Full wwPDB X-ray Structure Validation Report ⓘ

May 24, 2020 – 02:00 am BST

PDB ID	:	4NB7
Title	:	Crystal Structure of Two-Domain Laccase from Streptomyces LIvidans AC1709 in complex with azide after 180 min soaking
Authors	:	Gabdulkhakov, A.; Tischenko, S.; Yurevich, L.; Lisov, A.; Leontievsky, A.
Deposited on	:	2013-10-23
Resolution	:	2.55 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:

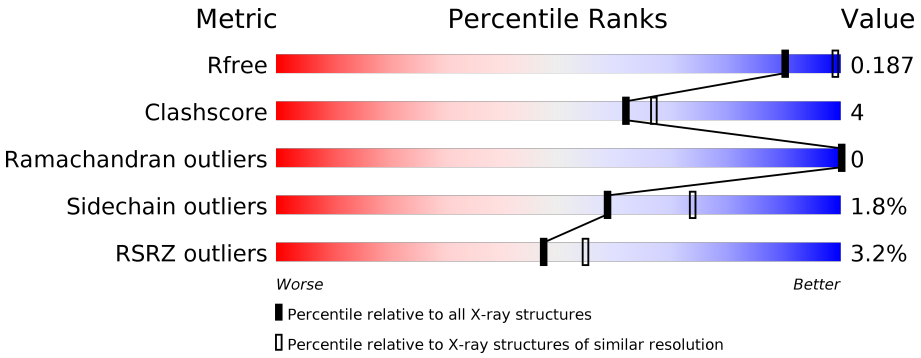
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.11
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.11

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 2.55 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	1284 (2.56-2.52)
Clashscore	141614	1332 (2.56-2.52)
Ramachandran outliers	138981	1315 (2.56-2.52)
Sidechain outliers	138945	1315 (2.56-2.52)
RSRZ outliers	127900	1272 (2.56-2.52)

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 <=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	343	3% 75% 6% • 18%

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
3	AZI	A	405	-	-	-	X
3	AZI	A	406	-	-	-	X

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
7	GOL	A	414	-	-	-	X
7	GOL	A	415	-	-	-	X
9	1PE	A	417	-	-	-	X

2 Entry composition

There are 10 unique types of molecules in this entry. The entry contains 2397 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.

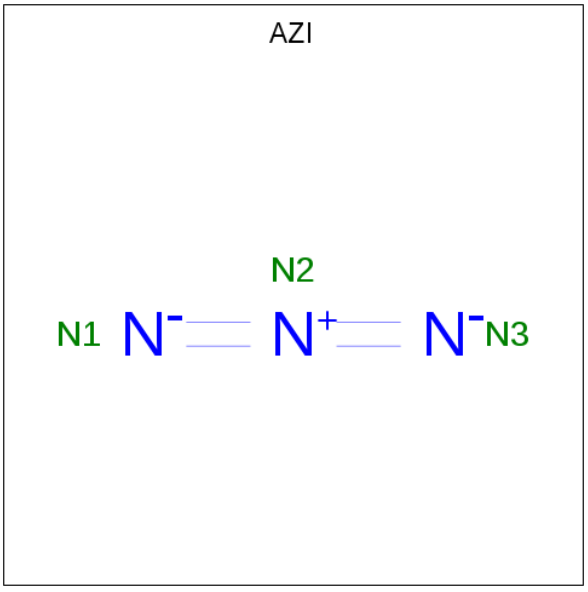
- Molecule 1 is a protein called Copper oxidase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	280	Total	C	N	O	S	0	0	0
			2163	1351	394	407	11			

- Molecule 2 is COPPER (II) ION (three-letter code: CU) (formula: Cu).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	A	4	Total	Cu	0	0
			4	4		

- Molecule 3 is AZIDE ION (three-letter code: AZI) (formula: N_3).



Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	1	Total	N	0	0
			3	3		
3	A	1	Total	N	0	0
			3	3		

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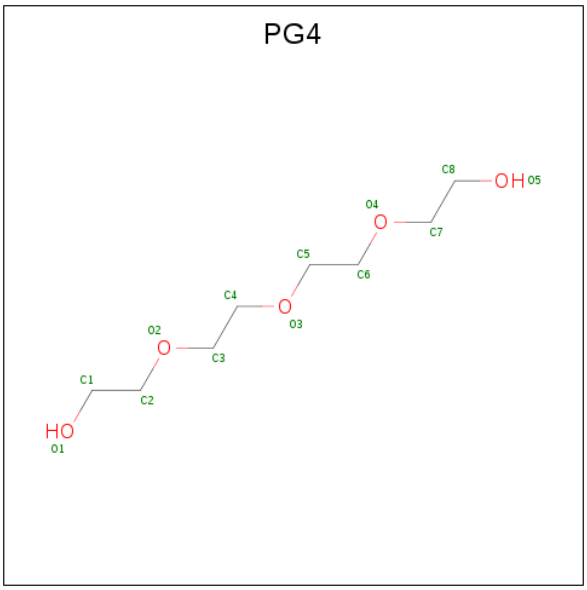
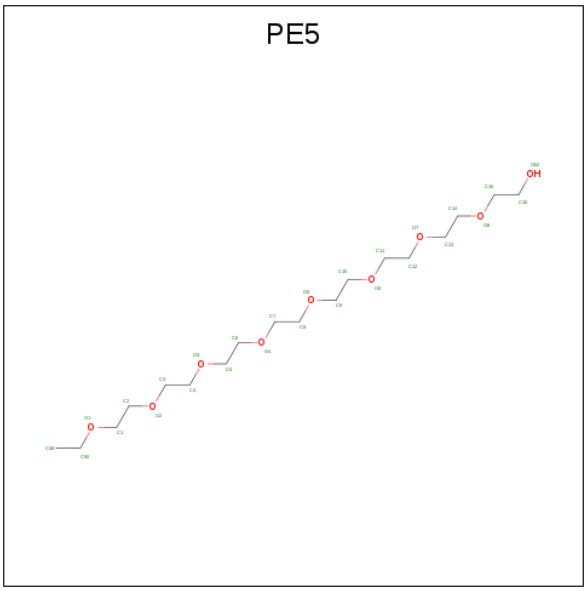
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	1	Total N 3 3	0	0
3	A	1	Total N 3 3	0	0
3	A	1	Total N 3 3	0	0
3	A	1	Total N 3 3	0	0

- Molecule 4 is TETRAETHYLENE GLYCOL (three-letter code: PG4) (formula: $C_8H_{18}O_5$).



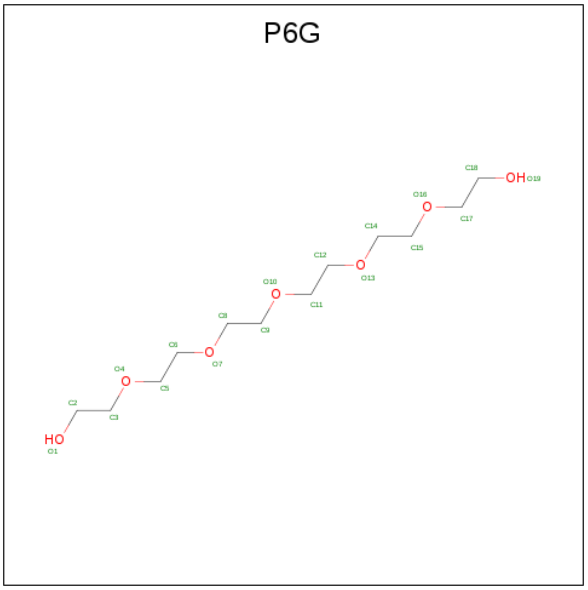
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	1	Total C O 13 8 5	0	0

- Molecule 5 is 3,6,9,12,15,18,21,24-OCTAOXAHEXACOSAN-1-OL (three-letter code: PE5) (formula: $C_{18}H_{38}O_9$).



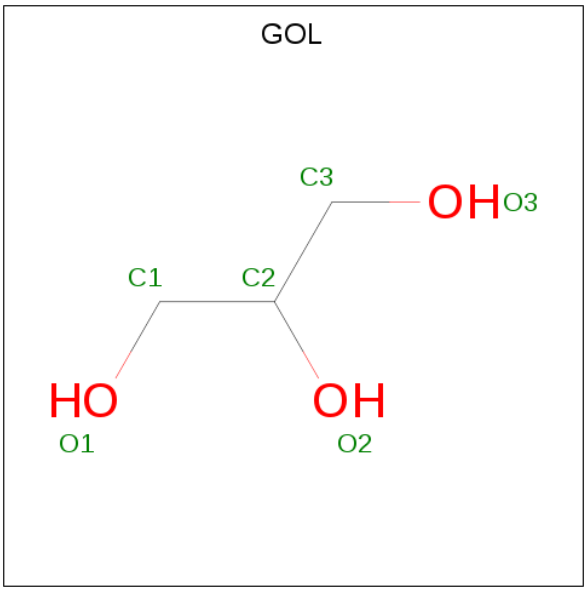
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	A	1	Total C O 27 18 9	0	0

- Molecule 6 is HEXAETHYLENE GLYCOL (three-letter code: P6G) (formula: $C_{12}H_{26}O_7$).



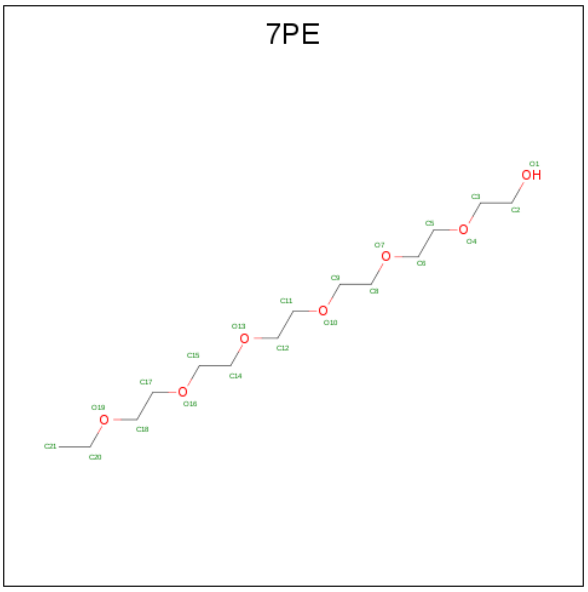
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	A	1	Total C O 19 12 7	0	0

- Molecule 7 is GLYCEROL (three-letter code: GOL) (formula: $C_3H_8O_3$).



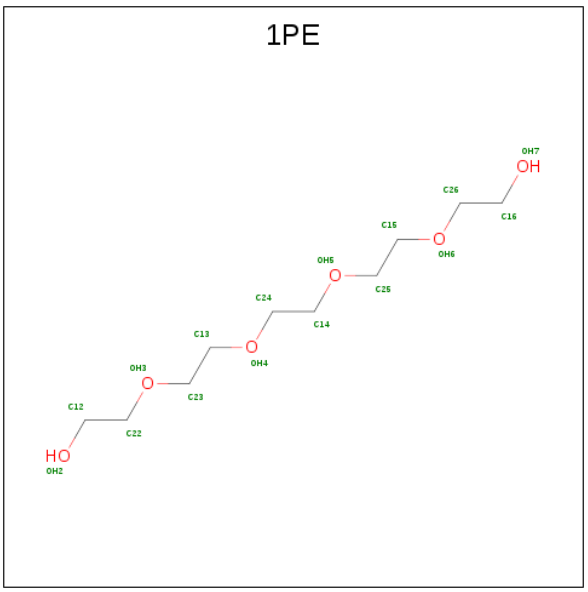
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
7	A	1	Total C O 6 3 3	0	0
7	A	1	Total C O 6 3 3	0	0

- Molecule 8 is 2-(2-(2-(2-(2-(2-ETHOXYETHOXY)ETHOXY)ETHOXY)ETHOXY)ETHOXY)ETHANOL (three-letter code: 7PE) (formula: $C_{14}H_{30}O_7$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
8	A	1	Total C O 21 14 7	0	0

- Molecule 9 is PENTAETHYLENE GLYCOL (three-letter code: 1PE) (formula: $C_{10}H_{22}O_6$).



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

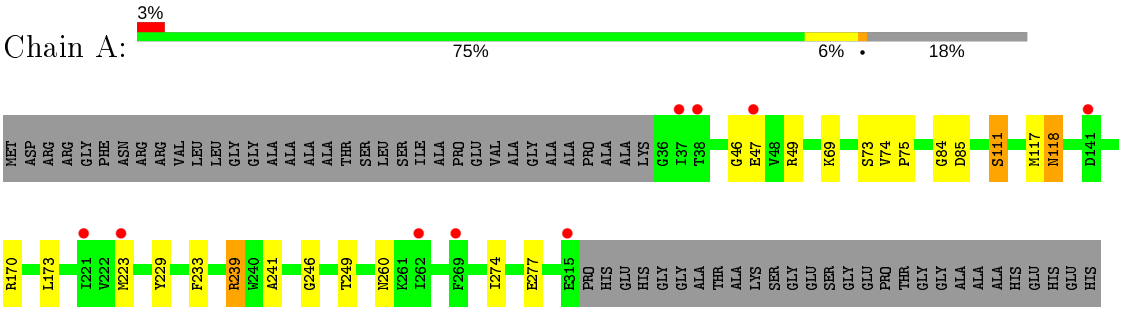
- Molecule 10 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
10	A	88	Total O 88 88	0	0

3 Residue-property plots (i)

These plots are drawn for all protein, RNA and DNA 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: Copper oxidase



4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 43 3 2	Depositor
Cell constants a, b, c, α, β, γ	177.51Å 177.51Å 177.51Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	44.38 – 2.55 47.44 – 2.55	Depositor EDS
% Data completeness (in resolution range)	99.5 (44.38-2.55) 99.5 (47.44-2.55)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.29 (at 2.54Å)	Xtriage
Refinement program	PHENIX (phenix.refine: 1.8.4_1496)	Depositor
R, R_{free}	0.161 , 0.181 0.169 , 0.187	Depositor DCC
R_{free} test set	1579 reflections (5.00%)	wwPDB-VP
Wilson B-factor (Å^2)	58.3	Xtriage
Anisotropy	0.000	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.34 , 55.7	EDS
L-test for twinning[2]	$< \|L\| > = 0.46$, $< L^2 > = 0.29$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.96	EDS
Total number of atoms	2397	wwPDB-VP
Average B, all atoms (Å^2)	57.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.11% of the height of the origin peak. No significant pseudotranslation is detected.*

[1] Intensities estimated from amplitudes.

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

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: AZI, GOL, PE5, 1PE, PG4, P6G, 7PE, CU

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	0.43	0/2225	0.61	1/3019 (0.0%)

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	239	ARG	CG-CD-NE	-5.82	99.59	111.80

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	2163	0	2044	20	0
2	A	4	0	0	0	0
3	A	18	0	0	1	0
4	A	13	0	18	0	0
5	A	27	0	38	1	0
6	A	19	0	26	0	0
7	A	12	0	16	1	0
8	A	21	0	30	1	0
9	A	32	0	44	5	0
10	A	88	0	0	3	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
All	All	2397	0	2216	20	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 4.

All (20) 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:A:118:ASN:N	1:A:118:ASN:HD22	1.86	0.70
1:A:74:VAL:H	9:A:417:1PE:C14	2.18	0.55
1:A:46:GLY:HA2	1:A:85:ASP:OD1	2.10	0.52
1:A:73:SER:HA	9:A:417:1PE:H142	1.95	0.49
1:A:111:SER:HB2	10:A:553:HOH:O	2.13	0.48
1:A:49:ARG:NH1	5:A:412:PE5:H81	2.28	0.48
1:A:117:MET:HE2	1:A:117:MET:HB3	1.59	0.47
1:A:274:ILE:HB	1:A:277:GLU:HB2	1.97	0.47
1:A:170:ARG:HG3	8:A:416:7PE:H31	1.96	0.47
1:A:229:TYR:HB3	3:A:405:AZI:N2	2.31	0.46
1:A:69:LYS:HG2	10:A:587:HOH:O	2.16	0.46
1:A:223:MET:HE3	10:A:505:HOH:O	2.16	0.45
1:A:74:VAL:H	9:A:417:1PE:H141	1.81	0.45
1:A:241:ALA:O	1:A:246:GLY:HA2	2.18	0.43
1:A:46:GLY:HA3	1:A:84:GLY:C	2.39	0.43
1:A:47:GLU:OE2	7:A:414:GOL:H31	2.19	0.43
1:A:75:PRO:HD2	9:A:417:1PE:H161	2.01	0.43
1:A:74:VAL:H	9:A:417:1PE:H142	1.84	0.42
1:A:233:PHE:O	1:A:260:ASN:HA	2.21	0.40
1:A:173:LEU:HA	1:A:173:LEU:HD23	1.94	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	278/343 (81%)	270 (97%)	8 (3%)	0	100 100

There are no Ramachandran outliers to report.

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	224/262 (86%)	220 (98%)	4 (2%)	59 74

All (4) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	111	SER
1	A	118	ASN
1	A	239	ARG
1	A	249	THR

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (1) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	118	ASN

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 (i)

There are no carbohydrates in this entry.

5.6 Ligand geometry (i)

Of 18 ligands modelled in this entry, 4 are monoatomic - leaving 14 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	$\#\|Z\| > 2$
4	PG4	A	411	-	12,12,12	0.54	0	11,11,11	0.43	0
3	AZI	A	409	-	0,2,2	0.00	-	0,1,1	0.00	-
3	AZI	A	406	-	0,2,2	0.00	-	0,1,1	0.00	-
6	P6G	A	413	-	18,18,18	0.53	0	17,17,17	0.37	0
3	AZI	A	405	-	0,2,2	0.00	-	0,1,1	0.00	-
3	AZI	A	408	-	0,2,2	0.00	-	0,1,1	0.00	-
8	7PE	A	416	-	20,20,20	0.58	0	19,19,19	0.32	0
7	GOL	A	414	-	5,5,5	0.30	0	5,5,5	0.47	0
7	GOL	A	415	-	5,5,5	0.35	0	5,5,5	0.20	0
9	1PE	A	418	-	15,15,15	0.59	0	14,14,14	0.32	0
3	AZI	A	407	-	0,2,2	0.00	-	0,1,1	0.00	-
9	1PE	A	417	-	15,15,15	0.53	0	14,14,14	0.44	0
3	AZI	A	410	-	0,2,2	0.00	-	0,1,1	0.00	-
5	PE5	A	412	-	26,26,26	0.64	0	25,25,25	0.27	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
4	PG4	A	411	-	-	6/10/10/10	-
5	PE5	A	412	-	-	9/24/24/24	-
7	GOL	A	415	-	-	2/4/4/4	-
6	P6G	A	413	-	-	6/16/16/16	-
9	1PE	A	418	-	-	3/13/13/13	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
8	7PE	A	416	-	-	8/18/18/18	-
7	GOL	A	414	-	-	2/4/4/4	-
9	1PE	A	417	-	-	4/13/13/13	-

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (40) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
6	A	413	P6G	O1-C2-C3-O4
8	A	416	7PE	O7-C8-C9-O10
7	A	414	GOL	O1-C1-C2-O2
4	A	411	PG4	O2-C3-C4-O3
5	A	412	PE5	O1-C1-C2-O2
7	A	414	GOL	O1-C1-C2-C3
8	A	416	7PE	O1-C2-C3-O4
6	A	413	P6G	O4-C5-C6-O7
6	A	413	P6G	O10-C11-C12-O13
8	A	416	7PE	O10-C11-C12-O13
5	A	412	PE5	O7-C13-C14-O8
8	A	416	7PE	C12-C11-O10-C9
9	A	417	1PE	C24-C14-OH5-C25
9	A	418	1PE	C12-C22-OH3-C23
9	A	417	1PE	C15-C25-OH5-C14
8	A	416	7PE	C8-C9-O10-C11
8	A	416	7PE	C6-C5-O4-C3
4	A	411	PG4	C4-C3-O2-C2
8	A	416	7PE	C9-C8-O7-C6
5	A	412	PE5	O6-C11-C12-O7
7	A	415	GOL	O1-C1-C2-O2
6	A	413	P6G	C5-C6-O7-C8
8	A	416	7PE	C17-C18-O19-C20
9	A	418	1PE	OH7-C16-C26-OH6
4	A	411	PG4	C1-C2-O2-C3
4	A	411	PG4	C6-C5-O3-C4
6	A	413	P6G	C8-C9-O10-C11
5	A	412	PE5	C10-C9-O5-C8
5	A	412	PE5	C2-C1-O1-C50
5	A	412	PE5	C5-C6-O4-C7

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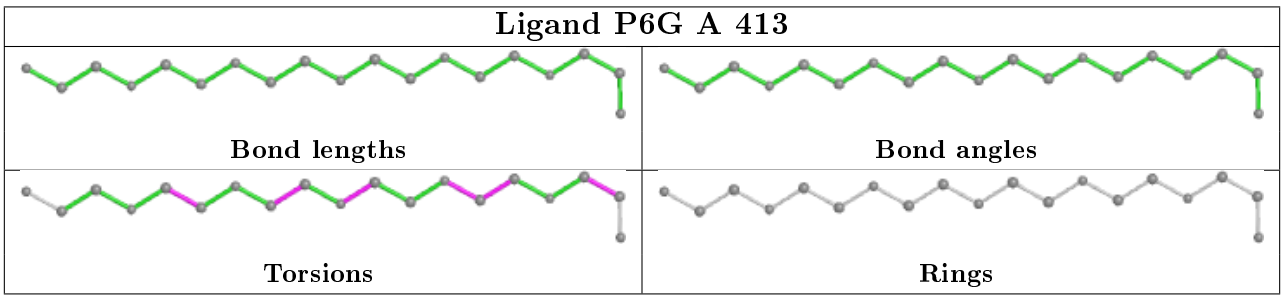
Mol	Chain	Res	Type	Atoms
9	A	417	1PE	C23-C13-OH4-C24
4	A	411	PG4	C5-C6-O4-C7
5	A	412	PE5	C1-C2-O2-C3
5	A	412	PE5	C7-C8-O5-C9
5	A	412	PE5	O2-C3-C4-O3
6	A	413	P6G	O13-C14-C15-O16
7	A	415	GOL	O1-C1-C2-C3
9	A	417	1PE	OH4-C13-C23-OH3
4	A	411	PG4	O3-C5-C6-O4
9	A	418	1PE	OH4-C13-C23-OH3

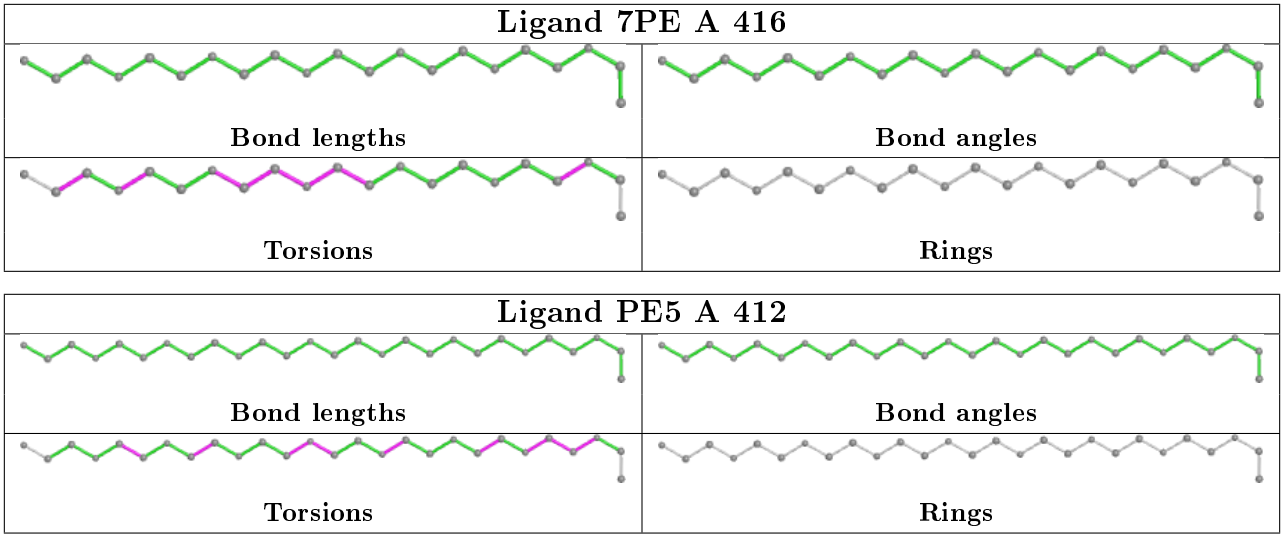
There are no ring outliers.

5 monomers are involved in 9 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	A	405	AZI	1	0
8	A	416	7PE	1	0
7	A	414	GOL	1	0
9	A	417	1PE	5	0
5	A	412	PE5	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 then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.





5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

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, 95^{th} 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	280/343 (81%)	0.15	9 (3%) 47 55	45, 54, 72, 101	0

All (9) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	37	ILE	6.0
1	A	38	THR	3.5
1	A	315	GLU	3.0
1	A	141	ASP	2.7
1	A	262	ILE	2.3
1	A	223	MET	2.3
1	A	269	PHE	2.3
1	A	47	GLU	2.2
1	A	221	ILE	2.1

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

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

6.3 Carbohydrates

There are no carbohydrates in this entry.

6.4 Ligands

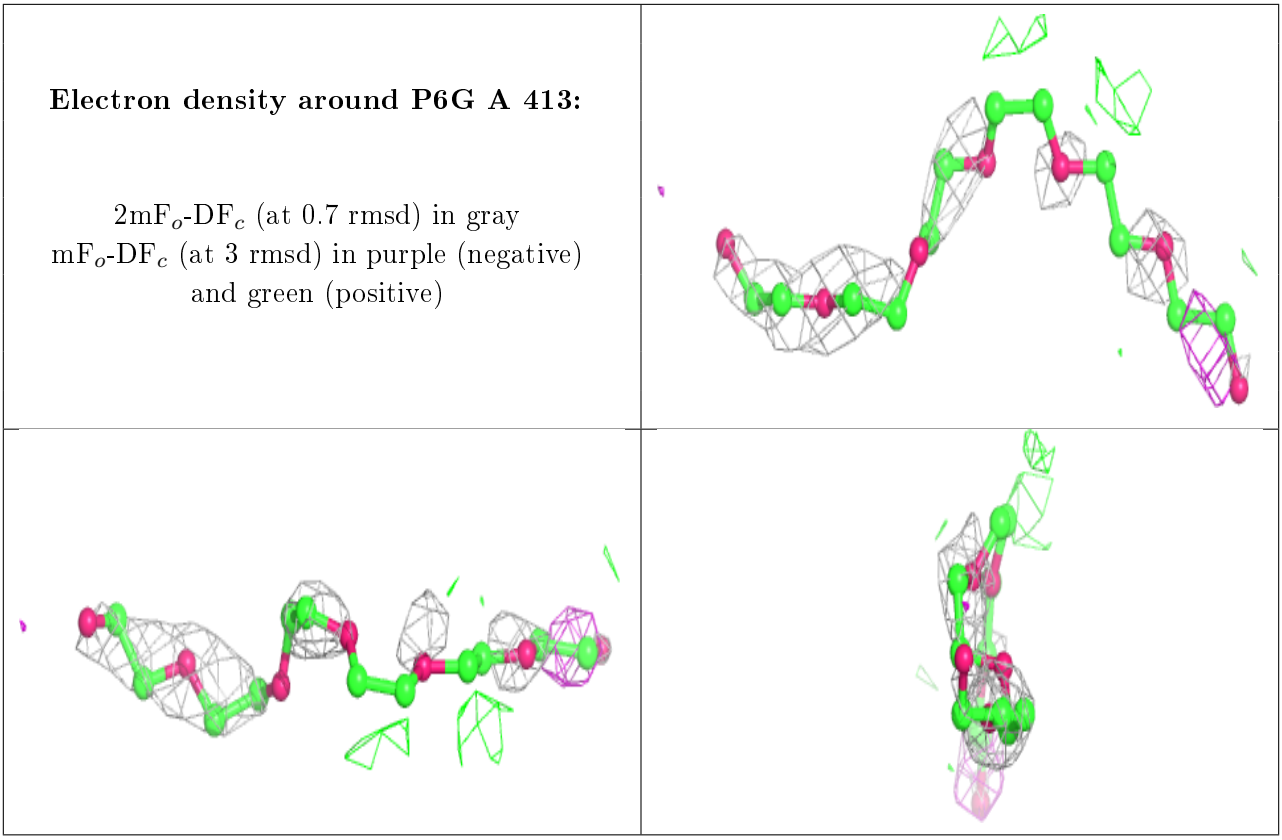
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95^{th} percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9'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

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
3	AZI	A	405	3/3	0.53	0.55	43,43,47,55	3
7	GOL	A	415	6/6	0.71	0.51	81,85,85,87	0
9	1PE	A	417	16/16	0.71	0.41	62,71,76,76	16
7	GOL	A	414	6/6	0.74	0.63	93,100,107,112	0
3	AZI	A	406	3/3	0.77	0.43	51,51,53,60	3
6	P6G	A	413	19/19	0.77	0.33	69,89,103,103	19
3	AZI	A	409	3/3	0.77	0.40	49,49,52,57	3
5	PE5	A	412	27/27	0.79	0.27	61,84,104,112	0
4	PG4	A	411	13/13	0.80	0.36	87,98,107,109	0
3	AZI	A	407	3/3	0.82	0.61	46,46,47,55	3
3	AZI	A	408	3/3	0.84	0.32	48,48,48,59	3
8	7PE	A	416	21/21	0.84	0.44	72,90,96,102	0
9	1PE	A	418	16/16	0.85	0.43	61,71,80,81	16
3	AZI	A	410	3/3	0.85	0.30	64,64,65,71	3
2	CU	A	404	1/1	0.98	0.09	54,54,54,54	1
2	CU	A	403	1/1	0.99	0.09	61,61,61,61	0
2	CU	A	402	1/1	1.00	0.11	51,51,51,51	0
2	CU	A	401	1/1	1.00	0.11	52,52,52,52	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.

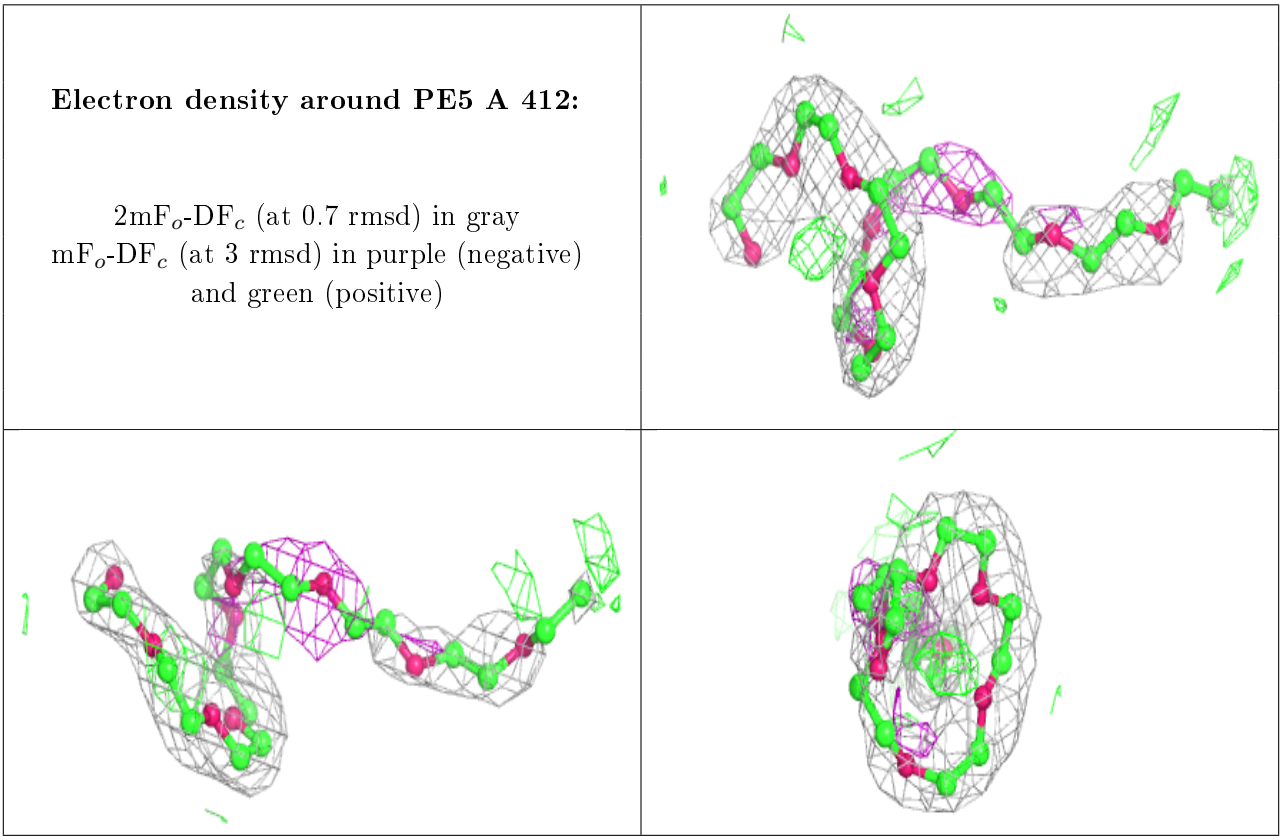
Electron density around P6G A 413:

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



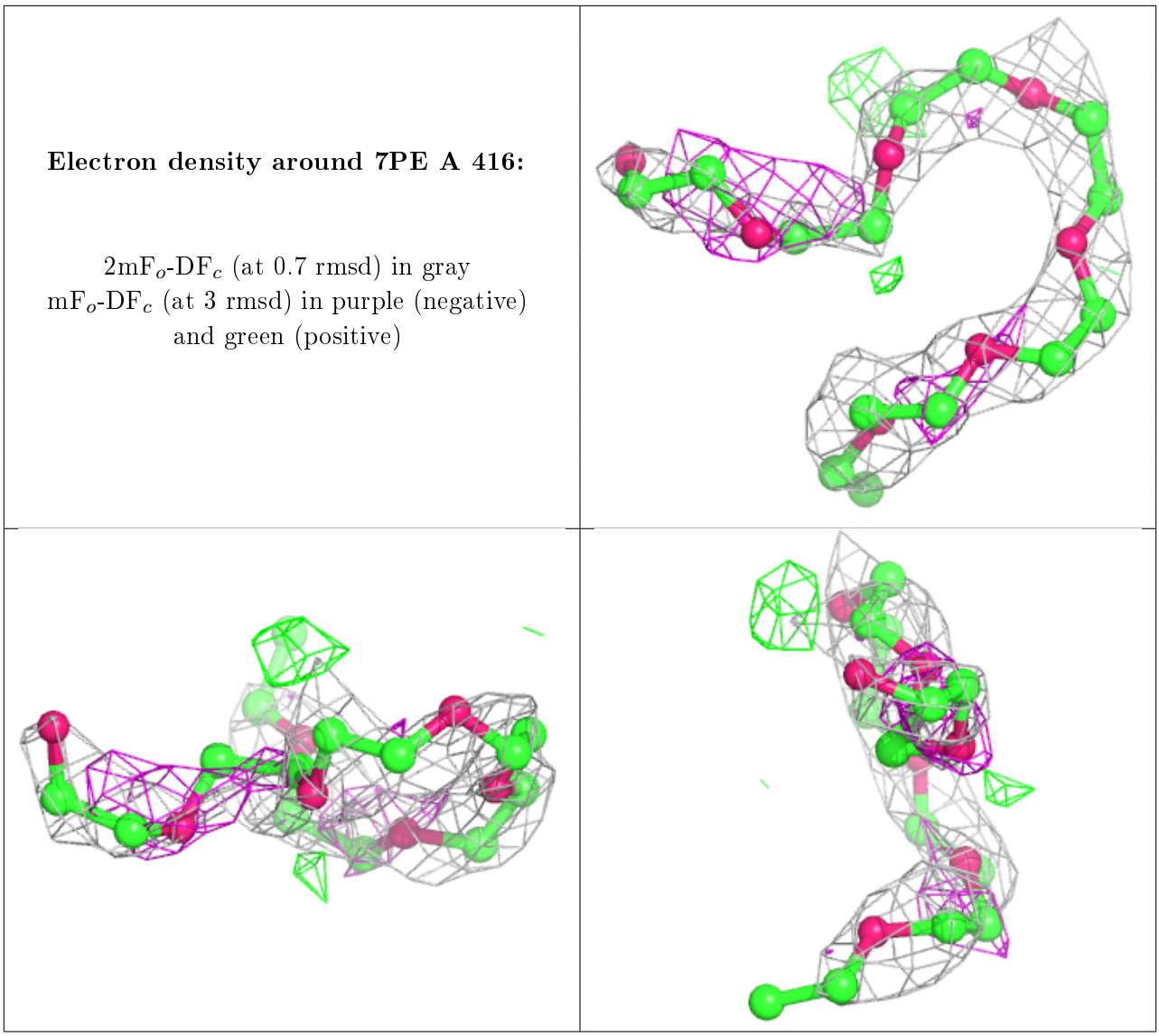
Electron density around PE5 A 412:

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



Electron density around 7PE A 416:

$2mF_o$-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.