W O R L D W I D E

wwPDB
PROTEIN DATA BANK

wwPDB X-ray Structure Validation Summary Report (i)

Oct 10, 2023 – 07:04 AM EDT

PDB ID	:	7MDP
Title	:	KRas G12C in complex with G-2897
Authors	:	Oh, A.; Frank, Y.; Wang, W.
Deposited on	:	2021-04-05
Resolution	:	1.96 Å(reported)

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

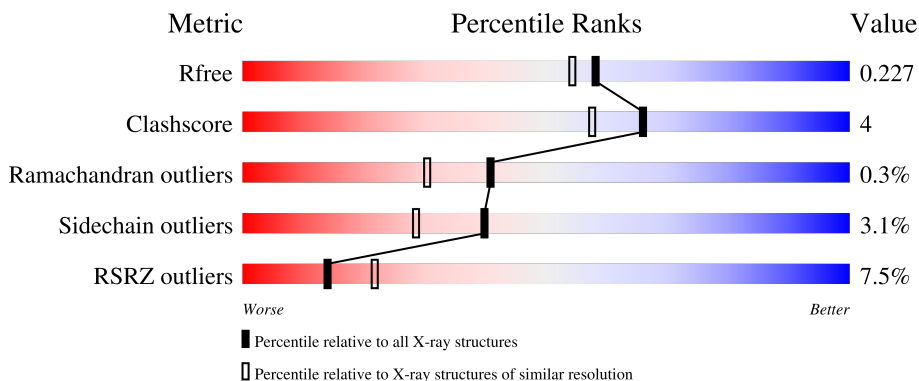|		
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.35.1
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.35.1

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 1.96 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	Percentile Ranks	Value
Rfree		0.227
Clashscore		4
Ramachandran outliers		0.3%
Sidechain outliers		3.1%
RSRZ outliers		7.5%

Worse   *Better*

▮ Percentile relative to all X-ray structures

▯ Percentile relative to X-ray structures of similar resolution

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 of 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	169	21% 82% 14% • •
2	H	226	2% 89% 9% • •
3	I	215	3% 88% 9% •

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:

WORLDWIDE wwPDB PROTEIN DATA BANK

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
10	EDO	H	309	-	-	-	X

2 Entry composition ⓘ

There are 12 unique types of molecules in this entry. The entry contains 4860 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 Isoform 2B of GTPase KRas.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	167	Total	C	N	O	S	0	0	0
			1334	835	229	262	8			

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	12	CYS	GLY	engineered mutation	UNP P01116-2

- Molecule 2 is a protein called IgG heavy chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	H	224	Total	C	N	O	S	0	0	0
			1664	1054	275	331	4			

- Molecule 3 is a protein called IgG light chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	I	211	Total	C	N	O	S	0	0	0
			1581	990	269	318	4			

- Molecule 4 is 4-(trifluoromethyl)-1,3-benzothiazol-2-amine (three-letter code: Z07) (formula: $C_8H_5F_3N_2S$) (labeled as "Ligand of Interest" by depositor).

Z07
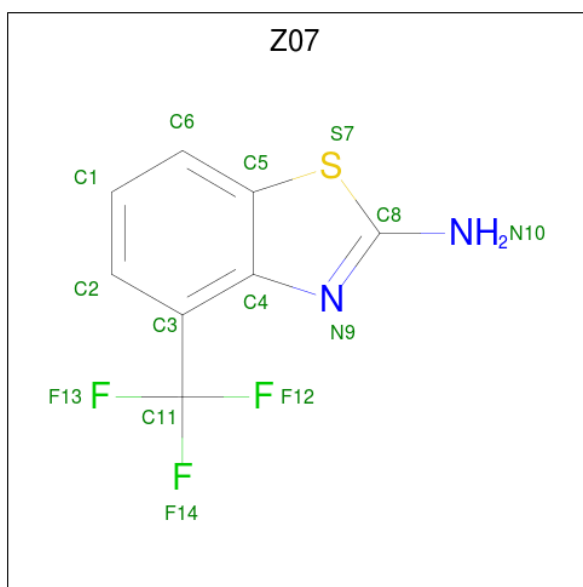
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
4	A	1	Total	C	F	N	S	0	0
			14	8	3	2	1		

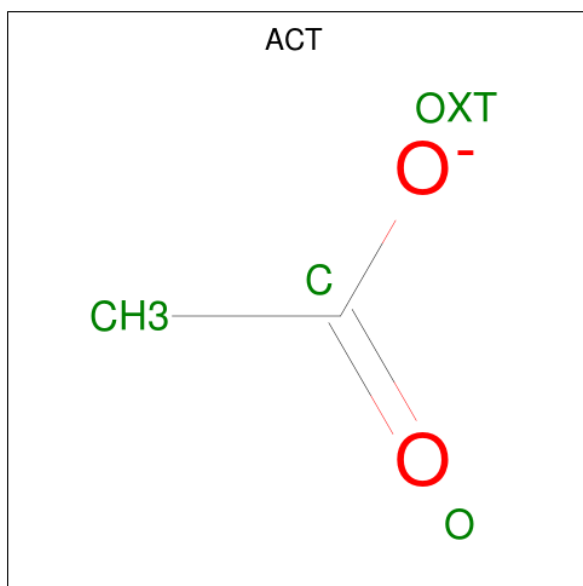- Molecule 5 is GUANOSINE-5'-DIPHOSPHATE (three-letter code: GDP) (formula: $C_{10}H_{15}N_5O_{11}P_2$).

GDP
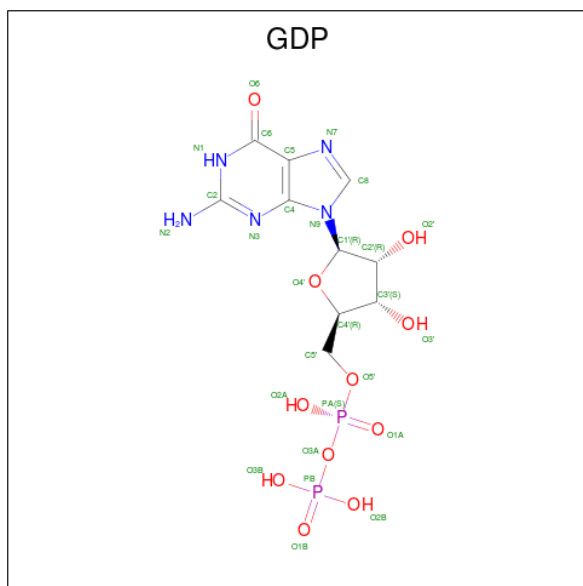
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
5	A	1	Total	C	N	O	P	0	0
			28	10	5	11	2		

- Molecule 6 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	A	1	Total 1	Mg 1	0	0

- Molecule 7 is ACETATE ION (three-letter code: ACT) (formula: $C_2H_3O_2$).

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

- Molecule 8 is CACODYLIC ACID (three-letter code: CAD) (formula: $C_2H_7AsO_2$).
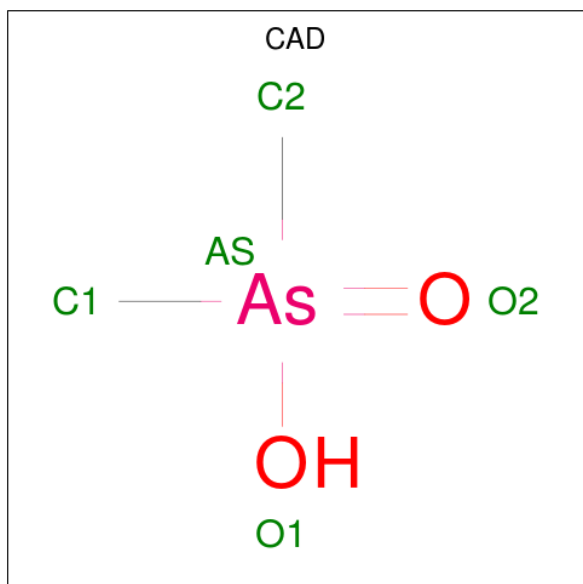
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
8	H	1	Total 5	As 1	C 2	O 2	0	0
8	H	1	Total 5	As 1	C 2	O 2	0	0
8	H	1	Total 5	As 1	C 2	O 2	0	0
8	I	1	Total 5	As 1	C 2	O 2	0	0

- Molecule 9 is 2,5,8,11,14,17-HEXAOXANONADECAN-19-OL (three-letter code: P15) (formula: $C_{13}H_{28}O_7$).
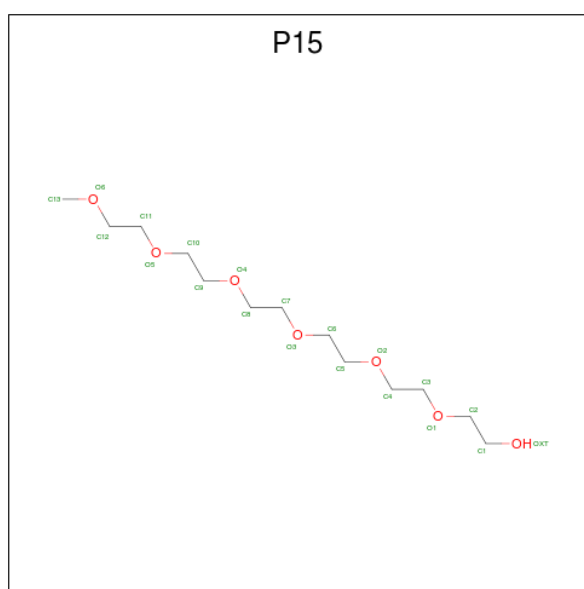
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
9	H	1	Total 12	C 8	O 4	0	0
9	H	1	Total 12	C 8	O 4	0	0
9	H	1	Total 12	C 8	O 4	0	0
9	I	1	Total 11	C 7	O 4	0	0

- Molecule 10 is 1,2-ETHANEDIOL (three-letter code: EDO) (formula: $C_2H_6O_2$).
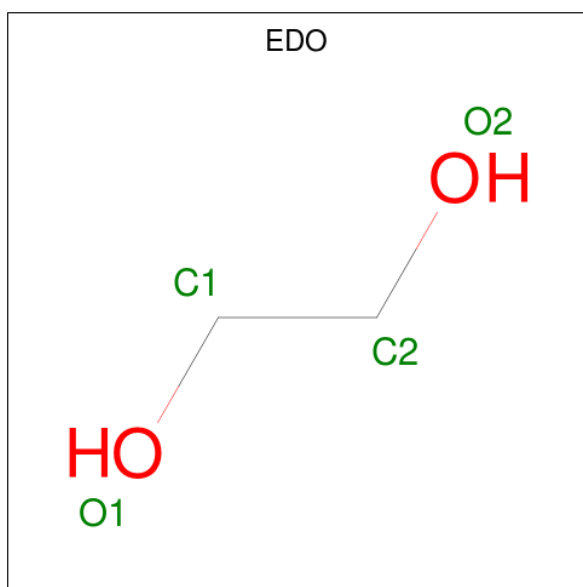
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
10	H	1	Total 4	C 2	O 2	0	0
10	H	1	Total 4	C 2	O 2	0	0
10	I	1	Total 4	C 2	O 2	0	0
10	I	1	Total 4	C 2	O 2	0	0

- Molecule 11 is DIMETHYL SULFOXIDE (three-letter code: DMS) (formula: C_2H_6OS).
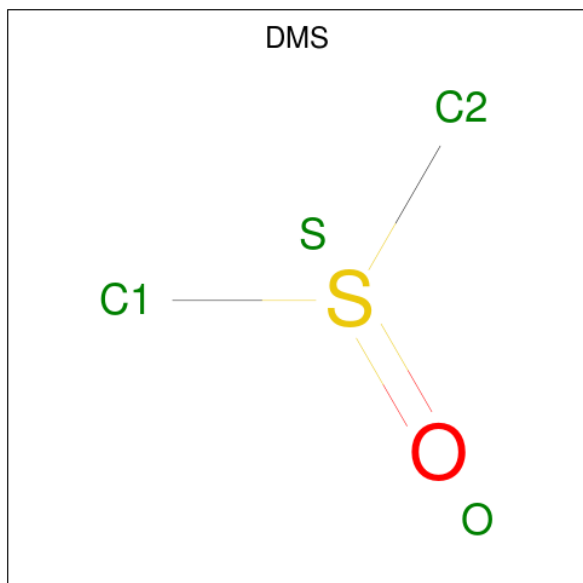
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
11	I	1	Total 4	C 2	O 1	S 1	0	0

- Molecule 12 is water.

| Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
12	A	7	Total 7	O 7	0	0
12	H	68	Total 68	O 68	0	0
12	I	68	Total 68	O 68	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.
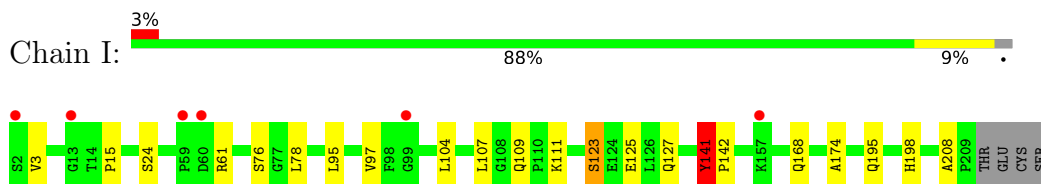
- Molecule 1: Isoform 2B of GTPase KRas
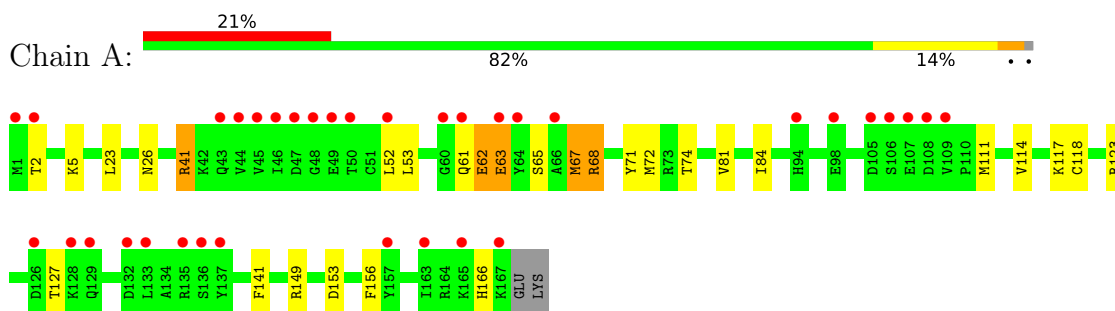
Chain A:

- Molecule 2: IgG heavy chain
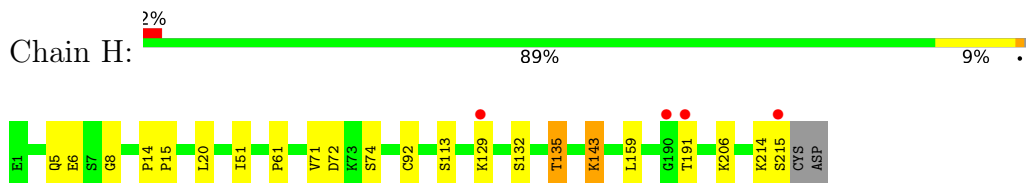
Chain H:

- Molecule 3: IgG light chain

Chain I:

4 Data and refinement statistics ⓘ

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, α, β, γ	149.37Å 68.92Å 100.54Å 90.00° 114.29° 90.00°	Depositor
Resolution (Å)	37.90 – 1.96 37.90 – 1.96	Depositor EDS
% Data completeness (in resolution range)	57.9 (37.90-1.96) 60.2 (37.90-1.96)	Depositor EDS
R_{merge}	0.07	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.46 (at 1.95Å)	Xtriage
Refinement program	PHENIX 1.12-2829_final	Depositor
R, R_{free}	0.195 , 0.229 0.192 , 0.227	Depositor DCC
R_{free} test set	2053 reflections (5.05%)	wwPDB-VP
Wilson B-factor (Å²)	38.2	Xtriage
Anisotropy	0.079	Xtriage
Bulk solvent k_{sol}(e/Å³), B_{sol}(Å²)	0.33 , 39.9	EDS
L-test for twinning[2]	$< |L| > = 0.50, < L^2 > = 0.33$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.95	EDS
Total number of atoms	4860	wwPDB-VP
Average B, all atoms (Å²)	57.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 5.91% of the height of the origin peak. No significant pseudotranslation is detected.*

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[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 (i)

5.1 Standard geometry (i)

Bond lengths and bond angles in the following residue types are not validated in this section: MG, CAD, DMS, ACT, GDP, EDO, P15, Z07

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	0.30	0/1355	0.48	0/1828
2	H	0.39	0/1710	0.56	0/2338
3	I	0.36	0/1622	0.56	1/2215 (0.0%)
All	All	0.35	0/4687	0.54	1/6381 (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
2	H	0	1
3	I	0	1
All	All	0	2

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	I	141	TYR	C-N-CD	-5.20	109.17	120.60

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	H	14	PRO	Peptide
3	I	141	TYR	Peptide

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	1334	0	1314	16	0
2	H	1664	0	1632	11	0
3	I	1581	0	1531	13	0
4	A	14	0	0	1	0
5	A	28	0	12	1	0
6	A	1	0	0	0	0
7	A	4	0	3	0	0
7	H	4	0	3	0	0
8	H	15	0	0	0	0
8	I	5	0	0	0	0
9	H	36	0	42	2	0
9	I	11	0	12	0	0
10	H	8	0	12	0	0
10	I	8	0	12	0	0
11	I	4	0	6	0	0
12	A	7	0	0	0	0
12	H	68	0	0	0	0
12	I	68	0	0	1	0
All	All	4860	0	4579	37	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.

The worst 5 of 37 close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:8:GLY:HA3	2:H:20:LEU:HD23	1.83	0.61
3:I:109:GLN:HB2	3:I:141:TYR:CE2	2.37	0.59
2:H:132:SER:HB2	2:H:135:THR:HG22	1.85	0.59
1:A:84:ILE:HD13	1:A:123:ARG:HB3	1.86	0.58
3:I:123:SER:O	3:I:127:GLN:HG2	2.05	0.57

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all 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	165/169 (98%)	158 (96%)	7 (4%)	0	100	100
2	H	222/226 (98%)	212 (96%)	9 (4%)	1 (0%)	29	17
3	I	209/215 (97%)	201 (96%)	7 (3%)	1 (0%)	29	17
All	All	596/610 (98%)	571 (96%)	23 (4%)	2 (0%)	41	30

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	H	15	PRO
3	I	142	PRO

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	148/150 (99%)	140 (95%)	8 (5%)	22	10
2	H	192/194 (99%)	186 (97%)	6 (3%)	40	28
3	I	176/180 (98%)	174 (99%)	2 (1%)	73	71
All	All	516/524 (98%)	500 (97%)	16 (3%)	40	28

5 of 16 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	I	24	SER

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Mol	Chain	Res	Type
2	H	215	SER
2	H	113	SER
2	H	214	LYS
1	A	118	CYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. There are no such sidechains identified.

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 18 ligands modelled in this entry, 1 is monoatomic - leaving 17 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	$\#|Z| > 2$
9	P15	H	304	-	11,11,19	0.57	0	10,10,18	0.31	0
8	CAD	I	303	-	1,4,4	9.26	1 (100%)	2,6,6	1.12	0
10	EDO	I	301	-	3,3,3	0.46	0	2,2,2	0.32	0
7	ACT	H	307	-	3,3,3	1.46	1 (33%)	3,3,3	1.32	0
8	CAD	H	301	-	1,4,4	9.50	1 (100%)	2,6,6	1.03	0
8	CAD	H	302	-	1,4,4	9.59	1 (100%)	2,6,6	1.13	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	#|Z| > 2	Counts	RMSZ	#|Z| > 2
9	P15	H	308	-	11,11,19	0.64	0	10,10,18	0.21	0
9	P15	I	305	-	10,10,19	0.47	0	9,9,18	0.32	0
4	Z07	A	201	-	11,15,15	1.47	4 (36%)	15,23,23	2.13	3 (20%)
8	CAD	H	303	-	1,4,4	9.35	1 (100%)	2,6,6	1.13	0
10	EDO	I	302	-	3,3,3	0.47	0	2,2,2	0.29	0
11	DMS	I	304	-	3,3,3	0.71	0	3,3,3	0.71	0
10	EDO	H	309	-	3,3,3	0.58	0	2,2,2	0.98	0
7	ACT	A	204	-	3,3,3	1.38	1 (33%)	3,3,3	1.63	1 (33%)
9	P15	H	306	-	11,11,19	0.59	0	10,10,18	0.47	0
10	EDO	H	305	-	3,3,3	0.44	0	2,2,2	0.47	0
5	GDP	A	202	6	24,30,30	0.95	1 (4%)	30,47,47	1.33	6 (20%)

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
9	P15	H	304	-	-	4/9/9/17	-
10	EDO	I	301	-	-	0/1/1/1	-
9	P15	H	308	-	-	5/9/9/17	-
10	EDO	I	302	-	-	1/1/1/1	-
9	P15	I	305	-	-	2/8/8/17	-
4	Z07	A	201	-	-	6/6/6/6	0/2/2/2
10	EDO	H	309	-	-	1/1/1/1	-
9	P15	H	306	-	-	2/9/9/17	-
10	EDO	H	305	-	-	0/1/1/1	-
5	GDP	A	202	6	-	5/12/32/32	0/3/3/3

The worst 5 of 11 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
8	H	302	CAD	O1-AS	9.59	1.94	1.70
8	H	301	CAD	O1-AS	9.50	1.94	1.70
8	H	303	CAD	O1-AS	9.35	1.94	1.70
8	I	303	CAD	O1-AS	9.26	1.93	1.70
4	A	201	Z07	C3-C4	-2.69	1.40	1.43

The worst 5 of 10 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	A	201	Z07	F14-C11-C3	-5.92	106.18	112.32
5	A	202	GDP	PA-O3A-PB	-3.91	119.39	132.83
4	A	201	Z07	C4-C5-S7	-3.11	107.57	112.46
4	A	201	Z07	F12-C11-C3	-3.08	109.12	112.32
5	A	202	GDP	C8-N7-C5	2.39	107.54	102.99

There are no chirality outliers.

5 of 26 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	A	201	Z07	F12-C11-C3-C4
4	A	201	Z07	F13-C11-C3-C4
4	A	201	Z07	F14-C11-C3-C4
5	A	202	GDP	C5'-O5'-PA-O1A
9	H	308	P15	O5-C10-C9-O4

There are no ring outliers.

4 monomers are involved in 4 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
9	H	304	P15	1	0
9	H	308	P15	1	0
4	A	201	Z07	1	0
5	A	202	GDP	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.

Ligand P15 H 304

Bond lengths

Bond angles

Torsions

Rings

Ligand P15 H 308

Bond lengths

Bond angles

Torsions

Rings

Ligand P15 I 305

Bond lengths

Bond angles

Torsions

Rings

Ligand Z07 A 201

Bond lengths

Bond angles

Torsions

Rings

Ligand P15 H 306

Bond lengths

Bond angles

Torsions

Rings

Ligand GDP A 202

Bond lengths

Bond angles

Torsions

Rings
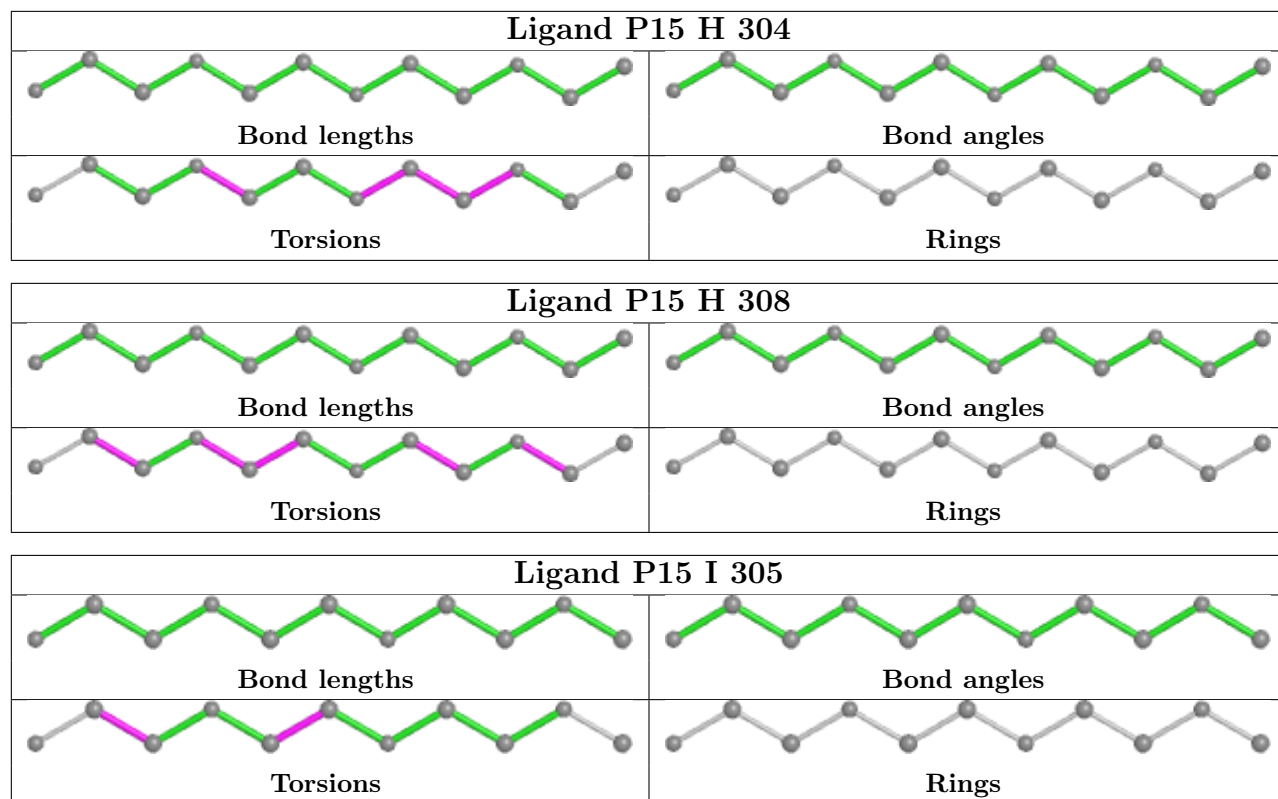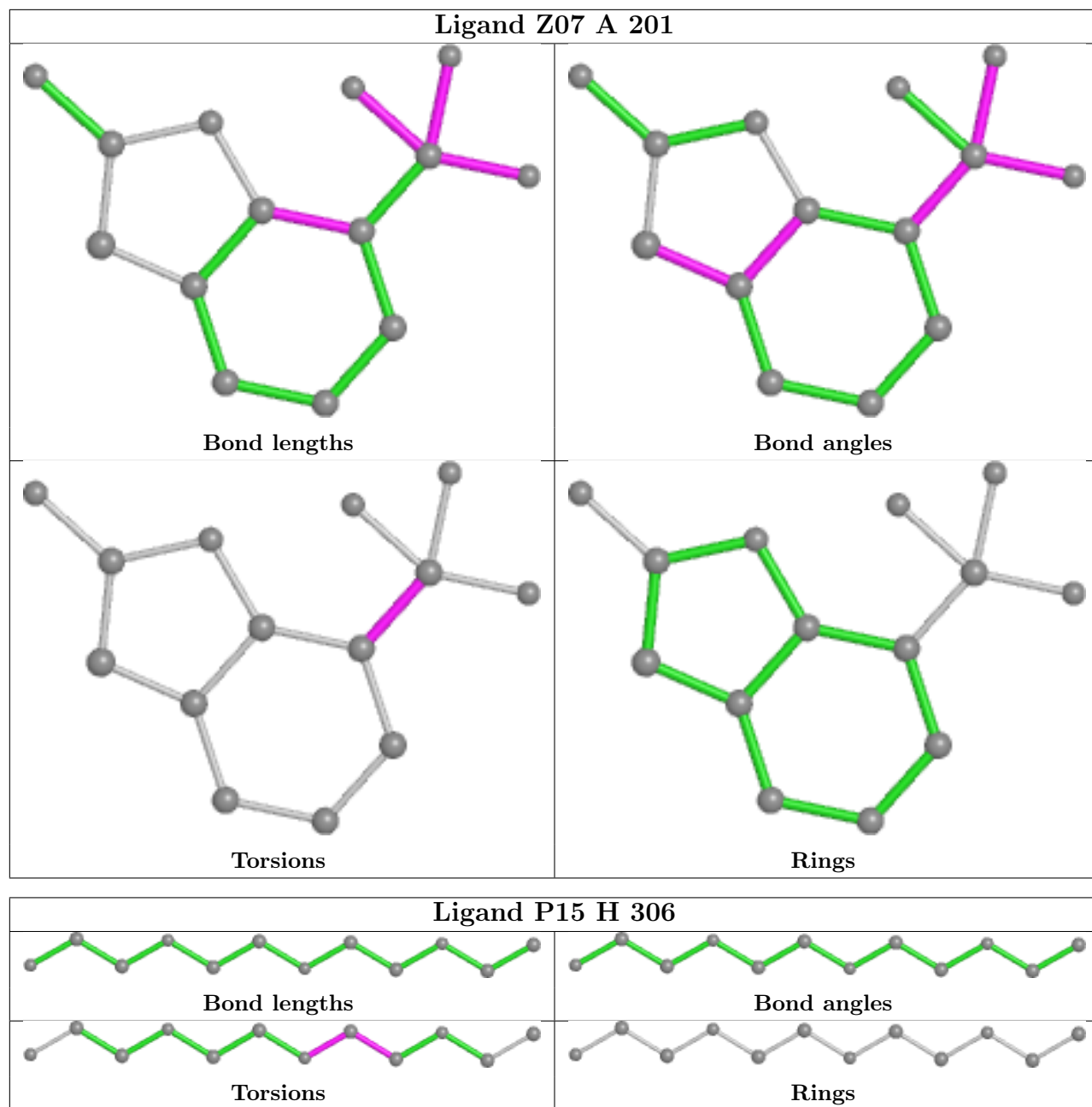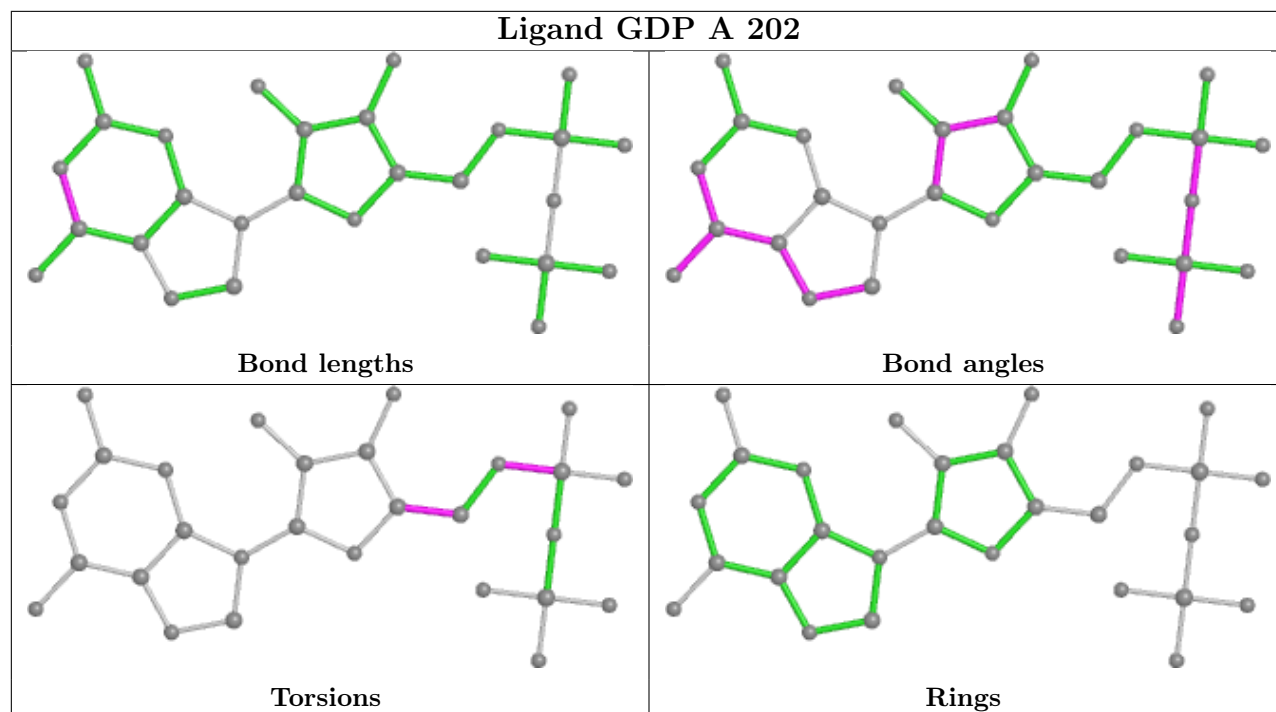
5.7 Other polymers ⓘ

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, 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	167/169 (98%)	1.11	35 (20%)	1	1	56, 83, 122, 145	0
2	H	224/226 (99%)	0.02	4 (1%)	68	76	26, 40, 66, 83	0
3	I	211/215 (98%)	0.05	6 (2%)	53	62	26, 45, 70, 80	0
All	All	602/610 (98%)	0.34	45 (7%)	14	22	26, 50, 104, 145	0

The worst 5 of 45 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	1	MET	11.1
1	A	64	TYR	10.3
1	A	45	VAL	5.0
1	A	165	LYS	4.9
1	A	107	GLU	4.7

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 monosaccharides 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, 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.

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\mathring{A}^2$)	Q<0.9
10	EDO	H	309	4/4	0.18	1.00	130,131,132,133	0
9	P15	H	308	12/20	0.71	0.16	41,61,71,72	0
6	MG	A	203	1/1	0.74	0.39	86,86,86,86	0
8	CAD	H	302	5/5	0.74	0.23	161,163,163,164	0
9	P15	H	304	12/20	0.77	0.24	75,79,85,86	0
9	P15	H	306	12/20	0.77	0.17	52,65,74,75	0
7	ACT	A	204	4/4	0.79	0.25	80,83,84,87	0
10	EDO	I	301	4/4	0.80	0.14	63,64,64,67	0
4	Z07	A	201	14/14	0.81	0.17	90,97,105,107	14
7	ACT	H	307	4/4	0.83	0.27	81,83,84,85	0
9	P15	I	305	11/20	0.85	0.28	72,75,85,86	0
11	DMS	I	304	4/4	0.85	0.27	88,90,93,94	0
10	EDO	H	305	4/4	0.90	0.36	72,75,80,83	0
8	CAD	H	301	5/5	0.91	0.43	143,146,146,148	0
8	CAD	H	303	5/5	0.92	0.38	158,158,160,160	0
10	EDO	I	302	4/4	0.93	0.13	52,53,53,53	0
5	GDP	A	202	28/28	0.95	0.12	58,66,75,78	0
8	CAD	I	303	5/5	0.96	0.18	120,122,125,126	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 P15 H 308:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
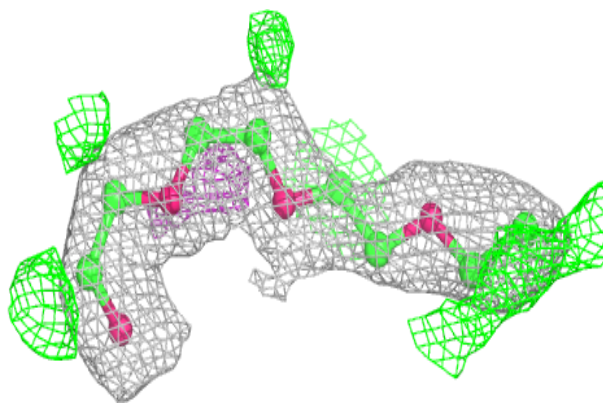and green (positive)
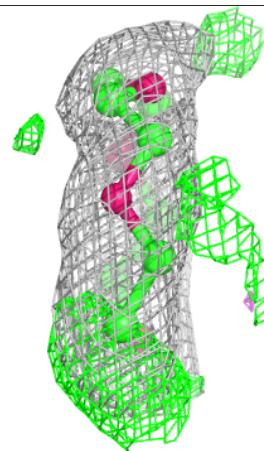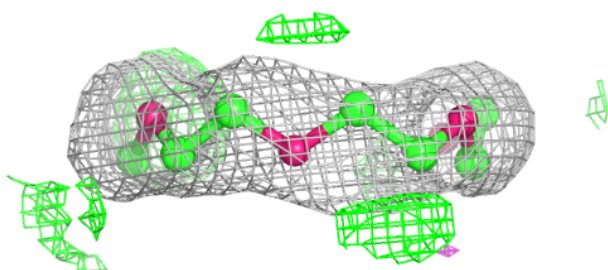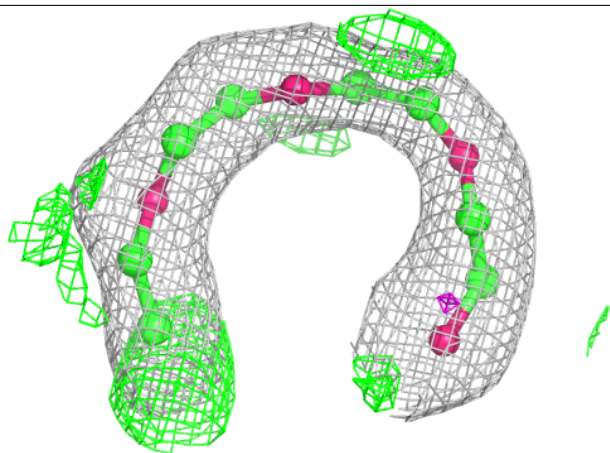
Electron density around P15 H 304:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
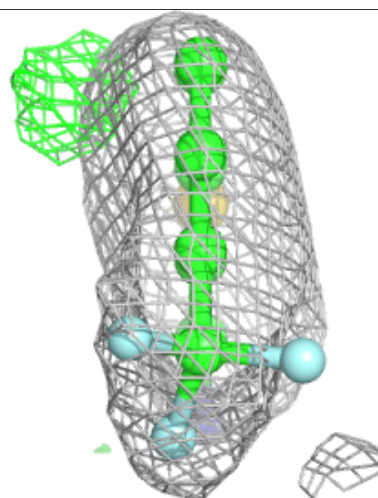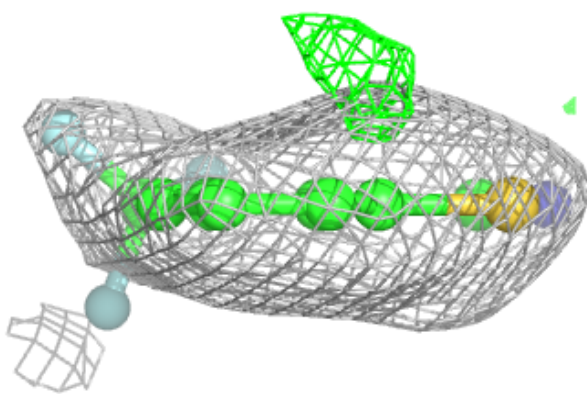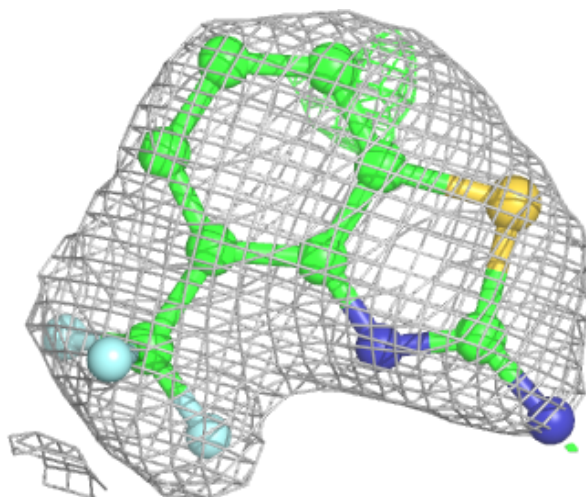and green (positive)
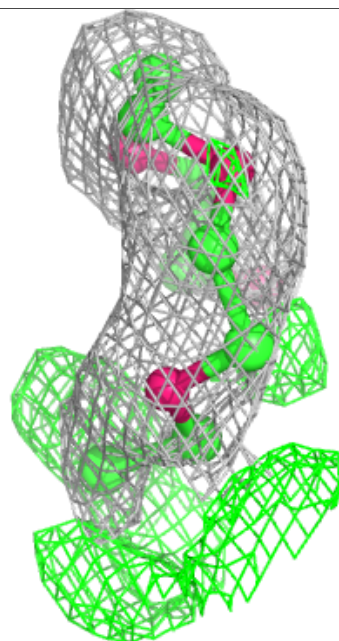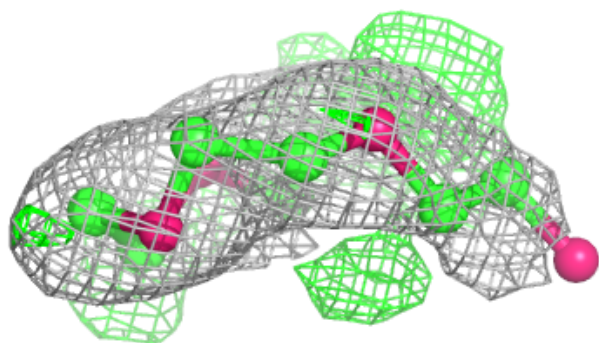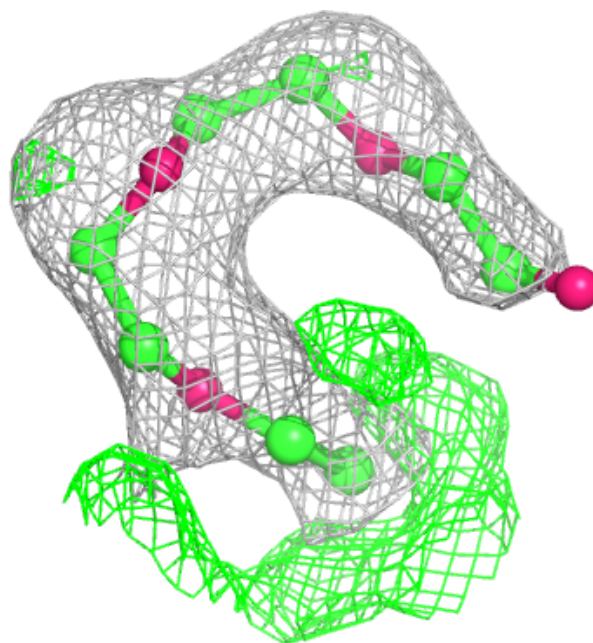
Electron density around P15 H 306:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
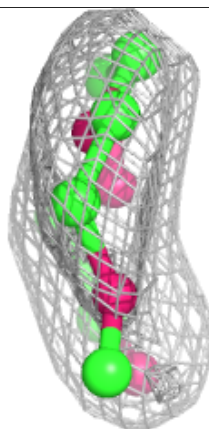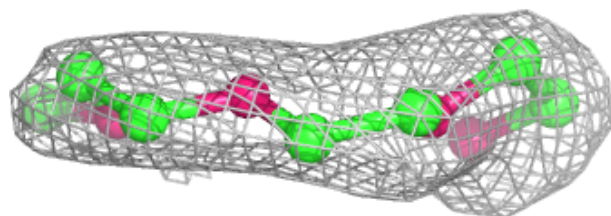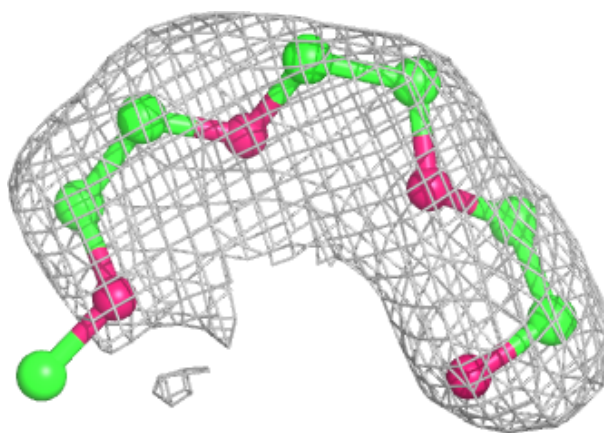mF_o-DF_c (at 3 rmsd) in purple (negative)
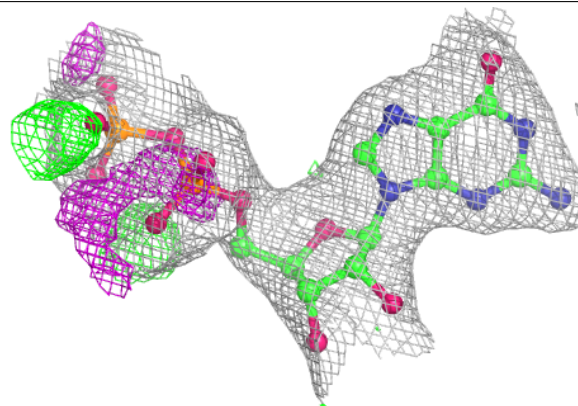and green (positive)
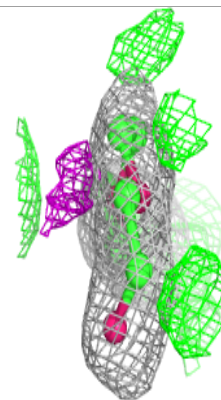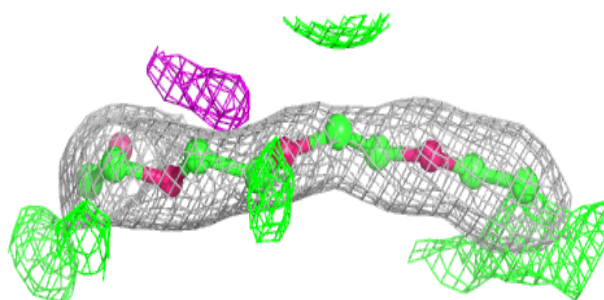
Electron density around Z07 A 201:

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

Electron density around P15 I 305:

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

Electron density around GDP A 202:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)
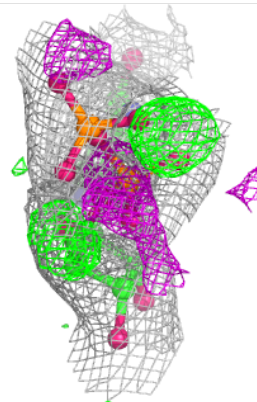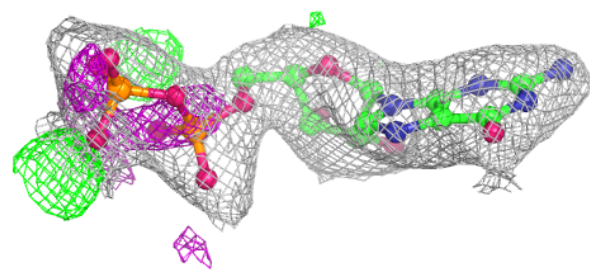
6.5 Other polymers (i)

There are no such residues in this entry.