



# Full wwPDB X-ray Structure Validation Report ⓘ

Sep 12, 2023 – 06:48 AM EDT

PDB ID : 4NN0  
Title : Crystal structure of the C1QTNF5 globular domain in space group P63  
Authors : Tu, X.; Palczewski, K.  
Deposited on : 2013-11-15  
Resolution : 1.42 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](mailto:validation@mail.wwpdb.org)

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<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>.

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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)  
Xtrriage (Phenix) : 1.13  
EDS : 2.35.1  
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

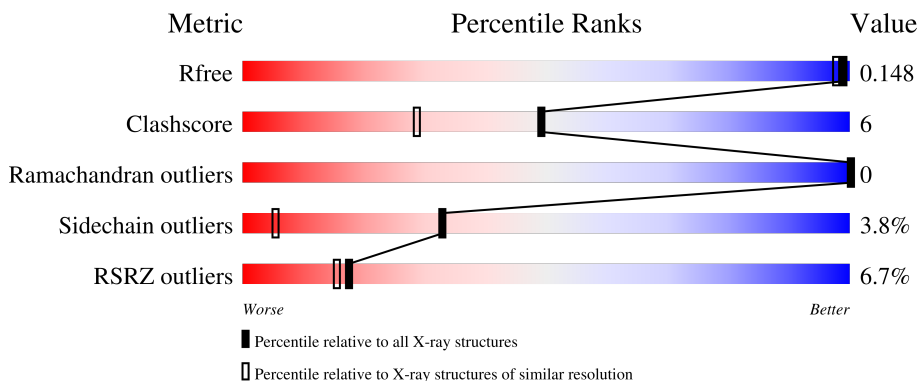
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 1.42 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	2579 (1.44-1.40)
Clashscore	141614	2696 (1.44-1.40)
Ramachandran outliers	138981	2632 (1.44-1.40)
Sidechain outliers	138945	2631 (1.44-1.40)
RSRZ outliers	127900	2528 (1.44-1.40)

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  $\geq 3$ , 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	148	 86% 6% 7%
1	B	148	 84% 11% 5%
1	C	148	 76% 14% 7%

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
2	EDO	A	303	-	-	X	-
2	EDO	B	303	-	-	X	-

## 2 Entry composition i

There are 5 unique types of molecules in this entry. The entry contains 3681 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 Complement C1q tumor necrosis factor-related protein 5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	137	1095	710	181	202	2	0	3	0
1	B	141	1121	725	185	209	2	0	3	0
1	C	138	1076	696	178	200	2	0	0	0

There are 21 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	102	ALA	-	expression tag	UNP Q9BXJ0
A	244	HIS	-	expression tag	UNP Q9BXJ0
A	245	HIS	-	expression tag	UNP Q9BXJ0
A	246	HIS	-	expression tag	UNP Q9BXJ0
A	247	HIS	-	expression tag	UNP Q9BXJ0
A	248	HIS	-	expression tag	UNP Q9BXJ0
A	249	HIS	-	expression tag	UNP Q9BXJ0
B	102	ALA	-	expression tag	UNP Q9BXJ0
B	244	HIS	-	expression tag	UNP Q9BXJ0
B	245	HIS	-	expression tag	UNP Q9BXJ0
B	246	HIS	-	expression tag	UNP Q9BXJ0
B	247	HIS	-	expression tag	UNP Q9BXJ0
B	248	HIS	-	expression tag	UNP Q9BXJ0
B	249	HIS	-	expression tag	UNP Q9BXJ0
C	102	ALA	-	expression tag	UNP Q9BXJ0
C	244	HIS	-	expression tag	UNP Q9BXJ0
C	245	HIS	-	expression tag	UNP Q9BXJ0
C	246	HIS	-	expression tag	UNP Q9BXJ0
C	247	HIS	-	expression tag	UNP Q9BXJ0
C	248	HIS	-	expression tag	UNP Q9BXJ0
C	249	HIS	-	expression tag	UNP Q9BXJ0

- Molecule 2 is 1,2-ETHANEDIOL (three-letter code: EDO) (formula: C<sub>2</sub>H<sub>6</sub>O<sub>2</sub>).



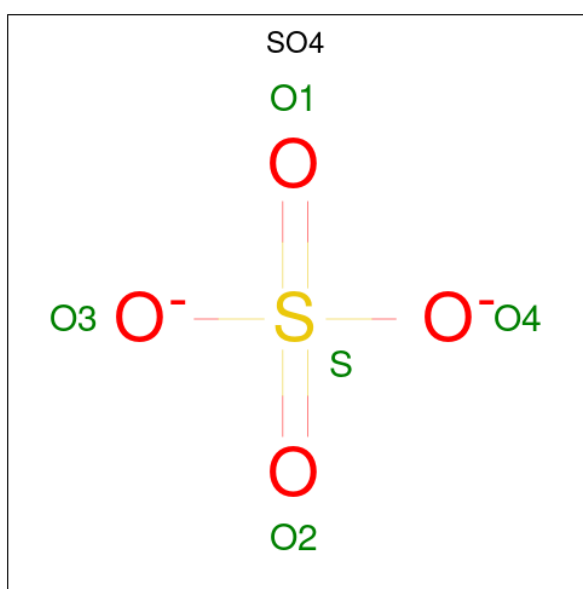
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	A	1	Total C O 4 2 2	0	0
2	A	1	Total C O 4 2 2	0	0
2	A	1	Total C O 4 2 2	0	0
2	A	1	Total C O 4 2 2	0	0
2	A	1	Total C O 4 2 2	0	0
2	A	1	Total C O 4 2 2	0	0
2	A	1	Total C O 4 2 2	0	0
2	A	1	Total C O 4 2 2	0	0
2	A	1	Total C O 4 2 2	0	0
2	A	1	Total C O 4 2 2	0	0
2	A	1	Total C O 4 2 2	0	0
2	B	1	Total C O 4 2 2	0	0
2	B	1	Total C O 4 2 2	0	0

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	B	1	Total C O 4 2 2	0	0
2	B	1	Total C O 4 2 2	0	0
2	B	1	Total C O 4 2 2	0	0
2	C	1	Total C O 4 2 2	0	0

- Molecule 3 is SULFATE ION (three-letter code: SO4) (formula: O<sub>4</sub>S).



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

- Molecule 4 is ACETATE ION (three-letter code: ACT) (formula: C<sub>2</sub>H<sub>3</sub>O<sub>2</sub>).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	1	Total C O 4 2 2	0	0
4	B	1	Total C O 4 2 2	0	0

- Molecule 5 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	A	136	Total O 136 136	0	0
5	B	131	Total O 131 131	0	0
5	C	27	Total O 27 27	0	0





## 4 Data and refinement statistics i

Property	Value	Source
Space group	P 63	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	50.60Å 50.60Å 268.53Å 90.00° 90.00° 120.00°	Depositor
Resolution (Å)	134.26 – 1.42 134.27 – 1.42	Depositor EDS
% Data completeness (in resolution range)	99.0 (134.26-1.42) 99.0 (134.27-1.42)	Depositor EDS
$R_{merge}$	0.04	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	2.97 (at 1.42Å)	Xtrriage
Refinement program	REFMAC 5.7.0029	Depositor
R, $R_{free}$	0.104 , 0.142 0.115 , 0.148	Depositor DCC
$R_{free}$ test set	3646 reflections (5.04%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	11.5	Xtrriage
Anisotropy	0.113	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.35 , 53.1	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.48$ , $\langle L^2 \rangle = 0.31$	Xtrriage
Estimated twinning fraction	0.175 for h,-h-k,-l	Xtrriage
$F_o, F_c$ correlation	0.98	EDS
Total number of atoms	3681	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	26.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.78% of the height of the origin peak. No significant pseudotranslation is detected.*

<sup>1</sup>Intensities estimated from amplitudes.

<sup>2</sup>Theoretical 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: ACT, EDO, 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	A	0.70	0/1130	0.81	1/1539 (0.1%)
1	B	0.70	0/1157	0.77	1/1577 (0.1%)
1	C	0.52	0/1111	0.76	0/1513
All	All	0.64	0/3398	0.78	2/4629 (0.0%)

There are no bond length outliers.

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	127	ARG	NE-CZ-NH2	-5.18	117.71	120.30
1	A	103	ARG	NE-CZ-NH1	-5.11	117.74	120.30

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	1095	0	1043	8	0
1	B	1121	0	1061	16	0
1	C	1076	0	1021	15	0
2	A	48	0	72	8	0
2	B	20	0	30	7	0
2	C	4	0	6	1	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	A	5	0	0	0	0
3	B	10	0	0	0	0
4	A	4	0	3	0	0
4	B	4	0	3	1	0
5	A	136	0	0	0	0
5	B	131	0	0	2	0
5	C	27	0	0	0	0
All	All	3681	0	3239	39	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 6.

All (39) 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:192:SER:OG	2:A:301:EDO:H11	1.73	0.87
1:B:103:ARG:H	2:B:302:EDO:H11	1.45	0.79
1:B:192:SER:O	2:B:303:EDO:H21	1.83	0.79
2:A:303:EDO:H11	2:A:305:EDO:H22	1.65	0.78
1:C:123:LEU:HD21	1:C:217:ILE:HG21	1.65	0.78
1:B:238:SER:HA	1:C:218:TYR:OH	1.88	0.74
1:A:192:SER:OG	2:A:301:EDO:C1	2.42	0.68
1:C:119:SER:HA	1:C:209:VAL:HG23	1.75	0.67
4:B:308:ACT:H2	5:B:526:HOH:O	1.99	0.62
1:A:187:LYS:HE2	2:A:303:EDO:H22	1.84	0.59
1:B:192:SER:H	2:B:303:EDO:H21	1.67	0.59
2:A:303:EDO:C1	2:A:305:EDO:H22	2.34	0.55
1:C:165:GLN:O	1:C:209:VAL:HG12	2.06	0.55
1:B:240:PRO:HB2	1:C:187:LYS:HG2	1.90	0.53
2:A:302:EDO:O1	2:A:309:EDO:H22	2.10	0.52
1:B:238:SER:O	1:C:220:SER:HB2	2.11	0.51
1:B:106:PHE:HA	1:B:130:VAL:O	2.10	0.51
1:B:121:ALA:HB3	2:B:304:EDO:H21	1.93	0.51
1:B:122:PRO:O	2:B:304:EDO:H22	2.11	0.50
1:B:206:TRP:HE1	1:B:208[A]:GLN:HE21	1.60	0.50
1:C:123:LEU:HD23	1:C:217:ILE:HD13	1.92	0.49
1:A:109:LYS:HG2	1:A:226:THR:HG22	1.93	0.49
1:B:109:LYS:HG2	1:B:226:THR:HG22	1.95	0.48
1:C:169:VAL:HG21	1:C:206:TRP:CE2	2.48	0.48
1:A:221[B]:ILE:HG22	1:A:222:LYS:HG2	1.96	0.48
1:B:192:SER:H	2:B:303:EDO:C2	2.27	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:187:LYS:HE2	2:A:303:EDO:C2	2.44	0.47
5:B:498:HOH:O	1:C:184:GLY:HA2	2.15	0.46
1:B:192:SER:N	2:B:303:EDO:H21	2.30	0.46
1:C:117:PRO:HA	1:C:118:PRO:HD3	1.80	0.46
1:C:110:ARG:HH22	1:C:117:PRO:HB3	1.81	0.45
1:B:238:SER:HA	1:C:218:TYR:HH	1.78	0.45
1:C:106:PHE:HA	1:C:130:VAL:O	2.18	0.43
1:C:102:ALA:N	2:C:301:EDO:HO1	2.16	0.43
1:A:187:LYS:NZ	2:A:303:EDO:H21	2.34	0.42
1:A:116:PRO:HA	1:A:117:PRO:HD3	1.98	0.41
1:B:206:TRP:HE1	1:B:208[A]:GLN:NE2	2.18	0.40
1:B:169:VAL:O	1:B:205:VAL:HA	2.21	0.40
1:C:114:ARG:HG2	1:C:114:ARG:NH1	2.37	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	138/148 (93%)	132 (96%)	6 (4%)	0	100	100
1	B	142/148 (96%)	134 (94%)	8 (6%)	0	100	100
1	C	136/148 (92%)	130 (96%)	6 (4%)	0	100	100
All	All	416/444 (94%)	396 (95%)	20 (5%)	0	100	100

There are no Ramachandran outliers to report.

### 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	116/123 (94%)	116 (100%)	0	100	100
1	B	119/123 (97%)	118 (99%)	1 (1%)	81	61
1	C	114/123 (93%)	102 (90%)	12 (10%)	7	0
All	All	349/369 (95%)	336 (96%)	13 (4%)	33	6

All (13) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	B	237	HIS
1	C	103	ARG
1	C	109	LYS
1	C	110	ARG
1	C	111	SER
1	C	113	SER
1	C	114	ARG
1	C	119	SER
1	C	120	ASP
1	C	123	LEU
1	C	209	VAL
1	C	213	ASP
1	C	221	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. There are no such sidechains identified.

### 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 monosaccharides in this entry.

## 5.6 Ligand geometry

23 ligands 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	EDO	B	304	-	3,3,3	0.76	0	2,2,2	1.01	0
3	SO4	B	306	-	4,4,4	0.32	0	6,6,6	0.05	0
2	EDO	A	311	-	3,3,3	0.52	0	2,2,2	0.30	0
2	EDO	A	306	-	3,3,3	0.47	0	2,2,2	0.32	0
2	EDO	A	310	-	3,3,3	0.47	0	2,2,2	0.31	0
4	ACT	A	314	-	3,3,3	1.10	0	3,3,3	0.69	0
2	EDO	C	301	-	3,3,3	0.49	0	2,2,2	0.22	0
2	EDO	B	305	-	3,3,3	0.31	0	2,2,2	0.47	0
2	EDO	A	312	-	3,3,3	0.34	0	2,2,2	0.86	0
2	EDO	A	309	-	3,3,3	0.52	0	2,2,2	0.34	0
2	EDO	A	304	-	3,3,3	0.81	0	2,2,2	0.14	0
2	EDO	B	302	-	3,3,3	0.54	0	2,2,2	0.21	0
2	EDO	A	303	-	3,3,3	0.60	0	2,2,2	0.42	0
4	ACT	B	308	-	3,3,3	0.45	0	3,3,3	1.00	0
3	SO4	B	307	-	4,4,4	0.27	0	6,6,6	0.08	0
2	EDO	A	302	-	3,3,3	0.16	0	2,2,2	0.62	0
2	EDO	A	301	-	3,3,3	1.02	0	2,2,2	1.97	1 (50%)
2	EDO	B	303	-	3,3,3	1.01	0	2,2,2	1.59	0
3	SO4	A	313	-	4,4,4	0.32	0	6,6,6	0.05	0
2	EDO	A	308	-	3,3,3	0.37	0	2,2,2	0.52	0
2	EDO	A	305	-	3,3,3	0.55	0	2,2,2	0.59	0
2	EDO	B	301	-	3,3,3	0.25	0	2,2,2	0.59	0
2	EDO	A	307	-	3,3,3	0.65	0	2,2,2	0.29	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	EDO	A	310	-	-	0/1/1/1	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	EDO	A	312	-	-	1/1/1/1	-
2	EDO	B	304	-	-	0/1/1/1	-
2	EDO	A	302	-	-	0/1/1/1	-
2	EDO	A	301	-	-	0/1/1/1	-
2	EDO	B	303	-	-	0/1/1/1	-
2	EDO	A	309	-	-	1/1/1/1	-
2	EDO	A	308	-	-	1/1/1/1	-
2	EDO	C	301	-	-	1/1/1/1	-
2	EDO	A	305	-	-	0/1/1/1	-
2	EDO	A	311	-	-	1/1/1/1	-
2	EDO	B	301	-	-	0/1/1/1	-
2	EDO	A	304	-	-	0/1/1/1	-
2	EDO	B	302	-	-	0/1/1/1	-
2	EDO	A	306	-	-	1/1/1/1	-
2	EDO	A	303	-	-	0/1/1/1	-
2	EDO	A	307	-	-	1/1/1/1	-
2	EDO	B	305	-	-	1/1/1/1	-

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A	301	EDO	O1-C1-C2	2.12	127.14	111.91

There are no chirality outliers.

All (8) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	306	EDO	O1-C1-C2-O2
2	A	309	EDO	O1-C1-C2-O2
2	C	301	EDO	O1-C1-C2-O2
2	A	308	EDO	O1-C1-C2-O2
2	A	311	EDO	O1-C1-C2-O2
2	B	305	EDO	O1-C1-C2-O2
2	A	307	EDO	O1-C1-C2-O2
2	A	312	EDO	O1-C1-C2-O2

There are no ring outliers.

10 monomers are involved in 17 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	B	304	EDO	2	0
2	C	301	EDO	1	0
2	A	309	EDO	1	0
2	B	302	EDO	1	0
2	A	303	EDO	5	0
4	B	308	ACT	1	0
2	A	302	EDO	1	0
2	A	301	EDO	2	0
2	B	303	EDO	4	0
2	A	305	EDO	2	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

### 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<sup>th</sup> 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 <sup>2</sup> )	Q<0.9
1	A	137/148 (92%)	-0.49	0 <span style="border: 1px solid blue; padding: 2px;">100</span> <span style="border: 1px solid blue; padding: 2px;">100</span>	7, 11, 22, 62	0
1	B	141/148 (95%)	-0.40	3 (2%) <span style="border: 1px solid blue; padding: 2px;">63</span> <span style="border: 1px solid blue; padding: 2px;">63</span>	7, 12, 31, 99	0
1	C	138/148 (93%)	0.81	25 (18%) <span style="border: 1px solid red; padding: 2px;">1</span> <span style="border: 1px solid red; padding: 2px;">1</span>	27, 44, 98, 139	0
All	All	416/444 (93%)	-0.03	28 (6%) <span style="border: 1px solid red; padding: 2px;">17</span> <span style="border: 1px solid red; padding: 2px;">15</span>	7, 16, 73, 139	0

All (28) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	C	116	PRO	11.5
1	C	238	SER	9.9
1	C	210	GLY	7.6
1	C	120	ASP	7.0
1	C	212	GLY	5.8
1	C	211	VAL	5.3
1	B	238	SER	4.9
1	C	117	PRO	4.7
1	C	119	SER	4.5
1	C	118	PRO	4.2
1	C	124	PRO	4.2
1	B	237	HIS	4.1
1	C	115	VAL	3.6
1	C	239	SER	3.6
1	C	114	ARG	3.4
1	C	121	ALA	3.3
1	C	182	PHE	3.2
1	C	160	TYR	3.1
1	C	214	TYR	3.1
1	C	184	GLY	2.9
1	C	185	TRP	2.9
1	C	123	LEU	2.6
1	C	221	ILE	2.4

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Mol	Chain	Res	Type	RSRZ
1	C	209	VAL	2.2
1	C	213	ASP	2.1
1	C	186	PRO	2.0
1	C	181	PHE	2.0
1	B	239	SER	2.0

## 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<sup>th</sup> 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 <sup>2</sup> )	Q<0.9
2	EDO	A	308	4/4	0.71	0.18	45,51,53,113	0
2	EDO	A	305	4/4	0.79	0.19	34,35,37,64	0
2	EDO	C	301	4/4	0.83	0.13	48,53,53,58	0
2	EDO	A	310	4/4	0.87	0.19	38,44,47,53	0
2	EDO	A	307	4/4	0.87	0.12	30,36,37,61	0
4	ACT	B	308	4/4	0.89	0.15	17,20,24,51	4
2	EDO	B	305	4/4	0.90	0.23	28,29,30,33	4
2	EDO	A	306	4/4	0.93	0.09	40,44,54,67	0
2	EDO	A	309	4/4	0.93	0.20	26,29,35,49	0
2	EDO	A	303	4/4	0.93	0.12	21,38,48,56	0
4	ACT	A	314	4/4	0.94	0.10	15,18,26,57	4
2	EDO	A	311	4/4	0.94	0.10	25,30,33,62	0
2	EDO	B	302	4/4	0.95	0.19	33,33,59,67	0
2	EDO	B	304	4/4	0.95	0.19	17,18,23,32	4
2	EDO	A	312	4/4	0.95	0.10	20,24,44,57	0
2	EDO	B	301	4/4	0.96	0.09	22,25,26,32	0
2	EDO	A	302	4/4	0.97	0.08	21,28,30,35	0
3	SO4	B	307	5/5	0.97	0.12	35,38,55,58	5

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
2	EDO	A	301	4/4	0.97	0.15	13,15,16,19	4
2	EDO	A	304	4/4	0.97	0.17	19,21,23,25	0
3	SO4	B	306	5/5	0.98	0.12	12,12,24,30	5
2	EDO	B	303	4/4	0.98	0.16	12,17,17,24	4
3	SO4	A	313	5/5	0.99	0.11	15,19,33,37	5

## 6.5 Other polymers [i](#)

There are no such residues in this entry.