



wwPDB X-ray Structure Validation Summary Report ⓘ

Mar 5, 2026 – 05:18 PM UTC

PDB ID : 2ZBB / pdb_00002zbb
Title : P43 crystal of DctBp
Authors : Zhou, Y.F.; Nan, B.Y.; Liu, X.; Nan, J.; Liang, Y.H.; Panjikar, S.; Ma, Q.J.;
Wang, Y.P.; Su, X.-D.
Deposited on : 2007-10-18
Resolution : 2.50 Å(reported)

This is a wwPDB X-ray Structure Validation Summary 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

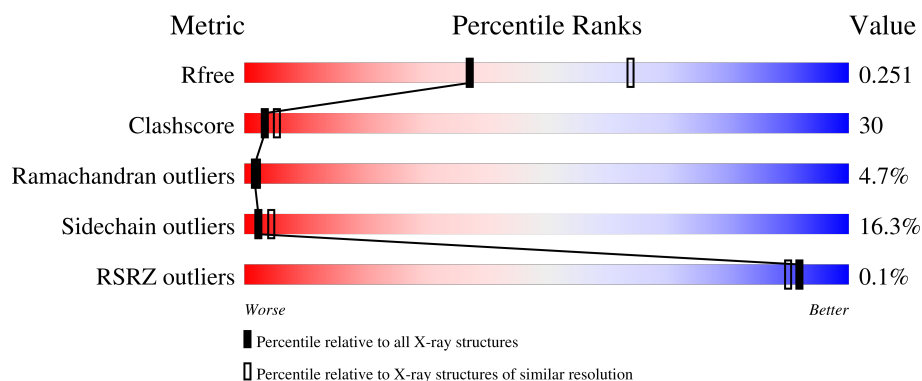
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.50 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	5829 (2.50-2.50)
Clashscore	190562	6492 (2.50-2.50)
Ramachandran outliers	187476	6378 (2.50-2.50)
Sidechain outliers	187428	6380 (2.50-2.50)
RSRZ outliers	180081	5833 (2.50-2.50)

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	305	
1	B	305	
1	C	305	
1	D	305	

2 Entry composition

There are 3 unique types of molecules in this entry. The entry contains 7852 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 C4-dicarboxylate transport sensor protein dctB.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	255	Total	C	N	O	S	0	0	0
			1952	1236	350	362	4			
1	B	255	Total	C	N	O	S	0	0	0
			1952	1236	350	362	4			
1	C	255	Total	C	N	O	S	0	0	0
			1952	1236	350	362	4			
1	D	255	Total	C	N	O	S	0	0	0
			1952	1236	350	362	4			

There are 140 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	8	MET	-	expression tag	UNP P13633
A	9	GLY	-	expression tag	UNP P13633
A	10	SER	-	expression tag	UNP P13633
A	11	SER	-	expression tag	UNP P13633
A	12	HIS	-	expression tag	UNP P13633
A	13	HIS	-	expression tag	UNP P13633
A	14	HIS	-	expression tag	UNP P13633
A	15	HIS	-	expression tag	UNP P13633
A	16	HIS	-	expression tag	UNP P13633
A	17	HIS	-	expression tag	UNP P13633
A	18	SER	-	expression tag	UNP P13633
A	19	SER	-	expression tag	UNP P13633
A	20	GLY	-	expression tag	UNP P13633
A	21	LEU	-	expression tag	UNP P13633
A	22	VAL	-	expression tag	UNP P13633
A	23	PRO	-	expression tag	UNP P13633
A	24	ARG	-	expression tag	UNP P13633
A	25	GLY	-	expression tag	UNP P13633
A	26	SER	-	expression tag	UNP P13633
A	27	HIS	-	expression tag	UNP P13633
A	28	MET	-	expression tag	UNP P13633

Continued on next page...

Continued from previous page...

Chain	Residue	Modelled	Actual	Comment	Reference
A	29	ALA	-	expression tag	UNP P13633
A	30	SER	-	expression tag	UNP P13633
A	31	MET	-	expression tag	UNP P13633
A	32	THR	-	expression tag	UNP P13633
A	33	GLY	-	expression tag	UNP P13633
A	34	GLY	-	expression tag	UNP P13633
A	35	GLU	-	expression tag	UNP P13633
A	36	GLU	-	expression tag	UNP P13633
A	37	MET	-	expression tag	UNP P13633
A	38	GLY	-	expression tag	UNP P13633
A	39	ARG	-	expression tag	UNP P13633
A	40	GLY	-	expression tag	UNP P13633
A	41	SER	-	expression tag	UNP P13633
A	309	ASN	LYS	SEE REMARK 999	UNP P13633
B	8	MET	-	expression tag	UNP P13633
B	9	GLY	-	expression tag	UNP P13633
B	10	SER	-	expression tag	UNP P13633
B	11	SER	-	expression tag	UNP P13633
B	12	HIS	-	expression tag	UNP P13633
B	13	HIS	-	expression tag	UNP P13633
B	14	HIS	-	expression tag	UNP P13633
B	15	HIS	-	expression tag	UNP P13633
B	16	HIS	-	expression tag	UNP P13633
B	17	HIS	-	expression tag	UNP P13633
B	18	SER	-	expression tag	UNP P13633
B	19	SER	-	expression tag	UNP P13633
B	20	GLY	-	expression tag	UNP P13633
B	21	LEU	-	expression tag	UNP P13633
B	22	VAL	-	expression tag	UNP P13633
B	23	PRO	-	expression tag	UNP P13633
B	24	ARG	-	expression tag	UNP P13633
B	25	GLY	-	expression tag	UNP P13633
B	26	SER	-	expression tag	UNP P13633
B	27	HIS	-	expression tag	UNP P13633
B	28	MET	-	expression tag	UNP P13633
B	29	ALA	-	expression tag	UNP P13633
B	30	SER	-	expression tag	UNP P13633
B	31	MET	-	expression tag	UNP P13633
B	32	THR	-	expression tag	UNP P13633
B	33	GLY	-	expression tag	UNP P13633
B	34	GLY	-	expression tag	UNP P13633
B	35	GLU	-	expression tag	UNP P13633

Continued on next page...

Continued from previous page...

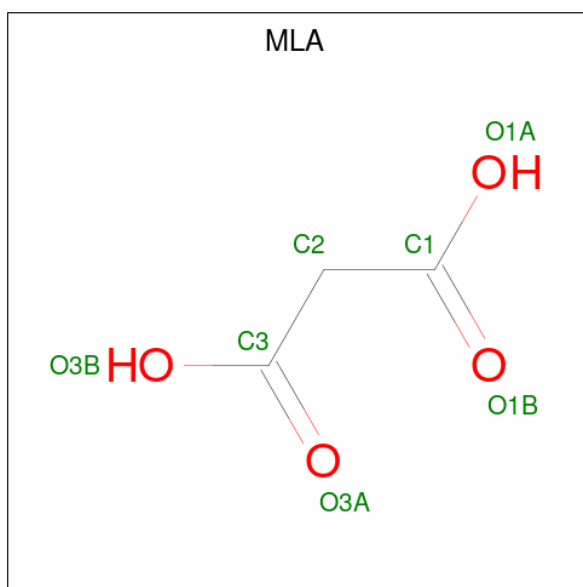
Chain	Residue	Modelled	Actual	Comment	Reference
B	36	GLU	-	expression tag	UNP P13633
B	37	MET	-	expression tag	UNP P13633
B	38	GLY	-	expression tag	UNP P13633
B	39	ARG	-	expression tag	UNP P13633
B	40	GLY	-	expression tag	UNP P13633
B	41	SER	-	expression tag	UNP P13633
B	309	ASN	LYS	SEE REMARK 999	UNP P13633
C	8	MET	-	expression tag	UNP P13633
C	9	GLY	-	expression tag	UNP P13633
C	10	SER	-	expression tag	UNP P13633
C	11	SER	-	expression tag	UNP P13633
C	12	HIS	-	expression tag	UNP P13633
C	13	HIS	-	expression tag	UNP P13633
C	14	HIS	-	expression tag	UNP P13633
C	15	HIS	-	expression tag	UNP P13633
C	16	HIS	-	expression tag	UNP P13633
C	17	HIS	-	expression tag	UNP P13633
C	18	SER	-	expression tag	UNP P13633
C	19	SER	-	expression tag	UNP P13633
C	20	GLY	-	expression tag	UNP P13633
C	21	LEU	-	expression tag	UNP P13633
C	22	VAL	-	expression tag	UNP P13633
C	23	PRO	-	expression tag	UNP P13633
C	24	ARG	-	expression tag	UNP P13633
C	25	GLY	-	expression tag	UNP P13633
C	26	SER	-	expression tag	UNP P13633
C	27	HIS	-	expression tag	UNP P13633
C	28	MET	-	expression tag	UNP P13633
C	29	ALA	-	expression tag	UNP P13633
C	30	SER	-	expression tag	UNP P13633
C	31	MET	-	expression tag	UNP P13633
C	32	THR	-	expression tag	UNP P13633
C	33	GLY	-	expression tag	UNP P13633
C	34	GLY	-	expression tag	UNP P13633
C	35	GLU	-	expression tag	UNP P13633
C	36	GLU	-	expression tag	UNP P13633
C	37	MET	-	expression tag	UNP P13633
C	38	GLY	-	expression tag	UNP P13633
C	39	ARG	-	expression tag	UNP P13633
C	40	GLY	-	expression tag	UNP P13633
C	41	SER	-	expression tag	UNP P13633
C	309	ASN	LYS	SEE REMARK 999	UNP P13633

Continued on next page...

Continued from previous page...

Chain	Residue	Modelled	Actual	Comment	Reference
D	8	MET	-	expression tag	UNP P13633
D	9	GLY	-	expression tag	UNP P13633
D	10	SER	-	expression tag	UNP P13633
D	11	SER	-	expression tag	UNP P13633
D	12	HIS	-	expression tag	UNP P13633
D	13	HIS	-	expression tag	UNP P13633
D	14	HIS	-	expression tag	UNP P13633
D	15	HIS	-	expression tag	UNP P13633
D	16	HIS	-	expression tag	UNP P13633
D	17	HIS	-	expression tag	UNP P13633
D	18	SER	-	expression tag	UNP P13633
D	19	SER	-	expression tag	UNP P13633
D	20	GLY	-	expression tag	UNP P13633
D	21	LEU	-	expression tag	UNP P13633
D	22	VAL	-	expression tag	UNP P13633
D	23	PRO	-	expression tag	UNP P13633
D	24	ARG	-	expression tag	UNP P13633
D	25	GLY	-	expression tag	UNP P13633
D	26	SER	-	expression tag	UNP P13633
D	27	HIS	-	expression tag	UNP P13633
D	28	MET	-	expression tag	UNP P13633
D	29	ALA	-	expression tag	UNP P13633
D	30	SER	-	expression tag	UNP P13633
D	31	MET	-	expression tag	UNP P13633
D	32	THR	-	expression tag	UNP P13633
D	33	GLY	-	expression tag	UNP P13633
D	34	GLY	-	expression tag	UNP P13633
D	35	GLU	-	expression tag	UNP P13633
D	36	GLU	-	expression tag	UNP P13633
D	37	MET	-	expression tag	UNP P13633
D	38	GLY	-	expression tag	UNP P13633
D	39	ARG	-	expression tag	UNP P13633
D	40	GLY	-	expression tag	UNP P13633
D	41	SER	-	expression tag	UNP P13633
D	309	ASN	LYS	SEE REMARK 999	UNP P13633

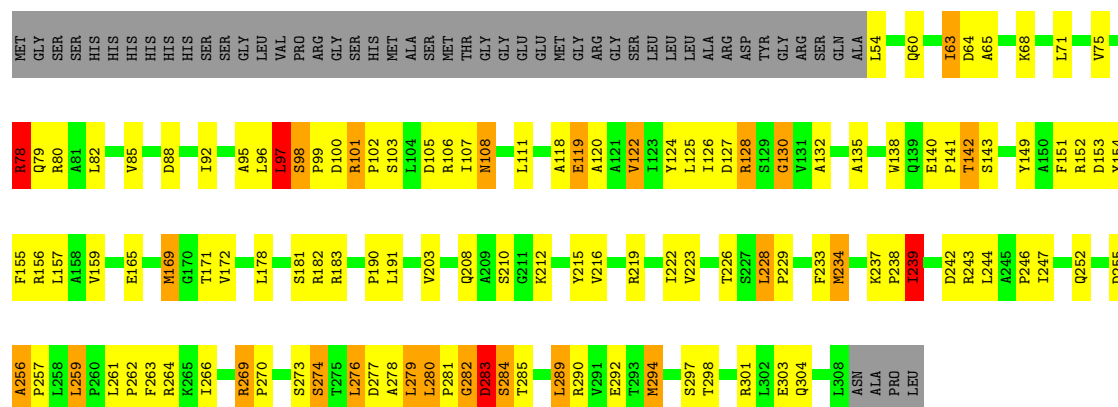
- Molecule 2 is MALONIC ACID (CCD ID: MLA) (formula: C₃H₄O₄).



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

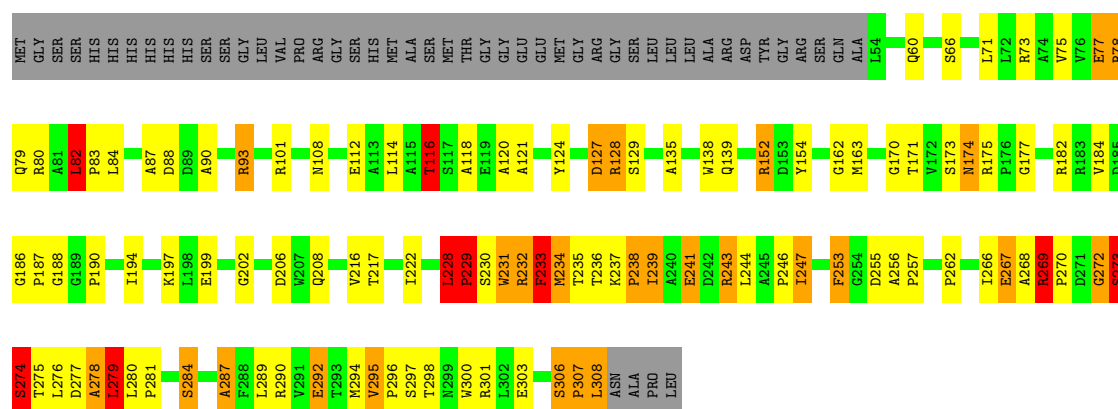
- Molecule 3 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	5	Total	O	0	0
			5	5		
3	B	6	Total	O	0	0
			6	6		
3	C	1	Total	O	0	0
			1	1		
3	D	4	Total	O	0	0
			4	4		



- Molecule 1: C4-dicarboxylate transport sensor protein dctB

Chain D: 48% 24% 9% 16%



4 Data and refinement statistics

Property	Value	Source
Space group	P 43	Depositor
Cell constants a, b, c, α , β , γ	70.36Å 70.36Å 226.92Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	15.00 – 2.50 15.00 – 2.50	Depositor EDS
% Data completeness (in resolution range)	100.0 (15.00-2.50) 99.3 (15.00-2.50)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	3.14 (at 2.50Å)	Xtriage
Refinement program	REFMAC	Depositor
R, R_{free}	0.209 , 0.272 0.225 , 0.251	Depositor DCC
R_{free} test set	1880 reflections (5.00%)	wwPDB-VP
Wilson B-factor (Å ²)	48.3	Xtriage
Anisotropy	0.390	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.27 , 31.1	EDS
L-test for twinning ²	$\langle L \rangle = 0.45$, $\langle L^2 \rangle = 0.27$	Xtriage
Estimated twinning fraction	0.093 for h,-k,-l	Xtriage
F_o, F_c correlation	0.95	EDS
Total number of atoms	7852	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 3.24% 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: MLA

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	1.16	6/1992 (0.3%)	1.36	21/2710 (0.8%)
1	B	1.96	39/1992 (2.0%)	1.47	40/2710 (1.5%)
1	C	1.68	33/1992 (1.7%)	1.35	20/2710 (0.7%)
1	D	1.18	5/1992 (0.3%)	1.50	24/2710 (0.9%)
All	All	1.53	83/7968 (1.0%)	1.42	105/10840 (1.0%)

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	A	4	3
1	B	2	14
1	C	2	3
1	D	2	9
All	All	10	29

The worst 5 of 83 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B	289	LEU	C-O	22.79	1.54	1.23
1	B	54	LEU	C-N	20.53	1.59	1.33
1	B	54	LEU	CB-CG	20.45	1.94	1.53
1	B	277	ASP	C-N	17.91	1.58	1.33
1	B	259	LEU	CB-CG	17.29	1.88	1.53

The worst 5 of 105 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	D	247	ILE	N-CA-C	-25.54	87.41	111.67
1	D	232	ARG	N-CA-C	-18.52	79.51	108.96
1	B	228	LEU	N-CA-C	13.37	133.63	109.44
1	A	118	ALA	N-CA-C	-12.95	92.47	110.35
1	C	101	ARG	NE-CZ-NH2	-12.85	107.64	119.20

5 of 10 chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
1	A	152	ARG	CA
1	A	237	LYS	CA
1	A	246	PRO	CA
1	A	264	ARG	CA
1	B	265	LYS	CA

5 of 29 planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	152	ARG	Peptide
1	A	197	LYS	Peptide
1	A	237	LYS	Peptide
1	B	188	GLY	Peptide
1	B	56	GLY	Peptide,Mainchain

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	1952	0	1979	121	0
1	B	1952	0	1979	177	1
1	C	1952	0	1979	102	0
1	D	1952	0	1979	88	1
2	A	7	0	2	0	0
2	B	7	0	2	0	0
2	C	7	0	2	1	0
2	D	7	0	2	1	0
3	A	5	0	0	1	0
3	B	6	0	0	0	0

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	C	1	0	0	0	0
3	D	4	0	0	2	0
All	All	7852	0	7924	478	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 30.

The worst 5 of 478 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:306:SER:CA	1:B:306:SER:CB	1.75	1.61
1:C:97:LEU:CG	1:C:97:LEU:CD1	1.75	1.61
1:C:98:SER:CA	1:C:98:SER:CB	1.79	1.60
1:B:54:LEU:CB	1:B:54:LEU:CA	1.82	1.54
1:B:230:SER:HB3	1:B:231:TRP:CD1	1.45	1.50

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)
1:B:161:ASP:OD1	1:D:241:GLU:OE2[3_554]	1.76	0.44

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	253/305 (83%)	225 (89%)	17 (7%)	11 (4%)	2	2
1	B	253/305 (83%)	216 (85%)	20 (8%)	17 (7%)	1	1
1	C	253/305 (83%)	226 (89%)	23 (9%)	4 (2%)	7	14
1	D	253/305 (83%)	216 (85%)	21 (8%)	16 (6%)	1	1

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
All	All	1012/1220 (83%)	883 (87%)	81 (8%)	48 (5%)	2 2

5 of 48 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	152	ARG
1	A	237	LYS
1	A	238	PRO
1	A	239	ILE
1	A	255	ASP

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	204/242 (84%)	175 (86%)	29 (14%)	3 7
1	B	204/242 (84%)	163 (80%)	41 (20%)	1 2
1	C	204/242 (84%)	174 (85%)	30 (15%)	3 6
1	D	204/242 (84%)	171 (84%)	33 (16%)	2 4
All	All	816/968 (84%)	683 (84%)	133 (16%)	2 4

5 of 133 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	D	171	THR
1	D	228	LEU
1	D	297	SER
1	B	163	MET
1	B	159	VAL

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 20 such sidechains are listed below:

Mol	Chain	Res	Type
1	D	60	GLN
1	D	174	ASN
1	D	304	GLN
1	D	252	GLN
1	B	108	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 ⓘ

4 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	D	4	-	6,6,6	1.33	1 (16%)	7,7,7	0.98	0
2	MLA	C	3	-	6,6,6	1.18	0	7,7,7	1.30	0
2	MLA	B	2	-	6,6,6	1.92	1 (16%)	7,7,7	1.39	1 (14%)
2	MLA	A	1	-	6,6,6	1.24	0	7,7,7	1.55	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	D	4	-	-	2/4/4/4	-
2	MLA	C	3	-	-	0/4/4/4	-
2	MLA	B	2	-	-	0/4/4/4	-
2	MLA	A	1	-	-	3/4/4/4	-

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	2	MLA	C2-C3	3.72	1.56	1.51
2	D	4	MLA	O1A-C1	-2.02	1.24	1.30

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A	1	MLA	O3A-C3-C2	-2.48	115.06	122.11
2	B	2	MLA	O1B-C1-C2	-2.11	116.10	122.11
2	A	1	MLA	O1B-C1-C2	-2.09	116.16	122.11

There are no chirality outliers.

All (5) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	D	4	MLA	O1A-C1-C2-C3
2	A	1	MLA	C1-C2-C3-O3B
2	D	4	MLA	O1B-C1-C2-C3
2	A	1	MLA	C1-C2-C3-O3A
2	A	1	MLA	O1B-C1-C2-C3

There are no ring outliers.

2 monomers are involved in 2 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	D	4	MLA	1	0
2	C	3	MLA	1	0

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

There are no chain breaks in this entry.

6 Fit of model and data [i](#)

6.1 Protein, DNA and RNA chains [i](#)

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	255/305 (83%)	-1.25	0 100 100	20, 45, 55, 63	21 (8%)
1	B	255/305 (83%)	-0.92	1 (0%) 88 86	21, 46, 55, 64	4 (1%)
1	C	255/305 (83%)	-0.98	0 100 100	21, 47, 55, 60	12 (4%)
1	D	255/305 (83%)	-1.20	0 100 100	16, 47, 55, 62	14 (5%)
All	All	1020/1220 (83%)	-1.09	1 (0%) 92 90	16, 46, 55, 64	51 (5%)

All (1) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	270	PRO	2.1

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	MLA	A	1	7/7	0.98	0.03	46,48,49,54	0

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
2	MLA	B	2	7/7	0.99	0.03	39,41,44,46	0
2	MLA	C	3	7/7	0.99	0.05	38,44,47,48	0
2	MLA	D	4	7/7	0.99	0.03	43,47,51,52	0

6.5 Other polymers [i](#)

There are no such residues in this entry.