



## Full wwPDB EM Validation Report ⓘ

Mar 17, 2026 – 04:58 PM UTC

PDB ID : 7QSM / pdb\_00007qsm  
EMDB ID : EMD-14134  
Title : Bovine complex I in lipid nanodisc, Deactive-ligand (composite)  
Authors : Chung, I.; Bridges, H.R.; Hirst, J.  
Deposited on : 2022-01-13  
Resolution : 2.30 Å(reported)

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

We welcome your comments at [validation@mail.wwpdb.org](mailto:validation@mail.wwpdb.org)

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

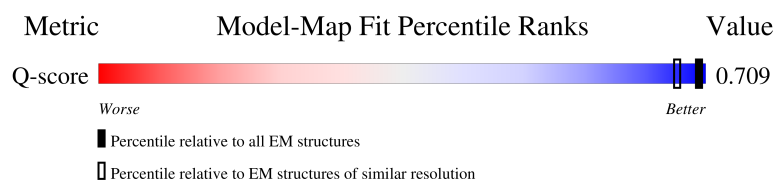
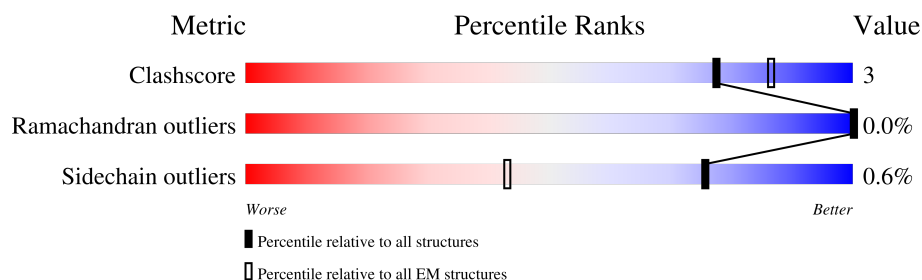
EMDB validation analysis : 0.0.1.dev132  
Mogul : 2022.3.0, CSD as543be (2022)  
MolProbity : 4-5-2 with Phenix2.0  
Buster-report : wwPDB partial adaption of 1.1.7 (2018)  
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)  
EM percentile statistics : 202505.v01 (Using data in the EMDB archive up until May 2025)  
MapQ : 1.9.13  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.49

# 1 Overall quality at a glance

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



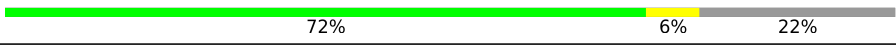

The reported resolution of this entry is 2.30 Å.

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.














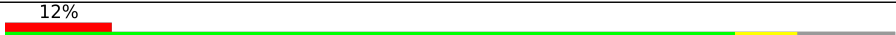

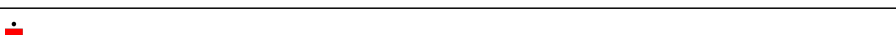
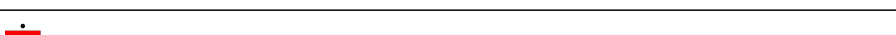
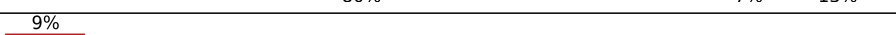

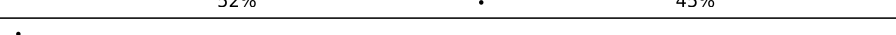
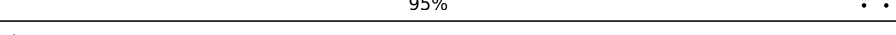

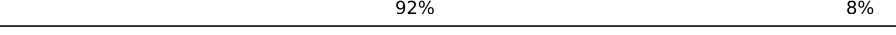
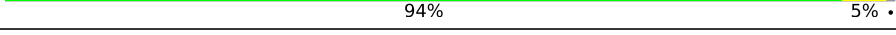

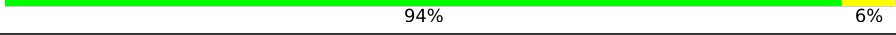
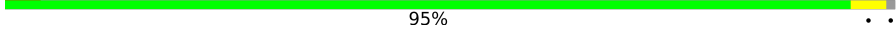
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
Q-score	-	25397	4254 ( 1.80 - 2.80 )

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

Mol	Chain	Length	Quality of chain
1	A	115	
2	B	216	
3	C	266	
4	D	463	

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Mol	Chain	Length	Quality of chain
5	E	249	
6	F	464	
7	G	727	
8	H	318	
9	I	212	
10	J	175	
11	K	98	
12	L	606	
13	M	459	
14	N	347	
15	O	343	
16	P	380	
17	Q	175	
18	R	124	
19	S	99	
20	T	156	
20	U	156	
21	V	116	
22	W	128	
23	X	172	
24	Y	141	
25	Z	144	
26	a	70	
27	b	84	
28	c	76	

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Mol	Chain	Length	Quality of chain
29	d	120	
30	e	106	
31	f	57	
32	g	154	
33	h	189	
34	i	127	
35	j	108	
36	k	98	
37	l	186	
38	m	129	
39	n	179	
40	o	137	
41	p	176	
42	q	145	
43	r	113	
44	s	109	

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

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
47	SF4	B	201	-	-	X	-

## 2 Entry composition

There are 61 unique types of molecules in this entry. The entry contains 71639 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 3.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	106	Total	C	N	O	S	0	0
			852	578	124	145	5		

- Molecule 2 is a protein called NADH dehydrogenase [ubiquinone] iron-sulfur protein 7, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	B	156	Total	C	N	O	S	0	0
			1247	795	225	213	14		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
3	C	207	Total	C	N	O	S	0	0
			1721	1111	296	311	3		

- Molecule 4 is a protein called NADH dehydrogenase [ubiquinone] iron-sulfur protein 2, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	D	430	Total	C	N	O	S	0	0
			3459	2209	596	629	25		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
D	129	ARG	GLN	variant	UNP P17694

- Molecule 5 is a protein called NADH dehydrogenase [ubiquinone] flavoprotein 2, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	E	214	Total	C	N	O	S	0	0
			1659	1059	278	312	10		

- Molecule 6 is a protein called NADH dehydrogenase [ubiquinone] flavoprotein 1, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	F	432	Total	C	N	O	S	1	0
			3336	2102	597	617	20		

- Molecule 7 is a protein called NADH-ubiquinone oxidoreductase 75 kDa subunit, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	G	691	Total	C	N	O	S	0	0
			5298	3318	925	1016	39		

- Molecule 8 is a protein called NADH-ubiquinone oxidoreductase chain 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	H	318	Total	C	N	O	S	1	0
			2519	1687	388	421	23		

- Molecule 9 is a protein called NADH dehydrogenase [ubiquinone] iron-sulfur protein 8, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	I	176	Total	C	N	O	S	0	0
			1414	889	243	270	12		

- Molecule 10 is a protein called NADH-ubiquinone oxidoreductase chain 6.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	J	175	Total	C	N	O	S	0	0
			1345	906	191	236	12		

- Molecule 11 is a protein called NADH-ubiquinone oxidoreductase chain 4L.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	K	98	Total	C	N	O	S	0	0
			745	486	112	131	16		

- Molecule 12 is a protein called NADH-ubiquinone oxidoreductase chain 5.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	L	606	Total	C	N	O	S	0	0
			4802	3195	737	827	43		

- Molecule 13 is a protein called NADH-ubiquinone oxidoreductase chain 4.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	M	459	Total	C	N	O	S	0	0
			3654	2436	570	609	39		

- Molecule 14 is a protein called NADH-ubiquinone oxidoreductase chain 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	N	347	Total	C	N	O	S	0	0
			2733	1817	416	457	43		

- Molecule 15 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 10, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	O	320	Total	C	N	O	S	0	0
			2589	1662	429	488	10		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
O	255	LYS	ASN	variant	UNP P34942

- Molecule 16 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 9, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	P	337	Total	C	N	O	S	0	0
			2706	1750	478	473	5		

- Molecule 17 is a protein called NADH dehydrogenase [ubiquinone] iron-sulfur protein 4, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	Q	129	Total	C	N	O	S	0	0
			1049	659	188	199	3		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
18	R	96	Total	C	N	O	S	0	0
			740	454	140	143	3		

- Molecule 19 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex sub-unit 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	S	86	Total	C	N	O	S	0	0
			691	434	129	126	2		

- Molecule 20 is a protein called Acyl carrier protein, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	T	85	Total	C	N	O	S	0	0
			688	444	101	138	5		
20	U	86	Total	C	N	O	S	0	0
			693	447	102	139	5		

- Molecule 21 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex sub-unit 5.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	V	114	Total	C	N	O	S	0	0
			923	597	156	167	3		

- Molecule 22 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex sub-unit 6.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	W	116	Total	C	N	O	S	0	0
			982	628	182	168	4		

- Molecule 23 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex sub-unit 8.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	X	171	Total	C	N	O	S	0	0
			1402	887	253	252	10		

- Molecule 24 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex sub-unit 11.



Mol	Chain	Residues	Atoms					AltConf	Trace
24	Y	140	Total	C	N	O	S	0	0
			1030	657	176	191	6		

- Molecule 25 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 13.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	Z	142	Total	C	N	O	S	0	0
			1157	743	202	203	9		

- Molecule 26 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	a	70	Total	C	N	O	S	0	0
			569	365	104	95	5		

- Molecule 27 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 3.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	b	83	Total	C	N	O	S	0	0
			651	425	109	115	2		

- Molecule 28 is a protein called NADH dehydrogenase [ubiquinone] 1 subunit C1, mitochondrial.

Mol	Chain	Residues	Atoms				AltConf	Trace
28	c	49	Total	C	N	O	0	0
			414	273	70	71		

- Molecule 29 is a protein called NADH dehydrogenase [ubiquinone] 1 subunit C2.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	d	120	Total	C	N	O	S	0	0
			999	650	172	172	5		

- Molecule 30 is a protein called NADH dehydrogenase [ubiquinone] iron-sulfur protein 5.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	e	98	Total	C	N	O	S	0	0
			825	521	157	141	6		

- Molecule 31 is a protein called NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	f	57	Total	C	N	O	S	0	0
			492	322	86	82	2		

- Molecule 32 is a protein called NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 11, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	g	101	Total	C	N	O	S	0	0
			846	544	140	158	4		

- Molecule 33 is a protein called NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 5, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	h	138	Total	C	N	O	S	0	0
			1154	759	196	197	2		

- Molecule 34 is a protein called NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 6.

Mol	Chain	Residues	Atoms					AltConf	Trace
34	i	127	Total	C	N	O	S	0	0
			1097	722	191	183	1		

- Molecule 35 is a protein called NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 2, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
35	j	67	Total	C	N	O	S	0	0
			580	381	95	103	1		

- Molecule 36 is a protein called NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 3.

Mol	Chain	Residues	Atoms					AltConf	Trace
36	k	81	Total	C	N	O	S	0	0
			653	427	110	114	2		

- Molecule 37 is a protein called NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 8, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
37	l	156	Total	C	N	O	S	0	0
			1314	850	216	240	8		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
38	m	128	Total	C	N	O	S	0	0
			1067	684	188	195			

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

Mol	Chain	Residues	Atoms					AltConf	Trace
39	n	171	Total	C	N	O	S	1	0
			1498	958	276	257	7		

- Molecule 40 is a protein called NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 7.

Mol	Chain	Residues	Atoms					AltConf	Trace
40	o	122	Total	C	N	O	S	0	0
			1048	653	201	185	9		

- Molecule 41 is a protein called NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 10.

Mol	Chain	Residues	Atoms					AltConf	Trace
41	p	173	Total	C	N	O	S	0	0
			1450	909	268	265	8		

- Molecule 42 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 12.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	q	145	Total	C	N	O	S	0	0
			1209	778	216	210	5		

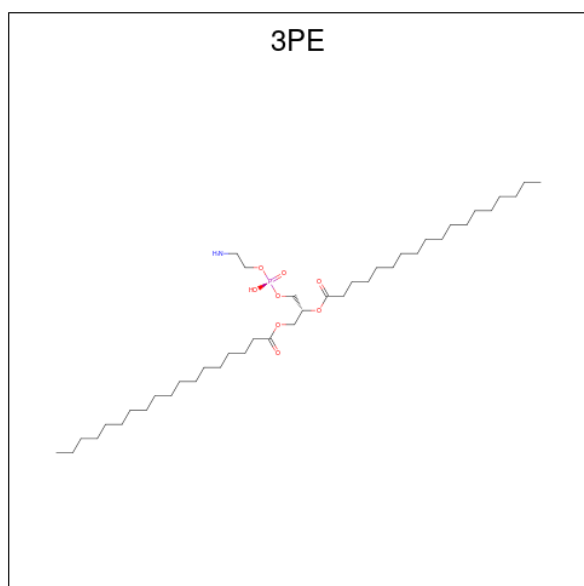
- Molecule 43 is a protein called NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 7.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	r	95	Total	C	N	O	S	0	0
			776	490	144	139	3		

- Molecule 44 is a protein called NADH dehydrogenase [ubiquinone] flavoprotein 3, mitochondrial.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	s	44	Total	C	N	O	S	0	0
			371	233	66	71	1		

- Molecule 45 is 1,2-Distearoyl-sn-glycerophosphoethanolamine (CCD ID: 3PE) (formula: C<sub>41</sub>H<sub>82</sub>NO<sub>8</sub>P).



Mol	Chain	Residues	Atoms					AltConf
45	A	1	Total	C	N	O	P	0
			42	32	1	8	1	
45	A	1	Total	C	N	O	P	0
			47	37	1	8	1	
45	H	1	Total	C	N	O	P	0
			38	28	1	8	1	
45	H	1	Total	C	N	O	P	0
			51	41	1	8	1	
45	I	1	Total	C	N	O	P	0
			51	41	1	8	1	
45	J	1	Total	C	N	O	P	0
			47	37	1	8	1	
45	K	1	Total	C	N	O	P	0
			48	38	1	8	1	

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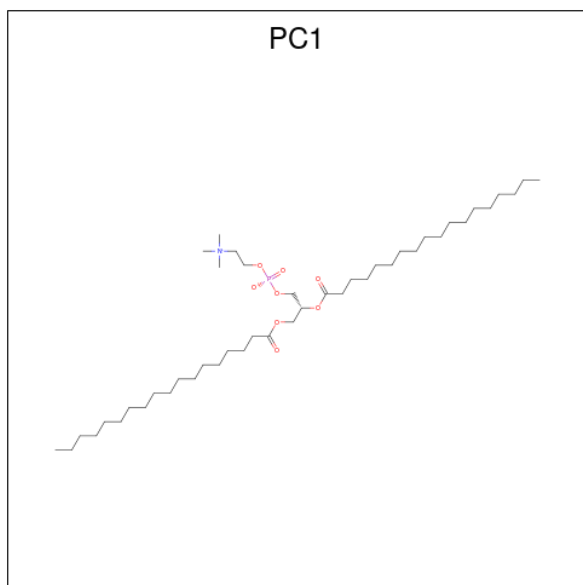
Mol	Chain	Residues	Atoms					AltConf
45	L	1	Total 49	C 39	N 1	O 8	P 1	0
45	L	1	Total 45	C 35	N 1	O 8	P 1	0
45	M	1	Total 46	C 36	N 1	O 8	P 1	0
45	M	1	Total 51	C 41	N 1	O 8	P 1	0
45	M	1	Total 51	C 41	N 1	O 8	P 1	0
45	N	1	Total 51	C 41	N 1	O 8	P 1	0
45	N	1	Total 49	C 39	N 1	O 8	P 1	0
45	O	1	Total 22	C 12	N 1	O 8	P 1	0
45	Y	1	Total 51	C 41	N 1	O 8	P 1	0
45	Y	1	Total 51	C 41	N 1	O 8	P 1	0
45	Y	1	Total 39	C 29	N 1	O 8	P 1	0
45	Y	1	Total 39	C 29	N 1	O 8	P 1	0
45	Y	1	Total 51	C 41	N 1	O 8	P 1	0
45	Z	1	Total 43	C 33	N 1	O 8	P 1	0
45	b	1	Total 33	C 23	N 1	O 8	P 1	0
45	d	1	Total 41	C 31	N 1	O 8	P 1	0
45	d	1	Total 51	C 41	N 1	O 8	P 1	0
45	h	1	Total 38	C 28	N 1	O 8	P 1	0
45	h	1	Total 51	C 41	N 1	O 8	P 1	0
45	j	1	Total 44	C 34	N 1	O 8	P 1	0
45	m	1	Total 45	C 35	N 1	O 8	P 1	0

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Mol	Chain	Residues	Atoms					AltConf
45	m	1	Total	C	N	O	P	0
			41	31	1	8	1	

- Molecule 46 is 1,2-DIACYL-SN-GLYCERO-3-PHOSPHOCHOLINE (CCD ID: PC1) (formula:  $C_{44}H_{88}NO_8P$ ).



Mol	Chain	Residues	Atoms					AltConf
46	A	1	Total	C	N	O	P	0
			50	40	1	8	1	
46	B	1	Total	C	N	O	P	0
			51	41	1	8	1	
46	J	1	Total	C	N	O	P	0
			48	38	1	8	1	
46	M	1	Total	C	N	O	P	0
			46	36	1	8	1	
46	M	1	Total	C	N	O	P	0
			46	36	1	8	1	
46	N	1	Total	C	N	O	P	0
			37	27	1	8	1	
46	d	1	Total	C	N	O	P	0
			46	36	1	8	1	

- Molecule 47 is IRON/SULFUR CLUSTER (CCD ID: SF4) (formula:  $Fe_4S_4$ ).



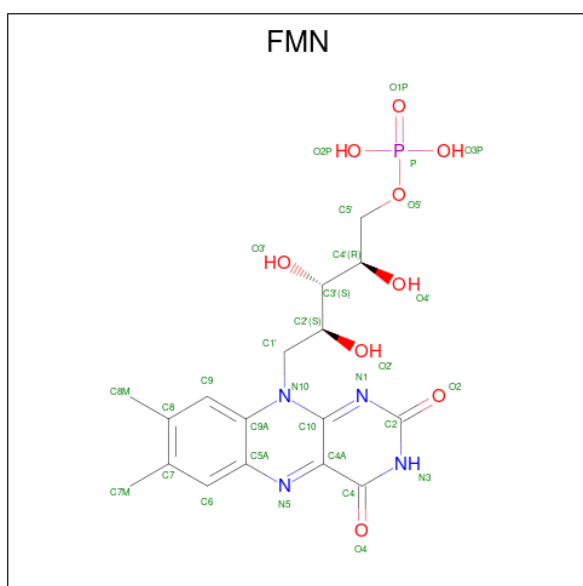
Mol	Chain	Residues	Atoms			AltConf
47	B	1	Total	Fe	S	0
			8	4	4	
47	F	1	Total	Fe	S	0
			8	4	4	
47	G	1	Total	Fe	S	0
			8	4	4	
47	G	1	Total	Fe	S	0
			8	4	4	
47	I	1	Total	Fe	S	0
			8	4	4	
47	I	1	Total	Fe	S	0
			8	4	4	

- Molecule 48 is FE2/S2 (INORGANIC) CLUSTER (CCD ID: FES) (formula:  $\text{Fe}_2\text{S}_2$ ).



Mol	Chain	Residues	Atoms			AltConf
48	E	1	Total	Fe	S	0
			4	2	2	
48	G	1	Total	Fe	S	0
			4	2	2	

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



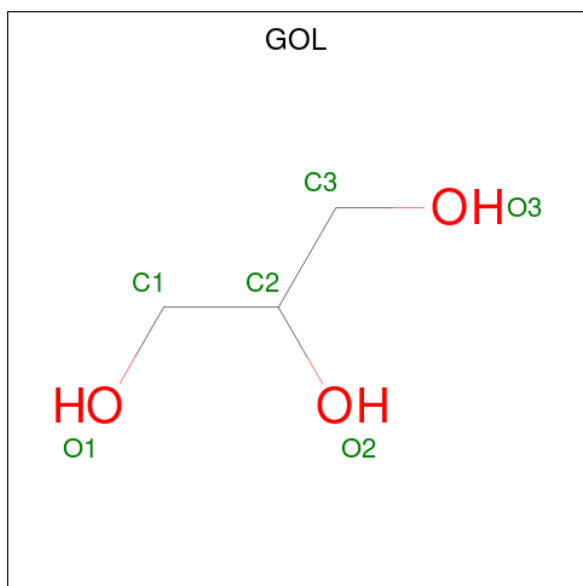
Mol	Chain	Residues	Atoms					AltConf
49	F	1	Total	C	N	O	P	0
			31	17	4	9	1	

- Molecule 50 is POTASSIUM ION (CCD ID: K) (formula: K).



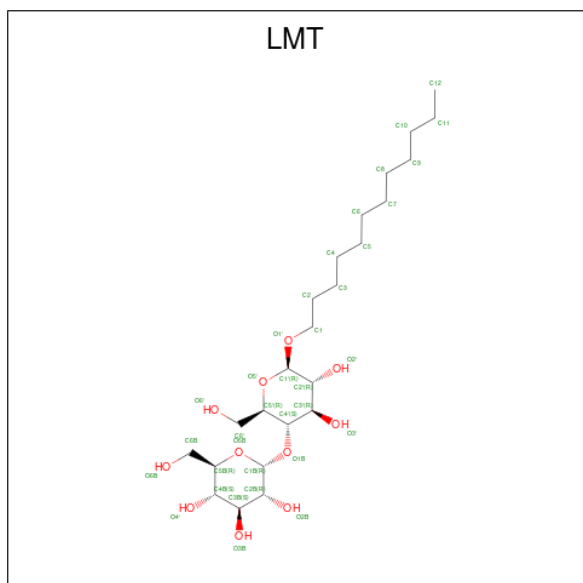
Mol	Chain	Residues	Atoms		AltConf
50	G	1	Total	K	0
			1	1	

- Molecule 51 is GLYCEROL (CCD ID: GOL) (formula:  $C_3H_8O_3$ ).



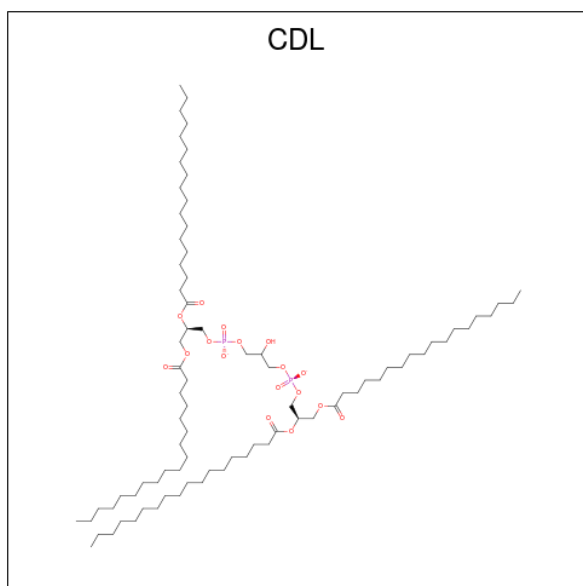
Mol	Chain	Residues	Atoms			AltConf
51	H	1	Total	C	O	0
			6	3	3	

- Molecule 52 is DODECYL-BETA-D-MALTOSE (CCD ID: LMT) (formula:  $C_{24}H_{46}O_{11}$ ) (labeled as "Ligand of Interest" by depositor).



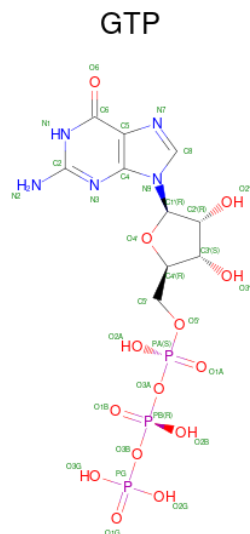
Mol	Chain	Residues	Atoms			AltConf
52	H	1	Total	C	O	0
			35	24	11	

- Molecule 53 is CARDIOLIPIN (CCD ID: CDL) (formula:  $C_{81}H_{156}O_{17}P_2$ ).



Mol	Chain	Residues	Atoms				AltConf
53	L	1	Total	C	O	P	0
			79	60	17	2	
53	N	1	Total	C	O	P	0
			86	67	17	2	
53	X	1	Total	C	O	P	0
			93	74	17	2	
53	d	1	Total	C	O	P	0
			65	46	17	2	
53	h	1	Total	C	O	P	0
			72	53	17	2	
53	r	1	Total	C	O	P	0
			64	45	17	2	

- Molecule 54 is GUANOSINE-5'-TRIPHOSPHATE (CCD ID: GTP) (formula:  $C_{10}H_{16}N_5O_{14}P_3$ ).

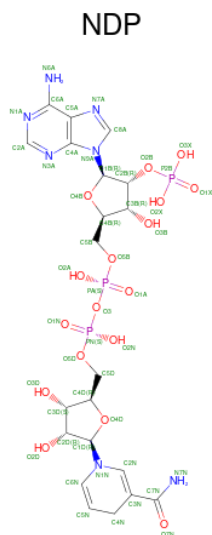


Mol	Chain	Residues	Atoms					AltConf
54	O	1	Total 32	C 10	N 5	O 14	P 3	0

- Molecule 55 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

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

- Molecule 56 is NADPH DIHYDRO-NICOTINAMIDE-ADENINE-DINUCLEOTIDE PHOSPHATE (CCD ID: NDP) (formula:  $\text{C}_{21}\text{H}_{30}\text{N}_7\text{O}_{17}\text{P}_3$ ).

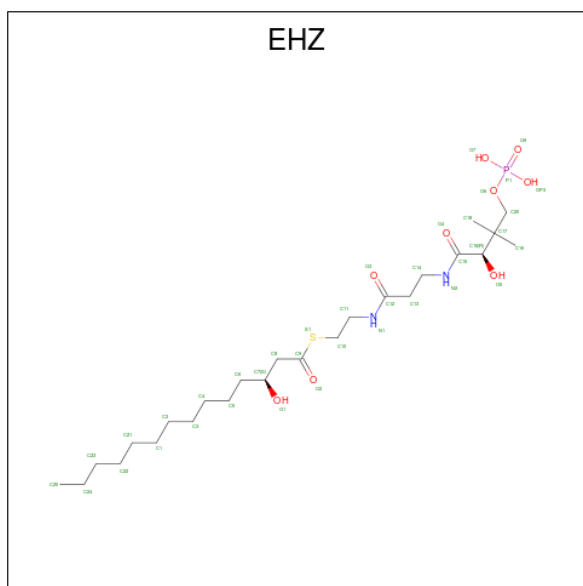


Mol	Chain	Residues	Atoms					AltConf
56	P	1	Total	C	N	O	P	0
			48	21	7	17	3	

- Molecule 57 is ZINC ION (CCD ID: ZN) (formula: Zn).

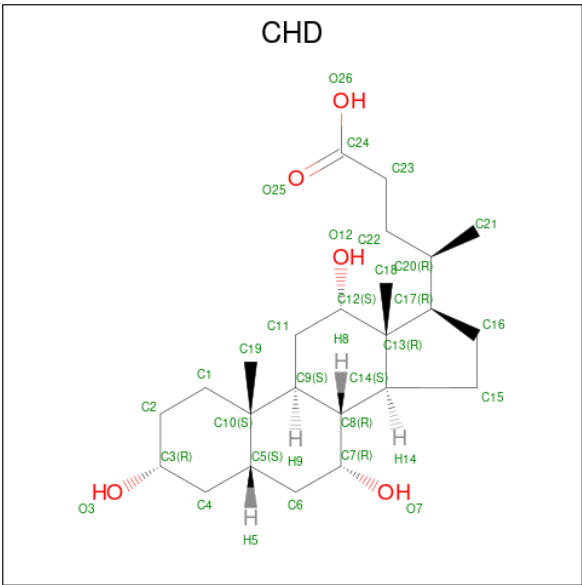
Mol	Chain	Residues	Atoms		AltConf
57	R	1	Total	Zn	0
			1	1	

- Molecule 58 is {S}-[2-[3-[(2 {R})-3,3-dimethyl-2-oxidanyl-4-phosphonooxy-butanoyl]amino]propanoylamino]ethyl] (3 {S})-3-oxidanyltetradecanethioate (CCD ID: EHZ) (formula: C<sub>25</sub>H<sub>49</sub>N<sub>2</sub>O<sub>9</sub>PS).



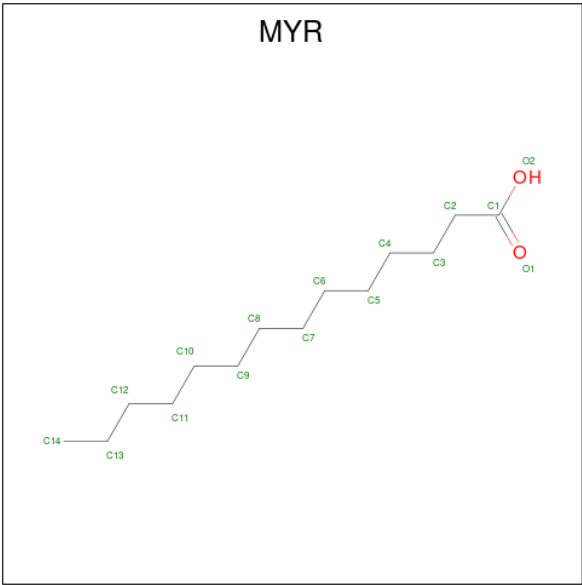
Mol	Chain	Residues	Atoms						AltConf
58	T	1	Total	C	N	O	P	S	0
			37	25	2	8	1	1	
58	U	1	Total	C	N	O	P	S	0
			37	25	2	8	1	1	

- Molecule 59 is CHOLIC ACID (CCD ID: CHD) (formula: C<sub>24</sub>H<sub>40</sub>O<sub>5</sub>).



Mol	Chain	Residues	Atoms			AltConf
59	i	1	Total	C	O	0
			29	24	5	

- Molecule 60 is MYRISTIC ACID (CCD ID: MYR) (formula:  $C_{14}H_{28}O_2$ ).



Mol	Chain	Residues	Atoms			AltConf
60	o	1	Total	C	O	0
			15	14	1	

- Molecule 61 is water.

Mol	Chain	Residues	Atoms		AltConf
61	A	19	Total 19	O 19	0
61	B	72	Total 72	O 72	0
61	C	145	Total 145	O 145	0
61	D	205	Total 205	O 205	0
61	E	58	Total 58	O 58	0
61	F	101	Total 101	O 101	0
61	G	293	Total 293	O 293	0
61	H	93	Total 93	O 93	0
61	I	113	Total 113	O 113	0
61	J	25	Total 25	O 25	0
61	K	21	Total 21	O 21	0
61	L	168	Total 168	O 168	0
61	M	166	Total 166	O 166	0
61	N	105	Total 105	O 105	0
61	O	59	Total 59	O 59	0
61	P	75	Total 75	O 75	0
61	Q	105	Total 105	O 105	0
61	R	58	Total 58	O 58	0
61	S	7	Total 7	O 7	0
61	T	1	Total 1	O 1	0
61	U	34	Total 34	O 34	0
61	V	25	Total 25	O 25	0

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Mol	Chain	Residues	Atoms		AltConf
61	W	27	Total 27	O 27	0
61	X	43	Total 43	O 43	0
61	Y	7	Total 7	O 7	0
61	Z	59	Total 59	O 59	0
61	a	24	Total 24	O 24	0
61	b	17	Total 17	O 17	0
61	c	4	Total 4	O 4	0
61	d	34	Total 34	O 34	0
61	e	41	Total 41	O 41	0
61	f	6	Total 6	O 6	0
61	g	30	Total 30	O 30	0
61	h	62	Total 62	O 62	0
61	i	30	Total 30	O 30	0
61	j	9	Total 9	O 9	0
61	k	13	Total 13	O 13	0
61	l	73	Total 73	O 73	0
61	m	38	Total 38	O 38	0
61	n	88	Total 88	O 88	0
61	o	47	Total 47	O 47	0
61	p	61	Total 61	O 61	0
61	q	55	Total 55	O 55	0

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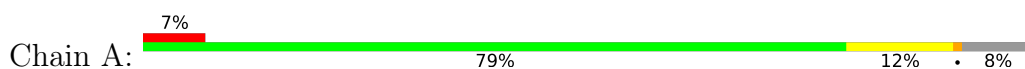
Mol	Chain	Residues	Atoms		AltConf
61	r	44	Total 44	O 44	0
61	s	14	Total 14	O 14	0



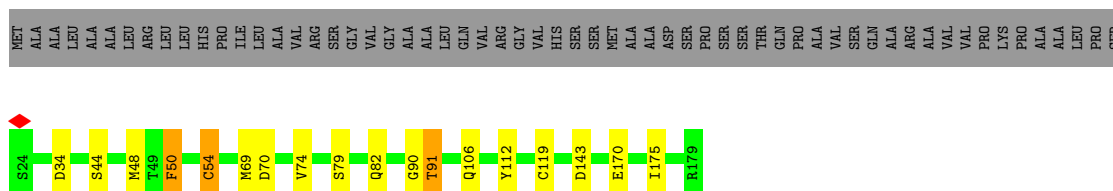
### 3 Residue-property plots [i](#)

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.

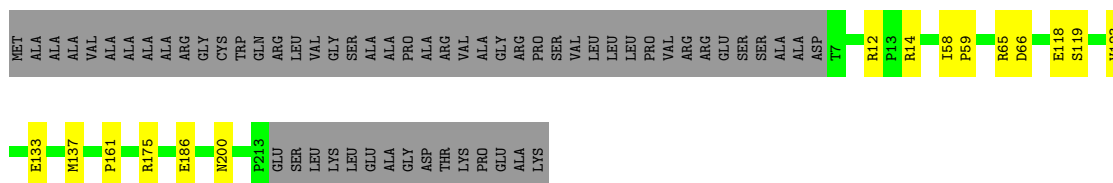
- Molecule 1: NADH-ubiquinone oxidoreductase chain 3



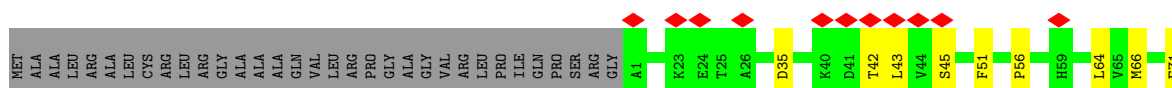
- Molecule 2: NADH dehydrogenase [ubiquinone] iron-sulfur protein 7, mitochondrial



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

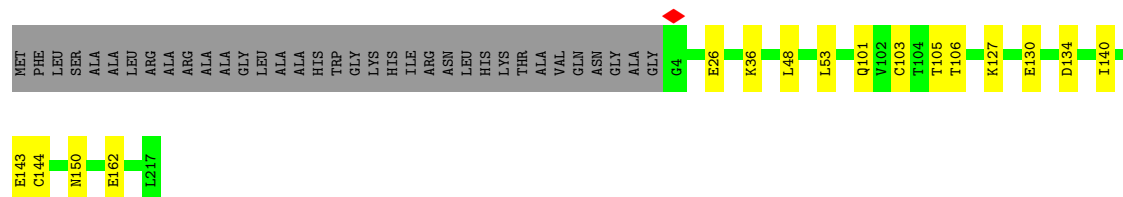
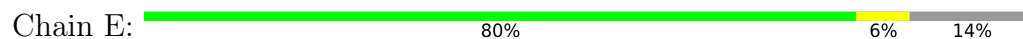


- Molecule 4: NADH dehydrogenase [ubiquinone] iron-sulfur protein 2, mitochondrial

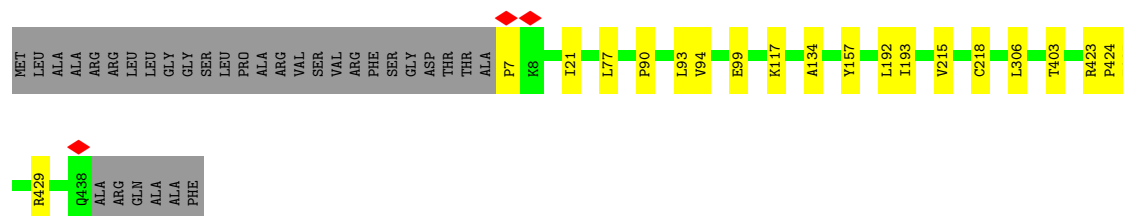
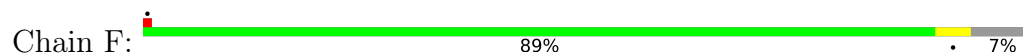




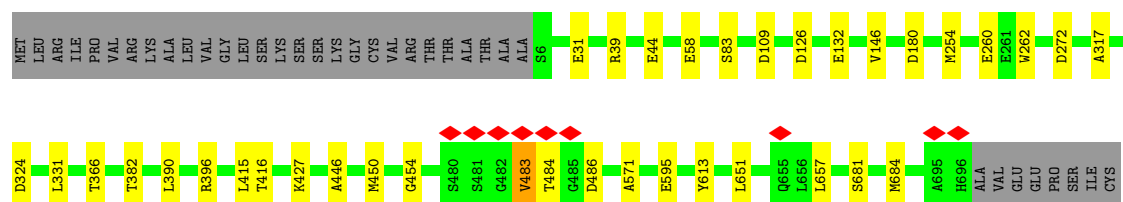
- Molecule 5: NADH dehydrogenase [ubiquinone] flavoprotein 2, mitochondrial



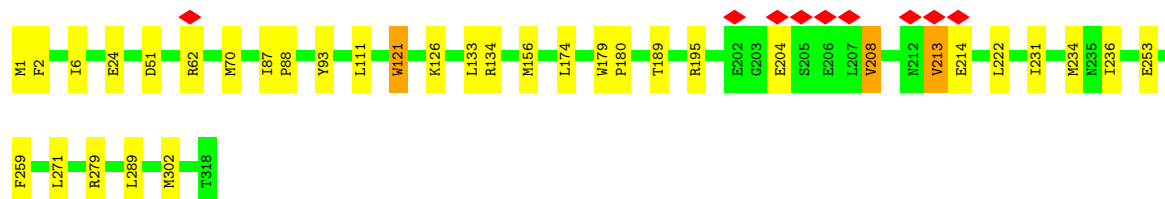
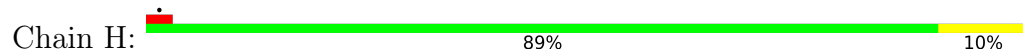
- Molecule 6: NADH dehydrogenase [ubiquinone] flavoprotein 1, mitochondrial



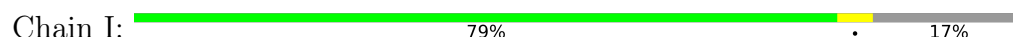
- Molecule 7: NADH-ubiquinone oxidoreductase 75 kDa subunit, mitochondrial

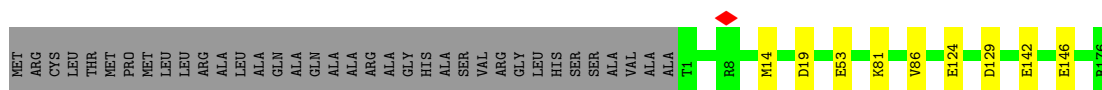


- Molecule 8: NADH-ubiquinone oxidoreductase chain 1

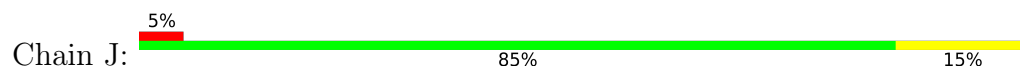


- Molecule 9: NADH dehydrogenase [ubiquinone] iron-sulfur protein 8, mitochondrial

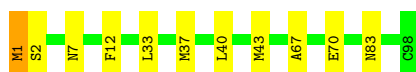
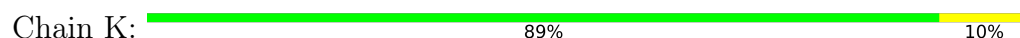




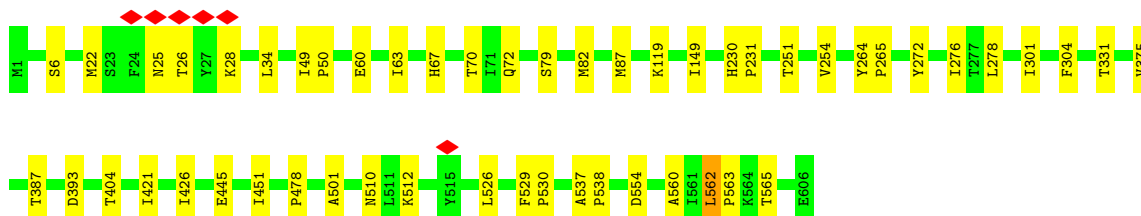
- Molecule 10: NADH-ubiquinone oxidoreductase chain 6



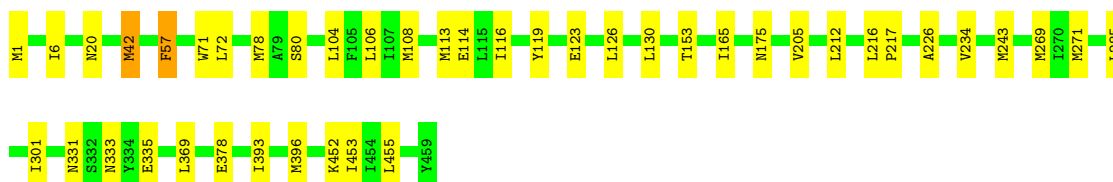
- Molecule 11: NADH-ubiquinone oxidoreductase chain 4L



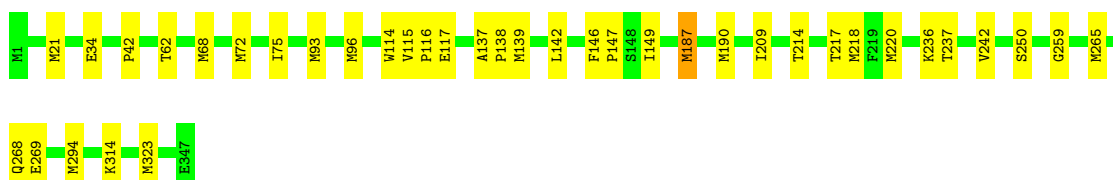
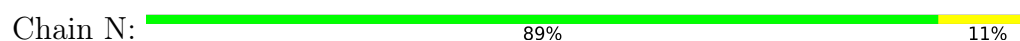
- Molecule 12: NADH-ubiquinone oxidoreductase chain 5




- Molecule 13: NADH-ubiquinone oxidoreductase chain 4



- Molecule 14: NADH-ubiquinone oxidoreductase chain 2




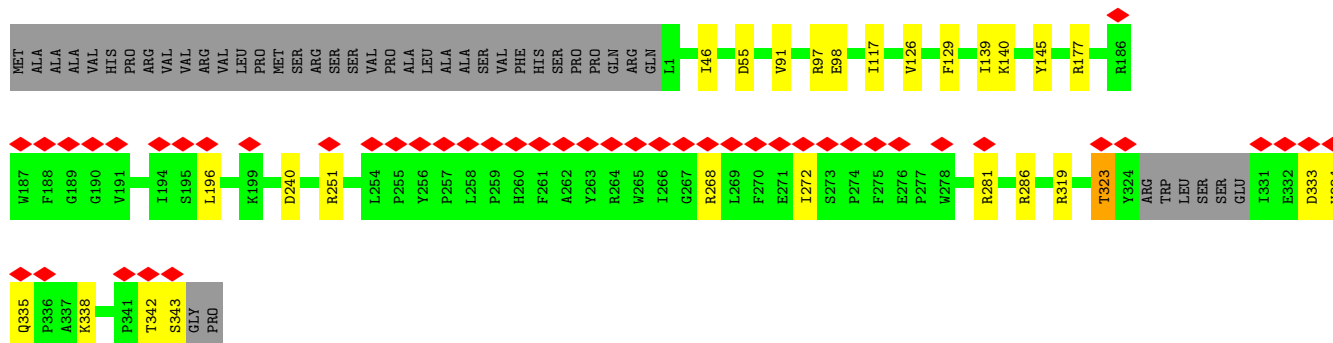
- Molecule 15: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 10, mitochondrial

Chain O:  89% 7%



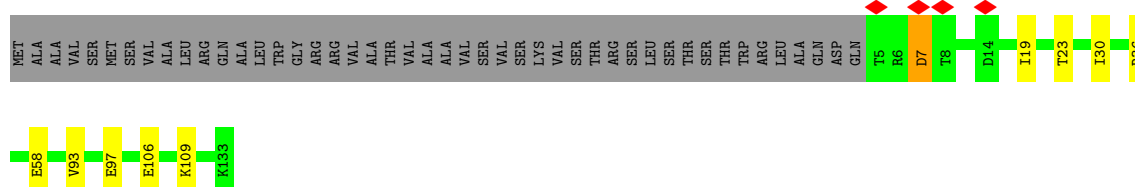
- Molecule 16: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 9, mitochondrial

Chain P:  12% 82% 7% 11%




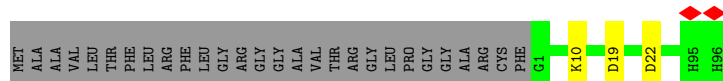
- Molecule 17: NADH dehydrogenase [ubiquinone] iron-sulfur protein 4, mitochondrial

Chain Q:  68% 5% 26%




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

Chain R:  75% 23%

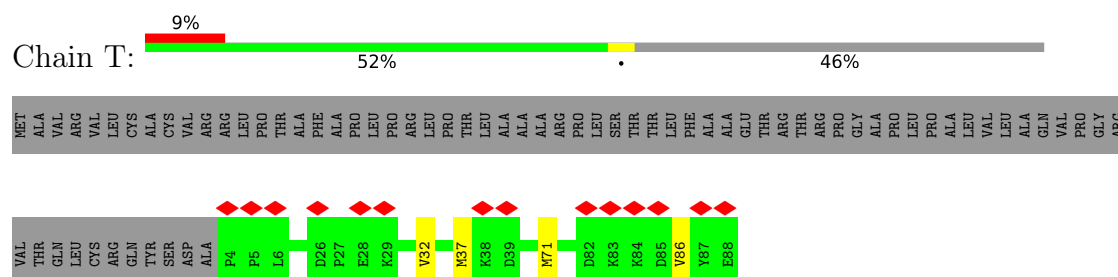


- Molecule 19: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 2

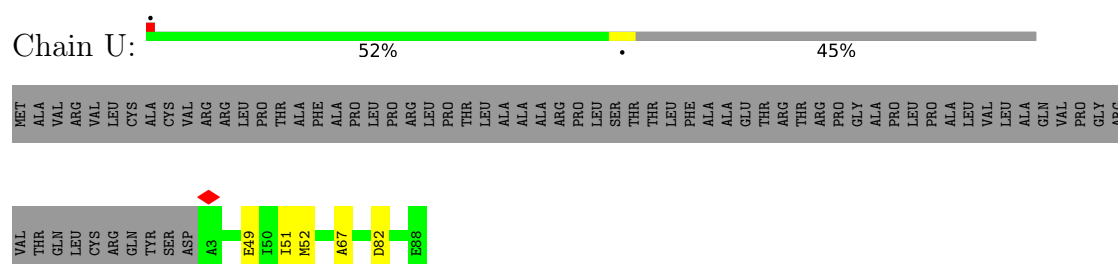
Chain S:  80% 7% 13%



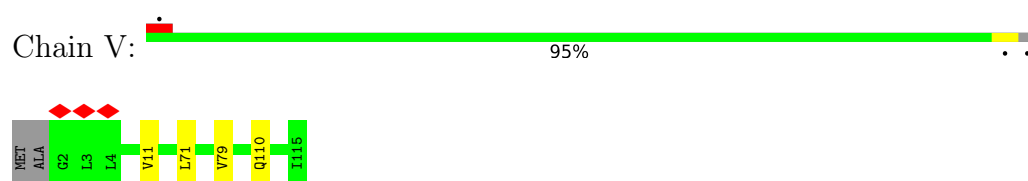
- Molecule 20: Acyl carrier protein, mitochondrial



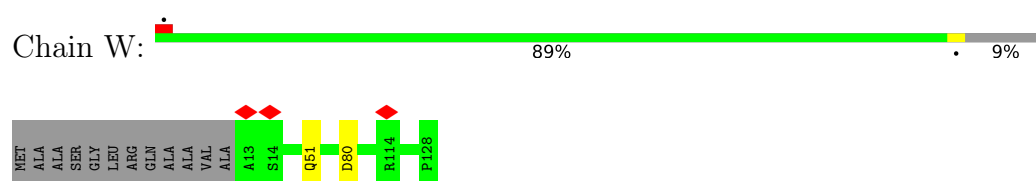
- Molecule 20: Acyl carrier protein, mitochondrial



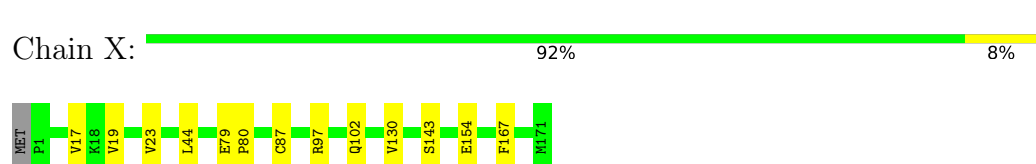
- Molecule 21: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 5



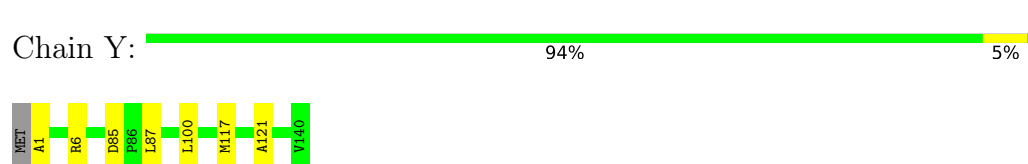
- Molecule 22: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 6




- Molecule 23: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 8

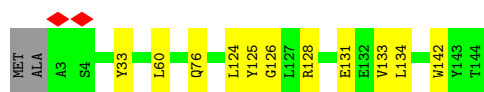


- Molecule 24: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 11



- Molecule 25: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 13

Chain Z:  91% 8%



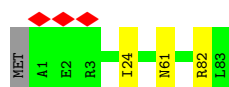
- Molecule 26: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 1

Chain a:  94% 6%



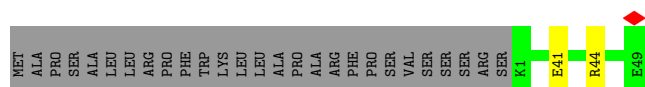
- Molecule 27: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 3

Chain b:  95%



- Molecule 28: NADH dehydrogenase [ubiquinone] 1 subunit C1, mitochondrial

Chain c:  62% 36%




- Molecule 29: NADH dehydrogenase [ubiquinone] 1 subunit C2

Chain d:  92% 8%



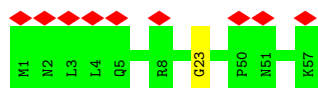
- Molecule 30: NADH dehydrogenase [ubiquinone] iron-sulfur protein 5

Chain e:  81% 11% 8%

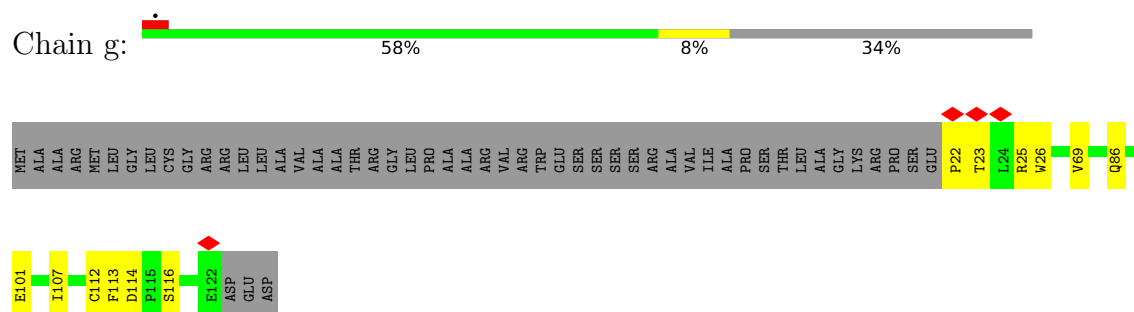


- Molecule 31: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 1

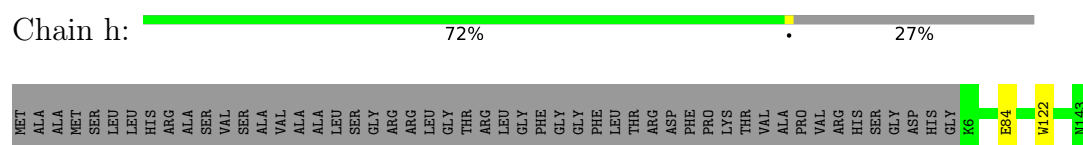
Chain f:  16% 98%



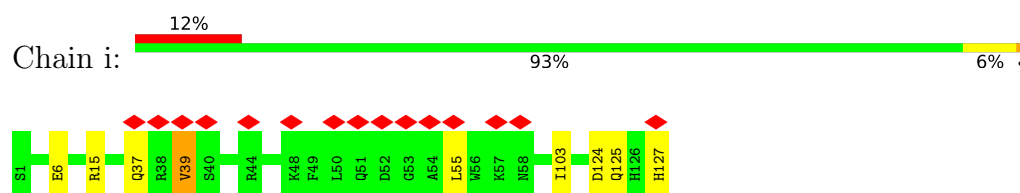
- Molecule 32: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 11, mitochondrial



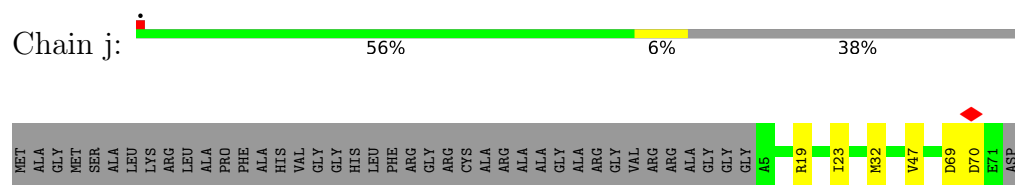
- Molecule 33: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 5, mitochondrial



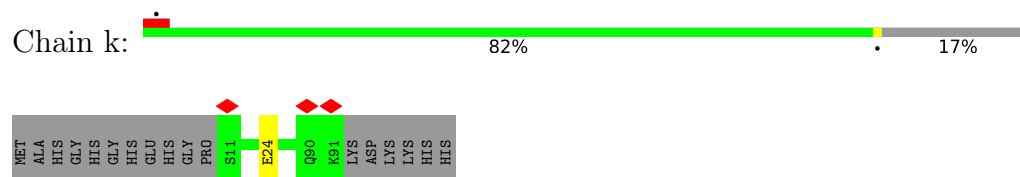
- Molecule 34: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 6



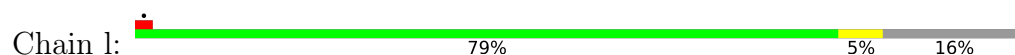
- Molecule 35: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 2, mitochondrial

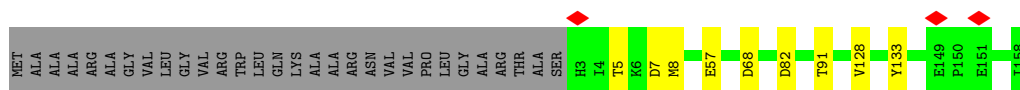


- Molecule 36: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 3



- Molecule 37: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 8, mitochondrial





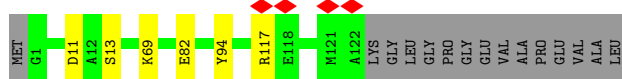
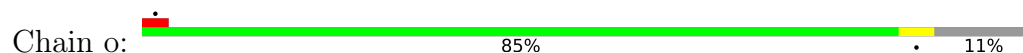
- Molecule 38: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 4



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



- Molecule 40: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 7



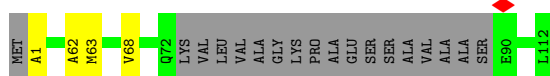
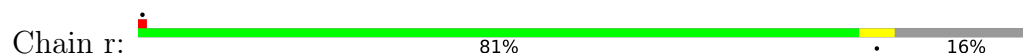
- Molecule 41: NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 10



- Molecule 42: NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 12



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



- Molecule 44: NADH dehydrogenase [ubiquinone] flavoprotein 3, mitochondrial





MET	ALA	ALA	SER	LEU	LEU	LEU	ARG	GLN	GLY	ARG	ALA	GLY	ALA	LEU	LYS	THR	VAL	LEU	LEU	GLU	ALA	GLY	VAL	PHE	ARG	GLY	VAL	ALA	PRO	ALA	VAL	SER	LEU	SER	ALA	GLU	SER	GLY	LYS	ASN	GLU	LYS	GLY	LEU	PRO	ASN	PRO	PRO	LYS	LYS	GLN	SER	PRO	PRO	LYS	PRO	VAL	SER
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ALA	ALA	PRO	THR	GLU	P32	L52	F61	R74	H75
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## 4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	235957	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ( $e^-/\text{\AA}^2$ )	40.5	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	2400	Depositor
Magnification	81000	Depositor
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	47.075	Depositor
Minimum map value	-19.323	Depositor
Average map value	0.008	Depositor
Map value standard deviation	1.086	Depositor
Recommended contour level	5.5	Depositor
Map size (Å)	479.744, 479.744, 479.744	wwPDB
Map dimensions	640, 640, 640	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.7496, 0.7496, 0.7496	Depositor

## 5 Model quality

### 5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: K, FME, NDP, SF4, EH2, AYA, CHD, MG, GOL, FMN, CDL, PC1, MYR, ZN, 2MR, AME, FES, LMT, 3PE, GTP, SAC

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
1	A	0.21	0/863	0.32	0/1181
2	B	0.28	0/1278	0.38	0/1728
3	C	0.25	0/1772	0.33	0/2413
4	D	0.24	0/3537	0.33	0/4794
5	E	0.22	0/1699	0.32	0/2312
6	F	0.23	0/3412	0.34	1/4610 (0.0%)
7	G	0.24	0/5387	0.33	0/7301
8	H	0.24	0/2582	0.38	2/3528 (0.1%)
9	I	0.27	0/1445	0.37	0/1956
10	J	0.23	0/1370	0.29	0/1859
11	K	0.24	0/745	0.28	0/1008
12	L	0.26	0/4920	0.33	0/6694
13	M	0.26	0/3738	0.32	0/5097
14	N	0.25	0/2792	0.31	0/3800
15	O	0.25	0/2651	0.31	0/3587
16	P	0.22	0/2780	0.36	0/3770
17	Q	0.23	0/1072	0.31	0/1449
18	R	0.24	0/753	0.30	0/1014
19	S	0.22	0/702	0.30	0/945
20	T	0.18	0/700	0.44	1/944 (0.1%)
20	U	0.28	0/705	0.29	0/952
21	V	0.20	0/943	0.27	0/1277
22	W	0.21	0/1006	0.29	0/1352
23	X	0.24	0/1439	0.33	0/1942
24	Y	0.22	0/1042	0.28	0/1414
25	Z	0.23	0/1186	0.27	0/1599
26	a	0.24	0/584	0.31	0/786
27	b	0.23	0/672	0.31	0/923
28	c	0.23	0/427	0.25	0/579
29	d	0.26	0/1018	0.34	0/1375
30	e	0.23	0/846	0.33	0/1131

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
31	f	0.23	0/505	0.38	0/681
32	g	0.24	0/873	0.35	0/1186
33	h	0.24	0/1188	0.35	0/1607
34	i	0.26	0/1127	0.41	1/1534 (0.1%)
35	j	0.25	0/607	0.33	0/833
36	k	0.25	0/672	0.29	0/906
37	l	0.27	0/1369	0.33	0/1873
38	m	0.26	0/1094	0.33	0/1480
39	n	0.27	0/1551	0.33	0/2099
40	o	0.30	0/1073	0.36	0/1437
41	p	0.27	0/1483	0.32	0/2000
42	q	0.23	0/1250	0.32	0/1698
43	r	0.23	0/789	0.33	0/1068
44	s	0.21	0/383	0.28	0/518
All	All	0.24	0/68030	0.33	5/92240 (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
4	D	0	1

There are no bond length outliers.

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	F	7	PRO	CA-N-CD	-5.44	104.38	112.00
20	T	86	VAL	CA-CB-CG2	5.36	119.51	110.40
8	H	208	VAL	CG1-CB-CG2	5.33	122.53	110.80
8	H	213	VAL	CG1-CB-CG2	5.19	122.22	110.80
34	i	39	VAL	CG1-CB-CG2	5.17	122.19	110.80

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
4	D	85	2MR	Mainchain

## 5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	852	0	896	15	0
2	B	1247	0	1256	13	0
3	C	1721	0	1675	13	0
4	D	3459	0	3404	20	0
5	E	1659	0	1664	9	0
6	F	3336	0	3288	11	0
7	G	5298	0	5316	29	0
8	H	2519	0	2627	28	0
9	I	1414	0	1370	10	0
10	J	1345	0	1352	25	0
11	K	745	0	785	12	0
12	L	4802	0	4960	28	0
13	M	3654	0	3852	27	0
14	N	2733	0	2912	38	0
15	O	2589	0	2566	11	0
16	P	2706	0	2727	18	0
17	Q	1049	0	1045	8	0
18	R	740	0	714	2	0
19	S	691	0	706	6	0
20	T	688	0	684	2	0
20	U	693	0	688	4	0
21	V	923	0	964	3	0
22	W	982	0	999	2	0
23	X	1402	0	1383	13	0
24	Y	1030	0	1039	4	0
25	Z	1157	0	1156	10	0
26	a	569	0	568	4	0
27	b	651	0	662	3	0
28	c	414	0	415	1	0
29	d	999	0	988	9	0
30	e	825	0	826	10	0
31	f	492	0	501	1	0
32	g	846	0	798	7	0
33	h	1154	0	1168	3	0
34	i	1097	0	1108	6	0
35	j	580	0	519	3	0
36	k	653	0	639	1	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
37	l	1314	0	1210	8	0
38	m	1067	0	1067	5	0
39	n	1498	0	1445	8	0
40	o	1048	0	1016	5	0
41	p	1450	0	1426	10	0
42	q	1209	0	1182	5	0
43	r	776	0	782	1	0
44	s	371	0	344	3	0
45	A	89	0	132	0	0
45	H	89	0	135	1	0
45	I	51	0	82	0	0
45	J	47	0	71	0	0
45	K	48	0	73	0	0
45	L	94	0	142	0	0
45	M	148	0	233	7	0
45	N	100	0	157	6	0
45	O	22	0	18	0	0
45	Y	231	0	353	2	0
45	Z	43	0	63	0	0
45	b	33	0	40	0	0
45	d	92	0	138	1	0
45	h	89	0	132	0	0
45	j	44	0	65	0	0
45	m	86	0	126	2	0
46	A	50	0	77	0	0
46	B	51	0	79	1	0
46	J	48	0	73	3	0
46	M	92	0	135	3	0
46	N	37	0	48	1	0
46	d	46	0	69	2	0
47	B	8	0	0	2	0
47	F	8	0	0	1	0
47	G	16	0	0	0	0
47	I	16	0	0	0	0
48	E	4	0	0	0	0
48	G	4	0	0	1	0
49	F	31	0	19	0	0
50	G	1	0	0	0	0
51	H	6	0	8	0	0
52	H	35	0	46	1	0
53	L	79	0	108	1	0
53	N	86	0	119	4	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
53	X	93	0	139	1	0
53	d	65	0	77	0	0
53	h	72	0	91	3	0
53	r	64	0	72	0	0
54	O	32	0	12	4	0
55	O	1	0	0	0	0
56	P	48	0	26	1	0
57	R	1	0	0	0	0
58	T	37	0	0	0	0
58	U	37	0	0	0	0
59	i	29	0	38	2	0
60	o	15	0	27	0	0
61	A	19	0	0	2	0
61	B	72	0	0	3	0
61	C	145	0	0	7	0
61	D	205	0	0	7	0
61	E	58	0	0	0	0
61	F	101	0	0	0	0
61	G	293	0	0	10	0
61	H	93	0	0	0	0
61	I	113	0	0	5	0
61	J	25	0	0	1	0
61	K	21	0	0	0	0
61	L	168	0	0	4	0
61	M	166	0	0	4	0
61	N	105	0	0	7	0
61	O	59	0	0	1	0
61	P	75	0	0	1	0
61	Q	105	0	0	3	0
61	R	58	0	0	1	0
61	S	7	0	0	0	0
61	T	1	0	0	0	0
61	U	34	0	0	1	0
61	V	25	0	0	1	0
61	W	27	0	0	1	0
61	X	43	0	0	1	0
61	Y	7	0	0	0	0
61	Z	59	0	0	2	0
61	a	24	0	0	1	0
61	b	17	0	0	0	0
61	c	4	0	0	0	0
61	d	34	0	0	2	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
61	e	41	0	0	3	0
61	f	6	0	0	0	0
61	g	30	0	0	2	0
61	h	62	0	0	1	0
61	i	30	0	0	2	0
61	j	9	0	0	0	0
61	k	13	0	0	0	0
61	l	73	0	0	2	0
61	m	38	0	0	1	0
61	n	88	0	0	3	0
61	o	47	0	0	1	0
61	p	61	0	0	4	0
61	q	55	0	0	2	0
61	r	44	0	0	0	0
61	s	14	0	0	1	0
All	All	71639	0	69915	399	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 3.

All (399) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:I:81:LYS:NZ	61:I:301:HOH:O	2.02	0.93
3:C:12:ARG:O	61:C:301:HOH:O	1.87	0.92
18:R:10:LYS:NZ	61:R:301:HOH:O	2.02	0.91
4:D:248:GLU:OE2	61:D:501:HOH:O	1.86	0.91
4:D:279:ASP:OD1	61:D:502:HOH:O	1.89	0.90
7:G:44:GLU:OE2	61:G:902:HOH:O	1.92	0.88
7:G:31:GLU:OE1	61:G:901:HOH:O	1.91	0.87
1:A:71:LEU:O	10:J:147:TYR:OH	1.91	0.86
16:P:319:ARG:NH1	22:W:51:GLN:OE1	2.08	0.86
21:V:110:GLN:OE1	61:V:201:HOH:O	1.92	0.86
34:i:6:GLU:OE2	39:n:157:ARG:NH1	2.09	0.85
61:D:501:HOH:O	21:V:11:VAL:O	1.92	0.85
39:n:122:GLU:OE2	61:n:201:HOH:O	1.96	0.84
38:m:47:GLN:OE1	61:m:301:HOH:O	1.94	0.84
7:G:595:GLU:OE1	61:G:903:HOH:O	1.96	0.83
1:A:112:GLU:O	61:A:301:HOH:O	1.94	0.83
17:Q:58:GLU:OE1	61:Q:201:HOH:O	1.97	0.82
1:A:46:SER:N	10:J:76:THR:O	2.13	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:N:236:LYS:O	61:N:1001:HOH:O	1.99	0.81
7:G:180:ASP:OD2	61:G:904:HOH:O	1.98	0.80
14:N:323:MET:O	61:N:1002:HOH:O	2.01	0.79
7:G:180:ASP:OD1	61:G:905:HOH:O	2.00	0.78
15:O:83:TYR:OH	54:O:401:GTP:O2'	2.00	0.78
3:C:14:ARG:NH1	61:C:301:HOH:O	2.14	0.77
33:h:84:GLU:OE1	61:h:301:HOH:O	2.01	0.77
13:M:20:ASN:OD1	61:M:701:HOH:O	2.01	0.77
19:S:18:ILE:HD11	19:S:93:VAL:HG11	1.65	0.77
41:p:144:ASP:OD1	61:p:201:HOH:O	2.02	0.76
22:W:80:ASP:OD2	61:W:201:HOH:O	2.03	0.76
4:D:77:ASP:OD1	61:D:503:HOH:O	2.04	0.75
9:I:53:GLU:OE2	42:q:34:ARG:NH2	2.19	0.75
32:g:86:GLN:OE1	61:g:201:HOH:O	2.03	0.75
20:U:82:ASP:OD1	61:U:201:HOH:O	2.03	0.75
3:C:133:GLU:OE1	61:C:303:HOH:O	2.04	0.75
36:k:24:GLU:OE1	36:k:24:GLU:N	2.19	0.74
45:d:201:3PE:N	61:d:301:HOH:O	2.20	0.74
2:B:143:ASP:OD1	61:B:301:HOH:O	2.04	0.74
3:C:66:ASP:OD2	61:C:302:HOH:O	2.03	0.74
9:I:19:ASP:OD1	61:I:302:HOH:O	2.04	0.74
30:e:21:SER:OG	30:e:36:GLU:OE1	2.02	0.74
53:L:702:CDL:OB4	61:L:801:HOH:O	2.04	0.74
12:L:72:GLN:OE1	61:L:802:HOH:O	2.07	0.73
13:M:78:MET:SD	61:g:225:HOH:O	2.46	0.73
34:i:103:ILE:O	61:i:301:HOH:O	2.06	0.72
10:J:81:GLU:O	61:J:301:HOH:O	2.08	0.72
37:l:5:THR:OG1	37:l:7:ASP:OD1	2.01	0.72
42:q:32:ASP:OD2	42:q:58:ARG:NH2	2.21	0.71
39:n:105:ASP:OD2	61:n:202:HOH:O	2.07	0.71
32:g:101:GLU:HG3	32:g:107:ILE:HD11	1.73	0.70
15:O:167:HIS:O	61:O:501:HOH:O	2.10	0.70
28:c:41:GLU:OE1	28:c:44:ARG:NH1	2.24	0.70
16:P:55:ASP:OD2	61:P:601:HOH:O	2.10	0.69
39:n:48:ASP:OD2	61:n:203:HOH:O	2.10	0.69
7:G:132:GLU:OE1	61:G:906:HOH:O	2.09	0.69
2:B:48:MET:HE2	4:D:56:PRO:HG2	1.75	0.68
38:m:112:GLU:OE1	38:m:116:GLN:NE2	2.25	0.68
9:I:146:GLU:OE2	61:I:303:HOH:O	2.11	0.68
7:G:109:ASP:OD2	61:G:907:HOH:O	2.12	0.68
32:g:22:PRO:O	32:g:23:THR:OG1	2.11	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
24:Y:6:ARG:NH2	45:Y:203:3PE:O14	2.26	0.68
3:C:14:ARG:NH2	61:C:307:HOH:O	2.26	0.68
9:I:142:GLU:OE2	61:I:304:HOH:O	2.13	0.67
17:Q:30:ILE:O	61:Q:202:HOH:O	2.12	0.67
1:A:68:GLU:HG2	10:J:161:LEU:HD13	1.77	0.67
42:q:50:GLU:OE2	61:q:201:HOH:O	2.12	0.67
13:M:126:LEU:HD21	13:M:153:THR:HG21	1.76	0.66
14:N:117:GLU:OE2	61:N:1006:HOH:O	2.14	0.66
7:G:324:ASP:CB	7:G:571:ALA:HB1	2.26	0.66
12:L:331:THR:HB	12:L:387:THR:HG22	1.77	0.66
13:M:108:MET:HE1	53:X:201:CDL:H221	1.78	0.65
2:B:44:SER:OG	8:H:51:ASP:OD1	2.07	0.65
14:N:269:GLU:OE1	61:N:1004:HOH:O	2.13	0.65
30:e:88:GLU:OE2	30:e:90:LYS:NZ	2.21	0.65
12:L:478:PRO:O	61:L:803:HOH:O	2.13	0.65
14:N:149:ILE:O	61:N:1007:HOH:O	2.15	0.65
5:E:26:GLU:N	5:E:26:GLU:OE1	2.30	0.65
14:N:34:GLU:OE2	61:N:1005:HOH:O	2.13	0.65
14:N:68:MET:HE2	14:N:68:MET:HA	1.78	0.64
41:p:18:ALA:O	61:p:202:HOH:O	2.15	0.64
2:B:82:GLN:O	61:B:302:HOH:O	2.14	0.64
34:i:55:LEU:HD13	34:i:55:LEU:O	1.98	0.64
7:G:446:ALA:O	61:G:908:HOH:O	2.15	0.63
10:J:124:ASP:OD1	11:K:2:SER:OG	2.17	0.63
25:Z:125:TYR:HB3	25:Z:133:VAL:HG22	1.80	0.63
40:o:82:GLU:N	40:o:82:GLU:OE1	2.32	0.63
20:U:49:GLU:OE1	39:n:44:ARG:NH1	2.32	0.63
7:G:262:TRP:HB2	7:G:390:LEU:HD11	1.79	0.62
23:X:87:CYS:SG	23:X:102:GLN:NE2	2.73	0.62
25:Z:128:ARG:NH1	61:Z:301:HOH:O	2.16	0.62
23:X:97:ARG:HD3	25:Z:60:LEU:HD13	1.80	0.62
30:e:24:GLN:O	61:e:201:HOH:O	2.16	0.62
4:D:35:ASP:OD1	61:D:504:HOH:O	2.16	0.62
9:I:124:GLU:OE2	61:I:305:HOH:O	2.16	0.61
4:D:116:GLN:NE2	4:D:276:ASP:OD2	2.32	0.61
12:L:60:GLU:OE1	61:L:804:HOH:O	2.16	0.61
7:G:324:ASP:HB2	7:G:571:ALA:HB1	1.82	0.61
38:m:39:ARG:NH2	39:n:151:GLU:OE2	2.33	0.61
8:H:24:GLU:HA	8:H:271:LEU:HD13	1.81	0.61
1:A:68:GLU:OE2	61:A:302:HOH:O	2.16	0.61
37:l:8:MET:HE2	37:l:8:MET:HA	1.84	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:O:138:MET:CE	54:O:401:GTP:HN21	2.14	0.60
41:p:88:GLU:OE1	61:p:203:HOH:O	2.16	0.60
13:M:57:PHE:HB3	13:M:113:MET:HE3	1.83	0.60
46:M:603:PC1:H142	53:h:201:CDL:OA3	2.01	0.60
20:T:37:MET:HE2	20:T:71:MET:HE1	1.83	0.60
4:D:149:ASN:OD1	4:D:371:LYS:NZ	2.35	0.60
2:B:54:CYS:HB2	47:B:201:SF4:S1	2.42	0.59
17:Q:7:ASP:OD1	17:Q:7:ASP:N	2.32	0.59
19:S:18:ILE:HD11	19:S:93:VAL:CG1	2.33	0.59
16:P:333:ASP:O	16:P:335:GLN:N	2.31	0.59
16:P:240:ASP:OD2	16:P:338:LYS:NZ	2.30	0.59
12:L:25:ASN:O	12:L:26:THR:HG22	2.02	0.59
7:G:31:GLU:OE2	61:G:909:HOH:O	2.17	0.58
14:N:314:LYS:NZ	61:N:1009:HOH:O	2.30	0.58
12:L:251:THR:O	12:L:254:VAL:HG22	2.04	0.58
37:l:133:TYR:OH	61:l:201:HOH:O	2.15	0.58
1:A:49:LEU:HD13	8:H:126:LYS:HD2	1.85	0.57
12:L:28:LYS:NZ	59:i:201:CHD:O7	2.36	0.57
30:e:64:GLU:OE1	61:e:202:HOH:O	2.17	0.57
45:M:601:3PE:C2E	45:N:901:3PE:H3I1	2.35	0.57
34:i:37:GLN:N	34:i:37:GLN:OE1	2.36	0.57
43:r:62:ALA:O	43:r:63:MET:HE2	2.04	0.57
30:e:37:LYS:NZ	30:e:38:GLU:OE1	2.37	0.57
42:q:131:ARG:NH1	61:q:204:HOH:O	2.37	0.57
2:B:48:MET:HE1	2:B:50:PHE:CD1	2.40	0.57
44:s:74:ARG:NE	61:s:2501:HOH:O	2.37	0.56
7:G:272:ASP:OD1	7:G:681:SER:OG	2.19	0.56
23:X:44:LEU:HD22	23:X:130:VAL:CG1	2.35	0.56
2:B:70:ASP:OD2	61:B:303:HOH:O	2.17	0.56
8:H:2:PHE:CE2	8:H:6:ILE:HD11	2.40	0.56
25:Z:131:GLU:OE1	25:Z:131:GLU:N	2.36	0.56
35:j:70:ASP:OD1	40:o:117:ARG:NH2	2.38	0.56
14:N:62:THR:HG21	14:N:114:TRP:CD1	2.41	0.56
1:A:18:VAL:HG22	8:H:222:LEU:HD23	1.88	0.56
9:I:14:MET:HE2	9:I:14:MET:HA	1.86	0.56
29:d:5:ARG:NH2	29:d:17:GLU:OE2	2.38	0.55
23:X:154:GLU:OE2	23:X:154:GLU:N	2.37	0.55
29:d:8:ARG:NH2	46:d:202:PC1:O14	2.38	0.55
17:Q:19:ILE:O	17:Q:23:THR:HG23	2.07	0.55
32:g:114:ASP:OD2	32:g:116:SER:OG	2.22	0.54
29:d:107:LYS:HE2	29:d:112:VAL:HG12	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
30:e:96:HIS:O	30:e:97:HIS:HB2	2.06	0.54
37:l:68:ASP:OD2	61:l:202:HOH:O	2.18	0.54
11:K:40:LEU:HD21	14:N:72:MET:HE2	1.90	0.54
8:H:189:THR:HG22	8:H:234:MET:HE3	1.90	0.53
11:K:43:MET:HE1	14:N:72:MET:HE1	1.90	0.53
26:a:53:ARG:NH1	61:a:105:HOH:O	2.41	0.53
11:K:40:LEU:CD2	14:N:72:MET:HE2	2.38	0.53
12:L:149:ILE:HG13	13:M:369:LEU:HD13	1.89	0.53
7:G:146:VAL:O	61:G:910:HOH:O	2.18	0.53
14:N:209:ILE:HG21	53:N:903:CDL:H231	1.91	0.53
8:H:70:MET:HE1	8:H:121:TRP:CE3	2.44	0.53
13:M:42:MET:HE1	13:M:453:ILE:HB	1.91	0.52
25:Z:76:GLN:OE1	61:Z:302:HOH:O	2.19	0.52
7:G:415:LEU:O	7:G:416:THR:OG1	2.25	0.52
8:H:195:ARG:HD3	8:H:231:ILE:HD11	1.92	0.52
5:E:150:ASN:HB3	5:E:162:GLU:HB3	1.92	0.52
1:A:60:ILE:HG21	10:J:168:ILE:HG21	1.92	0.51
8:H:111:LEU:HD11	10:J:57:PHE:CD1	2.44	0.51
45:H:503:3PE:H3C1	27:b:24:ILE:HD11	1.91	0.51
19:S:18:ILE:CD1	19:S:93:VAL:HG11	2.36	0.51
53:h:201:CDL:H582	41:p:47:VAL:HG21	1.93	0.51
4:D:385:ARG:NE	61:D:522:HOH:O	2.43	0.51
13:M:106:LEU:HD13	13:M:234:VAL:HG11	1.92	0.51
15:O:138:MET:HE3	54:O:401:GTP:HN21	1.75	0.51
13:M:6:ILE:HD12	31:f:23:GLY:HA2	1.92	0.50
13:M:119:TYR:O	13:M:123:GLU:OE1	2.29	0.50
29:d:1:AME:O	33:h:122:TRP:HA	2.10	0.50
8:H:133:LEU:HD13	10:J:74:MET:HG2	1.92	0.50
3:C:14:ARG:NH1	4:D:127:ASN:OD1	2.44	0.50
6:F:306:LEU:C	6:F:306:LEU:HD12	2.37	0.50
4:D:328:ALA:HB3	7:G:126:ASP:HB2	1.94	0.50
10:J:167:VAL:HG22	14:N:42:PRO:HG3	1.92	0.50
23:X:143:SER:OG	30:e:38:GLU:OE2	2.23	0.50
17:Q:36:ARG:NE	17:Q:106:GLU:OE1	2.35	0.50
11:K:37:MET:HG3	11:K:67:ALA:CB	2.41	0.50
1:A:95:ILE:HG21	8:H:302:MET:HG3	1.94	0.49
10:J:73:ALA:O	10:J:78:GLN:NE2	2.46	0.49
15:O:141:GLN:NE2	15:O:201:ASP:OD2	2.44	0.49
8:H:111:LEU:HD11	10:J:57:PHE:HD1	1.77	0.49
7:G:396:ARG:NH1	7:G:416:THR:O	2.46	0.49
10:J:118:GLU:O	11:K:1:FME:N	2.45	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:165:ILE:HG21	14:N:268:GLN:HA	1.94	0.49
7:G:254:MET:HA	7:G:260:GLU:O	2.13	0.48
12:L:264:TYR:N	12:L:265:PRO:CD	2.76	0.48
7:G:58:GLU:OE2	7:G:83:SER:OG	2.28	0.48
15:O:35:LYS:N	54:O:401:GTP:O3G	2.46	0.48
11:K:33:LEU:HD21	11:K:70:GLU:OE2	2.13	0.48
23:X:79:GLU:CD	23:X:79:GLU:H	2.21	0.48
4:D:64:LEU:HD11	4:D:418:ILE:HD11	1.96	0.48
13:M:130:LEU:HD21	14:N:294:MET:CE	2.44	0.48
21:V:71:LEU:HD13	21:V:79:VAL:HG11	1.94	0.48
45:M:602:3PE:C33	14:N:242:VAL:HG11	2.43	0.48
7:G:366:THR:HB	7:G:450:MET:HE3	1.95	0.48
2:B:48:MET:HE2	4:D:56:PRO:CG	2.43	0.48
4:D:335:ARG:NH2	9:I:129:ASP:OD1	2.43	0.48
45:M:601:3PE:H2E2	45:N:901:3PE:H3I1	1.95	0.47
45:M:602:3PE:H332	14:N:242:VAL:HG11	1.96	0.47
12:L:67:HIS:NE2	12:L:70:THR:OG1	2.43	0.47
12:L:278:LEU:HD21	12:L:404:THR:OG1	2.14	0.47
14:N:139:MET:HE2	14:N:142:LEU:HD12	1.96	0.47
4:D:42:THR:O	4:D:43:LEU:HG	2.13	0.47
7:G:317:ALA:HB1	7:G:331:LEU:HD21	1.94	0.47
13:M:378:GLU:OE1	61:M:703:HOH:O	2.20	0.47
1:A:63:LEU:HB2	10:J:67:VAL:HG21	1.97	0.47
8:H:236:ILE:HG23	8:H:259:PHE:CZ	2.49	0.47
13:M:205:VAL:HG22	13:M:212:LEU:HD13	1.96	0.47
7:G:486:ASP:OD1	7:G:486:ASP:N	2.41	0.47
7:G:684:MET:HA	7:G:684:MET:HE2	1.96	0.47
23:X:44:LEU:HD22	23:X:130:VAL:HG13	1.96	0.47
2:B:69:MET:HE3	2:B:74:VAL:HG12	1.96	0.47
7:G:484:THR:OG1	7:G:486:ASP:OD1	2.22	0.47
13:M:80:SER:OG	13:M:226:ALA:HB2	2.15	0.47
15:O:187:GLY:HA2	15:O:192:MET:HE2	1.96	0.47
17:Q:36:ARG:NH2	17:Q:106:GLU:OE2	2.46	0.47
25:Z:134:LEU:HD11	25:Z:142:TRP:CZ3	2.49	0.47
5:E:105:THR:HG22	5:E:106:THR:N	2.30	0.47
12:L:537:ALA:HB3	12:L:538:PRO:HD3	1.97	0.47
7:G:427:LYS:NZ	7:G:657:LEU:O	2.48	0.47
23:X:97:ARG:NH2	61:X:304:HOH:O	2.36	0.47
3:C:200:ASN:OD1	61:C:304:HOH:O	2.20	0.47
5:E:105:THR:HG22	5:E:106:THR:H	1.80	0.47
10:J:83:TRP:CD1	10:J:84:LEU:HG	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:P:342:THR:O	16:P:343:SER:C	2.58	0.47
11:K:43:MET:CE	14:N:72:MET:HE1	2.45	0.46
27:b:82:ARG:HA	27:b:82:ARG:NE	2.30	0.46
3:C:118:GLU:OE2	61:C:305:HOH:O	2.20	0.46
4:D:71:GLU:OE2	8:H:134:ARG:NH1	2.39	0.46
12:L:230:HIS:N	12:L:231:PRO:CD	2.79	0.46
13:M:71:TRP:CZ3	32:g:69:VAL:HG11	2.50	0.46
16:P:196:LEU:HG	16:P:196:LEU:O	2.16	0.46
12:L:49:ILE:HB	12:L:50:PRO:HD3	1.98	0.46
37:l:57:GLU:OE1	37:l:91:THR:OG1	2.25	0.46
3:C:58:ILE:HD11	3:C:119:SER:O	2.16	0.46
12:L:421:ILE:HA	12:L:501:ALA:HB2	1.98	0.46
16:P:268:ARG:HB2	16:P:281:ARG:HD2	1.98	0.46
41:p:127:GLU:OE2	41:p:127:GLU:N	2.46	0.46
45:M:601:3PE:C2F	45:N:901:3PE:H3I1	2.46	0.46
45:M:601:3PE:H2F1	45:N:901:3PE:H3I1	1.98	0.46
40:o:69:LYS:NZ	61:o:304:HOH:O	2.45	0.46
46:B:202:PC1:H3I2	52:H:504:LMT:H121	1.98	0.45
10:J:167:VAL:HG13	14:N:42:PRO:HG3	1.98	0.45
12:L:34:LEU:HD21	59:i:201:CHD:H231	1.98	0.45
10:J:5:ILE:HG21	25:Z:142:TRP:HZ2	1.81	0.45
10:J:171:ILE:HD11	14:N:42:PRO:HA	1.98	0.45
11:K:12:PHE:CG	14:N:72:MET:HE3	2.51	0.45
29:d:120:ARG:O	38:m:108:ARG:NH2	2.50	0.45
42:q:117:LEU:HD13	42:q:122:GLN:HB3	1.98	0.45
8:H:253:GLU:OE2	26:a:25:ARG:NH1	2.38	0.45
12:L:529:PHE:HB3	12:L:530:PRO:HD3	1.97	0.45
12:L:304:PHE:CZ	12:L:526:LEU:HD22	2.51	0.45
14:N:236:LYS:HG3	14:N:237:THR:HG23	1.98	0.45
6:F:193:ILE:HG23	6:F:215:VAL:HA	1.98	0.45
15:O:111:ALA:HB1	15:O:122:VAL:HG21	1.99	0.45
23:X:17:VAL:HG12	23:X:19:VAL:HG22	1.98	0.45
23:X:102:GLN:OE1	23:X:102:GLN:N	2.48	0.45
3:C:65:ARG:NH1	3:C:123:VAL:O	2.48	0.45
16:P:251:ARG:NH2	16:P:323:THR:HG22	2.32	0.45
8:H:204:GLU:OE1	8:H:279:ARG:NH1	2.50	0.45
12:L:22:MET:HE3	12:L:119:LYS:HE2	1.98	0.45
32:g:25:ARG:HE	32:g:26:TRP:H	1.65	0.45
6:F:94:VAL:HG11	6:F:192:LEU:HD22	1.99	0.45
12:L:272:TYR:CZ	12:L:276:ILE:HD11	2.52	0.45
12:L:375:VAL:HG22	35:j:32:MET:SD	2.56	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
41:p:140:ASP:O	41:p:157:LYS:HE3	2.17	0.45
8:H:70:MET:HE1	8:H:121:TRP:HE3	1.82	0.44
15:O:250:ASP:OD1	15:O:250:ASP:N	2.50	0.44
53:h:201:CDL:C58	41:p:47:VAL:HG21	2.47	0.44
45:m:202:3PE:H2E2	45:m:202:3PE:H2I3	1.98	0.44
8:H:87:ILE:N	8:H:88:PRO:CD	2.80	0.44
5:E:53:LEU:HD13	44:s:52:LEU:CD1	2.47	0.44
12:L:510:ASN:O	12:L:512:LYS:N	2.48	0.44
14:N:21:MET:HE1	46:d:202:PC1:H3A1	1.99	0.44
15:O:26:THR:HG22	15:O:124:LEU:HB2	1.98	0.44
25:Z:126:GLY:O	30:e:79:ARG:NH2	2.49	0.44
7:G:651:LEU:HD11	19:S:45:LYS:HZ3	1.82	0.44
40:o:11:ASP:OD1	40:o:13:SER:OG	2.22	0.44
23:X:79:GLU:HB2	23:X:80:PRO:HD3	2.00	0.44
30:e:61:ASP:OD2	61:e:203:HOH:O	2.21	0.44
41:p:98:ASP:OD2	41:p:141:ARG:NH1	2.50	0.44
10:J:38:GLY:HA3	46:J:201:PC1:H2H2	2.00	0.44
1:A:7:LEU:HD11	46:J:201:PC1:H341	2.00	0.43
2:B:91:THR:HA	2:B:119:CYS:HB3	2.00	0.43
14:N:187:MET:HE3	14:N:190:MET:SD	2.58	0.43
19:S:35:PHE:CZ	19:S:90:LEU:HD13	2.52	0.43
37:l:128:VAL:HG11	40:o:94:TYR:CZ	2.53	0.43
4:D:352:TYR:HD1	9:I:86:VAL:HG21	1.84	0.43
8:H:236:ILE:HG23	8:H:259:PHE:HZ	1.82	0.43
10:J:103:MET:HE1	10:J:115:VAL:HG21	1.99	0.43
8:H:156:MET:HE3	8:H:174:LEU:HD22	2.01	0.43
6:F:157:TYR:CD1	44:s:61:PHE:HB3	2.54	0.43
46:M:605:PC1:H3B2	46:M:605:PC1:C3F	2.47	0.43
20:U:51:ILE:HG21	20:U:67:ALA:HB1	2.01	0.43
12:L:562:LEU:CB	12:L:563:PRO:CD	2.97	0.43
53:N:903:CDL:OB8	53:N:903:CDL:CB5	2.66	0.43
16:P:139:ILE:HG13	16:P:140:LYS:HD2	2.00	0.43
29:d:60:ARG:NH1	61:d:303:HOH:O	2.36	0.43
8:H:208:VAL:HG22	8:H:213:VAL:CG2	2.49	0.43
13:M:104:LEU:HG	13:M:108:MET:HE2	2.01	0.43
1:A:33:LYS:HG3	8:H:62:ARG:NE	2.34	0.43
6:F:403:THR:HB	47:F:501:SF4:S4	2.58	0.43
13:M:271:MET:HE2	13:M:271:MET:HA	2.01	0.43
24:Y:100:LEU:HD22	24:Y:117:MET:HE1	2.00	0.43
14:N:217:THR:HG23	53:N:903:CDL:H312	2.01	0.42
12:L:63:ILE:O	12:L:79:SER:HA	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:M:331:ASN:O	13:M:335:GLU:HG3	2.19	0.42
14:N:115:VAL:HB	14:N:116:PRO:HD3	2.00	0.42
14:N:214:THR:HG22	14:N:218:MET:HE2	2.00	0.42
24:Y:121:ALA:HB2	45:Y:202:3PE:H3F2	2.00	0.42
2:B:112:TYR:OH	2:B:170:GLU:OE2	2.35	0.42
45:M:604:3PE:H352	46:M:605:PC1:H3A1	2.02	0.42
16:P:117:ILE:HG22	16:P:129:PHE:HE1	1.83	0.42
24:Y:85:ASP:OD1	24:Y:87:LEU:HB3	2.18	0.42
7:G:39:ARG:HB2	48:G:803:FES:S1	2.59	0.42
16:P:97:ARG:NH2	56:P:501:NDP:O2X	2.49	0.42
32:g:113:PHE:CE1	41:p:73:ILE:HG22	2.55	0.42
14:N:265:MET:HE1	23:X:167:PHE:HE2	1.85	0.42
16:P:272:ILE:HG22	16:P:272:ILE:O	2.20	0.42
1:A:49:LEU:HD23	10:J:74:MET:HA	2.02	0.42
13:M:269:MET:HE1	13:M:396:MET:SD	2.59	0.42
17:Q:93:VAL:O	17:Q:97:GLU:HG3	2.20	0.42
13:M:114:GLU:OE2	13:M:116:ILE:HB	2.20	0.42
14:N:93:MET:HE3	14:N:96:MET:HE2	2.01	0.42
4:D:51:PHE:CD2	4:D:51:PHE:C	2.98	0.42
13:M:243:MET:HB3	13:M:301:ILE:HG21	2.01	0.42
35:j:19:ARG:O	35:j:23:ILE:HG12	2.20	0.42
16:P:91:VAL:HG23	16:P:126:VAL:HG11	2.01	0.42
16:P:98:GLU:CD	16:P:177:ARG:HE	2.28	0.42
20:T:32:VAL:HG22	20:T:32:VAL:O	2.19	0.42
29:d:1:AME:HG2	33:h:122:TRP:HB3	2.02	0.42
4:D:216:LYS:NZ	61:D:510:HOH:O	2.30	0.42
12:L:445:GLU:O	12:L:451:ILE:HD11	2.20	0.42
18:R:19:ASP:OD2	18:R:22:ASP:HB2	2.20	0.42
5:E:103:CYS:SG	5:E:144:CYS:HA	2.60	0.41
12:L:82:MET:HB3	12:L:87:MET:HE3	2.02	0.41
14:N:209:ILE:HG21	53:N:903:CDL:H202	2.02	0.41
14:N:217:THR:HA	14:N:220:MET:HE3	2.02	0.41
45:N:901:3PE:H2A2	45:m:201:3PE:H2I3	2.02	0.41
4:D:66:MET:HE1	4:D:411:LEU:CD1	2.50	0.41
16:P:333:ASP:C	16:P:334:VAL:HG22	2.45	0.41
8:H:289:LEU:C	8:H:289:LEU:HD13	2.44	0.41
27:b:61:ASN:OD1	27:b:61:ASN:N	2.52	0.41
29:d:109:TYR:HA	29:d:112:VAL:HG22	2.01	0.41
34:i:15:ARG:NH2	61:i:307:HOH:O	2.53	0.41
34:i:124:ASP:OD1	34:i:125:GLN:O	2.38	0.41
5:E:101:GLN:HG2	5:E:140:ILE:HD11	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:N:146:PHE:HA	14:N:149:ILE:HD12	2.02	0.41
17:Q:109:LYS:NZ	61:Q:208:HOH:O	2.52	0.41
3:C:137:MET:HE3	3:C:161:PRO:HG2	2.02	0.41
5:E:127:LYS:N	5:E:130:GLU:OE1	2.45	0.41
5:E:143:GLU:O	5:E:144:CYS:C	2.62	0.41
6:F:93:LEU:O	6:F:134:ALA:HA	2.20	0.41
6:F:425:GLU:OE1	6:F:429:ARG:NH1	2.54	0.41
12:L:301:ILE:CG2	12:L:426:ILE:HD11	2.50	0.41
41:p:115:ARG:NH1	61:p:204:HOH:O	2.33	0.41
1:A:51:PHE:CZ	11:K:83:ASN:OD1	2.73	0.41
6:F:90:PRO:O	6:F:218:CYS:HB3	2.21	0.41
10:J:93:PHE:CE2	10:J:97:LEU:HD11	2.56	0.41
13:M:175:ASN:ND2	61:M:707:HOH:O	2.37	0.41
20:U:52:MET:HE1	39:n:23:LEU:HB3	2.03	0.41
2:B:106:GLN:CD	8:H:214:GLU:HG3	2.46	0.41
4:D:104:ASP:OD1	4:D:115:GLU:OE2	2.39	0.41
13:M:452:LYS:HA	13:M:455:LEU:HD12	2.02	0.41
6:F:192:LEU:C	6:F:192:LEU:HD23	2.46	0.41
6:F:423:ARG:N	6:F:424:PRO:HD2	2.36	0.41
8:H:93:TYR:OH	26:a:35:GLU:OE1	2.35	0.41
13:M:333:ASN:ND2	61:M:712:HOH:O	2.45	0.41
46:N:904:PC1:H153	15:O:6:LEU:H	1.86	0.41
16:P:46:ILE:N	16:P:46:ILE:HD12	2.35	0.41
16:P:333:ASP:O	16:P:334:VAL:HG22	2.21	0.41
30:e:96:HIS:O	30:e:97:HIS:CB	2.68	0.41
2:B:90:GLY:HA2	47:B:201:SF4:S2	2.61	0.41
7:G:382:THR:HB	7:G:454:GLY:HA3	2.03	0.41
8:H:253:GLU:CD	8:H:253:GLU:H	2.29	0.41
10:J:130:THR:HG21	25:Z:124:LEU:HD12	2.03	0.41
13:M:285:LEU:HD23	13:M:285:LEU:C	2.45	0.41
14:N:146:PHE:N	14:N:147:PRO:CD	2.84	0.41
45:N:902:3PE:H381	29:d:71:VAL:HG13	2.03	0.41
3:C:175:ARG:NE	3:C:186:GLU:OE2	2.40	0.40
9:I:14:MET:HB3	25:Z:33:TYR:OH	2.21	0.40
10:J:10:SER:OG	11:K:7:ASN:ND2	2.47	0.40
3:C:58:ILE:HB	3:C:59:PRO:HD3	2.03	0.40
8:H:208:VAL:HG22	8:H:213:VAL:HG21	2.03	0.40
10:J:57:PHE:CZ	46:J:201:PC1:H352	2.56	0.40
13:M:216:LEU:HB3	13:M:217:PRO:HD3	2.02	0.40
23:X:23:VAL:HG21	26:a:65:GLY:HA2	2.02	0.40
6:F:21:ILE:HG22	6:F:117:LYS:HE2	2.02	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:H:179:TRP:CG	8:H:180:PRO:HD3	2.56	0.40
37:l:68:ASP:OD1	37:l:68:ASP:N	2.51	0.40
12:L:560:ALA:O	12:L:565:THR:HG23	2.22	0.40
37:l:82:ASP:OD1	37:l:82:ASP:N	2.54	0.40
1:A:90:MET:SD	10:J:151:THR:HG23	2.62	0.40
7:G:483:VAL:HG23	7:G:484:THR:O	2.21	0.40
11:K:40:LEU:HD22	14:N:75:ILE:HD12	2.03	0.40
14:N:137:ALA:HB3	14:N:138:PRO:HD3	2.03	0.40
14:N:250:SER:O	14:N:259:GLY:HA3	2.22	0.40
16:P:145:TYR:CD1	16:P:286:ARG:HD3	2.57	0.40
19:S:64:LEU:O	19:S:75:ASN:HA	2.22	0.40
38:m:21:GLU:O	39:n:14:LYS:NZ	2.53	0.40

There are no symmetry-related clashes.

## 5.3 Torsion angles

### 5.3.1 Protein backbone

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	102/115 (89%)	98 (96%)	4 (4%)	0	100	100
2	B	154/216 (71%)	146 (95%)	8 (5%)	0	100	100
3	C	205/266 (77%)	200 (98%)	5 (2%)	0	100	100
4	D	427/463 (92%)	412 (96%)	15 (4%)	0	100	100
5	E	212/249 (85%)	208 (98%)	4 (2%)	0	100	100
6	F	431/464 (93%)	424 (98%)	7 (2%)	0	100	100
7	G	689/727 (95%)	668 (97%)	21 (3%)	0	100	100
8	H	317/318 (100%)	313 (99%)	4 (1%)	0	100	100
9	I	174/212 (82%)	170 (98%)	4 (2%)	0	100	100
10	J	173/175 (99%)	160 (92%)	13 (8%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
11	K	96/98 (98%)	94 (98%)	2 (2%)	0	100	100
12	L	604/606 (100%)	582 (96%)	21 (4%)	1 (0%)	43	55
13	M	457/459 (100%)	454 (99%)	3 (1%)	0	100	100
14	N	345/347 (99%)	340 (99%)	5 (1%)	0	100	100
15	O	318/343 (93%)	315 (99%)	3 (1%)	0	100	100
16	P	333/380 (88%)	321 (96%)	12 (4%)	0	100	100
17	Q	127/175 (73%)	127 (100%)	0	0	100	100
18	R	94/124 (76%)	90 (96%)	4 (4%)	0	100	100
19	S	84/99 (85%)	83 (99%)	1 (1%)	0	100	100
20	T	83/156 (53%)	81 (98%)	2 (2%)	0	100	100
20	U	84/156 (54%)	84 (100%)	0	0	100	100
21	V	112/116 (97%)	111 (99%)	1 (1%)	0	100	100
22	W	114/128 (89%)	112 (98%)	2 (2%)	0	100	100
23	X	169/172 (98%)	168 (99%)	1 (1%)	0	100	100
24	Y	138/141 (98%)	137 (99%)	1 (1%)	0	100	100
25	Z	140/144 (97%)	138 (99%)	2 (1%)	0	100	100
26	a	68/70 (97%)	68 (100%)	0	0	100	100
27	b	81/84 (96%)	78 (96%)	3 (4%)	0	100	100
28	c	47/76 (62%)	46 (98%)	1 (2%)	0	100	100
29	d	118/120 (98%)	118 (100%)	0	0	100	100
30	e	96/106 (91%)	94 (98%)	2 (2%)	0	100	100
31	f	55/57 (96%)	50 (91%)	5 (9%)	0	100	100
32	g	99/154 (64%)	91 (92%)	8 (8%)	0	100	100
33	h	136/189 (72%)	134 (98%)	2 (2%)	0	100	100
34	i	125/127 (98%)	121 (97%)	4 (3%)	0	100	100
35	j	65/108 (60%)	65 (100%)	0	0	100	100
36	k	79/98 (81%)	79 (100%)	0	0	100	100
37	l	154/186 (83%)	150 (97%)	4 (3%)	0	100	100
38	m	126/129 (98%)	125 (99%)	1 (1%)	0	100	100
39	n	170/179 (95%)	167 (98%)	3 (2%)	0	100	100
40	o	120/137 (88%)	116 (97%)	4 (3%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
41	p	171/176 (97%)	169 (99%)	2 (1%)	0	100	100
42	q	143/145 (99%)	143 (100%)	0	0	100	100
43	r	91/113 (80%)	87 (96%)	4 (4%)	0	100	100
44	s	42/109 (38%)	39 (93%)	3 (7%)	0	100	100
All	All	8168/9212 (89%)	7976 (98%)	191 (2%)	1 (0%)	100	100

All (1) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
12	L	562	LEU

### 5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	93/100 (93%)	91 (98%)	2 (2%)	45	65
2	B	132/175 (75%)	126 (96%)	6 (4%)	24	37
3	C	188/228 (82%)	188 (100%)	0	100	100
4	D	370/392 (94%)	368 (100%)	2 (0%)	81	90
5	E	183/205 (89%)	180 (98%)	3 (2%)	55	73
6	F	347/368 (94%)	345 (99%)	2 (1%)	78	89
7	G	579/608 (95%)	577 (100%)	2 (0%)	86	93
8	H	275/274 (100%)	274 (100%)	1 (0%)	84	92
9	I	151/175 (86%)	151 (100%)	0	100	100
10	J	141/141 (100%)	139 (99%)	2 (1%)	59	76
11	K	85/85 (100%)	85 (100%)	0	100	100
12	L	533/533 (100%)	530 (99%)	3 (1%)	78	89
13	M	412/412 (100%)	408 (99%)	4 (1%)	68	82
14	N	315/315 (100%)	314 (100%)	1 (0%)	86	93

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
15	O	283/303 (93%)	281 (99%)	2 (1%)	76	87
16	P	291/327 (89%)	290 (100%)	1 (0%)	86	93
17	Q	116/153 (76%)	115 (99%)	1 (1%)	70	84
18	R	79/97 (81%)	79 (100%)	0	100	100
19	S	76/82 (93%)	76 (100%)	0	100	100
20	T	79/135 (58%)	79 (100%)	0	100	100
20	U	79/135 (58%)	79 (100%)	0	100	100
21	V	101/102 (99%)	101 (100%)	0	100	100
22	W	108/114 (95%)	108 (100%)	0	100	100
23	X	154/155 (99%)	154 (100%)	0	100	100
24	Y	101/102 (99%)	101 (100%)	0	100	100
25	Z	120/121 (99%)	120 (100%)	0	100	100
26	a	59/59 (100%)	59 (100%)	0	100	100
27	b	71/72 (99%)	71 (100%)	0	100	100
28	c	45/68 (66%)	45 (100%)	0	100	100
29	d	105/105 (100%)	105 (100%)	0	100	100
30	e	89/96 (93%)	89 (100%)	0	100	100
31	f	54/54 (100%)	54 (100%)	0	100	100
32	g	92/131 (70%)	91 (99%)	1 (1%)	65	81
33	h	121/158 (77%)	121 (100%)	0	100	100
34	i	120/120 (100%)	118 (98%)	2 (2%)	53	72
35	j	61/84 (73%)	59 (97%)	2 (3%)	33	50
36	k	63/76 (83%)	63 (100%)	0	100	100
37	l	140/159 (88%)	140 (100%)	0	100	100
38	m	114/115 (99%)	113 (99%)	1 (1%)	70	84
39	n	157/161 (98%)	157 (100%)	0	100	100
40	o	110/120 (92%)	110 (100%)	0	100	100
41	p	154/157 (98%)	153 (99%)	1 (1%)	78	89
42	q	131/131 (100%)	129 (98%)	2 (2%)	57	75
43	r	85/97 (88%)	84 (99%)	1 (1%)	63	79
44	s	43/92 (47%)	43 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
All	All	7205/7892 (91%)	7163 (99%)	42 (1%)	76 89

All (42) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	23	TRP
1	A	49	LEU
2	B	34	ASP
2	B	50	PHE
2	B	54	CYS
2	B	79	SER
2	B	91	THR
2	B	175	ILE
4	D	45	SER
4	D	76	CYS
5	E	36	LYS
5	E	48	LEU
5	E	134	ASP
6	F	77	LEU
6	F	99	GLU
7	G	483	VAL
7	G	613	TYR
8	H	121	TRP
10	J	25	SER
10	J	107	VAL
12	L	6	SER
12	L	393	ASP
12	L	554	ASP
13	M	42	MET
13	M	57	PHE
13	M	72	LEU
13	M	393	ILE
14	N	187	MET
15	O	81	LYS
15	O	250	ASP
16	P	323	THR
17	Q	7	ASP
32	g	112	CYS
34	i	39	VAL
34	i	127	HIS
35	j	47	VAL
35	j	69	ASP

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Mol	Chain	Res	Type
38	m	23	ASP
41	p	44	VAL
42	q	5	GLN
42	q	144	TYR
43	r	68	VAL

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (49) such sidechains are listed below:

Mol	Chain	Res	Type
2	B	82	GLN
2	B	106	GLN
2	B	164	GLN
3	C	192	GLN
4	D	135	GLN
4	D	150	HIS
4	D	217	ASN
4	D	280	GLN
5	E	37	ASN
5	E	74	GLN
5	E	99	HIS
6	F	361	GLN
6	F	373	ASN
6	F	421	HIS
7	G	402	ASN
7	G	654	GLN
8	H	5	ASN
8	H	47	GLN
8	H	247	HIS
11	K	52	HIS
12	L	56	HIS
12	L	269	ASN
12	L	296	ASN
12	L	603	ASN
13	M	184	GLN
13	M	331	ASN
13	M	366	ASN
13	M	415	GLN
14	N	48	HIS
15	O	180	GLN
15	O	190	HIS
15	O	271	ASN
15	O	288	GLN

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Mol	Chain	Res	Type
16	P	74	ASN
16	P	260	HIS
18	R	94	GLN
19	S	80	ASN
28	c	5	GLN
28	c	9	HIS
30	e	6	GLN
30	e	26	HIS
32	g	86	GLN
35	j	6	HIS
37	l	56	GLN
38	m	47	GLN
39	n	72	HIS
39	n	77	GLN
41	p	58	ASN
43	r	72	GLN

### 5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

12 non-standard protein/DNA/RNA residues are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z  > 2$	Counts	RMSZ	$\# Z  > 2$
43	AYA	r	1	43	6,7,8	1.27	1 (16%)	6,8,10	0.86	0
24	AYA	Y	1	24	6,7,8	1.20	1 (16%)	6,8,10	1.09	1 (16%)
8	FME	H	1	8	8,9,10	1.01	1 (12%)	8,9,11	0.79	0
4	2MR	D	85	4	10,12,13	2.68	4 (40%)	5,13,15	1.30	1 (20%)
1	FME	A	1	1	8,9,10	0.98	1 (12%)	8,9,11	0.84	0
14	FME	N	1	14	8,9,10	0.97	0	8,9,11	0.94	0



Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
34	SAC	i	1	34	7,8,9	1.05	0	7,9,11	1.08	0
12	FME	L	1	12	8,9,10	0.94	0	8,9,11	0.96	0
13	FME	M	1	13	8,9,10	1.01	1 (12%)	8,9,11	1.06	1 (12%)
11	FME	K	1	11	8,9,10	0.95	0	8,9,11	1.14	1 (12%)
29	AME	d	1	29	9,10,11	1.65	3 (33%)	9,11,13	1.79	1 (11%)
10	FME	J	1	10	8,9,10	1.02	0	8,9,11	0.96	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
43	AYA	r	1	43	-	0/5/6/8	-
24	AYA	Y	1	24	-	1/5/6/8	-
8	FME	H	1	8	-	4/7/9/11	-
4	2MR	D	85	4	-	0/10/13/15	-
1	FME	A	1	1	-	0/7/9/11	-
14	FME	N	1	14	-	4/7/9/11	-
34	SAC	i	1	34	-	2/7/8/10	-
12	FME	L	1	12	-	1/7/9/11	-
13	FME	M	1	13	-	0/7/9/11	-
11	FME	K	1	11	-	0/7/9/11	-
29	AME	d	1	29	-	4/9/10/12	-
10	FME	J	1	10	-	2/7/9/11	-

All (12) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	D	85	2MR	CZ-NH2	5.01	1.43	1.33
4	D	85	2MR	CZ-NE	4.52	1.43	1.34
4	D	85	2MR	O-C	4.10	1.35	1.20
29	d	1	AME	CT1-N	3.33	1.45	1.34
43	r	1	AYA	CA-N	-2.54	1.43	1.46
29	d	1	AME	CA-N	-2.42	1.43	1.46
24	Y	1	AYA	CA-N	-2.32	1.44	1.46
29	d	1	AME	OT-CT1	-2.18	1.18	1.23
13	M	1	FME	CA-N	-2.10	1.43	1.46
8	H	1	FME	CA-N	-2.07	1.43	1.46
4	D	85	2MR	CQ1-NH1	-2.07	1.42	1.46
1	A	1	FME	CA-N	-2.04	1.43	1.46

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
29	d	1	AME	CB-CA-N	-3.94	103.33	110.52
4	D	85	2MR	NE-CZ-NH2	-2.66	117.04	119.48
24	Y	1	AYA	CB-CA-N	2.29	112.26	109.68
11	K	1	FME	C-CA-N	2.24	113.82	109.50
13	M	1	FME	C-CA-N	2.17	113.69	109.50

There are no chirality outliers.

All (18) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
8	H	1	FME	O1-CN-N-CA
8	H	1	FME	N-CA-CB-CG
10	J	1	FME	O1-CN-N-CA
14	N	1	FME	N-CA-CB-CG
14	N	1	FME	C-CA-CB-CG
14	N	1	FME	O-C-CA-CB
24	Y	1	AYA	O-C-CA-CB
34	i	1	SAC	C2A-C1A-N-CA
34	i	1	SAC	OAC-C1A-N-CA
12	L	1	FME	CA-CB-CG-SD
29	d	1	AME	N-CA-CB-CG
10	J	1	FME	C-CA-CB-CG
29	d	1	AME	C-CA-CB-CG
8	H	1	FME	CB-CG-SD-CE
29	d	1	AME	C-CA-N-CT1
29	d	1	AME	CB-CA-N-CT1
8	H	1	FME	C-CA-CB-CG
14	N	1	FME	CB-CG-SD-CE

There are no ring outliers.

2 monomers are involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
11	K	1	FME	1	0
29	d	1	AME	2	0

## 5.5 Carbohydrates

There are no oligosaccharides in this entry.

## 5.6 Ligand geometry

Of 62 ligands modelled in this entry, 3 are monoatomic - leaving 59 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$
45	3PE	N	902	-	48,48,50	0.89	4 (8%)	51,53,55	1.06	2 (3%)
47	SF4	F	501	6	0,12,12	-	-	-	-	-
45	3PE	A	202	-	46,46,50	0.91	4 (8%)	49,51,55	1.10	2 (4%)
53	CDL	X	201	-	92,92,99	0.92	7 (7%)	98,104,111	1.08	4 (4%)
54	GTP	O	401	55	33,34,34	3.21	15 (45%)	50,54,54	1.87	14 (28%)
49	FMN	F	502	-	33,33,33	1.09	2 (6%)	48,50,50	1.26	7 (14%)
45	3PE	O	403	-	21,21,50	1.31	4 (19%)	24,26,55	1.46	3 (12%)
45	3PE	M	604	-	50,50,50	0.86	3 (6%)	53,55,55	1.05	2 (3%)
45	3PE	h	203	-	50,50,50	0.88	4 (8%)	53,55,55	1.03	2 (3%)
45	3PE	Y	205	-	50,50,50	0.87	4 (8%)	53,55,55	0.99	2 (3%)
45	3PE	Y	204	-	38,38,50	0.98	4 (10%)	41,43,55	1.06	2 (4%)
45	3PE	m	202	-	40,40,50	0.95	4 (10%)	43,45,55	1.05	2 (4%)
47	SF4	G	801	7	0,12,12	-	-	-	-	-
45	3PE	K	101	-	47,47,50	0.90	3 (6%)	50,52,55	0.99	2 (4%)
47	SF4	I	202	9	0,12,12	-	-	-	-	-
45	3PE	H	503	-	50,50,50	0.86	3 (6%)	53,55,55	0.97	2 (3%)
45	3PE	A	201	-	41,41,50	0.95	4 (9%)	44,46,55	1.14	2 (4%)
45	3PE	M	601	-	45,45,50	0.91	3 (6%)	48,50,55	1.17	2 (4%)
46	PC1	M	603	-	45,45,53	1.05	4 (8%)	51,53,61	0.98	2 (3%)
46	PC1	d	202	-	45,45,53	1.06	4 (8%)	51,53,61	1.03	2 (3%)
45	3PE	N	901	-	50,50,50	0.87	4 (8%)	53,55,55	1.08	2 (3%)
45	3PE	Y	201	-	50,50,50	0.89	4 (8%)	53,55,55	1.04	2 (3%)
58	EHZ	T	101	20	31,36,37	1.55	5 (16%)	36,44,47	1.40	4 (11%)
53	CDL	L	702	-	78,78,99	1.01	7 (8%)	84,90,111	1.07	4 (4%)
53	CDL	N	903	-	85,85,99	0.95	8 (9%)	91,97,111	1.11	4 (4%)
56	NDP	P	501	-	51,52,52	2.28	5 (9%)	71,80,80	1.50	17 (23%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
45	3PE	d	201	-	40,40,50	0.99	4 (10%)	43,45,55	1.15	2 (4%)
45	3PE	L	701	-	48,48,50	0.90	3 (6%)	51,53,55	1.01	2 (3%)
47	SF4	B	201	2	0,12,12	-	-	-	-	-
58	EHZ	U	101	20	31,36,37	1.55	4 (12%)	36,44,47	1.41	3 (8%)
45	3PE	I	203	-	50,50,50	0.88	4 (8%)	53,55,55	1.05	2 (3%)
59	CHD	i	201	-	32,32,32	3.35	11 (34%)	51,51,51	3.18	24 (47%)
46	PC1	B	202	-	50,50,53	0.98	4 (8%)	56,58,61	1.00	2 (3%)
45	3PE	h	202	-	37,37,50	1.01	4 (10%)	40,42,55	1.01	2 (5%)
45	3PE	Z	201	-	42,42,50	0.96	3 (7%)	45,47,55	1.03	2 (4%)
53	CDL	d	203	-	64,64,99	1.07	8 (12%)	70,76,111	1.12	4 (5%)
45	3PE	m	201	-	44,44,50	0.92	4 (9%)	47,49,55	1.08	2 (4%)
47	SF4	G	802	7	0,12,12	-	-	-	-	-
53	CDL	h	201	-	71,71,99	1.04	8 (11%)	77,83,111	1.22	5 (6%)
45	3PE	H	502	-	37,37,50	1.00	4 (10%)	40,42,55	1.13	2 (5%)
45	3PE	Y	202	-	50,50,50	0.87	4 (8%)	53,55,55	1.04	2 (3%)
48	FES	G	803	7	0,4,4	-	-	-	-	-
60	MYR	o	201	40	13,14,15	0.98	0	12,13,15	0.56	0
45	3PE	J	202	-	46,46,50	0.91	4 (8%)	49,51,55	1.05	2 (4%)
45	3PE	L	703	-	44,44,50	0.92	3 (6%)	47,49,55	1.11	2 (4%)
46	PC1	J	201	-	47,47,53	0.46	0	53,55,61	0.47	0
46	PC1	A	203	-	49,49,53	1.01	4 (8%)	55,57,61	1.01	2 (3%)
51	GOL	H	501	-	5,5,5	1.09	0	5,5,5	1.04	0
45	3PE	b	101	-	32,32,50	1.06	4 (12%)	35,37,55	1.02	2 (5%)
47	SF4	I	201	9	0,12,12	-	-	-	-	-
48	FES	E	301	5	0,4,4	-	-	-	-	-
52	LMT	H	504	-	36,36,36	1.15	2 (5%)	47,47,47	0.97	2 (4%)
45	3PE	d	204	-	50,50,50	0.89	4 (8%)	53,55,55	1.04	2 (3%)
46	PC1	N	904	-	36,36,53	1.17	4 (11%)	42,44,61	1.06	2 (4%)
53	CDL	r	201	-	63,63,99	1.10	8 (12%)	69,75,111	1.18	4 (5%)
46	PC1	M	605	-	45,45,53	0.37	0	51,53,61	0.44	0
45	3PE	M	602	-	50,50,50	0.88	3 (6%)	53,55,55	1.12	2 (3%)
45	3PE	Y	203	-	38,38,50	0.98	4 (10%)	41,43,55	1.07	2 (4%)
45	3PE	j	101	-	43,43,50	0.94	4 (9%)	46,48,55	1.01	2 (4%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns.

'-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
45	3PE	N	902	-	-	25/52/52/54	-
47	SF4	F	501	6	-	-	0/6/5/5
45	3PE	A	202	-	-	17/50/50/54	-
53	CDL	X	201	-	-	47/103/103/110	-
54	GTP	O	401	55	-	4/22/38/38	0/3/3/3
49	FMN	F	502	-	-	2/18/18/18	0/3/3/3
45	3PE	O	403	-	-	10/24/24/54	-
45	3PE	M	604	-	-	26/54/54/54	-
45	3PE	h	203	-	-	23/54/54/54	-
45	3PE	Y	205	-	-	20/54/54/54	-
45	3PE	Y	204	-	-	19/42/42/54	-
45	3PE	m	202	-	-	23/44/44/54	-
47	SF4	G	801	7	-	-	0/6/5/5
45	3PE	K	101	-	-	27/51/51/54	-
47	SF4	I	202	9	-	-	0/6/5/5
45	3PE	H	503	-	-	17/54/54/54	-
45	3PE	A	201	-	-	19/45/45/54	-
45	3PE	M	601	-	-	21/49/49/54	-
46	PC1	M	603	-	-	17/49/49/57	-
46	PC1	d	202	-	-	18/49/49/57	-
45	3PE	N	901	-	-	25/54/54/54	-
45	3PE	Y	201	-	-	23/54/54/54	-
58	EHZ	T	101	20	-	13/42/44/45	-
53	CDL	L	702	-	-	38/89/89/110	-
53	CDL	N	903	-	-	47/96/96/110	-
56	NDP	P	501	-	-	6/34/77/77	0/5/5/5
45	3PE	d	201	-	-	18/44/44/54	-
45	3PE	L	701	-	-	27/52/52/54	-
47	SF4	B	201	2	-	-	0/6/5/5
58	EHZ	U	101	20	-	5/42/44/45	-
45	3PE	I	203	-	-	23/54/54/54	-
59	CHD	i	201	-	-	3/9/74/74	0/4/4/4
46	PC1	B	202	-	-	13/54/54/57	-
45	3PE	h	202	-	-	17/41/41/54	-
45	3PE	Z	201	-	-	19/46/46/54	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
53	CDL	d	203	-	-	40/75/75/110	-
45	3PE	m	201	-	-	19/48/48/54	-
47	SF4	G	802	7	-	-	0/6/5/5
53	CDL	h	201	-	-	32/82/82/110	-
45	3PE	H	502	-	-	22/41/41/54	-
45	3PE	Y	202	-	-	16/54/54/54	-
60	MYR	o	201	40	-	7/12/12/13	-
48	FES	G	803	7	-	-	0/1/1/1
45	3PE	J	202	-	-	21/50/50/54	-
45	3PE	L	703	-	-	18/48/48/54	-
46	PC1	J	201	-	-	12/51/51/57	-
46	PC1	A	203	-	-	17/53/53/57	-
51	GOL	H	501	-	-	0/4/4/4	-
45	3PE	b	101	-	-	10/36/36/54	-
47	SF4	I	201	9	-	-	0/6/5/5
52	LMT	H	504	-	-	3/21/61/61	0/2/2/2
53	CDL	r	201	-	-	29/74/74/110	-
45	3PE	d	204	-	-	16/54/54/54	-
46	PC1	N	904	-	-	15/40/40/57	-
48	FES	E	301	5	-	-	0/1/1/1
46	PC1	M	605	-	-	16/49/49/57	-
45	3PE	M	602	-	-	25/54/54/54	-
45	3PE	Y	203	-	-	20/42/42/54	-
45	3PE	j	101	-	-	19/47/47/54	-

All (218) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
56	P	501	NDP	P2B-O2B	13.27	1.82	1.59
59	i	201	CHD	C11-C12	9.12	1.68	1.53
54	O	401	GTP	O6-C6	8.60	1.39	1.23
59	i	201	CHD	C16-C15	6.93	1.72	1.54
54	O	401	GTP	C5-N7	6.64	1.52	1.39
59	i	201	CHD	C20-C17	-5.96	1.44	1.54
59	i	201	CHD	C8-C9	5.94	1.65	1.53
59	i	201	CHD	C6-C5	5.60	1.62	1.53
59	i	201	CHD	C13-C17	5.55	1.64	1.55
59	i	201	CHD	O12-C12	-5.52	1.34	1.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
58	T	101	EHZ	C12-N1	4.94	1.45	1.33
58	U	101	EHZ	C12-N1	4.85	1.44	1.33
58	T	101	EHZ	C15-N2	4.84	1.45	1.33
58	U	101	EHZ	C15-N2	4.82	1.44	1.33
54	O	401	GTP	C2-N1	4.74	1.49	1.37
54	O	401	GTP	PA-O3A	4.63	1.64	1.59
54	O	401	GTP	C2-N2	4.60	1.44	1.34
54	O	401	GTP	PB-O3B	4.54	1.64	1.59
54	O	401	GTP	C8-N9	-4.51	1.27	1.37
54	O	401	GTP	C2-N3	4.46	1.44	1.33
54	O	401	GTP	PB-O3A	4.43	1.64	1.59
59	i	201	CHD	C15-C14	4.25	1.63	1.54
54	O	401	GTP	C4-N9	-3.91	1.28	1.38
56	P	501	NDP	PN-O5D	3.81	1.74	1.59
56	P	501	NDP	PA-O3	3.80	1.63	1.59
59	i	201	CHD	C6-C7	3.56	1.59	1.52
52	H	504	LMT	O5B-C1B	3.45	1.50	1.41
56	P	501	NDP	O2B-C2B	-3.37	1.32	1.44
49	F	502	FMN	C4A-N5	3.32	1.37	1.30
45	L	701	3PE	O21-C2	-3.02	1.39	1.46
53	L	702	CDL	OA6-CA4	-2.99	1.39	1.46
53	r	201	CDL	OA6-CA4	-2.94	1.39	1.46
53	d	203	CDL	OA6-CA4	-2.91	1.39	1.46
46	d	202	PC1	O21-C2	-2.90	1.39	1.46
53	N	903	CDL	OA6-CA4	-2.90	1.39	1.46
45	j	101	3PE	O21-C2	-2.90	1.39	1.46
45	d	201	3PE	O21-C2	-2.89	1.39	1.46
45	M	601	3PE	O21-C2	-2.87	1.39	1.46
45	Z	201	3PE	O21-C2	-2.87	1.39	1.46
45	K	101	3PE	O21-C2	-2.86	1.39	1.46
45	L	703	3PE	O21-C2	-2.86	1.39	1.46
53	L	702	CDL	OB6-CB4	-2.85	1.39	1.46
45	H	503	3PE	O21-C2	-2.84	1.39	1.46
45	Y	202	3PE	O21-C2	-2.84	1.39	1.46
53	h	201	CDL	OA6-CA4	-2.84	1.39	1.46
46	A	203	PC1	O21-C2	-2.83	1.39	1.46
45	I	203	3PE	O21-C2	-2.81	1.40	1.46
52	H	504	LMT	O5'-C1'	2.81	1.49	1.41
45	h	203	3PE	O21-C2	-2.81	1.40	1.46
53	X	201	CDL	OB6-CB4	-2.80	1.40	1.46
45	d	204	3PE	O21-C2	-2.79	1.40	1.46
45	N	901	3PE	O21-C2	-2.79	1.40	1.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
46	M	603	PC1	O21-C2	-2.79	1.40	1.46
53	r	201	CDL	OB6-CB4	-2.79	1.40	1.46
45	h	202	3PE	O21-C2	-2.78	1.40	1.46
53	X	201	CDL	OA6-CA4	-2.77	1.40	1.46
53	d	203	CDL	OB6-CB4	-2.77	1.40	1.46
54	O	401	GTP	O4'-C1'	2.76	1.48	1.42
45	M	602	3PE	O21-C2	-2.74	1.40	1.46
53	N	903	CDL	OB6-CB4	-2.74	1.40	1.46
45	Y	205	3PE	O21-C2	-2.73	1.40	1.46
45	N	902	3PE	O21-C2	-2.72	1.40	1.46
45	A	202	3PE	O21-C2	-2.71	1.40	1.46
45	L	701	3PE	O31-C3	-2.67	1.39	1.45
46	B	202	PC1	O21-C2	-2.66	1.40	1.46
58	U	101	EHZ	O4-C15	-2.66	1.18	1.23
46	N	904	PC1	O21-C2	-2.65	1.40	1.46
45	Y	201	3PE	O21-C2	-2.65	1.40	1.46
45	J	202	3PE	O21-C2	-2.65	1.40	1.46
53	h	201	CDL	OB6-CB4	-2.65	1.40	1.46
45	b	101	3PE	O21-C2	-2.63	1.40	1.46
45	A	201	3PE	O21-C2	-2.61	1.40	1.46
45	O	403	3PE	O21-C2	-2.60	1.40	1.46
45	M	604	3PE	O21-C2	-2.59	1.40	1.46
45	H	502	3PE	O21-C2	-2.59	1.40	1.46
59	i	201	CHD	C13-C12	-2.59	1.50	1.54
45	m	202	3PE	O21-C2	-2.58	1.40	1.46
53	X	201	CDL	OA8-CA7	2.57	1.40	1.33
45	A	202	3PE	O31-C31	2.56	1.40	1.33
45	Y	203	3PE	O21-C2	-2.55	1.40	1.46
53	L	702	CDL	OB8-CB7	2.54	1.40	1.33
45	M	602	3PE	O31-C3	-2.53	1.39	1.45
58	T	101	EHZ	O4-C15	-2.53	1.18	1.23
53	L	702	CDL	OA8-CA7	2.53	1.40	1.33
53	h	201	CDL	OB8-CB6	-2.50	1.39	1.45
46	d	202	PC1	O31-C31	2.50	1.40	1.33
46	A	203	PC1	O31-C3	-2.50	1.39	1.45
45	N	902	3PE	O31-C31	2.48	1.40	1.33
53	r	201	CDL	OB8-CB7	2.48	1.40	1.33
45	d	204	3PE	O31-C31	2.48	1.40	1.33
45	Y	204	3PE	O21-C2	-2.48	1.40	1.46
54	O	401	GTP	PG-O3G	-2.47	1.45	1.54
53	X	201	CDL	OB8-CB7	2.47	1.40	1.33
58	U	101	EHZ	O3-C12	-2.46	1.18	1.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
45	d	201	3PE	O31-C31	2.46	1.40	1.33
53	N	903	CDL	OB8-CB7	2.46	1.40	1.33
45	Z	201	3PE	O31-C31	2.45	1.40	1.33
45	m	201	3PE	O21-C2	-2.45	1.40	1.46
54	O	401	GTP	C2'-C3'	-2.44	1.46	1.53
45	Y	201	3PE	O31-C31	2.44	1.40	1.33
53	r	201	CDL	OA8-CA6	-2.43	1.39	1.45
45	h	202	3PE	O31-C31	2.43	1.40	1.33
45	h	203	3PE	O31-C31	2.42	1.40	1.33
45	Y	203	3PE	O31-C31	2.42	1.40	1.33
45	A	201	3PE	O31-C31	2.41	1.40	1.33
45	m	201	3PE	O31-C31	2.40	1.40	1.33
46	M	603	PC1	O31-C3	-2.39	1.39	1.45
53	h	201	CDL	OA8-CA7	2.39	1.40	1.33
45	O	403	3PE	O31-C31	2.38	1.40	1.33
45	K	101	3PE	O31-C3	-2.38	1.39	1.45
45	H	503	3PE	O31-C3	-2.38	1.39	1.45
58	T	101	EHZ	O3-C12	-2.38	1.18	1.23
45	H	502	3PE	O31-C3	-2.38	1.39	1.45
46	B	202	PC1	O31-C3	-2.38	1.39	1.45
54	O	401	GTP	PG-O2G	-2.37	1.46	1.54
45	j	101	3PE	O31-C31	2.36	1.40	1.33
46	N	904	PC1	O31-C3	-2.34	1.39	1.45
45	L	703	3PE	O31-C3	-2.33	1.40	1.45
45	O	403	3PE	O21-C21	2.33	1.40	1.35
45	J	202	3PE	O31-C31	2.33	1.40	1.33
45	Y	205	3PE	O31-C31	2.32	1.40	1.33
53	N	903	CDL	OA8-CA7	2.32	1.40	1.33
46	N	904	PC1	O31-C31	2.32	1.40	1.33
45	m	202	3PE	O31-C31	2.31	1.40	1.33
45	M	601	3PE	O31-C3	-2.29	1.40	1.45
45	b	101	3PE	O21-C21	2.29	1.40	1.34
45	N	901	3PE	O31-C3	-2.29	1.40	1.45
45	d	201	3PE	O31-C3	-2.29	1.40	1.45
45	Y	202	3PE	O31-C31	2.28	1.40	1.33
45	O	403	3PE	O31-C3	-2.28	1.40	1.45
53	d	203	CDL	OA8-CA6	-2.28	1.40	1.45
46	M	603	PC1	O31-C31	2.27	1.40	1.33
45	b	101	3PE	O31-C3	-2.27	1.40	1.45
45	J	202	3PE	O31-C3	-2.26	1.40	1.45
53	r	201	CDL	OA8-CA7	2.26	1.39	1.33
45	M	604	3PE	O31-C31	2.25	1.39	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
45	H	502	3PE	O31-C31	2.25	1.39	1.33
53	d	203	CDL	OB8-CB6	-2.25	1.40	1.45
45	I	203	3PE	O31-C31	2.24	1.39	1.33
53	d	203	CDL	OB8-CB7	2.24	1.39	1.33
45	Y	204	3PE	O31-C3	-2.24	1.40	1.45
45	M	604	3PE	O31-C3	-2.24	1.40	1.45
45	Y	201	3PE	O21-C21	2.23	1.40	1.34
45	N	901	3PE	O31-C31	2.23	1.39	1.33
46	A	203	PC1	O31-C31	2.23	1.39	1.33
45	Y	204	3PE	O31-C31	2.22	1.39	1.33
53	L	702	CDL	OB6-CB5	2.22	1.40	1.34
45	m	202	3PE	O31-C3	-2.22	1.40	1.45
45	Y	202	3PE	O31-C3	-2.22	1.40	1.45
45	A	201	3PE	O21-C21	2.21	1.40	1.34
53	d	203	CDL	OA8-CA7	2.20	1.39	1.33
45	M	602	3PE	O31-C31	2.20	1.39	1.33
46	B	202	PC1	O21-C21	2.20	1.40	1.34
45	Y	203	3PE	O31-C3	-2.19	1.40	1.45
45	Y	204	3PE	O21-C21	2.19	1.40	1.34
53	h	201	CDL	OB6-CB5	2.18	1.40	1.34
45	Z	201	3PE	O31-C3	-2.18	1.40	1.45
45	j	101	3PE	O31-C3	-2.18	1.40	1.45
53	L	702	CDL	OA8-CA6	-2.18	1.40	1.45
45	I	203	3PE	O31-C3	-2.18	1.40	1.45
45	m	202	3PE	O21-C21	2.17	1.40	1.34
45	L	703	3PE	O31-C31	2.17	1.39	1.33
53	X	201	CDL	OB8-CB6	-2.17	1.40	1.45
45	H	503	3PE	O31-C31	2.17	1.39	1.33
53	N	903	CDL	OA8-CA6	-2.16	1.40	1.45
45	H	502	3PE	O21-C21	2.16	1.40	1.34
46	d	202	PC1	O31-C3	-2.16	1.40	1.45
53	N	903	CDL	OB8-CB6	-2.15	1.40	1.45
45	h	202	3PE	O21-C21	2.14	1.40	1.34
58	T	101	EHZ	C9-S1	2.14	1.81	1.76
45	m	201	3PE	O31-C3	-2.14	1.40	1.45
53	h	201	CDL	OB8-CB7	2.14	1.39	1.33
46	B	202	PC1	O31-C31	2.13	1.39	1.33
56	P	501	NDP	O5D-C5D	-2.13	1.36	1.44
45	M	601	3PE	O31-C31	2.13	1.39	1.33
59	i	201	CHD	O7-C7	-2.13	1.38	1.43
45	h	202	3PE	O31-C3	-2.12	1.40	1.45
45	h	203	3PE	O31-C3	-2.12	1.40	1.45

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
46	N	904	PC1	O21-C21	2.12	1.40	1.34
45	m	201	3PE	O21-C21	2.11	1.40	1.34
53	d	203	CDL	OB6-CB5	2.11	1.40	1.34
49	F	502	FMN	C10-N1	2.11	1.37	1.33
45	d	201	3PE	O21-C21	2.10	1.40	1.34
45	J	202	3PE	O21-C21	2.10	1.40	1.34
46	M	603	PC1	O21-C21	2.10	1.40	1.34
46	A	203	PC1	O21-C21	2.10	1.40	1.34
45	Y	205	3PE	O31-C3	-2.09	1.40	1.45
45	b	101	3PE	O31-C31	2.09	1.39	1.33
53	d	203	CDL	OA6-CA5	2.08	1.40	1.34
45	K	101	3PE	O31-C31	2.08	1.39	1.33
53	r	201	CDL	OA6-CA5	2.08	1.40	1.34
45	Y	201	3PE	O31-C3	-2.08	1.40	1.45
45	I	203	3PE	O21-C21	2.07	1.40	1.34
53	N	903	CDL	OB6-CB5	2.07	1.40	1.34
53	L	702	CDL	OA6-CA5	2.07	1.40	1.34
45	h	203	3PE	O21-C21	2.06	1.40	1.34
45	d	204	3PE	O31-C3	-2.06	1.40	1.45
45	d	204	3PE	O21-C21	2.06	1.40	1.34
53	h	201	CDL	OA6-CA5	2.06	1.40	1.34
45	A	202	3PE	O21-C21	2.05	1.40	1.34
53	N	903	CDL	OA6-CA5	2.05	1.40	1.34
53	r	201	CDL	OB8-CB6	-2.05	1.40	1.45
45	A	201	3PE	O31-C3	-2.05	1.40	1.45
53	X	201	CDL	OB6-CB5	2.04	1.40	1.34
45	Y	202	3PE	O21-C21	2.04	1.40	1.34
45	Y	203	3PE	O21-C21	2.04	1.40	1.34
54	O	401	GTP	PB-O2B	-2.04	1.45	1.55
45	A	202	3PE	O31-C3	-2.03	1.40	1.45
53	h	201	CDL	OA8-CA6	-2.02	1.40	1.45
45	N	902	3PE	O21-C21	2.02	1.40	1.34
45	L	701	3PE	O31-C31	2.02	1.39	1.33
45	Y	205	3PE	O21-C21	2.02	1.40	1.34
53	r	201	CDL	OB6-CB5	2.02	1.40	1.34
45	N	901	3PE	O21-C21	2.02	1.40	1.34
45	N	902	3PE	O31-C3	-2.02	1.40	1.45
53	X	201	CDL	OA6-CA5	2.01	1.40	1.34
45	j	101	3PE	O21-C21	2.01	1.40	1.34
46	d	202	PC1	O21-C21	2.01	1.39	1.34

All (165) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
59	i	201	CHD	C4-C5-C10	9.46	122.73	112.66
54	O	401	GTP	C8-N9-C4	7.51	120.09	106.03
59	i	201	CHD	C11-C12-C13	6.97	118.36	111.26
59	i	201	CHD	C11-C9-C10	6.63	120.44	113.70
59	i	201	CHD	C14-C13-C12	6.57	113.42	107.42
59	i	201	CHD	C10-C9-C8	6.03	118.56	111.84
59	i	201	CHD	C18-C13-C12	-5.93	103.11	109.06
58	T	101	EHZ	C8-C9-S1	5.59	120.62	113.56
58	U	101	EHZ	C8-C9-S1	5.44	120.42	113.56
59	i	201	CHD	C11-C9-C8	5.21	118.60	110.89
45	O	403	3PE	O21-C21-C22	5.07	120.14	111.09
53	h	201	CDL	OB6-CB5-C51	4.73	121.71	111.48
59	i	201	CHD	C6-C5-C10	4.66	117.61	112.66
53	X	201	CDL	OB6-CB5-C51	4.41	121.03	111.48
46	B	202	PC1	O21-C21-C22	4.19	120.54	111.48
45	A	201	3PE	O21-C21-C22	4.16	120.48	111.48
45	M	602	3PE	O21-C21-C22	4.12	120.39	111.48
59	i	201	CHD	C4-C3-C2	4.12	115.64	110.62
45	Y	201	3PE	O21-C21-C22	4.09	120.33	111.48
53	h	201	CDL	OA6-CA5-C11	4.09	120.32	111.48
46	N	904	PC1	O21-C21-C22	4.03	120.21	111.48
45	m	201	3PE	O21-C21-C22	4.01	120.16	111.48
53	r	201	CDL	OB6-CB5-C51	4.01	120.15	111.48
45	N	902	3PE	O21-C21-C22	4.00	120.14	111.48
53	d	203	CDL	OA6-CA5-C11	4.00	120.12	111.48
45	Y	203	3PE	O21-C21-C22	3.97	120.07	111.48
59	i	201	CHD	C17-C13-C14	3.96	104.08	100.11
45	d	201	3PE	O21-C21-C22	3.94	120.00	111.48
45	m	202	3PE	O21-C21-C22	3.91	119.95	111.48
45	A	202	3PE	O21-C21-C22	3.90	119.92	111.48
53	N	903	CDL	OB6-CB5-C51	3.89	119.91	111.48
45	d	204	3PE	O21-C21-C22	3.88	119.88	111.48
45	M	601	3PE	O21-C21-C22	3.88	119.87	111.48
45	N	901	3PE	O21-C21-C22	3.88	119.87	111.48
45	L	703	3PE	O21-C21-C22	3.87	119.86	111.48
46	d	202	PC1	O21-C21-C22	3.87	119.85	111.48
45	Y	204	3PE	O21-C21-C22	3.86	119.83	111.48
56	P	501	NDP	O2B-P2B-O1X	-3.86	95.58	109.33
45	M	604	3PE	O21-C21-C22	3.85	119.81	111.48
45	I	203	3PE	O21-C21-C22	3.85	119.80	111.48
46	A	203	PC1	O21-C21-C22	3.84	119.80	111.48
45	Z	201	3PE	O21-C21-C22	3.82	119.75	111.48
45	J	202	3PE	O21-C21-C22	3.80	119.71	111.48

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
53	N	903	CDL	OA6-CA5-C11	3.78	119.66	111.48
45	H	502	3PE	O21-C21-C22	3.77	119.64	111.48
53	r	201	CDL	OA6-CA5-C11	3.77	119.63	111.48
53	L	702	CDL	OB6-CB5-C51	3.73	119.55	111.48
53	L	702	CDL	OA6-CA5-C11	3.72	119.52	111.48
53	X	201	CDL	OA6-CA5-C11	3.71	119.52	111.48
45	h	203	3PE	O21-C21-C22	3.70	119.49	111.48
59	i	201	CHD	C17-C13-C12	3.62	120.92	117.67
45	Y	202	3PE	O21-C21-C22	3.61	119.30	111.48
45	L	701	3PE	O21-C21-C22	3.60	119.27	111.48
53	h	201	CDL	OA8-CA7-C31	3.53	122.59	111.83
56	P	501	NDP	O3-PA-O1A	-3.50	100.17	110.70
45	Y	205	3PE	O21-C21-C22	3.49	119.02	111.48
46	M	603	PC1	O21-C21-C22	3.42	118.88	111.48
59	i	201	CHD	C6-C5-C4	3.37	115.07	111.23
56	P	501	NDP	P2B-O2B-C2B	-3.32	114.57	123.43
45	b	101	3PE	O21-C21-C22	3.31	118.63	111.48
49	F	502	FMN	C4-N3-C2	-3.29	119.80	125.64
59	i	201	CHD	C23-C22-C20	-3.25	108.39	114.46
59	i	201	CHD	C16-C17-C20	-3.24	107.28	112.18
45	M	601	3PE	O31-C31-C32	3.24	121.70	111.83
45	d	201	3PE	O31-C31-C32	3.18	121.55	111.83
54	O	401	GTP	C2-N1-C6	-3.16	119.38	125.11
45	K	101	3PE	O21-C21-C22	3.08	118.15	111.48
45	H	503	3PE	O21-C21-C22	3.07	118.12	111.48
49	F	502	FMN	C4A-C10-N10	3.06	120.86	116.48
59	i	201	CHD	C15-C14-C8	3.06	122.55	118.36
45	j	101	3PE	O21-C21-C22	3.04	118.06	111.48
45	N	902	3PE	O31-C31-C32	3.02	121.04	111.83
53	N	903	CDL	OB8-CB7-C71	3.01	121.02	111.83
53	L	702	CDL	OA8-CA7-C31	3.01	121.00	111.83
53	r	201	CDL	OA8-CA7-C31	2.99	120.97	111.83
45	M	602	3PE	O31-C31-C32	2.96	120.86	111.83
45	h	202	3PE	O21-C21-C22	2.94	117.83	111.48
46	d	202	PC1	O31-C31-C32	2.93	120.78	111.83
46	M	603	PC1	O31-C31-C32	2.92	120.74	111.83
45	I	203	3PE	O31-C31-C32	2.92	120.73	111.83
59	i	201	CHD	C5-C6-C7	-2.90	110.95	114.40
45	A	201	3PE	O31-C31-C32	2.89	120.66	111.83
53	N	903	CDL	OA8-CA7-C31	2.89	120.64	111.83
54	O	401	GTP	O2G-PG-O3B	2.87	114.26	104.64
45	Y	205	3PE	O31-C31-C32	2.83	120.47	111.83

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
59	i	201	CHD	C18-C13-C14	-2.83	106.77	111.20
45	L	703	3PE	O31-C31-C32	2.82	120.42	111.83
45	h	202	3PE	O31-C31-C32	2.79	120.35	111.83
45	H	502	3PE	O31-C31-C32	2.79	120.34	111.83
45	d	204	3PE	O31-C31-C32	2.78	120.30	111.83
45	A	202	3PE	O31-C31-C32	2.77	120.30	111.83
56	P	501	NDP	PA-O5B-C5B	-2.77	105.47	121.35
53	X	201	CDL	OB8-CB7-C71	2.76	120.25	111.83
45	j	101	3PE	O31-C31-C32	2.74	120.19	111.83
46	B	202	PC1	O31-C31-C32	2.73	120.17	111.83
45	b	101	3PE	O31-C31-C32	2.73	120.16	111.83
49	F	502	FMN	C4A-C4-N3	2.70	120.12	113.25
56	P	501	NDP	PN-O5D-C5D	-2.68	105.98	121.35
53	X	201	CDL	OA8-CA7-C31	2.66	119.94	111.83
45	h	203	3PE	O31-C31-C32	2.66	119.94	111.83
58	U	101	EHZ	O2-C9-C8	-2.65	119.57	123.74
59	i	201	CHD	C1-C10-C5	2.64	111.54	107.75
45	J	202	3PE	O31-C31-C32	2.63	119.87	111.83
54	O	401	GTP	O2A-PA-O1A	-2.63	100.19	112.44
45	H	503	3PE	O31-C31-C32	2.63	119.85	111.83
45	m	201	3PE	O31-C31-C32	2.62	119.83	111.83
56	P	501	NDP	O2N-PN-O3	2.62	114.36	107.27
54	O	401	GTP	C1'-N9-C8	-2.59	119.38	126.73
45	O	403	3PE	O31-C31-C32	2.59	119.72	111.83
58	T	101	EHZ	O2-C9-S1	-2.59	119.39	122.68
53	h	201	CDL	OB8-CB7-C71	2.58	119.71	111.83
56	P	501	NDP	N3A-C4A-N9A	2.56	131.51	127.17
53	d	203	CDL	OB8-CB7-C71	2.55	119.61	111.83
45	Y	201	3PE	O31-C31-C32	2.54	119.58	111.83
46	A	203	PC1	O31-C31-C32	2.54	119.58	111.83
54	O	401	GTP	O3G-PG-O3B	2.54	113.15	104.64
53	d	203	CDL	OA8-CA7-C31	2.53	119.54	111.83
53	L	702	CDL	OB8-CB7-C71	2.51	119.49	111.83
53	r	201	CDL	OB8-CB7-C71	2.51	119.48	111.83
53	d	203	CDL	OB6-CB5-C51	2.51	120.14	110.93
45	Y	204	3PE	O31-C31-C32	2.50	119.45	111.83
46	N	904	PC1	O31-C31-C32	2.50	119.45	111.83
56	P	501	NDP	O3X-P2B-O2X	2.49	117.16	107.80
45	N	901	3PE	O31-C31-C32	2.49	119.44	111.83
45	K	101	3PE	O31-C31-C32	2.49	119.43	111.83
59	i	201	CHD	C5-C4-C3	2.48	116.45	112.71
56	P	501	NDP	O4B-C4B-C3B	2.48	110.07	105.15

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
45	Y	203	3PE	O31-C31-C32	2.45	119.32	111.83
45	M	604	3PE	O31-C31-C32	2.44	119.28	111.83
54	O	401	GTP	O2B-PB-O1B	-2.43	101.12	112.44
45	m	202	3PE	O31-C31-C32	2.43	119.25	111.83
45	Y	202	3PE	O31-C31-C32	2.43	119.25	111.83
54	O	401	GTP	C5-C6-N1	2.43	119.43	113.25
56	P	501	NDP	C2A-N1A-C6A	-2.42	114.75	118.73
54	O	401	GTP	C3'-C2'-C1'	2.42	106.04	101.46
45	L	701	3PE	O31-C31-C32	2.42	119.21	111.83
49	F	502	FMN	C10-C4A-N5	-2.40	119.90	124.81
58	T	101	EHZ	O2-C9-C8	-2.38	119.99	123.74
49	F	502	FMN	O4-C4-C4A	-2.36	120.30	126.53
45	Z	201	3PE	O31-C31-C32	2.34	118.98	111.83
56	P	501	NDP	C5B-C4B-C3B	-2.34	106.78	115.21
54	O	401	GTP	C2'-C3'-C4'	2.33	107.11	102.61
59	i	201	CHD	O12-C12-C11	-2.31	104.42	109.12
45	O	403	3PE	C2-O21-C21	-2.27	113.83	117.85
56	P	501	NDP	O5D-PN-O1N	-2.27	99.94	108.94
56	P	501	NDP	O7N-C7N-N7N	-2.26	117.83	122.89
56	P	501	NDP	C2B-C1B-N9A	-2.25	110.05	113.75
56	P	501	NDP	O2N-PN-O1N	2.24	122.88	112.44
56	P	501	NDP	C5A-C4A-N3A	-2.23	123.64	126.72
59	i	201	CHD	C18-C13-C17	-2.22	107.73	111.20
58	T	101	EHZ	C10-S1-C9	2.22	108.39	101.84
54	O	401	GTP	O6-C6-C5	-2.20	120.72	126.53
54	O	401	GTP	C5-C4-N9	-2.19	101.73	105.66
52	H	504	LMT	C1B-O1B-C4'	-2.19	112.79	117.98
59	i	201	CHD	C21-C20-C22	-2.19	106.95	110.34
54	O	401	GTP	N9-C8-N7	-2.18	109.36	113.40
59	i	201	CHD	C15-C14-C13	2.13	105.60	103.54
58	U	101	EHZ	O2-C9-S1	-2.11	120.00	122.68
53	h	201	CDL	CB6-CB4-CB3	-2.04	107.03	111.78
56	P	501	NDP	O3X-P2B-O2B	-2.03	97.92	105.85
52	H	504	LMT	O5B-C5B-C4B	2.03	113.36	109.70
54	O	401	GTP	C1'-N9-C4	-2.02	120.51	126.49
59	i	201	CHD	C22-C20-C17	-2.01	106.17	110.33
49	F	502	FMN	C4A-C10-N1	-2.01	119.67	124.59
49	F	502	FMN	C5A-C9A-N10	2.01	119.78	117.97

There are no chirality outliers.

All (969) torsion outliers are listed below:



Mol	Chain	Res	Type	Atoms
45	A	201	3PE	C1-O11-P-O12
45	A	201	3PE	C1-O11-P-O13
45	A	201	3PE	C11-O13-P-O11
45	A	201	3PE	C11-O13-P-O12
45	A	201	3PE	C11-O13-P-O14
45	A	201	3PE	O13-C11-C12-N
45	A	201	3PE	C22-C21-O21-C2
45	A	202	3PE	C1-O11-P-O13
45	A	202	3PE	O21-C2-C3-O31
45	H	502	3PE	C1-O11-P-O12
45	H	502	3PE	C1-O11-P-O13
45	H	502	3PE	C11-O13-P-O14
45	H	502	3PE	O13-C11-C12-N
45	H	503	3PE	C11-O13-P-O14
45	I	203	3PE	C11-O13-P-O11
45	I	203	3PE	C11-O13-P-O14
45	I	203	3PE	O13-C11-C12-N
45	J	202	3PE	C11-O13-P-O11
45	J	202	3PE	O13-C11-C12-N
45	K	101	3PE	C1-O11-P-O12
45	K	101	3PE	O13-C11-C12-N
45	L	701	3PE	C1-O11-P-O14
45	L	701	3PE	C11-O13-P-O11
45	L	701	3PE	C11-O13-P-O12
45	L	701	3PE	O13-C11-C12-N
45	L	703	3PE	C1-O11-P-O12
45	L	703	3PE	C1-O11-P-O14
45	L	703	3PE	C11-O13-P-O11
45	L	703	3PE	C11-O13-P-O12
45	L	703	3PE	C11-O13-P-O14
45	M	601	3PE	C1-O11-P-O12
45	M	601	3PE	C1-O11-P-O13
45	M	601	3PE	O13-C11-C12-N
45	M	602	3PE	C1-O11-P-O13
45	M	602	3PE	C1-O11-P-O14
45	M	602	3PE	O13-C11-C12-N
45	M	604	3PE	C1-O11-P-O14
45	M	604	3PE	C11-O13-P-O11
45	M	604	3PE	O13-C11-C12-N
45	M	604	3PE	C22-C21-O21-C2
45	N	901	3PE	O13-C11-C12-N
45	N	901	3PE	O11-C1-C2-O21
45	N	902	3PE	C1-O11-P-O13

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Mol	Chain	Res	Type	Atoms
45	N	902	3PE	O13-C11-C12-N
45	O	403	3PE	C1-O11-P-O13
45	O	403	3PE	C1-O11-P-O14
45	Y	201	3PE	C1-O11-P-O12
45	Y	201	3PE	C1-O11-P-O13
45	Y	201	3PE	C1-O11-P-O14
45	Y	201	3PE	O13-C11-C12-N
45	Y	201	3PE	C22-C21-O21-C2
45	Y	203	3PE	O13-C11-C12-N
45	Y	204	3PE	O13-C11-C12-N
45	Y	204	3PE	O22-C21-O21-C2
45	Z	201	3PE	C1-O11-P-O12
45	Z	201	3PE	C1-O11-P-O13
45	Z	201	3PE	C1-O11-P-O14
45	b	101	3PE	C1-O11-P-O12
45	b	101	3PE	C1-O11-P-O13
45	b	101	3PE	C1-O11-P-O14
45	d	201	3PE	C1-O11-P-O12
45	d	201	3PE	C1-O11-P-O13
45	d	201	3PE	C1-O11-P-O14
45	d	201	3PE	O13-C11-C12-N
45	d	201	3PE	C22-C21-O21-C2
45	d	204	3PE	O13-C11-C12-N
45	d	204	3PE	C22-C21-O21-C2
45	h	202	3PE	O11-C1-C2-O21
45	h	202	3PE	O21-C2-C3-O31
45	h	203	3PE	O13-C11-C12-N
45	j	101	3PE	C1-O11-P-O12
45	j	101	3PE	C1-O11-P-O13
45	j	101	3PE	C1-O11-P-O14
45	j	101	3PE	C11-O13-P-O14
45	j	101	3PE	O13-C11-C12-N
45	m	201	3PE	C1-O11-P-O12
45	m	201	3PE	C1-O11-P-O13
45	m	201	3PE	C1-O11-P-O14
45	m	201	3PE	C22-C21-O21-C2
45	m	202	3PE	C1-O11-P-O13
45	m	202	3PE	C1-O11-P-O14
45	m	202	3PE	C11-O13-P-O11
45	m	202	3PE	C11-O13-P-O12
45	m	202	3PE	C11-O13-P-O14
45	m	202	3PE	O13-C11-C12-N

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Mol	Chain	Res	Type	Atoms
46	A	203	PC1	O21-C2-C3-O31
46	B	202	PC1	C22-C21-O21-C2
46	M	605	PC1	C1-O11-P-O13
46	M	605	PC1	C22-C21-O21-C2
46	N	904	PC1	C11-O13-P-O14
46	N	904	PC1	C11-O13-P-O11
46	N	904	PC1	C1-O11-P-O12
46	N	904	PC1	C1-O11-P-O13
46	N	904	PC1	C22-C21-O21-C2
46	d	202	PC1	C11-O13-P-O12
46	d	202	PC1	C11-O13-P-O14
46	d	202	PC1	C11-O13-P-O11
53	L	702	CDL	CA2-OA2-PA1-OA3
53	L	702	CDL	CA2-OA2-PA1-OA4
53	L	702	CDL	CA2-OA2-PA1-OA5
53	L	702	CDL	OA5-CA3-CA4-OA6
53	N	903	CDL	CA2-C1-CB2-OB2
53	N	903	CDL	CA3-OA5-PA1-OA2
53	N	903	CDL	CB2-OB2-PB2-OB3
53	N	903	CDL	CB2-OB2-PB2-OB4
53	N	903	CDL	CB2-OB2-PB2-OB5
53	N	903	CDL	CB3-OB5-PB2-OB4
53	X	201	CDL	CB2-OB2-PB2-OB3
53	X	201	CDL	OB7-CB5-OB6-CB4
53	d	203	CDL	O1-C1-CB2-OB2
53	d	203	CDL	CA3-OA5-PA1-OA2
53	d	203	CDL	C11-CA5-OA6-CA4
53	h	201	CDL	CA3-OA5-PA1-OA2
53	h	201	CDL	CA3-OA5-PA1-OA3
53	h	201	CDL	CB3-OB5-PB2-OB3
53	h	201	CDL	C51-CB5-OB6-CB4
53	r	201	CDL	CA3-OA5-PA1-OA3
53	r	201	CDL	C11-CA5-OA6-CA4
53	r	201	CDL	CB2-OB2-PB2-OB5
58	T	101	EHZ	C5-C6-C7-C8
58	T	101	EHZ	C11-C10-S1-C9
58	T	101	EHZ	N2-C15-C16-O5
45	O	403	3PE	C22-C21-O21-C2
45	d	201	3PE	O32-C31-O31-C3
46	M	605	PC1	O32-C31-O31-C3
53	N	903	CDL	OB9-CB7-OB8-CB6
45	d	201	3PE	C32-C31-O31-C3

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Mol	Chain	Res	Type	Atoms
53	N	903	CDL	C71-CB7-OB8-CB6
45	N	902	3PE	O32-C31-O31-C3
45	O	403	3PE	O32-C31-O31-C3
46	d	202	PC1	O32-C31-O31-C3
53	L	702	CDL	OA9-CA7-OA8-CA6
45	j	101	3PE	O32-C31-O31-C3
45	A	201	3PE	O22-C21-O21-C2
45	M	604	3PE	O22-C21-O21-C2
45	Y	201	3PE	O22-C21-O21-C2
45	d	201	3PE	O22-C21-O21-C2
45	d	204	3PE	O22-C21-O21-C2
45	m	201	3PE	O22-C21-O21-C2
46	B	202	PC1	O22-C21-O21-C2
46	M	605	PC1	O22-C21-O21-C2
53	d	203	CDL	OA7-CA5-OA6-CA4
53	h	201	CDL	OB7-CB5-OB6-CB4
53	r	201	CDL	OA7-CA5-OA6-CA4
45	N	902	3PE	C32-C31-O31-C3
45	O	403	3PE	C32-C31-O31-C3
46	M	605	PC1	C32-C31-O31-C3
46	d	202	PC1	C32-C31-O31-C3
53	L	702	CDL	C31-CA7-OA8-CA6
45	Y	204	3PE	C22-C21-O21-C2
53	X	201	CDL	C51-CB5-OB6-CB4
45	H	502	3PE	C32-C31-O31-C3
45	M	602	3PE	C32-C31-O31-C3
45	j	101	3PE	C32-C31-O31-C3
46	A	203	PC1	C32-C31-O31-C3
46	N	904	PC1	C32-C31-O31-C3
53	N	903	CDL	C31-CA7-OA8-CA6
53	h	201	CDL	C71-CB7-OB8-CB6
45	O	403	3PE	O22-C21-O21-C2
45	H	502	3PE	O32-C31-O31-C3
45	h	203	3PE	O32-C31-O31-C3
53	N	903	CDL	OA9-CA7-OA8-CA6
53	X	201	CDL	OB9-CB7-OB8-CB6
46	N	904	PC1	O22-C21-O21-C2
53	N	903	CDL	OB7-CB5-OB6-CB4
53	N	903	CDL	O1-C1-CB2-OB2
45	Y	204	3PE	C32-C31-O31-C3
45	h	203	3PE	C32-C31-O31-C3
53	X	201	CDL	C71-CB7-OB8-CB6

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Mol	Chain	Res	Type	Atoms
45	J	202	3PE	C22-C21-O21-C2
45	L	701	3PE	C22-C21-O21-C2
45	m	202	3PE	C22-C21-O21-C2
53	N	903	CDL	C51-CB5-OB6-CB4
53	h	201	CDL	OB9-CB7-OB8-CB6
45	Y	204	3PE	O32-C31-O31-C3
46	A	203	PC1	O32-C31-O31-C3
46	N	904	PC1	O32-C31-O31-C3
45	J	202	3PE	O22-C21-O21-C2
45	m	202	3PE	O22-C21-O21-C2
59	i	201	CHD	C21-C20-C22-C23
45	M	602	3PE	O32-C31-O31-C3
59	i	201	CHD	C17-C20-C22-C23
45	L	701	3PE	O22-C21-O21-C2
53	d	203	CDL	CA2-C1-CB2-OB2
45	L	701	3PE	C32-C31-O31-C3
45	L	703	3PE	C32-C31-O31-C3
45	b	101	3PE	C32-C31-O31-C3
45	d	204	3PE	C32-C31-O31-C3
46	M	603	PC1	C32-C31-O31-C3
53	r	201	CDL	C31-CA7-OA8-CA6
60	o	201	MYR	C2-C3-C4-C5
53	r	201	CDL	OA9-CA7-OA8-CA6
45	L	701	3PE	O32-C31-O31-C3
45	L	703	3PE	O32-C31-O31-C3
45	b	101	3PE	O32-C31-O31-C3
45	d	204	3PE	O32-C31-O31-C3
53	r	201	CDL	OB5-CB3-CB4-OB6
53	h	201	CDL	C11-CA5-OA6-CA4
45	K	101	3PE	O21-C2-C3-O31
45	Z	201	3PE	O21-C2-C3-O31
45	Y	201	3PE	C31-C32-C33-C34
56	P	501	NDP	O4D-C4D-C5D-O5D
45	A	201	3PE	C32-C31-O31-C3
53	X	201	CDL	CA5-C11-C12-C13
45	K	101	3PE	C31-C32-C33-C34
46	M	603	PC1	C2-C1-O11-P
45	A	202	3PE	C31-C32-C33-C34
45	I	203	3PE	C31-C32-C33-C34
45	K	101	3PE	C21-C22-C23-C24
45	L	701	3PE	C31-C32-C33-C34
45	N	901	3PE	C31-C32-C33-C34

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Mol	Chain	Res	Type	Atoms
53	X	201	CDL	CB7-C71-C72-C73
46	M	603	PC1	O32-C31-O31-C3
45	H	502	3PE	C31-C32-C33-C34
45	m	202	3PE	C21-C22-C23-C24
46	M	603	PC1	C31-C32-C33-C34
53	h	201	CDL	OA7-CA5-OA6-CA4
45	H	503	3PE	C31-C32-C33-C34
45	Z	201	3PE	C21-C22-C23-C24
53	h	201	CDL	CB5-C51-C52-C53
45	M	604	3PE	C32-C31-O31-C3
45	M	601	3PE	C22-C21-O21-C2
45	Y	203	3PE	C22-C21-O21-C2
45	Y	203	3PE	O22-C21-O21-C2
45	H	503	3PE	C32-C31-O31-C3
45	J	202	3PE	C32-C31-O31-C3
53	h	201	CDL	C31-CA7-OA8-CA6
46	d	202	PC1	C21-C22-C23-C24
45	M	601	3PE	O22-C21-O21-C2
45	L	701	3PE	C2C-C2D-C2E-C2F
53	h	201	CDL	OA9-CA7-OA8-CA6
45	N	902	3PE	C21-C22-C23-C24
45	m	201	3PE	C1-C2-O21-C21
45	A	201	3PE	O32-C31-O31-C3
45	N	902	3PE	C22-C21-O21-C2
45	Y	203	3PE	C31-C32-C33-C34
45	H	503	3PE	O32-C31-O31-C3
45	J	202	3PE	O32-C31-O31-C3
45	M	604	3PE	O32-C31-O31-C3
45	N	902	3PE	C3B-C3C-C3D-C3E
45	L	703	3PE	C38-C39-C3A-C3B
45	M	602	3PE	C22-C23-C24-C25
45	N	902	3PE	C27-C28-C29-C2A
45	Y	202	3PE	C2A-C2B-C2C-C2D
45	Y	205	3PE	C3D-C3E-C3F-C3G
45	Z	201	3PE	C3C-C3D-C3E-C3F
46	J	201	PC1	C34-C35-C36-C37
46	M	603	PC1	C26-C27-C28-C29
53	X	201	CDL	C22-C23-C24-C25
45	Y	202	3PE	C32-C31-O31-C3
45	H	502	3PE	C24-C25-C26-C27
53	L	702	CDL	C39-C40-C41-C42
53	L	702	CDL	C57-C58-C59-C60

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Mol	Chain	Res	Type	Atoms
53	N	903	CDL	C16-C17-C18-C19
53	N	903	CDL	C73-C74-C75-C76
53	X	201	CDL	C59-C60-C61-C62
53	h	201	CDL	C56-C57-C58-C59
45	M	602	3PE	C35-C36-C37-C38
45	h	202	3PE	C33-C34-C35-C36
45	h	203	3PE	C23-C24-C25-C26
53	N	903	CDL	C60-C61-C62-C63
45	H	503	3PE	C3A-C3B-C3C-C3D
45	Y	204	3PE	C28-C29-C2A-C2B
46	B	202	PC1	C32-C33-C34-C35
45	Z	201	3PE	C22-C21-O21-C2
45	L	703	3PE	C25-C26-C27-C28
45	L	703	3PE	C22-C23-C24-C25
45	m	201	3PE	C23-C24-C25-C26
46	A	203	PC1	C3E-C3F-C3G-C3H
53	X	201	CDL	C56-C57-C58-C59
45	K	101	3PE	C39-C3A-C3B-C3C
45	M	602	3PE	C33-C34-C35-C36
53	d	203	CDL	C33-C34-C35-C36
45	I	203	3PE	C35-C36-C37-C38
45	L	703	3PE	C3A-C3B-C3C-C3D
53	N	903	CDL	C38-C39-C40-C41
45	Y	205	3PE	C2B-C2C-C2D-C2E
45	d	201	3PE	C21-C22-C23-C24
53	h	201	CDL	CA5-C11-C12-C13
45	N	901	3PE	C3E-C3F-C3G-C3H
45	Y	201	3PE	C3B-C3C-C3D-C3E
45	Y	202	3PE	C32-C33-C34-C35
45	h	203	3PE	C37-C38-C39-C3A
46	M	603	PC1	C2C-C2D-C2E-C2F
53	N	903	CDL	C33-C34-C35-C36
52	H	504	LMT	C4'-C5'-C6'-O6'
45	N	902	3PE	O22-C21-O21-C2
45	H	503	3PE	C32-C33-C34-C35
45	M	602	3PE	C2A-C2B-C2C-C2D
53	r	201	CDL	CB3-CB4-CB6-OB8
45	N	901	3PE	C33-C34-C35-C36
45	h	202	3PE	C2A-C2B-C2C-C2D
53	X	201	CDL	C15-C16-C17-C18
53	d	203	CDL	CA5-C11-C12-C13
45	I	203	3PE	C3E-C3F-C3G-C3H

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Mol	Chain	Res	Type	Atoms
45	M	602	3PE	C3A-C3B-C3C-C3D
45	d	204	3PE	C39-C3A-C3B-C3C
45	m	201	3PE	C2E-C2F-C2G-C2H
46	A	203	PC1	C22-C23-C24-C25
46	A	203	PC1	C28-C29-C2A-C2B
53	L	702	CDL	C38-C39-C40-C41
53	N	903	CDL	C14-C15-C16-C17
45	K	101	3PE	C3D-C3E-C3F-C3G
45	h	203	3PE	C27-C28-C29-C2A
45	H	503	3PE	C3E-C3F-C3G-C3H
45	M	604	3PE	C33-C34-C35-C36
45	Y	203	3PE	C39-C3A-C3B-C3C
45	Y	204	3PE	C2B-C2C-C2D-C2E
45	Y	205	3PE	C3B-C3C-C3D-C3E
45	h	203	3PE	C2D-C2E-C2F-C2G
45	m	201	3PE	C26-C27-C28-C29
46	M	603	PC1	C23-C24-C25-C26
53	r	201	CDL	C31-C32-C33-C34
45	Y	205	3PE	C26-C27-C28-C29
53	N	903	CDL	C71-C72-C73-C74
45	L	703	3PE	C22-C21-O21-C2
53	X	201	CDL	C11-CA5-OA6-CA4
45	h	202	3PE	C32-C31-O31-C3
45	M	602	3PE	C2C-C2D-C2E-C2F
45	j	101	3PE	C24-C25-C26-C27
45	m	201	3PE	C32-C33-C34-C35
45	m	202	3PE	C2C-C2D-C2E-C2F
53	L	702	CDL	C59-C60-C61-C62
53	X	201	CDL	C54-C55-C56-C57
45	M	601	3PE	C31-C32-C33-C34
45	Y	201	3PE	C36-C37-C38-C39
46	B	202	PC1	C37-C38-C39-C3A
45	Z	201	3PE	O22-C21-O21-C2
45	M	602	3PE	C39-C3A-C3B-C3C
45	N	902	3PE	C22-C23-C24-C25
53	h	201	CDL	C57-C58-C59-C60
45	I	203	3PE	C38-C39-C3A-C3B
45	I	203	3PE	C3B-C3C-C3D-C3E
45	Y	204	3PE	C23-C24-C25-C26
46	J	201	PC1	C38-C39-C3A-C3B
45	Y	202	3PE	O32-C31-O31-C3
45	Y	205	3PE	C34-C35-C36-C37

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Mol	Chain	Res	Type	Atoms
53	L	702	CDL	C15-C16-C17-C18
58	U	101	EHZ	C1-C2-C3-C4
45	I	203	3PE	C22-C21-O21-C2
45	K	101	3PE	C22-C21-O21-C2
45	h	202	3PE	C22-C21-O21-C2
53	L	702	CDL	C11-CA5-OA6-CA4
53	N	903	CDL	C11-CA5-OA6-CA4
58	T	101	EHZ	C12-C13-C14-N2
45	N	902	3PE	C35-C36-C37-C38
45	Y	203	3PE	C38-C39-C3A-C3B
45	d	204	3PE	C23-C24-C25-C26
46	B	202	PC1	C38-C39-C3A-C3B
45	h	202	3PE	O22-C21-O21-C2
53	N	903	CDL	OA7-CA5-OA6-CA4
45	L	701	3PE	C2E-C2F-C2G-C2H
45	M	601	3PE	C32-C33-C34-C35
45	Y	202	3PE	C3C-C3D-C3E-C3F
45	h	203	3PE	C2A-C2B-C2C-C2D
58	U	101	EHZ	C2-C3-C4-C5
60	o	201	MYR	C6-C7-C8-C9
53	r	201	CDL	CB5-C51-C52-C53
45	Y	204	3PE	C24-C25-C26-C27
45	Y	203	3PE	C22-C23-C24-C25
58	T	101	EHZ	C5-C6-C7-O1
45	H	503	3PE	C33-C34-C35-C36
53	h	201	CDL	C54-C55-C56-C57
53	X	201	CDL	OA7-CA5-OA6-CA4
45	M	602	3PE	O11-C1-C2-O21
45	M	604	3PE	C37-C38-C39-C3A
45	h	202	3PE	C32-C33-C34-C35
45	m	202	3PE	C2E-C2F-C2G-C2H
45	Y	205	3PE	C31-C32-C33-C34
45	K	101	3PE	C38-C39-C3A-C3B
45	N	902	3PE	C32-C33-C34-C35
53	X	201	CDL	C33-C34-C35-C36
46	M	603	PC1	O21-C2-C3-O31
53	r	201	CDL	OB6-CB4-CB6-OB8
45	M	602	3PE	C2E-C2F-C2G-C2H
53	d	203	CDL	C42-C43-C44-C45
45	J	202	3PE	C36-C37-C38-C39
45	Y	202	3PE	C26-C27-C28-C29
45	d	204	3PE	C37-C38-C39-C3A

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Mol	Chain	Res	Type	Atoms
46	d	202	PC1	C32-C33-C34-C35
45	J	202	3PE	C21-C22-C23-C24
45	K	101	3PE	O22-C21-O21-C2
58	T	101	EHZ	C21-C22-C23-C24
45	M	604	3PE	C31-C32-C33-C34
45	L	701	3PE	C36-C37-C38-C39
45	h	202	3PE	O32-C31-O31-C3
45	m	201	3PE	C27-C28-C29-C2A
45	I	203	3PE	C28-C29-C2A-C2B
58	T	101	EHZ	O4-C15-C16-O5
53	N	903	CDL	C77-C78-C79-C80
45	L	703	3PE	O11-C1-C2-C3
45	M	602	3PE	O11-C1-C2-C3
45	b	101	3PE	O11-C1-C2-C3
53	L	702	CDL	OA5-CA3-CA4-CA6
45	L	703	3PE	O22-C21-O21-C2
45	h	203	3PE	C2C-C2D-C2E-C2F
45	A	202	3PE	C39-C3A-C3B-C3C
45	J	202	3PE	C27-C28-C29-C2A
53	L	702	CDL	C71-CB7-OB8-CB6
46	J	201	PC1	C32-C33-C34-C35
46	N	904	PC1	C32-C33-C34-C35
45	N	901	3PE	C23-C24-C25-C26
45	Y	203	3PE	C34-C35-C36-C37
45	Y	201	3PE	C32-C31-O31-C3
45	A	201	3PE	C1-C2-C3-O31
45	A	202	3PE	C1-C2-C3-O31
45	I	203	3PE	C1-C2-C3-O31
45	J	202	3PE	C1-C2-C3-O31
45	K	101	3PE	C1-C2-C3-O31
45	M	604	3PE	C1-C2-C3-O31
45	Z	201	3PE	C1-C2-C3-O31
45	d	204	3PE	C1-C2-C3-O31
45	h	202	3PE	C1-C2-C3-O31
45	h	203	3PE	C1-C2-C3-O31
46	A	203	PC1	C1-C2-C3-O31
53	N	903	CDL	CA3-CA4-CA6-OA8
45	K	101	3PE	C27-C28-C29-C2A
53	X	201	CDL	C75-C76-C77-C78
53	X	201	CDL	C12-C13-C14-C15
46	M	605	PC1	C22-C23-C24-C25
45	M	604	3PE	C35-C36-C37-C38

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Mol	Chain	Res	Type	Atoms
45	Y	201	3PE	C22-C23-C24-C25
45	N	902	3PE	C37-C38-C39-C3A
46	M	603	PC1	C2E-C2F-C2G-C2H
60	o	201	MYR	C7-C8-C9-C10
45	M	604	3PE	C3E-C3F-C3G-C3H
45	I	203	3PE	O22-C21-O21-C2
53	L	702	CDL	OA7-CA5-OA6-CA4
53	N	903	CDL	C31-C32-C33-C34
53	r	201	CDL	C15-C16-C17-C18
53	X	201	CDL	C41-C42-C43-C44
45	d	204	3PE	C3C-C3D-C3E-C3F
53	L	702	CDL	OB9-CB7-OB8-CB6
53	X	201	CDL	C35-C36-C37-C38
46	J	201	PC1	C39-C3A-C3B-C3C
45	M	604	3PE	C1-C2-O21-C21
45	Y	203	3PE	C3-C2-O21-C21
53	h	201	CDL	CB6-CB4-OB6-CB5
45	Y	205	3PE	C37-C38-C39-C3A
45	M	601	3PE	C37-C38-C39-C3A
45	Y	202	3PE	C3B-C3C-C3D-C3E
45	A	202	3PE	C2E-C2F-C2G-C2H
45	I	203	3PE	C29-C2A-C2B-C2C
45	Y	201	3PE	O32-C31-O31-C3
45	H	502	3PE	C22-C23-C24-C25
45	L	703	3PE	O11-C1-C2-O21
45	N	902	3PE	O11-C1-C2-O21
46	J	201	PC1	C32-C31-O31-C3
45	m	201	3PE	C37-C38-C39-C3A
53	N	903	CDL	C39-C40-C41-C42
45	h	203	3PE	C32-C33-C34-C35
45	N	902	3PE	C3D-C3E-C3F-C3G
53	r	201	CDL	C56-C57-C58-C59
46	A	203	PC1	C34-C35-C36-C37
46	d	202	PC1	C24-C25-C26-C27
45	M	604	3PE	O21-C2-C3-O31
45	O	403	3PE	O21-C2-C3-O31
45	m	201	3PE	O21-C2-C3-O31
53	N	903	CDL	OA6-CA4-CA6-OA8
53	d	203	CDL	C71-CB7-OB8-CB6
45	O	403	3PE	C32-C33-C34-C35
45	L	703	3PE	O21-C21-C22-C23
45	Z	201	3PE	C33-C34-C35-C36

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Mol	Chain	Res	Type	Atoms
53	d	203	CDL	C31-C32-C33-C34
45	I	203	3PE	C2F-C2G-C2H-C2I
46	d	202	PC1	C27-C28-C29-C2A
46	N	904	PC1	C36-C37-C38-C39
46	M	605	PC1	C21-C22-C23-C24
53	X	201	CDL	C19-C20-C21-C22
45	L	701	3PE	C3D-C3E-C3F-C3G
45	M	601	3PE	C2A-C2B-C2C-C2D
53	d	203	CDL	C39-C40-C41-C42
53	d	203	CDL	C51-CB5-OB6-CB4
53	L	702	CDL	C52-C53-C54-C55
46	M	605	PC1	C25-C26-C27-C28
45	Y	201	3PE	C2A-C2B-C2C-C2D
45	Z	201	3PE	C3A-C3B-C3C-C3D
45	I	203	3PE	C32-C33-C34-C35
45	L	701	3PE	C29-C2A-C2B-C2C
45	Y	201	3PE	C2-C1-O11-P
53	d	203	CDL	C1-CB2-OB2-PB2
53	d	203	CDL	CB4-CB3-OB5-PB2
45	M	601	3PE	O21-C21-C22-C23
45	N	902	3PE	C2E-C2F-C2G-C2H
46	M	605	PC1	C3A-C3B-C3C-C3D
46	J	201	PC1	C2B-C2C-C2D-C2E
45	A	202	3PE	C21-C22-C23-C24
45	Y	204	3PE	O11-C1-C2-C3
45	h	202	3PE	O11-C1-C2-C3
53	r	201	CDL	OB5-CB3-CB4-CB6
45	b	101	3PE	C28-C29-C2A-C2B
46	B	202	PC1	C2A-C2B-C2C-C2D
53	L	702	CDL	C32-C33-C34-C35
45	Y	205	3PE	C3F-C3G-C3H-C3I
46	A	203	PC1	C24-C25-C26-C27
45	d	204	3PE	C3F-C3G-C3H-C3I
53	h	201	CDL	C73-C74-C75-C76
45	d	201	3PE	C27-C28-C29-C2A
45	M	601	3PE	C34-C35-C36-C37
53	X	201	CDL	C23-C24-C25-C26
53	L	702	CDL	C44-C45-C46-C47
45	M	602	3PE	C1-C2-C3-O31
45	Y	204	3PE	C1-C2-C3-O31
45	d	201	3PE	C1-C2-C3-O31
46	d	202	PC1	C1-C2-C3-O31

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Mol	Chain	Res	Type	Atoms
53	d	203	CDL	CA3-CA4-CA6-OA8
46	M	603	PC1	C2A-C2B-C2C-C2D
45	d	204	3PE	C25-C26-C27-C28
53	N	903	CDL	C34-C35-C36-C37
53	d	203	CDL	C72-C73-C74-C75
53	X	201	CDL	C44-C45-C46-C47
45	A	202	3PE	C2A-C2B-C2C-C2D
53	L	702	CDL	OB5-CB3-CB4-OB6
53	h	201	CDL	OB5-CB3-CB4-OB6
45	A	202	3PE	C37-C38-C39-C3A
53	L	702	CDL	CA4-CA3-OA5-PA1
45	N	901	3PE	C2A-C2B-C2C-C2D
58	T	101	EHZ	O1-C7-C8-C9
45	A	201	3PE	O21-C2-C3-O31
45	L	701	3PE	O21-C2-C3-O31
45	M	602	3PE	O21-C2-C3-O31
45	Y	205	3PE	O21-C2-C3-O31
45	d	201	3PE	O21-C2-C3-O31
45	N	902	3PE	C3C-C3D-C3E-C3F
46	d	202	PC1	C3E-C3F-C3G-C3H
58	U	101	EHZ	C1-C21-C22-C23
45	m	202	3PE	C23-C24-C25-C26
45	M	604	3PE	C21-C22-C23-C24
45	d	204	3PE	C2A-C2B-C2C-C2D
45	Y	202	3PE	C24-C25-C26-C27
53	d	203	CDL	C75-C76-C77-C78
45	A	202	3PE	C28-C29-C2A-C2B
45	m	201	3PE	C25-C26-C27-C28
53	X	201	CDL	C71-C72-C73-C74
58	T	101	EHZ	C6-C7-C8-C9
45	A	201	3PE	C26-C27-C28-C29
53	X	201	CDL	C32-C33-C34-C35
45	M	602	3PE	C22-C21-O21-C2
45	Y	201	3PE	C2B-C2C-C2D-C2E
45	N	901	3PE	O11-C1-C2-C3
45	N	902	3PE	O11-C1-C2-C3
45	Y	205	3PE	O11-C1-C2-C3
53	L	702	CDL	OB5-CB3-CB4-CB6
46	A	203	PC1	C2A-C2B-C2C-C2D
46	M	605	PC1	C2-C3-O31-C31
46	J	201	PC1	O32-C31-O31-C3
45	L	701	3PE	C34-C35-C36-C37

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Mol	Chain	Res	Type	Atoms
45	L	701	3PE	C35-C36-C37-C38
45	N	901	3PE	C29-C2A-C2B-C2C
53	X	201	CDL	C76-C77-C78-C79
53	d	203	CDL	OB9-CB7-OB8-CB6
46	M	603	PC1	C2B-C2C-C2D-C2E
45	N	902	3PE	C26-C27-C28-C29
45	K	101	3PE	C1-C2-O21-C21
53	N	903	CDL	CB6-CB4-OB6-CB5
45	j	101	3PE	C2C-C2D-C2E-C2F
45	Y	202	3PE	C3F-C3G-C3H-C3I
60	o	201	MYR	C9-C10-C11-C12
45	Y	204	3PE	O11-C1-C2-O21
45	Y	205	3PE	O11-C1-C2-O21
45	m	202	3PE	O11-C1-C2-O21
45	b	101	3PE	C23-C24-C25-C26
53	d	203	CDL	C77-C78-C79-C80
45	L	701	3PE	C1-C2-C3-O31
45	Y	201	3PE	C1-C2-C3-O31
45	m	201	3PE	C1-C2-C3-O31
46	J	201	PC1	C1-C2-C3-O31
53	d	203	CDL	CB3-CB4-CB6-OB8
53	h	201	CDL	C36-C37-C38-C39
45	H	503	3PE	C27-C28-C29-C2A
45	K	101	3PE	C33-C34-C35-C36
53	N	903	CDL	C57-C58-C59-C60
45	M	601	3PE	C12-C11-O13-P
45	M	604	3PE	C12-C11-O13-P
45	N	901	3PE	C12-C11-O13-P
45	h	202	3PE	C12-C11-O13-P
45	d	201	3PE	C22-C23-C24-C25
45	I	203	3PE	O21-C2-C3-O31
45	Y	204	3PE	O21-C2-C3-O31
45	h	203	3PE	O21-C2-C3-O31
45	j	101	3PE	O21-C2-C3-O31
46	d	202	PC1	O21-C2-C3-O31
53	d	203	CDL	OA6-CA4-CA6-OA8
53	L	702	CDL	C60-C61-C62-C63
60	o	201	MYR	C3-C4-C5-C6
45	I	203	3PE	C33-C34-C35-C36
45	K	101	3PE	C35-C36-C37-C38
53	N	903	CDL	C76-C77-C78-C79
46	M	603	PC1	C28-C29-C2A-C2B

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Mol	Chain	Res	Type	Atoms
45	M	601	3PE	C35-C36-C37-C38
45	M	601	3PE	C2D-C2E-C2F-C2G
45	j	101	3PE	C2-C1-O11-P
45	J	202	3PE	C2C-C2D-C2E-C2F
46	A	203	PC1	O13-C11-C12-N
54	O	401	GTP	PB-O3A-PA-O1A
52	H	504	LMT	O5'-C5'-C6'-O6'
45	N	901	3PE	C37-C38-C39-C3A
45	m	202	3PE	C27-C28-C29-C2A
46	M	603	PC1	C29-C2A-C2B-C2C
58	T	101	EHZ	C1-C21-C22-C23
45	N	901	3PE	C2D-C2E-C2F-C2G
45	M	601	3PE	C2E-C2F-C2G-C2H
45	Y	202	3PE	O31-C31-C32-C33
45	m	202	3PE	C2A-C2B-C2C-C2D
46	M	605	PC1	C32-C33-C34-C35
53	L	702	CDL	C63-C64-C65-C66
56	P	501	NDP	O4D-C1D-N1N-C6N
46	A	203	PC1	C33-C34-C35-C36
45	H	502	3PE	O11-C1-C2-C3
45	m	202	3PE	O11-C1-C2-C3
53	d	203	CDL	OB5-CB3-CB4-CB6
45	h	203	3PE	C3C-C3D-C3E-C3F
45	M	602	3PE	O22-C21-O21-C2
53	d	203	CDL	OB7-CB5-OB6-CB4
45	I	203	3PE	C2D-C2E-C2F-C2G
45	N	902	3PE	C39-C3A-C3B-C3C
53	L	702	CDL	C58-C59-C60-C61
45	d	201	3PE	C25-C26-C27-C28
45	N	901	3PE	C32-C31-O31-C3
45	H	503	3PE	C34-C35-C36-C37
45	A	201	3PE	C23-C24-C25-C26
45	N	901	3PE	C2-C1-O11-P
53	L	702	CDL	CB4-CB3-OB5-PB2
46	A	203	PC1	C36-C37-C38-C39
45	J	202	3PE	C33-C34-C35-C36
45	N	901	3PE	C3A-C3B-C3C-C3D
45	Z	201	3PE	C26-C27-C28-C29
53	N	903	CDL	C56-C57-C58-C59
45	H	502	3PE	O11-C1-C2-O21
53	d	203	CDL	OB5-CB3-CB4-OB6
45	K	101	3PE	C28-C29-C2A-C2B

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Mol	Chain	Res	Type	Atoms
53	L	702	CDL	C51-CB5-OB6-CB4
45	I	203	3PE	C25-C26-C27-C28
53	L	702	CDL	C14-C15-C16-C17
45	M	602	3PE	C3D-C3E-C3F-C3G
53	N	903	CDL	C36-C37-C38-C39
45	h	203	3PE	C25-C26-C27-C28
45	d	204	3PE	O21-C2-C3-O31
46	J	201	PC1	O21-C2-C3-O31
53	h	201	CDL	OA6-CA4-CA6-OA8
45	O	403	3PE	C1-C2-C3-O31
45	Y	205	3PE	C1-C2-C3-O31
45	j	101	3PE	C1-C2-C3-O31
46	M	603	PC1	C1-C2-C3-O31
46	N	904	PC1	C1-C2-C3-O31
53	d	203	CDL	C73-C74-C75-C76
45	A	201	3PE	O31-C31-C32-C33
53	r	201	CDL	C19-C20-C21-C22
45	d	201	3PE	C2B-C2C-C2D-C2E
46	d	202	PC1	C35-C36-C37-C38
45	L	701	3PE	C22-C23-C24-C25
45	j	101	3PE	C32-C33-C34-C35
45	A	202	3PE	C1-O11-P-O14
45	A	202	3PE	C11-O13-P-O14
45	A	202	3PE	O13-C11-C12-N
45	H	502	3PE	C1-O11-P-O14
45	H	502	3PE	C11-O13-P-O11
45	H	502	3PE	C11-O13-P-O12
45	I	203	3PE	C11-O13-P-O12
45	J	202	3PE	C11-O13-P-O14
45	K	101	3PE	C1-O11-P-O13
45	K	101	3PE	C1-O11-P-O14
45	L	701	3PE	C11-O13-P-O14
45	L	703	3PE	C1-O11-P-O13
45	M	604	3PE	C11-O13-P-O12
45	N	901	3PE	C1-O11-P-O12
45	N	901	3PE	C11-O13-P-O11
45	N	902	3PE	C1-O11-P-O14
45	Y	202	3PE	O13-C11-C12-N
45	Y	203	3PE	C1-O11-P-O13
45	Y	203	3PE	C11-O13-P-O11
45	Y	203	3PE	C11-O13-P-O12
45	Y	203	3PE	C11-O13-P-O14

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Mol	Chain	Res	Type	Atoms
45	Y	204	3PE	C11-O13-P-O11
45	Y	204	3PE	C11-O13-P-O12
45	Y	204	3PE	C11-O13-P-O14
45	Y	205	3PE	C1-O11-P-O14
45	Z	201	3PE	C11-O13-P-O14
45	h	202	3PE	C1-O11-P-O14
45	h	202	3PE	C11-O13-P-O14
45	h	203	3PE	C11-O13-P-O12
45	m	202	3PE	C1-O11-P-O12
46	B	202	PC1	C11-O13-P-O14
46	M	605	PC1	C1-O11-P-O14
46	N	904	PC1	C1-O11-P-O14
46	d	202	PC1	C1-O11-P-O12
46	d	202	PC1	C1-O11-P-O13
53	L	702	CDL	CB2-OB2-PB2-OB3
53	L	702	CDL	CB3-OB5-PB2-OB2
53	L	702	CDL	CB3-OB5-PB2-OB3
53	N	903	CDL	CA3-OA5-PA1-OA3
53	N	903	CDL	CA3-OA5-PA1-OA4
53	N	903	CDL	CB3-OB5-PB2-OB2
53	N	903	CDL	CB3-OB5-PB2-OB3
53	X	201	CDL	CA3-OA5-PA1-OA4
53	d	203	CDL	CA2-OA2-PA1-OA3
53	d	203	CDL	CA2-OA2-PA1-OA4
53	d	203	CDL	CA2-OA2-PA1-OA5
53	d	203	CDL	CA3-OA5-PA1-OA3
53	d	203	CDL	CB2-OB2-PB2-OB3
53	d	203	CDL	CB2-OB2-PB2-OB4
53	d	203	CDL	CB2-OB2-PB2-OB5
53	h	201	CDL	CB2-OB2-PB2-OB3
53	h	201	CDL	CB2-OB2-PB2-OB5
53	h	201	CDL	CB3-OB5-PB2-OB2
53	r	201	CDL	CB2-OB2-PB2-OB4
53	r	201	CDL	CB3-OB5-PB2-OB2
53	r	201	CDL	CB3-OB5-PB2-OB3
53	r	201	CDL	CB3-OB5-PB2-OB4
54	O	401	GTP	C5'-O5'-PA-O3A
54	O	401	GTP	C5'-O5'-PA-O1A
54	O	401	GTP	C5'-O5'-PA-O2A
45	K	101	3PE	C36-C37-C38-C39
45	Y	203	3PE	C33-C34-C35-C36
45	Y	205	3PE	C39-C3A-C3B-C3C

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Mol	Chain	Res	Type	Atoms
53	h	201	CDL	C55-C56-C57-C58
53	N	903	CDL	CB4-CB3-OB5-PB2
53	L	702	CDL	OB7-CB5-OB6-CB4
53	X	201	CDL	C72-C73-C74-C75
45	N	901	3PE	O32-C31-O31-C3
45	J	202	3PE	C24-C25-C26-C27
45	Y	203	3PE	C35-C36-C37-C38
45	h	203	3PE	C31-C32-C33-C34
45	Y	205	3PE	C25-C26-C27-C28
53	X	201	CDL	CB3-CB4-OB6-CB5
53	h	201	CDL	CA6-CA4-OA6-CA5
53	L	702	CDL	C31-C32-C33-C34
53	d	203	CDL	C41-C42-C43-C44
45	L	701	3PE	C39-C3A-C3B-C3C
45	b	101	3PE	O11-C1-C2-O21
45	N	901	3PE	C2C-C2D-C2E-C2F
46	J	201	PC1	C37-C38-C39-C3A
45	A	201	3PE	C36-C37-C38-C39
53	d	203	CDL	CB7-C71-C72-C73
45	Z	201	3PE	C3F-C3G-C3H-C3I
46	N	904	PC1	C2-C1-O11-P
45	I	203	3PE	C39-C3A-C3B-C3C
45	J	202	3PE	O21-C2-C3-O31
45	Y	201	3PE	O21-C2-C3-O31
45	K	101	3PE	C22-C23-C24-C25
53	d	203	CDL	C71-C72-C73-C74
45	M	601	3PE	C28-C29-C2A-C2B
45	m	201	3PE	C36-C37-C38-C39
45	Y	205	3PE	C32-C31-O31-C3
45	L	701	3PE	C23-C24-C25-C26
45	H	503	3PE	C21-C22-C23-C24
45	K	101	3PE	C32-C31-O31-C3
45	L	703	3PE	O22-C21-C22-C23
53	L	702	CDL	C37-C38-C39-C40
53	r	201	CDL	C14-C15-C16-C17
58	U	101	EHZ	C3-C4-C5-C6
45	M	604	3PE	C3F-C3G-C3H-C3I
45	h	203	3PE	C26-C27-C28-C29
45	Z	201	3PE	O11-C1-C2-O21
45	K	101	3PE	O32-C31-O31-C3
45	Z	201	3PE	C3E-C3F-C3G-C3H
45	A	202	3PE	C35-C36-C37-C38

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Mol	Chain	Res	Type	Atoms
60	o	201	MYR	C5-C6-C7-C8
45	Y	205	3PE	O32-C31-O31-C3
45	m	202	3PE	C32-C31-O31-C3
45	Y	202	3PE	C2B-C2C-C2D-C2E
53	X	201	CDL	C20-C21-C22-C23
53	d	203	CDL	OB6-CB4-CB6-OB8
52	H	504	LMT	C11-C10-C9-C8
45	j	101	3PE	C27-C28-C29-C2A
46	M	603	PC1	C32-C33-C34-C35
53	X	201	CDL	C24-C25-C26-C27
53	L	702	CDL	C42-C43-C44-C45
53	L	702	CDL	C72-C71-CB7-OB8
45	M	601	3PE	O22-C21-C22-C23
45	m	202	3PE	O32-C31-O31-C3
53	N	903	CDL	C53-C54-C55-C56
53	h	201	CDL	C35-C36-C37-C38
53	r	201	CDL	C71-C72-C73-C74
45	N	902	3PE	C1-C2-O21-C21
45	N	902	3PE	C3-C2-O21-C21
46	M	605	PC1	C3-C2-O21-C21
45	M	602	3PE	C36-C37-C38-C39
46	M	605	PC1	C28-C29-C2A-C2B
53	L	702	CDL	C35-C36-C37-C38
45	H	503	3PE	C29-C2A-C2B-C2C
45	N	901	3PE	C3D-C3E-C3F-C3G
45	A	201	3PE	C28-C29-C2A-C2B
45	H	502	3PE	C2D-C2E-C2F-C2G
53	r	201	CDL	CA7-C31-C32-C33
60	o	201	MYR	C11-C10-C9-C8
45	I	203	3PE	O11-C1-C2-O21
45	Y	203	3PE	C26-C27-C28-C29
45	j	101	3PE	C37-C38-C39-C3A
45	H	503	3PE	C2C-C2D-C2E-C2F
53	N	903	CDL	C1-CA2-OA2-PA1
53	r	201	CDL	C1-CB2-OB2-PB2
53	X	201	CDL	C36-C37-C38-C39
46	M	605	PC1	C38-C39-C3A-C3B
45	Y	204	3PE	C26-C27-C28-C29
45	d	204	3PE	C21-C22-C23-C24
46	d	202	PC1	C31-C32-C33-C34
45	Y	201	3PE	C3D-C3E-C3F-C3G
56	P	501	NDP	C3D-C4D-C5D-O5D

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Mol	Chain	Res	Type	Atoms
45	h	203	3PE	C36-C37-C38-C39
53	r	201	CDL	C13-C14-C15-C16
45	A	201	3PE	C2C-C2D-C2E-C2F
45	Z	201	3PE	C37-C38-C39-C3A
45	Y	201	3PE	C32-C33-C34-C35
53	X	201	CDL	C57-C58-C59-C60
45	H	503	3PE	C22-C23-C24-C25
53	X	201	CDL	C51-C52-C53-C54
46	B	202	PC1	C32-C31-O31-C3
56	P	501	NDP	PN-O3-PA-O1A
45	N	902	3PE	C24-C25-C26-C27
58	U	101	EHZ	C22-C23-C24-C25
45	Y	203	3PE	C36-C37-C38-C39
45	Y	202	3PE	C2-C1-O11-P
53	X	201	CDL	CA4-CA3-OA5-PA1
53	h	201	CDL	CB4-CB3-OB5-PB2
46	N	904	PC1	C31-C32-C33-C34
45	A	202	3PE	O21-C21-C22-C23
46	J	201	PC1	C2C-C2D-C2E-C2F
45	H	503	3PE	C37-C38-C39-C3A
53	N	903	CDL	C61-C62-C63-C64
45	m	202	3PE	C34-C35-C36-C37
53	X	201	CDL	OA5-CA3-CA4-OA6
46	A	203	PC1	C29-C2A-C2B-C2C
53	X	201	CDL	C53-C54-C55-C56
46	M	605	PC1	C26-C27-C28-C29
53	N	903	CDL	OA5-CA3-CA4-CA6
53	N	903	CDL	OB5-CB3-CB4-CB6
45	A	202	3PE	O31-C31-C32-C33
45	Y	202	3PE	C39-C3A-C3B-C3C
45	Y	203	3PE	C25-C26-C27-C28
45	Y	201	3PE	C3E-C3F-C3G-C3H
45	M	601	3PE	C29-C2A-C2B-C2C
46	B	202	PC1	O32-C31-O31-C3
45	J	202	3PE	C28-C29-C2A-C2B
53	X	201	CDL	C42-C43-C44-C45
45	Y	202	3PE	C3D-C3E-C3F-C3G
45	A	201	3PE	O21-C21-C22-C23
45	Z	201	3PE	C31-C32-C33-C34
45	J	202	3PE	C38-C39-C3A-C3B
53	X	201	CDL	C74-C75-C76-C77
45	N	901	3PE	C26-C27-C28-C29

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Mol	Chain	Res	Type	Atoms
53	d	203	CDL	CB2-C1-CA2-OA2
53	N	903	CDL	OA5-CA3-CA4-OA6
45	J	202	3PE	C37-C38-C39-C3A
45	j	101	3PE	C2E-C2F-C2G-C2H
45	M	602	3PE	C37-C38-C39-C3A
45	Y	202	3PE	C33-C34-C35-C36
45	Y	201	3PE	C33-C34-C35-C36
45	M	604	3PE	C2E-C2F-C2G-C2H
45	m	202	3PE	C28-C29-C2A-C2B
45	Y	203	3PE	C32-C33-C34-C35
45	L	701	3PE	C3C-C3D-C3E-C3F
45	h	202	3PE	C22-C23-C24-C25
53	X	201	CDL	C60-C61-C62-C63
46	B	202	PC1	C24-C25-C26-C27
45	J	202	3PE	C32-C33-C34-C35
53	X	201	CDL	C32-C31-CA7-OA8
53	d	203	CDL	C72-C71-CB7-OB8
45	J	202	3PE	C3B-C3C-C3D-C3E
45	b	101	3PE	C34-C35-C36-C37
53	X	201	CDL	OA5-CA3-CA4-CA6
53	h	201	CDL	OB5-CB3-CB4-CB6
45	H	502	3PE	O21-C21-C22-C23
45	H	502	3PE	C2E-C2F-C2G-C2H
45	N	901	3PE	O22-C21-O21-C2
45	J	202	3PE	C22-C23-C24-C25
53	h	201	CDL	C60-C61-C62-C63
45	Y	203	3PE	C27-C28-C29-C2A
45	m	202	3PE	C24-C25-C26-C27
45	Y	205	3PE	C35-C36-C37-C38
45	H	502	3PE	O31-C31-C32-C33
45	M	604	3PE	O31-C31-C32-C33
56	P	501	NDP	PN-O3-PA-O2A
45	M	601	3PE	C3A-C3B-C3C-C3D
45	m	201	3PE	O21-C21-C22-C23
45	I	203	3PE	C3A-C3B-C3C-C3D
46	A	203	PC1	C2B-C2C-C2D-C2E
45	N	902	3PE	C2F-C2G-C2H-C2I
46	d	202	PC1	O21-C21-C22-C23
53	N	903	CDL	C17-C18-C19-C20
46	M	603	PC1	C37-C38-C39-C3A
45	L	701	3PE	O21-C21-C22-C23
53	X	201	CDL	C12-C11-CA5-OA6

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Mol	Chain	Res	Type	Atoms
53	X	201	CDL	C72-C71-CB7-OB8
58	T	101	EHZ	O4-C15-C16-C17
46	B	202	PC1	O31-C31-C32-C33
45	j	101	3PE	C35-C36-C37-C38
45	h	203	3PE	C28-C29-C2A-C2B
45	Y	201	3PE	C34-C35-C36-C37
45	j	101	3PE	C26-C27-C28-C29
45	m	202	3PE	C26-C27-C28-C29
45	O	403	3PE	C2-C1-O11-P
49	F	502	FMN	C4'-C5'-O5'-P
53	h	201	CDL	CA3-CA4-CA6-OA8
45	H	502	3PE	C2A-C2B-C2C-C2D
53	r	201	CDL	C52-C51-CB5-OB6
46	N	904	PC1	O21-C2-C3-O31
45	A	202	3PE	C27-C28-C29-C2A
46	B	202	PC1	C35-C36-C37-C38
45	M	604	3PE	C26-C27-C28-C29
45	Y	204	3PE	O31-C31-C32-C33
45	m	201	3PE	O31-C31-C32-C33
53	N	903	CDL	C32-C31-CA7-OA8
53	r	201	CDL	C72-C71-CB7-OB8
45	Y	201	3PE	C29-C2A-C2B-C2C
53	h	201	CDL	C74-C75-C76-C77
45	N	901	3PE	C28-C29-C2A-C2B
45	h	202	3PE	C25-C26-C27-C28
53	X	201	CDL	C63-C64-C65-C66
45	M	602	3PE	C21-C22-C23-C24
45	Z	201	3PE	O11-C1-C2-C3
45	d	201	3PE	O21-C21-C22-C23
49	F	502	FMN	N10-C1'-C2'-O2'
58	T	101	EHZ	C18-C17-C20-O6
53	d	203	CDL	C40-C41-C42-C43
46	A	203	PC1	O21-C21-C22-C23
45	M	601	3PE	C23-C24-C25-C26
45	H	502	3PE	C2C-C2D-C2E-C2F
45	Y	205	3PE	C38-C39-C3A-C3B
45	Y	205	3PE	C3E-C3F-C3G-C3H
45	h	203	3PE	C39-C3A-C3B-C3C
58	T	101	EHZ	N2-C15-C16-C17
45	h	203	3PE	C2-C1-O11-P
53	r	201	CDL	C11-C12-C13-C14
56	P	501	NDP	C2B-O2B-P2B-O1X

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Mol	Chain	Res	Type	Atoms
45	L	701	3PE	O22-C21-C22-C23
53	X	201	CDL	C72-C71-CB7-OB9
45	L	701	3PE	C32-C33-C34-C35
45	h	203	3PE	O21-C21-C22-C23
53	r	201	CDL	CA5-C11-C12-C13
45	d	204	3PE	C24-C25-C26-C27
45	M	604	3PE	O32-C31-C32-C33
53	X	201	CDL	C12-C11-CA5-OA7
45	K	101	3PE	C2C-C2D-C2E-C2F
45	N	901	3PE	C22-C21-O21-C2
45	M	602	3PE	O21-C21-C22-C23
53	d	203	CDL	C72-C71-CB7-OB9
45	L	701	3PE	C2A-C2B-C2C-C2D
45	K	101	3PE	C24-C25-C26-C27
45	d	201	3PE	O22-C21-C22-C23
45	H	502	3PE	O32-C31-C32-C33
53	X	201	CDL	C32-C31-CA7-OA9
45	K	101	3PE	O31-C31-C32-C33
45	H	502	3PE	O22-C21-C22-C23
53	r	201	CDL	C52-C51-CB5-OB7
45	H	503	3PE	C23-C24-C25-C26
59	i	201	CHD	C22-C23-C24-O26
46	B	202	PC1	O32-C31-C32-C33
46	J	201	PC1	C2F-C2G-C2H-C2I
46	A	203	PC1	O22-C21-C22-C23
46	d	202	PC1	O22-C21-C22-C23
45	H	503	3PE	C25-C26-C27-C28
45	Y	204	3PE	O32-C31-C32-C33
45	m	201	3PE	O22-C21-C22-C23
45	j	101	3PE	O11-C1-C2-C3
45	M	604	3PE	C23-C24-C25-C26
45	d	201	3PE	C31-C32-C33-C34
45	M	601	3PE	C26-C27-C28-C29
45	M	604	3PE	C2A-C2B-C2C-C2D
45	K	101	3PE	C23-C24-C25-C26
45	K	101	3PE	O32-C31-C32-C33
45	M	604	3PE	O21-C21-C22-C23
53	L	702	CDL	C52-C51-CB5-OB6
45	M	602	3PE	O22-C21-C22-C23
45	h	203	3PE	O22-C21-C22-C23
53	N	903	CDL	C32-C31-CA7-OA9
45	h	202	3PE	O31-C31-C32-C33

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Mol	Chain	Res	Type	Atoms
46	M	603	PC1	O31-C31-C32-C33
45	N	901	3PE	C25-C26-C27-C28

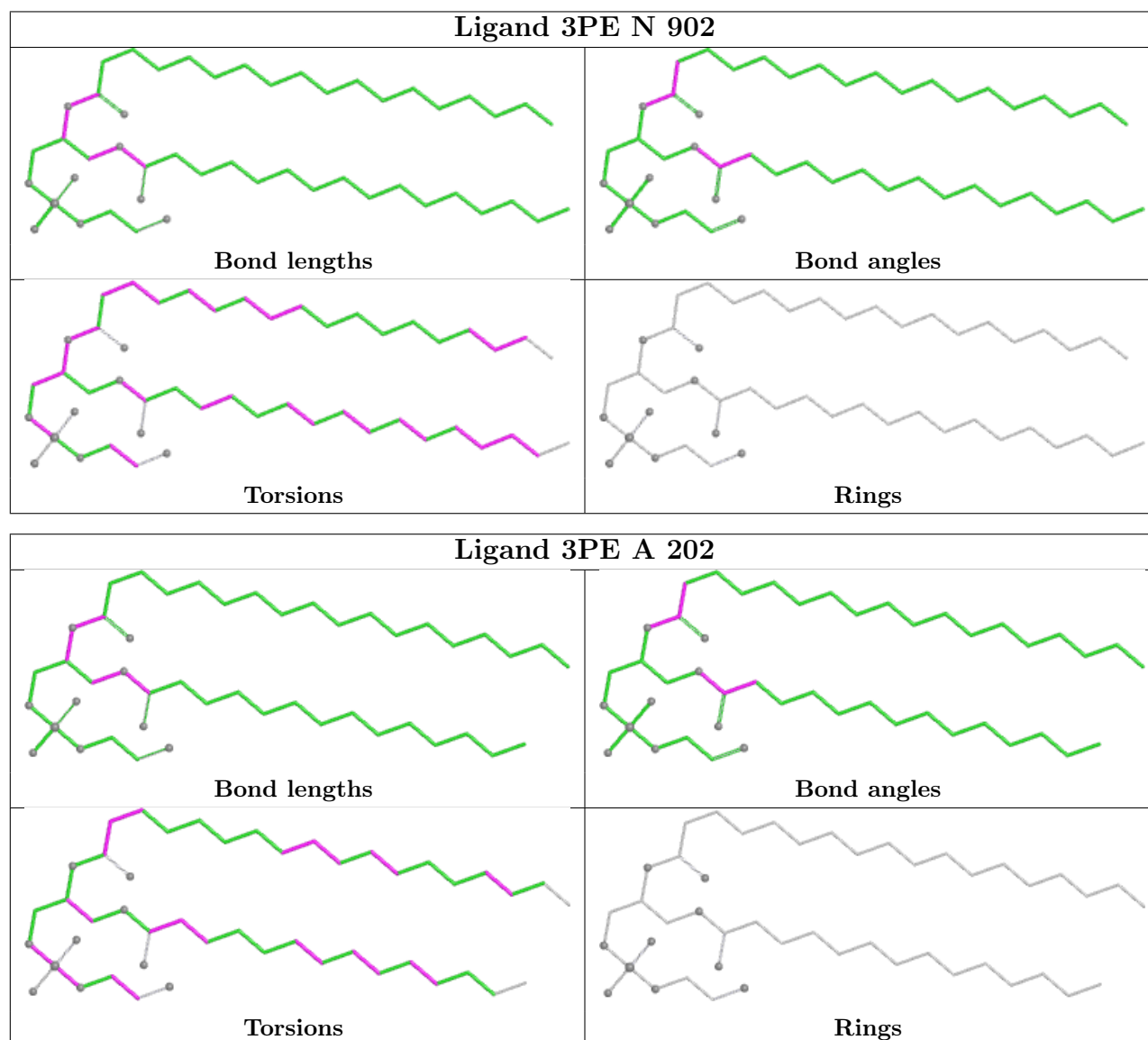
There are no ring outliers.

28 monomers are involved in 42 short contacts:

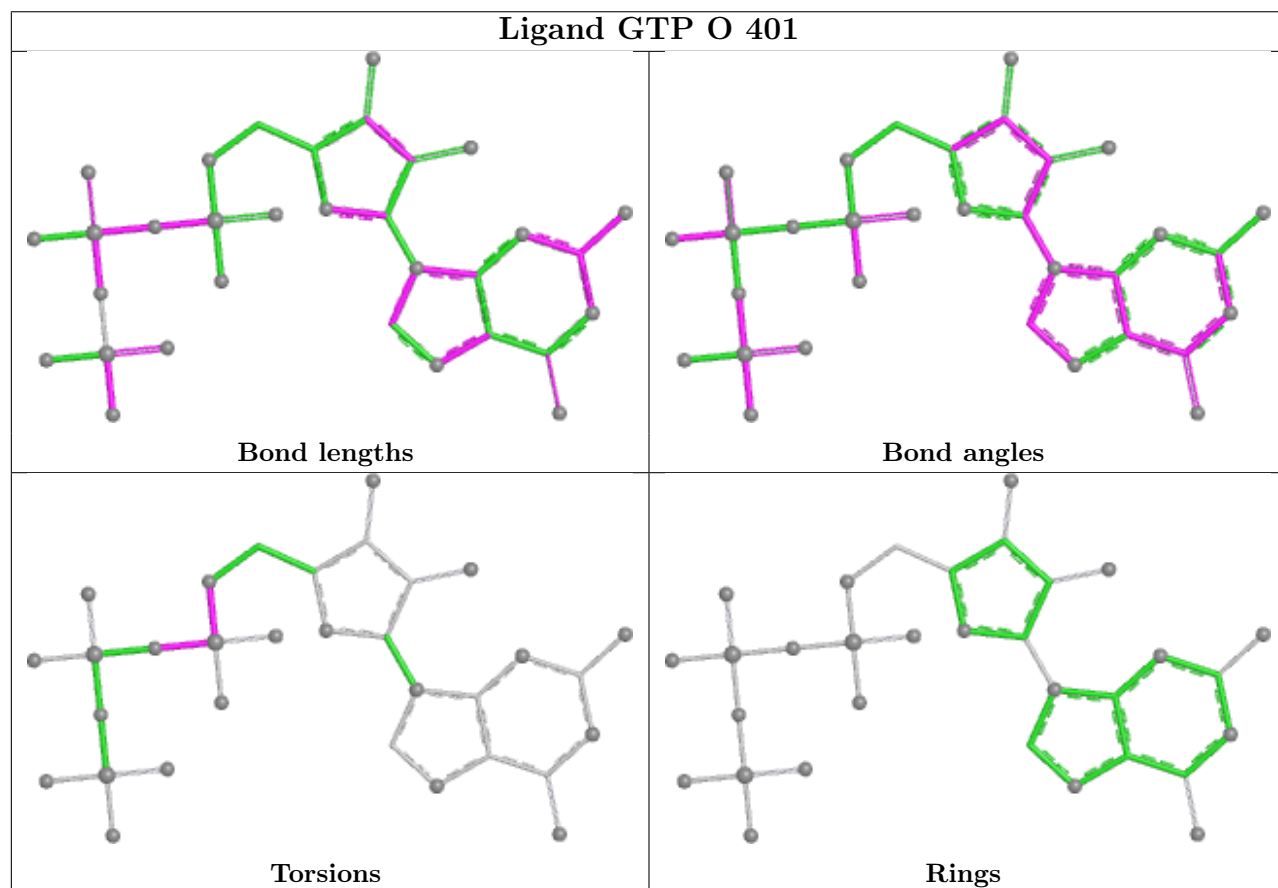
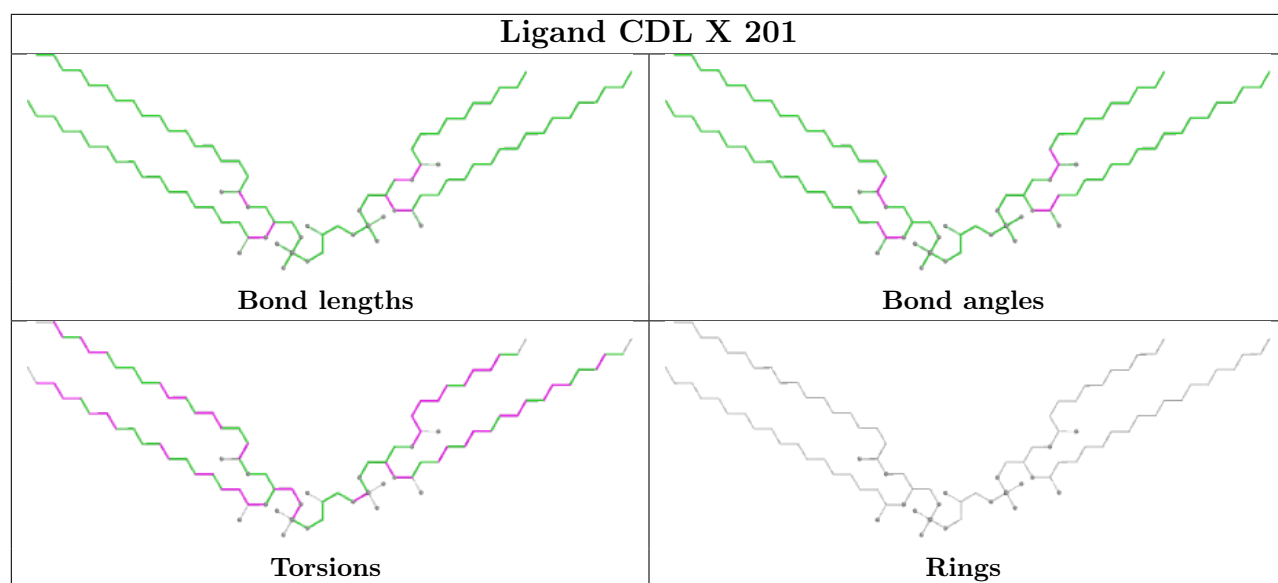
Mol	Chain	Res	Type	Clashes	Symm-Clashes
45	N	902	3PE	1	0
47	F	501	SF4	1	0
53	X	201	CDL	1	0
54	O	401	GTP	4	0
45	M	604	3PE	1	0
45	m	202	3PE	1	0
45	H	503	3PE	1	0
45	M	601	3PE	4	0
46	M	603	PC1	1	0
46	d	202	PC1	2	0
45	N	901	3PE	5	0
53	L	702	CDL	1	0
53	N	903	CDL	4	0
56	P	501	NDP	1	0
45	d	201	3PE	1	0
47	B	201	SF4	2	0
59	i	201	CHD	2	0
46	B	202	PC1	1	0
45	m	201	3PE	1	0
53	h	201	CDL	3	0
45	Y	202	3PE	1	0
48	G	803	FES	1	0
46	J	201	PC1	3	0
52	H	504	LMT	1	0
46	N	904	PC1	1	0
46	M	605	PC1	2	0
45	M	602	3PE	2	0
45	Y	203	3PE	1	0

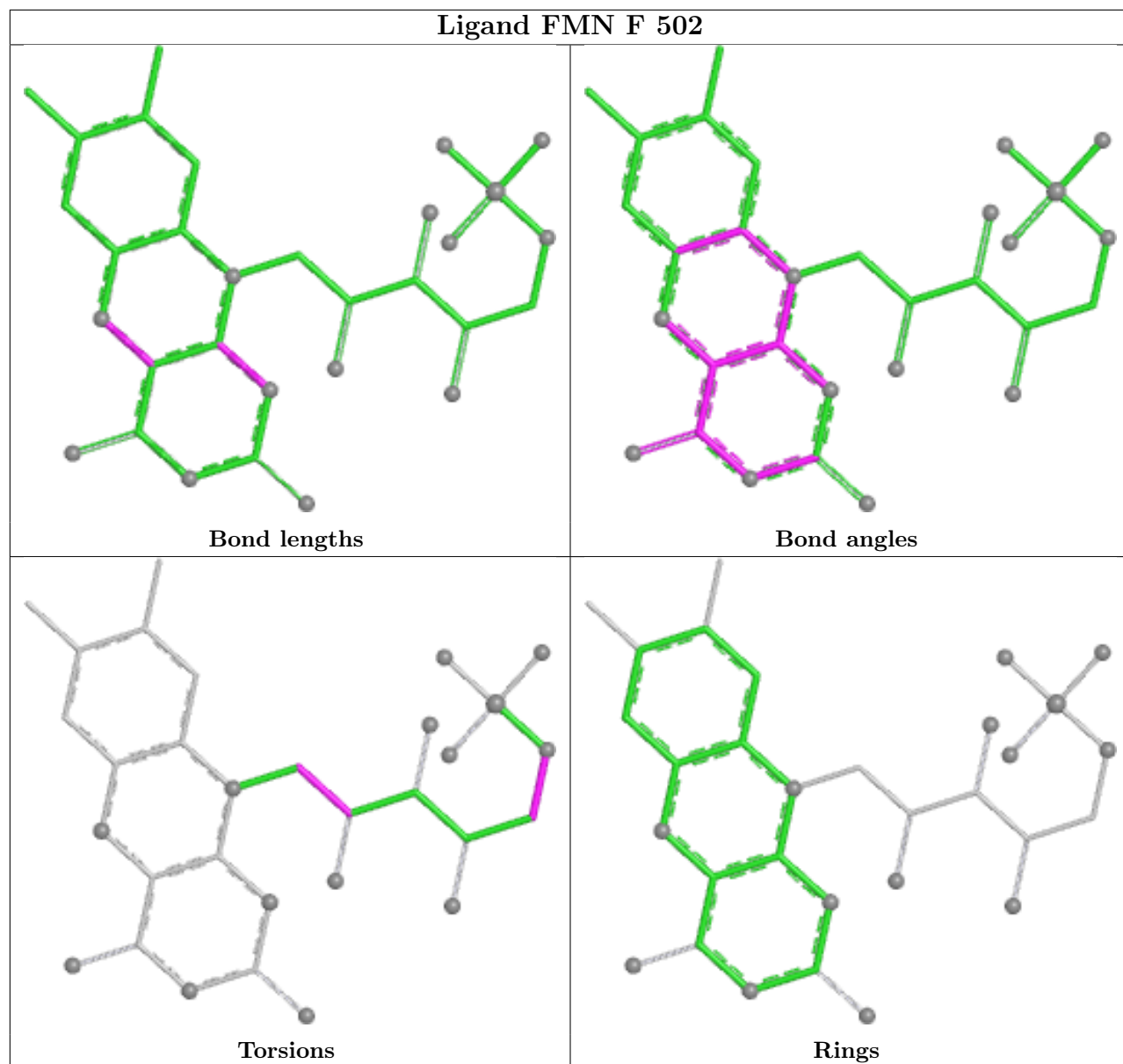
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included.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

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

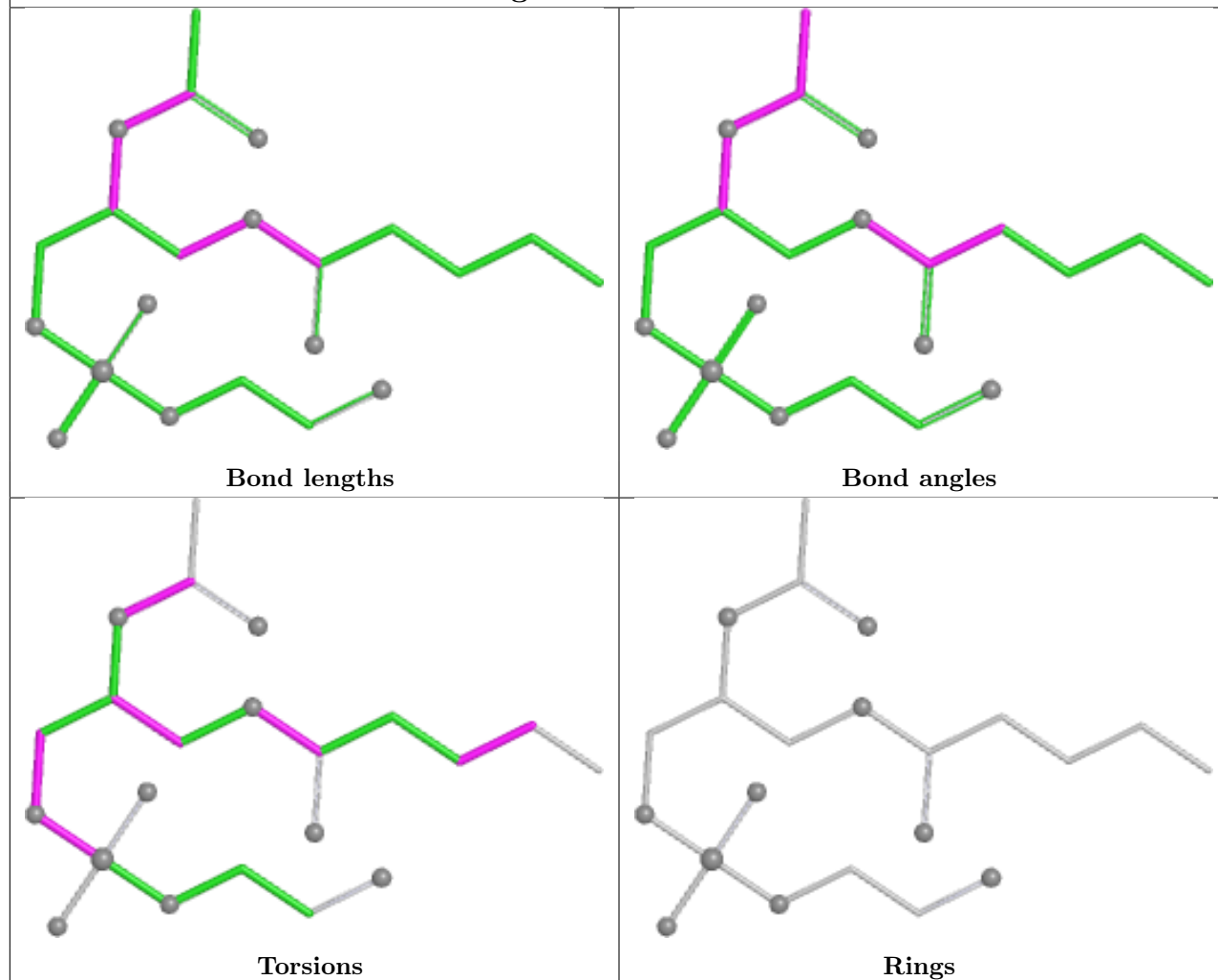




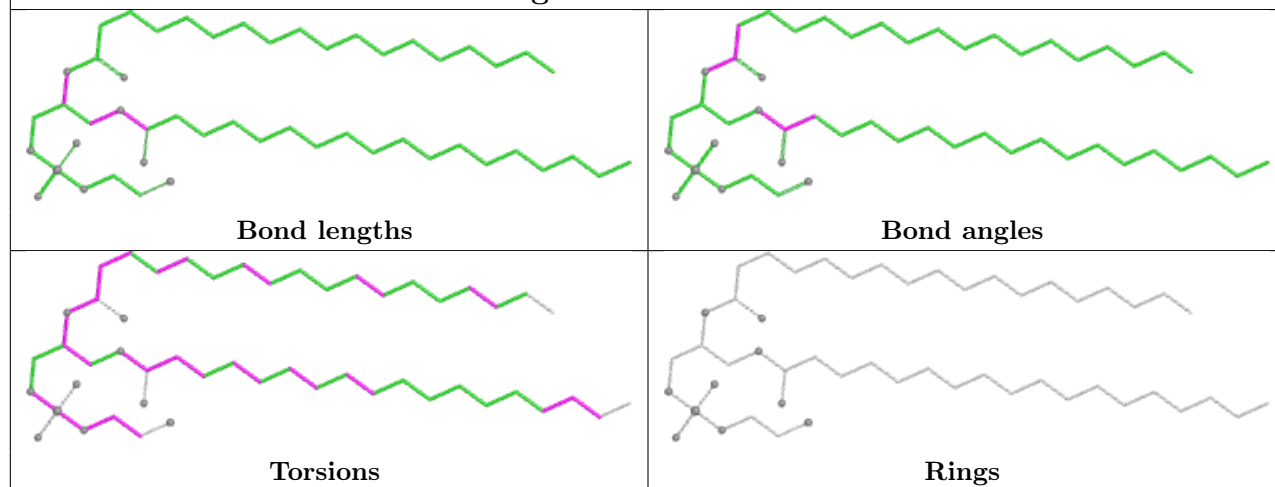


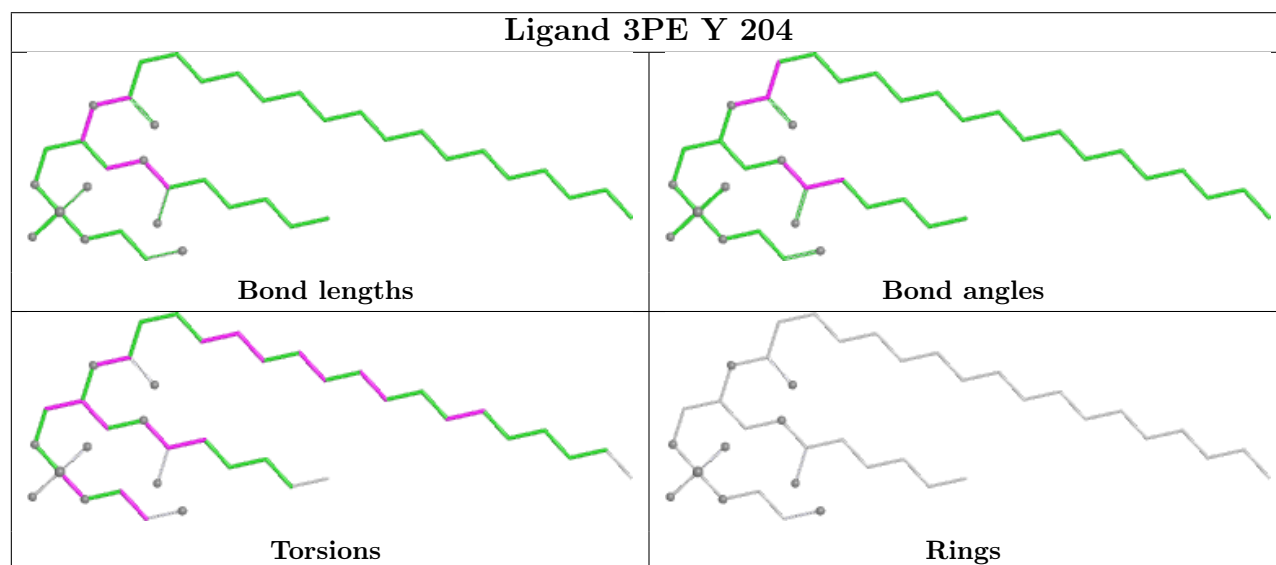
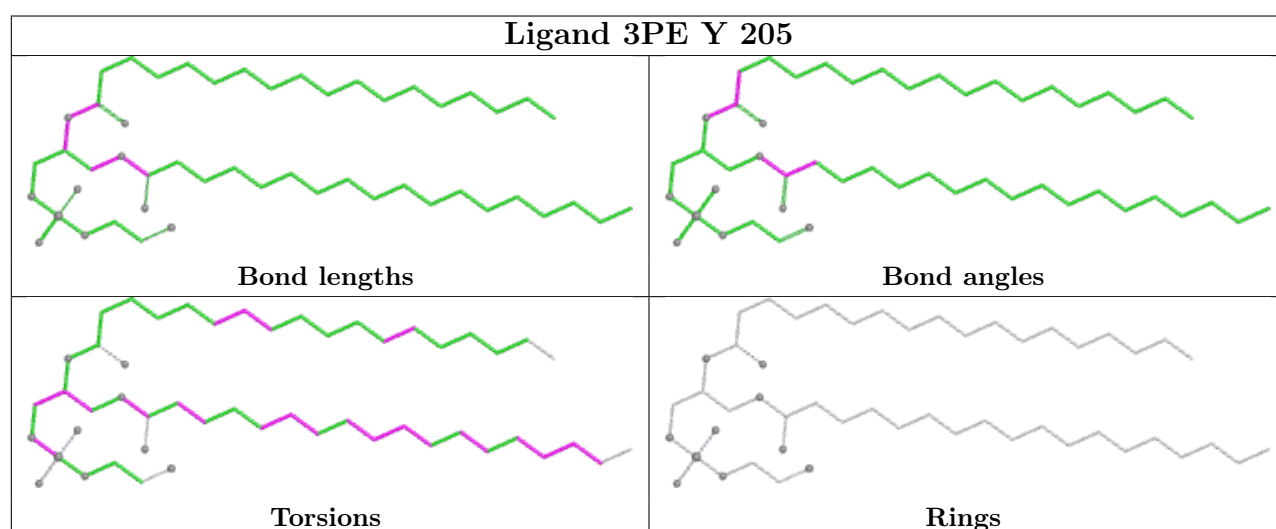
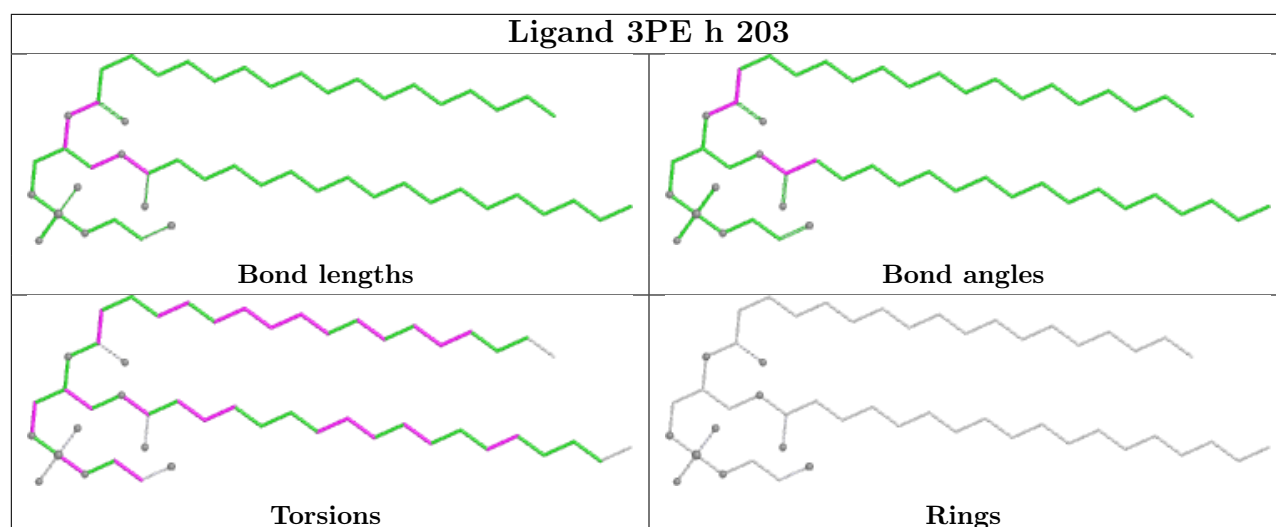


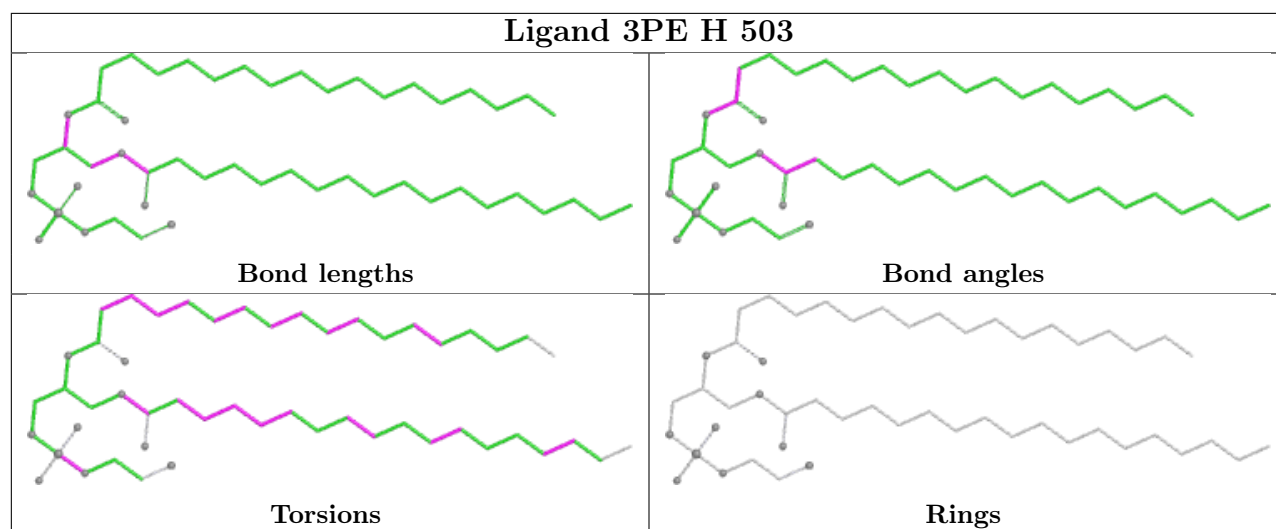
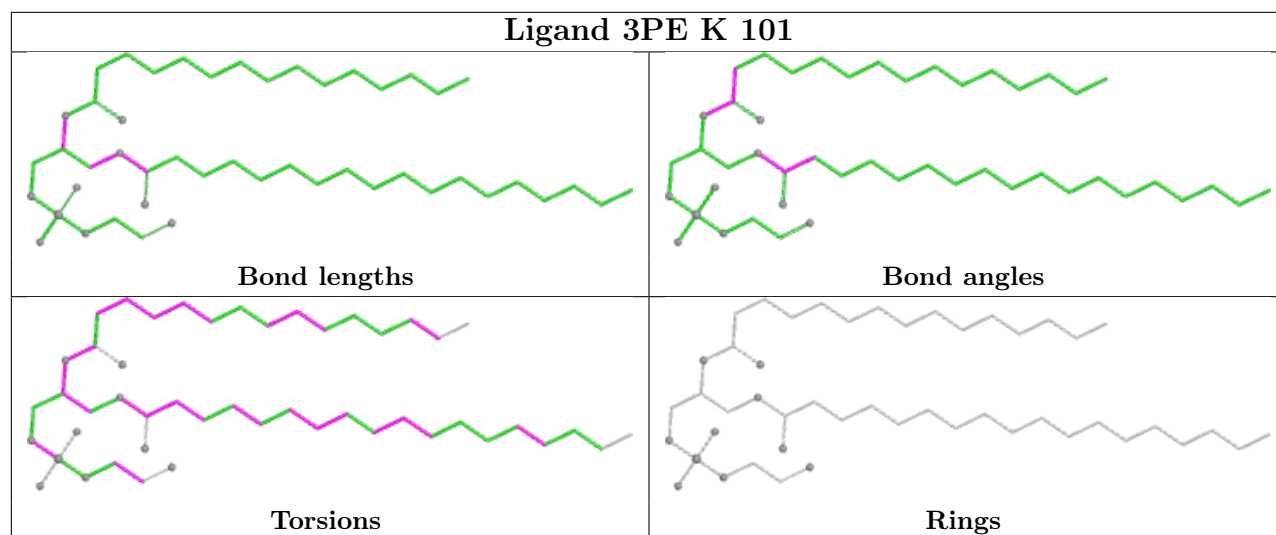
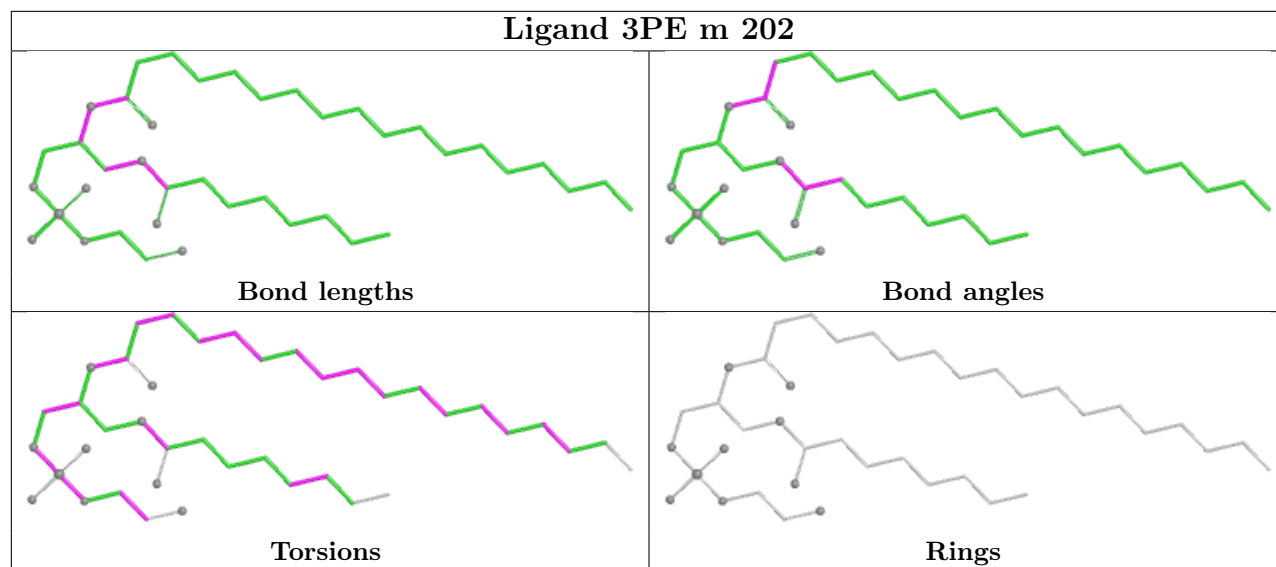
## Ligand 3PE O 403

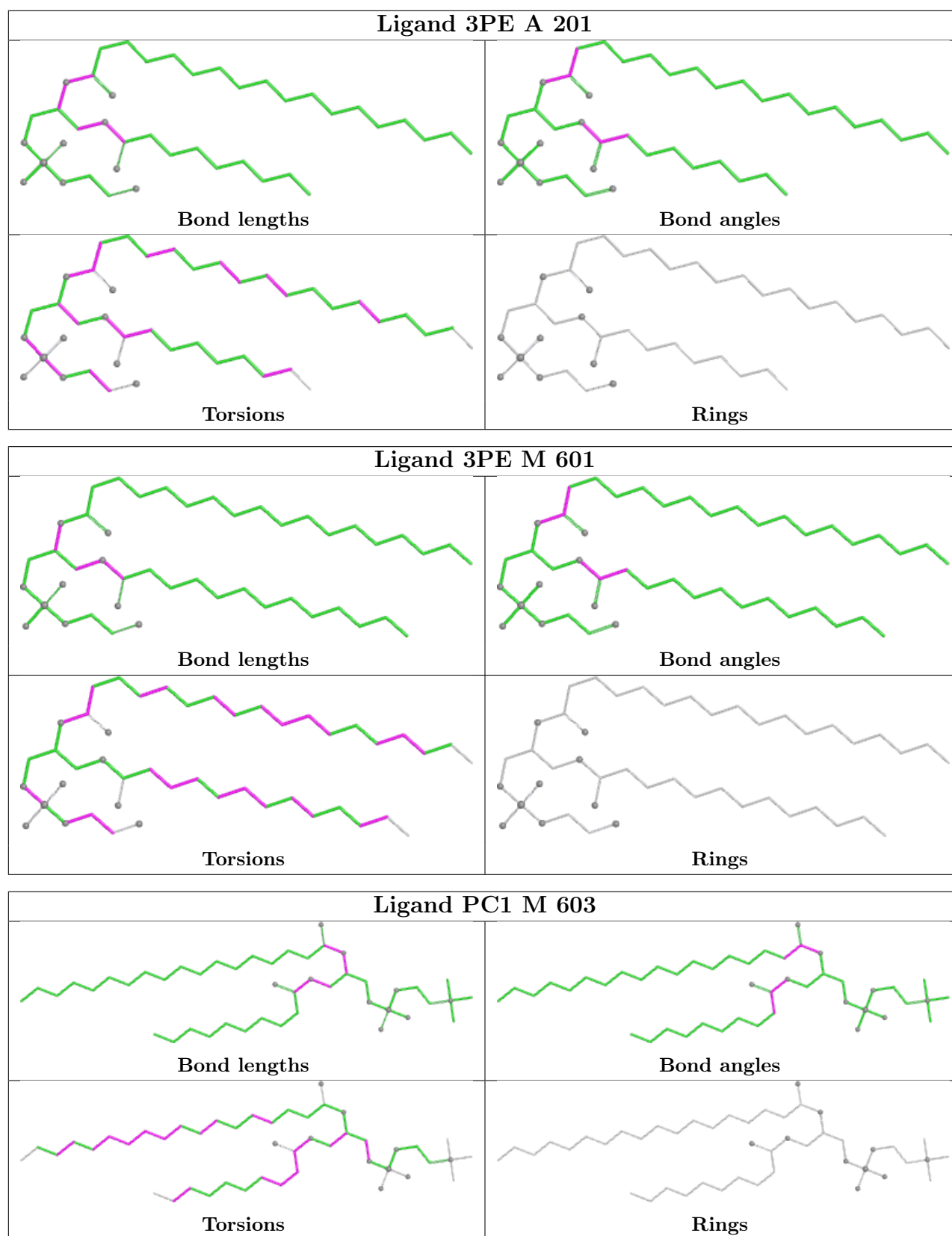


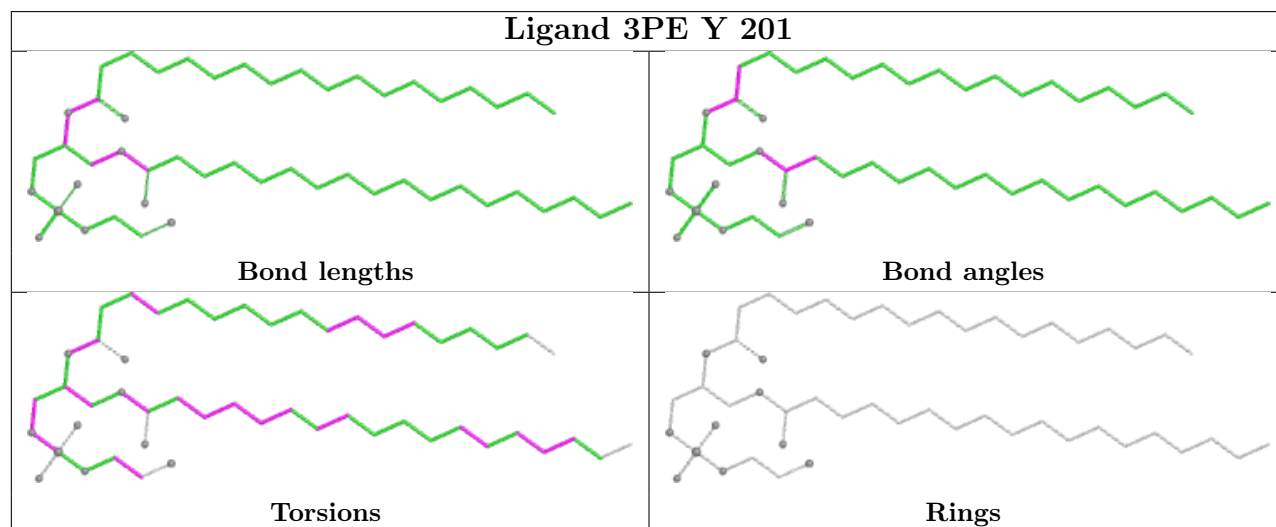
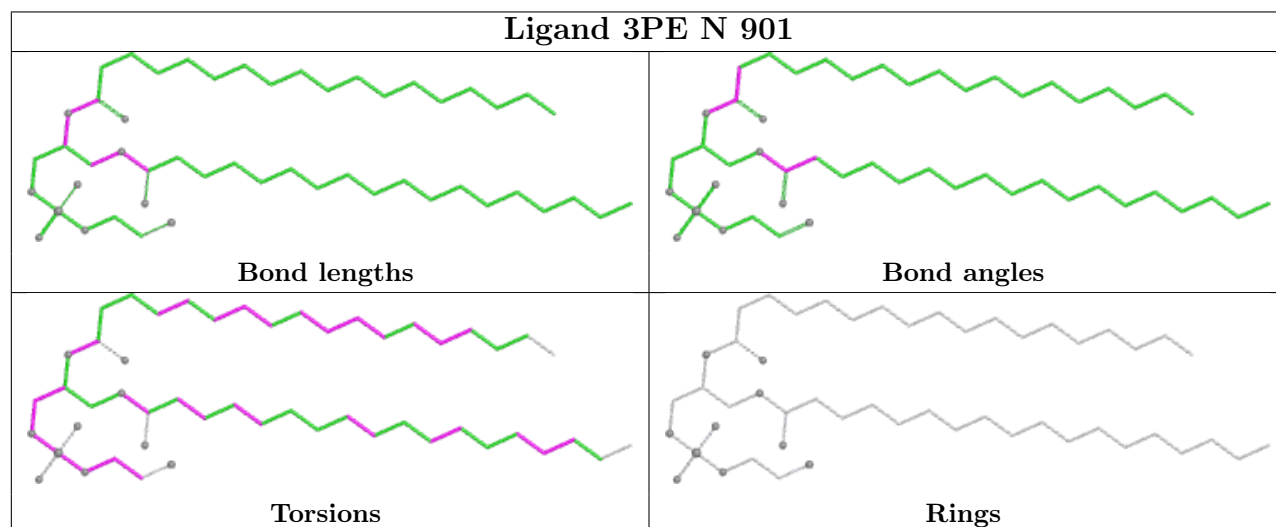
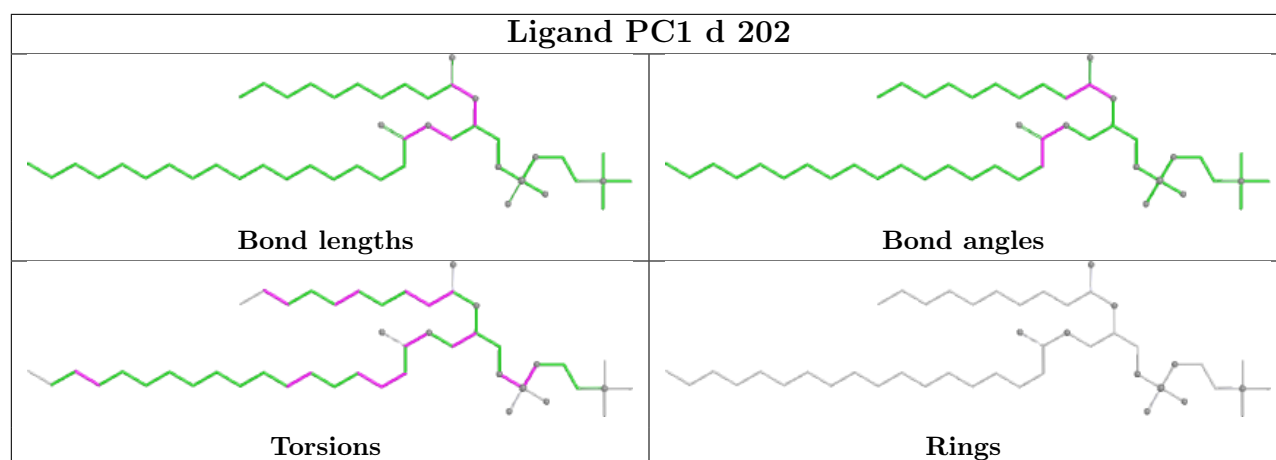
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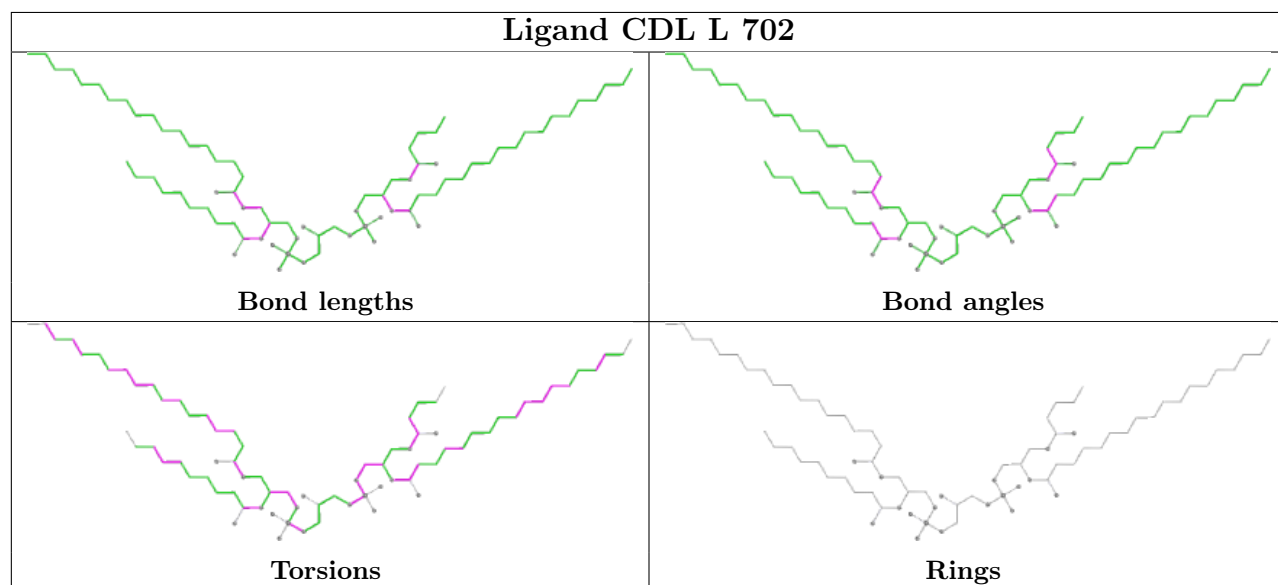
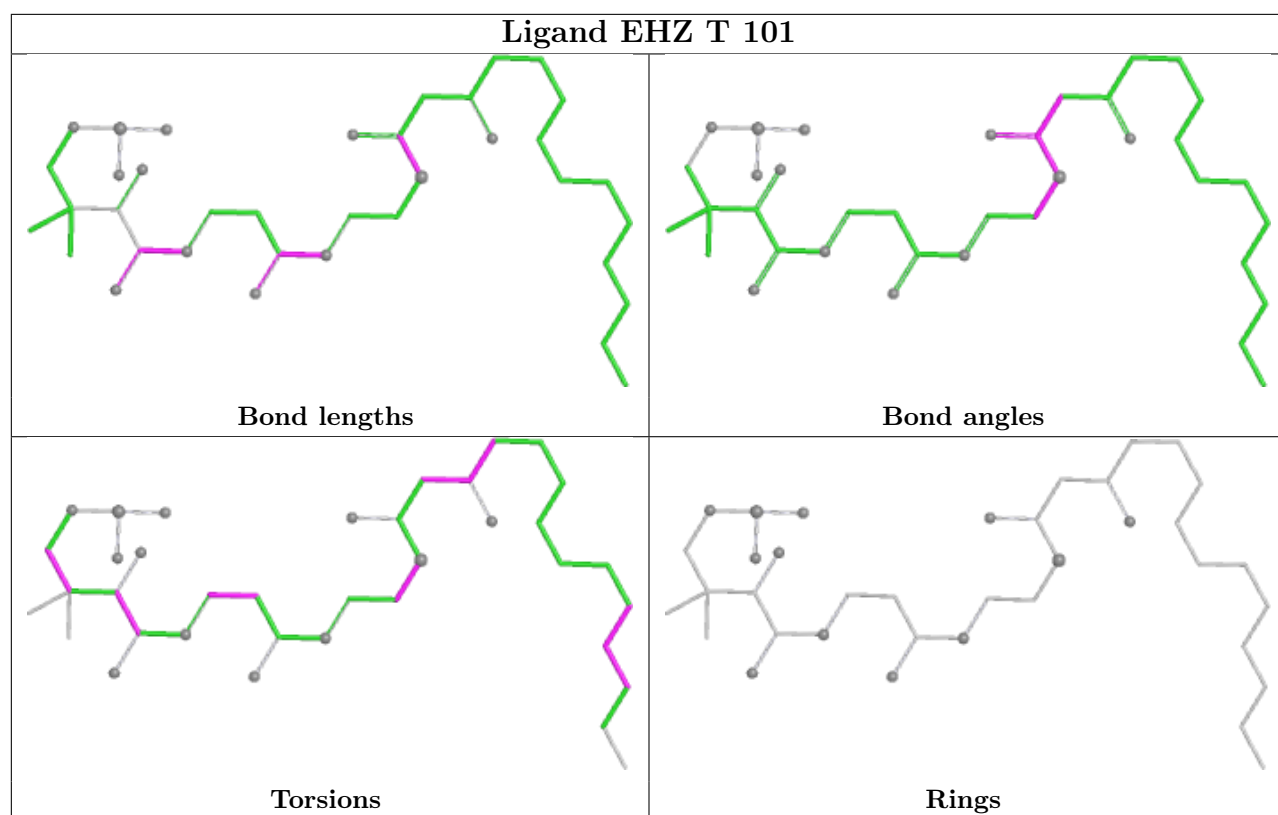




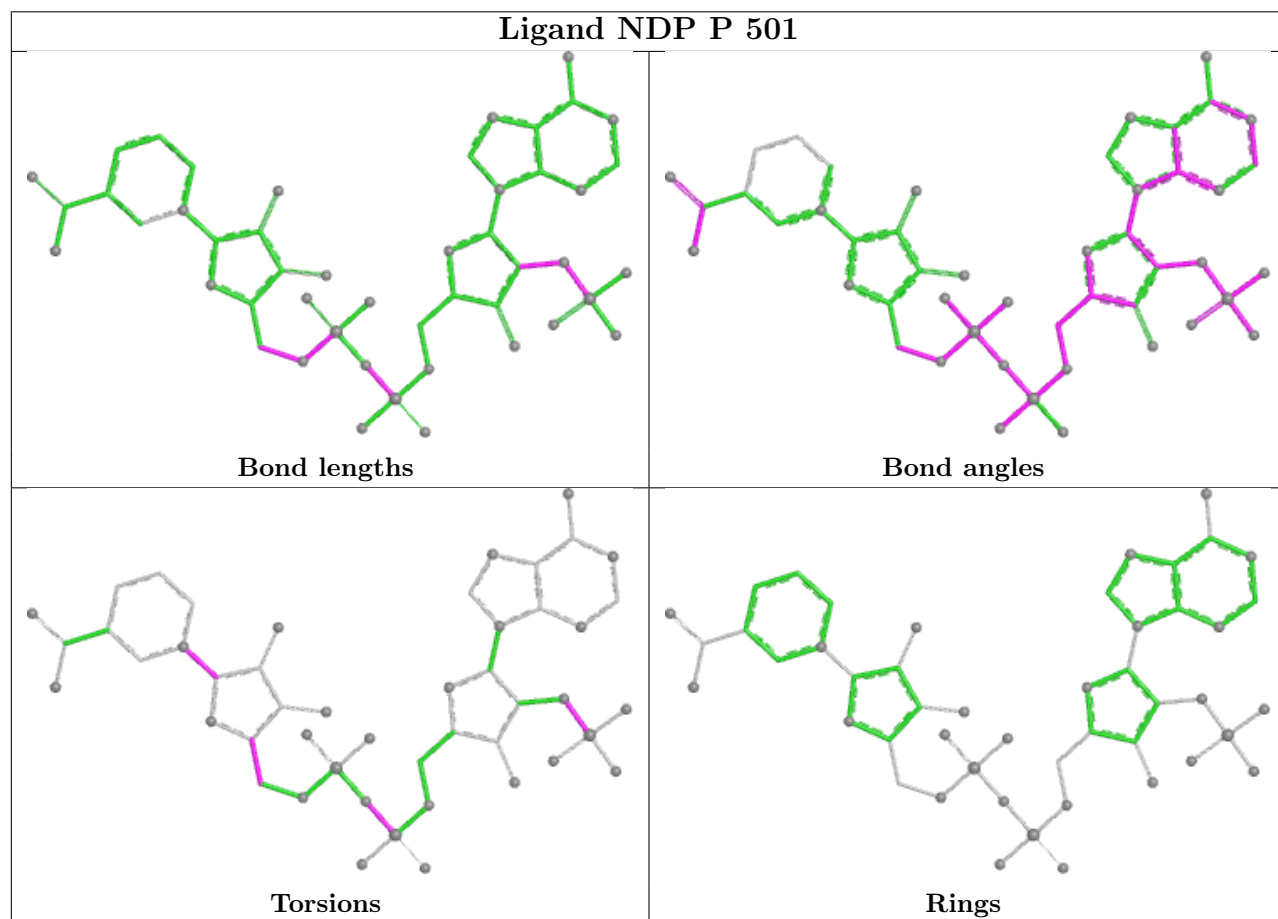
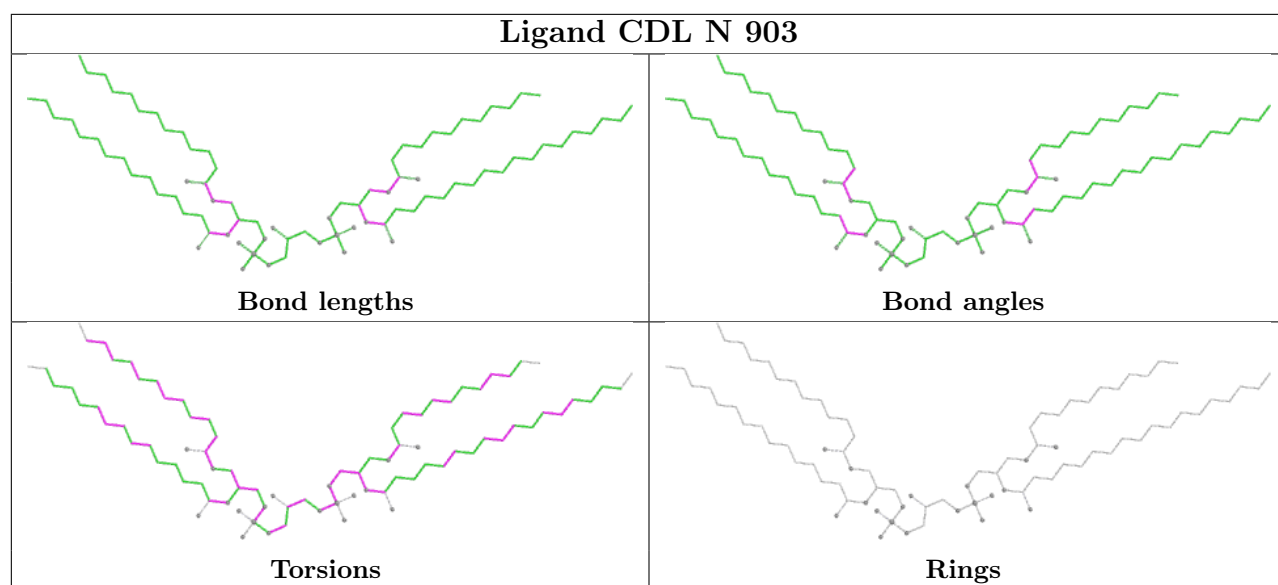


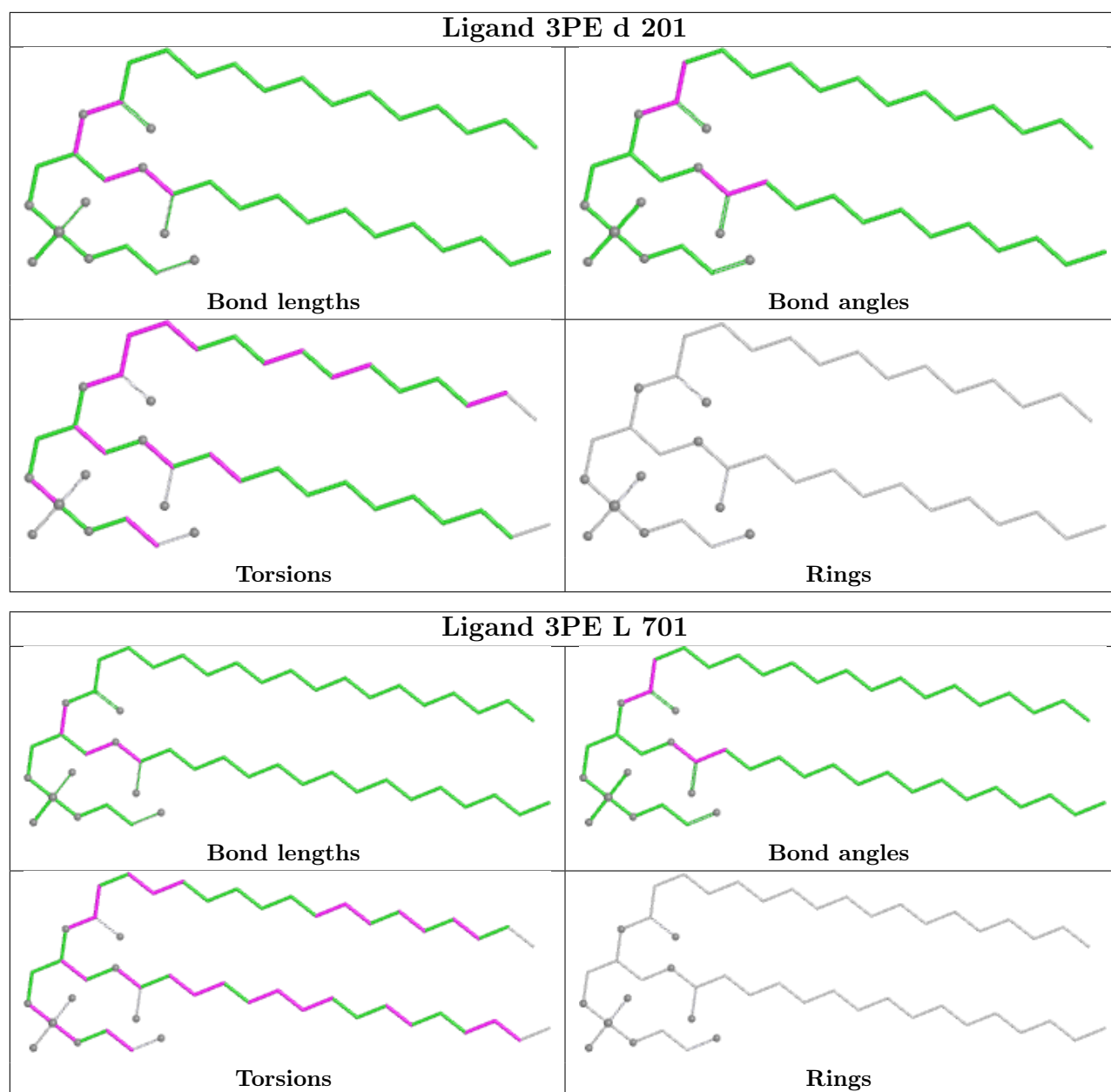


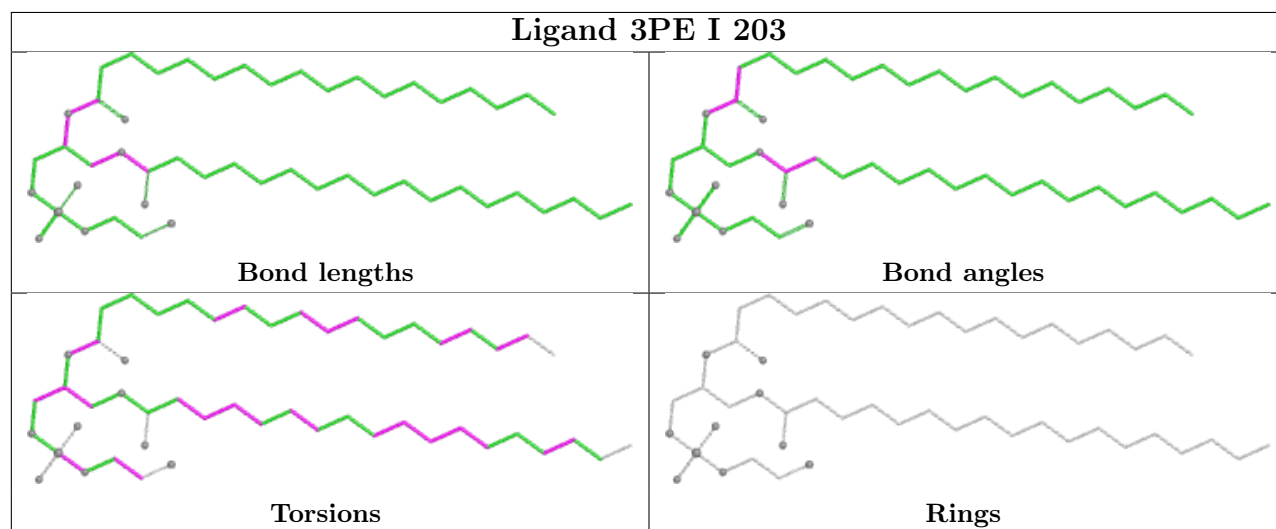
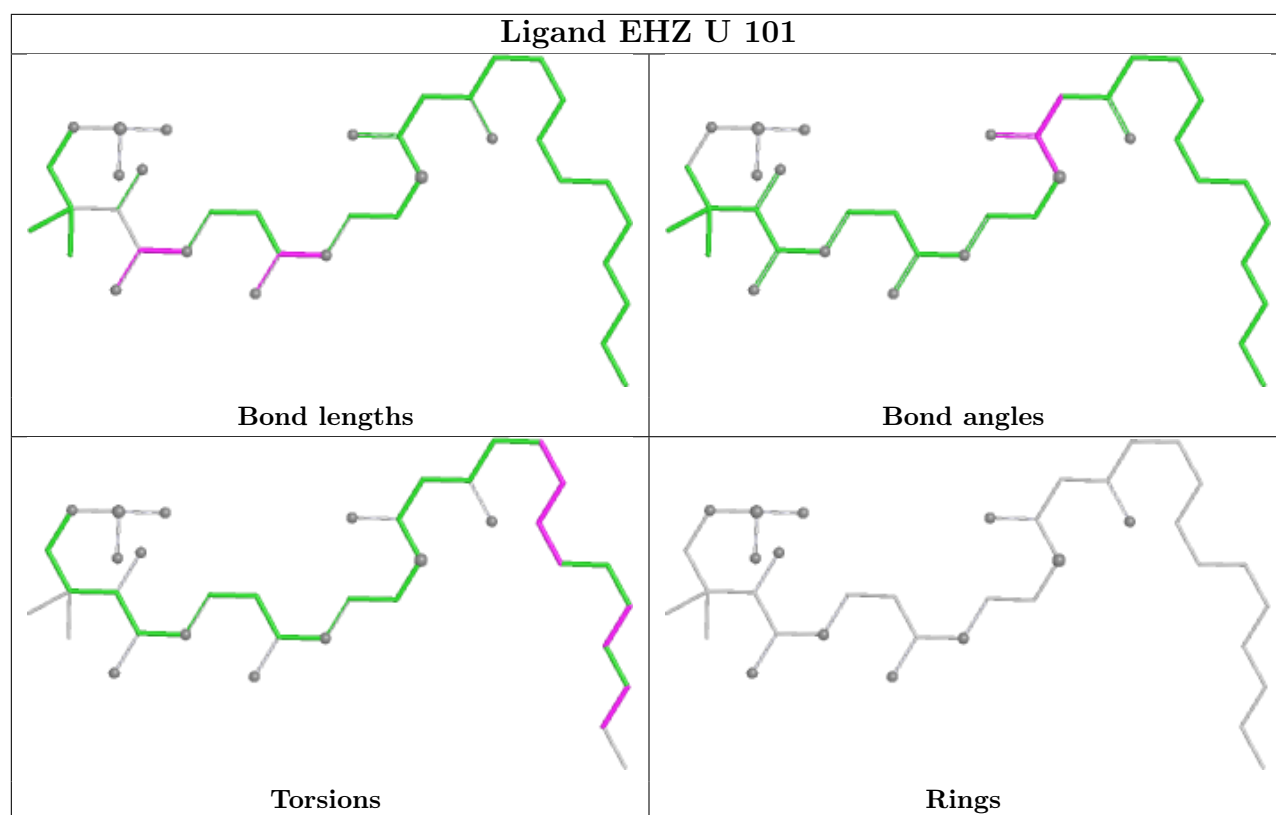


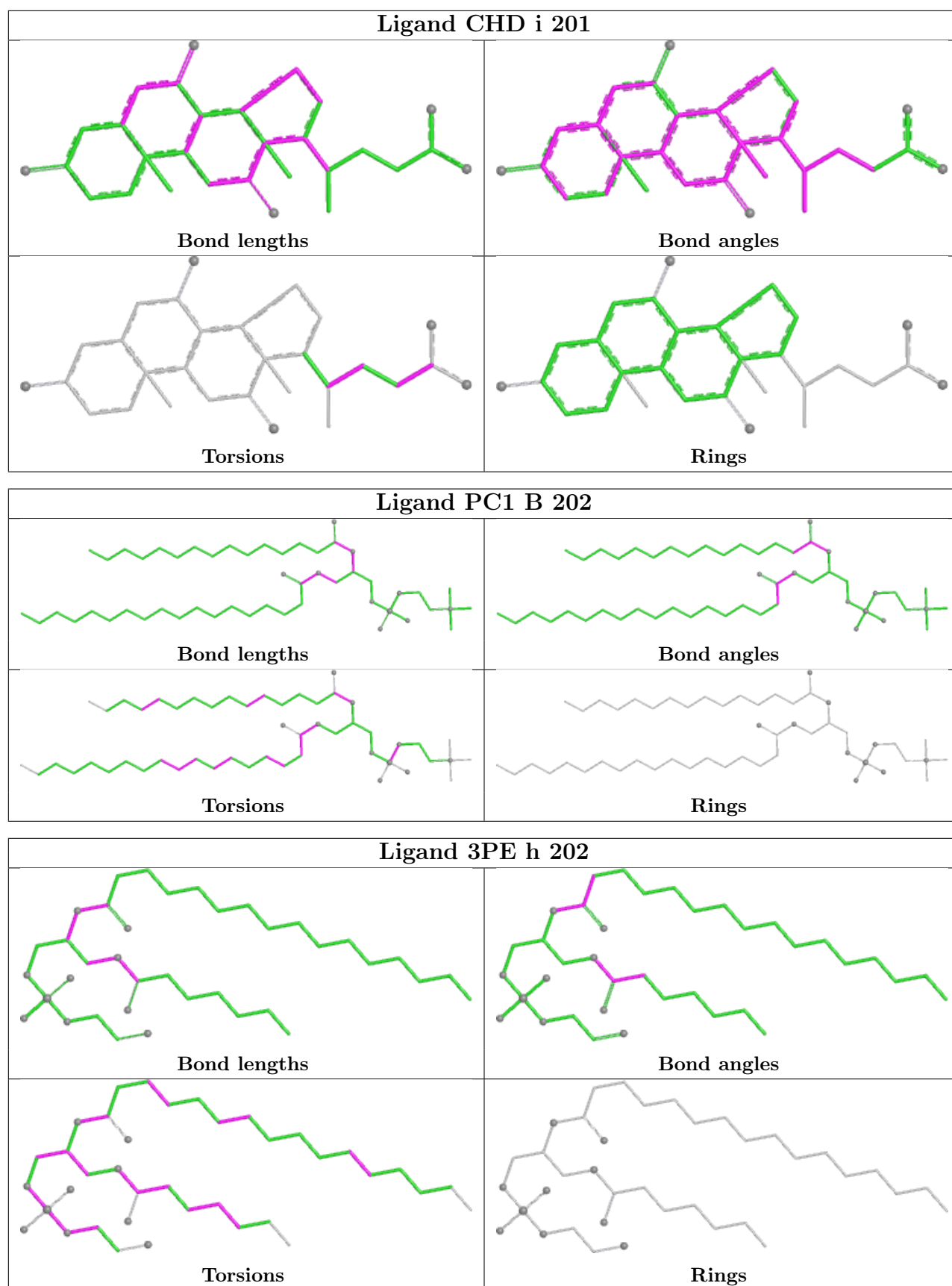


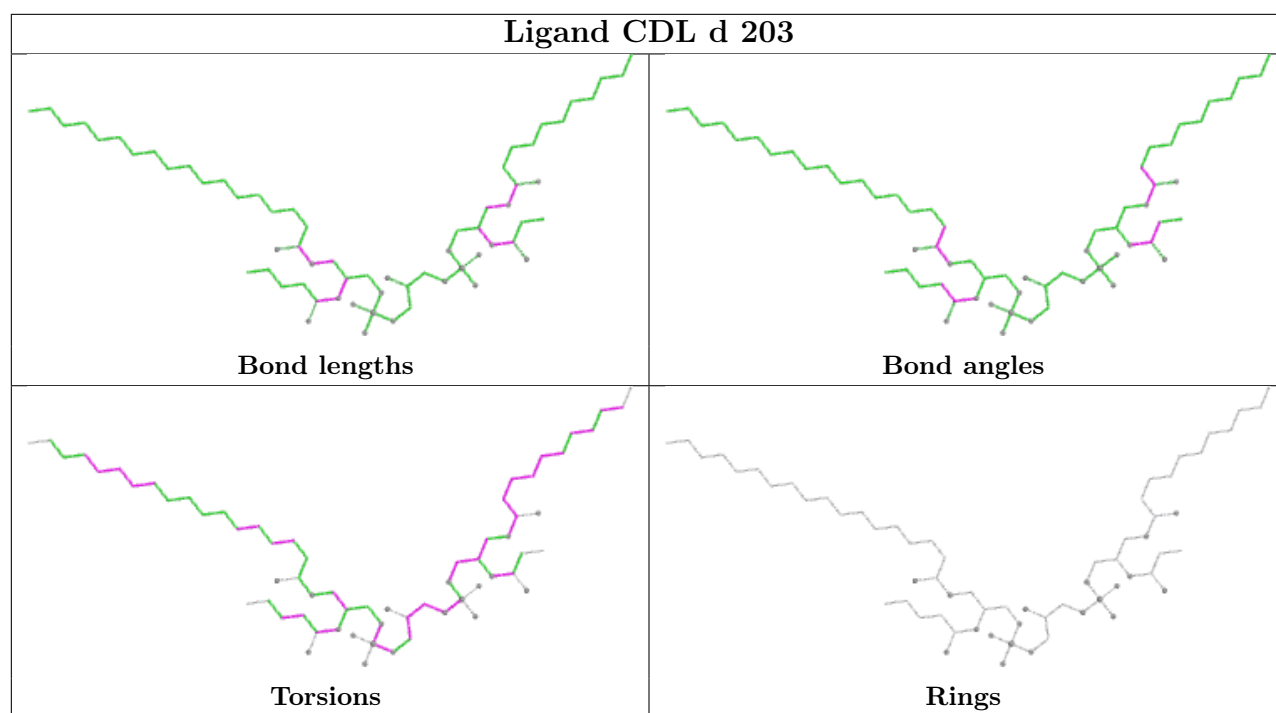
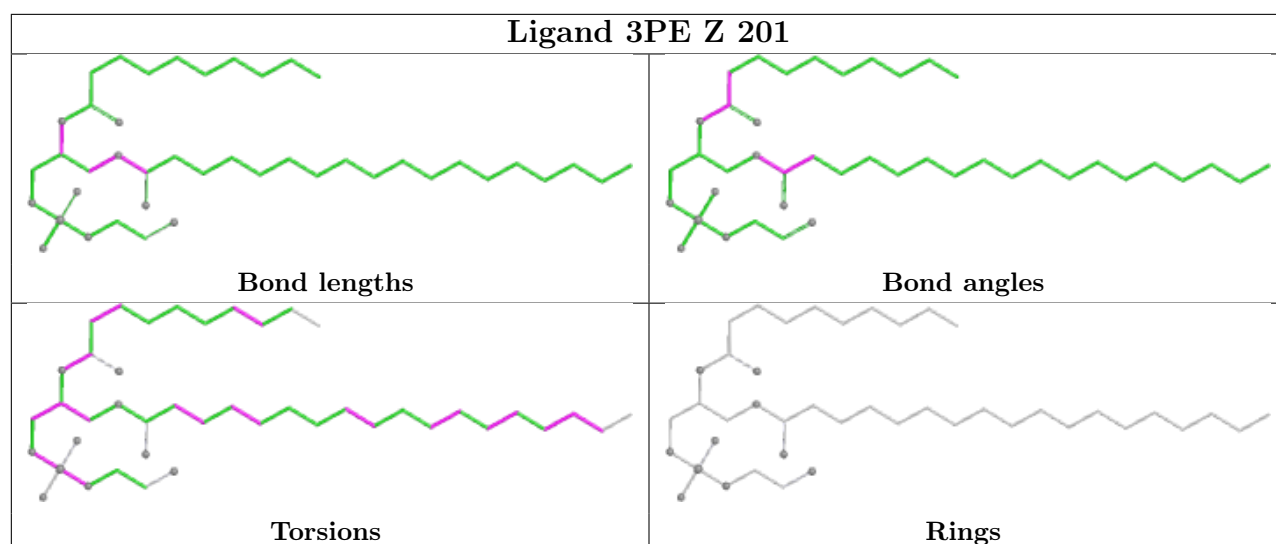


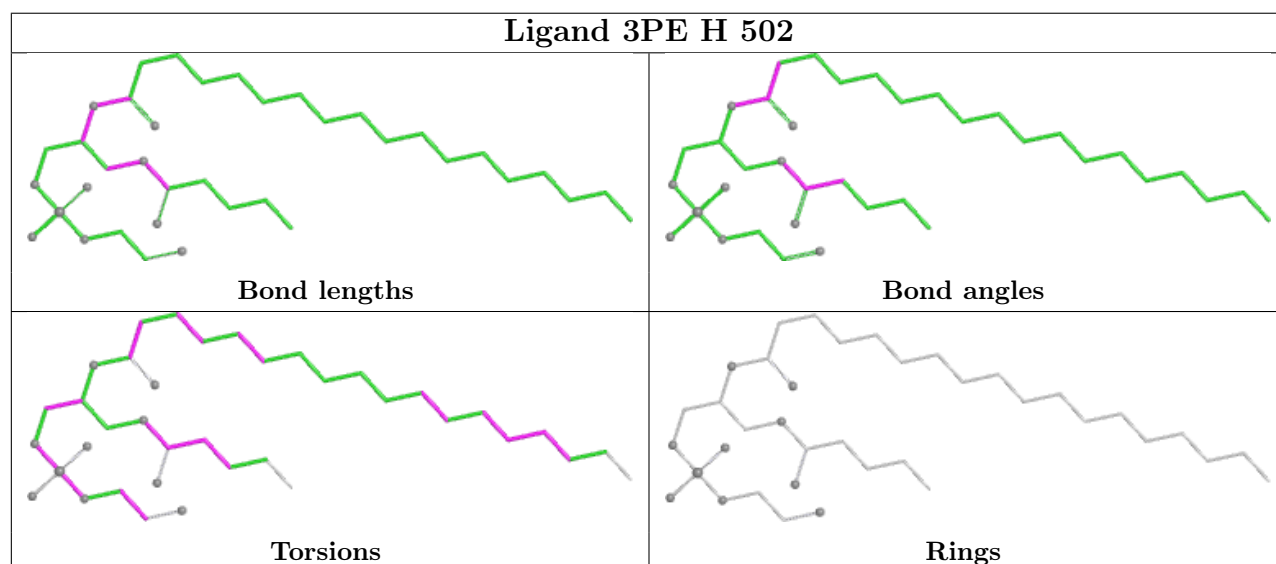
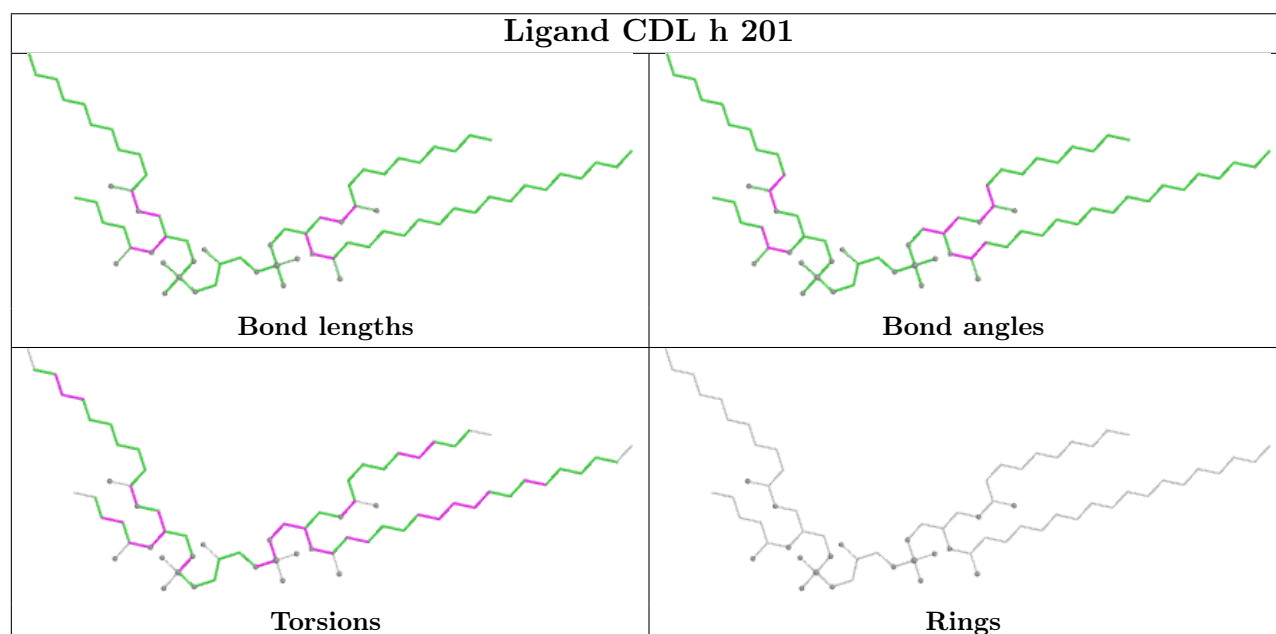
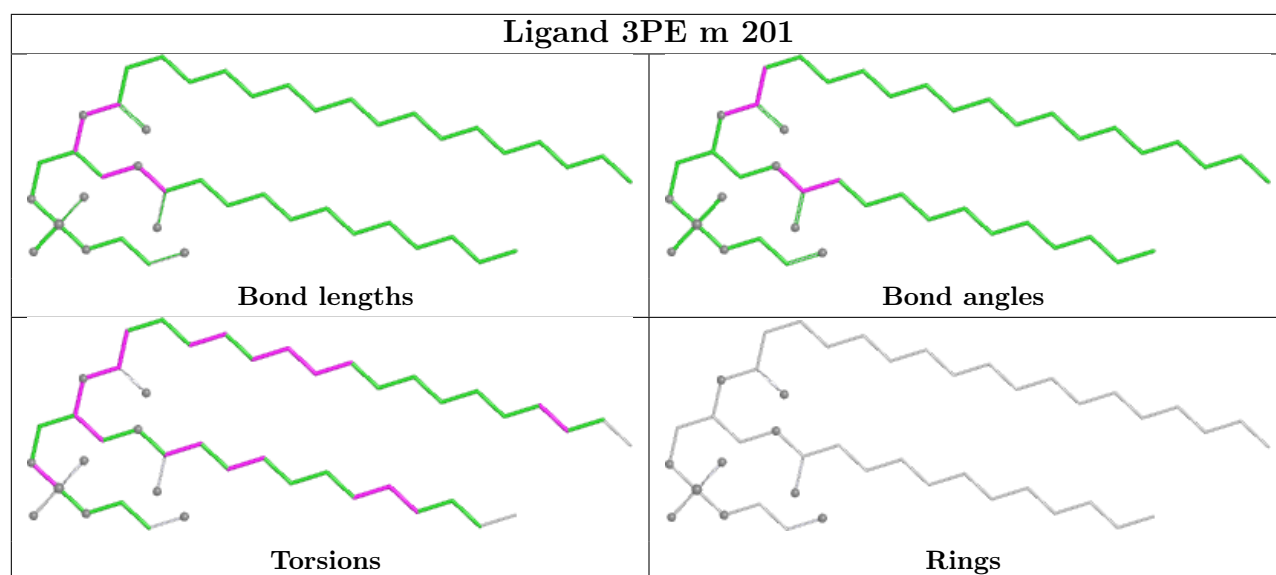


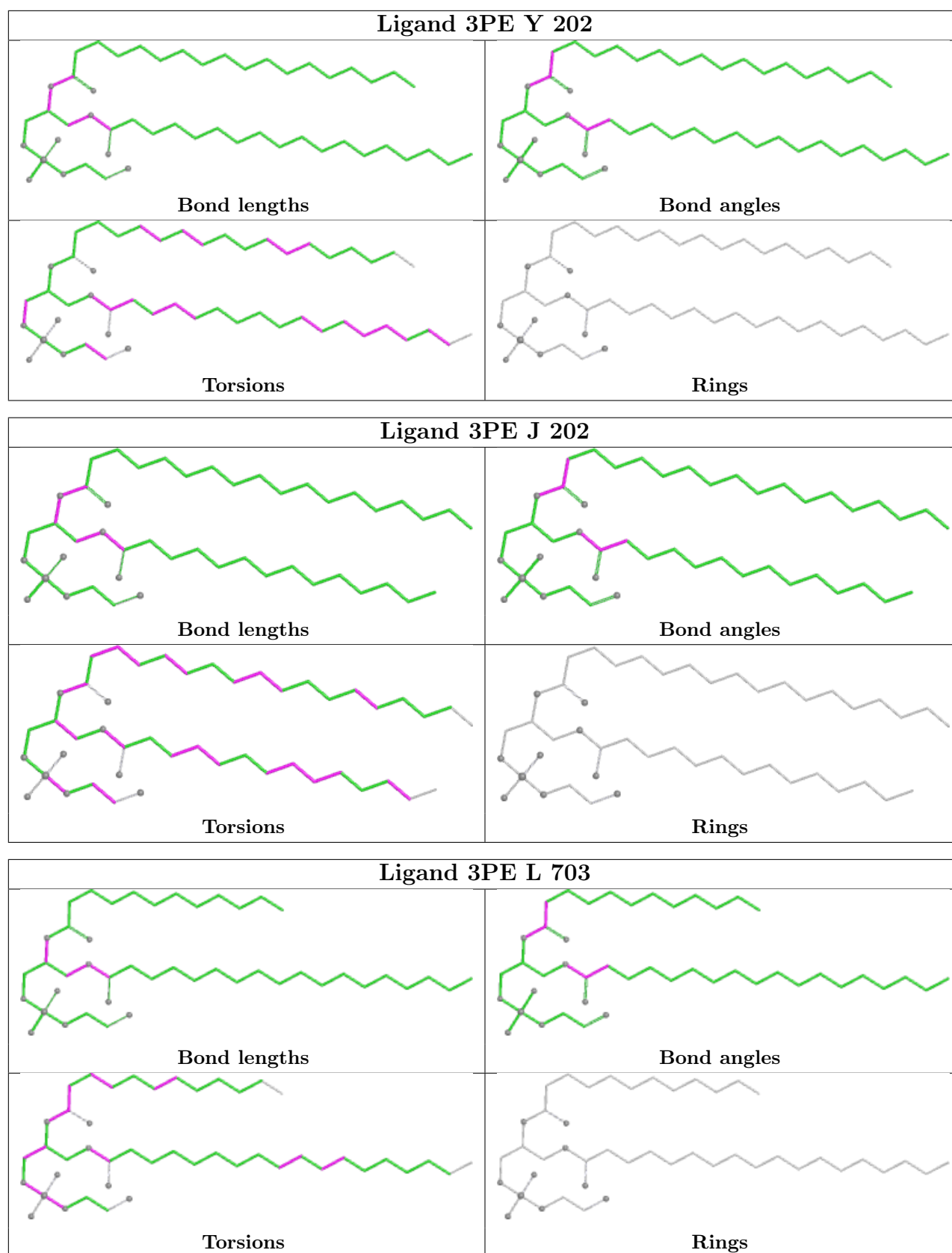


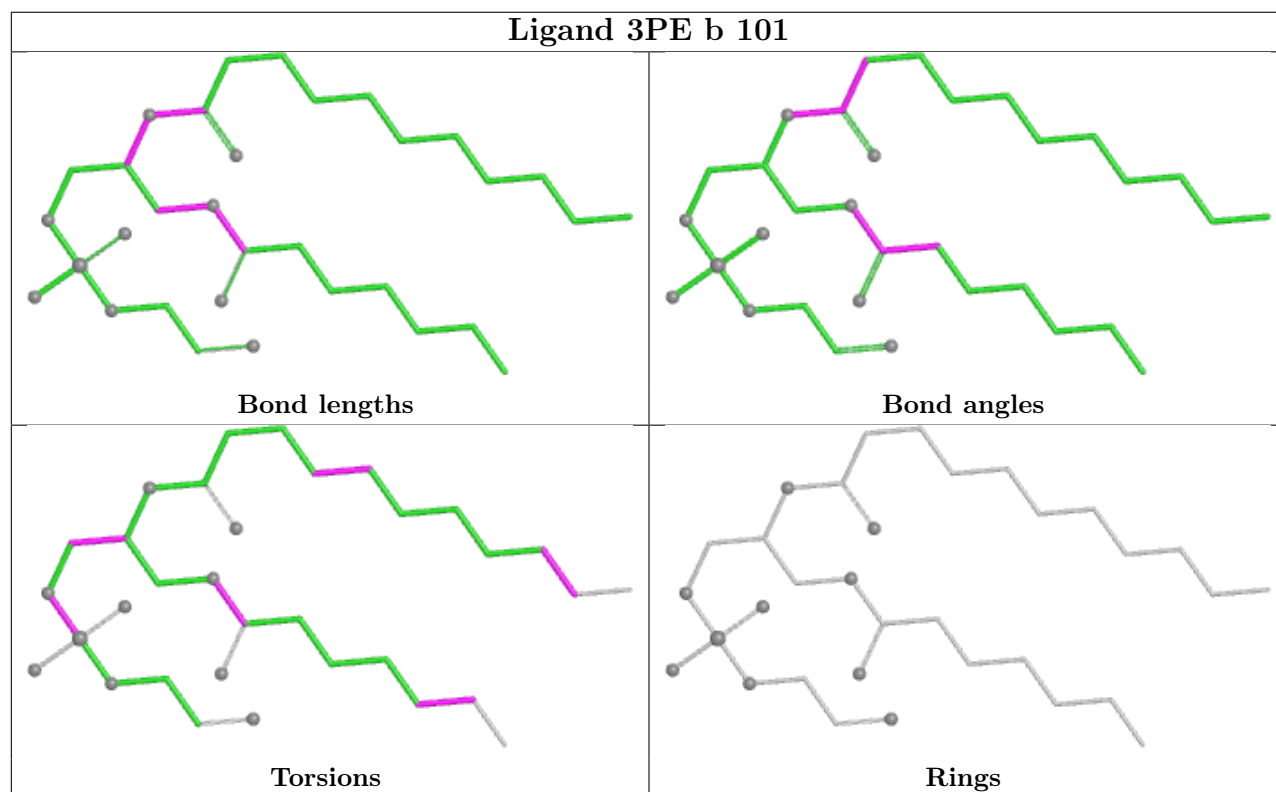
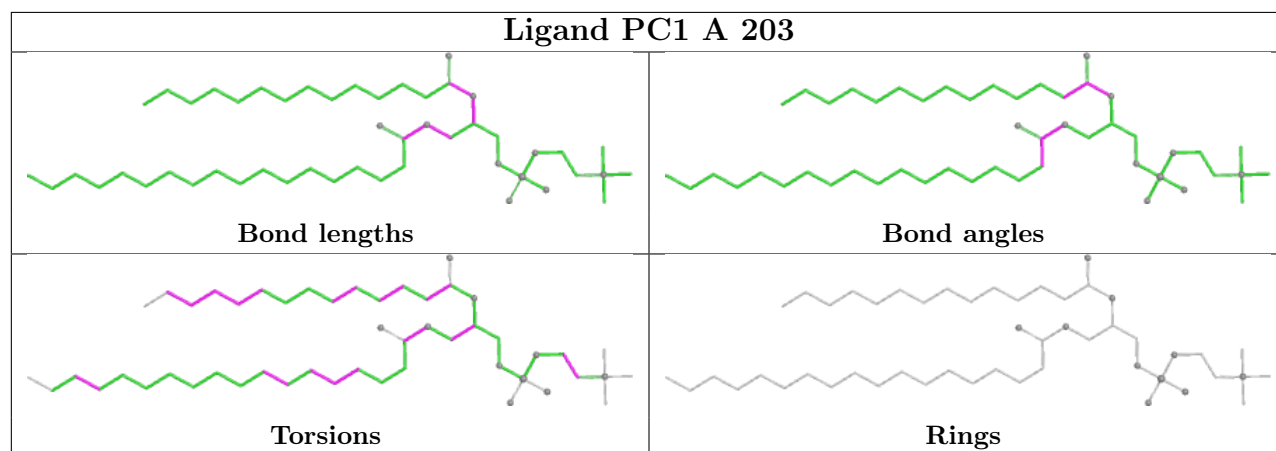
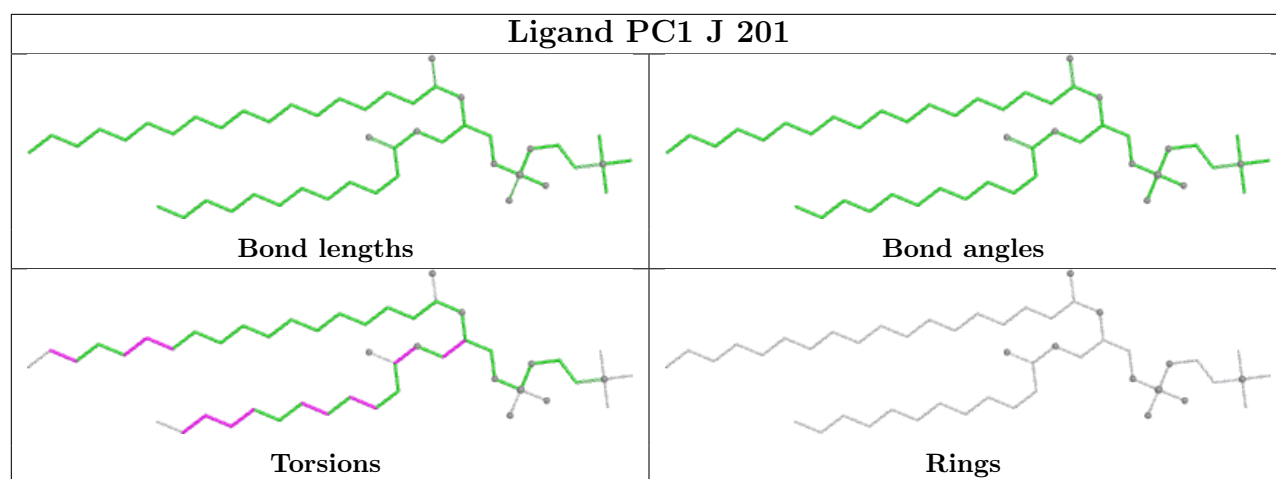




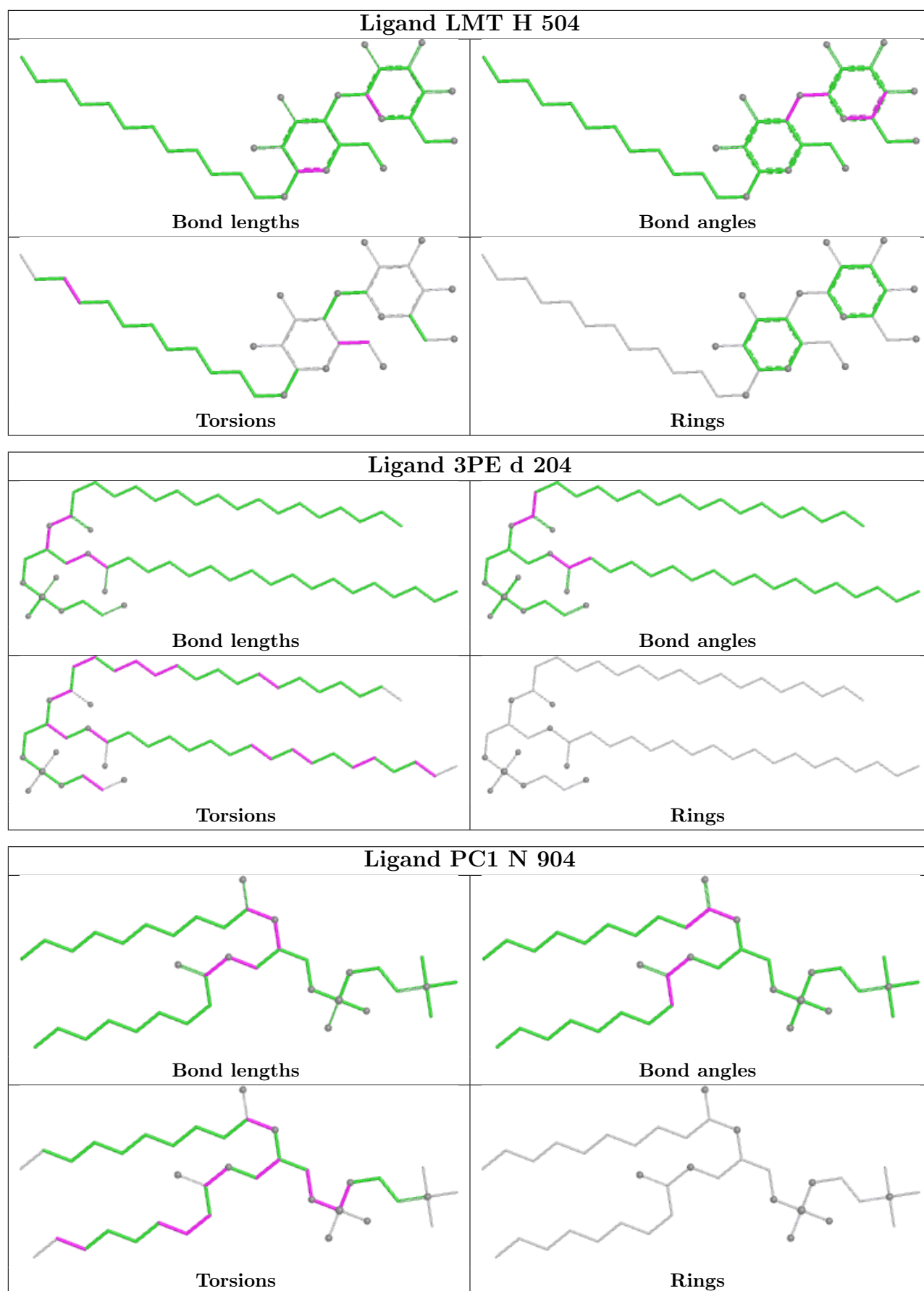


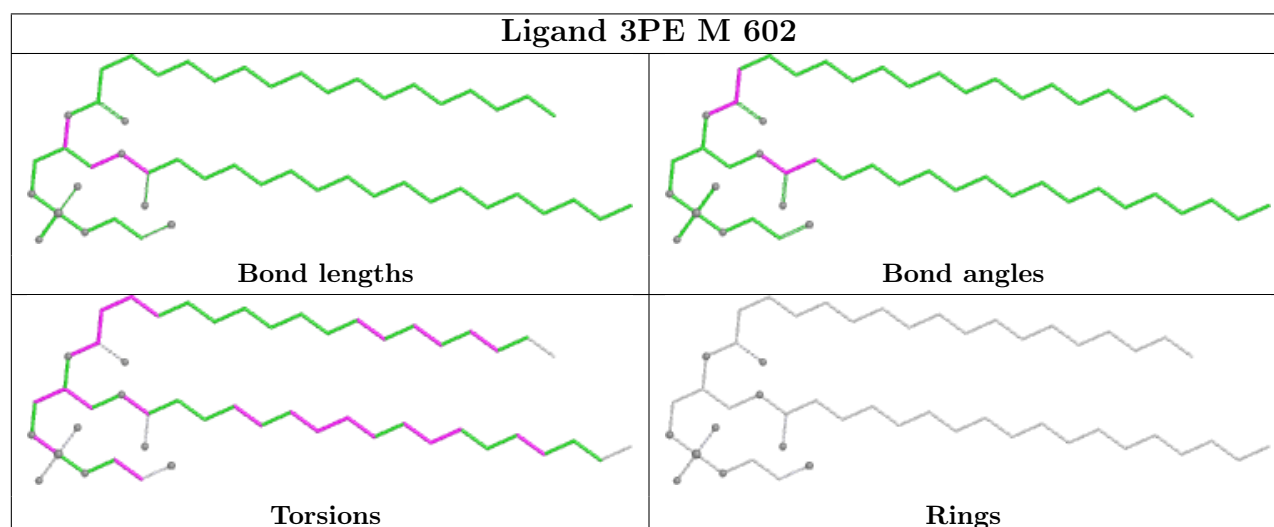
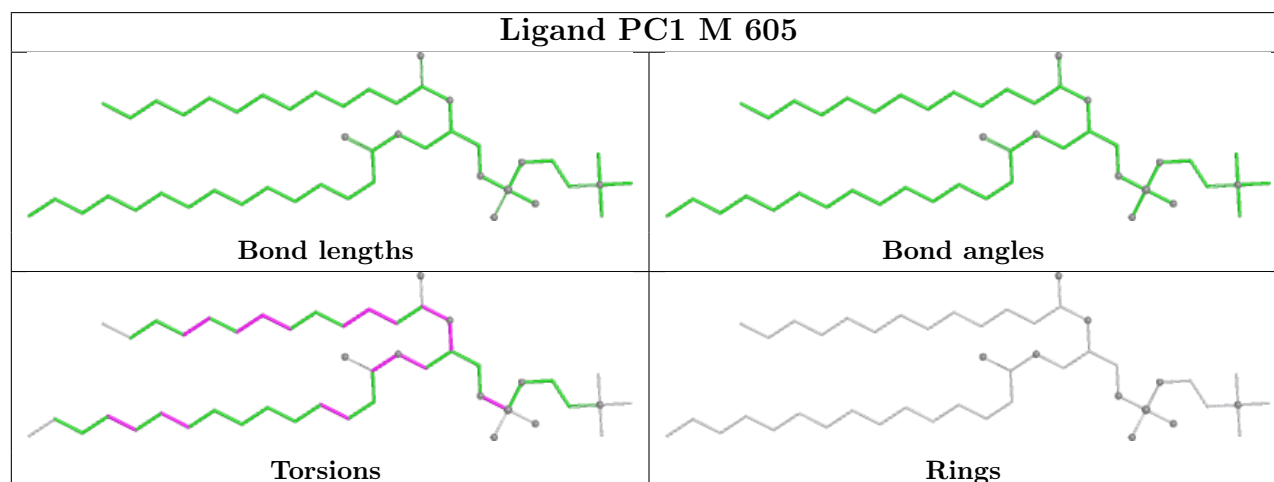
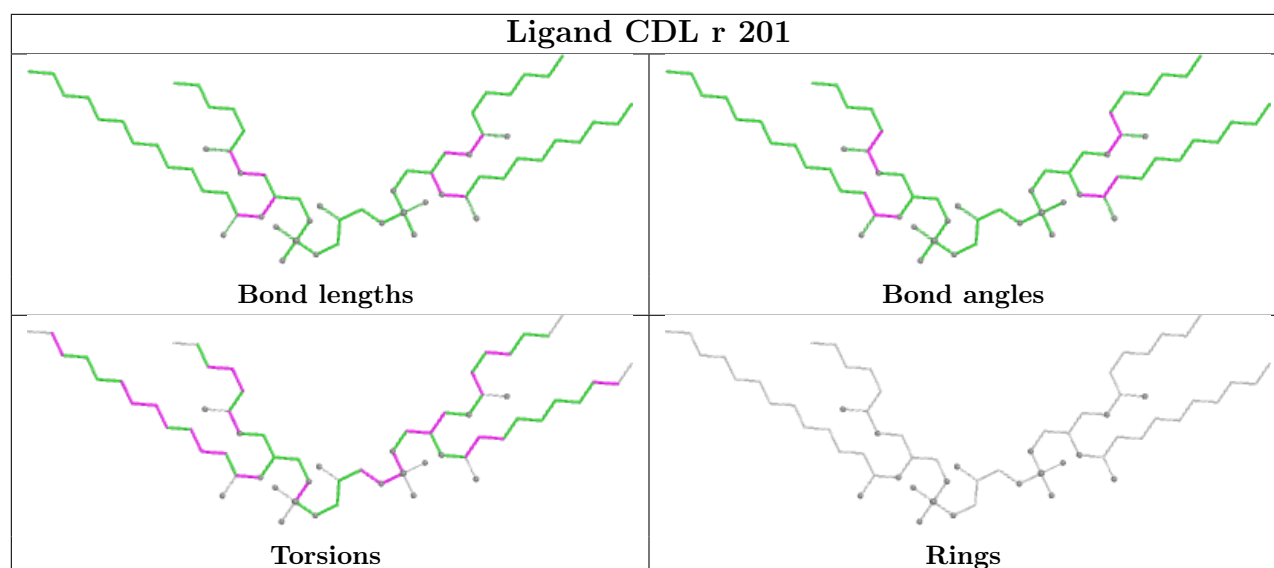


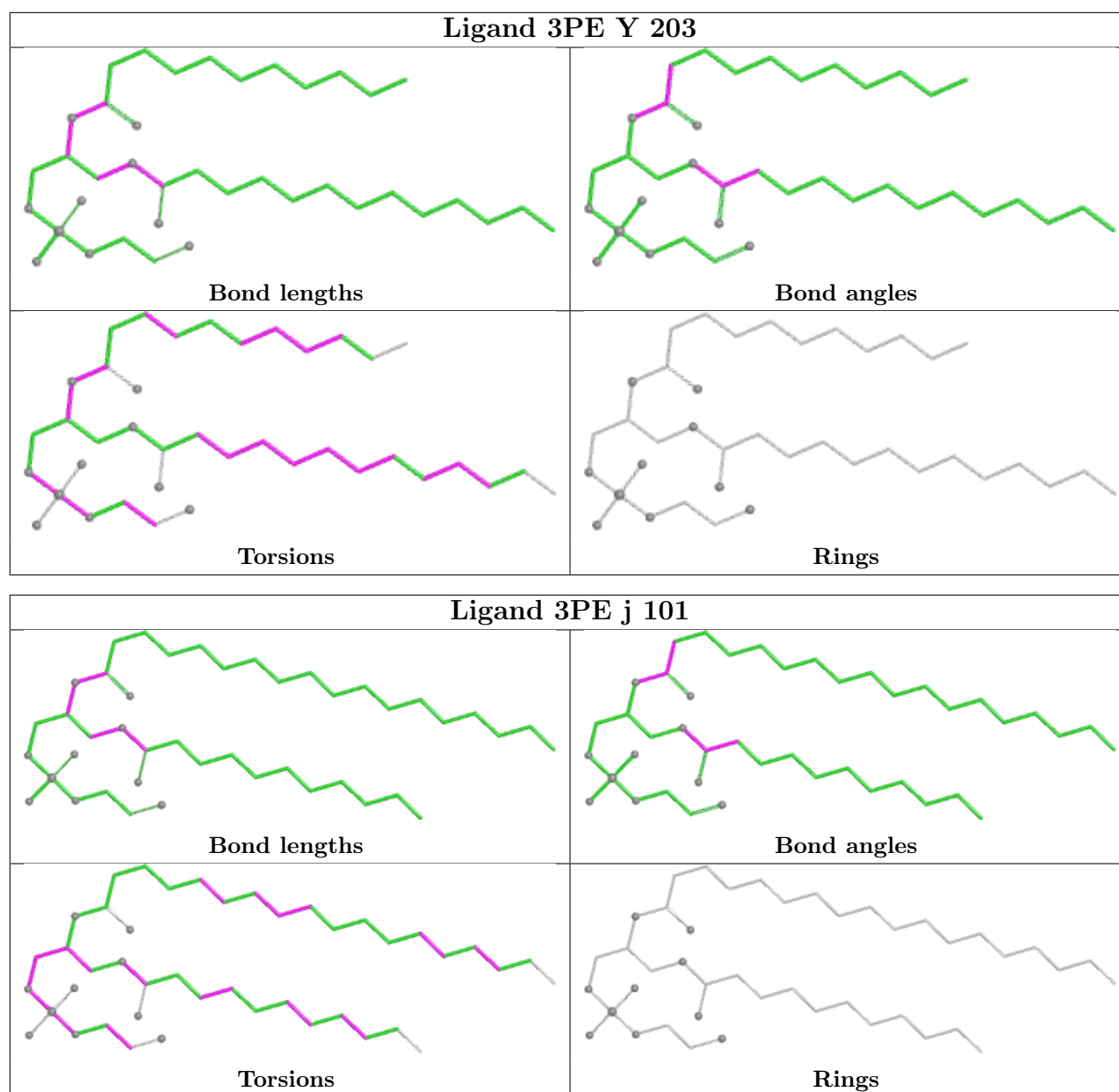












## 5.7 Other polymers [i](#)

There are no such residues in this entry.

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

There are no chain breaks in this entry.

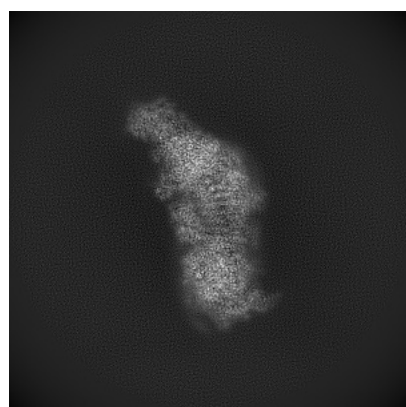
## 6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-14134. These allow visual inspection of the internal detail of the map and identification of artifacts.

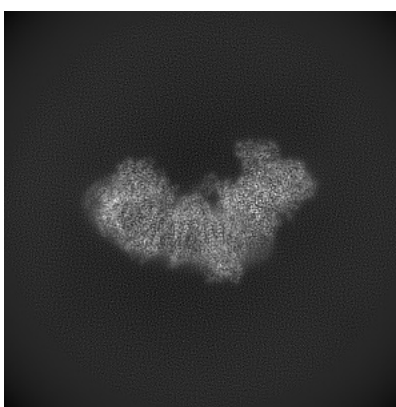
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

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

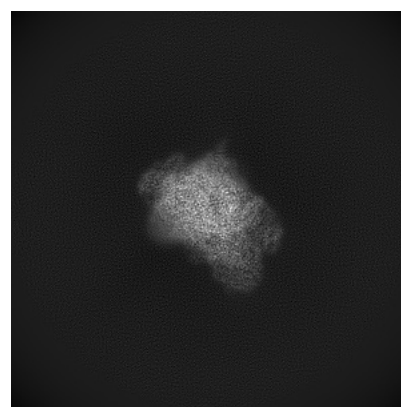
#### 6.1.1 Primary map



X



Y

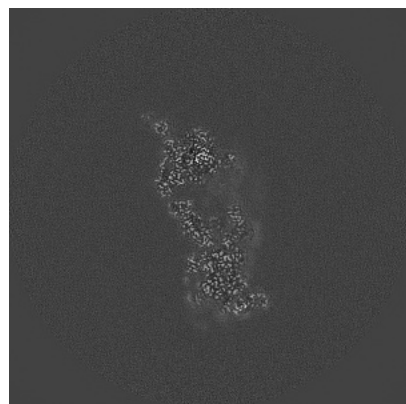


Z

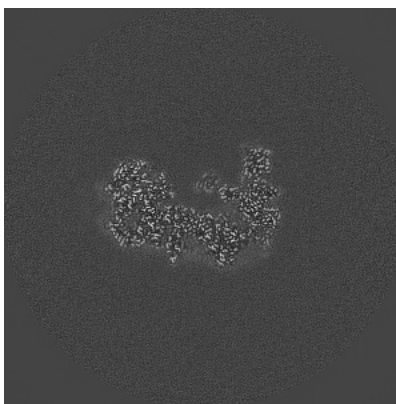
The images above show the map projected in three orthogonal directions.

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

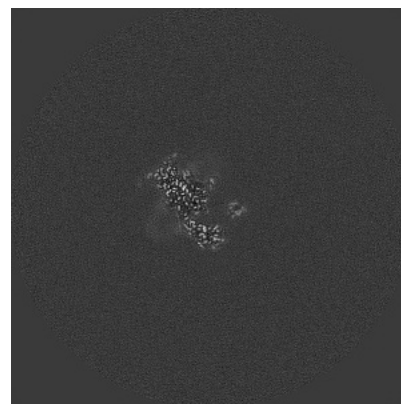
#### 6.2.1 Primary map



X Index: 320



Y Index: 320

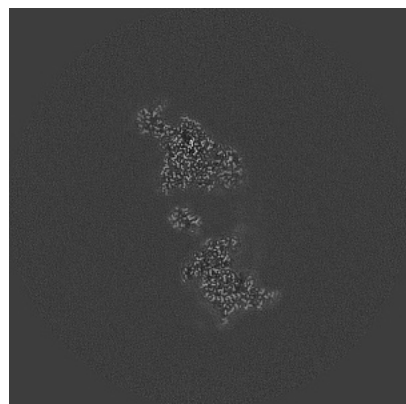


Z Index: 320

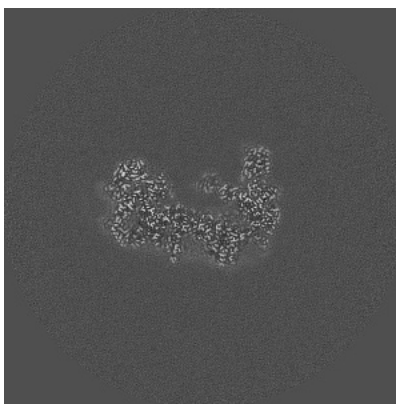
The images above show central slices of the map in three orthogonal directions.

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

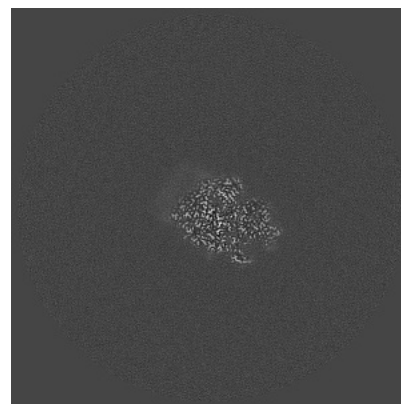
### 6.3.1 Primary map



X Index: 337



Y Index: 319

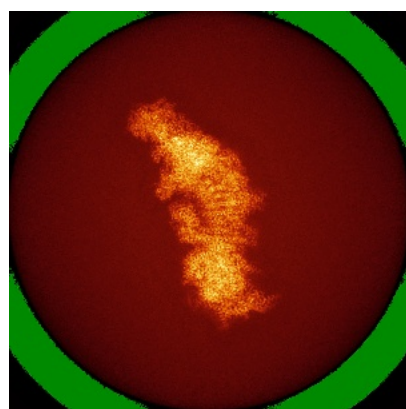


Z Index: 404

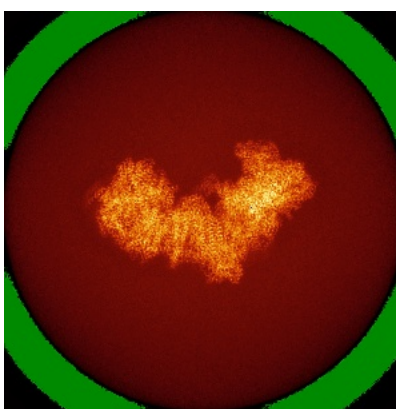
The images above show the largest variance slices of the map in three orthogonal directions.

## 6.4 Orthogonal standard-deviation projections (False-color) [i](#)

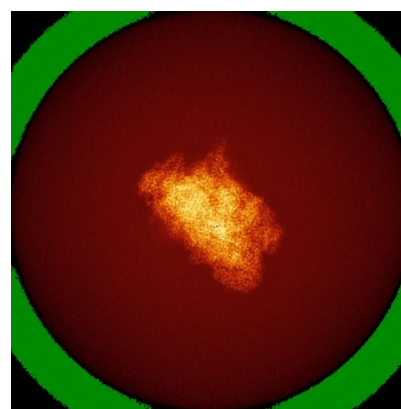
### 6.4.1 Primary map



X



Y



Z

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

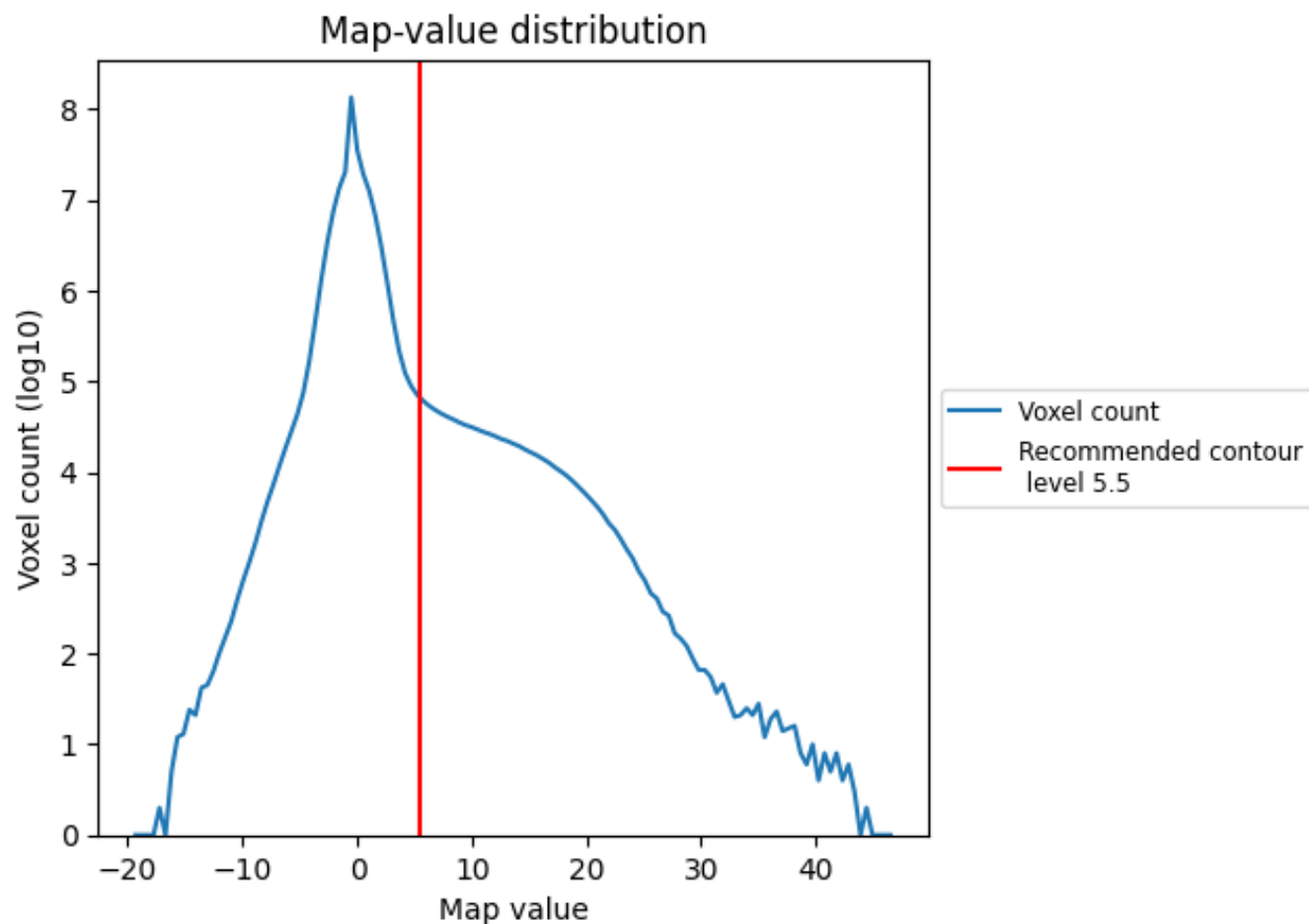
## 6.6 Mask visualisation [i](#)

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

## 7 Map analysis [i](#)

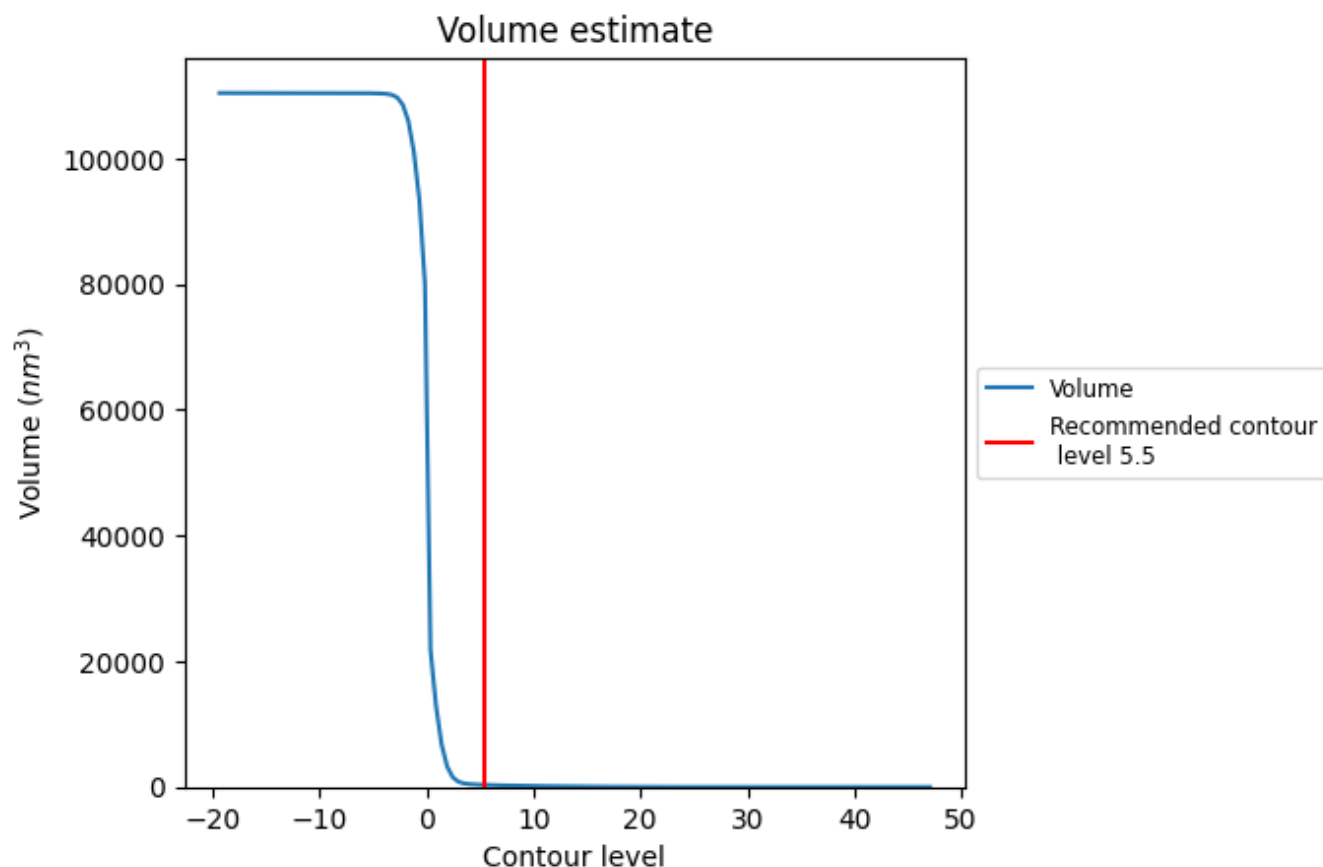
This section contains the results of statistical analysis of the map.

### 7.1 Map-value distribution [i](#)



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

## 7.2 Volume estimate [i](#)

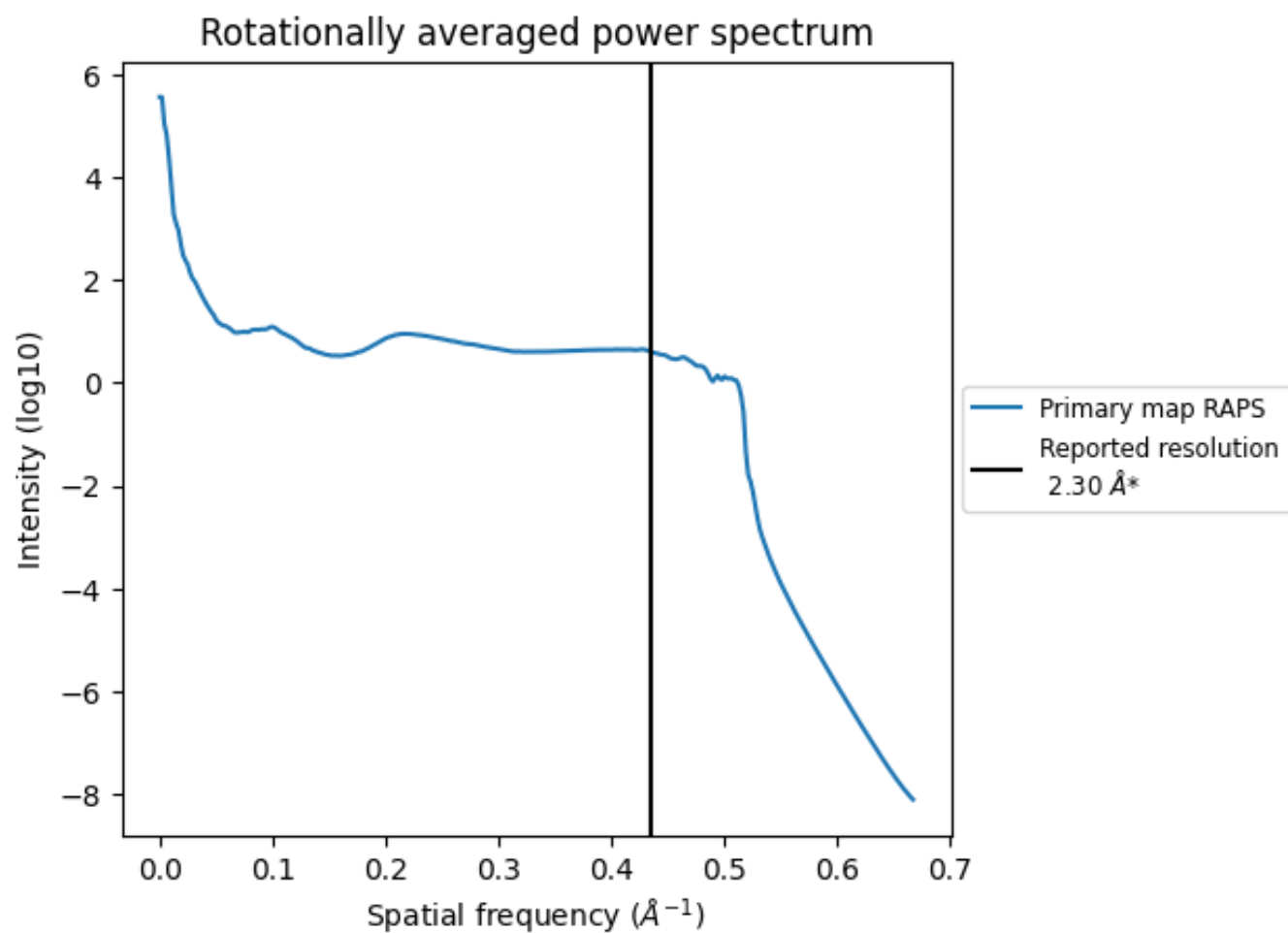


The volume at the recommended contour level is  $324 \text{ nm}^3$ ; this corresponds to an approximate mass of 293 kDa.

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 ⓘ



\*Reported resolution corresponds to spatial frequency of 0.435 Å<sup>-1</sup>

## 8 Fourier-Shell correlation

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

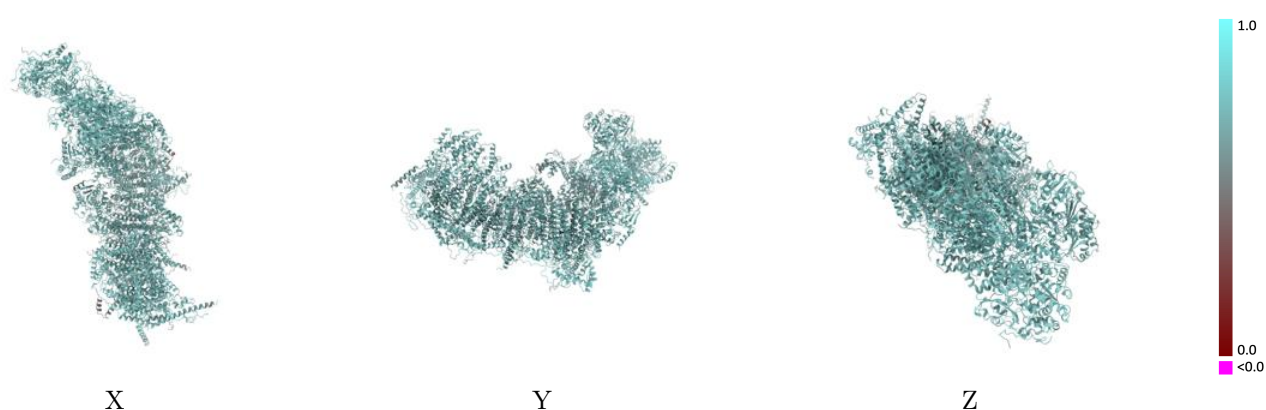
## 9 Map-model fit [i](#)

This section contains information regarding the fit between EMD map EMD-14134 and PDB model 7QSM. Per-residue inclusion information can be found in section 3 on page 25.

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

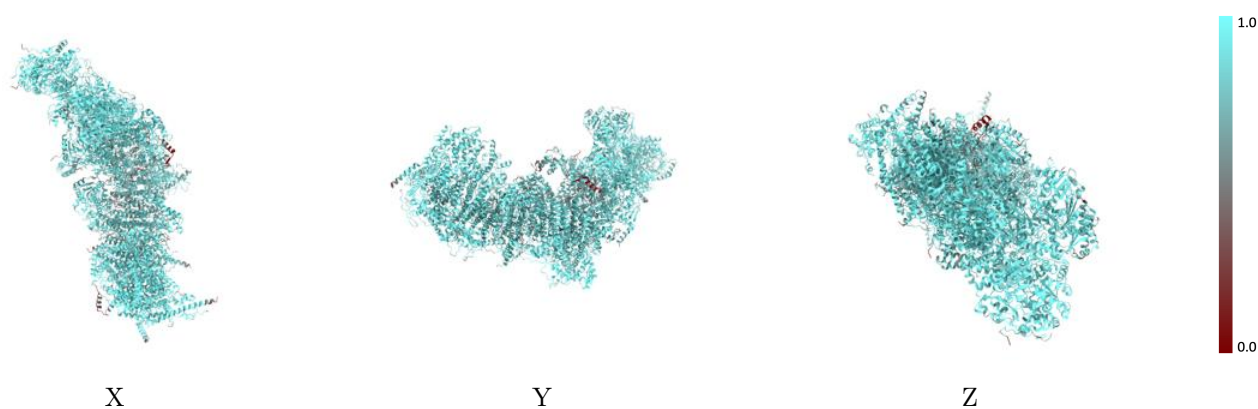
This section was not generated.

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



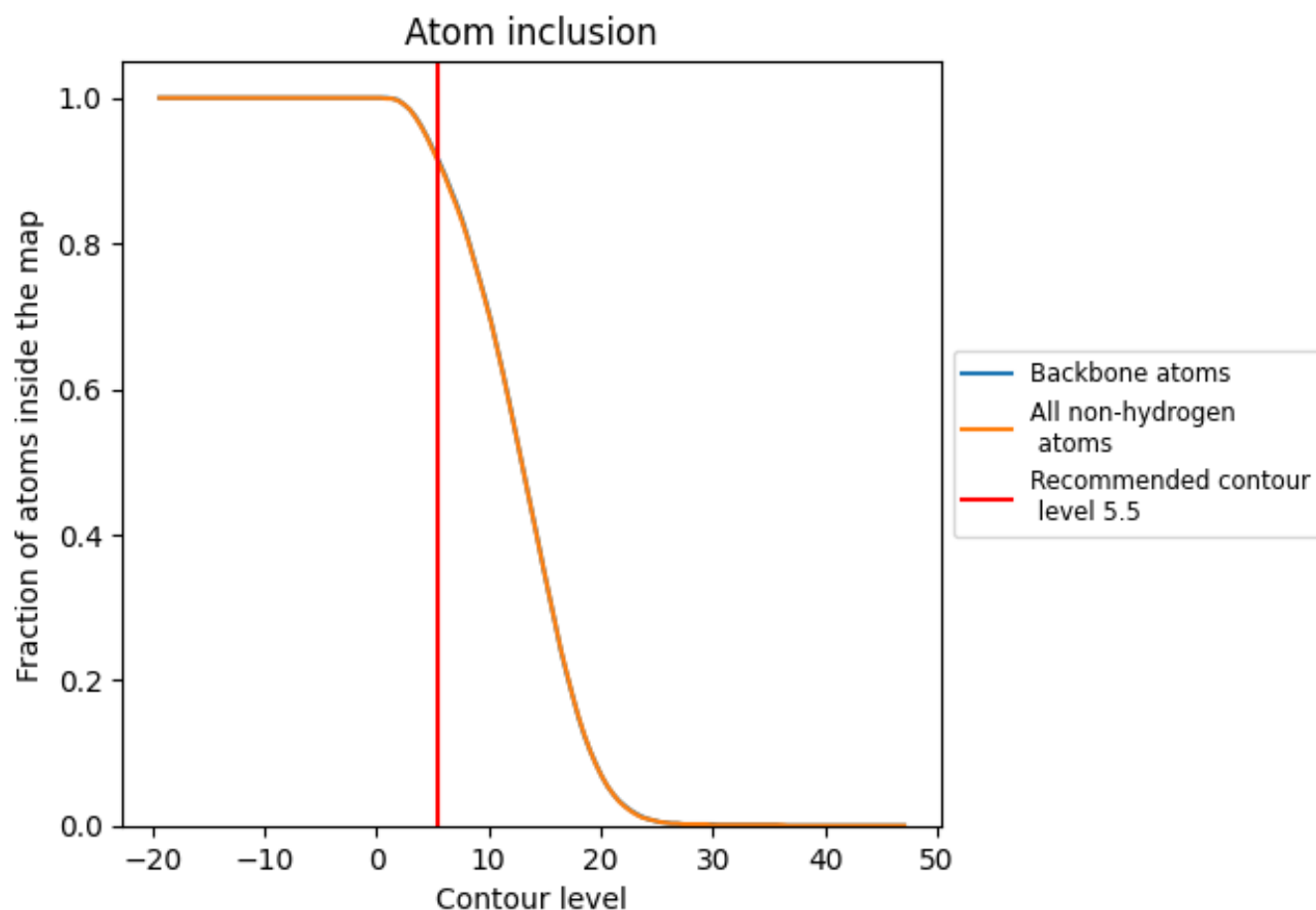
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (5.5).







































































## 9.4 Atom inclusion [i](#)



At the recommended contour level, 92% of all backbone atoms, 91% 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 (5.5) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9130	 0.7090
A	 0.8060	 0.6820
B	 0.9440	 0.7350
C	 0.9660	 0.7430
D	 0.9380	 0.7360
E	 0.9220	 0.7040
F	 0.9410	 0.7160
G	 0.9350	 0.7220
H	 0.9280	 0.7220
I	 0.9670	 0.7450
J	 0.8790	 0.6910
K	 0.9670	 0.7280
L	 0.9580	 0.7110
M	 0.9700	 0.7290
N	 0.9580	 0.7310
O	 0.9220	 0.6960
P	 0.7920	 0.6740
Q	 0.9060	 0.7270
R	 0.9000	 0.7170
S	 0.8630	 0.6860
T	 0.6550	 0.6200
U	 0.9410	 0.6990
V	 0.8920	 0.7110
W	 0.8860	 0.7050
X	 0.9060	 0.6970
Y	 0.8500	 0.6780
Z	 0.8960	 0.7080
a	 0.9470	 0.7110
b	 0.8850	 0.6790
c	 0.8940	 0.6880
d	 0.8650	 0.6990
e	 0.9110	 0.7050
f	 0.7770	 0.6610
g	 0.9030	 0.7010
h	 0.9150	 0.7100



*Continued on next page...*

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Chain	Atom inclusion	Q-score
i	 0.8190	 0.6490
j	 0.9050	 0.6750
k	 0.8820	 0.6700
l	 0.9440	 0.7070
m	 0.9090	 0.6990
n	 0.9390	 0.7040
o	 0.9110	 0.6810
p	 0.9240	 0.7040
q	 0.9170	 0.7210
r	 0.9010	 0.7200
s	 0.9060	 0.6930