



# Full wwPDB X-ray Structure Validation Report ⓘ

Oct 8, 2024 – 04:05 AM EDT

PDB ID : 3O0Z  
Title : Crystal structure of a coiled-coil domain from human ROCK I  
Authors : Tu, D.; Eck, M.J.  
Deposited on : 2010-07-20  
Resolution : 2.33 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.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

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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  
Mogul : 2022.3.0, CSD as543be (2022)  
Xtriage (Phenix) : 1.20.1  
EDS : 3.0  
Percentile statistics : 20231227.v01 (using entries in the PDB archive December 27th 2023)  
CCP4 : 9.0.003 (Gargrove)  
Density-Fitness : 1.0.11  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.39

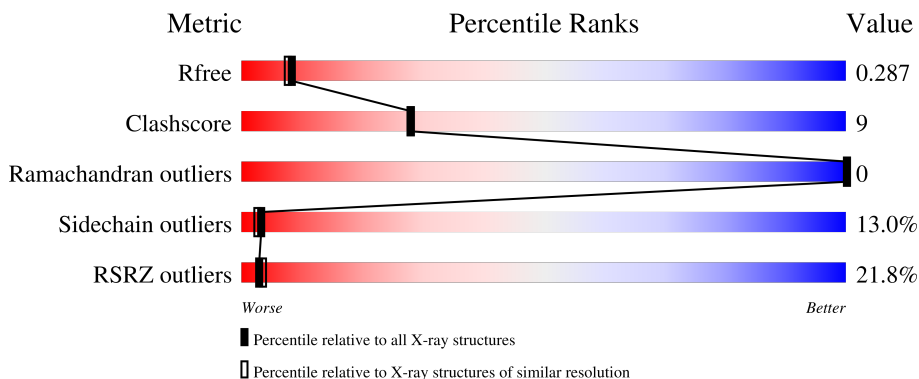
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 2.33 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))
$R_{free}$	164625	2747 (2.36-2.32)
Clashscore	180529	2936 (2.36-2.32)
Ramachandran outliers	177936	2912 (2.36-2.32)
Sidechain outliers	177891	2912 (2.36-2.32)
RSRZ outliers	164620	2747 (2.36-2.32)

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  $\geq 3$ , 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	168	 12% 70% 17% 1% 1%
1	B	168	 21% 69% 15% 7% 1%
1	C	168	 27% 63% 26% 5% 1%
1	D	168	 19% 71% 21% 1% 1%

## 2 Entry composition

There are 2 unique types of molecules in this entry. The entry contains 5275 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 Rho-associated protein kinase 1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	Se			
1	A	152	1282	778	238	261	5	0	3	0
1	B	152	1286	777	242	262	5	0	4	0
1	C	159	1335	809	247	272	7	0	3	0
1	D	160	1345	815	251	273	6	0	4	0

There are 8 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	533	GLY	-	expression tag	UNP Q13464
A	534	SER	-	expression tag	UNP Q13464
B	533	GLY	-	expression tag	UNP Q13464
B	534	SER	-	expression tag	UNP Q13464
C	533	GLY	-	expression tag	UNP Q13464
C	534	SER	-	expression tag	UNP Q13464
D	533	GLY	-	expression tag	UNP Q13464
D	534	SER	-	expression tag	UNP Q13464

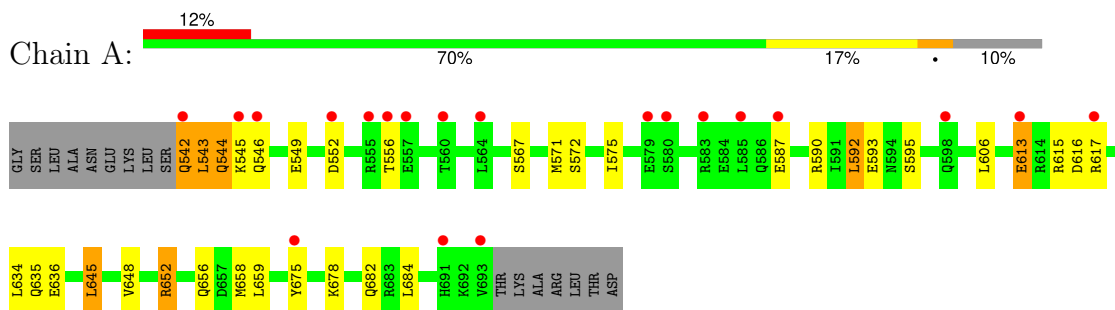
- Molecule 2 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	A	7	Total 7	O 7	0	0
2	B	7	Total 7	O 7	0	0
2	C	9	Total 9	O 9	0	0
2	D	4	Total 4	O 4	0	0

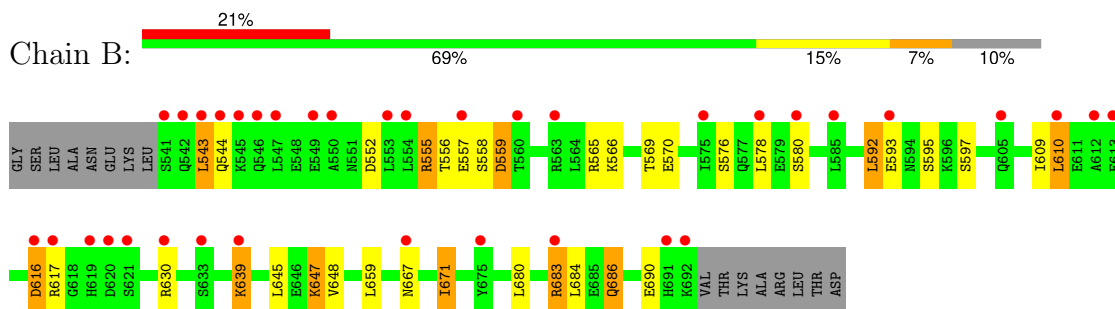
### 3 Residue-property plots [i](#)

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.

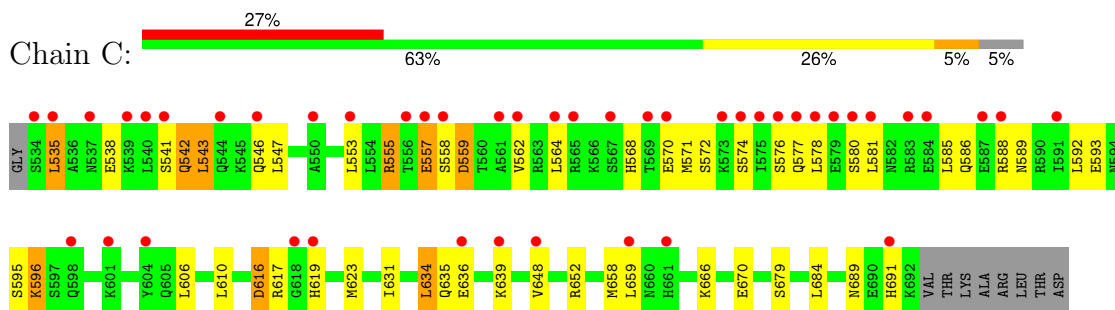
- Molecule 1: Rho-associated protein kinase 1



- Molecule 1: Rho-associated protein kinase 1

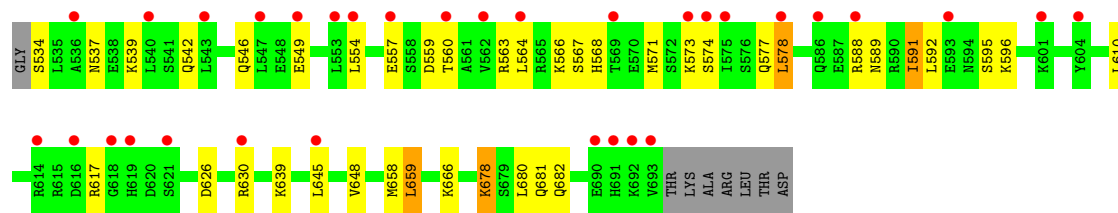


- Molecule 1: Rho-associated protein kinase 1



- Molecule 1: Rho-associated protein kinase 1





## 4 Data and refinement statistics

Property	Value	Source
Space group	P 43 21 2	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	84.59Å 84.59Å 340.13Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	42.13 – 2.33 42.13 – 2.33	Depositor EDS
% Data completeness (in resolution range)	67.9 (42.13-2.33) 69.3 (42.13-2.33)	Depositor EDS
$R_{merge}$	0.12	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	3.31 (at 2.32Å)	Xtrriage
Refinement program	PHENIX (phenix.refine: 1.6_289)	Depositor
R, $R_{free}$	0.239 , 0.286 0.231 , 0.287	Depositor DCC
$R_{free}$ test set	1997 reflections (5.32%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	30.2	Xtrriage
Anisotropy	0.981	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.32 , 70.1	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.50$ , $\langle L^2 \rangle = 0.34$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
$F_o, F_c$ correlation	0.93	EDS
Total number of atoms	5275	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	79.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 13.39% 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](#)

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	0.46	0/1297	0.63	2/1725 (0.1%)
1	B	0.43	0/1303	0.55	0/1731
1	C	0.43	0/1352	0.59	0/1796
1	D	0.41	0/1362	0.52	0/1810
All	All	0.43	0/5314	0.57	2/7062 (0.0%)

There are no bond length outliers.

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	617	ARG	NE-CZ-NH1	8.56	124.58	120.30
1	A	684	LEU	CA-CB-CG	5.08	126.99	115.30

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	1282	0	1282	29	0
1	B	1286	0	1290	26	0
1	C	1335	0	1344	34	0
1	D	1345	0	1357	28	0
2	A	7	0	0	0	0
2	B	7	0	0	0	0
2	C	9	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	D	4	0	0	0	0
All	All	5275	0	5273	93	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 9.

All (93) 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:C:617:ARG:HD2	1:D:617:ARG:HG3	1.54	0.87
1:D:678:LYS:HA	1:D:678:LYS:HE2	1.67	0.76
1:A:652:ARG:CG	1:A:652:ARG:HH11	2.00	0.75
1:A:652:ARG:HH11	1:A:652:ARG:HG2	1.55	0.72
1:A:552:ASP:O	1:A:556:THR:HG23	1.93	0.69
1:B:565:ARG:O	1:B:569:THR:HG23	1.93	0.69
1:C:666:LYS:HG3	1:D:666:LYS:HB2	1.77	0.66
1:C:658[A]:MSE:HE2	1:D:659:LEU:HD11	1.78	0.65
1:C:593:GLU:OE2	1:D:592:LEU:HD11	1.98	0.63
1:C:535:LEU:HD22	1:C:538:GLU:OE1	2.00	0.62
1:C:559:ASP:O	1:C:562:VAL:HG12	2.00	0.62
1:C:619:HIS:O	1:C:623[A]:MSE:HG3	2.00	0.62
1:A:652:ARG:HH11	1:A:652:ARG:CB	2.13	0.61
1:C:581:LEU:O	1:C:585:LEU:HG	2.01	0.61
1:C:631:ILE:O	1:C:635:GLN:HG3	2.03	0.58
1:A:635:GLN:HE21	1:B:630[B]:ARG:HH21	1.51	0.57
1:A:635:GLN:HE21	1:B:630[B]:ARG:NH2	2.03	0.57
1:C:617:ARG:HD2	1:D:617:ARG:CG	2.33	0.55
1:A:592:LEU:HD13	1:B:592:LEU:HB3	1.88	0.55
1:C:648:VAL:HG12	1:D:648:VAL:HG12	1.89	0.55
1:A:616:ASP:HB3	1:B:617:ARG:HH12	1.71	0.55
1:A:652:ARG:HG2	1:A:652:ARG:NH1	2.19	0.54
1:B:683:ARG:HD2	1:B:683:ARG:C	2.28	0.54
1:B:647:LYS:NZ	1:B:647:LYS:HB2	2.22	0.54
1:A:545:LYS:O	1:A:549:GLU:HG3	2.08	0.53
1:A:571:MSE:O	1:A:575:ILE:HD12	2.08	0.53
1:B:555:ARG:HH11	1:B:555:ARG:HB2	1.74	0.53
1:A:648:VAL:HG12	1:B:648:VAL:HG12	1.90	0.52
1:D:559:ASP:O	1:D:563:ARG:HG2	2.09	0.52
1:B:686:GLN:O	1:B:690:GLU:HG3	2.09	0.52
1:C:542:GLN:O	1:C:546:GLN:HG3	2.09	0.51
1:D:534:SER:HA	1:D:537:ASN:HB2	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:595:SER:OG	1:D:596:LYS:HD3	2.11	0.51
1:A:543:LEU:HD23	1:A:543:LEU:N	2.26	0.51
1:C:571[B]:MSE:SE	1:D:571[B]:MSE:SE	3.30	0.50
1:A:542:GLN:CD	1:A:544:GLN:HG3	2.31	0.50
1:C:568:HIS:O	1:C:572:SER:HB2	2.11	0.50
1:B:667:ASN:O	1:B:671:ILE:HD12	2.12	0.49
1:C:652:ARG:NH1	1:C:652:ARG:HG2	2.27	0.49
1:D:626:ASP:O	1:D:630[A]:ARG:HG3	2.12	0.48
1:A:592:LEU:O	1:A:595:SER:HB3	2.13	0.48
1:A:616:ASP:HB3	1:B:617:ARG:NH1	2.28	0.48
1:A:645:LEU:HD23	1:A:645:LEU:HA	1.59	0.48
1:C:588:ARG:O	1:C:592:LEU:HG	2.14	0.48
1:B:543:LEU:HD23	1:B:543:LEU:C	2.34	0.47
1:C:617:ARG:HB3	1:D:617:ARG:NH1	2.30	0.47
1:A:542:GLN:NE2	1:A:544:GLN:CG	2.77	0.47
1:A:587:GLU:OE1	1:A:590:ARG:NH1	2.48	0.47
1:A:656:GLN:HE22	1:A:659:LEU:HD23	1.79	0.47
1:D:539:LYS:HA	1:D:539:LYS:HD2	1.70	0.46
1:A:606:LEU:HD11	1:B:610:LEU:HD13	1.97	0.46
1:C:570:GLU:O	1:C:574:SER:HB2	2.16	0.46
1:A:658[B]:MSE:HE2	1:B:659:LEU:HD21	1.97	0.46
1:C:596:LYS:HE3	1:D:595:SER:OG	2.16	0.46
1:D:542:GLN:O	1:D:546:GLN:HG3	2.16	0.45
1:D:681:GLN:HE21	1:D:682:GLN:HG3	1.80	0.45
1:A:635:GLN:NE2	1:B:630[B]:ARG:HH21	2.14	0.45
1:B:647:LYS:HG2	1:B:648:VAL:N	2.30	0.45
1:C:666:LYS:O	1:C:670:GLU:HG3	2.17	0.45
1:A:592:LEU:HD11	1:B:593:GLU:HG3	1.98	0.45
1:C:553:LEU:O	1:C:557:GLU:HB3	2.16	0.45
1:D:557:GLU:HA	1:D:560:THR:OG1	2.16	0.45
1:C:666:LYS:HB3	1:C:666:LYS:HE2	1.80	0.45
1:A:613:GLU:OE1	1:B:610:LEU:HD23	2.18	0.44
1:B:555:ARG:O	1:B:559:ASP:HB2	2.17	0.44
1:C:578:LEU:HD21	1:D:578:LEU:HB3	1.99	0.44
1:B:617:ARG:O	1:B:617:ARG:HG3	2.18	0.43
1:A:544:GLN:HG3	1:A:544:GLN:H	1.58	0.43
1:B:566:LYS:O	1:B:570:GLU:HG3	2.19	0.43
1:D:568:HIS:HA	1:D:571[B]:MSE:HE2	2.00	0.43
1:C:577:GLN:O	1:C:580:SER:HB2	2.19	0.43
1:B:592:LEU:HD12	1:B:592:LEU:HA	1.70	0.43
1:D:554:LEU:HD23	1:D:554:LEU:HA	1.89	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:543:LEU:HD23	1:C:543:LEU:HA	1.84	0.42
1:D:573:LYS:HD2	1:D:573:LYS:C	2.39	0.42
1:C:555:ARG:HA	1:C:555:ARG:HD3	1.65	0.41
1:D:568:HIS:ND1	1:D:568:HIS:C	2.73	0.41
1:C:691:HIS:O	1:C:691:HIS:CG	2.73	0.41
1:C:589:ASN:CB	1:D:589:ASN:HD21	2.33	0.41
1:C:652:ARG:HG2	1:C:652:ARG:HH11	1.86	0.41
1:D:573:LYS:O	1:D:577:GLN:HG3	2.20	0.41
1:C:589:ASN:HB2	1:D:589:ASN:HD21	1.86	0.41
1:C:616:ASP:O	1:C:617:ARG:C	2.57	0.41
1:A:652:ARG:HH11	1:A:652:ARG:HB3	1.84	0.41
1:C:639:LYS:HE2	1:C:639:LYS:HB3	1.72	0.41
1:A:544:GLN:NE2	1:A:545:LYS:HG3	2.36	0.41
1:D:591:ILE:HG22	1:D:592:LEU:N	2.36	0.41
1:C:634:LEU:HD12	1:C:634:LEU:HA	1.96	0.40
1:B:639:LYS:HD2	1:B:639:LYS:HA	1.59	0.40
1:B:684:LEU:HA	1:B:684:LEU:HD23	1.87	0.40
1:B:616:ASP:N	1:B:616:ASP:OD1	2.53	0.40
1:A:678:LYS:HE3	1:A:678:LYS:HB2	1.96	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	153/168 (91%)	151 (99%)	2 (1%)	0	100	100
1	B	154/168 (92%)	151 (98%)	3 (2%)	0	100	100
1	C	161/168 (96%)	156 (97%)	5 (3%)	0	100	100
1	D	162/168 (96%)	160 (99%)	2 (1%)	0	100	100
All	All	630/672 (94%)	618 (98%)	12 (2%)	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	146/153 (95%)	129 (88%)	17 (12%)	4	3
1	B	147/153 (96%)	123 (84%)	24 (16%)	2	1
1	C	153/153 (100%)	131 (86%)	22 (14%)	2	2
1	D	154/153 (101%)	140 (91%)	14 (9%)	7	6
All	All	600/612 (98%)	523 (87%)	77 (13%)	3	3

All (77) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	542	GLN
1	A	543	LEU
1	A	544	GLN
1	A	546	GLN
1	A	567	SER
1	A	572	SER
1	A	592	LEU
1	A	593	GLU
1	A	613	GLU
1	A	615	ARG
1	A	634	LEU
1	A	636	GLU
1	A	645	LEU
1	A	652	ARG
1	A	675[A]	TYR
1	A	675[B]	TYR
1	A	682	GLN
1	B	543	LEU
1	B	544	GLN
1	B	552	ASP
1	B	555	ARG
1	B	556	THR

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	B	557	GLU
1	B	558	SER
1	B	559	ASP
1	B	576	SER
1	B	578	LEU
1	B	580	SER
1	B	592	LEU
1	B	595	SER
1	B	597	SER
1	B	609	ILE
1	B	610	LEU
1	B	616	ASP
1	B	639	LYS
1	B	645	LEU
1	B	647	LYS
1	B	671	ILE
1	B	680	LEU
1	B	683	ARG
1	B	686	GLN
1	C	535	LEU
1	C	541	SER
1	C	542	GLN
1	C	543	LEU
1	C	547	LEU
1	C	555	ARG
1	C	557	GLU
1	C	558	SER
1	C	559	ASP
1	C	564	LEU
1	C	576	SER
1	C	586	GLN
1	C	596	LYS
1	C	606	LEU
1	C	610	LEU
1	C	616	ASP
1	C	634	LEU
1	C	636	GLU
1	C	659	LEU
1	C	679	SER
1	C	684	LEU
1	C	689	ASN
1	D	549	GLU

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Mol	Chain	Res	Type
1	D	564	LEU
1	D	566	LYS
1	D	567	SER
1	D	574	SER
1	D	578	LEU
1	D	588	ARG
1	D	591	ILE
1	D	610	LEU
1	D	639	LYS
1	D	645	LEU
1	D	659	LEU
1	D	678	LYS
1	D	680	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (25) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	582	ASN
1	A	589	ASN
1	A	628	GLN
1	A	635	GLN
1	A	644	ASN
1	A	656	GLN
1	A	681	GLN
1	B	577	GLN
1	B	582	ASN
1	B	586	GLN
1	B	589	ASN
1	B	605	GLN
1	C	582	ASN
1	C	589	ASN
1	C	598	GLN
1	D	542	GLN
1	D	551	ASN
1	D	577	GLN
1	D	589	ASN
1	D	635	GLN
1	D	644	ASN
1	D	656	GLN
1	D	661	HIS
1	D	681	GLN
1	D	686	GLN

### 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, 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	149/168 (88%)	0.92	20 (13%) 8 11	27, 63, 113, 140	1 (0%)
1	B	149/168 (88%)	1.25	36 (24%) 2 3	33, 77, 139, 165	2 (1%)
1	C	156/168 (92%)	1.41	45 (28%) 1 1	40, 76, 127, 147	0
1	D	157/168 (93%)	1.29	32 (20%) 3 4	31, 82, 119, 145	1 (0%)
All	All	611/672 (90%)	1.22	133 (21%) 3 3	27, 75, 125, 165	4 (0%)

All (133) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	D	693	VAL	7.2
1	C	575	ILE	6.9
1	C	581	LEU	6.3
1	A	583	ARG	5.5
1	B	692	LYS	5.3
1	B	544	GLN	4.9
1	A	693	VAL	4.6
1	C	535	LEU	4.3
1	B	630[A]	ARG	4.3
1	C	569	THR	4.1
1	B	617	ARG	4.1
1	B	691	HIS	4.1
1	C	578	LEU	4.0
1	D	574	SER	4.0
1	B	613	GLU	4.0
1	A	555	ARG	3.9
1	C	534	SER	3.9
1	C	691	HIS	3.9
1	C	591	ILE	3.8
1	C	557	GLU	3.8
1	D	540	LEU	3.8

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Mol	Chain	Res	Type	RSRZ
1	D	575	ILE	3.8
1	D	586	GLN	3.6
1	D	553	LEU	3.6
1	B	575	ILE	3.5
1	B	560	THR	3.5
1	D	692	LYS	3.5
1	D	588	ARG	3.4
1	B	543	LEU	3.4
1	C	540	LEU	3.3
1	B	545	LYS	3.3
1	B	541	SER	3.3
1	B	549	GLU	3.3
1	B	553	LEU	3.3
1	D	619	HIS	3.2
1	D	569	THR	3.2
1	D	593	GLU	3.2
1	D	614	ARG	3.1
1	A	691	HIS	3.1
1	B	612	ALA	3.1
1	B	547	LEU	3.1
1	B	550	ALA	3.1
1	D	604	TYR	3.1
1	A	617	ARG	3.1
1	D	560	THR	3.0
1	A	580	SER	3.0
1	C	562	VAL	3.0
1	A	587	GLU	3.0
1	D	621	SER	3.0
1	D	578	LEU	2.9
1	C	583	ARG	2.9
1	C	636	GLU	2.9
1	C	565	ARG	2.9
1	A	585	LEU	2.8
1	C	537	ASN	2.8
1	A	557	GLU	2.8
1	A	546	GLN	2.7
1	C	584	GLU	2.7
1	C	619	HIS	2.7
1	D	564	LEU	2.7
1	A	579	GLU	2.7
1	C	539	LYS	2.7
1	C	573	LYS	2.7

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	D	557	GLU	2.7
1	A	598	GLN	2.7
1	D	690	GLU	2.6
1	B	546	GLN	2.6
1	C	588	ARG	2.6
1	D	547	LEU	2.6
1	C	574	SER	2.6
1	A	560	THR	2.6
1	C	618	GLY	2.6
1	D	536	ALA	2.6
1	A	556	THR	2.6
1	B	542	GLN	2.6
1	B	563	ARG	2.6
1	B	610	LEU	2.5
1	B	557	GLU	2.5
1	D	618	GLY	2.5
1	C	553	LEU	2.5
1	B	675	TYR	2.5
1	C	604	TYR	2.4
1	D	616	ASP	2.4
1	C	550	ALA	2.4
1	D	691	HIS	2.4
1	C	556	THR	2.4
1	B	621	SER	2.4
1	C	587	GLU	2.4
1	C	598	GLN	2.4
1	D	562	VAL	2.3
1	A	613	GLU	2.3
1	C	661	HIS	2.3
1	C	577	GLN	2.3
1	D	645	LEU	2.3
1	C	541	SER	2.3
1	C	567	SER	2.3
1	B	578	LEU	2.3
1	B	619	HIS	2.3
1	B	554	LEU	2.3
1	D	554	LEU	2.3
1	C	546	GLN	2.2
1	B	620	ASP	2.2
1	B	667	ASN	2.2
1	C	648	VAL	2.2
1	D	543	LEU	2.2

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Mol	Chain	Res	Type	RSRZ
1	D	630[A]	ARG	2.2
1	B	633	SER	2.2
1	C	579	GLU	2.2
1	B	683	ARG	2.2
1	A	675[A]	TYR	2.1
1	D	601	LYS	2.1
1	C	570	GLU	2.1
1	C	576	SER	2.1
1	D	549	GLU	2.1
1	C	580	SER	2.1
1	A	542	GLN	2.1
1	B	605	GLN	2.1
1	C	639	LYS	2.1
1	C	558	SER	2.1
1	B	639	LYS	2.1
1	D	573	LYS	2.1
1	A	564	LEU	2.1
1	C	659	LEU	2.1
1	A	552	ASP	2.0
1	B	616	ASP	2.0
1	C	601	LYS	2.0
1	B	585	LEU	2.0
1	C	564	LEU	2.0
1	B	593	GLU	2.0
1	C	561	ALA	2.0
1	A	545	LYS	2.0
1	B	580	SER	2.0
1	C	544	GLN	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 monosaccharides 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.