Full wwPDB X-ray Structure Validation Report (i)

Apr 12, 2026 – 10:51 PM JST

PDB ID	:	9W2P / pdb_00009w2p
Title	:	ShosT_apo from E. coli KTE181
Authors	:	Yang, R.; He, L.; Li, F.
Deposited on	:	2025-07-28
Resolution	:	2.02 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 (i) 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 (1)) were used in the production of this report:

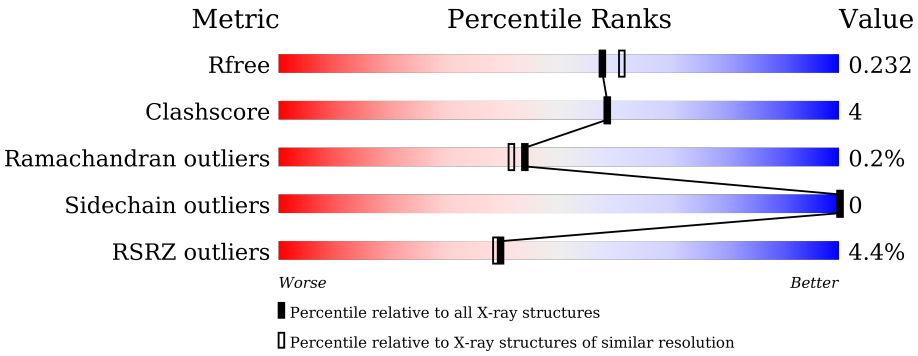
MolProbity	:	4-5-2 with Phenix2.0
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	2.0
EDS	:	3.0
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
CCP4	:	9.0.010 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.48.1

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 2.02 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}	164625	12358 (2.04-2.00)
Clashscore	180529	13897 (2.04-2.00)
Ramachandran outliers	177936	13770 (2.04-2.00)
Sidechain outliers	177891	13769 (2.04-2.00)
RSRZ outliers	164620	12358 (2.04-2.00)

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	432	5% 82% 13% 5%
1	B	432	3% 91% 6% .
1	C	432	5% 85% 9% 6%

2 Entry composition (i)

There are 3 unique types of molecules in this entry. The entry contains 10459 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 ShosT.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	B	425	Total	C	N	O	S	0	0	0
			3412	2192	577	633	10			
1	A	409	Total	C	N	O	S	0	1	0
			3285	2112	553	611	9			
1	C	406	Total	C	N	O	S	0	1	0
			3270	2100	553	607	10			

There are 24 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	-7	LEU	-	expression tag	UNP A0A0H2Z117
B	-6	GLU	-	expression tag	UNP A0A0H2Z117
B	-5	VAL	-	expression tag	UNP A0A0H2Z117
B	-4	LEU	-	expression tag	UNP A0A0H2Z117
B	-3	PHE	-	expression tag	UNP A0A0H2Z117
B	-2	GLN	-	expression tag	UNP A0A0H2Z117
B	-1	GLY	-	expression tag	UNP A0A0H2Z117
B	0	PRO	-	expression tag	UNP A0A0H2Z117
A	-7	LEU	-	expression tag	UNP A0A0H2Z117
A	-6	GLU	-	expression tag	UNP A0A0H2Z117
A	-5	VAL	-	expression tag	UNP A0A0H2Z117
A	-4	LEU	-	expression tag	UNP A0A0H2Z117
A	-3	PHE	-	expression tag	UNP A0A0H2Z117
A	-2	GLN	-	expression tag	UNP A0A0H2Z117
A	-1	GLY	-	expression tag	UNP A0A0H2Z117
A	0	PRO	-	expression tag	UNP A0A0H2Z117
C	-7	LEU	-	expression tag	UNP A0A0H2Z117
C	-6	GLU	-	expression tag	UNP A0A0H2Z117
C	-5	VAL	-	expression tag	UNP A0A0H2Z117
C	-4	LEU	-	expression tag	UNP A0A0H2Z117
C	-3	PHE	-	expression tag	UNP A0A0H2Z117
C	-2	GLN	-	expression tag	UNP A0A0H2Z117
C	-1	GLY	-	expression tag	UNP A0A0H2Z117

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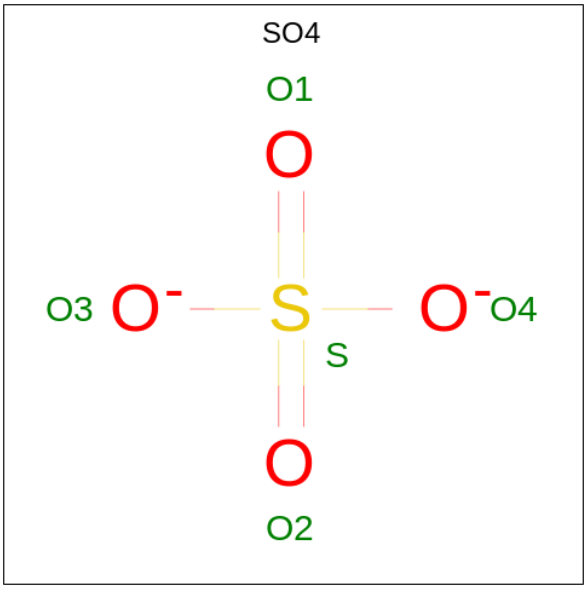
Chain	Residue	Modelled	Actual	Comment	Reference
C	0	PRO	-	expression tag	UNP A0A0H2Z117

- Molecule 2 is SULFATE ION (CCD ID: SO4) (formula: O_4S).



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

- Molecule 3 is water.

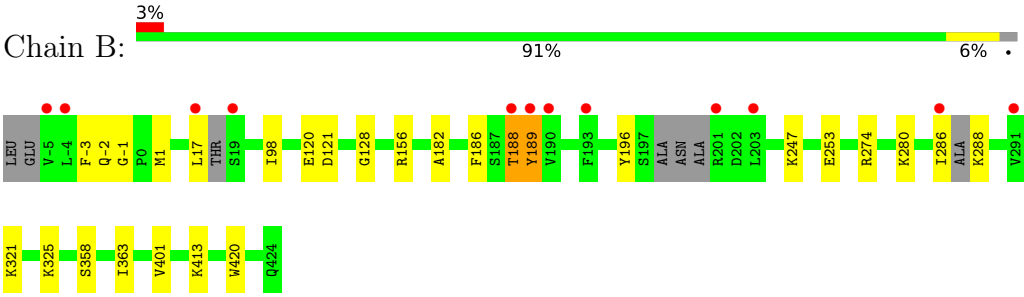
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	B	219	Total O 219 219	0	0
3	A	94	Total O 94 94	0	0
3	C	134	Total O 134 134	0	0

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.

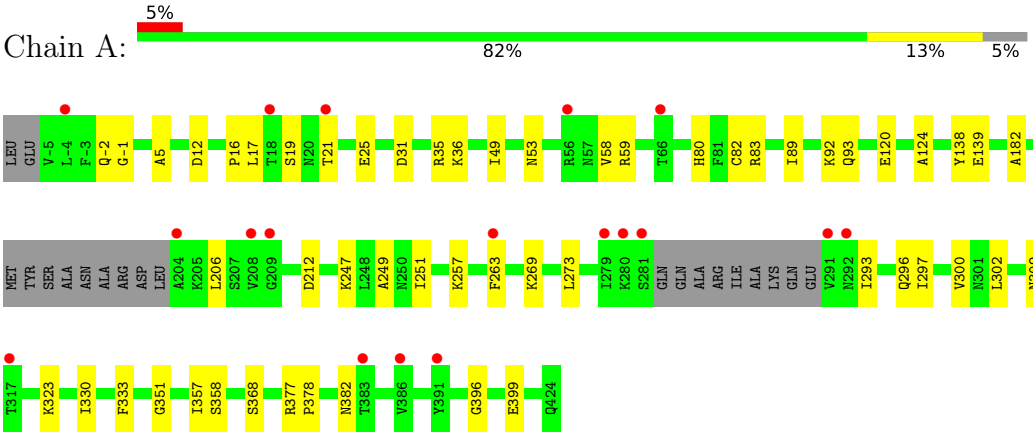
• Molecule 1: ShosT

Chain B:



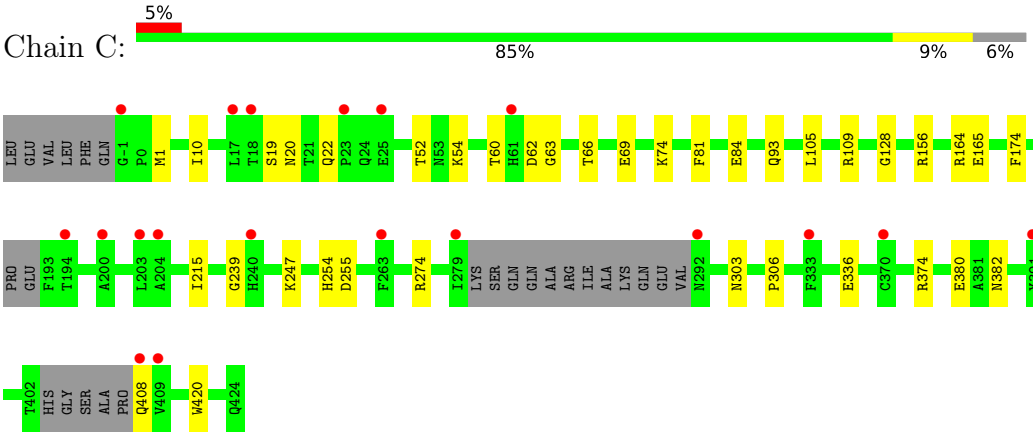
• Molecule 1: ShosT

Chain A:



• Molecule 1: ShosT

Chain C:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α, β, γ	77.23Å 115.98Å 153.04Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	42.57 – 2.02 42.57 – 2.02	Depositor EDS
% Data completeness (in resolution range)	100.0 (42.57-2.02) 93.2 (42.57-2.02)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.37 (at 2.01Å)	Xtriage
Refinement program	PHENIX (1.14_3260: ???)	Depositor
R, R_{free}	0.187 , 0.229 0.190 , 0.232	Depositor DCC
R_{free} test set	2000 reflections (2.20%)	wwPDB-VP
Wilson B-factor (Å^2)	33.9	Xtriage
Anisotropy	0.334	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.35 , 44.1	EDS
L-test for twinning[2]	$< \|L\| > = 0.50$, $< L^2 > = 0.33$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.96	EDS
Total number of atoms	10459	wwPDB-VP
Average B, all atoms (Å^2)	45.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.32% 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: 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	0.32	0/3365	0.49	0/4570
1	B	0.39	0/3492	0.56	1/4733 (0.0%)
1	C	0.33	1/3347 (0.0%)	0.49	0/4539
All	All	0.35	1/10204 (0.0%)	0.52	1/13842 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	C	0	1

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	C	374	ARG	CZ-NH1	5.25	1.40	1.32

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	274	ARG	CA-CB-CG	-6.26	101.59	114.10

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	C	19	SER	Peptide

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	3285	0	3235	38	0
1	B	3412	0	3371	23	0
1	C	3270	0	3222	28	0
2	A	15	0	0	1	0
2	B	15	0	0	1	0
2	C	15	0	0	1	0
3	A	94	0	0	7	0
3	B	219	0	0	6	0
3	C	134	0	0	6	0
All	All	10459	0	9828	86	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.

All (86) 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:C:336:GLU:OE1	3:C:601:HOH:O	1.80	0.98
1:C:60:THR:HG22	1:C:62:ASP:H	1.40	0.86
1:A:368:SER:OG	3:A:601:HOH:O	2.01	0.78
1:B:188:THR:HG22	1:B:189:TYR:H	1.50	0.76
1:A:17:LEU:N	3:A:603:HOH:O	2.10	0.76
1:A:31[B]:ASP:OD2	1:A:35:ARG:NH2	2.19	0.74
1:A:323:LYS:HG3	1:A:351:GLY:HA3	1.70	0.73
1:B:325:LYS:NZ	3:B:604:HOH:O	2.23	0.71
1:A:25:GLU:OE1	3:A:602:HOH:O	2.08	0.71
1:A:93:GLN:HG3	1:A:120:GLU:HG3	1.74	0.69
1:B:413:LYS:NZ	3:B:605:HOH:O	2.26	0.66
1:B:1:MET:HE1	1:A:59:ARG:HG2	1.78	0.64
1:C:74:LYS:O	3:C:602:HOH:O	2.14	0.63
1:C:408:GLN:NE2	3:C:603:HOH:O	2.22	0.63
1:B:17:LEU:O	3:B:601:HOH:O	2.15	0.63
1:C:1:MET:SD	1:C:165:GLU:HG3	2.40	0.61
1:A:12:ASP:OD1	3:A:603:HOH:O	2.16	0.61
1:A:93:GLN:H	1:A:93:GLN:CD	2.09	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:164:ARG:CZ	1:C:408:GLN:HB2	2.32	0.60
1:A:249:ALA:HB1	1:A:269:LYS:HG3	1.84	0.59
1:C:156:ARG:HD3	1:C:420:TRP:HB3	1.86	0.57
1:B:98:ILE:HD12	3:B:615:HOH:O	2.06	0.56
1:A:53:ASN:HD21	1:A:93:GLN:NE2	2.04	0.55
1:A:309:ASN:HB3	1:A:312:THR:OG1	2.09	0.53
1:A:92:LYS:HG2	1:A:124:ALA:HB2	1.92	0.52
1:C:93:GLN:H	1:C:93:GLN:CD	2.18	0.51
1:B:188:THR:HG22	1:B:189:TYR:N	2.22	0.50
1:B:-2:GLN:HG2	1:B:-1:GLY:O	2.11	0.50
1:A:377:ARG:HG2	1:A:382:ASN:OD1	2.11	0.50
1:C:408:GLN:CD	3:C:603:HOH:O	2.53	0.50
1:B:156:ARG:HD3	1:B:420:TRP:HB3	1.94	0.49
1:B:253:GLU:OE2	3:B:602:HOH:O	2.20	0.49
1:A:263:PHE:HA	3:A:663:HOH:O	2.12	0.49
1:C:174:PHE:CE2	1:C:393:GLY:HA3	2.47	0.49
1:C:254:HIS:HD2	3:C:609:HOH:O	1.96	0.48
1:B:401:VAL:O	1:A:36:LYS:NZ	2.41	0.48
1:B:188:THR:CG2	1:B:189:TYR:H	2.24	0.48
1:A:330:ILE:HD13	1:A:357:ILE:HB	1.95	0.48
1:A:16:PRO:O	3:A:604:HOH:O	2.20	0.48
1:A:5:ALA:HB1	1:A:49:ILE:HD12	1.96	0.48
1:C:66:THR:CG2	1:C:69:GLU:H	2.26	0.47
1:B:280:LYS:NZ	2:B:503:SO4:O2	2.39	0.46
1:A:80:HIS:CE1	1:A:82:CYS:HB2	2.51	0.46
1:B:98:ILE:HD13	1:B:128:GLY:HA3	1.97	0.46
1:C:164:ARG:NH1	1:C:408:GLN:HB2	2.30	0.46
1:B:196:TYR:OH	1:B:247:LYS:HE3	2.16	0.45
1:C:215:ILE:HG12	1:C:255:ASP:HB3	1.98	0.45
1:A:212:ASP:OD1	1:A:212:ASP:N	2.49	0.45
1:A:296:GLN:NE2	2:A:502:SO4:O3	2.47	0.45
1:A:19:SER:HB2	1:A:139:GLU:OE1	2.17	0.45
1:C:109:ARG:HD3	1:C:128:GLY:O	2.17	0.45
1:A:396:GLY:HA3	1:A:399:GLU:OE2	2.17	0.45
1:C:66:THR:HG23	1:C:69:GLU:H	1.81	0.45
1:C:303:ASN:O	1:C:306:PRO:HD3	2.17	0.44
1:C:81:PHE:CZ	1:C:105:LEU:HD11	2.53	0.44
1:C:247:LYS:NZ	2:C:503:SO4:O4	2.49	0.44
1:A:247:LYS:O	1:A:251:ILE:HG13	2.17	0.44
1:C:10:ILE:HG12	1:C:52:THR:HG22	2.00	0.44
1:B:-3:PHE:HB2	1:A:58:VAL:HG22	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:20:ASN:O	1:C:22:GLN:HG2	2.19	0.43
1:A:293:ILE:O	1:A:297:ILE:HG12	2.18	0.43
1:B:120:GLU:H	1:B:120:GLU:CD	2.27	0.43
1:C:239:GLY:O	1:C:274:ARG:NE	2.48	0.43
1:C:408:GLN:OE1	3:C:603:HOH:O	2.21	0.43
1:A:83:ARG:HD2	1:A:89:ILE:O	2.19	0.42
1:C:93:GLN:H	1:C:93:GLN:NE2	2.16	0.42
1:A:273:LEU:O	1:A:300:VAL:HA	2.19	0.42
1:A:12:ASP:CG	3:A:603:HOH:O	2.59	0.42
1:B:121:ASP:OD2	3:B:603:HOH:O	2.22	0.42
1:B:286:ILE:O	1:B:288:LYS:HG2	2.19	0.42
1:A:302:LEU:HD12	1:A:378:PRO:HB2	2.01	0.42
1:C:60:THR:HB	1:C:63:GLY:O	2.19	0.42
1:C:54:LYS:NZ	1:C:84:GLU:HG3	2.35	0.41
1:A:182:ALA:HA	1:A:358:SER:O	2.20	0.41
1:A:377:ARG:HG2	1:A:377:ARG:H	1.65	0.41
1:A:206:LEU:CD2	1:A:251:ILE:HG21	2.50	0.41
1:A:19:SER:O	1:A:21:THR:N	2.45	0.41
1:B:182:ALA:HA	1:B:358:SER:O	2.21	0.41
1:B:186:PHE:O	1:B:363:ILE:HG23	2.21	0.41
1:B:321:LYS:HD3	1:B:321:LYS:HA	1.72	0.41
1:A:-2:GLN:HG2	1:A:-1:GLY:O	2.20	0.41
1:C:380:GLU:O	1:C:382:ASN:ND2	2.54	0.41
1:B:303:ASN:O	1:B:306:PRO:HD3	2.21	0.40
1:C:54:LYS:HZ2	1:C:84:GLU:HG3	1.85	0.40
1:A:257:LYS:HD3	1:A:310:LEU:HD13	2.04	0.40
1:A:16:PRO:HG3	1:A:138:TYR:CZ	2.57	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	404/432 (94%)	387 (96%)	16 (4%)	1 (0%)	44 41
1	B	417/432 (96%)	409 (98%)	6 (1%)	2 (0%)	25 20
1	C	399/432 (92%)	385 (96%)	14 (4%)	0	100 100
All	All	1220/1296 (94%)	1181 (97%)	36 (3%)	3 (0%)	44 41

All (3) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	188	THR
1	B	189	TYR
1	A	333	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	355/376 (94%)	355 (100%)	0	100 100
1	B	368/376 (98%)	368 (100%)	0	100 100
1	C	352/376 (94%)	352 (100%)	0	100 100
All	All	1075/1128 (95%)	1075 (100%)	0	100 100

There are no protein residues with a non-rotameric sidechain to report.

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (13) such sidechains are listed below:

Mol	Chain	Res	Type
1	B	24	GLN
1	B	175	ASN
1	B	356	ASN
1	B	364	ASN
1	B	419	ASN
1	A	53	ASN
1	A	129	ASN
1	A	171	GLN

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Mol	Chain	Res	Type
1	A	356	ASN
1	A	415	GLN
1	C	20	ASN
1	C	110	ASN
1	C	356	ASN

5.3.3 RNA

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates

There are no oligosaccharides in this entry.

5.6 Ligand geometry

9 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	SO4	A	501	-	4,4,4	0.22	0	6,6,6	0.22	0
2	SO4	A	502	-	4,4,4	0.15	0	6,6,6	0.08	0
2	SO4	B	501	-	4,4,4	0.23	0	6,6,6	0.30	0
2	SO4	B	502	-	4,4,4	0.14	0	6,6,6	0.10	0
2	SO4	A	503	-	4,4,4	0.13	0	6,6,6	0.09	0
2	SO4	B	503	-	4,4,4	0.14	0	6,6,6	0.14	0
2	SO4	C	501	-	4,4,4	0.18	0	6,6,6	0.08	0
2	SO4	C	502	-	4,4,4	0.16	0	6,6,6	0.08	0
2	SO4	C	503	-	4,4,4	0.17	0	6,6,6	0.18	0

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

3 monomers are involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	A	502	SO4	1	0
2	B	503	SO4	1	0
2	C	503	SO4	1	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^{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	409/432 (94%)	0.36	20 (4%)	36	35	16, 47, 80, 97	1 (0%)
1	B	425/432 (98%)	-0.17	12 (2%)	55	54	23, 34, 69, 90	0
1	C	406/432 (93%)	0.22	22 (5%)	32	31	20, 46, 76, 99	1 (0%)
All	All	1240/1296 (95%)	0.13	54 (4%)	39	39	16, 42, 76, 99	2 (0%)

All (54) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	279	ILE	5.3
1	B	286	ILE	4.3
1	C	203	LEU	4.2
1	A	-4	LEU	3.7
1	A	291	VAL	3.6
1	A	21	THR	3.3
1	B	291	VAL	3.2
1	B	17	LEU	3.1
1	C	61	HIS	3.1
1	C	189	TYR	3.1
1	A	56	ARG	3.1
1	B	-5	VAL	3.0
1	A	208	VAL	3.0
1	C	408	GLN	2.9
1	B	19	SER	2.9
1	B	203	LEU	2.8
1	A	280	LYS	2.7
1	B	188	THR	2.7
1	A	18	THR	2.7
1	C	409	VAL	2.7
1	A	263	PHE	2.7
1	C	391	TYR	2.6
1	C	-1	GLY	2.6

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Mol	Chain	Res	Type	RSRZ
1	A	204	ALA	2.6
1	A	391	TYR	2.6
1	A	292	ASN	2.6
1	C	240[A]	HIS	2.6
1	B	190	VAL	2.5
1	C	194	THR	2.5
1	C	333	PHE	2.5
1	C	370	CYS	2.4
1	B	193	PHE	2.4
1	A	281	SER	2.4
1	A	317	THR	2.3
1	A	66	THR	2.3
1	B	189	TYR	2.2
1	A	383	THR	2.2
1	A	191	PRO	2.2
1	A	209	GLY	2.2
1	A	311	ILE	2.2
1	C	279	ILE	2.2
1	B	201	ARG	2.2
1	C	18	THR	2.2
1	C	204	ALA	2.2
1	C	292	ASN	2.2
1	C	17	LEU	2.1
1	C	200	ALA	2.1
1	C	263	PHE	2.1
1	A	386	VAL	2.1
1	C	186	PHE	2.1
1	C	25	GLU	2.0
1	B	-4	LEU	2.0
1	C	23	PRO	2.0
1	C	398	ALA	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 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, 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
2	SO4	A	503	5/5	0.65	0.10	115,117,118,118	0
2	SO4	A	502	5/5	0.68	0.12	110,112,115,117	0
2	SO4	C	503	5/5	0.75	0.14	79,85,93,97	0
2	SO4	B	503	5/5	0.84	0.12	78,80,88,91	0
2	SO4	C	502	5/5	0.90	0.09	63,69,76,80	0
2	SO4	B	502	5/5	0.91	0.08	59,67,76,81	0
2	SO4	A	501	5/5	0.92	0.10	44,48,53,57	0
2	SO4	C	501	5/5	0.96	0.08	44,44,54,56	0
2	SO4	B	501	5/5	0.97	0.05	33,35,37,38	0

6.5 Other polymers (i)

There are no such residues in this entry.