



# Full wwPDB X-ray Structure Validation Report ⓘ

Mar 14, 2018 – 11:14 am GMT

PDB ID : 3V09  
Title : Crystal structure of Rabbit Serum Albumin  
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Deposited on : 2011-12-07  
Resolution : 2.27 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)

A user guide is available at

<https://www.wwpdb.org/validation/2017/XrayValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

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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 : 1.7.3 (157068), CSD as539be (2018)  
Xtriage (Phenix) : 1.13  
EDS : trunk31020  
Percentile statistics : 20171227.v01 (using entries in the PDB archive December 27th 2017)  
Refmac : 5.8.0158  
CCP4 : 7.0 (Gargrove)  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : trunk31020

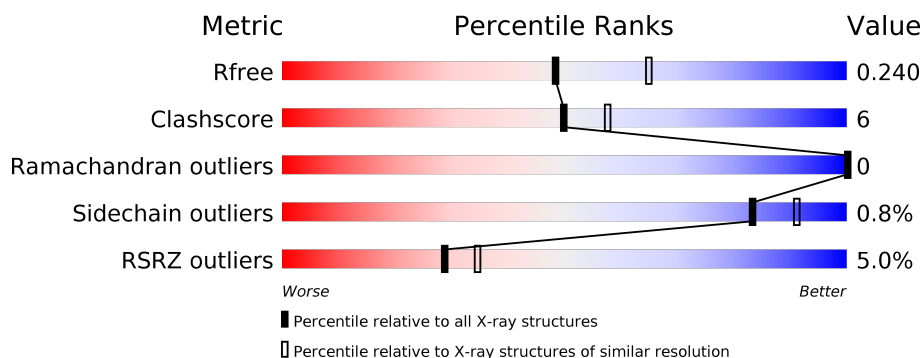
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 2.27 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))
$R_{free}$	111664	6121 (2.30-2.26)
Clashscore	122126	6842 (2.30-2.26)
Ramachandran outliers	120053	6755 (2.30-2.26)
Sidechain outliers	120020	6755 (2.30-2.26)
RSRZ outliers	108989	5992 (2.30-2.26)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments on the lower bar indicate the fraction of residues that contain outliers for  $\geq 3$ , 2, 1 and 0 types of geometric quality criteria. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions  $\leq 5\%$ . 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	584	<div> <div>5%</div> <div>91%</div> <div>9%</div> </div>

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
4	UNX	A	590	-	-	X	-
4	UNX	A	592	-	-	X	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
4	UNX	A	593	-	-	X	-
4	UNX	A	594	-	-	X	-
4	UNX	A	595	-	-	X	X
4	UNX	A	596	-	-	X	-
4	UNX	A	598	-	-	X	-
4	UNX	A	599	-	-	X	-
4	UNX	A	600	-	-	X	-
4	UNX	A	601	-	-	X	-
4	UNX	A	602	-	-	X	-
4	UNX	A	603	-	-	X	-
4	UNX	A	605	-	-	X	-
4	UNX	A	606	-	-	X	-
4	UNX	A	607	-	-	X	-
4	UNX	A	608	-	-	X	-
4	UNX	A	609	-	-	X	-

## 2 Entry composition [i](#)

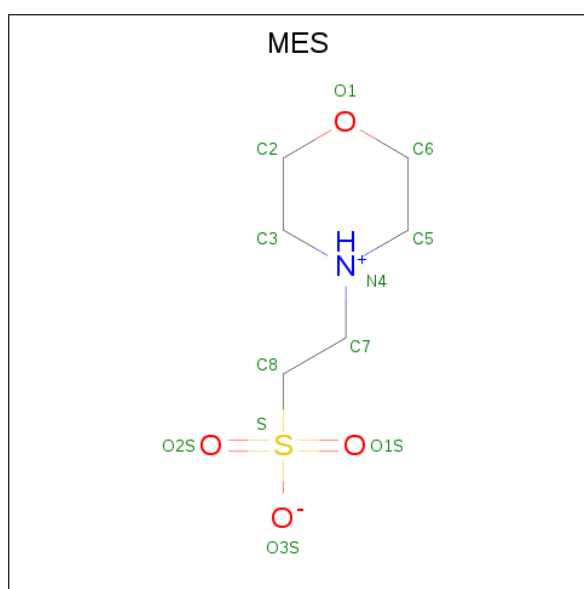
There are 7 unique types of molecules in this entry. The entry contains 4822 atoms, of which 0 are hydrogens and 0 are deuteriums.

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 Serum albumin.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	583	Total	C	N	O	S	0	2	0
			4529	2864	766	863	36			

- Molecule 2 is 2-(N-MORPHOLINO)-ETHANESULFONIC ACID (three-letter code: MES) (formula: C<sub>6</sub>H<sub>13</sub>NO<sub>4</sub>S).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
2	A	1	Total	C	N	O	S	0	0
			12	6	1	4	1		
2	A	1	Total	C	N	O	S	0	0
			12	6	1	4	1		

- Molecule 3 is TETRAETHYLENE GLYCOL (three-letter code: PG4) (formula: C<sub>8</sub>H<sub>18</sub>O<sub>5</sub>).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
3	A	1	Total	C	O	0	0
			13	8	5		
3	A	1	Total	C	O	0	0
			13	8	5		
3	A	1	Total	C	O	0	0
			13	8	5		

- Molecule 4 is UNKNOWN ATOM OR ION (three-letter code: UNX) (formula: X).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	22	Total	X	0	0
			22	22		

- Molecule 5 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
5	A	1	Total C O 4 2 2	0	0
5	A	1	Total C O 4 2 2	0	0
5	A	1	Total C O 4 2 2	0	0
5	A	1	Total C O 4 2 2	0	0
5	A	1	Total C O 4 2 2	0	0

- Molecule 6 is CHLORIDE ION (three-letter code: CL) (formula: Cl).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	A	1	Total Cl 1 1	0	0

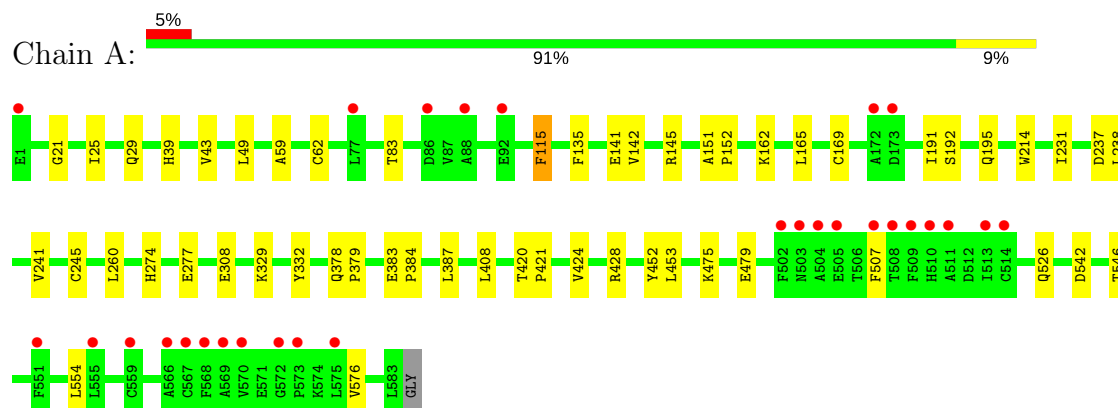
- Molecule 7 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
7	A	187	Total O 187 187	0	0

### 3 Residue-property plots [i](#)

These plots are drawn for all protein, RNA and DNA 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: Serum albumin



## 4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	75.46Å 81.88Å 104.85Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	50.00 – 2.27 43.06 – 2.27	Depositor EDS
% Data completeness (in resolution range)	99.9 (50.00-2.27) 99.9 (43.06-2.27)	Depositor EDS
$R_{merge}$	0.08	Depositor
$R_{sym}$	0.08	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	2.58 (at 2.27Å)	Xtriage
Refinement program	REFMAC 5.6.0117	Depositor
R, $R_{free}$	0.193 , 0.243 0.195 , 0.240	Depositor DCC
$R_{free}$ test set	1543 reflections (5.05%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	37.3	Xtriage
Anisotropy	0.064	Xtriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.32 , 37.2	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.50$ , $\langle L^2 \rangle = 0.33$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
$F_o, F_c$ correlation	0.95	EDS
Total number of atoms	4822	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	44.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 5.21% 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: UNX, PG4, EDO, MES, CL

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	0.69	1/4633 (0.0%)	0.75	0/6282

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	214	TRP	CD2-CE2	5.00	1.47	1.41

There are no bond angle outliers.

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	4529	0	4335	36	0
2	A	24	0	26	5	0
3	A	39	0	54	0	0
4	A	22	0	0	21	0
5	A	20	0	30	0	0
6	A	1	0	0	0	0
7	A	187	0	0	1	0
All	All	4822	0	4445	57	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 (57) 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:542:ASP:O	1:A:546:THR:HG23	1.85	0.76
4:A:589:UNX:UNK	4:A:590:UNX:UNK	1.26	0.76
4:A:590:UNX:UNK	4:A:591:UNX:UNK	1.27	0.76
1:A:141:GLU:OE1	1:A:145:ARG:NH1	2.24	0.69
1:A:192:SER:HA	1:A:195:GLN:HE21	1.60	0.65
1:A:554:LEU:HD23	1:A:554:LEU:C	2.18	0.64
1:A:408:LEU:HD21	1:A:424:VAL:HA	1.80	0.64
1:A:142:VAL:HG22	2:A:588:MES:H52	1.85	0.58
1:A:231:ILE:HD12	1:A:332:TYR:CE1	2.40	0.56
1:A:383:GLU:HB3	1:A:384:PRO:HD3	1.88	0.56
1:A:428:ARG:NH1	7:A:628:HOH:O	2.39	0.55
1:A:408:LEU:HD11	1:A:526:GLN:HB3	1.88	0.55
4:A:603:UNX:UNK	4:A:604:UNX:UNK	1.50	0.55
4:A:596:UNX:UNK	4:A:597:UNX:UNK	1.52	0.54
4:A:598:UNX:UNK	4:A:599:UNX:UNK	1.53	0.53
1:A:238:LEU:HD13	1:A:260:LEU:CD2	2.39	0.52
4:A:590:UNX:UNK	4:A:592:UNX:UNK	1.53	0.52
4:A:605:UNX:UNK	4:A:606:UNX:UNK	1.53	0.52
1:A:554:LEU:HD23	1:A:554:LEU:O	2.10	0.52
4:A:609:UNX:UNK	4:A:610:UNX:UNK	1.53	0.52
4:A:594:UNX:UNK	4:A:598:UNX:UNK	1.53	0.51
4:A:608:UNX:UNK	4:A:609:UNX:UNK	1.53	0.51
4:A:601:UNX:UNK	4:A:602:UNX:UNK	1.54	0.51
4:A:607:UNX:UNK	4:A:608:UNX:UNK	1.54	0.51
4:A:602:UNX:UNK	4:A:603:UNX:UNK	1.54	0.50
4:A:599:UNX:UNK	4:A:600:UNX:UNK	1.53	0.50
1:A:151:ALA:HB3	1:A:152:PRO:HD3	1.93	0.50
4:A:595:UNX:UNK	4:A:596:UNX:UNK	1.54	0.50
4:A:594:UNX:UNK	4:A:595:UNX:UNK	1.56	0.50
4:A:600:UNX:UNK	4:A:601:UNX:UNK	1.56	0.49
4:A:606:UNX:UNK	4:A:607:UNX:UNK	1.55	0.49
1:A:387:LEU:HD11	2:A:585:MES:H51	1.95	0.49
4:A:592:UNX:UNK	4:A:593:UNX:UNK	1.55	0.49
4:A:593:UNX:UNK	4:A:594:UNX:UNK	1.57	0.48
4:A:601:UNX:UNK	4:A:605:UNX:UNK	1.57	0.47
1:A:39:HIS:O	1:A:43:VAL:HG23	2.14	0.47
1:A:237:ASP:O	1:A:241:VAL:HG23	2.15	0.47
1:A:115:PHE:CE1	2:A:588:MES:H51	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:238:LEU:HD13	1:A:260:LEU:HD23	1.97	0.46
1:A:115:PHE:CE1	1:A:141:GLU:HB3	2.51	0.45
1:A:135:PHE:CZ	1:A:162:LYS:HB2	2.52	0.45
1:A:475:LYS:O	1:A:479:GLU:HB2	2.16	0.45
1:A:115:PHE:CD1	2:A:588:MES:H51	2.51	0.45
1:A:453:LEU:HD11	2:A:585:MES:H52	1.98	0.45
1:A:420:THR:HB	1:A:421:PRO:HD3	1.99	0.44
1:A:191:ILE:O	1:A:195:GLN:HG3	2.18	0.44
1:A:231:ILE:HD12	1:A:332:TYR:HE1	1.80	0.44
1:A:274:HIS:O	1:A:277:GLU:HG2	2.18	0.43
1:A:507:PHE:HD2	1:A:576:VAL:HG22	1.84	0.43
1:A:59:ALA:HB3	1:A:62:CYS:SG	2.58	0.43
1:A:308:GLU:OE2	1:A:329[B]:LYS:NZ	2.40	0.43
1:A:25:ILE:O	1:A:29:GLN:HG3	2.20	0.42
1:A:378:GLN:N	1:A:379:PRO:HD2	2.35	0.41
1:A:21:GLY:O	1:A:25:ILE:HG13	2.21	0.41
1:A:408:LEU:CD1	1:A:526:GLN:HB3	2.50	0.41
1:A:49:LEU:HD23	1:A:49:LEU:C	2.41	0.40
1:A:165:LEU:HD23	1:A:169:CYS:SG	2.60	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	583/584 (100%)	567 (97%)	16 (3%)	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	483/510 (95%)	479 (99%)	4 (1%)	83	91

All (4) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	83	THR
1	A	115	PHE
1	A	245	CYS
1	A	452	TYR

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (1) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	195	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 carbohydrates in this entry.

### 5.6 Ligand geometry [i](#)

Of 33 ligands modelled in this entry, 22 are unknown and 1 is monoatomic - leaving 10 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	$\# Z  > 2$
2	MES	A	585	-	12,12,12	2.24	1 (8%)	14,16,16	2.82	3 (21%)
3	PG4	A	586	-	12,12,12	0.57	0	11,11,11	0.64	0
3	PG4	A	587	-	12,12,12	0.51	0	11,11,11	0.51	0
2	MES	A	588	-	12,12,12	2.11	1 (8%)	14,16,16	1.86	2 (14%)
5	EDO	A	611	-	3,3,3	0.64	0	2,2,2	0.20	0
5	EDO	A	612	-	3,3,3	0.71	0	2,2,2	0.12	0
5	EDO	A	613	-	3,3,3	0.57	0	2,2,2	0.19	0
5	EDO	A	614	-	3,3,3	0.49	0	2,2,2	0.46	0
5	EDO	A	615	-	3,3,3	0.86	0	2,2,2	0.50	0
3	PG4	A	617	-	12,12,12	0.59	0	11,11,11	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	MES	A	585	-	-	0/6/14/14	0/1/1/1
3	PG4	A	586	-	-	0/10/10/10	0/0/0/0
3	PG4	A	587	-	-	0/10/10/10	0/0/0/0
2	MES	A	588	-	-	0/6/14/14	0/1/1/1
5	EDO	A	611	-	-	0/1/1/1	0/0/0/0
5	EDO	A	612	-	-	0/1/1/1	0/0/0/0
5	EDO	A	613	-	-	0/1/1/1	0/0/0/0
5	EDO	A	614	-	-	0/1/1/1	0/0/0/0
5	EDO	A	615	-	-	0/1/1/1	0/0/0/0
3	PG4	A	617	-	-	0/10/10/10	0/0/0/0

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A	585	MES	C8-S	-7.26	1.67	1.77
2	A	588	MES	C8-S	-6.87	1.67	1.77

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A	588	MES	C2-C3-N4	-3.20	105.69	110.11
2	A	585	MES	O3S-S-C8	-3.03	100.86	105.77
2	A	588	MES	O1S-S-C8	5.28	113.28	106.92
2	A	585	MES	C2-C3-N4	5.89	118.22	110.11
2	A	585	MES	O2S-S-C8	7.40	115.83	106.92

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

2 monomers are involved in 5 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	A	585	MES	2	0
2	A	588	MES	3	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	583/584 (99%)	-0.07	29 (4%)	29 34	22, 39, 102, 135	0

All (29) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	504	ALA	7.3
1	A	559	CYS	6.2
1	A	172	ALA	5.7
1	A	502	PHE	4.9
1	A	509	PHE	4.7
1	A	570	VAL	4.2
1	A	572	GLY	4.1
1	A	568	PHE	4.0
1	A	566	ALA	3.9
1	A	510	HIS	3.9
1	A	508	THR	3.5
1	A	511	ALA	3.0
1	A	173	ASP	2.9
1	A	507	PHE	2.8
1	A	567	CYS	2.7
1	A	92	GLU	2.7
1	A	86	ASP	2.5
1	A	503	ASN	2.5
1	A	555	LEU	2.4
1	A	513	ILE	2.4
1	A	575	LEU	2.3
1	A	514	CYS	2.3
1	A	88	ALA	2.3
1	A	1	GLU	2.2
1	A	569	ALA	2.2
1	A	551	PHE	2.2
1	A	505	GLU	2.2

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Mol	Chain	Res	Type	RSRZ
1	A	573	PRO	2.0
1	A	77	LEU	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 carbohydrates in this entry.

## 6.4 Ligands [i](#)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. 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
4	UNX	A	605	1/1	0.66	0.21	50,50,50,50	0
4	UNX	A	594	1/1	0.70	0.26	42,42,42,42	0
4	UNX	A	607	1/1	0.72	0.13	50,50,50,50	0
4	UNX	A	593	1/1	0.75	0.31	42,42,42,42	0
5	EDO	A	615	4/4	0.77	0.14	50,52,53,55	0
4	UNX	A	601	1/1	0.77	0.26	50,50,50,50	0
4	UNX	A	595	1/1	0.78	0.45	50,50,50,50	0
3	PG4	A	617	13/13	0.82	0.16	63,71,77,79	0
4	UNX	A	606	1/1	0.84	0.10	51,51,51,51	0
5	EDO	A	611	4/4	0.87	0.16	47,49,50,53	0
4	UNX	A	599	1/1	0.87	0.19	48,48,48,48	0
4	UNX	A	592	1/1	0.88	0.29	41,41,41,41	0
5	EDO	A	613	4/4	0.90	0.19	53,57,57,59	0
6	CL	A	616	1/1	0.90	0.12	59,59,59,59	0
4	UNX	A	597	1/1	0.90	0.15	51,51,51,51	0
5	EDO	A	614	4/4	0.91	0.19	56,57,58,62	0
2	MES	A	588	12/12	0.92	0.17	52,54,60,64	12
4	UNX	A	590	1/1	0.92	0.07	41,41,41,41	0
3	PG4	A	586	13/13	0.93	0.13	41,47,60,62	0
4	UNX	A	598	1/1	0.93	0.27	45,45,45,45	0
4	UNX	A	604	1/1	0.93	0.18	42,42,42,42	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
4	UNX	A	600	1/1	0.93	0.12	45,45,45,45	0
4	UNX	A	596	1/1	0.94	0.36	50,50,50,50	0
4	UNX	A	608	1/1	0.94	0.16	50,50,50,50	0
4	UNX	A	609	1/1	0.94	0.15	52,52,52,52	0
3	PG4	A	587	13/13	0.94	0.12	39,46,53,53	0
5	EDO	A	612	4/4	0.95	0.11	47,52,54,56	0
2	MES	A	585	12/12	0.95	0.12	39,42,54,57	0
4	UNX	A	591	1/1	0.95	0.13	45,45,45,45	0
4	UNX	A	603	1/1	0.96	0.12	40,40,40,40	0
4	UNX	A	610	1/1	0.96	0.13	53,53,53,53	0
4	UNX	A	602	1/1	0.96	0.27	47,47,47,47	0
4	UNX	A	589	1/1	0.97	0.07	42,42,42,42	0

## 6.5 Other polymers [i](#)

There are no such residues in this entry.