



Full wwPDB X-ray Structure Validation Report ⓘ

Aug 4, 2026 – 12:48 PM EDT

PDB ID : 3EF0 / pdb_00003ef0
Title : The Structure of Fcp1, an essential RNA polymerase II CTD phosphatase
Authors : Ghosh, A.; Lima, C.D.
Deposited on : 2008-09-07
Resolution : 2.10 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 ⓘ 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	:	9.0.015 (Gargrove)
Density-Fitness	:	1.0.12
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.50

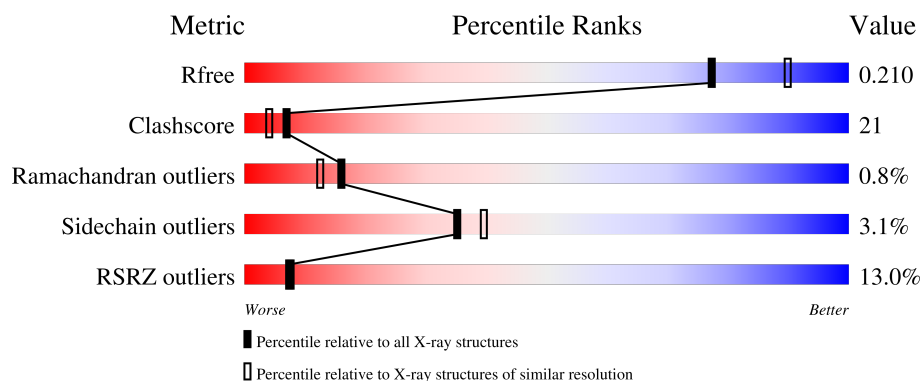
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.10 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	6658 (2.10-2.10)
Clashscore	190562	7164 (2.10-2.10)
Ramachandran outliers	187476	7099 (2.10-2.10)
Sidechain outliers	187428	7100 (2.10-2.10)
RSRZ outliers	180081	6662 (2.10-2.10)

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	372	13% 64% 30% • •

2 Entry composition [i](#)

There are 4 unique types of molecules in this entry. The entry contains 3078 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.

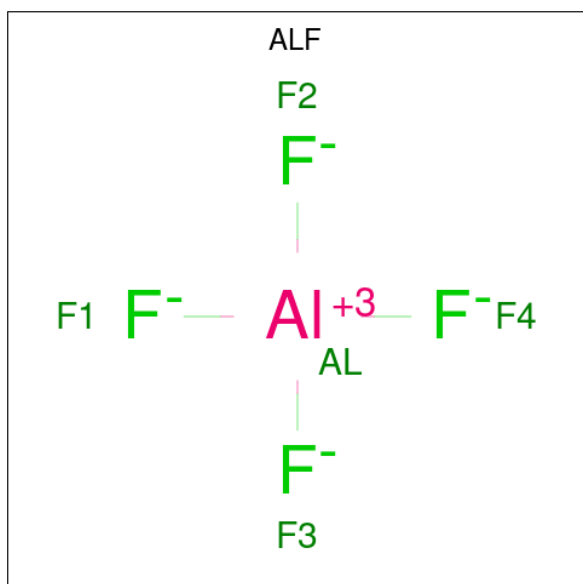
- Molecule 1 is a protein called RNA polymerase II subunit A C-terminal domain phosphatase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	361	2897	1844	502	542	9	0	0	0

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	147	SER	-	expression tag	UNP Q9P376
A	148	LEU	-	expression tag	UNP Q9P376
A	392	SER	-	insertion	UNP Q9P376
A	393	GLY	-	insertion	UNP Q9P376

- Molecule 2 is TETRAFLUOROALUMINATE ION (CCD ID: ALF) (formula: AlF_4).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
			Total	Al	F		
2	A	1	5	1	4	0	0

- Molecule 3 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	1	Total 1	Mg 1	0	0

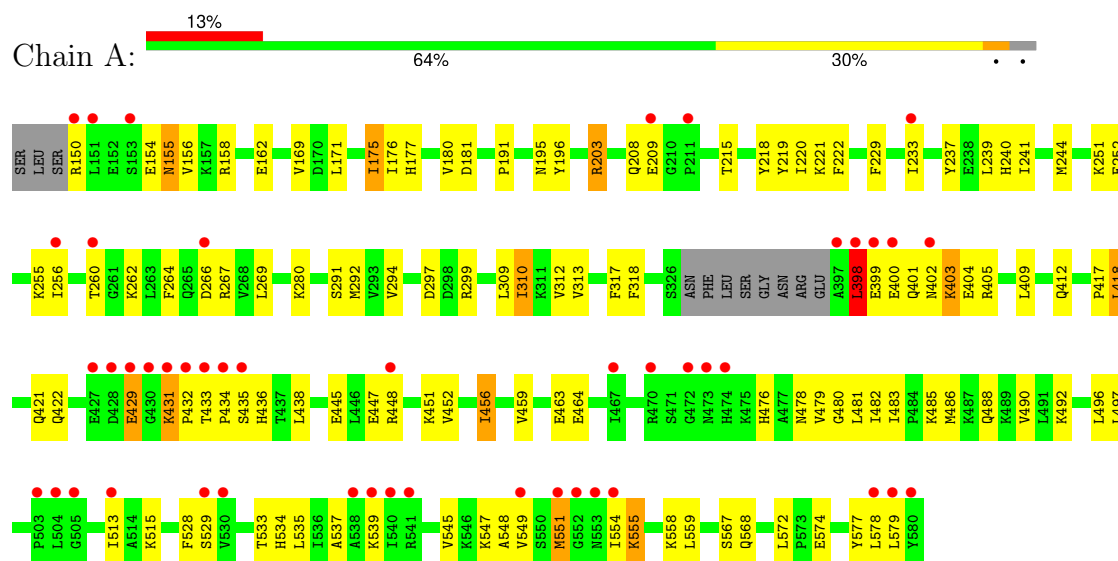
- Molecule 4 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	175	Total 175	O 175	0	0

3 Residue-property plots

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: RNA polymerase II subunit A C-terminal domain phosphatase



4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	55.17Å 80.68Å 89.34Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	30.00 – 2.10 30.00 – 2.10	Depositor EDS
% Data completeness (in resolution range)	99.0 (30.00-2.10) 99.2 (30.00-2.10)	Depositor EDS
R_{merge}	0.07	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	5.42 (at 2.10Å)	Xtriage
Refinement program	CNS 1.2	Depositor
R, R_{free}	0.220 , 0.252 0.215 , 0.210	Depositor DCC
R_{free} test set	1219 reflections (5.13%)	wwPDB-VP
Wilson B-factor (Å ²)	25.0	Xtriage
Anisotropy	0.360	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.33 , 37.4	EDS
L-test for twinning ²	$\langle L \rangle = 0.48$, $\langle L^2 \rangle = 0.31$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.93	EDS
Total number of atoms	3078	wwPDB-VP
Average B, all atoms (Å ²)	33.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 6.89% 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

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: ALF, MG

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	0.40	0/2954	0.95	8/3995 (0.2%)

There are no bond length outliers.

All (8) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	403	LYS	N-CA-C	-10.01	101.00	113.01
1	A	264	PHE	N-CA-C	-9.71	95.31	110.36
1	A	266	ASP	N-CA-C	-6.96	103.98	113.30
1	A	490	VAL	N-CA-C	6.53	116.69	110.42
1	A	398	LEU	N-CA-C	5.81	116.25	108.23
1	A	169	VAL	N-CA-C	5.34	115.55	107.80
1	A	496	LEU	N-CA-C	5.25	118.37	109.76
1	A	239	LEU	N-CA-C	5.09	118.25	110.20

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	2897	0	2935	123	0
2	A	5	0	0	0	0
3	A	1	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
4	A	175	0	0	8	0
All	All	3078	0	2935	123	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 21.

All (123) 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:452:VAL:O	1:A:456:ILE:HD13	1.49	1.10
1:A:463:GLU:OE1	1:A:482:ILE:HD11	1.55	1.05
1:A:222:PHE:HZ	1:A:256:ILE:HG22	1.32	0.94
1:A:175:ILE:HD12	1:A:176:ILE:HG23	1.49	0.92
1:A:195:ASN:HD21	1:A:422:GLN:HE21	1.18	0.88
1:A:398:LEU:HD13	1:A:399:GLU:H	1.36	0.88
1:A:432:PRO:HB2	1:A:435:SER:OG	1.77	0.85
1:A:433:THR:HB	1:A:434:PRO:HD3	1.64	0.80
1:A:209:GLU:HG3	4:A:649:HOH:O	1.83	0.78
1:A:177:HIS:HD2	1:A:318:PHE:H	1.30	0.78
1:A:171:LEU:HD21	1:A:241:ILE:HD12	1.67	0.76
1:A:229:PHE:O	1:A:233:ILE:HG22	1.87	0.74
1:A:431:LYS:HB3	1:A:432:PRO:HD3	1.72	0.72
1:A:429:GLU:H	1:A:429:GLU:CD	1.98	0.71
1:A:456:ILE:HG13	1:A:483:ILE:CD1	2.19	0.71
1:A:478:ASN:ND2	1:A:480:GLY:H	1.89	0.71
1:A:398:LEU:HD13	1:A:399:GLU:HG2	1.73	0.70
1:A:456:ILE:HG13	1:A:483:ILE:HD11	1.73	0.69
1:A:463:GLU:CD	1:A:482:ILE:HD11	2.18	0.69
1:A:222:PHE:CZ	1:A:256:ILE:HG22	2.23	0.68
1:A:240:HIS:CE1	1:A:267:ARG:HD2	2.29	0.68
1:A:513:ILE:CD1	1:A:559:LEU:HD11	2.24	0.67
1:A:456:ILE:HD12	1:A:486:MET:SD	2.34	0.67
1:A:180:VAL:H	1:A:412:GLN:HE21	1.43	0.66
1:A:222:PHE:HZ	1:A:256:ILE:CG2	2.06	0.65
1:A:482:ILE:HD13	4:A:762:HOH:O	1.96	0.65
1:A:158:ARG:O	1:A:162:GLU:HG3	1.97	0.65
1:A:294:VAL:HG22	1:A:479:VAL:HG21	1.80	0.64
1:A:177:HIS:CD2	1:A:318:PHE:H	2.14	0.64
1:A:309:LEU:C	1:A:310:ILE:HD12	2.22	0.63
1:A:244:MET:HE3	1:A:280:LYS:HG2	1.81	0.63
1:A:548:ALA:O	1:A:554:ILE:HD12	1.98	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:539:LYS:HA	1:A:579:LEU:HD22	1.80	0.62
1:A:180:VAL:H	1:A:412:GLN:NE2	1.98	0.61
1:A:402:ASN:C	1:A:404:GLU:H	2.07	0.61
1:A:459:VAL:HG12	1:A:482:ILE:HD12	1.82	0.61
1:A:558:LYS:HG3	1:A:577:TYR:O	2.01	0.61
1:A:208:GLN:HG2	1:A:215:THR:OG1	2.02	0.60
1:A:299:ARG:HD3	4:A:601:HOH:O	2.00	0.60
1:A:398:LEU:CD1	1:A:399:GLU:H	2.12	0.59
1:A:260:THR:HG23	1:A:262:LYS:H	1.66	0.58
1:A:558:LYS:HG2	1:A:579:LEU:CD2	2.33	0.58
1:A:513:ILE:HD12	1:A:559:LEU:HD11	1.84	0.58
1:A:219:TYR:C	1:A:220:ILE:HD12	2.29	0.57
1:A:402:ASN:C	1:A:404:GLU:N	2.57	0.57
1:A:459:VAL:CG1	1:A:482:ILE:HD12	2.35	0.57
1:A:402:ASN:HA	1:A:404:GLU:HG2	1.85	0.57
1:A:422:GLN:HE22	1:A:438:LEU:H	1.53	0.57
1:A:478:ASN:C	1:A:478:ASN:HD22	2.13	0.56
1:A:513:ILE:HD11	1:A:559:LEU:HD11	1.89	0.55
1:A:547:LYS:O	1:A:551:MET:HG3	2.06	0.55
1:A:203:ARG:HD2	1:A:256:ILE:HG23	1.87	0.55
1:A:417:PRO:O	1:A:421:GLN:HG3	2.06	0.55
1:A:433:THR:O	1:A:436:HIS:HB2	2.05	0.55
1:A:203:ARG:HD2	1:A:256:ILE:CG2	2.36	0.54
1:A:256:ILE:HD11	4:A:646:HOH:O	2.07	0.54
1:A:545:VAL:O	1:A:549:VAL:HG23	2.08	0.53
1:A:252:GLU:O	1:A:256:ILE:HG12	2.08	0.53
1:A:244:MET:HE3	1:A:280:LYS:CG	2.39	0.53
1:A:310:ILE:HD12	1:A:310:ILE:N	2.24	0.52
1:A:534:HIS:HA	1:A:554:ILE:O	2.10	0.52
1:A:478:ASN:HD22	1:A:479:VAL:N	2.08	0.52
1:A:533:THR:O	1:A:554:ILE:O	2.28	0.52
1:A:456:ILE:HG13	1:A:483:ILE:HD13	1.90	0.51
1:A:155:ASN:ND2	1:A:158:ARG:HH21	2.09	0.51
1:A:405:ARG:HD2	1:A:409:LEU:HD11	1.92	0.50
1:A:456:ILE:HD12	1:A:486:MET:HE1	1.94	0.50
1:A:478:ASN:HD22	1:A:480:GLY:H	1.59	0.50
1:A:233:ILE:HD11	1:A:237:TYR:CD2	2.47	0.50
1:A:294:VAL:CG1	1:A:310:ILE:HD13	2.42	0.50
1:A:558:LYS:HG2	1:A:579:LEU:HD21	1.94	0.49
1:A:574:GLU:OE1	1:A:574:GLU:N	2.42	0.49
1:A:448:ARG:NH2	1:A:568:GLN:HA	2.28	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:156:VAL:HG13	1:A:292:MET:SD	2.53	0.48
1:A:309:LEU:HD12	1:A:310:ILE:N	2.29	0.48
1:A:244:MET:HE2	4:A:611:HOH:O	2.12	0.48
1:A:513:ILE:HD11	1:A:559:LEU:CD1	2.44	0.47
1:A:456:ILE:CG1	1:A:483:ILE:HD11	2.44	0.47
1:A:401:GLN:C	1:A:403:LYS:H	2.22	0.47
1:A:456:ILE:CD1	1:A:486:MET:SD	3.03	0.47
1:A:313:VAL:HG22	1:A:567:SER:HB3	1.96	0.47
1:A:481:LEU:O	1:A:485:LYS:HG2	2.15	0.47
1:A:515:LYS:NZ	4:A:620:HOH:O	2.47	0.46
1:A:309:LEU:HD12	1:A:310:ILE:H	1.79	0.46
1:A:181:ASP:OD2	1:A:418:LEU:HB2	2.15	0.46
1:A:537:ALA:HB3	1:A:579:LEU:CD1	2.46	0.46
1:A:456:ILE:CD1	1:A:456:ILE:N	2.78	0.46
1:A:528:PHE:O	1:A:529:SER:C	2.58	0.46
1:A:447:GLU:HG3	4:A:692:HOH:O	2.16	0.45
1:A:220:ILE:HD12	1:A:220:ILE:N	2.32	0.45
1:A:294:VAL:HG13	1:A:310:ILE:HD13	1.98	0.45
1:A:513:ILE:CD1	1:A:559:LEU:CD1	2.94	0.44
1:A:175:ILE:HD12	1:A:176:ILE:CG2	2.36	0.44
1:A:456:ILE:HD13	1:A:456:ILE:H	1.83	0.44
1:A:497:LEU:O	1:A:535:LEU:HD12	2.17	0.44
1:A:150:ARG:O	1:A:154:GLU:HB2	2.18	0.44
1:A:432:PRO:HB2	1:A:435:SER:HG	1.78	0.43
1:A:572:LEU:HD13	1:A:577:TYR:OH	2.19	0.43
1:A:155:ASN:HD22	1:A:155:ASN:HA	1.66	0.43
1:A:294:VAL:CG2	1:A:479:VAL:HG21	2.47	0.43
1:A:171:LEU:CD2	1:A:241:ILE:HD12	2.41	0.42
1:A:294:VAL:HG13	1:A:310:ILE:CD1	2.49	0.42
1:A:244:MET:CE	4:A:611:HOH:O	2.65	0.42
1:A:548:ALA:HB1	1:A:554:ILE:HG21	2.02	0.42
1:A:291:SER:HA	1:A:478:ASN:ND2	2.34	0.42
1:A:456:ILE:HD12	1:A:486:MET:CE	2.49	0.42
1:A:251:LYS:O	1:A:255:LYS:HG3	2.20	0.42
1:A:191:PRO:HA	1:A:196:TYR:CG	2.55	0.42
1:A:400:GLU:O	1:A:403:LYS:HB3	2.19	0.41
1:A:222:PHE:CZ	1:A:256:ILE:CG2	2.95	0.41
1:A:297:ASP:C	1:A:312:VAL:HG12	2.46	0.41
1:A:488:GLN:O	1:A:492:LYS:HB2	2.20	0.41
1:A:313:VAL:CG2	1:A:567:SER:HB3	2.51	0.41
1:A:310:ILE:N	1:A:310:ILE:CD1	2.84	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:464:GLU:OE1	1:A:476:HIS:ND1	2.50	0.41
1:A:400:GLU:HA	1:A:400:GLU:OE1	2.20	0.41
1:A:451:LYS:O	1:A:451:LYS:HD2	2.21	0.41
1:A:433:THR:HB	1:A:434:PRO:CD	2.44	0.41
1:A:218:TYR:HB3	1:A:220:ILE:HD11	2.02	0.41
1:A:578:LEU:HD12	1:A:578:LEU:N	2.36	0.41
1:A:177:HIS:CD2	1:A:317:PHE:H	2.39	0.40
1:A:312:VAL:HG23	1:A:445:GLU:OE2	2.21	0.40
1:A:221:LYS:HG2	1:A:317:PHE:CG	2.56	0.40

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	357/372 (96%)	334 (94%)	20 (6%)	3 (1%)	16 12

All (3) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	555	LYS
1	A	431	LYS
1	A	551	MET

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	324/334 (97%)	314 (97%)	10 (3%)	35	39

All (10) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	155	ASN
1	A	175	ILE
1	A	203	ARG
1	A	269	LEU
1	A	310	ILE
1	A	398	LEU
1	A	418	LEU
1	A	429	GLU
1	A	456	ILE
1	A	555	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (13) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	155	ASN
1	A	177	HIS
1	A	265	GLN
1	A	279	GLN
1	A	402	ASN
1	A	412	GLN
1	A	422	GLN
1	A	423	ASN
1	A	444	HIS
1	A	473	ASN
1	A	478	ASN
1	A	553	ASN
1	A	560	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 [i](#)

There are no oligosaccharides 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	$\# Z > 2$
2	ALF	A	600	4,1	4,4,4	1.30	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	361/372 (97%)	0.51	47 (13%) 7 7	14, 28, 66, 89	0

All (47) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	398	LEU	6.2
1	A	397	ALA	5.6
1	A	580	TYR	5.5
1	A	554	ILE	5.3
1	A	151	LEU	5.1
1	A	432	PRO	5.0
1	A	433	THR	4.8
1	A	399	GLU	4.5
1	A	539	LYS	4.2
1	A	402	ASN	4.0
1	A	430	GLY	3.9
1	A	431	LYS	3.9
1	A	473	ASN	3.6
1	A	434	PRO	3.6
1	A	579	LEU	3.5
1	A	540	ILE	3.4
1	A	541	ARG	3.3
1	A	467	ILE	3.2
1	A	552	GLY	3.1
1	A	400	GLU	2.8
1	A	553	ASN	2.8
1	A	505	GLY	2.7
1	A	150	ARG	2.7
1	A	211	PRO	2.6
1	A	153	SER	2.6
1	A	233	ILE	2.6
1	A	530	VAL	2.6

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Mol	Chain	Res	Type	RSRZ
1	A	538	ALA	2.6
1	A	209	GLU	2.5
1	A	504	LEU	2.4
1	A	551	MET	2.4
1	A	470	ARG	2.4
1	A	428	ASP	2.3
1	A	256	ILE	2.2
1	A	260	THR	2.2
1	A	529	SER	2.2
1	A	503	PRO	2.2
1	A	472	GLY	2.2
1	A	513	ILE	2.1
1	A	448	ARG	2.1
1	A	549	VAL	2.1
1	A	435	SER	2.1
1	A	429	GLU	2.1
1	A	578	LEU	2.0
1	A	266	ASP	2.0
1	A	427	GLU	2.0
1	A	474	HIS	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, 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
3	MG	A	1	1/1	0.95	0.09	20,20,20,20	0
2	ALF	A	600	5/5	0.96	0.07	19,20,21,24	0

6.5 Other polymers [i](#)

There are no such residues in this entry.