



wwPDB X-ray Structure Validation Summary Report ⓘ

Mar 6, 2026 – 02:41 PM UTC

PDB ID : 6XWX / pdb_00006xwx
Title : Crystal structure of the Tof1-Csm3 complex
Authors : Grabarczyk, D.B.
Deposited on : 2020-01-24
Resolution : 3.10 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
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

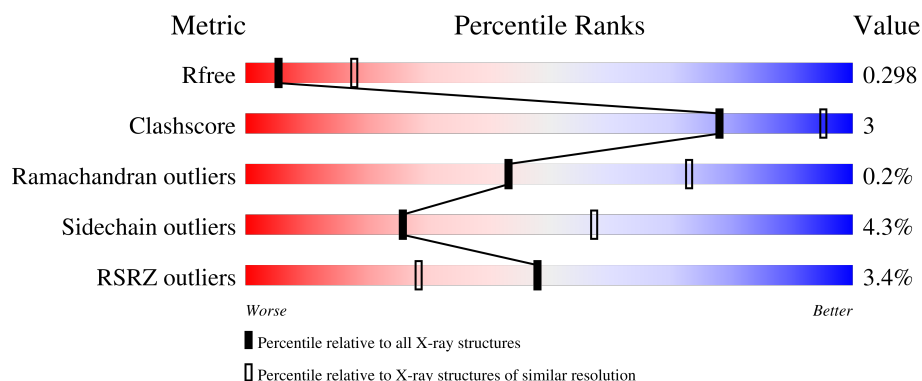
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.10 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	1456 (3.10-3.10)
Clashscore	190562	1539 (3.10-3.10)
Ramachandran outliers	187476	1467 (3.10-3.10)
Sidechain outliers	187428	1467 (3.10-3.10)
RSRZ outliers	180081	1456 (3.10-3.10)

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	599	3% 80% 13% 6%
1	C	599	3% 83% 10% 6%
1	E	599	4% 84% 10% 6%
2	B	111	2% 60% 14% 24%
2	D	111	3% 65% 9% 26%

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Mol	Chain	Length	Quality of chain
2	F	111	5% 56% 8% 36%

2 Entry composition

There are 2 unique types of molecules in this entry. The entry contains 15731 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 Uncharacterized protein,Uncharacterized protein.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	564	Total	C	N	O	S	0	0	0
			4580	2933	789	837	21			
1	C	562	Total	C	N	O	S	0	0	0
			4579	2930	788	840	21			
1	E	566	Total	C	N	O	S	0	0	0
			4623	2964	792	845	22			

There are 189 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-18	MET	-	initiating methionine	UNP G0S825
A	-17	LYS	-	expression tag	UNP G0S825
A	-16	HIS	-	expression tag	UNP G0S825
A	-15	HIS	-	expression tag	UNP G0S825
A	-14	HIS	-	expression tag	UNP G0S825
A	-13	HIS	-	expression tag	UNP G0S825
A	-12	HIS	-	expression tag	UNP G0S825
A	-11	HIS	-	expression tag	UNP G0S825
A	-10	SER	-	expression tag	UNP G0S825
A	-9	ALA	-	expression tag	UNP G0S825
A	-8	GLY	-	expression tag	UNP G0S825
A	-7	LEU	-	expression tag	UNP G0S825
A	-6	GLU	-	expression tag	UNP G0S825
A	-5	VAL	-	expression tag	UNP G0S825
A	-4	LEU	-	expression tag	UNP G0S825
A	-3	PHE	-	expression tag	UNP G0S825
A	-2	GLN	-	expression tag	UNP G0S825
A	-1	GLY	-	expression tag	UNP G0S825
A	0	PRO	-	expression tag	UNP G0S825
A	257	GLY	-	linker	UNP G0S825
A	?	-	ARG	deletion	UNP G0S825
A	?	-	GLU	deletion	UNP G0S825
A	?	-	LYS	deletion	UNP G0S825

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Chain	Residue	Modelled	Actual	Comment	Reference
A	?	-	LYS	deletion	UNP G0S825
A	?	-	GLU	deletion	UNP G0S825
A	?	-	SER	deletion	UNP G0S825
A	?	-	SER	deletion	UNP G0S825
A	?	-	LYS	deletion	UNP G0S825
A	?	-	ALA	deletion	UNP G0S825
A	?	-	GLN	deletion	UNP G0S825
A	?	-	SER	deletion	UNP G0S825
A	?	-	GLY	deletion	UNP G0S825
A	?	-	GLU	deletion	UNP G0S825
A	?	-	ASP	deletion	UNP G0S825
A	?	-	VAL	deletion	UNP G0S825
A	?	-	ARG	deletion	UNP G0S825
A	?	-	LYS	deletion	UNP G0S825
A	?	-	ARG	deletion	UNP G0S825
A	?	-	ALA	deletion	UNP G0S825
A	?	-	ARG	deletion	UNP G0S825
A	?	-	ARG	deletion	UNP G0S825
A	?	-	LYS	deletion	UNP G0S825
A	?	-	LYS	deletion	UNP G0S825
A	?	-	LYS	deletion	UNP G0S825
A	?	-	ALA	deletion	UNP G0S825
A	?	-	ALA	deletion	UNP G0S825
A	?	-	LYS	deletion	UNP G0S825
A	?	-	ALA	deletion	UNP G0S825
A	?	-	ALA	deletion	UNP G0S825
A	?	-	GLY	deletion	UNP G0S825
A	?	-	GLU	deletion	UNP G0S825
A	?	-	ASN	deletion	UNP G0S825
A	?	-	GLY	deletion	UNP G0S825
A	?	-	ASP	deletion	UNP G0S825
A	?	-	GLU	deletion	UNP G0S825
A	?	-	ASP	deletion	UNP G0S825
A	?	-	GLN	deletion	UNP G0S825
A	?	-	ASP	deletion	UNP G0S825
A	?	-	GLU	deletion	UNP G0S825
A	?	-	GLU	deletion	UNP G0S825
A	?	-	ASP	deletion	UNP G0S825
A	437	GLY	ASP	conflict	UNP G0S825
C	-18	MET	-	initiating methionine	UNP G0S825
C	-17	LYS	-	expression tag	UNP G0S825

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Chain	Residue	Modelled	Actual	Comment	Reference
C	-16	HIS	-	expression tag	UNP G0S825
C	-15	HIS	-	expression tag	UNP G0S825
C	-14	HIS	-	expression tag	UNP G0S825
C	-13	HIS	-	expression tag	UNP G0S825
C	-12	HIS	-	expression tag	UNP G0S825
C	-11	HIS	-	expression tag	UNP G0S825
C	-10	SER	-	expression tag	UNP G0S825
C	-9	ALA	-	expression tag	UNP G0S825
C	-8	GLY	-	expression tag	UNP G0S825
C	-7	LEU	-	expression tag	UNP G0S825
C	-6	GLU	-	expression tag	UNP G0S825
C	-5	VAL	-	expression tag	UNP G0S825
C	-4	LEU	-	expression tag	UNP G0S825
C	-3	PHE	-	expression tag	UNP G0S825
C	-2	GLN	-	expression tag	UNP G0S825
C	-1	GLY	-	expression tag	UNP G0S825
C	0	PRO	-	expression tag	UNP G0S825
C	257	GLY	-	linker	UNP G0S825
C	?	-	ARG	deletion	UNP G0S825
C	?	-	GLU	deletion	UNP G0S825
C	?	-	LYS	deletion	UNP G0S825
C	?	-	LYS	deletion	UNP G0S825
C	?	-	GLU	deletion	UNP G0S825
C	?	-	SER	deletion	UNP G0S825
C	?	-	SER	deletion	UNP G0S825
C	?	-	LYS	deletion	UNP G0S825
C	?	-	ALA	deletion	UNP G0S825
C	?	-	GLN	deletion	UNP G0S825
C	?	-	SER	deletion	UNP G0S825
C	?	-	GLY	deletion	UNP G0S825
C	?	-	GLU	deletion	UNP G0S825
C	?	-	ASP	deletion	UNP G0S825
C	?	-	VAL	deletion	UNP G0S825
C	?	-	ARG	deletion	UNP G0S825
C	?	-	LYS	deletion	UNP G0S825
C	?	-	ARG	deletion	UNP G0S825
C	?	-	ALA	deletion	UNP G0S825
C	?	-	ARG	deletion	UNP G0S825
C	?	-	ARG	deletion	UNP G0S825
C	?	-	LYS	deletion	UNP G0S825
C	?	-	LYS	deletion	UNP G0S825
C	?	-	LYS	deletion	UNP G0S825

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Chain	Residue	Modelled	Actual	Comment	Reference
C	?	-	ALA	deletion	UNP G0S825
C	?	-	ALA	deletion	UNP G0S825
C	?	-	LYS	deletion	UNP G0S825
C	?	-	ALA	deletion	UNP G0S825
C	?	-	ALA	deletion	UNP G0S825
C	?	-	ALA	deletion	UNP G0S825
C	?	-	GLY	deletion	UNP G0S825
C	?	-	GLU	deletion	UNP G0S825
C	?	-	ASN	deletion	UNP G0S825
C	?	-	GLY	deletion	UNP G0S825
C	?	-	ASP	deletion	UNP G0S825
C	?	-	GLU	deletion	UNP G0S825
C	?	-	ASP	deletion	UNP G0S825
C	?	-	GLN	deletion	UNP G0S825
C	?	-	ASP	deletion	UNP G0S825
C	?	-	GLU	deletion	UNP G0S825
C	?	-	GLU	deletion	UNP G0S825
C	?	-	ASP	deletion	UNP G0S825
C	437	GLY	ASP	conflict	UNP G0S825
E	-18	MET	-	initiating methionine	UNP G0S825
E	-17	LYS	-	expression tag	UNP G0S825
E	-16	HIS	-	expression tag	UNP G0S825
E	-15	HIS	-	expression tag	UNP G0S825
E	-14	HIS	-	expression tag	UNP G0S825
E	-13	HIS	-	expression tag	UNP G0S825
E	-12	HIS	-	expression tag	UNP G0S825
E	-11	HIS	-	expression tag	UNP G0S825
E	-10	SER	-	expression tag	UNP G0S825
E	-9	ALA	-	expression tag	UNP G0S825
E	-8	GLY	-	expression tag	UNP G0S825
E	-7	LEU	-	expression tag	UNP G0S825
E	-6	GLU	-	expression tag	UNP G0S825
E	-5	VAL	-	expression tag	UNP G0S825
E	-4	LEU	-	expression tag	UNP G0S825
E	-3	PHE	-	expression tag	UNP G0S825
E	-2	GLN	-	expression tag	UNP G0S825
E	-1	GLY	-	expression tag	UNP G0S825
E	0	PRO	-	expression tag	UNP G0S825
E	257	GLY	-	linker	UNP G0S825
E	?	-	ARG	deletion	UNP G0S825
E	?	-	GLU	deletion	UNP G0S825
E	?	-	LYS	deletion	UNP G0S825

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Chain	Residue	Modelled	Actual	Comment	Reference
E	?	-	LYS	deletion	UNP G0S825
E	?	-	GLU	deletion	UNP G0S825
E	?	-	SER	deletion	UNP G0S825
E	?	-	SER	deletion	UNP G0S825
E	?	-	LYS	deletion	UNP G0S825
E	?	-	ALA	deletion	UNP G0S825
E	?	-	GLN	deletion	UNP G0S825
E	?	-	SER	deletion	UNP G0S825
E	?	-	GLY	deletion	UNP G0S825
E	?	-	GLU	deletion	UNP G0S825
E	?	-	ASP	deletion	UNP G0S825
E	?	-	VAL	deletion	UNP G0S825
E	?	-	ARG	deletion	UNP G0S825
E	?	-	LYS	deletion	UNP G0S825
E	?	-	ARG	deletion	UNP G0S825
E	?	-	ALA	deletion	UNP G0S825
E	?	-	ARG	deletion	UNP G0S825
E	?	-	ARG	deletion	UNP G0S825
E	?	-	LYS	deletion	UNP G0S825
E	?	-	LYS	deletion	UNP G0S825
E	?	-	LYS	deletion	UNP G0S825
E	?	-	ALA	deletion	UNP G0S825
E	?	-	ALA	deletion	UNP G0S825
E	?	-	LYS	deletion	UNP G0S825
E	?	-	ALA	deletion	UNP G0S825
E	?	-	ALA	deletion	UNP G0S825
E	?	-	GLY	deletion	UNP G0S825
E	?	-	GLU	deletion	UNP G0S825
E	?	-	ASN	deletion	UNP G0S825
E	?	-	GLY	deletion	UNP G0S825
E	?	-	ASP	deletion	UNP G0S825
E	?	-	GLU	deletion	UNP G0S825
E	?	-	ASP	deletion	UNP G0S825
E	?	-	GLN	deletion	UNP G0S825
E	?	-	ASP	deletion	UNP G0S825
E	?	-	GLU	deletion	UNP G0S825
E	?	-	GLU	deletion	UNP G0S825
E	?	-	ASP	deletion	UNP G0S825
E	437	GLY	ASP	conflict	UNP G0S825

- Molecule 2 is a protein called Chromosome segregation in meiosis protein.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	84	Total	C	N	O	S	0	0	0
			693	447	125	119	2			
2	D	82	Total	C	N	O	S	0	0	0
			675	436	120	117	2			
2	F	71	Total	C	N	O	S	0	0	0
			581	378	104	97	2			

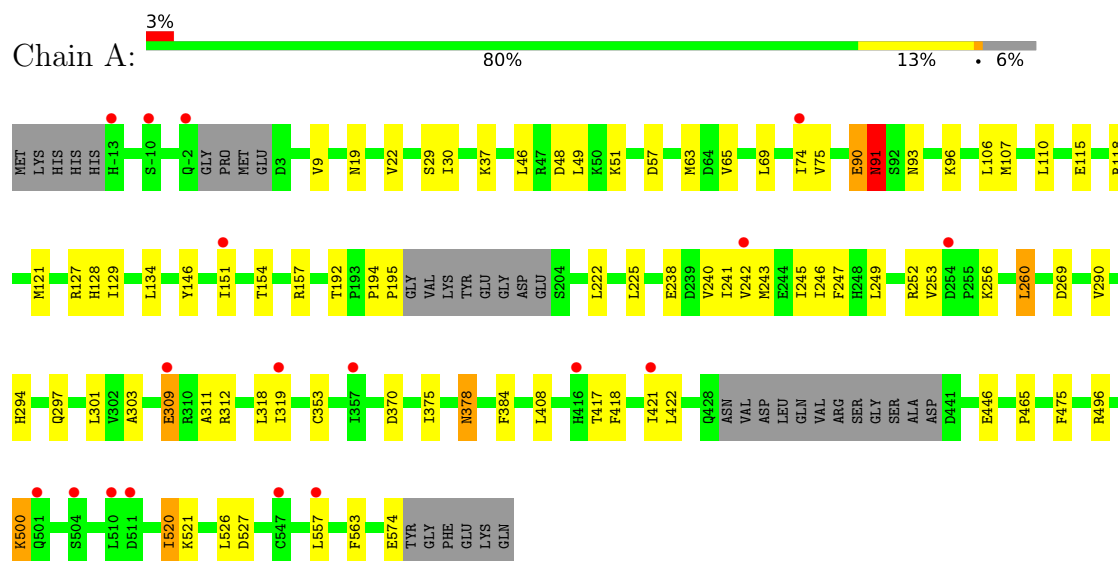
There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	47	MET	-	initiating methionine	UNP G0S0S7
D	47	MET	-	initiating methionine	UNP G0S0S7
F	47	MET	-	initiating methionine	UNP G0S0S7

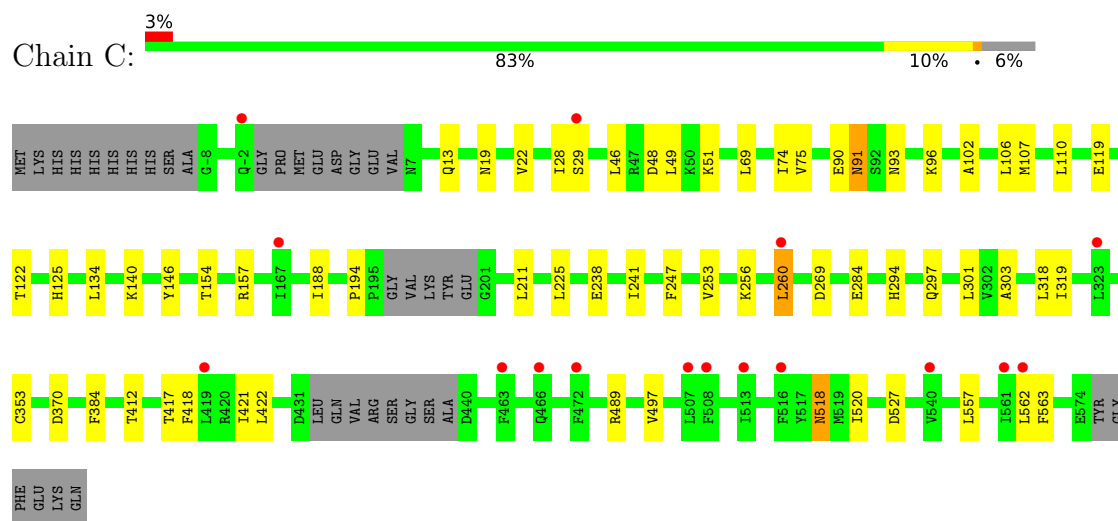
3 Residue-property plots [i](#)

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.

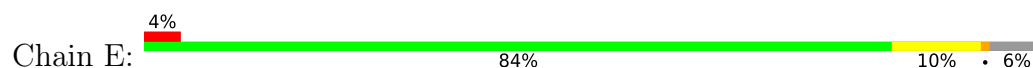
- Molecule 1: Uncharacterized protein, Uncharacterized protein

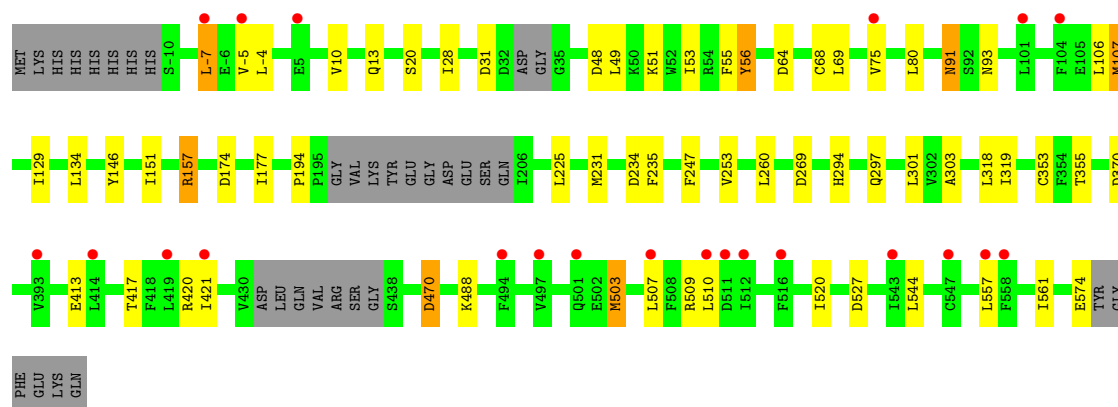


- Molecule 1: Uncharacterized protein, Uncharacterized protein



- Molecule 1: Uncharacterized protein, Uncharacterized protein





- Molecule 2: Chromosome segregation in meiosis protein



- Molecule 2: Chromosome segregation in meiosis protein



- Molecule 2: Chromosome segregation in meiosis protein



4 Data and refinement statistics

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, α , β , γ	264.47Å 82.03Å 161.16Å 90.00° 124.85° 90.00°	Depositor
Resolution (Å)	45.73 – 3.10 45.73 – 3.10	Depositor EDS
% Data completeness (in resolution range)	52.3 (45.73-3.10) 52.3 (45.73-3.10)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.21 (at 3.07Å)	Xtriage
Refinement program	BUSTER 2.10.3	Depositor
R, R_{free}	0.237 , 0.264 0.262 , 0.298	Depositor DCC
R_{free} test set	1355 reflections (2.60%)	wwPDB-VP
Wilson B-factor (Å ²)	93.9	Xtriage
Anisotropy	0.157	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.29 , 78.7	EDS
L-test for twinning ²	$\langle L \rangle = 0.46$, $\langle L^2 \rangle = 0.28$	Xtriage
Estimated twinning fraction	0.034 for -h-2*k,l	Xtriage
F_o, F_c correlation	0.91	EDS
Total number of atoms	15731	wwPDB-VP
Average B, all atoms (Å ²)	123.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.25% 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](#)

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	0.75	2/4677 (0.0%)	1.40	13/6322 (0.2%)
1	C	0.75	0/4676	1.40	6/6320 (0.1%)
1	E	0.75	1/4722 (0.0%)	1.41	14/6382 (0.2%)
2	B	0.70	0/708	1.41	6/948 (0.6%)
2	D	0.71	0/689	1.33	2/922 (0.2%)
2	F	0.72	0/595	1.27	0/796
All	All	0.75	3/16067 (0.0%)	1.40	41/21690 (0.2%)

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	E	129	ILE	CA-CB	5.52	1.56	1.54
1	A	151	ILE	CG1-CD1	-5.32	1.31	1.51
1	A	129	ILE	CA-CB	5.29	1.56	1.54

The worst 5 of 41 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	81	ILE	N-CA-CB	7.71	115.36	110.50
1	A	563	PHE	CA-CB-CG	7.34	121.14	113.80
1	A	309	GLU	CB-CG-CD	7.32	125.04	112.60
2	B	80	GLY	CA-C-N	6.72	124.47	120.24
2	B	80	GLY	C-N-CA	6.72	124.47	120.24

There are no chirality outliers.

There are no planarity outliers.

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	4580	0	4534	35	0
1	C	4579	0	4535	22	0
1	E	4623	0	4607	23	0
2	B	693	0	720	5	0
2	D	675	0	700	3	0
2	F	581	0	604	3	0
All	All	15731	0	15700	88	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 3.

The worst 5 of 88 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:9:VAL:HG11	1:A:127:ARG:HE	1.49	0.76
1:E:10:VAL:HG11	1:E:68:CYS:SG	2.35	0.67
1:E:91:ASN:HB3	1:E:157:ARG:HH11	1.65	0.61
1:C:238:GLU:HA	1:C:241:ILE:HD12	1.82	0.61
1:C:19:ASN:HA	1:C:22:VAL:HG22	1.83	0.61

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	A	556/599 (93%)	533 (96%)	22 (4%)	1 (0%)	43 73
1	C	554/599 (92%)	534 (96%)	19 (3%)	1 (0%)	43 73
1	E	558/599 (93%)	532 (95%)	24 (4%)	2 (0%)	30 61

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	B	82/111 (74%)	80 (98%)	2 (2%)	0	100	100
2	D	80/111 (72%)	78 (98%)	2 (2%)	0	100	100
2	F	69/111 (62%)	64 (93%)	5 (7%)	0	100	100
All	All	1899/2130 (89%)	1821 (96%)	74 (4%)	4 (0%)	43	73

All (4) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	E	503	MET
1	A	527	ASP
1	C	527	ASP
1	E	527	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	489/528 (93%)	470 (96%)	19 (4%)	28	60
1	C	492/528 (93%)	473 (96%)	19 (4%)	28	60
1	E	500/528 (95%)	482 (96%)	18 (4%)	31	62
2	B	73/96 (76%)	65 (89%)	8 (11%)	6	24
2	D	71/96 (74%)	67 (94%)	4 (6%)	19	49
2	F	60/96 (62%)	55 (92%)	5 (8%)	10	35
All	All	1685/1872 (90%)	1612 (96%)	73 (4%)	26	57

5 of 73 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	E	134	LEU
2	F	106	LEU
1	E	225	LEU
1	E	507	LEU
2	B	147	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 42 such sidechains are listed below:

Mol	Chain	Res	Type
2	D	73	GLN
1	E	273	ASN
1	E	7	ASN
1	E	93	ASN
1	E	317	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](#)

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](#)

There are no ligands in this entry.

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 [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	564/599 (94%)	0.26	18 (3%)	50 30	65, 110, 152, 179	0
1	C	562/599 (93%)	0.27	16 (2%)	55 34	57, 121, 165, 194	0
1	E	566/599 (94%)	0.37	22 (3%)	43 24	58, 115, 183, 209	0
2	B	84/111 (75%)	0.44	2 (2%)	59 38	132, 174, 196, 201	0
2	D	82/111 (73%)	0.39	3 (3%)	45 25	154, 169, 191, 203	0
2	F	71/111 (63%)	0.70	5 (7%)	22 12	151, 160, 172, 188	0
All	All	1929/2130 (90%)	0.32	66 (3%)	48 28	57, 119, 181, 209	0

The worst 5 of 66 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	511	ASP	4.3
1	E	507	LEU	4.2
1	C	-2	GLN	4.1
1	E	511	ASP	4.0
2	D	75	LEU	3.9

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](#)

There are no ligands in this entry.

6.5 Other polymers [i](#)

There are no such residues in this entry.