



Full wwPDB X-ray Structure Validation Report ⓘ

May 8, 2016 – 11:55 PM EDT

PDB ID : 5E9H
Title : Structural insights of isocitrate lyases from *Fusarium graminearum*
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Deposited on : 2015-10-15
Resolution : 2.30 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
<http://wwpdb.org/validation/2016/XrayValidationReportHelp>
with specific help available everywhere you see the ⓘ symbol.

The following versions of software and data (see [references ⓘ](#)) were used in the production of this report:

MolProbity : 4.02b-467
Mogul : unknown
Xtriage (Phenix) : 1.9-1692
EDS : rb-20027457
Percentile statistics : 20151230.v01 (using entries in the PDB archive December 30th 2015)
Refmac : 5.8.0135
CCP4 : 6.5.0
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : rb-20027457

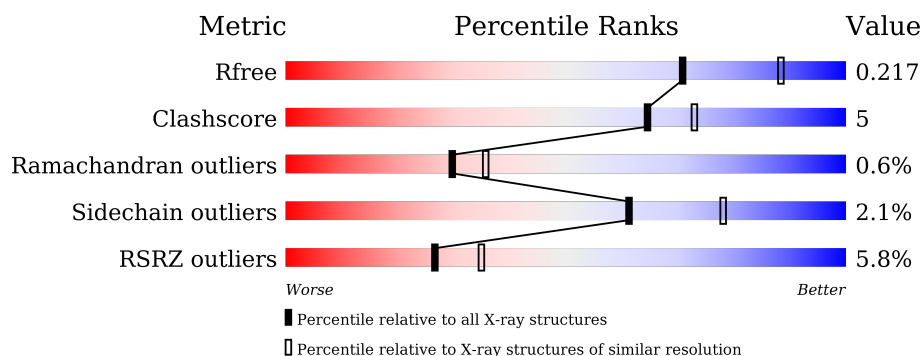
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.30 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}	91344	3852 (2.30-2.30)
Clashscore	102246	4452 (2.30-2.30)
Ramachandran outliers	100387	4410 (2.30-2.30)
Sidechain outliers	100360	4409 (2.30-2.30)
RSRZ outliers	91569	3857 (2.30-2.30)

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 ≥ 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	554	
1	B	554	

2 Entry composition [i](#)

There are 4 unique types of molecules in this entry. The entry contains 8651 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 Isocitrate lyase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	518	Total	C	N	O	S	0	0	0
			4080	2580	711	771	18			
1	B	528	Total	C	N	O	S	0	0	0
			4143	2616	719	791	17			

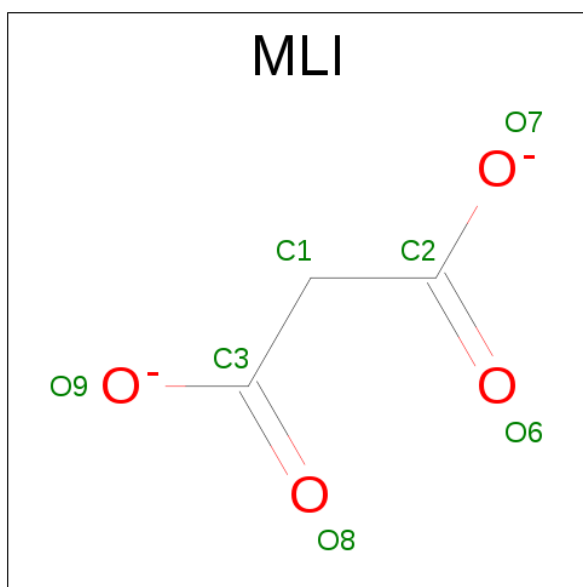
There are 16 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	547	LEU	-	expression tag	UNP Q4HYR2
A	548	GLU	-	expression tag	UNP Q4HYR2
A	549	HIS	-	expression tag	UNP Q4HYR2
A	550	HIS	-	expression tag	UNP Q4HYR2
A	551	HIS	-	expression tag	UNP Q4HYR2
A	552	HIS	-	expression tag	UNP Q4HYR2
A	553	HIS	-	expression tag	UNP Q4HYR2
A	554	HIS	-	expression tag	UNP Q4HYR2
B	547	LEU	-	expression tag	UNP Q4HYR2
B	548	GLU	-	expression tag	UNP Q4HYR2
B	549	HIS	-	expression tag	UNP Q4HYR2
B	550	HIS	-	expression tag	UNP Q4HYR2
B	551	HIS	-	expression tag	UNP Q4HYR2
B	552	HIS	-	expression tag	UNP Q4HYR2
B	553	HIS	-	expression tag	UNP Q4HYR2
B	554	HIS	-	expression tag	UNP Q4HYR2

- Molecule 2 is MANGANESE (II) ION (three-letter code: MN) (formula: Mn).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	A	1	Total	Mn	0	0
			1	1		

- Molecule 3 is MALONATE ION (three-letter code: MLI) (formula: C₃H₂O₄).



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

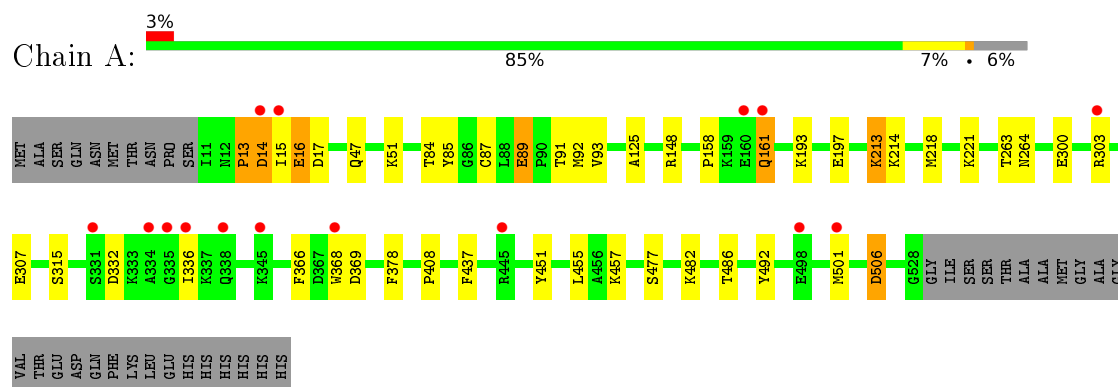
- Molecule 4 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	233	Total	O	0	0
			233	233		
4	B	187	Total	O	0	0
			187	187		

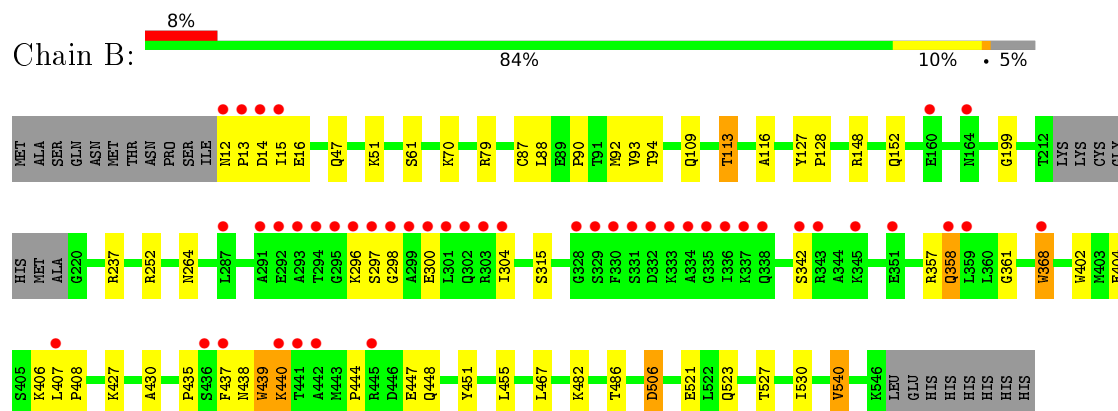
3 Residue-property plots [i](#)

These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of errors 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: Isocitrate lyase



• Molecule 1: Isocitrate lyase



4 Data and refinement statistics

Property	Value	Source
Space group	P 32 2 1	Depositor
Cell constants a, b, c, α , β , γ	124.47Å 124.47Å 160.35Å 90.00° 90.00° 120.00°	Depositor
Resolution (Å)	32.40 – 2.30 32.40 – 2.30	Depositor EDS
% Data completeness (in resolution range)	99.9 (32.40-2.30) 93.3 (32.40-2.30)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	8.16 (at 2.29Å)	Xtriage
Refinement program	PHENIX (PHENIX.REFINE: 1.9 _1692)	Depositor
R, R_{free}	0.186 , 0.226 0.180 , 0.217	Depositor DCC
R_{free} test set	1852 reflections (3.09%)	DCC
Wilson B-factor (Å ²)	30.6	Xtriage
Anisotropy	0.511	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.36 , 41.0	EDS
L-test for twinning ²	$\langle L \rangle = 0.51$, $\langle L^2 \rangle = 0.34$	Xtriage
Estimated twinning fraction	0.014 for -h,-k,l	Xtriage
F_o, F_c correlation	0.95	EDS
Total number of atoms	8651	wwPDB-VP
Average B, all atoms (Å ²)	36.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.47% 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, 0.375 respectively for untwinned datasets, and 0.333, 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: MLI, MN

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	0.43	0/4172	0.57	0/5652
1	B	0.40	0/4233	0.56	0/5735
All	All	0.42	0/8405	0.56	0/11387

There are no bond length outliers.

There are no bond angle outliers.

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	4080	0	4006	43	0
1	B	4143	0	4052	43	0
2	A	1	0	0	0	0
3	A	7	0	2	0	0
4	A	233	0	0	2	0
4	B	187	0	0	2	1
All	All	8651	0	8060	83	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 5.

All (83) 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:358:GLN:O	1:B:358:GLN:NE2	2.04	0.90
1:A:87:CYS:HA	1:A:92:MET:HE1	1.56	0.86
1:B:358:GLN:C	1:B:358:GLN:HE21	1.80	0.85
1:A:15:ILE:HG13	1:A:16:GLU:H	1.40	0.84
1:A:13:PRO:O	1:A:15:ILE:N	2.12	0.82
1:A:264:ASN:ND2	1:A:368:TRP:CH2	2.50	0.78
1:A:85:TYR:HE1	1:A:92:MET:HE3	1.49	0.78
1:A:15:ILE:O	1:A:17:ASP:N	2.18	0.76
1:A:366:PHE:HE2	1:A:368:TRP:HD1	1.35	0.74
1:B:264:ASN:HD22	1:B:368:TRP:HE1	1.32	0.74
1:B:439:TRP:O	1:B:448:GLN:NE2	2.25	0.69
1:A:85:TYR:CE1	1:A:92:MET:HE3	2.27	0.69
1:B:109:GLN:O	1:B:113:THR:HB	1.95	0.67
1:A:87:CYS:HA	1:A:92:MET:CE	2.24	0.66
1:B:438:ASN:O	1:B:440:LYS:N	2.30	0.64
1:A:366:PHE:CE2	1:A:368:TRP:HD1	2.17	0.63
1:A:148:ARG:NH2	4:A:704:HOH:O	2.31	0.63
1:B:148:ARG:NH2	4:B:602:HOH:O	2.32	0.63
1:B:444:PRO:HG2	1:B:447:GLU:HG3	1.81	0.62
1:A:125:ALA:CB	1:A:213:LYS:HD2	2.31	0.60
1:A:368:TRP:CZ3	1:A:378:PHE:CE1	2.91	0.59
1:B:368:TRP:HE3	1:B:368:TRP:H	1.50	0.58
1:B:358:GLN:HE21	1:B:358:GLN:CA	2.18	0.55
1:A:263:THR:HA	1:A:378:PHE:HE2	1.70	0.55
1:B:408:PRO:HD3	1:B:437:PHE:CG	2.42	0.55
1:A:218:MET:HA	1:B:540:VAL:HG12	1.89	0.54
1:A:368:TRP:CZ3	1:A:378:PHE:HE1	2.25	0.53
1:B:527:THR:HG23	1:B:530:ILE:O	2.07	0.53
1:A:368:TRP:CE3	1:A:378:PHE:CE1	2.97	0.53
1:A:125:ALA:HB2	1:A:213:LYS:HD2	1.90	0.53
1:B:88:LEU:HD22	1:B:113:THR:HG21	1.91	0.52
1:B:87:CYS:SG	1:B:92:MET:HE2	2.51	0.51
1:A:89:GLU:OE2	1:A:91:THR:HB	2.11	0.50
1:A:214:LYS:HB2	1:A:221:LYS:HG2	1.93	0.50
1:A:263:THR:HA	1:A:378:PHE:CE2	2.48	0.49
1:A:15:ILE:HG13	1:A:16:GLU:N	2.18	0.49
1:A:158:PRO:HD2	1:A:161:GLN:HE21	1.77	0.49
1:B:435:PRO:HG3	1:B:467:LEU:HB2	1.95	0.49
1:A:482:LYS:O	1:A:486:THR:HG23	2.13	0.48
1:B:116:ALA:HB3	1:B:128:PRO:HG2	1.94	0.48
1:A:303:ARG:O	1:A:307:GLU:HG2	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:297:SER:OG	1:B:298:GLY:N	2.48	0.47
1:A:457:LYS:NZ	4:A:709:HOH:O	2.40	0.47
1:A:158:PRO:HD2	1:A:161:GLN:NE2	2.30	0.47
1:B:61:SER:HB3	1:B:199:GLY:HA2	1.96	0.47
1:B:406:LYS:O	1:B:407:LEU:HD12	2.14	0.47
1:B:152:GLN:NE2	1:B:521:GLU:HG2	2.30	0.46
1:B:523:GLN:O	1:B:527:THR:HG22	2.15	0.46
1:A:477:SER:OG	1:B:92:MET:HG2	2.15	0.46
1:B:47:GLN:O	1:B:51:LYS:HG2	2.16	0.46
1:A:368:TRP:CE3	1:A:378:PHE:HE1	2.34	0.46
1:B:264:ASN:ND2	1:B:368:TRP:HE1	2.05	0.46
1:A:408:PRO:HD3	1:A:437:PHE:CG	2.50	0.45
1:B:402:TRP:HB2	1:B:430:ALA:HB3	1.98	0.45
1:B:296:LYS:HE2	1:B:304:ILE:HD11	1.98	0.45
1:A:451:TYR:CE2	1:A:455:LEU:HD11	2.52	0.44
1:B:70:LYS:HA	1:B:70:LYS:HD3	1.64	0.44
1:A:84:THR:OG1	1:A:85:TYR:N	2.51	0.44
1:B:252:ARG:NH2	1:B:404:GLU:HG3	2.32	0.44
1:B:451:TYR:CE2	1:B:455:LEU:HD11	2.53	0.44
1:B:482:LYS:O	1:B:486:THR:HG23	2.18	0.43
1:B:92:MET:HE2	1:B:92:MET:HB3	1.80	0.43
1:A:300:GLU:HA	1:A:303:ARG:HH21	1.84	0.43
1:A:300:GLU:HA	1:A:303:ARG:HE	1.83	0.43
1:A:193:LYS:O	1:A:197:GLU:HG2	2.18	0.43
1:A:368:TRP:CZ3	1:A:369:ASP:OD1	2.72	0.43
1:A:125:ALA:HB3	1:A:213:LYS:HD2	1.98	0.42
1:A:47:GLN:O	1:A:51:LYS:HG2	2.19	0.42
1:A:368:TRP:HZ3	1:A:378:PHE:CE1	2.37	0.42
1:B:14:ASP:OD1	1:B:15:ILE:HG12	2.19	0.42
1:A:213:LYS:HG2	1:A:214:LYS:N	2.34	0.42
1:B:90:PRO:O	1:B:94:THR:HG23	2.19	0.41
1:B:427:LYS:HA	1:B:427:LYS:HD2	1.57	0.41
1:B:252:ARG:CZ	1:B:404:GLU:HG3	2.50	0.41
1:A:492:TYR:OH	1:B:435:PRO:HB3	2.21	0.41
1:B:357:ARG:NH1	1:B:361:GLY:O	2.54	0.41
1:B:87:CYS:HA	1:B:92:MET:CE	2.50	0.41
1:B:237:ARG:HD2	4:B:720:HOH:O	2.21	0.41
1:A:13:PRO:HB2	1:A:14:ASP:H	1.71	0.40
1:B:13:PRO:HA	1:B:16:GLU:HB2	2.03	0.40
1:B:300:GLU:O	1:B:304:ILE:HG13	2.22	0.40
1:B:79:ARG:HD3	1:B:79:ARG:HA	1.77	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:332:ASP:O	1:A:336:ILE:HG13	2.22	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:B:761:HOH:O	4:B:787:HOH:O[5_679]	2.11	0.09

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	516/554 (93%)	497 (96%)	15 (3%)	4 (1%)	24	27
1	B	524/554 (95%)	497 (95%)	25 (5%)	2 (0%)	39	48
All	All	1040/1108 (94%)	994 (96%)	40 (4%)	6 (1%)	30	36

All (6) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	16	GLU
1	A	506	ASP
1	B	506	ASP
1	A	13	PRO
1	A	14	ASP
1	B	439	TRP

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	423/454 (93%)	416 (98%)	7 (2%)	68	83
1	B	429/454 (94%)	418 (97%)	11 (3%)	54	71
All	All	852/908 (94%)	834 (98%)	18 (2%)	61	78

All (18) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	89	GLU
1	A	93	VAL
1	A	161	GLN
1	A	213	LYS
1	A	315	SER
1	A	501	MET
1	A	506	ASP
1	B	12	ASN
1	B	93	VAL
1	B	113	THR
1	B	127	TYR
1	B	315	SER
1	B	342	SER
1	B	358	GLN
1	B	368	TRP
1	B	440	LYS
1	B	506	ASP
1	B	540	VAL

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

Mol	Chain	Res	Type
1	B	358	GLN

5.3.3 RNA ⓘ

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 2 ligands modelled in this entry, 1 is monoatomic - leaving 1 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	MLI	A	602	-	0,6,6	0.00	-	0,7,7	0.00	-

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	MLI	A	602	-	-	0/0/4/4	0/0/0/0

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.

No monomer is involved in short contacts.

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	518/554 (93%)	-0.19	15 (2%) 55 64	23, 32, 54, 69	0
1	B	528/554 (95%)	0.03	46 (8%) 13 18	24, 35, 65, 84	0
All	All	1046/1108 (94%)	-0.08	61 (5%) 26 35	23, 33, 60, 84	0

All (61) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	299	ALA	7.0
1	B	294	THR	6.3
1	B	442	ALA	5.6
1	B	296	LYS	5.5
1	B	14	ASP	5.5
1	B	12	ASN	4.7
1	B	15	ILE	4.6
1	B	441	THR	4.6
1	B	335	GLY	4.3
1	A	368	TRP	4.3
1	B	437	PHE	4.1
1	A	15	ILE	4.1
1	B	303	ARG	3.9
1	B	328	GLY	3.8
1	B	368	TRP	3.6
1	B	293	ALA	3.6
1	B	407	LEU	3.5
1	B	13	PRO	3.5
1	A	331	SER	3.4
1	B	334	ALA	3.4
1	B	291	ALA	3.4
1	B	332	ASP	3.4
1	B	345	LYS	3.1
1	A	14	ASP	3.1

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Mol	Chain	Res	Type	RSRZ
1	A	334	ALA	3.1
1	B	445	ARG	3.1
1	B	333	LYS	2.9
1	B	342	SER	2.9
1	A	445	ARG	2.9
1	B	336	ILE	2.9
1	B	358	GLN	2.9
1	B	330	PHE	2.8
1	B	331	SER	2.8
1	B	338	GLN	2.8
1	B	300	GLU	2.8
1	B	436	SER	2.7
1	B	287	LEU	2.7
1	B	301	LEU	2.7
1	B	351	GLU	2.5
1	A	345	LYS	2.5
1	B	164	ASN	2.5
1	B	329	SER	2.5
1	A	303	ARG	2.5
1	B	295	GLY	2.5
1	A	501	MET	2.4
1	B	297	SER	2.4
1	A	161	GLN	2.4
1	A	336	ILE	2.3
1	B	160	GLU	2.3
1	A	335	GLY	2.2
1	A	160	GLU	2.2
1	B	292	GLU	2.2
1	B	440	LYS	2.1
1	B	302	GLN	2.1
1	A	498	GLU	2.1
1	B	304	ILE	2.1
1	B	359	LEU	2.1
1	B	343	ARG	2.1
1	A	338	GLN	2.1
1	B	337	LYS	2.0
1	B	298	GLY	2.0

6.2 Non-standard residues in protein, DNA, RNA chains ⓘ

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. LLDF column lists the quality of electron density of the group with respect to its neighbouring residues in protein, DNA or RNA chains. 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	LLDF	B-factors(\AA^2)	Q<0.9
2	MN	A	601	1/1	0.96	0.16	0.50	59,59,59,59	0
3	MLI	A	602	7/7	0.97	0.14	-0.40	26,32,33,38	0

6.5 Other polymers [i](#)

There are no such residues in this entry.