



Full wwPDB X-ray Structure Validation Report ⓘ

Aug 25, 2020 – 02:56 PM BST

PDB ID : 4CV1
Title : Crystal structure of S. aureus FabI in complex with NADPH and CG400549
Authors : Schiebel, J.; Chang, A.; Shah, S.; Tonge, P.J.; Kisker, C.
Deposited on : 2014-03-22
Resolution : 1.95 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 following versions of software and data (see [references ⓘ](#)) were used in the production of this report:

MolProbity : 4.02b-467
Mogul : 1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix) : 1.13
EDS : 2.13
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac : 5.8.0158
CCP4 : 7.0.044 (Gargrove)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.13

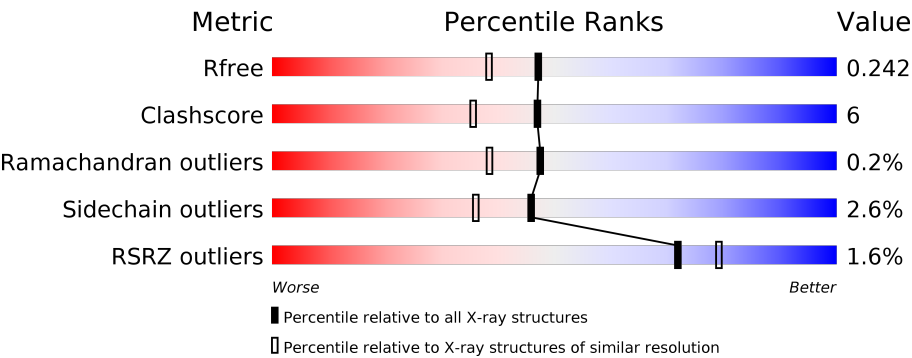
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 1.95 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}	130704	2580 (1.96-1.96)
Clashscore	141614	2705 (1.96-1.96)
Ramachandran outliers	138981	2678 (1.96-1.96)
Sidechain outliers	138945	2678 (1.96-1.96)
RSRZ outliers	127900	2539 (1.96-1.96)

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 on the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. 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	282	
1	B	282	
1	C	282	
1	D	282	
1	E	282	
1	F	282	

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Mol	Chain	Length	Quality of chain
1	G	282	<div><div><div>4%</div><div>75%</div><div>15%</div><div>9%</div></div></div>
1	H	282	<div><div><div>%</div><div>80%</div><div>11%</div><div>7%</div></div></div>

2 Entry composition

There are 7 unique types of molecules in this entry. The entry contains 17795 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 ENOYL-[ACYL-CARRIER-PROTEIN] REDUCTASE [NADH].

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	262	Total	C	N	O	S	0	7	0
			2060	1301	353	401	5			
1	B	256	Total	C	N	O	S	0	13	0
			2057	1299	352	401	5			
1	C	262	Total	C	N	O	S	0	4	0
			2047	1295	350	397	5			
1	D	256	Total	C	N	O	S	0	6	0
			2007	1269	344	389	5			
1	E	256	Total	C	N	O	S	0	13	0
			2063	1303	357	398	5			
1	F	262	Total	C	N	O	S	0	2	0
			2028	1282	347	394	5			
1	G	257	Total	C	N	O	S	0	5	0
			2007	1264	347	390	6			
1	H	263	Total	C	N	O	S	0	3	0
			2047	1294	353	395	5			

There are 216 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-25	MET	-	expression tag	UNP Q7A6D8
A	-24	LYS	-	expression tag	UNP Q7A6D8
A	-23	HIS	-	expression tag	UNP Q7A6D8
A	-22	HIS	-	expression tag	UNP Q7A6D8
A	-21	HIS	-	expression tag	UNP Q7A6D8
A	-20	HIS	-	expression tag	UNP Q7A6D8
A	-19	HIS	-	expression tag	UNP Q7A6D8
A	-18	HIS	-	expression tag	UNP Q7A6D8
A	-17	PRO	-	expression tag	UNP Q7A6D8
A	-16	MET	-	expression tag	UNP Q7A6D8
A	-15	SER	-	expression tag	UNP Q7A6D8
A	-14	ASP	-	expression tag	UNP Q7A6D8

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Chain	Residue	Modelled	Actual	Comment	Reference
A	-13	TYR	-	expression tag	UNP Q7A6D8
A	-12	ASP	-	expression tag	UNP Q7A6D8
A	-11	ILE	-	expression tag	UNP Q7A6D8
A	-10	PRO	-	expression tag	UNP Q7A6D8
A	-9	THR	-	expression tag	UNP Q7A6D8
A	-8	THR	-	expression tag	UNP Q7A6D8
A	-7	GLU	-	expression tag	UNP Q7A6D8
A	-6	ASN	-	expression tag	UNP Q7A6D8
A	-5	LEU	-	expression tag	UNP Q7A6D8
A	-4	TYR	-	expression tag	UNP Q7A6D8
A	-3	PHE	-	expression tag	UNP Q7A6D8
A	-2	GLN	-	expression tag	UNP Q7A6D8
A	-1	GLY	-	expression tag	UNP Q7A6D8
A	0	ALA	-	expression tag	UNP Q7A6D8
A	2	VAL	LEU	engineered mutation	UNP Q7A6D8
B	-25	MET	-	expression tag	UNP Q7A6D8
B	-24	LYS	-	expression tag	UNP Q7A6D8
B	-23	HIS	-	expression tag	UNP Q7A6D8
B	-22	HIS	-	expression tag	UNP Q7A6D8
B	-21	HIS	-	expression tag	UNP Q7A6D8
B	-20	HIS	-	expression tag	UNP Q7A6D8
B	-19	HIS	-	expression tag	UNP Q7A6D8
B	-18	HIS	-	expression tag	UNP Q7A6D8
B	-17	PRO	-	expression tag	UNP Q7A6D8
B	-16	MET	-	expression tag	UNP Q7A6D8
B	-15	SER	-	expression tag	UNP Q7A6D8
B	-14	ASP	-	expression tag	UNP Q7A6D8
B	-13	TYR	-	expression tag	UNP Q7A6D8
B	-12	ASP	-	expression tag	UNP Q7A6D8
B	-11	ILE	-	expression tag	UNP Q7A6D8
B	-10	PRO	-	expression tag	UNP Q7A6D8
B	-9	THR	-	expression tag	UNP Q7A6D8
B	-8	THR	-	expression tag	UNP Q7A6D8
B	-7	GLU	-	expression tag	UNP Q7A6D8
B	-6	ASN	-	expression tag	UNP Q7A6D8
B	-5	LEU	-	expression tag	UNP Q7A6D8
B	-4	TYR	-	expression tag	UNP Q7A6D8
B	-3	PHE	-	expression tag	UNP Q7A6D8
B	-2	GLN	-	expression tag	UNP Q7A6D8
B	-1	GLY	-	expression tag	UNP Q7A6D8
B	0	ALA	-	expression tag	UNP Q7A6D8
B	2	VAL	LEU	engineered mutation	UNP Q7A6D8

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Chain	Residue	Modelled	Actual	Comment	Reference
C	-25	MET	-	expression tag	UNP Q7A6D8
C	-24	LYS	-	expression tag	UNP Q7A6D8
C	-23	HIS	-	expression tag	UNP Q7A6D8
C	-22	HIS	-	expression tag	UNP Q7A6D8
C	-21	HIS	-	expression tag	UNP Q7A6D8
C	-20	HIS	-	expression tag	UNP Q7A6D8
C	-19	HIS	-	expression tag	UNP Q7A6D8
C	-18	HIS	-	expression tag	UNP Q7A6D8
C	-17	PRO	-	expression tag	UNP Q7A6D8
C	-16	MET	-	expression tag	UNP Q7A6D8
C	-15	SER	-	expression tag	UNP Q7A6D8
C	-14	ASP	-	expression tag	UNP Q7A6D8
C	-13	TYR	-	expression tag	UNP Q7A6D8
C	-12	ASP	-	expression tag	UNP Q7A6D8
C	-11	ILE	-	expression tag	UNP Q7A6D8
C	-10	PRO	-	expression tag	UNP Q7A6D8
C	-9	THR	-	expression tag	UNP Q7A6D8
C	-8	THR	-	expression tag	UNP Q7A6D8
C	-7	GLU	-	expression tag	UNP Q7A6D8
C	-6	ASN	-	expression tag	UNP Q7A6D8
C	-5	LEU	-	expression tag	UNP Q7A6D8
C	-4	TYR	-	expression tag	UNP Q7A6D8
C	-3	PHE	-	expression tag	UNP Q7A6D8
C	-2	GLN	-	expression tag	UNP Q7A6D8
C	-1	GLY	-	expression tag	UNP Q7A6D8
C	0	ALA	-	expression tag	UNP Q7A6D8
C	2	VAL	LEU	engineered mutation	UNP Q7A6D8
D	-25	MET	-	expression tag	UNP Q7A6D8
D	-24	LYS	-	expression tag	UNP Q7A6D8
D	-23	HIS	-	expression tag	UNP Q7A6D8
D	-22	HIS	-	expression tag	UNP Q7A6D8
D	-21	HIS	-	expression tag	UNP Q7A6D8
D	-20	HIS	-	expression tag	UNP Q7A6D8
D	-19	HIS	-	expression tag	UNP Q7A6D8
D	-18	HIS	-	expression tag	UNP Q7A6D8
D	-17	PRO	-	expression tag	UNP Q7A6D8
D	-16	MET	-	expression tag	UNP Q7A6D8
D	-15	SER	-	expression tag	UNP Q7A6D8
D	-14	ASP	-	expression tag	UNP Q7A6D8
D	-13	TYR	-	expression tag	UNP Q7A6D8
D	-12	ASP	-	expression tag	UNP Q7A6D8
D	-11	ILE	-	expression tag	UNP Q7A6D8

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Chain	Residue	Modelled	Actual	Comment	Reference
D	-10	PRO	-	expression tag	UNP Q7A6D8
D	-9	THR	-	expression tag	UNP Q7A6D8
D	-8	THR	-	expression tag	UNP Q7A6D8
D	-7	GLU	-	expression tag	UNP Q7A6D8
D	-6	ASN	-	expression tag	UNP Q7A6D8
D	-5	LEU	-	expression tag	UNP Q7A6D8
D	-4	TYR	-	expression tag	UNP Q7A6D8
D	-3	PHE	-	expression tag	UNP Q7A6D8
D	-2	GLN	-	expression tag	UNP Q7A6D8
D	-1	GLY	-	expression tag	UNP Q7A6D8
D	0	ALA	-	expression tag	UNP Q7A6D8
D	2	VAL	LEU	engineered mutation	UNP Q7A6D8
E	-25	MET	-	expression tag	UNP Q7A6D8
E	-24	LYS	-	expression tag	UNP Q7A6D8
E	-23	HIS	-	expression tag	UNP Q7A6D8
E	-22	HIS	-	expression tag	UNP Q7A6D8
E	-21	HIS	-	expression tag	UNP Q7A6D8
E	-20	HIS	-	expression tag	UNP Q7A6D8
E	-19	HIS	-	expression tag	UNP Q7A6D8
E	-18	HIS	-	expression tag	UNP Q7A6D8
E	-17	PRO	-	expression tag	UNP Q7A6D8
E	-16	MET	-	expression tag	UNP Q7A6D8
E	-15	SER	-	expression tag	UNP Q7A6D8
E	-14	ASP	-	expression tag	UNP Q7A6D8
E	-13	TYR	-	expression tag	UNP Q7A6D8
E	-12	ASP	-	expression tag	UNP Q7A6D8
E	-11	ILE	-	expression tag	UNP Q7A6D8
E	-10	PRO	-	expression tag	UNP Q7A6D8
E	-9	THR	-	expression tag	UNP Q7A6D8
E	-8	THR	-	expression tag	UNP Q7A6D8
E	-7	GLU	-	expression tag	UNP Q7A6D8
E	-6	ASN	-	expression tag	UNP Q7A6D8
E	-5	LEU	-	expression tag	UNP Q7A6D8
E	-4	TYR	-	expression tag	UNP Q7A6D8
E	-3	PHE	-	expression tag	UNP Q7A6D8
E	-2	GLN	-	expression tag	UNP Q7A6D8
E	-1	GLY	-	expression tag	UNP Q7A6D8
E	0	ALA	-	expression tag	UNP Q7A6D8
E	2	VAL	LEU	engineered mutation	UNP Q7A6D8
F	-25	MET	-	expression tag	UNP Q7A6D8
F	-24	LYS	-	expression tag	UNP Q7A6D8
F	-23	HIS	-	expression tag	UNP Q7A6D8

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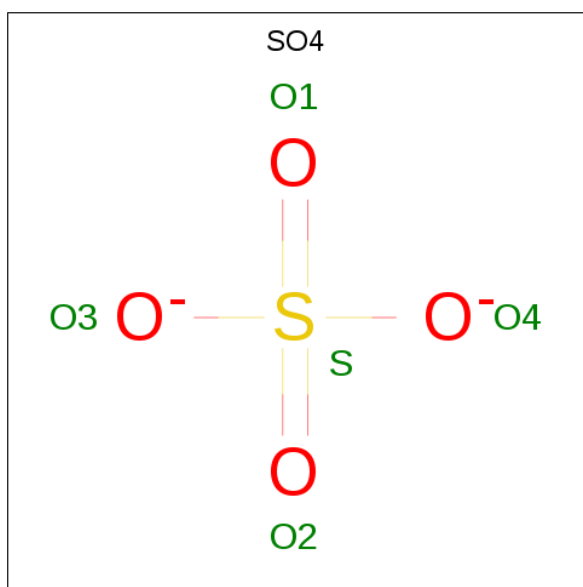
Chain	Residue	Modelled	Actual	Comment	Reference
F	-22	HIS	-	expression tag	UNP Q7A6D8
F	-21	HIS	-	expression tag	UNP Q7A6D8
F	-20	HIS	-	expression tag	UNP Q7A6D8
F	-19	HIS	-	expression tag	UNP Q7A6D8
F	-18	HIS	-	expression tag	UNP Q7A6D8
F	-17	PRO	-	expression tag	UNP Q7A6D8
F	-16	MET	-	expression tag	UNP Q7A6D8
F	-15	SER	-	expression tag	UNP Q7A6D8
F	-14	ASP	-	expression tag	UNP Q7A6D8
F	-13	TYR	-	expression tag	UNP Q7A6D8
F	-12	ASP	-	expression tag	UNP Q7A6D8
F	-11	ILE	-	expression tag	UNP Q7A6D8
F	-10	PRO	-	expression tag	UNP Q7A6D8
F	-9	THR	-	expression tag	UNP Q7A6D8
F	-8	THR	-	expression tag	UNP Q7A6D8
F	-7	GLU	-	expression tag	UNP Q7A6D8
F	-6	ASN	-	expression tag	UNP Q7A6D8
F	-5	LEU	-	expression tag	UNP Q7A6D8
F	-4	TYR	-	expression tag	UNP Q7A6D8
F	-3	PHE	-	expression tag	UNP Q7A6D8
F	-2	GLN	-	expression tag	UNP Q7A6D8
F	-1	GLY	-	expression tag	UNP Q7A6D8
F	0	ALA	-	expression tag	UNP Q7A6D8
F	2	VAL	LEU	engineered mutation	UNP Q7A6D8
G	-25	MET	-	expression tag	UNP Q7A6D8
G	-24	LYS	-	expression tag	UNP Q7A6D8
G	-23	HIS	-	expression tag	UNP Q7A6D8
G	-22	HIS	-	expression tag	UNP Q7A6D8
G	-21	HIS	-	expression tag	UNP Q7A6D8
G	-20	HIS	-	expression tag	UNP Q7A6D8
G	-19	HIS	-	expression tag	UNP Q7A6D8
G	-18	HIS	-	expression tag	UNP Q7A6D8
G	-17	PRO	-	expression tag	UNP Q7A6D8
G	-16	MET	-	expression tag	UNP Q7A6D8
G	-15	SER	-	expression tag	UNP Q7A6D8
G	-14	ASP	-	expression tag	UNP Q7A6D8
G	-13	TYR	-	expression tag	UNP Q7A6D8
G	-12	ASP	-	expression tag	UNP Q7A6D8
G	-11	ILE	-	expression tag	UNP Q7A6D8
G	-10	PRO	-	expression tag	UNP Q7A6D8
G	-9	THR	-	expression tag	UNP Q7A6D8
G	-8	THR	-	expression tag	UNP Q7A6D8

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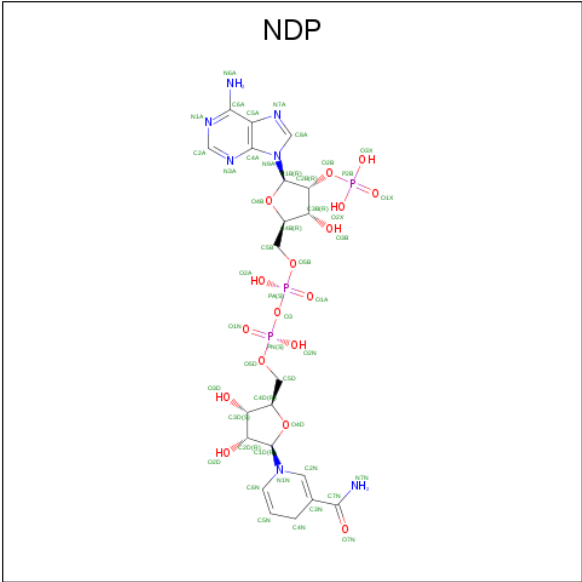
Chain	Residue	Modelled	Actual	Comment	Reference
G	-7	GLU	-	expression tag	UNP Q7A6D8
G	-6	ASN	-	expression tag	UNP Q7A6D8
G	-5	LEU	-	expression tag	UNP Q7A6D8
G	-4	TYR	-	expression tag	UNP Q7A6D8
G	-3	PHE	-	expression tag	UNP Q7A6D8
G	-2	GLN	-	expression tag	UNP Q7A6D8
G	-1	GLY	-	expression tag	UNP Q7A6D8
G	0	ALA	-	expression tag	UNP Q7A6D8
G	2	VAL	LEU	engineered mutation	UNP Q7A6D8
H	-25	MET	-	expression tag	UNP Q7A6D8
H	-24	LYS	-	expression tag	UNP Q7A6D8
H	-23	HIS	-	expression tag	UNP Q7A6D8
H	-22	HIS	-	expression tag	UNP Q7A6D8
H	-21	HIS	-	expression tag	UNP Q7A6D8
H	-20	HIS	-	expression tag	UNP Q7A6D8
H	-19	HIS	-	expression tag	UNP Q7A6D8
H	-18	HIS	-	expression tag	UNP Q7A6D8
H	-17	PRO	-	expression tag	UNP Q7A6D8
H	-16	MET	-	expression tag	UNP Q7A6D8
H	-15	SER	-	expression tag	UNP Q7A6D8
H	-14	ASP	-	expression tag	UNP Q7A6D8
H	-13	TYR	-	expression tag	UNP Q7A6D8
H	-12	ASP	-	expression tag	UNP Q7A6D8
H	-11	ILE	-	expression tag	UNP Q7A6D8
H	-10	PRO	-	expression tag	UNP Q7A6D8
H	-9	THR	-	expression tag	UNP Q7A6D8
H	-8	THR	-	expression tag	UNP Q7A6D8
H	-7	GLU	-	expression tag	UNP Q7A6D8
H	-6	ASN	-	expression tag	UNP Q7A6D8
H	-5	LEU	-	expression tag	UNP Q7A6D8
H	-4	TYR	-	expression tag	UNP Q7A6D8
H	-3	PHE	-	expression tag	UNP Q7A6D8
H	-2	GLN	-	expression tag	UNP Q7A6D8
H	-1	GLY	-	expression tag	UNP Q7A6D8
H	0	ALA	-	expression tag	UNP Q7A6D8
H	2	VAL	LEU	engineered mutation	UNP Q7A6D8

- Molecule 2 is SULFATE ION (three-letter code: SO4) (formula: O₄S).



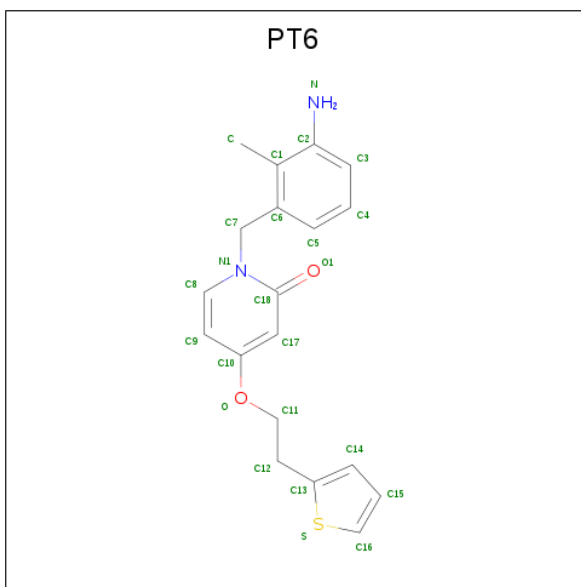
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
2	A	1	Total	O	S	0	0
			5	4	1		
2	A	1	Total	O	S	0	0
			5	4	1		
2	B	1	Total	O	S	0	0
			5	4	1		
2	E	1	Total	O	S	0	0
			5	4	1		
2	H	1	Total	O	S	0	0
			5	4	1		

- Molecule 3 is NADPH DIHYDRO-NICOTINAMIDE-ADENINE-DINUCLEOTIDE PHOSPHATE (three-letter code: NDP) (formula: C₂₁H₃₀N₇O₁₇P₃).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
3	A	1	Total	C	N	O	P	0	0
			48	21	7	17	3		
3	B	1	Total	C	N	O	P	0	0
			48	21	7	17	3		
3	C	1	Total	C	N	O	P	0	0
			48	21	7	17	3		
3	D	1	Total	C	N	O	P	0	0
			48	21	7	17	3		
3	E	1	Total	C	N	O	P	0	0
			48	21	7	17	3		
3	F	1	Total	C	N	O	P	0	0
			48	21	7	17	3		
3	G	1	Total	C	N	O	P	0	0
			48	21	7	17	3		
3	H	1	Total	C	N	O	P	0	0
			48	21	7	17	3		

- Molecule 4 is 1-(3-amino-2-methylbenzyl)-4-[2-(thiophen-2-yl)ethoxy]pyridin-2(1H)-one (three-letter code: PT6) (formula: C₁₉H₂₀N₂O₂S).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
4	A	1	Total	C	N	O	S	0	0
			24	19	2	2	1		
4	B	1	Total	C	N	O	S	0	0
			24	19	2	2	1		
4	C	1	Total	C	N	O	S	0	0
			24	19	2	2	1		
4	D	1	Total	C	N	O	S	0	0
			24	19	2	2	1		
4	E	1	Total	C	N	O	S	0	0
			24	19	2	2	1		
4	F	1	Total	C	N	O	S	0	0
			24	19	2	2	1		
4	G	1	Total	C	N	O	S	0	0
			24	19	2	2	1		
4	H	1	Total	C	N	O	S	0	0
			24	19	2	2	1		

- Molecule 5 is 1,2-ETHANEDIOL (three-letter code: EDO) (formula: C₂H₆O₂).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	A	1	Total C O 4 2 2	0	0
5	B	1	Total C O 4 2 2	0	0
5	C	1	Total C O 4 2 2	0	0
5	E	1	Total C O 4 2 2	0	0
5	G	1	Total C O 4 2 2	0	0
5	G	1	Total C O 4 2 2	0	0
5	H	1	Total C O 4 2 2	0	0

- Molecule 6 is CHLORIDE ION (three-letter code: CL) (formula: Cl).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	F	1	Total Cl 1 1	0	0

- Molecule 7 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
7	A	134	Total O 134 134	0	0

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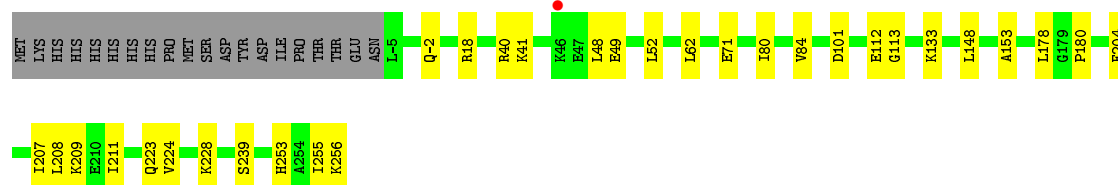
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
7	B	110	Total 110	O 110	0	0
7	C	106	Total 106	O 106	0	0
7	D	87	Total 87	O 87	0	0
7	E	138	Total 138	O 138	0	0
7	F	112	Total 112	O 112	0	0
7	G	82	Total 82	O 82	0	0
7	H	80	Total 80	O 80	0	0

3 Residue-property plots


These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron 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 dot above a residue indicates a poor fit to the electron density ($RSRZ > 2$). 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.

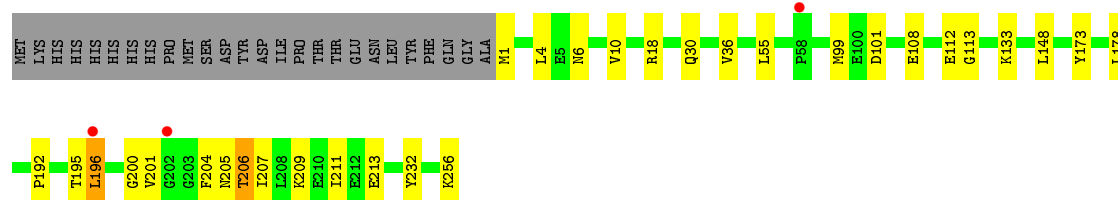
• Molecule 1: ENOYL-[ACYL-CARRIER-PROTEIN] REDUCTASE [NADH]

Chain A: 




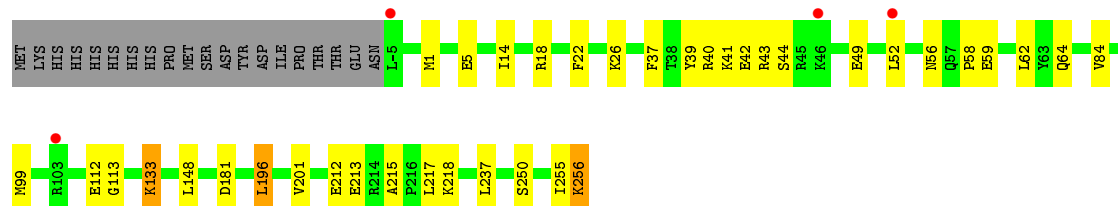
• Molecule 1: ENOYL-[ACYL-CARRIER-PROTEIN] REDUCTASE [NADH]

Chain B: 



• Molecule 1: ENOYL-[ACYL-CARRIER-PROTEIN] REDUCTASE [NADH]

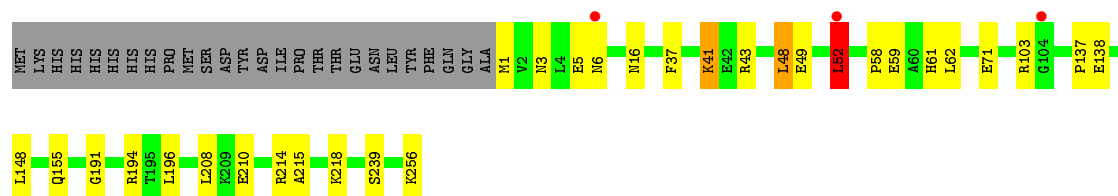
Chain C: 



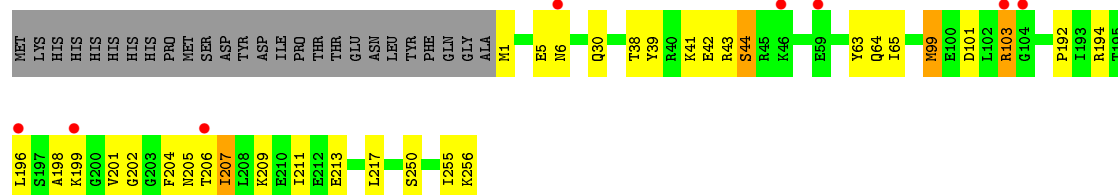
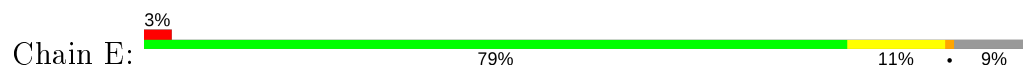
• Molecule 1: ENOYL-[ACYL-CARRIER-PROTEIN] REDUCTASE [NADH]

Chain D: 

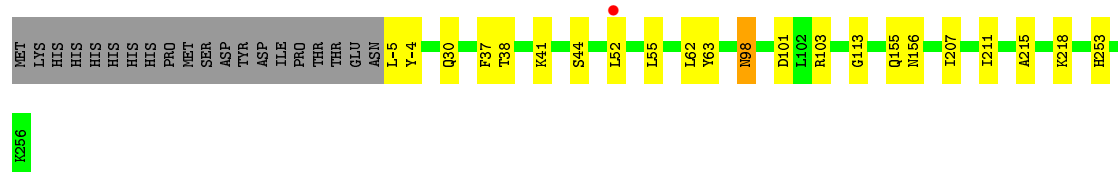
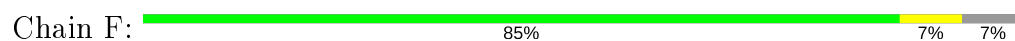




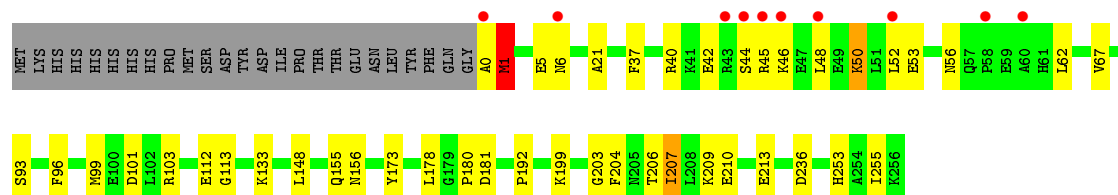
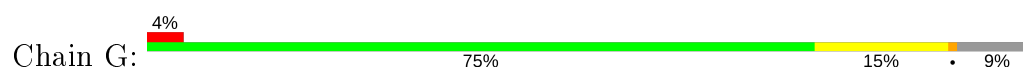
• Molecule 1: ENOYL-[ACYL-CARRIER-PROTEIN] REDUCTASE [NADH]



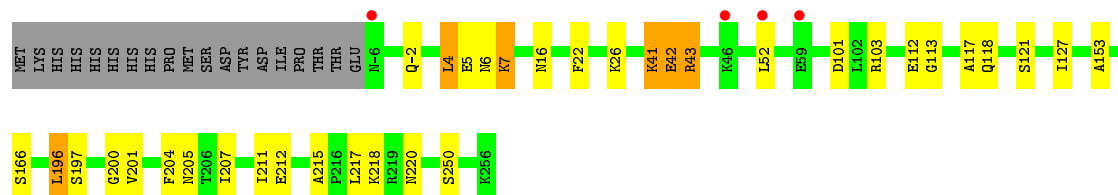
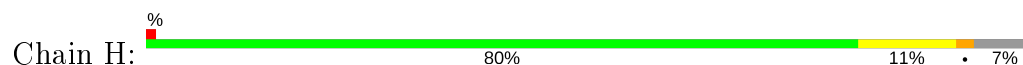
• Molecule 1: ENOYL-[ACYL-CARRIER-PROTEIN] REDUCTASE [NADH]



• Molecule 1: ENOYL-[ACYL-CARRIER-PROTEIN] REDUCTASE [NADH]



• Molecule 1: ENOYL-[ACYL-CARRIER-PROTEIN] REDUCTASE [NADH]



4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	61.90Å 108.47Å 296.84Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	47.56 – 1.95 47.24 – 1.95	Depositor EDS
% Data completeness (in resolution range)	99.9 (47.56-1.95) 99.9 (47.24-1.95)	Depositor EDS
R_{merge}	0.16	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	2.04 (at 1.95Å)	Xtriage
Refinement program	REFMAC 5.5.0109	Depositor
R, R_{free}	0.168 , 0.231 0.182 , 0.242	Depositor DCC
R_{free} test set	7320 reflections (5.00%)	wwPDB-VP
Wilson B-factor (Å ²)	24.6	Xtriage
Anisotropy	0.564	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.35 , 42.4	EDS
L-test for twinning ²	$\langle L \rangle = 0.45$, $\langle L^2 \rangle = 0.27$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.96	EDS
Total number of atoms	17795	wwPDB-VP
Average B, all atoms (Å ²)	30.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 10.38% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical 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

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: NDP, SO4, PT6, EDO, CL

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	0.59	0/2104	0.78	1/2834 (0.0%)
1	B	0.56	0/2094	0.76	1/2821 (0.0%)
1	C	0.53	0/2084	0.75	1/2803 (0.0%)
1	D	0.57	0/2052	0.79	2/2763 (0.1%)
1	E	0.56	0/2097	0.74	0/2823
1	F	0.56	0/2063	0.76	0/2780
1	G	0.51	0/2040	0.74	0/2747
1	H	0.51	0/2085	0.74	0/2808
All	All	0.55	0/16619	0.76	5/22379 (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
1	B	0	1
1	E	0	2
All	All	0	3

There are no bond length outliers.

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	196	LEU	CA-CB-CG	6.70	130.71	115.30
1	D	52	LEU	CA-CB-CG	6.09	129.32	115.30
1	A	208	LEU	CA-CB-CG	5.96	129.00	115.30
1	D	239	SER	C-N-CA	-5.28	111.21	122.30
1	C	196	LEU	CA-CB-CG	5.26	127.40	115.30

There are no chirality outliers.

All (3) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	B	200[A]	GLY	Peptide
1	E	103[A]	ARG	Peptide
1	E	103[B]	ARG	Peptide

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	2060	0	2078	26	0
1	B	2057	0	2079	29	0
1	C	2047	0	2071	34	0
1	D	2007	0	2044	27	0
1	E	2063	0	2095	42	0
1	F	2028	0	2045	15	0
1	G	2007	0	2028	37	0
1	H	2047	0	2072	24	0
2	A	10	0	0	0	0
2	B	5	0	0	0	0
2	E	5	0	0	0	0
2	H	5	0	0	0	0
3	A	48	0	26	0	0
3	B	48	0	26	0	0
3	C	48	0	26	1	0
3	D	48	0	26	0	0
3	E	48	0	26	1	0
3	F	48	0	26	0	0
3	G	48	0	26	2	0
3	H	48	0	26	2	0
4	A	24	0	20	0	0
4	B	24	0	20	0	0
4	C	24	0	20	0	0
4	D	24	0	20	0	0
4	E	24	0	20	0	0
4	F	24	0	20	0	0
4	G	24	0	20	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
4	H	24	0	20	0	0
5	A	4	0	6	0	0
5	B	4	0	6	0	0
5	C	4	0	6	0	0
5	E	4	0	6	2	0
5	G	8	0	12	3	0
5	H	4	0	6	0	0
6	F	1	0	0	0	0
7	A	134	0	0	6	0
7	B	110	0	0	5	0
7	C	106	0	0	3	0
7	D	87	0	0	2	0
7	E	138	0	0	5	0
7	F	112	0	0	2	0
7	G	82	0	0	4	0
7	H	80	0	0	4	0
All	All	17795	0	16922	211	0

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

All (211) 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)
1:B:112[B]:GLU:OE1	7:B:2051:HOH:O	1.55	1.24
1:A:40:ARG:HH11	1:A:41:LYS:HD2	1.32	0.93
1:E:101:ASP:OD1	7:E:2062:HOH:O	1.86	0.93
1:G:112[A]:GLU:HG3	7:G:2046:HOH:O	1.71	0.89
1:E:207[B]:ILE:O	1:E:211:ILE:HG12	1.73	0.88
1:C:215:ALA:O	1:C:218[A]:LYS:HD3	1.73	0.88
7:E:2121:HOH:O	1:G:210:GLU:HG3	1.75	0.85
1:D:49:GLU:HA	1:D:52:LEU:CD1	2.07	0.84
1:B:209[B]:LYS:O	1:B:213:GLU:HG3	1.78	0.84
1:B:30:GLN:HE22	1:F:-4:TYR:H	1.26	0.84
1:E:256:LYS:HG2	1:G:148:LEU:HD21	1.61	0.82
1:B:204[A]:PHE:O	1:B:207[A]:ILE:HG22	1.81	0.81
1:C:1:MET:HE2	1:C:237:LEU:HD21	1.66	0.78
1:G:0:ALA:O	1:G:1[A]:MET:HB3	1.83	0.77
1:H:205:ASN:O	7:H:2068:HOH:O	2.01	0.77
1:A:40:ARG:NH1	1:A:41:LYS:HD2	1.99	0.76
1:A:256:LYS:HG2	1:C:148:LEU:HD21	1.67	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:204[A]:PHE:O	1:E:207[A]:ILE:HG23	1.86	0.75
1:A:255:ILE:O	1:C:256[B]:LYS:HE2	1.87	0.74
1:B:6:ASN:HB2	7:B:2004:HOH:O	1.88	0.74
1:A:101:ASP:OD2	1:A:113:GLY:HA3	1.88	0.74
1:H:43:ARG:HG2	7:H:2015:HOH:O	1.88	0.73
1:B:204[A]:PHE:HA	1:B:207[A]:ILE:HG22	1.69	0.72
1:A:180:PRO:HG3	1:D:218[B]:LYS:HD2	1.70	0.72
1:G:0:ALA:O	1:G:1[B]:MET:HB2	1.89	0.71
1:B:206[A]:THR:HG22	7:B:2087:HOH:O	1.92	0.70
1:G:0:ALA:O	1:G:1[A]:MET:CB	2.40	0.69
1:C:18:ARG:HD2	7:C:2018:HOH:O	1.92	0.69
1:G:112[B]:GLU:HG2	1:G:113:GLY:N	2.07	0.69
1:H:204:PHE:O	1:H:207:ILE:HG22	1.93	0.68
1:D:5:GLU:O	1:D:6:ASN:HB2	1.93	0.68
1:C:18:ARG:HG2	7:C:2021:HOH:O	1.93	0.68
1:E:256:LYS:HG2	1:G:148:LEU:CD2	2.24	0.67
1:C:213:GLU:O	1:C:218[A]:LYS:HE3	1.95	0.67
1:C:49:GLU:HG2	1:C:62:LEU:HD11	1.77	0.67
1:D:41:LYS:HG3	1:D:43:ARG:HG3	1.75	0.66
1:A:41:LYS:NZ	7:A:2022:HOH:O	2.27	0.65
1:A:256:LYS:HG2	1:C:148:LEU:CD2	2.25	0.65
1:D:49:GLU:HA	1:D:52:LEU:HD12	1.79	0.64
1:G:1[A]:MET:HE1	1:G:236:ASP:H	1.62	0.64
1:B:148:LEU:HD21	1:D:256:LYS:HG2	1.79	0.64
1:F:207:ILE:O	1:F:211:ILE:HD13	1.98	0.63
1:C:49:GLU:HG2	1:C:62:LEU:CD1	2.29	0.63
1:B:204[A]:PHE:CA	1:B:207[A]:ILE:HG22	2.29	0.62
1:D:16:ASN:ND2	1:D:196[B]:LEU:HD22	2.15	0.61
1:D:41:LYS:HE2	1:D:43:ARG:NE	2.16	0.61
1:H:22:PHE:CE2	1:H:26:LYS:HE3	2.35	0.61
1:B:204[A]:PHE:O	1:B:207[A]:ILE:CG2	2.48	0.60
1:E:194:ARG:HH11	1:E:194:ARG:HG2	1.64	0.60
1:H:5:GLU:O	1:H:6:ASN:HB2	2.00	0.60
1:A:253:HIS:HD2	7:A:2131:HOH:O	1.84	0.60
1:H:103:ARG:NH2	1:H:200:GLY:O	2.34	0.60
1:D:41:LYS:HB3	7:D:2016:HOH:O	2.01	0.60
1:G:204:PHE:O	1:G:207:ILE:HG22	2.01	0.60
1:G:209:LYS:O	1:G:213:GLU:HG3	2.02	0.60
1:D:59:GLU:HG3	1:D:61:HIS:NE2	2.17	0.60
1:F:37:PHE:HB2	1:F:62:LEU:HD23	1.84	0.59
1:H:201:VAL:O	7:H:3135:HOH:O	2.16	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:148:LEU:HD21	1:C:256[A]:LYS:HD2	1.85	0.59
1:C:56:ASN:ND2	1:F:30:GLN:OE1	2.36	0.59
1:F:253:HIS:HD2	7:F:2031:HOH:O	1.86	0.59
1:E:204[A]:PHE:HA	1:E:207[A]:ILE:CG2	2.33	0.58
1:E:43:ARG:HD3	5:E:1261:EDO:H12	1.85	0.58
1:B:148:LEU:CD2	1:D:256:LYS:HG2	2.33	0.58
1:B:204[A]:PHE:HA	1:B:207[A]:ILE:CG2	2.32	0.58
1:C:58:PRO:O	1:C:59:GLU:HB3	2.03	0.58
1:E:201[B]:VAL:HG13	1:E:204[B]:PHE:HB2	1.86	0.58
1:B:204[A]:PHE:C	1:B:207[A]:ILE:HG22	2.23	0.58
1:E:41:LYS:HD2	1:E:43:ARG:CZ	2.34	0.58
1:B:30:GLN:NE2	1:F:-4:TYR:H	1.97	0.57
1:E:103[A]:ARG:HH11	1:E:103[A]:ARG:HG2	1.69	0.57
1:G:5:GLU:O	1:G:6:ASN:HB2	2.05	0.57
1:A:256:LYS:HD2	1:C:256[B]:LYS:HE3	1.86	0.57
1:D:48:LEU:O	1:D:52:LEU:HD12	2.05	0.57
1:C:41:LYS:HD2	1:C:43:ARG:NH2	2.19	0.57
1:E:205[B]:ASN:O	1:E:206[B]:THR:C	2.41	0.57
1:D:49:GLU:HA	1:D:52:LEU:HD11	1.85	0.56
1:D:37:PHE:HB2	1:D:62:LEU:HD23	1.88	0.56
1:A:112[A]:GLU:HG2	7:A:2067:HOH:O	2.07	0.55
1:D:16:ASN:HD22	1:D:196[B]:LEU:HD22	1.72	0.55
1:H:207:ILE:O	1:H:211:ILE:HG12	2.07	0.55
1:G:96:PHE:HD1	7:G:2032:HOH:O	1.88	0.55
1:D:71:GLU:CD	1:D:71:GLU:H	2.10	0.55
1:F:98:ASN:ND2	7:F:2040:HOH:O	2.40	0.55
1:G:37:PHE:HB2	1:G:62:LEU:HD23	1.89	0.55
1:G:101:ASP:OD2	1:G:113:GLY:HA3	2.07	0.54
1:H:41:LYS:HE3	3:H:1258:NDP:O2X	2.07	0.54
1:C:42[A]:GLU:OE1	1:C:64:GLN:NE2	2.40	0.54
1:G:99:MET:O	1:G:103[A]:ARG:HG3	2.08	0.54
1:G:0:ALA:O	1:G:1[B]:MET:CB	2.54	0.53
1:F:218:LYS:HD3	1:G:180:PRO:HG3	1.90	0.53
1:A:255:ILE:O	1:C:256[B]:LYS:CE	2.56	0.53
1:H:112:GLU:CD	1:H:112:GLU:H	2.12	0.53
1:E:43:ARG:CD	5:E:1261:EDO:H12	2.39	0.53
1:F:101:ASP:OD2	1:F:113:GLY:HA3	2.09	0.53
1:H:118:GLN:HE22	1:H:166:SER:CB	2.21	0.53
1:A:207:ILE:O	1:A:211:ILE:HG12	2.08	0.53
1:A:239[B]:SER:O	7:A:2124:HOH:O	2.19	0.53
1:B:112[A]:GLU:CD	1:B:112[A]:GLU:H	2.12	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:41:LYS:HG2	7:E:2022:HOH:O	2.10	0.52
1:C:5:GLU:OE2	1:G:1[B]:MET:HA	2.10	0.52
1:D:210:GLU:HG2	1:D:214:ARG:HD2	1.91	0.52
1:E:198:ALA:O	1:E:201[B]:VAL:HG12	2.09	0.52
1:E:256:LYS:HE2	1:G:255:ILE:O	2.10	0.52
1:G:50:LYS:O	1:G:53:GLU:HG3	2.10	0.52
1:D:215:ALA:O	1:D:218[A]:LYS:HD2	2.10	0.52
1:H:101:ASP:OD2	1:H:113:GLY:HA3	2.10	0.52
1:A:133:LYS:HD2	1:A:178:LEU:HD22	1.92	0.50
1:E:5:GLU:O	1:E:6:ASN:HB2	2.11	0.50
1:H:212:GLU:HG3	1:H:220:ASN:ND2	2.26	0.50
1:A:256:LYS:HE2	1:C:255:ILE:O	2.12	0.50
1:D:16:ASN:HD21	1:D:196[A]:LEU:HB2	1.77	0.50
1:G:173:TYR:CZ	1:H:153:ALA:HA	2.46	0.50
1:G:155:GLN:O	1:G:156:ASN:HB2	2.12	0.50
1:G:253:HIS:HD2	7:G:2016:HOH:O	1.93	0.50
1:B:232:TYR:HA	1:C:1:MET:HE1	1.92	0.50
1:C:112[B]:GLU:HG2	1:C:113:GLY:N	2.27	0.49
1:B:192:PRO:HG2	1:B:207[B]:ILE:CG2	2.42	0.49
1:E:194:ARG:HG2	1:E:194:ARG:NH1	2.27	0.49
1:B:205[A]:ASN:HB3	7:B:2087:HOH:O	2.11	0.49
1:D:16:ASN:HD21	1:D:196[B]:LEU:CB	2.26	0.49
1:C:49:GLU:CG	1:C:62:LEU:CD1	2.89	0.49
1:C:37:PHE:HB2	1:C:62:LEU:HD23	1.94	0.49
1:G:206:THR:HG23	5:G:1257:EDO:H11	1.95	0.48
1:E:205[B]:ASN:O	1:E:207[B]:ILE:N	2.46	0.48
1:C:37:PHE:CD2	1:C:52:LEU:HD21	2.49	0.48
1:C:52:LEU:HD22	1:C:62:LEU:HD21	1.96	0.48
1:E:103[A]:ARG:HG2	1:E:103[A]:ARG:NH1	2.29	0.48
1:H:4:LEU:O	1:H:7:LYS:HB2	2.14	0.48
1:A:18[A]:ARG:NE	1:A:223:GLN:HE22	2.12	0.47
1:G:67:VAL:HG22	3:G:1259:NDP:N1A	2.29	0.47
1:E:38:THR:HG21	1:E:65:ILE:HD12	1.96	0.47
1:B:207[B]:ILE:O	1:B:211:ILE:HG12	2.15	0.47
1:H:117:ALA:O	1:H:121:SER:HB2	2.15	0.47
1:A:18[A]:ARG:CZ	1:A:223:GLN:HE22	2.27	0.47
1:E:41:LYS:O	1:E:44:SER:HB2	2.14	0.47
1:F:41:LYS:HE2	1:F:44:SER:OG	2.14	0.47
1:H:5:GLU:O	1:H:6:ASN:CB	2.61	0.47
1:B:99:MET:HE1	1:B:201[B]:VAL:HG22	1.97	0.47
1:E:41:LYS:HE2	3:E:1259:NDP:O2X	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:224:VAL:O	1:A:228:LYS:HG3	2.15	0.47
1:D:16:ASN:HD21	1:D:196[B]:LEU:HB2	1.79	0.47
1:E:196:LEU:HB3	7:E:2010:HOH:O	2.14	0.46
1:G:203:GLY:O	1:G:207:ILE:HB	2.14	0.46
1:E:99:MET:CE	1:E:201[B]:VAL:HB	2.44	0.46
1:F:-5:LEU:HD22	1:G:56:ASN:ND2	2.30	0.46
1:B:112[A]:GLU:HG2	7:B:2050:HOH:O	2.14	0.46
1:G:133:LYS:HE3	1:G:181:ASP:OD2	2.15	0.46
1:H:16:ASN:HD21	1:H:196:LEU:HB2	1.81	0.46
1:H:42:GLU:HB2	7:H:2015:HOH:O	2.15	0.46
1:D:3:ASN:OD1	1:D:5:GLU:HB2	2.16	0.46
1:G:21:ALA:HB2	1:G:93:SER:CB	2.46	0.46
7:A:2073:HOH:O	1:B:108:GLU:OE2	2.21	0.46
1:C:99:MET:HE1	1:C:201:VAL:HA	1.98	0.46
1:E:196:LEU:HD13	1:E:199[B]:LYS:NZ	2.31	0.46
1:F:38:THR:HA	1:F:63:TYR:O	2.15	0.46
1:H:-2:GLN:CD	1:H:-2:GLN:H	2.19	0.46
1:E:103[B]:ARG:CZ	1:E:202[B]:GLY:CA	2.95	0.45
1:B:99:MET:CE	1:B:201[B]:VAL:HG22	2.46	0.45
1:G:42:GLU:O	1:G:45:ARG:N	2.48	0.45
1:E:217:LEU:HD12	1:E:250:SER:HA	1.99	0.45
1:H:215:ALA:O	1:H:218[A]:LYS:HD3	2.16	0.44
1:G:1[A]:MET:CE	1:G:236:ASP:H	2.30	0.44
1:B:133:LYS:HD2	1:B:178:LEU:HD22	1.98	0.44
1:E:41:LYS:HD2	1:E:43:ARG:NH2	2.32	0.44
1:G:0:ALA:HB2	5:G:1358:EDO:H22	2.00	0.44
1:G:133:LYS:HD2	1:G:178:LEU:HD22	2.00	0.44
1:F:155:GLN:O	1:F:156:ASN:HB2	2.18	0.44
1:B:101:ASP:OD2	1:B:113:GLY:HA3	2.17	0.44
1:C:22:PHE:O	1:C:26:LYS:HG3	2.18	0.43
1:E:201[B]:VAL:HG13	1:E:201[B]:VAL:O	2.18	0.43
1:A:253:HIS:CD2	7:A:2131:HOH:O	2.65	0.43
1:B:10:VAL:HG22	1:B:36:VAL:HB	2.01	0.43
1:F:215:ALA:O	1:F:218:LYS:HD2	2.18	0.43
1:F:41:LYS:HG2	1:F:44:SER:OG	2.18	0.43
1:D:191:GLY:HA3	7:D:2082:HOH:O	2.18	0.43
1:E:103[B]:ARG:CZ	1:E:202[B]:GLY:HA2	2.48	0.43
1:H:7:LYS:HD3	1:H:7:LYS:HA	1.75	0.43
1:C:217:LEU:HD12	1:C:250:SER:HA	2.00	0.43
1:D:137:PRO:HB2	1:D:138:GLU:OE1	2.19	0.43
1:G:40:ARG:HB3	3:G:1259:NDP:O2X	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:38:THR:HA	1:E:63:TYR:O	2.20	0.42
1:D:210:GLU:OE2	1:D:214:ARG:NH1	2.45	0.42
1:C:1:MET:CE	1:C:237:LEU:HD21	2.43	0.42
1:E:207[B]:ILE:HD12	1:E:211:ILE:HD11	2.02	0.42
1:C:39:TYR:HA	7:C:2015:HOH:O	2.20	0.42
1:E:1:MET:N	7:E:2002:HOH:O	2.29	0.41
1:G:206:THR:H	5:G:1257:EDO:H11	1.85	0.41
1:A:204:PHE:O	1:A:207:ILE:HG22	2.20	0.41
1:E:209[A]:LYS:O	1:E:213:GLU:HG3	2.20	0.41
1:E:196:LEU:HD13	1:E:199[B]:LYS:HZ3	1.85	0.41
1:H:197:SER:HB3	3:H:1258:NDP:O1A	2.21	0.41
1:A:153:ALA:HA	1:B:173:TYR:CZ	2.56	0.41
1:C:133:LYS:HE2	1:C:181:ASP:OD2	2.20	0.41
1:A:48:LEU:HD11	1:A:52:LEU:HD11	2.02	0.41
1:A:49:GLU:HG2	1:A:62:LEU:HD11	2.03	0.41
1:A:80:ILE:O	1:A:84:VAL:HG22	2.21	0.41
1:C:212:GLU:O	1:C:218[B]:LYS:HD2	2.19	0.41
1:G:253:HIS:CD2	7:G:2016:HOH:O	2.70	0.41
1:H:217:LEU:HB2	1:H:250:SER:HB3	2.02	0.41
1:C:14:ILE:HD12	1:C:37:PHE:CD1	2.56	0.41
1:C:40:ARG:HD3	3:C:1258:NDP:C5A	2.51	0.41
1:D:194:ARG:NH1	1:D:208:LEU:HD13	2.36	0.41
1:E:99:MET:HE1	1:E:201[B]:VAL:HB	2.03	0.41
1:B:256:LYS:HE3	1:D:148:LEU:HD21	2.02	0.40
1:E:39:TYR:OH	1:E:42:GLU:OE2	2.28	0.40
1:B:18:ARG:O	1:B:195:THR:HG22	2.21	0.40
1:E:192:PRO:HG3	1:E:207[B]:ILE:HG23	2.03	0.40
1:E:204[A]:PHE:HA	1:E:207[A]:ILE:HG22	2.03	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all 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	267/282 (95%)	256 (96%)	10 (4%)	1 (0%)	34	22
1	B	267/282 (95%)	259 (97%)	8 (3%)	0	100	100
1	C	263/282 (93%)	257 (98%)	6 (2%)	0	100	100
1	D	260/282 (92%)	248 (95%)	11 (4%)	1 (0%)	34	22
1	E	267/282 (95%)	250 (94%)	17 (6%)	0	100	100
1	F	262/282 (93%)	253 (97%)	9 (3%)	0	100	100
1	G	260/282 (92%)	250 (96%)	8 (3%)	2 (1%)	19	9
1	H	264/282 (94%)	252 (96%)	11 (4%)	1 (0%)	34	22
All	All	2110/2256 (94%)	2025 (96%)	80 (4%)	5 (0%)	47	38

All (5) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	G	1[A]	MET
1	G	1[B]	MET
1	H	42	GLU
1	D	58	PRO
1	A	-2	GLN

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 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	220/234 (94%)	218 (99%)	2 (1%)	78	77
1	B	220/234 (94%)	214 (97%)	6 (3%)	44	34
1	C	218/234 (93%)	212 (97%)	6 (3%)	43	33
1	D	216/234 (92%)	209 (97%)	7 (3%)	39	27
1	E	220/234 (94%)	213 (97%)	7 (3%)	39	27
1	F	216/234 (92%)	212 (98%)	4 (2%)	57	50
1	G	214/234 (92%)	204 (95%)	10 (5%)	26	13
1	H	218/234 (93%)	211 (97%)	7 (3%)	39	27

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
All	All	1742/1872 (93%)	1693 (97%)	49 (3%)	46 33

All (49) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	71	GLU
1	A	209	LYS
1	B	1	MET
1	B	4	LEU
1	B	55	LEU
1	B	196	LEU
1	B	206[A]	THR
1	B	206[B]	THR
1	C	44	SER
1	C	84	VAL
1	C	133	LYS
1	C	196	LEU
1	C	256[A]	LYS
1	C	256[B]	LYS
1	D	1	MET
1	D	41	LYS
1	D	48	LEU
1	D	52	LEU
1	D	103[A]	ARG
1	D	103[B]	ARG
1	D	155	GLN
1	E	30	GLN
1	E	44	SER
1	E	64	GLN
1	E	99	MET
1	E	207[A]	ILE
1	E	207[B]	ILE
1	E	255	ILE
1	F	52	LEU
1	F	55	LEU
1	F	98	ASN
1	F	103	ARG
1	G	1[A]	MET
1	G	1[B]	MET
1	G	44	SER
1	G	46	LYS
1	G	48	LEU

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Mol	Chain	Res	Type
1	G	50	LYS
1	G	52	LEU
1	G	192	PRO
1	G	199	LYS
1	G	207	ILE
1	H	4	LEU
1	H	7	LYS
1	H	41	LYS
1	H	43	ARG
1	H	52	LEU
1	H	127	ILE
1	H	196	LEU

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (25) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	64	GLN
1	A	98	ASN
1	A	156	ASN
1	A	253	HIS
1	B	30	GLN
1	B	86	ASN
1	C	30	GLN
1	C	64	GLN
1	C	155	GLN
1	C	253	HIS
1	D	56	ASN
1	D	253	HIS
1	E	98	ASN
1	F	-2	GLN
1	F	56	ASN
1	F	98	ASN
1	F	156	ASN
1	F	253	HIS
1	G	56	ASN
1	G	155	GLN
1	G	156	ASN
1	G	253	HIS
1	H	3	ASN
1	H	118	GLN
1	H	253	HIS

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates ⓘ

There are no monosaccharides in this entry.

5.6 Ligand geometry ⓘ

Of 29 ligands modelled in this entry, 1 is monoatomic - leaving 28 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	EDO	B	1258	-	3,3,3	0.47	0	2,2,2	0.38	0
3	NDP	E	1259	-	45,52,52	0.69	1 (2%)	53,80,80	1.25	7 (13%)
3	NDP	D	1257	-	45,52,52	0.77	1 (2%)	53,80,80	1.12	4 (7%)
3	NDP	F	1258	-	45,52,52	0.73	1 (2%)	53,80,80	1.13	5 (9%)
4	PT6	H	1259	-	25,26,26	0.99	1 (4%)	23,35,35	0.75	0
4	PT6	G	1260	-	25,26,26	1.02	2 (8%)	23,35,35	0.76	0
4	PT6	E	1260	-	25,26,26	1.19	2 (8%)	23,35,35	0.81	0
5	EDO	G	1257	-	3,3,3	0.46	0	2,2,2	0.76	0
5	EDO	C	1270	-	3,3,3	0.53	0	2,2,2	0.38	0
5	EDO	A	1270	-	3,3,3	0.39	0	2,2,2	0.78	0
3	NDP	H	1258	-	45,52,52	0.62	1 (2%)	53,80,80	1.21	6 (11%)
3	NDP	G	1259	-	45,52,52	0.73	1 (2%)	53,80,80	1.30	7 (13%)
2	SO4	B	1257	-	4,4,4	0.08	0	6,6,6	0.23	0
2	SO4	A	1259	-	4,4,4	0.15	0	6,6,6	0.64	0
4	PT6	C	1259	-	25,26,26	0.92	1 (4%)	23,35,35	0.74	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
5	EDO	E	1261	-	3,3,3	0.45	0	2,2,2	0.73	0
4	PT6	D	1258	-	25,26,26	0.93	1 (4%)	23,35,35	0.99	2 (8%)
2	SO4	A	1257	-	4,4,4	0.15	0	6,6,6	0.20	0
3	NDP	B	1259	-	45,52,52	0.70	2 (4%)	53,80,80	1.12	4 (7%)
5	EDO	G	1358	-	3,3,3	0.46	0	2,2,2	0.39	0
5	EDO	H	1257	-	3,3,3	0.51	0	2,2,2	0.42	0
2	SO4	H	1358	-	4,4,4	0.22	0	6,6,6	0.16	0
4	PT6	B	1260	-	25,26,26	1.06	1 (4%)	23,35,35	0.84	0
3	NDP	C	1258	-	45,52,52	0.69	1 (2%)	53,80,80	1.22	7 (13%)
4	PT6	A	1261	-	25,26,26	1.23	3 (12%)	23,35,35	0.91	0
2	SO4	E	1257	-	4,4,4	0.15	0	6,6,6	0.21	0
3	NDP	A	1260	-	45,52,52	0.63	1 (2%)	53,80,80	1.05	3 (5%)
4	PT6	F	1259	-	25,26,26	1.08	1 (4%)	23,35,35	0.98	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	EDO	B	1258	-	-	1/1/1/1	-
3	NDP	E	1259	-	-	10/30/77/77	0/5/5/5
3	NDP	D	1257	-	-	10/30/77/77	0/5/5/5
3	NDP	F	1258	-	-	5/30/77/77	0/5/5/5
4	PT6	H	1259	-	-	2/9/10/10	0/3/3/3
4	PT6	G	1260	-	-	2/9/10/10	0/3/3/3
4	PT6	E	1260	-	-	1/9/10/10	0/3/3/3
5	EDO	C	1270	-	-	0/1/1/1	-
5	EDO	A	1270	-	-	0/1/1/1	-
3	NDP	H	1258	-	-	11/30/77/77	0/5/5/5
3	NDP	G	1259	-	-	8/30/77/77	0/5/5/5
5	EDO	G	1257	-	-	1/1/1/1	-
4	PT6	C	1259	-	-	1/9/10/10	0/3/3/3
5	EDO	E	1261	-	-	1/1/1/1	-
4	PT6	D	1258	-	-	1/9/10/10	0/3/3/3
3	NDP	B	1259	-	-	7/30/77/77	0/5/5/5
5	EDO	G	1358	-	-	1/1/1/1	-
5	EDO	H	1257	-	-	0/1/1/1	-
4	PT6	B	1260	-	-	1/9/10/10	0/3/3/3

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	NDP	C	1258	-	-	11/30/77/77	0/5/5/5
4	PT6	A	1261	-	-	1/9/10/10	0/3/3/3
3	NDP	A	1260	-	-	9/30/77/77	0/5/5/5
4	PT6	F	1259	-	-	1/9/10/10	0/3/3/3

All (21) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	B	1260	PT6	C9-C10	3.56	1.45	1.38
3	D	1257	NDP	C6N-N1N	3.39	1.45	1.37
3	G	1259	NDP	C6N-N1N	3.27	1.45	1.37
4	A	1261	PT6	C12-C13	3.27	1.52	1.50
4	E	1260	PT6	C12-C13	3.17	1.52	1.50
4	H	1259	PT6	C9-C10	3.16	1.45	1.38
4	C	1259	PT6	C9-C10	3.12	1.44	1.38
4	F	1259	PT6	C12-C13	3.02	1.52	1.50
4	A	1261	PT6	C9-C10	2.89	1.44	1.38
4	E	1260	PT6	C9-C10	2.82	1.44	1.38
3	F	1258	NDP	C7N-C3N	2.61	1.54	1.48
4	G	1260	PT6	C12-C13	2.50	1.52	1.50
3	B	1259	NDP	P2B-O2B	2.50	1.64	1.59
3	H	1258	NDP	C6N-N1N	2.40	1.43	1.37
3	E	1259	NDP	C6N-N1N	2.38	1.43	1.37
4	A	1261	PT6	C2-C1	2.37	1.47	1.40
4	D	1258	PT6	C9-C10	2.31	1.43	1.38
4	G	1260	PT6	C9-C10	2.27	1.43	1.38
3	C	1258	NDP	C6N-N1N	2.19	1.42	1.37
3	A	1260	NDP	C6N-N1N	2.13	1.42	1.37
3	B	1259	NDP	C6N-N1N	2.12	1.42	1.37

All (45) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	E	1259	NDP	O7N-C7N-C3N	-3.67	113.99	120.90
3	G	1259	NDP	O2A-PA-O1A	3.18	127.95	112.24
3	D	1257	NDP	O7N-C7N-C3N	-3.12	115.01	120.90
3	H	1258	NDP	O2X-P2B-O2B	-3.07	92.22	105.99
3	H	1258	NDP	O7N-C7N-C3N	-2.97	115.31	120.90
3	G	1259	NDP	O7N-C7N-C3N	-2.96	115.32	120.90
3	D	1257	NDP	C2D-C1D-N1N	2.87	120.50	113.30
3	F	1258	NDP	O4B-C1B-C2B	-2.85	101.64	106.59
3	G	1259	NDP	O4B-C1B-C2B	-2.83	101.68	106.59

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	E	1259	NDP	O4B-C1B-C2B	-2.80	101.73	106.59
3	C	1258	NDP	O2A-PA-O1A	2.76	125.88	112.24
3	G	1259	NDP	C3N-C2N-N1N	-2.72	119.21	123.10
3	B	1259	NDP	O7N-C7N-C3N	-2.71	115.79	120.90
3	A	1260	NDP	C5A-C6A-N6A	2.70	124.46	120.35
3	E	1259	NDP	C3N-C7N-N7N	2.58	122.26	117.67
3	E	1259	NDP	O2A-PA-O1A	2.58	124.98	112.24
3	F	1258	NDP	O2X-P2B-O2B	-2.56	94.54	105.99
3	H	1258	NDP	O4B-C1B-C2B	-2.55	102.16	106.59
3	G	1259	NDP	O2N-PN-O1N	2.52	124.71	112.24
3	E	1259	NDP	C5A-C6A-N6A	2.50	124.16	120.35
3	A	1260	NDP	O4B-C1B-C2B	-2.50	102.25	106.59
3	C	1258	NDP	C3N-C7N-N7N	2.49	122.09	117.67
3	C	1258	NDP	O7N-C7N-C3N	-2.48	116.22	120.90
3	C	1258	NDP	C5A-C6A-N6A	2.45	124.07	120.35
3	B	1259	NDP	C3N-C7N-N7N	2.43	121.98	117.67
3	D	1257	NDP	C3N-C7N-N7N	2.41	121.95	117.67
3	H	1258	NDP	O2N-PN-O1N	2.41	124.16	112.24
3	D	1257	NDP	C5A-C6A-N6A	2.39	123.99	120.35
3	C	1258	NDP	O2N-PN-O1N	2.36	123.89	112.24
3	F	1258	NDP	C3B-C2B-C1B	-2.32	98.54	102.89
3	F	1258	NDP	C5A-C6A-N6A	2.30	123.85	120.35
3	B	1259	NDP	C5A-C6A-N6A	2.25	123.77	120.35
3	E	1259	NDP	O2N-PN-O1N	2.25	123.35	112.24
3	G	1259	NDP	C2D-C1D-N1N	2.20	118.82	113.30
3	H	1258	NDP	C3N-C2N-N1N	-2.20	119.96	123.10
3	F	1258	NDP	O2N-PN-O1N	2.19	123.07	112.24
3	H	1258	NDP	C5A-C6A-N6A	2.17	123.65	120.35
3	E	1259	NDP	O2X-P2B-O1X	2.14	119.07	110.68
3	A	1260	NDP	O2N-PN-O1N	2.14	122.83	112.24
3	C	1258	NDP	C2D-C1D-N1N	2.13	118.64	113.30
3	B	1259	NDP	O4B-C1B-C2B	-2.13	102.90	106.59
4	D	1258	PT6	C1-C2-N	2.10	122.86	120.26
3	G	1259	NDP	C5A-C6A-N6A	2.07	123.49	120.35
3	C	1258	NDP	O2X-P2B-O2B	-2.06	96.78	105.99
4	D	1258	PT6	C9-C8-N1	2.05	122.91	121.28

There are no chirality outliers.

All (85) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	E	1259	NDP	C5D-O5D-PN-O1N

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Mol	Chain	Res	Type	Atoms
3	D	1257	NDP	C5D-O5D-PN-O1N
3	F	1258	NDP	C5D-O5D-PN-O1N
4	E	1260	PT6	C11-C12-C13-C14
3	H	1258	NDP	C5B-O5B-PA-O1A
3	H	1258	NDP	C5D-O5D-PN-O1N
3	G	1259	NDP	C5D-O5D-PN-O1N
3	B	1259	NDP	PN-O3-PA-O5B
3	B	1259	NDP	C5D-O5D-PN-O1N
4	B	1260	PT6	C11-C12-C13-C14
3	C	1258	NDP	C5D-O5D-PN-O1N
4	A	1261	PT6	C11-C12-C13-C14
3	A	1260	NDP	C5D-O5D-PN-O1N
3	E	1259	NDP	C1B-C2B-O2B-P2B
3	D	1257	NDP	C1B-C2B-O2B-P2B
3	E	1259	NDP	C3B-C2B-O2B-P2B
3	D	1257	NDP	C3B-C2B-O2B-P2B
3	H	1258	NDP	O4B-C4B-C5B-O5B
3	E	1259	NDP	PN-O3-PA-O5B
3	D	1257	NDP	PN-O3-PA-O5B
3	H	1258	NDP	PN-O3-PA-O5B
3	G	1259	NDP	PN-O3-PA-O5B
3	F	1258	NDP	C5D-O5D-PN-O3
3	H	1258	NDP	C5D-O5D-PN-O3
3	B	1259	NDP	C5D-O5D-PN-O3
3	C	1258	NDP	C5B-O5B-PA-O3
3	C	1258	NDP	C5D-O5D-PN-O3
3	A	1260	NDP	C5D-O5D-PN-O3
3	E	1259	NDP	C5D-O5D-PN-O2N
3	D	1257	NDP	C5D-O5D-PN-O2N
3	F	1258	NDP	C5D-O5D-PN-O2N
3	G	1259	NDP	C5D-O5D-PN-O2N
3	B	1259	NDP	C5D-O5D-PN-O2N
3	C	1258	NDP	C5D-O5D-PN-O2N
3	A	1260	NDP	C5D-O5D-PN-O2N
5	E	1261	EDO	O1-C1-C2-O2
3	G	1259	NDP	O4D-C1D-N1N-C6N
3	C	1258	NDP	O4D-C1D-N1N-C6N
3	A	1260	NDP	C1B-C2B-O2B-P2B
3	E	1259	NDP	C2D-C1D-N1N-C6N
3	E	1259	NDP	O4D-C1D-N1N-C6N
3	G	1259	NDP	C2D-C1D-N1N-C6N
3	D	1257	NDP	O4D-C1D-N1N-C6N

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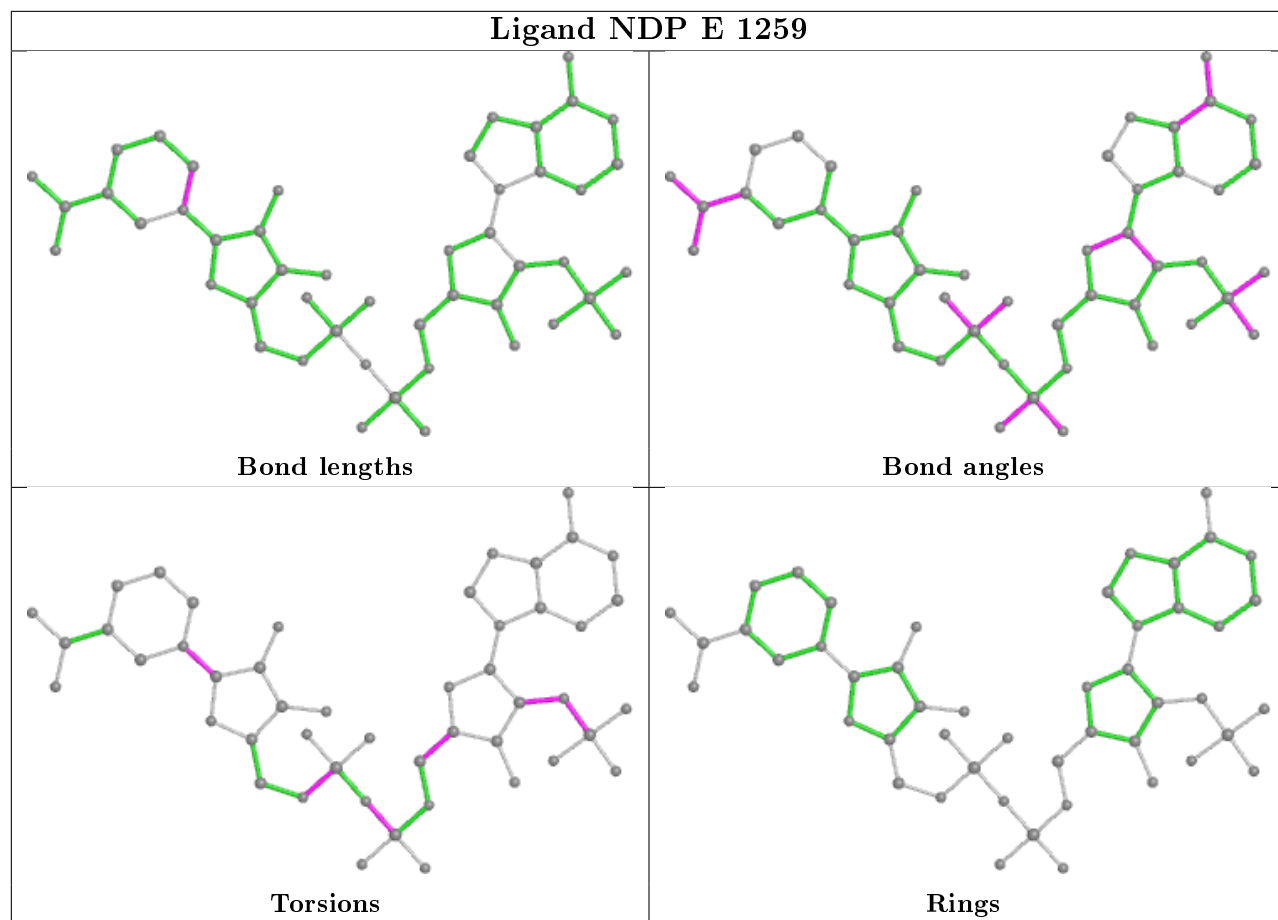
Mol	Chain	Res	Type	Atoms
3	H	1258	NDP	O4D-C1D-N1N-C6N
3	A	1260	NDP	O4D-C1D-N1N-C6N
3	G	1259	NDP	PN-O3-PA-O1A
3	C	1258	NDP	C2D-C1D-N1N-C6N
3	A	1260	NDP	C2D-C1D-N1N-C6N
3	F	1258	NDP	O4D-C1D-N1N-C6N
4	C	1259	PT6	O-C11-C12-C13
3	C	1258	NDP	C1B-C2B-O2B-P2B
3	B	1259	NDP	O4D-C1D-N1N-C6N
3	A	1260	NDP	O4B-C4B-C5B-O5B
4	H	1259	PT6	C11-C12-C13-C14
4	G	1260	PT6	C11-C12-C13-C14
4	D	1258	PT6	C11-C12-C13-C14
4	F	1259	PT6	C11-C12-C13-C14
3	H	1258	NDP	C1B-C2B-O2B-P2B
4	G	1260	PT6	O-C11-C12-C13
3	D	1257	NDP	C2D-C1D-N1N-C6N
3	H	1258	NDP	C2D-C1D-N1N-C6N
3	C	1258	NDP	PA-O3-PN-O1N
3	C	1258	NDP	PA-O3-PN-O2N
5	G	1257	EDO	O1-C1-C2-O2
5	G	1358	EDO	O1-C1-C2-O2
3	B	1259	NDP	O4B-C4B-C5B-O5B
3	A	1260	NDP	C3B-C2B-O2B-P2B
3	D	1257	NDP	C2B-O2B-P2B-O1X
3	A	1260	NDP	C2B-O2B-P2B-O1X
3	G	1259	NDP	O4B-C4B-C5B-O5B
5	B	1258	EDO	O1-C1-C2-O2
3	E	1259	NDP	C2B-O2B-P2B-O2X
3	E	1259	NDP	C5D-O5D-PN-O3
3	D	1257	NDP	C5D-O5D-PN-O3
3	G	1259	NDP	C5D-O5D-PN-O3
3	E	1259	NDP	O4B-C4B-C5B-O5B
3	H	1258	NDP	C3B-C4B-C5B-O5B
3	H	1258	NDP	C5D-O5D-PN-O2N
3	D	1257	NDP	O4B-C4B-C5B-O5B
3	F	1258	NDP	O4B-C4B-C5B-O5B
3	C	1258	NDP	O4B-C4B-C5B-O5B
3	H	1258	NDP	C3B-C2B-O2B-P2B
3	C	1258	NDP	C3B-C2B-O2B-P2B
4	H	1259	PT6	C12-C11-O-C10
3	B	1259	NDP	C2D-C1D-N1N-C6N

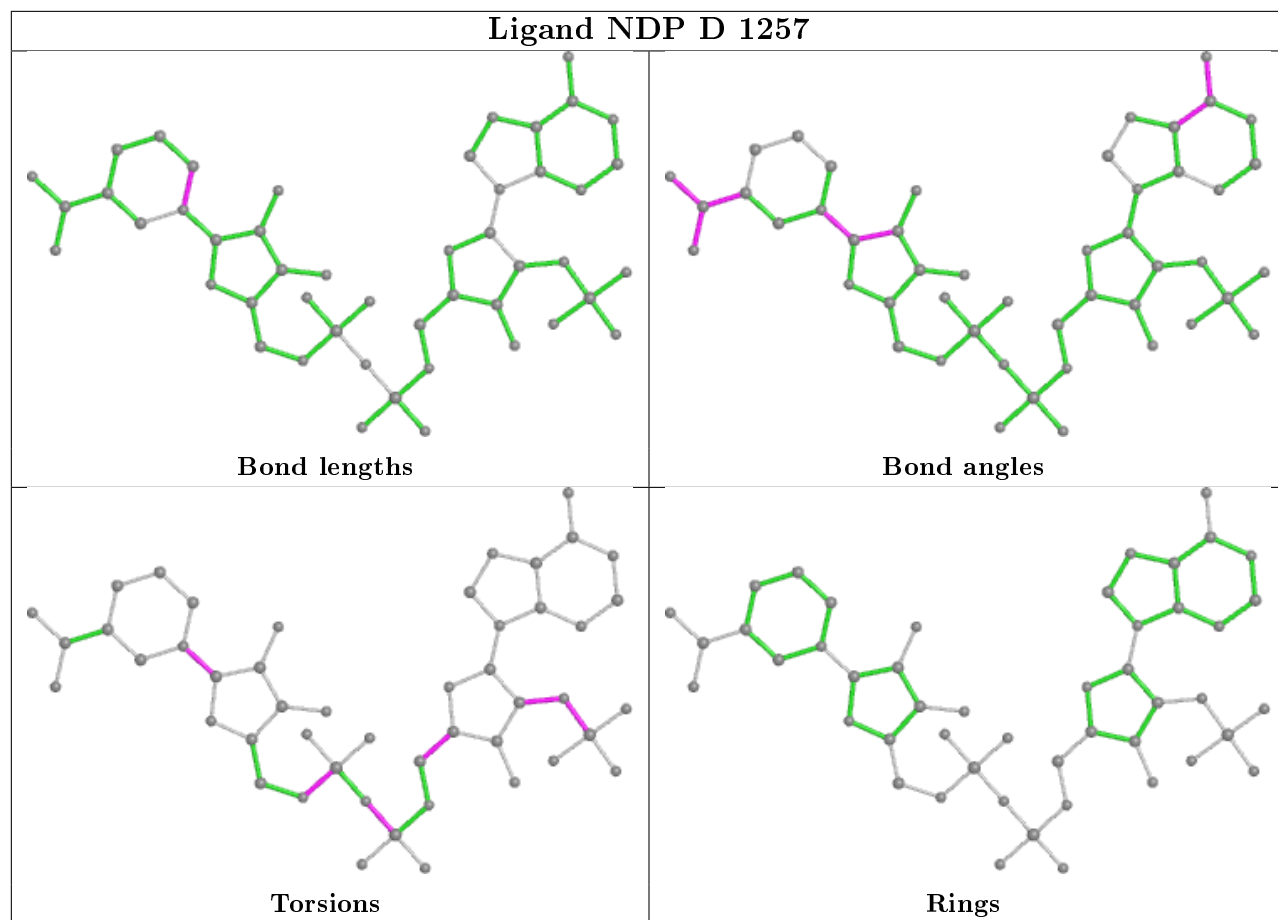
There are no ring outliers.

7 monomers are involved in 11 short contacts:

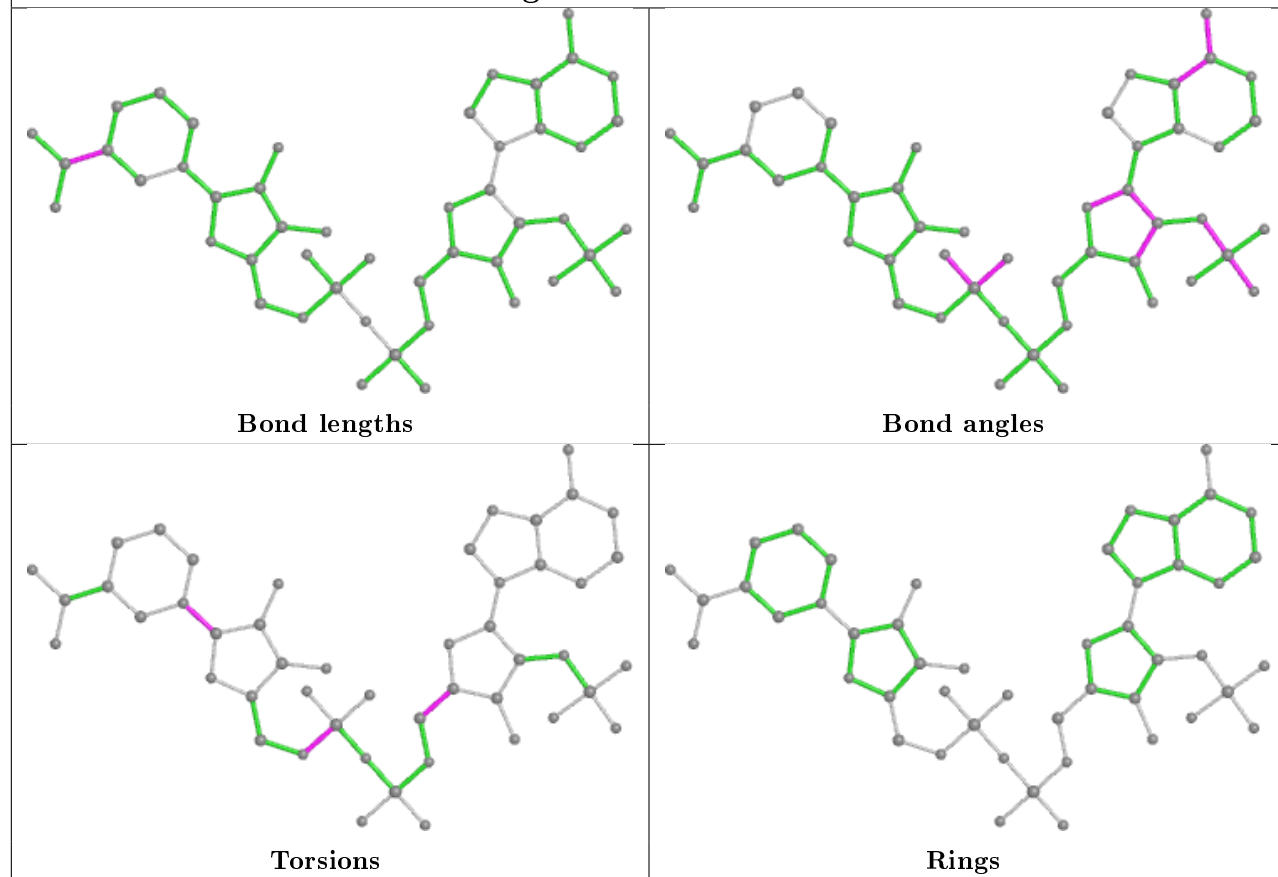
Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	E	1259	NDP	1	0
5	G	1257	EDO	2	0
3	H	1258	NDP	2	0
3	G	1259	NDP	2	0
5	E	1261	EDO	2	0
5	G	1358	EDO	1	0
3	C	1258	NDP	1	0

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.

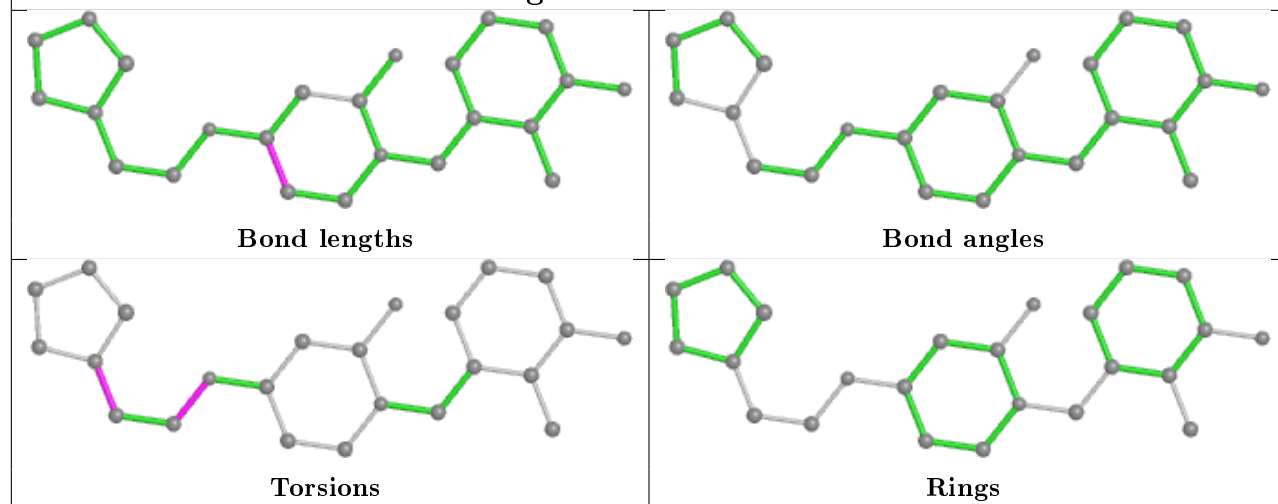


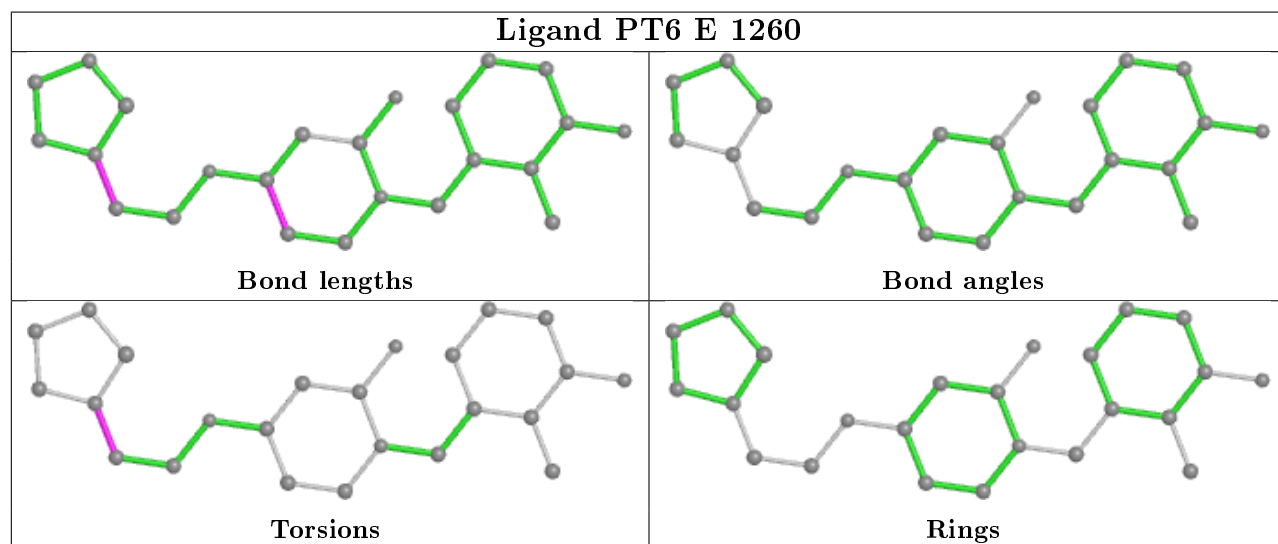
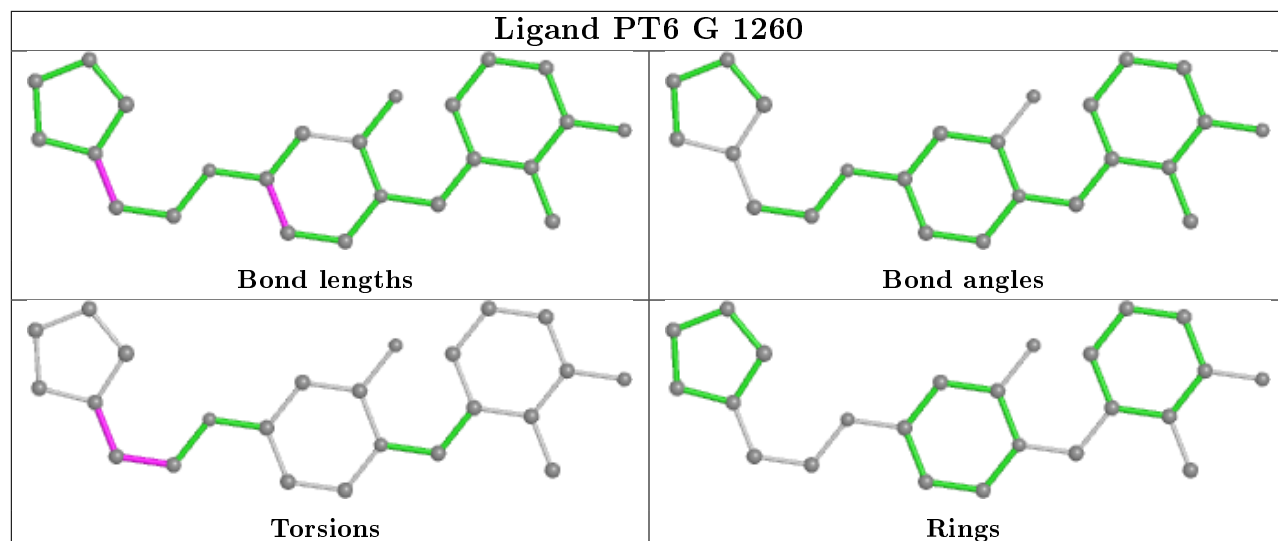


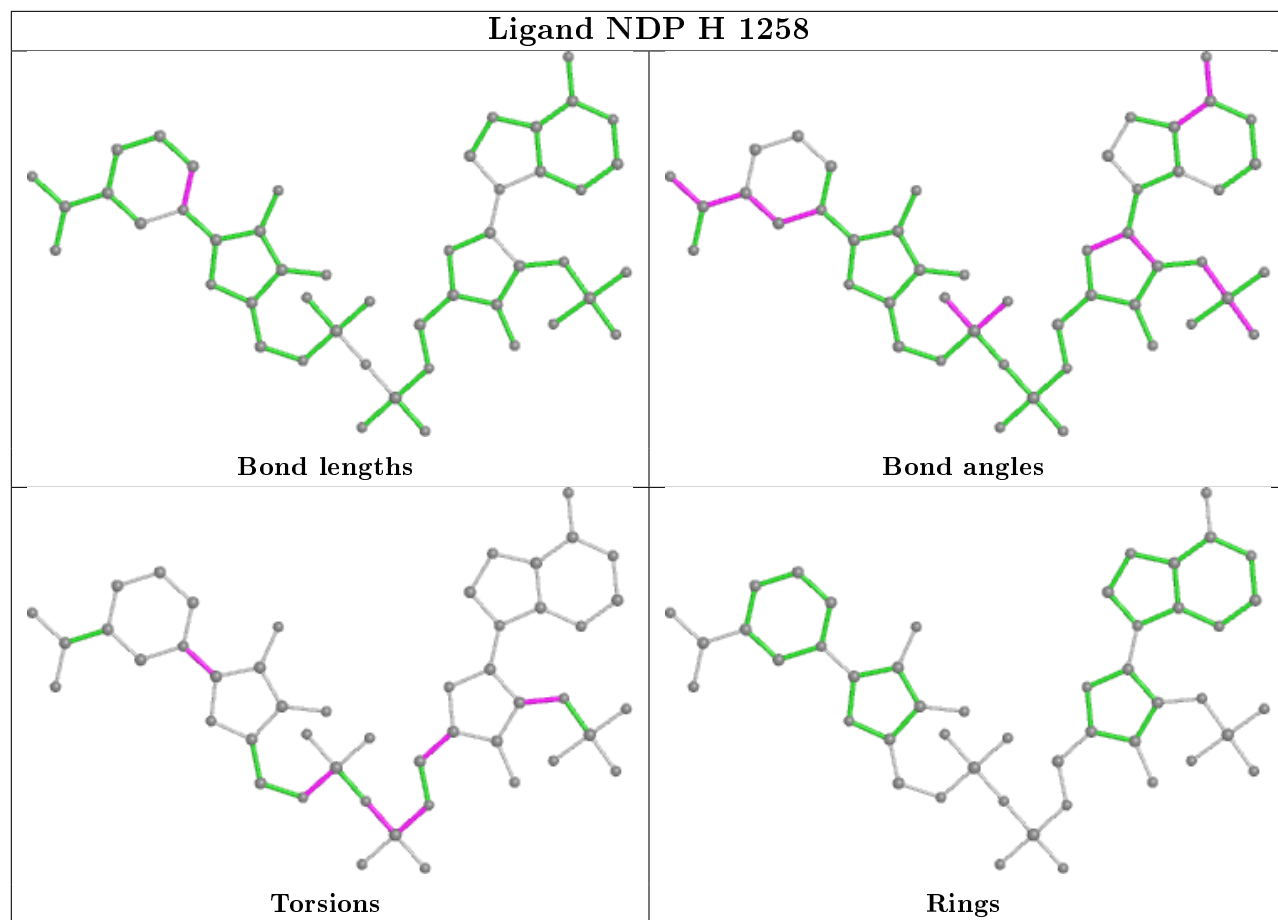
Ligand NDP F 1258



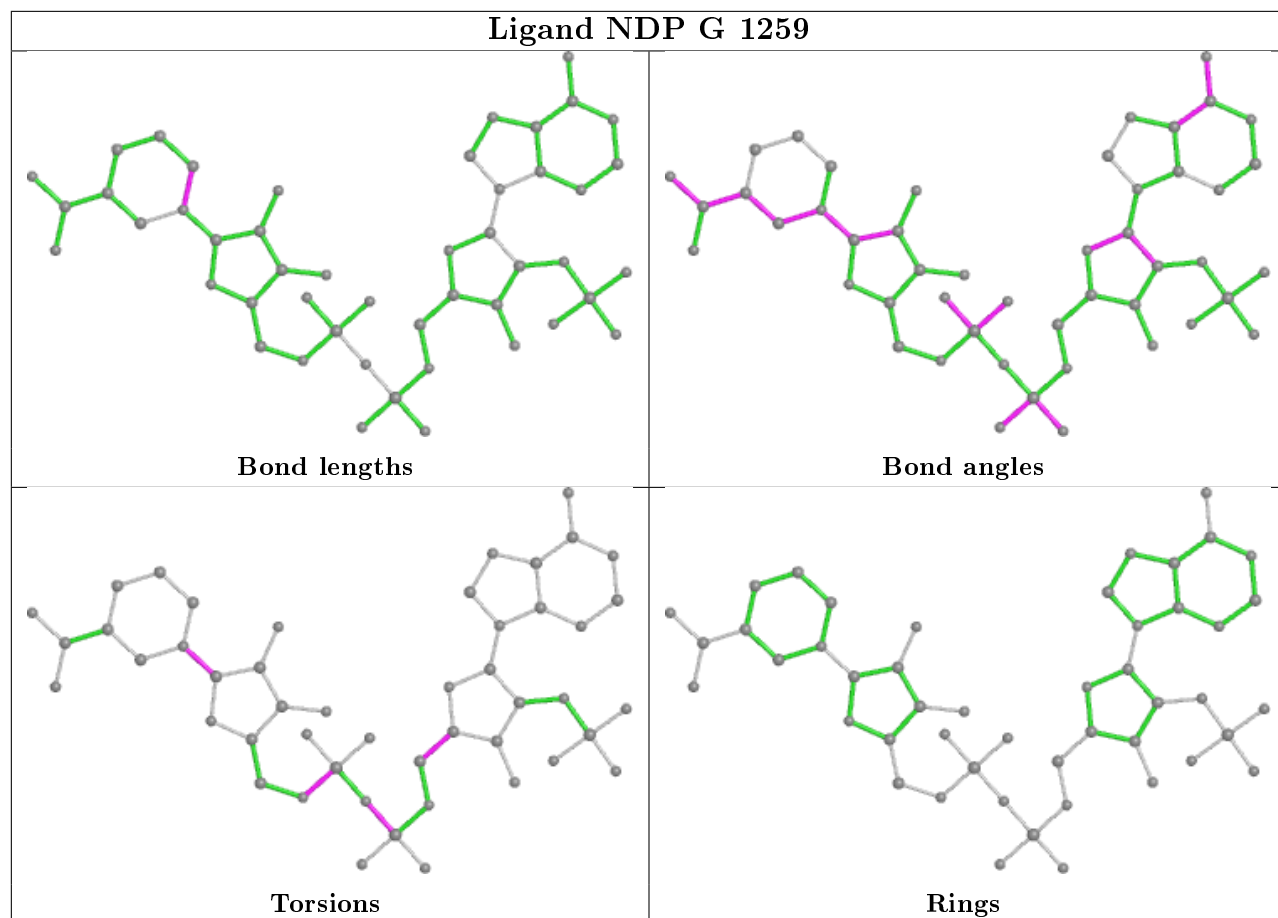
Ligand PT6 H 1259



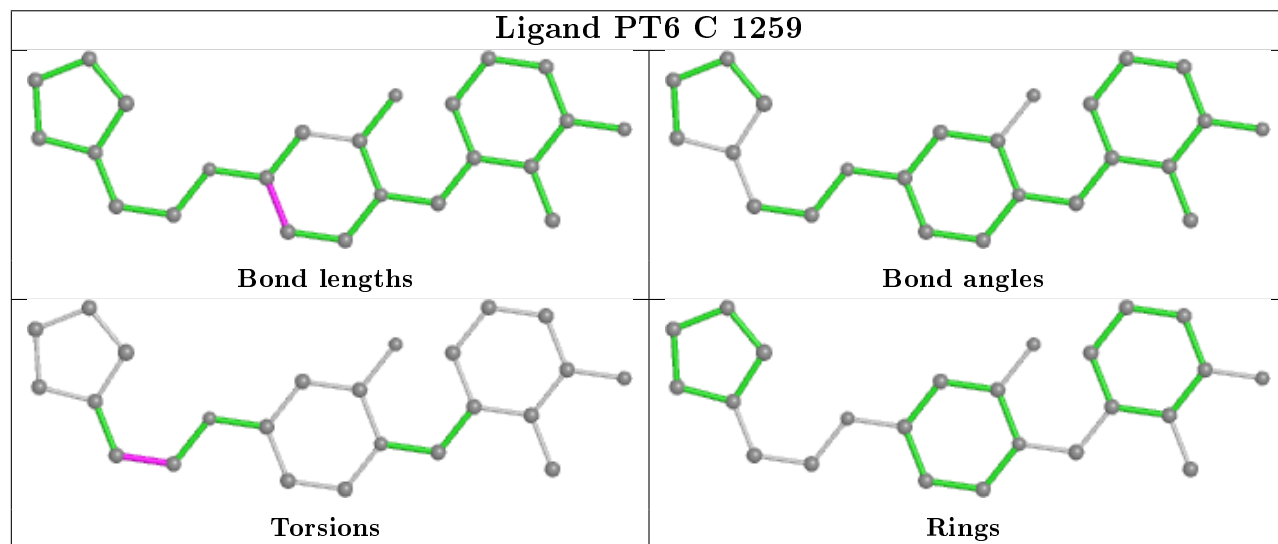


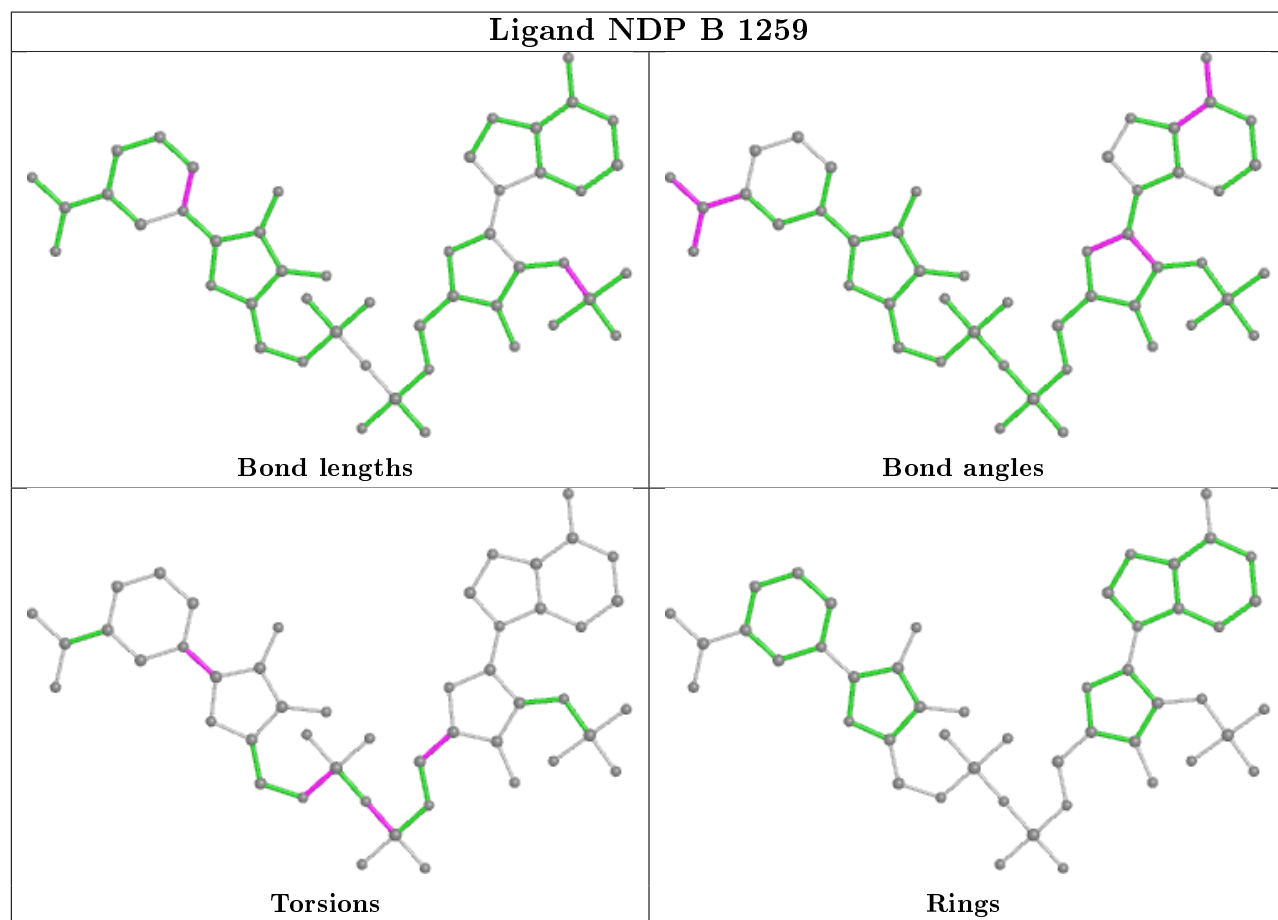
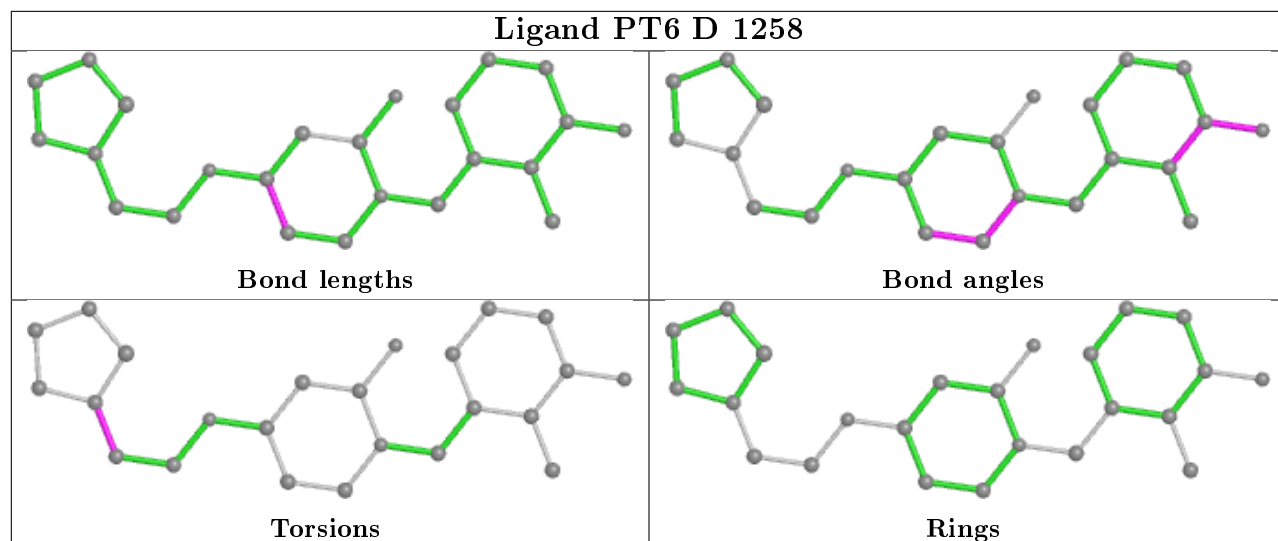


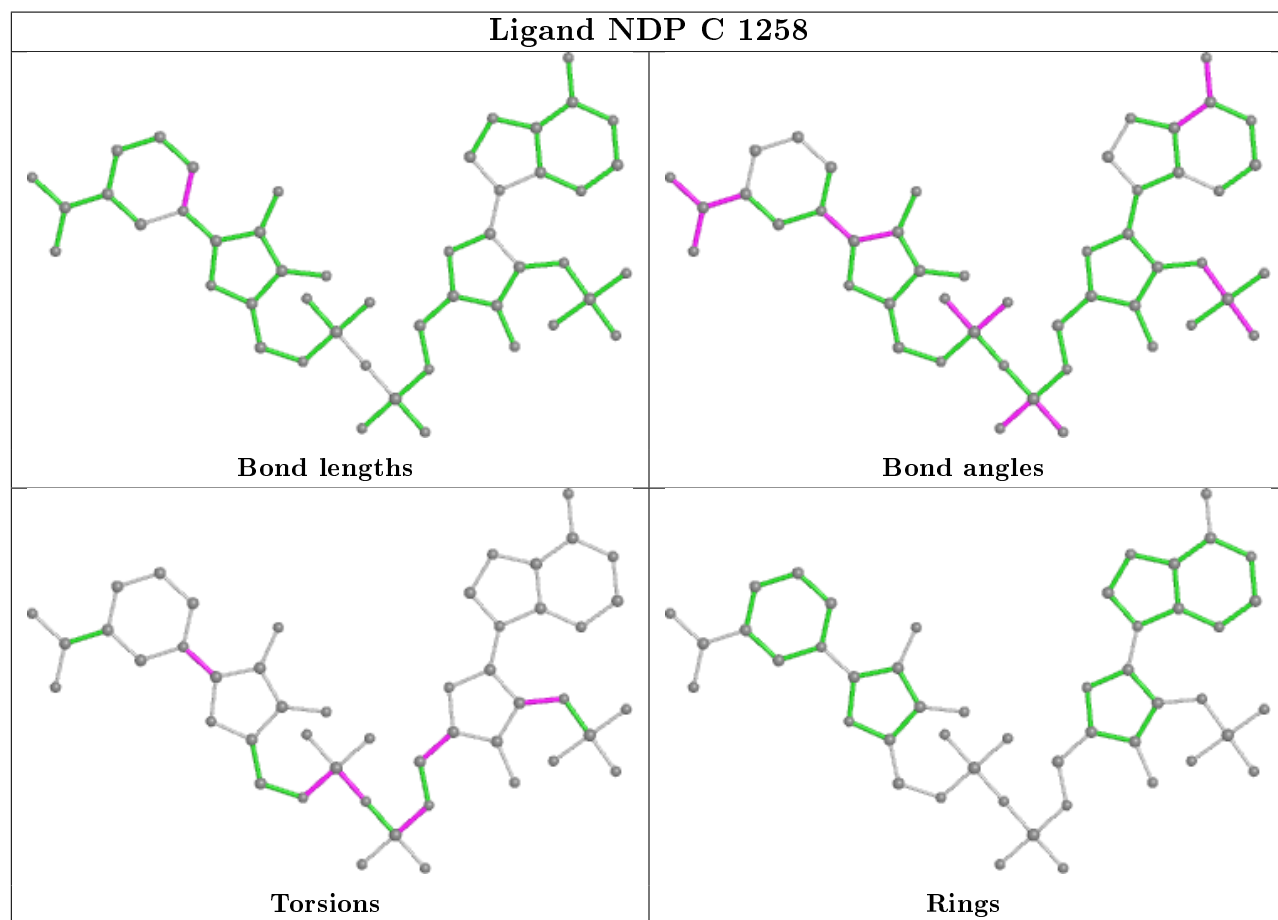
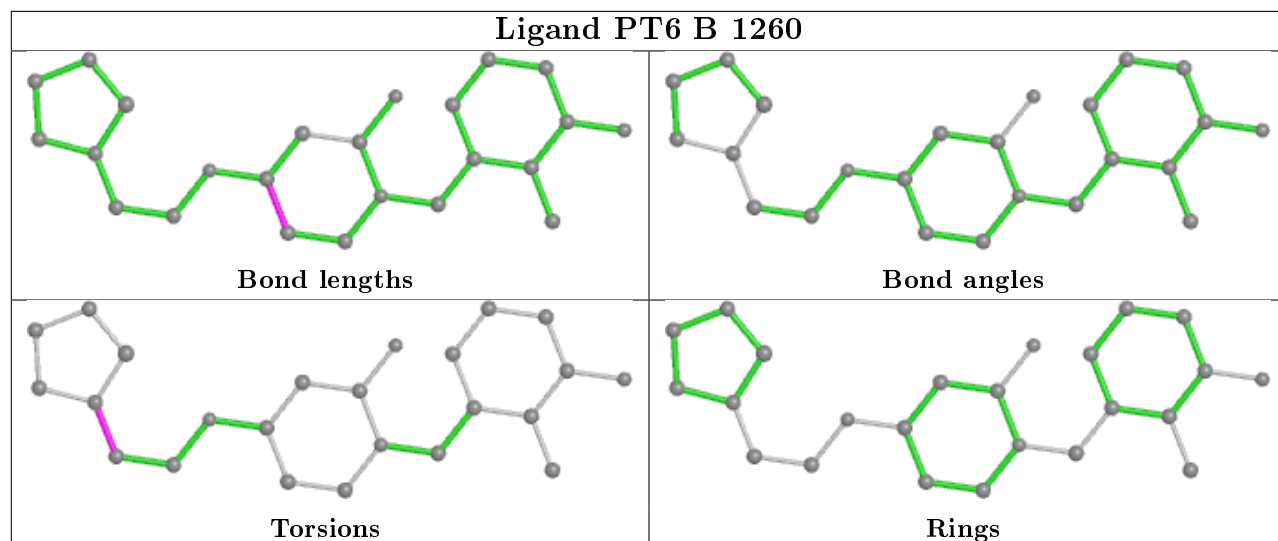
Ligand NDP G 1259

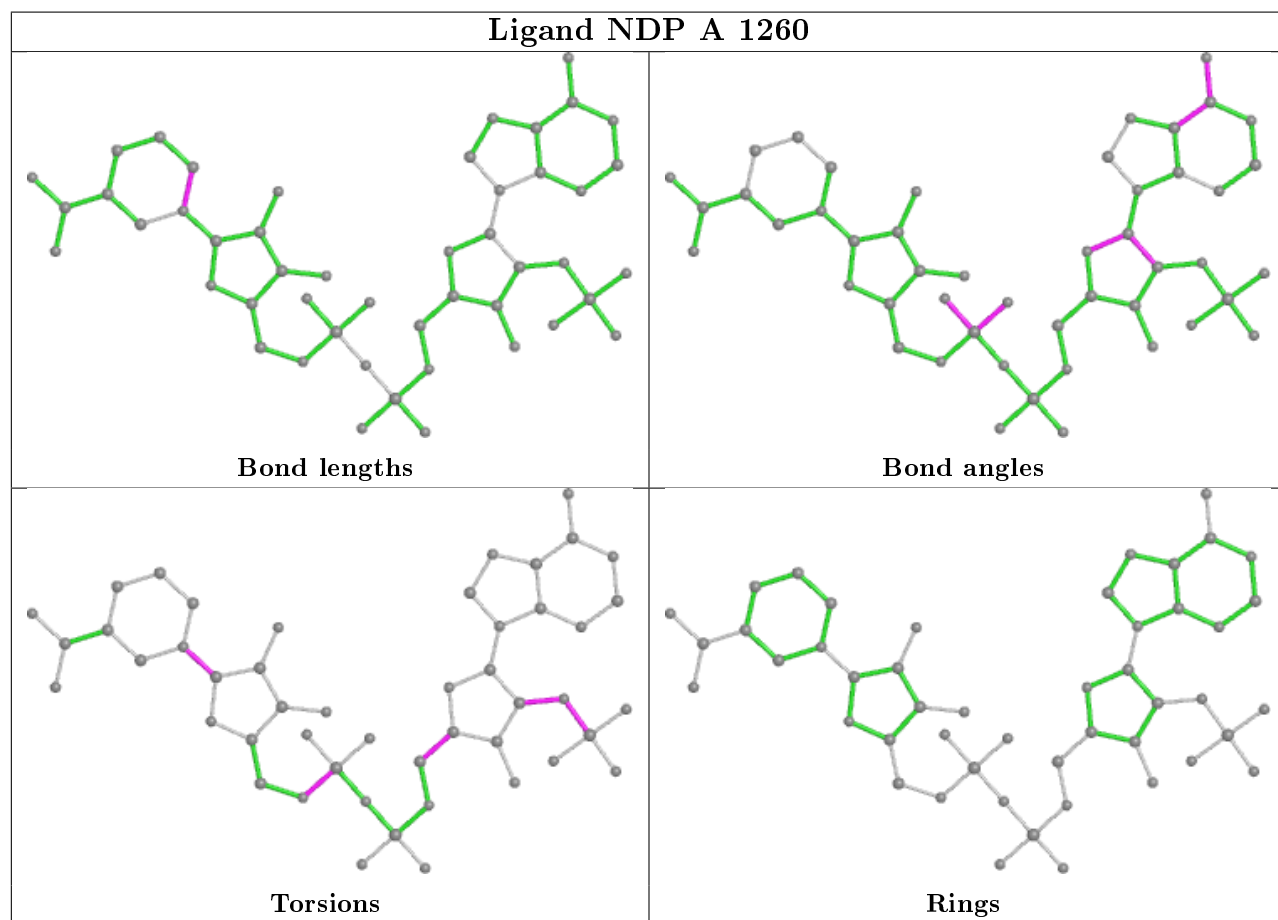
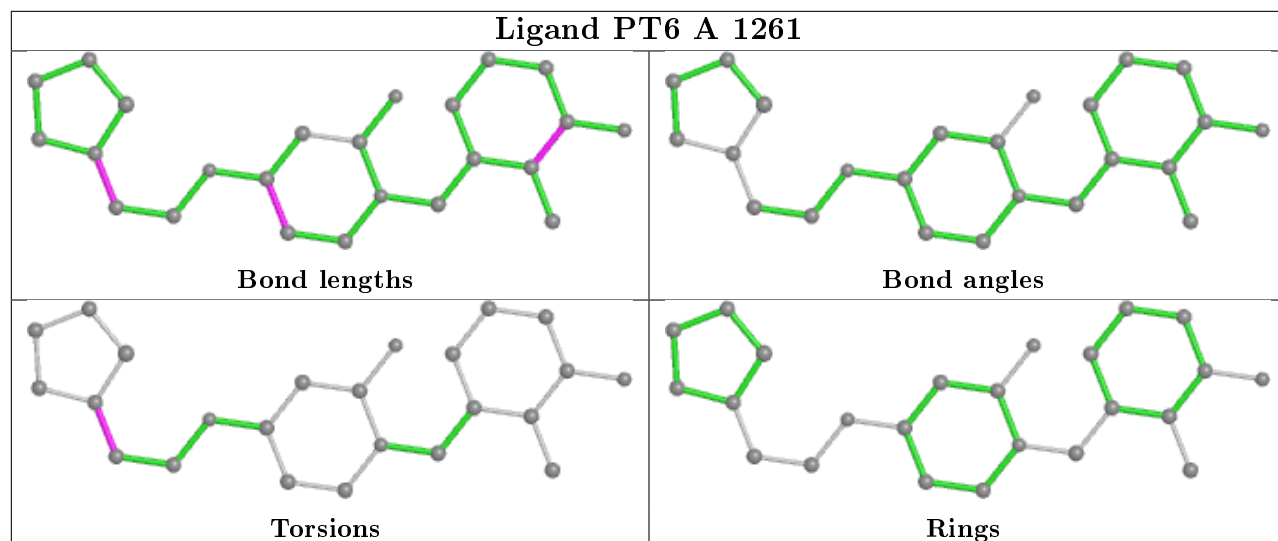


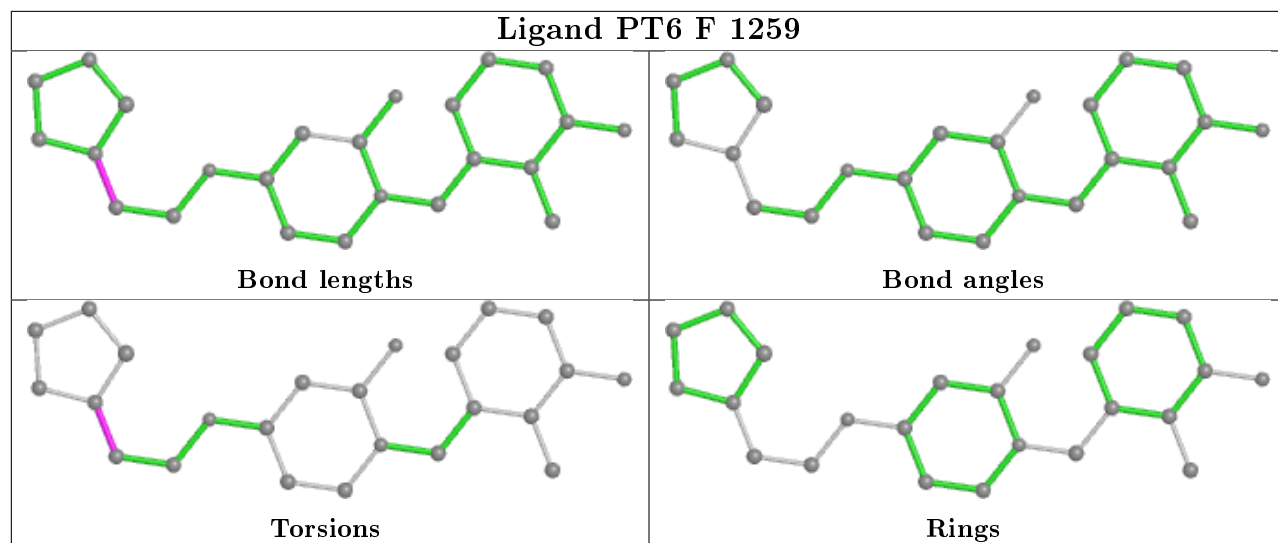
Ligand PT6 C 1259











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 ⓘ

6.1 Protein, DNA and RNA chains ⓘ

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, 95th 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 ²)	Q<0.9
1	A	262/282 (92%)	-0.05	1 (0%) 92 95	13, 25, 50, 62	0
1	B	256/282 (90%)	0.06	3 (1%) 79 84	14, 25, 46, 57	0
1	C	262/282 (92%)	0.11	4 (1%) 73 81	13, 27, 50, 62	0
1	D	256/282 (90%)	-0.01	3 (1%) 79 84	14, 26, 52, 67	0
1	E	256/282 (90%)	0.06	8 (3%) 49 58	13, 25, 51, 64	0
1	F	262/282 (92%)	0.04	1 (0%) 92 95	13, 26, 49, 59	0
1	G	257/282 (91%)	0.19	10 (3%) 39 49	17, 29, 56, 79	0
1	H	263/282 (93%)	0.14	4 (1%) 73 81	16, 29, 57, 78	0
All	All	2074/2256 (91%)	0.07	34 (1%) 72 79	13, 27, 52, 79	0

All (34) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	C	-5	LEU	3.6
1	G	44	SER	3.5
1	H	46	LYS	3.4
1	E	103[A]	ARG	3.2
1	C	103	ARG	3.2
1	E	104	GLY	3.1
1	E	206[A]	THR	3.0
1	B	58	PRO	3.0
1	B	202[A]	GLY	2.9
1	D	104	GLY	2.8
1	G	43	ARG	2.7
1	G	60	ALA	2.7
1	G	52	LEU	2.7
1	G	6	ASN	2.7
1	D	52	LEU	2.7
1	C	46	LYS	2.6

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Mol	Chain	Res	Type	RSRZ
1	E	6	ASN	2.5
1	A	46	LYS	2.5
1	G	58	PRO	2.4
1	G	48	LEU	2.4
1	E	46	LYS	2.4
1	H	52	LEU	2.3
1	G	45	ARG	2.3
1	H	59	GLU	2.3
1	B	196	LEU	2.2
1	D	6	ASN	2.1
1	G	46	LYS	2.1
1	E	59	GLU	2.1
1	E	199[A]	LYS	2.1
1	G	0	ALA	2.0
1	C	52	LEU	2.0
1	E	196	LEU	2.0
1	F	52	LEU	2.0
1	H	-6	ASN	2.0

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 monosaccharides 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, 95th 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(\AA^2)	Q<0.9
5	EDO	E	1261	4/4	0.68	0.21	61,62,64,64	0
5	EDO	A	1270	4/4	0.86	0.14	49,49,51,53	0
5	EDO	G	1257	4/4	0.87	0.14	43,44,45,46	0
5	EDO	C	1270	4/4	0.87	0.12	36,37,39,40	0
5	EDO	H	1257	4/4	0.88	0.16	40,42,44,45	0

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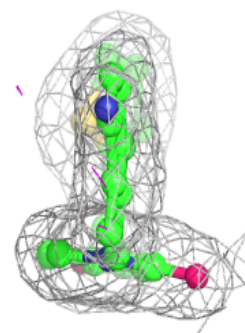
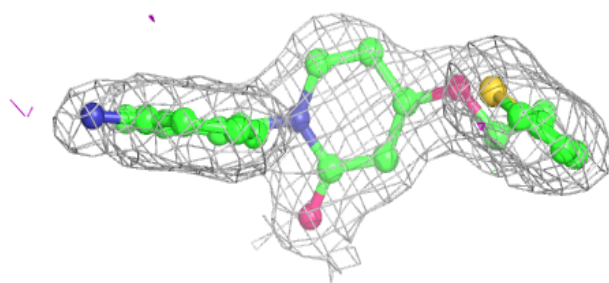
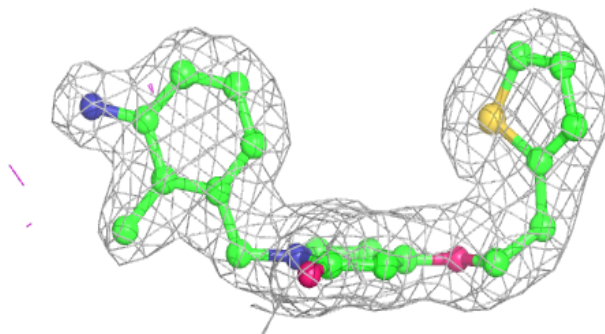
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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(\AA^2)	Q<0.9
5	EDO	G	1358	4/4	0.90	0.18	45,47,51,56	0
5	EDO	B	1258	4/4	0.91	0.13	43,45,51,52	0
2	SO4	H	1358	5/5	0.93	0.14	52,52,55,57	0
2	SO4	A	1259	5/5	0.96	0.13	51,51,54,54	0
4	PT6	H	1259	24/24	0.96	0.10	23,28,31,33	0
3	NDP	H	1258	48/48	0.96	0.10	22,31,46,54	0
3	NDP	G	1259	48/48	0.96	0.10	20,28,47,56	0
2	SO4	B	1257	5/5	0.96	0.11	33,34,36,36	5
3	NDP	C	1258	48/48	0.96	0.09	21,27,42,47	0
4	PT6	A	1261	24/24	0.96	0.10	23,26,29,30	0
2	SO4	E	1257	5/5	0.96	0.08	45,45,45,46	5
3	NDP	E	1259	48/48	0.97	0.09	18,25,43,44	0
3	NDP	B	1259	48/48	0.97	0.10	17,26,38,40	0
4	PT6	G	1260	24/24	0.97	0.10	21,28,34,35	0
4	PT6	E	1260	24/24	0.97	0.10	20,24,27,30	0
3	NDP	D	1257	48/48	0.97	0.09	17,26,41,50	0
4	PT6	B	1260	24/24	0.97	0.09	18,23,27,31	0
6	CL	F	1357	1/1	0.97	0.06	60,60,60,60	0
3	NDP	F	1258	48/48	0.97	0.09	19,27,44,50	0
4	PT6	C	1259	24/24	0.97	0.10	21,29,31,32	0
3	NDP	A	1260	48/48	0.97	0.08	20,27,43,48	0
4	PT6	F	1259	24/24	0.97	0.11	17,22,26,29	0
4	PT6	D	1258	24/24	0.98	0.10	19,25,29,32	0
2	SO4	A	1257	5/5	0.98	0.14	47,50,53,54	0

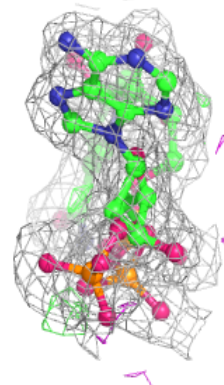
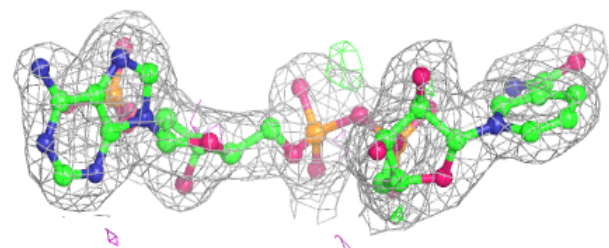
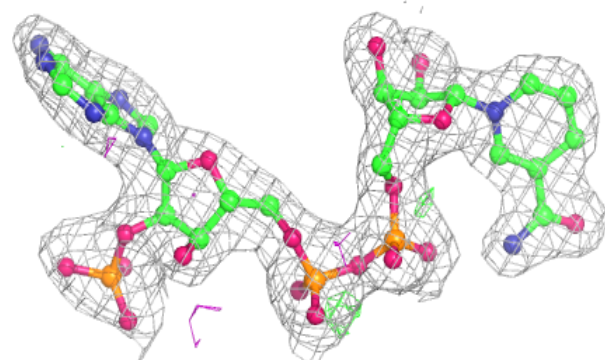
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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

Electron density around PT6 H 1259:

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

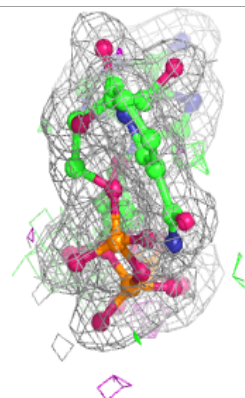
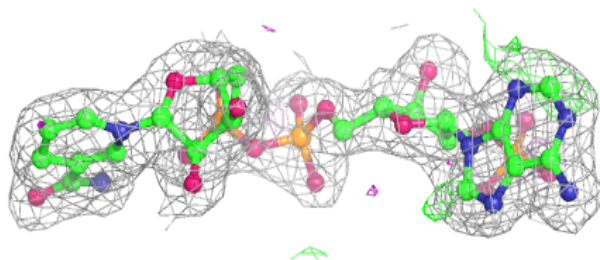
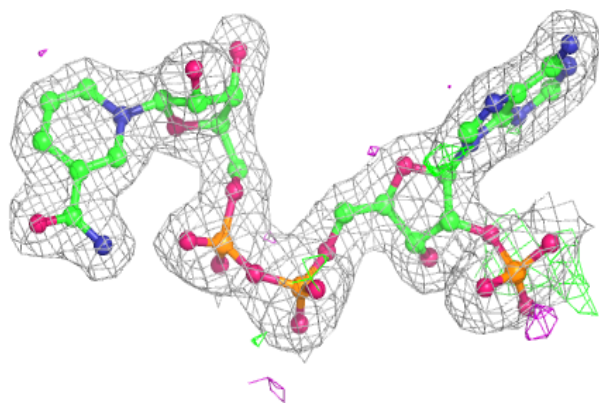
**Electron density around NDP H 1258:**

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 mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)

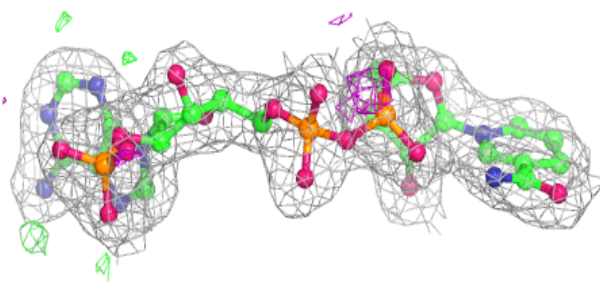
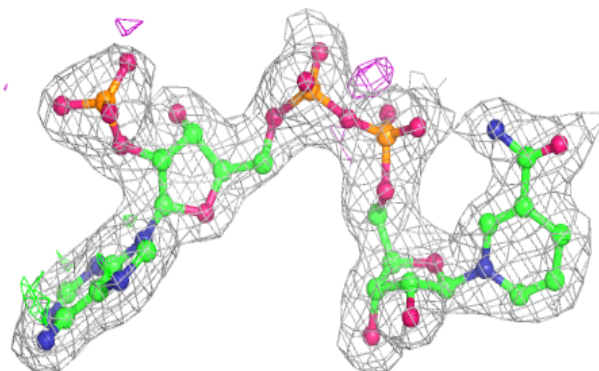


Electron density around NDP G 1259:

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

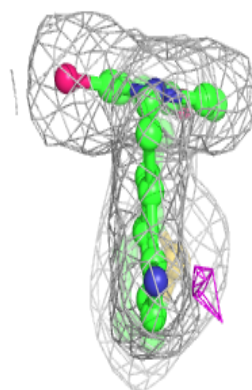
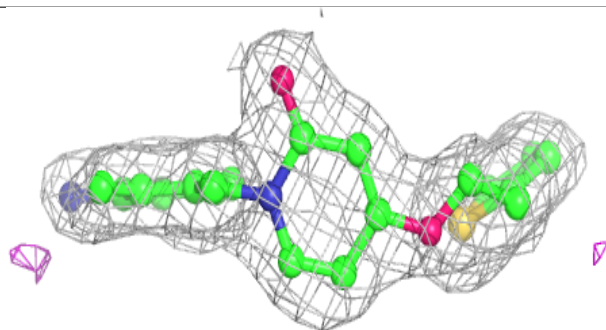
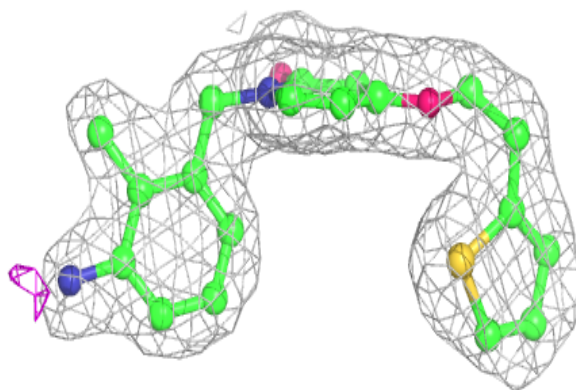
**Electron density around NDP C 1258:**

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

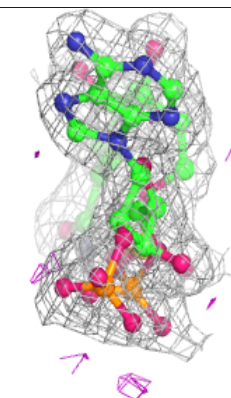
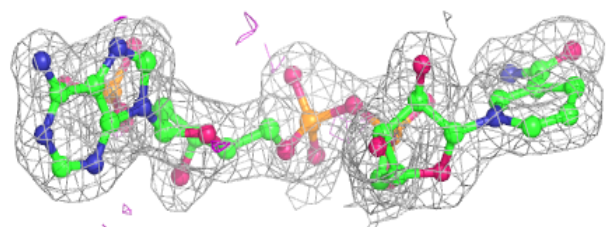
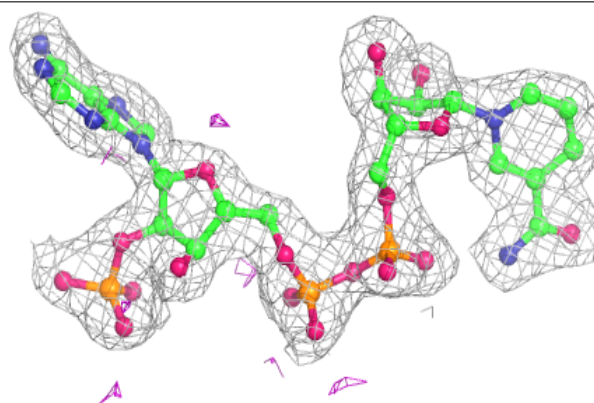


Electron density around PT6 A 1261:

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

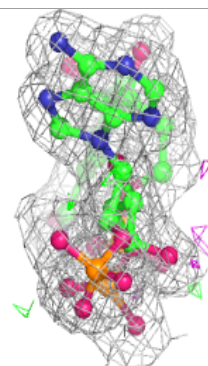
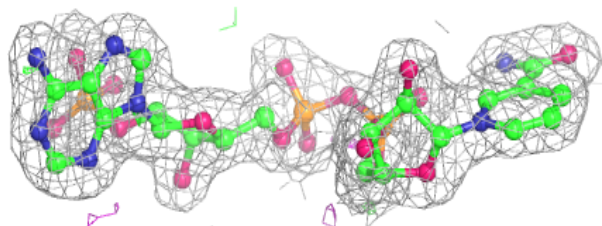
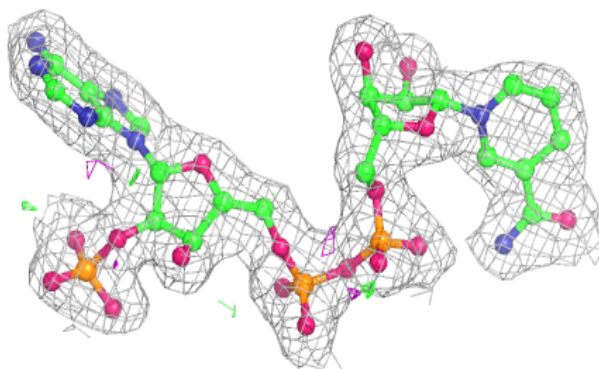
**Electron density around NDP E 1259:**

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

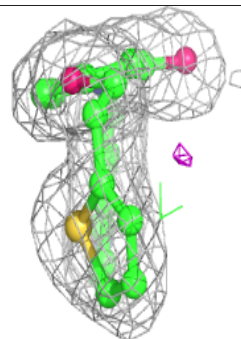
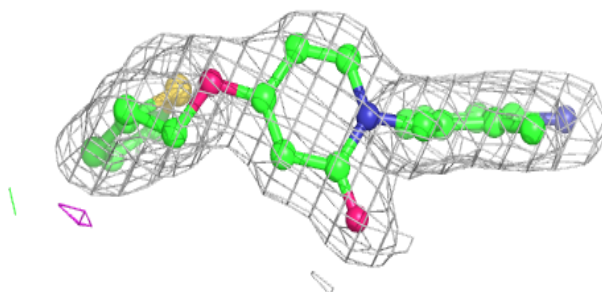
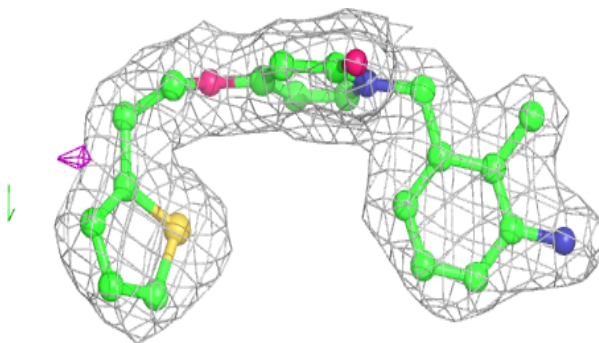


Electron density around NDP B 1259:

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

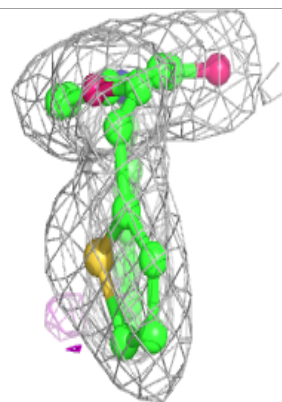
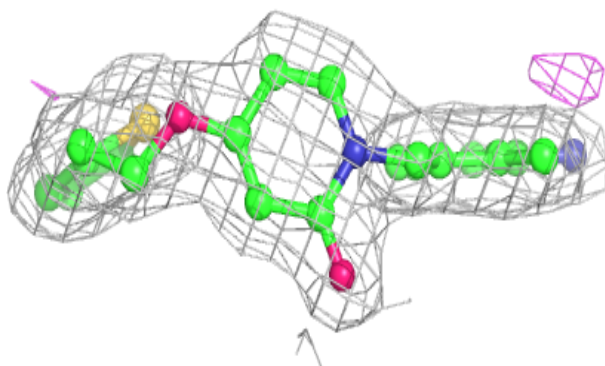
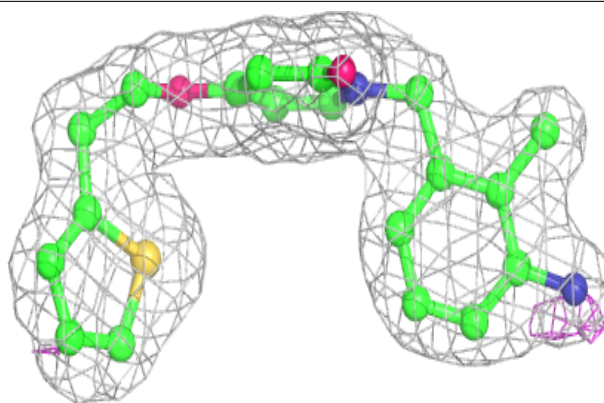
**Electron density around PT6 G 1260:**

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

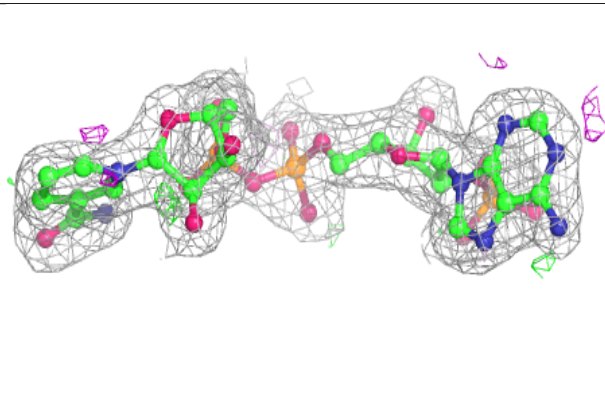
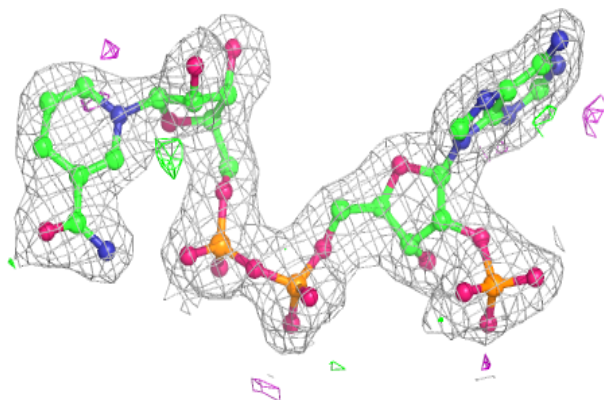


Electron density around PT6 E 1260:

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

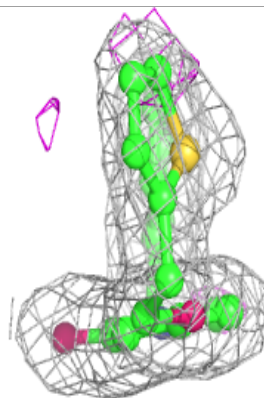
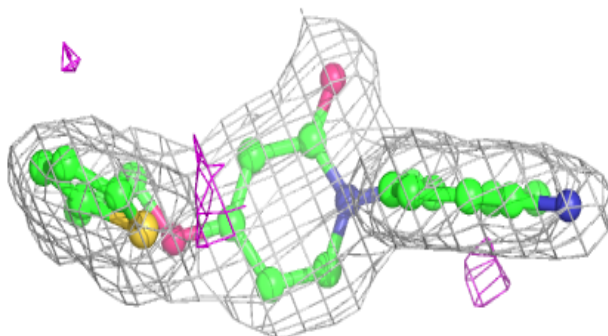
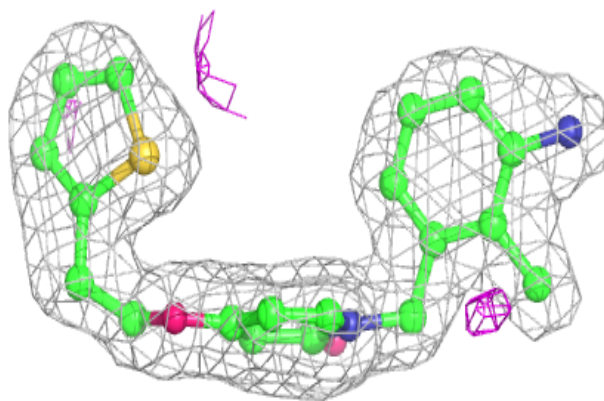
**Electron density around NDP D 1257:**

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

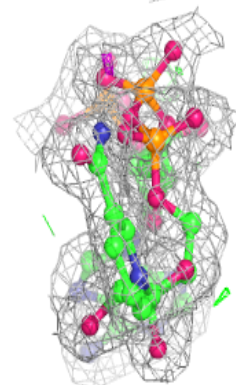
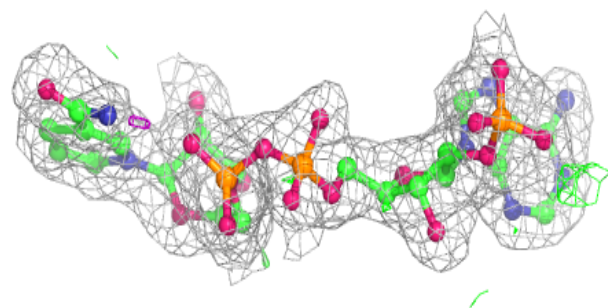
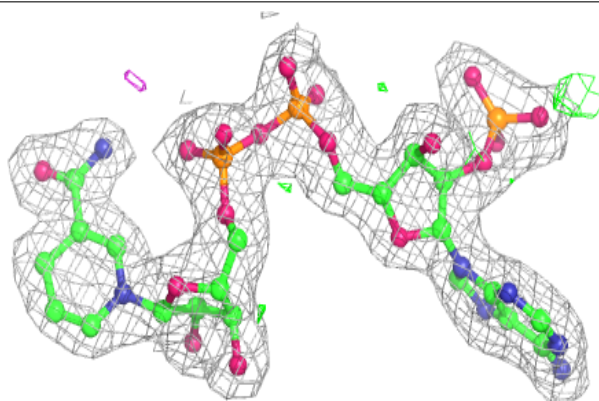


Electron density around PT6 B 1260:

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

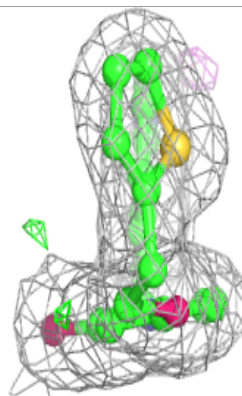
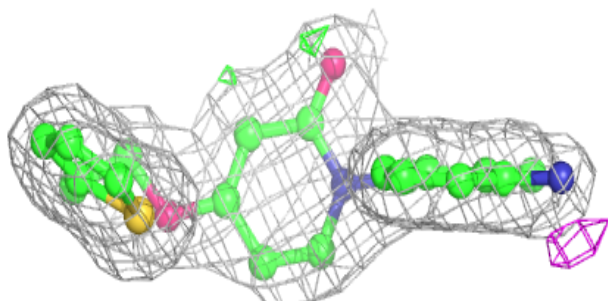
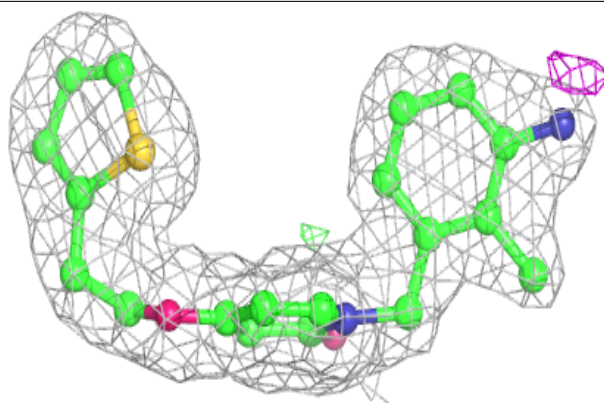
**Electron density around NDP F 1258:**

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

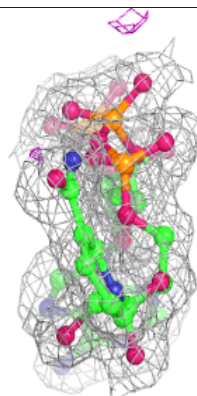
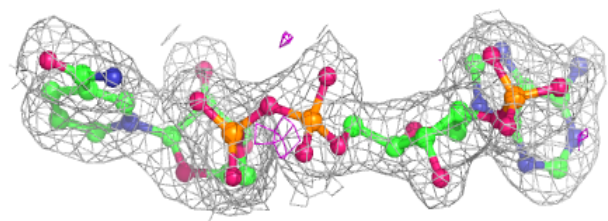
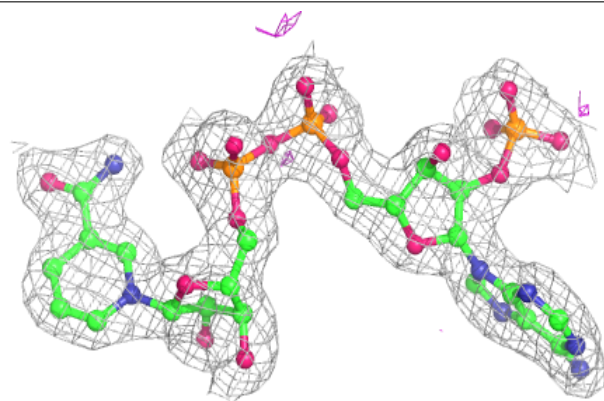


Electron density around PT6 C 1259:

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

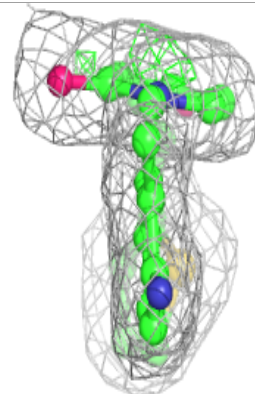
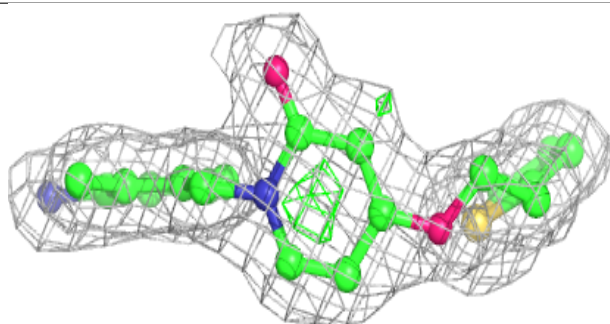
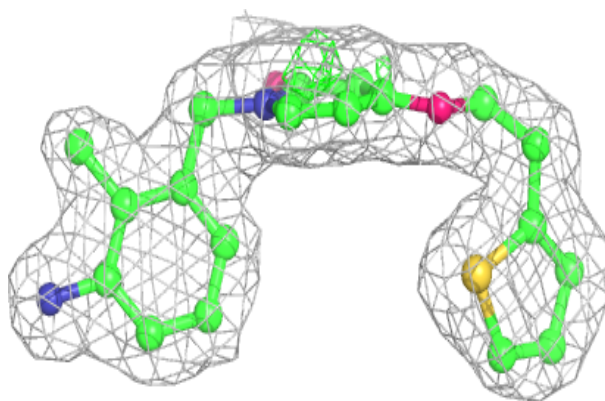
**Electron density around NDP A 1260:**

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

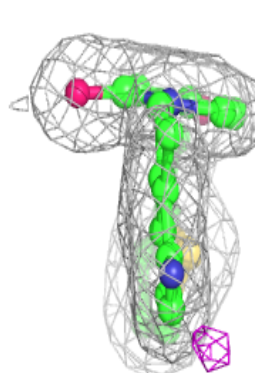
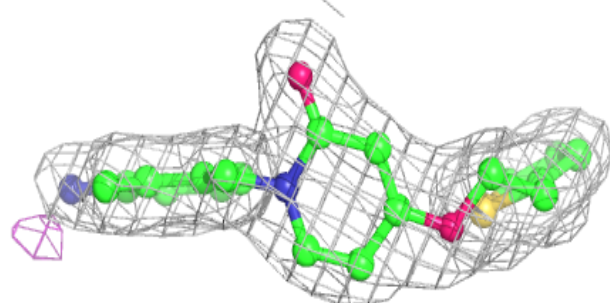
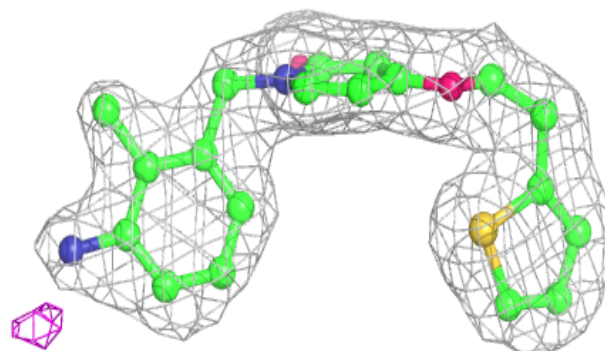


Electron density around PT6 F 1259:

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

**Electron density around PT6 D 1258:**

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



6.5 Other polymers

There are no such residues in this entry.