



# Full wwPDB X-ray Structure Validation Report ⓘ

May 28, 2020 – 08:17 pm BST

PDB ID : 1Q6X  
Title : Crystal structure of rat choline acetyltransferase  
Authors : Cai, Y.; Rodgers, D.W.  
Deposited on : 2003-08-14  
Resolution : 2.50 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  
Xtriage (Phenix) : 1.13  
EDS : 2.11  
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)  
Refmac : 5.8.0158  
CCP4 : 7.0.044 (Gargrove)  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.11

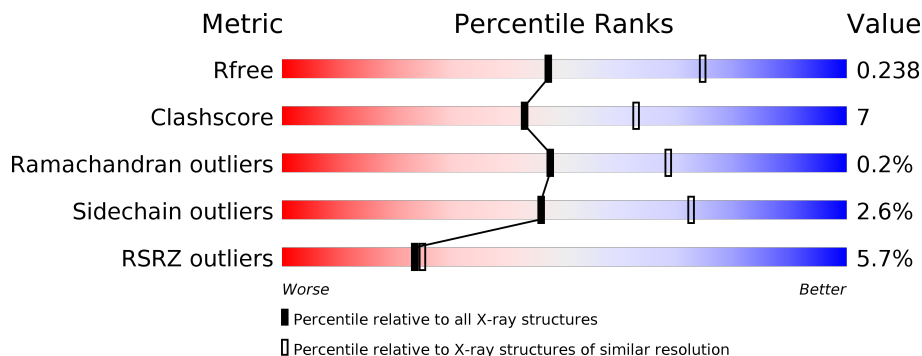
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 2.50 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))
$R_{free}$	130704	4661 (2.50-2.50)
Clashscore	141614	5346 (2.50-2.50)
Ramachandran outliers	138981	5231 (2.50-2.50)
Sidechain outliers	138945	5233 (2.50-2.50)
RSRZ outliers	127900	4559 (2.50-2.50)

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 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	644	
1	B	644	

## 2 Entry composition [i](#)

There are 3 unique types of molecules in this entry. The entry contains 9681 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 choline O-acetyltransferase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	600	4667	2955	806	867	39	0	0	12
1	B	600	4667	2955	806	867	39	0	0	12

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	234	ASN	LYS	SEE REMARK 999	UNP P32738
B	234	ASN	LYS	SEE REMARK 999	UNP P32738

- Molecule 2 is SODIUM ION (three-letter code: NA) (formula: Na).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	B	1	Total	Na	0	0
			1	1		
2	A	1	Total	Na	0	0
			1	1		

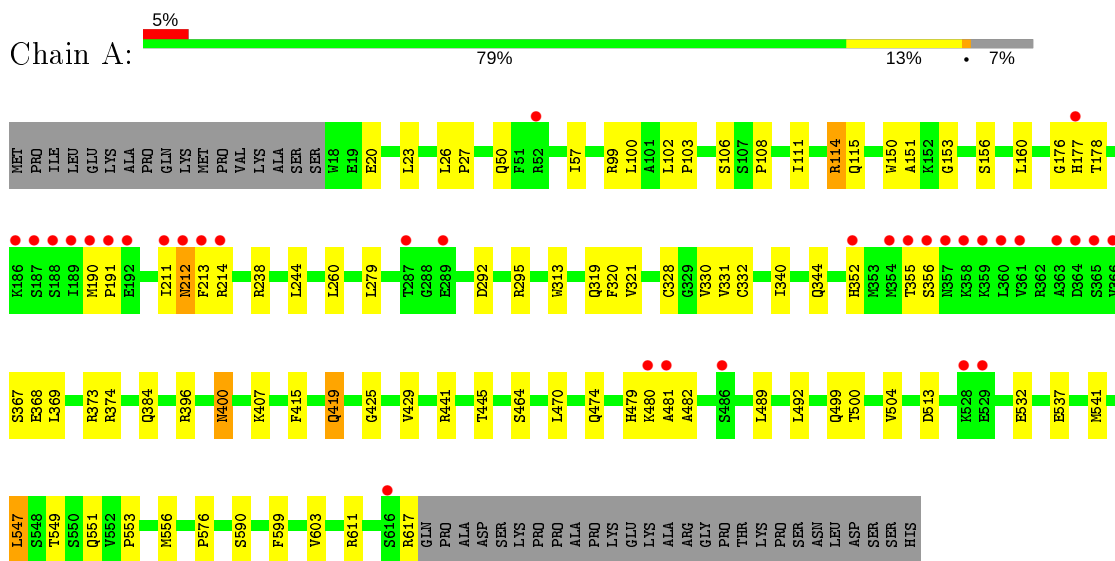
- Molecule 3 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	149	Total	O	0	0
			149	149		
3	B	196	Total	O	0	0
			196	196		

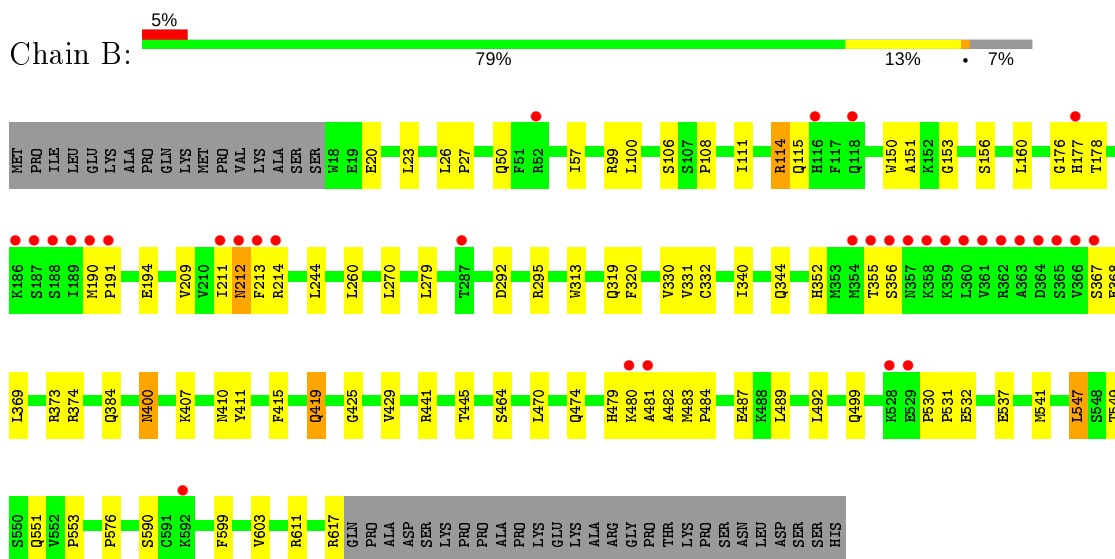
### 3 Residue-property plots [i](#)

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: choline O-acetyltransferase



- Molecule 1: choline O-acetyltransferase



## 4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	84.70Å 78.88Å 139.36Å 90.00° 98.38° 90.00°	Depositor
Resolution (Å)	28.94 – 2.50 28.93 – 2.50	Depositor EDS
% Data completeness (in resolution range)	98.1 (28.94-2.50) 98.2 (28.93-2.50)	Depositor EDS
$R_{merge}$	0.07	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	3.93 (at 2.51Å)	Xtrriage
Refinement program	CNS 1.0	Depositor
R, $R_{free}$	0.223 , 0.251 0.211 , 0.238	Depositor DCC
$R_{free}$ test set	6279 reflections (10.12%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	31.0	Xtrriage
Anisotropy	0.059	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.33 , 40.4	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.48$ , $\langle L^2 \rangle = 0.32$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
$F_o, F_c$ correlation	0.91	EDS
Total number of atoms	9681	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	30.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.73% 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: NA

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	0.42	0/4756	0.60	0/6442
1	B	0.44	0/4756	0.60	0/6442
All	All	0.43	0/9512	0.60	0/12884

There are no bond length outliers.

There are no bond angle outliers.

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	4667	0	4622	63	0
1	B	4667	0	4621	64	0
2	A	1	0	0	0	0
2	B	1	0	0	0	0
3	A	149	0	0	3	0
3	B	196	0	0	2	0
All	All	9681	0	9243	127	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 7.

All (127) 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:352:HIS:HA	1:A:355:THR:HG23	1.47	0.97
1:B:352:HIS:HA	1:B:355:THR:HG23	1.47	0.96
1:A:355:THR:C	1:A:356:SER:CA	2.44	0.86
1:B:355:THR:C	1:B:356:SER:CA	2.44	0.85
1:A:551:GLN:HE21	1:A:576:PRO:HG2	1.43	0.83
1:B:551:GLN:HE21	1:B:576:PRO:HG2	1.44	0.82
1:A:367:SER:CA	1:A:368:GLU:N	2.42	0.82
1:B:367:SER:CA	1:B:368:GLU:N	2.42	0.82
1:B:313:TRP:H	1:B:319:GLN:NE2	1.78	0.82
1:A:313:TRP:H	1:A:319:GLN:NE2	1.80	0.78
1:A:489:LEU:HD21	1:A:617:ARG:HD3	1.68	0.76
1:A:211:ILE:O	1:A:212:ASN:HB2	1.86	0.75
1:B:211:ILE:O	1:B:212:ASN:HB2	1.86	0.75
1:B:489:LEU:HD21	1:B:617:ARG:HD3	1.69	0.73
1:B:190:MET:HB3	1:B:191:PRO:HD2	1.71	0.73
1:A:190:MET:HB3	1:A:191:PRO:HD2	1.70	0.73
1:B:551:GLN:NE2	1:B:576:PRO:HG2	2.05	0.72
1:A:319:GLN:HB2	1:A:331:VAL:HG13	1.72	0.71
1:A:551:GLN:NE2	1:A:576:PRO:HG2	2.05	0.71
1:B:319:GLN:HB2	1:B:331:VAL:HG13	1.73	0.68
1:B:313:TRP:H	1:B:319:GLN:HE22	1.42	0.67
1:A:551:GLN:HG2	1:A:553:PRO:HD3	1.80	0.63
1:A:313:TRP:H	1:A:319:GLN:HE22	1.45	0.62
1:B:551:GLN:HG2	1:B:553:PRO:HD3	1.80	0.62
1:A:292:ASP:OD2	1:A:295:ARG:NH2	2.34	0.60
1:A:211:ILE:HD12	1:A:369:LEU:HD22	1.84	0.59
1:B:211:ILE:HD12	1:B:369:LEU:HD22	1.85	0.59
1:A:153:GLY:HA3	1:A:156:SER:O	2.04	0.58
1:A:415:PHE:CZ	1:A:611:ARG:HG3	2.38	0.58
1:B:292:ASP:OD2	1:B:295:ARG:NH2	2.36	0.58
1:A:151:ALA:HB2	1:A:160:LEU:HD21	1.85	0.58
1:B:153:GLY:HA3	1:B:156:SER:O	2.05	0.57
1:A:479:HIS:HB2	1:A:482:ALA:HB3	1.88	0.55
1:B:415:PHE:CZ	1:B:611:ARG:HG3	2.41	0.55
1:B:492:LEU:C	1:B:492:LEU:HD23	2.26	0.55
1:A:492:LEU:HD23	1:A:492:LEU:C	2.26	0.55
1:B:479:HIS:HB2	1:B:482:ALA:HB3	1.88	0.55
1:B:479:HIS:ND1	1:B:480:LYS:N	2.55	0.55
1:A:114:ARG:HD3	1:A:115:GLN:O	2.07	0.55
1:B:479:HIS:CG	1:B:480:LYS:N	2.75	0.55
1:B:114:ARG:HD3	1:B:115:GLN:O	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:151:ALA:HB2	1:B:160:LEU:HD21	1.89	0.53
1:A:479:HIS:CG	1:A:480:LYS:N	2.76	0.53
1:A:556:MET:HB2	3:A:1098:HOH:O	2.07	0.53
1:B:479:HIS:CD2	1:B:481:ALA:H	2.26	0.53
1:A:479:HIS:CD2	1:A:481:ALA:H	2.27	0.53
1:A:479:HIS:ND1	1:A:480:LYS:N	2.57	0.53
1:B:551:GLN:HE21	1:B:576:PRO:CG	2.20	0.53
1:B:599:PHE:O	1:B:603:VAL:HG23	2.09	0.53
1:A:599:PHE:O	1:A:603:VAL:HG23	2.10	0.52
1:A:111:ILE:N	1:A:111:ILE:HD12	2.24	0.52
1:B:352:HIS:HA	1:B:355:THR:CG2	2.31	0.52
1:B:111:ILE:HD12	1:B:111:ILE:N	2.25	0.51
1:A:177:HIS:CD2	1:A:178:THR:HG23	2.45	0.51
1:B:177:HIS:CD2	1:B:178:THR:HG23	2.46	0.51
1:A:352:HIS:HA	1:A:355:THR:CG2	2.31	0.51
1:A:400:ASN:HD21	1:A:590:SER:H	1.59	0.49
1:A:419:GLN:HG3	1:A:617:ARG:NH2	2.28	0.48
1:B:441:ARG:HG3	1:B:441:ARG:HH11	1.79	0.48
1:B:419:GLN:HG3	1:B:617:ARG:NH2	2.29	0.48
1:A:320:PHE:CD2	1:A:330:VAL:HG22	2.48	0.48
1:A:537:GLU:HG3	1:A:541:MET:HE3	1.95	0.48
1:B:480:LYS:O	1:B:481:ALA:HB3	2.13	0.48
1:A:480:LYS:O	1:A:481:ALA:HB3	2.14	0.47
1:B:50:GLN:HE22	1:B:541:MET:HE1	1.80	0.47
1:A:57:ILE:HG23	1:A:532:GLU:HG2	1.97	0.47
1:B:400:ASN:HD21	1:B:590:SER:H	1.61	0.47
1:A:441:ARG:HG3	1:A:441:ARG:HH11	1.80	0.47
1:A:99:ARG:HD2	1:A:99:ARG:N	2.30	0.46
1:B:57:ILE:HG23	1:B:532:GLU:HG2	1.98	0.46
1:A:374:ARG:NH2	3:A:1030:HOH:O	2.43	0.46
1:B:114:ARG:HG3	1:B:114:ARG:HH11	1.80	0.46
1:B:99:ARG:N	1:B:99:ARG:HD2	2.29	0.46
1:A:425:GLY:O	1:A:429:VAL:HG23	2.16	0.46
1:B:320:PHE:CD2	1:B:330:VAL:HG22	2.49	0.46
1:A:114:ARG:HH11	1:A:114:ARG:HG3	1.81	0.45
1:A:537:GLU:HG3	1:A:541:MET:CE	2.47	0.45
1:A:551:GLN:HE21	1:A:576:PRO:CG	2.19	0.45
1:A:177:HIS:HD2	1:A:178:THR:HG23	1.82	0.44
1:B:537:GLU:HG3	1:B:541:MET:CE	2.46	0.44
1:B:177:HIS:HD2	1:B:178:THR:HG23	1.82	0.44
1:B:537:GLU:HG3	1:B:541:MET:HE3	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:114:ARG:HG3	1:B:114:ARG:NH1	2.33	0.43
1:A:464:SER:HA	1:A:499:GLN:HE22	1.83	0.43
1:B:425:GLY:O	1:B:429:VAL:HG23	2.17	0.43
1:A:464:SER:HA	1:A:499:GLN:NE2	2.33	0.43
1:B:270:LEU:HD22	3:B:1068:HOH:O	2.18	0.43
1:B:464:SER:HA	1:B:499:GLN:NE2	2.34	0.43
1:A:50:GLN:HE22	1:A:541:MET:HE1	1.83	0.43
1:B:212:ASN:HB3	1:B:213:PHE:H	1.60	0.43
1:B:483:MET:HE3	1:B:487:GLU:HB2	2.00	0.43
1:A:470:LEU:O	1:A:474:GLN:HG3	2.19	0.43
1:B:374:ARG:NH2	3:B:1047:HOH:O	2.45	0.43
1:A:114:ARG:NH1	1:A:114:ARG:HG3	2.34	0.43
1:A:445:THR:HG23	1:A:547:LEU:HB3	2.01	0.43
1:B:530:PRO:HA	1:B:531:PRO:HD3	1.89	0.42
1:A:106:SER:O	1:A:108:PRO:HD3	2.18	0.42
1:B:153:GLY:CA	1:B:156:SER:O	2.67	0.42
1:B:547:LEU:HD22	1:B:549:THR:CG2	2.49	0.42
1:A:212:ASN:HB3	1:A:213:PHE:H	1.61	0.42
1:B:483:MET:HA	1:B:484:PRO:HD3	1.88	0.42
1:B:410:ASN:O	1:B:411:TYR:HB3	2.20	0.42
1:A:20:GLU:HB3	1:A:23:LEU:HD12	2.00	0.42
1:A:340:ILE:O	1:A:344:GLN:HG2	2.19	0.42
1:A:547:LEU:HD22	1:A:549:THR:CG2	2.48	0.42
1:B:20:GLU:HB3	1:B:23:LEU:HD12	2.01	0.42
1:B:214:ARG:NH2	1:B:369:LEU:HD21	2.34	0.42
1:A:102:LEU:N	1:A:103:PRO:CD	2.83	0.41
1:A:238:ARG:NH2	3:A:1092:HOH:O	2.51	0.41
1:A:500:THR:O	1:A:504:VAL:HG23	2.20	0.41
1:A:99:ARG:NH2	1:A:176:GLY:O	2.53	0.41
1:B:99:ARG:NH2	1:B:176:GLY:O	2.53	0.41
1:B:464:SER:HA	1:B:499:GLN:HE22	1.84	0.41
1:A:153:GLY:CA	1:A:156:SER:O	2.68	0.41
1:A:214:ARG:NH2	1:A:369:LEU:HD21	2.35	0.41
1:B:26:LEU:HA	1:B:27:PRO:HD3	1.90	0.41
1:B:340:ILE:O	1:B:344:GLN:HG2	2.20	0.41
1:B:106:SER:O	1:B:108:PRO:HD3	2.21	0.41
1:A:26:LEU:HA	1:A:27:PRO:HD3	1.90	0.41
1:A:50:GLN:OE1	1:A:541:MET:HE1	2.20	0.41
1:A:321:VAL:O	1:A:328:CYS:HA	2.21	0.41
1:B:194:GLU:O	1:B:209:VAL:HG22	2.21	0.41
1:B:214:ARG:HH22	1:B:369:LEU:HD21	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:470:LEU:O	1:B:474:GLN:HG3	2.21	0.41
1:B:479:HIS:CD2	1:B:481:ALA:N	2.89	0.41
1:A:396:ARG:O	1:A:400:ASN:HB2	2.20	0.40
1:B:445:THR:HG23	1:B:547:LEU:HB3	2.02	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	584/644 (91%)	559 (96%)	24 (4%)	1 (0%)	47 68
1	B	584/644 (91%)	558 (96%)	25 (4%)	1 (0%)	47 68
All	All	1168/1288 (91%)	1117 (96%)	49 (4%)	2 (0%)	47 68

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	212	ASN
1	B	212	ASN

### 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.

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	516/565 (91%)	502 (97%)	14 (3%)	44	71
1	B	516/565 (91%)	503 (98%)	13 (2%)	47	73
All	All	1032/1130 (91%)	1005 (97%)	27 (3%)	46	72

All (27) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	100	LEU
1	A	114	ARG
1	A	150	TRP
1	A	244	LEU
1	A	260	LEU
1	A	279	LEU
1	A	332	CYS
1	A	373	ARG
1	A	384	GLN
1	A	400	ASN
1	A	407	LYS
1	A	419	GLN
1	A	513	ASP
1	A	547	LEU
1	B	100	LEU
1	B	114	ARG
1	B	150	TRP
1	B	244	LEU
1	B	260	LEU
1	B	279	LEU
1	B	332	CYS
1	B	373	ARG
1	B	384	GLN
1	B	400	ASN
1	B	407	LYS
1	B	419	GLN
1	B	547	LEU

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (22) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	33	GLN
1	A	121	ASN
1	A	177	HIS
1	A	298	GLN
1	A	319	GLN
1	A	384	GLN
1	A	395	GLN
1	A	400	ASN
1	A	493	GLN
1	A	499	GLN
1	A	551	GLN
1	B	33	GLN
1	B	121	ASN
1	B	234	ASN
1	B	298	GLN
1	B	319	GLN
1	B	384	GLN
1	B	395	GLN
1	B	400	ASN
1	B	493	GLN
1	B	499	GLN
1	B	551	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 carbohydrates in this entry.

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

Of 2 ligands modelled in this entry, 2 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

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, 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	600/644 (93%)	0.05	34 (5%) 23 25	12, 29, 73, 110	0
1	B	600/644 (93%)	-0.02	34 (5%) 23 25	11, 24, 66, 108	0
All	All	1200/1288 (93%)	0.02	68 (5%) 23 25	11, 26, 71, 110	0

All (68) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	360	LEU	21.0
1	B	360	LEU	14.9
1	B	363	ALA	14.3
1	A	363	ALA	11.1
1	B	357	ASN	10.7
1	B	359	LYS	10.4
1	A	190	MET	10.0
1	B	190	MET	9.7
1	B	189	ILE	8.3
1	B	356	SER	8.1
1	B	188	SER	7.7
1	A	191	PRO	7.6
1	B	358	LYS	7.6
1	A	189	ILE	7.4
1	B	365	SER	7.1
1	A	213	PHE	6.7
1	A	355	THR	6.5
1	B	213	PHE	6.4
1	B	211	ILE	6.3
1	B	187	SER	6.1
1	A	358	LYS	5.9
1	B	366	VAL	5.9
1	A	356	SER	5.9
1	A	188	SER	5.7

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	B	191	PRO	5.7
1	B	355	THR	5.6
1	A	366	VAL	5.5
1	A	365	SER	5.4
1	A	480	LYS	5.1
1	B	354	MET	4.9
1	B	364	ASP	4.5
1	B	481	ALA	4.5
1	A	211	ILE	4.3
1	A	354	MET	4.1
1	B	186	LYS	4.1
1	A	187	SER	4.0
1	A	359	LYS	4.0
1	A	364	ASP	3.9
1	A	192	GLU	3.8
1	B	480	LYS	3.4
1	B	214	ARG	3.2
1	A	287	THR	3.2
1	B	367	SER	3.2
1	B	362	ARG	3.1
1	A	214	ARG	3.1
1	A	186	LYS	2.8
1	B	52	ARG	2.7
1	A	352	HIS	2.7
1	A	529	GLU	2.7
1	B	116	HIS	2.7
1	A	212	ASN	2.7
1	B	212	ASN	2.6
1	B	528	LYS	2.5
1	A	481	ALA	2.5
1	A	289	GLU	2.5
1	B	118	GLN	2.4
1	B	177	HIS	2.4
1	B	287	THR	2.3
1	A	361	VAL	2.3
1	B	592	LYS	2.3
1	A	357	ASN	2.3
1	A	52	ARG	2.2
1	A	177	HIS	2.2
1	A	616	SER	2.2
1	A	528	LYS	2.1
1	A	486	SER	2.1

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Mol	Chain	Res	Type	RSRZ
1	B	529	GLU	2.0
1	B	361	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( $\text{\AA}^2$ )	Q<0.9
2	NA	B	1001	1/1	0.90	0.07	21,21,21,21	0
2	NA	A	1002	1/1	0.90	0.09	24,24,24,24	0

## 6.5 Other polymers [i](#)

There are no such residues in this entry.