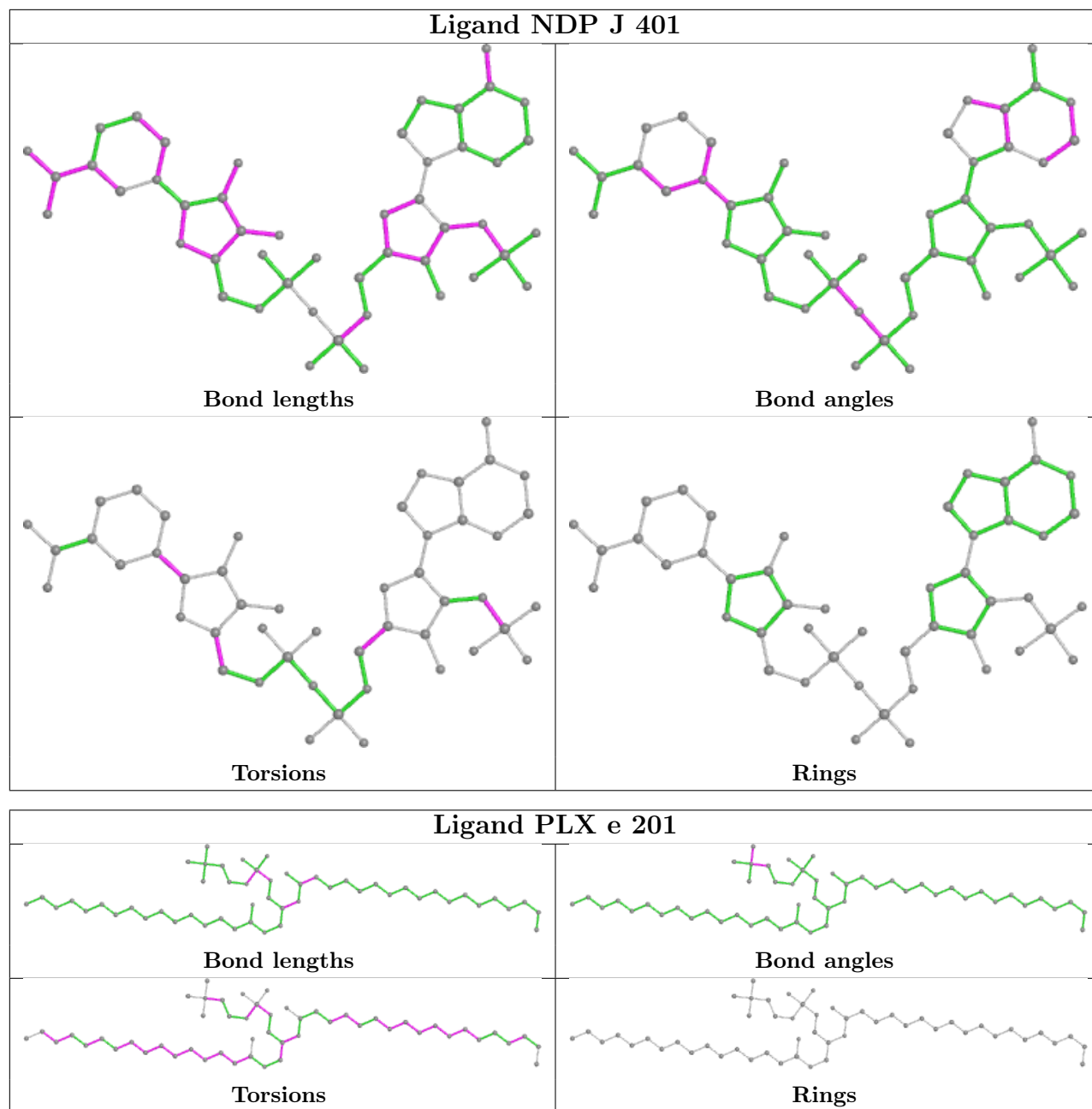


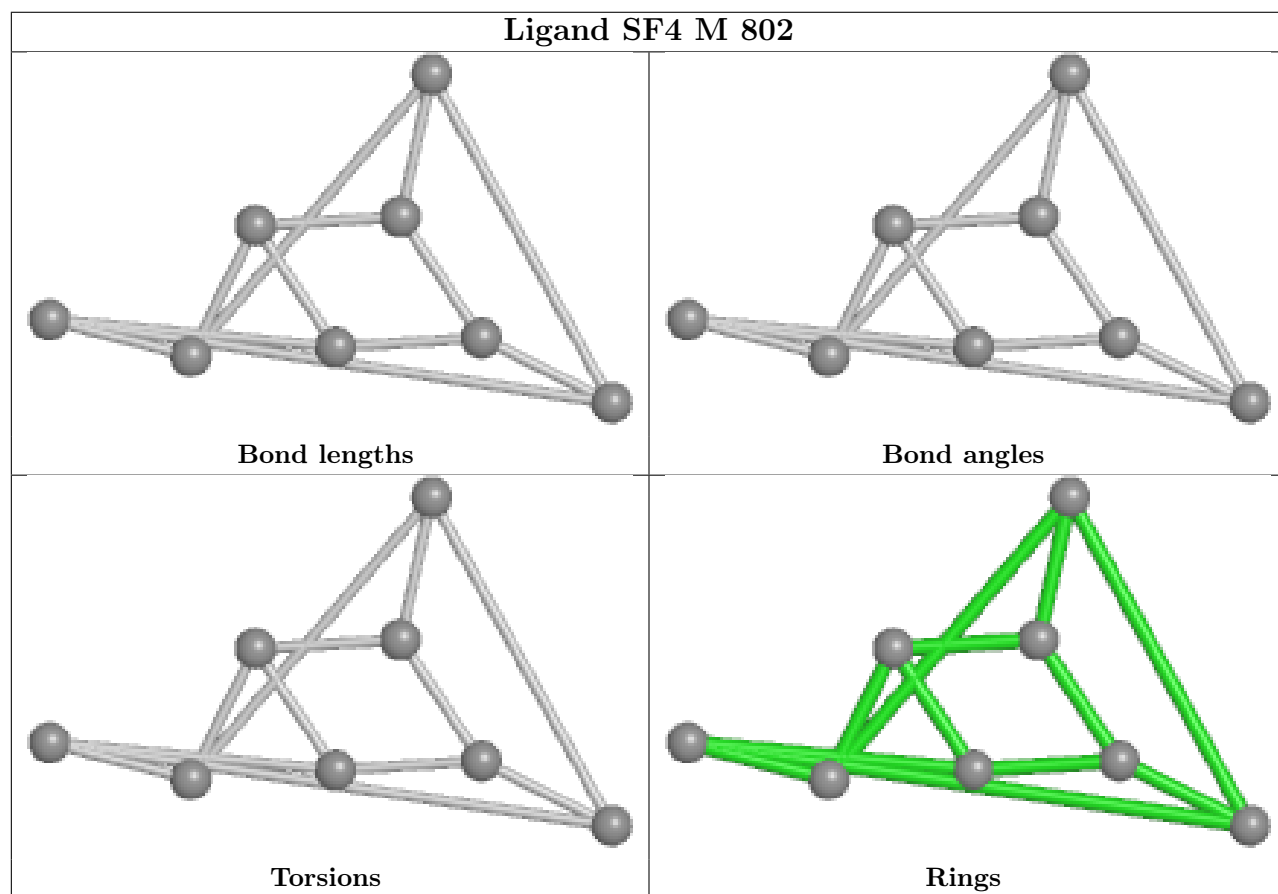
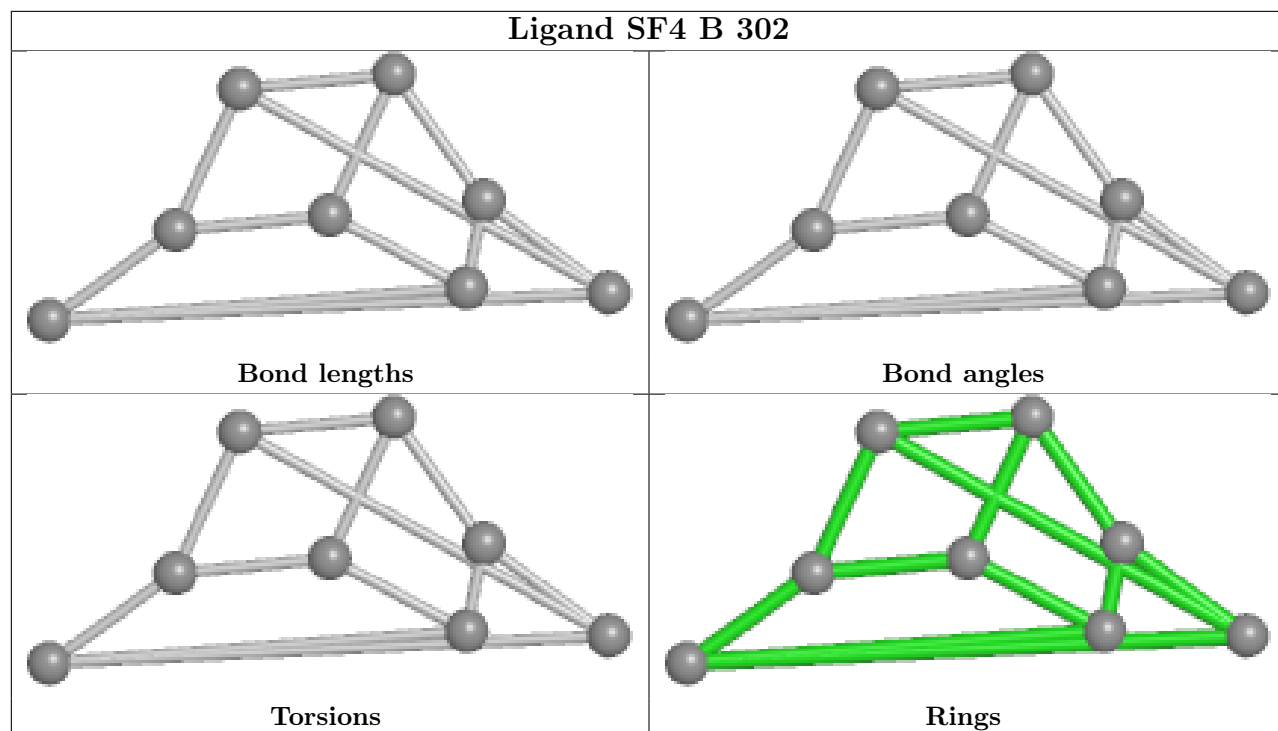


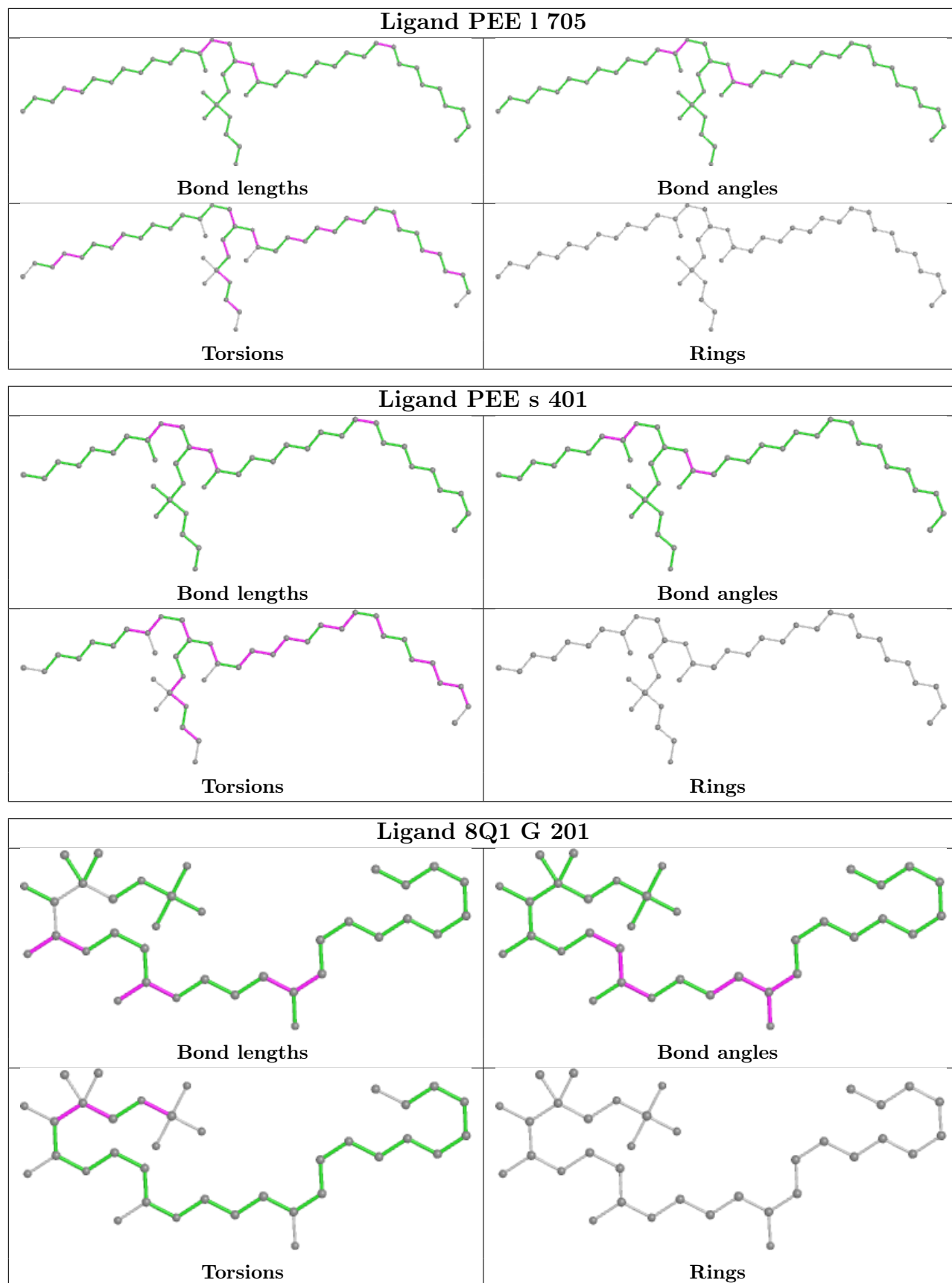


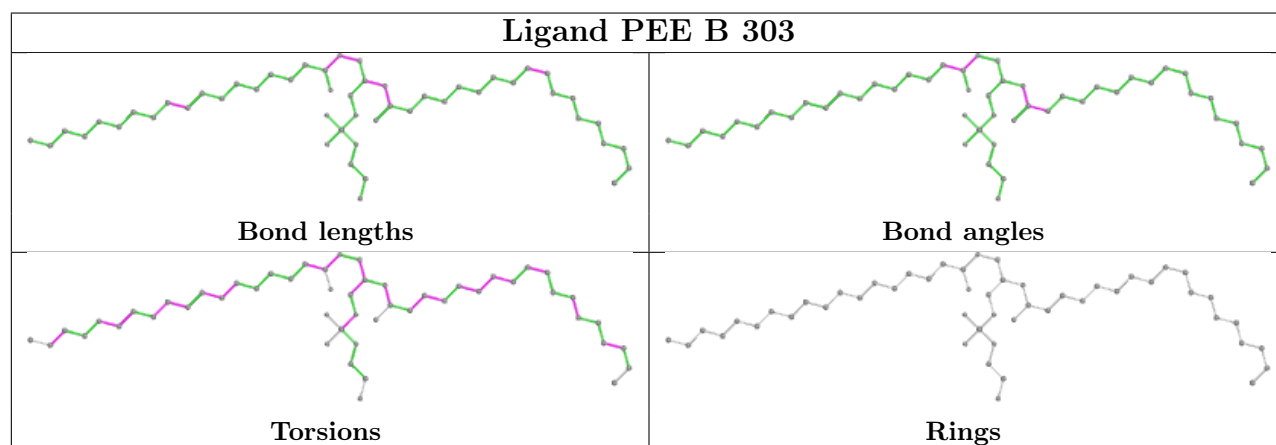
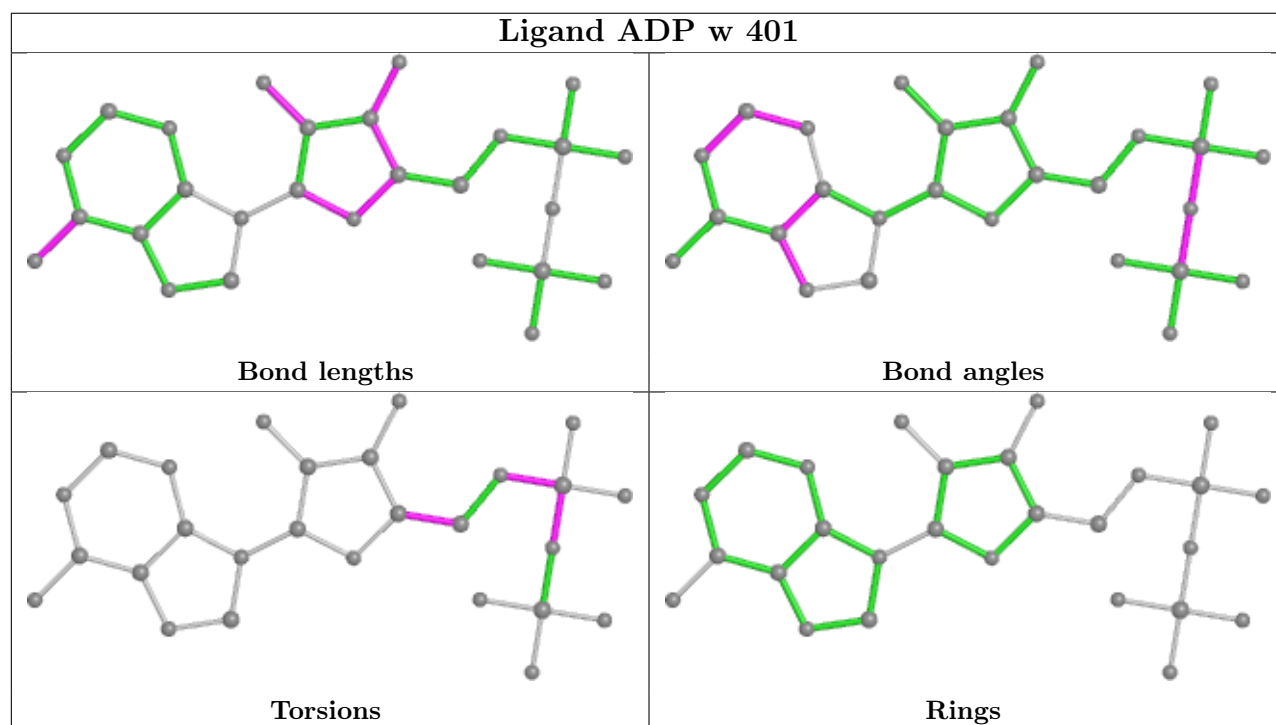
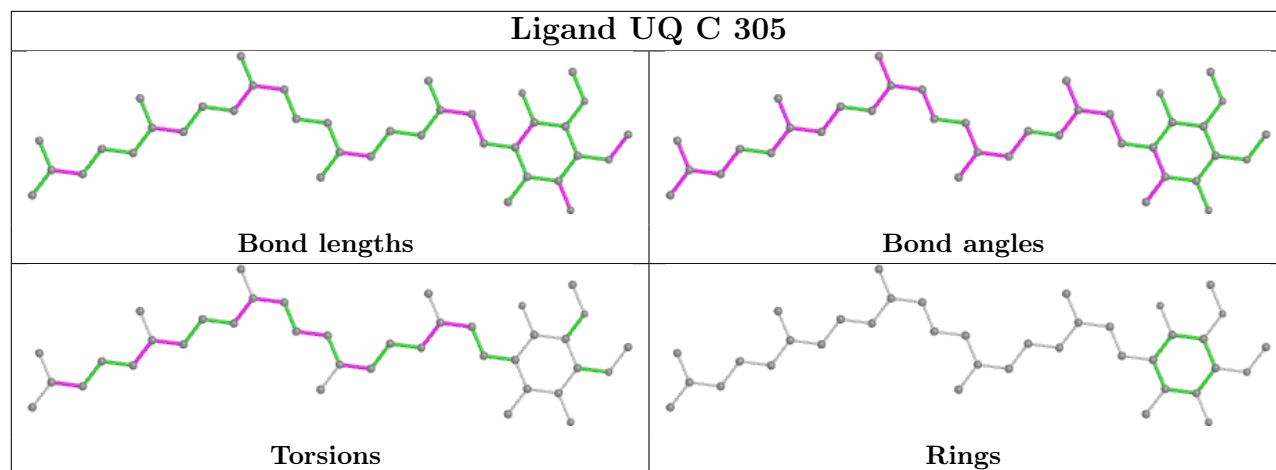


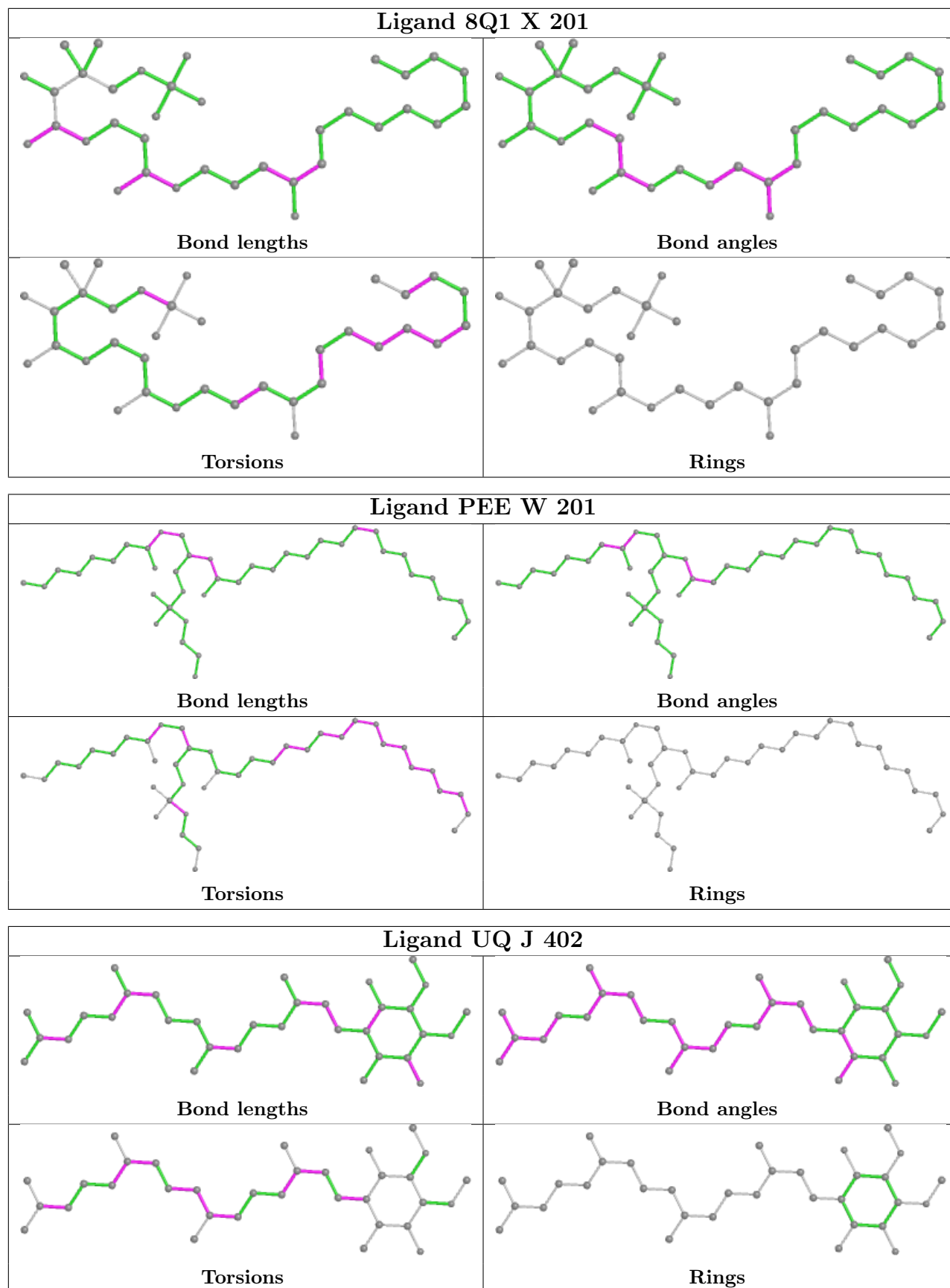


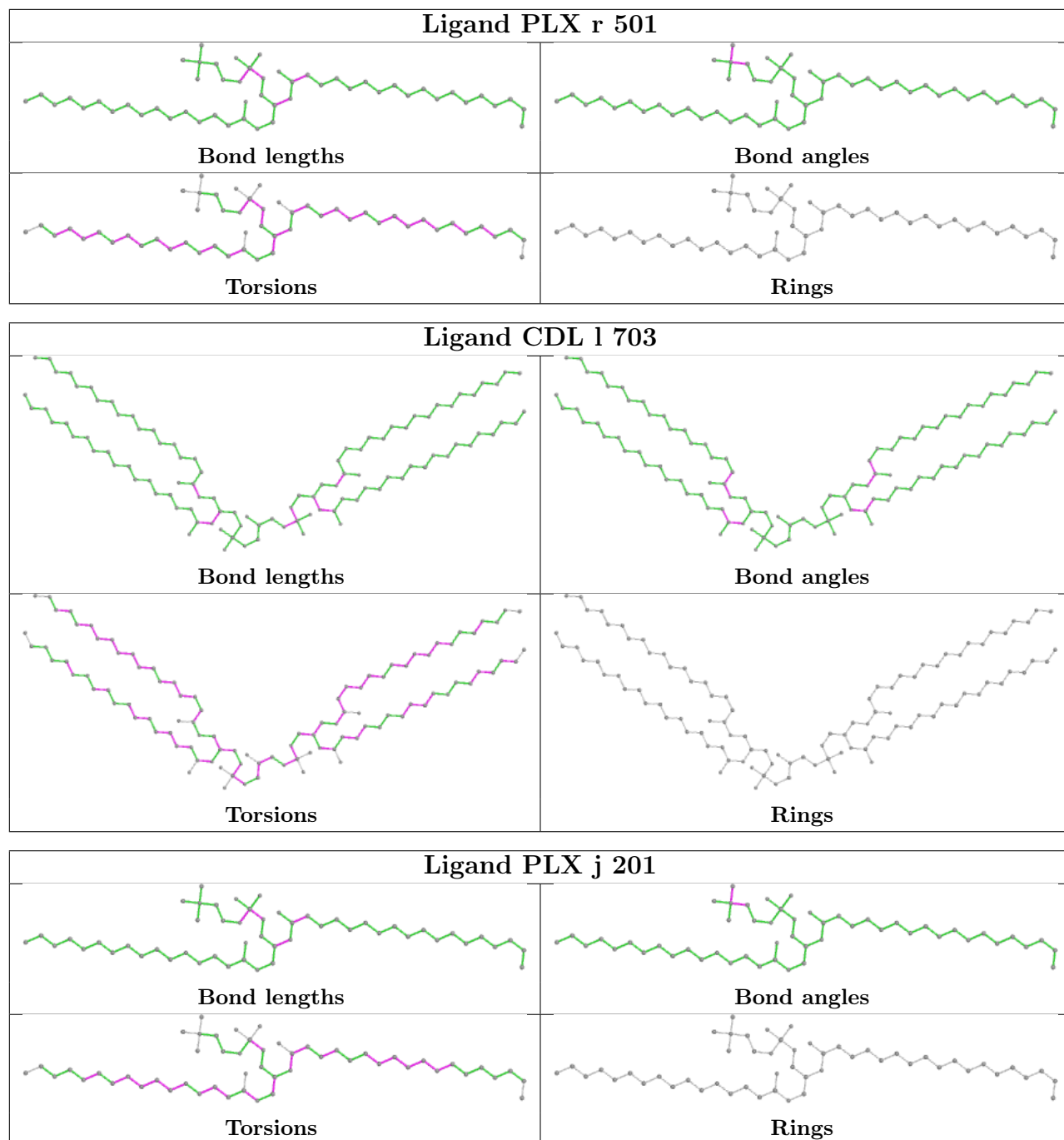




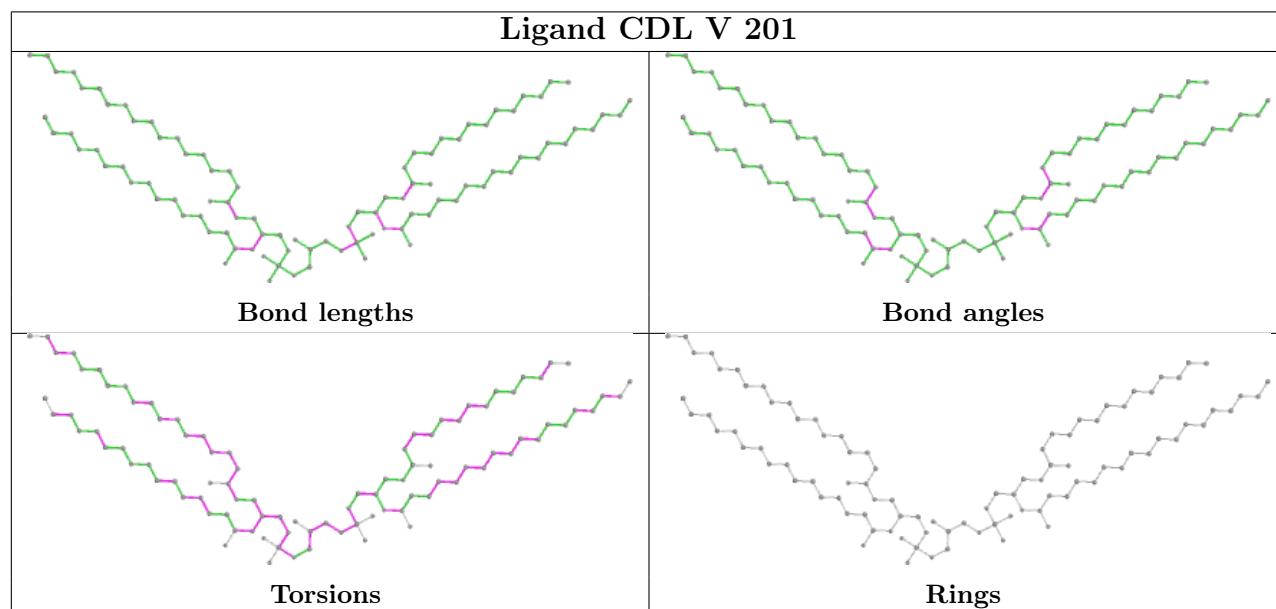
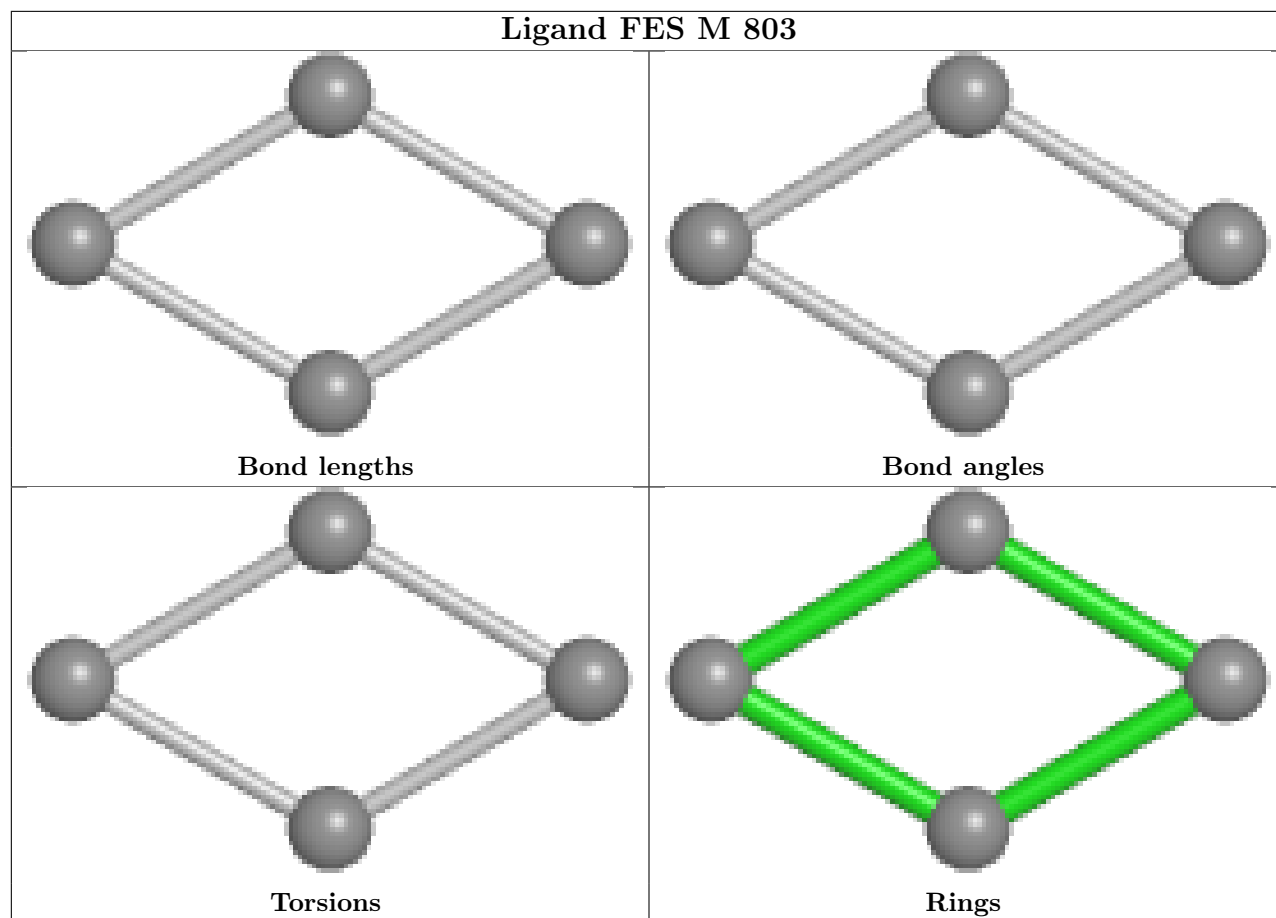


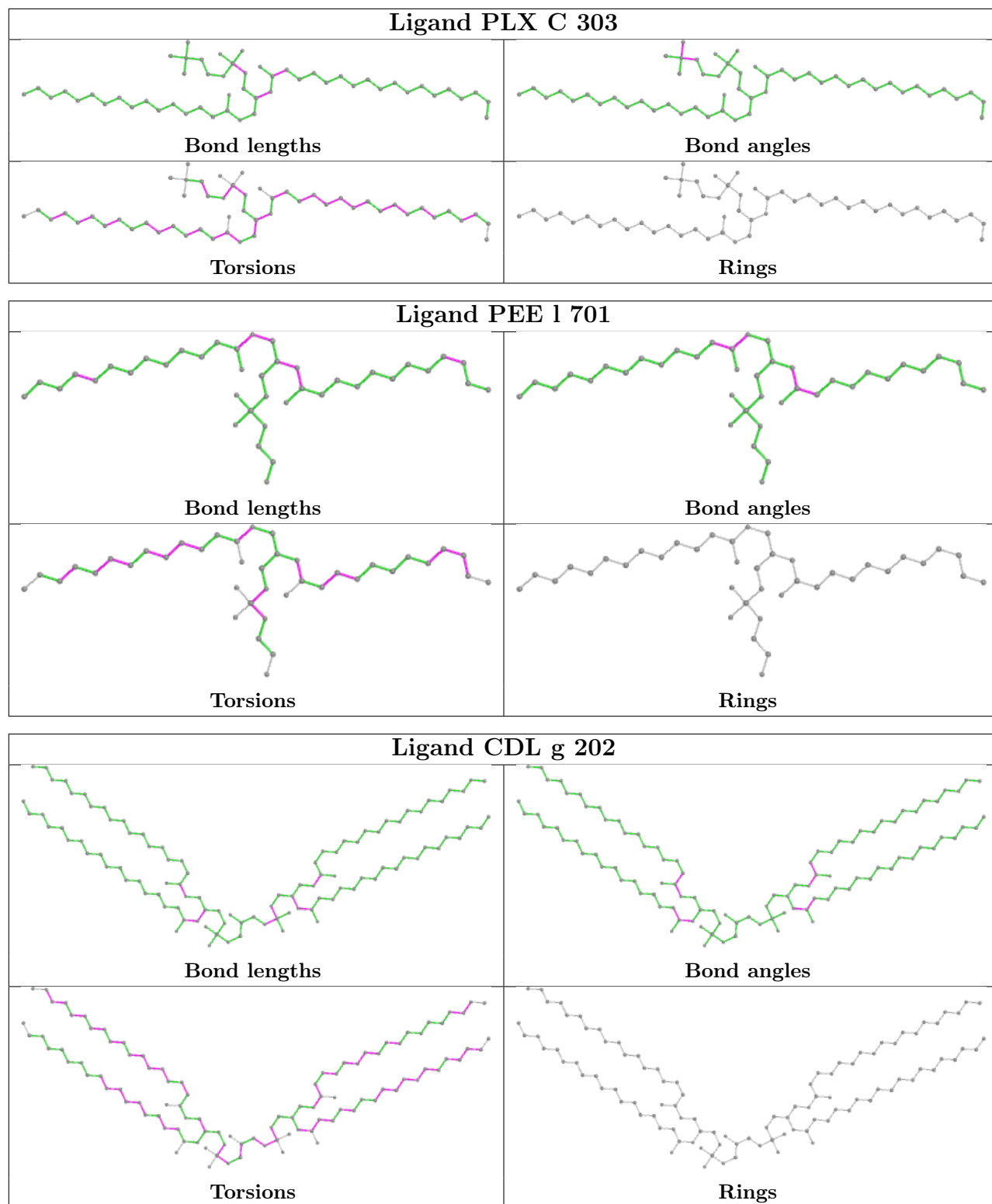


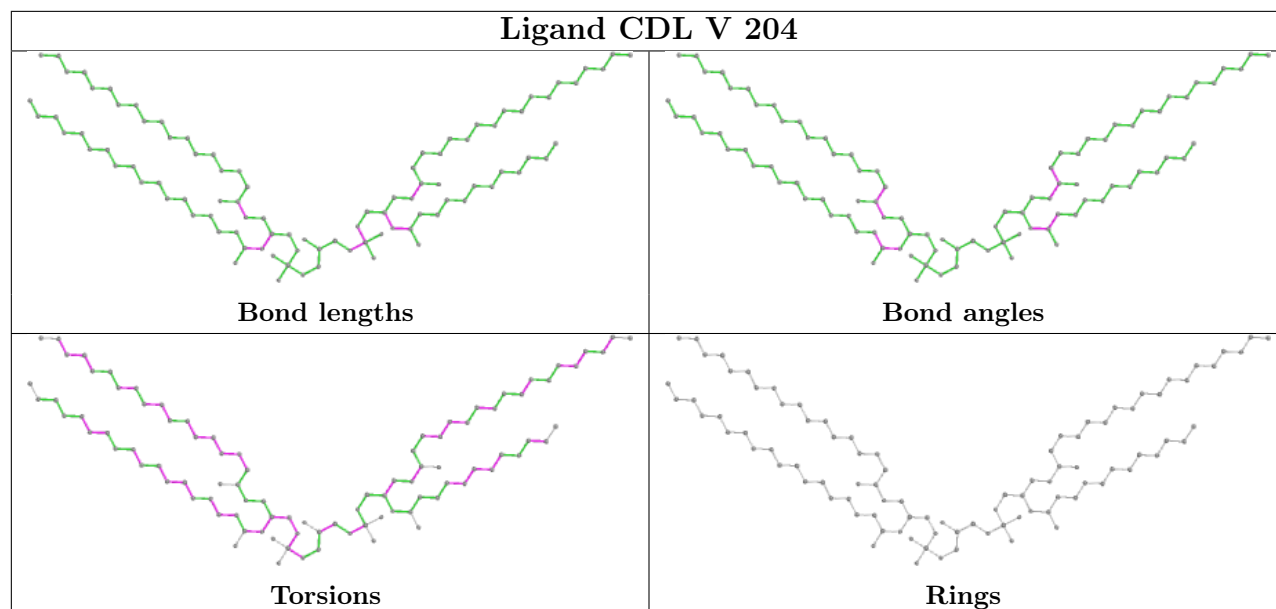
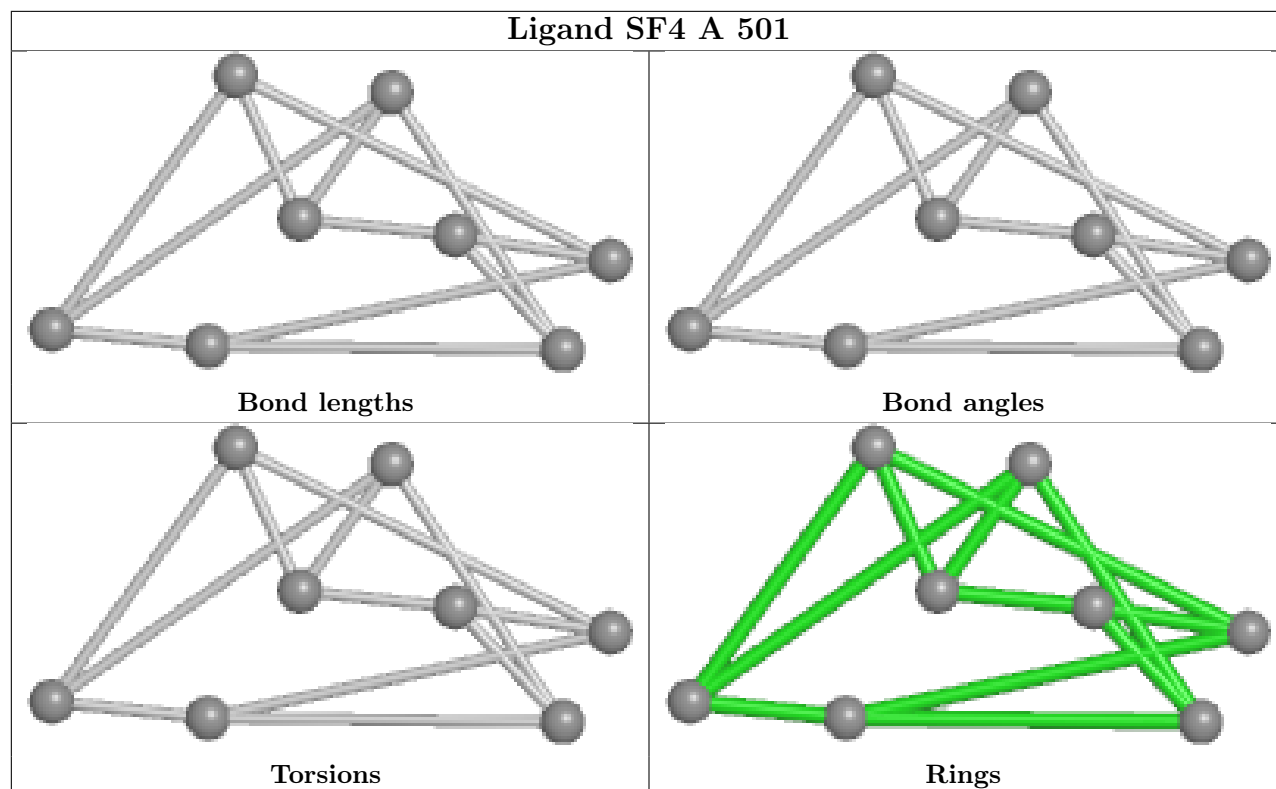


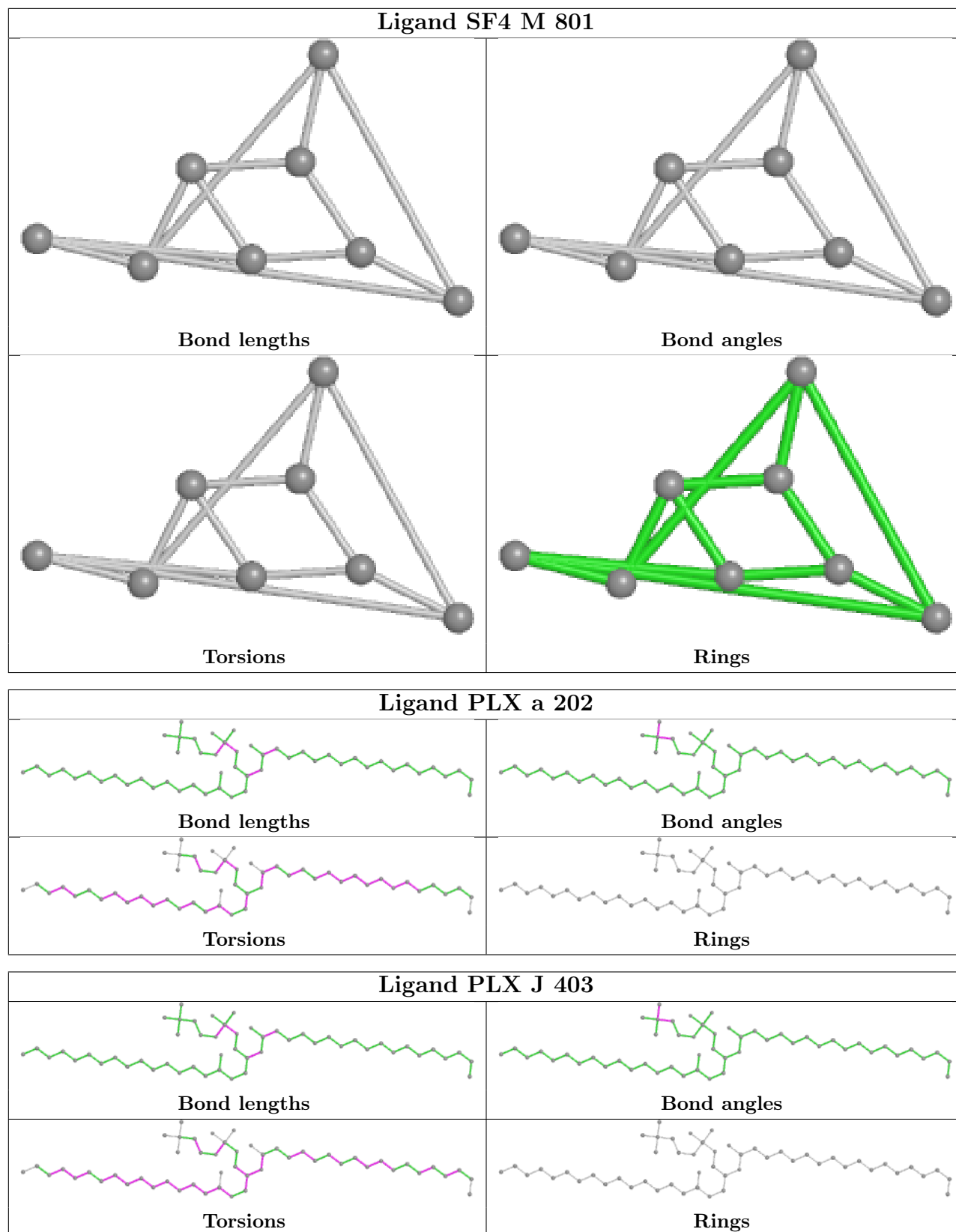


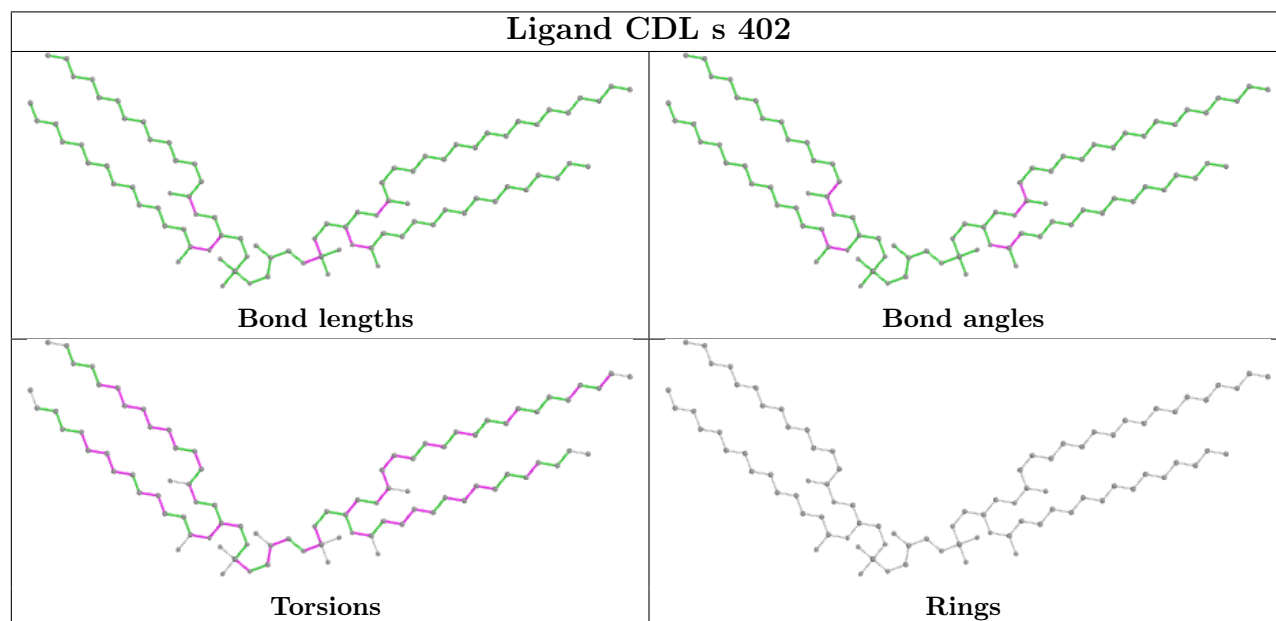
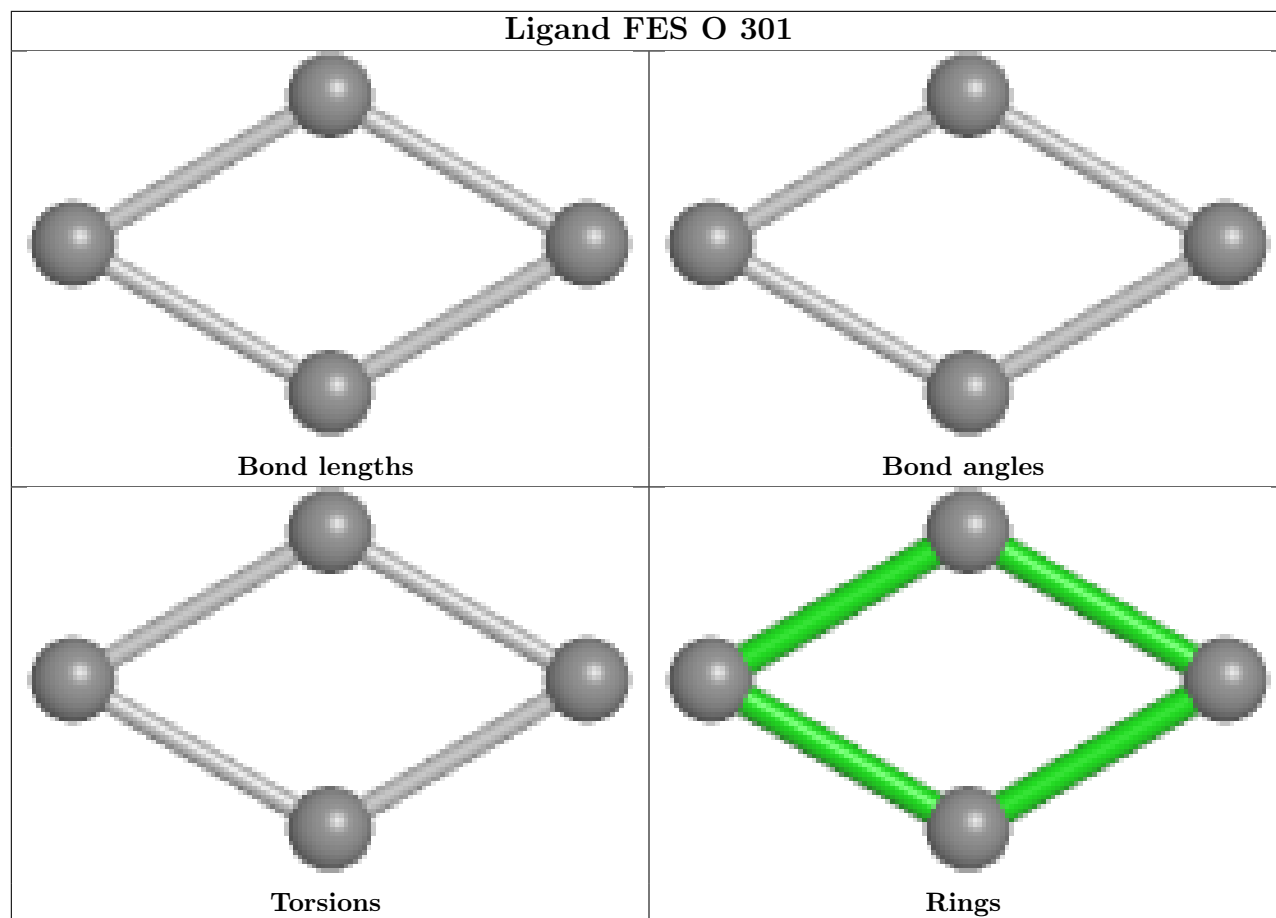


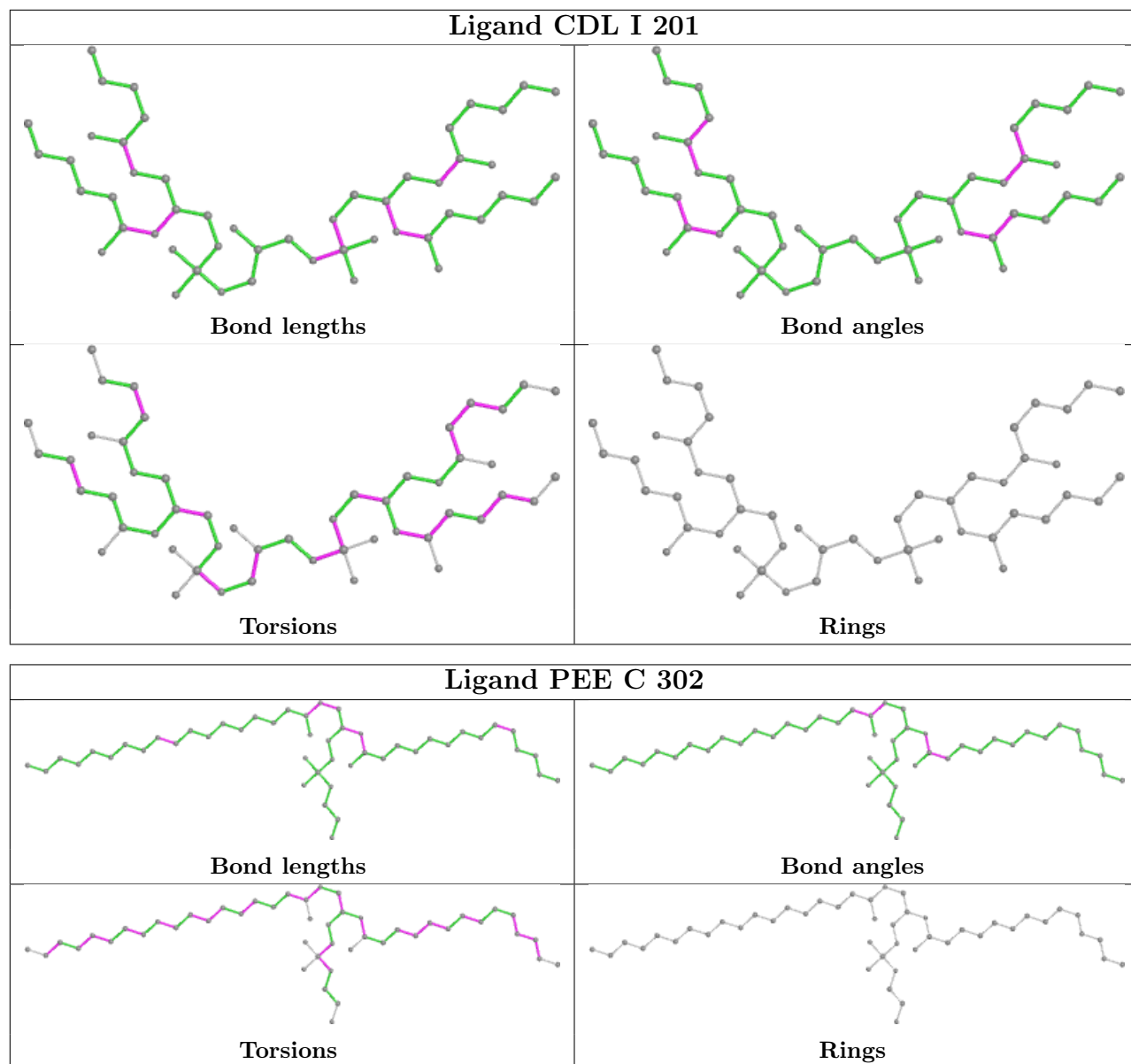


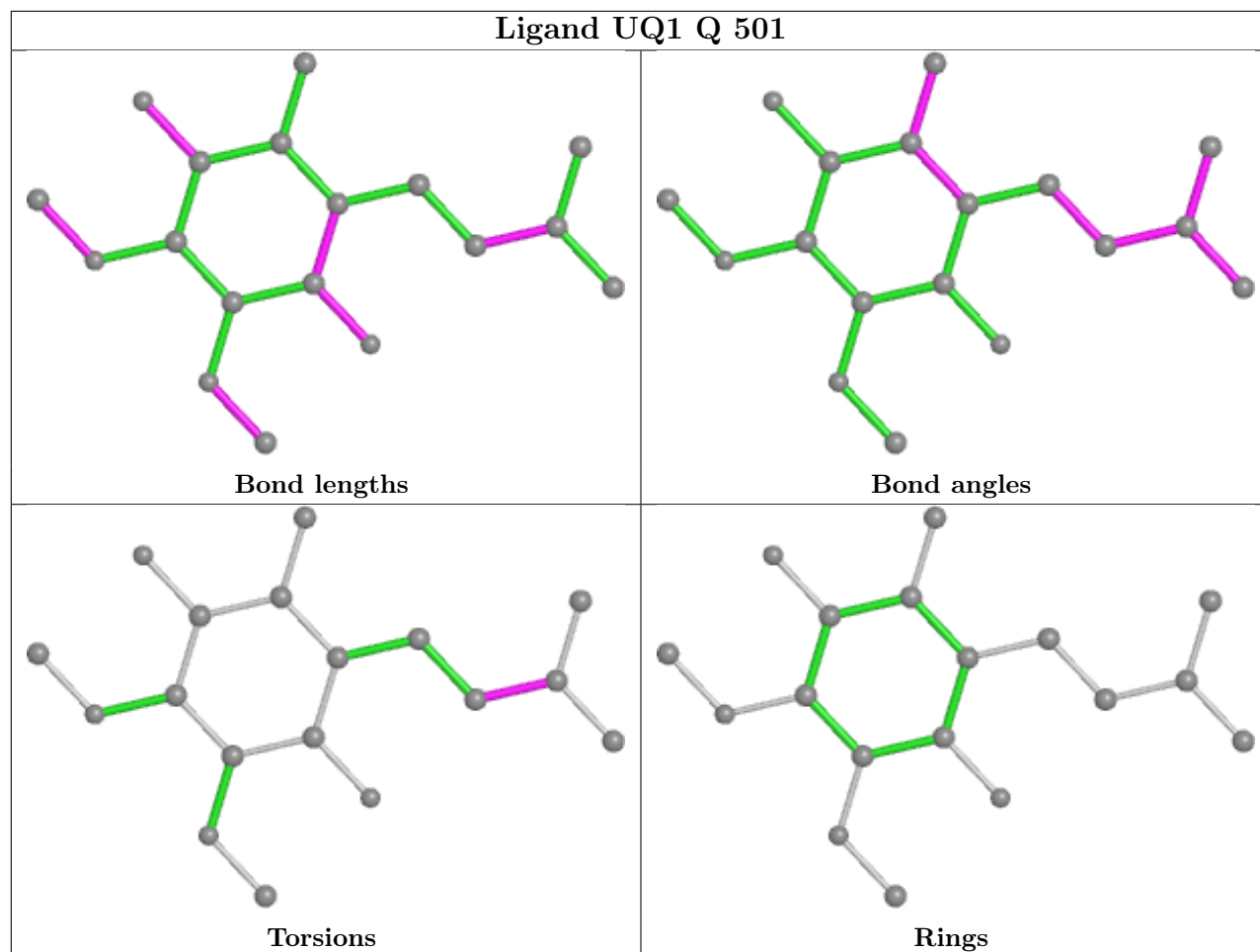












## 5.7 Other polymers [i](#)

There are no such residues in this entry.

## 5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

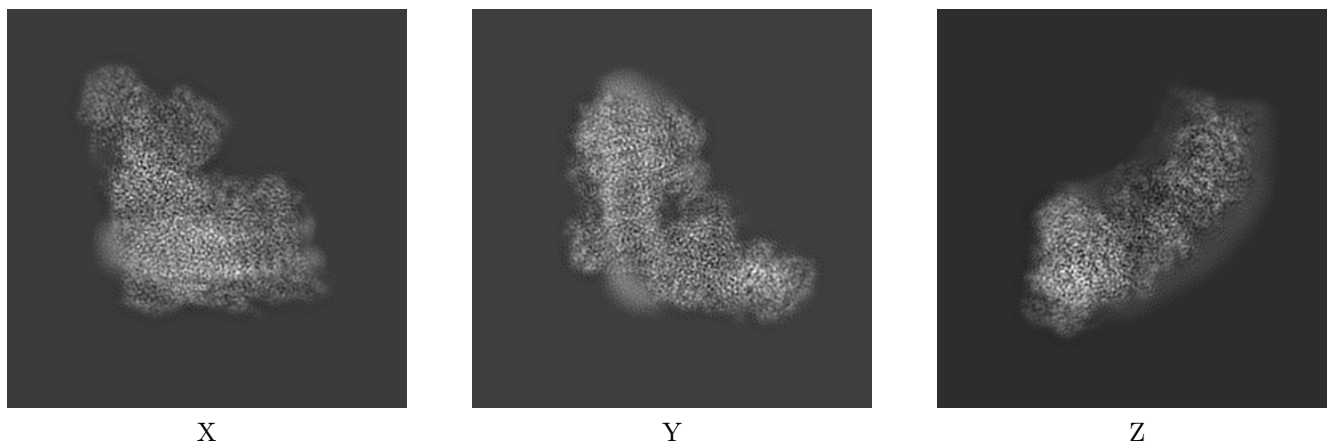
## 6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-32300. These allow visual inspection of the internal detail of the map and identification of artifacts.

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

### 6.1 Orthogonal projections [i](#)

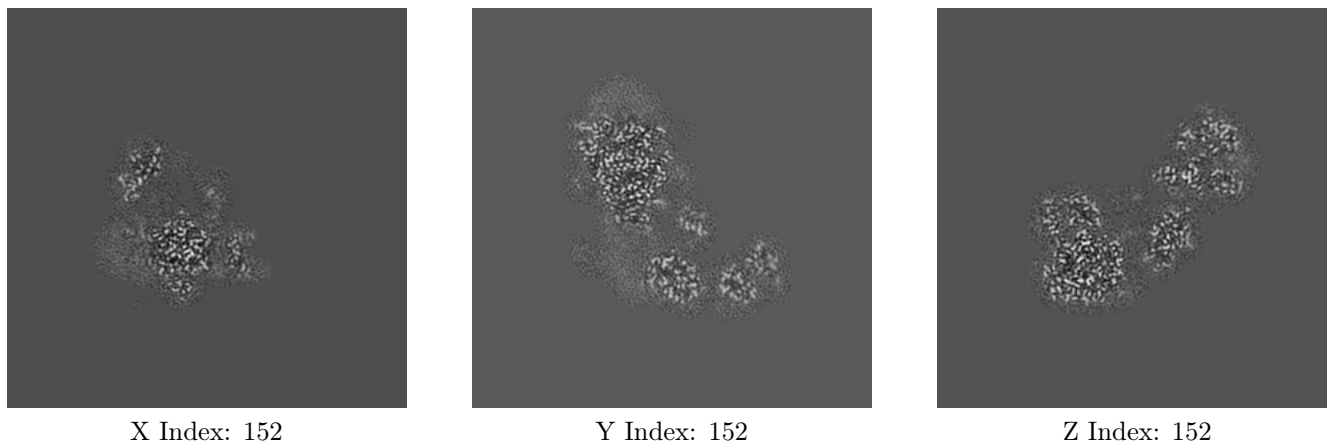
#### 6.1.1 Primary map



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

### 6.2 Central slices [i](#)

#### 6.2.1 Primary map

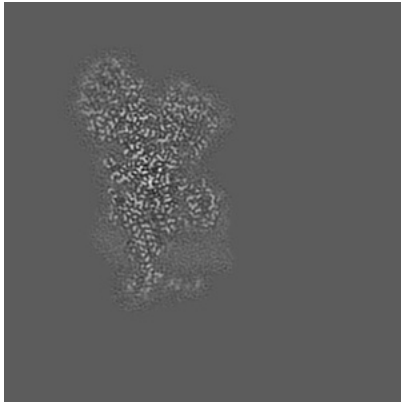




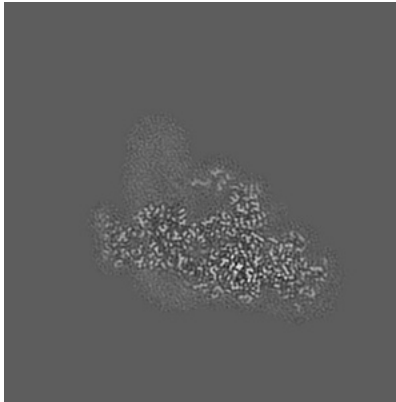
The images above show central slices of the map in three orthogonal directions.

## 6.3 Largest variance slices [i](#)

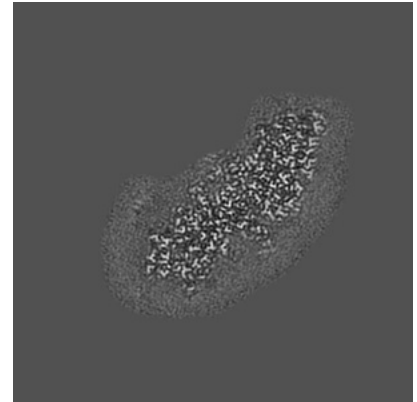
### 6.3.1 Primary map



X Index: 105



Y Index: 105

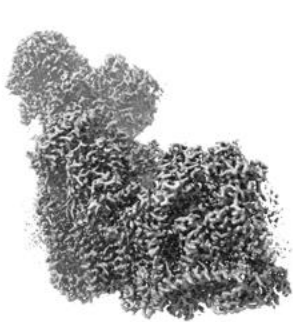


Z Index: 129

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

## 6.4 Orthogonal surface views [i](#)

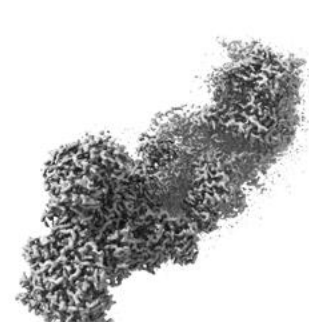
### 6.4.1 Primary map



X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.0302. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

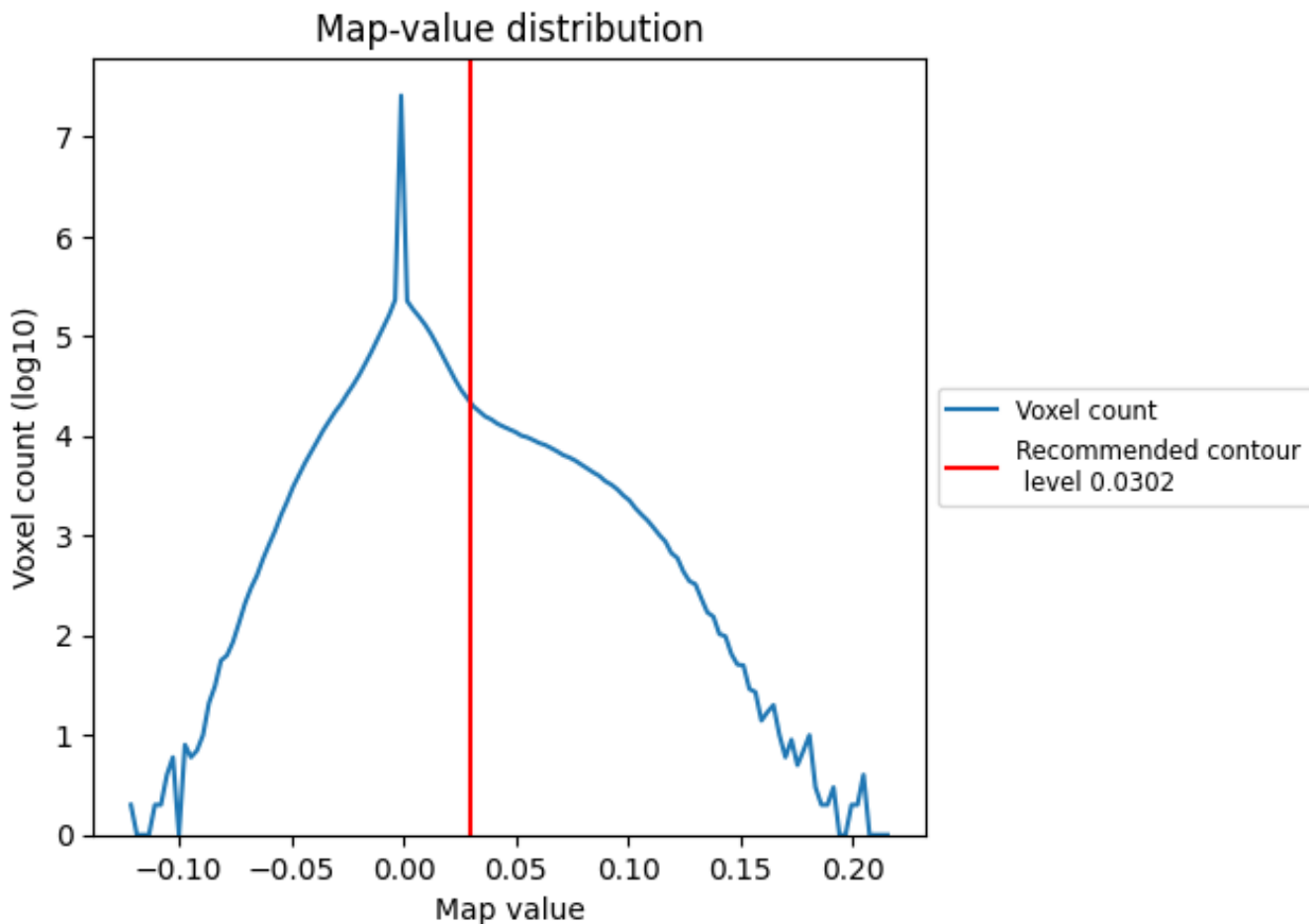
## 6.5 Mask visualisation

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

## 7 Map analysis [i](#)

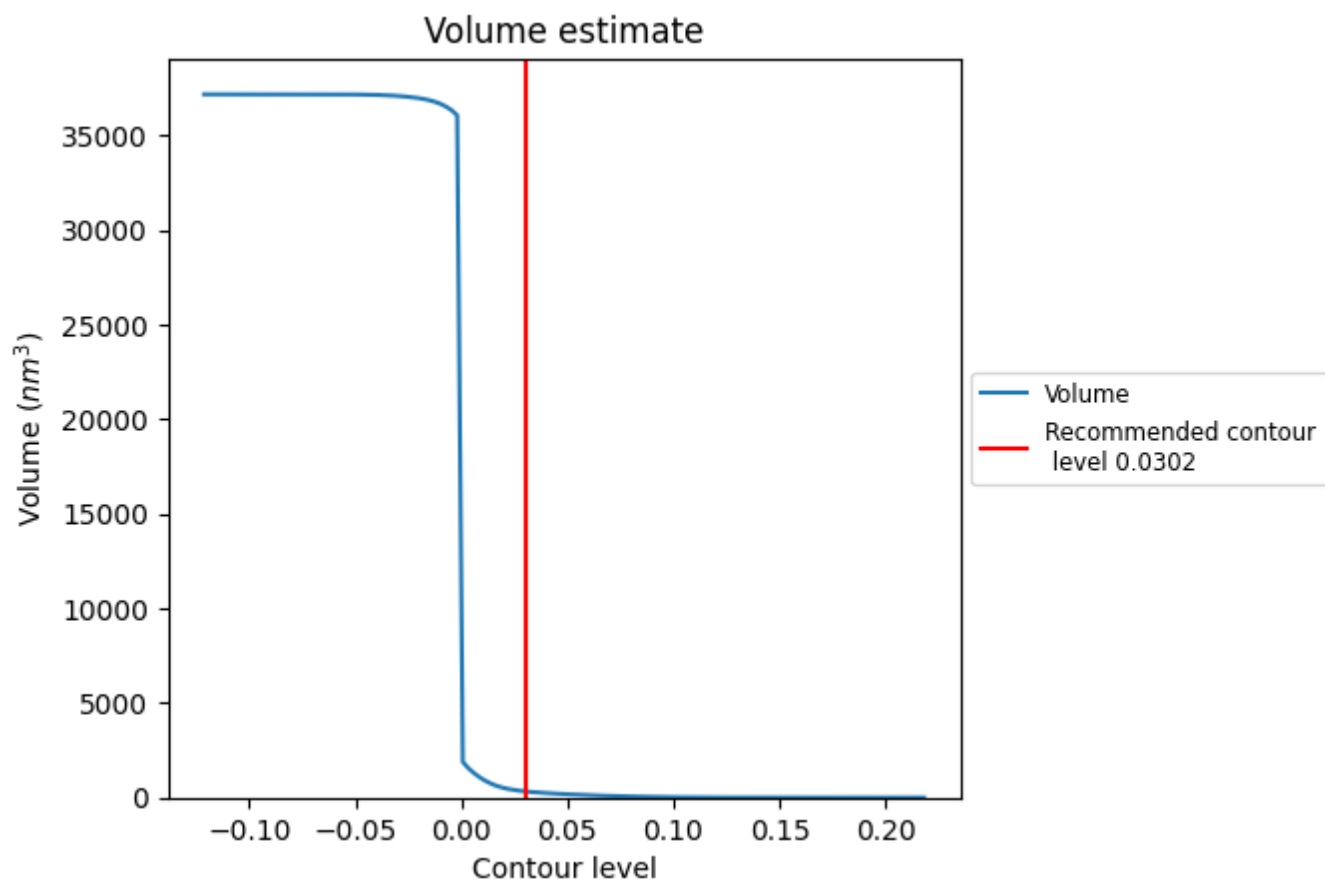
This section contains the results of statistical analysis of the map.

### 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.

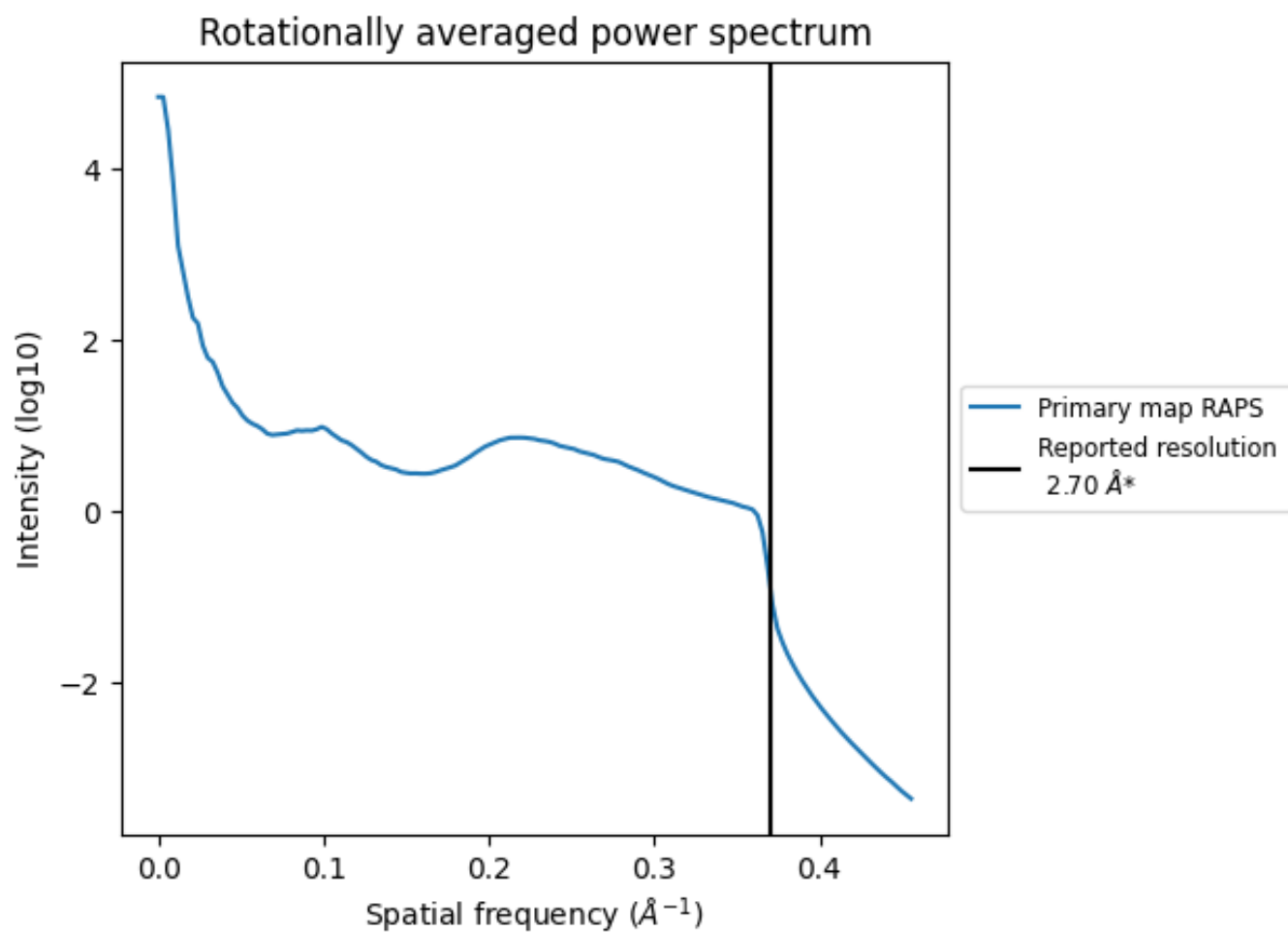
## 7.2 Volume estimate [i](#)



The volume at the recommended contour level is 325 nm<sup>3</sup>; this corresponds to an approximate mass of 294 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 0.370 Å<sup>-1</sup>

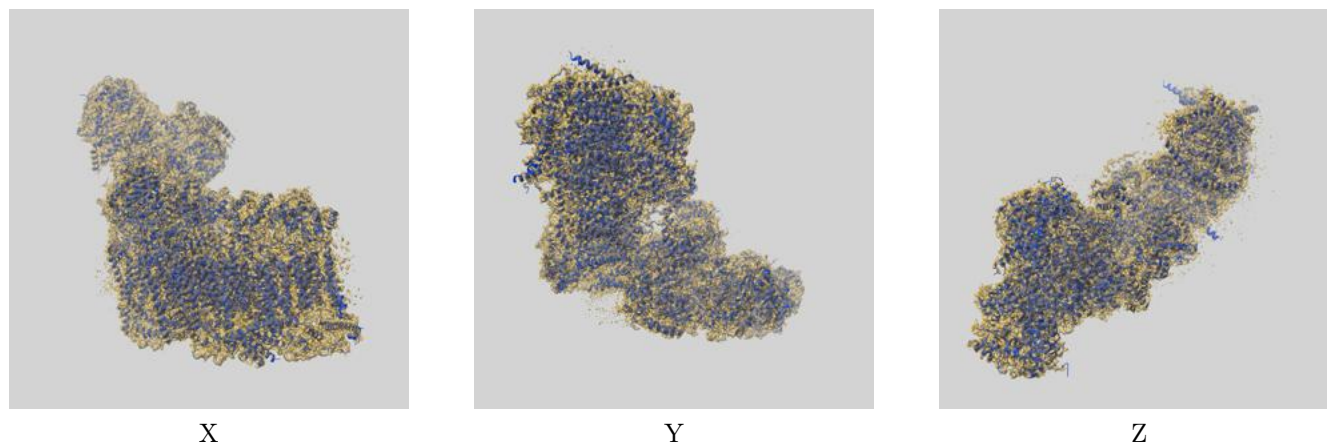
## 8 Fourier-Shell correlation

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

## 9 Map-model fit [i](#)

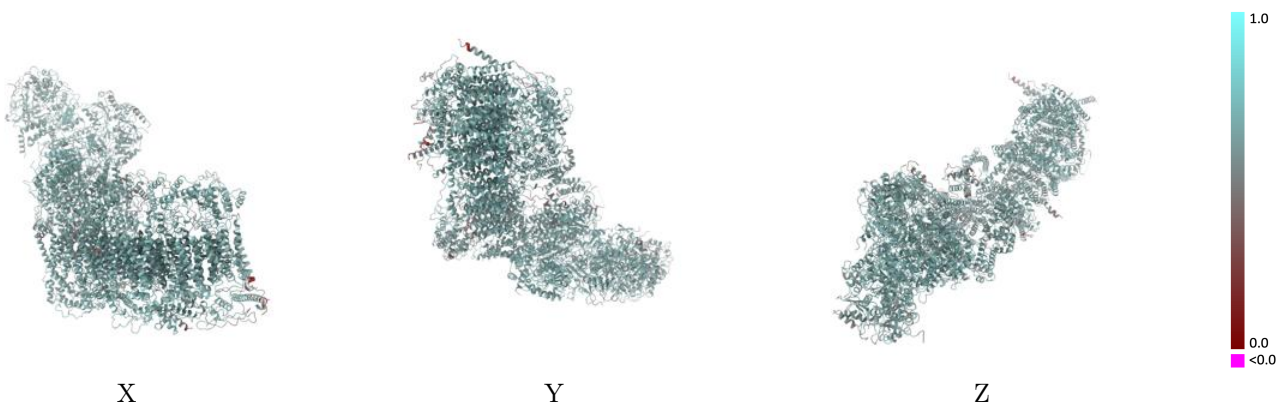
This section contains information regarding the fit between EMDB map EMD-32300 and PDB model 7W4C. Per-residue inclusion information can be found in section [3](#) on page [21](#).

### 9.1 Map-model overlay [i](#)



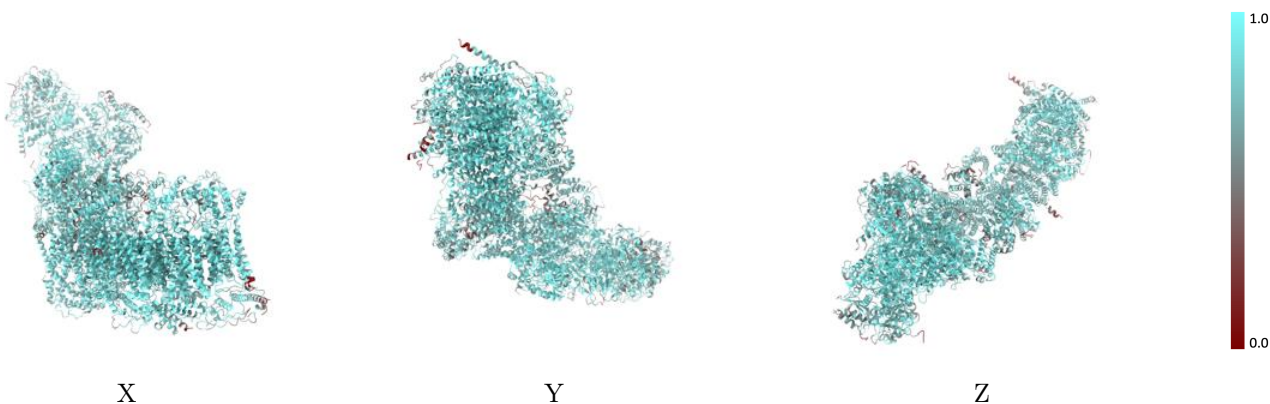
The images above show the 3D surface view of the map at the recommended contour level 0.0302 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



The images above show the model with each residue coloured according 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.

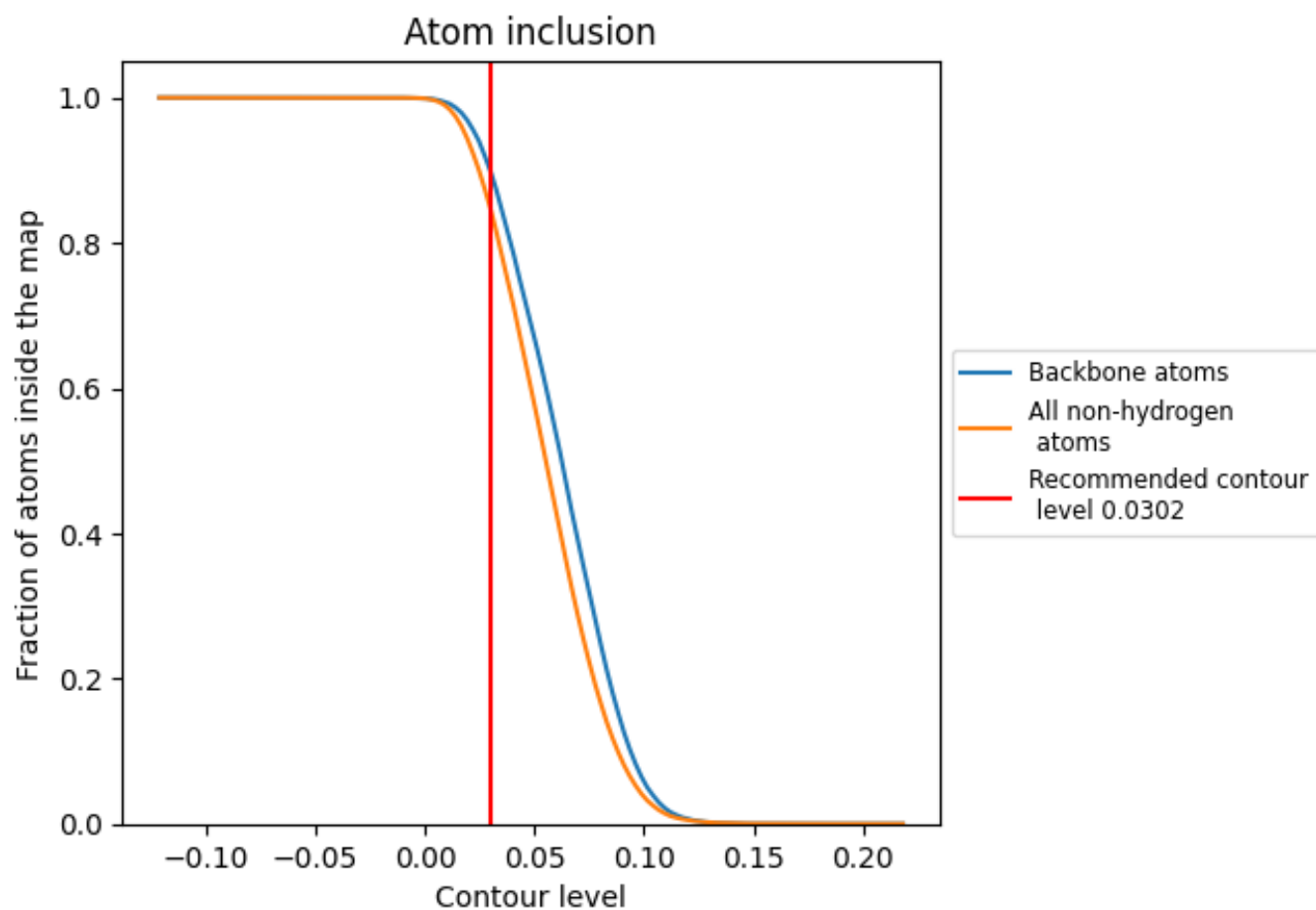
## 9.3 Atom inclusion mapped to coordinate model [i](#)



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 (0.0302).









































































## 9.4 Atom inclusion [i](#)



At the recommended contour level, 90% of all backbone atoms, 84% 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 (0.0302) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.8433	 0.6220
A	 0.7931	 0.6020
B	 0.9361	 0.6590
C	 0.9142	 0.6520
E	 0.8588	 0.6270
F	 0.6662	 0.5550
G	 0.5609	 0.5230
H	 0.8223	 0.6090
I	 0.8055	 0.6060
J	 0.8596	 0.6310
K	 0.6986	 0.5790
L	 0.8592	 0.6420
M	 0.8583	 0.6250
N	 0.8627	 0.6370
O	 0.7463	 0.5850
P	 0.9332	 0.6580
Q	 0.9323	 0.6550
S	 0.9094	 0.6370
T	 0.8352	 0.6340
U	 0.7941	 0.6100
V	 0.6978	 0.5990
W	 0.8279	 0.6130
X	 0.7746	 0.5990
Y	 0.7258	 0.5610
Z	 0.6816	 0.5540
a	 0.8394	 0.6350
b	 0.7746	 0.5870
c	 0.8387	 0.6220
d	 0.8000	 0.6120
e	 0.7695	 0.6000
f	 0.6270	 0.5450
g	 0.8188	 0.6220
h	 0.8266	 0.6110
i	 0.9381	 0.6510
j	 0.8610	 0.6350



*Continued on next page...*

*Continued from previous page...*

Chain	Atom inclusion	Q-score
k	 0.9353	 0.6490
l	 0.8749	 0.6330
m	 0.7900	 0.5920
n	 0.6975	 0.5830
o	 0.8537	 0.6300
p	 0.8341	 0.6220
r	 0.9374	 0.6480
s	 0.9085	 0.6460
u	 0.8316	 0.6180
v	 0.7120	 0.5680
w	 0.8080	 0.6040