W O R L D W I D E

wwPDB

P R O T E I N   D A T A   B A N K

wwPDB X-ray Structure Validation Summary Report (i)

Aug 15, 2023 – 08:06 AM EDT

PDB ID	:	1TKD
Title	:	T7 DNA polymerase ternary complex with 8 oxo guanosine and dCMP at the elongation site
Authors	:	Brieba, L.G.; Eichman, B.F.; Kokoska, R.J.; Doublie, S.; Kunkel, T.A.; Ellenberger, T.
Deposited on	:	2004-06-08
Resolution	:	2.49 Å(reported)

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

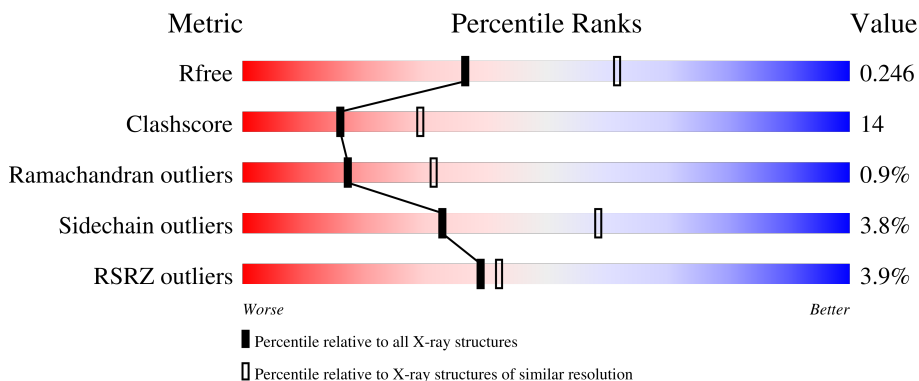|		
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.35
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.35

1 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 2.49 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		0.246
Clashscore		14
Ramachandran outliers		0.9%
Sidechain outliers		3.8%
RSRZ outliers		3.9%

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	4661 (2.50-2.50)
Clashscore	141614	5346 (2.50-2.50)
Ramachandran outliers	138981	5231 (2.50-2.50)
Sidechain outliers	138945	5233 (2.50-2.50)
RSRZ outliers	127900	4559 (2.50-2.50)

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	P	22	23% / 18% 50% 5% 27%
2	T	26	19% / 38% 27% 8% 27%
3	A	698	3% / 74% 24% •
4	B	108	5% / 61% 35% • •

2 Entry composition ⓘ

There are 10 unique types of molecules in this entry. The entry contains 7842 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 DNA chain called DNA (5'-D(*CP*GP*AP*AP*AP*AP*CP*GP*AP*CP*GP*GP*CP*CP*AP*GP*TP*GP*CP*CP*AP*(DOC))-3').

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	P	16	Total 325	C 153	N 63	O 93	P 16	0	0	0

- Molecule 2 is a DNA chain called DNA (5'-D(*CP*CP*CP*AP*(8OG)P*TP*GP*GP*CP*AP*CP*TP*GP*GP*CP*CP*GP*TP*CP*GP*TP*TP*TP*TP*CP*G)-3').

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	T	19	Total 391	C 184	N 71	O 117	P 19	0	0	0

- Molecule 3 is a protein called DNA polymerase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	A	698	Total 5534	C 3520	N 960	O 1030	S 24	0	0	0

There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	?	-	LYS	deletion	UNP P00581
A	?	-	ARG	deletion	UNP P00581
A	?	-	PHE	deletion	UNP P00581
A	?	-	GLY	deletion	UNP P00581
A	?	-	SER	deletion	UNP P00581
A	?	-	HIS	deletion	UNP P00581

- Molecule 4 is a protein called Thioredoxin 1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	B	105	Total 802	C 518	N 129	O 152	S 3	0	0	0

- Molecule 5 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	A	3	Total 3	Mg 3	0	0

- Molecule 6 is SULFATE ION (three-letter code: SO4) (formula: O_4S).
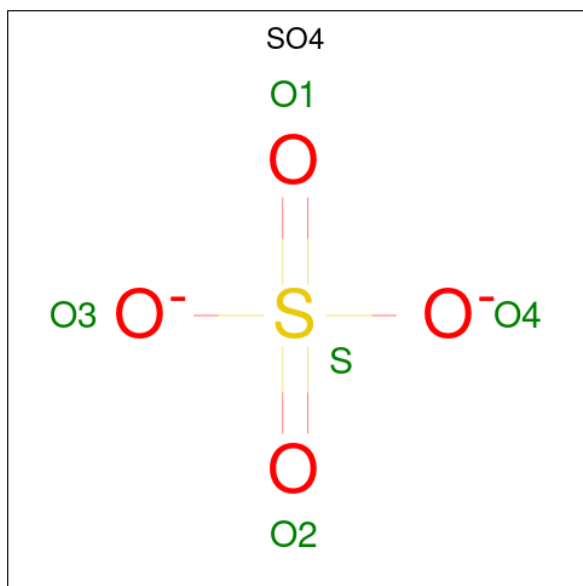
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
6	A	1	Total 5	O 4	S 1	0	0
6	A	1	Total 5	O 4	S 1	0	0
6	A	1	Total 5	O 4	S 1	0	0

- Molecule 7 is 2',3'-DIDEOXY-THYMIDINE-5'-TRIPHOSPHATE (three-letter code: D3T) (formula: $C_{10}H_{17}N_2O_{13}P_3$).

D3T
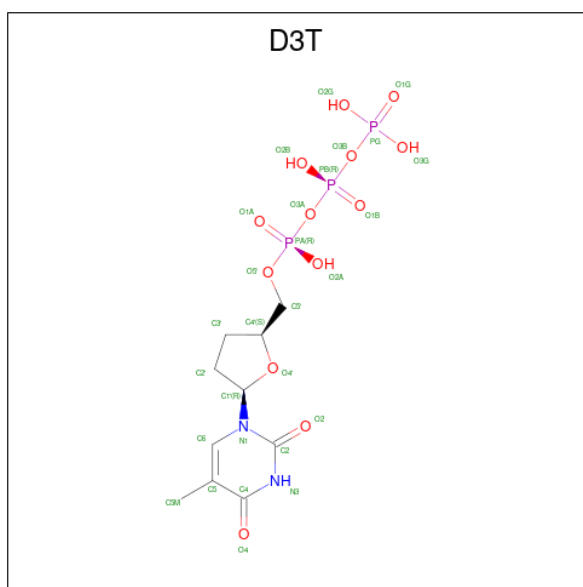
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
			Total	C	N	O	P		
7	A	1	28	10	2	13	3	0	0

- Molecule 8 is 2-(N-MORPHOLINO)-ETHANESULFONIC ACID (three-letter code: MES) (formula: $C_6H_{13}NO_4S$).

MES
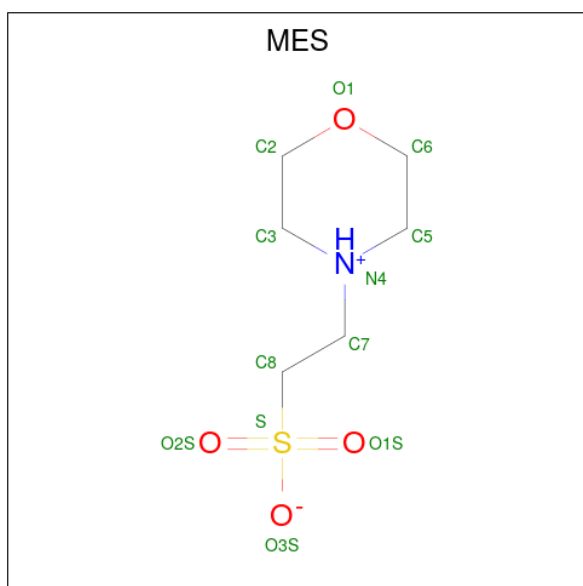
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
			Total	C	N	O	S		
8	A	1	12	6	1	4	1	0	0

- Molecule 9 is PENTAETHYLENE GLYCOL (three-letter code: 1PE) (formula: $C_{10}H_{22}O_6$).
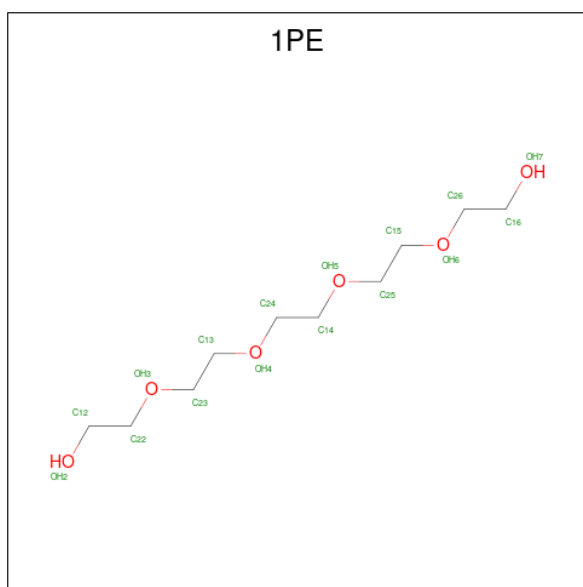
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
9	A	1	Total 16	C 10	O 6	0	0

- Molecule 10 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
10	P	21	Total 21	O 21	0	0
10	T	42	Total 42	O 42	0	0
10	A	597	Total 597	O 597	0	0
10	B	56	Total 56	O 56	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: DNA (5'-D(*CP*GP*AP*AP*AP*AP*CP*GP*AP*CP*GP*GP*CP*CP*AP*GP *TP*GP*CP*CP*AP*(DOC))-3')

• Molecule 2: DNA (5'-D(*CP*CP*CP*AP*(8OG)P*TP*GP*GP*CP*AP*CP*TP*GP*GP*CP *CP*GP*TP*CP*GP*TP*TP*TP*TP*CP*G)-3')

• Molecule 3: DNA polymerase

A676 M677 R678 W679 V680 F686 L690 D691 M696 G697 P698 I702 C703 H704

• Molecule 4: Thioredoxin 1

5%

Chain B:

61% 35%

SER ASP K3 I4 I5 D13 T14 D15 V16 L17 K18 A19 D20 L24 F27 M37 I38 A39 P40 I41 I45 A46 D47 E48 Y49 Q50 L53 T54 K57 A67 P68 R73 G74 T77 I78 L79 L80 F81 G84 G92 S95 Q98 L99 K100 E101 F102

L103 D104 A105 N106 L107 ALA
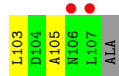
4 Data and refinement statistics ⓘ

Property	Value	Source
Space group	P 21 21 2	Depositor
Cell constants a, b, c, α, β, γ	105.51Å 215.11Å 52.03Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	47.91 – 2.49 47.91 – 2.49	Depositor EDS
% Data completeness (in resolution range)	95.9 (47.91-2.49) 96.0 (47.91-2.49)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	0.07	Depositor
$< I/\sigma(I) >$ [1]	8.80 (at 2.48Å)	Xtriage
Refinement program	CNS 1.1	Depositor
R, R_{free}	0.202 , 0.265 0.186 , 0.246	Depositor DCC
R_{free} test set	1957 reflections (4.79%)	wwPDB-VP
Wilson B-factor (Å^2)	25.4	Xtriage
Anisotropy	0.344	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.31 , 54.8	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	0.93	EDS
Total number of atoms	7842	wwPDB-VP
Average B, all atoms (Å^2)	31.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.67% 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, MES, 1PE, DOC, D3T, 8OG, SO4

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	P	0.43	0/344	0.82	0/528
2	T	0.45	0/410	0.86	0/628
3	A	0.33	0/5671	0.57	1/7680 (0.0%)
4	B	0.30	0/817	0.57	0/1108
All	All	0.34	0/7242	0.60	1/9944 (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	P	0	1
2	T	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	A	306	GLN	N-CA-C	-5.01	97.46	111.00

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	P	821	DA	Sidechain
2	T	857	DG	Sidechain

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	P	325	0	178	27	0
2	T	391	0	214	13	0
3	A	5534	0	5387	146	0
4	B	802	0	816	27	0
5	A	3	0	0	0	0
6	A	15	0	0	0	0
7	A	28	0	13	3	0
8	A	12	0	13	1	0
9	A	16	0	22	5	0
10	A	597	0	0	8	0
10	B	56	0	0	1	0
10	P	21	0	0	0	0
10	T	42	0	0	1	0
All	All	7842	0	6643	199	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 14.

The worst 5 of 199 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:P:816:DG:H2"	1:P:817:DT:H5'	1.42	1.00
3:A:311:GLU:HB3	3:A:312:PRO:HD2	1.40	0.99
1:P:815:DA:H2"	1:P:816:DG:H5'	1.51	0.90
3:A:343:GLN:HG3	3:A:362:PRO:HG3	1.55	0.89
3:A:111:ARG:HH21	3:A:114:LYS:HD2	1.39	0.88

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	
3	A	696/698 (100%)	658 (94%)	32 (5%)	6 (1%)	17	31
4	B	103/108 (95%)	98 (95%)	4 (4%)	1 (1%)	15	28
All	All	799/806 (99%)	756 (95%)	36 (4%)	7 (1%)	17	31

5 of 7 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	A	156	ASP
3	A	306	GLN
3	A	318	ARG
3	A	319	GLU
3	A	313	CYS

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	
3	A	570/579 (98%)	548 (96%)	22 (4%)	32	57
4	B	85/87 (98%)	82 (96%)	3 (4%)	36	62
All	All	655/666 (98%)	630 (96%)	25 (4%)	33	58

5 of 25 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	A	546	GLU
3	A	557	GLU
4	B	99	LEU
3	A	553	LYS
3	A	599	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 9 such

sidechains are listed below:

Mol	Chain	Res	Type
3	A	667	GLN
4	B	50	GLN
3	A	343	GLN
3	A	347	GLN
3	A	570	GLN

5.3.3   RNA ⓘ

There are no RNA molecules in this entry.

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

2 non-standard protein/DNA/RNA residues are modelled in this entry.

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	$\#|Z| > 2$
2	8OG	T	855	2,1	22,25,26	0.97	1 (4%)	30,37,40	1.76	5 (16%)
1	DOC	P	822	1,2	16,19,20	0.39	0	20,26,29	0.49	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
2	8OG	T	855	2,1	-	1/7/21/22	0/3/3/3
1	DOC	P	822	1,2	-	0/7/18/19	0/2/2/2

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	T	855	8OG	C8-N7	-4.05	1.30	1.38

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	T	855	8OG	C2'-C1'-N9	-5.77	109.19	116.01
2	T	855	8OG	N7-C8-N9	4.97	112.48	106.58
2	T	855	8OG	C5-N7-C8	-3.30	104.72	109.47
2	T	855	8OG	O8-C8-N9	-2.65	122.29	125.99
2	T	855	8OG	C4-C5-N7	2.57	111.02	106.08

There are no chirality outliers.

All (1) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	T	855	8OG	O4'-C4'-C5'-O5'

There are no ring outliers.

2 monomers are involved in 7 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	T	855	8OG	6	0
1	P	822	DOC	1	0

5.5 Carbohydrates ⓘ

There are no monosaccharides in this entry.

5.6 Ligand geometry ⓘ

Of 9 ligands modelled in this entry, 3 are monoatomic - leaving 6 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	$\#|Z| > 2$
6	SO4	A	904	-	4,4,4	0.27	0	6,6,6	0.07	0
8	MES	A	991	-	12,12,12	0.49	0	14,16,16	0.83	0
6	SO4	A	905	-	4,4,4	0.22	0	6,6,6	0.12	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	#|Z| > 2	Counts	RMSZ	#|Z| > 2
7	D3T	A	823	5	25,29,29	0.60	0	35,45,45	0.90	2 (5%)
9	1PE	A	992	-	15,15,15	0.87	0	14,14,14	0.87	0
6	SO4	A	906	-	4,4,4	0.26	0	6,6,6	0.08	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
8	MES	A	991	-	-	3/6/14/14	0/1/1/1
7	D3T	A	823	5	-	2/22/31/31	0/2/2/2
9	1PE	A	992	-	-	5/13/13/13	-

There are no bond length outliers.

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	A	823	D3T	O2G-PG-O1G	2.25	119.47	110.68
7	A	823	D3T	O3G-PG-O3B	-2.09	97.63	104.64

There are no chirality outliers.

5 of 10 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
8	A	991	MES	C7-C8-S-O2S
8	A	991	MES	C7-C8-S-O3S
9	A	992	1PE	OH7-C16-C26-OH6
9	A	992	1PE	OH2-C12-C22-OH3
7	A	823	D3T	PB-O3A-PA-O2A

There are no ring outliers.

3 monomers are involved in 9 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
8	A	991	MES	1	0
7	A	823	D3T	3	0
9	A	992	1PE	5	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 D3T A 823

Bond lengths · Bond angles · Torsions · Rings
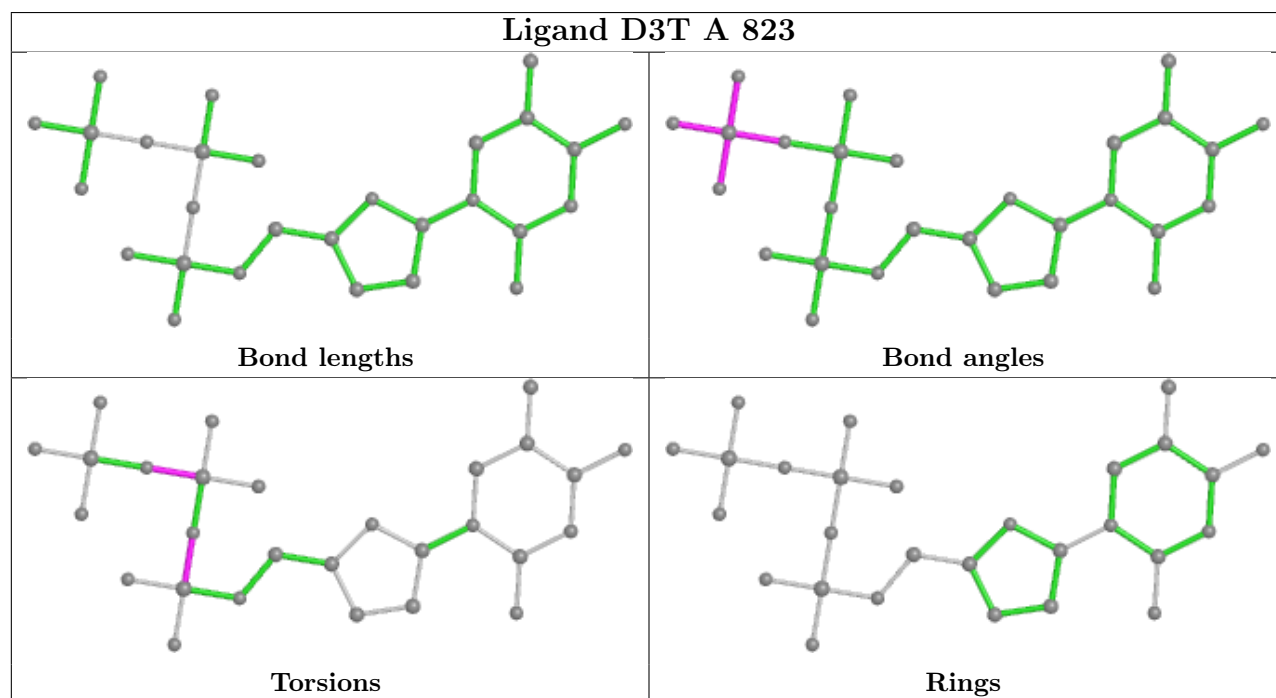
5.7 Other polymers ⓘ

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	P	15/22 (68%)	1.17	5 (33%)	0	0	19, 47, 100, 100	0
2	T	18/26 (69%)	0.92	5 (27%)	0	0	16, 33, 100, 100	0
3	A	698/698 (100%)	-0.13	18 (2%)	56	59	8, 22, 62, 89	0
4	B	105/108 (97%)	0.22	5 (4%)	30	32	17, 33, 54, 59	0
All	All	836/854 (97%)	-0.04	33 (3%)	39	42	8, 24, 64, 100	0

The worst 5 of 33 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
3	A	582	GLY	4.7
2	T	869	DC	4.5
1	P	807	DC	4.3
1	P	808	DG	4.2
2	T	870	DG	4.1

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

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.

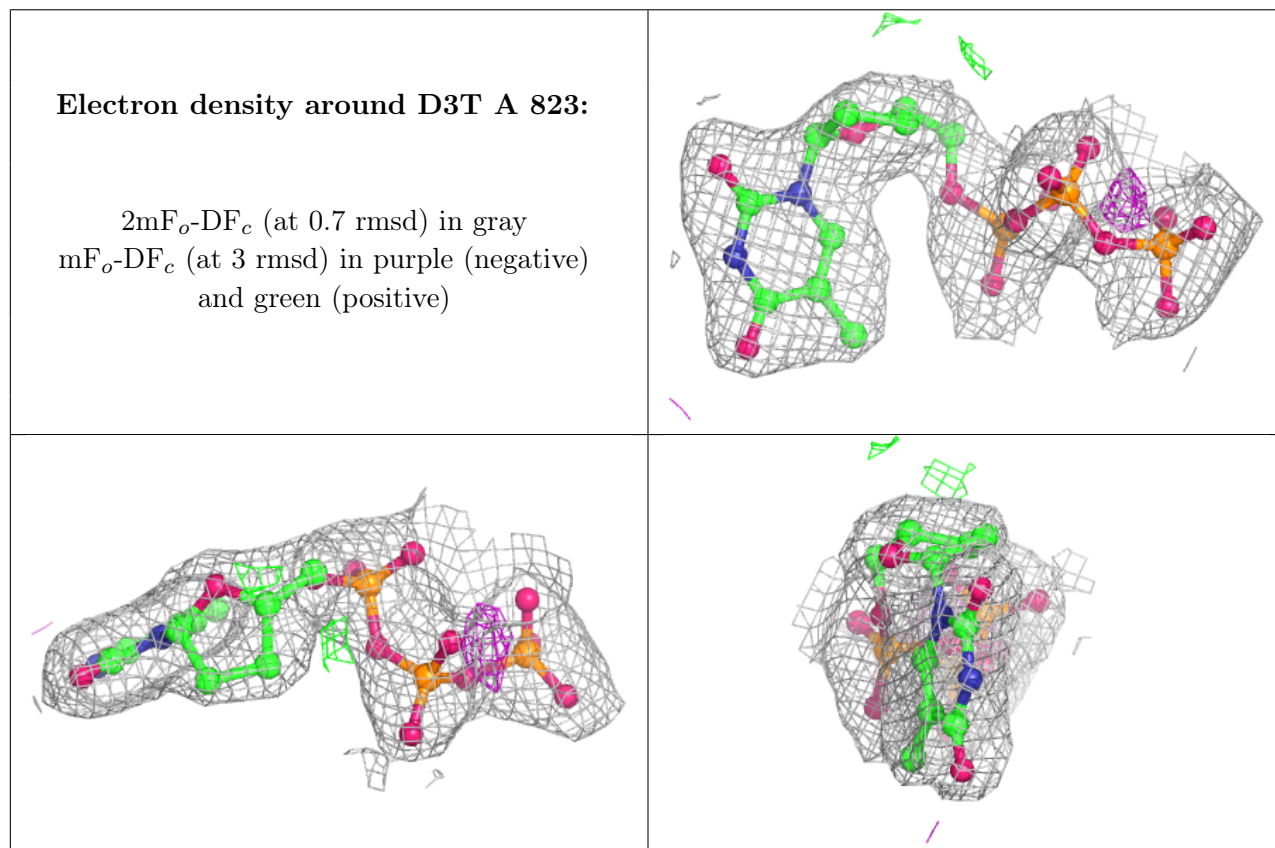| Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
2	8OG	T	855	23/24	0.94	0.16	19,23,32,35	0
1	DOC	P	822	18/19	0.98	0.15	12,15,16,17	0

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
5	MG	A	901	1/1	0.79	0.09	24,24,24,24	0
9	1PE	A	992	16/16	0.86	0.26	37,43,50,51	0
5	MG	A	902	1/1	0.87	0.11	37,37,37,37	0
6	SO4	A	906	5/5	0.94	0.14	87,88,88,88	0
6	SO4	A	904	5/5	0.95	0.17	53,54,55,55	0
7	D3T	A	823	28/28	0.96	0.13	23,26,29,30	0
8	MES	A	991	12/12	0.97	0.16	39,42,44,44	0
6	SO4	A	905	5/5	0.97	0.18	58,58,59,59	0
5	MG	A	903	1/1	0.98	0.07	18,18,18,18	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 D3T A 823:

$2mF_o\text{-}DF_c$ (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.