



# wwPDB X-ray Structure Validation Summary Report ⓘ

Nov 26, 2025 – 09:28 am GMT

PDB ID : 9I0F / pdb\_00009i0f  
Title : Revisited AvNifEN crystal structure  
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Deposited on : 2025-01-15  
Resolution : 2.40 Å(reported)

This is a wwPDB X-ray Structure Validation Summary 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/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>.

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

MolProbity : 4-5-2 with Phenix2.0  
Mogul : 1.8.4, CSD as541be (2020)  
Xtrriage (Phenix) : 2.0  
EDS : 3.0  
buster-report : 1.1.7 (2018)  
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)  
CCP4 : 9.0.010 (Gargrove)  
Density-Fitness : 1.0.12  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.46

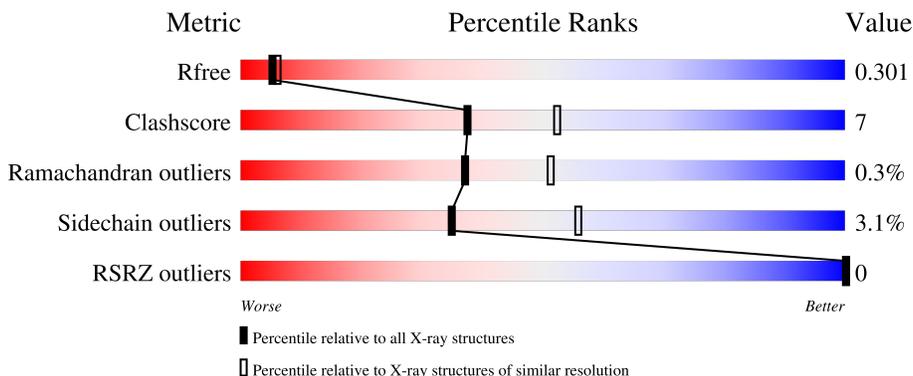
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 2.40 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)	Similar resolution (#Entries, resolution range(Å))
$R_{free}$	164625	4642 (2.40-2.40)
Clashscore	180529	5218 (2.40-2.40)
Ramachandran outliers	177936	5158 (2.40-2.40)
Sidechain outliers	177891	5159 (2.40-2.40)
RSRZ outliers	164620	4642 (2.40-2.40)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower 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 electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	483	 79% 16% . .
1	C	483	 82% 14% . .
1	E	483	 82% 14% . .
1	G	483	 84% 11% . .

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Mol	Chain	Length	Quality of chain
2	B	458	 81% 16% ..
2	D	458	 83% 15% .
2	F	458	 81% 16% ..
2	H	458	 82% 16% ..

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
4	S5Q	A	502	-	-	X	-
4	S5Q	C	502	-	-	X	-
4	S5Q	E	502	-	-	X	-
4	S5Q	G	502	-	-	X	-
5	PEG	A	503	-	-	X	-
5	PEG	B	503	-	-	X	-
5	PEG	D	507	-	-	X	-
5	PEG	G	506	-	-	X	-
5	PEG	H	504	-	-	X	-
6	EDO	B	505	-	-	X	-
6	EDO	B	513	-	-	X	-
6	EDO	G	503	-	-	X	-

## 2 Entry composition [i](#)

There are 11 unique types of molecules in this entry. The entry contains 29802 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 Nitrogenase iron-molybdenum cofactor biosynthesis protein NifE.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	465	3591	2257	640	671	23	0	0	0
1	C	465	3591	2257	640	671	23	0	0	0
1	E	465	3591	2257	640	671	23	0	0	0
1	G	465	3591	2257	640	671	23	0	0	0

There are 32 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-7	MET	-	initiating methionine	UNP C1DH03
A	-6	HIS	-	expression tag	UNP C1DH03
A	-5	HIS	-	expression tag	UNP C1DH03
A	-4	HIS	-	expression tag	UNP C1DH03
A	-3	HIS	-	expression tag	UNP C1DH03
A	-2	HIS	-	expression tag	UNP C1DH03
A	-1	HIS	-	expression tag	UNP C1DH03
A	0	HIS	-	expression tag	UNP C1DH03
C	-7	MET	-	initiating methionine	UNP C1DH03
C	-6	HIS	-	expression tag	UNP C1DH03
C	-5	HIS	-	expression tag	UNP C1DH03
C	-4	HIS	-	expression tag	UNP C1DH03
C	-3	HIS	-	expression tag	UNP C1DH03
C	-2	HIS	-	expression tag	UNP C1DH03
C	-1	HIS	-	expression tag	UNP C1DH03
C	0	HIS	-	expression tag	UNP C1DH03
E	-7	MET	-	initiating methionine	UNP C1DH03
E	-6	HIS	-	expression tag	UNP C1DH03
E	-5	HIS	-	expression tag	UNP C1DH03
E	-4	HIS	-	expression tag	UNP C1DH03

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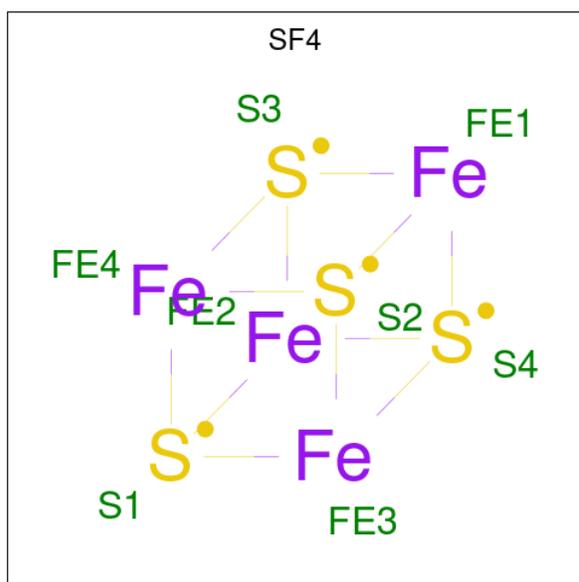
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Chain	Residue	Modelled	Actual	Comment	Reference
E	-3	HIS	-	expression tag	UNP C1DH03
E	-2	HIS	-	expression tag	UNP C1DH03
E	-1	HIS	-	expression tag	UNP C1DH03
E	0	HIS	-	expression tag	UNP C1DH03
G	-7	MET	-	initiating methionine	UNP C1DH03
G	-6	HIS	-	expression tag	UNP C1DH03
G	-5	HIS	-	expression tag	UNP C1DH03
G	-4	HIS	-	expression tag	UNP C1DH03
G	-3	HIS	-	expression tag	UNP C1DH03
G	-2	HIS	-	expression tag	UNP C1DH03
G	-1	HIS	-	expression tag	UNP C1DH03
G	0	HIS	-	expression tag	UNP C1DH03

- Molecule 2 is a protein called Nitrogenase iron-molybdenum cofactor biosynthesis protein NifN.

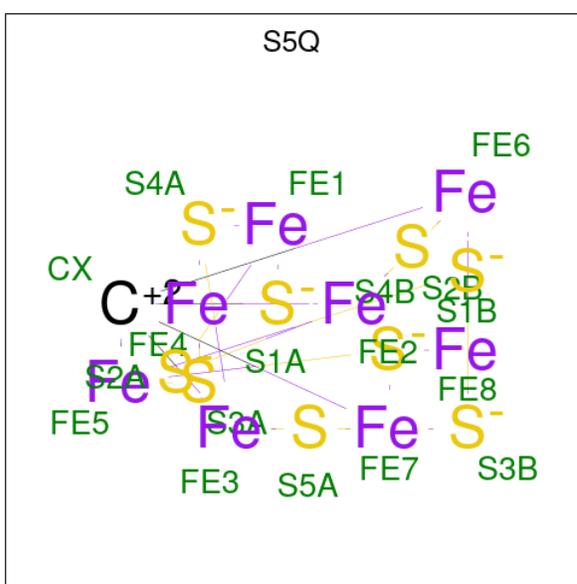
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	B	450	Total 3386	C 2129	N 603	O 639	S 15	0	0	0
2	D	450	Total 3386	C 2129	N 603	O 639	S 15	0	0	0
2	F	451	Total 3394	C 2134	N 604	O 640	S 16	0	0	0
2	H	450	Total 3386	C 2129	N 603	O 639	S 15	0	0	0

- Molecule 3 is IRON/SULFUR CLUSTER (CCD ID: SF4) (formula: Fe<sub>4</sub>S<sub>4</sub>).



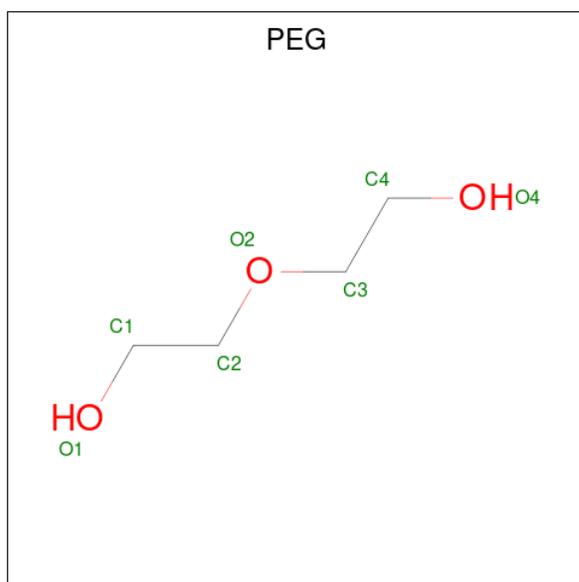
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	1	Total Fe S 8 4 4	0	0
3	C	1	Total Fe S 8 4 4	0	0
3	E	1	Total Fe S 8 4 4	0	0
3	G	1	Total Fe S 8 4 4	0	0

- Molecule 4 is FeFe cofactor (CCD ID: S5Q) (formula:  $\text{CFe}_8\text{S}_9$ ) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	1	Total C Fe S 18 1 8 9	0	0
4	C	1	Total C Fe S 18 1 8 9	0	0
4	E	1	Total C Fe S 18 1 8 9	0	0
4	G	1	Total C Fe S 18 1 8 9	0	0

- Molecule 5 is DI(HYDROXYETHYL)ETHER (CCD ID: PEG) (formula:  $\text{C}_4\text{H}_{10}\text{O}_3$ ).



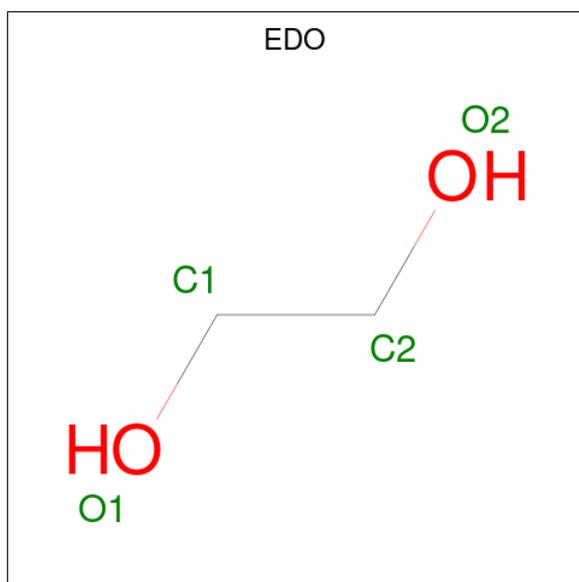
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	A	1	Total C O 7 4 3	0	0
5	A	1	Total C O 7 4 3	0	0
5	A	1	Total C O 7 4 3	0	0
5	A	1	Total C O 7 4 3	0	0
5	A	1	Total C O 7 4 3	0	0
5	A	1	Total C O 7 4 3	0	0
5	B	1	Total C O 7 4 3	0	0
5	B	1	Total C O 7 4 3	0	0
5	B	1	Total C O 7 4 3	0	0
5	B	1	Total C O 7 4 3	0	0
5	B	1	Total C O 7 4 3	0	0
5	B	1	Total C O 7 4 3	0	0
5	C	1	Total C O 7 4 3	0	0
5	D	1	Total C O 7 4 3	0	0

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Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
5	D	1	Total	C	O	0	0
			7	4	3		
5	D	1	Total	C	O	0	0
			7	4	3		
5	D	1	Total	C	O	0	0
			7	4	3		
5	D	1	Total	C	O	0	0
			7	4	3		
5	D	1	Total	C	O	0	0
			7	4	3		
5	F	1	Total	C	O	0	0
			7	4	3		
5	G	1	Total	C	O	0	0
			7	4	3		
5	G	1	Total	C	O	0	0
			7	4	3		
5	H	1	Total	C	O	0	0
			7	4	3		
5	H	1	Total	C	O	0	0
			7	4	3		
5	H	1	Total	C	O	0	0
			7	4	3		

- Molecule 6 is 1,2-ETHANEDIOL (CCD ID: EDO) (formula: C<sub>2</sub>H<sub>6</sub>O<sub>2</sub>).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	A	1	Total C O 4 2 2	0	0
6	A	1	Total C O 4 2 2	0	0
6	A	1	Total C O 4 2 2	0	0
6	A	1	Total C O 4 2 2	0	0
6	A	1	Total C O 4 2 2	0	0
6	A	1	Total C O 4 2 2	0	0
6	A	1	Total C O 4 2 2	0	0
6	A	1	Total C O 4 2 2	0	0
6	A	1	Total C O 4 2 2	0	0
6	A	1	Total C O 4 2 2	0	0
6	A	1	Total C O 4 2 2	0	0
6	A	1	Total C O 4 2 2	0	0
6	A	1	Total C O 4 2 2	0	0
6	A	1	Total C O 4 2 2	0	0

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Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
6	A	1	Total	C	O	0	0
			4	2	2		
6	A	1	Total	C	O	0	0
			4	2	2		
6	A	1	Total	C	O	0	0
			4	2	2		
6	A	1	Total	C	O	0	0
			4	2	2		
6	A	1	Total	C	O	0	0
			4	2	2		
6	A	1	Total	C	O	0	0
			4	2	2		
6	A	1	Total	C	O	0	0
			4	2	2		
6	A	1	Total	C	O	0	0
			4	2	2		
6	A	1	Total	C	O	0	0
			4	2	2		
6	A	1	Total	C	O	0	0
			4	2	2		
6	B	1	Total	C	O	0	0
			4	2	2		
6	B	1	Total	C	O	0	0
			4	2	2		
6	B	1	Total	C	O	0	0
			4	2	2		
6	B	1	Total	C	O	0	0
			4	2	2		
6	B	1	Total	C	O	0	0
			4	2	2		
6	B	1	Total	C	O	0	0
			4	2	2		
6	B	1	Total	C	O	0	0
			4	2	2		

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Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
6	B	1	Total 4	C 2	O 2	0	0
6	B	1	Total 4	C 2	O 2	0	0
6	B	1	Total 4	C 2	O 2	0	0
6	B	1	Total 4	C 2	O 2	0	0
6	B	1	Total 4	C 2	O 2	0	0
6	B	1	Total 4	C 2	O 2	0	0
6	B	1	Total 4	C 2	O 2	0	0
6	B	1	Total 4	C 2	O 2	0	0
6	B	1	Total 4	C 2	O 2	0	0
6	B	1	Total 4	C 2	O 2	0	0
6	B	1	Total 4	C 2	O 2	0	0
6	B	1	Total 4	C 2	O 2	0	0
6	C	1	Total 4	C 2	O 2	0	0
6	C	1	Total 4	C 2	O 2	0	0
6	C	1	Total 4	C 2	O 2	0	0
6	C	1	Total 4	C 2	O 2	0	0
6	C	1	Total 4	C 2	O 2	0	0
6	C	1	Total 4	C 2	O 2	0	0
6	C	1	Total 4	C 2	O 2	0	0
6	D	1	Total 4	C 2	O 2	0	0
6	D	1	Total 4	C 2	O 2	0	0
6	D	1	Total 4	C 2	O 2	0	0

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Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
6	D	1	Total	C	O	0	0
			4	2	2		
6	D	1	Total	C	O	0	0
			4	2	2		
6	D	1	Total	C	O	0	0
			4	2	2		
6	D	1	Total	C	O	0	0
			4	2	2		
6	D	1	Total	C	O	0	0
			4	2	2		
6	D	1	Total	C	O	0	0
			4	2	2		
6	D	1	Total	C	O	0	0
			4	2	2		
6	D	1	Total	C	O	0	0
			4	2	2		
6	D	1	Total	C	O	0	0
			4	2	2		
6	D	1	Total	C	O	0	0
			4	2	2		
6	D	1	Total	C	O	0	0
			4	2	2		
6	D	1	Total	C	O	0	0
			4	2	2		
6	E	1	Total	C	O	0	0
			4	2	2		
6	E	1	Total	C	O	0	0
			4	2	2		
6	E	1	Total	C	O	0	0
			4	2	2		
6	E	1	Total	C	O	0	0
			4	2	2		
6	E	1	Total	C	O	0	0
			4	2	2		

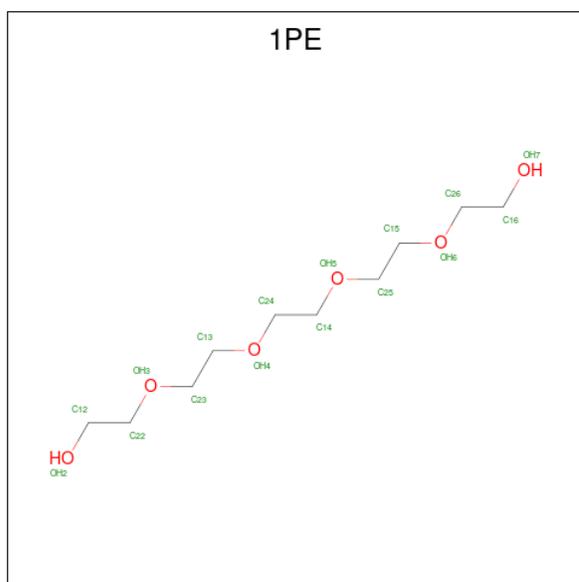
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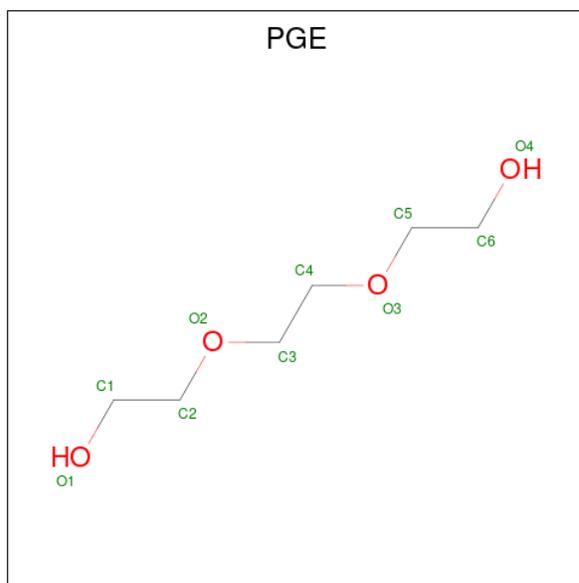
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	G	1	Total C O 4 2 2	0	0
6	G	1	Total C O 4 2 2	0	0
6	G	1	Total C O 4 2 2	0	0
6	G	1	Total C O 4 2 2	0	0
6	G	1	Total C O 4 2 2	0	0
6	G	1	Total C O 4 2 2	0	0
6	G	1	Total C O 4 2 2	0	0
6	G	1	Total C O 4 2 2	0	0
6	G	1	Total C O 4 2 2	0	0
6	G	1	Total C O 4 2 2	0	0
6	G	1	Total C O 4 2 2	0	0
6	G	1	Total C O 4 2 2	0	0
6	G	1	Total C O 4 2 2	0	0
6	H	1	Total C O 4 2 2	0	0
6	H	1	Total C O 4 2 2	0	0
6	H	1	Total C O 4 2 2	0	0
6	H	1	Total C O 4 2 2	0	0
6	H	1	Total C O 4 2 2	0	0
6	H	1	Total C O 4 2 2	0	0
6	H	1	Total C O 4 2 2	0	0
6	H	1	Total C O 4 2 2	0	0

- Molecule 7 is PENTAETHYLENE GLYCOL (CCD ID: 1PE) (formula: C<sub>10</sub>H<sub>22</sub>O<sub>6</sub>).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
7	A	1	Total	C	O	0	0
			16	10	6		

- Molecule 8 is TRIETHYLENE GLYCOL (CCD ID: PGE) (formula:  $C_6H_{14}O_4$ ).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
8	A	1	Total	C	O	0	0
			10	6	4		
8	A	1	Total	C	O	0	0
			10	6	4		
8	C	1	Total	C	O	0	0
			10	6	4		

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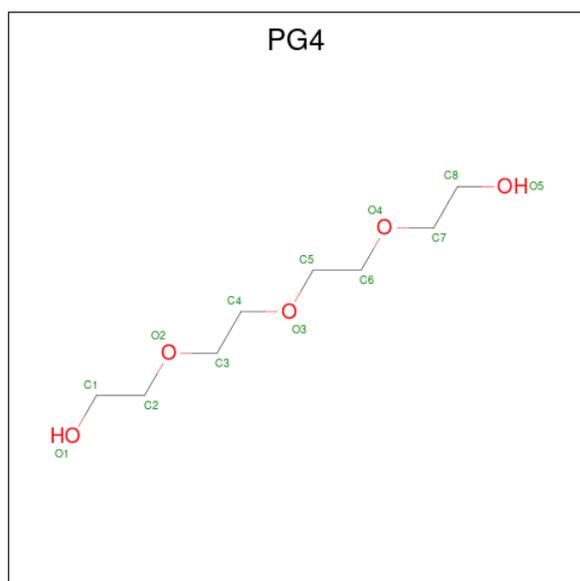
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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
8	E	1	Total C O 10 6 4	0	0
8	F	1	Total C O 10 6 4	0	0
8	F	1	Total C O 10 6 4	0	0
8	F	1	Total C O 10 6 4	0	0
8	G	1	Total C O 10 6 4	0	0
8	H	1	Total C O 10 6 4	0	0
8	H	1	Total C O 10 6 4	0	0

- Molecule 9 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
9	B	1	Total Mg 1 1	0	0
9	D	1	Total Mg 1 1	0	0
9	F	2	Total Mg 2 2	0	0

- Molecule 10 is TETRAETHYLENE GLYCOL (CCD ID: PG4) (formula: C<sub>8</sub>H<sub>18</sub>O<sub>5</sub>).

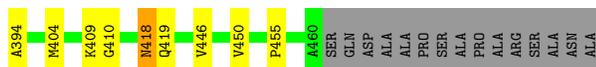


Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
10	B	1	Total	C	O	0	0
			13	8	5		
10	F	1	Total	C	O	0	0
			13	8	5		

- Molecule 11 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
11	A	146	Total	O	0	0
			146	146		
11	B	169	Total	O	0	0
			169	169		
11	C	114	Total	O	0	0
			114	114		
11	D	141	Total	O	0	0
			141	141		
11	E	112	Total	O	0	0
			112	112		
11	F	113	Total	O	0	0
			113	113		
11	G	90	Total	O	0	0
			90	90		
11	H	90	Total	O	0	0
			90	90		





- Molecule 1: Nitrogenase iron-molybdenum cofactor biosynthesis protein NifE

Chain G: 84% 11%



- Molecule 2: Nitrogenase iron-molybdenum cofactor biosynthesis protein NifN

Chain B: 81% 16%



- Molecule 2: Nitrogenase iron-molybdenum cofactor biosynthesis protein NifN

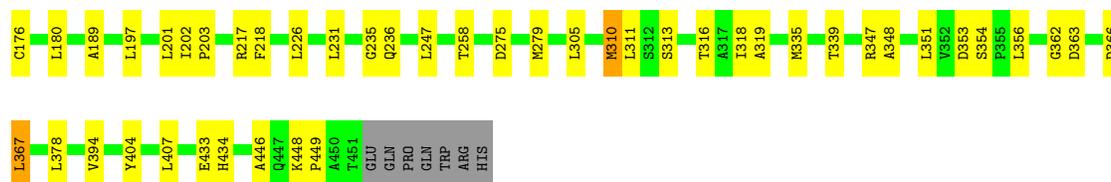
Chain D: 83% 15%



- Molecule 2: Nitrogenase iron-molybdenum cofactor biosynthesis protein NifN

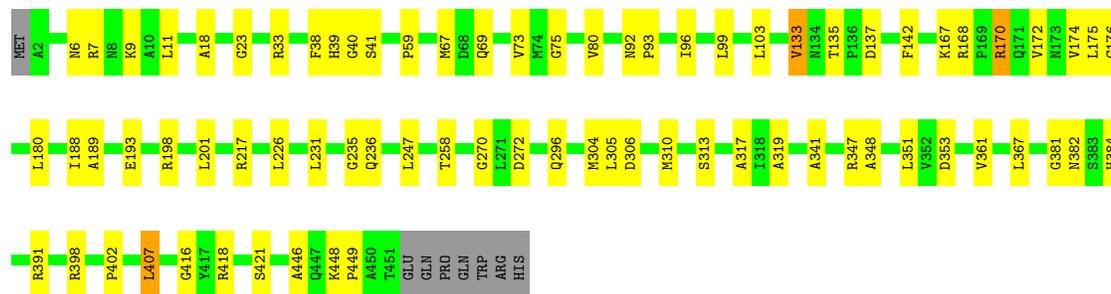
Chain F: 81% 16%





- Molecule 2: Nitrogenase iron-molybdenum cofactor biosynthesis protein NifN

Chain H: 82% 16% ..



## 4 Data and refinement statistics i

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	146.07Å 95.22Å 149.98Å 90.00° 95.50° 90.00°	Depositor
Resolution (Å)	39.83 – 2.40 39.83 – 2.40	Depositor EDS
% Data completeness (in resolution range)	87.2 (39.83-2.40) 87.2 (39.83-2.40)	Depositor EDS
$R_{merge}$	0.07	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	2.91 (at 2.39Å)	Xtrriage
Refinement program	BUSTER 2.10.4 (10-JUL-2024)	Depositor
R, $R_{free}$	0.249 , 0.304 0.245 , 0.301	Depositor DCC
$R_{free}$ test set	13821 reflections (8.61%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	35.9	Xtrriage
Anisotropy	0.114	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.31 , 51.5	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.39$ , $\langle L^2 \rangle = 0.22$	Xtrriage
Estimated twinning fraction	0.075 for l,-k,h	Xtrriage
$F_o, F_c$ correlation	0.93	EDS
Total number of atoms	29802	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	61.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 5.98% of the height of the origin peak. No significant pseudotranslation is detected.*

<sup>1</sup>Intensities estimated from amplitudes.

<sup>2</sup>Theoretical values of  $\langle |L| \rangle$ ,  $\langle L^2 \rangle$  for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

## 5 Model quality i

### 5.1 Standard geometry i

Bond lengths and bond angles in the following residue types are not validated in this section: SF4, 1PE, PGE, PG4, MG, S5Q, PEG, EDO

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	0.71	0/3665	1.03	3/4968 (0.1%)
1	C	0.64	0/3665	1.03	5/4968 (0.1%)
1	E	0.65	0/3665	1.02	5/4968 (0.1%)
1	G	0.62	0/3665	1.00	5/4968 (0.1%)
2	B	0.72	0/3451	1.08	2/4693 (0.0%)
2	D	0.74	0/3451	1.11	10/4693 (0.2%)
2	F	0.71	1/3459 (0.0%)	1.08	7/4703 (0.1%)
2	H	0.70	0/3451	1.06	2/4693 (0.0%)
All	All	0.69	1/28472 (0.0%)	1.05	39/38654 (0.1%)

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	F	394	VAL	CA-C	6.74	1.58	1.52

The worst 5 of 39 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed( $^{\circ}$ )	Ideal( $^{\circ}$ )
1	C	49	VAL	CA-C-N	9.03	132.75	120.38
1	C	49	VAL	C-N-CA	9.03	132.75	120.38
2	F	362	GLY	N-CA-C	8.05	123.58	111.42
1	A	49	VAL	CA-C-N	7.30	131.78	120.82
1	A	49	VAL	C-N-CA	7.30	131.78	120.82

There are no chirality outliers.

There are no planarity outliers.

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

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	3591	0	3571	61	0
1	C	3591	0	3571	50	0
1	E	3591	0	3571	46	0
1	G	3591	0	3571	54	0
2	B	3386	0	3379	72	0
2	D	3386	0	3379	56	0
2	F	3394	0	3391	46	0
2	H	3386	0	3379	67	0
3	A	8	0	0	1	0
3	C	8	0	0	1	0
3	E	8	0	0	1	0
3	G	8	0	0	0	0
4	A	18	0	0	5	0
4	C	18	0	0	5	0
4	E	18	0	0	5	0
4	G	18	0	0	5	0
5	A	42	0	60	6	0
5	B	42	0	60	7	0
5	C	7	0	10	0	0
5	D	49	0	70	12	0
5	F	7	0	10	0	0
5	G	14	0	20	6	0
5	H	28	0	40	7	0
6	A	100	0	150	10	0
6	B	84	0	126	22	0
6	C	28	0	42	5	0
6	D	72	0	108	13	0
6	E	36	0	54	3	0
6	F	72	0	108	1	0
6	G	48	0	72	6	0
6	H	32	0	48	5	0
7	A	16	0	22	5	0
8	A	20	0	28	3	0
8	C	10	0	14	0	0
8	E	10	0	14	0	0
8	F	30	0	42	1	0
8	G	10	0	14	4	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
8	H	20	0	28	6	0
9	B	1	0	0	0	0
9	D	1	0	0	0	0
9	F	2	0	0	0	0
10	B	13	0	18	0	0
10	F	13	0	18	0	0
11	A	146	0	0	2	0
11	B	169	0	0	1	0
11	C	114	0	0	2	0
11	D	141	0	0	1	0
11	E	112	0	0	1	0
11	F	113	0	0	1	0
11	G	90	0	0	1	0
11	H	90	0	0	1	0
All	All	29802	0	28988	397	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 7.

The worst 5 of 397 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)
2:D:384:HIS:HA	6:D:520:EDO:H21	1.22	1.11
1:C:97:ARG:HA	6:C:506:EDO:H21	1.12	1.07
2:H:198:ARG:HA	8:H:514:PGE:H2	1.42	1.02
2:B:195:PHE:HA	5:B:503:PEG:H11	1.41	1.00
2:H:167:LYS:HB3	2:H:236:GLN:HB3	1.43	1.00

There are no symmetry-related clashes.

## 5.3 Torsion angles [i](#)

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

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

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	463/483 (96%)	439 (95%)	20 (4%)	4 (1%)	14	22
1	C	463/483 (96%)	440 (95%)	21 (4%)	2 (0%)	30	44
1	E	463/483 (96%)	441 (95%)	20 (4%)	2 (0%)	30	44
1	G	463/483 (96%)	440 (95%)	21 (4%)	2 (0%)	30	44
2	B	448/458 (98%)	436 (97%)	12 (3%)	0	100	100
2	D	448/458 (98%)	434 (97%)	13 (3%)	1 (0%)	44	59
2	F	449/458 (98%)	434 (97%)	15 (3%)	0	100	100
2	H	448/458 (98%)	432 (96%)	16 (4%)	0	100	100
All	All	3645/3764 (97%)	3496 (96%)	138 (4%)	11 (0%)	37	51

5 of 11 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	22	LYS
1	A	131	ASP
1	C	22	LYS
2	D	450	ALA
1	G	22	LYS

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

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

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	376/388 (97%)	362 (96%)	14 (4%)	29	48
1	C	376/388 (97%)	364 (97%)	12 (3%)	34	54
1	E	376/388 (97%)	365 (97%)	11 (3%)	37	58
1	G	376/388 (97%)	367 (98%)	9 (2%)	44	64
2	B	355/363 (98%)	341 (96%)	14 (4%)	27	46
2	D	355/363 (98%)	347 (98%)	8 (2%)	45	66
2	F	356/363 (98%)	345 (97%)	11 (3%)	35	56
2	H	355/363 (98%)	343 (97%)	12 (3%)	32	52

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
All	All	2925/3004 (97%)	2834 (97%)	91 (3%)	35 56

5 of 91 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	E	386	LEU
1	G	27	LYS
2	F	69	GLN
2	F	313	SER
1	G	189	GLU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 33 such sidechains are listed below:

Mol	Chain	Res	Type
1	G	164	ASN
2	H	92	ASN
2	H	403	GLN
2	D	121	GLN
2	D	112	HIS

### 5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

## 5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

## 5.6 Ligand geometry [i](#)

Of 170 ligands modelled in this entry, 4 are monoatomic - leaving 166 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	$\# Z  > 2$
5	PEG	A	504	-	6,6,6	0.16	0	5,5,5	0.09	0
6	EDO	B	523	-	3,3,3	0.25	0	2,2,2	0.31	0
6	EDO	A	526	-	3,3,3	0.43	0	2,2,2	0.15	0
8	PGE	G	517	-	9,9,9	0.18	0	8,8,8	0.12	0
5	PEG	A	510	-	6,6,6	0.24	0	5,5,5	0.07	0
6	EDO	C	506	-	3,3,3	0.52	0	2,2,2	0.34	0
5	PEG	D	507	-	6,6,6	0.20	0	5,5,5	0.20	0
6	EDO	H	511	-	3,3,3	0.32	0	2,2,2	0.27	0
8	PGE	A	535	-	9,9,9	0.17	0	8,8,8	0.09	0
5	PEG	C	505	-	6,6,6	0.13	0	5,5,5	0.12	0
6	EDO	C	507	-	3,3,3	0.36	0	2,2,2	0.24	0
6	EDO	C	504	-	3,3,3	0.55	0	2,2,2	0.27	0
6	EDO	E	503	-	3,3,3	0.31	0	2,2,2	0.33	0
5	PEG	H	503	-	6,6,6	0.16	0	5,5,5	0.08	0
6	EDO	E	509	-	3,3,3	0.31	0	2,2,2	0.29	0
5	PEG	B	502	-	6,6,6	0.13	0	5,5,5	0.11	0
5	PEG	B	521	-	6,6,6	0.24	0	5,5,5	0.11	0
6	EDO	D	519	-	3,3,3	0.34	0	2,2,2	0.14	0
3	SF4	G	501	1,2	0,12,12	-	-	-	-	-
6	EDO	G	507	-	3,3,3	0.27	0	2,2,2	0.32	0
6	EDO	D	523	-	3,3,3	0.25	0	2,2,2	0.28	0
6	EDO	G	503	-	3,3,3	0.36	0	2,2,2	0.19	0
6	EDO	B	524	-	3,3,3	0.50	0	2,2,2	0.25	0
6	EDO	F	513	-	3,3,3	0.35	0	2,2,2	0.18	0
6	EDO	A	520	-	3,3,3	0.40	0	2,2,2	0.28	0
6	EDO	A	509	-	3,3,3	0.23	0	2,2,2	0.36	0
6	EDO	G	510	-	3,3,3	0.39	0	2,2,2	0.14	0
6	EDO	E	512	-	3,3,3	0.30	0	2,2,2	0.33	0
6	EDO	G	516	-	3,3,3	0.28	0	2,2,2	0.26	0
6	EDO	G	505	-	3,3,3	0.25	0	2,2,2	0.23	0
6	EDO	F	515	-	3,3,3	0.33	0	2,2,2	0.17	0
6	EDO	D	520	-	3,3,3	0.30	0	2,2,2	0.13	0
5	PEG	A	503	-	6,6,6	0.18	0	5,5,5	0.12	0
6	EDO	F	503	-	3,3,3	0.45	0	2,2,2	0.16	0
6	EDO	H	509	-	3,3,3	0.55	0	2,2,2	0.11	0
6	EDO	D	522	-	3,3,3	0.36	0	2,2,2	0.30	0
3	SF4	C	501	1,2	0,12,12	-	-	-	-	-
6	EDO	F	519	-	3,3,3	0.33	0	2,2,2	0.10	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
6	EDO	D	508	-	3,3,3	0.26	0	2,2,2	0.39	0
10	PG4	B	520	-	12,12,12	0.21	0	11,11,11	0.35	0
6	EDO	A	513	-	3,3,3	0.36	0	2,2,2	0.13	0
6	EDO	D	516	-	3,3,3	0.30	0	2,2,2	0.20	0
4	S5Q	G	502	1	18,30,30	2.38	11 (61%)	-	-	-
5	PEG	B	522	-	6,6,6	0.25	0	5,5,5	0.15	0
5	PEG	A	533	-	6,6,6	0.15	0	5,5,5	0.13	0
6	EDO	F	523	-	3,3,3	0.28	0	2,2,2	0.25	0
6	EDO	H	506	-	3,3,3	0.31	0	2,2,2	0.38	0
6	EDO	F	518	-	3,3,3	0.23	0	2,2,2	0.35	0
6	EDO	H	512	-	3,3,3	0.29	0	2,2,2	0.31	0
6	EDO	E	504	-	3,3,3	0.39	0	2,2,2	0.21	0
5	PEG	D	504	-	6,6,6	0.14	0	5,5,5	0.23	0
6	EDO	F	521	-	3,3,3	0.22	0	2,2,2	0.38	0
5	PEG	A	505	-	6,6,6	0.19	0	5,5,5	0.06	0
6	EDO	A	522	-	3,3,3	0.37	0	2,2,2	0.22	0
6	EDO	D	525	-	3,3,3	0.47	0	2,2,2	0.15	0
6	EDO	F	506	-	3,3,3	0.23	0	2,2,2	0.31	0
5	PEG	F	507	-	6,6,6	0.23	0	5,5,5	0.14	0
6	EDO	D	514	-	3,3,3	0.40	0	2,2,2	0.27	0
6	EDO	B	525	-	3,3,3	0.40	0	2,2,2	0.05	0
6	EDO	A	521	-	3,3,3	0.35	0	2,2,2	0.07	0
5	PEG	D	505	-	6,6,6	0.16	0	5,5,5	0.06	0
8	PGE	F	524	-	9,9,9	0.19	0	8,8,8	0.06	0
6	EDO	B	508	-	3,3,3	0.26	0	2,2,2	0.18	0
6	EDO	A	515	-	3,3,3	0.34	0	2,2,2	0.04	0
6	EDO	A	511	-	3,3,3	0.23	0	2,2,2	0.06	0
6	EDO	B	507	-	3,3,3	0.28	0	2,2,2	0.29	0
3	SF4	E	501	1,2	0,12,12	-	-	-	-	-
6	EDO	H	510	-	3,3,3	0.49	0	2,2,2	0.09	0
6	EDO	C	511	-	3,3,3	0.47	0	2,2,2	0.17	0
5	PEG	G	506	-	6,6,6	0.11	0	5,5,5	0.12	0
6	EDO	B	517	-	3,3,3	0.29	0	2,2,2	0.26	0
6	EDO	G	512	-	3,3,3	0.39	0	2,2,2	0.04	0
6	EDO	D	512	-	3,3,3	0.27	0	2,2,2	0.28	0
6	EDO	G	509	-	3,3,3	0.26	0	2,2,2	0.18	0
6	EDO	B	514	-	3,3,3	0.56	0	2,2,2	0.07	0
6	EDO	D	509	-	3,3,3	0.28	0	2,2,2	0.30	0
6	EDO	F	510	-	3,3,3	0.46	0	2,2,2	0.14	0
6	EDO	B	512	-	3,3,3	0.31	0	2,2,2	0.18	0
6	EDO	F	505	-	3,3,3	0.35	0	2,2,2	0.14	0
5	PEG	D	506	-	6,6,6	0.23	0	5,5,5	0.07	0
6	EDO	E	510	-	3,3,3	0.23	0	2,2,2	0.28	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
5	PEG	B	529	-	6,6,6	0.14	0	5,5,5	0.11	0
6	EDO	C	510	-	3,3,3	0.22	0	2,2,2	0.41	0
6	EDO	D	521	-	3,3,3	0.31	0	2,2,2	0.20	0
6	EDO	A	524	-	3,3,3	0.32	0	2,2,2	0.19	0
6	EDO	A	525	-	3,3,3	0.30	0	2,2,2	0.25	0
4	S5Q	E	502	1	18,30,30	2.37	10 (55%)	-		
6	EDO	H	505	-	3,3,3	0.54	0	2,2,2	0.34	0
6	EDO	D	515	-	3,3,3	0.26	0	2,2,2	0.20	0
5	PEG	D	517	-	6,6,6	0.17	0	5,5,5	0.22	0
6	EDO	B	527	-	3,3,3	0.33	0	2,2,2	0.15	0
6	EDO	D	503	-	3,3,3	0.21	0	2,2,2	0.31	0
6	EDO	A	516	-	3,3,3	0.37	0	2,2,2	0.25	0
8	PGE	F	525	-	9,9,9	0.20	0	8,8,8	0.10	0
6	EDO	A	530	-	3,3,3	0.28	0	2,2,2	0.23	0
6	EDO	B	528	-	3,3,3	0.45	0	2,2,2	0.19	0
6	EDO	B	515	-	3,3,3	0.42	0	2,2,2	0.07	0
3	SF4	A	501	1,2	0,12,12	-	-	-		
6	EDO	A	519	-	3,3,3	0.33	0	2,2,2	0.20	0
6	EDO	B	511	-	3,3,3	0.50	0	2,2,2	0.11	0
6	EDO	D	518	-	3,3,3	0.32	0	2,2,2	0.19	0
6	EDO	E	508	-	3,3,3	0.35	0	2,2,2	0.27	0
6	EDO	D	513	-	3,3,3	0.32	0	2,2,2	0.19	0
6	EDO	F	508	-	3,3,3	0.25	0	2,2,2	0.33	0
6	EDO	A	534	-	3,3,3	0.33	0	2,2,2	0.37	0
6	EDO	B	518	-	3,3,3	0.26	0	2,2,2	0.41	0
10	PG4	F	517	-	12,12,12	0.14	0	11,11,11	0.08	0
5	PEG	H	504	-	6,6,6	0.17	0	5,5,5	0.23	0
5	PEG	B	504	-	6,6,6	0.21	0	5,5,5	0.11	0
6	EDO	F	509	-	3,3,3	0.38	0	2,2,2	0.26	0
6	EDO	B	506	-	3,3,3	0.31	0	2,2,2	0.19	0
6	EDO	F	512	-	3,3,3	0.42	0	2,2,2	0.26	0
6	EDO	B	509	-	3,3,3	0.21	0	2,2,2	0.32	0
6	EDO	A	508	-	3,3,3	0.33	0	2,2,2	0.23	0
6	EDO	A	518	-	3,3,3	0.42	0	2,2,2	0.05	0
4	S5Q	A	502	1	18,30,30	2.35	11 (61%)	-		
6	EDO	A	517	-	3,3,3	0.31	0	2,2,2	0.47	0
6	EDO	A	527	-	3,3,3	0.32	0	2,2,2	0.23	0
6	EDO	G	504	-	3,3,3	0.33	0	2,2,2	0.25	0
5	PEG	H	501	-	6,6,6	0.17	0	5,5,5	0.03	0
6	EDO	A	523	-	3,3,3	0.36	0	2,2,2	0.17	0
6	EDO	D	502	-	3,3,3	0.35	0	2,2,2	0.16	0
6	EDO	G	514	-	3,3,3	0.30	0	2,2,2	0.19	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
5	PEG	G	508	-	6,6,6	0.21	0	5,5,5	0.13	0
8	PGE	H	514	-	9,9,9	0.18	0	8,8,8	0.14	0
6	EDO	B	519	-	3,3,3	0.42	0	2,2,2	0.13	0
6	EDO	C	509	-	3,3,3	0.34	0	2,2,2	0.06	0
6	EDO	F	514	-	3,3,3	0.41	0	2,2,2	0.03	0
6	EDO	A	512	-	3,3,3	0.36	0	2,2,2	0.15	0
8	PGE	A	536	-	9,9,9	0.17	0	8,8,8	0.12	0
6	EDO	A	529	-	3,3,3	0.29	0	2,2,2	0.29	0
6	EDO	G	515	-	3,3,3	0.41	0	2,2,2	0.21	0
6	EDO	F	516	-	3,3,3	0.26	0	2,2,2	0.36	0
6	EDO	F	522	-	3,3,3	0.38	0	2,2,2	0.09	0
5	PEG	H	502	-	6,6,6	0.19	0	5,5,5	0.14	0
6	EDO	B	516	-	3,3,3	0.26	0	2,2,2	0.32	0
6	EDO	D	510	-	3,3,3	0.38	0	2,2,2	0.11	0
5	PEG	A	531	-	6,6,6	0.13	0	5,5,5	0.10	0
6	EDO	F	504	-	3,3,3	0.31	0	2,2,2	0.26	0
4	S5Q	C	502	1	18,30,30	2.33	11 (61%)	-	-	-
6	EDO	A	514	-	3,3,3	0.45	0	2,2,2	0.09	0
5	PEG	D	511	-	6,6,6	0.14	0	5,5,5	0.10	0
6	EDO	E	505	-	3,3,3	0.34	0	2,2,2	0.13	0
6	EDO	E	511	-	3,3,3	0.41	0	2,2,2	0.26	0
6	EDO	F	511	-	3,3,3	0.36	0	2,2,2	0.27	0
6	EDO	G	513	-	3,3,3	0.27	0	2,2,2	0.31	0
8	PGE	H	513	-	9,9,9	0.18	0	8,8,8	0.10	0
7	1PE	A	532	-	15,15,15	0.23	0	14,14,14	0.29	0
8	PGE	C	503	-	9,9,9	0.23	0	8,8,8	0.08	0
8	PGE	E	507	-	9,9,9	0.16	0	8,8,8	0.12	0
6	EDO	G	511	-	3,3,3	0.25	0	2,2,2	0.29	0
6	EDO	B	513	-	3,3,3	0.70	0	2,2,2	0.54	0
6	EDO	C	508	-	3,3,3	0.25	0	2,2,2	0.42	0
6	EDO	A	507	-	3,3,3	0.34	0	2,2,2	0.11	0
6	EDO	E	506	-	3,3,3	0.45	0	2,2,2	0.32	0
6	EDO	A	528	-	3,3,3	0.30	0	2,2,2	0.14	0
6	EDO	B	526	-	3,3,3	0.20	0	2,2,2	0.28	0
6	EDO	B	510	-	3,3,3	0.27	0	2,2,2	0.19	0
6	EDO	D	524	-	3,3,3	0.35	0	2,2,2	0.19	0
6	EDO	A	506	-	3,3,3	0.41	0	2,2,2	0.11	0
5	PEG	D	526	-	6,6,6	0.14	0	5,5,5	0.08	0
6	EDO	B	505	-	3,3,3	0.46	0	2,2,2	0.35	0
6	EDO	H	507	-	3,3,3	0.21	0	2,2,2	0.33	0
6	EDO	H	508	-	3,3,3	0.41	0	2,2,2	0.11	0
8	PGE	F	520	-	9,9,9	0.21	0	8,8,8	0.12	0
5	PEG	B	503	-	6,6,6	0.21	0	5,5,5	0.15	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
5	PEG	A	504	-	-	3/4/4/4	-
6	EDO	B	523	-	-	0/1/1/1	-
6	EDO	A	526	-	-	1/1/1/1	-
8	PGE	G	517	-	-	3/7/7/7	-
5	PEG	A	510	-	-	1/4/4/4	-
6	EDO	C	506	-	-	0/1/1/1	-
5	PEG	D	507	-	-	1/4/4/4	-
6	EDO	H	511	-	-	1/1/1/1	-
8	PGE	A	535	-	-	3/7/7/7	-
5	PEG	C	505	-	-	3/4/4/4	-
6	EDO	C	507	-	-	1/1/1/1	-
6	EDO	C	504	-	-	1/1/1/1	-
6	EDO	E	503	-	-	1/1/1/1	-
5	PEG	H	503	-	-	2/4/4/4	-
6	EDO	E	509	-	-	1/1/1/1	-
5	PEG	B	502	-	-	1/4/4/4	-
5	PEG	B	521	-	-	2/4/4/4	-
6	EDO	D	519	-	-	1/1/1/1	-
3	SF4	G	501	1,2	-	-	0/6/5/5
6	EDO	G	507	-	-	0/1/1/1	-
6	EDO	D	523	-	-	1/1/1/1	-
6	EDO	G	503	-	-	1/1/1/1	-
6	EDO	B	524	-	-	1/1/1/1	-
6	EDO	F	513	-	-	1/1/1/1	-
6	EDO	A	520	-	-	0/1/1/1	-
6	EDO	A	509	-	-	1/1/1/1	-
6	EDO	G	510	-	-	1/1/1/1	-
6	EDO	E	512	-	-	1/1/1/1	-
6	EDO	G	516	-	-	0/1/1/1	-
6	EDO	G	505	-	-	1/1/1/1	-
6	EDO	F	515	-	-	1/1/1/1	-
6	EDO	D	520	-	-	0/1/1/1	-
5	PEG	A	503	-	-	3/4/4/4	-
6	EDO	F	503	-	-	0/1/1/1	-
6	EDO	H	509	-	-	1/1/1/1	-
6	EDO	D	522	-	-	1/1/1/1	-
3	SF4	C	501	1,2	-	-	0/6/5/5

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
6	EDO	F	519	-	-	0/1/1/1	-
6	EDO	D	508	-	-	1/1/1/1	-
10	PG4	B	520	-	-	7/10/10/10	-
6	EDO	A	513	-	-	1/1/1/1	-
6	EDO	D	516	-	-	1/1/1/1	-
5	PEG	B	522	-	-	2/4/4/4	-
5	PEG	A	533	-	-	1/4/4/4	-
6	EDO	F	523	-	-	1/1/1/1	-
6	EDO	H	506	-	-	1/1/1/1	-
6	EDO	F	518	-	-	1/1/1/1	-
6	EDO	H	512	-	-	1/1/1/1	-
6	EDO	E	504	-	-	0/1/1/1	-
5	PEG	D	504	-	-	1/4/4/4	-
6	EDO	F	521	-	-	0/1/1/1	-
5	PEG	A	505	-	-	3/4/4/4	-
6	EDO	A	522	-	-	1/1/1/1	-
6	EDO	D	525	-	-	0/1/1/1	-
6	EDO	F	506	-	-	1/1/1/1	-
5	PEG	F	507	-	-	2/4/4/4	-
6	EDO	D	514	-	-	1/1/1/1	-
6	EDO	B	525	-	-	1/1/1/1	-
6	EDO	A	521	-	-	1/1/1/1	-
5	PEG	D	505	-	-	1/4/4/4	-
8	PGE	F	524	-	-	2/7/7/7	-
6	EDO	B	508	-	-	1/1/1/1	-
6	EDO	A	515	-	-	1/1/1/1	-
6	EDO	A	511	-	-	1/1/1/1	-
6	EDO	B	507	-	-	1/1/1/1	-
3	SF4	E	501	1,2	-	-	0/6/5/5
6	EDO	H	510	-	-	1/1/1/1	-
6	EDO	C	511	-	-	1/1/1/1	-
5	PEG	G	506	-	-	4/4/4/4	-
6	EDO	B	517	-	-	0/1/1/1	-
6	EDO	G	512	-	-	1/1/1/1	-
6	EDO	D	512	-	-	0/1/1/1	-
6	EDO	G	509	-	-	0/1/1/1	-
6	EDO	B	514	-	-	1/1/1/1	-
6	EDO	D	509	-	-	1/1/1/1	-
6	EDO	F	510	-	-	1/1/1/1	-
6	EDO	B	512	-	-	1/1/1/1	-
6	EDO	F	505	-	-	1/1/1/1	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
5	PEG	D	506	-	-	3/4/4/4	-
6	EDO	E	510	-	-	1/1/1/1	-
5	PEG	B	529	-	-	3/4/4/4	-
6	EDO	C	510	-	-	0/1/1/1	-
6	EDO	D	521	-	-	1/1/1/1	-
6	EDO	A	524	-	-	1/1/1/1	-
6	EDO	A	525	-	-	1/1/1/1	-
6	EDO	H	505	-	-	0/1/1/1	-
6	EDO	D	515	-	-	0/1/1/1	-
5	PEG	D	517	-	-	2/4/4/4	-
6	EDO	B	527	-	-	1/1/1/1	-
6	EDO	D	503	-	-	1/1/1/1	-
6	EDO	A	516	-	-	1/1/1/1	-
8	PGE	F	525	-	-	3/7/7/7	-
6	EDO	A	530	-	-	1/1/1/1	-
6	EDO	B	528	-	-	1/1/1/1	-
6	EDO	B	515	-	-	1/1/1/1	-
3	SF4	A	501	1,2	-	-	0/6/5/5
6	EDO	A	519	-	-	0/1/1/1	-
6	EDO	B	511	-	-	1/1/1/1	-
6	EDO	D	518	-	-	0/1/1/1	-
6	EDO	E	508	-	-	1/1/1/1	-
6	EDO	D	513	-	-	0/1/1/1	-
6	EDO	F	508	-	-	1/1/1/1	-
6	EDO	A	534	-	-	1/1/1/1	-
6	EDO	B	518	-	-	1/1/1/1	-
10	PG4	F	517	-	-	8/10/10/10	-
5	PEG	H	504	-	-	2/4/4/4	-
5	PEG	B	504	-	-	2/4/4/4	-
6	EDO	F	509	-	-	1/1/1/1	-
6	EDO	B	506	-	-	1/1/1/1	-
6	EDO	F	512	-	-	1/1/1/1	-
6	EDO	B	509	-	-	1/1/1/1	-
6	EDO	A	508	-	-	1/1/1/1	-
6	EDO	A	518	-	-	0/1/1/1	-
6	EDO	A	517	-	-	0/1/1/1	-
6	EDO	A	527	-	-	1/1/1/1	-
6	EDO	G	504	-	-	1/1/1/1	-
5	PEG	H	501	-	-	2/4/4/4	-
6	EDO	A	523	-	-	1/1/1/1	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
6	EDO	D	502	-	-	1/1/1/1	-
6	EDO	G	514	-	-	1/1/1/1	-
5	PEG	G	508	-	-	2/4/4/4	-
8	PGE	H	514	-	-	3/7/7/7	-
6	EDO	B	519	-	-	1/1/1/1	-
6	EDO	C	509	-	-	1/1/1/1	-
6	EDO	F	514	-	-	0/1/1/1	-
6	EDO	A	512	-	-	0/1/1/1	-
8	PGE	A	536	-	-	3/7/7/7	-
6	EDO	A	529	-	-	1/1/1/1	-
6	EDO	G	515	-	-	1/1/1/1	-
6	EDO	F	516	-	-	0/1/1/1	-
6	EDO	F	522	-	-	1/1/1/1	-
5	PEG	H	502	-	-	3/4/4/4	-
6	EDO	B	516	-	-	0/1/1/1	-
6	EDO	D	510	-	-	1/1/1/1	-
5	PEG	A	531	-	-	4/4/4/4	-
6	EDO	F	504	-	-	1/1/1/1	-
6	EDO	A	514	-	-	0/1/1/1	-
5	PEG	D	511	-	-	1/4/4/4	-
6	EDO	E	505	-	-	0/1/1/1	-
6	EDO	E	511	-	-	1/1/1/1	-
6	EDO	F	511	-	-	1/1/1/1	-
6	EDO	G	513	-	-	1/1/1/1	-
8	PGE	H	513	-	-	2/7/7/7	-
7	1PE	A	532	-	-	8/13/13/13	-
8	PGE	C	503	-	-	6/7/7/7	-
8	PGE	E	507	-	-	3/7/7/7	-
6	EDO	G	511	-	-	1/1/1/1	-
6	EDO	B	513	-	-	1/1/1/1	-
6	EDO	C	508	-	-	1/1/1/1	-
6	EDO	A	507	-	-	0/1/1/1	-
6	EDO	E	506	-	-	1/1/1/1	-
6	EDO	A	528	-	-	1/1/1/1	-
6	EDO	B	526	-	-	1/1/1/1	-
6	EDO	B	510	-	-	1/1/1/1	-
6	EDO	D	524	-	-	1/1/1/1	-
6	EDO	A	506	-	-	1/1/1/1	-
5	PEG	D	526	-	-	4/4/4/4	-
6	EDO	B	505	-	-	1/1/1/1	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
6	EDO	H	507	-	-	1/1/1/1	-
6	EDO	H	508	-	-	1/1/1/1	-
8	PGE	F	520	-	-	4/7/7/7	-
5	PEG	B	503	-	-	2/4/4/4	-

The worst 5 of 43 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	A	502	S5Q	S2A-FE2	-4.27	2.21	2.32
4	E	502	S5Q	S2A-FE2	-4.13	2.22	2.32
4	G	502	S5Q	S2A-FE2	-4.01	2.22	2.32
4	C	502	S5Q	S2A-FE2	-4.00	2.22	2.32
4	G	502	S5Q	S1A-FE4	-3.89	2.22	2.32

There are no bond angle outliers.

There are no chirality outliers.

5 of 204 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
5	B	504	PEG	O1-C1-C2-O2
10	B	520	PG4	O3-C5-C6-O4
8	A	535	PGE	O2-C3-C4-O3
5	H	503	PEG	O1-C1-C2-O2
8	E	507	PGE	O2-C3-C4-O3

There are no ring outliers.

63 monomers are involved in 144 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
8	G	517	PGE	4	0
5	A	510	PEG	1	0
6	C	506	EDO	3	0
5	D	507	PEG	5	0
6	H	511	EDO	1	0
8	A	535	PGE	2	0
6	C	507	EDO	1	0
6	C	504	EDO	1	0
5	H	503	PEG	1	0
6	E	509	EDO	1	0
6	G	503	EDO	5	0

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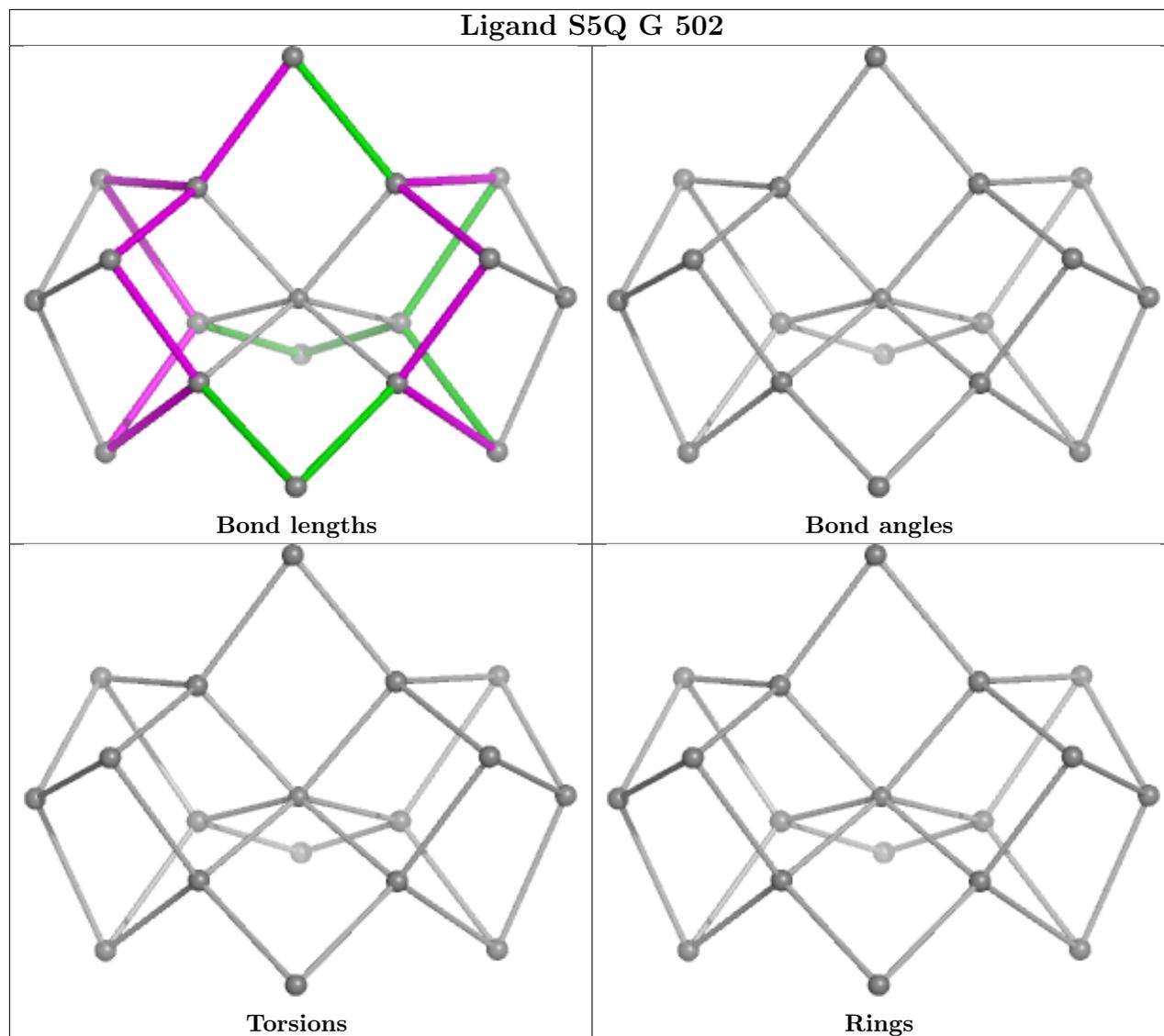
Mol	Chain	Res	Type	Clashes	Symm-Clashes
6	F	513	EDO	1	0
6	A	520	EDO	1	0
6	G	505	EDO	1	0
6	D	520	EDO	3	0
5	A	503	PEG	4	0
6	H	509	EDO	1	0
6	D	522	EDO	2	0
3	C	501	SF4	1	0
6	D	508	EDO	1	0
6	A	513	EDO	1	0
4	G	502	S5Q	5	0
5	A	533	PEG	1	0
6	E	504	EDO	1	0
5	D	504	PEG	3	0
6	A	522	EDO	2	0
6	A	521	EDO	1	0
6	A	511	EDO	2	0
3	E	501	SF4	1	0
6	H	510	EDO	1	0
5	G	506	PEG	6	0
6	B	512	EDO	1	0
6	D	521	EDO	2	0
4	E	502	S5Q	5	0
6	D	503	EDO	3	0
6	A	516	EDO	1	0
8	F	525	PGE	1	0
6	B	528	EDO	2	0
3	A	501	SF4	1	0
6	B	511	EDO	3	0
6	E	508	EDO	1	0
6	D	513	EDO	2	0
6	B	518	EDO	2	0
5	H	504	PEG	5	0
5	B	504	PEG	2	0
6	B	506	EDO	1	0
6	B	509	EDO	3	0
4	A	502	S5Q	5	0
6	A	517	EDO	2	0
8	H	514	PGE	4	0
6	A	512	EDO	2	0
8	A	536	PGE	1	0
5	H	502	PEG	1	0

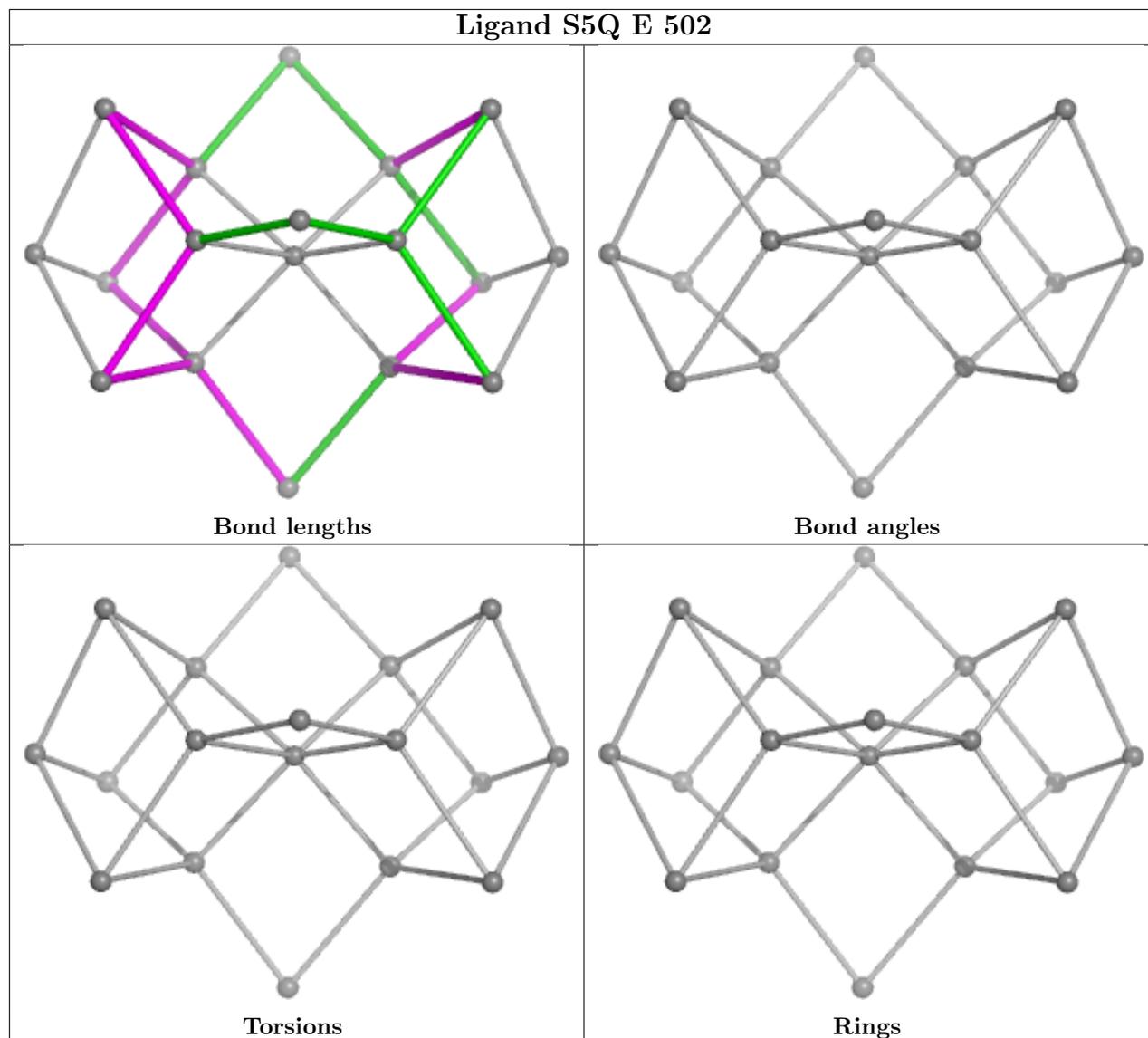
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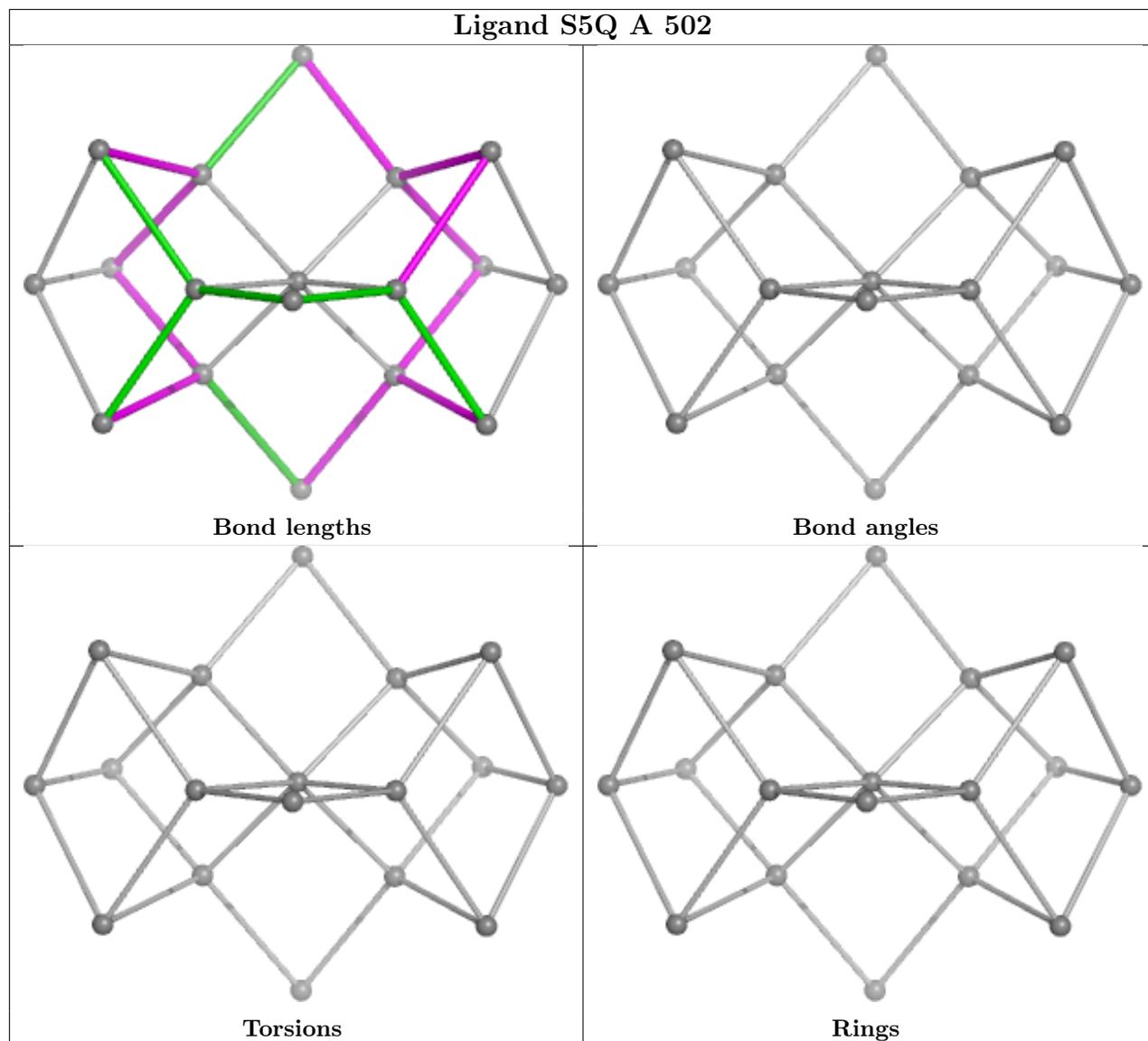
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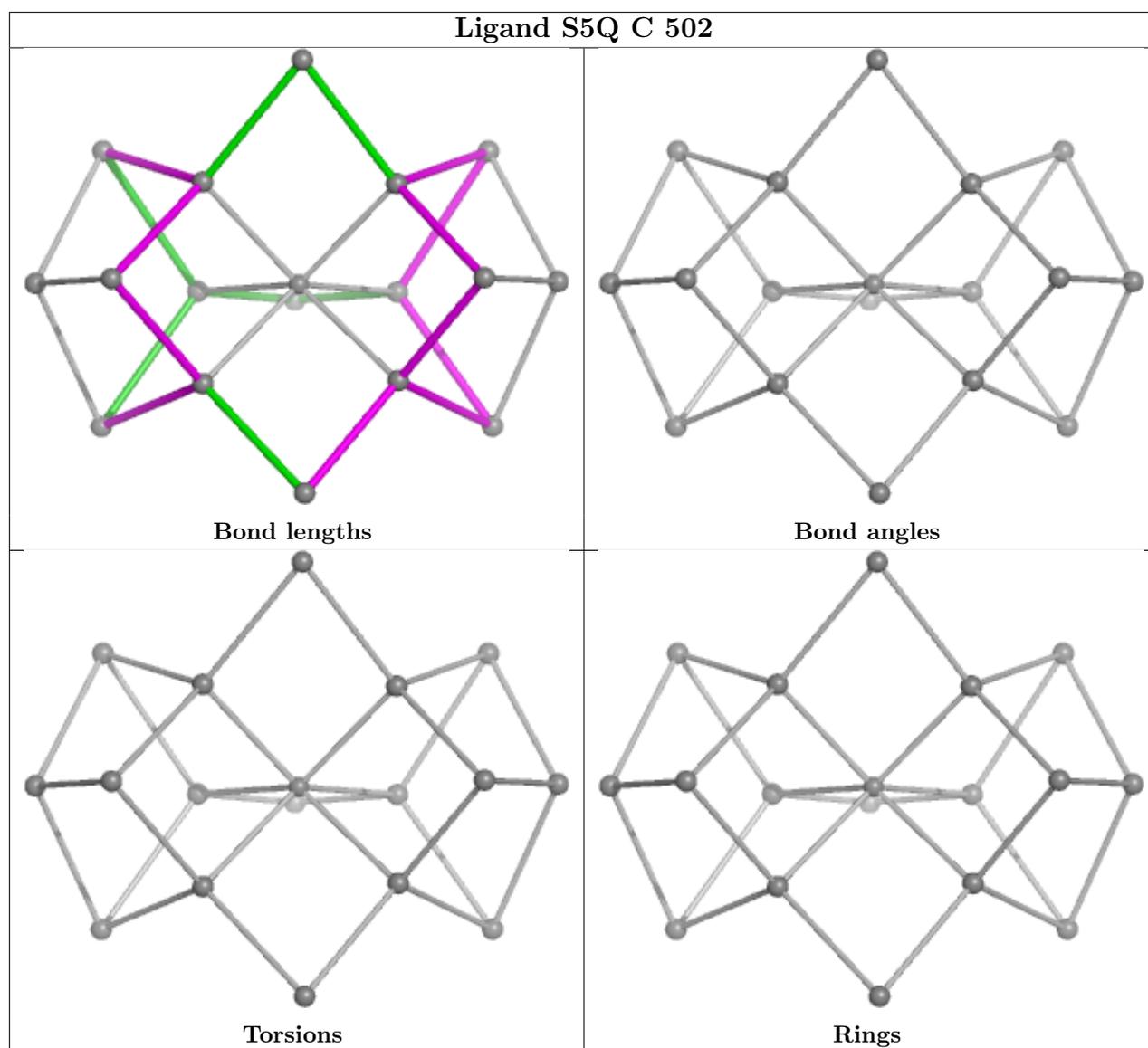
Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	C	502	S5Q	5	0
5	D	511	PEG	1	0
8	H	513	PGE	2	0
7	A	532	1PE	5	0
6	B	513	EDO	4	0
6	B	510	EDO	1	0
5	D	526	PEG	3	0
6	B	505	EDO	5	0
6	H	507	EDO	2	0
5	B	503	PEG	5	0

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









## 5.7 Other polymers [\(i\)](#)

There are no such residues in this entry.

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

There are no chain breaks in this entry.

## 6 Fit of model and data [i](#)

### 6.1 Protein, DNA and RNA chains [i](#)

In the following table, the column labelled ‘#RSRZ> 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95<sup>th</sup> percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled ‘Q< 0.9’ lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
1	A	465/483 (96%)	-1.22	0 100 100	17, 42, 85, 104	0
1	C	465/483 (96%)	-1.01	0 100 100	28, 60, 120, 137	0
1	E	465/483 (96%)	-0.90	0 100 100	32, 63, 142, 187	0
1	G	465/483 (96%)	-0.85	0 100 100	32, 72, 229, 250	0
2	B	450/458 (98%)	-1.23	0 100 100	10, 46, 72, 89	0
2	D	450/458 (98%)	-1.23	0 100 100	18, 49, 84, 91	0
2	F	451/458 (98%)	-1.00	0 100 100	28, 59, 95, 104	0
2	H	450/458 (98%)	-1.07	0 100 100	28, 58, 87, 99	0
All	All	3661/3764 (97%)	-1.06	0 100 100	10, 56, 117, 250	0

There are no RSRZ outliers to report.

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

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

### 6.3 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

### 6.4 Ligands [i](#)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95<sup>th</sup> percentile and maximum values of B factors of atoms in the group. The column labelled ‘Q< 0.9’ lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
5	PEG	H	502	7/7	0.90	0.13	82,82,83,83	0
6	EDO	A	524	4/4	0.90	0.08	53,53,53,53	0
6	EDO	F	516	4/4	0.92	0.07	75,75,75,75	0
6	EDO	B	515	4/4	0.93	0.08	59,59,59,59	0
6	EDO	A	521	4/4	0.94	0.08	63,63,64,64	0
6	EDO	D	509	4/4	0.94	0.07	58,58,58,58	0
6	EDO	D	519	4/4	0.94	0.06	52,52,52,52	0
5	PEG	H	501	7/7	0.94	0.06	74,74,75,75	0
6	EDO	F	521	4/4	0.94	0.06	56,56,56,56	0
6	EDO	A	530	4/4	0.95	0.06	44,44,45,45	0
6	EDO	F	506	4/4	0.95	0.05	56,56,56,56	0
6	EDO	G	514	4/4	0.95	0.07	42,42,42,43	0
6	EDO	G	515	4/4	0.95	0.07	52,52,53,53	0
8	PGE	E	507	10/10	0.95	0.07	55,58,61,61	0
5	PEG	B	502	7/7	0.96	0.06	75,75,75,75	0
6	EDO	B	516	4/4	0.96	0.08	39,39,40,40	0
6	EDO	C	508	4/4	0.96	0.06	50,50,50,50	0
6	EDO	C	509	4/4	0.96	0.08	64,64,64,64	0
5	PEG	B	522	7/7	0.96	0.07	42,42,42,42	0
6	EDO	D	510	4/4	0.96	0.10	52,53,53,53	0
6	EDO	A	513	4/4	0.96	0.13	65,65,66,66	0
6	EDO	E	505	4/4	0.96	0.06	58,58,58,58	0
6	EDO	E	511	4/4	0.96	0.05	33,33,34,34	0
6	EDO	F	503	4/4	0.96	0.05	50,50,50,50	0
6	EDO	F	505	4/4	0.96	0.06	62,62,62,62	0
5	PEG	D	505	7/7	0.96	0.06	55,55,55,55	0
6	EDO	F	508	4/4	0.96	0.06	74,74,74,74	0
6	EDO	F	512	4/4	0.96	0.05	49,49,49,49	0
6	EDO	A	522	4/4	0.96	0.11	46,46,47,47	0
5	PEG	D	506	7/7	0.96	0.09	75,76,78,78	0
6	EDO	F	523	4/4	0.96	0.06	72,72,72,72	0
6	EDO	G	509	4/4	0.96	0.06	42,42,42,42	0
6	EDO	A	526	4/4	0.96	0.05	40,41,41,41	0
5	PEG	D	526	7/7	0.96	0.06	63,63,63,63	0
6	EDO	G	516	4/4	0.96	0.05	59,59,59,59	0
6	EDO	B	514	4/4	0.96	0.05	42,42,42,42	0
8	PGE	F	525	10/10	0.96	0.06	73,74,75,75	0
8	PGE	H	513	10/10	0.96	0.06	52,54,54,54	0
6	EDO	A	514	4/4	0.97	0.09	42,43,43,43	0
6	EDO	A	515	4/4	0.97	0.06	52,52,52,52	0
6	EDO	C	511	4/4	0.97	0.06	40,40,40,40	0
6	EDO	A	517	4/4	0.97	0.12	21,22,22,24	0
6	EDO	A	518	4/4	0.97	0.06	35,35,35,35	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
6	EDO	D	518	4/4	0.97	0.06	53,53,53,53	0
6	EDO	A	519	4/4	0.97	0.10	56,56,56,56	0
6	EDO	D	520	4/4	0.97	0.10	40,40,41,41	0
6	EDO	D	523	4/4	0.97	0.09	51,51,51,51	0
6	EDO	A	520	4/4	0.97	0.06	27,28,29,29	0
6	EDO	E	508	4/4	0.97	0.09	38,38,38,38	0
6	EDO	E	509	4/4	0.97	0.04	43,43,44,44	0
5	PEG	C	505	7/7	0.97	0.07	64,64,65,65	0
6	EDO	E	512	4/4	0.97	0.06	59,60,60,60	0
5	PEG	G	508	7/7	0.97	0.08	57,57,58,58	0
6	EDO	F	504	4/4	0.97	0.07	35,35,35,35	0
6	EDO	A	523	4/4	0.97	0.05	43,43,44,44	0
5	PEG	A	503	7/7	0.97	0.08	36,37,37,38	0
5	PEG	A	533	7/7	0.97	0.06	62,62,62,62	0
6	EDO	F	509	4/4	0.97	0.05	56,56,56,56	0
6	EDO	A	529	4/4	0.97	0.13	51,51,51,51	0
6	EDO	F	515	4/4	0.97	0.07	44,44,45,45	0
6	EDO	A	506	4/4	0.97	0.09	37,38,38,39	0
6	EDO	F	518	4/4	0.97	0.06	73,73,73,73	0
6	EDO	F	519	4/4	0.97	0.05	54,55,55,55	0
6	EDO	B	508	4/4	0.97	0.08	62,62,63,63	0
6	EDO	B	512	4/4	0.97	0.06	73,74,74,74	0
6	EDO	G	505	4/4	0.97	0.04	42,43,43,43	0
6	EDO	A	507	4/4	0.97	0.06	59,59,59,59	0
6	EDO	A	508	4/4	0.97	0.06	44,44,45,45	0
5	PEG	D	507	7/7	0.97	0.05	47,49,50,50	0
6	EDO	B	517	4/4	0.97	0.06	51,51,52,52	0
6	EDO	H	510	4/4	0.97	0.09	46,46,46,46	0
6	EDO	H	511	4/4	0.97	0.07	40,40,40,40	0
8	PGE	C	503	10/10	0.97	0.06	47,50,51,51	0
6	EDO	B	525	4/4	0.97	0.09	47,47,47,47	0
6	EDO	B	527	4/4	0.97	0.06	71,71,71,71	0
6	EDO	B	528	4/4	0.97	0.07	39,39,40,40	0
6	EDO	D	516	4/4	0.98	0.05	41,41,41,41	0
5	PEG	D	517	7/7	0.98	0.04	40,40,40,41	0
6	EDO	A	534	4/4	0.98	0.04	30,31,31,31	0
6	EDO	B	505	4/4	0.98	0.09	37,38,38,38	0
6	EDO	D	521	4/4	0.98	0.07	44,44,45,45	0
6	EDO	D	522	4/4	0.98	0.07	26,26,27,27	0
6	EDO	B	506	4/4	0.98	0.04	40,40,40,40	0
6	EDO	D	524	4/4	0.98	0.04	40,41,41,41	0
6	EDO	E	503	4/4	0.98	0.05	56,56,57,57	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
6	EDO	E	504	4/4	0.98	0.07	50,50,50,50	0
6	EDO	B	507	4/4	0.98	0.08	31,31,31,31	0
5	PEG	B	521	7/7	0.98	0.07	38,38,40,40	0
6	EDO	B	510	4/4	0.98	0.05	49,49,49,49	0
6	EDO	E	510	4/4	0.98	0.06	61,61,61,61	0
6	EDO	B	511	4/4	0.98	0.05	33,33,33,33	0
6	EDO	A	516	4/4	0.98	0.09	30,30,31,31	0
6	EDO	B	513	4/4	0.98	0.04	10,11,12,12	0
5	PEG	A	531	7/7	0.98	0.07	52,53,53,54	0
5	PEG	B	529	7/7	0.98	0.05	56,56,57,57	0
5	PEG	A	504	7/7	0.98	0.06	36,36,37,37	0
5	PEG	H	503	7/7	0.98	0.05	59,60,61,61	0
6	EDO	B	518	4/4	0.98	0.09	41,41,41,42	0
6	EDO	F	511	4/4	0.98	0.05	39,40,40,40	0
6	EDO	B	519	4/4	0.98	0.04	52,52,53,53	0
6	EDO	B	523	4/4	0.98	0.05	28,29,29,30	0
5	PEG	A	510	7/7	0.98	0.06	46,46,46,46	0
6	EDO	B	526	4/4	0.98	0.04	36,36,36,36	0
5	PEG	B	503	7/7	0.98	0.07	53,53,54,54	0
5	PEG	B	504	7/7	0.98	0.10	42,43,44,44	0
6	EDO	F	522	4/4	0.98	0.07	48,48,49,49	0
6	EDO	C	504	4/4	0.98	0.08	25,25,26,26	0
6	EDO	A	509	4/4	0.98	0.04	50,50,51,51	0
6	EDO	A	512	4/4	0.98	0.07	46,46,46,46	0
6	EDO	G	511	4/4	0.98	0.07	49,49,49,49	0
6	EDO	G	513	4/4	0.98	0.04	44,45,45,45	0
6	EDO	C	510	4/4	0.98	0.05	61,61,61,61	0
6	EDO	A	527	4/4	0.98	0.06	46,46,46,46	0
6	EDO	D	502	4/4	0.98	0.06	76,76,76,76	0
6	EDO	H	505	4/4	0.98	0.05	45,45,45,45	0
6	EDO	H	506	4/4	0.98	0.05	48,48,49,49	0
6	EDO	H	508	4/4	0.98	0.07	50,50,50,50	0
6	EDO	H	509	4/4	0.98	0.07	33,34,34,34	0
6	EDO	D	508	4/4	0.98	0.12	33,33,33,34	0
6	EDO	A	528	4/4	0.98	0.06	48,49,49,49	0
6	EDO	H	512	4/4	0.98	0.05	52,53,53,53	0
7	1PE	A	532	16/16	0.98	0.06	66,67,67,67	0
8	PGE	A	535	10/10	0.98	0.07	66,67,67,67	0
8	PGE	A	536	10/10	0.98	0.06	57,60,60,60	0
5	PEG	D	511	7/7	0.98	0.06	72,72,72,72	0
6	EDO	D	512	4/4	0.98	0.06	56,56,57,57	0
8	PGE	F	520	10/10	0.98	0.06	64,64,64,64	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
6	EDO	D	513	4/4	0.98	0.04	39,40,40,40	0
8	PGE	G	517	10/10	0.98	0.08	71,72,73,73	0
6	EDO	D	515	4/4	0.98	0.06	28,28,28,29	0
8	PGE	H	514	10/10	0.98	0.06	57,58,58,58	0
10	PG4	B	520	13/13	0.98	0.05	62,63,64,64	0
10	PG4	F	517	13/13	0.98	0.06	71,72,73,73	0
6	EDO	B	509	4/4	0.99	0.05	53,53,53,53	0
6	EDO	G	510	4/4	0.99	0.05	42,42,43,43	0
6	EDO	A	525	4/4	0.99	0.04	42,43,43,43	0
6	EDO	G	512	4/4	0.99	0.03	43,44,44,44	0
6	EDO	D	514	4/4	0.99	0.05	45,45,45,45	0
4	S5Q	C	502	18/18	0.99	0.03	128,128,128,128	0
5	PEG	H	504	7/7	0.99	0.05	44,44,45,45	0
5	PEG	A	505	7/7	0.99	0.06	57,58,59,59	0
6	EDO	C	506	4/4	0.99	0.03	30,31,32,32	0
6	EDO	C	507	4/4	0.99	0.03	27,28,28,28	0
6	EDO	H	507	4/4	0.99	0.05	41,42,42,42	0
5	PEG	D	504	7/7	0.99	0.06	57,59,59,59	0
6	EDO	F	510	4/4	0.99	0.05	48,49,49,49	0
5	PEG	F	507	7/7	0.99	0.04	50,50,50,50	0
5	PEG	G	506	7/7	0.99	0.07	32,33,34,34	0
6	EDO	F	513	4/4	0.99	0.06	63,63,63,63	0
6	EDO	F	514	4/4	0.99	0.04	44,44,45,45	0
6	EDO	A	511	4/4	0.99	0.09	75,75,76,76	0
6	EDO	D	525	4/4	0.99	0.04	38,38,39,39	0
4	S5Q	E	502	18/18	0.99	0.04	141,141,141,141	0
6	EDO	D	503	4/4	0.99	0.10	35,36,36,36	0
4	S5Q	G	502	18/18	0.99	0.03	153,153,153,153	0
8	PGE	F	524	10/10	0.99	0.06	64,65,65,65	0
6	EDO	E	506	4/4	0.99	0.05	36,36,37,37	0
3	SF4	E	501	8/8	0.99	0.03	57,58,58,59	0
6	EDO	G	503	4/4	0.99	0.06	61,61,61,61	0
6	EDO	G	504	4/4	0.99	0.03	51,51,51,51	0
6	EDO	B	524	4/4	0.99	0.03	25,26,26,27	0
6	EDO	G	507	4/4	0.99	0.05	43,43,44,44	0
3	SF4	A	501	8/8	1.00	0.02	29,29,30,31	0
3	SF4	G	501	8/8	1.00	0.02	49,49,50,50	0
9	MG	B	501	1/1	1.00	0.05	22,22,22,22	0
9	MG	D	501	1/1	1.00	0.01	32,32,32,32	0
9	MG	F	501	1/1	1.00	0.02	33,33,33,33	0
9	MG	F	502	1/1	1.00	0.01	49,49,49,49	0
4	S5Q	A	502	18/18	1.00	0.02	52,53,53,53	0

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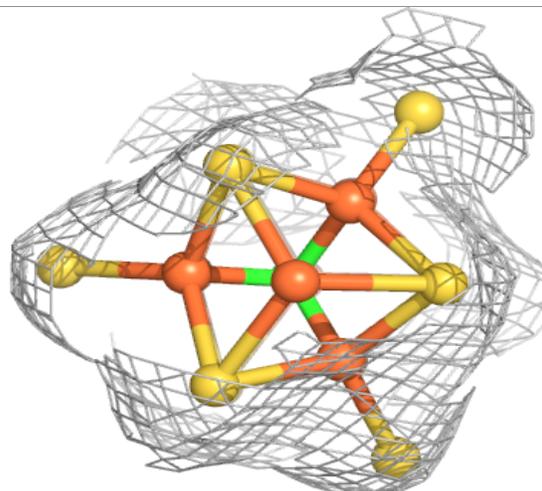
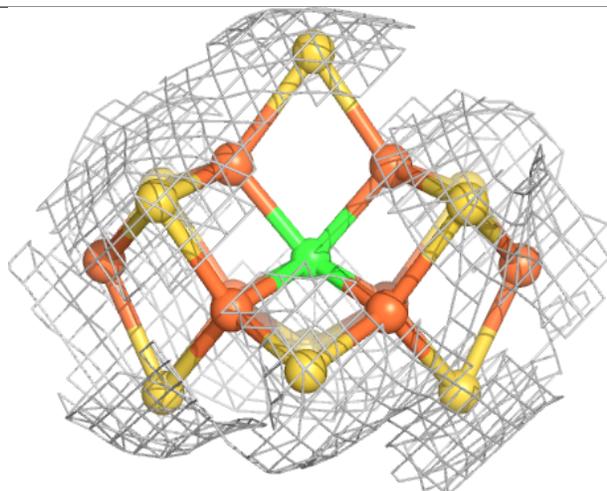
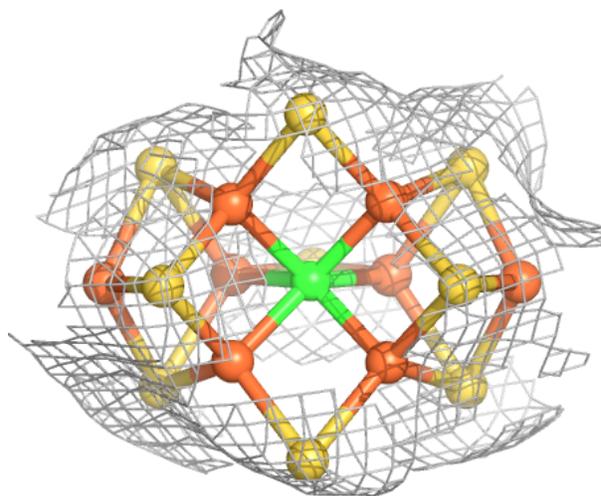
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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
3	SF4	C	501	8/8	1.00	0.02	36,36,37,37	0

The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation to approximate a three-dimensional view.

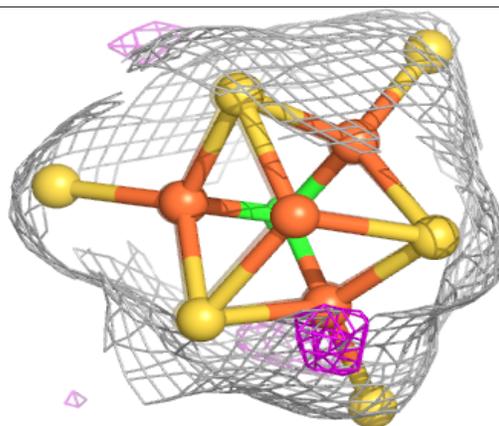
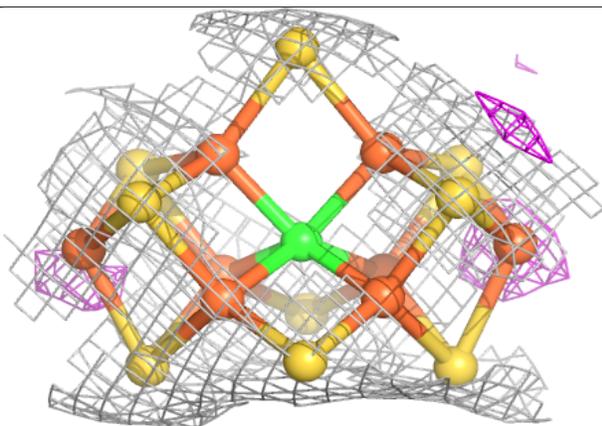
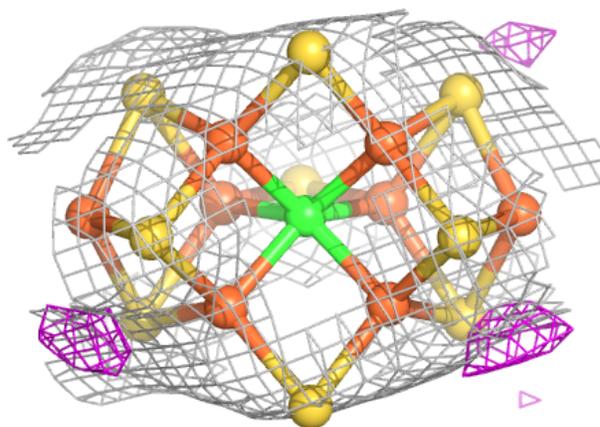
**Electron density around S5Q C 502:**

$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)



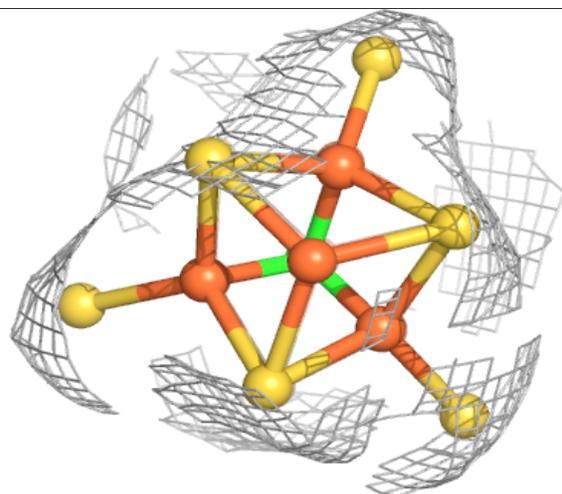
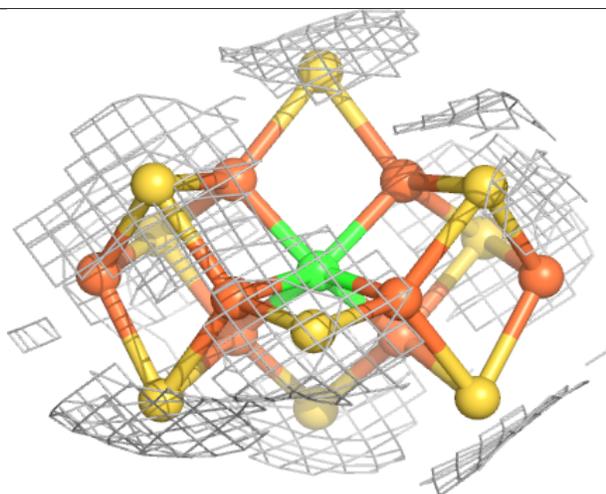
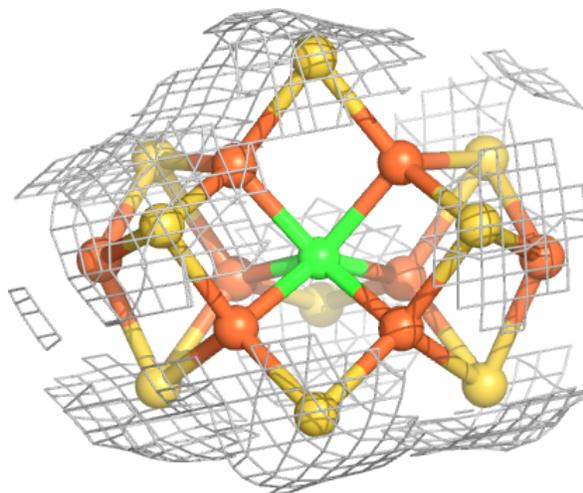
**Electron density around S5Q E 502:**

$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)



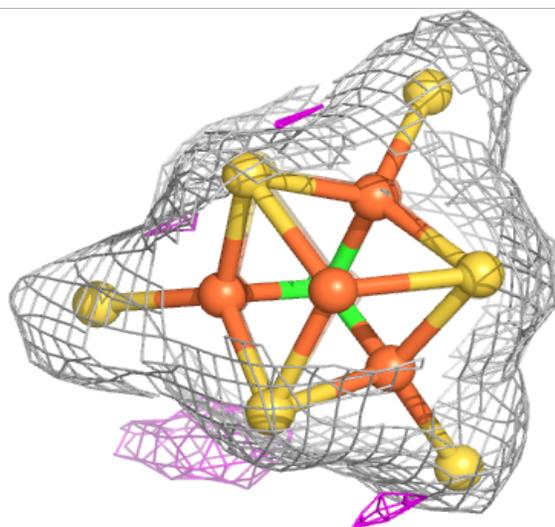
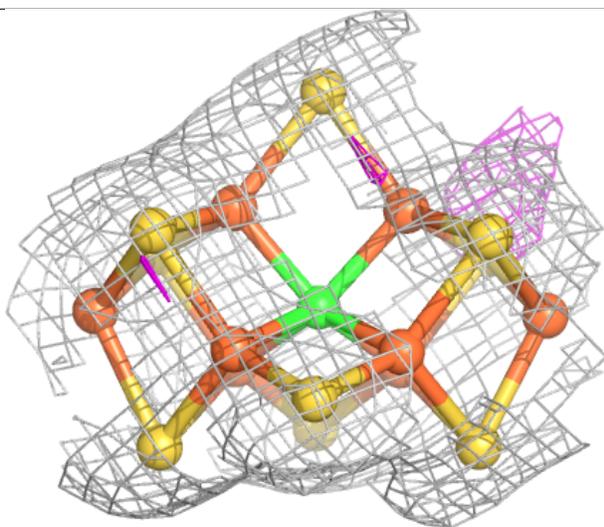
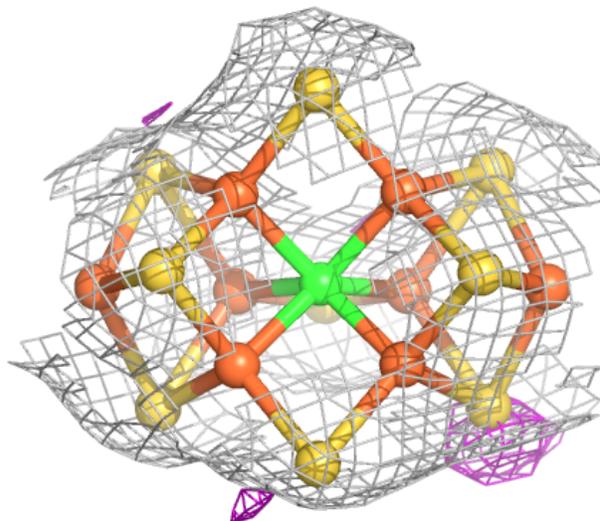
**Electron density around S5Q G 502:**

$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)



**Electron density around S5Q A 502:**

$2mF_o-DF_c$  (at 0.7 rmsd) in gray  
 $mF_o-DF_c$  (at 3 rmsd) in purple (negative)  
and green (positive)



## 6.5 Other polymers [i](#)

There are no such residues in this entry.