wwPDB X-ray Structure Validation Summary Report (i)

Aug 19, 2023 – 10:50 PM EDT

PDB ID	:	2GN0
Title	:	Crystal structure of dimeric biodegradative threonine deaminase (TdcB) from Salmonella typhimurium at 1.7 A resolution (Triclinic form with one complete subunit built in alternate conformation)
Authors	:	Simanshu, D.K.; Savithri, H.S.; Murthy, M.R.
Deposited on	:	2006-04-09
Resolution	:	1.70 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 (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 (1)) were used in the production of this report:

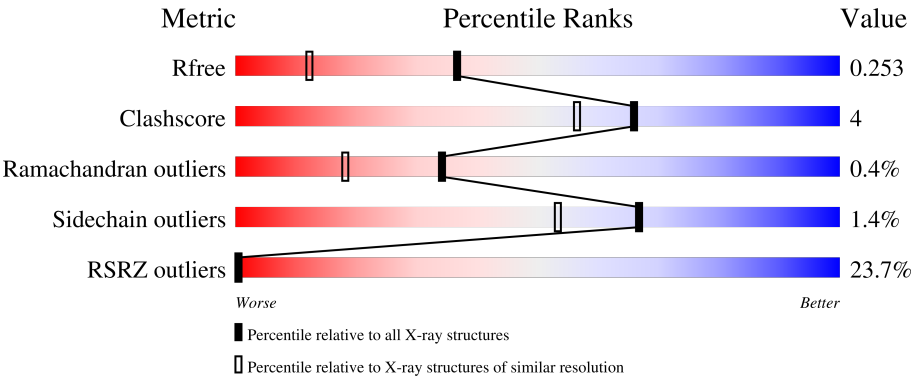
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.35
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.35

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 1.70 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}	130704	4298 (1.70-1.70)
Clashscore	141614	4695 (1.70-1.70)
Ramachandran outliers	138981	4610 (1.70-1.70)
Sidechain outliers	138945	4610 (1.70-1.70)
RSRZ outliers	127900	4222 (1.70-1.70)

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	1-A	342	13% 91% · ·
1	1-B	342	20% 87% 6% · 6%
1	1-C	342	11% 90% 6% ·
1	1-D	342	61% 87% 6% · 6%
1	2-A	342	13% 91% · ·

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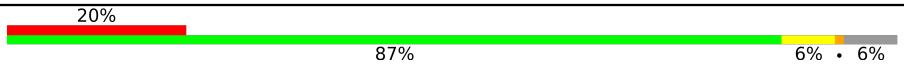
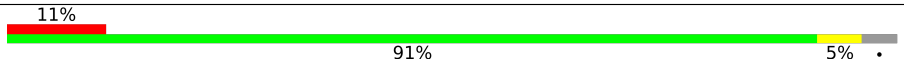
Mol	Chain	Length	Quality of chain
1	2-B	342	
1	2-C	342	
1	2-D	342	

2 Entry composition (i)

There are 3 unique types of molecules in this entry. The entry contains 20933 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 Threonine dehydratase catabolic.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
1	1-A	327	Total	C	N	O	P	S	0	327	0
			2482	1557	426	483	1	15			
1	2-A	327	Total	C	N	O	P	S	0	327	0
			2482	1557	426	483	1	15			
1	1-B	320	Total	C	N	O	P	S	0	320	0
			2387	1495	412	466	1	13			
1	2-B	320	Total	C	N	O	P	S	0	320	0
			2387	1495	412	466	1	13			
1	1-C	328	Total	C	N	O	P	S	0	328	0
			2478	1554	422	486	1	15			
1	2-C	328	Total	C	N	O	P	S	0	328	0
			2478	1554	422	486	1	15			
1	1-D	320	Total	C	N	O	P	S	0	320	0
			2367	1482	412	459	1	13			
1	2-D	320	Total	C	N	O	P	S	0	320	0
			2378	1489	411	464	1	13			

There are 60 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-12	MET	-	cloning artifact	UNP P11954
A	-11	ARG	-	cloning artifact	UNP P11954
A	-10	GLY	-	cloning artifact	UNP P11954
A	-9	SER	-	cloning artifact	UNP P11954
A	-8	HIS	-	expression tag	UNP P11954
A	-7	HIS	-	expression tag	UNP P11954
A	-6	HIS	-	expression tag	UNP P11954
A	-5	HIS	-	expression tag	UNP P11954
A	-4	HIS	-	expression tag	UNP P11954
A	-3	HIS	-	expression tag	UNP P11954
A	-2	GLY	-	cloning artifact	UNP P11954
A	-1	MET	-	cloning artifact	UNP P11954
A	0	ALA	-	cloning artifact	UNP P11954

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Chain	Residue	Modelled	Actual	Comment	Reference
A	1	SER	-	cloning artifact	UNP P11954
A	58	LLP	LYS	modified residue	UNP P11954
B	-12	MET	-	cloning artifact	UNP P11954
B	-11	ARG	-	cloning artifact	UNP P11954
B	-10	GLY	-	cloning artifact	UNP P11954
B	-9	SER	-	cloning artifact	UNP P11954
B	-8	HIS	-	expression tag	UNP P11954
B	-7	HIS	-	expression tag	UNP P11954
B	-6	HIS	-	expression tag	UNP P11954
B	-5	HIS	-	expression tag	UNP P11954
B	-4	HIS	-	expression tag	UNP P11954
B	-3	HIS	-	expression tag	UNP P11954
B	-2	GLY	-	cloning artifact	UNP P11954
B	-1	MET	-	cloning artifact	UNP P11954
B	0	ALA	-	cloning artifact	UNP P11954
B	1	SER	-	cloning artifact	UNP P11954
B	58	LLP	LYS	modified residue	UNP P11954
C	-12	MET	-	cloning artifact	UNP P11954
C	-11	ARG	-	cloning artifact	UNP P11954
C	-10	GLY	-	cloning artifact	UNP P11954
C	-9	SER	-	cloning artifact	UNP P11954
C	-8	HIS	-	expression tag	UNP P11954
C	-7	HIS	-	expression tag	UNP P11954
C	-6	HIS	-	expression tag	UNP P11954
C	-5	HIS	-	expression tag	UNP P11954
C	-4	HIS	-	expression tag	UNP P11954
C	-3	HIS	-	expression tag	UNP P11954
C	-2	GLY	-	cloning artifact	UNP P11954
C	-1	MET	-	cloning artifact	UNP P11954
C	0	ALA	-	cloning artifact	UNP P11954
C	1	SER	-	cloning artifact	UNP P11954
C	58	LLP	LYS	modified residue	UNP P11954
D	-12	MET	-	cloning artifact	UNP P11954
D	-11	ARG	-	cloning artifact	UNP P11954
D	-10	GLY	-	cloning artifact	UNP P11954
D	-9	SER	-	cloning artifact	UNP P11954
D	-8	HIS	-	expression tag	UNP P11954
D	-7	HIS	-	expression tag	UNP P11954
D	-6	HIS	-	expression tag	UNP P11954
D	-5	HIS	-	expression tag	UNP P11954
D	-4	HIS	-	expression tag	UNP P11954
D	-3	HIS	-	expression tag	UNP P11954

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Chain	Residue	Modelled	Actual	Comment	Reference
D	-2	GLY	-	cloning artifact	UNP P11954
D	-1	MET	-	cloning artifact	UNP P11954
D	0	ALA	-	cloning artifact	UNP P11954
D	1	SER	-	cloning artifact	UNP P11954
D	58	LLP	LYS	modified residue	UNP P11954

- Molecule 2 is SODIUM ION (three-letter code: NA) (formula: Na).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	1-A	1	Total Na 1 1	0	1
2	2-A	1	Total Na 1 1	0	1
2	1-C	1	Total Na 1 1	0	1
2	2-C	1	Total Na 1 1	0	1

- Molecule 3 is water.

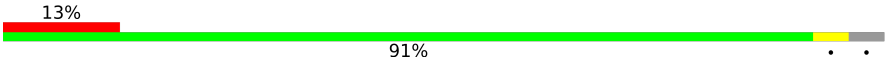
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	1-A	258	Total O 258 258	0	258
3	2-A	1	Total O 1 1	0	1
3	1-B	217	Total O 217 217	0	217
3	2-B	257	Total O 257 257	0	257
3	1-C	232	Total O 232 232	0	232
3	2-C	217	Total O 217 217	0	217
3	1-D	73	Total O 73 73	0	73
3	2-D	235	Total O 235 235	0	235

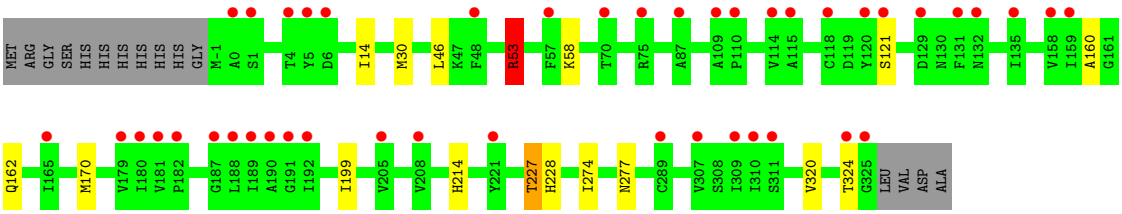
3 Residue-property plots (i)

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: Threonine dehydratase catabolic

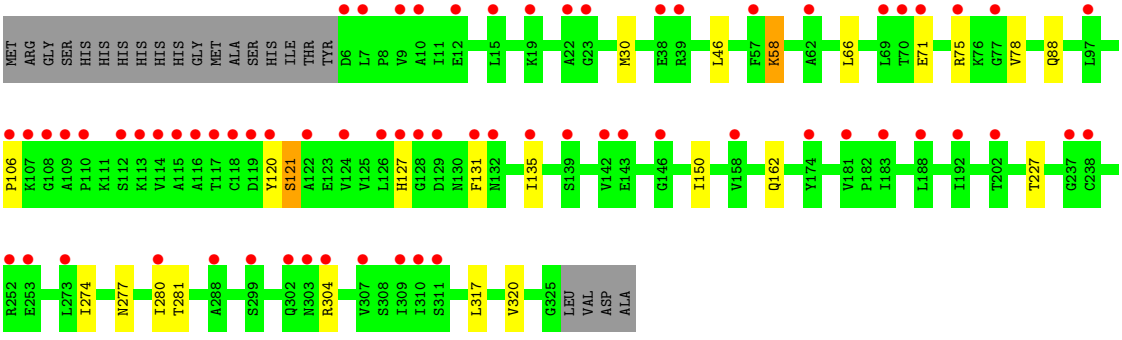
Chain 1-A:





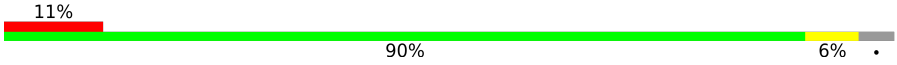
• Molecule 1: Threonine dehydratase catabolic

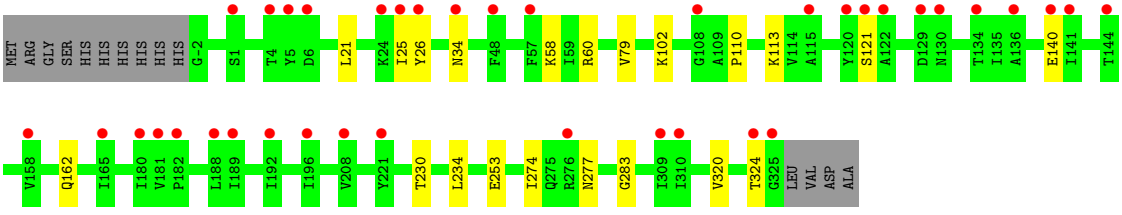
Chain 1-B:



• Molecule 1: Threonine dehydratase catabolic

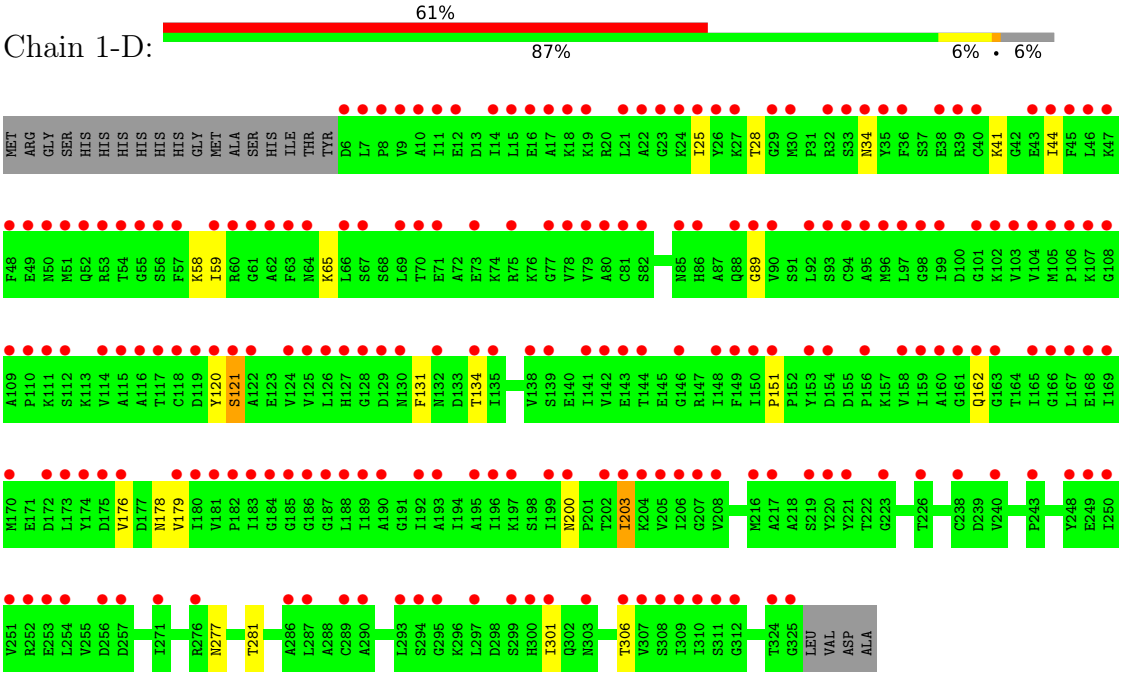
Chain 1-C:





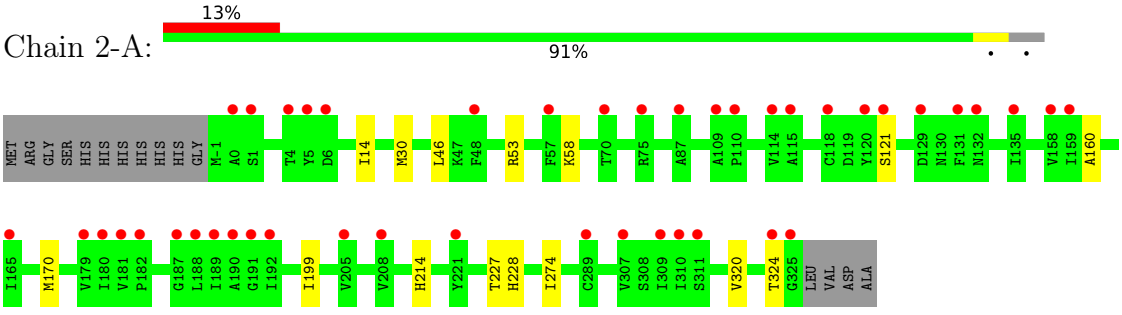
• Molecule 1: Threonine dehydratase catabolic

Chain 1-D:



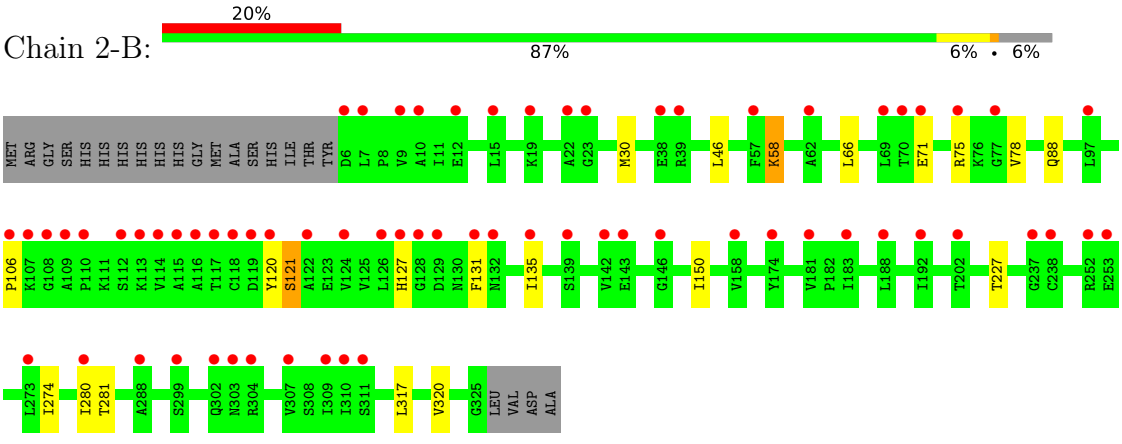
• Molecule 1: Threonine dehydratase catabolic

Chain 2-A:



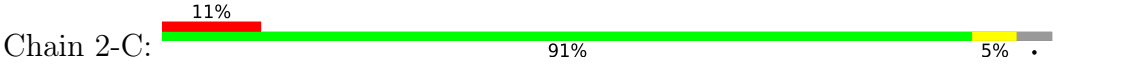
• Molecule 1: Threonine dehydratase catabolic

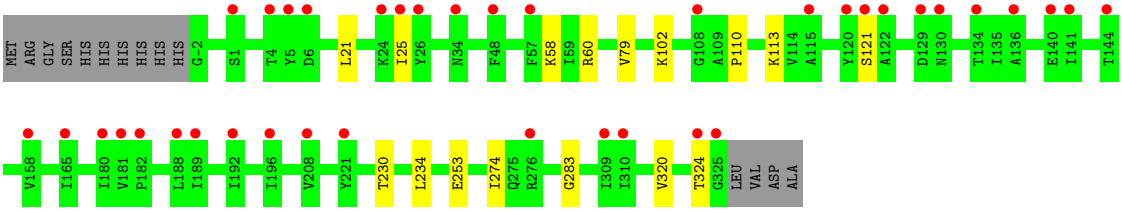
Chain 2-B:



• Molecule 1: Threonine dehydratase catabolic

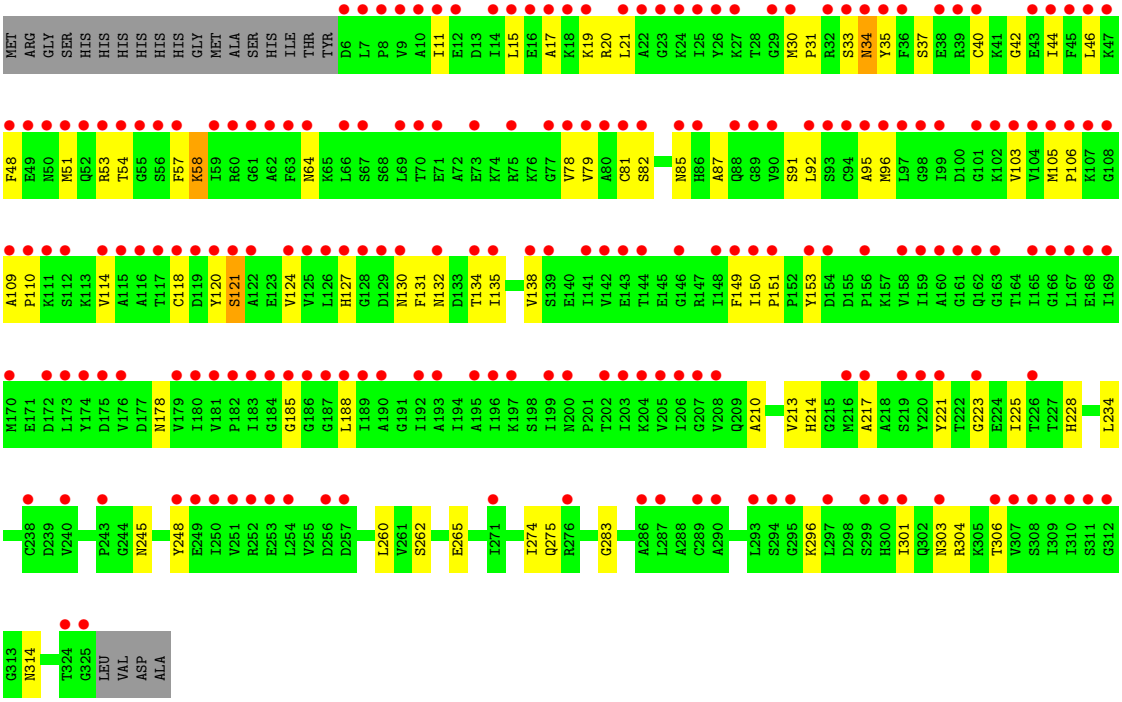
Chain 2-C:





• Molecule 1: Threonine dehydratase catabolic

Chain 2-D:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1	Depositor
Cell constants a, b, c, α, β, γ	56.67Å 76.83Å 78.50Å 66.12° 89.16° 77.08°	Depositor
Resolution (Å)	20.00 – 1.70 27.52 – 1.70	Depositor EDS
% Data completeness (in resolution range)	92.9 (20.00-1.70) 92.9 (27.52-1.70)	Depositor EDS
R_{merge}	0.04	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	3.00 (at 1.70Å)	Xtriage
Refinement program	REFMAC 5.2.0009	Depositor
R, R_{free}	0.188 , 0.222 0.225 , 0.253	Depositor DCC
R_{free} test set	6001 reflections (5.01%)	wwPDB-VP
Wilson B-factor (Å^2)	23.8	Xtriage
Anisotropy	0.312	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.33 , 51.5	EDS
L-test for twinning[2]	$< \|L\| > = 0.50$, $< L^2 > = 0.33$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.96	EDS
Total number of atoms	20933	wwPDB-VP
Average B, all atoms (Å^2)	25.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 79.98 % of the origin peak, indicating pseudo-translational symmetry. The chance of finding a peak of this or larger height randomly in a structure without pseudo-translational symmetry is equal to 4.9582e-07. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

[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: LLP, NA

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	1-A	0.40	0/2509	0.59	1/3390 (0.0%)
1	1-B	0.39	0/2394	0.54	0/3237
1	1-C	0.40	0/2499	0.56	0/3380
1	1-D	0.37	0/2371	0.54	0/3206
All	All	0.39	0/9773	0.56	1/13213 (0.0%)

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1-A	53[A]	ARG	NE-CZ-NH1	8.31	124.46	120.30

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	1-A	2482	0	2524	11	0
1	1-B	2387	0	2414	17	0
1	1-C	2478	0	2512	14	0
1	1-D	2367	0	2382	19	0
1	2-A	2482	0	2524	11	0
1	2-B	2387	0	2414	17	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	2-C	2478	0	2512	12	0
1	2-D	2378	0	2394	62	0
2	1-A	1	0	0	0	0
2	1-C	1	0	0	0	0
2	2-A	1	0	0	0	0
2	2-C	1	0	0	0	0
3	1-A	258	0	0	1	0
3	1-B	217	0	0	3	0
3	1-C	232	0	0	5	0
3	1-D	73	0	0	2	0
3	2-A	1	0	0	0	0
3	2-B	257	0	0	1	0
3	2-C	217	0	0	3	0
3	2-D	235	0	0	5	0
All	All	20933	0	19676	155	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 4.

The worst 5 of 155 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:D:178[A]:ASN:HD22	1:D:306[A]:THR:HG22	1.38	0.86
1:D:59[A]:ILE:HG22	1:D:89[A]:GLY:HA2	1.63	0.80
1:B:227[A]:THR:HG23	3:C:1024[A]:HOH:O	1.82	0.80
1:B:227[C]:THR:HG23	3:D:1029[C]:HOH:O	1.82	0.80
1:D:120[D]:TYR:O	1:D:121[D]:SER:CB	2.32	0.78

There are no symmetry-related clashes.

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	1-A	331/342 (97%)	321 (97%)	9 (3%)	1 (0%)	41	24
1	1-B	318/342 (93%)	308 (97%)	9 (3%)	1 (0%)	41	24
1	1-C	332/342 (97%)	323 (97%)	8 (2%)	1 (0%)	41	24
1	1-D	317/342 (93%)	309 (98%)	7 (2%)	1 (0%)	41	24
1	2-A	331/342 (97%)	321 (97%)	9 (3%)	1 (0%)	41	24
1	2-B	318/342 (93%)	308 (97%)	9 (3%)	1 (0%)	41	24
1	2-C	332/342 (97%)	323 (97%)	8 (2%)	1 (0%)	41	24
1	2-D	317/342 (93%)	303 (96%)	12 (4%)	2 (1%)	25	11
All	All	2596/2736 (95%)	2516 (97%)	71 (3%)	9 (0%)	34	24

5 of 9 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	2-D	34[D]	ASN
1	1-B	121[A]	SER
1	1-C	121[A]	SER
1	1-D	121[A]	SER
1	2-B	121[C]	SER

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	1-A	267/276 (97%)	262 (98%)	5 (2%)	57	41
1	1-B	253/276 (92%)	250 (99%)	3 (1%)	71	59
1	1-C	266/276 (96%)	263 (99%)	3 (1%)	73	63
1	1-D	247/276 (90%)	243 (98%)	4 (2%)	62	48
All	All	1033/1104 (94%)	1018 (98%)	15 (2%)	67	51

5 of 15 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	1-B	304[A]	ARG

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Mol	Chain	Res	Type
1	1-D	203[A]	ILE
1	1-C	140[A]	GLU
1	1-D	277[A]	ASN
1	1-D	41[A]	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 8 such sidechains are listed below:

Mol	Chain	Res	Type
1	1-D	228[A]	HIS
1	1-D	178[A]	ASN
1	1-C	88[A]	GLN
1	1-B	127[A]	HIS
1	1-C	277[A]	ASN

5.3.3 RNA (i)

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains (i)

8 non-standard protein/DNA/RNA residues 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	$\#\|Z\| > 2$
1	LLP	2-C	58[C]	-	23,24,25	1.64	3 (13%)	25,32,34	1.47	3 (12%)
1	LLP	1-A	58[A]	1	23,24,25	1.60	4 (17%)	25,32,34	1.48	4 (16%)
1	LLP	2-D	58[D]	-	23,24,25	1.75	4 (17%)	25,32,34	1.41	4 (16%)
1	LLP	2-A	58[C]	-	23,24,25	1.60	4 (17%)	25,32,34	1.48	4 (16%)
1	LLP	1-B	58[A]	1	23,24,25	1.79	5 (21%)	25,32,34	1.38	5 (20%)
1	LLP	1-D	58[A]	1	23,24,25	1.66	4 (17%)	25,32,34	1.60	3 (12%)
1	LLP	1-C	58[A]	1	23,24,25	1.64	3 (13%)	25,32,34	1.47	3 (12%)
1	LLP	2-B	58[C]	-	23,24,25	1.79	5 (21%)	25,32,34	1.38	5 (20%)

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
1	LLP	2-C	58[C]	-	-	3/16/17/19	0/1/1/1
1	LLP	1-A	58[A]	1	-	3/16/17/19	0/1/1/1
1	LLP	2-D	58[D]	-	-	2/16/17/19	0/1/1/1
1	LLP	2-A	58[C]	-	-	3/16/17/19	0/1/1/1
1	LLP	1-B	58[A]	1	-	2/16/17/19	0/1/1/1
1	LLP	1-D	58[A]	1	-	2/16/17/19	0/1/1/1
1	LLP	1-C	58[A]	1	-	3/16/17/19	0/1/1/1
1	LLP	2-B	58[C]	-	-	2/16/17/19	0/1/1/1

The worst 5 of 32 bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	2-D	58[D]	LLP	O3-C3	-5.91	1.23	1.37
1	1-B	58[A]	LLP	O3-C3	-5.68	1.23	1.37
1	2-B	58[C]	LLP	O3-C3	-5.68	1.23	1.37
1	1-D	58[A]	LLP	O3-C3	-5.67	1.23	1.37
1	1-C	58[A]	LLP	O3-C3	-5.29	1.24	1.37

The worst 5 of 31 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	1-D	58[A]	LLP	OP4-C5'-C5	5.34	119.53	109.35
1	1-A	58[A]	LLP	OP4-C5'-C5	4.52	117.96	109.35
1	2-A	58[C]	LLP	OP4-C5'-C5	4.52	117.96	109.35
1	1-C	58[A]	LLP	OP4-C5'-C5	4.30	117.55	109.35
1	2-C	58[C]	LLP	OP4-C5'-C5	4.30	117.55	109.35

There are no chirality outliers.

5 of 20 torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
1	1-B	58[A]	LLP	C-CA-CB-CG
1	2-B	58[C]	LLP	C-CA-CB-CG
1	2-D	58[D]	LLP	C4-C4'-NZ-CE
1	1-B	58[A]	LLP	C4-C4'-NZ-CE
1	2-B	58[C]	LLP	C4-C4'-NZ-CE

There are no ring outliers.

3 monomers are involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
1	2-D	58[D]	LLP	1	0
1	1-B	58[A]	LLP	1	0
1	2-B	58[C]	LLP	1	0

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

Of 4 ligands modelled in this entry, 4 are monoatomic - leaving 0 for Mogul analysis.

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, 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	1-A	326/342 (95%)	0.90	44 (13%)	3 3	19, 23, 38, 42	326 (100%)
1	1-B	319/342 (93%)	1.19	68 (21%)	0 0	19, 23, 41, 47	319 (100%)
1	1-C	327/342 (95%)	0.95	38 (11%)	4 5	20, 24, 34, 38	327 (100%)
1	1-D	319/342 (93%)	4.48	207 (64%)	0 0	19, 23, 29, 31	319 (100%)
1	2-A	326/342 (95%)	0.90	44 (13%)	3 3	19, 23, 38, 42	326 (100%)
1	2-B	319/342 (93%)	1.19	68 (21%)	0 0	19, 23, 41, 47	319 (100%)
1	2-C	327/342 (95%)	0.95	38 (11%)	4 5	20, 24, 34, 38	327 (100%)
1	2-D	319/342 (93%)	4.48	207 (64%)	0 0	19, 23, 29, 31	319 (100%)
All	All	2582/2736 (94%)	1.87	714 (27%)	0 0	19, 23, 35, 47	2582 (100%)

The worst 5 of 714 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	1-D	142[A]	VAL	23.5
1	2-D	142[D]	VAL	23.5
1	1-D	193[A]	ALA	22.1
1	2-D	193[D]	ALA	22.1
1	1-D	57[A]	PHE	21.1

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

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
1	LLP	1-D	58[A]	24/25	0.94	0.32	21,23,26,27	24

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
1	LLP	2-D	58[D]	24/25	0.94	0.32	19,21,21,21	24
1	LLP	1-B	58[A]	24/25	0.96	0.17	21,22,24,25	24
1	LLP	2-B	58[C]	24/25	0.96	0.17	21,22,24,25	24
1	LLP	1-A	58[A]	24/25	0.96	0.20	21,23,24,26	24
1	LLP	2-A	58[C]	24/25	0.96	0.20	21,23,24,26	24
1	LLP	1-C	58[A]	24/25	0.97	0.16	20,22,26,27	24
1	LLP	2-C	58[C]	24/25	0.97	0.16	20,22,26,27	24

6.3 Carbohydrates (i)

There are no monosaccharides 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	NA	1-A	800[A]	1/1	0.99	0.07	18,18,18,18	1
2	NA	2-A	800[C]	1/1	0.99	0.07	18,18,18,18	1
2	NA	1-C	801[A]	1/1	0.99	0.05	17,17,17,17	1
2	NA	2-C	801[C]	1/1	0.99	0.05	17,17,17,17	1

6.5 Other polymers (i)

There are no such residues in this entry.