Full wwPDB X-ray Structure Validation Report (i)

Mar 6, 2026 – 01:44 PM UTC

PDB ID	:	9UW1 / pdb_00009uw1
Title	:	Crystal structure of CDC48A-N domain in complex with PUX5 SHP box motif
Authors	:	Arold, S.T.; Zhang, J.
Deposited on	:	2025-05-11
Resolution	:	1.88 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 (i)) were used in the production of this report:

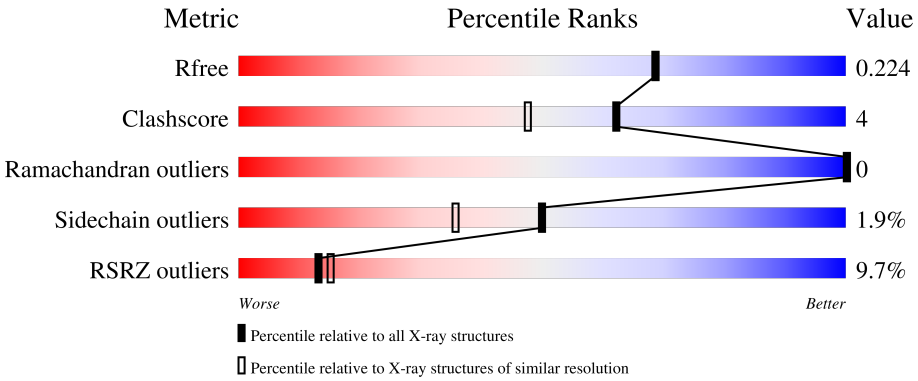
MolProbity	:	4-5-2 with Phenix2.0
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	2.0
EDS	:	3.0
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4	:	9.0.010 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.49

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
X-RAY DIFFRACTION

The reported resolution of this entry is 1.88 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	1220 (1.88-1.88)
Clashscore	190562	1234 (1.88-1.88)
Ramachandran outliers	187476	1222 (1.88-1.88)
Sidechain outliers	187428	1222 (1.88-1.88)
RSRZ outliers	180081	1220 (1.88-1.88)

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	194	8% 84% 9% • 6%
1	B	194	10% 83% 11% • 5%
1	C	194	9% 85% 8% • 6%

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	MLA	A	301	-	-	-	X
2	MLA	B	302	-	X	-	-

2 Entry composition (i)

There are 4 unique types of molecules in this entry. The entry contains 4557 atoms, of which 6 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 Cell division control protein 48 homolog A,Plant UBX domain-containing protein 5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	182	Total	C	N	O	S	0	0	0
			1427	902	250	267	8			
1	B	184	Total	C	N	O	S	0	0	0
			1447	913	255	271	8			
1	C	182	Total	C	N	O	S	0	0	0
			1427	902	250	267	8			

There are 42 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	23	GLY	-	expression tag	UNP P54609
A	24	PRO	-	expression tag	UNP P54609
A	25	LEU	-	expression tag	UNP P54609
A	26	GLY	-	expression tag	UNP P54609
A	27	SER	-	expression tag	UNP P54609
A	197	GLY	-	linker	UNP P54609
A	198	GLY	-	linker	UNP P54609
A	199	SER	-	linker	UNP P54609
A	200	GLY	-	linker	UNP P54609
A	201	GLY	-	linker	UNP P54609
A	202	SER	-	linker	UNP P54609
A	203	GLY	-	linker	UNP P54609
A	204	GLY	-	linker	UNP P54609
A	205	SER	-	linker	UNP P54609
B	23	GLY	-	expression tag	UNP P54609
B	24	PRO	-	expression tag	UNP P54609
B	25	LEU	-	expression tag	UNP P54609
B	26	GLY	-	expression tag	UNP P54609
B	27	SER	-	expression tag	UNP P54609
B	197	GLY	-	linker	UNP P54609
B	198	GLY	-	linker	UNP P54609
B	199	SER	-	linker	UNP P54609

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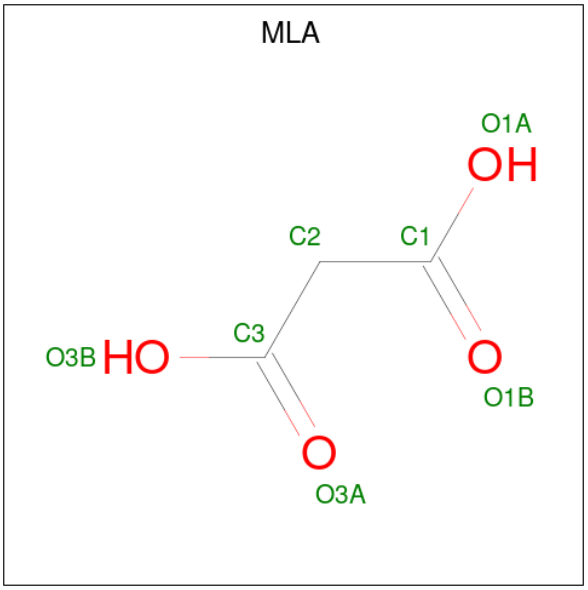
Chain	Residue	Modelled	Actual	Comment	Reference
B	200	GLY	-	linker	UNP P54609
B	201	GLY	-	linker	UNP P54609
B	202	SER	-	linker	UNP P54609
B	203	GLY	-	linker	UNP P54609
B	204	GLY	-	linker	UNP P54609
B	205	SER	-	linker	UNP P54609
C	23	GLY	-	expression tag	UNP P54609
C	24	PRO	-	expression tag	UNP P54609
C	25	LEU	-	expression tag	UNP P54609
C	26	GLY	-	expression tag	UNP P54609
C	27	SER	-	expression tag	UNP P54609
C	197	GLY	-	linker	UNP P54609
C	198	GLY	-	linker	UNP P54609
C	199	SER	-	linker	UNP P54609
C	200	GLY	-	linker	UNP P54609
C	201	GLY	-	linker	UNP P54609
C	202	SER	-	linker	UNP P54609
C	203	GLY	-	linker	UNP P54609
C	204	GLY	-	linker	UNP P54609
C	205	SER	-	linker	UNP P54609

- Molecule 2 is MALONIC ACID (CCD ID: MLA) (formula: $C_3H_4O_4$).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
2	A	1	Total	C	H	O	0	0
			9	3	2	4		

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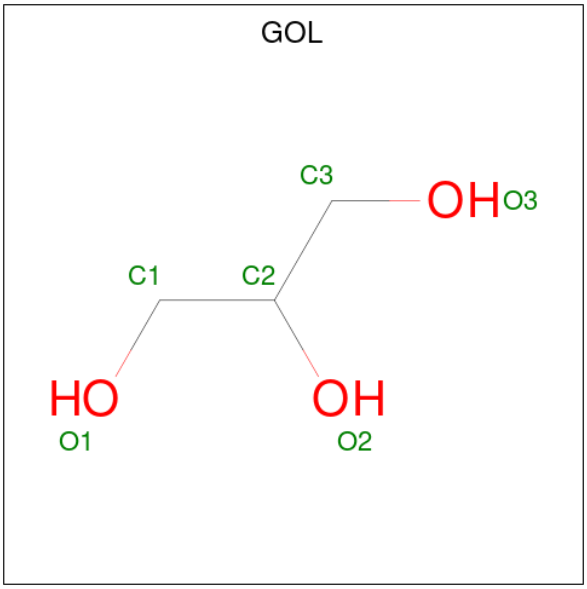
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	B	1	Total C O 7 3 4	0	0
2	B	1	Total C O 7 3 4	0	0
2	B	1	Total C O 7 3 4	0	0
2	B	1	Total C H O 9 3 2 4	0	0
2	C	1	Total C O 7 3 4	0	0
2	C	1	Total C H O 9 3 2 4	0	0

- Molecule 3 is GLYCEROL (CCD ID: GOL) (formula: $C_3H_8O_3$).



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

- Molecule 4 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	71	Total O 71 71	0	0

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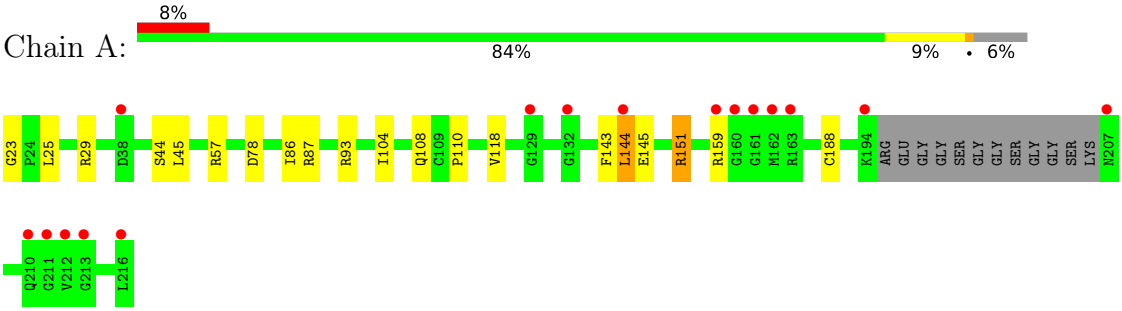
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	B	59	Total O 59 59	0	0
4	C	59	Total O 59 59	0	0

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.

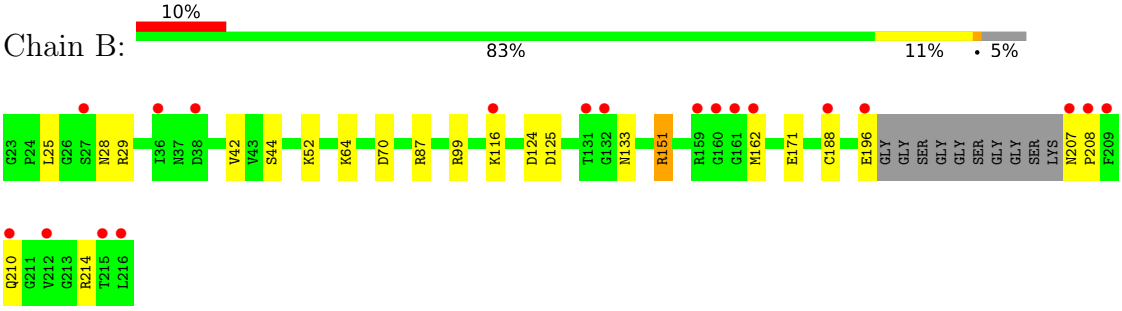
• Molecule 1: Cell division control protein 48 homolog A,Plant UBX domain-containing protein 5

Chain A:



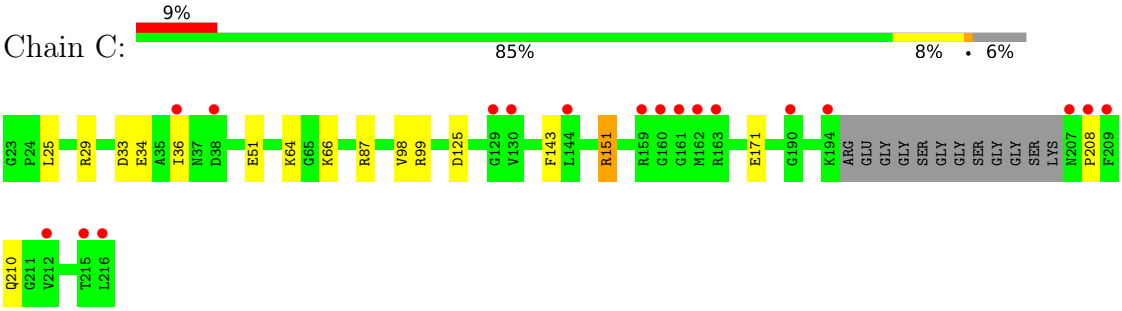
• Molecule 1: Cell division control protein 48 homolog A,Plant UBX domain-containing protein 5

Chain B:



• Molecule 1: Cell division control protein 48 homolog A,Plant UBX domain-containing protein 5

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	60.07Å 101.42Å 110.61Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	74.75 – 1.88 74.75 – 1.88	Depositor EDS
% Data completeness (in resolution range)	86.5 (74.75-1.88) 86.6 (74.75-1.88)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	0.93 (at 1.88Å)	Xtriage
Refinement program	PHENIX (1.21.1_5286: ???)	Depositor
R, R_{free}	0.196 , 0.225 0.207 , 0.224	Depositor DCC
R_{free} test set	2454 reflections (4.40%)	wwPDB-VP
Wilson B-factor (Å^2)	31.6	Xtriage
Anisotropy	0.530	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.38 , 40.6	EDS
L-test for twinning[2]	$< \|L\| > = 0.50$, $< L^2 > = 0.34$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.95	EDS
Total number of atoms	4557	wwPDB-VP
Average B, all atoms (Å^2)	40.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.42% 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: MLA, 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	0.29	0/1451	0.56	2/1960 (0.1%)
1	B	0.37	0/1471	0.57	1/1986 (0.1%)
1	C	0.30	0/1451	0.54	1/1960 (0.1%)
All	All	0.32	0/4373	0.56	4/5906 (0.1%)

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	A	0	2
1	B	0	1
1	C	0	1
All	All	0	4

There are no bond length outliers.

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	143	PHE	CB-CA-C	6.91	122.27	110.86
1	A	143	PHE	N-CA-C	-6.39	103.00	111.24
1	C	143	PHE	CB-CA-C	5.94	120.66	110.86
1	B	116	LYS	N-CA-C	-5.01	105.49	112.45

There are no chirality outliers.

All (4) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	151	ARG	Sidechain
1	A	159	ARG	Sidechain
1	B	151	ARG	Sidechain
1	C	151	ARG	Sidechain

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	1427	0	1451	13	0
1	B	1447	0	1470	11	0
1	C	1427	0	1451	12	0
2	A	7	2	2	1	0
2	B	28	2	8	2	0
2	C	14	2	4	3	0
3	B	6	0	8	0	0
3	C	6	0	8	1	0
4	A	71	0	0	3	1
4	B	59	0	0	2	1
4	C	59	0	0	2	0
All	All	4551	6	4402	36	1

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 (36) 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:93:ARG:NE	2:A:301:MLA:O3A	1.91	1.03
1:A:188:CYS:SG	4:A:458:HOH:O	2.34	0.85
1:C:51:GLU:HA	3:C:302:GOL:H2	1.69	0.74
1:B:44:SER:HB2	1:B:87:ARG:HB2	1.84	0.59
1:B:162:MET:HA	4:B:405:HOH:O	2.03	0.59
1:A:108:GLN:HG3	1:A:110:PRO:HD3	1.86	0.58
1:C:34:GLU:O	1:C:87:ARG:NE	2.32	0.58
1:B:207:ASN:HB3	1:B:210:GLN:HG2	1.86	0.57
1:C:66:LYS:HD2	1:C:98:VAL:HG12	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:25:LEU:O	1:B:29:ARG:HD3	2.09	0.53
1:A:25:LEU:O	1:A:29:ARG:HD3	2.10	0.50
1:C:99:ARG:HA	2:C:303:MLA:HC22	1.94	0.50
1:C:99:ARG:HA	2:C:303:MLA:C2	2.42	0.50
1:B:133:ASN:HD21	1:B:214:ARG:HH12	1.60	0.50
1:C:25:LEU:O	1:C:29:ARG:HD3	2.11	0.49
1:B:64:LYS:HD2	1:B:70:ASP:HB3	1.94	0.49
2:B:304:MLA:HC21	4:B:452:HOH:O	2.13	0.48
1:C:64:LYS:HE2	2:C:301:MLA:HC22	1.97	0.46
1:A:57:ARG:HG3	1:B:28:ASN:ND2	2.31	0.46
1:C:125:ASP:O	4:C:401:HOH:O	2.21	0.46
1:A:23:GLY:N	4:A:404:HOH:O	2.50	0.45
1:A:44:SER:OG	1:A:87:ARG:HB2	2.17	0.43
1:B:171:GLU:HG2	1:B:208:PRO:HG3	2.00	0.43
1:C:171:GLU:HG2	1:C:208:PRO:HG3	2.01	0.43
1:A:44:SER:C	1:A:45:LEU:HD12	2.44	0.43
1:C:33:ASP:HB3	1:C:87:ARG:HD2	1.99	0.43
1:B:52:LYS:HB2	1:B:52:LYS:HE3	1.83	0.42
1:C:36:ILE:HG12	4:C:402:HOH:O	2.19	0.42
1:A:144:LEU:HD13	1:A:144:LEU:HA	1.88	0.41
1:A:144:LEU:HB3	1:A:145:GLU:H	1.67	0.41
1:C:64:LYS:HE3	1:C:64:LYS:HB3	1.87	0.41
1:A:108:GLN:NE2	4:A:405:HOH:O	2.54	0.41
1:A:44:SER:HB2	1:A:78:ASP:HB2	2.03	0.41
1:A:86:ILE:HG21	1:A:104:ILE:HD11	2.02	0.41
1:B:99:ARG:HB3	2:B:305:MLA:O3B	2.21	0.40
1:B:124:ASP:OD1	1:B:125:ASP:N	2.55	0.40

All (1) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:A:417:HOH:O	4:B:441:HOH:O[2_654]	2.16	0.04

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	178/194 (92%)	171 (96%)	7 (4%)	0	100	100
1	B	180/194 (93%)	174 (97%)	6 (3%)	0	100	100
1	C	178/194 (92%)	173 (97%)	5 (3%)	0	100	100
All	All	536/582 (92%)	518 (97%)	18 (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	160/166 (96%)	157 (98%)	3 (2%)	50	36
1	B	162/166 (98%)	158 (98%)	4 (2%)	42	26
1	C	160/166 (96%)	158 (99%)	2 (1%)	61	50
All	All	482/498 (97%)	473 (98%)	9 (2%)	50	36

All (9) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	118	VAL
1	A	144	LEU
1	A	151	ARG
1	B	42	VAL
1	B	151	ARG
1	B	188	CYS
1	B	196	GLU
1	C	151	ARG
1	C	210	GLN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (2) such

sidechains are listed below:

Mol	Chain	Res	Type
1	B	54	GLN
1	B	119	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)

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	MLA	B	301	-	6,6,6	1.62	1 (16%)	7,7,7	1.40	1 (14%)
3	GOL	C	302	-	5,5,5	0.10	0	5,5,5	0.37	0
2	MLA	B	302	-	6,6,6	1.68	1 (16%)	7,7,7	1.44	2 (28%)
2	MLA	B	305	-	6,6,6	1.39	1 (16%)	7,7,7	0.92	0
2	MLA	C	303	-	6,6,6	1.34	0	7,7,7	1.03	0
2	MLA	C	301	-	6,6,6	1.60	1 (16%)	7,7,7	1.47	2 (28%)
2	MLA	A	301	-	6,6,6	1.30	0	7,7,7	1.01	0
3	GOL	B	303	-	5,5,5	0.33	0	5,5,5	0.57	0
2	MLA	B	304	-	6,6,6	1.56	0	7,7,7	1.52	2 (28%)

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	MLA	B	301	-	-	2/4/4/4	-
3	GOL	C	302	-	-	1/4/4/4	-
2	MLA	B	302	-	-	4/4/4/4	-
2	MLA	B	305	-	-	4/4/4/4	-
2	MLA	C	303	-	-	2/4/4/4	-
2	MLA	C	301	-	-	2/4/4/4	-
2	MLA	A	301	-	-	0/4/4/4	-
3	GOL	B	303	-	-	3/4/4/4	-
2	MLA	B	304	-	-	0/4/4/4	-

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	305	MLA	O3B-C3	-2.31	1.23	1.30
2	B	302	MLA	C2-C3	2.31	1.54	1.51
2	B	301	MLA	C2-C3	2.14	1.54	1.51
2	C	301	MLA	C2-C3	2.02	1.54	1.51

All (7) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	B	304	MLA	O3A-C3-C2	-2.44	115.16	122.11
2	C	301	MLA	O1B-C1-C2	-2.31	115.52	122.11
2	B	301	MLA	O1B-C1-C2	-2.28	115.61	122.11
2	B	302	MLA	O1B-C1-C2	-2.26	115.67	122.11
2	C	301	MLA	O3A-C3-C2	-2.13	116.06	122.11
2	B	302	MLA	O3A-C3-C2	-2.09	116.15	122.11
2	B	304	MLA	O1B-C1-C2	-2.09	116.17	122.11

There are no chirality outliers.

All (18) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	B	303	GOL	O1-C1-C2-C3
3	B	303	GOL	C1-C2-C3-O3
2	C	301	MLA	C1-C2-C3-O3B

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Mol	Chain	Res	Type	Atoms
3	C	302	GOL	O2-C2-C3-O3
2	B	302	MLA	C1-C2-C3-O3B
2	C	301	MLA	C1-C2-C3-O3A
2	B	301	MLA	O1A-C1-C2-C3
2	B	301	MLA	O1B-C1-C2-C3
3	B	303	GOL	O2-C2-C3-O3
2	B	302	MLA	O1B-C1-C2-C3
2	B	305	MLA	C1-C2-C3-O3A
2	C	303	MLA	O1B-C1-C2-C3
2	B	302	MLA	O1A-C1-C2-C3
2	B	302	MLA	C1-C2-C3-O3A
2	C	303	MLA	O1A-C1-C2-C3
2	B	305	MLA	C1-C2-C3-O3B
2	B	305	MLA	O1A-C1-C2-C3
2	B	305	MLA	O1B-C1-C2-C3

There are no ring outliers.

6 monomers are involved in 7 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	C	302	GOL	1	0
2	B	305	MLA	1	0
2	C	303	MLA	2	0
2	C	301	MLA	1	0
2	A	301	MLA	1	0
2	B	304	MLA	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	182/194 (93%)	0.53	16 (8%)	15 17	22, 34, 69, 85	0
1	B	184/194 (94%)	0.57	19 (10%)	12 14	24, 36, 60, 87	0
1	C	182/194 (93%)	0.70	18 (9%)	13 15	25, 38, 73, 96	0
All	All	548/582 (94%)	0.60	53 (9%)	13 15	22, 36, 69, 96	0

All (53) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	212	VAL	6.6
1	B	160	GLY	5.5
1	A	216	LEU	4.8
1	C	161	GLY	4.7
1	C	216	LEU	4.3
1	A	162	MET	4.0
1	A	207	ASN	3.9
1	C	162	MET	3.9
1	C	160	GLY	3.8
1	C	194	LYS	3.4
1	C	207	ASN	3.4
1	A	213	GLY	3.3
1	B	159	ARG	3.2
1	B	207	ASN	3.2
1	C	159	ARG	3.1
1	B	210	GLN	3.1
1	C	163	ARG	3.1
1	A	211	GLY	3.1
1	C	36	ILE	3.1
1	A	160	GLY	3.1
1	A	194	LYS	3.0
1	B	208	PRO	3.0
1	B	161	GLY	2.9

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Mol	Chain	Res	Type	RSRZ
1	A	163	ARG	2.8
1	C	215	THR	2.8
1	C	212	VAL	2.8
1	B	36	ILE	2.8
1	B	216	LEU	2.8
1	A	210	GLN	2.8
1	A	159	ARG	2.7
1	C	209	PHE	2.7
1	B	131	THR	2.7
1	A	132	GLY	2.7
1	B	209	PHE	2.7
1	C	130	VAL	2.7
1	C	144	LEU	2.6
1	A	161	GLY	2.6
1	B	215	THR	2.5
1	A	144	LEU	2.5
1	B	212	VAL	2.5
1	B	27	SER	2.4
1	C	38	ASP	2.4
1	B	196	GLU	2.4
1	C	190	GLY	2.4
1	B	38	ASP	2.2
1	B	162	MET	2.2
1	C	129	GLY	2.2
1	A	38	ASP	2.2
1	B	132	GLY	2.1
1	B	188	CYS	2.1
1	A	129	GLY	2.1
1	C	208	PRO	2.1
1	B	116	LYS	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	MLA	C	303	7/7	0.54	0.39	20,20,20,20	0
2	MLA	A	301	7/7	0.55	0.40	20,20,20,20	0
2	MLA	B	305	7/7	0.58	0.35	20,20,20,20	0
3	GOL	C	302	6/6	0.67	0.33	64,84,95,98	0
3	GOL	B	303	6/6	0.69	0.23	61,79,84,92	0
2	MLA	C	301	7/7	0.72	0.26	60,76,91,133	0
2	MLA	B	302	7/7	0.81	0.17	53,65,74,75	0
2	MLA	B	301	7/7	0.85	0.13	55,66,82,97	0
2	MLA	B	304	7/7	0.86	0.21	46,66,78,92	0

6.5 Other polymers (i)

There are no such residues in this entry.