Full wwPDB EM Validation Report ⓘ

Nov 10, 2024 – 05:28 am GMT

PDB ID	:	7ZMB
EMDB ID	:	EMD-14794
Title	:	CryoEM structure of mitochondrial complex I from Chaetomium thermophilum (state 2)
Authors	:	Laube, E.; Kuehlbrandt, W.
Deposited on	:	2022-04-19
Resolution	:	2.75 Å(reported)
Based on initial models	:	6RFR, 6RFQ

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

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/EMValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

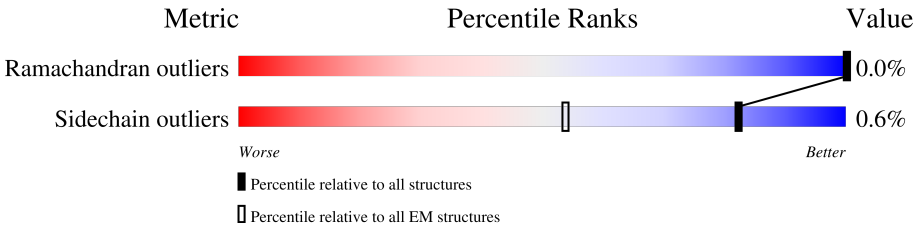
EMDB validation analysis	:	0.0.1.dev113
Mogul	:	1.8.4, CSD as541be (2020)
MolProbity	:	4.02b-467
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.39

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 2.75 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=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	1	378	87% · 12%
2	2	571	96% · ·
3	3	146	89% 11%
4	4	542	91% 9%
5	5	679	9% 98% ·
6	6	224	83% · 15%
7	8	86	40% 90% 10%
8	9	785	13% 87%
9	A	749	95% 5%

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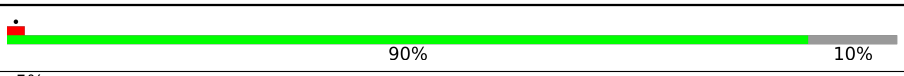
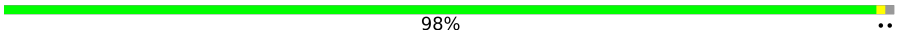
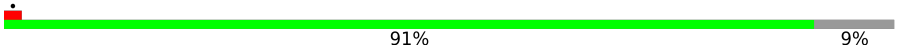
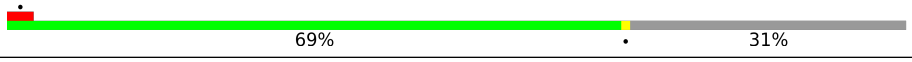
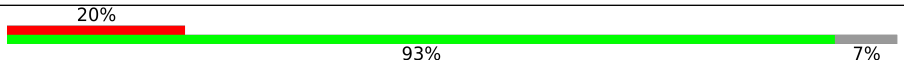
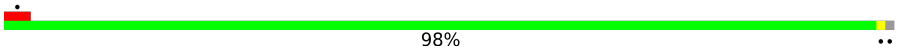
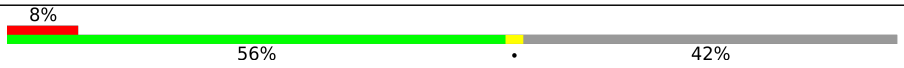
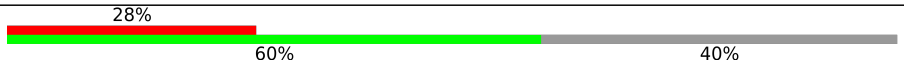
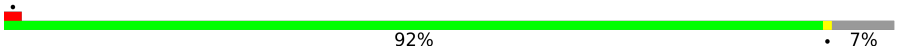
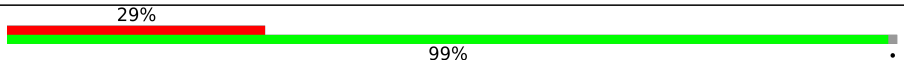
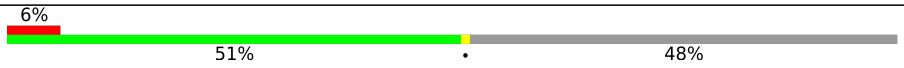
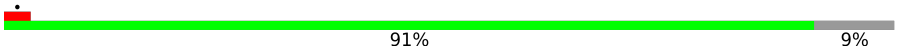
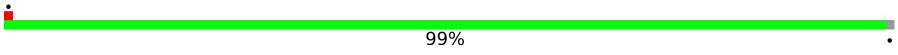
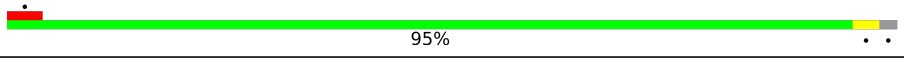
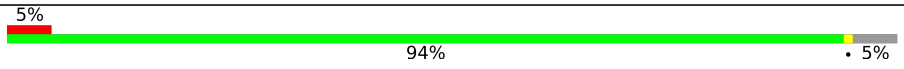
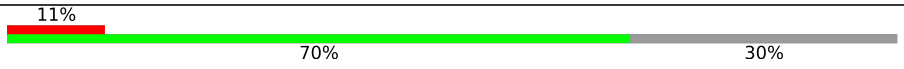
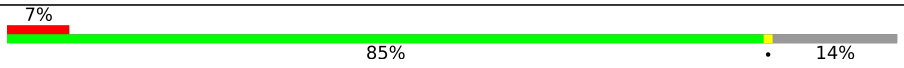
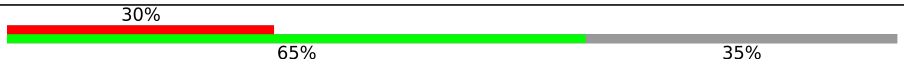
Mol	Chain	Length	Quality of chain
10	B	507	
11	C	499	
12	D	86	
13	E	378	
14	F	261	
15	G	293	
16	H	318	
17	I	223	
18	J	199	
19	K	230	
20	L	89	
21	M	168	
22	O	141	
22	Q	141	
23	P	124	
24	R	99	
25	S	143	
26	U	186	
27	W	121	
28	X	191	
29	Y	210	
30	Z	196	
31	a	203	
32	b	94	
33	c	93	

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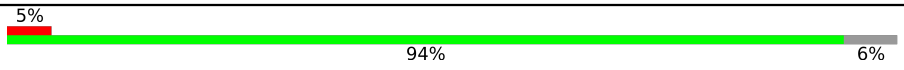
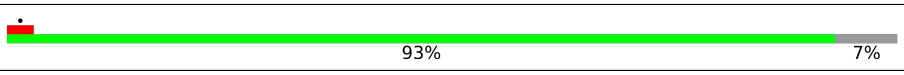
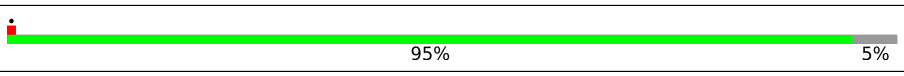
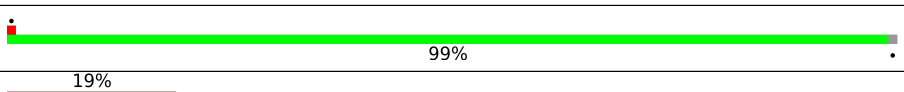
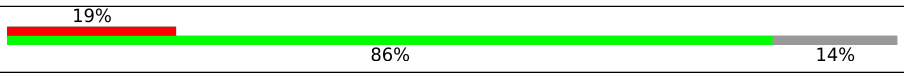
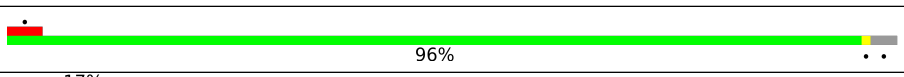
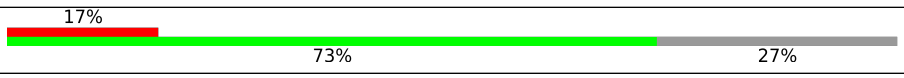
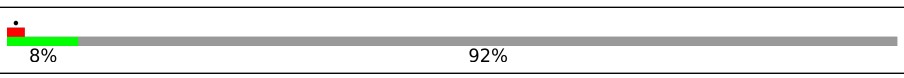
Mol	Chain	Length	Quality of chain
34	d	105	
35	e	46	
36	f	95	
37	g	82	
38	h	134	
39	i	93	
40	j	75	
41	n	184	
42	o	380	

2 Entry composition (i)

There are 53 unique types of molecules in this entry. The entry contains 69495 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-ubiquinone oxidoreductase chain 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	1	334	Total	C	N	O	S	0	0
			2573	1728	388	446	11		

- Molecule 2 is a protein called NADH dehydrogenase subunit 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	2	558	Total	C	N	O	S	0	0
			4456	2993	672	780	11		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
3	3	130	Total	C	N	O	S	0	0
			1026	695	153	175	3		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
4	4	494	Total	C	N	O	S	0	0
			3904	2650	572	670	12		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
5	5	670	Total	C	N	O	S	0	0
			5272	3551	792	904	25		

There are 14 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
5	445	ARG	-	insertion	UNP G1DJA3
5	446	LEU	-	insertion	UNP G1DJA3
5	447	ALA	-	insertion	UNP G1DJA3

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Chain	Residue	Modelled	Actual	Comment	Reference
5	448	ILE	-	insertion	UNP G1DJA3
5	449	ASP	-	insertion	UNP G1DJA3
5	450	ASN	-	insertion	UNP G1DJA3
5	451	PHE	-	insertion	UNP G1DJA3
5	452	PHE	-	insertion	UNP G1DJA3
5	453	SER	-	insertion	UNP G1DJA3
5	454	ALA	-	insertion	UNP G1DJA3
5	455	GLN	-	insertion	UNP G1DJA3
5	456	ALA	-	insertion	UNP G1DJA3
5	457	ILE	-	insertion	UNP G1DJA3
5	458	LYS	-	insertion	UNP G1DJA3

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

Mol	Chain	Residues	Atoms					AltConf	Trace
6	6	190	Total	C	N	O	S	0	0
			1452	982	217	247	6		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
7	8	77	Total	C	N	O	S	0	0
			658	408	126	118	6		

- Molecule 8 is a protein called Subunit NDUFS5 of NADH-ubiquinone oxidoreductase (Complex I).

Mol	Chain	Residues	Atoms					AltConf	Trace
8	9	103	Total	C	N	O	S	0	0
			807	500	147	154	6		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
9	100	VAL	-	insertion	UNP G0SG48

- Molecule 9 is a protein called NADH-ubiquinone oxidoreductase-like protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	A	711	Total	C	N	O	S	0	0
			5476	3444	966	1035	31		

There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	?	-	GLN	deletion	UNP G0RYA1
A	72	TYR	VAL	conflict	UNP G0RYA1
A	73	CYS	SER	conflict	UNP G0RYA1
A	74	TYR	MET	conflict	UNP G0RYA1
A	75	HIS	ARG	conflict	UNP G0RYA1
A	76	GLU	ARG	conflict	UNP G0RYA1

- Molecule 10 is a protein called NADH dehydrogenase [ubiquinone] flavoprotein 1, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	B	456	Total	C	N	O	S	0	0
			3538	2225	638	648	27		

- Molecule 11 is a protein called NADH-ubiquinone oxidoreductase 49 kDa subunit-like protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	C	441	Total	C	N	O	S	0	0
			3468	2205	604	640	19		

There are 7 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
C	?	-	LYS	deletion	UNP G0SCG0
C	?	-	LEU	deletion	UNP G0SCG0
C	?	-	THR	deletion	UNP G0SCG0
C	?	-	ILE	deletion	UNP G0SCG0
C	?	-	ALA	deletion	UNP G0SCG0
C	?	-	PRO	deletion	UNP G0SCG0
C	?	-	LYS	deletion	UNP G0SCG0

- Molecule 12 is a protein called Subunit NDUFA1 of NADH-ubiquinone oxidoreductase (Complex I).

Mol	Chain	Residues	Atoms					AltConf	Trace
12	D	85	Total	C	N	O	S	0	0
			678	432	127	115	4		

- Molecule 13 is a protein called NADH dehydrogenase (Ubiquinone)-like protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	E	337	Total	C	N	O	S	0	0
			2741	1743	484	505	9		

There are 10 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
E	103	GLU	-	insertion	UNP G0SB35
E	104	PHE	-	insertion	UNP G0SB35
E	105	ASP	-	insertion	UNP G0SB35
E	106	LEU	-	insertion	UNP G0SB35
E	107	ARG	-	insertion	UNP G0SB35
E	108	ASN	-	insertion	UNP G0SB35
E	109	THR	-	insertion	UNP G0SB35
E	110	GLN	-	insertion	UNP G0SB35
E	233	HIS	-	insertion	UNP G0SB35
E	234	VAL	-	insertion	UNP G0SB35

- Molecule 14 is a protein called NADH-ubiquinone oxidoreductase-like protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	F	238	Total	C	N	O	S	0	0
			1884	1189	328	366	1		

- Molecule 15 is a protein called NADH-ubiquinone oxidoreductase 30.4 kDa subunit-like protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	G	242	Total	C	N	O	S	0	0
			1968	1271	329	361	7		

- Molecule 16 is a protein called Subunit NDUFV2 of NADH-ubiquinone oxidoreductase (Complex I).

Mol	Chain	Residues	Atoms					AltConf	Trace
16	H	221	Total	C	N	O	S	0	0
			1698	1069	288	327	14		

- Molecule 17 is a protein called Oxidoreductase-like protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	I	185	Total	C	N	O	S	0	0
			1487	941	252	282	12		

- Molecule 18 is a protein called NADH-ubiquinone oxidoreductase-like protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	J	186	Total	C	N	O	S	0	0
			1375	872	259	242	2		

- Molecule 19 is a protein called NADH-ubiquinone oxidoreductase-like protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	K	182	Total	C	N	O	S	0	0
			1454	927	255	257	15		

- Molecule 20 is a protein called NADH-ubiquinone oxidoreductase chain 4L.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	L	88	Total	C	N	O	S	0	0
			671	450	103	115	3		

- Molecule 21 is a protein called NADH-ubiquinone oxidoreductase-like protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	M	117	Total	C	N	O	S	0	0
			930	581	177	167	5		

There are 20 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
M	149	ALA	SER	conflict	UNP G0S6J1
M	150	ASN	-	insertion	UNP G0S6J1
M	151	GLU	-	insertion	UNP G0S6J1
M	152	HIS	-	insertion	UNP G0S6J1
M	153	HIS	-	insertion	UNP G0S6J1
M	154	ARG	-	insertion	UNP G0S6J1
M	155	LYS	-	insertion	UNP G0S6J1
M	156	TYR	-	insertion	UNP G0S6J1
M	157	LEU	-	insertion	UNP G0S6J1
M	158	GLU	-	insertion	UNP G0S6J1
M	159	SER	-	insertion	UNP G0S6J1
M	160	LEU	-	insertion	UNP G0S6J1
M	161	PRO	-	insertion	UNP G0S6J1
M	162	GLN	-	insertion	UNP G0S6J1
M	163	THR	-	insertion	UNP G0S6J1
M	164	SER	-	insertion	UNP G0S6J1
M	165	TYR	-	insertion	UNP G0S6J1

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Chain	Residue	Modelled	Actual	Comment	Reference
M	166	PRO	-	insertion	UNP G0S6J1
M	167	LEU	-	insertion	UNP G0S6J1
M	168	ASN	-	insertion	UNP G0S6J1

- Molecule 22 is a protein called Acyl carrier protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	O	82	Total	C	N	O	S	0	0
			631	397	102	131	1		
22	Q	85	Total	C	N	O	S	0	0
			666	419	109	137	1		

- Molecule 23 is a protein called NADH-ubiquinone oxidoreductase B14 subunit-like protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	P	115	Total	C	N	O	S	0	0
			962	613	180	166	3		

- Molecule 24 is a protein called Complex I-B22.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	R	98	Total	C	N	O	S	0	0
			807	520	149	137	1		

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

Mol	Chain	Residues	Atoms				AltConf	Trace
25	S	74	Total	C	N	O	0	0
			610	401	98	111		

- Molecule 26 is a protein called NADH-ubiquinone oxidoreductase.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	U	169	Total	C	N	O	S	0	0
			1365	860	254	242	9		

- Molecule 27 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 13.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	W	120	Total	C	N	O	S	0	0
			976	623	182	168	3		

- Molecule 28 is a protein called NADH-ubiquinone oxidoreductase-like protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	X	187	Total	C	N	O	S	0	0
			1472	937	267	260	8		

- Molecule 29 is a protein called NADH dehydrogenase [ubiquinone] iron-sulfur protein 4, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	Y	154	Total	C	N	O	S	0	0
			1240	788	219	229	4		

- Molecule 30 is a protein called NADH-ubiquinone oxidoreductase-like protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	Z	186	Total	C	N	O	S	0	0
			1432	898	254	278	2		

There are 8 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Z	189	SER	-	insertion	UNP G0SEF0
Z	190	TYR	-	insertion	UNP G0SEF0
Z	191	PRO	-	insertion	UNP G0SEF0
Z	192	CYS	-	insertion	UNP G0SEF0
Z	193	ARG	-	insertion	UNP G0SEF0
Z	194	SER	-	insertion	UNP G0SEF0
Z	195	PHE	-	insertion	UNP G0SEF0
Z	196	VAL	-	insertion	UNP G0SEF0

- Molecule 31 is a protein called NADH dehydrogenase (Ubiquinone)-like protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	a	143	Total	C	N	O	S	0	0
			1167	750	195	217	5		

There are 8 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
a	166	VAL	ALA	conflict	UNP G0RXU4
a	168	ALA	MET	conflict	UNP G0RXU4
a	?	-	GLU	deletion	UNP G0RXU4
a	?	-	GLY	deletion	UNP G0RXU4
a	?	-	ASP	deletion	UNP G0RXU4
a	?	-	PRO	deletion	UNP G0RXU4
a	?	-	ASP	deletion	UNP G0RXU4
a	?	-	PRO	deletion	UNP G0RXU4

- Molecule 32 is a protein called Subunit NDUFC2 of NADH-ubiquinone oxidoreductase (Complex I).

Mol	Chain	Residues	Atoms					AltConf	Trace
32	b	81	Total	C	N	O	S	0	0
			683	445	125	110	3		

- Molecule 33 is a protein called Subunit NDUFB3 of NADH-ubiquinone oxidoreductase (Complex I).

Mol	Chain	Residues	Atoms					AltConf	Trace
33	c	60	Total	C	N	O	S	0	0
			490	320	86	82	2		

- Molecule 34 is a protein called Subunit NDUFB10 of NADH-ubiquinone oxidoreductase (Complex I).

Mol	Chain	Residues	Atoms					AltConf	Trace
34	d	99	Total	C	N	O	S	0	0
			822	523	145	150	4		

- Molecule 35 is a protein called Subunit NDUFB2 of NADH-ubiquinone oxidoreductase (Complex I).

Mol	Chain	Residues	Atoms					AltConf	Trace
35	e	37	Total	C	N	O	S	0	0
			309	211	54	43	1		

- Molecule 36 is a protein called NADH dehydrogenase-like protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	f	88	Total	C	N	O	S	0	0
			717	459	127	128	3		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
f	?	-	ALA	deletion	UNP G0S1P3

- Molecule 37 is a protein called Subunit NDUFA3 of NADH-ubiquinone oxidoreductase (Complex I).

Mol	Chain	Residues	Atoms					AltConf	Trace
37	g	78	Total	C	N	O	S	0	0
			610	399	105	105	1		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
38	h	133	Total	C	N	O	S	0	0
			1118	723	194	200	1		

- Molecule 39 is a protein called Subunit NDUFB6 of NADH-ubiquinone oxidoreductase (Complex I).

Mol	Chain	Residues	Atoms					AltConf	Trace
39	i	80	Total	C	N	O	S	0	0
			677	447	117	111	2		

- Molecule 40 is a protein called Subunit NDUFB4 of NADH-ubiquinone oxidoreductase (Complex I).

Mol	Chain	Residues	Atoms					AltConf	Trace
40	j	73	Total	C	N	O	S	0	0
			603	391	108	101	3		

- Molecule 41 is a protein called Subunit NDUFB5 of NADH-ubiquinone oxidoreductase (Complex I).

Mol	Chain	Residues	Atoms					AltConf	Trace
41	n	135	Total	C	N	O	S	0	0
			1061	680	186	194	1		

There are 52 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
n	1	MET	-	initiating methionine	UNP G0S086

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Chain	Residue	Modelled	Actual	Comment	Reference
n	2	LEU	-	insertion	UNP G0S086
n	3	ALA	-	insertion	UNP G0S086
n	4	LEU	-	insertion	UNP G0S086
n	5	ARG	-	insertion	UNP G0S086
n	6	GLN	-	insertion	UNP G0S086
n	7	ARG	-	insertion	UNP G0S086
n	8	ALA	-	insertion	UNP G0S086
n	9	ALA	-	insertion	UNP G0S086
n	10	LEU	-	insertion	UNP G0S086
n	11	LEU	-	insertion	UNP G0S086
n	12	ALA	-	insertion	UNP G0S086
n	13	ARG	-	insertion	UNP G0S086
n	14	ARG	-	insertion	UNP G0S086
n	15	VAL	-	insertion	UNP G0S086
n	16	ARG	-	insertion	UNP G0S086
n	17	PRO	-	insertion	UNP G0S086
n	18	THR	-	insertion	UNP G0S086
n	19	VAL	-	insertion	UNP G0S086
n	20	VAL	-	insertion	UNP G0S086
n	21	VAL	-	insertion	UNP G0S086
n	22	PRO	-	insertion	UNP G0S086
n	23	ARG	-	insertion	UNP G0S086
n	24	ASN	-	insertion	UNP G0S086
n	25	ALA	-	insertion	UNP G0S086
n	26	ARG	-	insertion	UNP G0S086
n	27	THR	-	insertion	UNP G0S086
n	28	TYR	-	insertion	UNP G0S086
n	29	ALA	-	insertion	UNP G0S086
n	30	SER	-	insertion	UNP G0S086
n	31	SER	-	insertion	UNP G0S086
n	32	HIS	-	insertion	UNP G0S086
n	33	ASP	-	insertion	UNP G0S086
n	34	HIS	-	insertion	UNP G0S086
n	35	ASP	-	insertion	UNP G0S086
n	36	HIS	-	insertion	UNP G0S086
n	37	HIS	-	insertion	UNP G0S086
n	38	ASP	-	insertion	UNP G0S086
n	39	HIS	-	insertion	UNP G0S086
n	40	HIS	-	insertion	UNP G0S086
n	41	HIS	-	insertion	UNP G0S086
n	42	ASP	-	insertion	UNP G0S086
n	43	HIS	-	insertion	UNP G0S086

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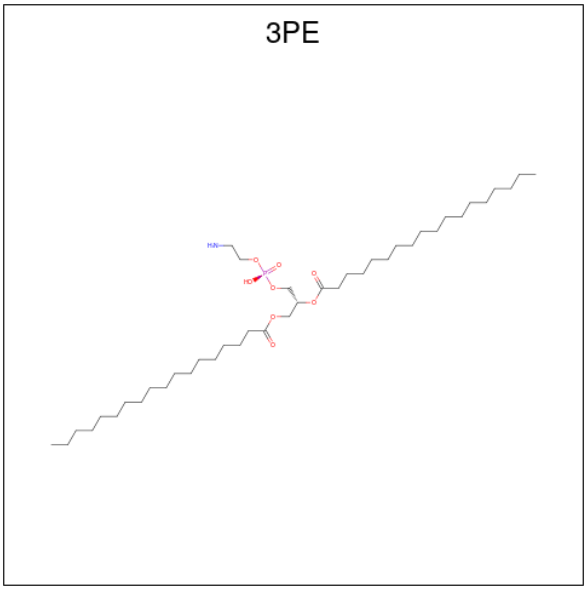
Chain	Residue	Modelled	Actual	Comment	Reference
n	44	GLY	-	insertion	UNP G0S086
n	45	HIS	-	insertion	UNP G0S086
n	46	ASN	-	insertion	UNP G0S086
n	47	VAL	-	insertion	UNP G0S086
n	48	GLU	-	insertion	UNP G0S086
n	49	GLU	-	insertion	UNP G0S086
n	50	PRO	-	insertion	UNP G0S086
n	51	LEU	-	insertion	UNP G0S086
n	52	GLY	-	insertion	UNP G0S086

- Molecule 42 is a protein called Oxidoreductase-like domain-containing protein.

Mol	Chain	Residues	Atoms				AltConf	Trace
42	o	32	Total	C	N	O	0	0
			252	165	43	44		

- Molecule 43 is 1,2-Distearoyl-sn-glycerophosphoethanolamine (three-letter code: 3PE) (formula: $C_{41}H_{82}NO_8P$).



Mol	Chain	Residues	Atoms					AltConf
43	1	1	Total	C	N	O	P	0
			50	40	1	8	1	
43	1	1	Total	C	N	O	P	0
			27	18	1	7	1	
43	4	1	Total	C	N	O	P	0
			33	23	1	8	1	

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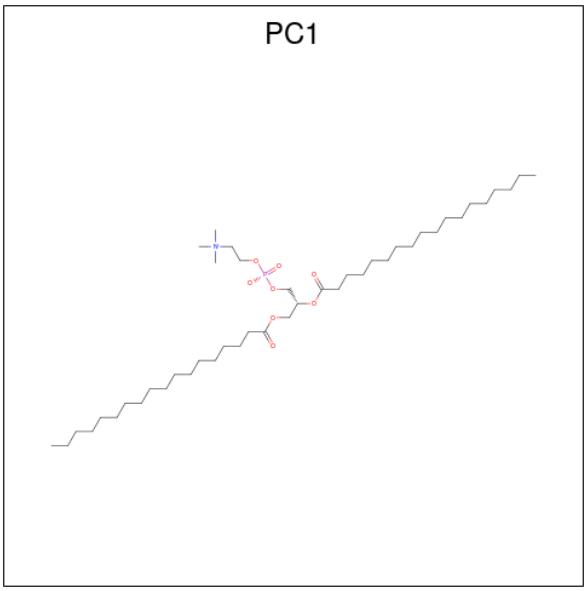
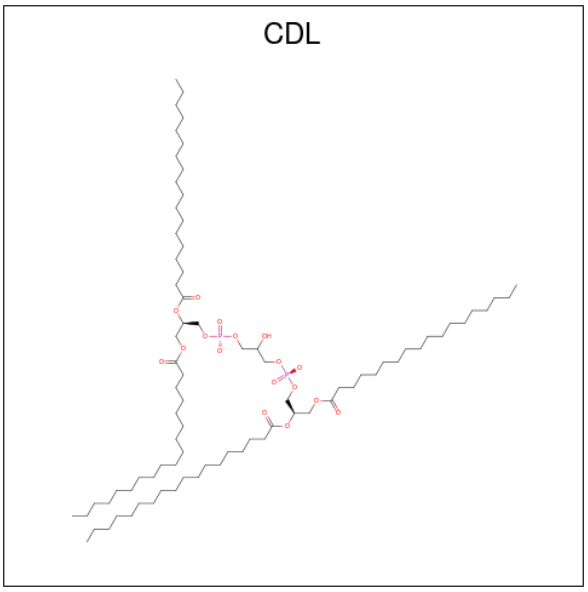
Mol	Chain	Residues	Atoms					AltConf
43	4	1	Total	C	N	O	P	0
			31	21	1	8	1	
43	5	1	Total	C	N	O	P	0
			40	30	1	8	1	
43	5	1	Total	C	N	O	P	0
			32	22	1	8	1	
43	5	1	Total	C	N	O	P	0
			32	22	1	8	1	
43	5	1	Total	C	N	O	P	0
			42	32	1	8	1	
43	5	1	Total	C	N	O	P	0
			41	31	1	8	1	
43	8	1	Total	C	N	O	P	0
			36	26	1	8	1	
43	E	1	Total	C	N	O	P	0
			27	17	1	8	1	
43	J	1	Total	C	N	O	P	0
			32	22	1	8	1	
43	W	1	Total	C	N	O	P	0
			34	24	1	8	1	
43	W	1	Total	C	N	O	P	0
			40	30	1	8	1	
43	g	1	Total	C	N	O	P	0
			35	25	1	8	1	
43	i	1	Total	C	N	O	P	0
			39	29	1	8	1	
43	n	1	Total	C	N	O	P	0
			39	29	1	8	1	

- Molecule 44 is 1,2-DIACYL-SN-GLYCERO-3-PHOSPHOCHOLINE (three-letter code: PC1) (formula: $C_{44}H_{88}NO_8P$).



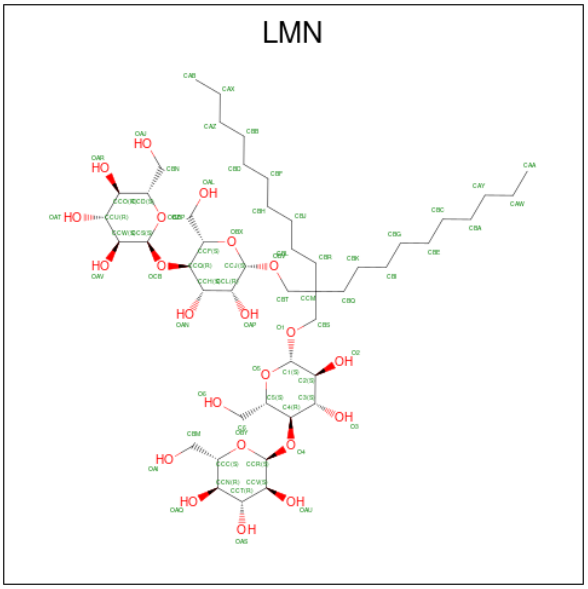
Mol	Chain	Residues	Atoms					AltConf
44	1	1	Total	C	N	O	P	0
			43	33	1	8	1	
44	2	1	Total	C	N	O	P	0
			30	20	1	8	1	
44	3	1	Total	C	N	O	P	0
			49	39	1	8	1	
44	4	1	Total	C	N	O	P	0
			50	40	1	8	1	
44	5	1	Total	C	N	O	P	0
			46	36	1	8	1	
44	5	1	Total	C	N	O	P	0
			43	33	1	8	1	
44	K	1	Total	C	N	O	P	0
			34	24	1	8	1	
44	S	1	Total	C	N	O	P	0
			51	41	1	8	1	

- Molecule 45 is CARDIOLIPIN (three-letter code: CDL) (formula: $C_{81}H_{156}O_{17}P_2$).



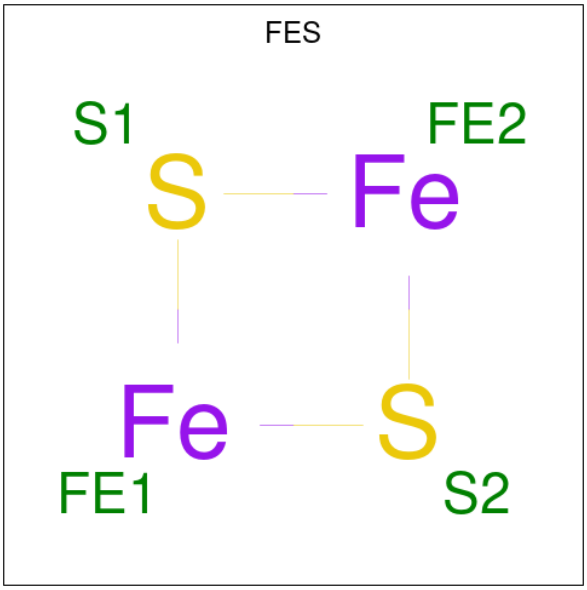
Mol	Chain	Residues	Atoms				AltConf
45	2	1	Total	C	O	P	0
			85	66	17	2	
45	4	1	Total	C	O	P	0
			83	64	17	2	
45	X	1	Total	C	O	P	0
			78	59	17	2	
45	g	1	Total	C	O	P	0
			57	38	17	2	
45	h	1	Total	C	O	P	0
			65	46	17	2	

- Molecule 46 is Lauryl Maltose Neopentyl Glycol (three-letter code: LMN) (formula: $C_{47}H_{88}O_{22}$).



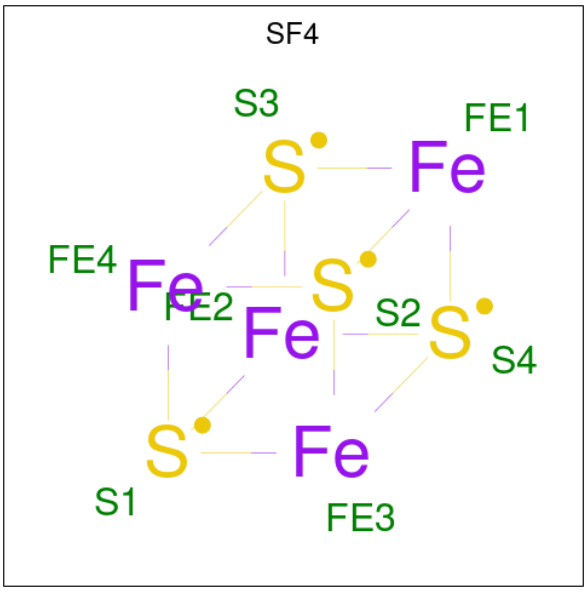
Mol	Chain	Residues	Atoms	AltConf
46	2	1	Total C O 58 41 17	0
46	J	1	Total C O 58 41 17	0
46	j	1	Total C O 68 46 22	0

- Molecule 47 is FE2/S2 (INORGANIC) CLUSTER (three-letter code: FES) (formula: Fe_2S_2).



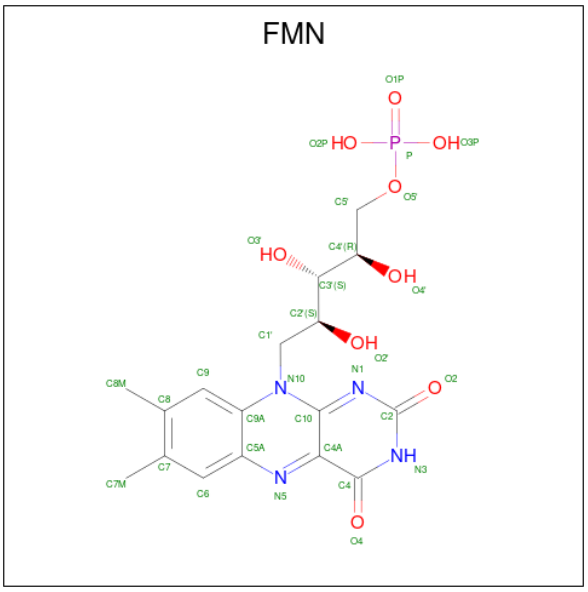
Mol	Chain	Residues	Atoms	AltConf
47	A	1	Total Fe S 4 2 2	0
47	H	1	Total Fe S 4 2 2	0

- Molecule 48 is IRON/SULFUR CLUSTER (three-letter code: SF4) (formula: Fe_4S_4).



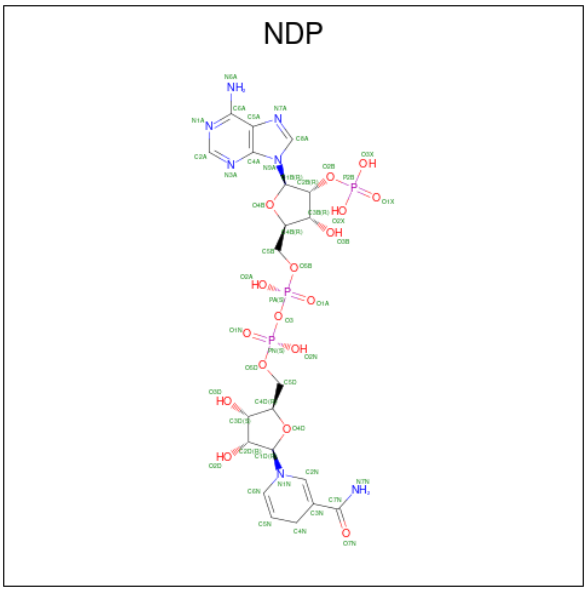
Mol	Chain	Residues	Atoms	AltConf
48	A	1	Total Fe S 8 4 4	0
48	A	1	Total Fe S 8 4 4	0
48	B	1	Total Fe S 8 4 4	0
48	I	1	Total Fe S 8 4 4	0
48	I	1	Total Fe S 8 4 4	0
48	K	1	Total Fe S 8 4 4	0

- Molecule 49 is FLAVIN MONONUCLEOTIDE (three-letter code: FMN) (formula: $C_{17}H_{21}N_4O_9P$).



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

- Molecule 50 is NADPH DIHYDRO-NICOTINAMIDE-ADENINE-DINUCLEOTIDE PHOSPHATE (three-letter code: NDP) (formula: $C_{21}H_{30}N_7O_{17}P_3$).

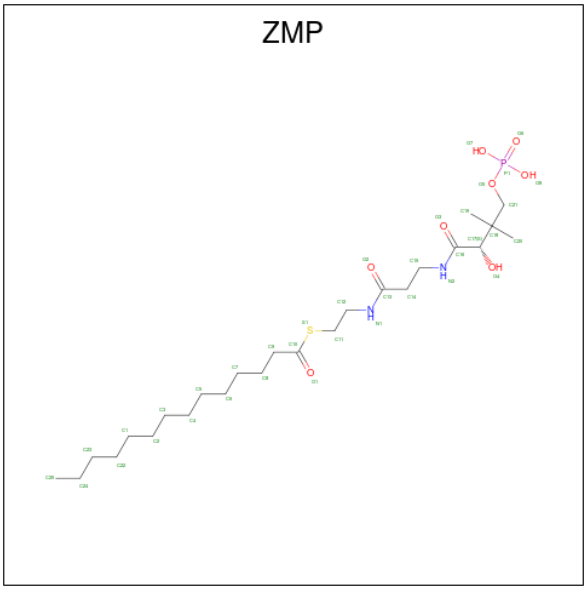


Mol	Chain	Residues	Atoms					AltConf
50	E	1	Total	C	N	O	P	0
			48	21	7	17	3	

- Molecule 51 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms	AltConf
51	M	1	Total Zn 1 1	0

- Molecule 52 is S-[2-({N-[(2S)-2-hydroxy-3,3-dimethyl-4-(phosphonooxy)butanoyl]-beta-alanyl}amino)ethyl] tetradecanethioate (three-letter code: ZMP) (formula: $C_{25}H_{49}N_2O_8PS$).



Mol	Chain	Residues	Atoms	AltConf
52	O	1	Total C N O P S 36 25 2 7 1 1	0
52	Q	1	Total C N O P S 36 25 2 7 1 1	0

- Molecule 53 is water.

Mol	Chain	Residues	Atoms	AltConf
53	1	90	Total O 90 90	0
53	2	137	Total O 137 137	0
53	3	39	Total O 39 39	0
53	4	56	Total O 56 56	0
53	5	16	Total O 16 16	0
53	6	43	Total O 43 43	0

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Mol	Chain	Residues	Atoms	AltConf
53	9	14	Total O 14 14	0
53	A	197	Total O 197 197	0
53	B	30	Total O 30 30	0
53	C	166	Total O 166 166	0
53	D	22	Total O 22 22	0
53	E	62	Total O 62 62	0
53	F	29	Total O 29 29	0
53	G	99	Total O 99 99	0
53	H	5	Total O 5 5	0
53	I	84	Total O 84 84	0
53	K	83	Total O 83 83	0
53	L	11	Total O 11 11	0
53	M	34	Total O 34 34	0
53	P	24	Total O 24 24	0
53	S	1	Total O 1 1	0
53	U	38	Total O 38 38	0
53	W	39	Total O 39 39	0
53	X	50	Total O 50 50	0
53	Y	91	Total O 91 91	0
53	Z	40	Total O 40 40	0
53	a	4	Total O 4 4	0

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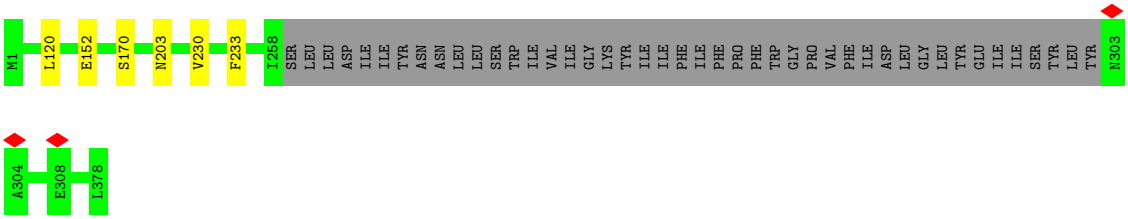
Mol	Chain	Residues	Atoms	AltConf
53	b	2	Total O 2 2	0
53	d	4	Total O 4 4	0
53	f	1	Total O 1 1	0
53	g	9	Total O 9 9	0
53	h	46	Total O 46 46	0
53	j	3	Total O 3 3	0
53	n	24	Total O 24 24	0

3 Residue-property plots (i)

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

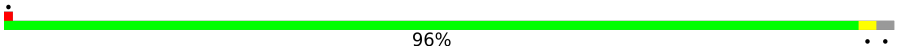
• Molecule 1: NADH-ubiquinone oxidoreductase chain 1

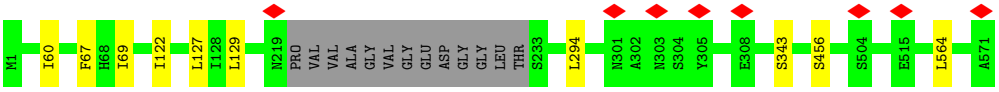
Chain 1:



• Molecule 2: NADH dehydrogenase subunit 2

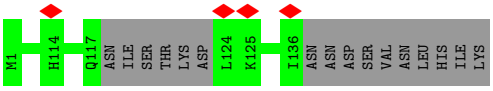
Chain 2:





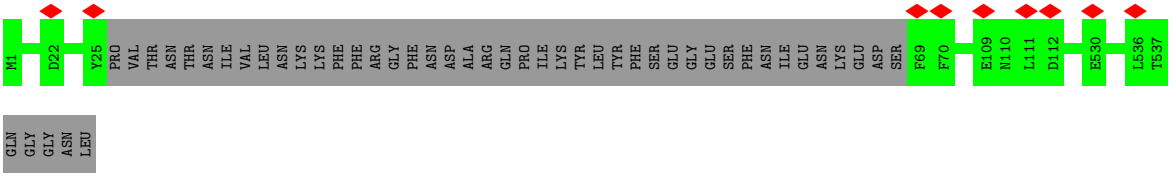
• Molecule 3: NADH-ubiquinone oxidoreductase chain 3

Chain 3:



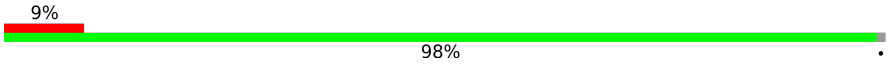
• Molecule 4: NADH-ubiquinone oxidoreductase chain 4

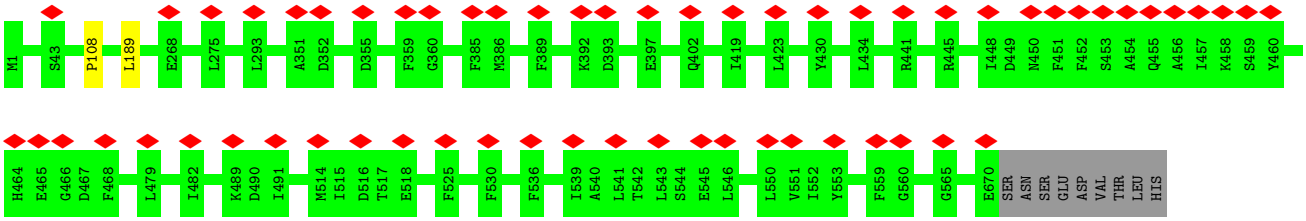
Chain 4:



• Molecule 5: NADH-ubiquinone oxidoreductase chain 5

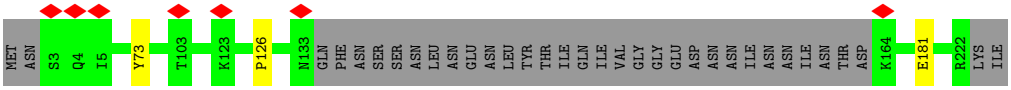
Chain 5:





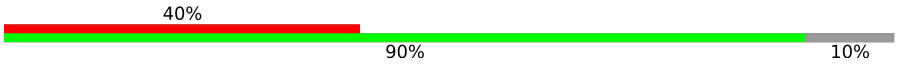
• Molecule 6: NADH-ubiquinone oxidoreductase chain 6

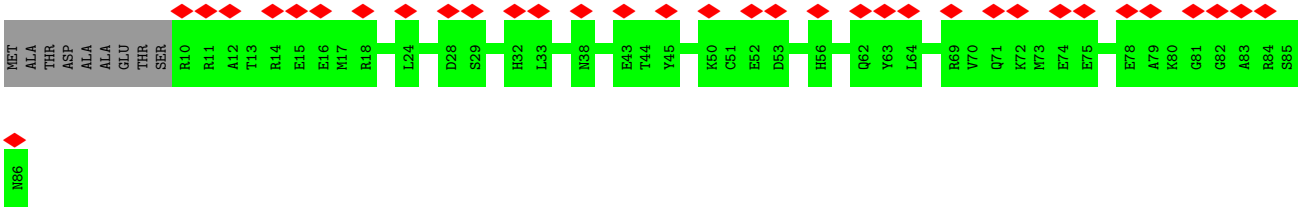
Chain 6:



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

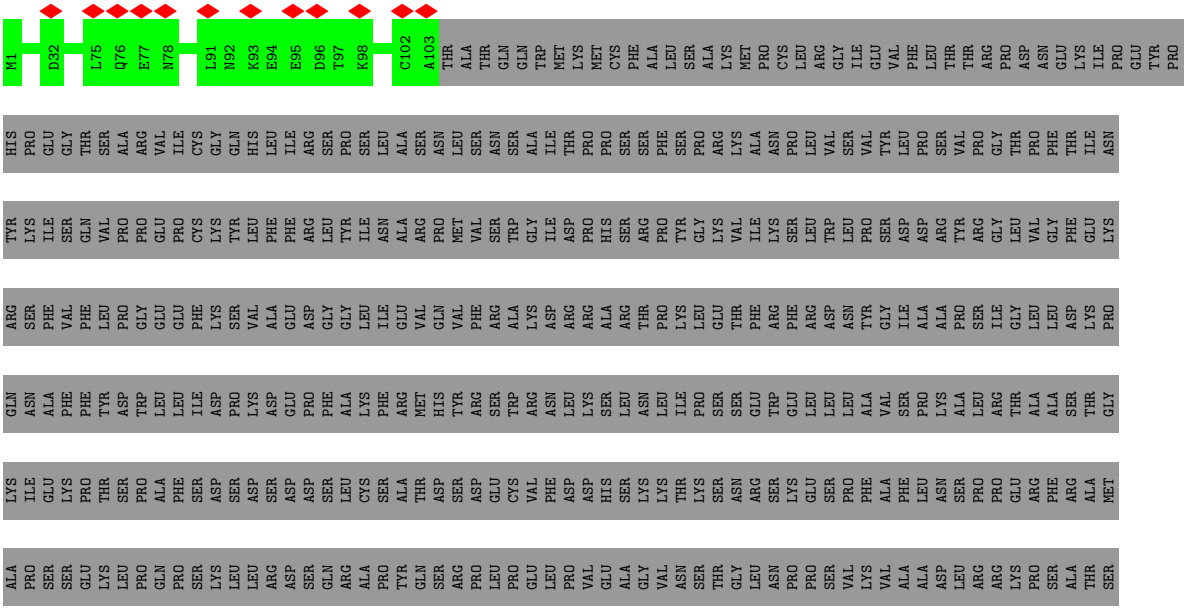
Chain 8:

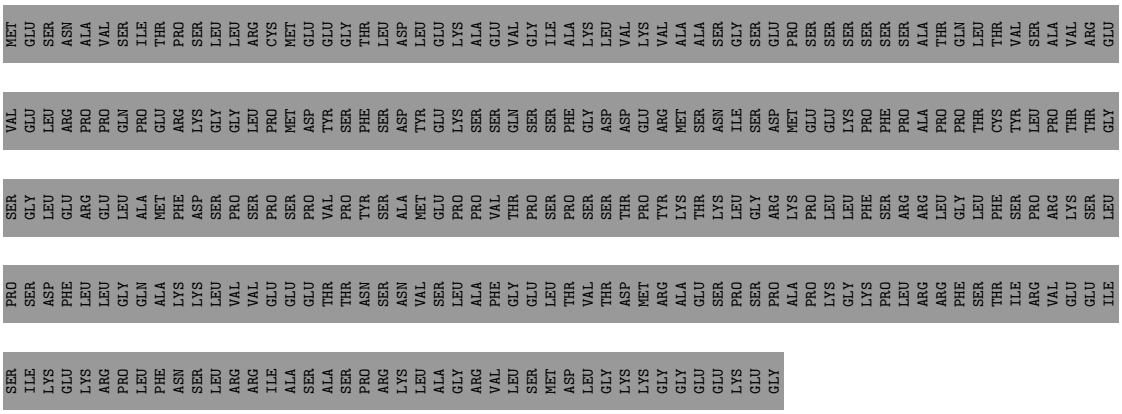




• Molecule 8: Subunit NDUFS5 of NADH-ubiquinone oxidoreductase (Complex I)

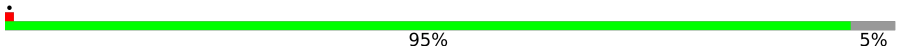
Chain 9:

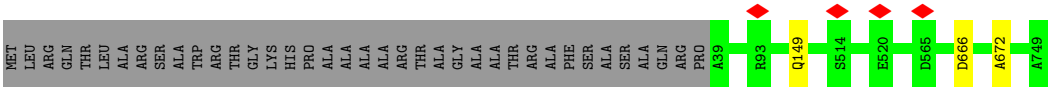




• Molecule 9: NADH-ubiquinone oxidoreductase-like protein

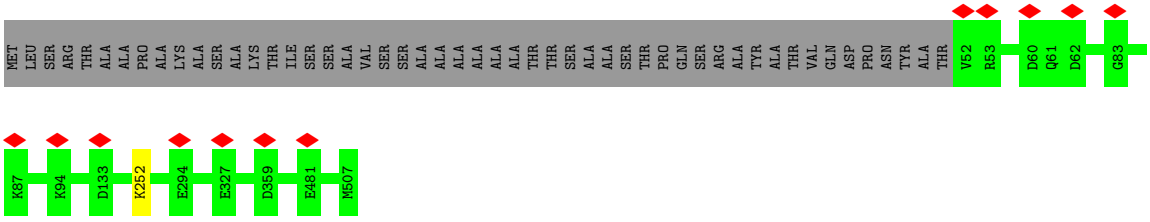
Chain A:





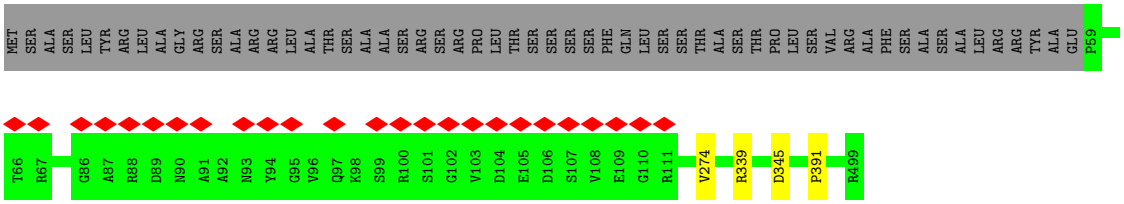
• Molecule 10: NADH dehydrogenase [ubiquinone] flavoprotein 1, mitochondrial

Chain B:



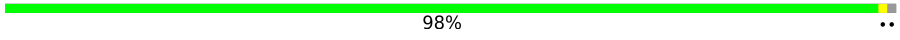
• Molecule 11: NADH-ubiquinone oxidoreductase 49 kDa subunit-like protein

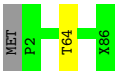
Chain C:



• Molecule 12: Subunit NDUFA1 of NADH-ubiquinone oxidoreductase (Complex I)

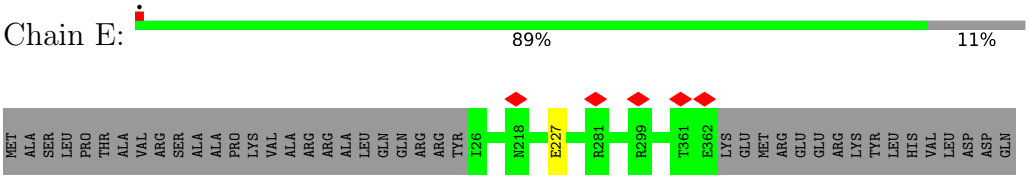
Chain D:





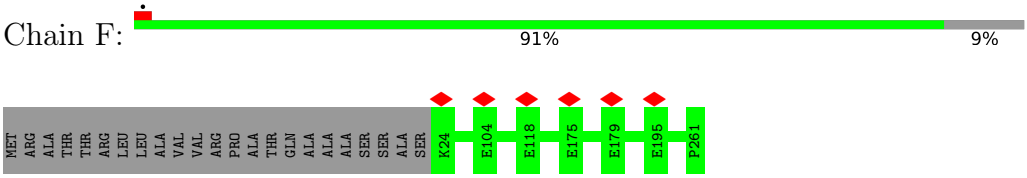
• Molecule 13: NADH dehydrogenase (Ubiquinone)-like protein

Chain E:



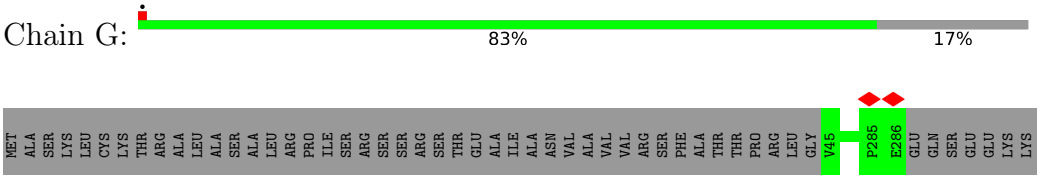
• Molecule 14: NADH-ubiquinone oxidoreductase-like protein

Chain F:



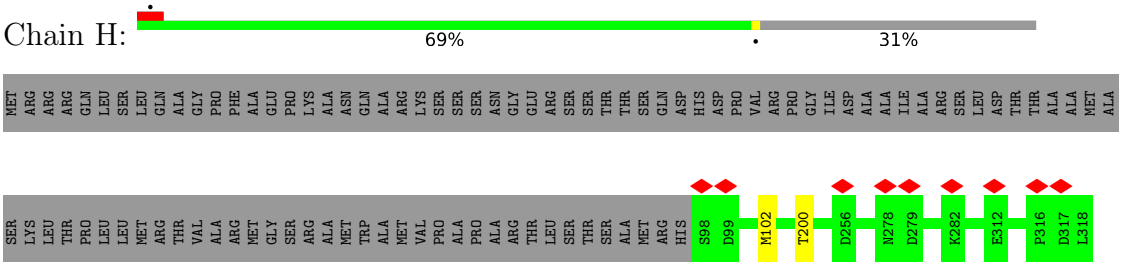
• Molecule 15: NADH-ubiquinone oxidoreductase 30.4 kDa subunit-like protein

Chain G:



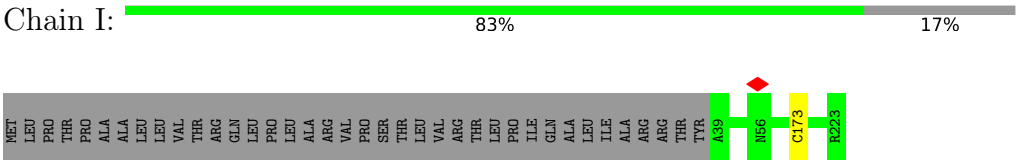
• Molecule 16: Subunit NDUFV2 of NADH-ubiquinone oxidoreductase (Complex I)

Chain H:



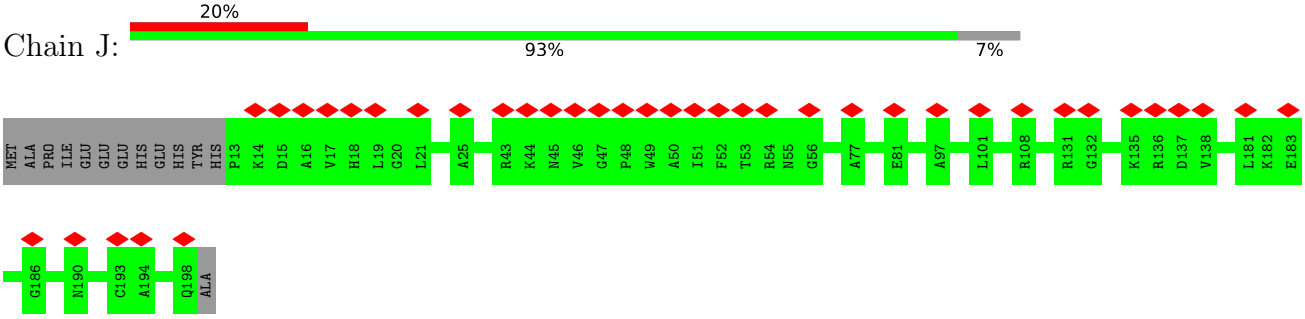
• Molecule 17: Oxidoreductase-like protein

Chain I:



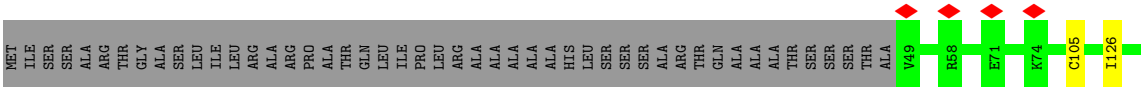
• Molecule 18: NADH-ubiquinone oxidoreductase-like protein

Chain J:



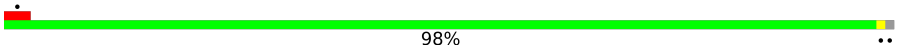
• Molecule 19: NADH-ubiquinone oxidoreductase-like protein

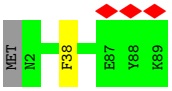
Chain K:



• Molecule 20: NADH-ubiquinone oxidoreductase chain 4L

Chain L:



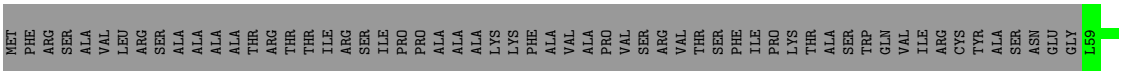


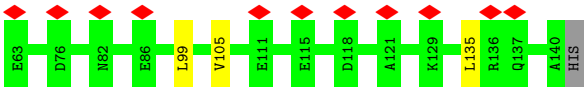
• Molecule 21: NADH-ubiquinone oxidoreductase-like protein

Chain M:

• Molecule 22: Acyl carrier protein

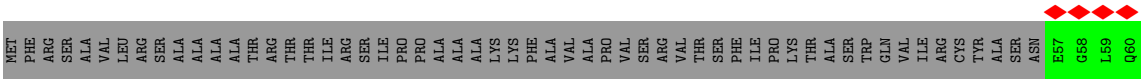
Chain O:

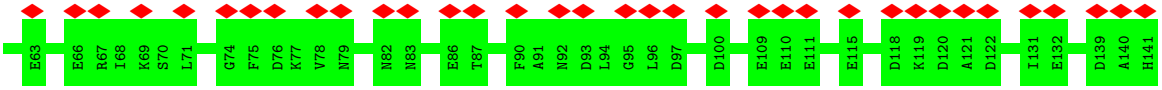




• Molecule 22: Acyl carrier protein

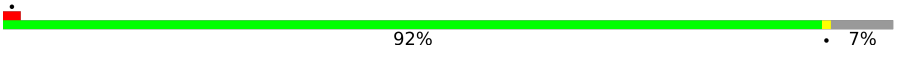
Chain Q:

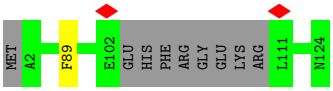




• Molecule 23: NADH-ubiquinone oxidoreductase B14 subunit-like protein

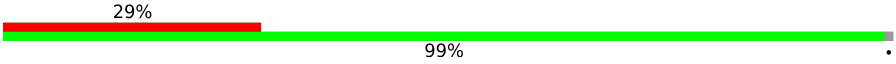
Chain P:

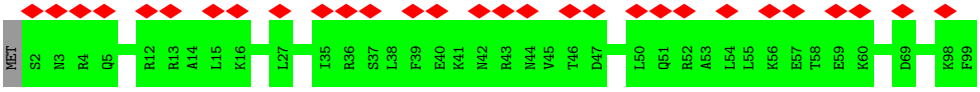




• Molecule 24: Complex I-B22

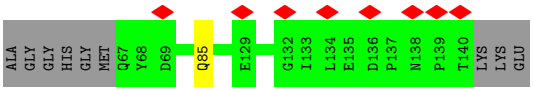
Chain R:





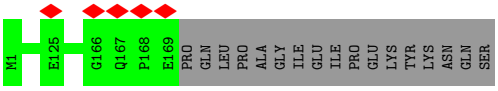
• Molecule 25: Complex I-ESSS

Chain S:



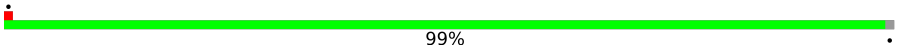
• Molecule 26: NADH-ubiquinone oxidoreductase

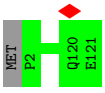
Chain U:



• Molecule 27: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 13

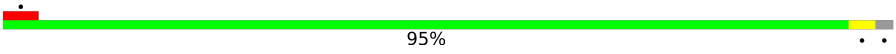
Chain W:

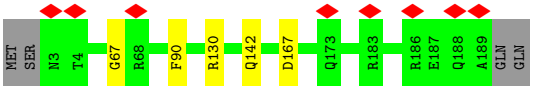




• Molecule 28: NADH-ubiquinone oxidoreductase-like protein

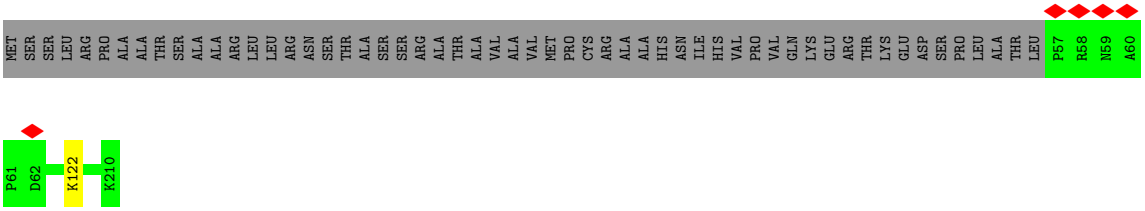
Chain X:



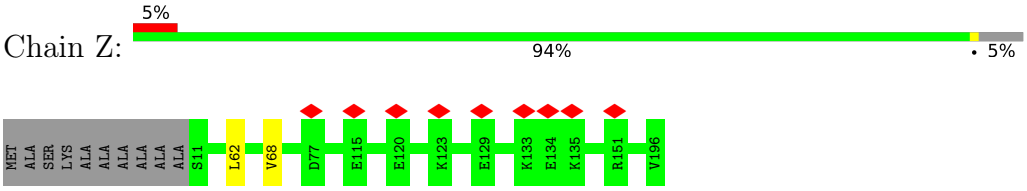


• Molecule 29: NADH dehydrogenase [ubiquinone] iron-sulfur protein 4, mitochondrial

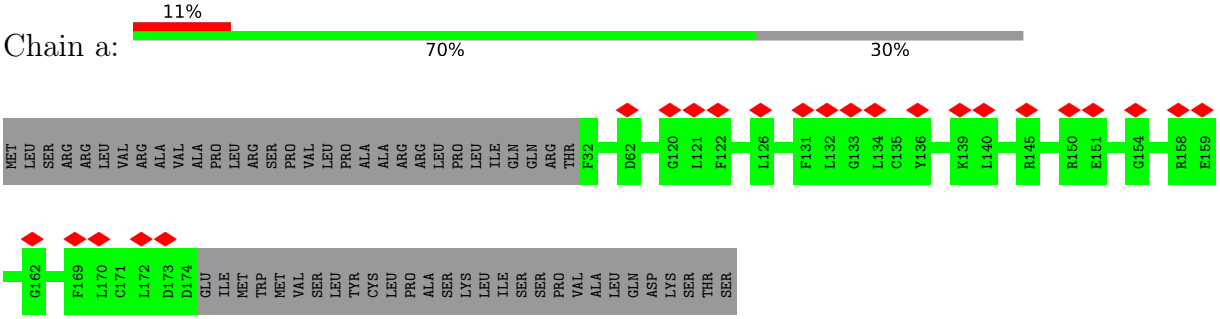
Chain Y:



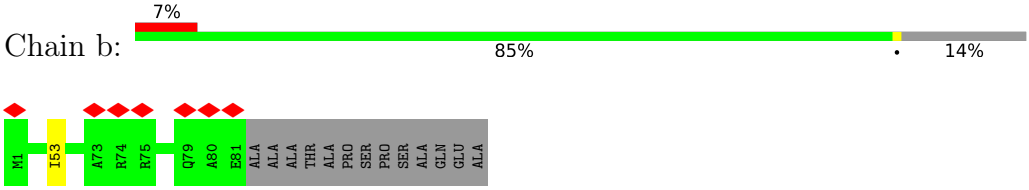
• Molecule 30: NADH-ubiquinone oxidoreductase-like protein



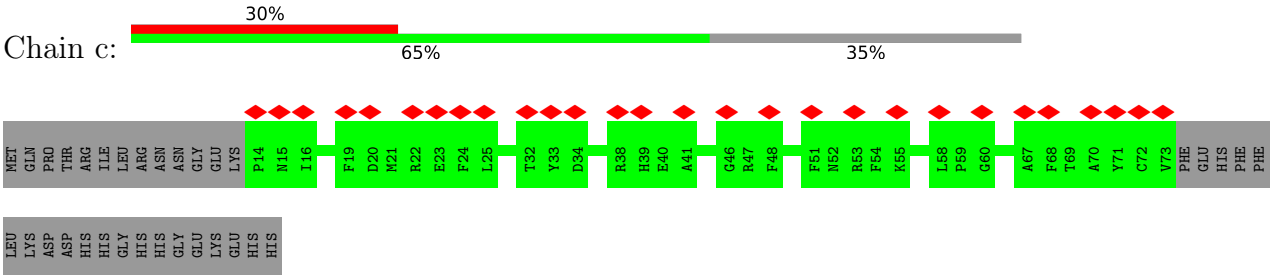
• Molecule 31: NADH dehydrogenase (Ubiquinone)-like protein



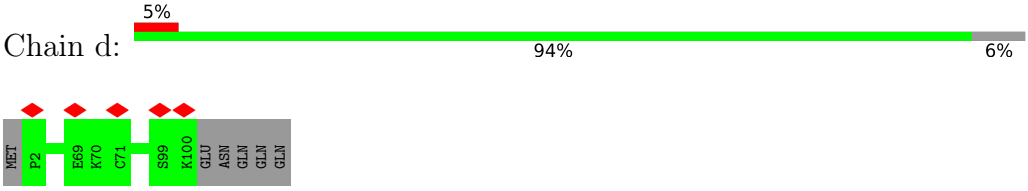
• Molecule 32: Subunit NDUFC2 of NADH-ubiquinone oxidoreductase (Complex I)



• Molecule 33: Subunit NDUFB3 of NADH-ubiquinone oxidoreductase (Complex I)

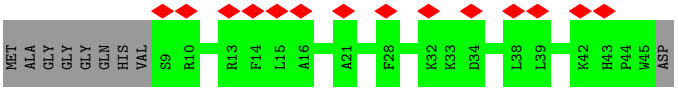


• Molecule 34: Subunit NDUFB10 of NADH-ubiquinone oxidoreductase (Complex I)



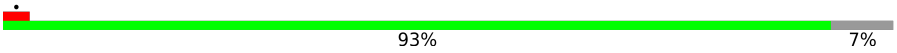
• Molecule 35: Subunit NDUFB2 of NADH-ubiquinone oxidoreductase (Complex I)

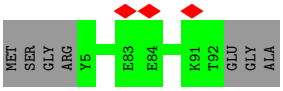
Chain e:



• Molecule 36: NADH dehydrogenase-like protein

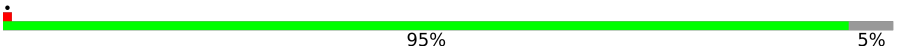
Chain f:

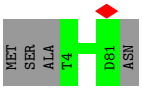




• Molecule 37: Subunit NDUFA3 of NADH-ubiquinone oxidoreductase (Complex I)

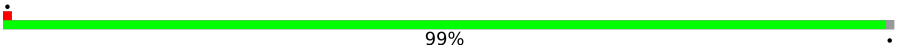
Chain g:

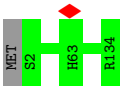




• Molecule 38: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit

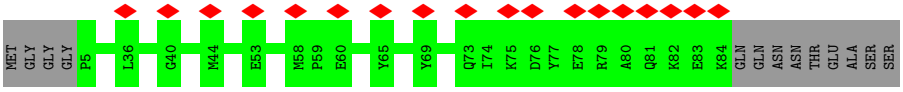
Chain h:





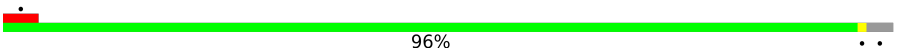
• Molecule 39: Subunit NDUFB6 of NADH-ubiquinone oxidoreductase (Complex I)

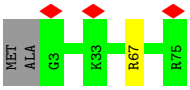
Chain i:



• Molecule 40: Subunit NDUFB4 of NADH-ubiquinone oxidoreductase (Complex I)

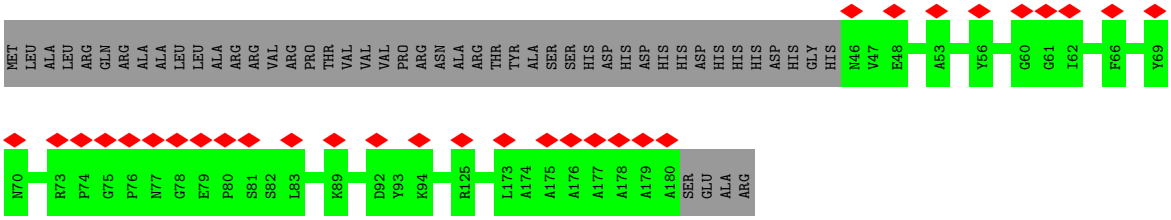
Chain j:





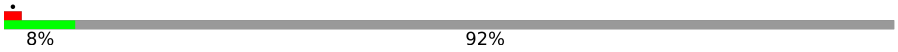
• Molecule 41: Subunit NDUFB5 of NADH-ubiquinone oxidoreductase (Complex I)

Chain n:



• Molecule 42: Oxidoreductase-like domain-containing protein

Chain o:



4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	21989	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	45	Depositor
Minimum defocus (nm)	500	Depositor
Maximum defocus (nm)	3000	Depositor
Magnification	105000	Depositor
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	2.675	Depositor
Minimum map value	-1.374	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.110	Depositor
Recommended contour level	0.12	Depositor
Map size (Å)	159.03, 221.80501, 319.734	wwPDB
Map dimensions	382, 265, 190	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.837, 0.837, 0.837	Depositor

5 Model quality (i)

5.1 Standard geometry (i)

Bond lengths and bond angles in the following residue types are not validated in this section: LMN, NDP, ZN, 3PE, FES, PC1, CDL, ZMP, FMN, SF4, 2MR

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	1	0.50	0/2633	0.65	0/3593
2	2	0.50	1/4562 (0.0%)	0.64	2/6205 (0.0%)
3	3	0.51	0/1053	0.64	0/1428
4	4	0.41	0/4002	0.54	0/5454
5	5	0.36	0/5414	0.51	0/7371
6	6	0.49	0/1479	0.68	0/2017
7	8	0.25	0/671	0.42	0/896
8	9	0.46	0/824	0.62	0/1112
9	A	0.42	0/5589	0.59	1/7579 (0.0%)
10	B	0.39	0/3621	0.54	0/4878
11	C	0.46	0/3542	0.60	2/4806 (0.0%)
12	D	0.47	0/674	0.70	0/911
13	E	0.40	0/2807	0.54	0/3807
14	F	0.38	0/1924	0.51	0/2609
15	G	0.43	0/2026	0.55	0/2759
16	H	0.40	0/1737	0.58	1/2362 (0.0%)
17	I	0.50	0/1527	0.67	0/2070
18	J	0.32	0/1400	0.46	0/1892
19	K	0.47	0/1493	0.66	1/2026 (0.0%)
20	L	0.50	0/677	0.67	0/917
21	M	0.47	0/961	0.60	0/1309
22	O	0.49	0/640	0.56	0/871
22	Q	0.28	0/676	0.47	0/917
23	P	0.39	0/986	0.48	0/1333
24	R	0.27	0/832	0.45	0/1133
25	S	0.36	0/635	0.49	0/869
26	U	0.51	0/1403	0.71	0/1904
27	W	0.48	0/1001	0.66	0/1354
28	X	0.48	0/1511	0.65	0/2043
29	Y	0.38	0/1277	0.54	0/1731
30	Z	0.42	0/1466	0.55	0/1997
31	a	0.31	0/1204	0.46	0/1632

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
32	b	0.35	0/701	0.50	0/939
33	c	0.27	0/509	0.41	0/691
34	d	0.41	0/840	0.56	0/1130
35	e	0.29	0/324	0.41	0/440
36	f	0.42	0/731	0.59	0/981
37	g	0.44	0/631	0.58	0/868
38	h	0.40	0/1158	0.53	0/1577
39	i	0.37	0/706	0.45	0/960
40	j	0.37	0/617	0.51	0/830
41	n	0.45	0/1092	0.58	0/1481
42	o	0.32	0/262	0.41	0/360
All	All	0.42	1/67818 (0.0%)	0.57	7/92042 (0.0%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand.A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
10	B	0	1

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	2	122	ILE	C-N	5.69	1.47	1.34

All (7) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
11	C	339	ARG	CB-CA-C	5.79	121.99	110.40
16	H	102	MET	CB-CG-SD	5.60	129.21	112.40
11	C	345	ASP	CB-CA-C	5.51	121.42	110.40
2	2	122	ILE	O-C-N	5.45	131.42	122.70
9	A	149	GLN	CB-CA-C	-5.42	99.55	110.40
2	2	67	PHE	CB-CA-C	5.29	120.97	110.40
19	K	230	LYS	CD-CE-NZ	-5.09	99.98	111.70

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
10	B	252	LYS	Peptide

5.2 Too-close contacts (i)

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

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	1	330/378 (87%)	318 (96%)	12 (4%)	0	100	100
2	2	554/571 (97%)	543 (98%)	11 (2%)	0	100	100
3	3	126/146 (86%)	117 (93%)	9 (7%)	0	100	100
4	4	490/542 (90%)	476 (97%)	14 (3%)	0	100	100
5	5	668/679 (98%)	614 (92%)	53 (8%)	1 (0%)	48	70
6	6	186/224 (83%)	173 (93%)	13 (7%)	0	100	100
7	8	75/86 (87%)	68 (91%)	7 (9%)	0	100	100
8	9	101/785 (13%)	100 (99%)	1 (1%)	0	100	100
9	A	709/749 (95%)	680 (96%)	28 (4%)	1 (0%)	48	70
10	B	454/507 (90%)	437 (96%)	17 (4%)	0	100	100
11	C	438/499 (88%)	417 (95%)	21 (5%)	0	100	100
12	D	79/86 (92%)	77 (98%)	2 (2%)	0	100	100
13	E	335/378 (89%)	319 (95%)	16 (5%)	0	100	100
14	F	236/261 (90%)	224 (95%)	12 (5%)	0	100	100
15	G	240/293 (82%)	231 (96%)	9 (4%)	0	100	100
16	H	219/318 (69%)	207 (94%)	12 (6%)	0	100	100
17	I	183/223 (82%)	178 (97%)	5 (3%)	0	100	100
18	J	184/199 (92%)	178 (97%)	6 (3%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
19	K	180/230 (78%)	171 (95%)	9 (5%)	0	100	100
20	L	86/89 (97%)	85 (99%)	1 (1%)	0	100	100
21	M	115/168 (68%)	110 (96%)	5 (4%)	0	100	100
22	O	80/141 (57%)	78 (98%)	2 (2%)	0	100	100
22	Q	83/141 (59%)	79 (95%)	4 (5%)	0	100	100
23	P	111/124 (90%)	108 (97%)	3 (3%)	0	100	100
24	R	96/99 (97%)	94 (98%)	2 (2%)	0	100	100
25	S	72/143 (50%)	69 (96%)	3 (4%)	0	100	100
26	U	167/186 (90%)	166 (99%)	1 (1%)	0	100	100
27	W	118/121 (98%)	115 (98%)	3 (2%)	0	100	100
28	X	185/191 (97%)	181 (98%)	3 (2%)	1 (0%)	25	41
29	Y	152/210 (72%)	148 (97%)	4 (3%)	0	100	100
30	Z	184/196 (94%)	175 (95%)	9 (5%)	0	100	100
31	a	141/203 (70%)	141 (100%)	0	0	100	100
32	b	79/94 (84%)	77 (98%)	2 (2%)	0	100	100
33	c	58/93 (62%)	54 (93%)	4 (7%)	0	100	100
34	d	97/105 (92%)	92 (95%)	5 (5%)	0	100	100
35	e	35/46 (76%)	34 (97%)	1 (3%)	0	100	100
36	f	86/95 (90%)	82 (95%)	4 (5%)	0	100	100
37	g	76/82 (93%)	73 (96%)	3 (4%)	0	100	100
38	h	131/134 (98%)	127 (97%)	4 (3%)	0	100	100
39	i	78/93 (84%)	74 (95%)	4 (5%)	0	100	100
40	j	71/75 (95%)	68 (96%)	3 (4%)	0	100	100
41	n	133/184 (72%)	128 (96%)	5 (4%)	0	100	100
42	o	30/380 (8%)	29 (97%)	1 (3%)	0	100	100
All	All	8251/10547 (78%)	7915 (96%)	333 (4%)	3 (0%)	100	100

All (3) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
9	A	672	ALA
28	X	67	GLY
5	5	108	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	1	284/326 (87%)	278 (98%)	6 (2%)	48 69
2	2	509/518 (98%)	501 (98%)	8 (2%)	58 75
3	3	111/128 (87%)	111 (100%)	0	100 100
4	4	431/477 (90%)	431 (100%)	0	100 100
5	5	579/596 (97%)	578 (100%)	1 (0%)	92 96
6	6	162/203 (80%)	159 (98%)	3 (2%)	52 71
7	8	69/75 (92%)	69 (100%)	0	100 100
8	9	84/687 (12%)	84 (100%)	0	100 100
9	A	577/602 (96%)	576 (100%)	1 (0%)	92 96
10	B	366/401 (91%)	366 (100%)	0	100 100
11	C	362/416 (87%)	360 (99%)	2 (1%)	84 90
12	D	68/69 (99%)	67 (98%)	1 (2%)	60 76
13	E	299/335 (89%)	298 (100%)	1 (0%)	91 95
14	F	199/219 (91%)	199 (100%)	0	100 100
15	G	215/257 (84%)	215 (100%)	0	100 100
16	H	190/272 (70%)	189 (100%)	1 (0%)	86 92
17	I	158/191 (83%)	157 (99%)	1 (1%)	84 90
18	J	126/146 (86%)	126 (100%)	0	100 100
19	K	158/191 (83%)	155 (98%)	3 (2%)	52 71
20	L	73/76 (96%)	72 (99%)	1 (1%)	62 78
21	M	97/135 (72%)	97 (100%)	0	100 100
22	O	68/119 (57%)	65 (96%)	3 (4%)	24 43
22	Q	73/119 (61%)	73 (100%)	0	100 100
23	P	101/110 (92%)	100 (99%)	1 (1%)	73 84
24	R	87/89 (98%)	87 (100%)	0	100 100
25	S	59/111 (53%)	58 (98%)	1 (2%)	56 74

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
26	U	149/167 (89%)	149 (100%)	0	100 100
27	W	100/102 (98%)	100 (100%)	0	100 100
28	X	143/152 (94%)	139 (97%)	4 (3%)	38 60
29	Y	131/176 (74%)	130 (99%)	1 (1%)	79 88
30	Z	152/155 (98%)	150 (99%)	2 (1%)	65 80
31	a	123/177 (70%)	123 (100%)	0	100 100
32	b	67/74 (90%)	66 (98%)	1 (2%)	60 76
33	c	47/80 (59%)	47 (100%)	0	100 100
34	d	87/94 (93%)	87 (100%)	0	100 100
35	e	29/35 (83%)	29 (100%)	0	100 100
36	f	76/80 (95%)	76 (100%)	0	100 100
37	g	65/69 (94%)	65 (100%)	0	100 100
38	h	117/119 (98%)	117 (100%)	0	100 100
39	i	68/78 (87%)	68 (100%)	0	100 100
40	j	63/64 (98%)	62 (98%)	1 (2%)	58 75
41	n	106/150 (71%)	106 (100%)	0	100 100
42	o	26/318 (8%)	26 (100%)	0	100 100
All	All	7054/8958 (79%)	7011 (99%)	43 (1%)	82 90

All (43) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	1	120	LEU
1	1	152	GLU
1	1	170	SER
1	1	203	ASN
1	1	230	VAL
1	1	233	PHE
2	2	60	ILE
2	2	69	ILE
2	2	127	LEU
2	2	129	LEU
2	2	294	LEU
2	2	343	SER
2	2	456	SER
2	2	564	LEU

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Mol	Chain	Res	Type
5	5	189	LEU
6	6	73	TYR
6	6	126	PRO
6	6	181	GLU
9	A	666	ASP
11	C	274	VAL
11	C	391	PRO
12	D	64	THR
13	E	227	GLU
16	H	200	THR
17	I	173	CYS
19	K	105	CYS
19	K	126	ILE
19	K	208	MET
20	L	38	PHE
22	O	99	LEU
22	O	105	VAL
22	O	135	LEU
23	P	89	PHE
25	S	85	GLN
28	X	90	PHE
28	X	130	ARG
28	X	142	GLN
28	X	167	ASP
29	Y	122	LYS
30	Z	62	LEU
30	Z	68	VAL
32	b	53	ILE
40	j	67	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (38) such sidechains are listed below:

Mol	Chain	Res	Type
1	1	54	GLN
1	1	74	ASN
1	1	147	GLN
2	2	119	HIS
2	2	398	ASN
3	3	47	GLN
4	4	470	ASN
4	4	519	HIS
5	5	109	HIS

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Mol	Chain	Res	Type
6	6	67	ASN
6	6	182	ASN
6	6	195	ASN
8	9	64	GLN
9	A	132	ASN
9	A	271	ASN
9	A	675	HIS
10	B	197	ASN
10	B	200	ASN
10	B	444	GLN
11	C	183	ASN
11	C	306	ASN
14	F	42	HIS
14	F	54	HIS
14	F	253	GLN
17	I	112	HIS
20	L	46	ASN
21	M	153	HIS
25	S	85	GLN
28	X	10	GLN
28	X	136	GLN
28	X	142	GLN
29	Y	195	ASN
30	Z	99	GLN
34	d	67	HIS
39	i	12	HIS
39	i	52	HIS
41	n	113	HIS
41	n	161	GLN

5.3.3 RNA

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains

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	$\#\|Z\| > 2$
11	2MR	C	154	11	10,12,13	0.28	0	5,13,15	0.92	0

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
11	2MR	C	154	11	-	0/10/13/15	-

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

Of 46 ligands modelled in this entry, 1 is 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	$\#\|Z\| > 2$
43	3PE	E	401	-	26,26,50	1.16	4 (15%)	29,31,55	1.32	2 (6%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
44	PC1	K	302	-	33,33,53	1.18	4 (12%)	39,41,61	1.13	2 (5%)
45	CDL	2	601	-	84,84,99	0.30	0	90,96,111	0.34	0
50	NDP	E	402	-	45,52,52	0.66	0	53,80,80	0.65	1 (1%)
52	ZMP	Q	201	22	29,35,36	0.19	0	34,42,45	0.46	0
44	PC1	5	701	-	45,45,53	1.05	5 (11%)	51,53,61	1.11	2 (3%)
48	SF4	B	601	10	0,12,12	-	-	-		
48	SF4	K	301	19	0,12,12	-	-	-		
45	CDL	h	201	-	64,64,99	0.34	0	70,76,111	0.44	0
43	3PE	n	201	-	38,38,50	0.98	4 (10%)	41,43,55	1.12	2 (4%)
48	SF4	A	802	9	0,12,12	-	-	-		
46	LMN	2	602	-	60,60,72	0.20	0	78,80,98	0.39	0
43	3PE	5	707	-	40,40,50	0.95	4 (10%)	43,45,55	1.11	2 (4%)
45	CDL	g	101	-	56,56,99	1.13	7 (12%)	62,68,111	1.29	5 (8%)
44	PC1	3	201	-	48,48,53	0.31	0	54,56,61	0.30	0
47	FES	A	801	9	0,4,4	-	-	-		
49	FMN	B	602	-	33,33,33	0.64	0	48,50,50	0.71	1 (2%)
43	3PE	5	705	-	41,41,50	0.94	4 (9%)	44,46,55	1.10	2 (4%)
43	3PE	8	101	-	35,35,50	1.01	4 (11%)	38,40,55	1.15	2 (5%)
43	3PE	J	201	-	31,31,50	1.09	4 (12%)	34,36,55	1.16	2 (5%)
44	PC1	4	603	-	49,49,53	0.98	4 (8%)	55,57,61	1.05	2 (3%)
43	3PE	i	101	-	38,38,50	0.98	4 (10%)	41,43,55	1.13	2 (4%)
46	LMN	j	101	-	71,71,72	1.63	14 (19%)	95,97,98	1.08	5 (5%)
43	3PE	5	703	-	31,31,50	1.06	4 (12%)	34,36,55	1.16	2 (5%)
43	3PE	W	201	-	33,33,50	0.93	2 (6%)	34,37,55	1.04	1 (2%)
43	3PE	1	401	-	49,49,50	0.86	3 (6%)	52,54,55	1.13	2 (3%)
43	3PE	5	704	-	31,31,50	1.06	4 (12%)	34,36,55	1.23	2 (5%)
43	3PE	g	102	-	34,34,50	1.05	4 (11%)	37,39,55	1.24	2 (5%)
48	SF4	A	803	9	0,12,12	-	-	-		
43	3PE	4	604	-	30,30,50	1.10	4 (13%)	33,35,55	1.14	2 (6%)
52	ZMP	O	201	22	29,35,36	0.25	0	34,42,45	0.51	0
43	3PE	W	202	-	39,39,50	0.96	4 (10%)	42,44,55	1.13	2 (4%)
43	3PE	4	602	-	32,32,50	0.37	0	35,37,55	0.55	1 (2%)
45	CDL	4	601	-	82,82,99	0.29	0	88,94,111	0.32	0
47	FES	H	401	16	0,4,4	-	-	-		
46	LMN	J	202	-	60,60,72	1.73	14 (23%)	78,80,98	0.95	1 (1%)
44	PC1	5	706	-	42,42,53	1.06	4 (9%)	48,50,61	1.04	2 (4%)
43	3PE	1	402	-	26,26,50	0.33	0	28,30,55	0.55	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
44	PC1	2	603	-	29,29,53	1.25	4 (13%)	35,37,61	1.12	2 (5%)
44	PC1	1	403	-	42,42,53	1.07	4 (9%)	48,50,61	1.17	2 (4%)
45	CDL	X	201	-	77,77,99	0.98	7 (9%)	83,89,111	1.11	4 (4%)
43	3PE	5	702	-	39,39,50	0.32	0	42,44,55	0.38	0
48	SF4	I	302	17	0,12,12	-	-	-		
44	PC1	S	201	-	50,50,53	0.96	4 (8%)	56,58,61	1.06	2 (3%)
48	SF4	I	301	17	0,12,12	-	-	-		

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
43	3PE	E	401	-	-	15/30/30/54	-
44	PC1	K	302	-	-	22/37/37/57	-
45	CDL	2	601	-	-	25/95/95/110	-
50	NDP	E	402	-	-	2/30/77/77	0/5/5/5
52	ZMP	Q	201	22	-	8/40/42/43	-
44	PC1	5	701	-	-	25/49/49/57	-
48	SF4	B	601	10	-	-	0/6/5/5
48	SF4	K	301	19	-	-	0/6/5/5
45	CDL	h	201	-	-	26/75/75/110	-
43	3PE	n	201	-	-	13/42/42/54	-
48	SF4	A	802	9	-	-	0/6/5/5
46	LMN	2	602	-	-	17/44/104/130	0/3/3/4
43	3PE	5	707	-	-	15/44/44/54	-
45	CDL	g	101	-	-	21/67/67/110	-
44	PC1	3	201	-	-	16/52/52/57	-
47	FES	A	801	9	-	-	0/1/1/1
49	FMN	B	602	-	-	7/18/18/18	0/3/3/3
43	3PE	5	705	-	-	18/45/45/54	-
43	3PE	8	101	-	-	18/39/39/54	-
43	3PE	J	201	-	-	21/35/35/54	-
44	PC1	4	603	-	-	32/53/53/57	-
43	3PE	i	101	-	-	13/42/42/54	-
46	LMN	j	101	-	-	22/49/129/130	0/4/4/4

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
43	3PE	5	703	-	-	16/35/35/54	-
43	3PE	W	201	-	-	14/36/36/54	-
43	3PE	1	401	-	-	28/53/53/54	-
43	3PE	5	704	-	-	13/35/35/54	-
43	3PE	g	102	-	-	21/38/38/54	-
48	SF4	A	803	9	-	-	0/6/5/5
43	3PE	4	604	-	-	13/34/34/54	-
52	ZMP	O	201	22	-	18/40/42/43	-
43	3PE	W	202	-	-	17/43/43/54	-
43	3PE	4	602	-	-	12/36/36/54	-
45	CDL	4	601	-	-	29/93/93/110	-
47	FES	H	401	16	-	-	0/1/1/1
46	LMN	J	202	-	-	27/44/104/130	0/3/3/4
44	PC1	5	706	-	-	18/46/46/57	-
43	3PE	1	402	-	-	9/29/29/54	-
44	PC1	2	603	-	-	18/33/33/57	-
44	PC1	1	403	-	-	22/46/46/57	-
45	CDL	X	201	-	-	35/88/88/110	-
43	3PE	5	702	-	-	18/43/43/54	-
48	SF4	I	302	17	-	-	0/6/5/5
44	PC1	S	201	-	-	20/54/54/57	-
48	SF4	I	301	17	-	-	0/6/5/5

All (124) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
46	J	202	LMN	O5-C1	4.75	1.53	1.41
46	j	101	LMN	O5-C1	4.60	1.53	1.41
46	J	202	LMN	CBS-CCM	4.18	1.63	1.53
46	j	101	LMN	CBS-CCM	4.06	1.62	1.53
46	j	101	LMN	CBT-CCM	3.81	1.62	1.53
46	J	202	LMN	CBT-CCM	3.72	1.62	1.53
46	j	101	LMN	CBR-CCM	3.66	1.61	1.54
46	j	101	LMN	O1-C1	-3.62	1.34	1.40
46	J	202	LMN	CBR-CCM	3.62	1.60	1.54
46	J	202	LMN	O1-C1	-3.49	1.34	1.40
46	J	202	LMN	O4-C4	3.48	1.51	1.43
45	g	101	CDL	OB6-CB4	-2.96	1.39	1.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
46	j	101	LMN	OBZ-CCS	2.91	1.49	1.41
46	j	101	LMN	OBY-CCR	2.90	1.49	1.41
46	j	101	LMN	O4-C4	2.86	1.51	1.43
46	J	202	LMN	OBZ-CCS	2.82	1.49	1.41
43	g	102	3PE	O21-C2	-2.80	1.39	1.46
45	X	201	CDL	OA6-CA4	-2.77	1.39	1.46
44	5	701	PC1	O21-C2	-2.71	1.39	1.46
43	E	401	3PE	O21-C2	-2.69	1.39	1.46
44	5	706	PC1	O21-C2	-2.62	1.40	1.46
43	g	102	3PE	O31-C3	-2.55	1.39	1.45
43	5	705	3PE	O21-C2	-2.55	1.40	1.46
43	W	202	3PE	O21-C2	-2.55	1.40	1.46
43	4	604	3PE	O21-C2	-2.55	1.40	1.46
44	2	603	PC1	O21-C2	-2.53	1.40	1.46
43	W	201	3PE	O21-C2	-2.52	1.40	1.46
44	K	302	PC1	O31-C31	2.52	1.40	1.33
44	S	201	PC1	O21-C2	-2.51	1.40	1.46
43	8	101	3PE	O21-C2	-2.50	1.40	1.46
43	i	101	3PE	O21-C2	-2.49	1.40	1.46
43	n	201	3PE	O21-C2	-2.49	1.40	1.46
43	5	707	3PE	O21-C2	-2.49	1.40	1.46
43	1	401	3PE	O21-C2	-2.47	1.40	1.46
43	J	201	3PE	O31-C31	2.46	1.40	1.33
44	K	302	PC1	O21-C2	-2.46	1.40	1.46
43	n	201	3PE	O31-C31	2.44	1.40	1.33
44	1	403	PC1	O21-C2	-2.44	1.40	1.46
46	J	202	LMN	CBQ-CCM	2.44	1.58	1.54
44	S	201	PC1	O31-C31	2.43	1.40	1.33
44	5	701	PC1	O31-C3	-2.43	1.39	1.45
43	5	704	3PE	O21-C2	-2.43	1.40	1.46
43	J	201	3PE	O21-C2	-2.42	1.40	1.46
43	5	703	3PE	O31-C31	2.42	1.40	1.33
43	4	604	3PE	O31-C31	2.41	1.40	1.33
43	5	703	3PE	O21-C2	-2.41	1.40	1.46
43	5	707	3PE	O31-C31	2.40	1.40	1.33
44	2	603	PC1	O31-C31	2.40	1.40	1.33
43	i	101	3PE	O31-C31	2.40	1.40	1.33
44	4	603	PC1	O21-C21	2.40	1.41	1.34
44	4	603	PC1	O21-C2	-2.38	1.40	1.46
46	J	202	LMN	C4-C3	-2.38	1.46	1.52
43	8	101	3PE	O31-C31	2.37	1.40	1.33
45	X	201	CDL	OB8-CB7	2.37	1.40	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
46	j	101	LMN	OBX-CCF	2.35	1.50	1.44
43	5	705	3PE	O31-C31	2.35	1.40	1.33
44	5	706	PC1	O31-C31	2.35	1.40	1.33
45	g	101	CDL	OA6-CA5	2.34	1.40	1.34
46	J	202	LMN	OBX-CCF	2.34	1.50	1.44
44	4	603	PC1	O31-C3	-2.33	1.39	1.45
45	g	101	CDL	OB8-CB7	2.32	1.40	1.33
45	g	101	CDL	OA6-CA4	-2.30	1.40	1.46
43	W	202	3PE	O31-C31	2.30	1.40	1.33
45	X	201	CDL	OA8-CA7	2.29	1.40	1.33
43	E	401	3PE	O31-C31	2.29	1.40	1.33
43	1	401	3PE	O31-C31	2.28	1.40	1.33
44	1	403	PC1	O31-C3	-2.27	1.40	1.45
43	5	704	3PE	O21-C21	2.26	1.40	1.34
43	5	704	3PE	O31-C3	-2.25	1.40	1.45
44	5	701	PC1	O31-C31	2.24	1.39	1.33
43	J	201	3PE	O21-C21	2.23	1.40	1.34
45	g	101	CDL	OA8-CA7	2.23	1.39	1.33
45	X	201	CDL	OB6-CB4	-2.21	1.41	1.46
44	4	603	PC1	O31-C31	2.21	1.39	1.33
45	X	201	CDL	OA8-CA6	-2.20	1.40	1.45
45	g	101	CDL	OB8-CB6	-2.20	1.40	1.45
46	J	202	LMN	O5-C5	2.20	1.49	1.44
44	1	403	PC1	O21-C21	2.20	1.40	1.34
44	5	706	PC1	O21-C21	2.19	1.40	1.34
44	K	302	PC1	O21-C21	2.19	1.40	1.34
43	W	201	3PE	O21-C21	2.18	1.40	1.34
44	K	302	PC1	O31-C3	-2.18	1.40	1.45
44	S	201	PC1	O21-C21	2.18	1.40	1.34
46	j	101	LMN	CBQ-CCM	2.18	1.58	1.54
44	S	201	PC1	O31-C3	-2.18	1.40	1.45
45	g	101	CDL	OA8-CA6	-2.17	1.40	1.45
46	j	101	LMN	OBX-CCJ	2.17	1.47	1.41
46	J	202	LMN	OBX-CCJ	2.17	1.47	1.41
43	i	101	3PE	O21-C21	2.16	1.40	1.34
43	n	201	3PE	O21-C21	2.16	1.40	1.34
43	8	101	3PE	O21-C21	2.16	1.40	1.34
43	5	707	3PE	O21-C21	2.14	1.40	1.34
43	5	704	3PE	O31-C31	2.14	1.39	1.33
45	X	201	CDL	OB8-CB6	-2.13	1.40	1.45
44	5	701	PC1	O21-C21	2.13	1.40	1.34
43	5	705	3PE	O31-C3	-2.13	1.40	1.45

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
44	5	701	PC1	C12-N	-2.13	1.44	1.51
46	J	202	LMN	OCB-CCQ	2.12	1.49	1.43
43	5	707	3PE	O31-C3	-2.12	1.40	1.45
43	n	201	3PE	O31-C3	-2.12	1.40	1.45
46	j	101	LMN	O5-C5	2.11	1.49	1.44
44	2	603	PC1	O21-C21	2.11	1.40	1.34
44	5	706	PC1	O31-C3	-2.11	1.40	1.45
43	W	202	3PE	O31-C3	-2.11	1.40	1.45
44	2	603	PC1	O31-C3	-2.11	1.40	1.45
43	8	101	3PE	O31-C3	-2.11	1.40	1.45
43	5	703	3PE	O21-C21	2.10	1.40	1.34
43	4	604	3PE	O31-C3	-2.10	1.40	1.45
43	4	604	3PE	O21-C21	2.10	1.40	1.34
43	5	703	3PE	O31-C3	-2.10	1.40	1.45
43	1	401	3PE	O31-C3	-2.09	1.40	1.45
44	1	403	PC1	O31-C31	2.09	1.39	1.33
43	J	201	3PE	O31-C3	-2.09	1.40	1.45
43	i	101	3PE	O31-C3	-2.08	1.40	1.45
43	W	202	3PE	O21-C21	2.07	1.40	1.34
46	j	101	LMN	CBQ-CBK	2.06	1.59	1.52
46	j	101	LMN	C3-C4	-2.04	1.46	1.52
43	5	705	3PE	O21-C21	2.04	1.40	1.34
43	E	401	3PE	O21-C21	2.04	1.40	1.34
45	X	201	CDL	OB6-CB5	2.03	1.40	1.34
46	J	202	LMN	CBQ-CBK	2.03	1.59	1.52
43	E	401	3PE	O31-C3	-2.02	1.40	1.45
43	g	102	3PE	O31-C31	2.01	1.39	1.33
43	g	102	3PE	O21-C21	2.01	1.40	1.34

All (59) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
45	g	101	CDL	OB6-CB5-C51	4.61	121.43	111.50
43	E	401	3PE	O21-C21-C22	4.52	121.25	111.50
43	5	704	3PE	O21-C21-C22	4.32	120.82	111.50
43	1	401	3PE	O21-C21-C22	4.27	120.71	111.50
44	4	603	PC1	O21-C21-C22	4.24	120.64	111.50
43	i	101	3PE	O21-C21-C22	4.15	120.45	111.50
43	g	102	3PE	O21-C21-C22	4.15	120.44	111.50
44	K	302	PC1	O21-C21-C22	4.13	120.40	111.50
43	J	201	3PE	O21-C21-C22	4.13	120.40	111.50
44	5	701	PC1	O21-C21-C22	4.12	120.39	111.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
44	1	403	PC1	O21-C21-C22	4.10	120.33	111.50
43	5	703	3PE	O21-C21-C22	4.09	120.31	111.50
43	n	201	3PE	O21-C21-C22	4.07	120.28	111.50
43	8	101	3PE	O21-C21-C22	4.05	120.24	111.50
45	X	201	CDL	OB6-CB5-C51	4.03	120.20	111.50
45	X	201	CDL	OA6-CA5-C11	4.03	120.19	111.50
44	S	201	PC1	O21-C21-C22	4.02	120.16	111.50
44	2	603	PC1	O21-C21-C22	3.96	120.04	111.50
43	5	707	3PE	O21-C21-C22	3.96	120.04	111.50
43	W	201	3PE	O21-C21-C22	3.88	119.85	111.50
43	W	202	3PE	O21-C21-C22	3.87	119.85	111.50
43	5	705	3PE	O21-C21-C22	3.87	119.85	111.50
46	j	101	LMN	CCS-OCB-CCQ	-3.78	108.61	117.96
43	4	604	3PE	O21-C21-C22	3.72	119.53	111.50
44	5	706	PC1	O21-C21-C22	3.54	119.13	111.50
46	j	101	LMN	CCR-O4-C4	-3.31	109.78	117.96
45	g	101	CDL	OB8-CB7-C71	3.27	119.95	111.38
45	g	101	CDL	OA8-CA7-C31	3.21	119.79	111.38
45	g	101	CDL	OA6-CA5-C11	3.06	118.09	111.50
43	E	401	3PE	O31-C31-C32	2.98	121.25	111.91
44	K	302	PC1	O31-C31-C32	2.95	121.18	111.91
43	1	401	3PE	O31-C31-C32	2.85	120.85	111.91
44	4	603	PC1	O31-C31-C32	2.75	120.52	111.91
45	X	201	CDL	OA8-CA7-C31	2.74	120.51	111.91
43	5	704	3PE	O31-C31-C32	2.74	120.51	111.91
43	W	202	3PE	O31-C31-C32	2.73	120.47	111.91
43	n	201	3PE	O31-C31-C32	2.70	120.38	111.91
44	1	403	PC1	O31-C31-C32	2.69	120.36	111.91
43	J	201	3PE	O31-C31-C32	2.67	120.27	111.91
43	g	102	3PE	O31-C31-C32	2.65	120.21	111.91
43	4	604	3PE	O31-C31-C32	2.63	120.17	111.91
46	j	101	LMN	C2-C3-C4	2.62	115.67	109.68
43	8	101	3PE	O31-C31-C32	2.61	120.11	111.91
44	5	706	PC1	O31-C31-C32	2.61	120.09	111.91
45	X	201	CDL	OB8-CB7-C71	2.59	120.05	111.91
44	5	701	PC1	O31-C31-C32	2.58	120.01	111.91
43	i	101	3PE	O31-C31-C32	2.57	119.97	111.91
44	S	201	PC1	O31-C31-C32	2.56	119.95	111.91
43	5	707	3PE	O31-C31-C32	2.56	119.93	111.91
44	2	603	PC1	O31-C31-C32	2.54	119.87	111.91
43	5	703	3PE	O31-C31-C32	2.51	119.79	111.91
43	5	705	3PE	O31-C31-C32	2.51	119.78	111.91

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
46	J	202	LMN	CCS-OCB-CCQ	-2.41	111.99	117.96
46	j	101	LMN	CBK-CBQ-CCM	-2.25	109.93	117.16
46	j	101	LMN	CBL-CBR-CCM	-2.23	109.99	117.16
50	E	402	NDP	C5A-C6A-N6A	2.22	123.73	120.35
43	4	602	3PE	O12-P-O14	2.11	122.69	112.24
49	B	602	FMN	C4-N3-C2	-2.05	121.86	125.64
45	g	101	CDL	C52-C51-CB5	-2.05	106.18	113.62

There are no chirality outliers.

All (684) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
43	1	401	3PE	C1-O11-P-O12
43	1	401	3PE	C1-O11-P-O14
43	1	401	3PE	C12-C11-O13-P
43	1	402	3PE	C11-O13-P-O11
43	1	402	3PE	C11-O13-P-O12
43	1	402	3PE	C11-O13-P-O14
43	4	602	3PE	O13-C11-C12-N
43	4	604	3PE	O21-C2-C3-O31
43	5	702	3PE	O13-C11-C12-N
43	5	702	3PE	O22-C21-O21-C2
43	5	702	3PE	C22-C21-O21-C2
43	5	703	3PE	O13-C11-C12-N
43	5	703	3PE	C32-C31-O31-C3
43	5	704	3PE	C1-O11-P-O12
43	5	704	3PE	C11-O13-P-O11
43	5	704	3PE	C11-O13-P-O12
43	5	704	3PE	C11-O13-P-O14
43	5	705	3PE	C1-O11-P-O12
43	5	705	3PE	C1-O11-P-O13
43	5	705	3PE	C1-O11-P-O14
43	5	705	3PE	C11-O13-P-O12
43	8	101	3PE	C1-O11-P-O12
43	8	101	3PE	C1-O11-P-O13
43	8	101	3PE	C1-O11-P-O14
43	8	101	3PE	C11-O13-P-O14
43	8	101	3PE	O22-C21-O21-C2
43	8	101	3PE	C22-C21-O21-C2
43	E	401	3PE	C1-O11-P-O12
43	E	401	3PE	C1-O11-P-O13
43	E	401	3PE	C1-O11-P-O14

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Mol	Chain	Res	Type	Atoms
43	E	401	3PE	O13-C11-C12-N
43	E	401	3PE	O22-C21-O21-C2
43	E	401	3PE	C22-C21-O21-C2
43	J	201	3PE	C11-O13-P-O12
43	J	201	3PE	O13-C11-C12-N
43	W	201	3PE	O32-C31-O31-C3
43	W	202	3PE	C11-O13-P-O11
43	W	202	3PE	C11-O13-P-O12
43	g	102	3PE	C1-O11-P-O14
43	g	102	3PE	O22-C21-O21-C2
43	i	101	3PE	C11-O13-P-O14
43	i	101	3PE	C12-C11-O13-P
43	i	101	3PE	O21-C2-C3-O31
43	i	101	3PE	O22-C21-O21-C2
43	i	101	3PE	C22-C21-O21-C2
43	n	201	3PE	O22-C21-O21-C2
44	1	403	PC1	C11-O13-P-O12
44	1	403	PC1	C11-O13-P-O14
44	1	403	PC1	C1-O11-P-O12
44	1	403	PC1	C1-O11-P-O14
44	1	403	PC1	C1-O11-P-O13
44	2	603	PC1	C11-O13-P-O12
44	2	603	PC1	C1-O11-P-O14
44	2	603	PC1	O21-C2-C3-O31
44	2	603	PC1	C22-C21-O21-C2
44	3	201	PC1	O21-C2-C3-O31
44	4	603	PC1	C11-O13-P-O12
44	4	603	PC1	C11-O13-P-O14
44	4	603	PC1	C11-O13-P-O11
44	4	603	PC1	O13-C11-C12-N
44	4	603	PC1	O22-C21-O21-C2
44	5	701	PC1	C11-O13-P-O12
44	5	701	PC1	C11-O13-P-O14
44	5	701	PC1	C11-O13-P-O11
44	5	701	PC1	C12-C11-O13-P
44	5	701	PC1	C22-C21-O21-C2
44	5	706	PC1	O13-C11-C12-N
44	K	302	PC1	C1-O11-P-O12
44	K	302	PC1	O13-C11-C12-N
44	K	302	PC1	C22-C21-O21-C2
44	S	201	PC1	C1-O11-P-O12
44	S	201	PC1	C1-O11-P-O14

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Mol	Chain	Res	Type	Atoms
45	2	601	CDL	CA2-OA2-PA1-OA3
45	4	601	CDL	CA2-OA2-PA1-OA3
45	X	201	CDL	CA2-OA2-PA1-OA3
45	X	201	CDL	CA2-OA2-PA1-OA4
45	X	201	CDL	OA5-CA3-CA4-OA6
45	X	201	CDL	CB3-OB5-PB2-OB3
45	g	101	CDL	O1-C1-CB2-OB2
45	g	101	CDL	CB2-OB2-PB2-OB3
45	g	101	CDL	OB7-CB5-OB6-CB4
45	g	101	CDL	C51-CB5-OB6-CB4
45	h	201	CDL	CA2-OA2-PA1-OA3
45	h	201	CDL	C11-CA5-OA6-CA4
45	h	201	CDL	CB2-OB2-PB2-OB3
46	2	602	LMN	CBK-CBQ-CCM-CBT
46	2	602	LMN	OBX-CCJ-OBV-CBT
46	2	602	LMN	CCL-CCJ-OBV-CBT
46	J	202	LMN	CBK-CBQ-CCM-CBR
46	J	202	LMN	CBK-CBQ-CCM-CBS
46	J	202	LMN	CBK-CBQ-CCM-CBT
46	J	202	LMN	CBL-CBR-CCM-CBQ
46	J	202	LMN	CBL-CBR-CCM-CBS
46	J	202	LMN	O1-CBS-CCM-CBQ
46	J	202	LMN	O1-CBS-CCM-CBR
46	J	202	LMN	OBV-CBT-CCM-CBQ
46	J	202	LMN	OBV-CBT-CCM-CBR
46	J	202	LMN	OBX-CCJ-OBV-CBT
46	j	101	LMN	CBK-CBQ-CCM-CBR
46	j	101	LMN	CBK-CBQ-CCM-CBS
46	j	101	LMN	CBK-CBQ-CCM-CBT
46	j	101	LMN	O1-CBS-CCM-CBQ
46	j	101	LMN	O1-CBS-CCM-CBR
52	O	201	ZMP	O4-C17-C18-C21
52	O	201	ZMP	O4-C17-C18-C19
52	O	201	ZMP	O4-C17-C18-C20
52	O	201	ZMP	C17-C16-N2-C15
52	O	201	ZMP	C14-C13-N1-C12
52	O	201	ZMP	O2-C13-N1-C12
52	O	201	ZMP	S1-C11-C12-N1
43	5	703	3PE	O32-C31-O31-C3
46	j	101	LMN	O1-CBS-CCM-CBT
46	2	602	LMN	OBZ-CCS-OCB-CCQ
46	j	101	LMN	OBY-CCR-O4-C4

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Mol	Chain	Res	Type	Atoms
43	n	201	3PE	O32-C31-O31-C3
44	4	603	PC1	O32-C31-O31-C3
46	2	602	LMN	O5-C5-C6-O6
44	2	603	PC1	O22-C21-O21-C2
44	5	701	PC1	O22-C21-O21-C2
45	h	201	CDL	OA7-CA5-OA6-CA4
43	J	201	3PE	C32-C31-O31-C3
44	5	701	PC1	C32-C31-O31-C3
43	g	102	3PE	C22-C21-O21-C2
43	n	201	3PE	C22-C21-O21-C2
44	4	603	PC1	C22-C21-O21-C2
46	J	202	LMN	CCH-CCQ-OCB-CCS
43	n	201	3PE	C32-C31-O31-C3
44	4	603	PC1	C32-C31-O31-C3
44	K	302	PC1	O22-C21-O21-C2
45	X	201	CDL	OA7-CA5-OA6-CA4
43	8	101	3PE	O32-C31-O31-C3
43	J	201	3PE	O32-C31-O31-C3
46	j	101	LMN	OAI-CBM-CCC-OBY
46	J	202	LMN	OBV-CBT-CCM-CBS
45	h	201	CDL	O1-C1-CB2-OB2
44	5	701	PC1	O32-C31-O31-C3
43	1	402	3PE	C22-C21-O21-C2
43	J	201	3PE	C22-C21-O21-C2
45	X	201	CDL	C11-CA5-OA6-CA4
45	X	201	CDL	C51-CB5-OB6-CB4
46	J	202	LMN	O1-CBS-CCM-CBT
46	j	101	LMN	O5-C5-C6-O6
46	2	602	LMN	C4-C5-C6-O6
43	8	101	3PE	C32-C31-O31-C3
46	J	202	LMN	CBE-CBG-CBI-CBK
46	J	202	LMN	O5-C1-O1-CBS
45	4	601	CDL	C31-CA7-OA8-CA6
45	g	101	CDL	CA2-C1-CB2-OB2
43	J	201	3PE	O22-C21-O21-C2
45	X	201	CDL	OB7-CB5-OB6-CB4
46	j	101	LMN	C4-C5-C6-O6
45	4	601	CDL	OA9-CA7-OA8-CA6
43	5	702	3PE	C22-C23-C24-C25
45	h	201	CDL	C51-CB5-OB6-CB4
43	5	702	3PE	C21-C22-C23-C24
46	J	202	LMN	CBI-CBK-CBQ-CCM

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Mol	Chain	Res	Type	Atoms
43	4	604	3PE	C21-C22-C23-C24
43	W	202	3PE	C31-C32-C33-C34
43	5	707	3PE	C31-C32-C33-C34
43	5	707	3PE	C21-C22-C23-C24
43	J	201	3PE	C31-C32-C33-C34
44	4	603	PC1	C31-C32-C33-C34
45	4	601	CDL	CA5-C11-C12-C13
43	W	202	3PE	C39-C3A-C3B-C3C
43	1	402	3PE	O22-C21-O21-C2
43	5	705	3PE	C21-C22-C23-C24
45	h	201	CDL	CA7-C31-C32-C33
52	O	201	ZMP	C1-C22-C23-C24
46	j	101	LMN	CBB-CBD-CBF-CBH
46	J	202	LMN	CBJ-CBL-CBR-CCM
44	K	302	PC1	C31-C32-C33-C34
45	X	201	CDL	CA7-C31-C32-C33
46	j	101	LMN	OAI-CBM-CCC-CCN
43	1	401	3PE	C1-O11-P-O13
43	4	602	3PE	C1-O11-P-O13
43	4	604	3PE	C1-O11-P-O13
43	5	703	3PE	C11-O13-P-O11
43	5	704	3PE	C1-O11-P-O13
43	5	705	3PE	C11-O13-P-O11
43	5	707	3PE	C11-O13-P-O11
43	8	101	3PE	C11-O13-P-O11
43	E	401	3PE	C11-O13-P-O11
43	J	201	3PE	C11-O13-P-O11
43	g	102	3PE	C1-O11-P-O13
43	i	101	3PE	C11-O13-P-O11
44	1	403	PC1	C11-O13-P-O11
44	2	603	PC1	C11-O13-P-O11
44	K	302	PC1	C1-O11-P-O13
44	S	201	PC1	C11-O13-P-O11
44	S	201	PC1	C1-O11-P-O13
45	2	601	CDL	CA2-OA2-PA1-OA5
45	X	201	CDL	CA2-OA2-PA1-OA5
45	h	201	CDL	CB3-OB5-PB2-OB2
43	5	703	3PE	C31-C32-C33-C34
43	g	102	3PE	C32-C31-O31-C3
45	h	201	CDL	OB7-CB5-OB6-CB4
44	S	201	PC1	C11-C12-N-C15
44	1	403	PC1	C32-C31-O31-C3

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Mol	Chain	Res	Type	Atoms
43	4	602	3PE	C22-C21-O21-C2
43	5	704	3PE	C24-C25-C26-C27
44	4	603	PC1	C23-C24-C25-C26
44	4	603	PC1	C29-C2A-C2B-C2C
46	J	202	LMN	CBA-CBC-CBE-CBG
43	5	704	3PE	C23-C24-C25-C26
44	1	403	PC1	C3A-C3B-C3C-C3D
44	S	201	PC1	C2C-C2D-C2E-C2F
45	2	601	CDL	C77-C78-C79-C80
45	X	201	CDL	C14-C15-C16-C17
46	j	101	LMN	CBA-CBC-CBE-CBG
46	j	101	LMN	CBH-CBJ-CBL-CBR
43	4	602	3PE	O22-C21-O21-C2
43	E	401	3PE	C31-C32-C33-C34
44	K	302	PC1	C21-C22-C23-C24
45	4	601	CDL	C1-CA2-OA2-PA1
44	5	706	PC1	C24-C25-C26-C27
46	J	202	LMN	CBH-CBJ-CBL-CBR
44	5	701	PC1	C31-C32-C33-C34
43	1	401	3PE	C27-C28-C29-C2A
43	5	704	3PE	C22-C23-C24-C25
43	W	201	3PE	C28-C29-C2A-C2B
43	g	102	3PE	C24-C25-C26-C27
44	1	403	PC1	C32-C33-C34-C35
44	1	403	PC1	C35-C36-C37-C38
44	4	603	PC1	C2A-C2B-C2C-C2D
45	g	101	CDL	C51-C52-C53-C54
44	K	302	PC1	C22-C23-C24-C25
43	5	703	3PE	C21-C22-C23-C24
44	5	701	PC1	C2D-C2E-C2F-C2G
45	X	201	CDL	C15-C16-C17-C18
43	J	201	3PE	C36-C37-C38-C39
43	5	702	3PE	C3A-C3B-C3C-C3D
43	g	102	3PE	O32-C31-O31-C3
43	1	401	3PE	C32-C31-O31-C3
45	4	601	CDL	C35-C36-C37-C38
43	E	401	3PE	C34-C35-C36-C37
44	5	706	PC1	C33-C34-C35-C36
43	n	201	3PE	C35-C36-C37-C38
44	4	603	PC1	C22-C23-C24-C25
46	2	602	LMN	CBC-CBE-CBG-CBI
45	4	601	CDL	C11-CA5-OA6-CA4

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Mol	Chain	Res	Type	Atoms
45	X	201	CDL	C36-C37-C38-C39
52	O	201	ZMP	O3-C16-N2-C15
43	J	201	3PE	C33-C34-C35-C36
43	W	202	3PE	C22-C23-C24-C25
43	i	101	3PE	C28-C29-C2A-C2B
44	4	603	PC1	C35-C36-C37-C38
45	g	101	CDL	C55-C56-C57-C58
43	1	401	3PE	C31-C32-C33-C34
45	X	201	CDL	C53-C54-C55-C56
44	5	706	PC1	C32-C33-C34-C35
44	S	201	PC1	C23-C24-C25-C26
44	1	403	PC1	O32-C31-O31-C3
45	h	201	CDL	CA2-C1-CB2-OB2
45	4	601	CDL	OA7-CA5-OA6-CA4
43	5	707	3PE	C24-C25-C26-C27
43	4	602	3PE	C33-C34-C35-C36
44	S	201	PC1	C11-C12-N-C13
44	S	201	PC1	C11-C12-N-C14
43	4	604	3PE	C22-C21-O21-C2
44	5	701	PC1	C2C-C2D-C2E-C2F
44	5	706	PC1	C31-C32-C33-C34
45	g	101	CDL	C16-C17-C18-C19
43	1	401	3PE	O32-C31-O31-C3
43	5	707	3PE	O22-C21-O21-C2
43	5	702	3PE	C33-C34-C35-C36
45	g	101	CDL	CB5-C51-C52-C53
43	1	402	3PE	C23-C24-C25-C26
46	J	202	LMN	CBC-CBE-CBG-CBI
44	K	302	PC1	C32-C31-O31-C3
44	5	701	PC1	C23-C24-C25-C26
44	S	201	PC1	C32-C33-C34-C35
45	4	601	CDL	C77-C78-C79-C80
43	5	704	3PE	C22-C21-O21-C2
43	5	707	3PE	C22-C21-O21-C2
44	5	706	PC1	O11-C1-C2-O21
44	5	701	PC1	C2A-C2B-C2C-C2D
45	X	201	CDL	C35-C36-C37-C38
43	4	604	3PE	O22-C21-O21-C2
44	5	706	PC1	C34-C35-C36-C37
44	3	201	PC1	C37-C38-C39-C3A
52	O	201	ZMP	C22-C1-C2-C3
43	5	704	3PE	O22-C21-O21-C2

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Mol	Chain	Res	Type	Atoms
46	J	202	LMN	CAW-CAY-CBA-CBC
43	J	201	3PE	C1-O11-P-O13
45	4	601	CDL	CA2-OA2-PA1-OA5
45	X	201	CDL	CB3-OB5-PB2-OB2
44	3	201	PC1	C36-C37-C38-C39
45	4	601	CDL	C72-C73-C74-C75
43	1	402	3PE	O11-C1-C2-C3
43	4	602	3PE	O11-C1-C2-C3
44	1	403	PC1	O11-C1-C2-C3
45	X	201	CDL	OA5-CA3-CA4-CA6
52	O	201	ZMP	C3-C4-C5-C6
45	2	601	CDL	C18-C19-C20-C21
46	J	202	LMN	CBL-CBR-CCM-CBT
43	1	401	3PE	C1-C2-C3-O31
43	E	401	3PE	C1-C2-C3-O31
43	i	101	3PE	C1-C2-C3-O31
44	2	603	PC1	C1-C2-C3-O31
44	3	201	PC1	C1-C2-C3-O31
45	X	201	CDL	CA3-CA4-CA6-OA8
43	W	202	3PE	C3A-C3B-C3C-C3D
44	4	603	PC1	C3C-C3D-C3E-C3F
43	5	707	3PE	C36-C37-C38-C39
44	3	201	PC1	O21-C21-C22-C23
52	O	201	ZMP	O3-C16-C17-O4
44	5	701	PC1	C26-C27-C28-C29
43	W	201	3PE	C26-C27-C28-C29
45	g	101	CDL	C53-C54-C55-C56
44	2	603	PC1	C25-C26-C27-C28
43	4	602	3PE	C32-C31-O31-C3
46	J	202	LMN	CAA-CAW-CAY-CBA
43	1	401	3PE	C24-C25-C26-C27
43	1	401	3PE	C2A-C2B-C2C-C2D
43	1	401	3PE	O11-C1-C2-O21
43	5	705	3PE	C34-C35-C36-C37
45	h	201	CDL	C11-C12-C13-C14
44	K	302	PC1	O32-C31-O31-C3
46	J	202	LMN	CCL-CCJ-OBV-CBT
44	K	302	PC1	O21-C2-C3-O31
43	5	703	3PE	C23-C24-C25-C26
45	h	201	CDL	CA5-C11-C12-C13
43	8	101	3PE	C23-C24-C25-C26
45	X	201	CDL	C13-C14-C15-C16

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Mol	Chain	Res	Type	Atoms
46	j	101	LMN	CBG-CBI-CBK-CBQ
50	E	402	NDP	O4D-C1D-N1N-C6N
52	Q	201	ZMP	O3-C16-N2-C15
44	S	201	PC1	C32-C31-O31-C3
44	S	201	PC1	C3E-C3F-C3G-C3H
43	5	703	3PE	C34-C35-C36-C37
43	W	201	3PE	C2A-C2B-C2C-C2D
52	Q	201	ZMP	C17-C16-N2-C15
43	J	201	3PE	C37-C38-C39-C3A
44	3	201	PC1	C23-C24-C25-C26
45	4	601	CDL	C73-C74-C75-C76
44	5	701	PC1	C21-C22-C23-C24
44	5	701	PC1	C28-C29-C2A-C2B
43	8	101	3PE	O11-C1-C2-C3
45	2	601	CDL	OA5-CA3-CA4-CA6
45	4	601	CDL	OB5-CB3-CB4-CB6
44	5	706	PC1	C21-C22-C23-C24
43	5	702	3PE	C32-C31-O31-C3
44	4	603	PC1	C27-C28-C29-C2A
45	2	601	CDL	C24-C25-C26-C27
45	2	601	CDL	C31-CA7-OA8-CA6
43	1	401	3PE	C2E-C2F-C2G-C2H
43	W	202	3PE	C37-C38-C39-C3A
46	2	602	LMN	CBA-CBC-CBE-CBG
43	n	201	3PE	C38-C39-C3A-C3B
44	5	701	PC1	C2F-C2G-C2H-C2I
43	5	702	3PE	C1-C2-C3-O31
44	K	302	PC1	C1-C2-C3-O31
45	2	601	CDL	CA3-CA4-CA6-OA8
46	2	602	LMN	CBK-CBQ-CCM-CBR
43	g	102	3PE	C26-C27-C28-C29
45	g	101	CDL	CB2-OB2-PB2-OB5
45	h	201	CDL	CB2-OB2-PB2-OB5
43	1	402	3PE	O11-C1-C2-O21
43	4	604	3PE	O11-C1-C2-O21
43	8	101	3PE	O11-C1-C2-O21
43	W	202	3PE	O11-C1-C2-O21
45	2	601	CDL	OA5-CA3-CA4-OA6
43	W	202	3PE	C3B-C3C-C3D-C3E
43	g	102	3PE	C34-C35-C36-C37
43	4	602	3PE	O32-C31-O31-C3
45	X	201	CDL	C71-C72-C73-C74

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Mol	Chain	Res	Type	Atoms
43	5	703	3PE	O21-C2-C3-O31
45	2	601	CDL	OA6-CA4-CA6-OA8
45	g	101	CDL	OA6-CA4-CA6-OA8
43	5	703	3PE	C32-C33-C34-C35
45	X	201	CDL	C22-C23-C24-C25
43	1	401	3PE	C29-C2A-C2B-C2C
46	j	101	LMN	CAZ-CBB-CBD-CBF
43	g	102	3PE	C27-C28-C29-C2A
45	2	601	CDL	C52-C53-C54-C55
44	1	403	PC1	C22-C23-C24-C25
44	4	603	PC1	C28-C29-C2A-C2B
44	S	201	PC1	O32-C31-O31-C3
52	Q	201	ZMP	O1-C10-S1-C11
45	X	201	CDL	C54-C55-C56-C57
43	1	401	3PE	C25-C26-C27-C28
46	J	202	LMN	CAX-CAZ-CBB-CBD
43	1	401	3PE	O11-C1-C2-C3
44	2	603	PC1	O11-C1-C2-C3
44	3	201	PC1	O11-C1-C2-C3
44	4	603	PC1	O11-C1-C2-C3
44	5	706	PC1	O11-C1-C2-C3
44	K	302	PC1	C33-C34-C35-C36
45	X	201	CDL	C74-C75-C76-C77
52	O	201	ZMP	N2-C16-C17-O4
44	5	701	PC1	C25-C26-C27-C28
45	X	201	CDL	CB6-CB4-OB6-CB5
52	Q	201	ZMP	C9-C10-S1-C11
44	5	706	PC1	C32-C31-O31-C3
44	2	603	PC1	C21-C22-C23-C24
43	4	604	3PE	C1-C2-C3-O31
43	5	704	3PE	C1-C2-C3-O31
43	i	101	3PE	C2-C1-O11-P
44	5	706	PC1	C1-C2-C3-O31
43	g	102	3PE	C2A-C2B-C2C-C2D
43	4	602	3PE	O11-C1-C2-O21
43	J	201	3PE	O11-C1-C2-O21
43	i	101	3PE	O11-C1-C2-O21
44	4	603	PC1	O11-C1-C2-O21
52	O	201	ZMP	C16-C17-C18-C19
52	Q	201	ZMP	O2-C13-C14-C15
43	5	702	3PE	O32-C31-O31-C3
45	2	601	CDL	OA9-CA7-OA8-CA6

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Mol	Chain	Res	Type	Atoms
43	5	702	3PE	O21-C2-C3-O31
43	E	401	3PE	O21-C2-C3-O31
43	W	201	3PE	O21-C2-C3-O31
43	8	101	3PE	C33-C34-C35-C36
52	Q	201	ZMP	N1-C13-C14-C15
44	5	706	PC1	C26-C27-C28-C29
45	4	601	CDL	C54-C55-C56-C57
43	E	401	3PE	C21-C22-C23-C24
43	n	201	3PE	C36-C37-C38-C39
45	h	201	CDL	OA9-CA7-OA8-CA6
43	1	401	3PE	C26-C27-C28-C29
44	3	201	PC1	C26-C27-C28-C29
43	E	401	3PE	C35-C36-C37-C38
43	1	401	3PE	C23-C24-C25-C26
44	4	603	PC1	C24-C25-C26-C27
46	J	202	LMN	CCF-CCQ-OCB-CCS
43	n	201	3PE	C11-O13-P-O11
44	2	603	PC1	C1-O11-P-O13
45	g	101	CDL	CA2-OA2-PA1-OA5
45	h	201	CDL	CA3-OA5-PA1-OA2
43	5	702	3PE	C32-C33-C34-C35
44	S	201	PC1	C3B-C3C-C3D-C3E
44	4	603	PC1	C3B-C3C-C3D-C3E
43	W	201	3PE	C2-C1-O11-P
44	4	603	PC1	C2-C1-O11-P
45	2	601	CDL	C1-CB2-OB2-PB2
45	2	601	CDL	CB4-CB3-OB5-PB2
45	4	601	CDL	CB4-CB3-OB5-PB2
49	B	602	FMN	C4'-C5'-O5'-P
45	g	101	CDL	C15-C16-C17-C18
44	5	706	PC1	O32-C31-O31-C3
43	4	602	3PE	C1-O11-P-O14
43	4	604	3PE	C1-O11-P-O12
43	4	604	3PE	C1-O11-P-O14
43	5	703	3PE	C11-O13-P-O14
43	5	705	3PE	C11-O13-P-O14
43	5	707	3PE	C11-O13-P-O12
43	8	101	3PE	C11-O13-P-O12
43	E	401	3PE	C11-O13-P-O14
43	J	201	3PE	C1-O11-P-O14
43	J	201	3PE	C11-O13-P-O14
43	W	202	3PE	C11-O13-P-O14

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Mol	Chain	Res	Type	Atoms
44	2	603	PC1	C11-O13-P-O14
44	5	701	PC1	C11-C12-N-C13
44	5	701	PC1	C11-C12-N-C15
44	K	302	PC1	C1-O11-P-O14
44	S	201	PC1	C11-O13-P-O12
44	S	201	PC1	C11-O13-P-O14
45	2	601	CDL	CA2-OA2-PA1-OA4
45	4	601	CDL	CA2-OA2-PA1-OA4
45	X	201	CDL	CB3-OB5-PB2-OB4
45	h	201	CDL	CA3-OA5-PA1-OA4
45	h	201	CDL	CB3-OB5-PB2-OB3
46	j	101	LMN	O5-C1-O1-CBS
45	h	201	CDL	C31-CA7-OA8-CA6
43	4	604	3PE	O11-C1-C2-C3
43	W	202	3PE	O11-C1-C2-C3
43	i	101	3PE	O11-C1-C2-C3
44	K	302	PC1	O11-C1-C2-C3
45	X	201	CDL	C37-C38-C39-C40
45	X	201	CDL	C52-C53-C54-C55
45	X	201	CDL	C72-C73-C74-C75
43	4	602	3PE	C12-C11-O13-P
43	5	703	3PE	C12-C11-O13-P
43	W	202	3PE	C12-C11-O13-P
43	g	102	3PE	C12-C11-O13-P
44	2	603	PC1	C12-C11-O13-P
44	4	603	PC1	C12-C11-O13-P
44	S	201	PC1	C12-C11-O13-P
43	5	704	3PE	O31-C31-C32-C33
44	4	603	PC1	C26-C27-C28-C29
44	3	201	PC1	C32-C31-O31-C3
44	1	403	PC1	C31-C32-C33-C34
44	2	603	PC1	O11-C1-C2-O21
44	3	201	PC1	O11-C1-C2-O21
44	K	302	PC1	O11-C1-C2-O21
45	4	601	CDL	OA5-CA3-CA4-OA6
45	4	601	CDL	OB5-CB3-CB4-OB6
49	B	602	FMN	N10-C1'-C2'-C3'
44	K	302	PC1	C32-C33-C34-C35
43	4	604	3PE	O21-C21-C22-C23
44	S	201	PC1	O31-C31-C32-C33
43	W	201	3PE	C2E-C2F-C2G-C2H
46	2	602	LMN	CBK-CBQ-CCM-CBS

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Mol	Chain	Res	Type	Atoms
43	5	702	3PE	C36-C37-C38-C39
43	5	705	3PE	C33-C34-C35-C36
44	5	701	PC1	C33-C34-C35-C36
44	5	701	PC1	O21-C21-C22-C23
43	5	703	3PE	C1-C2-C3-O31
43	W	201	3PE	C1-C2-C3-O31
44	2	603	PC1	O13-C11-C12-N
43	1	401	3PE	O21-C2-C3-O31
45	X	201	CDL	OA6-CA4-CA6-OA8
44	K	302	PC1	C23-C24-C25-C26
49	B	602	FMN	C2'-C3'-C4'-O4'
44	2	603	PC1	C24-C25-C26-C27
45	4	601	CDL	C74-C75-C76-C77
46	j	101	LMN	CAW-CAY-CBA-CBC
45	X	201	CDL	C38-C39-C40-C41
44	5	701	PC1	C11-C12-N-C14
43	n	201	3PE	C37-C38-C39-C3A
44	4	603	PC1	C37-C38-C39-C3A
44	4	603	PC1	C2B-C2C-C2D-C2E
45	g	101	CDL	CA3-CA4-OA6-CA5
45	h	201	CDL	CA6-CA4-OA6-CA5
45	4	601	CDL	OA5-CA3-CA4-CA6
43	4	602	3PE	C24-C25-C26-C27
45	2	601	CDL	C14-C15-C16-C17
43	5	702	3PE	C3B-C3C-C3D-C3E
44	1	403	PC1	O11-C1-C2-O21
43	E	401	3PE	O31-C31-C32-C33
43	4	604	3PE	C11-O13-P-O11
43	5	702	3PE	C11-O13-P-O11
43	W	201	3PE	C1-O11-P-O13
43	W	201	3PE	C11-O13-P-O11
43	W	202	3PE	C1-O11-P-O13
43	g	102	3PE	C11-O13-P-O11
43	i	101	3PE	C1-O11-P-O13
44	3	201	PC1	C11-O13-P-O11
44	4	603	PC1	C1-O11-P-O13
44	5	706	PC1	C11-O13-P-O11
45	2	601	CDL	CA3-OA5-PA1-OA2
45	2	601	CDL	CB2-OB2-PB2-OB5
45	4	601	CDL	CA3-OA5-PA1-OA2
45	h	201	CDL	CA2-OA2-PA1-OA5
44	4	603	PC1	C32-C33-C34-C35

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Mol	Chain	Res	Type	Atoms
45	4	601	CDL	C78-C79-C80-C81
45	h	201	CDL	C55-C56-C57-C58
44	5	701	PC1	C37-C38-C39-C3A
43	W	201	3PE	C2D-C2E-C2F-C2G
43	W	202	3PE	C24-C25-C26-C27
44	1	403	PC1	C2-C1-O11-P
43	5	705	3PE	C25-C26-C27-C28
45	h	201	CDL	CA4-CA6-OA8-CA7
45	g	101	CDL	C71-CB7-OB8-CB6
43	5	707	3PE	C3A-C3B-C3C-C3D
44	1	403	PC1	C39-C3A-C3B-C3C
45	g	101	CDL	OB9-CB7-OB8-CB6
43	5	707	3PE	C39-C3A-C3B-C3C
45	4	601	CDL	C71-C72-C73-C74
43	5	705	3PE	O13-C11-C12-N
43	5	707	3PE	O13-C11-C12-N
43	g	102	3PE	O13-C11-C12-N
43	5	707	3PE	C38-C39-C3A-C3B
45	g	101	CDL	CA5-C11-C12-C13
45	2	601	CDL	C72-C73-C74-C75
45	2	601	CDL	O1-C1-CA2-OA2
46	2	602	LMN	CBG-CBI-CBK-CBQ
43	1	401	3PE	C22-C23-C24-C25
43	W	201	3PE	C2F-C2G-C2H-C2I
43	W	202	3PE	O21-C2-C3-O31
44	3	201	PC1	O22-C21-C22-C23
43	4	604	3PE	O31-C31-C32-C33
43	1	402	3PE	C21-C22-C23-C24
43	1	401	3PE	C33-C34-C35-C36
44	3	201	PC1	O32-C31-O31-C3
43	5	707	3PE	C23-C24-C25-C26
46	j	101	LMN	CBL-CBR-CCM-CBQ
43	1	401	3PE	C3A-C3B-C3C-C3D
43	5	702	3PE	C35-C36-C37-C38
46	2	602	LMN	O5-C1-O1-CBS
45	4	601	CDL	CA7-C31-C32-C33
45	4	601	CDL	CA3-CA4-OA6-CA5
45	h	201	CDL	CB6-CB4-OB6-CB5
43	5	705	3PE	C32-C33-C34-C35
43	J	201	3PE	C21-C22-C23-C24
45	h	201	CDL	OB5-CB3-CB4-OB6
43	J	201	3PE	O11-C1-C2-C3

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Mol	Chain	Res	Type	Atoms
43	5	703	3PE	C35-C36-C37-C38
52	Q	201	ZMP	C12-C11-S1-C10
43	5	707	3PE	C34-C35-C36-C37
43	5	707	3PE	C32-C33-C34-C35
45	X	201	CDL	CB2-C1-CA2-OA2
49	B	602	FMN	O2'-C2'-C3'-C4'
44	4	603	PC1	C3D-C3E-C3F-C3G
46	j	101	LMN	CBL-CBR-CCM-CBT
43	5	702	3PE	C37-C38-C39-C3A
44	5	701	PC1	C34-C35-C36-C37
52	O	201	ZMP	C2-C3-C4-C5
43	1	401	3PE	C2B-C2C-C2D-C2E
44	4	603	PC1	C34-C35-C36-C37
45	g	101	CDL	OB5-CB3-CB4-OB6
44	K	302	PC1	C35-C36-C37-C38
44	5	706	PC1	O31-C31-C32-C33
46	j	101	LMN	C2-C1-O1-CBS
43	g	102	3PE	C28-C29-C2A-C2B
49	B	602	FMN	C2'-C3'-C4'-C5'
43	5	705	3PE	C2-C1-O11-P
44	5	706	PC1	O21-C2-C3-O31
43	5	705	3PE	O31-C31-C32-C33
46	j	101	LMN	CAY-CBA-CBC-CBE
52	O	201	ZMP	C19-C18-C21-O5
43	W	202	3PE	C35-C36-C37-C38
45	4	601	CDL	CA6-CA4-OA6-CA5
45	h	201	CDL	CB3-CB4-OB6-CB5
43	g	102	3PE	C21-C22-C23-C24
45	X	201	CDL	C16-C17-C18-C19
43	g	102	3PE	O31-C31-C32-C33
44	K	302	PC1	O21-C21-C22-C23
52	Q	201	ZMP	C13-C14-C15-N2
43	1	401	3PE	O21-C21-C22-C23
43	n	201	3PE	C1-C2-C3-O31
44	3	201	PC1	C25-C26-C27-C28
44	1	403	PC1	O21-C21-C22-C23
44	4	603	PC1	C11-C12-N-C14
43	8	101	3PE	C28-C29-C2A-C2B
43	g	102	3PE	C32-C33-C34-C35
44	S	201	PC1	C22-C23-C24-C25
43	8	101	3PE	O21-C21-C22-C23
43	n	201	3PE	O21-C2-C3-O31

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Mol	Chain	Res	Type	Atoms
45	2	601	CDL	OB6-CB4-CB6-OB8
44	2	603	PC1	O31-C31-C32-C33
46	2	602	LMN	O1-CBS-CCM-CBQ
46	2	602	LMN	O1-CBS-CCM-CBR
43	J	201	3PE	C34-C35-C36-C37
45	2	601	CDL	C17-C18-C19-C20
43	g	102	3PE	O21-C21-C22-C23
45	X	201	CDL	C31-C32-C33-C34
45	g	101	CDL	C1-CB2-OB2-PB2
50	E	402	NDP	O4B-C4B-C5B-O5B
43	1	401	3PE	O22-C21-C22-C23
43	5	703	3PE	C36-C37-C38-C39
44	K	302	PC1	C34-C35-C36-C37
44	1	403	PC1	C33-C34-C35-C36
43	5	705	3PE	O32-C31-C32-C33
44	K	302	PC1	O22-C21-C22-C23
43	1	401	3PE	C2C-C2D-C2E-C2F
44	3	201	PC1	C22-C23-C24-C25
45	g	101	CDL	OA7-CA5-OA6-CA4
46	2	602	LMN	CBJ-CBL-CBR-CCM
43	g	102	3PE	O32-C31-C32-C33
44	1	403	PC1	O22-C21-C22-C23
44	2	603	PC1	O32-C31-C32-C33
46	2	602	LMN	C2-C1-O1-CBS
44	S	201	PC1	C26-C27-C28-C29
43	J	201	3PE	C1-O11-P-O12
43	n	201	3PE	C11-O13-P-O14
44	3	201	PC1	C11-O13-P-O14
45	2	601	CDL	CA3-OA5-PA1-OA3
45	4	601	CDL	CA3-OA5-PA1-OA3
49	B	602	FMN	O3'-C3'-C4'-C5'
43	1	401	3PE	C3E-C3F-C3G-C3H
43	8	101	3PE	O22-C21-C22-C23
45	4	601	CDL	C72-C71-CB7-OB8
45	2	601	CDL	OB5-CB3-CB4-CB6
43	5	705	3PE	C22-C23-C24-C25
44	4	603	PC1	C3A-C3B-C3C-C3D
43	i	101	3PE	O13-C11-C12-N
52	O	201	ZMP	C20-C18-C21-O5
43	n	201	3PE	C32-C33-C34-C35
46	J	202	LMN	CBG-CBI-CBK-CBQ
43	1	401	3PE	C3B-C3C-C3D-C3E

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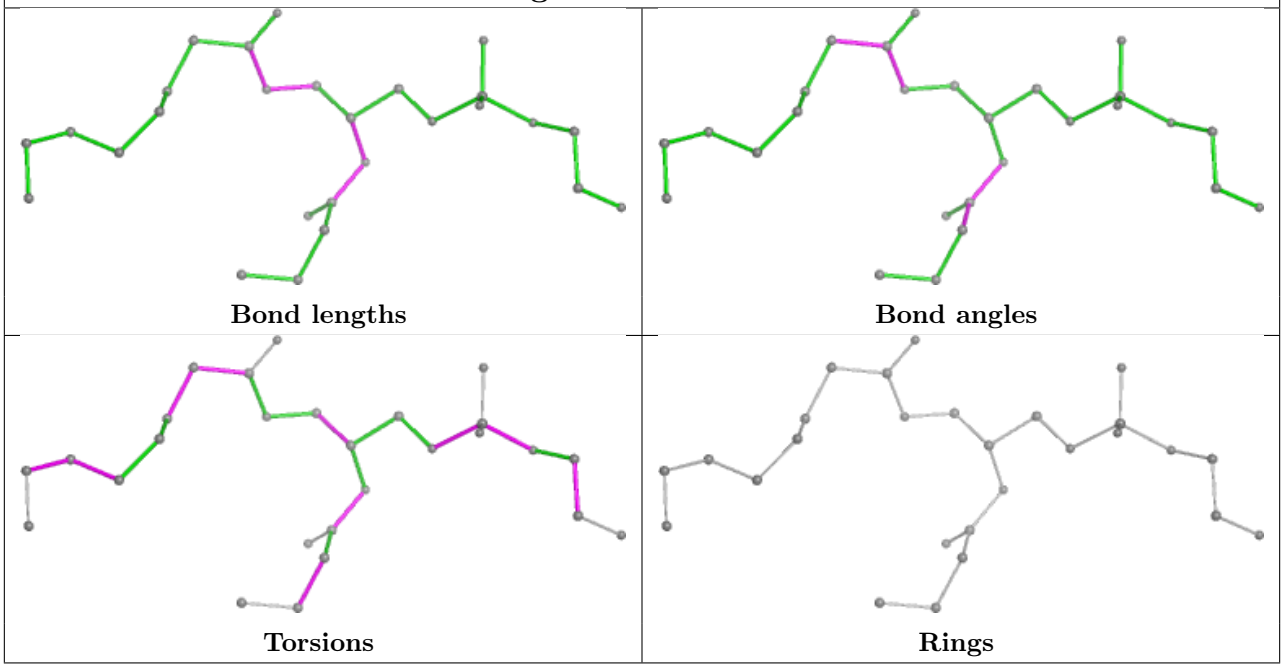
Mol	Chain	Res	Type	Atoms
43	5	702	3PE	C12-C11-O13-P
43	5	704	3PE	C12-C11-O13-P
43	5	705	3PE	C12-C11-O13-P
43	8	101	3PE	C12-C11-O13-P
43	W	202	3PE	C3D-C3E-C3F-C3G
43	5	705	3PE	C2D-C2E-C2F-C2G
43	J	201	3PE	O31-C31-C32-C33
44	1	403	PC1	O31-C31-C32-C33
44	5	706	PC1	O21-C21-C22-C23
45	X	201	CDL	C72-C71-CB7-OB8
45	h	201	CDL	C12-C11-CA5-OA6
43	g	102	3PE	O22-C21-C22-C23
45	4	601	CDL	C72-C71-CB7-OB9
49	B	602	FMN	N10-C1'-C2'-O2'
52	O	201	ZMP	C16-C17-C18-C21
44	1	403	PC1	O32-C31-C32-C33
43	W	201	3PE	C22-C23-C24-C25
46	2	602	LMN	CBH-CBJ-CBL-CBR
43	W	201	3PE	C2B-C2C-C2D-C2E
43	5	703	3PE	O31-C31-C32-C33
45	X	201	CDL	C32-C33-C34-C35
43	J	201	3PE	O32-C31-C32-C33
44	5	706	PC1	O22-C21-C22-C23
45	2	601	CDL	C32-C31-CA7-OA8

There are no ring outliers.

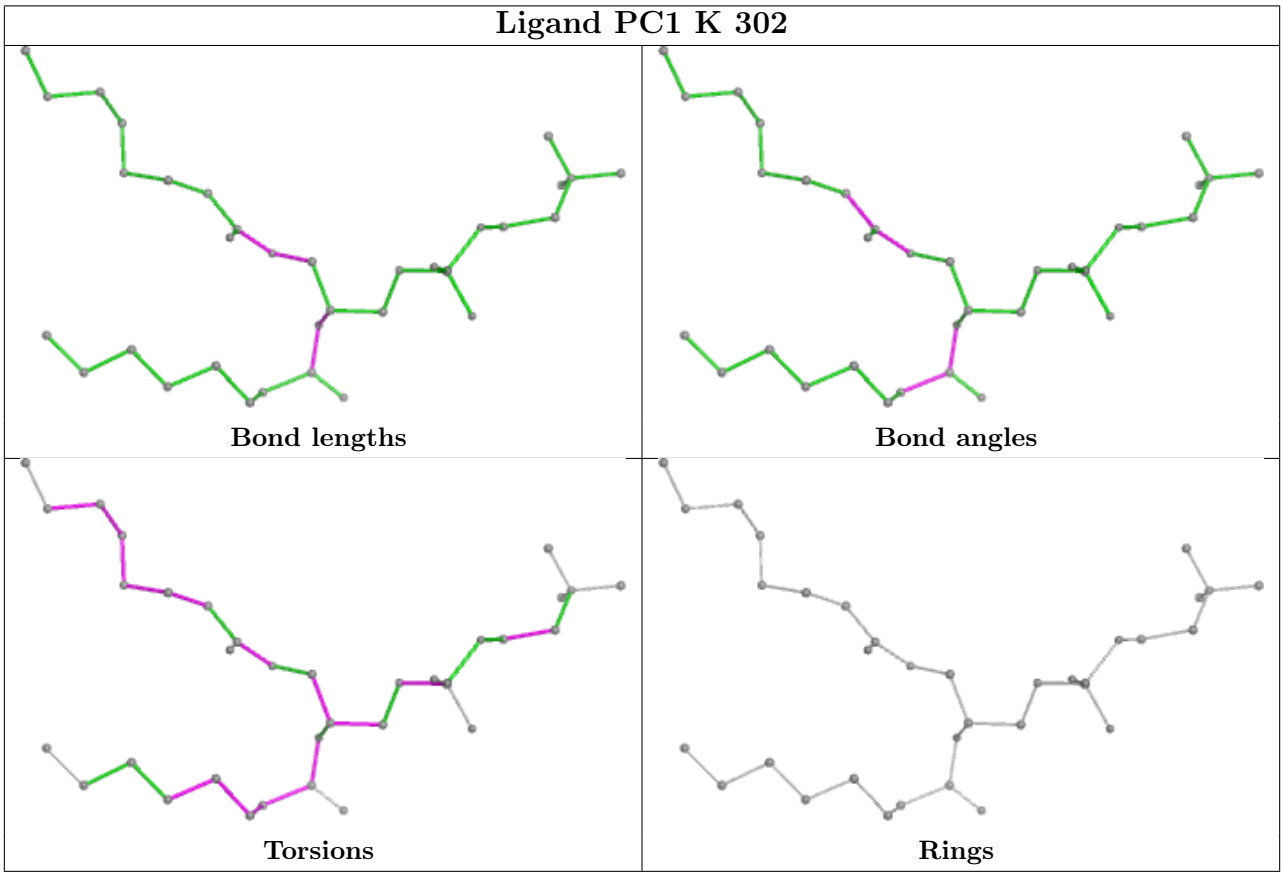
No monomer is involved in short contacts.

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

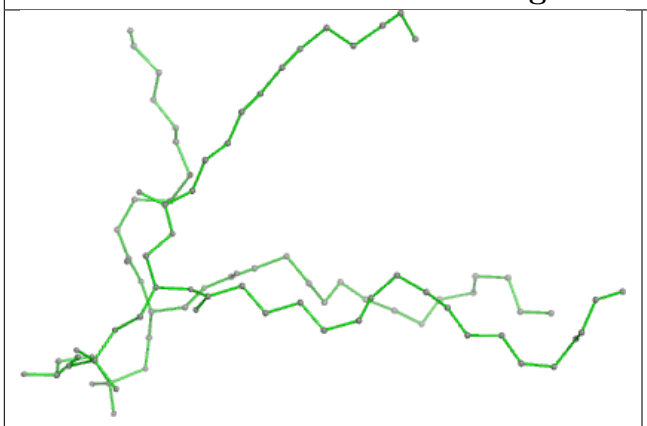
Ligand 3PE E 401



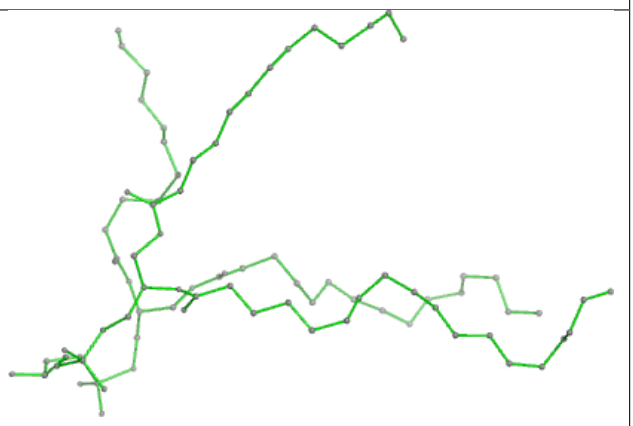
Ligand PC1 K 302



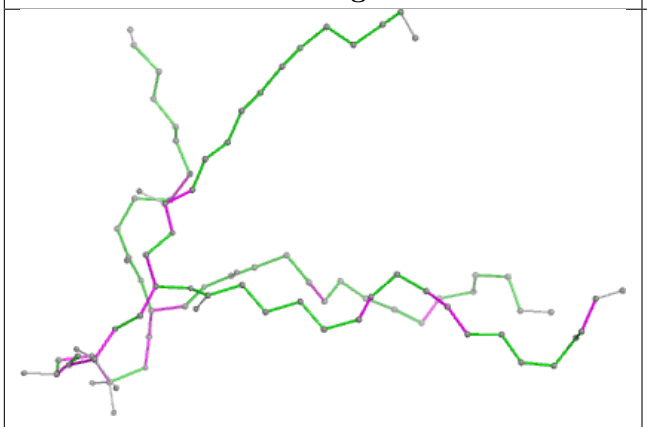
Ligand CDL 2 601



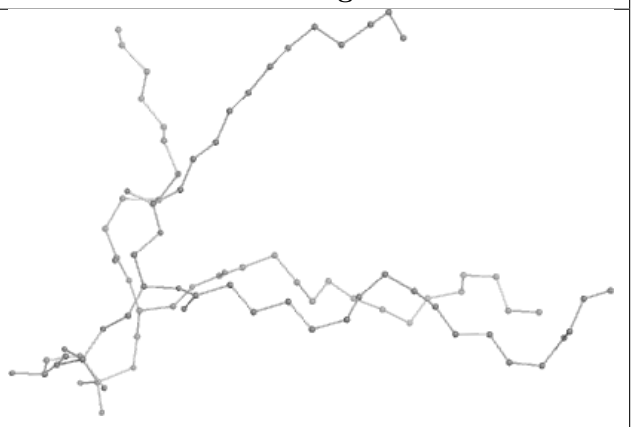
Bond lengths



Bond angles

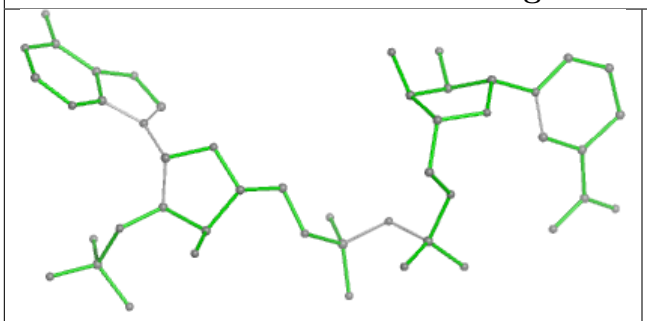


Torsions

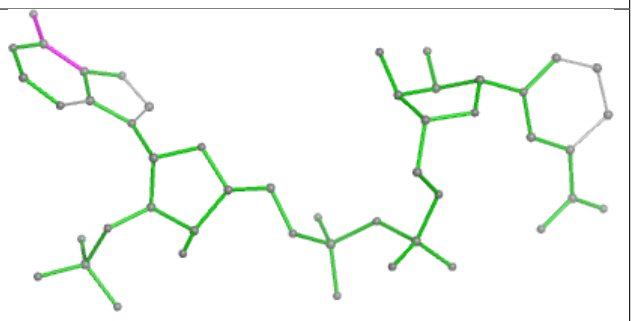


Rings

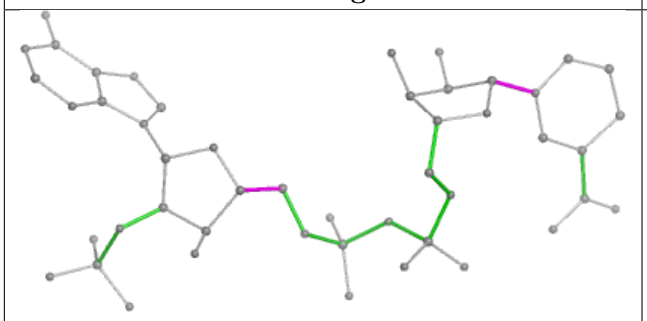
Ligand NDP E 402



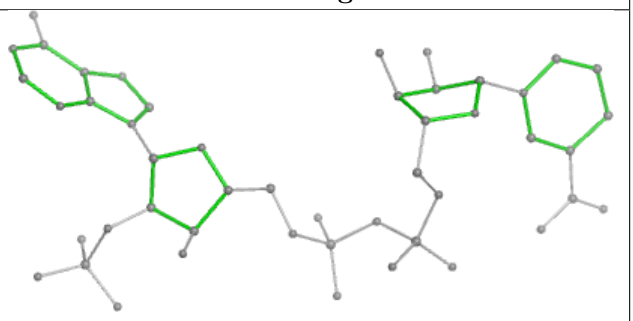
Bond lengths



Bond angles

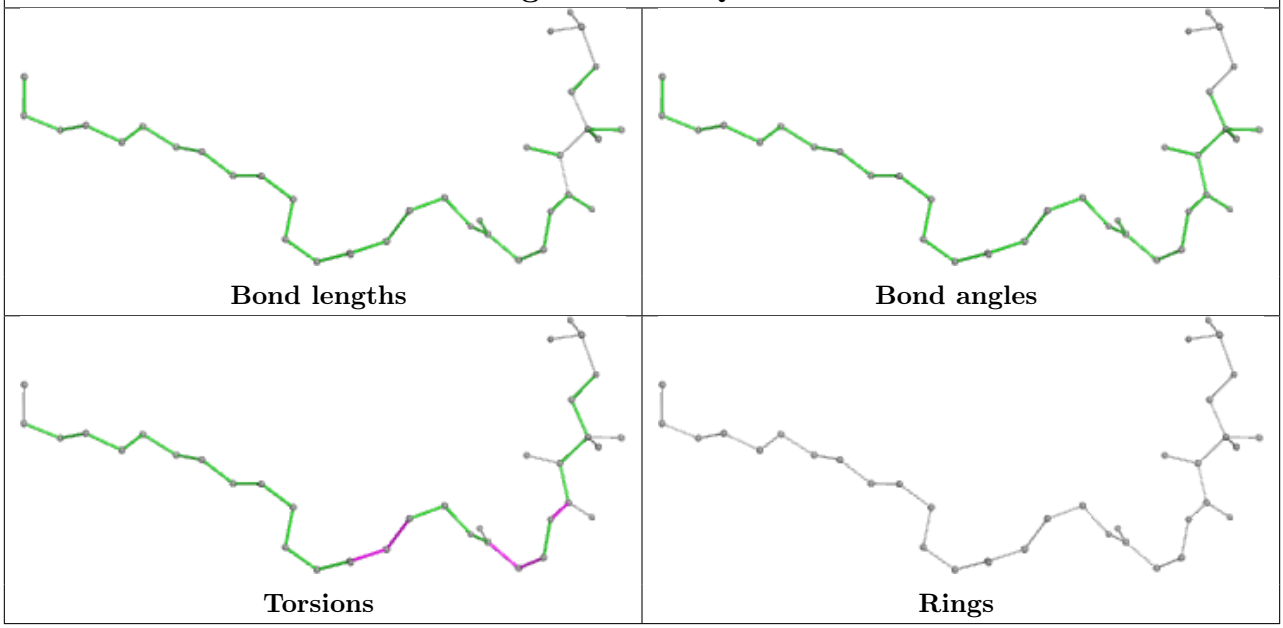


Torsions

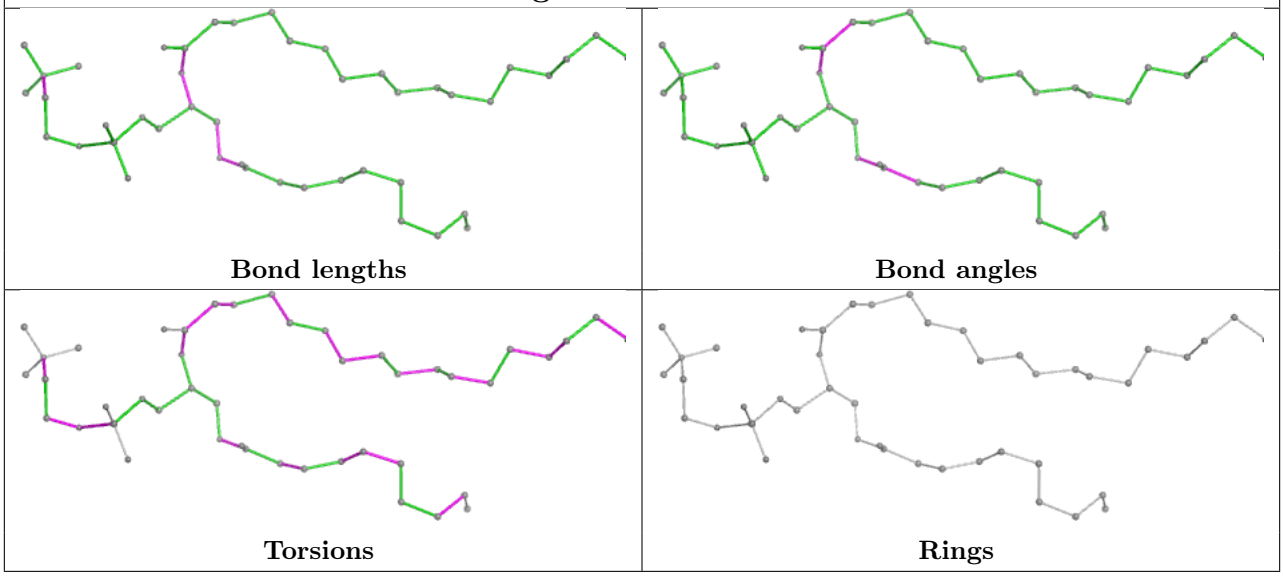


Rings

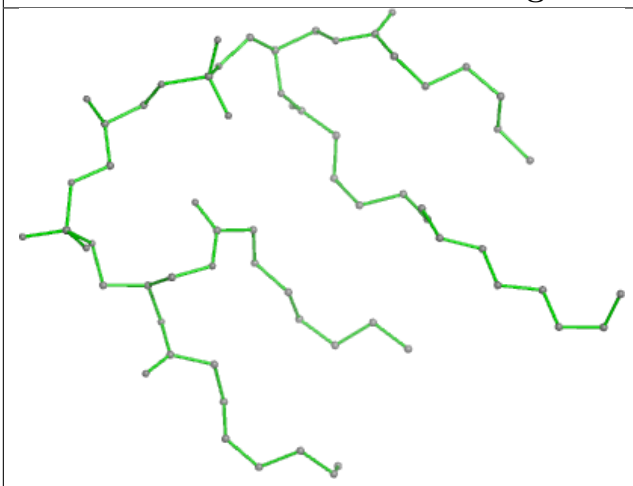
Ligand ZMP Q 201



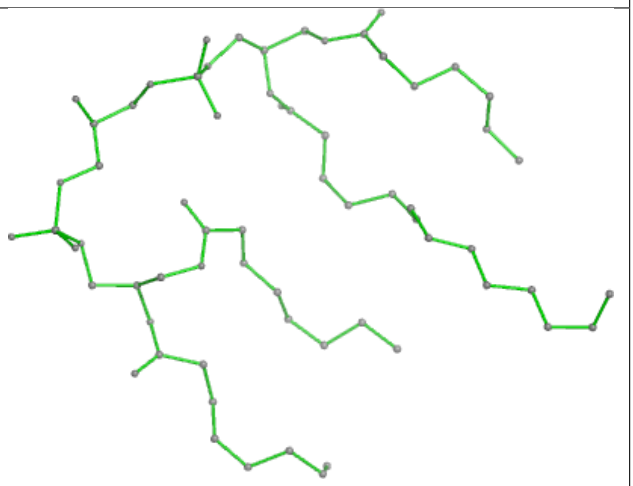
Ligand PC1 5 701



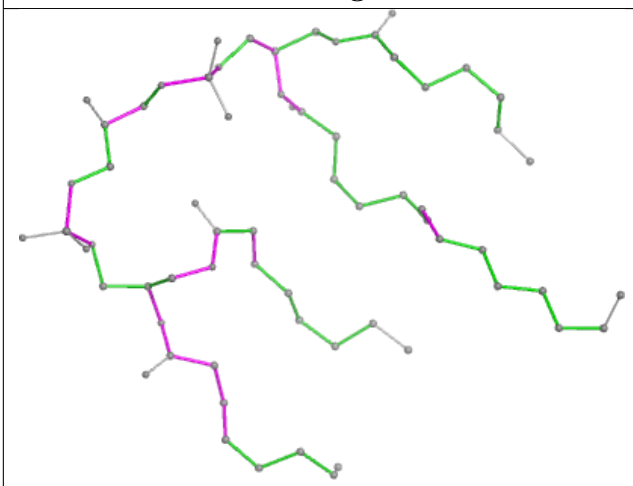
Ligand CDL h 201



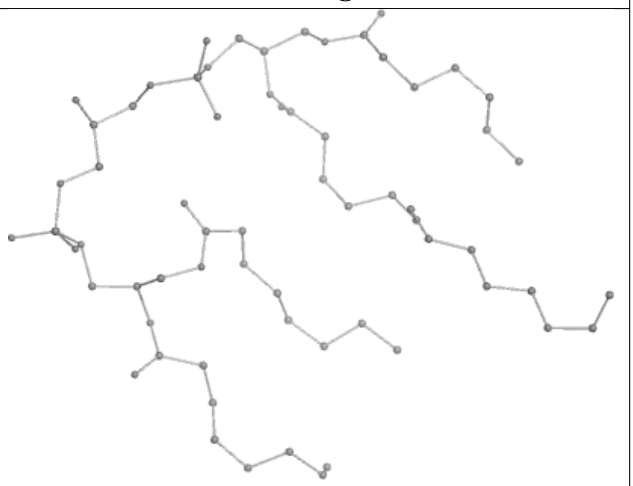
Bond lengths



Bond angles

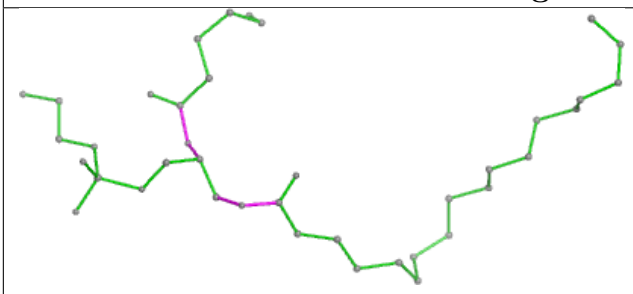


Torsions

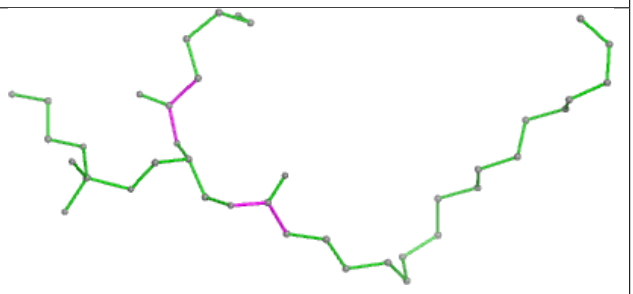


Rings

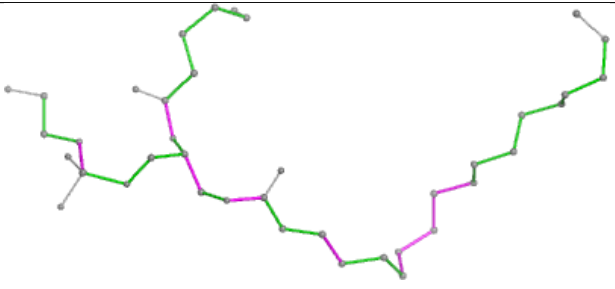
Ligand 3PE n 201



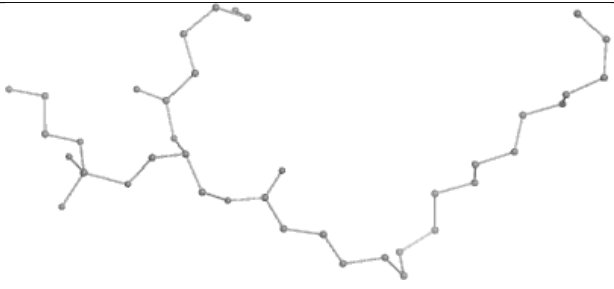
Bond lengths



Bond angles

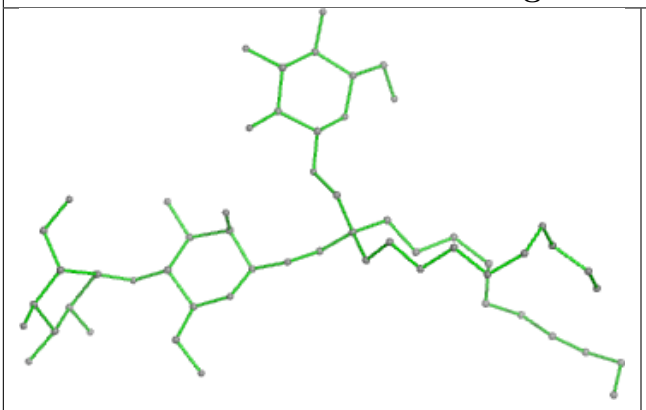


Torsions



Rings

Ligand LMN 2 602



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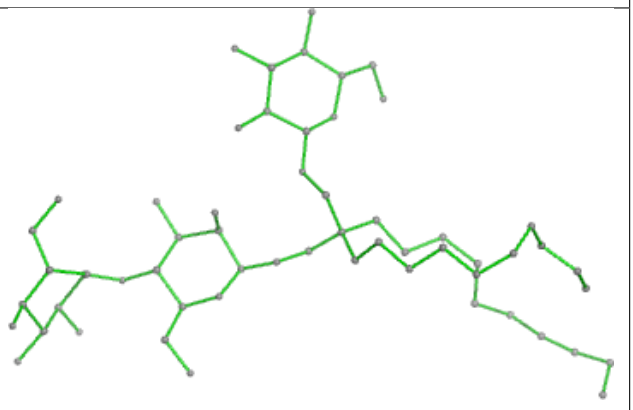

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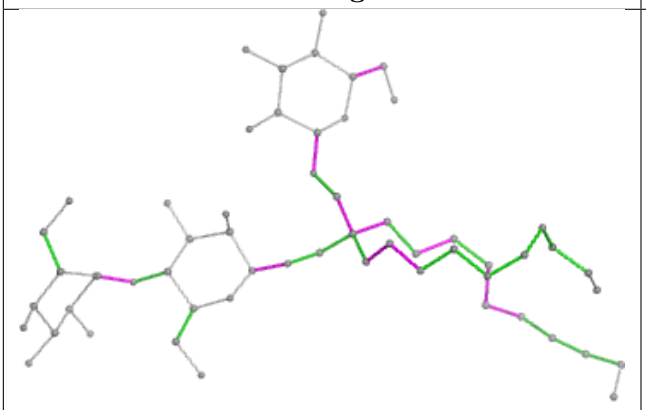

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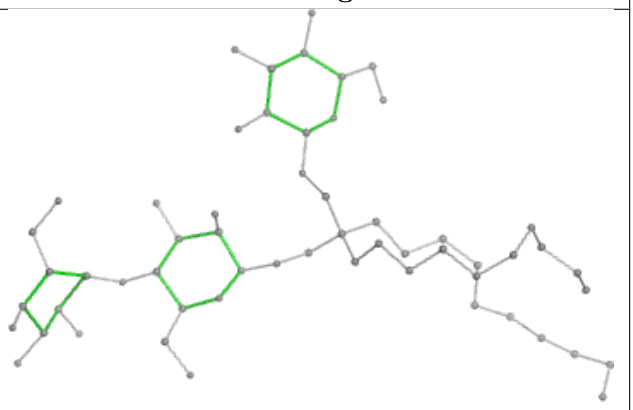
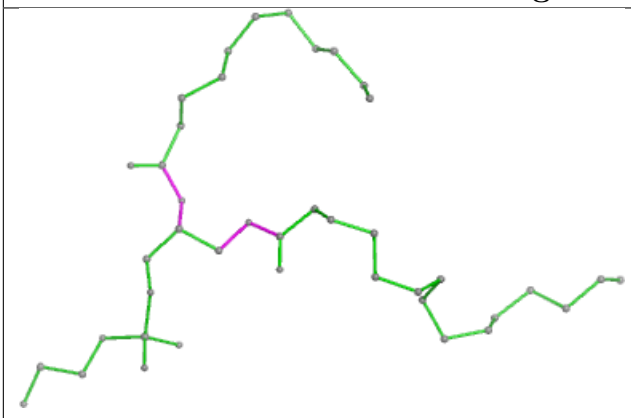


Rings

Ligand 3PE 5 707



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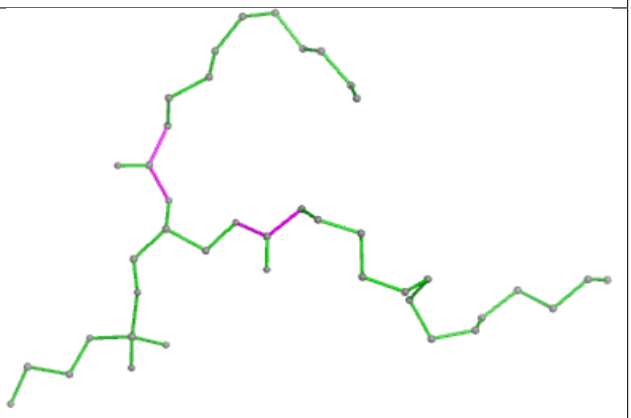

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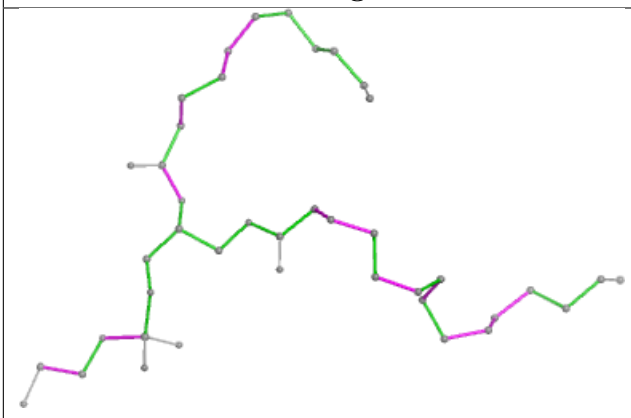

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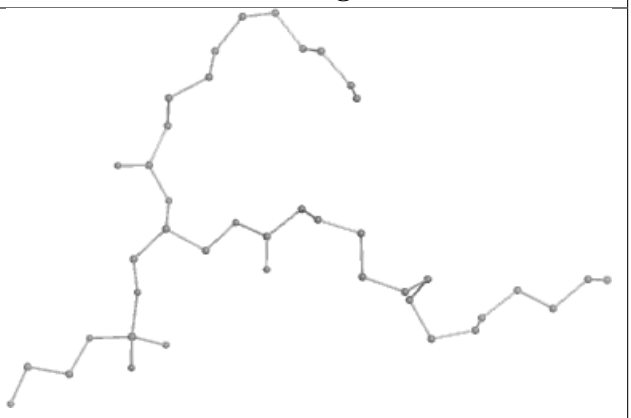
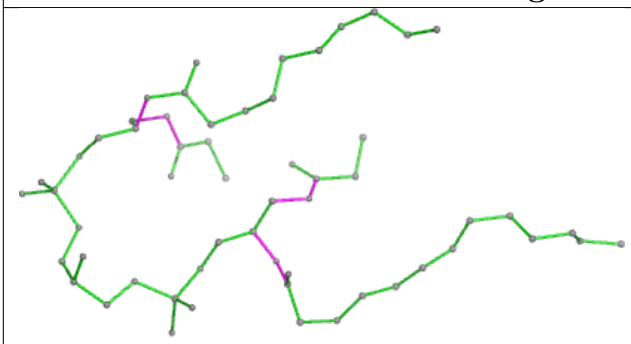


Rings

Ligand CDL g 101



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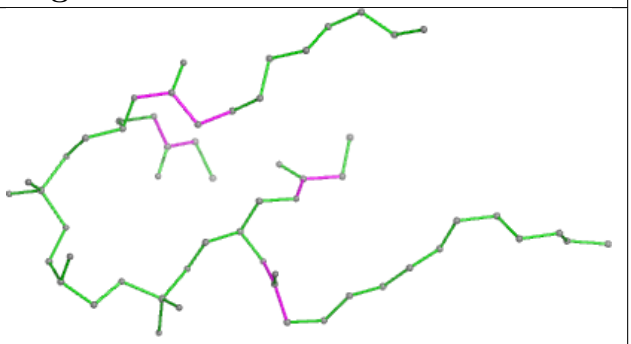

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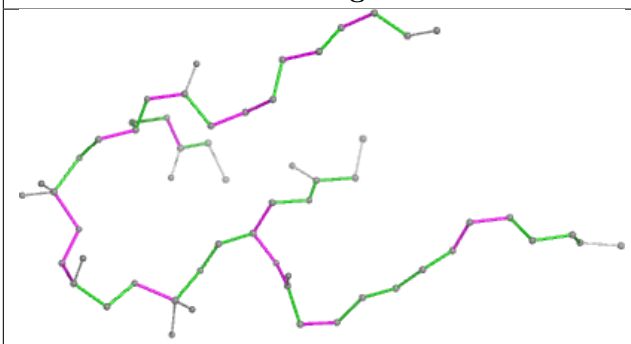

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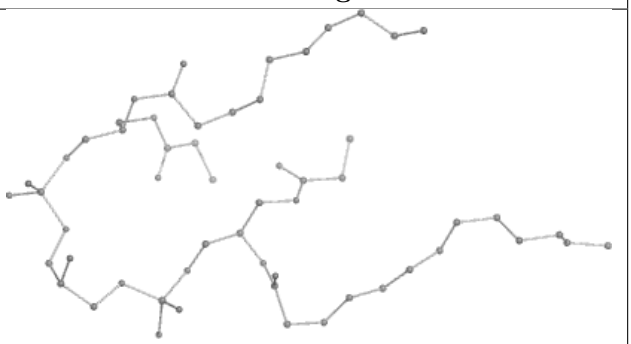
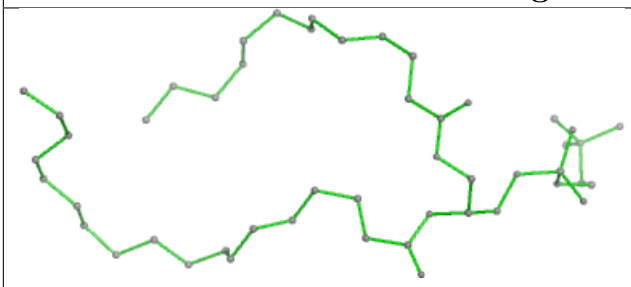


Rings

Ligand PC1 3 201



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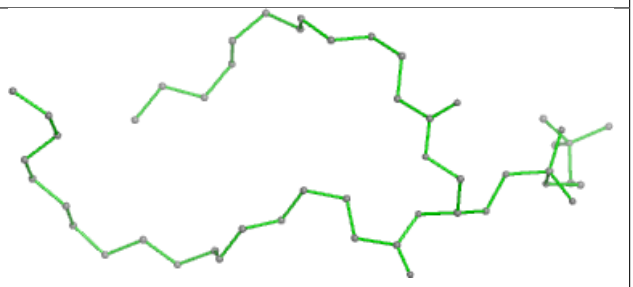
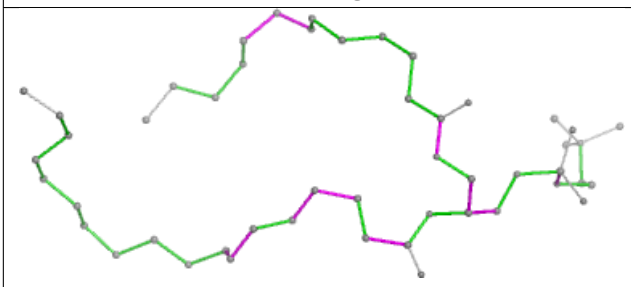


Bond angles



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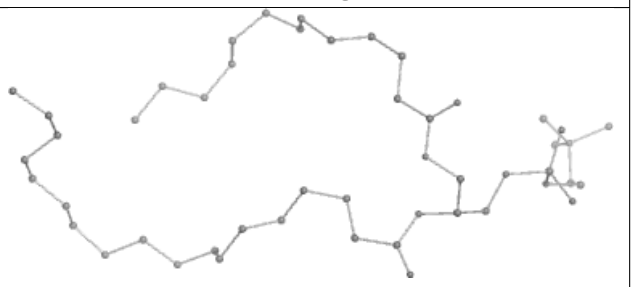
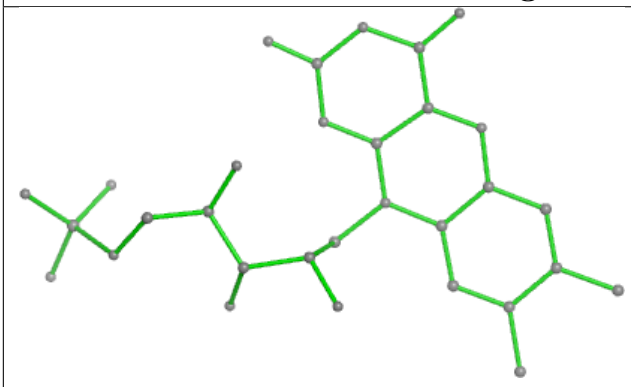


Rings

Ligand FMN B 602



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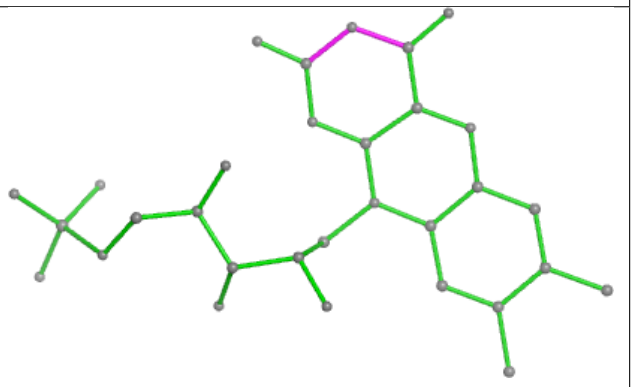

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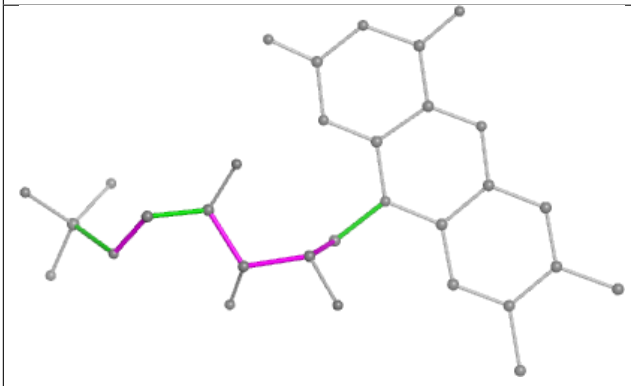

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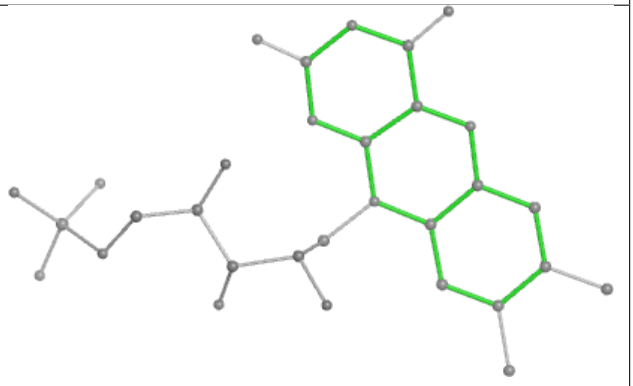
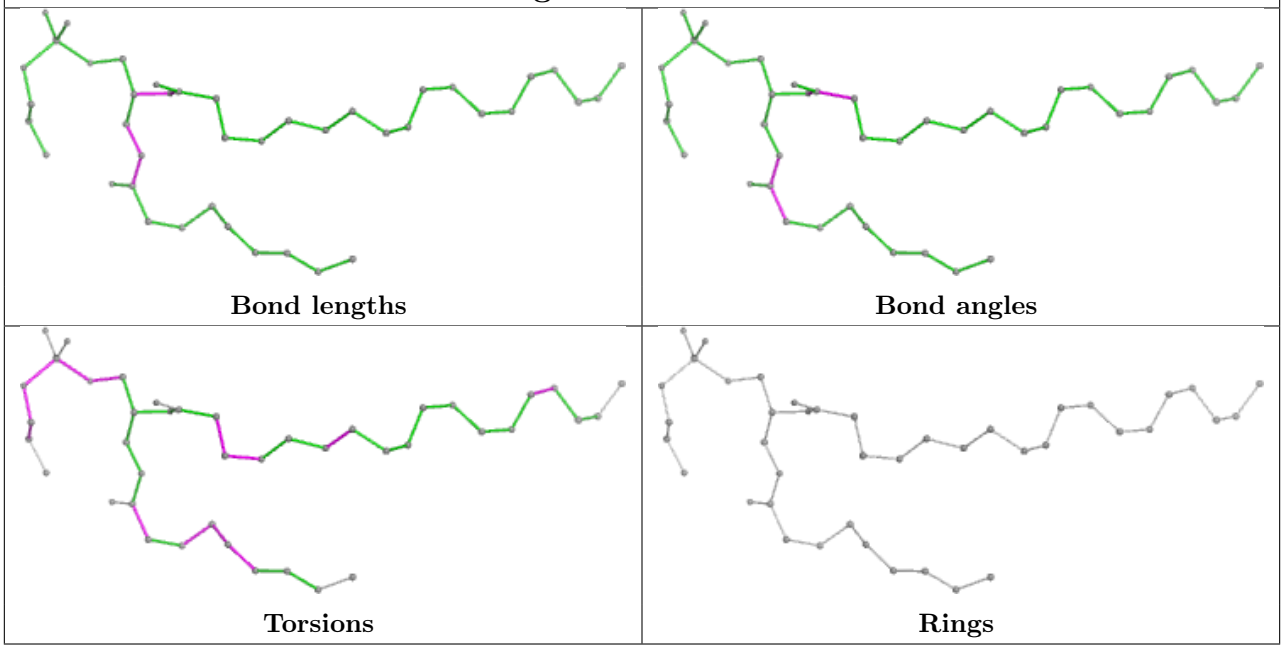
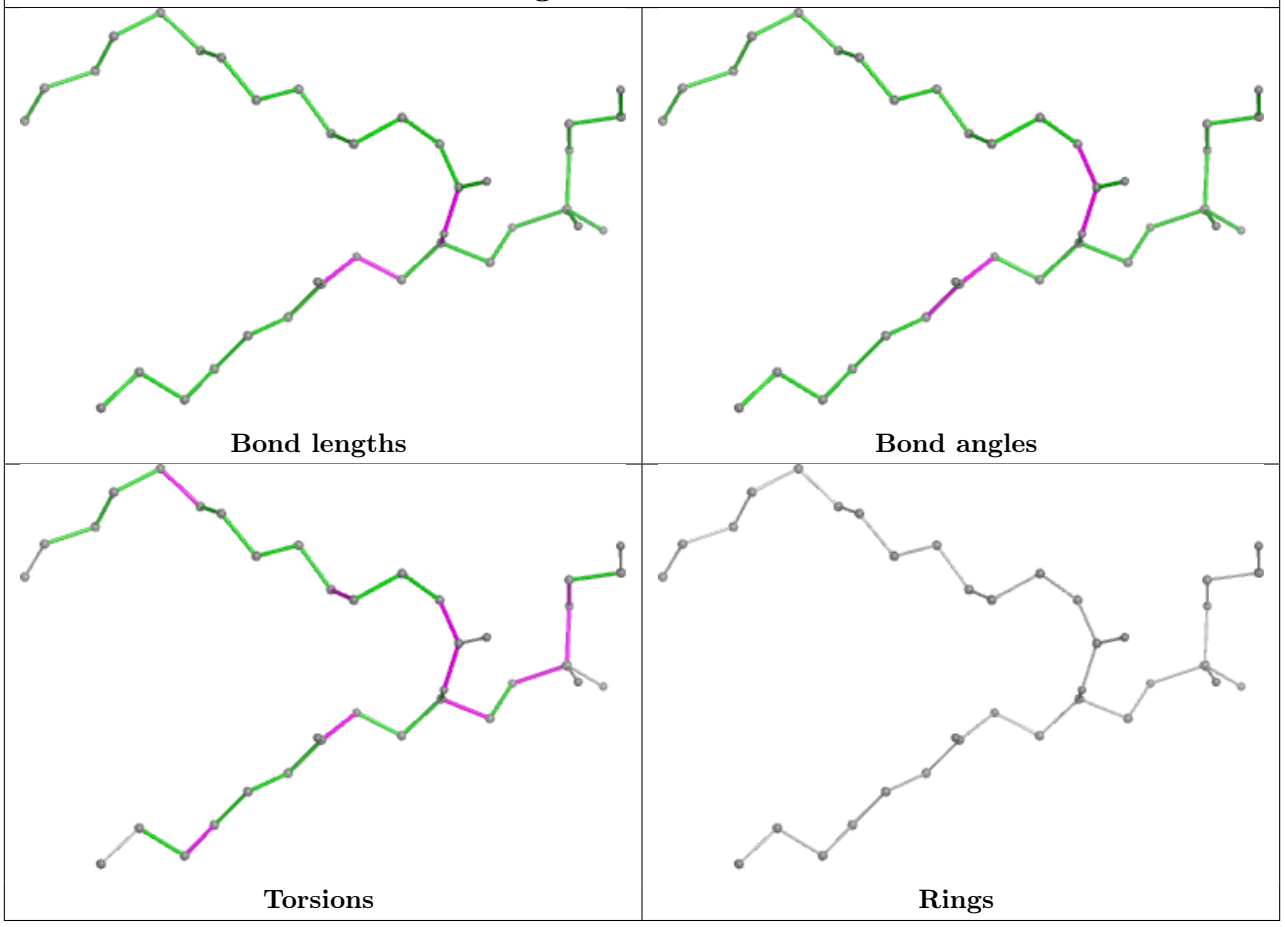


Rings

Ligand 3PE 5 705



Ligand 3PE 8 101



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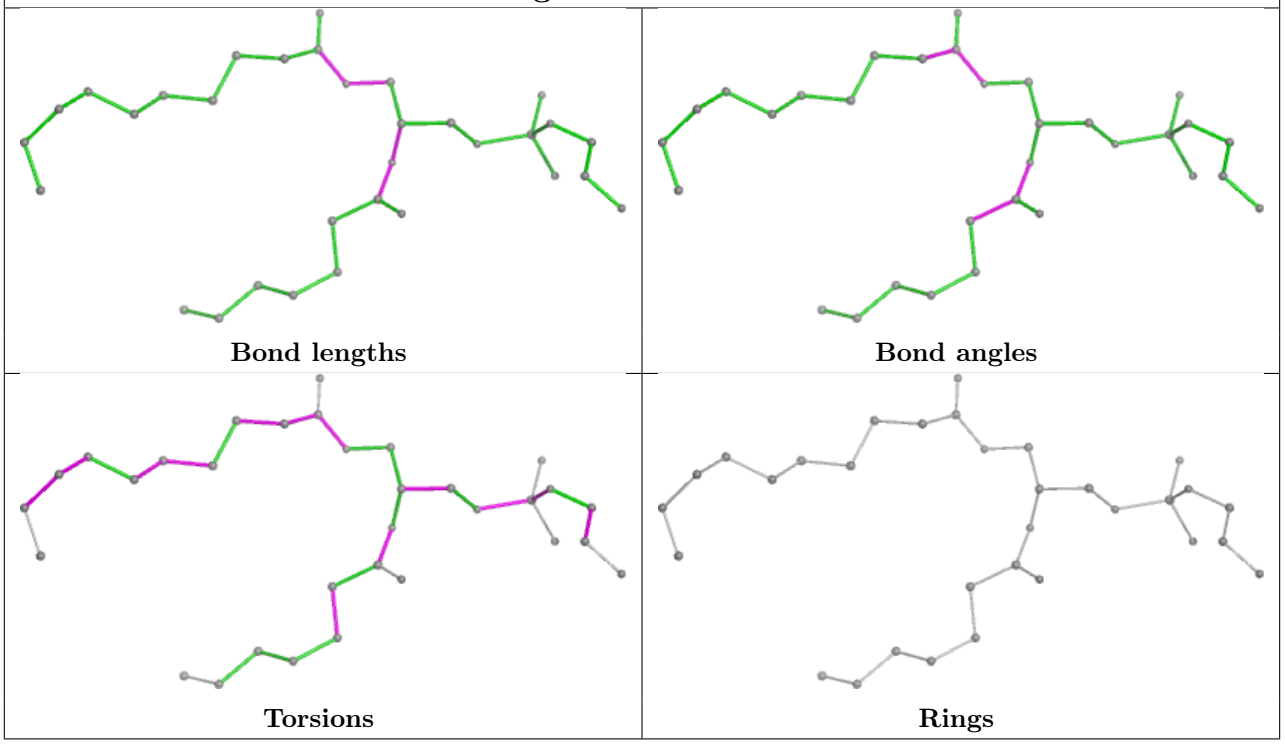
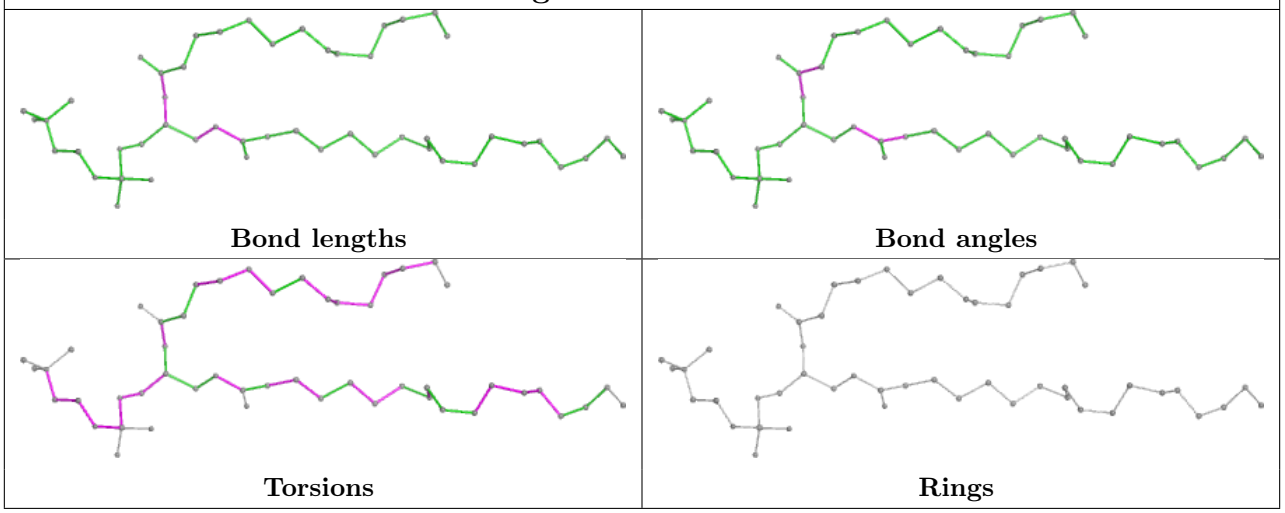


Ligand PC1 4 603



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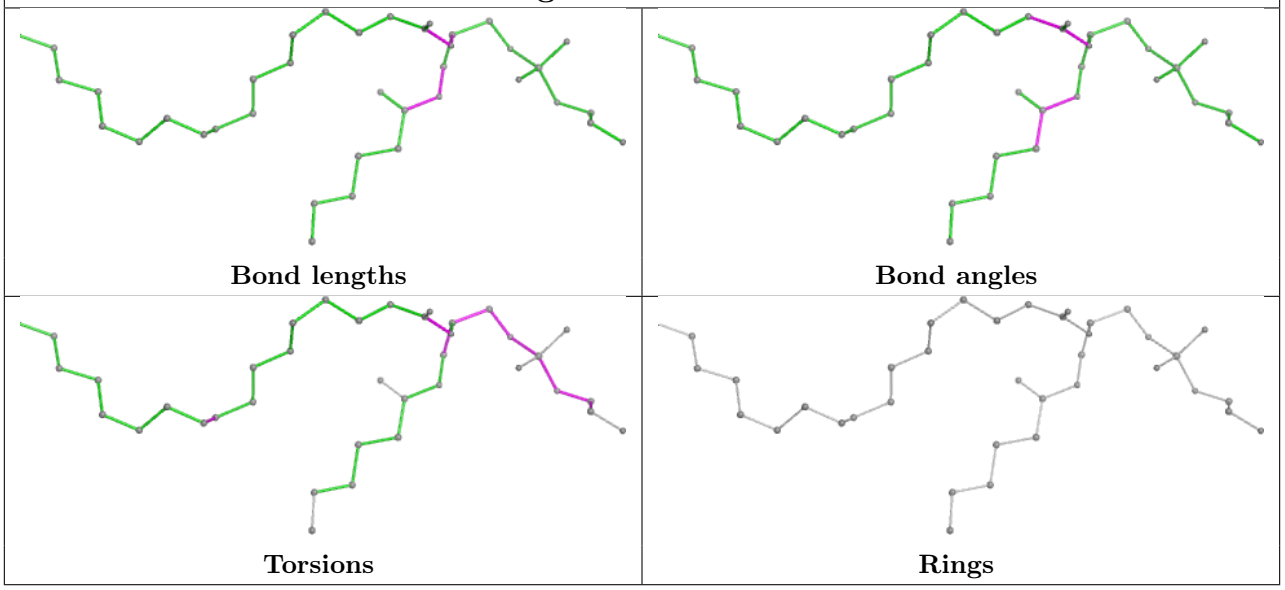
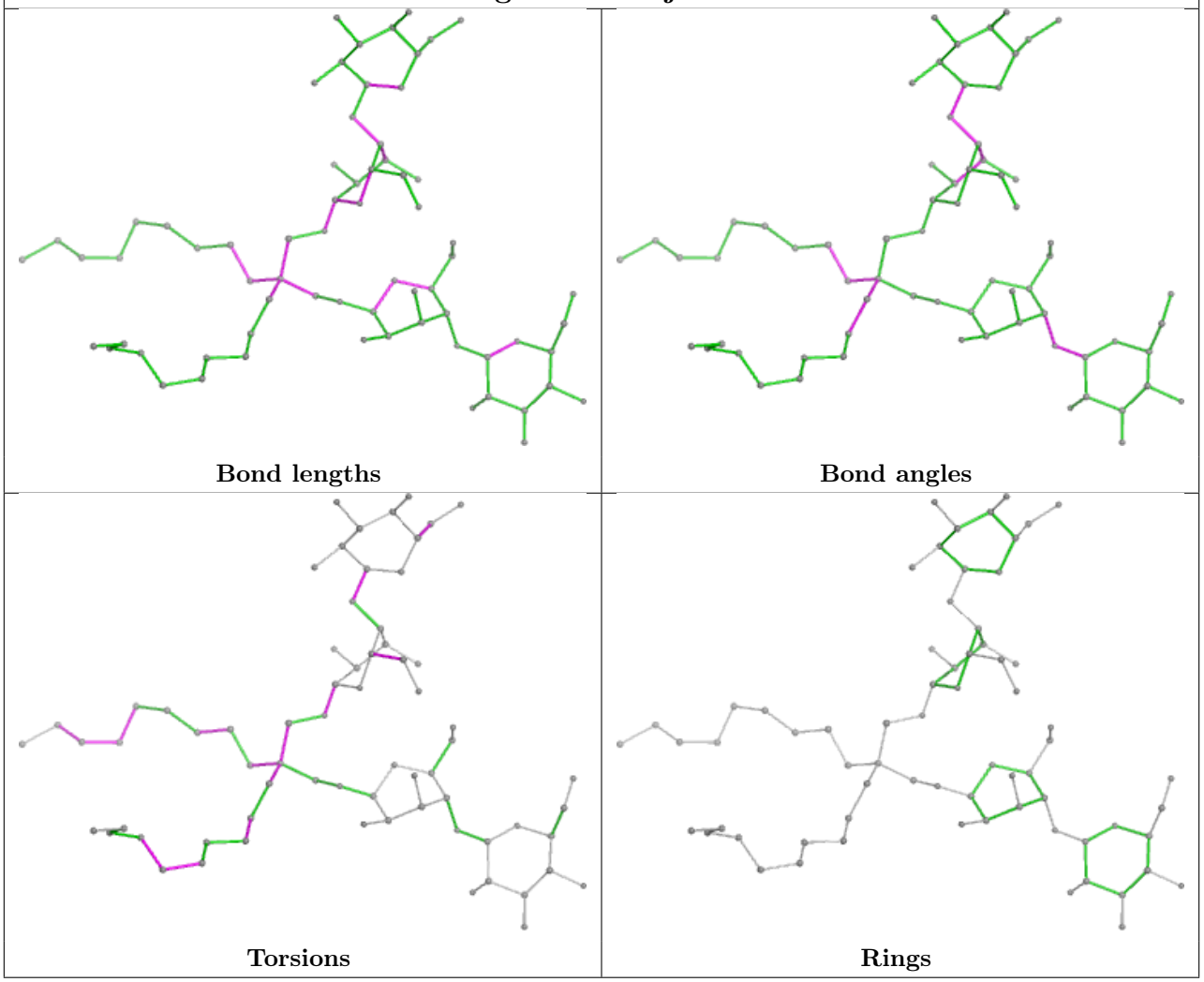


Ligand LMN j 101



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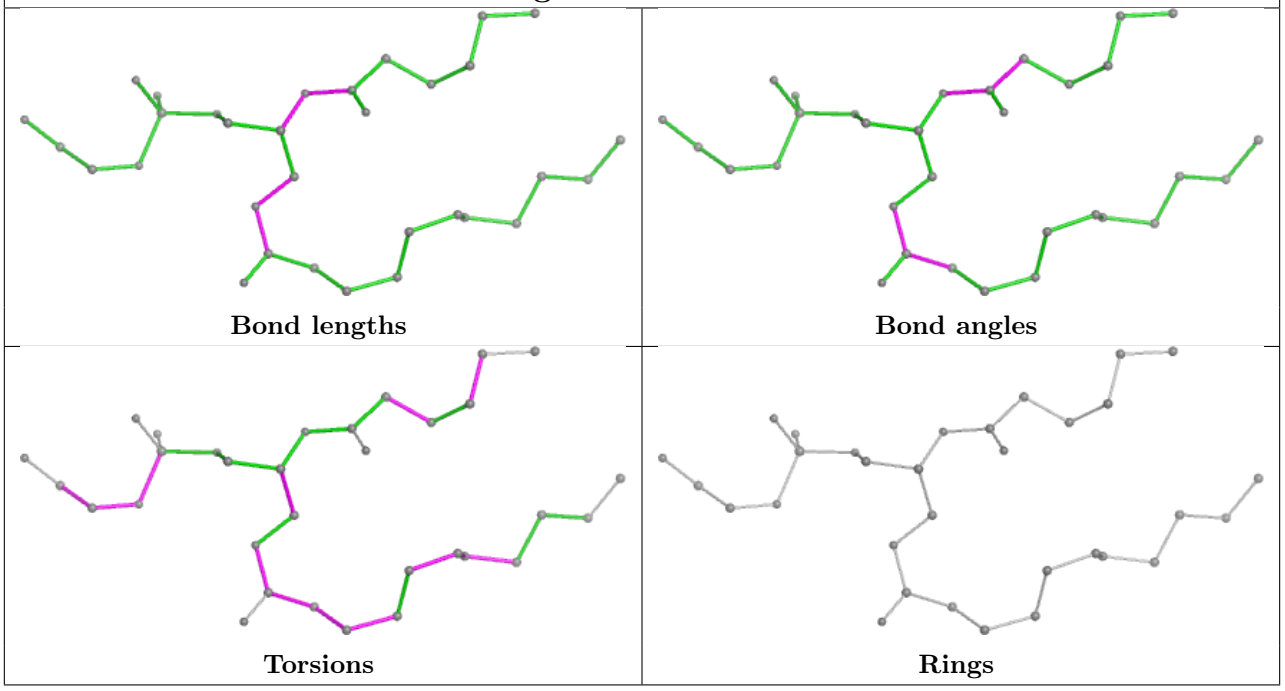

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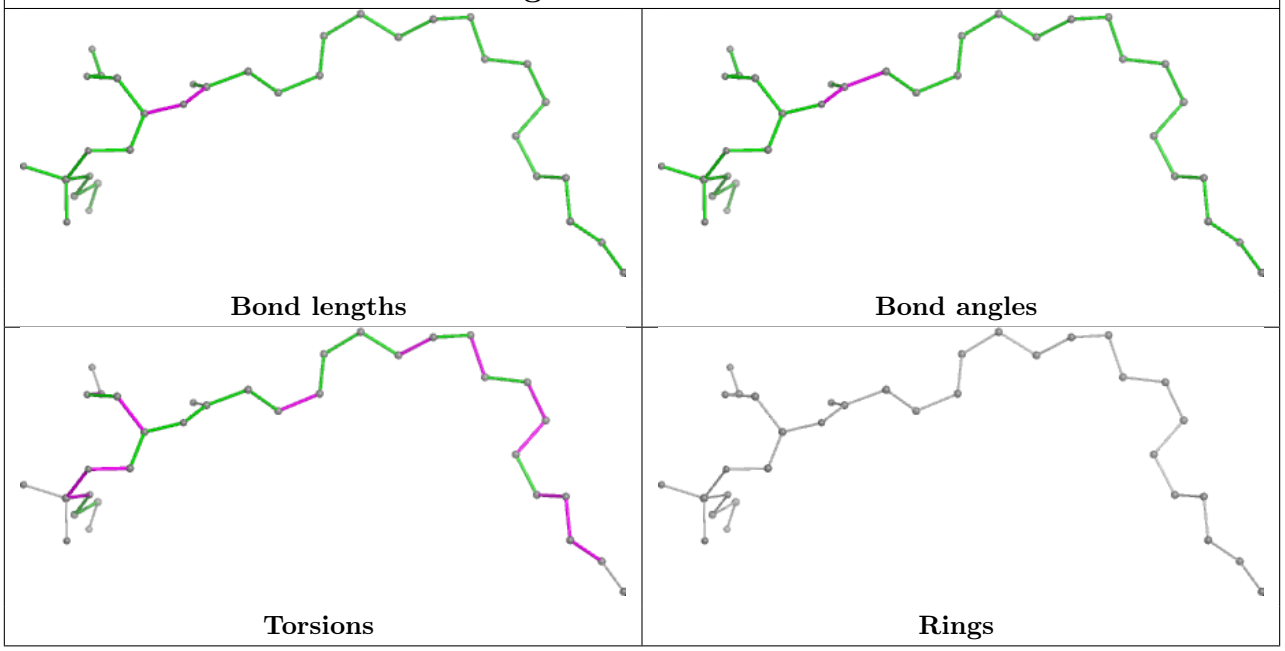

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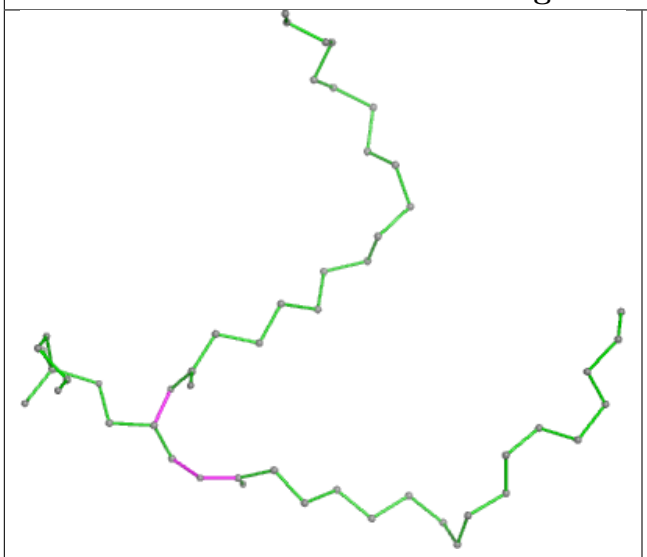
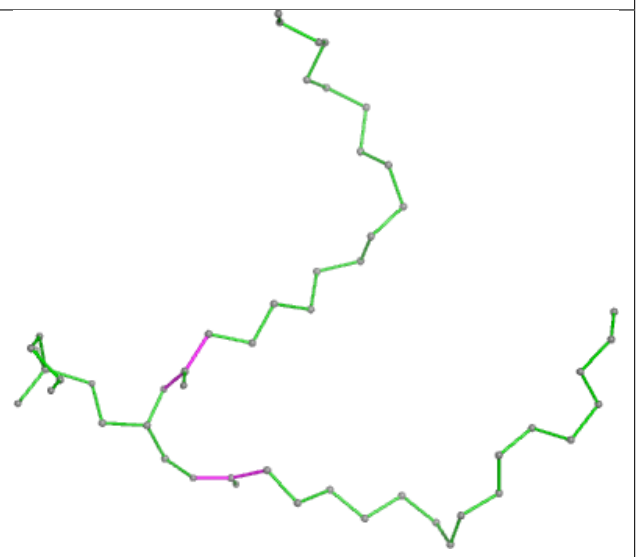
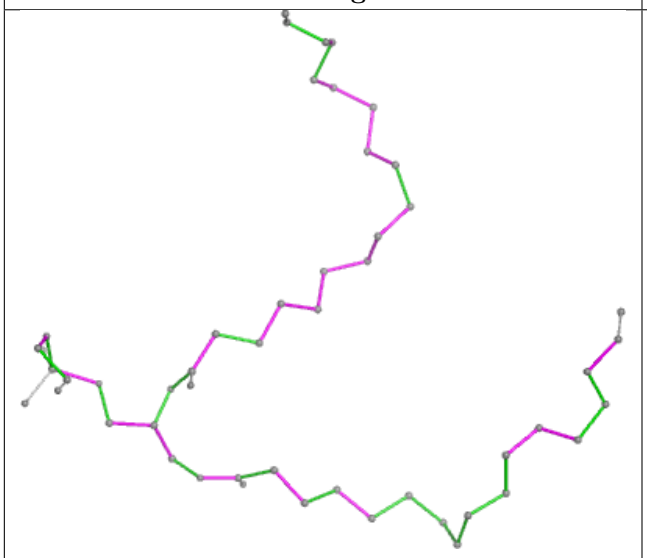


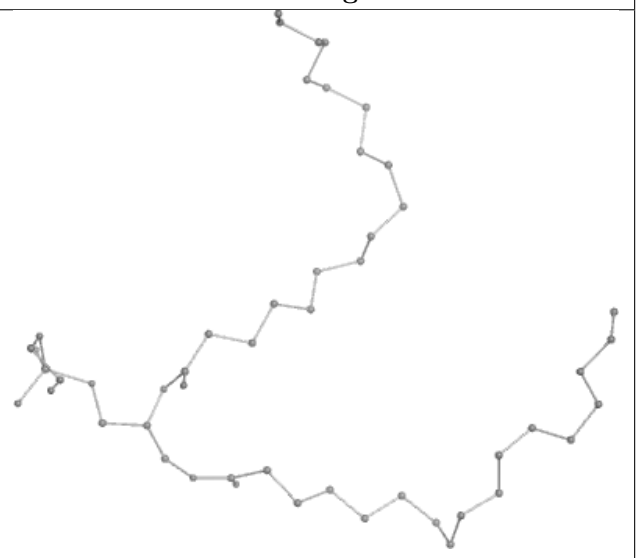
Bond lengths



Bond angles

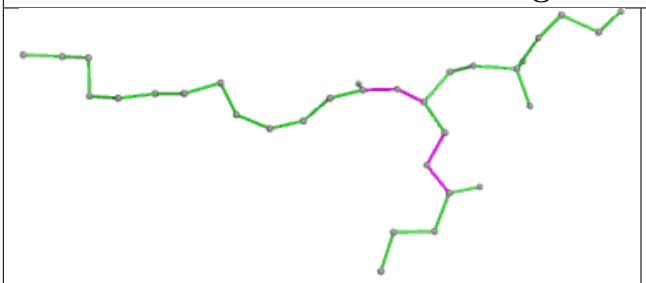


Torsions

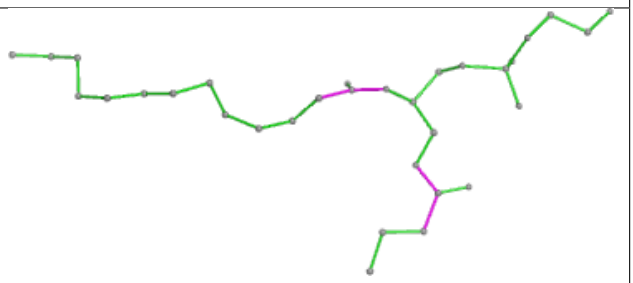


Rings

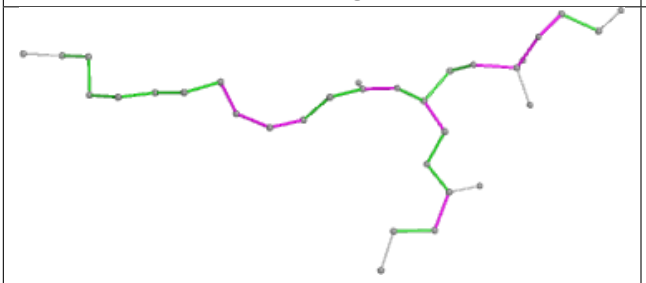
Ligand 3PE 5 704



Bond lengths



Bond angles



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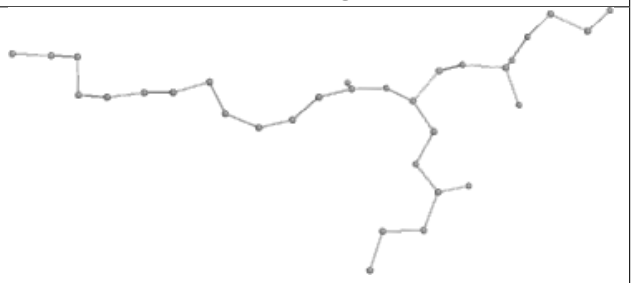
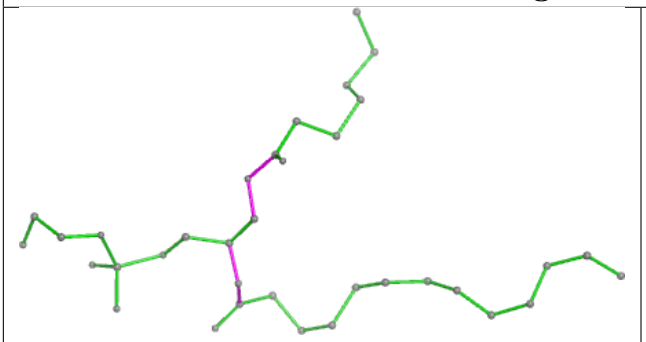


Rings

Ligand 3PE g 102



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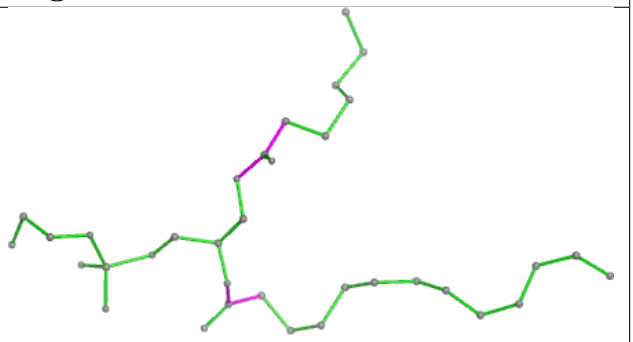
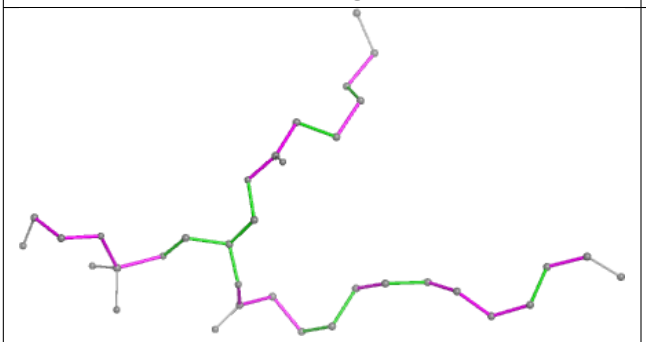


Bond angles



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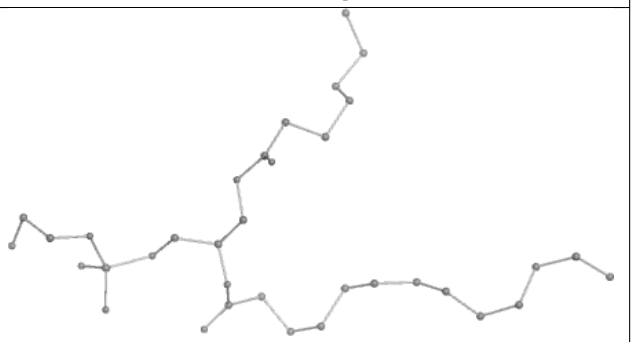
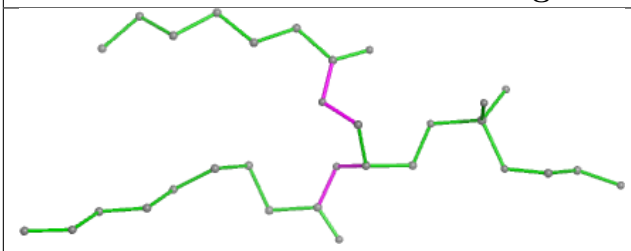
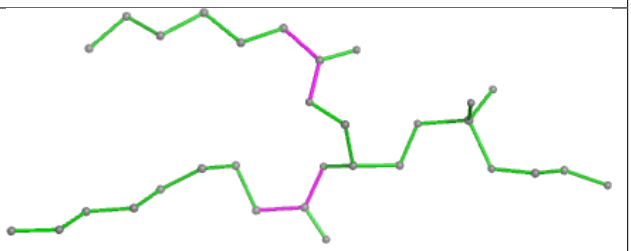


Rings

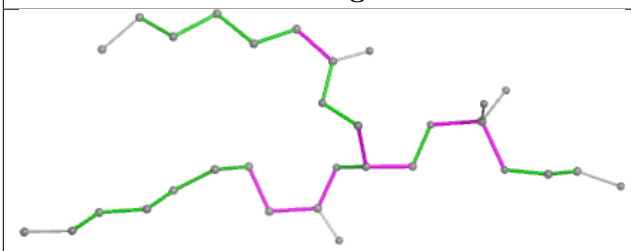
Ligand 3PE 4 604



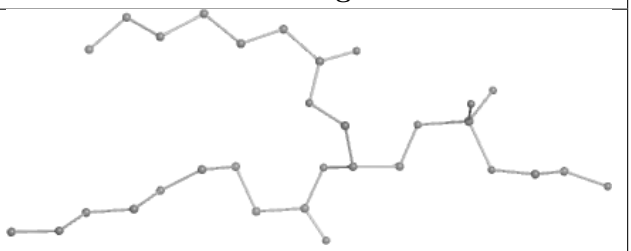
Bond lengths



Bond angles

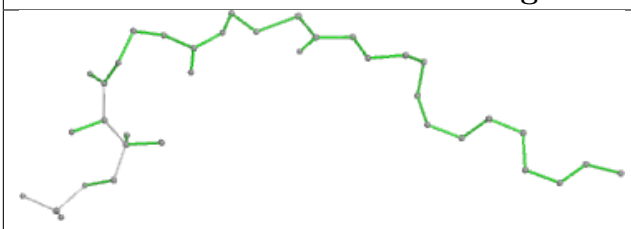


Torsions

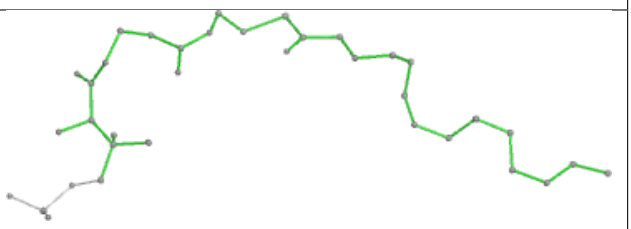


Rings

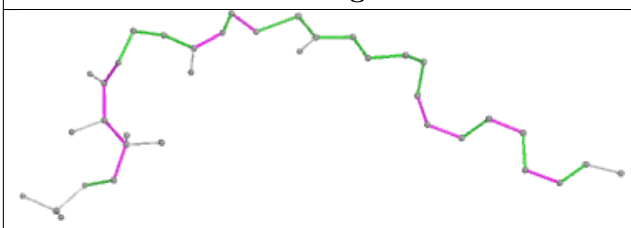
Ligand ZMP O 201



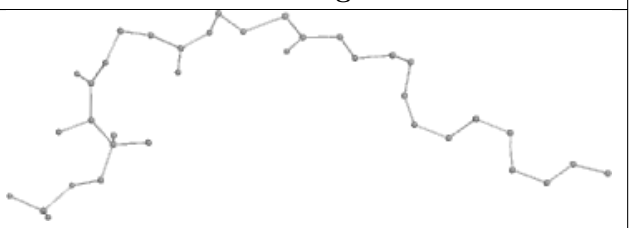
Bond lengths



Bond angles

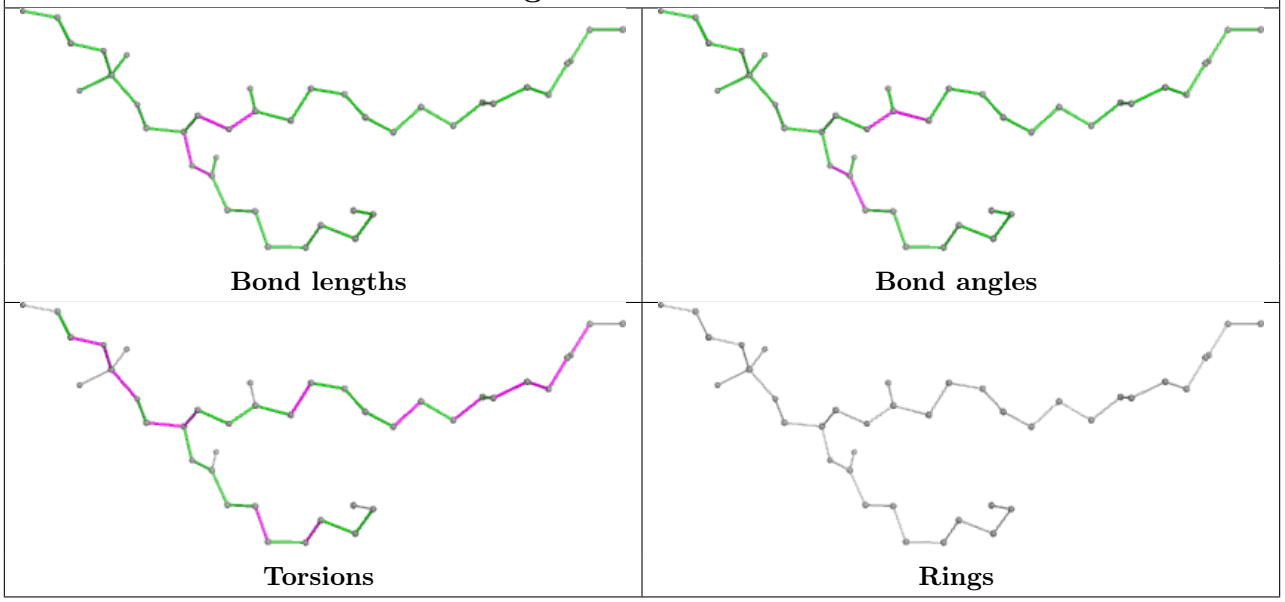


Torsions



Rings

Ligand 3PE W 202



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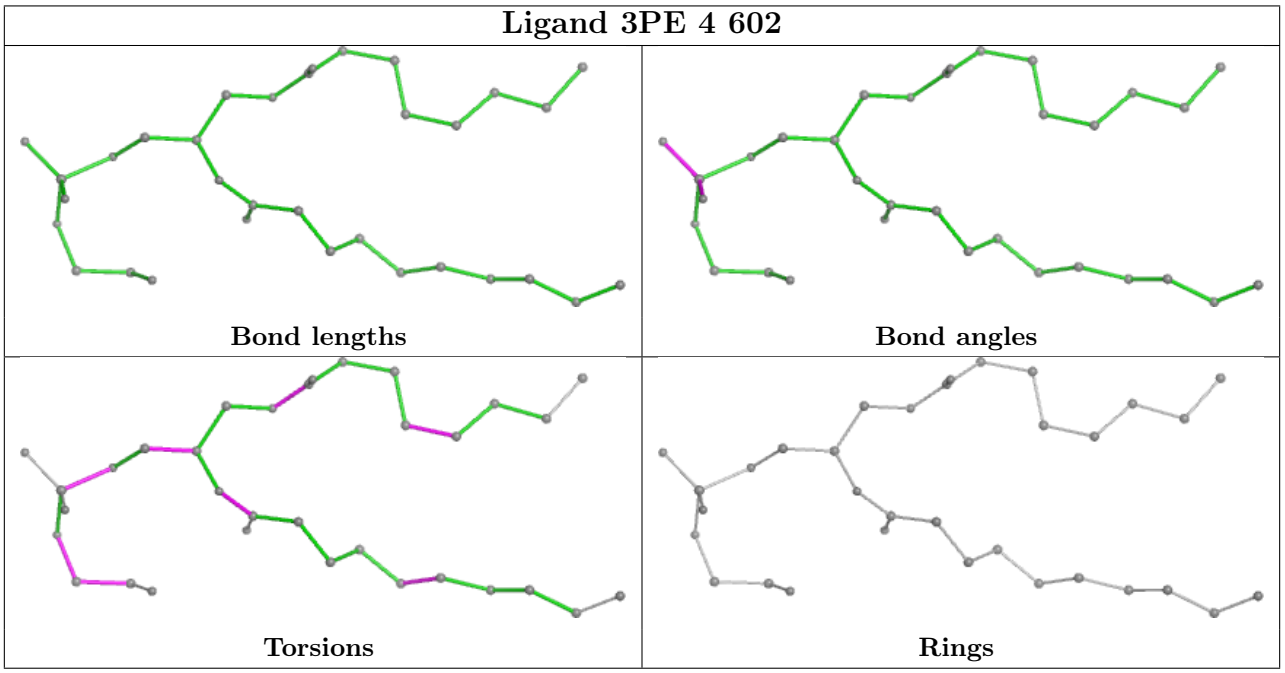
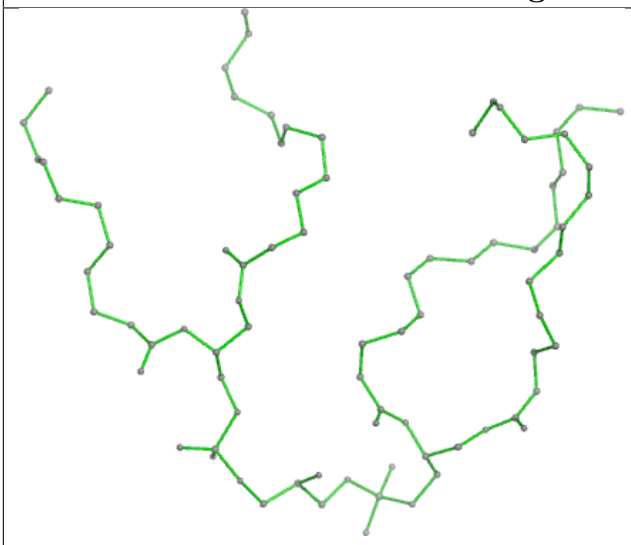
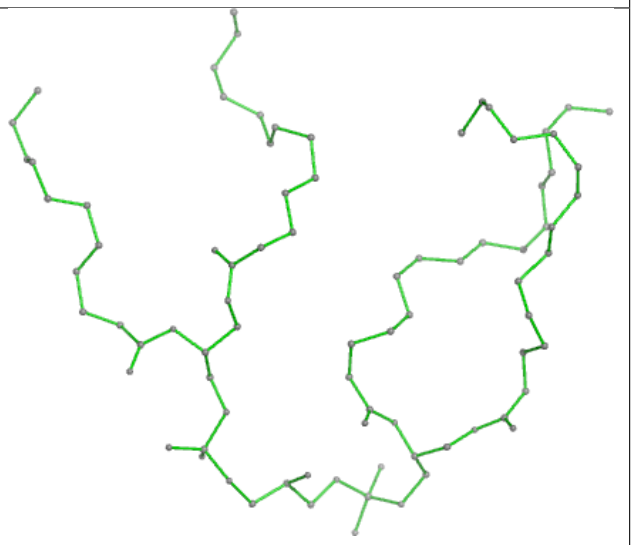


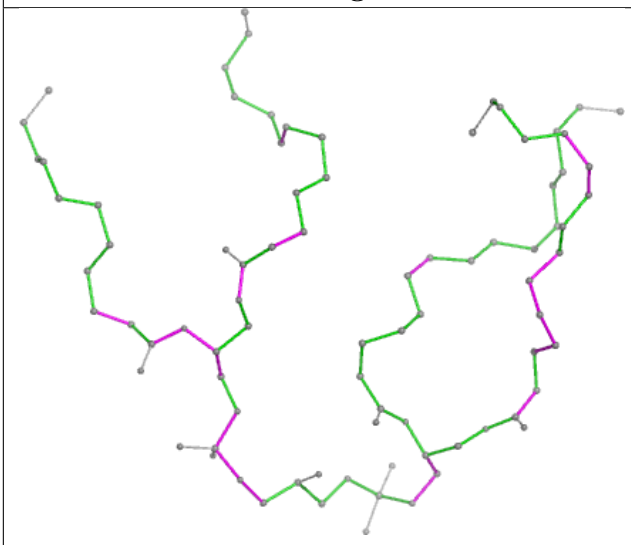
Ligand CDL 4 601



Bond lengths



Bond angles



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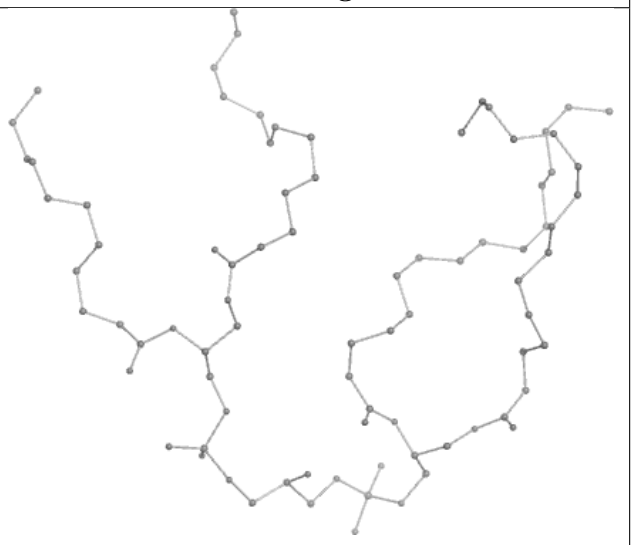
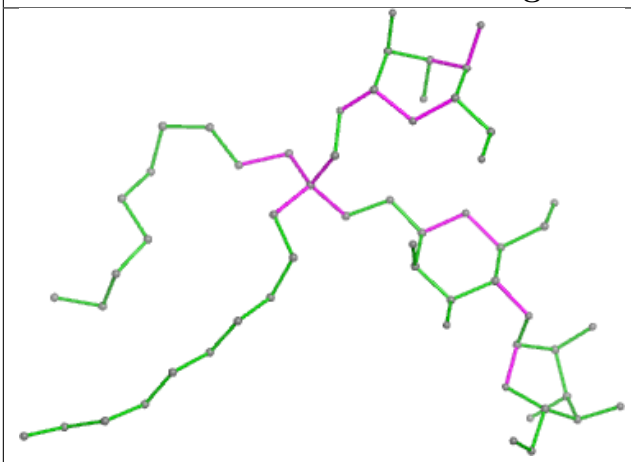
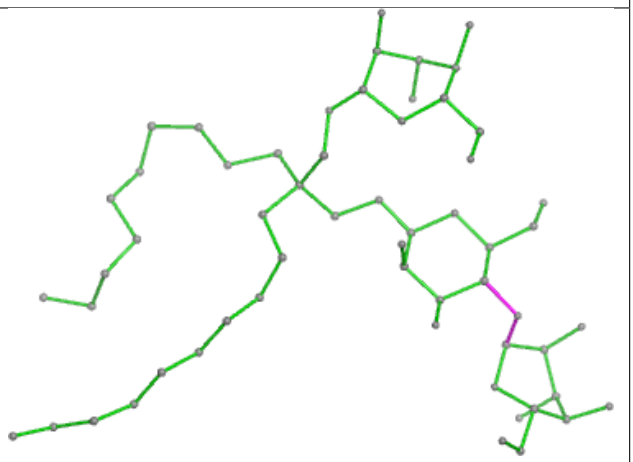


Rings

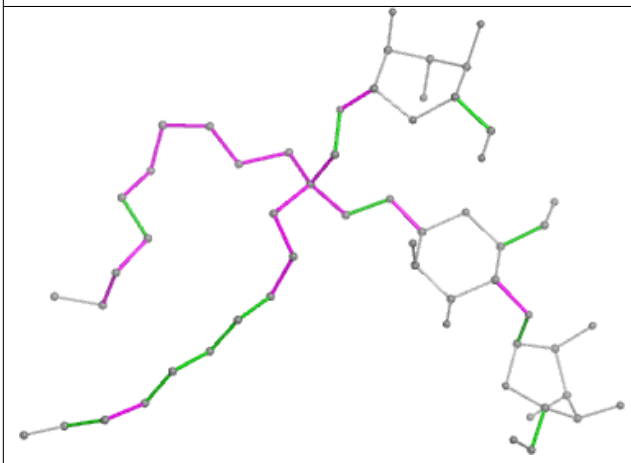
Ligand LMN J 202



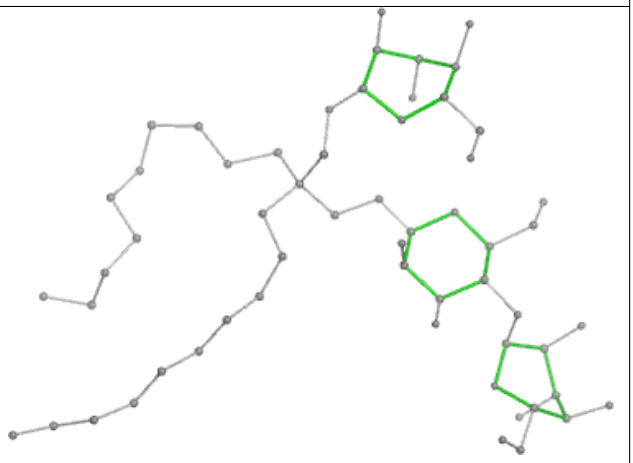
Bond lengths



Bond angles

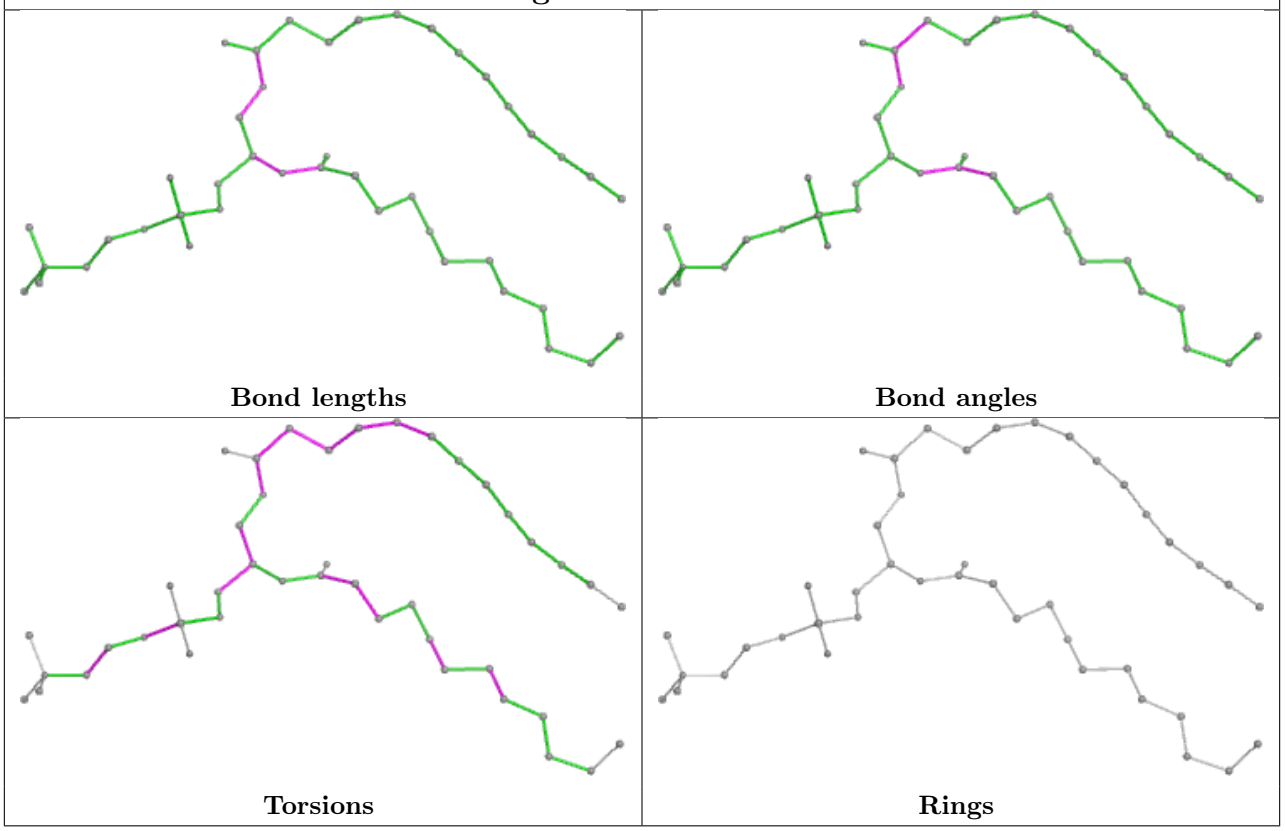


Torsions

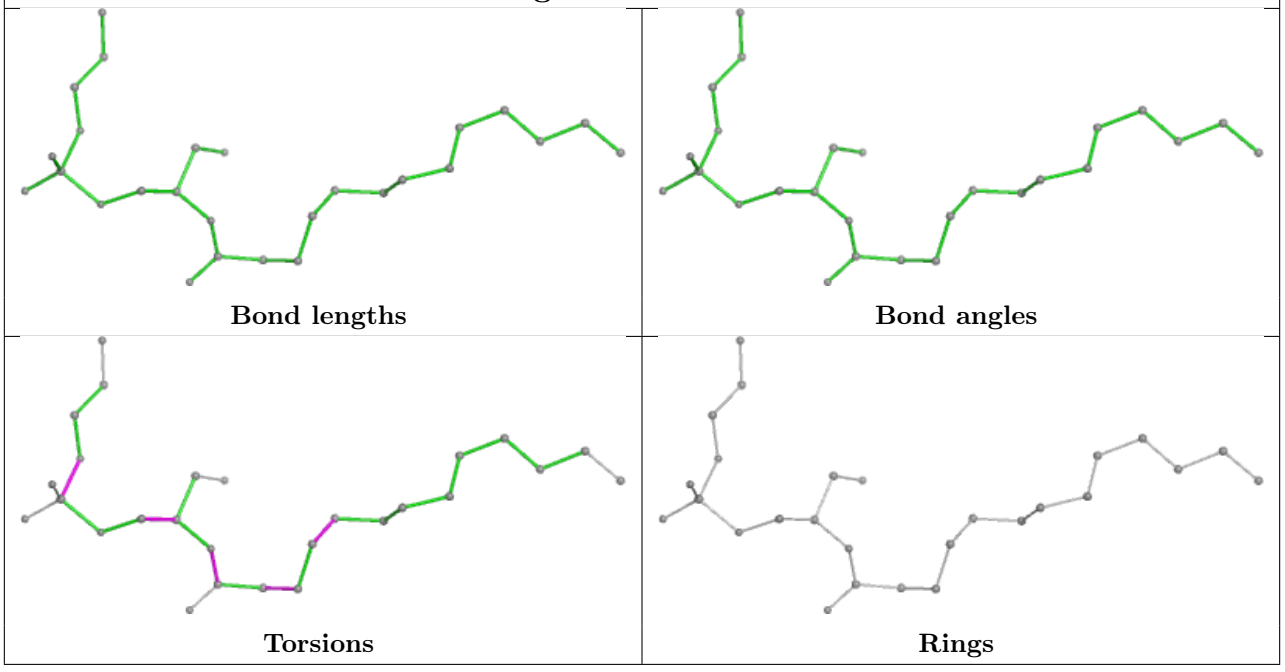


Rings

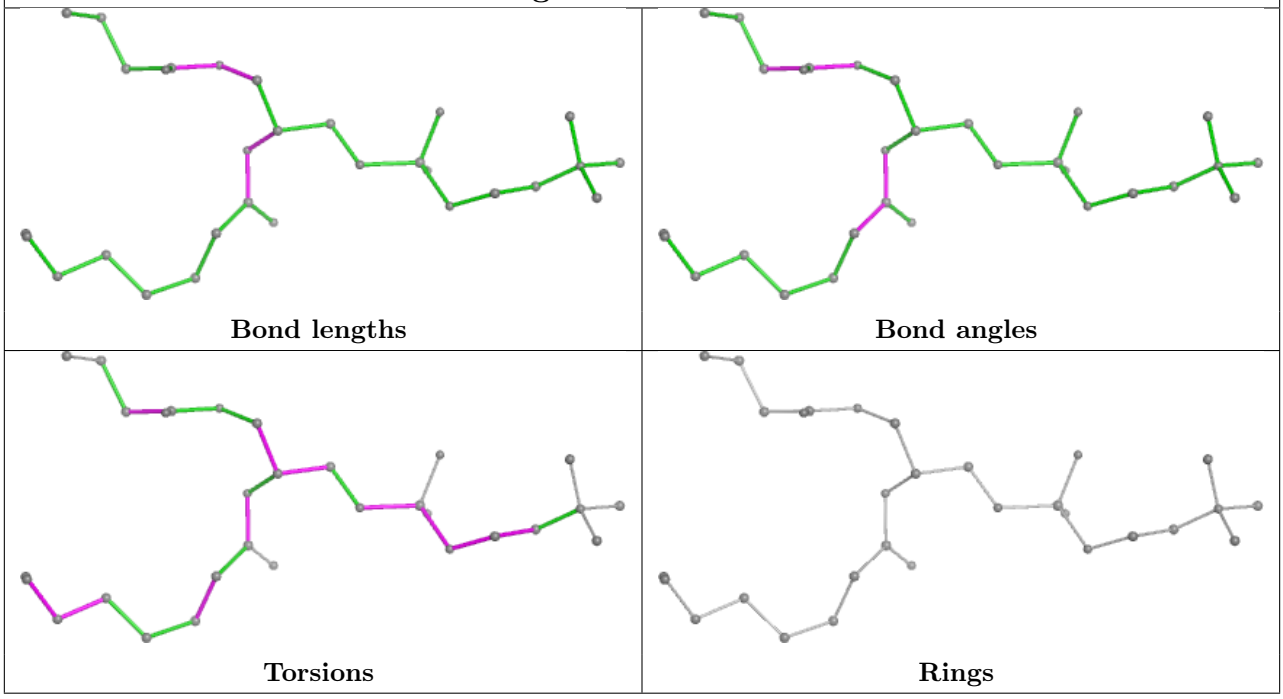
Ligand PC1 5 706



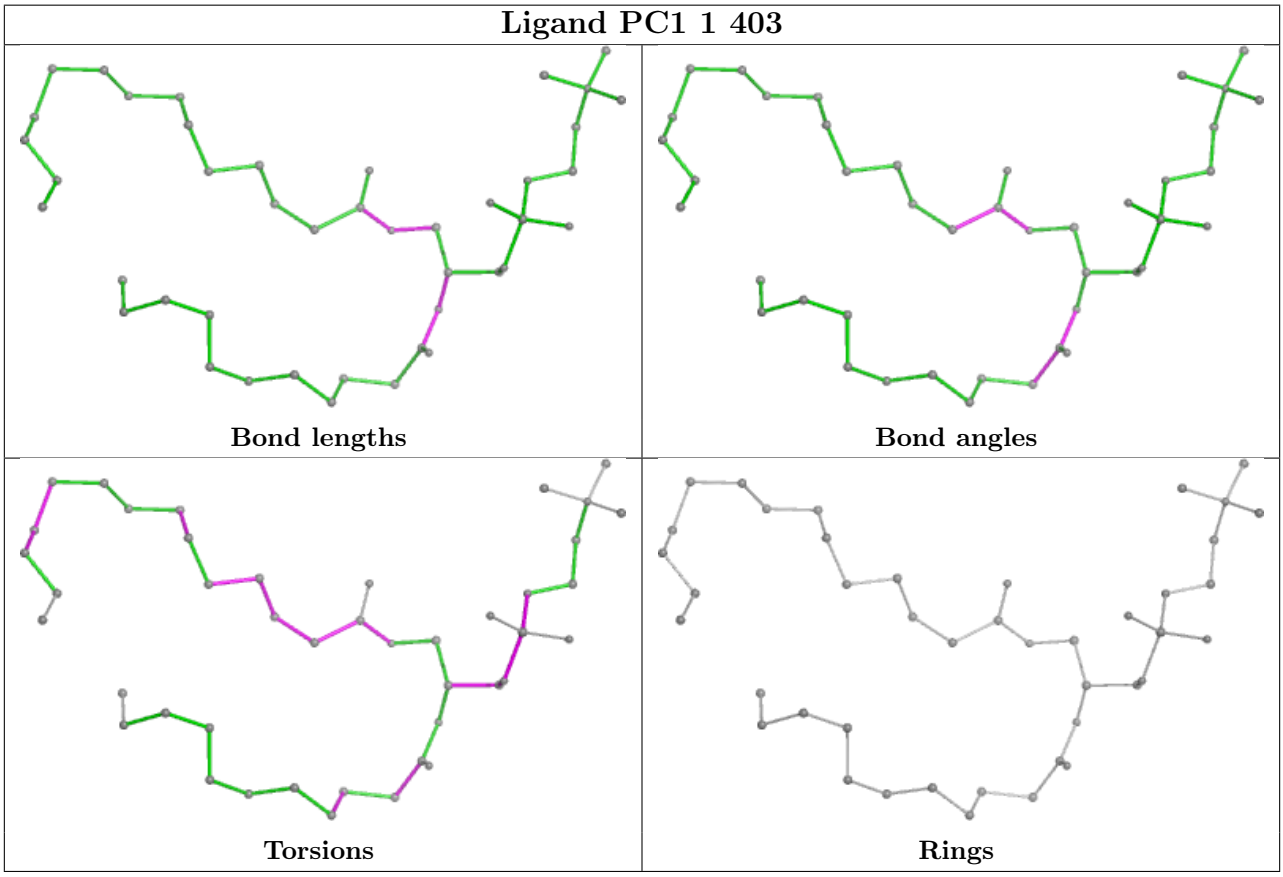
Ligand 3PE 1 402



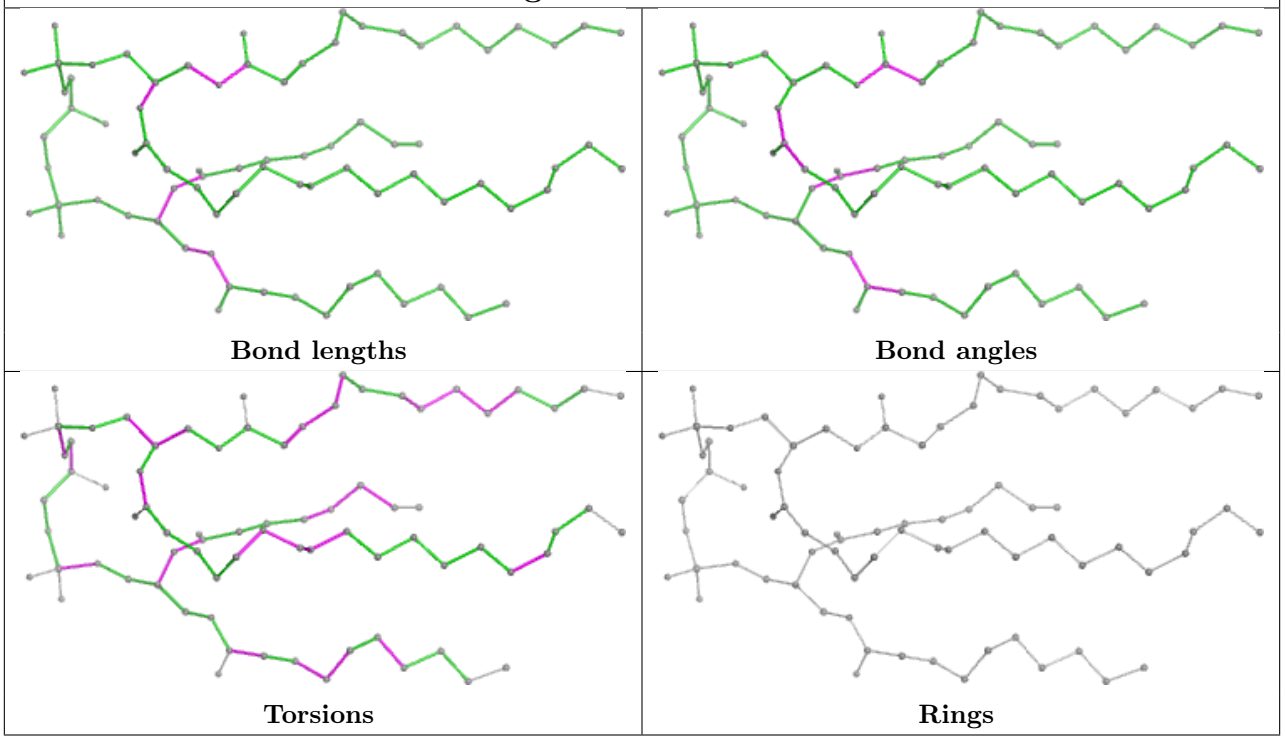
Ligand PC1 2 603



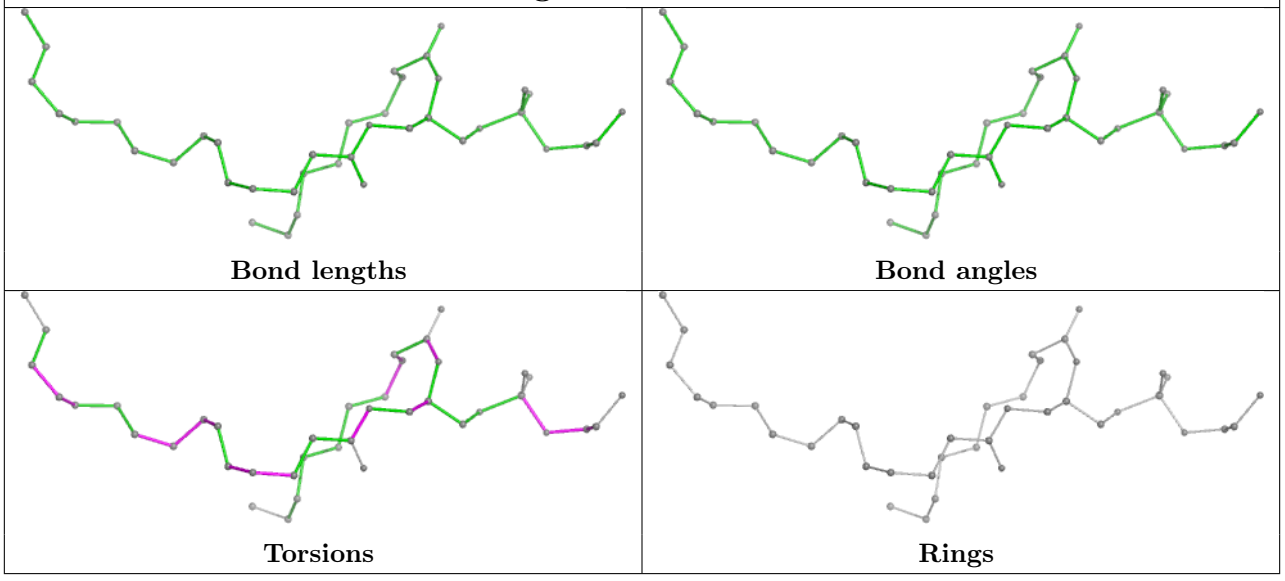
Ligand PC1 1 403



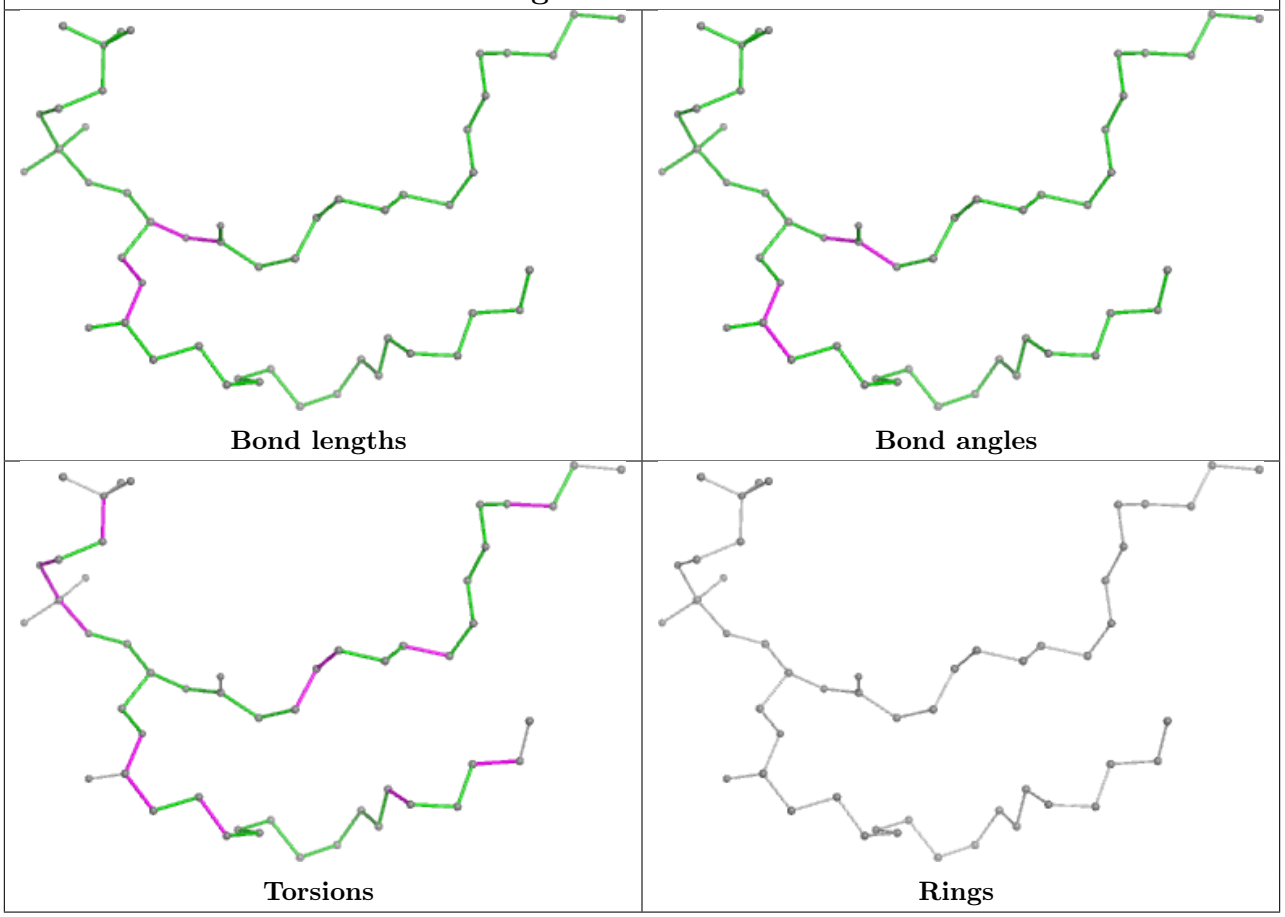
Ligand CDL X 201



Ligand 3PE 5 702



Ligand PC1 S 201



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.

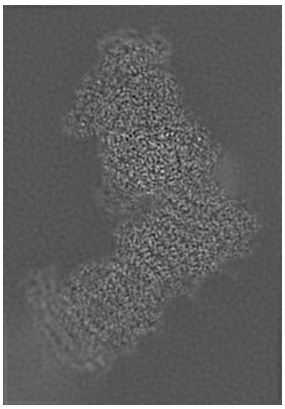
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-14794. These allow visual inspection of the internal detail of the map and identification of artifacts.

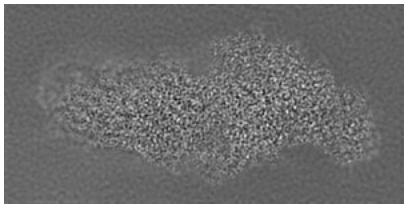
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

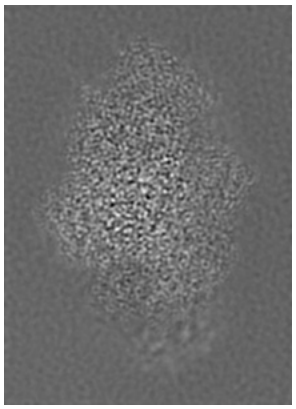
6.1.1 Primary map



X

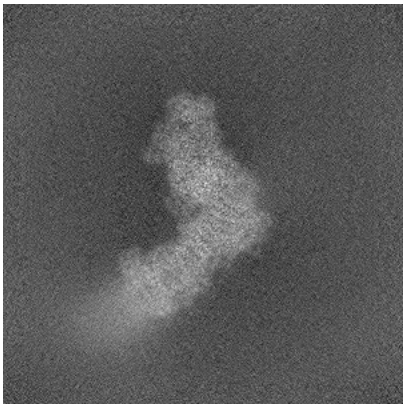


Y

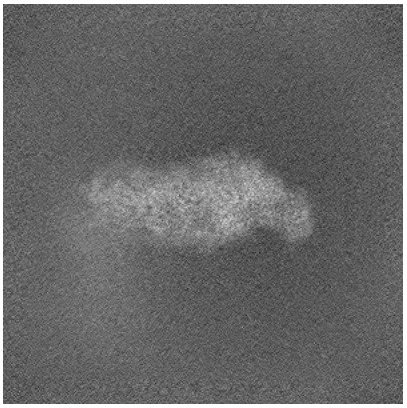


Z

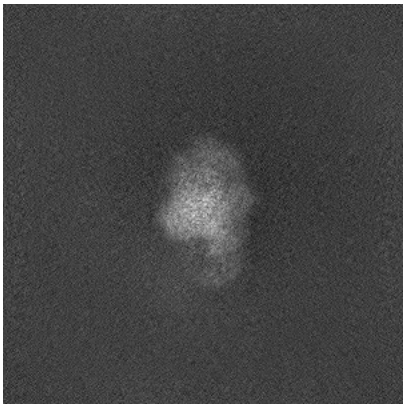
6.1.2 Raw map



X



Y

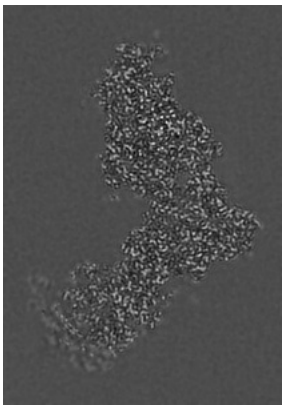


Z

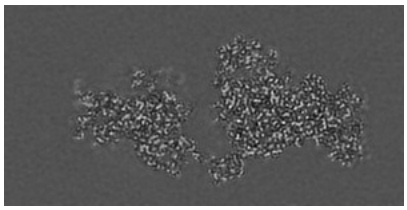
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

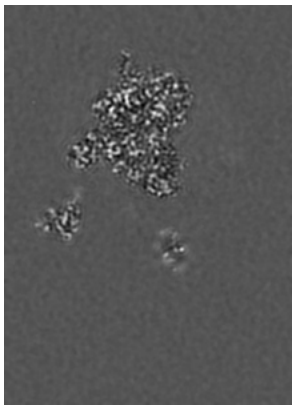
6.2.1 Primary map



X Index: 95

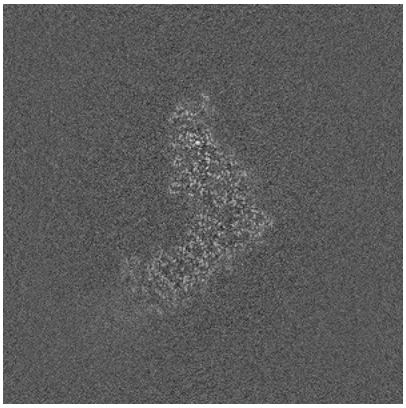


Y Index: 132

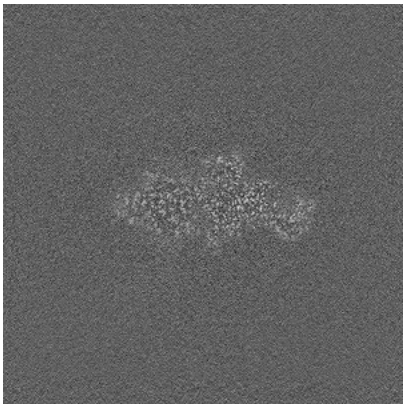


Z Index: 191

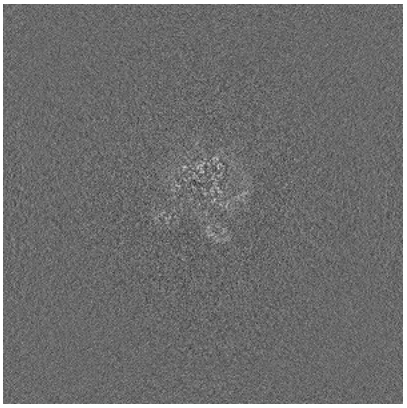
6.2.2 Raw map



X Index: 294



Y Index: 294

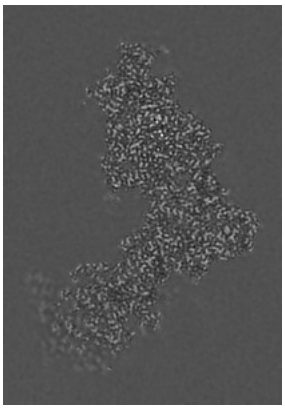


Z Index: 294

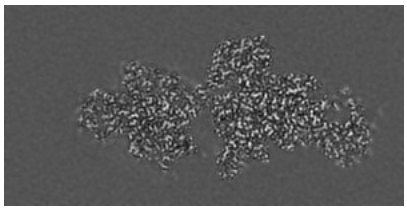
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

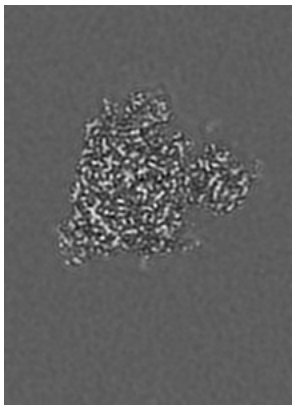
6.3.1 Primary map



X Index: 97

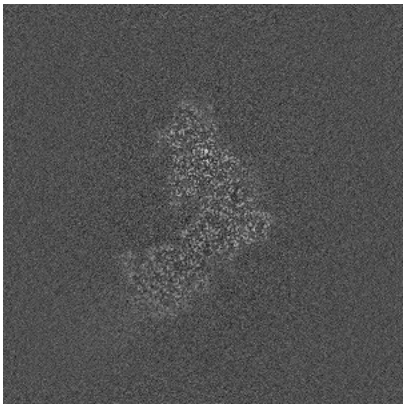


Y Index: 140

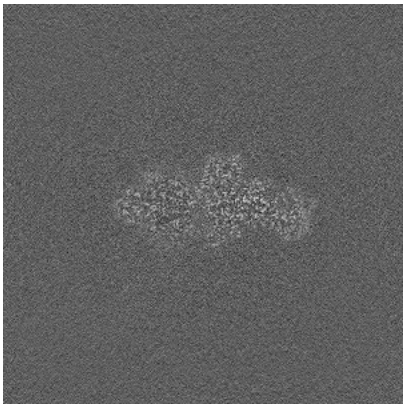


Z Index: 240

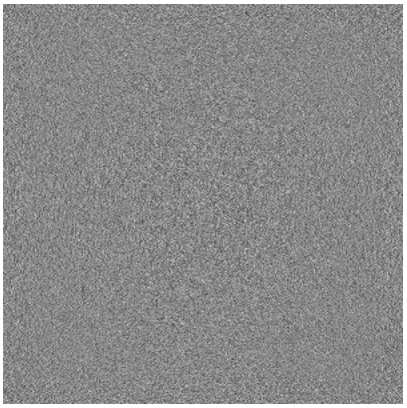
6.3.2 Raw map



X Index: 302



Y Index: 292

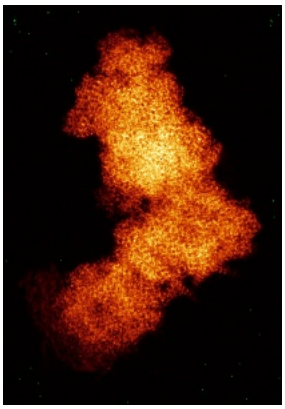


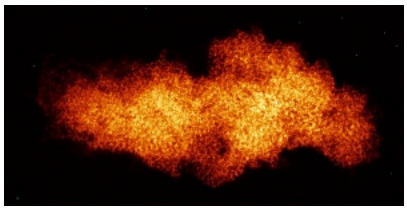
Z Index: 0

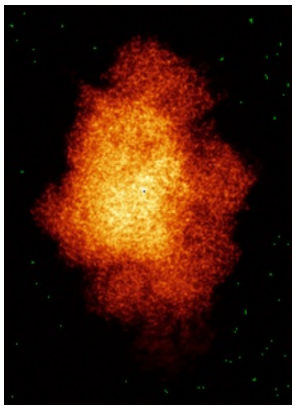
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) (i)

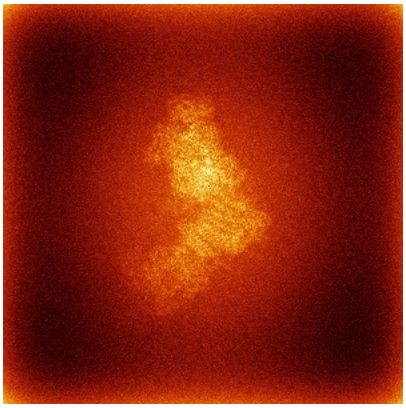
6.4.1 Primary map

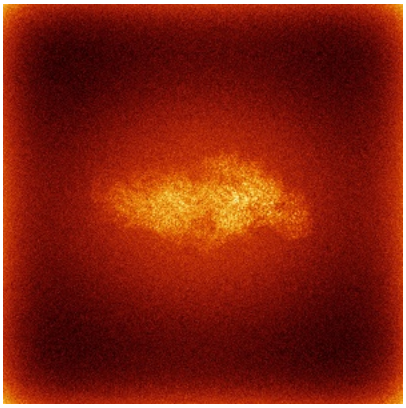

X

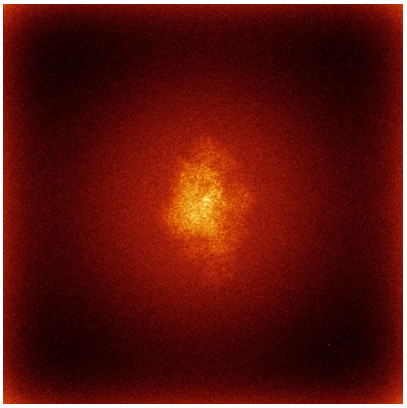

Y


Z

6.4.2 Raw map


X


Y


Z

The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

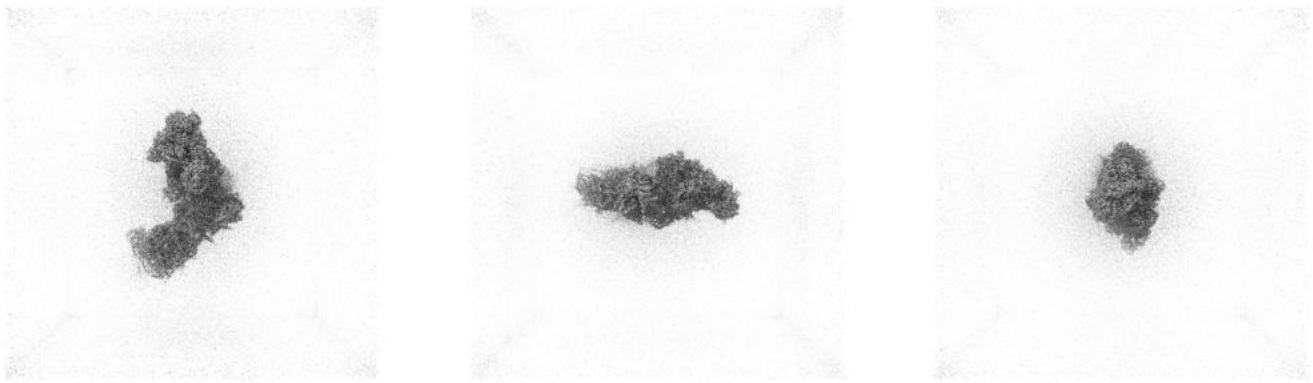
6.5 Orthogonal surface views (i)

6.5.1 Primary map

X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.12. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



X Y Z

These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

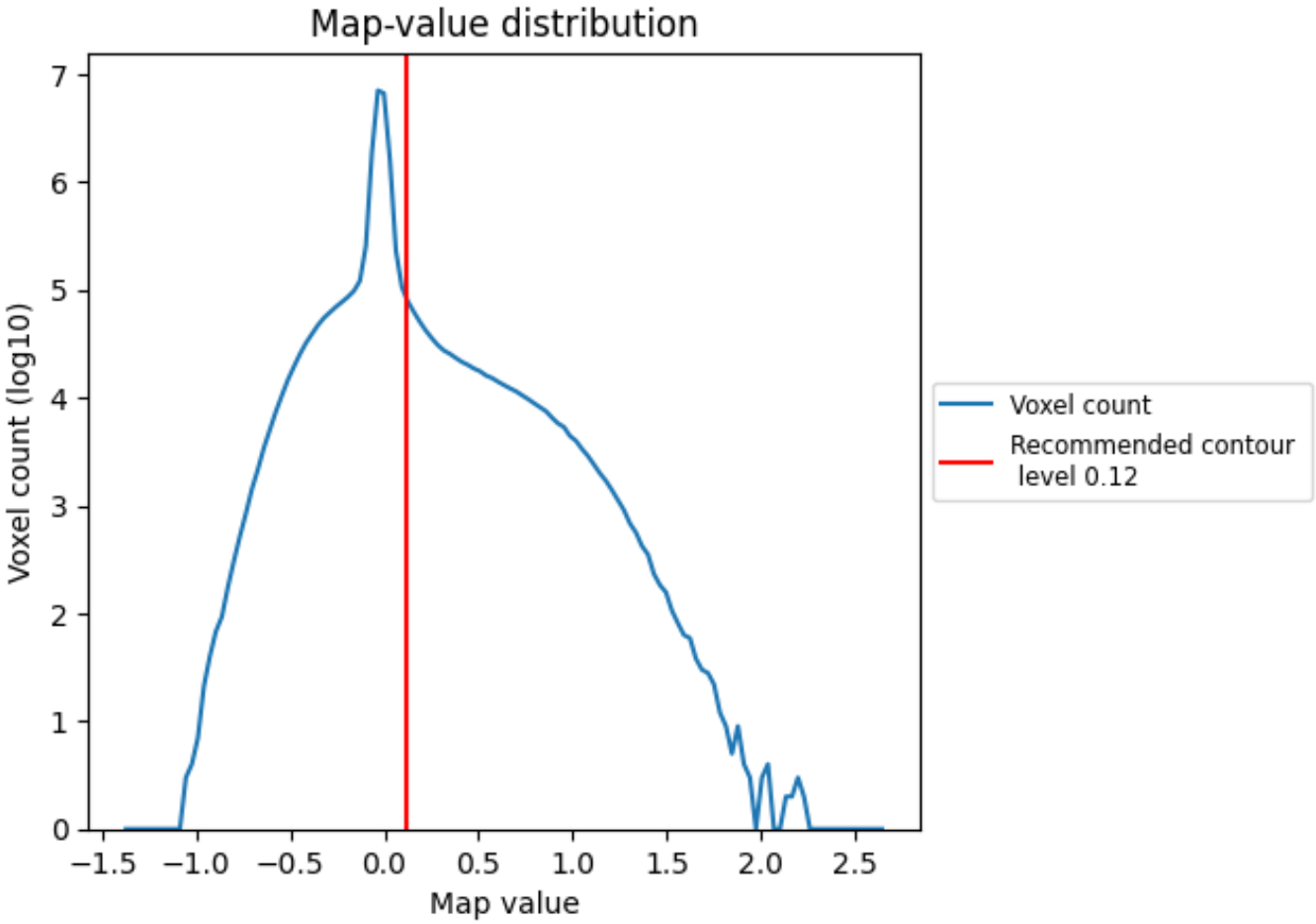
6.6 Mask visualisation (i)

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

7 Map analysis

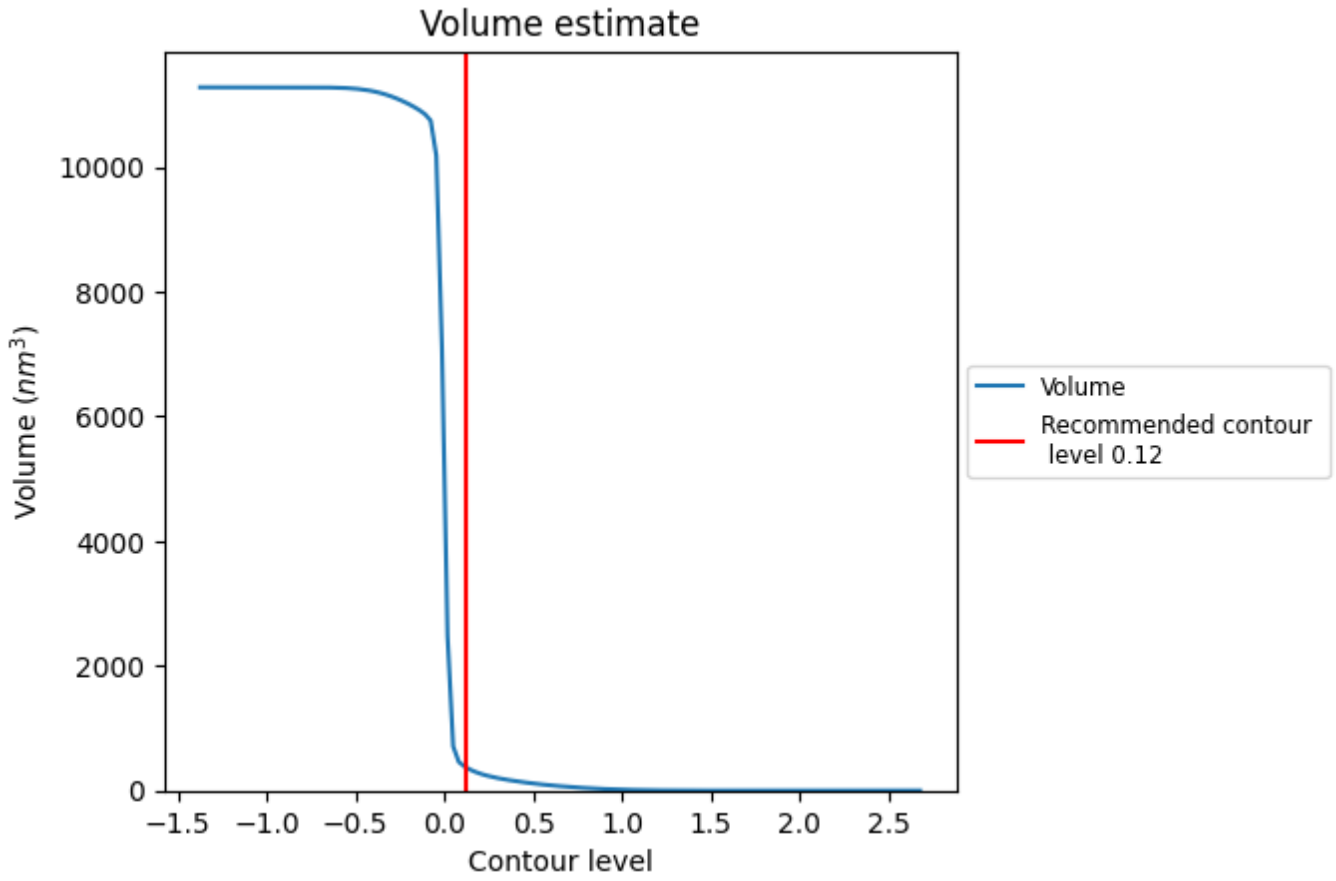
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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



The volume at the recommended contour level is 375 nm^3; this corresponds to an approximate mass of 339 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

This section was not generated. The rotationally averaged power spectrum is only generated for cubic maps.

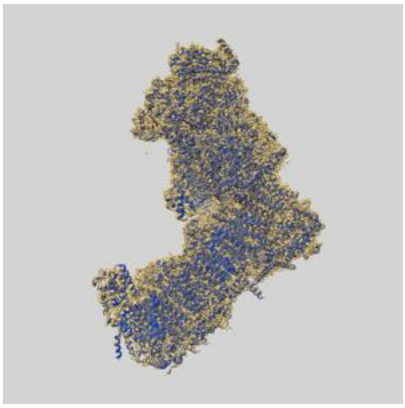
8 Fourier-Shell correlation (i)

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

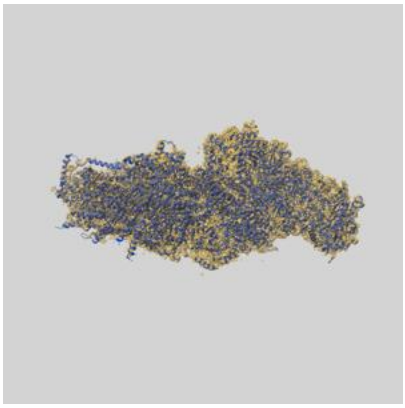
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-14794 and PDB model 7ZMB. Per-residue inclusion information can be found in section 3 on page 25.

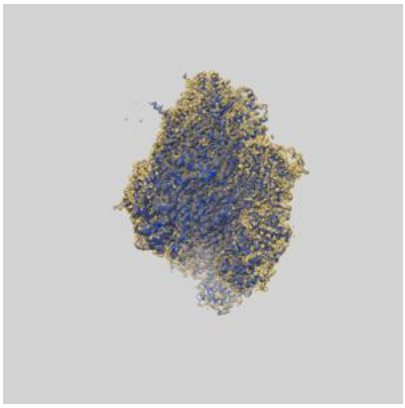
9.1 Map-model overlay



X



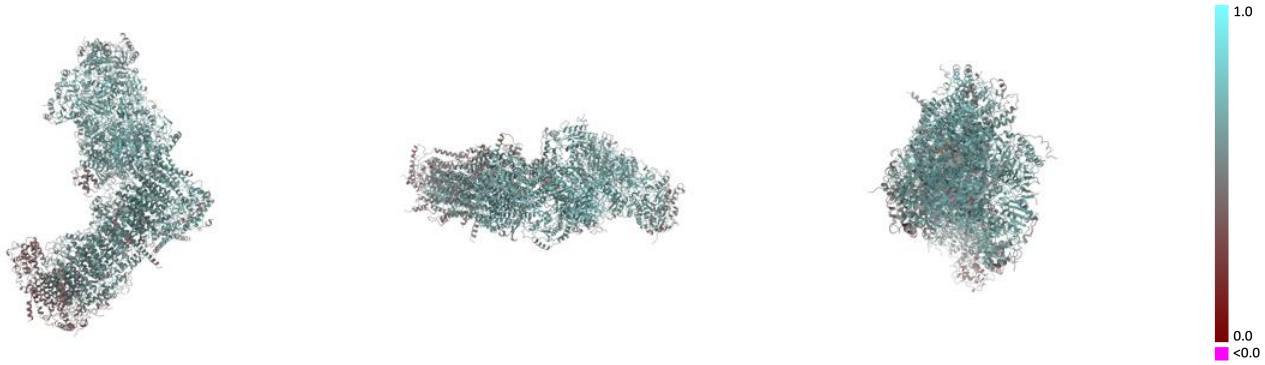
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.12 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.

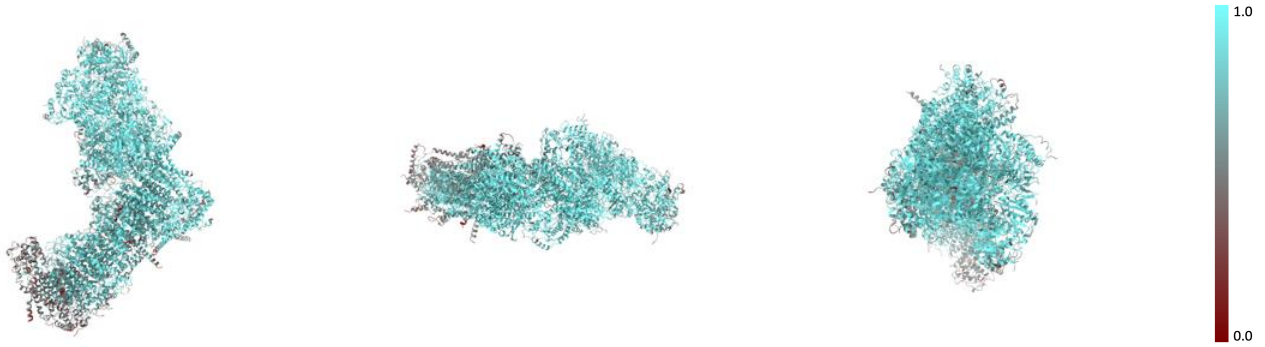
9.2 Q-score mapped to coordinate model (i)



X Y Z

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.

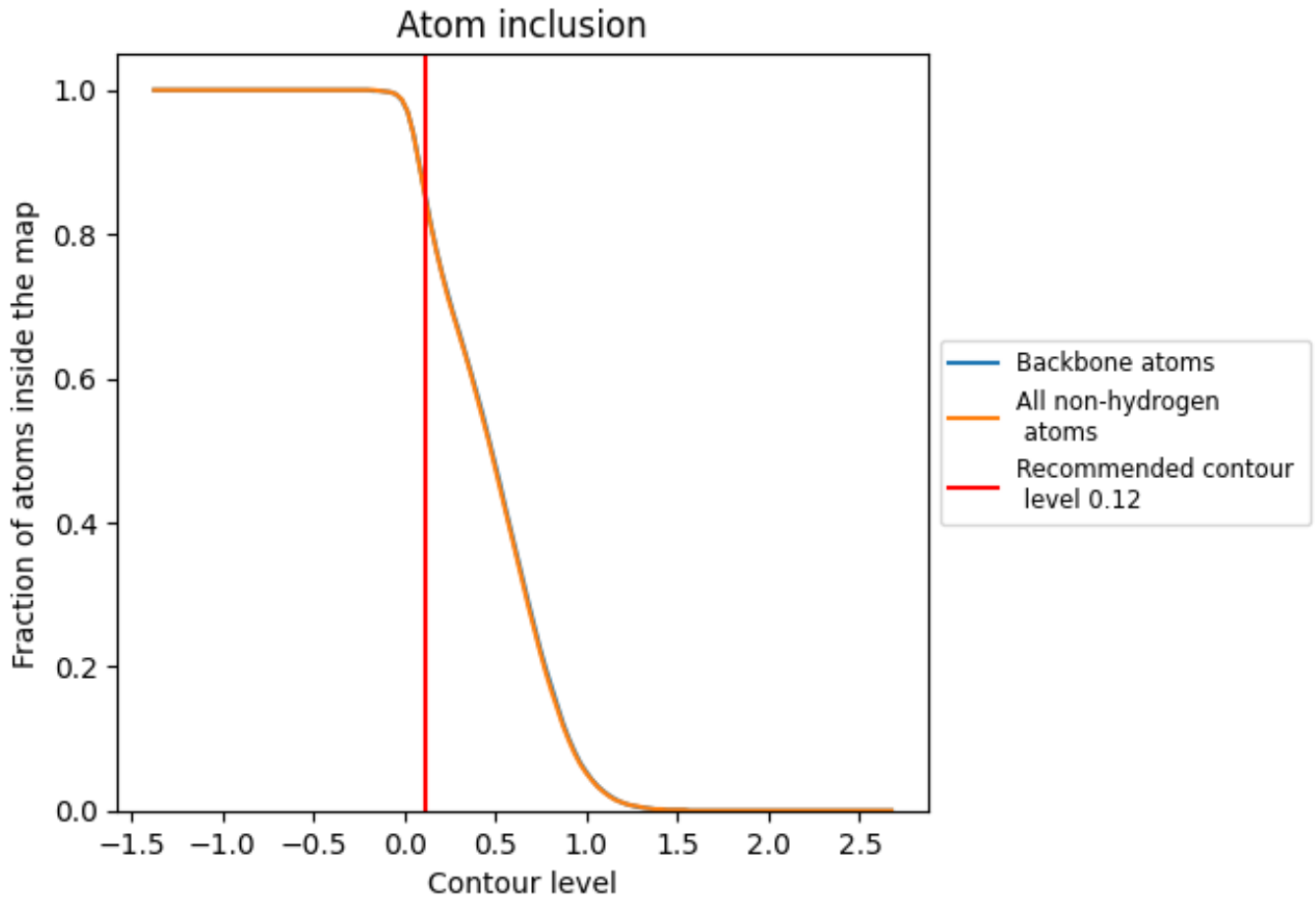
9.3 Atom inclusion mapped to coordinate model (i)



X Y Z

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 (0.12).

9.4 Atom inclusion (i)



At the recommended contour level, 85% 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 (0.12) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.8440	0.5980
1	0.9530	0.6590
2	0.9330	0.6510
3	0.9090	0.6350
4	0.9070	0.6290
5	0.7220	0.5290
6	0.8960	0.6190
8	0.4190	0.4030
9	0.7950	0.5650
A	0.9250	0.6390
B	0.8610	0.5790
C	0.9320	0.6630
D	0.9490	0.6510
E	0.9010	0.6200
F	0.8740	0.6030
G	0.9510	0.6670
H	0.8200	0.5640
I	0.9530	0.6640
J	0.6490	0.5030
K	0.9210	0.6430
L	0.9330	0.6540
M	0.9440	0.6440
O	0.6260	0.4410
P	0.9150	0.6320
Q	0.4070	0.3900
R	0.5590	0.4520
S	0.7450	0.5330
U	0.9000	0.6100
W	0.8880	0.6250
X	0.8980	0.6280
Y	0.9130	0.6460
Z	0.8500	0.5860
a	0.6750	0.5040
b	0.8230	0.5810
c	0.4270	0.3900

Continued on next page...

Continued from previous page...

Chain	Atom inclusion	Q-score
d	0.7790	0.5440
e	0.4670	0.4090
f	0.8200	0.5560
g	0.9030	0.6210
h	0.9080	0.6290
i	0.6180	0.4950
j	0.7800	0.5600
n	0.6830	0.5300
o	0.5770	0.4630