



wwPDB X-ray Structure Validation Summary Report ⓘ

Mar 5, 2026 – 09:48 PM UTC

PDB ID : 5EFO / pdb_00005efo
Title : X-ray structure uridine phosphorylase from *Vibrio cholerae* in complex with cytidine and cytosine at 1.63Å.
Authors : Prokofev, I.I.; Lashkov, A.A.; Gabdoulkhakov, A.G.; Betzel, C.; Mikhailov, A.M.
Deposited on : 2015-10-24
Resolution : 1.63 Å(reported)

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

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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 : 4-5-2 with Phenix2.0
Mogul : 2022.3.0, CSD as543be (2022)
Xtriage (Phenix) : 2.0
EDS : 3.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
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) : 2.49

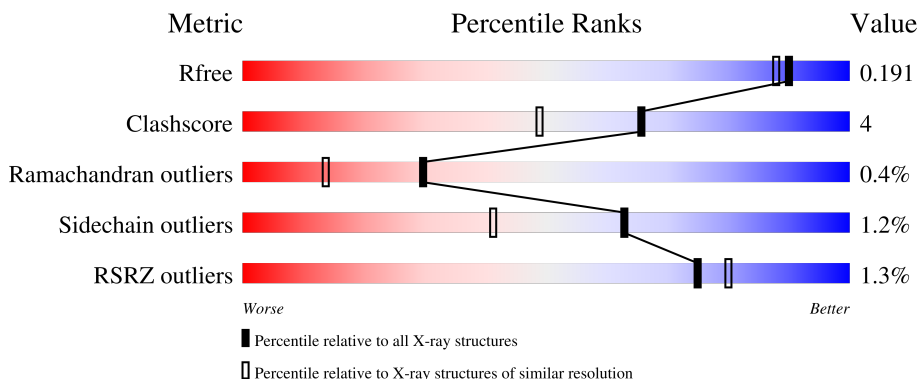
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 1.63 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.



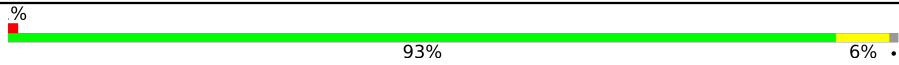
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	180053	1141 (1.64-1.64)
Clashscore	190562	1171 (1.64-1.64)
Ramachandran outliers	187476	1151 (1.64-1.64)
Sidechain outliers	187428	1150 (1.64-1.64)
RSRZ outliers	180081	1141 (1.64-1.64)

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 $\leq 5\%$. 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	253	 % 93% 5% .
1	B	253	 2% 90% 9% .
1	C	253	 91% 8% .
1	D	253	 2% 93% 6% .
1	E	253	 % 89% 10% .

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Mol	Chain	Length	Quality of chain
1	F	253	 A horizontal bar chart representing the quality of chain. The bar is primarily green, indicating a high quality score of 93%. A small yellow segment at the end indicates a lower quality score of 6%. The percentage values '93%' and '6%' are printed below the bar. A small red square is visible at the very beginning of the bar.

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	GOL	E	302[A]	-	-	X	-
7	EDO	F	302	-	-	X	-

2 Entry composition

There are 9 unique types of molecules in this entry. The entry contains 13396 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.

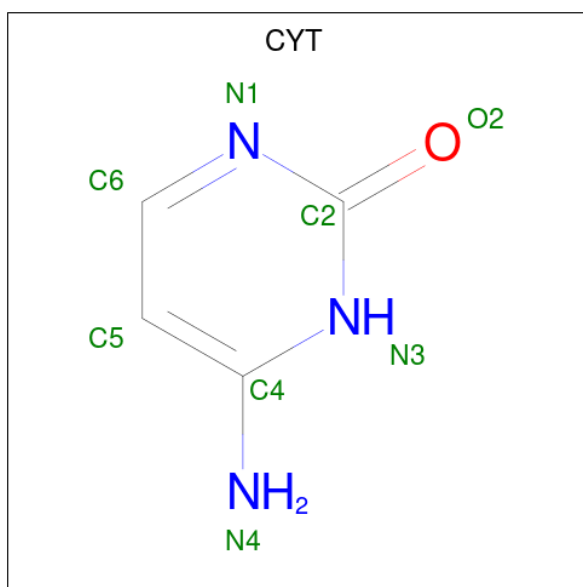
- Molecule 1 is a protein called Uridine phosphorylase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	248	1931	1218	330	369	14	0	14	0
1	B	253	1980	1248	338	379	15	0	15	0
1	C	251	1967	1237	342	372	16	0	15	0
1	D	251	1955	1230	337	372	16	0	13	0
1	E	251	1956	1230	339	370	17	0	13	0
1	F	251	1929	1213	333	368	15	0	9	0

- Molecule 2 is SODIUM ION (CCD ID: NA) (formula: Na).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	A	1	Total	Na	0	0
			1	1		
2	C	1	Total	Na	0	0
			1	1		
2	E	1	Total	Na	0	0
			1	1		

- Molecule 3 is 6-AMINOPYRIMIDIN-2(1H)-ONE (CCD ID: CYT) (formula: C₄H₅N₃O).



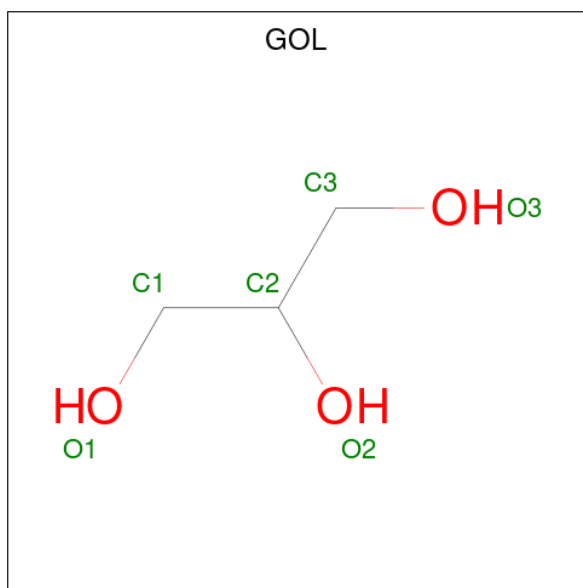
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
			Total	C	N	O		
3	A	1	8	4	3	1	0	0
3	B	1	8	4	3	1	0	0
3	C	1	8	4	3	1	0	1
3	C	1	8	4	3	1	0	0
3	D	1	8	4	3	1	0	0
3	D	1	8	4	3	1	0	0

- Molecule 4 is 2-AMINO-2-HYDROXYMETHYL-PROPANE-1,3-DIOL (CCD ID: TRS) (formula: C₄H₁₂NO₃).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf	
			Total	C	N			O
4	A	1	8	4	1	3	0	0

- Molecule 5 is GLYCEROL (CCD ID: GOL) (formula: C₃H₈O₃).



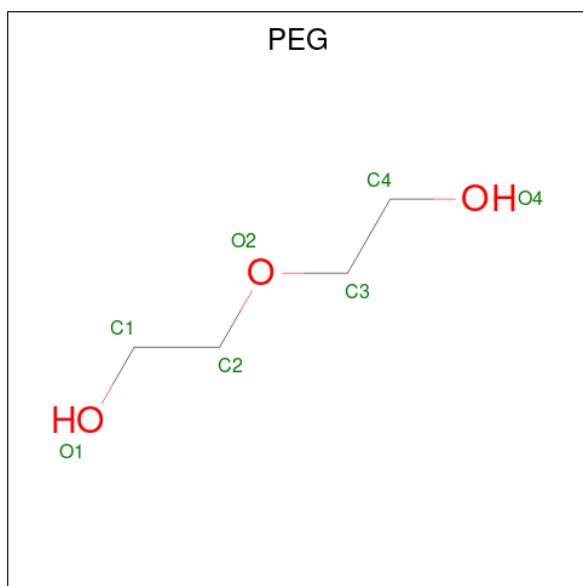
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
			Total	C	O		
5	B	1	12	6	6	0	1
5	C	1	12	6	6	0	1
5	D	1	12	6	6	0	1

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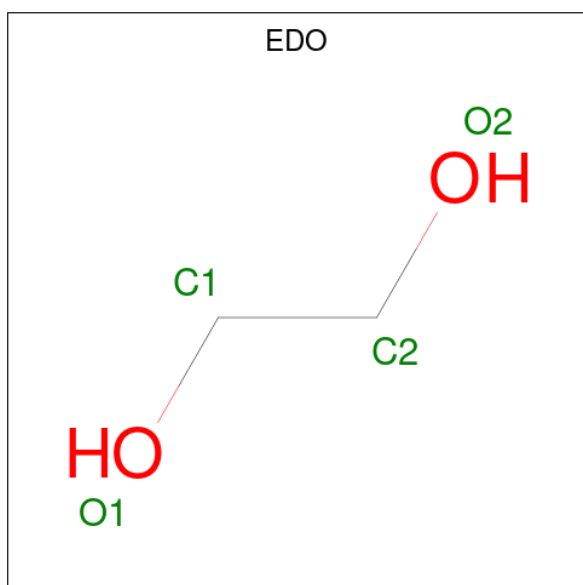
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
			Total	C	O		
5	E	1	12	6	6	0	1

- Molecule 6 is DI(HYDROXYETHYL)ETHER (CCD ID: PEG) (formula: $C_4H_{10}O_3$).



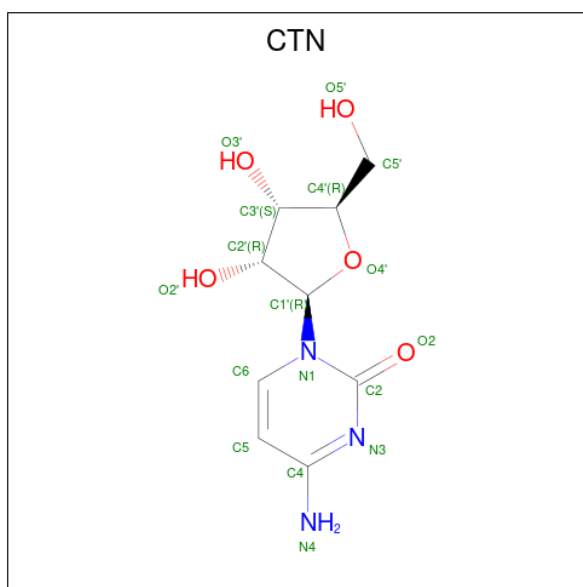
Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
			Total	C	O		
6	C	1	7	4	3	0	0

- Molecule 7 is 1,2-ETHANEDIOL (CCD ID: EDO) (formula: $C_2H_6O_2$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
7	D	1	Total C O 4 2 2	0	0
7	F	1	Total C O 4 2 2	0	0
7	F	1	Total C O 4 2 2	0	0

- Molecule 8 is 4-AMINO-1-BETA-D-RIBOFURANOSYL-2(1H)-PYRIMIDINONE (CCD ID: CTN) (formula: C₉H₁₃N₃O₅).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
8	E	1	Total C N O 17 9 3 5	0	0
8	F	1	Total C N O 17 9 3 5	0	0

- Molecule 9 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
9	A	245	Total O 245 245	0	0
9	B	261	Total O 262 262	0	1
9	C	268	Total O 271 271	0	3
9	D	259	Total O 260 260	0	1

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
9	E	212	Total 214	O 214	0	2
9	F	264	Total 266	O 266	0	2

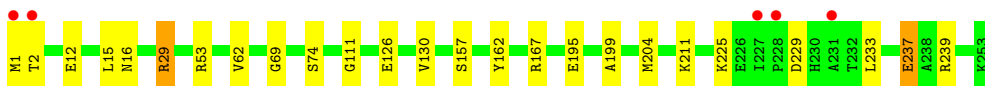
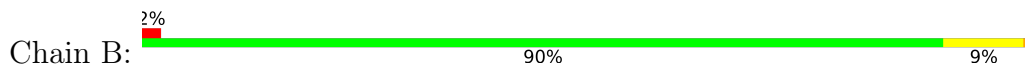
3 Residue-property plots [i](#)

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: Uridine phosphorylase



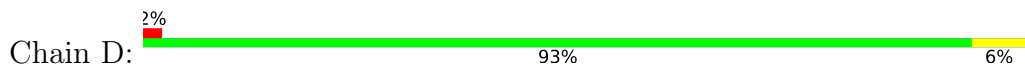
- Molecule 1: Uridine phosphorylase



- Molecule 1: Uridine phosphorylase



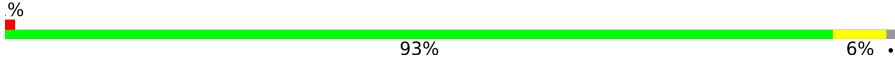
- Molecule 1: Uridine phosphorylase



- Molecule 1: Uridine phosphorylase



- Molecule 1: Uridine phosphorylase

Chain F:  % 93% 6%



4 Data and refinement statistics

Property	Value	Source
Space group	P 1	Depositor
Cell constants a, b, c, α , β , γ	59.95Å 76.34Å 89.69Å 67.54° 73.74° 84.92°	Depositor
Resolution (Å)	19.97 – 1.63 19.97 – 1.63	Depositor EDS
% Data completeness (in resolution range)	92.2 (19.97-1.63) 92.2 (19.97-1.63)	Depositor EDS
R_{merge}	0.08	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	2.13 (at 1.63Å)	Xtrriage
Refinement program	REFMAC 5.7.0032	Depositor
R, R_{free}	0.163 , 0.207 (Not available) , 0.191	Depositor DCC
R_{free} test set	8011 reflections (4.55%)	wwPDB-VP
Wilson B-factor (Å ²)	14.3	Xtrriage
Anisotropy	0.559	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.37 , 51.3	EDS
L-test for twinning ²	$\langle L \rangle = 0.50$, $\langle L^2 \rangle = 0.33$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
F_o, F_c correlation	0.96	EDS
Total number of atoms	13396	wwPDB-VP
Average B, all atoms (Å ²)	20.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 5.79% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality [i](#)

5.1 Standard geometry [i](#)

Bond lengths and bond angles in the following residue types are not validated in this section: NA, TRS, EDO, CYT, GOL, CTN, PEG

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	0.52	0/2001	0.75	0/2709
1	B	0.51	0/2054	0.76	1/2781 (0.0%)
1	C	0.52	0/2044	0.75	0/2765
1	D	0.51	0/2022	0.77	0/2738
1	E	0.52	0/2024	0.75	0/2740
1	F	0.52	0/1988	0.77	0/2693
All	All	0.52	0/12133	0.76	1/16426 (0.0%)

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	69	GLY	N-CA-C	5.07	117.97	112.29

There are no chirality outliers.

There are no planarity outliers.

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	1931	0	1964	11	0
1	B	1980	0	2018	16	0
1	C	1967	0	2012	16	0
1	D	1955	0	1993	18	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	E	1956	0	1990	27	0
1	F	1929	0	1955	14	0
2	A	1	0	0	0	0
2	C	1	0	0	0	0
2	E	1	0	0	0	0
3	A	8	0	4	3	0
3	B	8	0	4	1	0
3	C	16	0	8	2	0
3	D	16	0	8	3	0
4	A	8	0	12	1	0
5	B	12	0	16	0	0
5	C	12	0	16	0	0
5	D	12	0	16	0	0
5	E	12	0	16	8	0
6	C	7	0	10	0	0
7	D	4	0	6	0	0
7	F	8	0	12	5	0
8	E	17	0	13	1	0
8	F	17	0	13	2	0
9	A	245	0	0	2	0
9	B	262	0	0	0	0
9	C	271	0	0	2	0
9	D	260	0	0	3	0
9	E	214	0	0	3	0
9	F	266	0	0	1	0
All	All	13396	0	12086	92	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 4.

The worst 5 of 92 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:1:MET:HA	1:B:12:GLU:HB3	1.33	1.08
1:E:29[A]:ARG:NH1	5:E:302[A]:GOL:O1	1.97	0.98
1:E:29[A]:ARG:HH12	5:E:302[A]:GOL:H12	1.37	0.90
1:E:29[A]:ARG:HH12	5:E:302[A]:GOL:C1	1.90	0.85
1:E:29[A]:ARG:NH1	5:E:302[A]:GOL:C1	2.39	0.84

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	258/253 (102%)	255 (99%)	2 (1%)	1 (0%)	30	14
1	B	266/253 (105%)	262 (98%)	3 (1%)	1 (0%)	30	14
1	C	264/253 (104%)	262 (99%)	1 (0%)	1 (0%)	30	14
1	D	262/253 (104%)	259 (99%)	2 (1%)	1 (0%)	30	14
1	E	262/253 (104%)	261 (100%)	0	1 (0%)	30	14
1	F	258/253 (102%)	257 (100%)	0	1 (0%)	30	14
All	All	1570/1518 (103%)	1556 (99%)	8 (0%)	6 (0%)	30	14

5 of 6 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	C	162	TYR
1	D	162	TYR
1	E	162	TYR
1	F	162	TYR
1	A	162	TYR

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	212/203 (104%)	209 (99%)	3 (1%)	59	35
1	B	217/203 (107%)	209 (96%)	8 (4%)	30	5
1	C	216/203 (106%)	214 (99%)	2 (1%)	70	54

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	D	214/203 (105%)	213 (100%)	1 (0%)	81	71
1	E	214/203 (105%)	211 (99%)	3 (1%)	59	35
1	F	210/203 (103%)	209 (100%)	1 (0%)	81	71
All	All	1283/1218 (105%)	1265 (99%)	18 (1%)	63	35

5 of 18 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	E	3	LYS
1	F	195	GLU
1	E	233	LEU
1	B	225	LYS
1	D	195	GLU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 6 such sidechains are listed below:

Mol	Chain	Res	Type
1	D	46	HIS
1	D	193	ASN
1	E	39	ASN
1	A	102	ASN
1	A	82	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](#)

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry

Of 24 ligands modelled in this entry, 3 are monoatomic - leaving 21 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	CYT	D	303	-	7,8,8	1.01	0	7,10,10	3.44	3 (42%)
3	CYT	C	304	-	7,8,8	1.05	0	7,10,10	3.69	3 (42%)
5	GOL	D	304[B]	-	5,5,5	0.31	0	5,5,5	0.27	0
6	PEG	C	302	-	6,6,6	0.50	0	5,5,5	0.21	0
5	GOL	D	304[A]	-	5,5,5	0.28	0	5,5,5	0.33	0
7	EDO	F	301	-	3,3,3	0.42	0	2,2,2	0.43	0
7	EDO	F	302	-	3,3,3	0.31	0	2,2,2	0.42	0
3	CYT	A	302	-	7,8,8	1.05	0	7,10,10	3.73	3 (42%)
5	GOL	B	301[B]	-	5,5,5	0.28	0	5,5,5	0.55	0
3	CYT	C	303[A]	-	7,8,8	1.06	0	7,10,10	3.57	3 (42%)
5	GOL	C	301[B]	-	5,5,5	0.31	0	5,5,5	0.21	0
4	TRS	A	303	-	7,7,7	0.47	0	9,9,9	0.85	0
8	CTN	E	303	-	18,18,18	0.82	1 (5%)	26,26,26	1.54	6 (23%)
5	GOL	B	301[A]	-	5,5,5	0.27	0	5,5,5	0.42	0
5	GOL	C	301[A]	-	5,5,5	0.28	0	5,5,5	0.35	0
3	CYT	D	302	-	7,8,8	1.04	0	7,10,10	3.64	3 (42%)
7	EDO	D	301	-	3,3,3	0.45	0	2,2,2	0.37	0
3	CYT	B	302	-	7,8,8	0.98	0	7,10,10	3.24	3 (42%)
5	GOL	E	302[B]	-	5,5,5	0.26	0	5,5,5	0.26	0
8	CTN	F	303	-	18,18,18	0.93	1 (5%)	26,26,26	1.62	7 (26%)
5	GOL	E	302[A]	-	5,5,5	0.28	0	5,5,5	0.28	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
3	CYT	D	303	-	-	-	0/1/1/1
3	CYT	C	304	-	-	-	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
5	GOL	D	304[B]	-	-	4/4/4/4	-
6	PEG	C	302	-	-	4/4/4/4	-
5	GOL	D	304[A]	-	-	2/4/4/4	-
7	EDO	F	301	-	-	1/1/1/1	-
7	EDO	F	302	-	-	1/1/1/1	-
3	CYT	A	302	-	-	-	0/1/1/1
5	GOL	B	301[B]	-	-	4/4/4/4	-
3	CYT	C	303[A]	-	-	-	0/1/1/1
4	TRS	A	303	-	-	0/9/9/9	-
5	GOL	C	301[B]	-	-	0/4/4/4	-
8	CTN	E	303	-	-	4/6/22/22	0/2/2/2
5	GOL	B	301[A]	-	-	2/4/4/4	-
5	GOL	C	301[A]	-	-	2/4/4/4	-
3	CYT	D	302	-	-	-	0/1/1/1
7	EDO	D	301	-	-	0/1/1/1	-
5	GOL	E	302[B]	-	-	2/4/4/4	-
8	CTN	F	303	-	-	2/6/22/22	0/2/2/2
3	CYT	B	302	-	-	-	0/1/1/1
5	GOL	E	302[A]	-	-	0/4/4/4	-

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
8	F	303	CTN	C6-C5	2.34	1.40	1.35
8	E	303	CTN	C6-C5	2.31	1.40	1.35

The worst 5 of 31 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	D	302	CYT	C5-C6-N1	-7.45	118.86	124.75
3	C	303[A]	CYT	C5-C6-N1	-7.37	118.92	124.75
3	A	302	CYT	C5-C6-N1	-7.36	118.93	124.75
3	C	304	CYT	C5-C6-N1	-7.35	118.94	124.75
3	D	303	CYT	C5-C6-N1	-7.29	118.98	124.75

There are no chirality outliers.

5 of 28 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
5	B	301[A]	GOL	O1-C1-C2-O2
5	B	301[A]	GOL	O1-C1-C2-C3
5	B	301[B]	GOL	O1-C1-C2-C3
5	C	301[A]	GOL	O1-C1-C2-C3
5	D	304[A]	GOL	O1-C1-C2-C3

There are no ring outliers.

11 monomers are involved in 25 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	D	303	CYT	2	0
3	C	304	CYT	1	0
7	F	302	EDO	5	0
3	A	302	CYT	3	0
3	C	303[A]	CYT	1	0
4	A	303	TRS	1	0
8	E	303	CTN	1	0
3	D	302	CYT	1	0
3	B	302	CYT	1	0
8	F	303	CTN	2	0
5	E	302[A]	GOL	8	0

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(Å ²)	Q<0.9
1	A	248/253 (98%)	-0.36	3 (1%) 76 81	6, 15, 34, 81	14 (5%)
1	B	253/253 (100%)	-0.37	5 (1%) 65 71	6, 15, 37, 66	15 (5%)
1	C	251/253 (99%)	-0.38	1 (0%) 88 91	6, 15, 43, 71	15 (5%)
1	D	251/253 (99%)	-0.33	4 (1%) 70 75	6, 16, 43, 72	13 (5%)
1	E	251/253 (99%)	-0.43	3 (1%) 76 81	7, 15, 33, 67	13 (5%)
1	F	251/253 (99%)	-0.36	3 (1%) 76 81	6, 15, 39, 74	9 (3%)
All	All	1505/1518 (99%)	-0.37	19 (1%) 75 80	6, 15, 39, 81	79 (5%)

The worst 5 of 19 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	D	227	ILE	3.8
1	B	1	MET	3.3
1	B	2	THR	3.2
1	B	227	ILE	3.1
1	D	233	LEU	2.8

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 oligosaccharides 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, 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
3	CYT	C	304	8/8	0.71	0.14	24,27,31,31	8
3	CYT	D	303	8/8	0.77	0.14	20,21,25,28	8
6	PEG	C	302	7/7	0.78	0.14	34,44,51,53	0
7	EDO	F	301	4/4	0.82	0.13	39,42,42,45	4
5	GOL	E	302[A]	6/6	0.85	0.12	36,44,45,45	6
5	GOL	E	302[B]	6/6	0.85	0.12	41,44,46,47	6
5	GOL	B	301[A]	6/6	0.87	0.12	23,29,33,33	6
5	GOL	B	301[B]	6/6	0.87	0.12	18,29,33,38	6
3	CYT	C	303[A]	8/8	0.88	0.11	16,20,24,25	8
5	GOL	D	304[A]	6/6	0.89	0.08	20,21,21,23	6
5	GOL	D	304[B]	6/6	0.89	0.08	13,19,21,25	6
8	CTN	F	303	17/17	0.89	0.13	13,21,29,31	17
3	CYT	A	302	8/8	0.90	0.14	13,26,31,31	8
7	EDO	D	301	4/4	0.91	0.12	29,32,38,41	0
5	GOL	C	301[B]	6/6	0.92	0.08	23,23,25,26	6
4	TRS	A	303	8/8	0.92	0.08	19,28,32,35	0
5	GOL	C	301[A]	6/6	0.92	0.08	12,20,23,24	6
8	CTN	E	303	17/17	0.93	0.13	9,14,30,32	17
7	EDO	F	302	4/4	0.94	0.11	17,18,24,31	4
3	CYT	D	302	8/8	0.96	0.10	13,23,26,27	8
2	NA	A	301	1/1	0.97	0.08	24,24,24,24	0
3	CYT	B	302	8/8	0.98	0.04	14,16,17,17	0
2	NA	E	301	1/1	0.99	0.12	22,22,22,22	0
2	NA	C	305	1/1	0.99	0.12	28,28,28,28	0

6.5 Other polymers [i](#)

There are no such residues in this entry.