Full wwPDB X-ray Structure Validation Report ⓘ

Oct 2, 2023 – 12:58 AM EDT

PDB ID	:	6N4I
Title	:	Structural basis of Nav1.7 inhibition by a gating-modifier spider toxin
Authors	:	Xu, H.; Koth, C.M.; Payandeh, J.
Deposited on	:	2018-11-19
Resolution	:	3.54 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.

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

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

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

MolProbity	:	FAILED
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	FAILED
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.35.1

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
X-RAY DIFFRACTION

The reported resolution of this entry is 3.54 Å.

There are no overall percentile quality scores available for this entry.

MolProbity and EDS failed to run properly - the sequence quality summary graphics cannot be shown.

2 Entry composition (i)

There are 3 unique types of molecules in this entry. The entry contains 8629 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, 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.

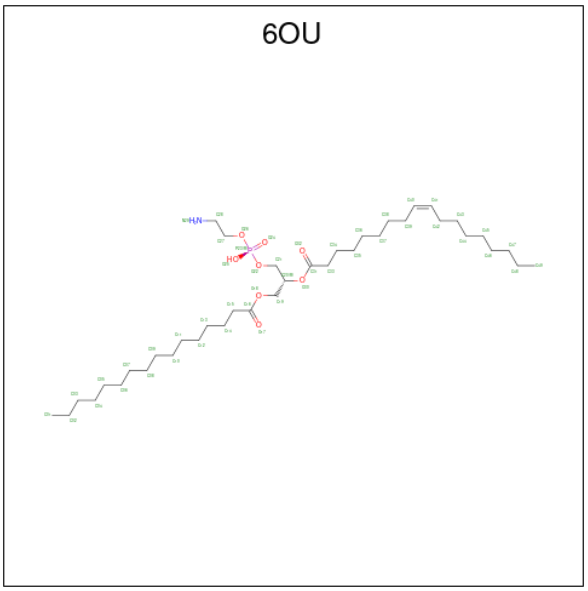
- Molecule 1 is a protein called Nav1.7 VSD2-NavAb channel chimera protein.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	225	Total	C	N	O	S	0	0	0
			1823	1238	273	299	13			
1	B	225	Total	C	N	O	S	0	0	0
			1819	1235	272	299	13			
1	C	226	Total	C	N	O	S	0	0	0
			1818	1235	270	300	13			
1	D	225	Total	C	N	O	S	0	0	0
			1808	1229	269	297	13			

- Molecule 2 is a protein called Beta/omega-theraphotoxin-Tp2a.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	E	30	Total	C	N	O	S	0	0	0
			262	168	46	40	8			
2	F	30	Total	C	N	O	S	0	0	0
			262	168	46	40	8			
2	G	30	Total	C	N	O	S	0	0	0
			258	165	45	40	8			
2	H	30	Total	C	N	O	S	0	0	0
			262	168	46	40	8			

- Molecule 3 is [(2 {R})-1-[2-azanylethoxy(oxidanyl)phosphoryl]oxy-3-hexadecanoyloxy-propan-2-yl] ({Z})-octadec-9-enoate (three-letter code: 6OU) (formula: $C_{39}H_{76}NO_8P$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	1	Total C O P 24 15 8 1	0	0
3	A	1	Total C N O P 27 17 1 8 1	0	0
3	A	1	Total C N O P 16 7 1 7 1	0	0
3	B	1	Total C O P 24 15 8 1	0	0
3	B	1	Total C N O P 27 17 1 8 1	0	0
3	B	1	Total C N O P 18 9 1 7 1	0	0
3	C	1	Total C O P 24 15 8 1	0	0
3	C	1	Total C N O P 27 17 1 8 1	0	0
3	D	1	Total C O P 24 15 8 1	0	0
3	D	1	Total C N O P 27 17 1 8 1	0	0
3	D	1	Total C N O P 14 6 1 6 1	0	0
3	D	1	Total C N O P 17 8 1 7 1	0	0
3	D	1	Total C N O P 11 5 1 4 1	0	0
3	E	1	Total C O P 13 6 6 1	0	0

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
3	F	1	Total	C	N	O	P	0	0
			9	3	1	4	1		
3	G	1	Total	C	N	O	P	0	0
			15	7	1	6	1		

MolProbity and EDS failed to run properly - this section is therefore empty.

3 Data and refinement statistics (i)

EDS failed to run properly - this section is therefore incomplete.

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, α, β, γ	221.22Å 123.53Å 123.99Å 90.00° 124.00° 90.00°	Depositor
Resolution (Å)	36.89 – 3.54	Depositor
% Data completeness (in resolution range)	81.5 (36.89-3.54)	Depositor
R_{merge}	0.12	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	3.28 (at 3.57Å)	Xtriage
Refinement program	PHENIX (dev_2747: ???)	Depositor
R, R_{free}	0.275 , 0.294	Depositor
Wilson B-factor (Å^2)	108.8	Xtriage
Anisotropy	0.027	Xtriage
L-test for twinning[2]	$< \|L\| > = 0.48$, $< L^2 > = 0.30$	Xtriage
Estimated twinning fraction	0.017 for 1/2*h+1/2*k+2*l,1/2*h+1/2*k,-1/2*h+1/2*k-l 0.018 for -1/2*h-3/2*k-l,-1/2*h+1/2*k-l,1/2*h+1/2*k 0.035 for -1/2*h+3/2*k-l,1/2*h+1/2*k+l,1/2*h-1/2*k 0.035 for 1/2*h-1/2*k+2*l,-1/2*h+1/2*k,-1/2*h-1/2*k-l 0.388 for -h+k-l,-l,-k 0.379 for -h-k-l,l,k 0.037 for -1/2*h-1/2*k+l,-1/2*h-1/2*k-l,1/2*h-1/2*k 0.022 for -1/2*h+1/2*k+l,1/2*h-1/2*k+l,1/2*h+1/2*k 0.038 for 1/2*h+3/2*k,1/2*h-1/2*k,-1/2*h-1/2*k-l 0.022 for 1/2*h-3/2*k,-1/2*h-1/2*k,-1/2*h+1/2*k-l 0.397 for -h-2*l,-k,l	Xtriage
Total number of atoms	8629	wwPDB-VP
Average B, all atoms (Å^2)	134.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 6.16% of the height of the origin peak. No significant pseudotranslation is detected.*

[1] Intensities estimated from amplitudes.

[2] Theoretical values of $< |L| >$, $< L^2 >$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

4 Model quality

4.1 Standard geometry

MolProbity failed to run properly - this section is therefore empty.

4.2 Too-close contacts

MolProbity failed to run properly - this section is therefore empty.

4.3 Torsion angles

4.3.1 Protein backbone

MolProbity failed to run properly - this section is therefore empty.

4.3.2 Protein sidechains

MolProbity failed to run properly - this section is therefore empty.

4.3.3 RNA

MolProbity failed to run properly - this section is therefore empty.

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

There are no non-standard protein/DNA/RNA residues in this entry.

4.5 Carbohydrates

There are no monosaccharides in this entry.

4.6 Ligand geometry

16 ligands 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	$\#\|Z\| > 2$
3	6OU	C	1002	-	26,26,48	1.22	3 (11%)	29,31,53	1.12	2 (6%)
3	6OU	G	101	-	14,14,48	1.49	2 (14%)	16,18,53	1.60	2 (12%)
3	6OU	B	1001	-	23,23,48	1.61	4 (17%)	27,28,53	1.12	2 (7%)
3	6OU	A	1003	-	15,15,48	1.10	0	17,19,53	0.88	0
3	6OU	D	1001	-	23,23,48	1.59	4 (17%)	27,28,53	1.15	2 (7%)
3	6OU	D	1004	-	16,16,48	1.24	1 (6%)	18,20,53	1.16	1 (5%)
3	6OU	B	1003	-	17,17,48	1.18	2 (11%)	19,21,53	0.82	1 (5%)
3	6OU	D	1003	-	13,13,48	0.90	0	14,16,53	0.53	0
3	6OU	B	1002	-	26,26,48	1.23	3 (11%)	29,31,53	1.12	2 (6%)
3	6OU	E	101	-	12,12,48	1.60	3 (25%)	14,16,53	1.73	1 (7%)
3	6OU	A	1001	-	23,23,48	1.57	4 (17%)	27,28,53	1.04	2 (7%)
3	6OU	C	1001	-	23,23,48	1.59	4 (17%)	27,28,53	1.15	2 (7%)
3	6OU	A	1002	-	26,26,48	1.23	3 (11%)	29,31,53	1.07	2 (6%)
3	6OU	D	1002	-	26,26,48	1.21	3 (11%)	29,31,53	1.05	2 (6%)
3	6OU	F	101	-	8,8,48	1.05	0	9,10,53	0.44	0
3	6OU	D	1005	-	10,10,48	0.98	0	11,12,53	0.47	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
3	6OU	C	1002	-	-	17/30/30/52	-
3	6OU	G	101	-	-	8/15/15/52	-
3	6OU	B	1001	-	-	12/25/25/52	-
3	6OU	A	1003	-	-	14/16/16/52	-
3	6OU	D	1001	-	-	8/25/25/52	-
3	6OU	D	1004	-	-	8/18/18/52	-
3	6OU	B	1003	-	-	10/19/19/52	-
3	6OU	D	1003	-	-	9/14/14/52	-
3	6OU	B	1002	-	-	17/30/30/52	-
3	6OU	E	101	-	-	5/13/13/52	-
3	6OU	A	1001	-	-	7/25/25/52	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	6OU	C	1001	-	-	8/25/25/52	-
3	6OU	A	1002	-	-	20/30/30/52	-
3	6OU	D	1002	-	-	17/30/30/52	-
3	6OU	F	101	-	-	4/8/8/52	-
3	6OU	D	1005	-	-	9/10/10/52	-

All (36) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	B	1001	6OU	P23-O24	4.78	1.66	1.50
3	A	1001	6OU	P23-O24	4.77	1.65	1.50
3	D	1001	6OU	P23-O24	4.74	1.65	1.50
3	C	1001	6OU	P23-O24	4.70	1.65	1.50
3	G	101	6OU	O30-C20	-3.39	1.41	1.47
3	E	101	6OU	O30-C20	-3.28	1.41	1.47
3	D	1004	6OU	O18-C16	2.91	1.41	1.33
3	A	1002	6OU	O18-C16	2.87	1.41	1.33
3	B	1001	6OU	O18-C16	2.86	1.41	1.33
3	D	1001	6OU	O18-C16	2.80	1.41	1.33
3	C	1001	6OU	O18-C16	2.77	1.41	1.33
3	E	101	6OU	O30-C31	2.74	1.41	1.35
3	C	1002	6OU	O18-C16	2.72	1.41	1.33
3	G	101	6OU	O30-C31	2.68	1.41	1.35
3	B	1002	6OU	O18-C16	2.60	1.40	1.33
3	D	1002	6OU	O18-C16	2.59	1.40	1.33
3	B	1001	6OU	O30-C31	2.56	1.41	1.34
3	B	1003	6OU	O18-C16	2.53	1.40	1.33
3	A	1001	6OU	O18-C16	2.50	1.40	1.33
3	D	1002	6OU	O30-C31	2.48	1.41	1.34
3	B	1002	6OU	O30-C31	2.47	1.41	1.34
3	A	1001	6OU	O30-C31	2.47	1.41	1.34
3	A	1002	6OU	O30-C20	-2.44	1.40	1.46
3	C	1002	6OU	O30-C31	2.43	1.41	1.34
3	A	1002	6OU	O30-C31	2.43	1.41	1.34
3	D	1001	6OU	O30-C31	2.36	1.41	1.34
3	C	1001	6OU	O30-C20	-2.36	1.40	1.46
3	C	1001	6OU	O30-C31	2.34	1.40	1.34
3	A	1001	6OU	O30-C20	-2.31	1.40	1.46
3	D	1001	6OU	O30-C20	-2.23	1.41	1.46
3	B	1001	6OU	O30-C20	-2.09	1.41	1.46
3	B	1003	6OU	O18-C19	-2.07	1.40	1.45

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	C	1002	6OU	O30-C20	-2.04	1.41	1.46
3	D	1002	6OU	O30-C20	-2.03	1.41	1.46
3	B	1002	6OU	O30-C20	-2.01	1.41	1.46
3	E	101	6OU	P23-O26	2.00	1.66	1.59

All (21) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	E	101	6OU	O30-C31-C33	5.40	121.02	111.09
3	G	101	6OU	O30-C31-C33	4.97	120.23	111.09
3	C	1002	6OU	O30-C31-C33	4.46	121.12	111.50
3	B	1002	6OU	O30-C31-C33	4.44	121.08	111.50
3	D	1004	6OU	O18-C16-C15	4.03	121.94	111.38
3	D	1002	6OU	O30-C31-C33	3.98	120.09	111.50
3	D	1001	6OU	O30-C31-C33	3.40	120.28	110.80
3	B	1001	6OU	O30-C31-C33	3.33	120.09	110.80
3	A	1002	6OU	O30-C31-C33	3.24	118.49	111.50
3	A	1002	6OU	O18-C16-C15	3.09	121.61	111.91
3	C	1001	6OU	O30-C31-C33	3.06	119.33	110.80
3	C	1001	6OU	O18-C16-C15	3.03	121.41	111.91
3	D	1001	6OU	O18-C16-C15	2.88	120.96	111.91
3	A	1001	6OU	O18-C16-C15	2.86	120.88	111.91
3	B	1001	6OU	O18-C16-C15	2.85	120.85	111.91
3	A	1001	6OU	O30-C31-C33	2.79	118.57	110.80
3	G	101	6OU	C20-O30-C31	-2.62	113.79	118.31
3	B	1003	6OU	O18-C16-C15	2.48	119.71	111.91
3	D	1002	6OU	O18-C16-C15	2.42	119.51	111.91
3	B	1002	6OU	O18-C16-C15	2.42	119.49	111.91
3	C	1002	6OU	O18-C16-C15	2.27	119.02	111.91

There are no chirality outliers.

All (173) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	A	1002	6OU	O30-C20-C21-O22
3	A	1002	6OU	C21-O22-P23-O24
3	A	1002	6OU	C21-O22-P23-O25
3	A	1002	6OU	C21-O22-P23-O26
3	A	1002	6OU	C27-O26-P23-O24
3	A	1002	6OU	C27-O26-P23-O25
3	A	1002	6OU	O26-C27-C28-N29
3	A	1003	6OU	C20-C19-O18-C16

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Mol	Chain	Res	Type	Atoms
3	A	1003	6OU	O18-C19-C20-C21
3	A	1003	6OU	C21-O22-P23-O24
3	A	1003	6OU	C21-O22-P23-O25
3	A	1003	6OU	O26-C27-C28-N29
3	B	1001	6OU	C21-O22-P23-O24
3	B	1001	6OU	C21-O22-P23-O25
3	B	1001	6OU	C21-O22-P23-O26
3	B	1002	6OU	C27-O26-P23-O25
3	B	1002	6OU	C28-C27-O26-P23
3	B	1002	6OU	C33-C31-O30-C20
3	B	1003	6OU	C27-O26-P23-O22
3	B	1003	6OU	C27-O26-P23-O24
3	B	1003	6OU	C27-O26-P23-O25
3	B	1003	6OU	O26-C27-C28-N29
3	C	1001	6OU	C21-O22-P23-O26
3	C	1002	6OU	C21-O22-P23-O25
3	C	1002	6OU	C27-O26-P23-O24
3	C	1002	6OU	C27-O26-P23-O25
3	C	1002	6OU	O26-C27-C28-N29
3	C	1002	6OU	C33-C31-O30-C20
3	D	1002	6OU	C19-C20-O30-C31
3	D	1002	6OU	C33-C31-O30-C20
3	D	1003	6OU	O18-C19-C20-C21
3	D	1003	6OU	O18-C19-C20-O30
3	D	1003	6OU	C27-O26-P23-O24
3	D	1003	6OU	C27-O26-P23-O25
3	D	1004	6OU	C15-C16-O18-C19
3	D	1004	6OU	O17-C16-O18-C19
3	D	1004	6OU	O18-C19-C20-C21
3	D	1004	6OU	O26-C27-C28-N29
3	D	1005	6OU	C21-O22-P23-O24
3	D	1005	6OU	C21-O22-P23-O25
3	D	1005	6OU	C21-O22-P23-O26
3	D	1005	6OU	C27-O26-P23-O22
3	D	1005	6OU	C27-O26-P23-O24
3	D	1005	6OU	C27-O26-P23-O25
3	D	1005	6OU	O26-C27-C28-N29
3	E	101	6OU	C21-O22-P23-O24
3	E	101	6OU	C27-O26-P23-O24
3	E	101	6OU	C27-O26-P23-O25
3	F	101	6OU	C21-O22-P23-O25
3	F	101	6OU	C27-O26-P23-O22

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Mol	Chain	Res	Type	Atoms
3	F	101	6OU	C27-O26-P23-O24
3	F	101	6OU	O26-C27-C28-N29
3	G	101	6OU	C21-O22-P23-O24
3	G	101	6OU	C21-O22-P23-O25
3	G	101	6OU	O26-C27-C28-N29
3	G	101	6OU	O32-C31-O30-C20
3	G	101	6OU	C33-C31-O30-C20
3	B	1002	6OU	O32-C31-O30-C20
3	C	1002	6OU	O32-C31-O30-C20
3	D	1002	6OU	O32-C31-O30-C20
3	A	1003	6OU	C15-C16-O18-C19
3	A	1003	6OU	O18-C19-C20-O30
3	D	1004	6OU	O18-C19-C20-O30
3	B	1002	6OU	C34-C35-C36-C37
3	A	1002	6OU	C33-C31-O30-C20
3	D	1001	6OU	C13-C14-C15-C16
3	C	1002	6OU	C34-C35-C36-C37
3	A	1002	6OU	C31-C33-C34-C35
3	C	1002	6OU	C31-C33-C34-C35
3	D	1002	6OU	C31-C33-C34-C35
3	A	1003	6OU	O17-C16-O18-C19
3	B	1002	6OU	C31-C33-C34-C35
3	A	1002	6OU	O32-C31-O30-C20
3	B	1003	6OU	O18-C19-C20-O30
3	A	1002	6OU	C27-O26-P23-O22
3	A	1003	6OU	C21-O22-P23-O26
3	A	1003	6OU	C27-O26-P23-O22
3	B	1002	6OU	C21-O22-P23-O26
3	B	1002	6OU	C27-O26-P23-O22
3	C	1002	6OU	C21-O22-P23-O26
3	C	1002	6OU	C27-O26-P23-O22
3	D	1002	6OU	C21-O22-P23-O26
3	D	1003	6OU	C27-O26-P23-O22
3	E	101	6OU	C21-O22-P23-O26
3	G	101	6OU	C21-O22-P23-O26
3	B	1002	6OU	C19-C20-O30-C31
3	C	1002	6OU	C19-C20-O30-C31
3	A	1002	6OU	C33-C34-C35-C36
3	A	1001	6OU	C10-C11-C12-C13
3	C	1001	6OU	C13-C14-C15-C16
3	D	1001	6OU	C10-C11-C12-C13
3	B	1001	6OU	C19-C20-C21-O22

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Mol	Chain	Res	Type	Atoms
3	B	1002	6OU	C35-C36-C37-C38
3	B	1001	6OU	O18-C19-C20-C21
3	B	1001	6OU	C13-C14-C15-C16
3	D	1002	6OU	C33-C34-C35-C36
3	C	1002	6OU	C13-C14-C15-C16
3	A	1002	6OU	C34-C35-C36-C37
3	C	1001	6OU	C33-C31-O30-C20
3	D	1001	6OU	C33-C31-O30-C20
3	C	1001	6OU	O32-C31-O30-C20
3	D	1001	6OU	O32-C31-O30-C20
3	A	1001	6OU	C19-C20-C21-O22
3	C	1001	6OU	C10-C11-C12-C13
3	A	1001	6OU	C33-C31-O30-C20
3	D	1005	6OU	C19-C20-C21-O22
3	B	1002	6OU	C13-C14-C15-C16
3	D	1002	6OU	C15-C16-O18-C19
3	C	1001	6OU	C08-C09-C10-C11
3	A	1002	6OU	C15-C16-O18-C19
3	A	1002	6OU	C19-C20-C21-O22
3	B	1002	6OU	C19-C20-C21-O22
3	A	1001	6OU	O32-C31-O30-C20
3	D	1002	6OU	C34-C35-C36-C37
3	D	1002	6OU	O17-C16-O18-C19
3	A	1001	6OU	O30-C20-C21-O22
3	B	1001	6OU	O30-C20-C21-O22
3	D	1003	6OU	C19-C20-C21-O22
3	B	1001	6OU	C08-C09-C10-C11
3	D	1003	6OU	C20-C21-O22-P23
3	A	1002	6OU	O17-C16-O18-C19
3	D	1002	6OU	O30-C31-C33-C34
3	C	1002	6OU	C19-C20-C21-O22
3	D	1002	6OU	C19-C20-C21-O22
3	A	1002	6OU	C19-C20-O30-C31
3	D	1001	6OU	O18-C19-C20-C21
3	G	101	6OU	C20-C21-O22-P23
3	B	1002	6OU	O30-C20-C21-O22
3	D	1003	6OU	C20-C19-O18-C16
3	A	1002	6OU	C35-C36-C37-C38
3	B	1002	6OU	C36-C37-C38-C39
3	A	1003	6OU	C27-O26-P23-O24
3	B	1002	6OU	C21-O22-P23-O25
3	B	1003	6OU	C21-O22-P23-O25

Continued on next page...

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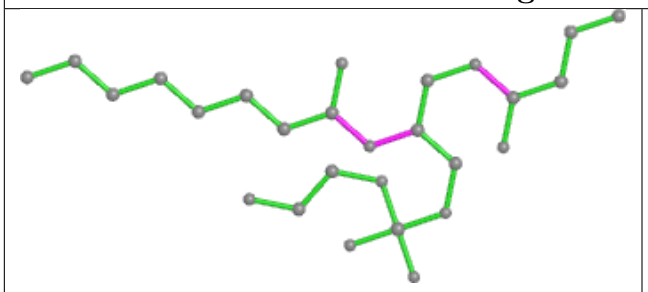
Mol	Chain	Res	Type	Atoms
3	C	1002	6OU	C21-O22-P23-O24
3	D	1002	6OU	C21-O22-P23-O24
3	E	101	6OU	C21-O22-P23-O25
3	D	1001	6OU	C19-C20-C21-O22
3	G	101	6OU	C28-C27-O26-P23
3	C	1001	6OU	O30-C20-C21-O22
3	C	1002	6OU	O30-C20-C21-O22
3	D	1001	6OU	O30-C20-C21-O22
3	D	1003	6OU	O30-C20-C21-O22
3	B	1002	6OU	O30-C31-C33-C34
3	B	1001	6OU	O18-C19-C20-O30
3	C	1002	6OU	O30-C31-C33-C34
3	A	1001	6OU	O17-C16-O18-C19
3	B	1003	6OU	O17-C16-O18-C19
3	B	1001	6OU	C19-C20-O30-C31
3	A	1003	6OU	C20-C21-O22-P23
3	B	1003	6OU	C15-C16-O18-C19
3	B	1001	6OU	C10-C11-C12-C13
3	D	1002	6OU	C27-O26-P23-O22
3	D	1004	6OU	C21-O22-P23-O26
3	D	1004	6OU	C27-O26-P23-O22
3	A	1003	6OU	C19-C20-C21-O22
3	A	1001	6OU	C15-C16-O18-C19
3	A	1002	6OU	O18-C19-C20-O30
3	C	1002	6OU	C36-C37-C38-C39
3	D	1001	6OU	C08-C09-C10-C11
3	B	1003	6OU	O18-C19-C20-C21
3	A	1002	6OU	O30-C31-C33-C34
3	C	1001	6OU	C19-C20-C21-O22
3	D	1002	6OU	C36-C37-C38-C39
3	B	1003	6OU	C19-C20-C21-O22
3	D	1002	6OU	O32-C31-C33-C34
3	D	1002	6OU	C21-O22-P23-O25
3	D	1004	6OU	C27-O26-P23-O24
3	B	1002	6OU	O26-C27-C28-N29
3	B	1001	6OU	C21-C20-O30-C31
3	D	1002	6OU	C28-C27-O26-P23
3	D	1005	6OU	C20-C21-O22-P23
3	A	1003	6OU	O30-C20-C21-O22

There are no ring outliers.

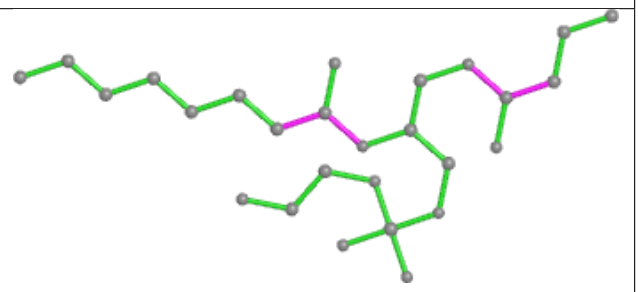
No monomer is involved in short contacts.

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

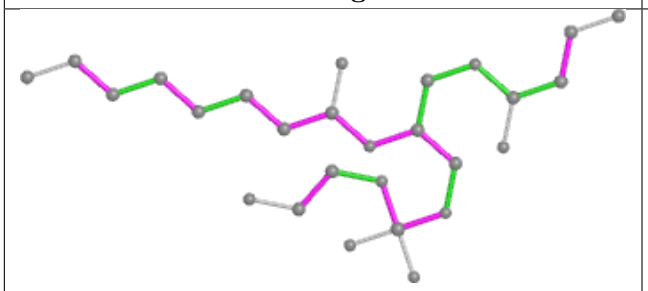
Ligand 6OU C 1002



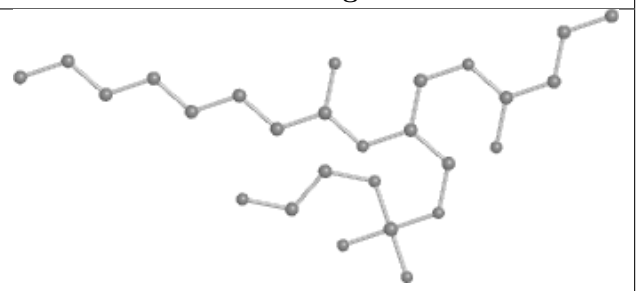
Bond lengths



Bond angles

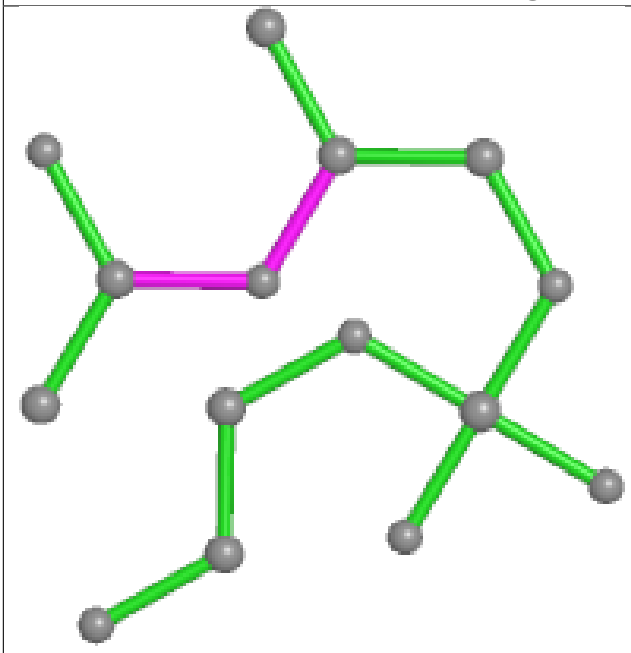


Torsions

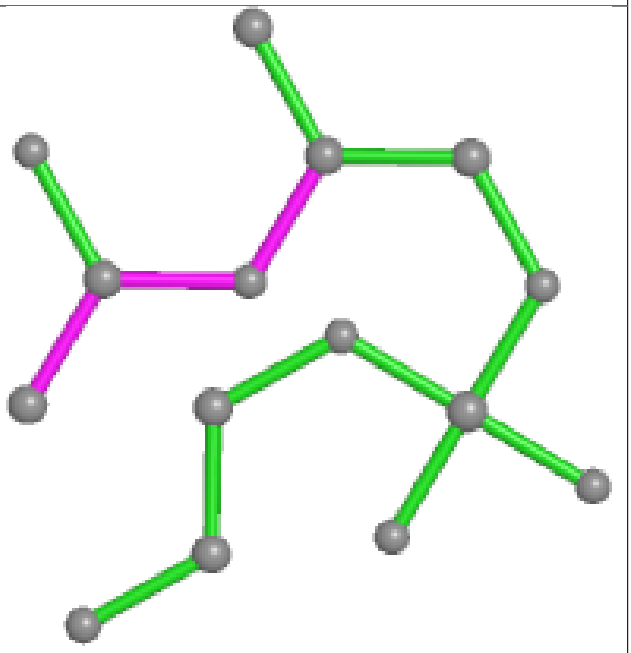


Rings

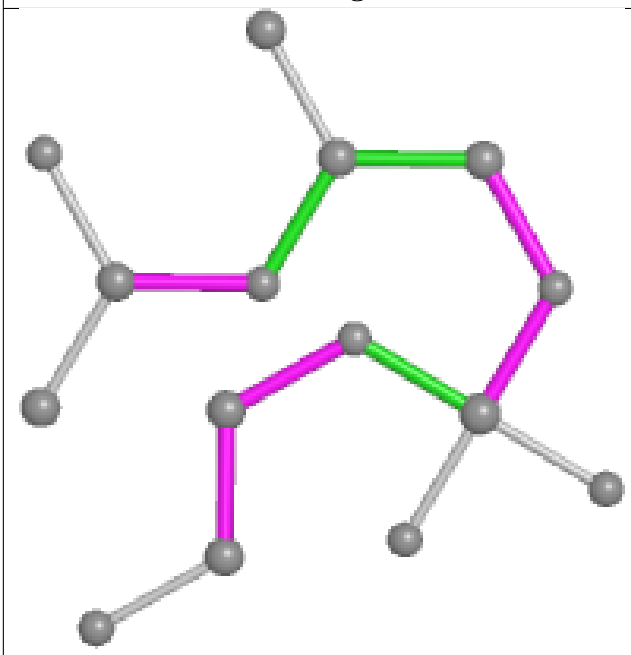
Ligand 6OU G 101



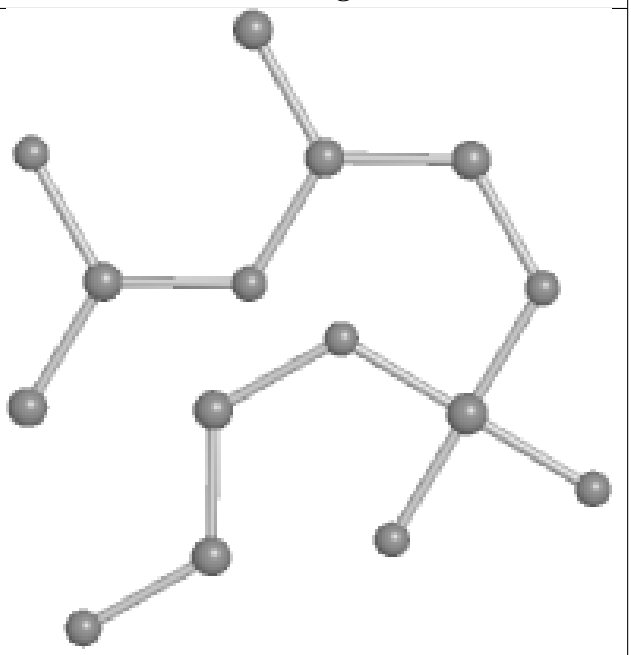
Bond lengths



Bond angles

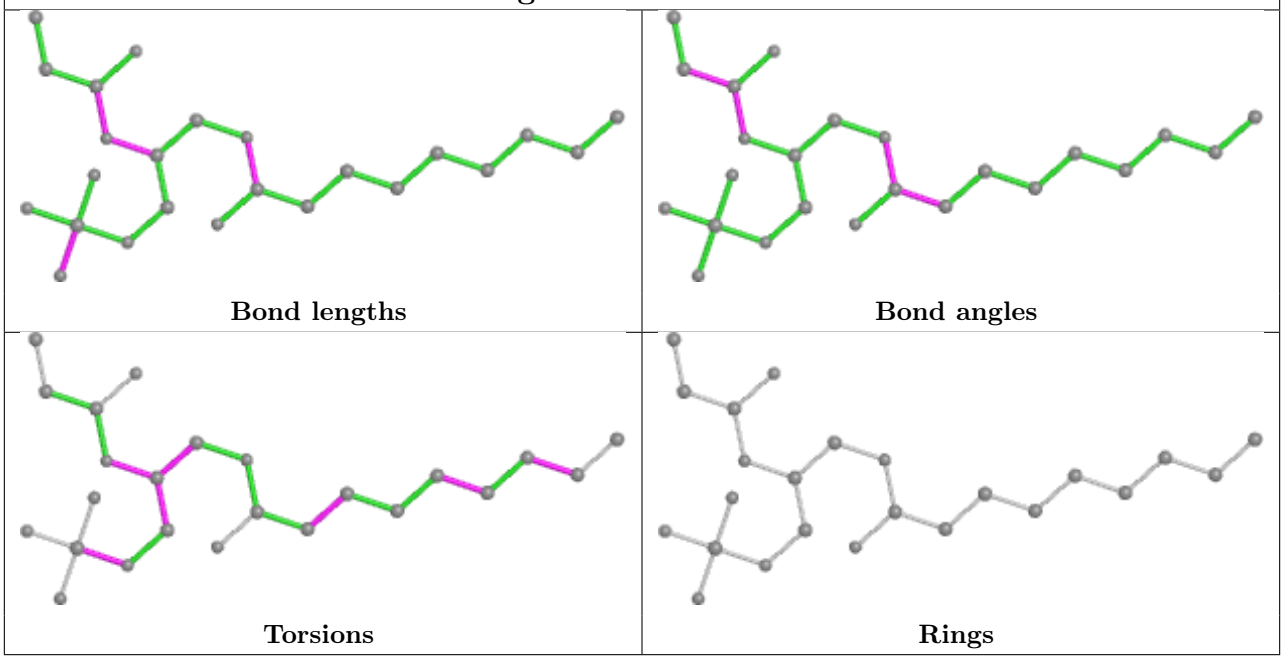


Torsions

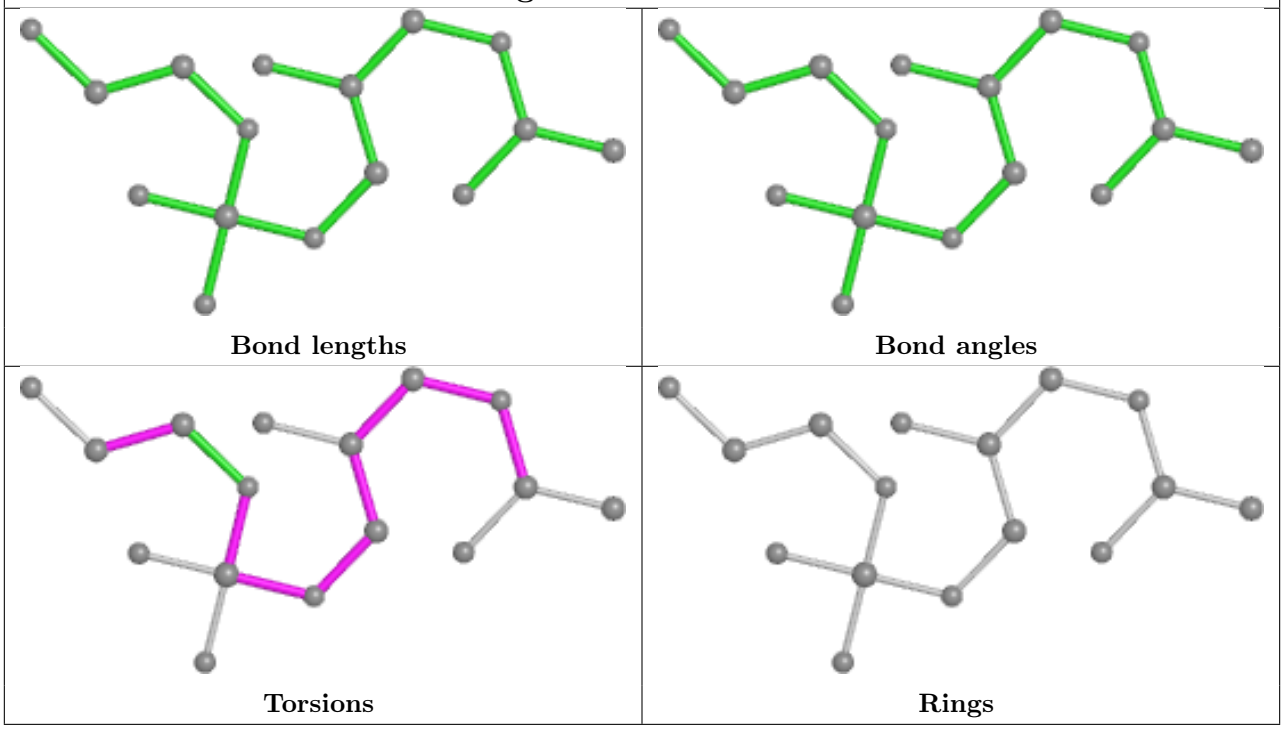


Rings

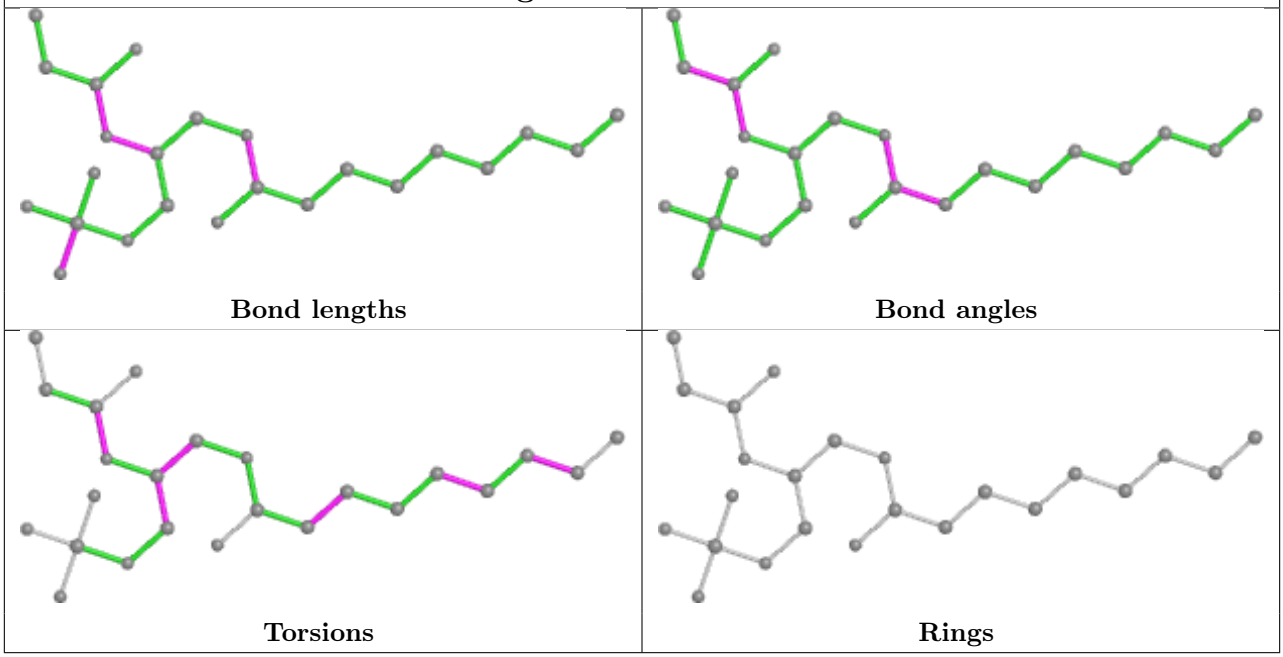
Ligand 6OU B 1001



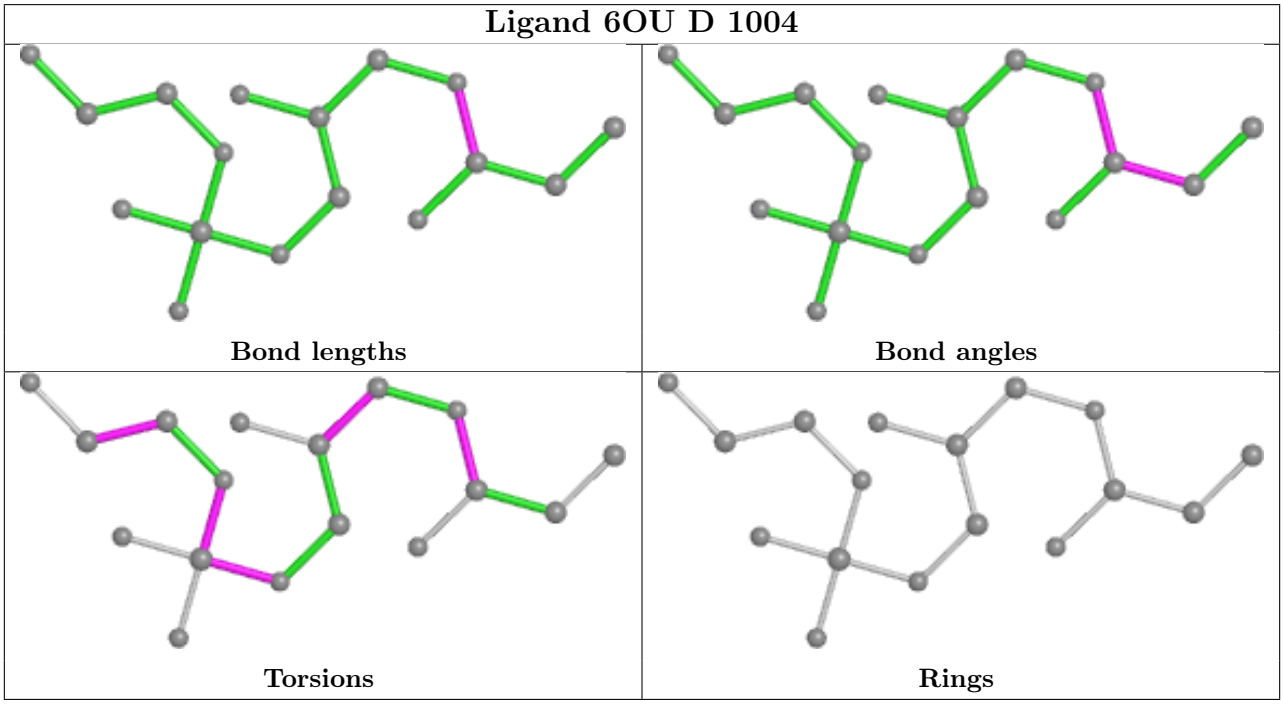
Ligand 6OU A 1003



Ligand 6OU D 1001



Ligand 6OU D 1004



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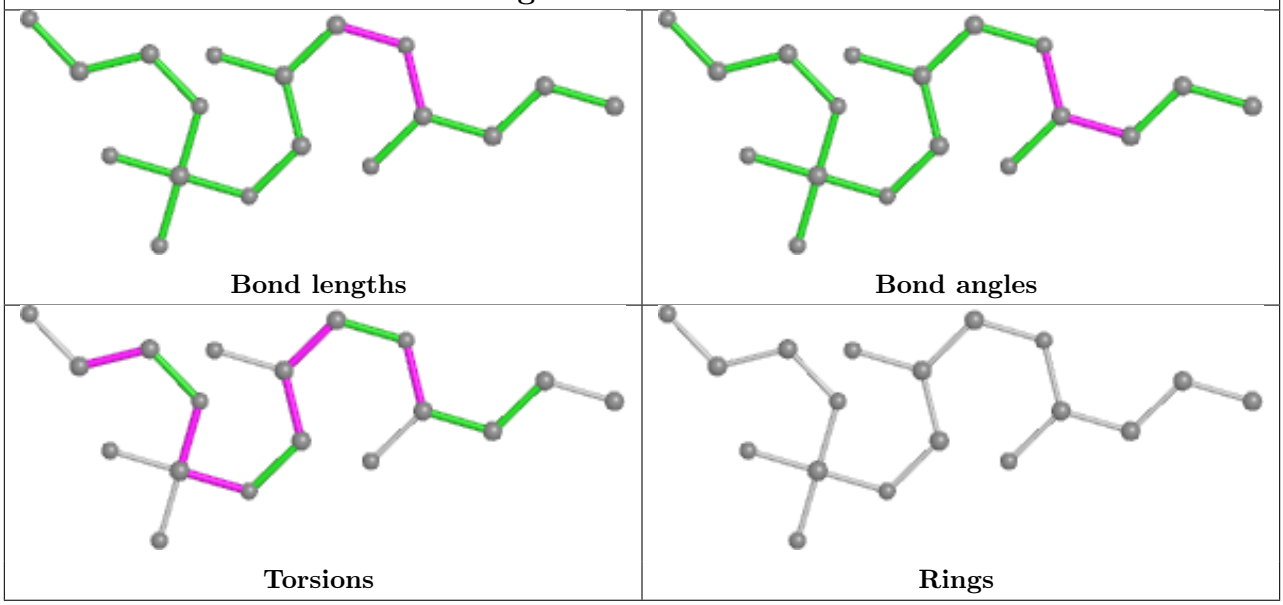
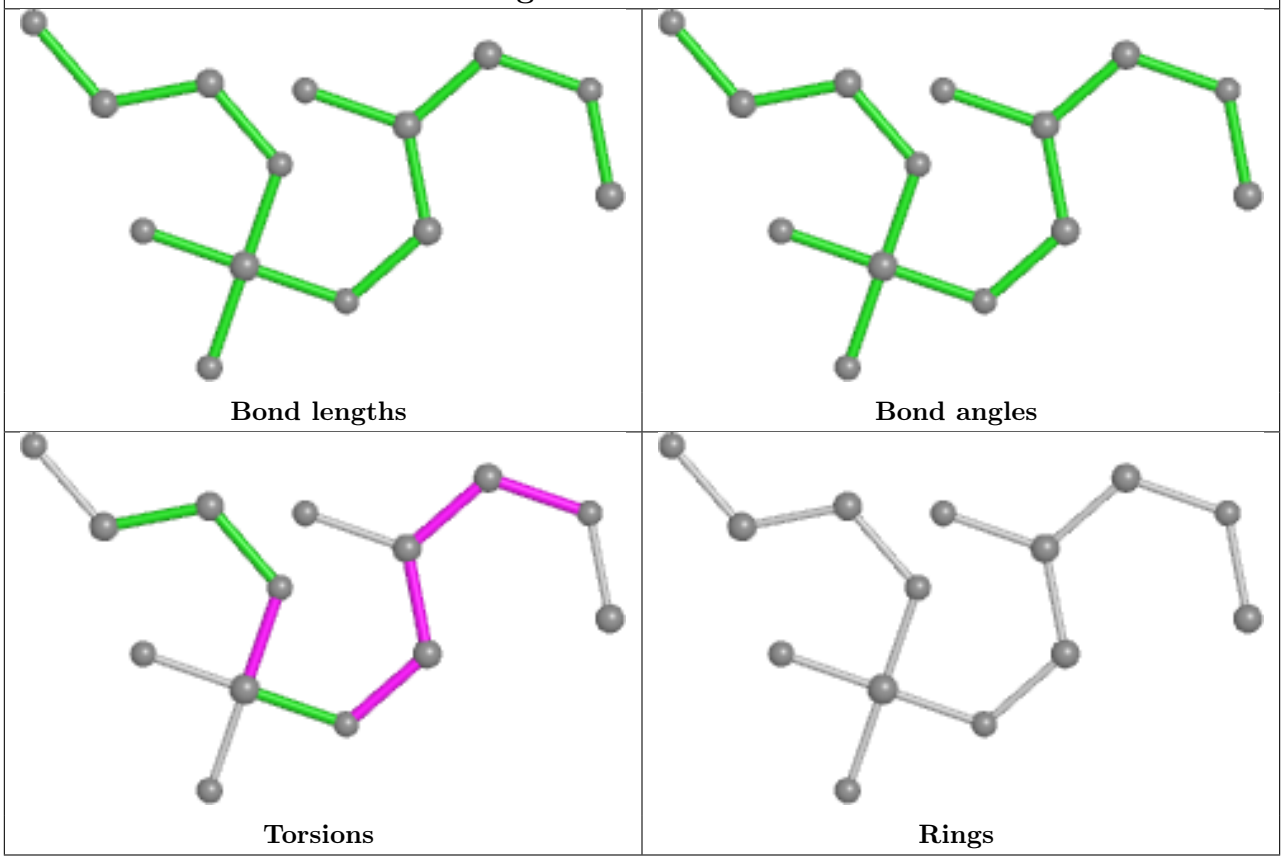
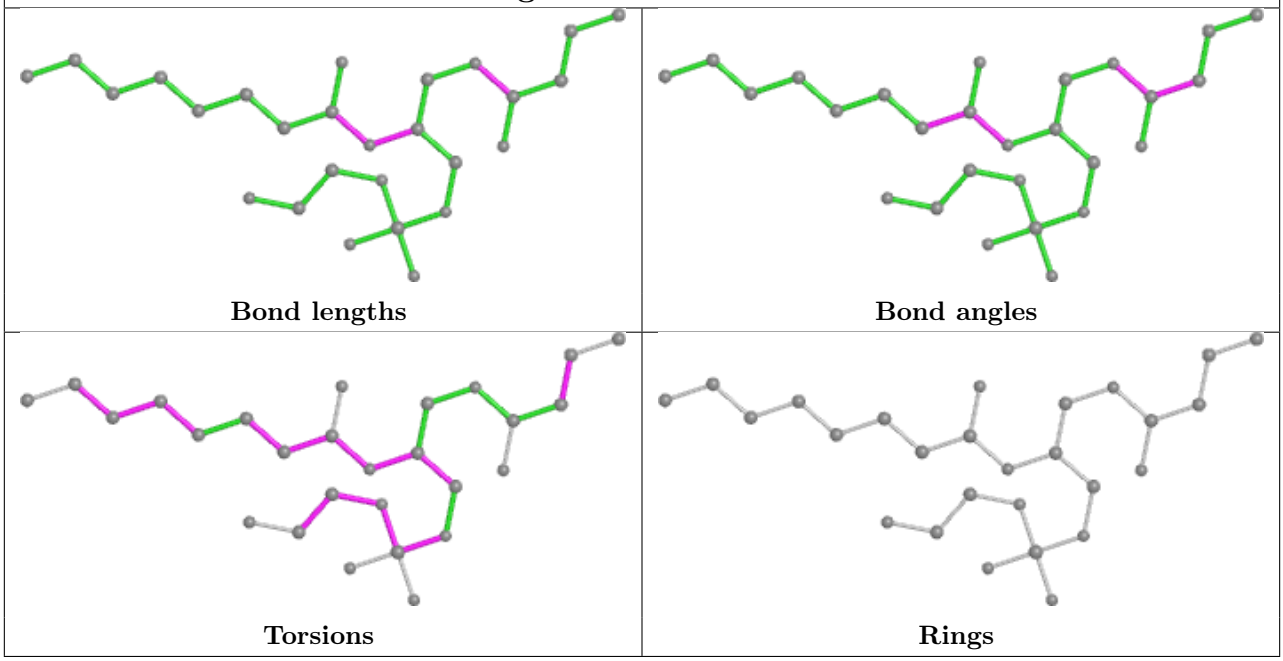


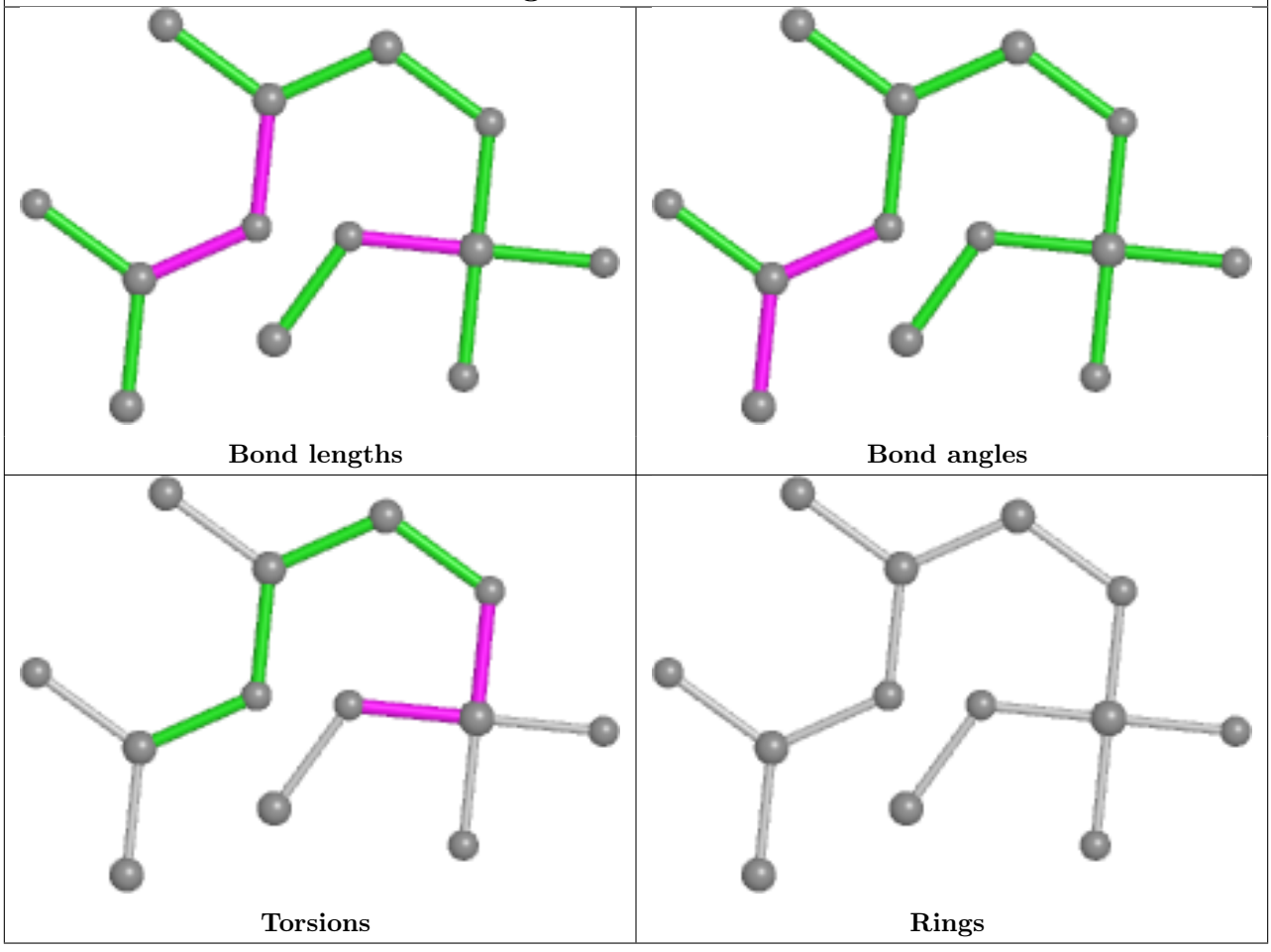
Ligand 6OU D 1003



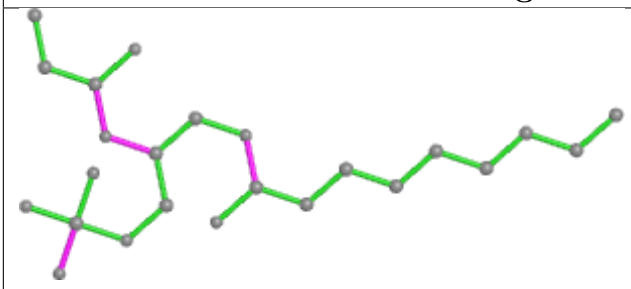
Ligand 6OU B 1002



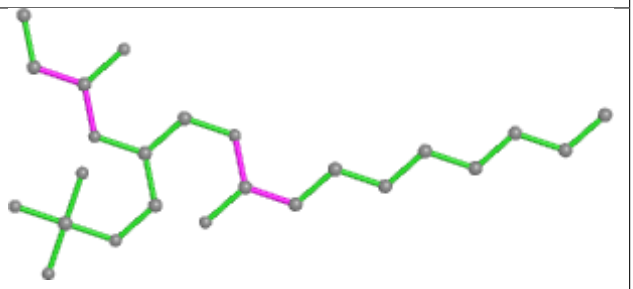
Ligand 6OU E 101



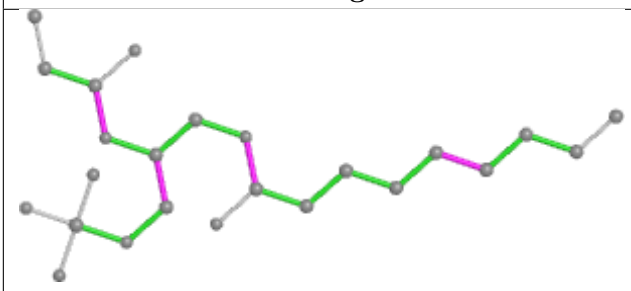
Ligand 6OU A 1001



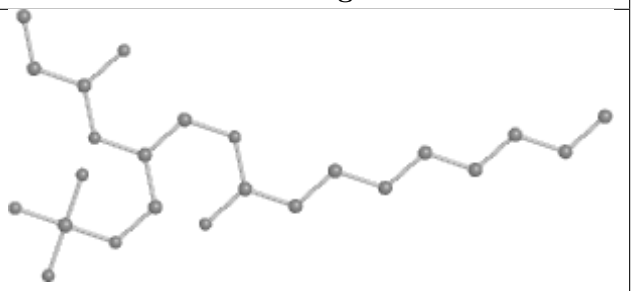
Bond lengths



Bond angles

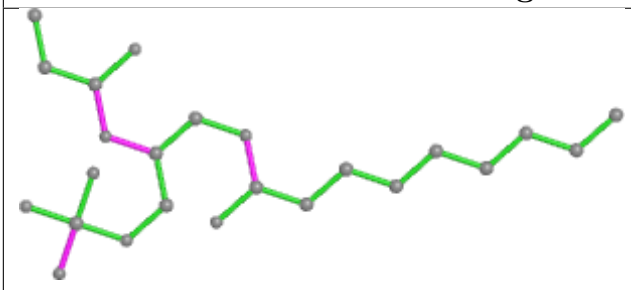


Torsions

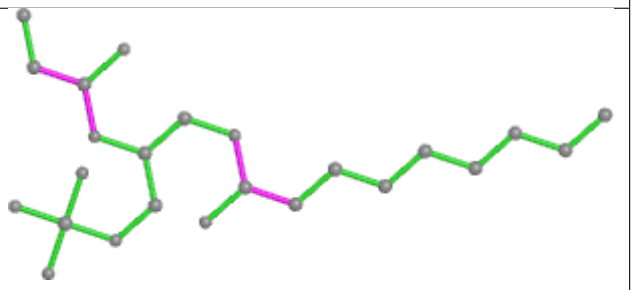


Rings

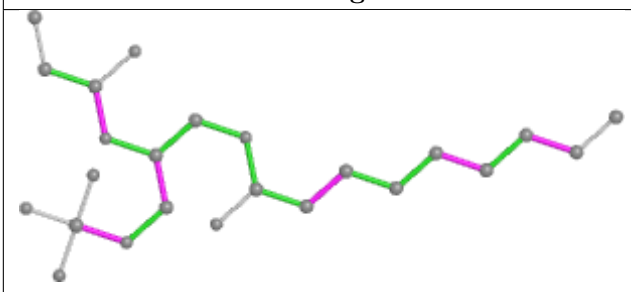
Ligand 6OU C 1001



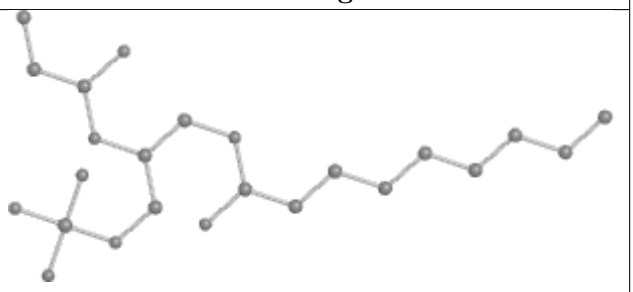
Bond lengths



Bond angles

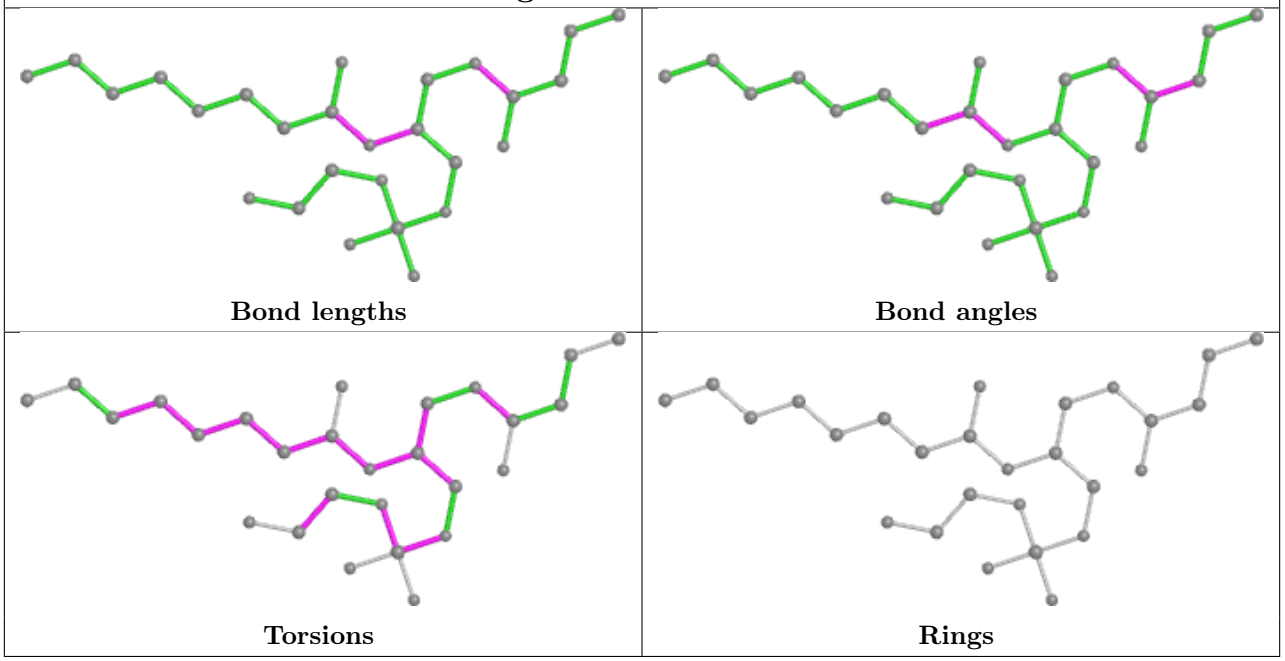


Torsions



Rings

Ligand 6OU A 1002



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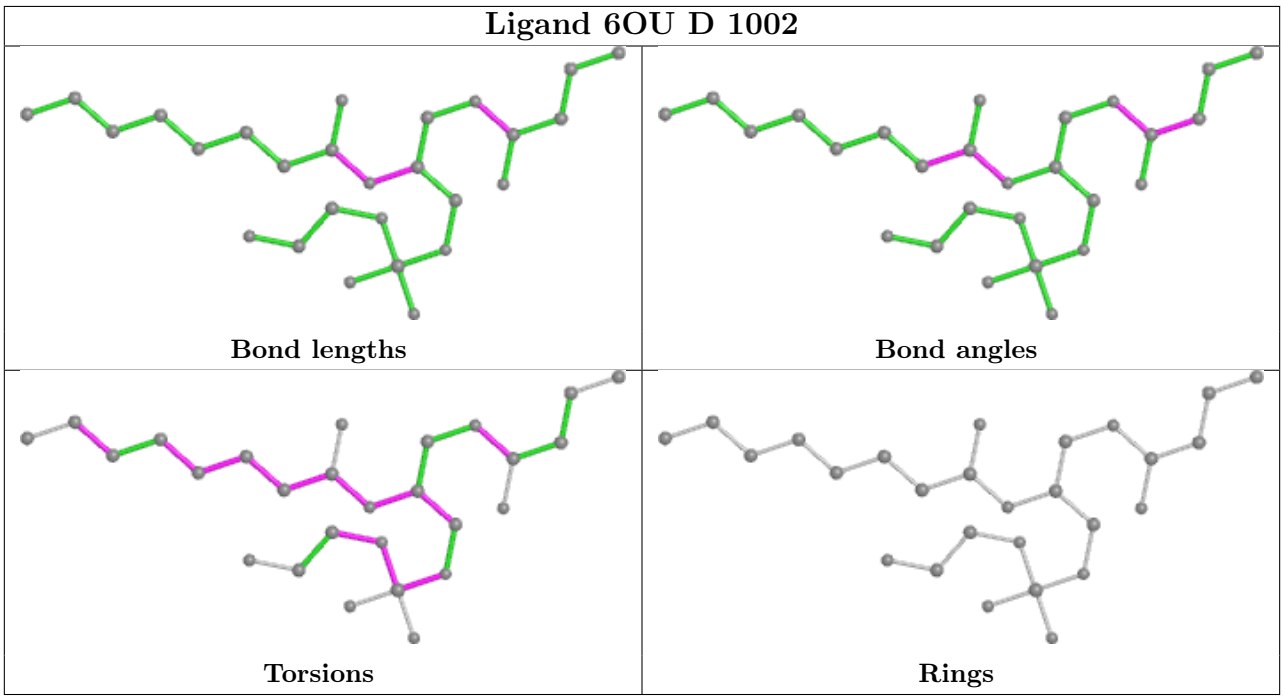
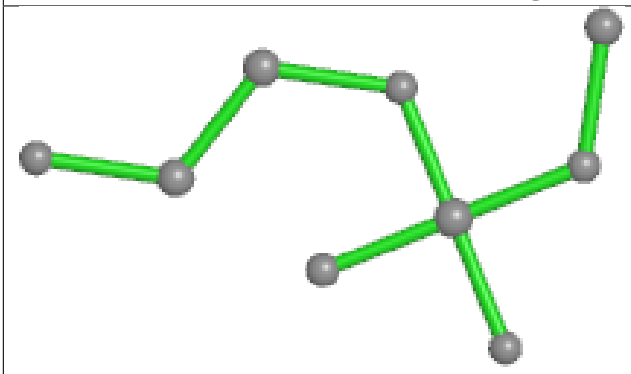
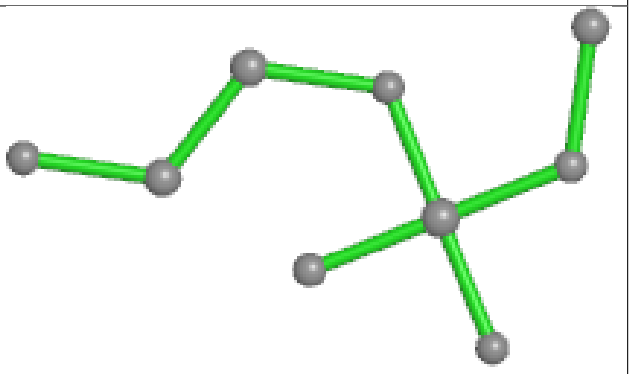


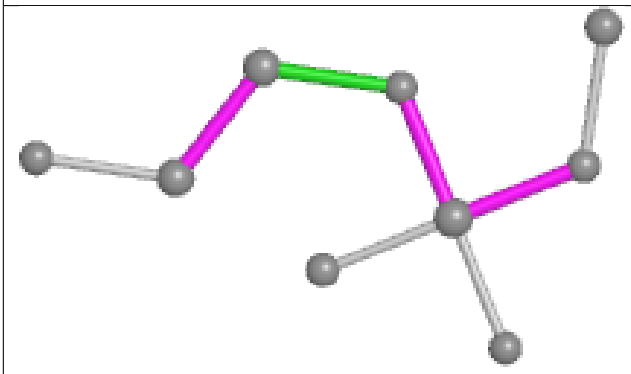
Ligand 6OU F 101



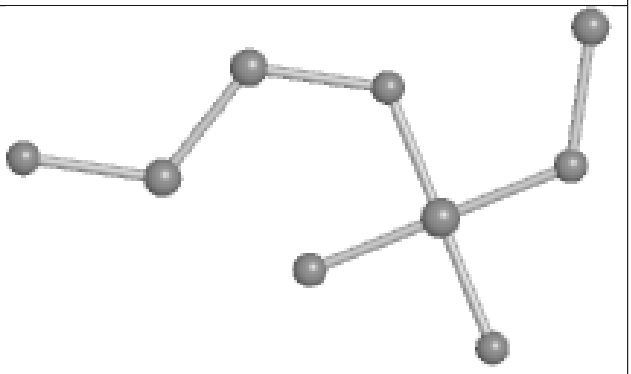
Bond lengths



Bond angles

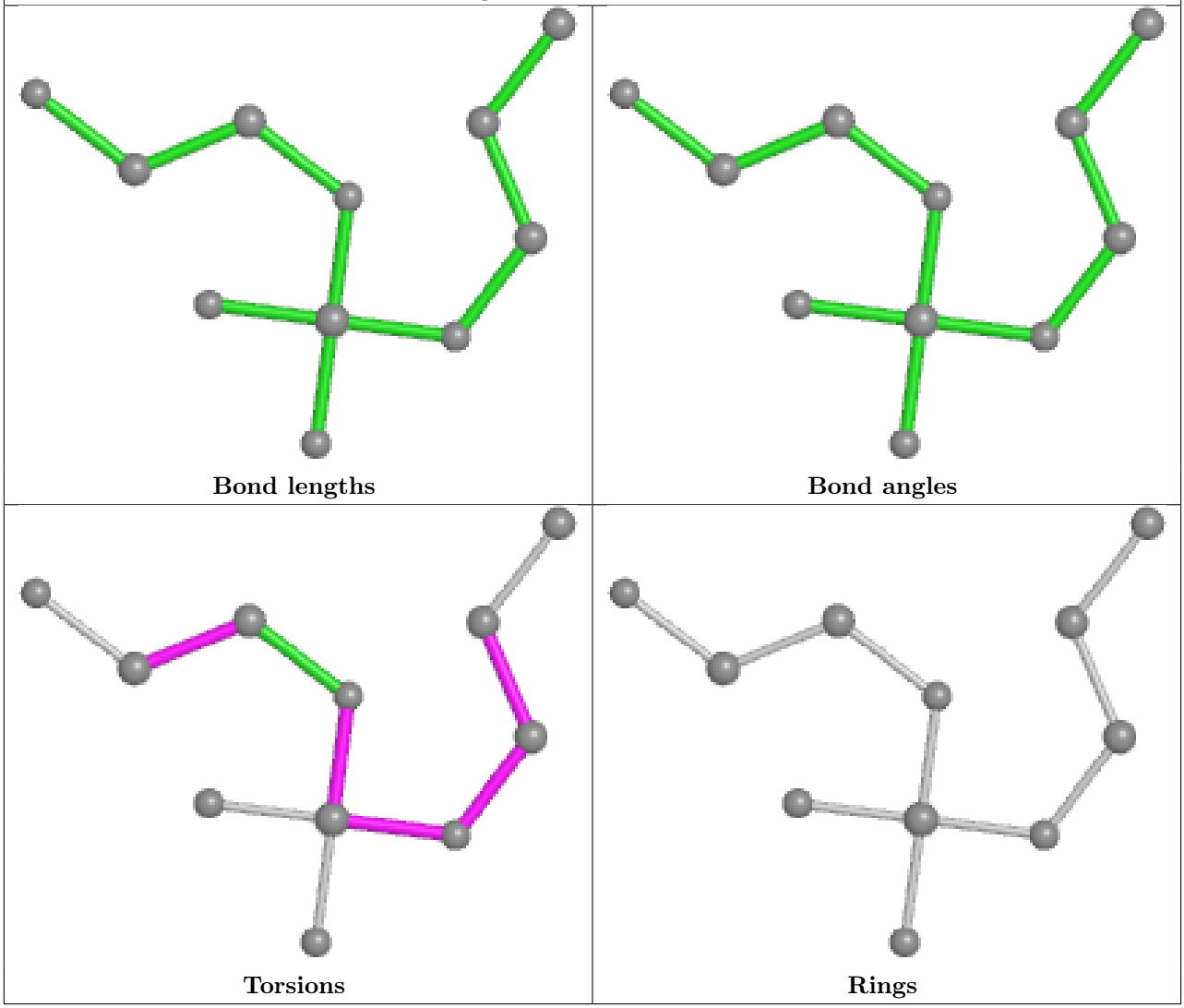


Torsions



Rings

Ligand 6OU D 1005



4.7 Other polymers (i)

There are no such residues in this entry.

4.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

5 Fit of model and data

5.1 Protein, DNA and RNA chains

EDS failed to run properly - this section is therefore empty.

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

EDS failed to run properly - this section is therefore empty.

5.3 Carbohydrates

EDS failed to run properly - this section is therefore empty.

5.4 Ligands

EDS failed to run properly - this section is therefore empty.

5.5 Other polymers

EDS failed to run properly - this section is therefore empty.