WORLDWIDE PDB PROTEIN DATA BANK

Full wwPDB X-ray Structure Validation Report (i)

Oct 21, 2025 – 06:08 PM EDT

PDB ID	:	9DSQ / pdb_00009dsq
Title	:	Thermotoga maritima threonylcarbamoyl adenylate synthase (TsaC2) in complex with products TC-AMP and pyrophosphate
Authors	:	Kutshuashvili, A.; Swairjo, M.A.
Deposited on	:	2024-09-28
Resolution	:	1.99 Å(reported)

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

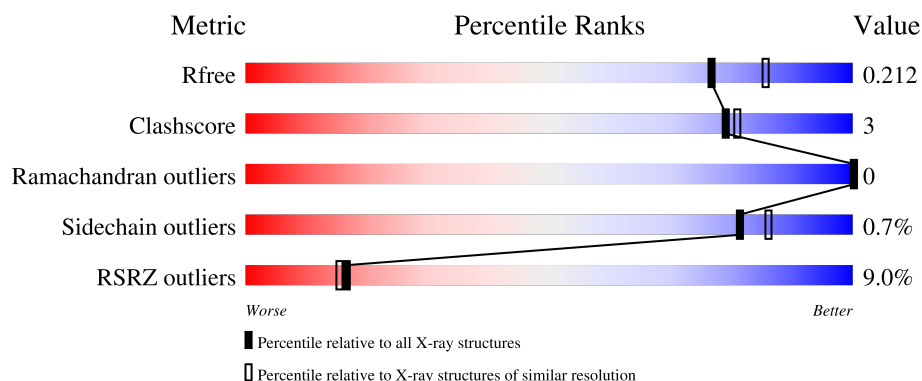|		
MolProbity	:	4-5-2 with Phenix2.0
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	2.0
EDS	:	3.0
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4	:	9.0.010 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.46

1   Overall quality at a glance ⓘ

The following experimental techniques were used to determine the structure:
X-RAY DIFFRACTION

The reported resolution of this entry is 1.99 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		0.212
Clashscore		3
Ramachandran outliers		0
Sidechain outliers		0.7%
RSRZ outliers		9.0%

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	9409 (2.00-2.00)
Clashscore	180529	10737 (2.00-2.00)
Ramachandran outliers	177936	10628 (2.00-2.00)
Sidechain outliers	177891	10627 (2.00-2.00)
RSRZ outliers	164620	9409 (2.00-2.00)

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	340	13% / 87% / 6% / 6%
1	B	340	4% / 88% / 7% / 5%

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
5	ACT	A	405	-	-	X	-

2 Entry composition ⓘ

There are 8 unique types of molecules in this entry. The entry contains 5546 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 Threonylcarbamoyl-AMP synthase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	321	Total 2597	C 1697	N 429	O 463	S 8	0	7	0
1	B	323	Total 2624	C 1709	N 435	O 471	S 9	0	8	0

There are 12 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-4	GLY	-	expression tag	UNP Q9WZV6
A	-3	SER	-	expression tag	UNP Q9WZV6
A	-2	HIS	-	expression tag	UNP Q9WZV6
A	-1	MET	-	expression tag	UNP Q9WZV6
A	0	ALA	-	expression tag	UNP Q9WZV6
A	1	SER	-	expression tag	UNP Q9WZV6
B	-4	GLY	-	expression tag	UNP Q9WZV6
B	-3	SER	-	expression tag	UNP Q9WZV6
B	-2	HIS	-	expression tag	UNP Q9WZV6
B	-1	MET	-	expression tag	UNP Q9WZV6
B	0	ALA	-	expression tag	UNP Q9WZV6
B	1	SER	-	expression tag	UNP Q9WZV6

- Molecule 2 is DIPHOSPHATE (CCD ID: DPO) (formula: O_7P_2) (labeled as "Ligand of Interest" by depositor).
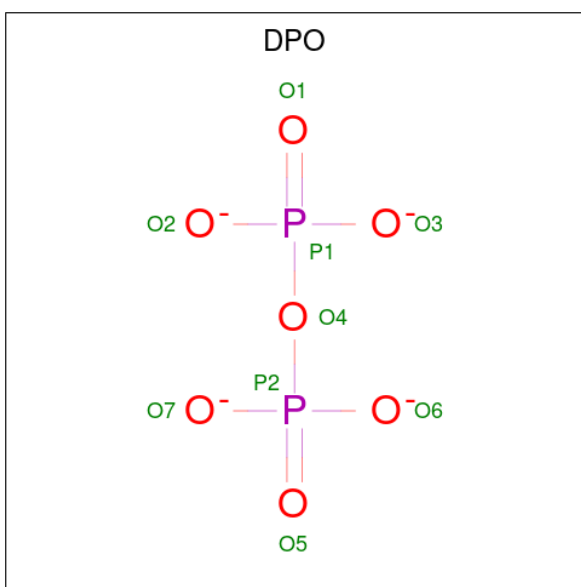
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
2	A	1	Total 9	O 7	P 2	0	0
2	B	1	Total 9	O 7	P 2	0	0

- Molecule 3 is threonylcarbamoyladenylate (CCD ID: TXA) (formula: $C_{15}H_{21}N_6O_{11}P$) (labeled as "Ligand of Interest" by depositor).
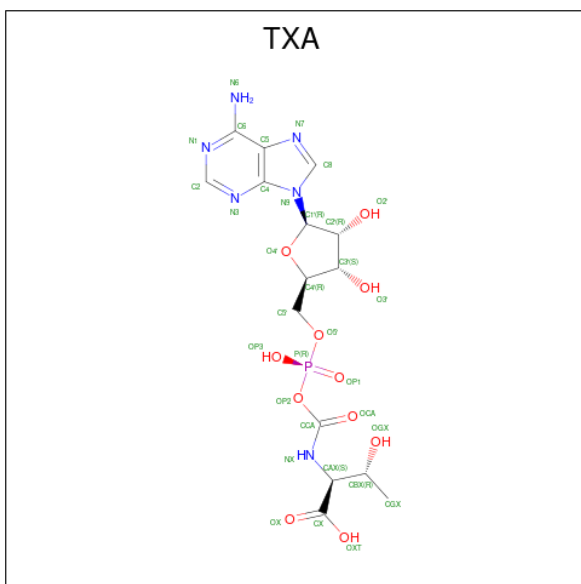
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
3	A	1	Total 33	C 15	N 6	O 11	P 1	0	0

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
3	B	1	Total 33	C 15	N 6	O 11	P 1	0	0

- Molecule 4 is MAGNESIUM ION (CCD ID: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	1	Total 1	Mg 1	0	0
4	B	1	Total 1	Mg 1	0	0

- Molecule 5 is ACETATE ION (CCD ID: ACT) (formula: $C_2H_3O_2$).
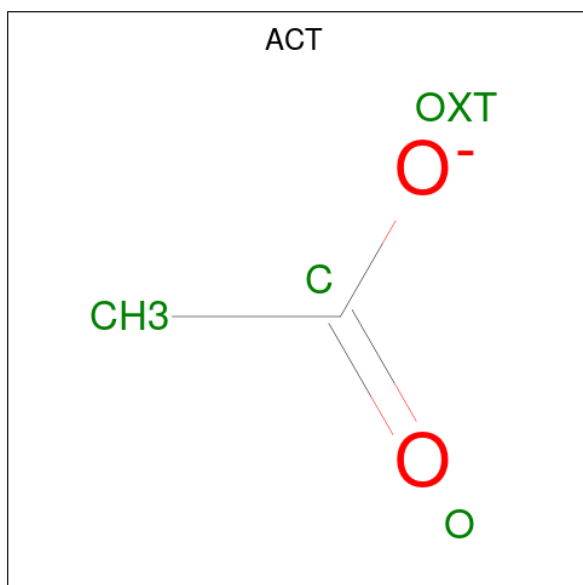
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
5	A	1	Total 4	C 2	O 2	0	0
5	A	1	Total 4	C 2	O 2	0	0
5	B	1	Total 4	C 2	O 2	0	0

- Molecule 6 is GLYCEROL (CCD ID: GOL) (formula: $C_3H_8O_3$).

GOL

C3
OH O3

C1 C2

HO OH
O1 O2

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

- Molecule 7 is DI(HYDROXYETHYL)ETHER (CCD ID: PEG) (formula: $C_4H_{10}O_3$).

PEG

C4
OH O4

O2
O
C3

C1

HO
O1

C2
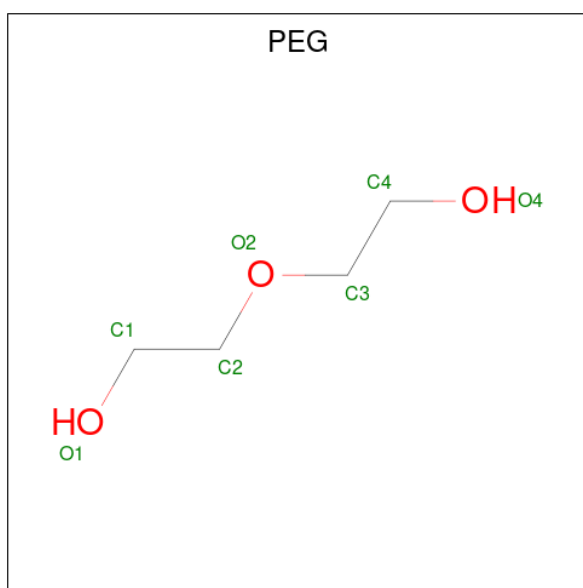
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
7	B	1	Total 7	C 4	O 3	0	0

- Molecule 8 is water.

| Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
8	A	72	Total 72	O 72	0	0
8	B	136	Total 136	O 136	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: Threonylcarbamoyl-AMP synthase

Chain A:

• Molecule 1: Threonylcarbamoyl-AMP synthase

Chain B:
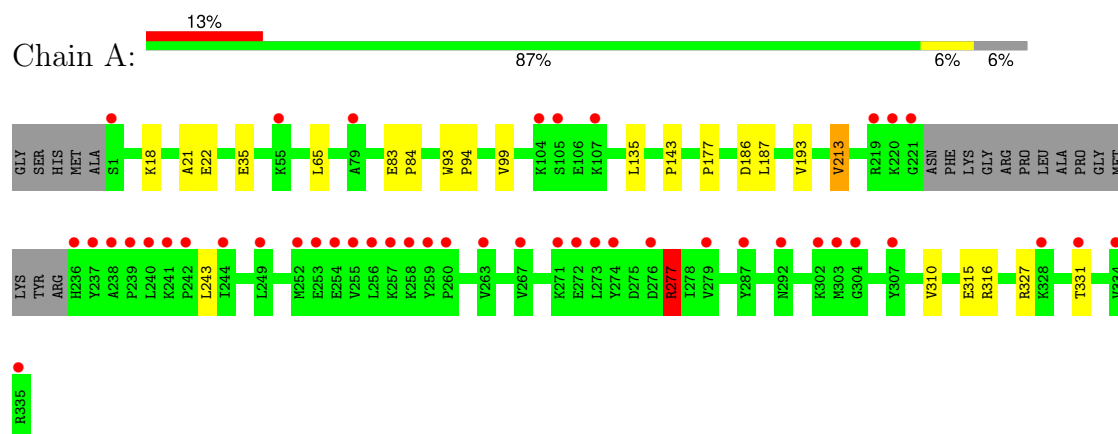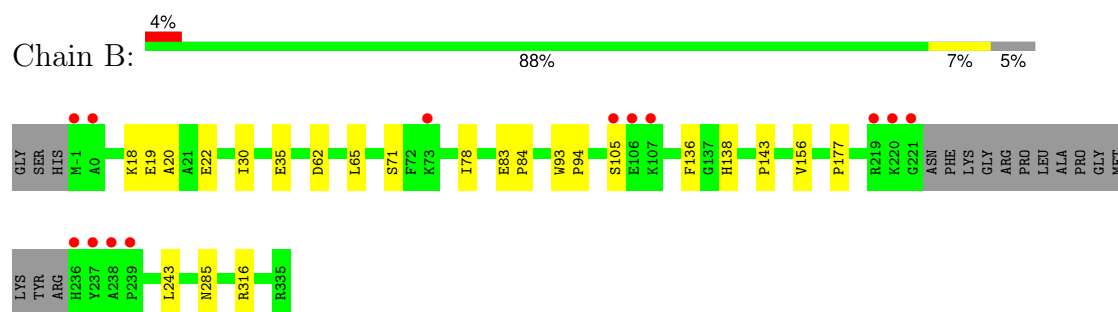
4 Data and refinement statistics ⓘ

Property	Value	Source
Space group	P 31 2 1	Depositor
Cell constants a, b, c, α, β, γ	153.82Å 153.82Å 86.89Å 90.00° 90.00° 120.00°	Depositor
Resolution (Å)	44.44 – 1.99 44.44 – 1.99	Depositor EDS
% Data completeness (in resolution range)	100.0 (44.44-1.99) 100.0 (44.44-1.99)	Depositor EDS
R_{merge}	0.27	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.20 (at 1.98Å)	Xtriage
Refinement program	REFMAC 5.8.0430	Depositor
R, R_{free}	0.197 , 0.223 0.207 , 0.212	Depositor DCC
R_{free} test set	3906 reflections (4.81%)	wwPDB-VP
Wilson B-factor (Å^2)	34.8	Xtriage
Anisotropy	0.421	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.36 , 40.7	EDS
L-test for twinning[2]	$< |L| > = 0.50, < L^2 > = 0.33$	Xtriage
Estimated twinning fraction	0.029 for -h,-k,l	Xtriage
F_o,F_c correlation	0.96	EDS
Total number of atoms	5546	wwPDB-VP
Average B, all atoms (Å^2)	50.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 5.75% 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 ⓘ

5.1   Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: MG, PEG, TXA, GOL, DPO, ACT

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	0.48	0/2666	0.92	1/3611 (0.0%)
1	B	0.49	0/2687	0.92	1/3639 (0.0%)
All	All	0.49	0/5353	0.92	2/7250 (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	A	0	2
1	B	0	1
All	All	0	3

There are no bond length outliers.

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	186	ASP	CA-CB-CG	5.42	118.02	112.60
1	B	62	ASP	CA-CB-CG	5.11	117.71	112.60

There are no chirality outliers.

All (3) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	277	ARG	Sidechain
1	A	316	ARG	Sidechain
1	B	316	ARG	Sidechain

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	2597	0	2728	15	0
1	B	2624	0	2737	12	0
2	A	9	0	0	0	0
2	B	9	0	0	0	0
3	A	33	0	20	0	0
3	B	33	0	20	1	0
4	A	1	0	0	0	0
4	B	1	0	0	0	0
5	A	8	0	6	3	0
5	B	4	0	3	0	0
6	B	12	0	16	1	0
7	B	7	0	10	1	0
8	A	72	0	0	0	0
8	B	136	0	0	1	0
All	All	5546	0	5540	28	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 3.

All (28) 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:19:GLU:HG3	8:B:621:HOH:O	1.97	0.63
1:A:277:ARG:HG3	1:A:277:ARG:HH11	1.64	0.62
1:B:136:PHE:CE2	1:B:138:HIS:HB2	2.44	0.53
1:A:22:GLU:OE1	5:A:405:ACT:H1	2.09	0.53
1:A:83:GLU:N	1:A:84:PRO:CD	2.73	0.52
1:B:35:GLU:HA	1:B:177:PRO:HD2	1.92	0.52
1:A:18:LYS:CG	1:A:135[A]:LEU:HD21	2.41	0.51
1:A:21:ALA:CB	5:A:405:ACT:H3	2.40	0.51
1:A:35:GLU:HA	1:A:177:PRO:HD2	1.92	0.51
1:A:93:TRP:HA	1:A:94:PRO:C	2.36	0.50
1:B:18:LYS:O	1:B:22:GLU:HG2	2.12	0.50
1:A:21:ALA:HB1	5:A:405:ACT:H3	1.94	0.49
1:B:78:ILE:HA	1:B:105:SER:HB2	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:65[A]:LEU:HG	1:A:143:PRO:HD3	1.99	0.45
1:B:71:SER:HA	7:B:407:PEG:H12	1.97	0.45
1:A:193:VAL:HG22	1:A:213[A]:VAL:HG22	1.98	0.45
1:A:315:GLU:CG	1:A:327:ARG:HH22	2.31	0.44
3:B:402:TXA:H12	3:B:402:TXA:OP1	2.17	0.44
1:B:83:GLU:N	1:B:84:PRO:CD	2.81	0.44
1:B:65[A]:LEU:HG	1:B:143:PRO:HD3	2.01	0.43
1:B:93:TRP:HA	1:B:94:PRO:C	2.43	0.43
1:A:193:VAL:HG13	1:A:213[A]:VAL:CG2	2.49	0.42
1:B:156[A]:VAL:HG13	6:B:406:GOL:H31	2.02	0.42
1:A:243:LEU:HD11	1:A:310:VAL:CG2	2.50	0.41
1:A:18:LYS:HG3	1:A:135[A]:LEU:HD21	2.01	0.41
1:B:243:LEU:C	1:B:243:LEU:HD23	2.45	0.41
1:B:20:ALA:HB1	1:B:30:ILE:HD13	2.02	0.41
1:A:99[A]:VAL:HG11	1:A:187:LEU:HD12	2.03	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	324/340 (95%)	314 (97%)	10 (3%)	0	100	100
1	B	327/340 (96%)	321 (98%)	6 (2%)	0	100	100
All	All	651/680 (96%)	635 (98%)	16 (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	289/296 (98%)	285 (99%)	4 (1%)	62	68
1	B	291/296 (98%)	290 (100%)	1 (0%)	91	94
All	All	580/592 (98%)	575 (99%)	5 (1%)	81	81

All (5) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	213[A]	VAL
1	A	213[B]	VAL
1	A	277	ARG
1	A	331	THR
1	B	285	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (3) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	85	HIS
1	B	285	ASN
1	B	291	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 12 ligands modelled in this entry, 2 are monoatomic - leaving 10 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	#$|Z| > 2$
3	TXA	B	402	4	30,35,35	0.95	1 (3%)	36,52,52	1.51	3 (8%)
6	GOL	B	406	-	5,5,5	0.12	0	5,5,5	0.43	0
7	PEG	B	407	-	6,6,6	0.17	0	5,5,5	0.17	0
2	DPO	A	401	4	6,8,8	0.74	0	12,13,13	0.76	0
6	GOL	B	405	-	5,5,5	0.10	0	5,5,5	0.29	0
5	ACT	B	404	-	3,3,3	1.05	0	3,3,3	0.80	0
5	ACT	A	404	-	3,3,3	1.11	0	3,3,3	0.77	0
5	ACT	A	405	-	3,3,3	0.95	0	3,3,3	0.80	0
2	DPO	B	401	4	6,8,8	0.76	0	12,13,13	0.90	0
3	TXA	A	402	4	30,35,35	0.86	1 (3%)	36,52,52	1.21	2 (5%)

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
3	TXA	B	402	4	-	1/21/43/43	0/3/3/3
6	GOL	B	406	-	-	4/4/4/4	-
7	PEG	B	407	-	-	2/4/4/4	-
2	DPO	A	401	4	-	2/6/6/6	-
6	GOL	B	405	-	-	1/4/4/4	-
2	DPO	B	401	4	-	2/6/6/6	-
3	TXA	A	402	4	-	2/21/43/43	0/3/3/3

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	B	402	TXA	P-OP2	2.95	1.65	1.60
3	A	402	TXA	P-OP2	2.60	1.65	1.60

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	B	402	TXA	OP2-CCA-NX	7.02	114.06	109.91
3	A	402	TXA	OP2-CCA-NX	4.78	112.74	109.91
3	B	402	TXA	OP3-P-OP2	2.82	114.07	104.94
3	A	402	TXA	C5-C6-N6	2.38	123.93	120.31
3	B	402	TXA	C5-C6-N6	2.22	123.70	120.31

There are no chirality outliers.

All (14) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	401	DPO	P2-O4-P1-O3
2	B	401	DPO	P2-O4-P1-O3
3	B	402	TXA	C4'-C5'-O5'-P
6	B	405	GOL	C1-C2-C3-O3
6	B	406	GOL	O1-C1-C2-C3
6	B	406	GOL	C1-C2-C3-O3
7	B	407	PEG	O1-C1-C2-O2
6	B	406	GOL	O2-C2-C3-O3
3	A	402	TXA	O4'-C4'-C5'-O5'
3	A	402	TXA	C3'-C4'-C5'-O5'
6	B	406	GOL	O1-C1-C2-O2
2	A	401	DPO	P2-O4-P1-O1
2	B	401	DPO	P2-O4-P1-O2
7	B	407	PEG	O2-C3-C4-O4

There are no ring outliers.

4 monomers are involved in 6 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	B	402	TXA	1	0
6	B	406	GOL	1	0
7	B	407	PEG	1	0
5	A	405	ACT	3	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 TXA B 402

Bond lengths — Bond angles — Torsions — Rings

Ligand DPO A 401

Bond lengths — Bond angles — Torsions — Rings

Ligand DPO B 401

Bond lengths

Bond angles

Torsions

Rings

Ligand TXA A 402

Bond lengths

Bond angles

Torsions

Rings
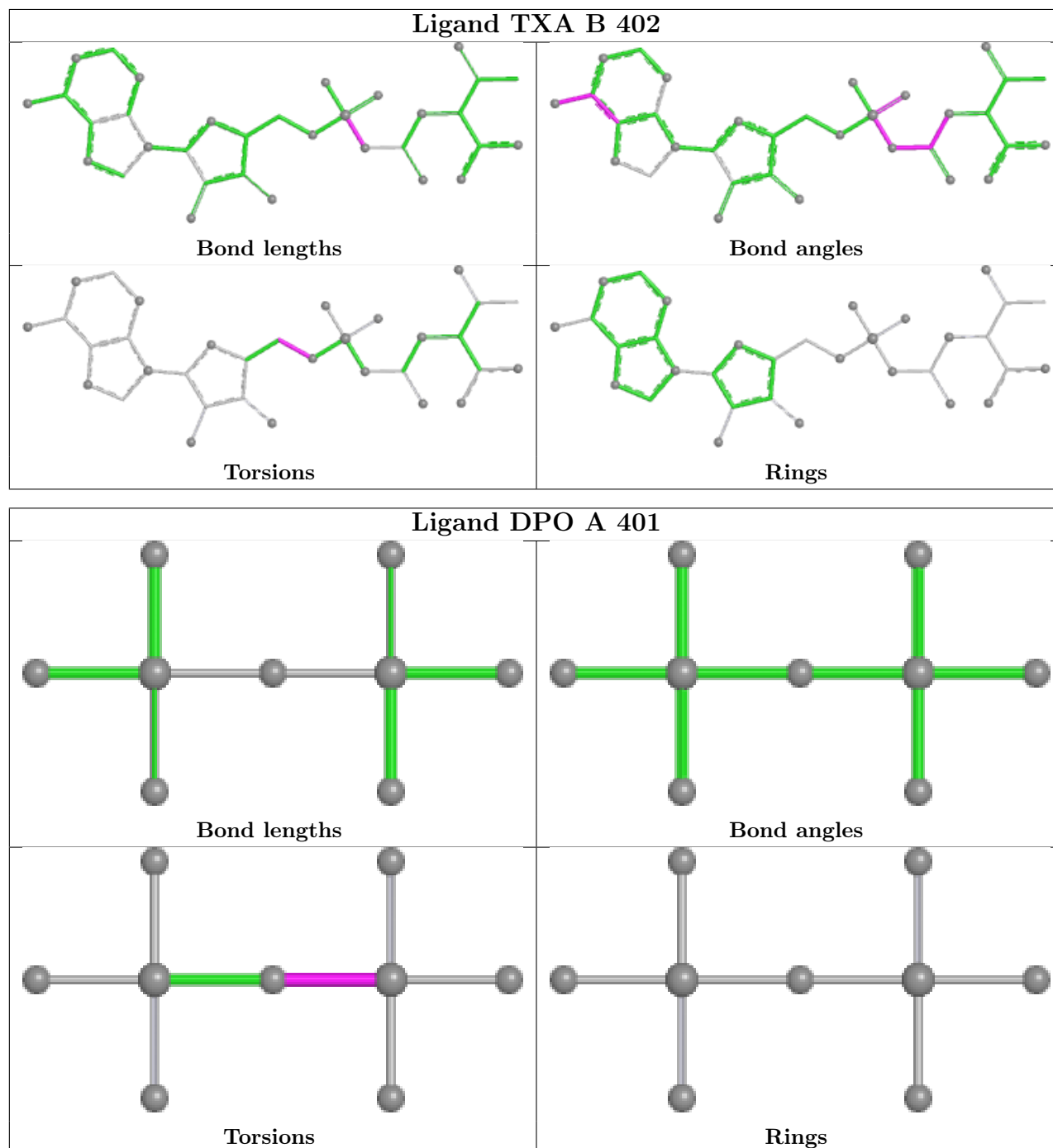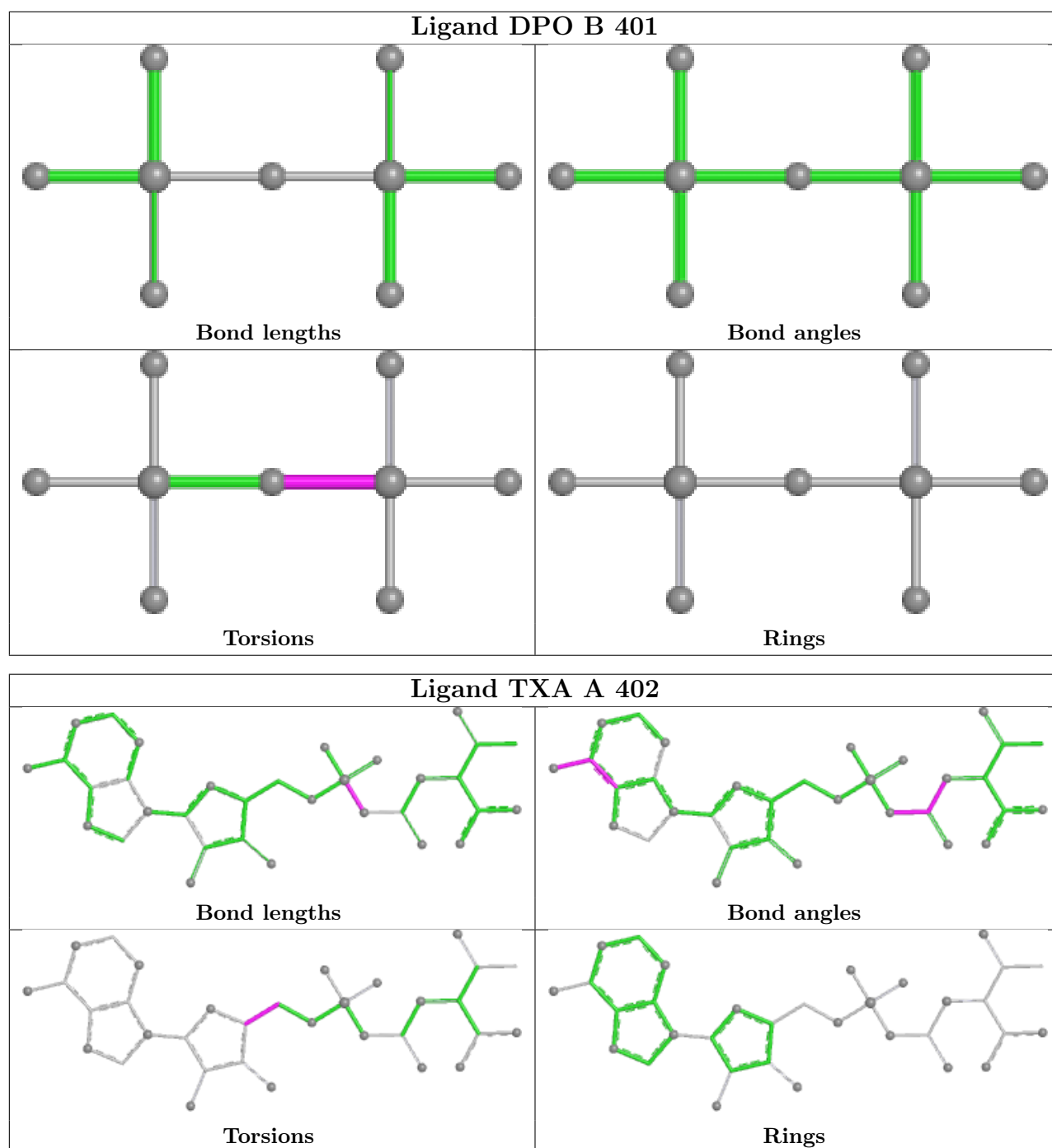
5.7 Other polymers ⓘ

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(Å²)	Q<0.9
1	A	321/340 (94%)	0.68	45 (14%)	7	6	20, 50, 89, 110	7 (2%)
1	B	323/340 (95%)	0.13	13 (4%)	43	41	16, 39, 68, 114	8 (2%)
All	All	644/680 (94%)	0.41	58 (9%)	17	15	16, 44, 83, 114	15 (2%)

All (58) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	238	ALA	6.6
1	B	-1	MET	4.4
1	A	240	LEU	4.3
1	A	107	LYS	3.8
1	A	260	PRO	3.7
1	A	273	LEU	3.6
1	A	257	LYS	3.6
1	A	221	GLY	3.5
1	B	239	PRO	3.3
1	A	256	LEU	3.3
1	A	238	ALA	3.2
1	A	1	SER	3.2
1	A	274	TYR	3.1
1	A	302	LYS	3.0
1	B	221	GLY	2.9
1	A	258	LYS	2.9
1	B	236	HIS	2.8
1	B	220	LYS	2.8
1	A	279	VAL	2.8
1	B	73	LYS	2.8
1	A	241	LYS	2.8
1	A	255	VAL	2.7
1	A	55	LYS	2.7
1	A	335	ARG	2.7

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Mol	Chain	Res	Type	RSRZ
1	A	304	GLY	2.6
1	A	272	GLU	2.6
1	A	220	LYS	2.6
1	B	237	TYR	2.6
1	A	244	ILE	2.6
1	A	307	TYR	2.5
1	A	253	GLU	2.5
1	A	334	VAL	2.5
1	A	259	TYR	2.5
1	A	236	HIS	2.5
1	B	107	LYS	2.5
1	B	106	GLU	2.4
1	A	287	TYR	2.4
1	A	328	LYS	2.4
1	A	105	SER	2.3
1	A	242	PRO	2.3
1	A	254	GLU	2.3
1	A	331	THR	2.3
1	A	104	LYS	2.2
1	A	276	ASP	2.2
1	A	219	ARG	2.2
1	B	0	ALA	2.2
1	A	79	ALA	2.2
1	B	219	ARG	2.2
1	A	263	VAL	2.1
1	A	237	TYR	2.1
1	B	105	SER	2.1
1	A	271	LYS	2.1
1	A	303	MET	2.1
1	A	292	ASN	2.1
1	A	239	PRO	2.1
1	A	267	VAL	2.0
1	A	252[A]	MET	2.0
1	A	249	LEU	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 oligosaccharides 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	PEG	B	407	7/7	0.87	0.18	65,74,82,83	0
5	ACT	A	404	4/4	0.89	0.17	56,59,69,75	0
6	GOL	B	405	6/6	0.90	0.15	48,67,72,76	0
5	ACT	B	404	4/4	0.90	0.16	62,63,71,75	0
6	GOL	B	406	6/6	0.91	0.15	57,65,73,74	0
3	TXA	A	402	33/33	0.92	0.12	35,62,76,90	0
5	ACT	A	405	4/4	0.92	0.14	53,58,67,74	0
3	TXA	B	402	33/33	0.94	0.10	30,49,59,69	0
2	DPO	B	401	9/9	0.96	0.07	36,46,58,60	0
2	DPO	A	401	9/9	0.97	0.07	49,60,80,82	0
4	MG	A	403	1/1	0.99	0.07	52,52,52,52	0
4	MG	B	403	1/1	0.99	0.08	44,44,44,44	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.

WORLDWIDE
wwPDB
PROTEIN DATA BANK

Electron density around TXA A 402:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative)
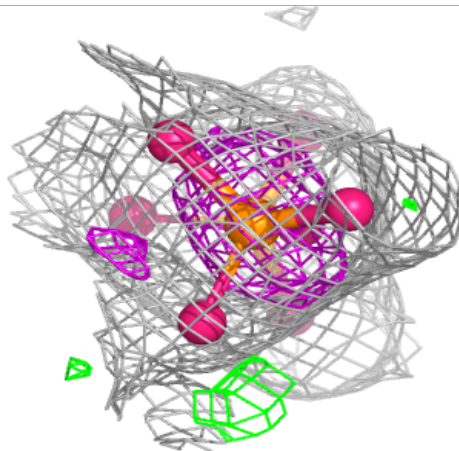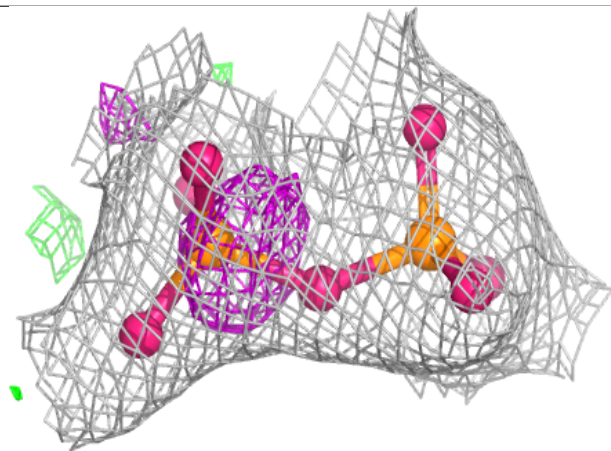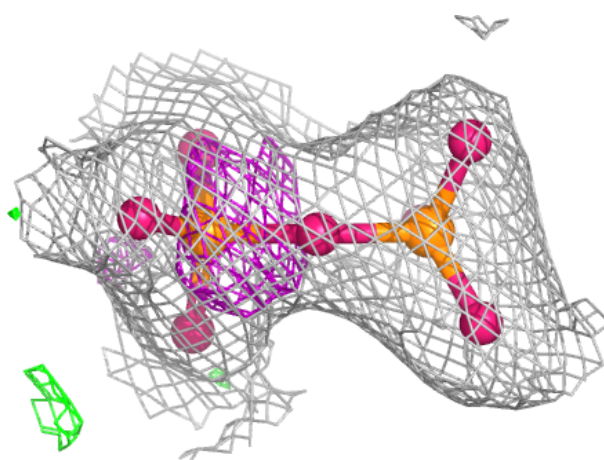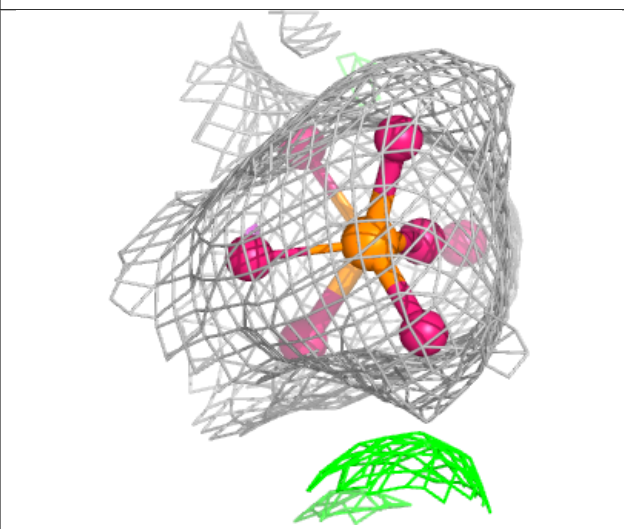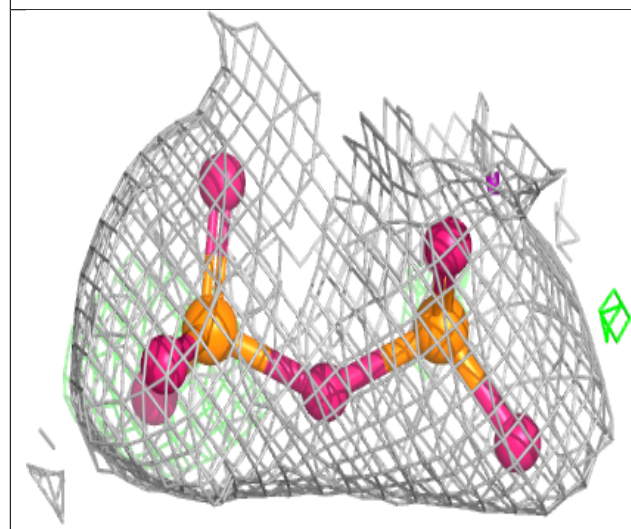and green (positive)
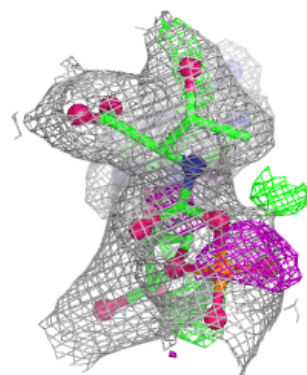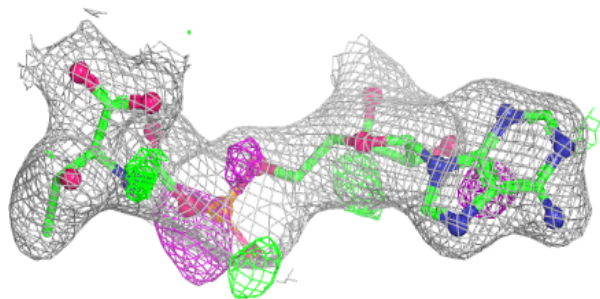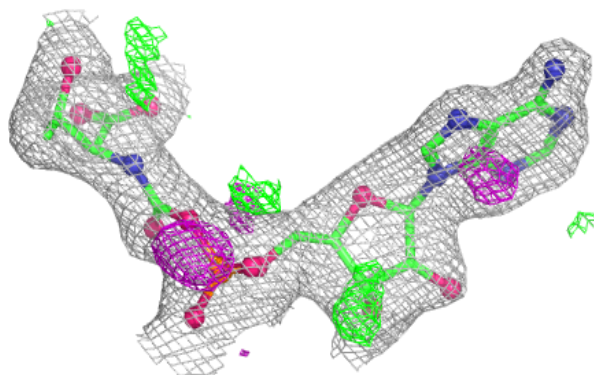
Electron density around TXA B 402:

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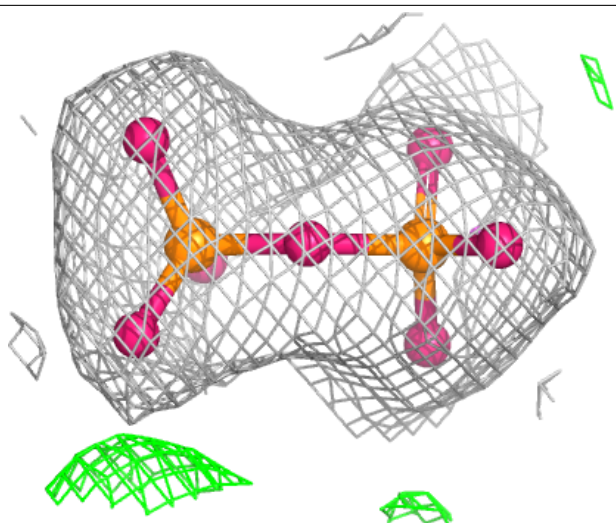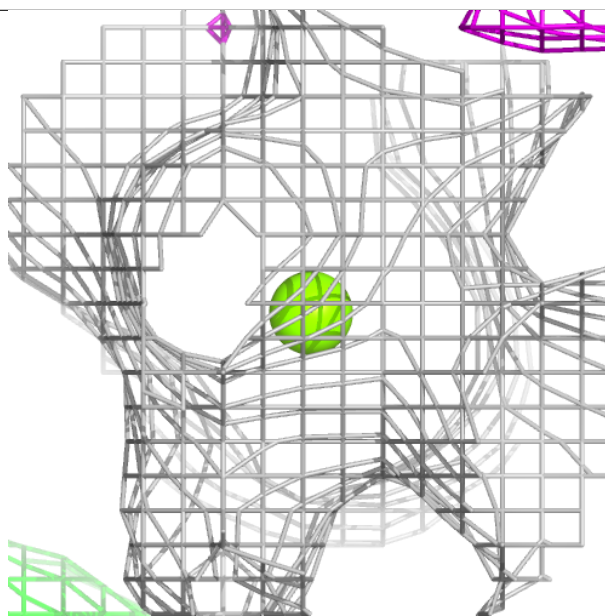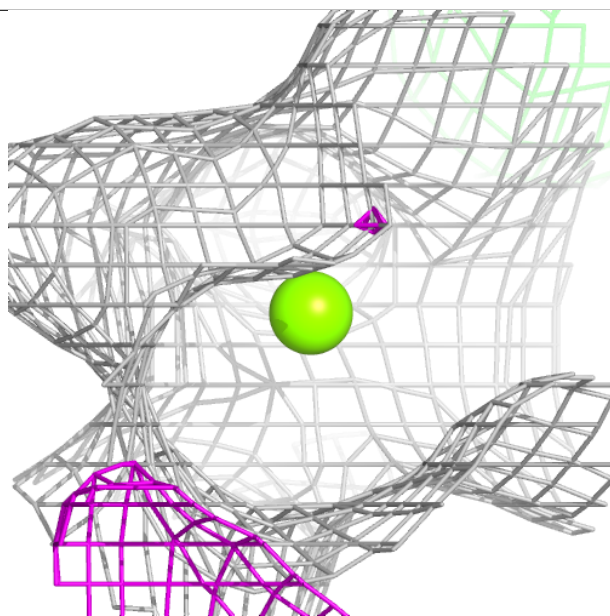mF_o-DF_c (at 3 rmsd) in purple (negative)
and green (positive)
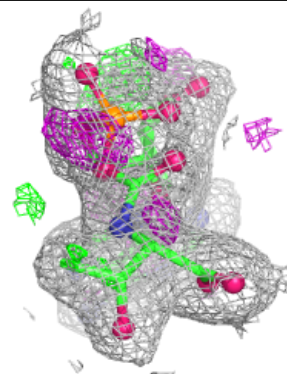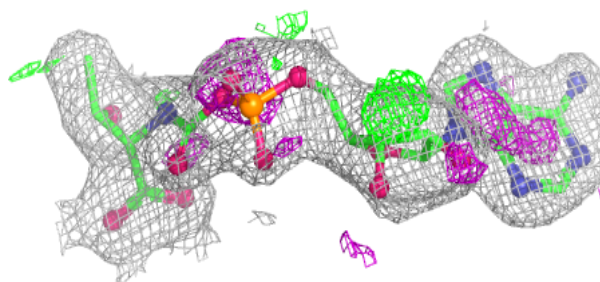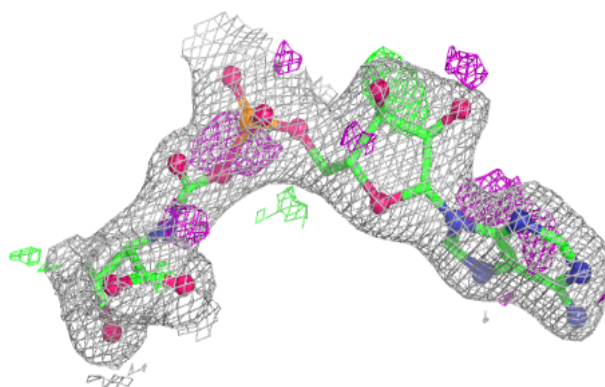
Electron density around DPO B 401:

2mF$_o$-DF$_c$ (at 0.7 rmsd) in gray
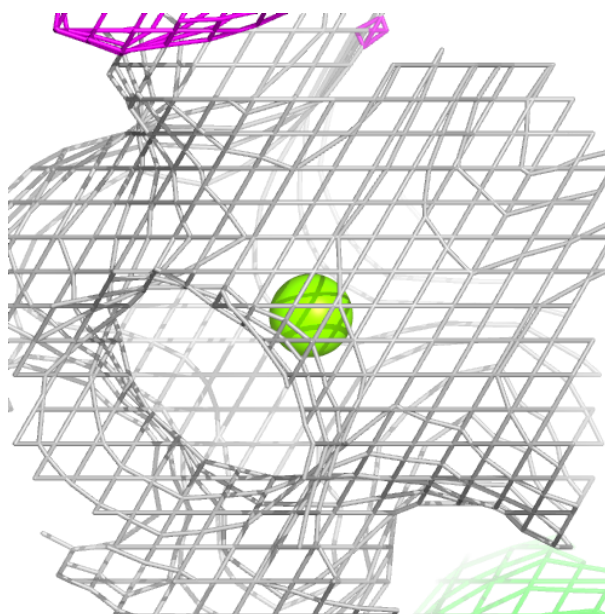mF$_o$-DF$_c$ (at 3 rmsd) in purple (negative)
and green (positive)

Electron density around DPO A 401:

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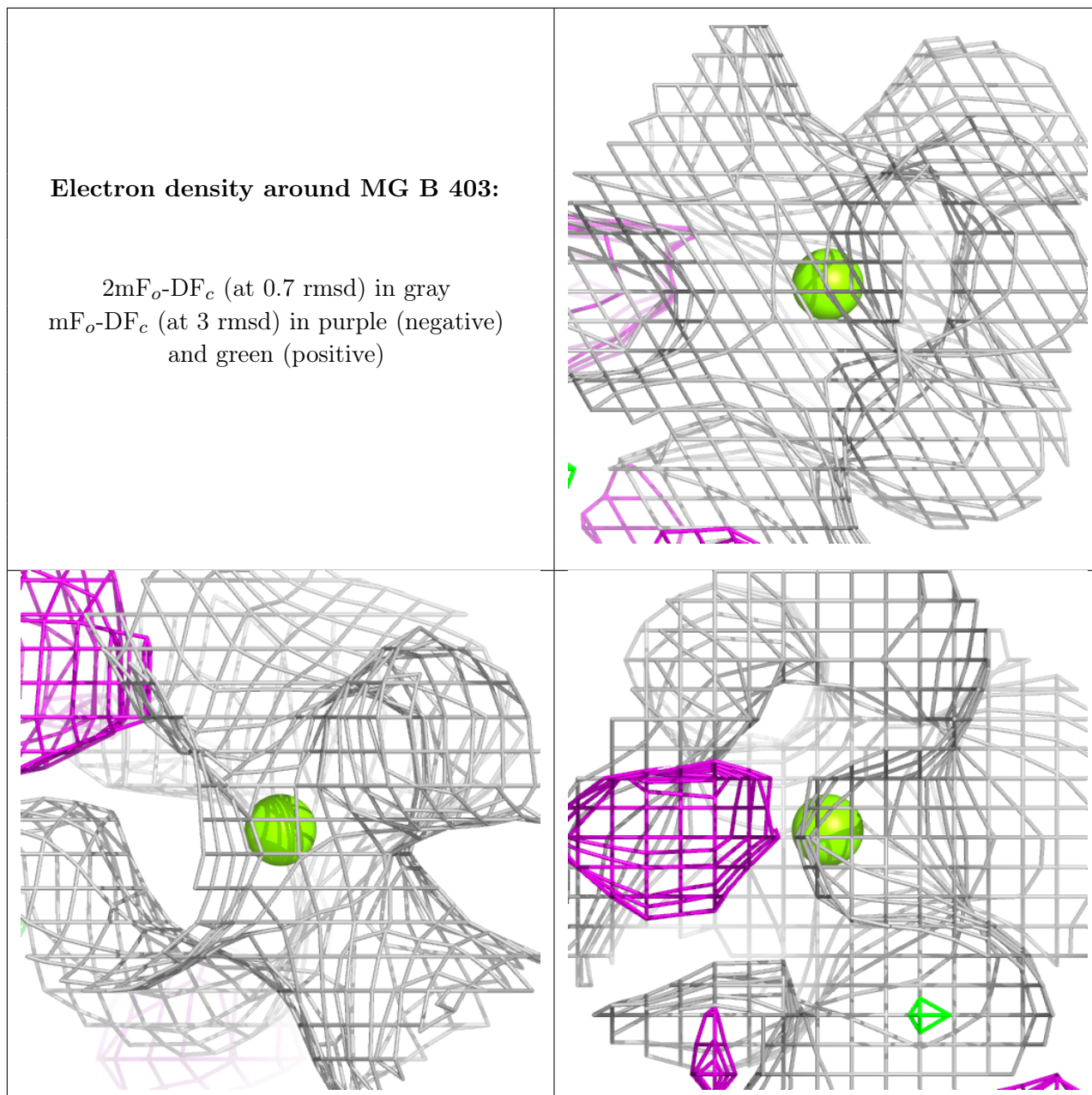and green (positive)

Electron density around MG A 403:

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

Electron density around MG B 403:

$2mF_o$-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.