WORLDWIDE wwPDB PROTEIN DATA BANK

Full wwPDB X-ray Structure Validation Report ⓘ

Aug 27, 2023 – 06:45 AM EDT

|		
PDB ID	:	3I6U
Title	:	Structure and Activation Mechanism of the CHK2 DNA-Damage Checkpoint Kinase
Authors	:	Pavletich, N.P.
Deposited on	:	2009-07-07
Resolution	:	3.00 Å(reported)

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 3.00 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	Percentile Ranks	Value
Clashscore		10
Ramachandran outliers		1.1%
Sidechain outliers		9.7%
RSRZ outliers		8.0%

Worse *Better*

▮ Percentile relative to all X-ray structures

▯ Percentile relative to X-ray structures of similar resolution
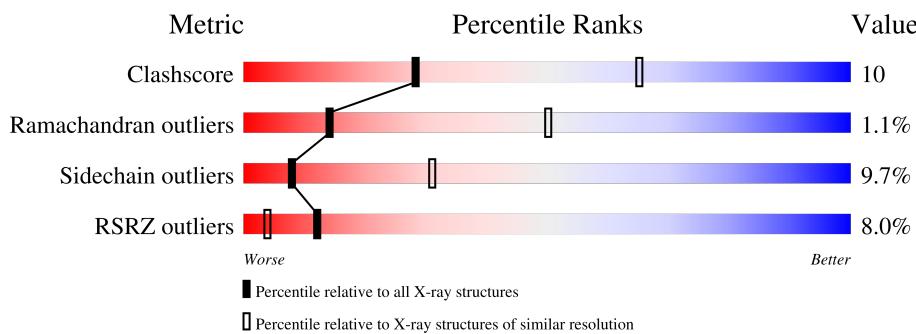
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
Clashscore	141614	2416 (3.00-3.00)
Ramachandran outliers	138981	2333 (3.00-3.00)
Sidechain outliers	138945	2336 (3.00-3.00)
RSRZ outliers	127900	1990 (3.00-3.00)

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 <=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	419	3% — 67% 24% · 7%
1	B	419	11% — 66% 21% · 10%

2 Entry composition ⓘ

There is only 1 type of molecule in this entry. The entry contains 6227 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 Serine/threonine-protein kinase Chk2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	390	Total	C	N	O	S	0	0	0
			3167	2042	535	576	14			
1	B	376	Total	C	N	O	S	0	0	0
			3060	1976	512	558	14			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	249	ARG	LYS	engineered mutation	UNP O96017
B	249	ARG	LYS	engineered mutation	UNP O96017

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: Serine/threonine-protein kinase Chk2
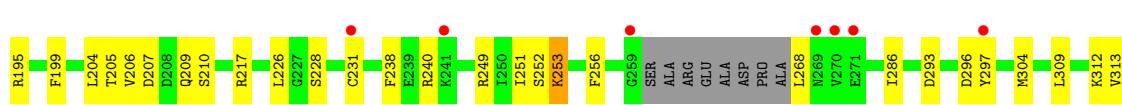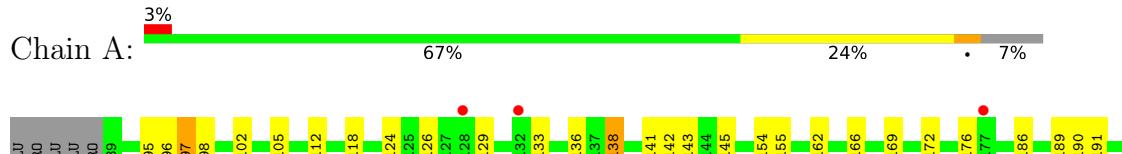
- Molecule 1: Serine/threonine-protein kinase Chk2
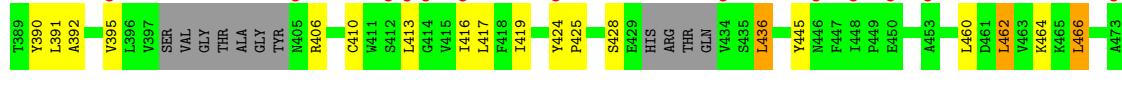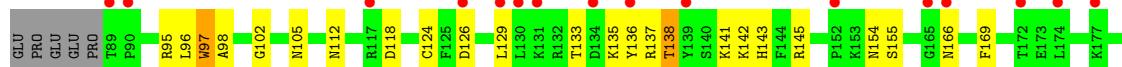
4 Data and refinement statistics ⓘ

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α, β, γ	123.90Å　152.20Å　52.40Å 90.00°　　90.00°　　90.00°	Depositor
Resolution (Å)	12.00　–　3.00 29.84　–　3.00	Depositor EDS
% Data completeness (in resolution range)	95.2 (12.00-3.00) 95.0 (29.84-3.00)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	0.05	Depositor
$< I/\sigma(I) >$ [1]	2.85 (at 3.00Å)	Xtriage
Refinement program	REFMAC 5.2.0019	Depositor
R, R_{free}	0.244　,　　　0.280 0.220　,　(Not available)	Depositor DCC
R_{free} test set	No test flags present.	wwPDB-VP
Wilson B-factor (Å^2)	89.7	Xtriage
Anisotropy	0.047	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.29 , 78.2	EDS
L-test for twinning[2]	$< |L| > = 0.45, < L^2 > = 0.28$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.92	EDS
Total number of atoms	6227	wwPDB-VP
Average B, all atoms (Å^2)	56.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.13% of the height of the origin peak. No significant pseudotranslation is detected.*

---

[1]Intensities estimated from amplitudes.
[2]Theoretical values of $< |L| >$, $< L^2 >$ 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 ⓘ

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	0.58	0/3236	0.65	2/4363 (0.0%)
1	B	0.41	0/3125	0.59	1/4213 (0.0%)
All	All	0.50	0/6361	0.62	3/8576 (0.0%)

There are no bond length outliers.

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	436	LEU	CA-CB-CG	6.14	129.42	115.30
1	B	436	LEU	CA-CB-CG	6.08	129.29	115.30
1	A	325	LYS	CD-CE-NZ	-5.03	100.13	111.70

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	3167	0	3179	68	0
1	B	3060	0	3073	57	1
All	All	6227	0	6252	122	1

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 10.

All (122) 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:231:CYS:SG	1:A:251:ILE:HB	1.89	1.13
1:B:231:CYS:SG	1:B:251:ILE:HB	1.92	1.08
1:A:331:MET:HE3	1:A:416:ILE:HG21	1.53	0.90
1:A:251:ILE:HG23	1:A:297:TYR:HB2	1.55	0.88
1:B:251:ILE:HG23	1:B:297:TYR:HB2	1.54	0.86
1:A:286:ILE:HG13	1:A:367:THR:HG23	1.59	0.82
1:A:331:MET:CE	1:A:416:ILE:HG21	2.09	0.82
1:B:286:ILE:HG13	1:B:367:THR:HG23	1.65	0.78
1:A:95:ARG:HD3	1:A:97:TRP:HZ3	1.50	0.77
1:B:331:MET:HE3	1:B:416:ILE:HG21	1.66	0.77
1:B:95:ARG:HD3	1:B:97:TRP:HZ3	1.52	0.75
1:B:283:PRO:O	1:B:365:LYS:HE2	1.86	0.74
1:A:112:ASN:ND2	1:A:145:ARG:HH11	1.85	0.73
1:B:112:ASN:ND2	1:B:145:ARG:HH11	1.85	0.73
1:A:339:HIS:HB3	1:A:406:ARG:HE	1.55	0.72
1:B:112:ASN:HD21	1:B:145:ARG:HD2	1.54	0.72
1:A:112:ASN:HD21	1:A:145:ARG:HD2	1.56	0.70
1:B:252:SER:HA	1:B:296:ASP:OD1	1.91	0.70
1:A:133:THR:OG1	1:A:136:TYR:HB2	1.92	0.70
1:B:133:THR:OG1	1:B:136:TYR:HB2	1.91	0.70
1:B:339:HIS:HB3	1:B:406:ARG:HE	1.56	0.70
1:A:252:SER:HA	1:A:296:ASP:OD1	1.92	0.69
1:B:331:MET:CE	1:B:416:ILE:HG21	2.22	0.69
1:A:368:ASP:HA	1:A:371:HIS:HB2	1.74	0.69
1:A:430:HIS:HB2	1:A:433:GLN:HE21	1.58	0.68
1:A:138:THR:HG22	1:A:166:ASN:HD22	1.60	0.67
1:B:462:LEU:HD22	1:B:466:LEU:HD22	1.77	0.67
1:A:430:HIS:CB	1:A:433:GLN:HE21	2.08	0.66
1:A:462:LEU:HD22	1:A:466:LEU:HD22	1.77	0.66
1:A:330:GLN:HE22	1:A:363:LEU:HA	1.60	0.66
1:B:124:CYS:SG	1:B:126:ASP:HB2	2.35	0.66
1:A:124:CYS:SG	1:A:126:ASP:HB2	2.36	0.65
1:B:283:PRO:O	1:B:365:LYS:CE	2.44	0.65
1:B:138:THR:HG22	1:B:166:ASN:HD22	1.61	0.65
1:B:330:GLN:HE22	1:B:363:LEU:HA	1.62	0.64
1:A:251:ILE:CG2	1:A:297:TYR:HB2	2.27	0.64
1:A:445:TYR:OH	1:A:464:LYS:HE2	1.98	0.63
1:B:313:VAL:HG11	1:B:419:ILE:HG22	1.79	0.63
1:A:313:VAL:HG11	1:A:419:ILE:HG22	1.81	0.62
1:B:251:ILE:CG2	1:B:297:TYR:HB2	2.28	0.60
1:B:330:GLN:NE2	1:B:364:ILE:H	2.00	0.59
1:A:430:HIS:HB2	1:A:433:GLN:HG2	1.83	0.59

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:98:ALA:H	1:A:105:ASN:HD22	1.51	0.59
1:B:283:PRO:O	1:B:365:LYS:NZ	2.35	0.59
1:A:374:ILE:HG23	1:A:375:LEU:HG	1.85	0.58
1:B:445:TYR:OH	1:B:464:LYS:HE2	2.02	0.58
1:B:98:ALA:H	1:B:105:ASN:HD22	1.51	0.58
1:A:169:PHE:HB2	1:A:190:ALA:HB3	1.86	0.58
1:B:169:PHE:HB2	1:B:190:ALA:HB3	1.86	0.56
1:B:217:ARG:O	1:B:240:ARG:NH1	2.39	0.55
1:B:95:ARG:HD3	1:B:97:TRP:CZ3	2.38	0.54
1:A:330:GLN:NE2	1:A:364:ILE:H	2.07	0.53
1:A:231:CYS:HA	1:A:375:LEU:HD21	1.91	0.53
1:A:345:HIS:CG	1:A:348:LEU:HD13	2.44	0.53
1:A:102:GLY:HA2	1:A:129:LEU:HD23	1.91	0.52
1:A:189:ILE:HB	1:A:199:PHE:HB2	1.90	0.52
1:A:345:HIS:CD2	1:A:369:PHE:HB3	2.45	0.52
1:A:337:TYR:O	1:A:340:GLU:HG2	2.09	0.52
1:B:345:HIS:CG	1:B:348:LEU:HD13	2.45	0.52
1:B:337:TYR:O	1:B:340:GLU:HG2	2.10	0.51
1:A:95:ARG:HD3	1:A:97:TRP:CZ3	2.37	0.51
1:B:189:ILE:HB	1:B:199:PHE:HB2	1.92	0.51
1:A:228:SER:HB2	1:B:228:SER:HB2	1.92	0.51
1:A:204:LEU:C	1:A:206:VAL:H	2.12	0.51
1:A:482:ARG:HH11	1:A:482:ARG:HG2	1.76	0.50
1:B:186:ASN:O	1:B:186:ASN:ND2	2.44	0.50
1:A:186:ASN:O	1:A:186:ASN:ND2	2.44	0.49
1:A:286:ILE:CG1	1:A:367:THR:HG23	2.35	0.49
1:B:410:CYS:HA	1:B:413:LEU:HD12	1.95	0.49
1:B:102:GLY:HA2	1:B:129:LEU:HD23	1.93	0.49
1:A:433:GLN:N	1:A:433:GLN:CD	2.67	0.48
1:A:410:CYS:HA	1:A:413:LEU:HD12	1.96	0.48
1:A:313:VAL:HG12	1:A:313:VAL:O	2.14	0.47
1:A:430:HIS:HB2	1:A:433:GLN:CG	2.44	0.47
1:B:207:ASP:OD1	1:B:207:ASP:N	2.47	0.47
1:A:217:ARG:O	1:A:240:ARG:NH1	2.42	0.47
1:B:482:ARG:HG2	1:B:482:ARG:HH11	1.79	0.47
1:A:484:PRO:HA	1:A:487:GLN:HG2	1.97	0.46
1:B:330:GLN:HE22	1:B:364:ILE:H	1.61	0.46
1:A:98:ALA:H	1:A:105:ASN:ND2	2.14	0.45
1:B:484:PRO:HA	1:B:487:GLN:HG2	1.98	0.45
1:A:424:TYR:HB2	1:A:425:PRO:HD2	1.98	0.45
1:A:331:MET:HE1	1:A:416:ILE:HG21	1.94	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:355:LEU:HD23	1:B:364:ILE:HD12	1.99	0.45
1:B:207:ASP:O	1:B:208:ASP:C	2.54	0.44
1:A:118:ASP:HB2	1:A:141:LYS:O	2.18	0.44
1:A:328:PHE:CE1	1:A:413:LEU:HB3	2.53	0.44
1:A:313:VAL:O	1:A:313:VAL:CG1	2.65	0.44
1:B:98:ALA:H	1:B:105:ASN:ND2	2.15	0.44
1:B:495:PHE:HA	1:B:498:LEU:HD12	2.00	0.44
1:B:348:LEU:HD12	1:B:348:LEU:HA	1.87	0.44
1:A:253:LYS:HE3	1:A:293:ASP:OD1	2.17	0.44
1:A:204:LEU:C	1:A:206:VAL:N	2.71	0.44
1:A:313:VAL:HG11	1:A:419:ILE:CG2	2.46	0.44
1:A:348:LEU:HD12	1:A:348:LEU:HA	1.76	0.43
1:B:313:VAL:HG11	1:B:419:ILE:CG2	2.47	0.43
1:B:231:CYS:SG	1:B:249:ARG:HD3	2.59	0.43
1:B:253:LYS:HE3	1:B:293:ASP:OD1	2.19	0.43
1:A:231:CYS:HG	1:A:251:ILE:HB	1.77	0.42
1:B:138:THR:HG22	1:B:166:ASN:ND2	2.33	0.42
1:A:143:HIS:CD2	1:A:191:LEU:HD22	2.54	0.42
1:A:304:MET:HE1	1:A:356:SER:HB3	2.02	0.42
1:A:355:LEU:HD23	1:A:364:ILE:HD12	2.01	0.42
1:B:143:HIS:CD2	1:B:191:LEU:HD22	2.54	0.42
1:A:206:VAL:HG13	1:B:206:VAL:HG11	2.02	0.42
1:B:388:PRO:C	1:B:390:TYR:N	2.72	0.42
1:A:430:HIS:HB3	1:A:433:GLN:HE21	1.82	0.42
1:B:118:ASP:HB2	1:B:141:LYS:O	2.20	0.41
1:A:238:PHE:CD1	1:B:182:PRO:HG3	2.56	0.41
1:B:286:ILE:HG13	1:B:367:THR:CG2	2.44	0.41
1:A:388:PRO:C	1:A:390:TYR:N	2.72	0.41
1:A:210:SER:HA	1:A:217:ARG:CZ	2.50	0.41
1:B:186:ASN:O	1:B:186:ASN:CG	2.59	0.41
1:A:162:ASP:HB3	1:A:176:GLY:O	2.20	0.41
1:B:135:LYS:HA	1:B:138:THR:OG1	2.21	0.41
1:B:328:PHE:CE1	1:B:413:LEU:HB3	2.56	0.41
1:B:424:TYR:HB2	1:B:425:PRO:HD2	2.03	0.41
1:A:330:GLN:HE22	1:A:364:ILE:H	1.69	0.40
1:B:392:ALA:HB3	1:B:395:VAL:HG23	2.02	0.40
1:A:495:PHE:HA	1:A:498:LEU:HD12	2.02	0.40
1:A:186:ASN:O	1:A:186:ASN:CG	2.59	0.40
1:A:345:HIS:O	1:A:346:ARG:HB2	2.22	0.40

All (1) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:137:ARG:NH1	1:B:500:SER:OG[4_556]	2.05	0.15

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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	382/419 (91%)	354 (93%)	23 (6%)	5 (1%)	12	45
1	B	366/419 (87%)	341 (93%)	22 (6%)	3 (1%)	19	57
All	All	748/838 (89%)	695 (93%)	45 (6%)	8 (1%)	14	50

All (8) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	154	ASN
1	A	434	VAL
1	B	154	ASN
1	B	206	VAL
1	B	208	ASP
1	A	172	THR
1	A	207	ASP
1	A	373	LYS

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	346/372 (93%)	312 (90%)	34 (10%)	8	30

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	B	336/372 (90%)	304 (90%)	32 (10%)	8	32
All	All	682/744 (92%)	616 (90%)	66 (10%)	8	31

All (66) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	96	LEU
1	A	97	TRP
1	A	138	THR
1	A	142	LYS
1	A	155	SER
1	A	195	ARG
1	A	205	THR
1	A	209	GLN
1	A	226	LEU
1	A	249	ARG
1	A	253	LYS
1	A	256	PHE
1	A	268	LEU
1	A	309	LEU
1	A	312	LYS
1	A	320	LYS
1	A	326	LEU
1	A	359	GLU
1	A	364	ILE
1	A	367	THR
1	A	373	LYS
1	A	374	ILE
1	A	391	LEU
1	A	417	LEU
1	A	428	SER
1	A	432	THR
1	A	433	GLN
1	A	436	LEU
1	A	460	LEU
1	A	462	LEU
1	A	466	LEU
1	A	486	LEU
1	A	491	MET
1	A	500	SER
1	B	96	LEU
1	B	97	TRP

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	B	138	THR
1	B	142	LYS
1	B	155	SER
1	B	195	ARG
1	B	205	THR
1	B	210	SER
1	B	211	VAL
1	B	226	LEU
1	B	249	ARG
1	B	253	LYS
1	B	256	PHE
1	B	268	LEU
1	B	309	LEU
1	B	312	LYS
1	B	320	LYS
1	B	326	LEU
1	B	359	GLU
1	B	364	ILE
1	B	367	THR
1	B	369	PHE
1	B	391	LEU
1	B	417	LEU
1	B	428	SER
1	B	436	LEU
1	B	460	LEU
1	B	462	LEU
1	B	466	LEU
1	B	486	LEU
1	B	491	MET
1	B	500	SER

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (16) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	105	ASN
1	A	112	ASN
1	A	166	ASN
1	A	196	ASN
1	A	209	GLN
1	A	330	GLN
1	A	371	HIS
1	A	433	GLN

Continued from previous page...

Mol	Chain	Res	Type
1	A	487	GLN
1	B	105	ASN
1	B	112	ASN
1	B	166	ASN
1	B	184	ASN
1	B	196	ASN
1	B	330	GLN
1	B	487	GLN

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 ⓘ

There are no monosaccharides in this entry.

5.6 Ligand geometry ⓘ

There are no ligands in this entry.

5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

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	390/419 (93%)	0.01	14 (3%)	42	17	35, 53, 87, 141	0
1	B	376/419 (89%)	0.54	47 (12%)	3	1	31, 56, 79, 90	0
All	All	766/838 (91%)	0.27	61 (7%)	12	4	31, 54, 83, 141	0

All (61) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	89	THR	6.5
1	A	259	GLY	6.2
1	A	177	LYS	5.8
1	B	90	PRO	5.4
1	A	270	VAL	5.3
1	B	192	SER	4.6
1	A	269	ASN	4.5
1	B	405	ASN	4.5
1	B	450	GLU	4.4
1	B	134	ASP	4.4
1	A	376	GLY	4.3
1	B	495	PHE	4.3
1	B	152	PRO	4.2
1	A	432	THR	4.1
1	B	117	ARG	3.8
1	B	361	ASP	3.7
1	B	473	ALA	3.6
1	B	129	LEU	3.2
1	B	297	TYR	3.2
1	B	338	LEU	3.2
1	B	283	PRO	3.1
1	B	359	GLU	3.0
1	B	424	TYR	3.0
1	B	166	ASN	3.0

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	B	136	TYR	2.9
1	B	131	LYS	2.9
1	A	231	CYS	2.8
1	B	177	LYS	2.8
1	B	342	GLY	2.7
1	A	128	PRO	2.7
1	A	132	ARG	2.7
1	B	489	GLU	2.7
1	A	271	GLU	2.6
1	A	402	ALA	2.6
1	B	412	SER	2.5
1	B	395	VAL	2.5
1	B	174	LEU	2.5
1	B	346	ARG	2.5
1	B	130	LEU	2.5
1	B	172	THR	2.3
1	B	165	GLY	2.3
1	B	227	GLY	2.3
1	B	293	ASP	2.2
1	B	139	TYR	2.2
1	B	126	ASP	2.2
1	B	453	ALA	2.2
1	B	434	VAL	2.1
1	A	297	TYR	2.1
1	B	329	TYR	2.1
1	B	413	LEU	2.1
1	B	446	ASN	2.1
1	B	228	SER	2.1
1	A	431	ARG	2.1
1	B	270	VAL	2.1
1	B	193	LEU	2.1
1	B	360	GLU	2.0
1	B	448	ILE	2.0
1	B	414	GLY	2.0
1	B	195	ARG	2.0
1	B	416	ILE	2.0
1	A	241	LYS	2.0

6.2 Non-standard residues in protein, DNA, RNA chains ⓘ

There are no non-standard protein/DNA/RNA residues in this entry.

6.3 Carbohydrates ⓘ

There are no monosaccharides in this entry.

6.4 Ligands ⓘ

There are no ligands in this entry.

6.5 Other polymers ⓘ

There are no such residues in this entry.