



# Full wwPDB X-ray Structure Validation Report ⓘ

May 14, 2018 – 03:42 PM EDT

PDB ID : 2FH1  
Title : C-terminal half of gelsolin soaked in low calcium at pH 4.5  
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Deposited on : 2005-12-23  
Resolution : 1.55 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](mailto: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.

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

MolProbity : 4.02b-467  
Xtrriage (Phenix) : 1.13  
EDS : rb-20031172  
Percentile statistics : 20171227.v01 (using entries in the PDB archive December 27th 2017)  
Refmac : 5.8.0158  
CCP4 : 7.0 (Gargrove)  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : rb-20031172

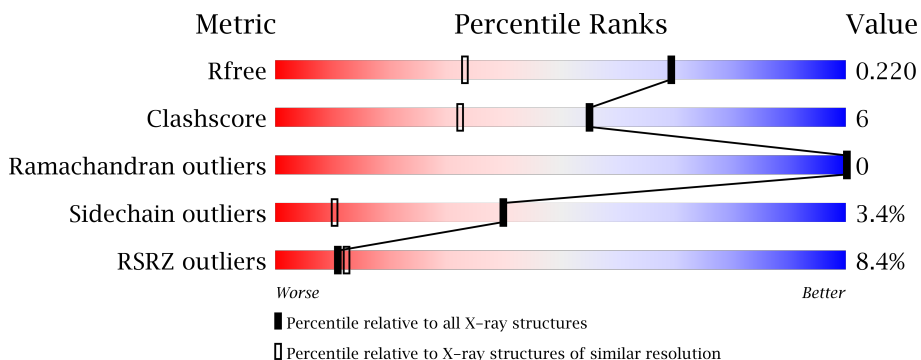
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 1.55 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))
$R_{free}$	111664	1224 (1.56-1.56)
Clashscore	122126	1265 (1.56-1.56)
Ramachandran outliers	120053	1240 (1.56-1.56)
Sidechain outliers	120020	1238 (1.56-1.56)
RSRZ outliers	108989	1207 (1.56-1.56)

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  $\geq 3$ , 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	344	 7% 82% 10% •• 7%
1	B	344	 6% 83% 10% • 6%
1	C	344	 10% 84% 8% • 6%

## 2 Entry composition [i](#)

There are 3 unique types of molecules in this entry. The entry contains 8675 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 Gelsolin.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	321	Total 2486	C 1571	N 425	O 483	S 7	0	0	0
1	B	324	Total 2515	C 1587	N 433	O 489	S 6	0	0	0
1	C	322	Total 2495	C 1576	N 427	O 486	S 6	0	0	0

- Molecule 2 is CALCIUM ION (three-letter code: CA) (formula: Ca).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	B	3	Total 3	Ca 3	0	0
2	A	3	Total 3	Ca 3	0	0
2	C	3	Total 3	Ca 3	0	0

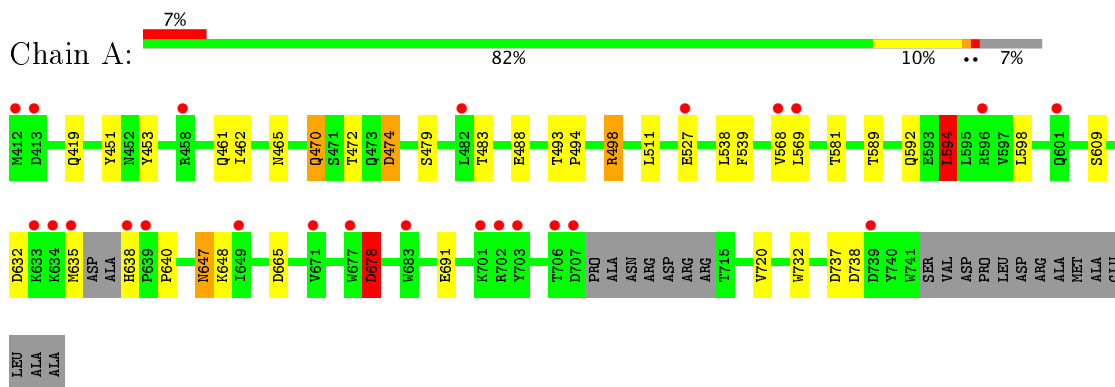
- Molecule 3 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	437	Total 437	O 437	0	0
3	B	416	Total 416	O 416	0	0
3	C	317	Total 317	O 317	0	0

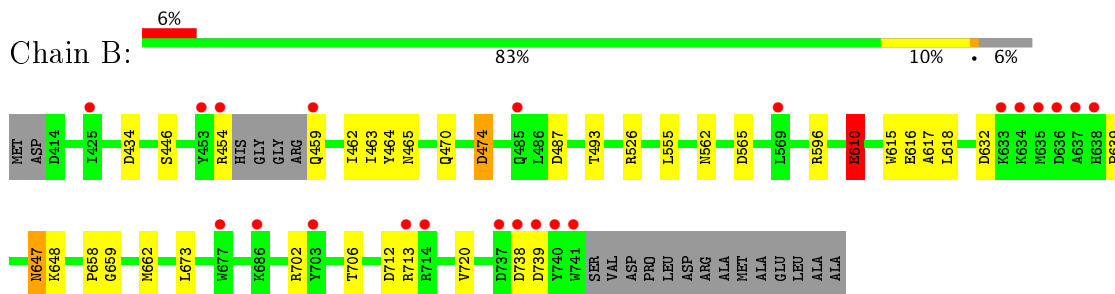
### 3 Residue-property plots [i](#)

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

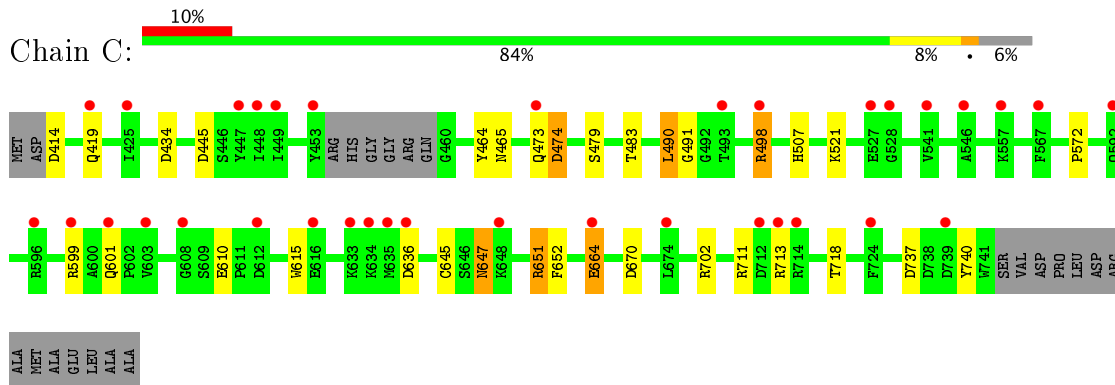
- Molecule 1: Gelsolin



- Molecule 1: Gelsolin



- Molecule 1: Gelsolin



## 4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	84.82Å 90.32Å 156.30Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	19.69 – 1.55 19.64 – 1.55	Depositor EDS
% Data completeness (in resolution range)	99.7 (19.69-1.55) 99.7 (19.64-1.55)	Depositor EDS
$R_{merge}$	(Not available)	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	2.91 (at 1.55Å)	Xtrriage
Refinement program	REFMAC 5.1.24	Depositor
R, $R_{free}$	0.191 , 0.214 0.202 , 0.220	Depositor DCC
$R_{free}$ test set	8728 reflections (5.03%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	21.6	Xtrriage
Anisotropy	0.049	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.38 , 46.3	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.50$ , $\langle L^2 \rangle = 0.33$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
$F_o, F_c$ correlation	0.96	EDS
Total number of atoms	8675	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	26.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.21% of the height of the origin peak. No significant pseudotranslation is detected.*

<sup>1</sup> Intensities estimated from amplitudes.

<sup>2</sup> Theoretical 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: CA

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	0.82	2/2543 (0.1%)	0.87	7/3449 (0.2%)
1	B	0.74	2/2573 (0.1%)	0.87	9/3493 (0.3%)
1	C	0.66	0/2553	0.85	10/3467 (0.3%)
All	All	0.75	4/7669 (0.1%)	0.86	26/10409 (0.2%)

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	691	GLU	CD-OE2	14.26	1.41	1.25
1	B	662	MET	CG-SD	-5.78	1.66	1.81
1	B	610	GLU	CD-OE2	-5.66	1.19	1.25
1	A	691	GLU	CD-OE1	5.44	1.31	1.25

All (26) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	C	636	ASP	CB-CG-OD2	7.47	125.03	118.30
1	C	670	ASP	CB-CG-OD2	7.22	124.80	118.30
1	B	474	ASP	CB-CG-OD2	7.21	124.78	118.30
1	A	474	ASP	CB-CG-OD2	7.19	124.77	118.30
1	C	702	ARG	NE-CZ-NH1	7.04	123.82	120.30
1	A	594	LEU	CB-CG-CD2	6.99	122.88	111.00
1	B	596	ARG	NE-CZ-NH1	6.97	123.78	120.30
1	C	474	ASP	CB-CG-OD2	6.74	124.37	118.30
1	B	434	ASP	CB-CG-OD2	6.70	124.33	118.30
1	C	434	ASP	CB-CG-OD2	6.36	124.02	118.30
1	A	632	ASP	CB-CG-OD2	6.33	124.00	118.30
1	C	737	ASP	CB-CG-OD2	6.31	123.98	118.30
1	C	651	ARG	NE-CZ-NH2	-6.21	117.20	120.30
1	C	445	ASP	CB-CG-OD2	6.17	123.85	118.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	498	ARG	NE-CZ-NH2	-5.87	117.37	120.30
1	B	712	ASP	CB-CG-OD2	5.78	123.50	118.30
1	A	738	ASP	CB-CG-OD2	5.74	123.46	118.30
1	A	737	ASP	CB-CG-OD2	5.65	123.39	118.30
1	A	678	ASP	CB-CG-OD2	5.60	123.34	118.30
1	B	487	ASP	CB-CG-OD2	5.56	123.30	118.30
1	C	702	ARG	NE-CZ-NH2	-5.32	117.64	120.30
1	B	739	ASP	CB-CG-OD2	5.31	123.08	118.30
1	B	565	ASP	CB-CG-OD2	5.12	122.91	118.30
1	C	498	ARG	NE-CZ-NH1	5.08	122.84	120.30
1	B	632	ASP	CB-CG-OD2	5.07	122.86	118.30
1	B	610	GLU	CA-CB-CG	5.05	124.51	113.40

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	2486	0	2405	36	1
1	B	2515	0	2437	27	0
1	C	2495	0	2416	19	0
2	A	3	0	0	0	0
2	B	3	0	0	0	0
2	C	3	0	0	0	0
3	A	437	0	0	24	1
3	B	416	0	0	26	1
3	C	317	0	0	12	0
All	All	8675	0	7258	82	2

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 6.

All (82) 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:581:THR:HB	3:A:2423:HOH:O	1.06	1.20
1:B:648:LYS:HB3	3:B:3410:HOH:O	1.43	1.16
1:C:490:LEU:O	3:C:4314:HOH:O	1.62	1.14
1:B:720:VAL:HB	3:B:3417:HOH:O	1.48	1.11
1:C:479:SER:HB2	3:C:4313:HOH:O	1.62	0.98
1:C:490:LEU:C	3:C:4314:HOH:O	2.01	0.93
1:B:706:THR:HB	3:B:3414:HOH:O	1.68	0.92
1:B:464:TYR:N	3:B:3402:HOH:O	2.06	0.88
1:A:609:SER:HB3	3:A:2425:HOH:O	1.75	0.87
1:B:658:PRO:C	3:B:3411:HOH:O	2.13	0.84
1:A:465:ASN:OD1	1:A:483:THR:HG21	1.76	0.84
1:B:618:LEU:N	3:B:3408:HOH:O	2.09	0.83
1:A:609:SER:CB	3:A:2425:HOH:O	2.27	0.81
1:C:465:ASN:OD1	3:C:4313:HOH:O	2.00	0.80
1:B:446:SER:HB3	3:B:3400:HOH:O	1.83	0.79
1:A:568:VAL:O	3:A:2421:HOH:O	2.03	0.77
1:B:459:GLN:N	3:B:3219:HOH:O	2.17	0.77
1:A:461:GLN:NE2	3:A:2204:HOH:O	2.18	0.76
1:B:639:PRO:HD3	3:B:3409:HOH:O	1.87	0.75
1:B:562:ASN:ND2	3:B:3407:HOH:O	2.19	0.74
1:C:414:ASP:N	3:C:4310:HOH:O	2.21	0.71
1:A:609:SER:OG	3:A:2425:HOH:O	2.07	0.71
1:A:568:VAL:N	3:A:2421:HOH:O	2.26	0.69
1:B:659:GLY:O	3:B:3411:HOH:O	2.11	0.68
1:A:472:THR:OG1	1:A:474:ASP:OD2	2.09	0.66
1:A:465:ASN:ND2	3:A:2100:HOH:O	2.27	0.66
1:A:462:ILE:HG21	3:A:2416:HOH:O	1.96	0.65
1:B:465:ASN:OD1	3:B:3403:HOH:O	2.14	0.64
1:B:616:GLU:C	3:B:3408:HOH:O	2.37	0.63
1:A:462:ILE:CG2	3:A:2416:HOH:O	2.49	0.60
1:A:538:LEU:HD12	3:A:2421:HOH:O	2.02	0.59
1:B:463:ILE:C	3:B:3402:HOH:O	2.39	0.59
1:A:581:THR:CB	3:A:2423:HOH:O	1.89	0.59
1:A:539:PHE:O	3:A:2421:HOH:O	2.16	0.58
1:A:638:HIS:N	3:A:2410:HOH:O	2.37	0.56
1:C:645:CYS:HB3	1:C:652:PHE:CZ	2.40	0.56
1:B:493:THR:HA	3:B:3404:HOH:O	2.06	0.55
1:A:678:ASP:CG	3:A:2201:HOH:O	2.46	0.54
1:B:647:ASN:C	1:B:647:ASN:HD22	2.09	0.54
1:B:446:SER:CB	3:B:3400:HOH:O	2.50	0.52
1:A:465:ASN:CG	1:A:483:THR:HG21	2.31	0.52
1:C:664:GLU:HG2	1:C:740:TYR:OH	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:526:ARG:HB3	3:B:3406:HOH:O	2.09	0.51
1:A:647:ASN:HD22	1:A:647:ASN:C	2.12	0.51
1:B:462:ILE:HG12	3:B:3402:HOH:O	2.10	0.51
1:A:720:VAL:HG12	3:B:3234:HOH:O	2.11	0.50
1:B:562:ASN:CG	3:B:3407:HOH:O	2.50	0.49
1:A:665:ASP:HB2	3:A:2432:HOH:O	2.13	0.49
1:C:647:ASN:C	1:C:647:ASN:HD22	2.15	0.49
1:A:479:SER:O	1:A:483:THR:HG23	2.12	0.48
1:C:521:LYS:NZ	3:C:4315:HOH:O	2.18	0.48
1:B:713:ARG:HD3	3:B:3416:HOH:O	2.14	0.46
1:A:539:PHE:CG	1:A:594:LEU:HD11	2.50	0.46
1:A:665:ASP:CB	3:A:2432:HOH:O	2.64	0.46
1:B:470:GLN:NE2	3:B:3341:HOH:O	2.48	0.46
1:C:479:SER:CB	3:C:4313:HOH:O	2.40	0.46
1:C:718:THR:OG1	3:C:4319:HOH:O	2.21	0.46
1:A:461:GLN:HB2	3:A:2204:HOH:O	2.15	0.46
1:A:493:THR:N	1:A:494:PRO:CD	2.78	0.46
1:A:635:MET:HE3	3:A:2407:HOH:O	2.15	0.45
1:A:640:PRO:HG2	1:A:732:TRP:CE3	2.52	0.45
1:B:702:ARG:HB2	3:B:3412:HOH:O	2.16	0.45
1:B:738:ASP:N	3:B:3419:HOH:O	2.51	0.44
1:C:491:GLY:N	3:C:4314:HOH:O	2.42	0.43
1:C:491:GLY:CA	3:C:4314:HOH:O	2.66	0.43
1:B:659:GLY:N	3:B:3411:HOH:O	2.44	0.43
1:C:572:PRO:HD3	3:C:4317:HOH:O	2.17	0.43
1:C:465:ASN:HD21	1:C:483:THR:CG2	2.32	0.43
1:A:488:GLU:HG3	3:A:2233:HOH:O	2.18	0.43
1:C:610:GLU:HG3	1:C:615:TRP:CZ2	2.54	0.43
1:A:465:ASN:ND2	1:A:483:THR:HG21	2.33	0.42
1:C:414:ASP:OD2	1:C:507:HIS:HE1	2.01	0.42
1:C:711:ARG:HB2	3:C:4252:HOH:O	2.19	0.42
1:C:464:TYR:OH	1:C:507:HIS:HD2	2.03	0.42
1:A:494:PRO:CG	3:A:2417:HOH:O	2.67	0.42
1:B:617:ALA:N	3:B:3408:HOH:O	2.53	0.41
1:B:610:GLU:CG	1:B:615:TRP:CZ2	3.03	0.41
1:A:451:TYR:CE2	1:A:453:TYR:HB3	2.55	0.41
1:A:648:LYS:HE3	3:A:2136:HOH:O	2.20	0.41
1:A:470:GLN:NE2	3:A:2206:HOH:O	2.53	0.40
1:A:589:THR:HA	1:A:592:GLN:HE21	1.87	0.40
1:A:494:PRO:HG2	3:A:2417:HOH:O	2.21	0.40

All (2) symmetry-related close contacts are listed below. The label for Atom-2 includes the sym-

metry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:498:ARG:NH2	3:B:3110:HOH:O[1_455]	1.67	0.53
3:A:2413:HOH:O	3:A:2436:HOH:O[3_445]	1.77	0.43

## 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	315/344 (92%)	312 (99%)	3 (1%)	0	100	100
1	B	320/344 (93%)	317 (99%)	3 (1%)	0	100	100
1	C	318/344 (92%)	314 (99%)	4 (1%)	0	100	100
All	All	953/1032 (92%)	943 (99%)	10 (1%)	0	100	100

There are no Ramachandran outliers to report.

### 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	257/274 (94%)	248 (96%)	9 (4%)	39	10
1	B	260/274 (95%)	254 (98%)	6 (2%)	53	22
1	C	258/274 (94%)	247 (96%)	11 (4%)	32	5
All	All	775/822 (94%)	749 (97%)	26 (3%)	40	10

All (26) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	419	GLN
1	A	470	GLN
1	A	511	LEU
1	A	527	GLU
1	A	569	LEU
1	A	594	LEU
1	A	598	LEU
1	A	647	ASN
1	A	678	ASP
1	B	454	ARG
1	B	474	ASP
1	B	555	LEU
1	B	610	GLU
1	B	647	ASN
1	B	673	LEU
1	C	419	GLN
1	C	473	GLN
1	C	474	ASP
1	C	490	LEU
1	C	498	ARG
1	C	599	ARG
1	C	601	GLN
1	C	647	ASN
1	C	651	ARG
1	C	664	GLU
1	C	713	ARG

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (19) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	452	ASN
1	A	470	GLN
1	A	592	GLN
1	A	647	ASN
1	B	452	ASN
1	B	461	GLN
1	B	465	ASN
1	B	470	GLN
1	B	592	GLN
1	B	604	GLN
1	B	647	ASN
1	C	452	ASN
1	C	461	GLN

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Mol	Chain	Res	Type
1	C	465	ASN
1	C	470	GLN
1	C	473	GLN
1	C	507	HIS
1	C	638	HIS
1	C	647	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 carbohydrates in this entry.

### 5.6 Ligand geometry [i](#)

Of 9 ligands modelled in this entry, 9 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<sup>th</sup> 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 <sup>2</sup> )	Q<0.9
1	A	321/344 (93%)	0.37	24 (7%) 14 16	15, 21, 35, 50	0
1	B	324/344 (94%)	0.39	22 (6%) 17 20	14, 22, 35, 51	0
1	C	322/344 (93%)	0.58	35 (10%) 5 5	19, 27, 38, 48	0
All	All	967/1032 (93%)	0.45	81 (8%) 11 12	14, 23, 37, 51	0

All (81) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	636	ASP	10.8
1	C	635	MET	10.0
1	B	454	ARG	9.1
1	A	635	MET	9.0
1	A	703	TYR	8.1
1	B	635	MET	7.1
1	B	634	LYS	7.0
1	C	453	TYR	6.9
1	A	638	HIS	6.6
1	C	713	ARG	5.9
1	B	741	TRP	5.8
1	B	739	ASP	5.6
1	B	637	ALA	5.5
1	B	453	TYR	5.4
1	C	633	LYS	5.4
1	B	459	GLN	5.2
1	B	638	HIS	4.9
1	B	713	ARG	4.7
1	A	702	ARG	4.7
1	A	634	LYS	4.6
1	A	413	ASP	4.3
1	C	599	ARG	4.3
1	C	528	GLY	4.3

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	B	740	TYR	4.3
1	C	634	LYS	4.2
1	C	601	GLN	4.1
1	C	714	ARG	4.0
1	C	527	GLU	3.9
1	C	449	ILE	3.9
1	A	412	MET	3.9
1	A	633	LYS	3.8
1	C	739	ASP	3.7
1	C	636	ASP	3.4
1	A	739	ASP	3.3
1	A	707	ASP	3.3
1	A	527	GLU	3.2
1	B	677	TRP	3.1
1	B	633	LYS	3.1
1	A	706	THR	3.1
1	A	458	ARG	3.1
1	A	601	GLN	3.0
1	B	425	ILE	3.0
1	C	596	ARG	2.9
1	C	447	TYR	2.9
1	C	448	ILE	2.9
1	A	596	ARG	2.9
1	A	677	TRP	2.9
1	C	419	GLN	2.9
1	B	737	ASP	2.8
1	C	567	PHE	2.7
1	C	712	ASP	2.7
1	C	648	LYS	2.6
1	A	569	LEU	2.6
1	C	608	GLY	2.5
1	C	493	THR	2.5
1	B	738	ASP	2.4
1	B	714	ARG	2.4
1	C	473	GLN	2.4
1	A	701	LYS	2.4
1	A	639	PRO	2.4
1	B	485	GLN	2.3
1	C	592	GLN	2.3
1	A	649	ILE	2.3
1	A	671	VAL	2.3
1	B	569	LEU	2.3

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Mol	Chain	Res	Type	RSRZ
1	B	686	LYS	2.3
1	A	482	LEU	2.2
1	C	425	ILE	2.2
1	C	616	GLU	2.2
1	C	541	VAL	2.2
1	C	674	LEU	2.2
1	C	603	VAL	2.2
1	C	498	ARG	2.1
1	B	703	TYR	2.1
1	C	557	LYS	2.1
1	C	724	PHE	2.1
1	C	546	ALA	2.1
1	A	683	TRP	2.0
1	C	612	ASP	2.0
1	C	664	GLU	2.0
1	A	568	VAL	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 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. The B-factors column lists the minimum, median, 95<sup>th</sup> 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 <sup>2</sup> )	Q<0.9
2	CA	C	4001	1/1	0.93	0.06	25,25,25,25	0
2	CA	C	4003	1/1	0.98	0.14	25,25,25,25	0
2	CA	A	2001	1/1	0.99	0.05	19,19,19,19	0
2	CA	B	3003	1/1	0.99	0.03	22,22,22,22	0
2	CA	C	4002	1/1	0.99	0.03	21,21,21,21	0
2	CA	B	3002	1/1	0.99	0.08	17,17,17,17	0
2	CA	B	3001	1/1	1.00	0.04	18,18,18,18	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors( $\text{\AA}^2$ )	Q<0.9
2	CA	A	2002	1/1	1.00	0.08	17,17,17,17	0
2	CA	A	2003	1/1	1.00	0.06	17,17,17,17	0

## 6.5 Other polymers [i](#)

There are no such residues in this entry.