Full wwPDB X-ray Structure Validation Report (i)

Feb 1, 2016 – 01:04 PM GMT

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PDB ID	:	3SUQ
Title	:	RB69 DNA Polymerase (Y567A) Ternary Complex with dCTP Opposite 2AP (AT rich sequence)
Authors	:	Xia, S.; Konigsberg, W.H.; Wang, J.
Deposited on	:	2011-07-11
Resolution	:	3.15 Å(reported)

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 3.15 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.
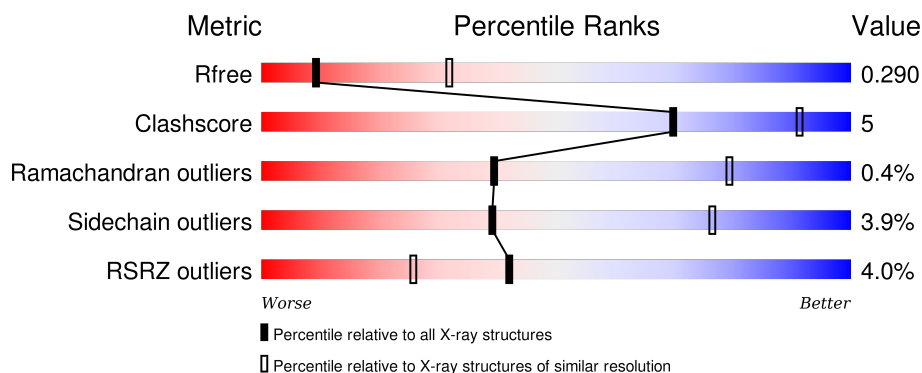
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	91344	1112 (3.20-3.12)
Clashscore	102246	1249 (3.20-3.12)
Ramachandran outliers	100387	1222 (3.20-3.12)
Sidechain outliers	100360	1221 (3.20-3.12)
RSRZ outliers	91569	1117 (3.20-3.12)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments on the lower bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria. 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	897	4% 86% 13% •
2	T	16	13% 50% 44% 6%
3	P	13	15% 46% 46% 8%

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	CA	A	902	-	-	-	X

2 Entry composition (i)

There are 5 unique types of molecules in this entry. The entry contains 7934 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 DNA polymerase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	897	Total	C	N	O	S	0	0	0
			7310	4691	1220	1367	32			

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	222	ALA	ASP	ENGINEERED MUTATION	UNP Q38087
A	327	ALA	ASP	ENGINEERED MUTATION	UNP Q38087
A	567	ALA	TYR	ENGINEERED MUTATION	UNP Q38087

- Molecule 2 is a DNA chain called 5'-D(P*CP*(2PR)P*TP*AP*AP*TP*TP*AP*AP*TP*T P*AP*AP*TP*TP*G)-3'.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	T	16	Total	C	N	O	P	0	0	0
			328	159	57	96	16			

- Molecule 3 is a DNA chain called 5'-D(*AP*AP*TP*TP*AP*AP*TP*TP*AP*AP*TP*TP *(2DA))-3'.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	P	13	Total	C	N	O	P	0	0	0
			263	130	47	74	12			

- Molecule 4 is 2'-DEOXYCYTIDINE-5'-TRIPHOSPHATE (three-letter code: DCP) (formula: $C_9H_{16}N_3O_{13}P_3$).

DCP
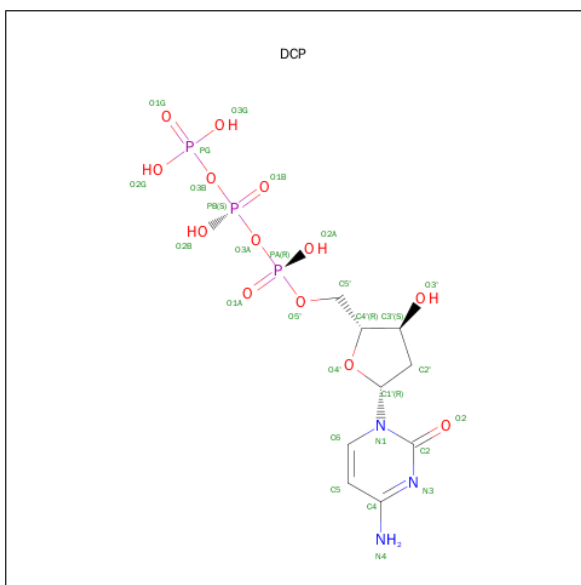
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
			Total	C	N	O	P		
4	A	1	28	9	3	13	3	0	0

- Molecule 5 is CALCIUM ION (three-letter code: CA) (formula: Ca).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
			Total	Ca		
5	A	5	5	5	0	0

3 Residue-property plots ⓘ

These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of errors 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 polymerase
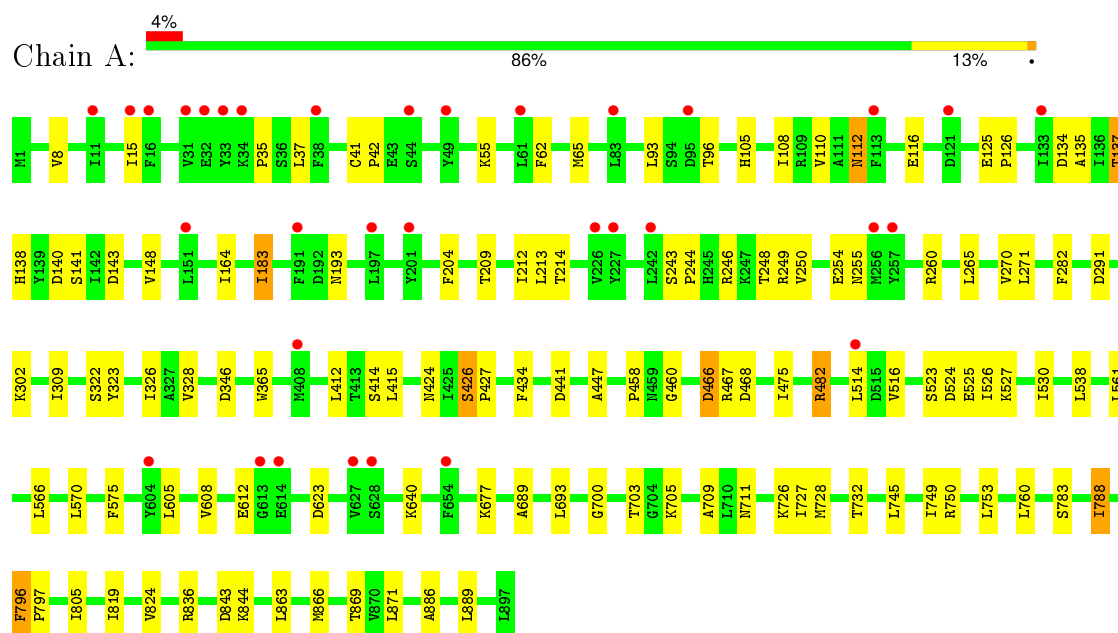
• Molecule 2: 5'-D(P*CP*(2PR)P*TP*AP*AP*TP*TP*AP*AP*TP*TP*AP*AP*TP*TP*G)-3'
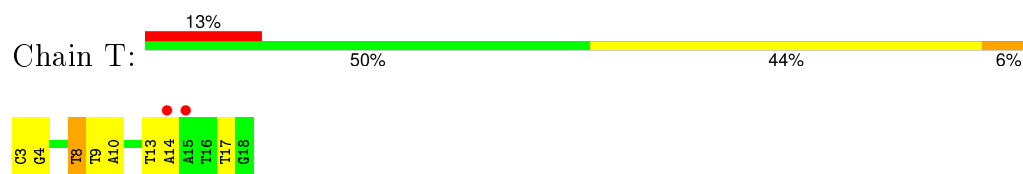
• Molecule 3: 5'-D(*AP*AP*TP*TP*AP*AP*TP*TP*AP*AP*TP*TP*(2DA))-3'

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α, β, γ	76.00Å 121.60Å 125.20Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	87.23 – 3.15 48.32 – 3.15	Depositor EDS
% Data completeness (in resolution range)	95.4 (87.23-3.15) 95.4 (48.32-3.15)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.10 (at 3.12Å)	Xtriage
Refinement program	REFMAC 5.5.0109	Depositor
R, R_{free}	0.232 , 0.300 0.219 , 0.290	Depositor DCC
R_{free} test set	1018 reflections (5.44%)	DCC
Wilson B-factor (Å^2)	97.3	Xtriage
Anisotropy	0.480	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.28 , 65.2	EDS
Estimated twinning fraction	0.002 for -h,l,k	Xtriage
L-test for twinning[2]	$< |L| > = 0.49$, $< L^2 > = 0.32$	Xtriage
Outliers	1 of 19804 reflections (0.005%)	Xtriage
F_o,F_c correlation	0.93	EDS
Total number of atoms	7934	wwPDB-VP
Average B, all atoms (Å^2)	131.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.46% 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, 0.375 respectively for untwinned datasets, and 0.333, 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: CA, 2PR, 2DA, DCP

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	0.34	0/7487	0.48	0/10118
2	T	0.72	0/342	1.46	2/523 (0.4%)
3	P	0.71	0/272	1.51	5/418 (1.2%)
All	All	0.38	0/8101	0.63	7/11059 (0.1%)

There are no bond length outliers.

All (7) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	P	112	DA	O4'-C4'-C3'	-9.19	100.48	106.00
2	T	8	DT	O4'-C1'-N1	7.89	113.53	108.00
2	T	8	DT	C1'-O4'-C4'	-7.62	102.48	110.10
3	P	112	DA	C1'-O4'-C4'	-7.26	102.84	110.10
3	P	112	DA	O4'-C1'-N9	6.55	112.59	108.00
3	P	107	DA	P-O3'-C3'	6.01	126.92	119.70
3	P	106	DT	P-O3'-C3'	5.81	126.67	119.70

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	7310	0	7219	62	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	T	328	0	184	6	0
3	P	263	0	151	6	0
4	A	28	0	12	0	0
5	A	5	0	0	0	0
All	All	7934	0	7566	70	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 5.

All (70) 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:254:GLU:HB2	1:A:255:ASN:HA	1.35	1.09
1:A:254:GLU:HB2	1:A:255:ASN:CA	1.86	1.06
1:A:254:GLU:CB	1:A:255:ASN:HA	1.94	0.97
1:A:137:THR:HB	1:A:328:VAL:HG21	1.47	0.93
1:A:705:LYS:HD3	2:T:8:DT:H5"	1.57	0.85
1:A:254:GLU:HB2	1:A:255:ASN:CB	2.07	0.84
1:A:750:ARG:HH11	1:A:750:ARG:HG2	1.52	0.74
2:T:3:DC:H4'	2:T:4:2PR:OP2	1.89	0.72
2:T:13:DT:H2"	2:T:14:DA:C8	2.26	0.69
3:P:103:DA:H3'	3:P:104:DA:H5'	1.78	0.65
1:A:137:THR:HG23	1:A:148:VAL:HG22	1.81	0.62
1:A:112:ASN:HB3	1:A:214:THR:HG23	1.81	0.62
1:A:35:PRO:HG3	1:A:65:MET:HG2	1.82	0.61
1:A:105:HIS:HA	1:A:108:ILE:HD12	1.82	0.61
1:A:750:ARG:NH1	1:A:750:ARG:HG2	2.14	0.61
1:A:441:ASP:HB3	1:A:447:ALA:HB2	1.83	0.60
1:A:412:LEU:HD13	1:A:415:LEU:HD13	1.84	0.59
1:A:254:GLU:HB2	1:A:255:ASN:HB2	1.83	0.58
1:A:8:VAL:HG11	1:A:93:LEU:HD11	1.85	0.58
1:A:745:LEU:O	1:A:749:ILE:HD12	2.05	0.55
1:A:243:SER:O	1:A:246:ARG:NH1	2.40	0.54
1:A:138:HIS:CD2	1:A:204:PHE:HE2	2.26	0.54
1:A:254:GLU:HB3	1:A:255:ASN:HA	1.88	0.51
1:A:475:ILE:HD12	1:A:566:LEU:HD23	1.91	0.51
1:A:164:ILE:HG12	1:A:183:ILE:HD11	1.94	0.49
1:A:209:THR:HG21	1:A:244:PRO:HB3	1.93	0.49
1:A:836:ARG:NH1	1:A:866:MET:O	2.45	0.49
1:A:37:LEU:HB2	1:A:62:PHE:HE1	1.77	0.49
2:T:9:DT:H2'	2:T:10:DA:C8	2.48	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:728:MET:HB3	3:P:114:DT:H5"	1.95	0.48
1:A:212:ILE:HG23	1:A:271:LEU:HD12	1.95	0.48
2:T:17:DT:H3	3:P:103:DA:H61	1.62	0.48
1:A:110:VAL:HG22	1:A:212:ILE:HB	1.94	0.48
1:A:248:THR:HG22	1:A:265:LEU:HA	1.94	0.48
1:A:415:LEU:HD22	1:A:623:ASP:HB3	1.96	0.48
1:A:282:PHE:HZ	1:A:561:LEU:HB2	1.79	0.47
1:A:700:GLY:HA2	1:A:753:LEU:HD22	1.96	0.47
1:A:783:SER:HA	3:P:112:DA:OP1	2.15	0.46
1:A:15:ILE:HG12	1:A:65:MET:HE1	1.97	0.46
1:A:41:CYS:HB2	1:A:42:PRO:HD2	1.98	0.46
1:A:140:ASP:HB3	1:A:143:ASP:HB2	1.98	0.46
1:A:570:LEU:HD23	1:A:575:PHE:HE2	1.79	0.46
1:A:426:SER:OG	1:A:427:PRO:HD2	2.16	0.46
1:A:213:LEU:HB3	1:A:270:VAL:HG22	1.97	0.45
1:A:689:ALA:HA	1:A:711:ASN:O	2.16	0.45
2:T:13:DT:H2"	2:T:14:DA:H8	1.78	0.45
1:A:516:VAL:HG11	1:A:526:ILE:HG21	1.97	0.45
1:A:788:ILE:HG23	1:A:805:ILE:HG23	1.99	0.45
3:P:103:DA:N3	3:P:103:DA:H2'	2.31	0.45
1:A:116:GLU:HB2	1:A:135:ALA:HB3	1.99	0.45
1:A:530:ILE:HG23	1:A:538:LEU:HD21	1.98	0.45
1:A:523:SER:C	1:A:525:GLU:H	2.19	0.44
1:A:249:ARG:HG3	1:A:250:VAL:N	2.32	0.44
1:A:514:LEU:HD22	1:A:526:ILE:HG23	2.00	0.43
1:A:709:ALA:HA	1:A:726:LYS:O	2.19	0.43
1:A:125:GLU:HA	1:A:126:PRO:HD3	1.91	0.43
1:A:434:PHE:CZ	1:A:460:GLY:HA2	2.54	0.43
1:A:703:THR:HG22	1:A:886:ALA:HB3	2.01	0.42
1:A:527:LYS:HE3	1:A:527:LYS:HB2	1.90	0.42
1:A:605:LEU:HA	1:A:608:VAL:HG12	2.03	0.41
1:A:819:ILE:HG13	1:A:819:ILE:H	1.58	0.41
3:P:112:DA:H2'	3:P:113:DT:C6	2.56	0.41
1:A:796:PHE:HA	1:A:797:PRO:HD3	1.96	0.41
1:A:727:ILE:HG21	1:A:732:THR:OG1	2.21	0.41
1:A:482:ARG:C	1:A:482:ARG:HD3	2.41	0.41
1:A:523:SER:C	1:A:525:GLU:N	2.75	0.40
1:A:255:ASN:HD22	1:A:260:ARG:HH12	1.68	0.40
1:A:365:TRP:CE2	1:A:566:LEU:HB2	2.57	0.40
1:A:323:TYR:HA	1:A:326:ILE:HD12	2.03	0.40
1:A:424:ASN:HB2	1:A:677:LYS:HD2	2.02	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	A	895/897 (100%)	842 (94%)	49 (6%)	4 (0%)	39 79

All (4) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	466	ASP
1	A	414	SER
1	A	458	PRO
1	A	796	PHE

5.3.2 Protein sidechains (i)

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	793/793 (100%)	762 (96%)	31 (4%)	39 76

All (31) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	55	LYS
1	A	96	THR
1	A	112	ASN
1	A	134	ASP

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Mol	Chain	Res	Type
1	A	137	THR
1	A	141	SER
1	A	183	ILE
1	A	193	ASN
1	A	291	ASP
1	A	302	LYS
1	A	309	ILE
1	A	322	SER
1	A	346	ASP
1	A	426	SER
1	A	466	ASP
1	A	467	ARG
1	A	468	ASP
1	A	482	ARG
1	A	524	ASP
1	A	612	GLU
1	A	640	LYS
1	A	693	LEU
1	A	760	LEU
1	A	788	ILE
1	A	824	VAL
1	A	843	ASP
1	A	844	LYS
1	A	863	LEU
1	A	869	THR
1	A	871	LEU
1	A	889	LEU

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (10) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	112	ASN
1	A	171	GLN
1	A	203	ASN
1	A	217	ASN
1	A	245	HIS
1	A	382	GLN
1	A	493	GLN
1	A	546	GLN
1	A	679	HIS
1	A	761	GLN

5.3.3   RNA (i)

There are no RNA molecules in this entry.

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

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	$\#|Z| > 2$
3	2DA	P	115	3,2	14,22,23	0.73	0	13,31,34	3.41	6 (46%)
2	2PR	T	4	2	15,23,24	0.75	0	17,33,36	2.09	5 (29%)

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	2DA	P	115	3,2	-	0/3/18/19	0/3/3/3
2	2PR	T	4	2	-	0/3/21/22	0/3/3/3

There are no bond length outliers.

All (11) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	P	115	2DA	N3-C2-N1	-9.73	121.44	128.89
2	T	4	2PR	N1-C2-N3	-5.28	120.27	125.78
3	P	115	2DA	C4-C5-N7	-2.74	106.96	109.48
3	P	115	2DA	C2'-C1'-N9	-2.59	107.24	112.49
3	P	115	2DA	C1'-N9-C4	-2.54	122.84	127.16
2	T	4	2PR	C2'-C1'-N9	-2.11	109.02	114.16
2	T	4	2PR	O4'-C1'-N9	2.74	112.46	107.72
3	P	115	2DA	O4'-C4'-C5'	3.58	114.83	109.54
2	T	4	2PR	C6-N1-C2	3.67	121.12	116.05

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	T	4	2PR	N2-C2-N1	3.94	120.94	117.39
3	P	115	2DA	O4'-C1'-N9	4.05	114.73	107.72

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	T	4	2PR	1	0

5.5 Carbohydrates (i)

There are no carbohydrates in this entry.

5.6 Ligand geometry (i)

Of 6 ligands modelled in this entry, 5 are monoatomic - leaving 1 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the chemical component dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	#$|Z| > 2$	Counts	RMSZ	#$|Z| > 2$
4	DCP	A	898	5	21,29,29	0.81	0	33,45,45	1.38	6 (18%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the chemical component dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	DCP	A	898	5	-	0/18/34/34	0/2/2/2

There are no bond length outliers.

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All (6) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	A	898	DCP	PB-O3A-PA	-3.43	123.09	132.73
4	A	898	DCP	C5-C4-N3	-2.21	119.01	121.80
4	A	898	DCP	PB-O3B-PG	-2.21	125.26	132.67
4	A	898	DCP	O2B-PB-O3A	2.07	114.49	105.09
4	A	898	DCP	N4-C4-N3	2.44	120.95	116.50
4	A	898	DCP	C2-N3-C4	3.13	120.03	115.61

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

6 Fit of model and data (i)

6.1 Protein, DNA and RNA chains (i)

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	897/897 (100%)	0.15	33 (3%)	45	28	86, 128, 176, 243	0
2	T	15/16 (93%)	0.18	2 (13%)	4	2	93, 119, 163, 168	0
3	P	12/13 (92%)	0.61	2 (16%)	2	1	90, 134, 195, 195	0
All	All	924/926 (99%)	0.16	37 (4%)	42	26	86, 128, 176, 243	0

All (37) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	31	VAL	5.1
1	A	133	ILE	4.6
3	P	103	DA	4.6
1	A	514	LEU	4.1
1	A	613	GLY	4.0
1	A	614	GLU	3.9
1	A	201	TYR	3.9
1	A	95	ASP	3.6
1	A	408	MET	3.3
1	A	15	ILE	3.2
1	A	151	LEU	3.2
1	A	32	GLU	3.0
1	A	121	ASP	2.9
1	A	197	LEU	2.9
1	A	627	VAL	2.8
1	A	257	TYR	2.8
1	A	113	PHE	2.7
1	A	604	TYR	2.7
1	A	191	PHE	2.7
1	A	61	LEU	2.6
1	A	38	PHE	2.6
1	A	11	ILE	2.4
1	A	227	TYR	2.4

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Mol	Chain	Res	Type	RSRZ
1	A	33	TYR	2.3
1	A	654	PHE	2.3
1	A	226	VAL	2.2
1	A	83	LEU	2.2
1	A	44	SER	2.1
2	T	14	DA	2.1
1	A	16	PHE	2.1
1	A	34	LYS	2.1
1	A	49	TYR	2.1
3	P	104	DA	2.0
1	A	256	MET	2.0
2	T	15	DA	2.0
1	A	628	SER	2.0
1	A	242	LEU	2.0

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

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. LLDF column lists the quality of electron density of the group with respect to its neighbouring residues in protein, DNA or RNA chains. 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	LLDF	B-factors(Å^2)	Q<0.9
2	2PR	T	4	21/22	0.94	0.21	-	84,87,96,98	0
3	2DA	P	115	20/21	0.96	0.19	-	88,91,97,98	0

6.3 Carbohydrates (i)

There are no carbohydrates in this entry.

6.4 Ligands (i)

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. LLDF column lists the quality of electron density of the group with respect to its neighbouring residues in protein, DNA or RNA chains. 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	LLDF	B-factors(Å^2)	Q<0.9
5	CA	A	902	1/1	0.77	0.49	6.76	156,156,156,156	0
5	CA	A	901	1/1	0.93	0.17	0.18	143,143,143,143	0
4	DCP	A	898	28/28	0.97	0.21	-0.23	86,90,106,109	0
5	CA	A	899	1/1	0.99	0.18	-0.79	103,103,103,103	0
5	CA	A	903	1/1	0.97	0.33	-	123,123,123,123	0
5	CA	A	900	1/1	0.93	0.31	-	128,128,128,128	0

6.5 Other polymers (i)

There are no such residues in this entry.