Full wwPDB X-ray Structure Validation Report (i)

Jan 29, 2025 – 06:11 pm GMT

PDB ID	:	9GD4
Title	:	Crystal structure of septin complex Shs1-Cdc12-Cdc3-Cdc10 from Saccharomyces cerevisiae
Authors	:	Grupp, B.; Seifermann, J.; Gerhardt, S.; Gronemeyer, T.
Deposited on	:	2024-08-04
Resolution	:	2.04 Å(reported)

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

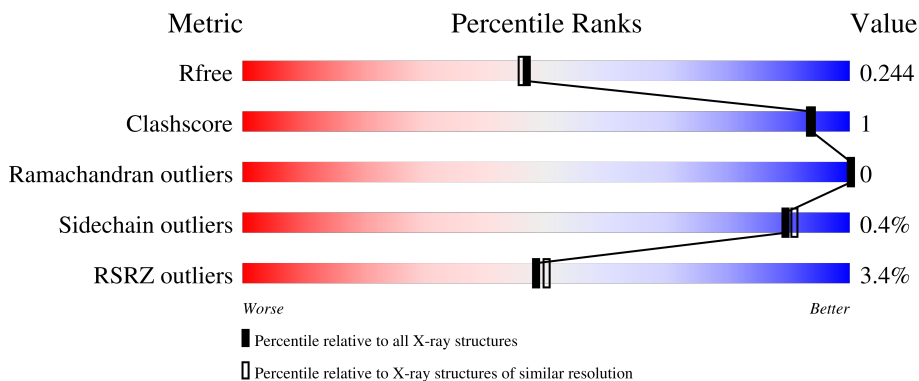|		
MolProbity	:	4.02b-467
Mogul	:	1.8.4, CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	3.0
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4	:	9.0.003 (Gargrove)
Density-Fitness	:	1.0.11
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.40

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 2.04 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		0.244
Clashscore		1
Ramachandran outliers		0
Sidechain outliers		0.4%
RSRZ outliers		3.4%

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}	164625	2096 (2.04-2.04)
Clashscore	180529	2229 (2.04-2.04)
Ramachandran outliers	177936	2217 (2.04-2.04)
Sidechain outliers	177891	2217 (2.04-2.04)
RSRZ outliers	164620	2096 (2.04-2.04)

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	300	3% / 87% · 10%
2	B	332	4% / 83% 6% 11%
3	C	330	2% / 83% · 15%
4	D	320	3% / 90% · 8%

2 Entry composition ⓘ

There are 8 unique types of molecules in this entry. The entry contains 18652 atoms, of which 8909 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 Cell division control protein 10.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
1	A	270	Total 4301	C 1380	H 2139	N 371	O 408	S 3	0	0	0

There are 7 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	23	MET	-	initiating methionine	UNP P25342
A	24	ALA	-	expression tag	UNP P25342
A	25	ASP	-	expression tag	UNP P25342
A	26	LEU	-	expression tag	UNP P25342
A	27	ASN	-	expression tag	UNP P25342
A	28	TRP	-	expression tag	UNP P25342
A	29	MET	-	expression tag	UNP P25342

- Molecule 2 is a protein called Cell division control protein 3.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
2	B	294	Total 4581	C 1490	H 2250	N 390	O 444	S 7	0	0	0

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	79	MET	-	initiating methionine	UNP P32457
B	80	LEU	-	expression tag	UNP P32457

- Molecule 3 is a protein called Cell division control protein 12.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
3	C	279	Total 4465	C 1422	H 2235	N 394	O 406	S 8	0	1	0

There are 16 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
C	-15	MET	-	initiating methionine	UNP P32468
C	-14	GLY	-	expression tag	UNP P32468
C	-13	SER	-	expression tag	UNP P32468
C	-12	SER	-	expression tag	UNP P32468
C	-11	HIS	-	expression tag	UNP P32468
C	-10	HIS	-	expression tag	UNP P32468
C	-9	HIS	-	expression tag	UNP P32468
C	-8	HIS	-	expression tag	UNP P32468
C	-7	HIS	-	expression tag	UNP P32468
C	-6	HIS	-	expression tag	UNP P32468
C	-5	SER	-	expression tag	UNP P32468
C	-4	GLN	-	expression tag	UNP P32468
C	-3	ASP	-	expression tag	UNP P32468
C	-2	PRO	-	expression tag	UNP P32468
C	-1	ASN	-	expression tag	UNP P32468
C	0	SER	-	expression tag	UNP P32468

- Molecule 4 is a protein called Seventh homolog of septin 1.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
			Total	C	H	N	O	S			
4	D	294	4553	1479	2237	375	452	10	0	1	0

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
D	20	MET	-	initiating methionine	UNP Q07657

- Molecule 5 is GUANOSINE-5'-DIPHOSPHATE (three-letter code: GDP) (formula: $C_{10}H_{15}N_5O_{11}P_2$) (labeled as "Ligand of Interest" by depositor).

GDP

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf
5	A	1	Total	C	H	N	O	P	0	0
			40	10	12	5	11	2		
5	B	1	Total	C	H	N	O	P	0	0
			40	10	12	5	11	2		
5	C	1	Total	C	H	N	O	P	0	0
			40	10	12	5	11	2		
5	D	1	Total	C	H	N	O	P	0	0
			40	10	12	5	11	2		

- Molecule 6 is MAGNESIUM ION (three-letter code: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

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

- Molecule 7 is SULFATE ION (three-letter code: SO4) (formula: O_4S).

SO4

O1

O

O3 O⁻ — S — O⁻ O4

S

O

O2

Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
7	B	1	Total O S 5 4 1			0	0

- Molecule 8 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
8	A	138	Total O 138 138		0	0
8	B	131	Total O 131 131		0	0
8	C	166	Total O 166 166		0	0
8	D	151	Total O 151 151		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.
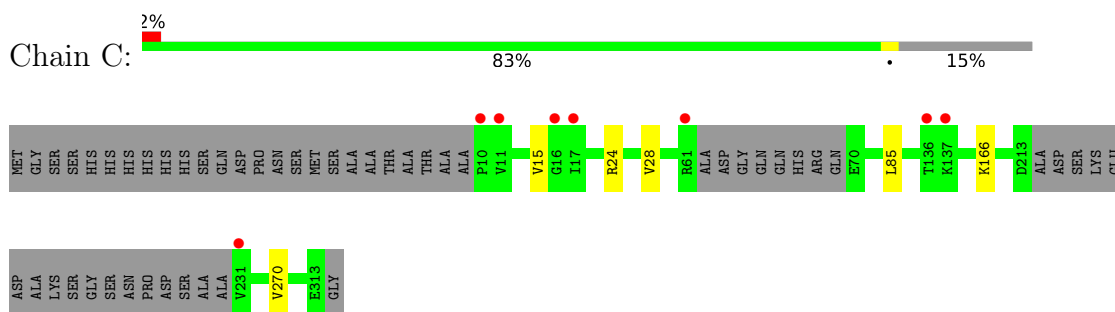
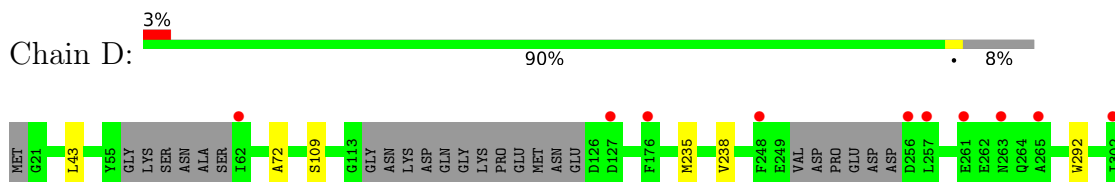• Molecule 1: Cell division control protein 10
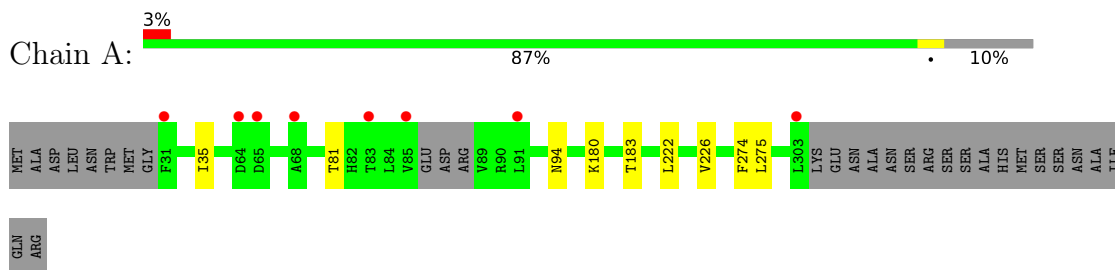
• Molecule 2: Cell division control protein 3
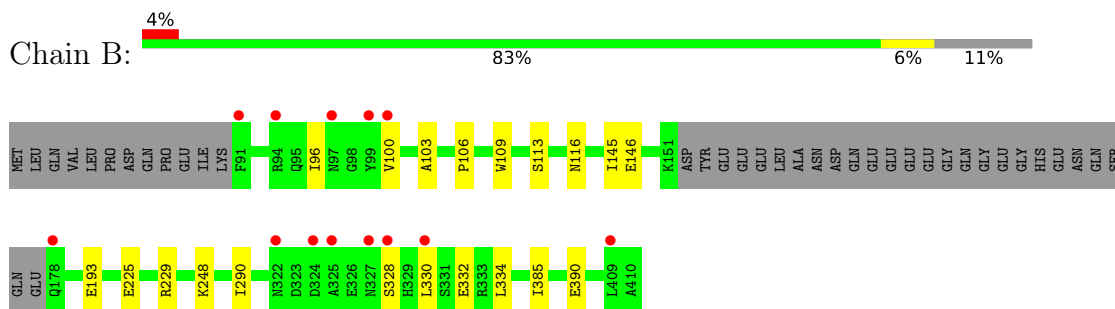
• Molecule 3: Cell division control protein 12

• Molecule 4: Seventh homolog of septin 1

F313 S338 SER

4 Data and refinement statistics ⓘ

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	98.20Å 47.84Å 148.88Å 90.00° 103.29° 90.00°	Depositor
Resolution (Å)	23.49 – 2.04 23.49 – 2.04	Depositor EDS
% Data completeness (in resolution range)	48.2 (23.49-2.04) 48.2 (23.49-2.04)	Depositor EDS
R_{merge}	0.30	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.80 (at 2.04Å)	Xtriage
Refinement program	BUSTER 2.10.4	Depositor
R, R_{free}	0.216 , 0.254 0.209 , 0.244	Depositor DCC
R_{free} test set	2096 reflections (5.01%)	wwPDB-VP
Wilson B-factor (Å^2)	17.0	Xtriage
Anisotropy	0.378	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.38 , 38.9	EDS
L-test for twinning[2]	$< |L| > = 0.49, < L^2 > = 0.32$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.92	EDS
Total number of atoms	18652	wwPDB-VP
Average B, all atoms (Å^2)	26.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 38.68 % of the origin peak, indicating pseudo-translational symmetry. The chance of finding a peak of this or larger height randomly in a structure without pseudo-translational symmetry is equal to 3.5567e-04. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

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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 ⓘ

5.1   Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: SO4, MG, GDP

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	0.32	0/2201	0.48	0/2982
2	B	0.32	0/2378	0.49	0/3217
3	C	0.33	0/2276	0.50	0/3084
4	D	0.32	0/2361	0.50	0/3202
All	All	0.32	0/9216	0.49	0/12485

There are no bond length outliers.

There are no bond angle outliers.

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	2162	2139	2138	7	0
2	B	2331	2250	2249	14	0
3	C	2230	2235	2235	6	0
4	D	2316	2237	2235	4	0
5	A	28	12	12	0	0
5	B	28	12	12	0	0
5	C	28	12	12	0	0
5	D	28	12	12	0	0
6	B	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
7	B	5	0	0	0	0
8	A	138	0	0	0	0
8	B	131	0	0	0	0
8	C	166	0	0	0	0
8	D	151	0	0	0	0
All	All	9743	8909	8905	23	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 1.

All (23) 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:183:THR:HG22	2:B:290:ILE:HG21	1.50	0.94
2:B:385:ILE:HG21	3:C:15:VAL:HG12	1.85	0.58
2:B:229:ARG:HD3	2:B:248:LYS:O	2.08	0.54
2:B:328:SER:O	2:B:332:GLU:HG3	2.08	0.54
1:A:183:THR:HG22	2:B:290:ILE:HD13	1.91	0.52
2:B:225:GLU:O	2:B:229:ARG:HG3	2.11	0.51
2:B:113:SER:O	2:B:116:ASN:O	2.29	0.50
4:D:43:LEU:HD11	4:D:313:PHE:CE2	2.47	0.50
1:A:180:LYS:O	1:A:183:THR:HG23	2.12	0.50
1:A:35:ILE:CD1	1:A:275:LEU:HD21	2.43	0.48
2:B:193:GLU:OE1	3:C:15:VAL:O	2.31	0.48
1:A:226:VAL:HG11	1:A:274:PHE:CE1	2.48	0.48
2:B:145:ILE:HG23	2:B:146:GLU:HG3	1.96	0.47
2:B:330:LEU:O	2:B:334:LEU:HG	2.15	0.47
2:B:390:GLU:OE1	3:C:24:ARG:NH2	2.48	0.46
4:D:72:ALA:HB3	4:D:109:SER:HB2	2.00	0.44
3:C:270:VAL:HG22	4:D:292:TRP:CE2	2.53	0.43
4:D:235:MET:HA	4:D:238:VAL:HG22	2.01	0.42
1:A:183:THR:CG2	2:B:290:ILE:HG21	2.35	0.42
2:B:103:ALA:O	2:B:106:PRO:HD2	2.20	0.42
2:B:109:TRP:CG	3:C:28:VAL:HG21	2.54	0.42
3:C:85:LEU:HD12	3:C:85:LEU:N	2.35	0.41
1:A:81:THR:HG22	1:A:94:ASN:OD1	2.22	0.40

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	266/300 (89%)	261 (98%)	5 (2%)	0	100	100
2	B	290/332 (87%)	284 (98%)	6 (2%)	0	100	100
3	C	274/330 (83%)	266 (97%)	8 (3%)	0	100	100
4	D	287/320 (90%)	281 (98%)	6 (2%)	0	100	100
All	All	1117/1282 (87%)	1092 (98%)	25 (2%)	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	235/271 (87%)	234 (100%)	1 (0%)	89	91
2	B	253/306 (83%)	251 (99%)	2 (1%)	79	80
3	C	241/289 (83%)	240 (100%)	1 (0%)	89	91
4	D	255/291 (88%)	255 (100%)	0	100	100
All	All	984/1157 (85%)	980 (100%)	4 (0%)	89	91

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

Mol	Chain	Res	Type
1	A	222	LEU
2	B	96	ILE

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Mol	Chain	Res	Type
2	B	100	VAL
3	C	166	LYS

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

Mol	Chain	Res	Type
1	A	133	GLN

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 oligosaccharides in this entry.

5.6 Ligand geometry ⓘ

Of 6 ligands modelled in this entry, 1 is monoatomic - leaving 5 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	GDP	D	401	-	24,30,30	0.89	2 (8%)	30,47,47	0.86	1 (3%)
7	SO4	B	503	-	4,4,4	0.12	0	6,6,6	0.31	0
5	GDP	B	501	6	24,30,30	0.88	2 (8%)	30,47,47	0.77	0
5	GDP	C	401	-	24,30,30	0.91	2 (8%)	30,47,47	0.76	1 (3%)
5	GDP	A	401	-	24,30,30	0.94	2 (8%)	30,47,47	0.88	1 (3%)

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	GDP	C	401	-	-	2/12/32/32	0/3/3/3
5	GDP	A	401	-	-	3/12/32/32	0/3/3/3
5	GDP	D	401	-	-	2/12/32/32	0/3/3/3
5	GDP	B	501	6	-	0/12/32/32	0/3/3/3

All (8) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	A	401	GDP	C5-C6	-2.57	1.42	1.47
5	C	401	GDP	C5-C6	-2.43	1.42	1.47
5	D	401	GDP	C5-C6	-2.30	1.42	1.47
5	B	501	GDP	C5-C6	-2.16	1.43	1.47
5	A	401	GDP	C8-N7	-2.15	1.31	1.35
5	B	501	GDP	C8-N7	-2.11	1.31	1.35
5	D	401	GDP	C8-N7	-2.08	1.31	1.35
5	C	401	GDP	C8-N7	-2.08	1.31	1.35

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	A	401	GDP	PA-O3A-PB	3.39	144.44	132.83
5	D	401	GDP	PA-O3A-PB	3.05	143.28	132.83
5	C	401	GDP	PA-O3A-PB	2.19	140.34	132.83

There are no chirality outliers.

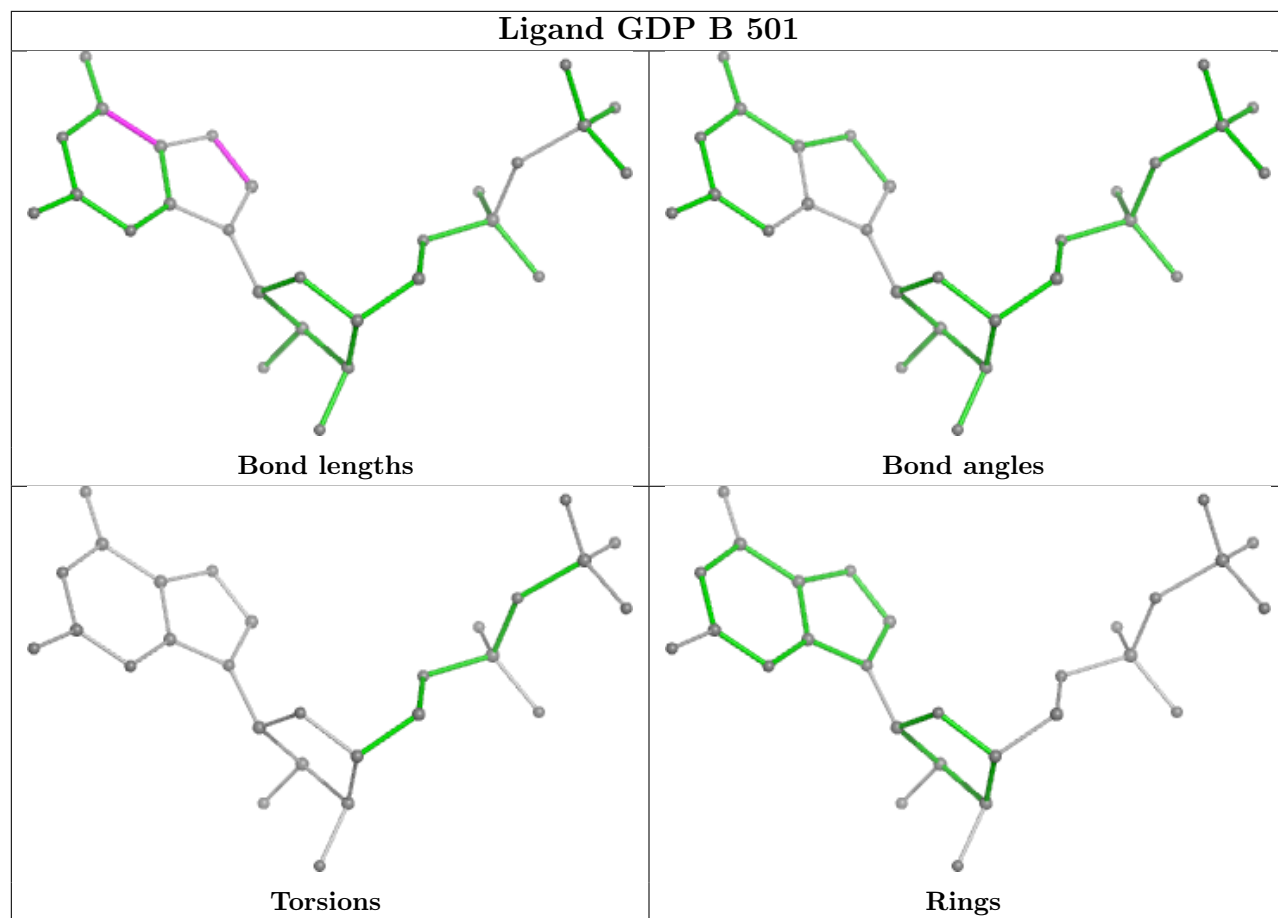All (7) torsion outliers are listed below:

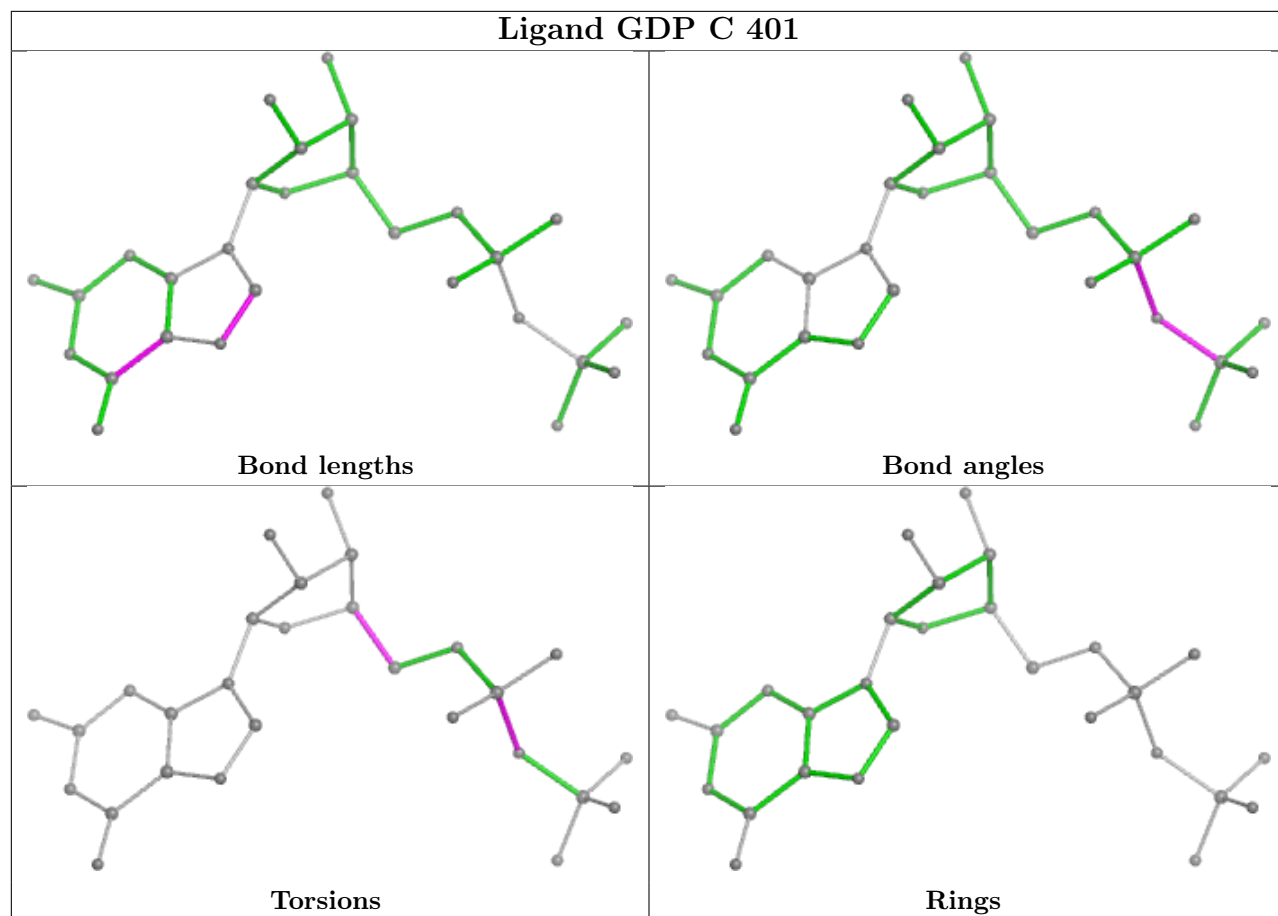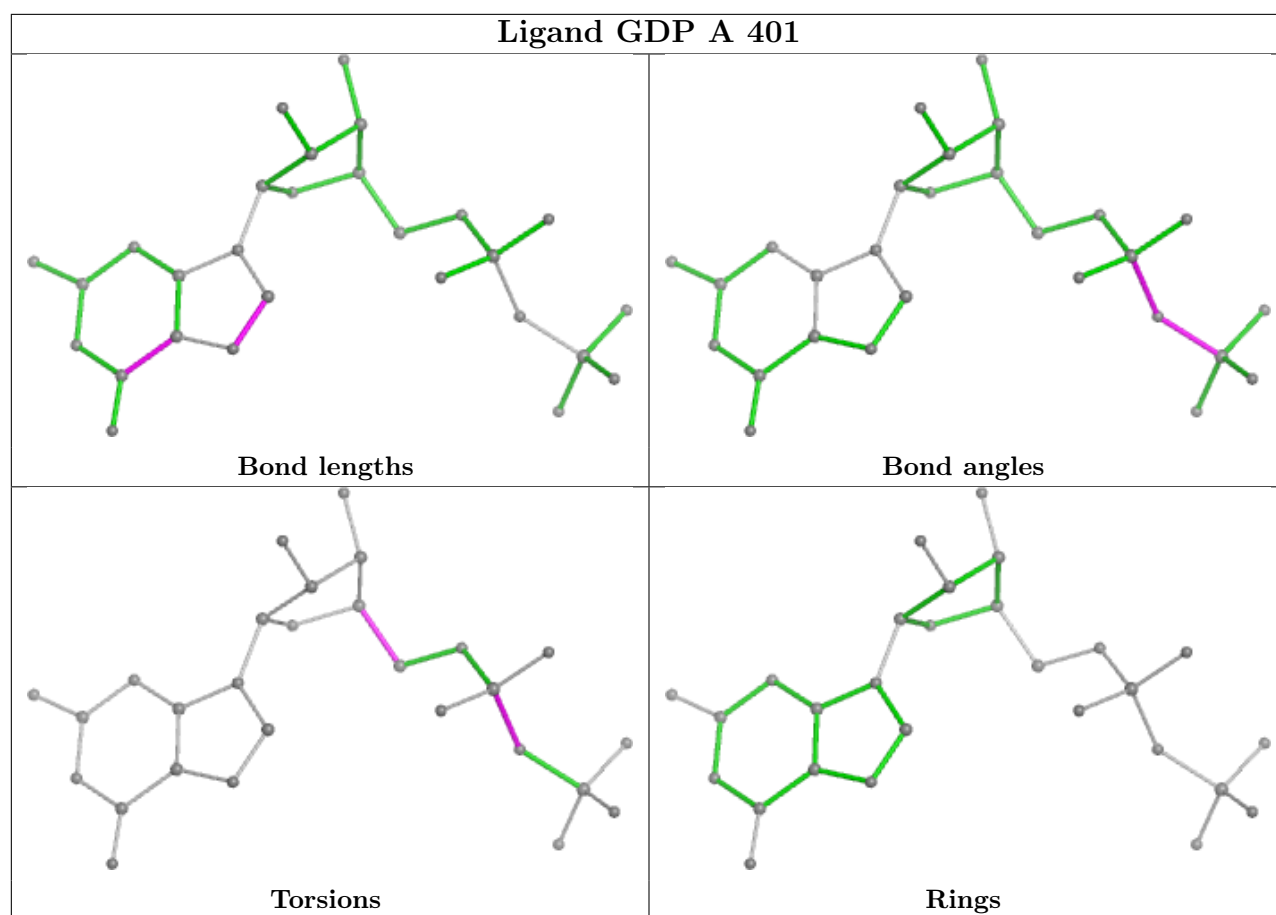| Mol	Chain	Res	Type	Atoms
5	D	401	GDP	O4'-C4'-C5'-O5'
5	A	401	GDP	O4'-C4'-C5'-O5'
5	C	401	GDP	O4'-C4'-C5'-O5'
5	D	401	GDP	PB-O3A-PA-O1A
5	A	401	GDP	PB-O3A-PA-O2A
5	A	401	GDP	PB-O3A-PA-O1A
5	C	401	GDP	PB-O3A-PA-O1A

There are no ring outliers.

No monomer is involved in short contacts.

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

Ligand GDP D 401

Bond lengths

Bond angles

Torsions

Rings

Ligand GDP B 501

Bond lengths

Bond angles

Torsions

Rings

Ligand GDP C 401

Bond lengths

Bond angles

Torsions

Rings

Ligand GDP A 401

Bond lengths

Bond angles

Torsions

Rings
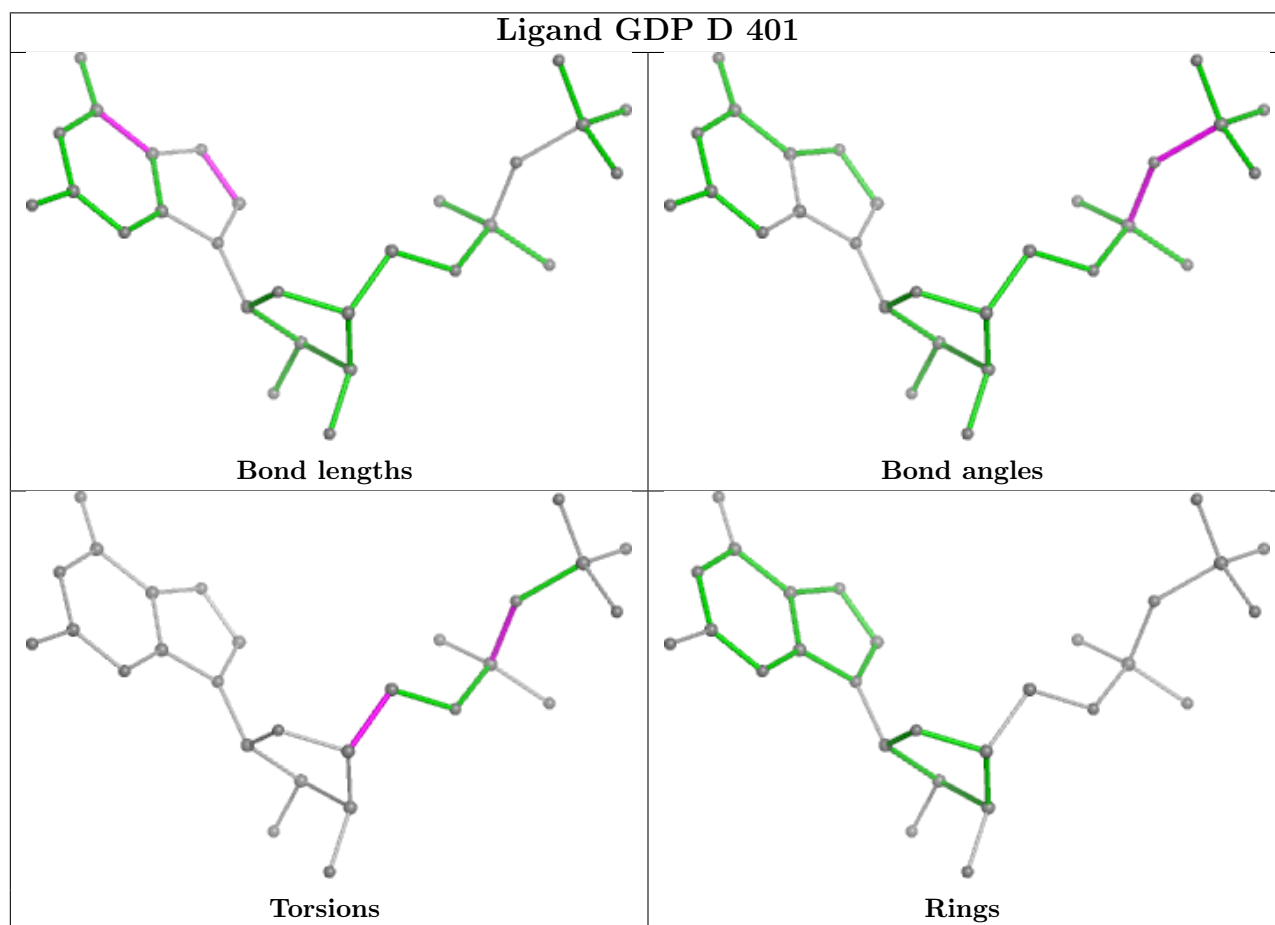
5.7 Other polymers ⓘ

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	270/300 (90%)	0.13	8 (2%) 52	54	16, 26, 52, 63	0
2	B	294/332 (88%)	0.26	13 (4%) 39	42	14, 31, 51, 63	0
3	C	279/330 (84%)	-0.08	8 (2%) 54	55	8, 20, 41, 62	1 (0%)
4	D	294/320 (91%)	0.04	10 (3%) 48	50	8, 23, 49, 68	1 (0%)
All	All	1137/1282 (88%)	0.09	39 (3%) 48	50	8, 25, 50, 68	2 (0%)

All (39) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
3	C	10	PRO	3.4
2	B	178	GLN	3.3
3	C	136	THR	3.2
1	A	65	ASP	3.1
3	C	11	VAL	3.0
4	D	256	ASP	3.0
3	C	137	LYS	2.8
4	D	62	ILE	2.8
2	B	409	LEU	2.8
4	D	176	PHE	2.6
3	C	17	ILE	2.6
4	D	257	LEU	2.6
3	C	16	GLY	2.6
2	B	91	PHE	2.6
4	D	265	ALA	2.6
4	D	261	GLU	2.5
2	B	94	ARG	2.5
1	A	68	ALA	2.5
2	B	99	TYR	2.4
1	A	31	PHE	2.4
2	B	324	ASP	2.4

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W O R L D W I D E
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PROTEIN DATA BANK

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Mol	Chain	Res	Type	RSRZ
2	B	330	LEU	2.4
2	B	97	ASN	2.4
4	D	263	ASN	2.4
1	A	83	THR	2.4
1	A	64	ASP	2.4
1	A	85	VAL	2.3
1	A	91	LEU	2.3
2	B	327	ASN	2.3
1	A	303	LEU	2.3
2	B	328	SER	2.2
2	B	325	ALA	2.2
2	B	322	ASN	2.1
3	C	61	ARG	2.1
4	D	127	ASP	2.1
4	D	248	PHE	2.1
4	D	302	ILE	2.1
2	B	100	VAL	2.0
3	C	231	VAL	2.0

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.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
7	SO4	B	503	5/5	0.91	0.12	35,35,35,36	0
5	GDP	B	501	28/28	0.94	0.07	15,17,18,19	0
5	GDP	A	401	28/28	0.94	0.09	24,26,27,27	0
6	MG	B	502	1/1	0.96	0.03	24,24,24,24	0
5	GDP	C	401	28/28	0.96	0.07	10,14,15,15	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å²)	Q<0.9
5	GDP	D	401	28/28	0.97	0.06	11,15,15,15	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.
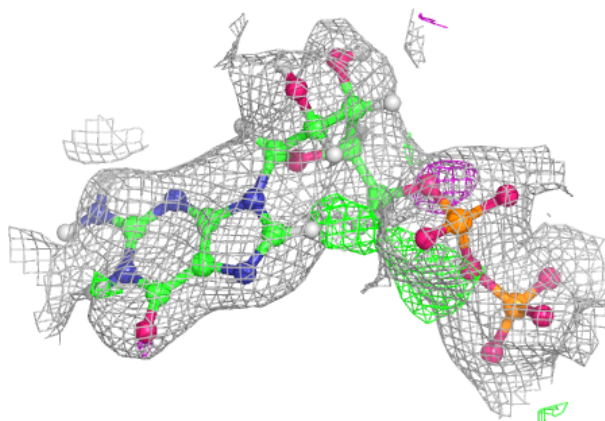

Electron density around GDP B 501:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)
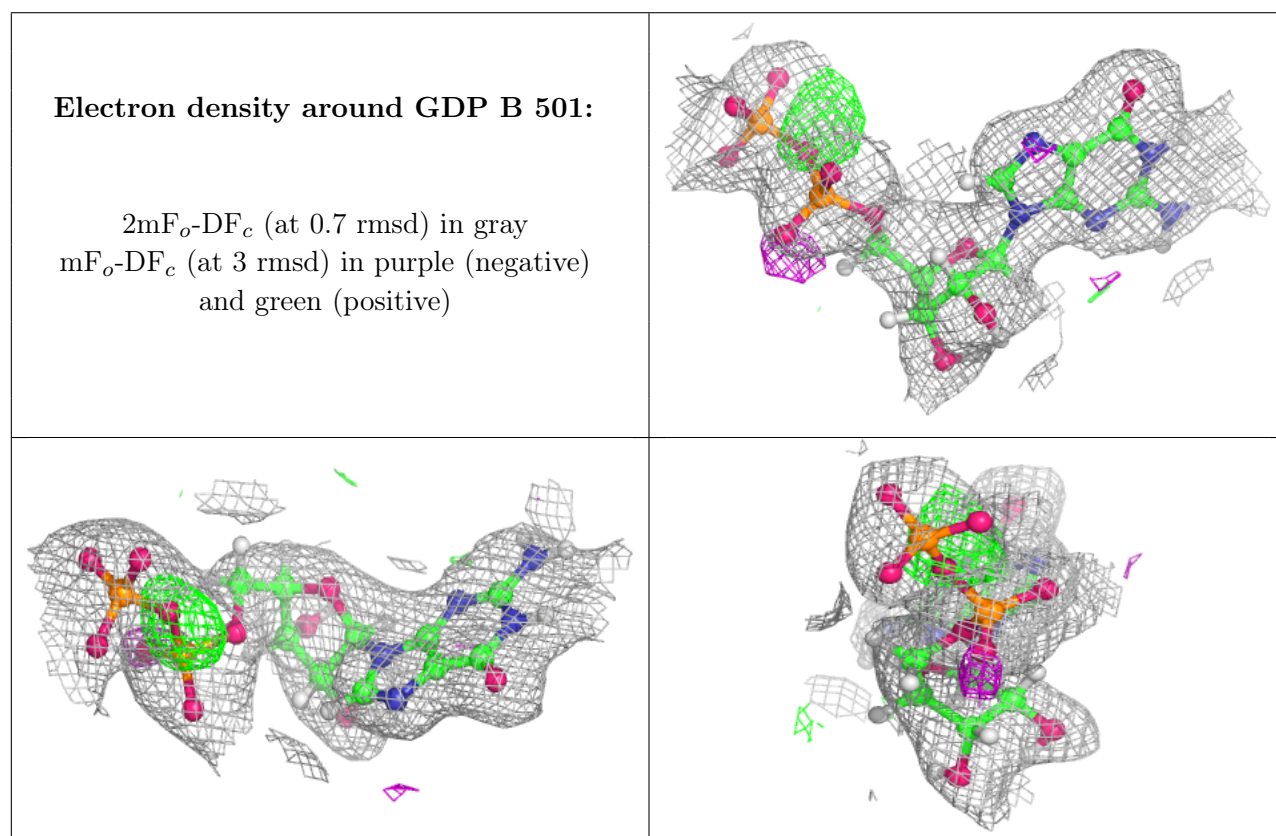
Electron density around GDP A 401:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
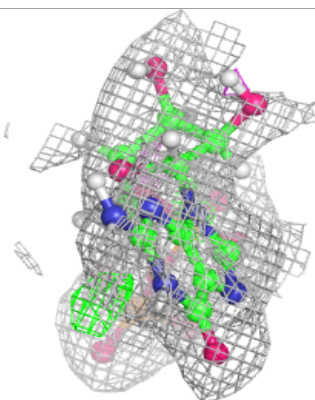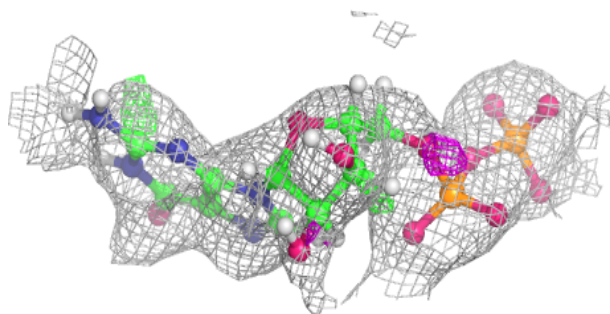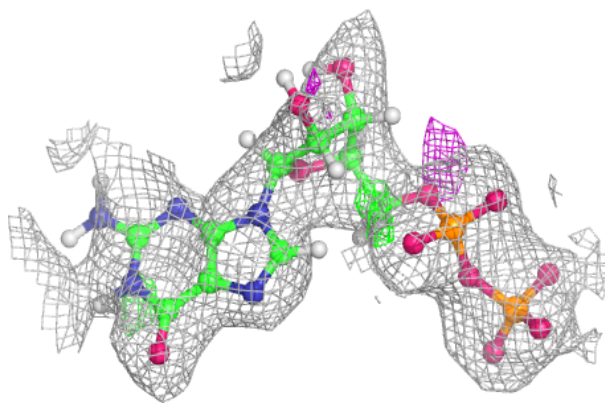
Electron density around MG B 502:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)
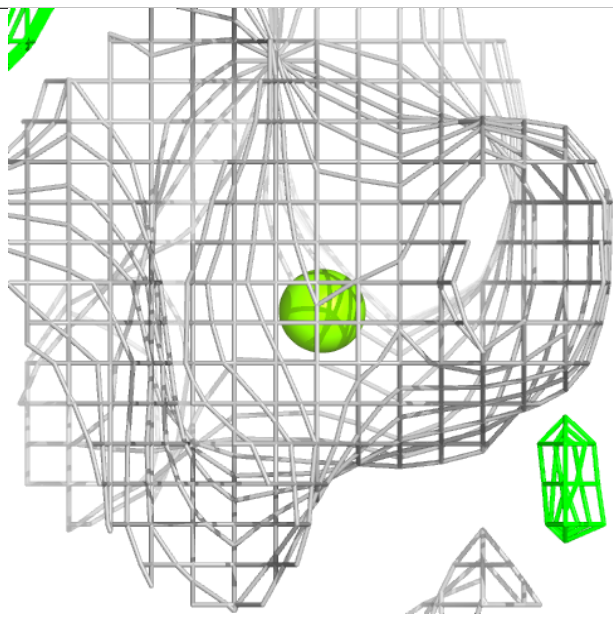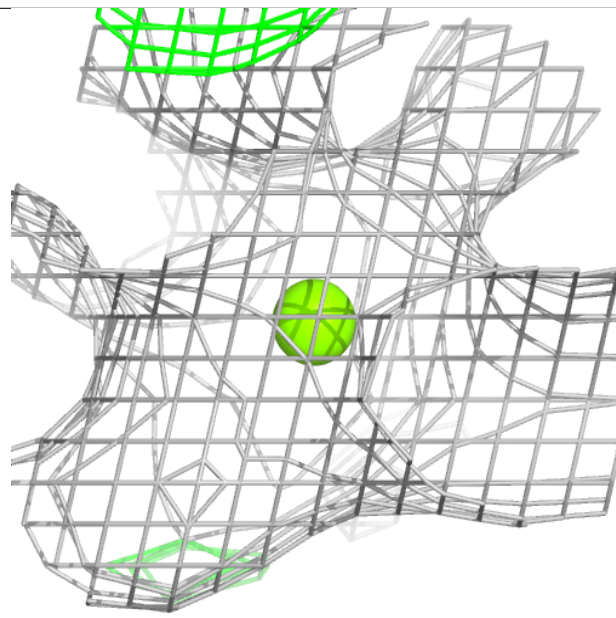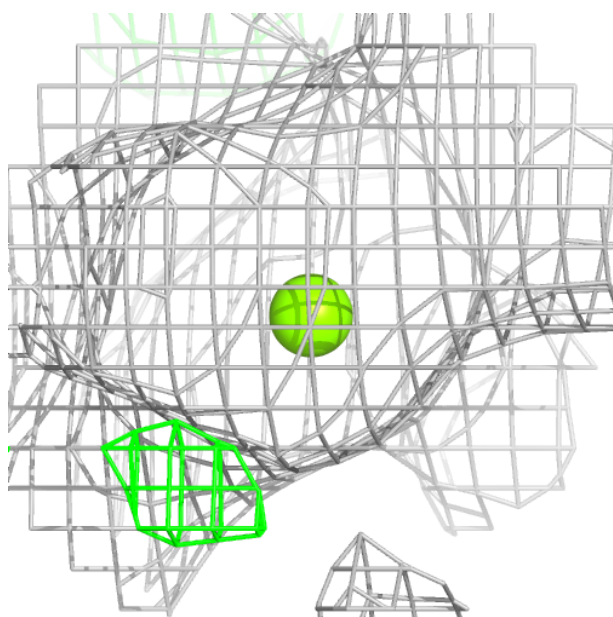
Electron density around GDP C 401:

$2mF_o\text{-}DF_c$ (at 0.7 rmsd) in gray
$mF_o\text{-}DF_c$ (at 3 rmsd) in purple (negative)
and green (positive)
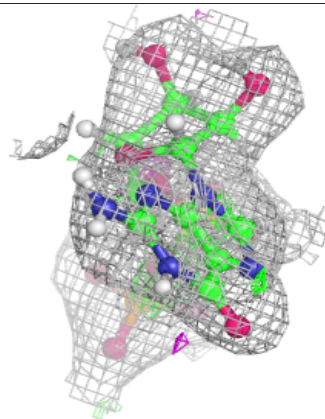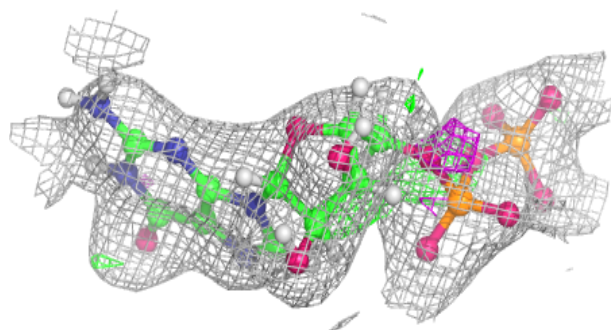
Electron density around GDP D 401:

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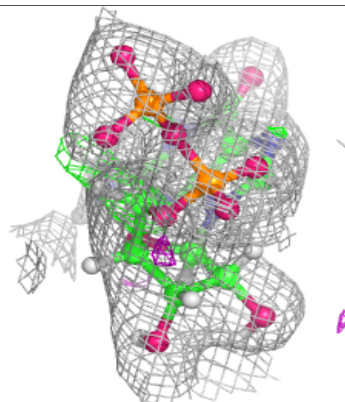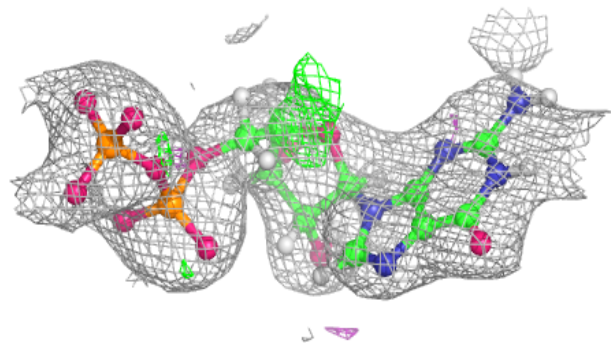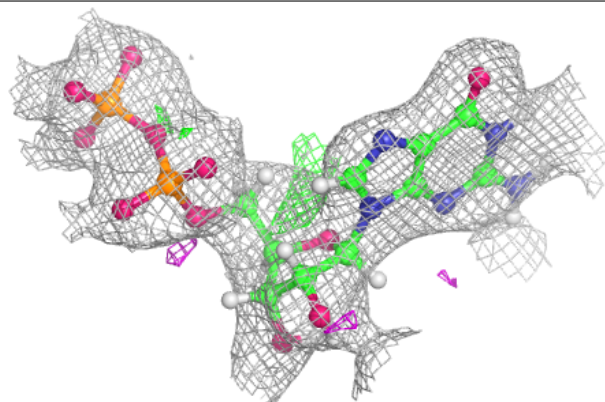
6.5 Other polymers (i)

There are no such residues in this entry.