



# Full wwPDB X-ray Structure Validation Report ⓘ

Oct 24, 2024 – 10:31 AM EDT

PDB ID : 2R6I  
Title : Crystal structure of Atu1473 protein, a putative chaperone from *Agrobacterium tumefaciens*  
Authors : Osipiuk, J.; Xu, X.; Zheng, H.; Savchenko, A.; Edwards, A.M.; Joachimiak, A.; Midwest Center for Structural Genomics (MCSG)  
Deposited on : 2007-09-05  
Resolution : 2.59 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

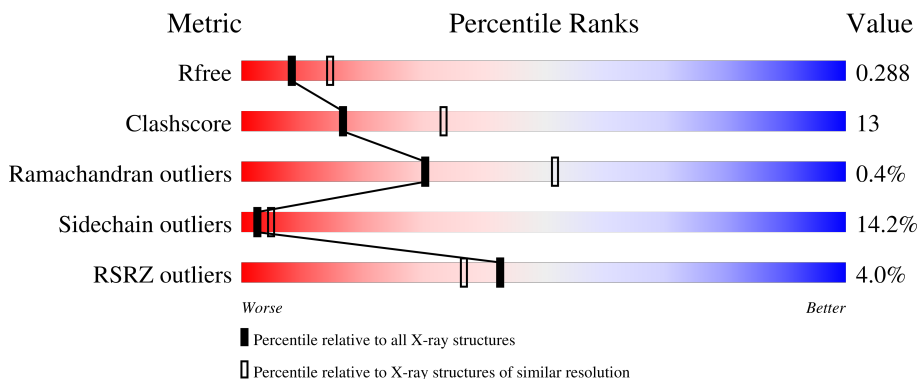
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 2.59 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	3775 (2.60-2.60)
Clashscore	180529	4181 (2.60-2.60)
Ramachandran outliers	177936	4129 (2.60-2.60)
Sidechain outliers	177891	4129 (2.60-2.60)
RSRZ outliers	164620	3775 (2.60-2.60)

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	284	
1	B	284	

## 2 Entry composition i

There are 2 unique types of molecules in this entry. The entry contains 4242 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 Atu1473.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
			Total	C	N	O	S	Se			
1	A	268	2106	1336	360	403	1	6	0	1	0
1	B	268	2106	1336	360	403	1	6	0	1	0

There are 46 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-20	MSE	-	expression tag	UNP Q8UFC5
A	-19	GLY	-	expression tag	UNP Q8UFC5
A	-18	SER	-	expression tag	UNP Q8UFC5
A	-17	SER	-	expression tag	UNP Q8UFC5
A	-16	HIS	-	expression tag	UNP Q8UFC5
A	-15	HIS	-	expression tag	UNP Q8UFC5
A	-14	HIS	-	expression tag	UNP Q8UFC5
A	-13	HIS	-	expression tag	UNP Q8UFC5
A	-12	HIS	-	expression tag	UNP Q8UFC5
A	-11	HIS	-	expression tag	UNP Q8UFC5
A	-10	SER	-	expression tag	UNP Q8UFC5
A	-9	SER	-	expression tag	UNP Q8UFC5
A	-8	GLY	-	expression tag	UNP Q8UFC5
A	-7	ARG	-	expression tag	UNP Q8UFC5
A	-6	GLU	-	expression tag	UNP Q8UFC5
A	-5	ASN	-	expression tag	UNP Q8UFC5
A	-4	LEU	-	expression tag	UNP Q8UFC5
A	-3	TYR	-	expression tag	UNP Q8UFC5
A	-2	PHE	-	expression tag	UNP Q8UFC5
A	-1	GLN	-	expression tag	UNP Q8UFC5
A	0	GLY	-	expression tag	UNP Q8UFC5
A	262	GLY	-	expression tag	UNP Q8UFC5
A	263	SER	-	expression tag	UNP Q8UFC5
B	-20	MSE	-	expression tag	UNP Q8UFC5
B	-19	GLY	-	expression tag	UNP Q8UFC5

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Chain	Residue	Modelled	Actual	Comment	Reference
B	-18	SER	-	expression tag	UNP Q8UFC5
B	-17	SER	-	expression tag	UNP Q8UFC5
B	-16	HIS	-	expression tag	UNP Q8UFC5
B	-15	HIS	-	expression tag	UNP Q8UFC5
B	-14	HIS	-	expression tag	UNP Q8UFC5
B	-13	HIS	-	expression tag	UNP Q8UFC5
B	-12	HIS	-	expression tag	UNP Q8UFC5
B	-11	HIS	-	expression tag	UNP Q8UFC5
B	-10	SER	-	expression tag	UNP Q8UFC5
B	-9	SER	-	expression tag	UNP Q8UFC5
B	-8	GLY	-	expression tag	UNP Q8UFC5
B	-7	ARG	-	expression tag	UNP Q8UFC5
B	-6	GLU	-	expression tag	UNP Q8UFC5
B	-5	ASN	-	expression tag	UNP Q8UFC5
B	-4	LEU	-	expression tag	UNP Q8UFC5
B	-3	TYR	-	expression tag	UNP Q8UFC5
B	-2	PHE	-	expression tag	UNP Q8UFC5
B	-1	GLN	-	expression tag	UNP Q8UFC5
B	0	GLY	-	expression tag	UNP Q8UFC5
B	262	GLY	-	expression tag	UNP Q8UFC5
B	263	SER	-	expression tag	UNP Q8UFC5

- Molecule 2 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	A	13	Total O 13 13	0	0
2	B	17	Total O 17 17	0	0



## 4 Data and refinement statistics

Property	Value	Source
Space group	C 2 2 21	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	86.30Å 108.11Å 142.39Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	38.80 – 2.59 38.80 – 2.59	Depositor EDS
% Data completeness (in resolution range)	99.3 (38.80-2.59) 99.7 (38.80-2.59)	Depositor EDS
$R_{merge}$	0.15	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	2.91 (at 2.58Å)	Xtrriage
Refinement program	REFMAC 5.2.0019	Depositor
R, $R_{free}$	0.240 , 0.289 0.238 , 0.288	Depositor DCC
$R_{free}$ test set	1082 reflections (5.14%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	45.5	Xtrriage
Anisotropy	0.352	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.32 , 39.2	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.48$ , $\langle L^2 \rangle = 0.31$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
$F_o, F_c$ correlation	0.94	EDS
Total number of atoms	4242	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	42.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 57.29 % 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 2.4169e-05. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

<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	0.68	1/2145 (0.0%)	0.77	0/2913
1	B	0.78	2/2145 (0.1%)	0.85	5/2913 (0.2%)
All	All	0.73	3/4290 (0.1%)	0.81	5/5826 (0.1%)

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B	163	VAL	CB-CG1	5.95	1.65	1.52
1	B	164	MSE	SE-CE	5.78	2.29	1.95
1	A	161	GLU	CG-CD	5.20	1.59	1.51

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	8	LEU	CA-CB-CG	5.51	127.98	115.30
1	B	56	LEU	CA-CB-CG	5.50	127.96	115.30
1	B	76	ARG	NE-CZ-NH1	-5.23	117.68	120.30
1	B	104	ILE	N-CA-C	5.16	124.92	111.00
1	B	222	ALA	N-CA-C	-5.00	97.49	111.00

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	2106	0	2101	50	0
1	B	2106	0	2101	58	0
2	A	13	0	0	2	0
2	B	17	0	0	4	0
All	All	4242	0	4202	106	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 13.

All (106) 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:B:164:MSE:SE	1:B:164:MSE:CE	2.29	1.30
1:B:22:GLN:O	1:B:26:GLN:NE2	1.96	0.96
1:B:26:GLN:HE21	1:B:26:GLN:H	1.15	0.89
1:A:160:VAL:HG13	1:A:165:HIS:HB3	1.56	0.88
1:A:160:VAL:HG13	1:A:165:HIS:CB	2.05	0.87
1:B:192:LEU:HA	1:B:195:MSE:HE3	1.64	0.78
1:A:232:GLN:HE21	1:A:232:GLN:HA	1.50	0.76
1:B:146:LEU:O	1:B:150:THR:HG22	1.85	0.76
1:B:165:HIS:H	1:B:165:HIS:CD2	2.00	0.75
1:A:160:VAL:CG1	1:A:165:HIS:CB	2.66	0.74
1:A:108:THR:HG23	2:A:273:HOH:O	1.89	0.73
1:A:160:VAL:CG1	1:A:165:HIS:HB3	2.19	0.72
1:B:-1:GLN:HG3	2:B:269:HOH:O	1.91	0.69
1:B:26:GLN:HE21	1:B:26:GLN:N	1.90	0.69
1:B:27:LYS:HA	2:B:265:HOH:O	1.93	0.68
1:A:4:LEU:HD13	1:A:88:PRO:HG3	1.76	0.67
1:A:160:VAL:HG13	1:A:165:HIS:HB2	1.77	0.66
1:A:26:GLN:HB2	1:A:30:PRO:HA	1.78	0.65
1:B:232:GLN:HE21	1:B:232:GLN:HA	1.62	0.65
1:A:-5:ASN:OD1	1:A:-5:ASN:N	2.31	0.64
1:B:14:HIS:ND1	1:B:15:PRO:HD2	2.12	0.63
1:B:-5:ASN:ND2	1:B:-5:ASN:H	1.98	0.61
1:A:14:HIS:HB3	1:A:20:ARG:HB2	1.83	0.61
1:A:14:HIS:ND1	1:A:15:PRO:HD2	2.16	0.61
1:B:26:GLN:NE2	1:B:26:GLN:H	1.93	0.59
1:B:104:ILE:HG21	1:B:111:VAL:HG21	1.85	0.59
1:B:236:ASP:OD2	1:B:238:GLU:HG2	2.03	0.58
1:B:223:HIS:HB3	1:B:243:ARG:NH2	2.19	0.57
1:B:243:ARG:HD3	2:B:264:HOH:O	2.04	0.57
1:A:221:LEU:C	1:A:222:ALA:O	2.39	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:221:LEU:C	1:B:222:ALA:O	2.39	0.56
1:A:232:GLN:HE21	1:A:232:GLN:CA	2.14	0.56
1:A:146:LEU:O	1:A:150:THR:HG23	2.06	0.55
1:B:127:ARG:HH12	1:B:159:LEU:HD11	1.71	0.55
1:B:146:LEU:O	1:B:150:THR:CG2	2.54	0.55
1:A:139:THR:HA	1:A:143:ASP:OD2	2.07	0.55
1:B:5:LEU:HD23	1:B:88:PRO:HG2	1.89	0.55
1:A:130[B]:ASP:OD1	1:A:132:GLU:OE2	2.25	0.54
1:B:4:LEU:HD22	1:B:8:LEU:HD13	1.89	0.54
1:A:160:VAL:CG1	1:A:165:HIS:HB2	2.36	0.54
1:A:50:LEU:HD12	1:A:55:PRO:HA	1.90	0.54
1:B:4:LEU:HD13	1:B:88:PRO:HG3	1.90	0.53
1:A:5:LEU:HD23	1:A:88:PRO:HG2	1.89	0.53
1:A:235:GLU:HB3	1:A:240:LEU:HD11	1.90	0.52
1:A:104:ILE:HG12	1:A:111:VAL:HG21	1.92	0.52
1:B:14:HIS:HB3	1:B:20:ARG:HB2	1.91	0.51
1:B:148:TRP:CH2	1:B:153:LEU:HD21	2.46	0.49
1:B:191:ALA:HB1	1:B:195:MSE:HE2	1.93	0.49
1:A:191:ALA:C	1:A:195:MSE:HE3	2.33	0.49
1:A:206:LEU:O	1:A:207:ALA:C	2.51	0.49
1:B:122:ASP:OD1	1:B:203:ILE:HG13	2.13	0.49
1:A:165:HIS:CE1	1:B:117:ARG:NH1	2.80	0.49
1:B:223:HIS:HA	1:B:226:GLU:OE1	2.13	0.48
1:B:76:ARG:NH1	1:B:77:ASP:OD1	2.47	0.48
1:A:56:LEU:HD11	1:A:79:TRP:CE2	2.48	0.48
1:B:35:LYS:HE3	1:B:36:ASP:OD1	2.13	0.47
1:B:82:GLN:OE1	2:B:278:HOH:O	2.20	0.47
1:A:137:ARG:NH2	1:A:231:GLU:OE2	2.47	0.47
1:B:101:ILE:HG22	1:B:101:ILE:O	2.15	0.47
1:B:127:ARG:NH1	1:B:159:LEU:HD11	2.30	0.47
1:B:192:LEU:CA	1:B:195:MSE:HE3	2.40	0.46
1:B:237:GLU:HA	1:B:240:LEU:HB2	1.98	0.46
1:A:10:GLU:C	1:A:24:GLN:HE21	2.18	0.46
1:A:22:GLN:HG2	1:A:26:GLN:HE22	1.80	0.46
1:A:137:ARG:NH1	2:A:268:HOH:O	2.48	0.46
1:B:-5:ASN:ND2	1:B:-5:ASN:N	2.63	0.45
1:A:130[A]:ASP:HB2	1:A:131:PRO:HA	1.98	0.45
1:B:56:LEU:HD11	1:B:79:TRP:CE2	2.51	0.45
1:B:100:ALA:HA	1:B:104:ILE:CG1	2.47	0.45
1:B:191:ALA:C	1:B:195:MSE:HE3	2.37	0.45
1:B:165:HIS:CD2	1:B:165:HIS:N	2.77	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:159:LEU:HD12	1:B:159:LEU:HA	1.72	0.44
1:B:139:THR:HG23	1:B:143:ASP:OD2	2.16	0.44
1:B:232:GLN:HA	1:B:232:GLN:NE2	2.31	0.44
1:B:57:ARG:NH1	1:B:61:LYS:O	2.46	0.44
1:A:138:GLN:O	1:A:142:TRP:HB2	2.18	0.43
1:A:126:TYR:HE1	1:A:162:GLY:O	2.02	0.43
1:A:16:ASP:HA	1:A:17:PRO:HD3	1.85	0.43
1:A:183:TYR:OH	1:A:210:GLU:OE2	2.33	0.43
1:A:114:ASP:OD1	1:A:117:ARG:NH1	2.51	0.43
1:A:191:ALA:HB1	1:A:195:MSE:CE	2.49	0.42
1:A:170:ARG:NH1	1:B:170:ARG:HH21	2.18	0.42
1:A:9:SER:O	1:A:24:GLN:HG2	2.19	0.42
1:B:127:ARG:HA	1:B:127:ARG:HD2	1.63	0.42
1:B:163:VAL:O	1:B:164:MSE:HB2	2.19	0.42
1:A:14:HIS:ND1	1:A:15:PRO:CD	2.83	0.42
1:B:206:LEU:HD23	1:B:206:LEU:HA	1.94	0.42
1:A:22:GLN:O	1:A:25:MSE:HB3	2.19	0.42
1:B:227:ASP:OD1	1:B:243:ARG:NH2	2.53	0.42
1:A:1:MSE:HE1	1:A:89:VAL:HA	2.02	0.41
1:A:130[B]:ASP:HB3	1:A:131:PRO:HA	2.02	0.41
1:B:50:LEU:HD12	1:B:55:PRO:HA	2.01	0.41
1:B:181:LYS:O	1:B:184:ASP:HB2	2.21	0.41
1:B:132:GLU:HA	1:B:135:VAL:HG13	2.02	0.41
1:A:160:VAL:HG11	1:A:165:HIS:CB	2.49	0.41
1:B:16:ASP:OD2	1:B:19:LEU:HD22	2.20	0.41
1:B:104:ILE:HG21	1:B:111:VAL:CG2	2.51	0.41
1:A:14:HIS:NE2	1:A:19:LEU:HD21	2.36	0.40
1:A:206:LEU:HD23	1:A:206:LEU:HA	1.83	0.40
1:A:223:HIS:HB3	1:A:243:ARG:NH2	2.36	0.40
1:B:257:LEU:HD23	1:B:257:LEU:HA	1.83	0.40
1:B:4:LEU:CD1	1:B:88:PRO:HB3	2.51	0.40
1:A:5:LEU:CD2	1:A:88:PRO:HG2	2.51	0.40
1:A:66:ALA:HA	1:A:67:PRO:HD3	1.97	0.40
1:B:232:GLN:NE2	1:B:232:GLN:CA	2.85	0.40
1:A:221:LEU:HA	1:A:221:LEU:HD23	1.71	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	267/284 (94%)	249 (93%)	17 (6%)	1 (0%)	30	52
1	B	267/284 (94%)	245 (92%)	21 (8%)	1 (0%)	30	52
All	All	534/568 (94%)	494 (92%)	38 (7%)	2 (0%)	30	52

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	164	MSE
1	A	164	MSE

### 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	223/228 (98%)	195 (87%)	28 (13%)	3	7
1	B	223/228 (98%)	187 (84%)	36 (16%)	2	3
All	All	446/456 (98%)	382 (86%)	64 (14%)	2	5

All (64) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	-5	ASN
1	A	-4	LEU
1	A	1	MSE
1	A	4	LEU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	8	LEU
1	A	19	LEU
1	A	43	GLU
1	A	50	LEU
1	A	56	LEU
1	A	57	ARG
1	A	64	LEU
1	A	108	THR
1	A	123	LEU
1	A	130[A]	ASP
1	A	130[B]	ASP
1	A	137	ARG
1	A	150	THR
1	A	156	ARG
1	A	164	MSE
1	A	204	LEU
1	A	215	LEU
1	A	216	GLU
1	A	232	GLN
1	A	243	ARG
1	A	247	LEU
1	A	249	ASP
1	A	257	LEU
1	A	261	LYS
1	B	-5	ASN
1	B	-4	LEU
1	B	1	MSE
1	B	4	LEU
1	B	12	LEU
1	B	19	LEU
1	B	25	MSE
1	B	26	GLN
1	B	29	LEU
1	B	50	LEU
1	B	56	LEU
1	B	63	PRO
1	B	76	ARG
1	B	108	THR
1	B	109	GLN
1	B	123	LEU
1	B	127	ARG
1	B	137	ARG

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Mol	Chain	Res	Type
1	B	150	THR
1	B	159	LEU
1	B	164	MSE
1	B	165	HIS
1	B	166	ARG
1	B	171	GLU
1	B	181	LYS
1	B	204	LEU
1	B	215	LEU
1	B	232	GLN
1	B	237	GLU
1	B	240	LEU
1	B	243	ARG
1	B	247	LEU
1	B	249	ASP
1	B	257	LEU
1	B	260	LEU
1	B	261	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (11) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	24	GLN
1	A	98	ASN
1	A	165	HIS
1	A	232	GLN
1	A	255	ASN
1	B	-5	ASN
1	B	24	GLN
1	B	26	GLN
1	B	165	HIS
1	B	232	GLN
1	B	255	ASN

### 5.3.3 RNA

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

### 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	262/284 (92%)	0.39	12 (4%) 38 32	29, 44, 56, 63	1 (0%)
1	B	262/284 (92%)	0.26	9 (3%) 48 42	25, 40, 52, 62	1 (0%)
All	All	524/568 (92%)	0.33	21 (4%) 43 37	25, 42, 56, 63	2 (0%)

All (21) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	230	ALA	3.7
1	A	163	VAL	3.6
1	A	230	ALA	3.3
1	B	163	VAL	2.7
1	A	234	GLY	2.4
1	A	235	GLU	2.4
1	A	-6	GLU	2.3
1	A	231	GLU	2.3
1	B	234	GLY	2.2
1	B	235	GLU	2.2
1	B	179	THR	2.2
1	A	165	HIS	2.2
1	A	261	LYS	2.1
1	A	126	TYR	2.1
1	A	141	TYR	2.1
1	B	183	TYR	2.1
1	A	-5	ASN	2.1
1	B	132	GLU	2.0
1	B	104	ILE	2.0
1	A	238	GLU	2.0
1	B	231	GLU	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.