



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 9, 2026 – 11:10 PM UTC

PDB ID : 4MAB / pdb_00004mab
Title : Resolving Cys to Ala variant of Salmonella Alkyl Hydroperoxide Reductase C
in its substrate-ready conformation
Authors : Perkins, A.; Nelson, K.J.; Williams, J.R.; Poole, L.B.; Karplus, P.A.
Deposited on : 2013-08-15
Resolution : 1.90 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 : 4-5-2 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

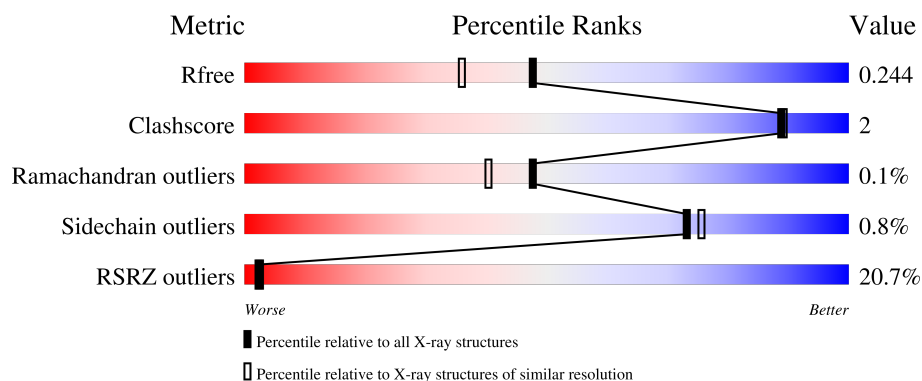
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 1.90 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}	180053	7789 (1.90-1.90)
Clashscore	190562	8410 (1.90-1.90)
Ramachandran outliers	187476	8333 (1.90-1.90)
Sidechain outliers	187428	8333 (1.90-1.90)
RSRZ outliers	180081	7790 (1.90-1.90)

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	186	<div> <div>7%</div> <div>80% 8% 11%</div> </div>
1	B	186	<div> <div>19%</div> <div>91% 9%</div> </div>
1	C	186	<div> <div>22%</div> <div>96% .</div> </div>
1	D	186	<div> <div>20%</div> <div>94% 6%</div> </div>
1	E	186	<div> <div>33%</div> <div>92% 8%</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
2	K	D	201	-	-	-	X

2 Entry composition

There are 5 unique types of molecules in this entry. The entry contains 14454 atoms, of which 7024 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 Alkyl hydroperoxide reductase subunit C.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
1	A	165	Total	C	H	N	O	S	0	1	0
			2555	826	1257	216	253	3			
1	B	186	Total	C	H	N	O	S	0	11	0
			2977	965	1470	248	290	4			
1	C	186	Total	C	H	N	O	S	0	3	0
			2876	928	1421	241	283	3			
1	D	186	Total	C	H	N	O	S	0	3	0
			2877	928	1422	241	283	3			
1	E	186	Total	C	H	N	O	S	0	4	0
			2877	928	1422	241	283	3			

There are 5 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	165	ALA	CYS	engineered mutation	UNP P0A251
B	165	ALA	CYS	engineered mutation	UNP P0A251
C	165	ALA	CYS	engineered mutation	UNP P0A251
D	165	ALA	CYS	engineered mutation	UNP P0A251
E	165	ALA	CYS	engineered mutation	UNP P0A251

- Molecule 2 is POTASSIUM ION (CCD ID: K) (formula: K).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	A	1	Total	K	0	0
			1	1		
2	B	1	Total	K	0	0
			1	1		
2	D	1	Total	K	0	0
			1	1		

- Molecule 3 is GLYCEROL (CCD ID: GOL) (formula: C₃H₈O₃).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
3	A	1	Total	C	H	O	0	1
			14	3	8	3		
3	A	1	Total	C	H	O	0	0
			14	3	8	3		
3	C	1	Total	C	H	O	0	0
			14	3	8	3		
3	D	1	Total	C	H	O	0	0
			14	3	8	3		

- Molecule 4 is CHLORIDE ION (CCD ID: CL) (formula: Cl).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	D	1	Total	Cl	0	0
			1	1		

- Molecule 5 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	A	66	Total	O	0	1
			66	66		
5	B	61	Total	O	0	1
			61	61		
5	C	47	Total	O	0	0
			47	47		
5	D	48	Total	O	0	2
			48	48		

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	E	10	Total	O	0	0
			10	10		

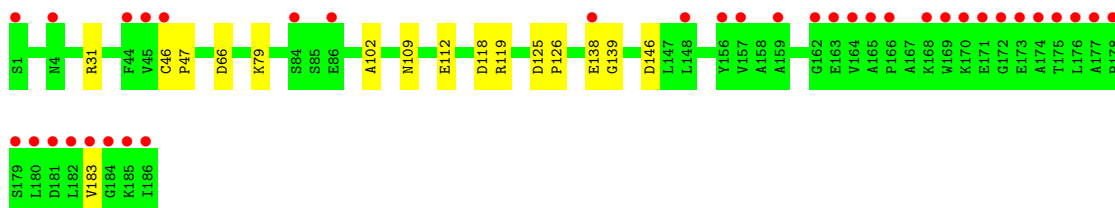
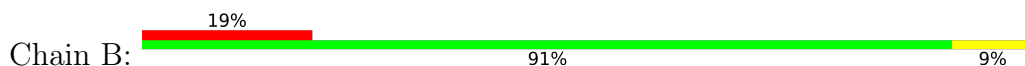
3 Residue-property plots [i](#)

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.

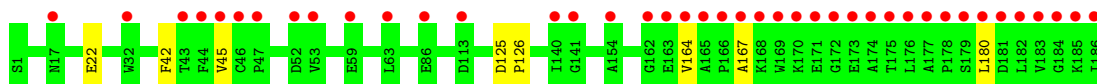
- Molecule 1: Alkyl hydroperoxide reductase subunit C



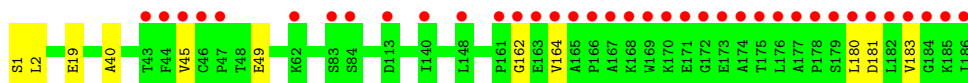
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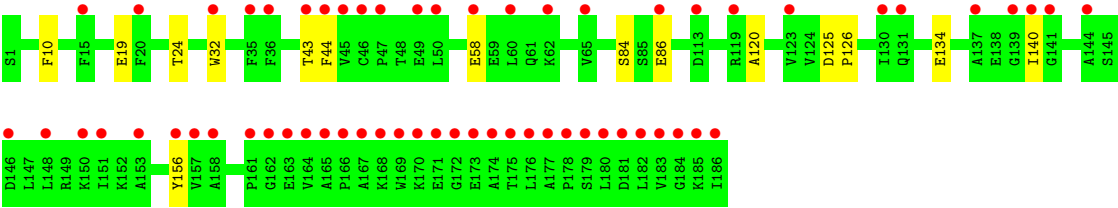


- Molecule 1: Alkyl hydroperoxide reductase subunit C



- Molecule 1: Alkyl hydroperoxide reductase subunit C





4 Data and refinement statistics

Property	Value	Source
Space group	C 2 2 21	Depositor
Cell constants a, b, c, α , β , γ	127.23Å 172.42Å 136.21Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	29.15 – 1.90 29.15 – 1.90	Depositor EDS
% Data completeness (in resolution range)	81.8 (29.15-1.90) 81.8 (29.15-1.90)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.23 (at 1.91Å)	Xtriage
Refinement program	PHENIX, BUSTER	Depositor
R, R_{free}	0.198 , 0.239 0.214 , 0.244	Depositor DCC
R_{free} test set	4794 reflections (4.08%)	wwPDB-VP
Wilson B-factor (Å ²)	40.6	Xtriage
Anisotropy	0.026	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.36 , 39.4	EDS
L-test for twinning ²	$\langle L \rangle = 0.50$, $\langle L^2 \rangle = 0.33$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.95	EDS
Total number of atoms	14454	wwPDB-VP
Average B, all atoms (Å ²)	62.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.38% 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: K, CL, GOL

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	1.17	1/1328 (0.1%)	1.17	6/1800 (0.3%)
1	B	1.11	1/1553 (0.1%)	1.06	3/2107 (0.1%)
1	C	1.03	0/1489	1.08	0/2018
1	D	0.97	0/1489	1.04	4/2018 (0.2%)
1	E	0.77	0/1489	1.01	2/2018 (0.1%)
All	All	1.02	2/7348 (0.0%)	1.07	15/9961 (0.2%)

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B	119	ARG	C-O	-5.71	1.17	1.23
1	A	34	VAL	CA-CB	-5.29	1.47	1.54

All (15) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	141	GLY	N-CA-C	8.06	123.66	112.37
1	A	44	PHE	N-CA-C	6.55	120.90	112.12
1	D	2	LEU	N-CA-C	6.21	120.87	113.16
1	A	140	ILE	N-CA-C	-6.04	98.94	107.75
1	E	84	SER	N-CA-C	5.92	118.97	111.69
1	B	112	GLU	N-CA-C	5.55	118.10	111.71
1	E	140	ILE	N-CA-CB	5.40	117.53	111.21
1	A	139	GLY	N-CA-C	5.34	122.80	115.27
1	A	146	ASP	N-CA-C	-5.30	105.59	111.36
1	B	102	ALA	N-CA-C	5.27	117.10	111.36
1	D	181	ASP	N-CA-C	5.26	117.70	111.33
1	B	146	ASP	N-CA-C	-5.23	105.66	111.36
1	A	138[A]	GLU	N-CA-C	-5.23	102.45	110.30
1	D	162	GLY	N-CA-C	-5.17	108.20	114.92

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	D	40	ALA	N-CA-C	5.08	116.77	108.55

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts

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	1298	1257	1252	7	0
1	B	1507	1470	1460	8	0
1	C	1455	1421	1417	7	0
1	D	1455	1422	1417	7	0
1	E	1455	1422	1417	7	0
2	A	1	0	0	0	0
2	B	1	0	0	0	0
2	D	1	0	0	0	0
3	A	12	16	16	1	0
3	C	6	8	8	0	0
3	D	6	8	8	0	0
4	D	1	0	0	1	0
5	A	66	0	0	1	0
5	B	61	0	0	1	0
5	C	47	0	0	0	0
5	D	48	0	0	0	0
5	E	10	0	0	0	0
All	All	7430	7024	6995	27	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 2.

All (27) 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:46[B]:CYS:SG	5:B:1052:HOH:O	2.43	0.75
1:B:31:ARG:HD3	1:B:66:ASP:OD2	1.97	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:128:GLY:HA3	3:A:203:GOL:H2	1.91	0.52
1:D:1:SER:HB2	4:D:202:CL:CL	2.47	0.52
1:E:125:ASP:HB2	1:E:126:PRO:CD	2.42	0.50
1:A:150:LYS:NZ	5:A:1174:HOH:O	2.46	0.49
1:C:180:LEU:HD13	1:E:19:GLU:HA	1.95	0.49
1:A:164:VAL:HG23	1:A:165:ALA:H	1.80	0.47
1:A:39:PRO:HD2	1:A:46:CYS:SG	2.56	0.46
1:A:42:PHE:O	1:B:183:VAL:HG13	2.15	0.46
1:C:125:ASP:HB2	1:C:126:PRO:CD	2.46	0.46
1:B:46[B]:CYS:N	1:B:47[B]:PRO:HD2	2.32	0.45
1:C:167:ALA:HB2	1:D:49:GLU:HG2	1.99	0.44
1:E:120:ALA:HA	1:E:134:GLU:O	2.17	0.43
1:E:156:TYR:CD2	1:E:156:TYR:C	2.96	0.43
1:B:109:ASN:OD1	1:B:118:ASP:HB2	2.19	0.43
1:E:32:TRP:CE3	1:E:125:ASP:HA	2.54	0.42
1:A:157:VAL:HG11	1:B:139:GLY:HA3	2.02	0.42
1:B:79:LYS:HE2	1:D:180:LEU:O	2.20	0.42
1:B:125:ASP:HB2	1:B:126:PRO:CD	2.49	0.42
1:C:164[A]:VAL:HG21	1:D:45:VAL:HG23	2.02	0.42
1:E:43:THR:C	1:E:44:PHE:CD2	2.99	0.41
1:C:42:PHE:O	1:D:183:VAL:HG13	2.20	0.41
1:C:45:VAL:HG23	1:D:164[B]:VAL:HG21	2.02	0.40
1:E:10:PHE:O	1:E:24:THR:HA	2.21	0.40
1:A:59:GLU:OE2	1:A:148:LEU:HD21	2.22	0.40
1:C:45:VAL:CG2	1:D:164[B]:VAL:HG21	2.52	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	163/186 (88%)	158 (97%)	4 (2%)	1 (1%)	21 13

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	B	192/186 (103%)	187 (97%)	5 (3%)	0	100	100
1	C	184/186 (99%)	179 (97%)	5 (3%)	0	100	100
1	D	184/186 (99%)	179 (97%)	5 (3%)	0	100	100
1	E	184/186 (99%)	179 (97%)	5 (3%)	0	100	100
All	All	907/930 (98%)	882 (97%)	24 (3%)	1 (0%)	48	40

All (1) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	164	VAL

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	137/153 (90%)	136 (99%)	1 (1%)	76	78
1	B	160/153 (105%)	159 (99%)	1 (1%)	78	81
1	C	153/153 (100%)	152 (99%)	1 (1%)	76	78
1	D	153/153 (100%)	152 (99%)	1 (1%)	76	78
1	E	153/153 (100%)	151 (99%)	2 (1%)	61	61
All	All	756/765 (99%)	750 (99%)	6 (1%)	73	75

All (6) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	148	LEU
1	B	138	GLU
1	C	22	GLU
1	D	19	GLU
1	E	58	GLU
1	E	86	GLU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (5) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	17	ASN
1	C	17	ASN
1	D	160	HIS
1	E	12	ASN
1	E	56	HIS

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 [i](#)

Of 8 ligands modelled in this entry, 4 are monoatomic - leaving 4 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	GOL	A	203	-	5,5,5	0.55	0	5,5,5	0.94	0
3	GOL	C	201	-	5,5,5	0.38	0	5,5,5	0.34	0
3	GOL	D	203	-	5,5,5	0.44	0	5,5,5	0.78	0
3	GOL	A	202[B]	-	5,5,5	0.39	0	5,5,5	0.80	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	GOL	A	203	-	-	0/4/4/4	-
3	GOL	C	201	-	-	4/4/4/4	-
3	GOL	D	203	-	-	0/4/4/4	-
3	GOL	A	202[B]	-	-	2/4/4/4	-

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (6) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	A	202[B]	GOL	C1-C2-C3-O3
3	C	201	GOL	O1-C1-C2-C3
3	C	201	GOL	C1-C2-C3-O3
3	A	202[B]	GOL	O2-C2-C3-O3
3	C	201	GOL	O1-C1-C2-O2
3	C	201	GOL	O2-C2-C3-O3

There are no ring outliers.

1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	A	203	GOL	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, 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	165/186 (88%)	0.58	13 (7%)	18 20	33, 47, 83, 127	1 (0%)
1	B	186/186 (100%)	1.25	36 (19%)	3 3	18, 45, 68, 107	31 (16%)
1	C	186/186 (100%)	1.30	41 (22%)	2 2	34, 53, 83, 117	24 (12%)
1	D	186/186 (100%)	1.52	37 (19%)	3 3	38, 54, 84, 115	24 (12%)
1	E	186/186 (100%)	2.25	61 (32%)	1 1	49, 74, 116, 143	24 (12%)
All	All	909/930 (97%)	1.40	188 (20%)	2 2	18, 54, 99, 143	104 (11%)

All (188) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	E	186	ILE	14.5
1	D	182	LEU	13.1
1	D	165[B]	ALA	13.0
1	E	184	GLY	12.9
1	E	182	LEU	12.2
1	B	182	LEU	11.8
1	D	186	ILE	10.9
1	D	166[B]	PRO	10.7
1	E	165[B]	ALA	10.4
1	C	182	LEU	10.3
1	D	183	VAL	10.0
1	E	169	TRP	9.6
1	E	185	LYS	9.5
1	B	169	TRP	9.2
1	D	179	SER	9.1
1	B	165[B]	ALA	9.0
1	B	186	ILE	9.0
1	D	170	LYS	8.9
1	B	178	PRO	8.8
1	B	171	GLU	8.8

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Mol	Chain	Res	Type	RSRZ
1	D	169	TRP	8.7
1	D	184	GLY	8.6
1	C	165[A]	ALA	8.6
1	B	181	ASP	8.5
1	C	170	LYS	8.4
1	D	177	ALA	8.2
1	E	180	LEU	8.2
1	B	180	LEU	8.1
1	B	185	LYS	8.0
1	A	44	PHE	7.9
1	E	170	LYS	7.9
1	B	44[A]	PHE	7.8
1	E	45	VAL	7.8
1	D	185	LYS	7.7
1	C	169	TRP	7.7
1	E	174	ALA	7.6
1	C	180	LEU	7.6
1	B	176	LEU	7.4
1	D	176	LEU	7.4
1	D	180	LEU	7.3
1	A	165	ALA	7.3
1	D	174	ALA	7.3
1	E	183	VAL	7.3
1	C	168	LYS	7.2
1	E	177	ALA	7.2
1	E	181	ASP	7.1
1	E	171	GLU	7.1
1	E	176	LEU	7.0
1	C	185	LYS	6.9
1	A	45	VAL	6.8
1	D	164[B]	VAL	6.8
1	E	44	PHE	6.7
1	B	179	SER	6.6
1	C	183	VAL	6.5
1	D	168	LYS	6.5
1	C	186	ILE	6.4
1	B	170	LYS	6.4
1	B	166[B]	PRO	6.4
1	E	168	LYS	6.3
1	E	166[B]	PRO	6.2
1	C	174	ALA	6.1
1	E	172	GLY	6.1

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Mol	Chain	Res	Type	RSRZ
1	E	173	GLU	6.1
1	C	184	GLY	6.0
1	A	138[A]	GLU	5.9
1	B	172	GLY	5.9
1	D	171	GLU	5.8
1	B	183	VAL	5.8
1	E	175	THR	5.8
1	C	44	PHE	5.8
1	E	178	PRO	5.7
1	C	45	VAL	5.7
1	E	46	CYS	5.5
1	B	168	LYS	5.4
1	B	177	ALA	5.4
1	D	167	ALA	5.4
1	C	175	THR	5.3
1	B	46[A]	CYS	5.3
1	C	171	GLU	5.2
1	D	181	ASP	5.2
1	A	46	CYS	5.0
1	D	173	GLU	5.0
1	C	46	CYS	4.9
1	B	174	ALA	4.9
1	C	172	GLY	4.8
1	C	176	LEU	4.8
1	A	164	VAL	4.7
1	E	167[B]	ALA	4.7
1	D	172	GLY	4.7
1	C	179	SER	4.7
1	D	175	THR	4.5
1	C	177	ALA	4.4
1	E	179	SER	4.3
1	C	164[A]	VAL	4.3
1	D	178	PRO	4.3
1	E	164[B]	VAL	4.3
1	C	181	ASP	4.2
1	D	46	CYS	4.2
1	E	157	VAL	4.1
1	C	43	THR	3.9
1	A	43	THR	3.9
1	B	164[B]	VAL	3.9
1	C	178	PRO	3.8
1	B	175	THR	3.7

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Mol	Chain	Res	Type	RSRZ
1	E	161	PRO	3.7
1	C	173	GLU	3.6
1	D	84	SER	3.6
1	E	150	LYS	3.6
1	C	166[A]	PRO	3.5
1	B	162	GLY	3.5
1	E	146	ASP	3.5
1	B	184	GLY	3.5
1	A	140	ILE	3.4
1	B	173	GLU	3.4
1	D	45	VAL	3.4
1	B	159	ALA	3.4
1	E	148	LEU	3.4
1	A	47	PRO	3.4
1	D	44	PHE	3.4
1	E	60	LEU	3.4
1	C	163	GLU	3.3
1	D	47	PRO	3.2
1	E	139	GLY	3.2
1	E	158	ALA	3.1
1	E	43	THR	3.1
1	D	83	SER	3.1
1	E	50	LEU	3.0
1	C	167	ALA	3.0
1	B	45[A]	VAL	3.0
1	E	119	ARG	2.9
1	E	15	PHE	2.9
1	C	162	GLY	2.9
1	D	148	LEU	2.9
1	B	163	GLU	2.8
1	D	161	PRO	2.8
1	C	140	ILE	2.8
1	D	162	GLY	2.7
1	E	162	GLY	2.7
1	C	52	ASP	2.7
1	E	32	TRP	2.7
1	E	123	VAL	2.7
1	E	156	TYR	2.7
1	E	35	PHE	2.7
1	E	47	PRO	2.7
1	E	130	ILE	2.7
1	E	163	GLU	2.7

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Mol	Chain	Res	Type	RSRZ
1	B	1	SER	2.6
1	B	148	LEU	2.6
1	E	141	GLY	2.6
1	B	156	TYR	2.6
1	E	49	GLU	2.6
1	C	47	PRO	2.6
1	C	86	GLU	2.6
1	E	65	VAL	2.6
1	E	20	PHE	2.5
1	E	137	ALA	2.5
1	E	113	ASP	2.5
1	C	63	LEU	2.4
1	D	113	ASP	2.4
1	E	131	GLN	2.3
1	E	153	ALA	2.3
1	B	84	SER	2.3
1	C	32	TRP	2.3
1	E	140	ILE	2.3
1	A	162	GLY	2.3
1	B	4	ASN	2.3
1	A	92	LYS	2.2
1	B	86	GLU	2.2
1	A	134	GLU	2.2
1	A	139	GLY	2.2
1	C	141	GLY	2.2
1	E	36	PHE	2.2
1	D	140	ILE	2.2
1	E	151	ILE	2.2
1	D	163	GLU	2.2
1	E	62	LYS	2.2
1	C	17	ASN	2.1
1	B	138	GLU	2.1
1	E	86	GLU	2.1
1	D	43	THR	2.1
1	D	62	LYS	2.1
1	E	144	ALA	2.1
1	C	154	ALA	2.1
1	C	53	VAL	2.0
1	C	113	ASP	2.0
1	C	59	GLU	2.0
1	E	58	GLU	2.0
1	B	157	VAL	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, 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
2	K	D	201	1/1	0.68	0.46	103,103,103,103	0
3	GOL	D	203	6/6	0.83	0.16	14,14,87,88	0
3	GOL	C	201	6/6	0.84	0.16	14,14,85,86	0
2	K	B	201	1/1	0.86	0.19	79,79,79,79	0
3	GOL	A	203	6/6	0.87	0.18	71,77,116,121	0
3	GOL	A	202[B]	6/6	0.89	0.34	45,68,106,121	14
2	K	A	201	1/1	0.89	0.16	98,98,98,98	1
4	CL	D	202	1/1	0.96	0.14	68,68,68,68	0

6.5 Other polymers [i](#)

There are no such residues in this entry.