Full wwPDB X-ray Structure Validation Report ⓘ

Oct 11, 2023 – 09:48 AM EDT

PDB ID	:	7N2M
Title	:	Crystal structure of DNA polymerase alpha catalytic core in complex with dCTP and template/primer having T-C mismatch at the post-insertion site
Authors	:	Tahirov, T.H.; Baranovskiy, A.G.; Babayeva, N.D.
Deposited on	:	2021-05-29
Resolution	:	2.90 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/XrayValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

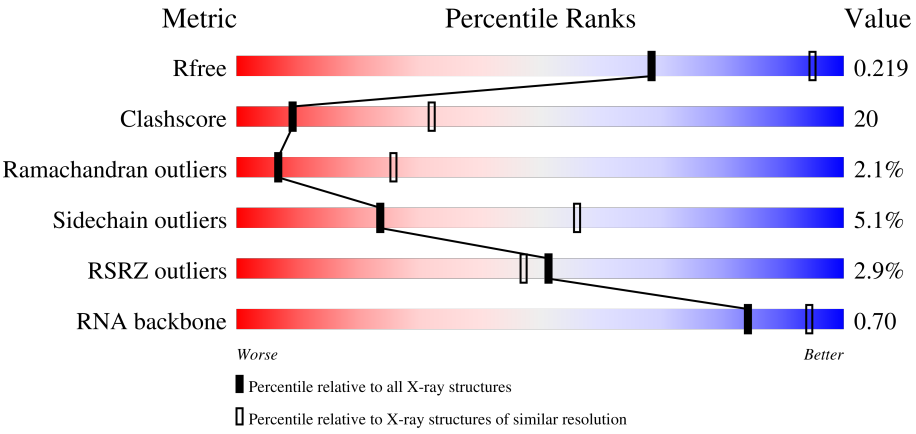
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.35.1
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh &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

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 2.90 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}	130704	1957 (2.90-2.90)
Clashscore	141614	2172 (2.90-2.90)
Ramachandran outliers	138981	2115 (2.90-2.90)
Sidechain outliers	138945	2117 (2.90-2.90)
RSRZ outliers	127900	1906 (2.90-2.90)
RNA backbone	3102	1007 (3.16-2.64)

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	922	3%, 59%, 31%, 6%
2	B	11	45%, 45%, 9%
3	C	15	33%, 53%, 13%

2 Entry composition (i)

There are 10 unique types of molecules in this entry. The entry contains 7606 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 alpha catalytic subunit.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	865	Total	C	N	O	S	0	0	0
			6947	4470	1162	1274	41			

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	516	ALA	VAL	conflict	UNP P09884

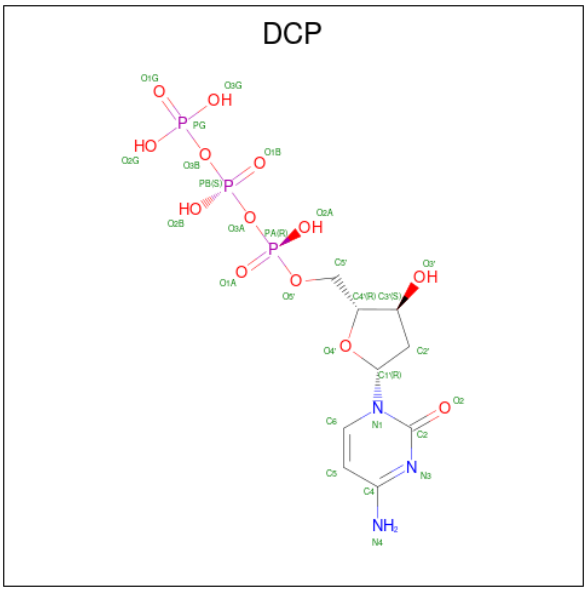
- Molecule 2 is a RNA chain called RNA (5'-R(*GP*CP*CP*UP*GP*GP*AP*GP*CP*GP*C)-3').

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	11	Total	C	N	O	P	0	0	0
			232	105	44	73	10			

- Molecule 3 is a DNA chain called DNA (5'-D(*AP*T*AP*GP*TP*CP*GP*CP*TP*CP*CP*AP*GP*GP*C)-3').

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	C	13	Total	C	N	O	P	0	0	0
			262	125	49	76	12			

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



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

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

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

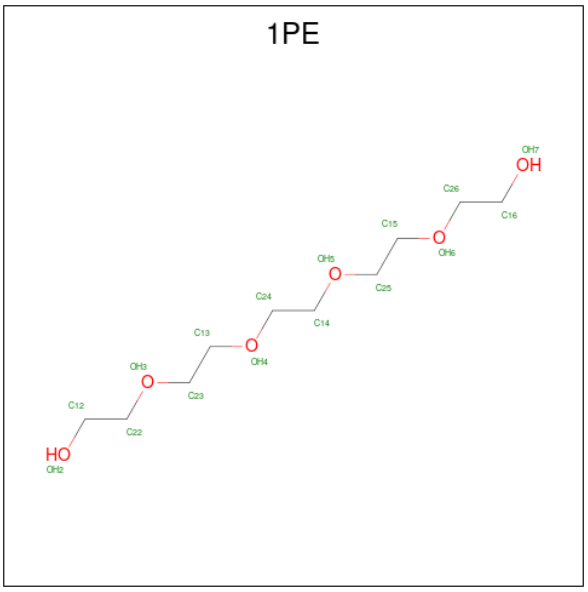
- Molecule 6 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	A	2	Total Zn 2 2	0	0
6	B	1	Total Zn 1 1	0	0
6	C	1	Total Zn 1 1	0	0

- Molecule 7 is POTASSIUM ION (three-letter code: K) (formula: K).

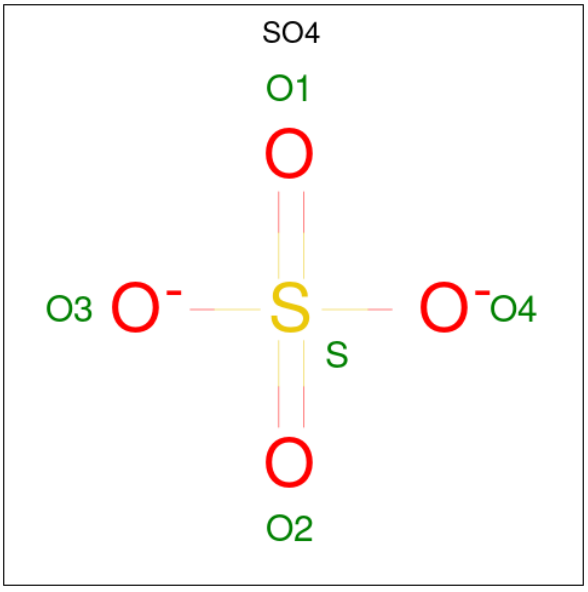
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
7	A	1	Total K 1 1	0	0

- Molecule 8 is PENTAETHYLENE GLYCOL (three-letter code: 1PE) (formula: $C_{10}H_{22}O_6$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
8	A	1	Total C O 16 10 6	0	0

- Molecule 9 is SULFATE ION (three-letter code: SO4) (formula: O_4S).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
9	A	1	Total O S 5 4 1	0	0

- Molecule 10 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
10	A	98	Total O 98 98	0	0
10	B	8	Total O 8 8	0	0
10	C	4	Total O 4 4	0	0

3 Residue-property plots (i)

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 polymerase alpha catalytic subunit

Chain A:

• Molecule 2: RNA (5'-R(*GP*CP*CP*UP*GP*GP*AP*GP*CP*GP*C)-3')

Chain B:

• Molecule 3: DNA (5'-D(*AP*T*AP*GP*TP*CP*GP*CP*TP*CP*CP*AP*GP*GP*C)-3')

Chain C:

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 32 2 1	Depositor
Cell constants a, b, c, α, β, γ	140.28Å 140.28Å 181.07Å 90.00° 90.00° 120.00°	Depositor
Resolution (Å)	44.51 – 2.90 44.51 – 2.90	Depositor EDS
% Data completeness (in resolution range)	98.7 (44.51-2.90) 98.7 (44.51-2.90)	Depositor EDS
R_{merge}	0.08	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	3.54 (at 2.90Å)	Xtriage
Refinement program	CNS 1.1	Depositor
R, R_{free}	0.195 , 0.228 0.192 , 0.219	Depositor DCC
R_{free} test set	2288 reflections (5.02%)	wwPDB-VP
Wilson B-factor (Å^2)	63.4	Xtriage
Anisotropy	0.026	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.29 , 47.8	EDS
L-test for twinning[2]	$< \|L\| > = 0.47$, $< L^2 > = 0.30$	Xtriage
Estimated twinning fraction	0.035 for -h,-k,l	Xtriage
F_o,F_c correlation	0.94	EDS
Total number of atoms	7606	wwPDB-VP
Average B, all atoms (Å^2)	51.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.39% of the height of the origin peak. No significant pseudotranslation is detected.*

[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: K, DCP, ZN, 1PE, SO4, MG

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	0.41	0/7089	0.66	2/9582 (0.0%)
2	B	0.51	0/259	0.97	2/402 (0.5%)
3	C	0.54	0/293	0.82	0/450
All	All	0.42	0/7641	0.68	4/10434 (0.0%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand.A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
2	B	0	1

There are no bond length outliers.

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	B	8	G	O4'-C1'-N9	7.30	114.04	108.20
2	B	8	G	N9-C1'-C2'	6.62	122.60	114.00
1	A	1183	GLY	N-CA-C	-6.02	98.04	113.10
1	A	442	GLU	N-CA-C	5.00	124.51	111.00

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	B	8	G	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	6947	0	7092	286	0
2	B	232	0	120	4	0
3	C	262	0	147	8	0
4	A	28	0	12	2	0
5	A	1	0	0	0	0
6	A	2	0	0	0	0
6	B	1	0	0	0	0
6	C	1	0	0	0	0
7	A	1	0	0	0	0
8	A	16	0	22	0	0
9	A	5	0	0	0	0
10	A	98	0	0	6	0
10	B	8	0	0	0	0
10	C	4	0	0	0	0
All	All	7606	0	7393	296	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 20.

All (296) 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)
3:C:115:DT:H2"	3:C:116:DC:H5'	1.20	1.18
1:A:935:ASN:N	1:A:935:ASN:HD22	1.50	1.06
1:A:1113:GLN:HE21	1:A:1238:TRP:HE1	0.98	0.94
1:A:605:LYS:HE2	1:A:739:LEU:HD21	1.49	0.94
1:A:935:ASN:HD22	1:A:935:ASN:H	1.02	0.93
3:C:115:DT:H2"	3:C:116:DC:C5'	1.99	0.93
1:A:935:ASN:H	1:A:935:ASN:ND2	1.65	0.91
1:A:854:LYS:HG3	1:A:1011:ASN:HD22	1.34	0.90
1:A:729:GLN:H	1:A:729:GLN:HE21	1.22	0.86
3:C:118:DA:H2"	3:C:119:DG:H5'	1.59	0.84
1:A:636:GLY:HA3	1:A:639:ILE:HD11	1.57	0.84
1:A:1181:GLN:HB2	1:A:1205:THR:HG23	1.59	0.82
1:A:507:LEU:HD11	1:A:519:MET:HB2	1.62	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:652:ASN:HD22	1:A:670:MET:HE3	1.51	0.76
1:A:597:ALA:O	1:A:601:VAL:HG23	1.87	0.75
1:A:931:GLN:HE21	1:A:931:GLN:HA	1.52	0.74
1:A:444:PRO:O	1:A:445:ASP:HB2	1.88	0.73
1:A:878:THR:O	1:A:902:PRO:HB3	1.89	0.73
1:A:873:ASN:OD1	1:A:908:MET:HA	1.88	0.73
1:A:928:LEU:O	1:A:931:GLN:HB2	1.89	0.72
1:A:429:LYS:N	1:A:429:LYS:HD2	2.04	0.72
1:A:729:GLN:H	1:A:729:GLN:NE2	1.87	0.72
1:A:667:ARG:HH22	1:A:683:ASN:HB3	1.53	0.72
1:A:730:ASN:N	1:A:730:ASN:HD22	1.87	0.70
1:A:873:ASN:HD21	1:A:878:THR:HG21	1.57	0.69
1:A:408:ILE:HD12	1:A:472:THR:HG22	1.74	0.69
1:A:1230:ILE:HD12	1:A:1238:TRP:HH2	1.58	0.69
1:A:730:ASN:ND2	1:A:730:ASN:H	1.91	0.69
1:A:1113:GLN:HG3	1:A:1238:TRP:NE1	2.08	0.69
1:A:1113:GLN:NE2	1:A:1238:TRP:HE1	1.83	0.69
1:A:1077:LEU:O	1:A:1080:VAL:HG22	1.93	0.68
1:A:1201:GLN:HG2	1:A:1203:ASN:OD1	1.93	0.68
1:A:727:ASN:HD22	1:A:727:ASN:N	1.89	0.68
1:A:1149:LYS:HG2	1:A:1150:LYS:N	2.07	0.68
1:A:390:LEU:HD12	1:A:391:PRO:HD2	1.74	0.68
1:A:354:ASN:HD22	1:A:354:ASN:N	1.92	0.68
1:A:589:PRO:O	1:A:590:LYS:HG3	1.93	0.67
1:A:411:LYS:HE2	1:A:415:GLU:OE2	1.95	0.67
1:A:1156:HIS:ND1	10:A:1402:HOH:O	2.27	0.67
1:A:859:LEU:CD2	1:A:1040:ILE:HD13	2.25	0.67
1:A:1138:ALA:HA	1:A:1174:THR:HA	1.77	0.66
1:A:607:VAL:HB	1:A:609:VAL:HG12	1.78	0.66
1:A:1139:LEU:HD11	1:A:1175:VAL:CG2	2.26	0.66
1:A:644:LEU:HD23	1:A:681:GLU:HB3	1.78	0.65
1:A:1215:GLN:O	1:A:1218:PRO:HD2	1.97	0.64
1:A:931:GLN:HE21	1:A:931:GLN:CA	2.07	0.64
1:A:926:LYS:HG2	1:A:946:GLN:HG3	1.80	0.64
1:A:1125:ASN:OD1	1:A:1127:SER:HB2	1.97	0.64
1:A:652:ASN:ND2	1:A:670:MET:HE3	2.12	0.64
1:A:1233:VAL:HG13	1:A:1243:PRO:HB3	1.78	0.64
2:B:1:G:H2'	2:B:2:C:C6	2.33	0.64
1:A:595:PRO:O	1:A:598:PHE:HB2	1.97	0.64
1:A:730:ASN:N	1:A:730:ASN:ND2	2.44	0.64
1:A:1150:LYS:HD2	1:A:1150:LYS:H	1.63	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:588:LYS:HB3	1:A:594:PHE:CE1	2.33	0.63
1:A:727:ASN:N	1:A:727:ASN:ND2	2.46	0.63
1:A:1016:GLU:O	1:A:1020:LYS:HG3	1.98	0.63
1:A:708:LEU:O	1:A:712:VAL:HG23	1.98	0.63
1:A:599:LYS:O	1:A:603:GLU:HG2	1.99	0.62
1:A:1098:GLN:O	1:A:1101:SER:HB3	2.00	0.62
3:C:111:DT:H2'	3:C:112:DC:C6	2.33	0.62
1:A:911:LEU:HB3	1:A:912:PRO:HD3	1.80	0.62
1:A:578:PRO:HB2	1:A:753:LEU:CD2	2.31	0.61
1:A:727:ASN:ND2	1:A:727:ASN:H	1.98	0.60
1:A:481:THR:CG2	1:A:486:LEU:HG	2.31	0.60
1:A:1150:LYS:HA	10:A:1402:HOH:O	2.02	0.59
1:A:605:LYS:CE	1:A:739:LEU:HD21	2.26	0.59
1:A:854:LYS:HG3	1:A:1011:ASN:ND2	2.13	0.59
1:A:857:LEU:HD13	1:A:859:LEU:HD21	1.83	0.59
1:A:469:LYS:HG2	1:A:474:SER:O	2.03	0.58
1:A:853:ASP:HB2	1:A:854:LYS:HE3	1.85	0.58
1:A:588:LYS:HA	1:A:732:TYR:HE2	1.68	0.57
1:A:935:ASN:N	1:A:935:ASN:ND2	2.23	0.57
1:A:1122:ASN:HA	1:A:1125:ASN:ND2	2.20	0.57
1:A:652:ASN:HD22	1:A:670:MET:CE	2.16	0.57
1:A:931:GLN:HA	1:A:931:GLN:NE2	2.20	0.57
1:A:1024:LYS:O	1:A:1024:LYS:HD3	2.05	0.57
1:A:1196:GLU:O	1:A:1200:LYS:HB3	2.05	0.56
1:A:395:LYS:HG2	1:A:396:ILE:N	2.18	0.56
1:A:1025:VAL:O	1:A:1029:VAL:HG23	2.05	0.56
1:A:990:MET:HE1	1:A:1032:LEU:HD11	1.88	0.56
1:A:849:VAL:HG13	1:A:1049:LEU:O	2.06	0.56
1:A:553:HIS:CG	1:A:553:HIS:O	2.58	0.56
1:A:564:VAL:HG21	1:A:629:ILE:HD13	1.88	0.56
1:A:388:TYR:CE2	1:A:437:LYS:HE3	2.41	0.55
1:A:549:ASN:ND2	1:A:552:ASN:OD1	2.39	0.55
1:A:596:TYR:O	1:A:597:ALA:HB3	2.05	0.55
1:A:1139:LEU:HD11	1:A:1175:VAL:HG23	1.87	0.55
1:A:908:MET:SD	1:A:913:ARG:HG3	2.47	0.55
1:A:1048:LEU:HD22	1:A:1099:ILE:HG21	1.88	0.55
1:A:1114:LYS:HE3	1:A:1118:GLU:OE2	2.07	0.55
1:A:547:MET:HE2	1:A:589:PRO:HB3	1.88	0.54
1:A:1117:ILE:O	1:A:1121:GLU:HG3	2.07	0.54
1:A:1231:ASP:O	1:A:1235:ILE:HG13	2.06	0.54
1:A:644:LEU:CD2	1:A:681:GLU:HB3	2.37	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:718:THR:HG22	1:A:719:GLU:N	2.22	0.54
1:A:428:MET:C	1:A:429:LYS:HD2	2.28	0.54
1:A:512:SER:HB2	1:A:664:ARG:O	2.08	0.54
1:A:667:ARG:NH1	1:A:683:ASN:O	2.41	0.54
1:A:864:LEU:HD22	1:A:1004:ASP:HB3	1.90	0.54
1:A:395:LYS:O	1:A:396:ILE:HD12	2.07	0.54
1:A:1230:ILE:HG22	1:A:1231:ASP:N	2.23	0.54
1:A:1185:ASN:C	1:A:1185:ASN:HD22	2.11	0.54
1:A:552:ASN:ND2	1:A:554:GLN:HB2	2.23	0.53
1:A:1095:VAL:O	1:A:1099:ILE:HG13	2.08	0.53
1:A:392:ARG:HD2	1:A:471:GLU:O	2.09	0.53
1:A:683:ASN:N	1:A:683:ASN:HD22	2.06	0.53
1:A:806:LYS:HG2	1:A:966:ARG:NH1	2.23	0.53
1:A:1105:ARG:NH2	1:A:1108:ILE:HD12	2.24	0.53
1:A:724:PRO:HD2	1:A:727:ASN:OD1	2.09	0.53
1:A:734:GLU:OE2	1:A:736:SER:HB2	2.08	0.53
1:A:595:PRO:HG2	1:A:734:GLU:C	2.30	0.53
1:A:595:PRO:HG3	1:A:732:TYR:O	2.10	0.52
1:A:931:GLN:HB3	1:A:934:LEU:HD11	1.91	0.52
1:A:392:ARG:HH11	1:A:392:ARG:HG2	1.73	0.52
1:A:481:THR:HG22	1:A:486:LEU:HG	1.91	0.52
1:A:1184:SER:O	1:A:1185:ASN:ND2	2.38	0.52
1:A:1053:LYS:HD3	2:B:10:G:H1'	1.92	0.52
1:A:354:ASN:N	1:A:354:ASN:ND2	2.57	0.52
1:A:444:PRO:O	1:A:445:ASP:CB	2.58	0.52
1:A:1138:ALA:HB2	1:A:1174:THR:HG22	1.91	0.52
1:A:702:ARG:HA	1:A:706:TYR:OH	2.10	0.52
3:C:113:DG:H1'	3:C:114:DC:H5'	1.92	0.52
1:A:903:ASP:C	1:A:905:SER:H	2.12	0.51
1:A:991:VAL:O	1:A:996:LEU:HB2	2.09	0.51
1:A:1230:ILE:CD1	1:A:1238:TRP:HH2	2.21	0.51
3:C:118:DA:C2'	3:C:119:DG:H5'	2.34	0.51
1:A:1021:LEU:O	1:A:1025:VAL:HG23	2.10	0.51
1:A:854:LYS:HG3	1:A:1011:ASN:HA	1.93	0.51
1:A:1098:GLN:HG3	1:A:1108:ILE:HG12	1.92	0.51
1:A:1181:GLN:HA	1:A:1181:GLN:NE2	2.25	0.51
1:A:864:LEU:HD22	1:A:1004:ASP:CB	2.41	0.51
1:A:1051:LYS:HE3	3:C:116:DC:OP2	2.11	0.51
1:A:1079:ILE:O	1:A:1089:LYS:HD2	2.11	0.51
1:A:1119:ILE:O	1:A:1123:VAL:HG23	2.11	0.51
1:A:940:LEU:O	1:A:944:ILE:HG13	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:547:MET:CE	1:A:589:PRO:HB3	2.40	0.50
2:B:2:C:H2'	2:B:3:C:C6	2.46	0.50
1:A:1149:LYS:O	1:A:1151:SER:N	2.44	0.50
1:A:1014:ASN:O	1:A:1018:VAL:HG23	2.11	0.50
1:A:1049:LEU:HD12	1:A:1055:TYR:HB3	1.93	0.50
1:A:609:VAL:HG21	1:A:742:LEU:HD21	1.94	0.50
1:A:616:ARG:HD2	10:A:1461:HOH:O	2.12	0.50
1:A:1196:GLU:HG3	1:A:1197:GLN:N	2.27	0.50
1:A:1069:VAL:HG12	1:A:1070:THR:N	2.27	0.49
1:A:729:GLN:HE21	1:A:729:GLN:N	2.00	0.49
1:A:865:TYR:CG	4:A:1301:DCP:H2'2	2.48	0.49
1:A:1022:GLY:HA3	1:A:1040:ILE:HD11	1.93	0.49
1:A:578:PRO:HB2	1:A:753:LEU:HD21	1.93	0.49
1:A:1113:GLN:HG3	1:A:1238:TRP:CE2	2.47	0.49
1:A:1193:TYR:CD2	1:A:1204:LEU:HD11	2.47	0.49
1:A:386:THR:C	1:A:387:LEU:HD23	2.33	0.49
1:A:412:ASP:HB3	1:A:472:THR:HG21	1.93	0.49
1:A:784:ARG:NH2	1:A:951:LEU:HD13	2.28	0.49
1:A:428:MET:HB3	1:A:429:LYS:NZ	2.28	0.49
1:A:481:THR:HG21	1:A:486:LEU:HG	1.95	0.49
1:A:1180:CYS:SG	1:A:1198:LEU:HD13	2.52	0.49
1:A:1185:ASN:C	1:A:1185:ASN:ND2	2.66	0.49
1:A:988:LYS:O	1:A:992:GLN:HG3	2.13	0.48
1:A:857:LEU:HD11	1:A:1022:GLY:HA2	1.93	0.48
1:A:410:MET:HG2	1:A:451:GLU:OE1	2.13	0.48
1:A:907:GLU:HA	1:A:907:GLU:OE1	2.14	0.48
1:A:636:GLY:O	1:A:693:VAL:HG22	2.13	0.47
1:A:1085:CYS:HB2	1:A:1132:GLN:O	2.14	0.47
1:A:596:TYR:O	1:A:597:ALA:CB	2.62	0.47
1:A:1113:GLN:HG3	1:A:1238:TRP:CD1	2.49	0.47
1:A:873:ASN:ND2	1:A:878:THR:HG21	2.25	0.47
1:A:1058:LEU:HD23	1:A:1058:LEU:HA	1.65	0.47
1:A:1143:PRO:HB2	1:A:1159:LEU:CD2	2.45	0.47
1:A:1149:LYS:CG	1:A:1150:LYS:N	2.71	0.47
1:A:727:ASN:O	1:A:731:MET:HG3	2.14	0.47
1:A:791:LEU:HD12	1:A:791:LEU:O	2.15	0.47
1:A:618:LEU:HD23	1:A:618:LEU:C	2.34	0.47
1:A:1064:SER:O	1:A:1067:ASN:HB2	2.15	0.47
1:A:1105:ARG:HA	1:A:1105:ARG:NE	2.29	0.47
1:A:430:PHE:C	1:A:430:PHE:CD1	2.87	0.47
1:A:458:SER:OG	1:A:460:GLU:HB2	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1084:TRP:O	1:A:1089:LYS:HE2	2.15	0.47
1:A:1149:LYS:HD3	1:A:1150:LYS:HD2	1.97	0.47
1:A:408:ILE:HG22	1:A:409:SER:N	2.29	0.47
1:A:864:LEU:HD12	1:A:1036:LEU:HD11	1.97	0.46
1:A:652:ASN:ND2	1:A:670:MET:CE	2.77	0.46
1:A:915:ILE:HG12	1:A:956:MET:SD	2.56	0.46
1:A:1139:LEU:CD1	1:A:1175:VAL:HG23	2.45	0.46
1:A:1021:LEU:O	1:A:1021:LEU:HD12	2.15	0.46
1:A:352:GLN:HG3	10:A:1446:HOH:O	2.16	0.46
1:A:1022:GLY:CA	1:A:1040:ILE:HD11	2.45	0.46
1:A:667:ARG:NH2	1:A:683:ASN:HB3	2.27	0.46
1:A:340:VAL:HG22	1:A:341:PHE:N	2.30	0.46
1:A:843:LEU:HD12	1:A:844:VAL:N	2.31	0.46
1:A:875:CYS:HB2	1:A:912:PRO:HD3	1.98	0.46
1:A:338:GLU:O	1:A:339:GLN:HB2	2.16	0.46
1:A:1184:SER:O	1:A:1186:LEU:N	2.49	0.46
1:A:1106:ASP:O	1:A:1110:GLU:HG2	2.16	0.46
1:A:1149:LYS:CG	1:A:1150:LYS:H	2.28	0.46
1:A:437:LYS:HD3	1:A:800:ASN:OD1	2.16	0.46
1:A:853:ASP:CB	1:A:854:LYS:HE3	2.46	0.46
1:A:929:MET:HG2	1:A:942:TYR:HB3	1.97	0.46
1:A:1181:GLN:HB2	1:A:1205:THR:CG2	2.38	0.46
1:A:619:LEU:HD13	1:A:651:ILE:HG13	1.98	0.45
1:A:621:PHE:O	1:A:625:LYS:HG2	2.17	0.45
1:A:476:VAL:O	1:A:476:VAL:HG13	2.17	0.45
1:A:1149:LYS:HE3	1:A:1159:LEU:HD12	1.97	0.45
1:A:445:ASP:HB2	10:A:1486:HOH:O	2.16	0.45
1:A:616:ARG:HH21	1:A:655:LYS:HB2	1.81	0.45
1:A:981:ARG:O	1:A:985:MET:HG3	2.16	0.45
1:A:392:ARG:HD3	1:A:396:ILE:HD13	1.97	0.45
1:A:354:ASN:HD22	1:A:354:ASN:H	1.62	0.45
1:A:993:LYS:C	1:A:995:ASN:H	2.20	0.45
1:A:584:CYS:SG	10:A:1497:HOH:O	2.61	0.45
1:A:1101:SER:OG	1:A:1102:ASP:N	2.50	0.45
1:A:409:SER:O	1:A:412:ASP:HB2	2.17	0.45
1:A:840:ALA:HB1	1:A:981:ARG:NH1	2.31	0.45
1:A:858:LEU:HD13	1:A:1007:MET:HG3	1.99	0.45
1:A:950:LYS:HE3	4:A:1301:DCP:O3B	2.17	0.45
1:A:991:VAL:HG11	1:A:1008:ILE:HD11	1.99	0.44
1:A:593:ILE:O	1:A:593:ILE:HG13	2.18	0.44
1:A:1230:ILE:HD12	1:A:1238:TRP:CH2	2.47	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:408:ILE:CD1	1:A:472:THR:HG22	2.44	0.44
1:A:606:ASN:HD22	1:A:606:ASN:HA	1.61	0.44
1:A:338:GLU:HB3	1:A:339:GLN:H	1.39	0.44
1:A:392:ARG:HG2	1:A:392:ARG:NH1	2.32	0.44
1:A:570:LEU:HD22	1:A:762:LEU:HB3	1.98	0.44
1:A:588:LYS:HA	1:A:732:TYR:CE2	2.49	0.44
1:A:447:PRO:HG2	1:A:450:SER:HB2	1.99	0.44
1:A:1182:ASP:HB2	1:A:1184:SER:OG	2.17	0.44
1:A:374:VAL:HB	1:A:515:LYS:HG3	1.99	0.44
1:A:933:ASP:O	1:A:934:LEU:HD23	2.17	0.44
1:A:585:VAL:HA	1:A:610:GLU:O	2.18	0.44
1:A:607:VAL:O	1:A:609:VAL:N	2.43	0.44
1:A:1050:LEU:HD12	1:A:1077:LEU:HD22	2.00	0.44
1:A:578:PRO:HB2	1:A:753:LEU:HD23	2.00	0.43
1:A:861:PHE:HA	1:A:1038:ILE:HA	1.99	0.43
1:A:871:GLU:O	1:A:871:GLU:HG3	2.18	0.43
1:A:1000:TYR:CG	1:A:1001:GLY:N	2.86	0.43
1:A:1181:GLN:CA	1:A:1181:GLN:HE21	2.31	0.43
1:A:588:LYS:HD3	1:A:594:PHE:CE1	2.54	0.43
1:A:854:LYS:HE2	1:A:854:LYS:HA	1.99	0.43
1:A:1181:GLN:HA	1:A:1181:GLN:HE21	1.83	0.43
1:A:922:ARG:O	1:A:926:LYS:HG3	2.17	0.43
1:A:988:LYS:HE2	1:A:988:LYS:HB3	1.66	0.43
1:A:395:LYS:HA	1:A:408:ILE:HD11	2.00	0.43
1:A:522:LYS:HG3	1:A:525:LEU:HG	2.00	0.43
1:A:738:LEU:HD23	1:A:738:LEU:HA	1.78	0.43
1:A:760:ASN:HD22	1:A:760:ASN:HA	1.63	0.43
1:A:859:LEU:HD22	1:A:1040:ILE:HD13	1.98	0.43
1:A:1036:LEU:HD12	1:A:1036:LEU:HA	1.85	0.43
1:A:990:MET:HE2	1:A:990:MET:HB2	1.80	0.43
1:A:633:ILE:CD1	1:A:762:LEU:HD13	2.47	0.43
1:A:623:LEU:HD11	1:A:651:ILE:CD1	2.49	0.43
1:A:903:ASP:C	1:A:905:SER:N	2.71	0.43
1:A:544:MET:HE1	1:A:647:LEU:HD22	2.01	0.42
1:A:1199:GLN:HE21	1:A:1199:GLN:HB3	1.62	0.42
1:A:406:THR:HA	1:A:407:PRO:HD3	1.89	0.42
3:C:115:DT:C2'	3:C:116:DC:C5'	2.86	0.42
1:A:1026:LYS:HG2	1:A:1030:ASN:ND2	2.33	0.42
1:A:633:ILE:HD12	1:A:762:LEU:HD13	2.00	0.42
1:A:1122:ASN:HA	1:A:1125:ASN:HD21	1.83	0.42
1:A:682:ARG:HE	1:A:778:ARG:HD3	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:990:MET:CE	1:A:1032:LEU:HD11	2.50	0.42
1:A:466:GLN:HA	1:A:479:THR:HG21	2.01	0.42
1:A:679:PHE:C	1:A:681:GLU:N	2.73	0.42
1:A:840:ALA:CB	1:A:981:ARG:NH1	2.82	0.42
1:A:865:TYR:HB2	1:A:866:PRO:HD3	2.01	0.42
1:A:642:PHE:CZ	1:A:1167:ARG:HG2	2.54	0.42
1:A:713:GLN:O	1:A:717:LYS:HA	2.20	0.42
1:A:1024:LYS:HD3	1:A:1024:LYS:C	2.40	0.42
1:A:1047:LEU:HD12	1:A:1056:ALA:O	2.20	0.42
1:A:1147:PRO:HG2	1:A:1148:ASP:H	1.84	0.42
1:A:667:ARG:HH12	1:A:683:ASN:C	2.23	0.41
1:A:718:THR:CG2	1:A:719:GLU:N	2.83	0.41
1:A:732:TYR:CE1	1:A:738:LEU:HD21	2.55	0.41
1:A:609:VAL:CG2	1:A:742:LEU:HD21	2.51	0.41
1:A:588:LYS:HB3	1:A:594:PHE:CZ	2.55	0.41
1:A:854:LYS:HE2	1:A:854:LYS:CA	2.50	0.41
1:A:409:SER:N	1:A:412:ASP:OD2	2.54	0.41
1:A:588:LYS:HD3	1:A:594:PHE:HE1	1.84	0.41
1:A:395:LYS:C	1:A:396:ILE:HD12	2.41	0.41
1:A:542:PHE:HE2	1:A:544:MET:HE2	1.86	0.41
1:A:1148:ASP:OD1	1:A:1148:ASP:O	2.38	0.41
1:A:1094:PHE:CD1	1:A:1094:PHE:C	2.93	0.41
1:A:607:VAL:HB	1:A:609:VAL:CG1	2.49	0.41
1:A:712:VAL:HG13	1:A:716:LEU:HD12	2.02	0.41
1:A:1010:THR:C	1:A:1012:SER:H	2.24	0.41
2:B:8:G:H1'	2:B:9:C:C6	2.56	0.41
1:A:425:TYR:O	1:A:426:LYS:HB2	2.21	0.41
1:A:541:ALA:HA	1:A:635:VAL:HG13	2.03	0.41
1:A:916:ARG:HH11	1:A:916:ARG:HG2	1.85	0.41
1:A:919:VAL:HG12	1:A:923:LYS:HE3	2.01	0.41
1:A:924:GLN:O	1:A:927:GLN:HB2	2.21	0.41
1:A:1217:HIS:N	1:A:1218:PRO:CD	2.83	0.41
1:A:1182:ASP:OD1	1:A:1191:ARG:HG2	2.21	0.41
1:A:1109:VAL:HG13	1:A:1230:ILE:CD1	2.51	0.40
1:A:898:ILE:HA	1:A:899:PRO:HD2	1.94	0.40
1:A:1108:ILE:HG22	1:A:1109:VAL:N	2.36	0.40
1:A:725:MET:HA	1:A:728:ILE:HD12	2.04	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	857/922 (93%)	786 (92%)	53 (6%)	18 (2%)	7 26

All (18) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	933	ASP
1	A	1149	LYS
1	A	1150	LYS
1	A	1185	ASN
1	A	590	LYS
1	A	931	GLN
1	A	339	GLN
1	A	906	LEU
1	A	1103	GLN
1	A	608	LYS
1	A	1101	SER
1	A	1162	ASN
1	A	1167	ARG
1	A	426	LYS
1	A	550	ALA
1	A	1166	GLY
1	A	1243	PRO
1	A	1147	PRO

5.3.2 Protein sidechains

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	A	778/827 (94%)	738 (95%)	40 (5%)	24 56

All (40) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	341	PHE
1	A	354	ASN
1	A	468	LEU
1	A	479	THR
1	A	555	ASN
1	A	572	LYS
1	A	606	ASN
1	A	609	VAL
1	A	611	VAL
1	A	673	LEU
1	A	681	GLU
1	A	727	ASN
1	A	729	GLN
1	A	730	ASN
1	A	738	LEU
1	A	760	ASN
1	A	764	LEU
1	A	791	LEU
1	A	806	LYS
1	A	857	LEU
1	A	896	GLU
1	A	903	ASP
1	A	915	ILE
1	A	931	GLN
1	A	935	ASN
1	A	937	ASP
1	A	946	GLN
1	A	957	TYR
1	A	1011	ASN
1	A	1014	ASN
1	A	1032	LEU
1	A	1039	ASP
1	A	1073	GLU
1	A	1082	ARG
1	A	1107	THR
1	A	1167	ARG
1	A	1185	ASN
1	A	1199	GLN

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Mol	Chain	Res	Type
1	A	1231	ASP
1	A	1244	THR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (33) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	354	ASN
1	A	548	GLN
1	A	549	ASN
1	A	552	ASN
1	A	554	GLN
1	A	555	ASN
1	A	606	ASN
1	A	638	ASN
1	A	652	ASN
1	A	669	ASN
1	A	683	ASN
1	A	727	ASN
1	A	729	GLN
1	A	730	ASN
1	A	760	ASN
1	A	770	ASN
1	A	880	GLN
1	A	897	GLN
1	A	931	GLN
1	A	932	GLN
1	A	935	ASN
1	A	954	ASN
1	A	1011	ASN
1	A	1014	ASN
1	A	1098	GLN
1	A	1103	GLN
1	A	1113	GLN
1	A	1122	ASN
1	A	1144	GLN
1	A	1181	GLN
1	A	1185	ASN
1	A	1199	GLN
1	A	1201	GLN

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
2	B	9/11 (81%)	0	0

There are no RNA backbone outliers to report.

There are no RNA pucker outliers to report.

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

There are no non-standard protein/DNA/RNA residues in this entry.

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

Of 9 ligands modelled in this entry, 6 are monoatomic - leaving 3 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
9	SO4	A	1307	-	4,4,4	0.19	0	6,6,6	0.19	0
4	DCP	A	1301	5,6	25,29,29	1.33	2 (8%)	37,45,45	1.45	6 (16%)
8	1PE	A	1306	-	15,15,15	1.25	1 (6%)	14,14,14	0.36	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
4	DCP	A	1301	5,6	-	3/22/34/34	0/2/2/2
8	1PE	A	1306	-	-	6/13/13/13	-

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	A	1301	DCP	PG-O1G	3.17	1.60	1.50
4	A	1301	DCP	PB-O1B	3.12	1.62	1.50
8	A	1306	1PE	OH7-C16	2.51	1.55	1.42

All (6) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	A	1301	DCP	PB-O3B-PG	-4.79	116.39	132.83
4	A	1301	DCP	PB-O3A-PA	-4.41	117.68	132.83
4	A	1301	DCP	O4'-C1'-N1	2.45	112.24	107.86
4	A	1301	DCP	O3G-PG-O3B	2.16	111.89	104.64
4	A	1301	DCP	O2-C2-N3	-2.12	118.88	122.33
4	A	1301	DCP	C2'-C1'-N1	-2.06	109.03	113.77

There are no chirality outliers.

All (9) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	A	1301	DCP	PB-O3B-PG-O2G
4	A	1301	DCP	PB-O3B-PG-O3G
8	A	1306	1PE	OH2-C12-C22-OH3
8	A	1306	1PE	OH6-C15-C25-OH5
8	A	1306	1PE	OH7-C16-C26-OH6
8	A	1306	1PE	C12-C22-OH3-C23
8	A	1306	1PE	C13-C23-OH3-C22
8	A	1306	1PE	C14-C24-OH4-C13
4	A	1301	DCP	PB-O3B-PG-O1G

There are no ring outliers.

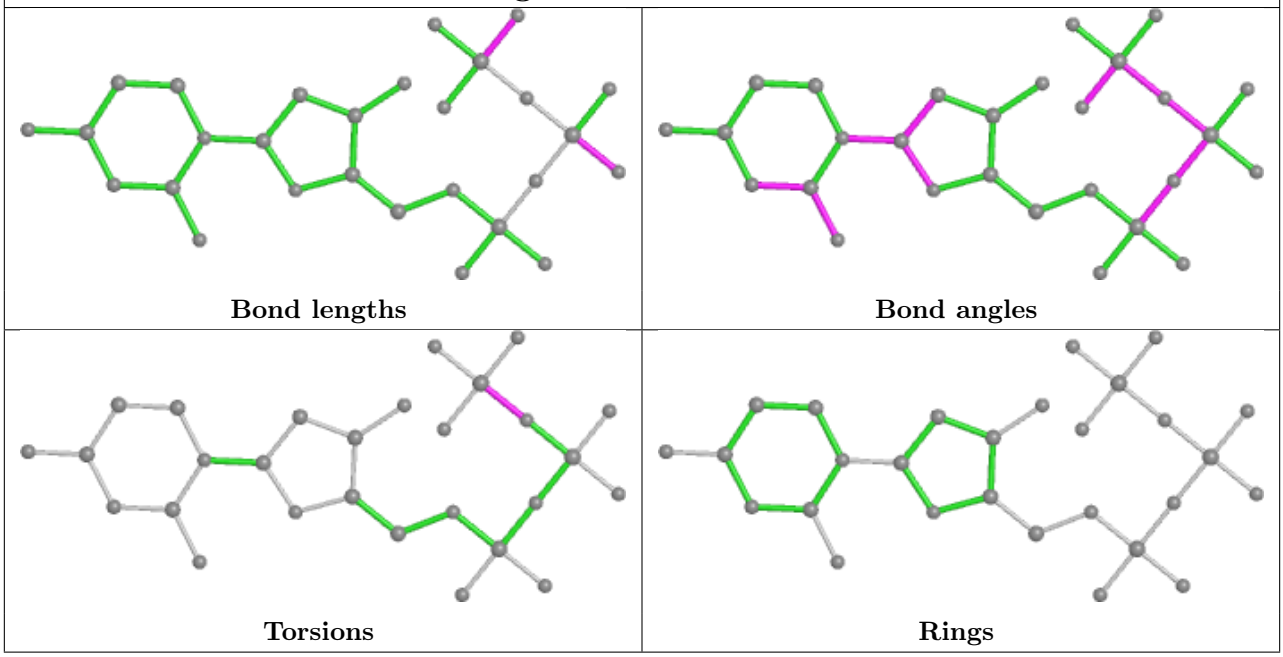
1 monomer is involved in 2 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	A	1301	DCP	2	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 DCP A 1301



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, 95^{th} 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	865/922 (93%)	-0.02	26 (3%) 50 45	10, 47, 100, 121	0
2	B	11/11 (100%)	-0.04	0 100 100	22, 28, 90, 92	0
3	C	13/15 (86%)	-0.34	0 100 100	20, 28, 87, 104	0
All	All	889/948 (93%)	-0.02	26 (2%) 51 47	10, 47, 100, 121	0

All (26) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	732	TYR	4.6
1	A	678	GLY	4.4
1	A	1065	ASP	3.9
1	A	606	ASN	3.6
1	A	598	PHE	3.0
1	A	1068	TYR	2.9
1	A	607	VAL	2.8
1	A	882	VAL	2.6
1	A	602	ILE	2.6
1	A	597	ALA	2.6
1	A	604	LYS	2.5
1	A	723	ILE	2.5
1	A	731	MET	2.5
1	A	728	ILE	2.4
1	A	595	PRO	2.4
1	A	680	GLY	2.4
1	A	735	SER	2.2
1	A	898	ILE	2.2
1	A	733	SER	2.2
1	A	721	VAL	2.1
1	A	1206	ILE	2.1
1	A	596	TYR	2.1
1	A	897	GLN	2.1

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Mol	Chain	Res	Type	RSRZ
1	A	1150	LYS	2.1
1	A	1066	GLY	2.1
1	A	994	MET	2.1

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

There are no non-standard protein/DNA/RNA residues in this entry.

6.3 Carbohydrates (i)

There are no monosaccharides in this entry.

6.4 Ligands (i)

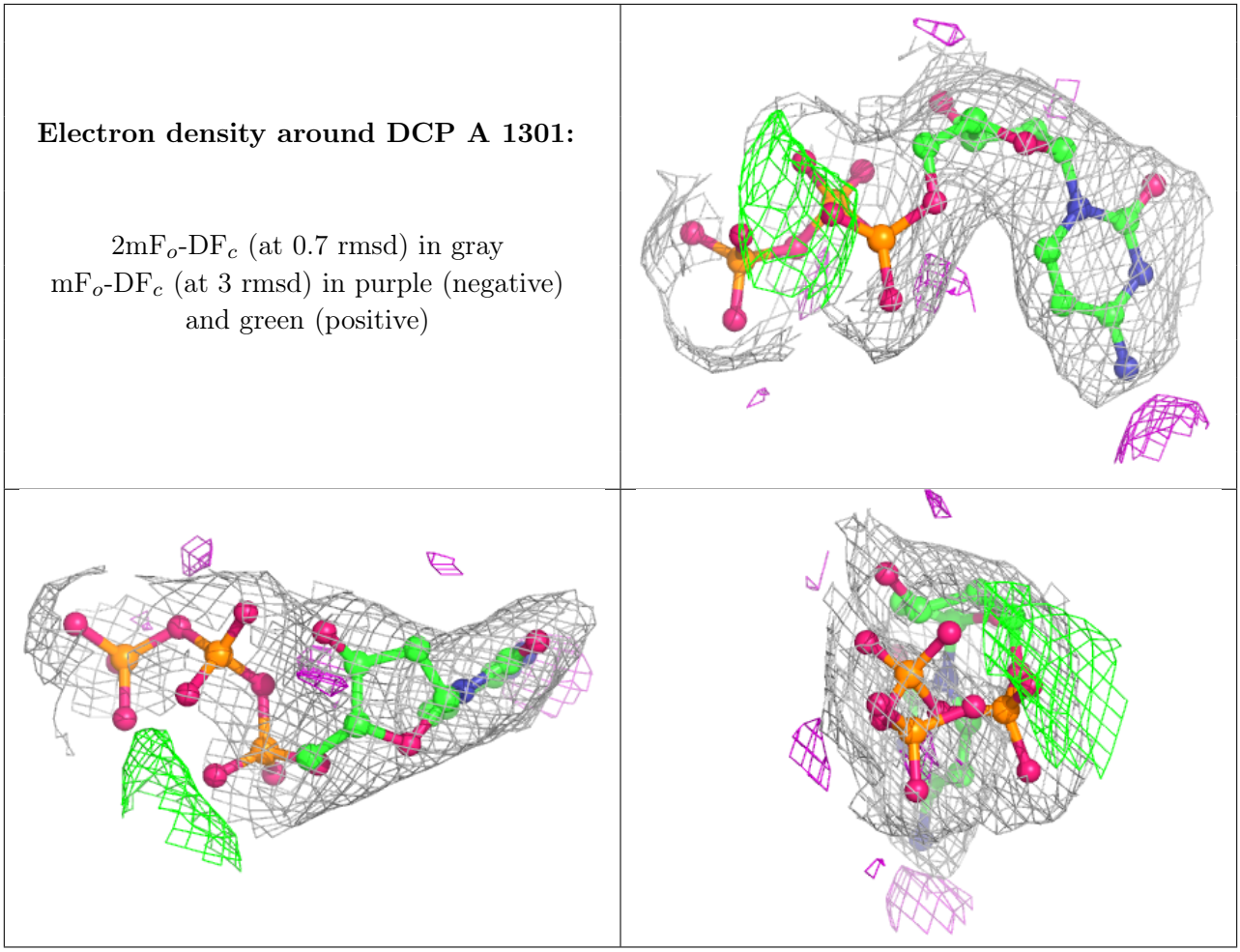
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95^{th} percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' 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
6	ZN	C	601	1/1	0.90	0.31	57,57,57,57	1
7	K	A	1305	1/1	0.91	0.19	54,54,54,54	0
8	1PE	A	1306	16/16	0.91	0.26	35,46,51,53	0
9	SO4	A	1307	5/5	0.91	0.20	120,122,123,127	0
4	DCP	A	1301	28/28	0.97	0.22	1,16,26,31	0
6	ZN	A	1303	1/1	0.98	0.25	38,38,38,38	0
6	ZN	B	501	1/1	0.98	0.23	47,47,47,47	0
6	ZN	A	1304	1/1	0.99	0.14	28,28,28,28	1
5	MG	A	1302	1/1	0.99	0.26	1,1,1,1	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 DCP A 1301:

$2mF_o$-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 (i)

There are no such residues in this entry.