



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 5, 2026 – 12:19 AM UTC

PDB ID : 4EVT / pdb_00004evt
Title : Crystal Structure of Mouse Catenin beta-59 in 8.3M urea
Authors : Wang, C.; Zhang, G.Y.
Deposited on : 2012-04-26
Resolution : 2.34 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

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>.

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

MolProbity : 4-5-2 with Phenix2.0
Mogul : 2022.3.0, CSD as543be (2022)
Xtriage (Phenix) : 2.0
EDS : 3.0
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4 : 9.0.010 (Gargrove)
Density-Fitness : 1.0.12
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

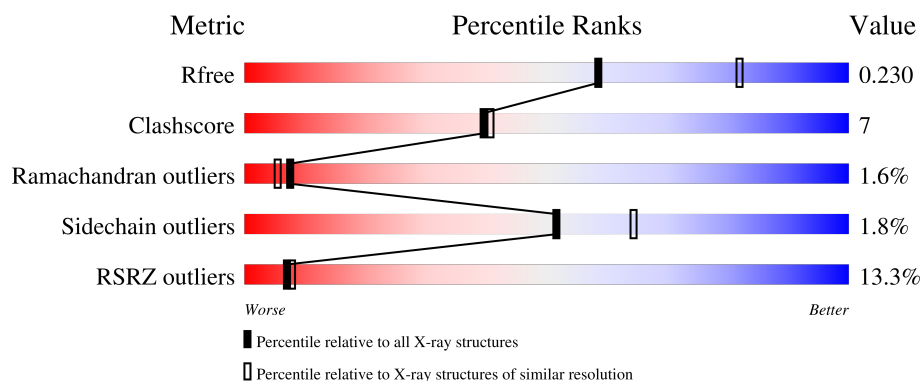
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.34 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}	180053	3031 (2.36-2.32)
Clashscore	190562	3127 (2.36-2.32)
Ramachandran outliers	187476	3095 (2.36-2.32)
Sidechain outliers	187428	3095 (2.36-2.32)
RSRZ outliers	180081	3033 (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 ≥ 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	538	

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
2	URE	A	719	-	-	X	-

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Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
2	URE	A	741	-	-	X	-

2 Entry composition [i](#)

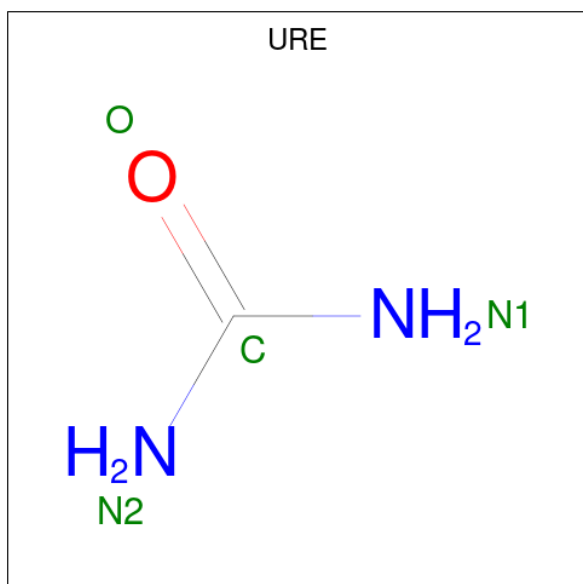
There are 3 unique types of molecules in this entry. The entry contains 4036 atoms, of which 0 are hydrogens and 0 are deuteriums.

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 Catenin beta-1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	490	Total	C	N	O	S	0	1	0
			3727	2342	683	676	26			

- Molecule 2 is UREA (CCD ID: URE) (formula: CH₄N₂O).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
2	A	1	Total	C	N	O	0	0
			4	1	2	1		
2	A	1	Total	C	N	O	0	0
			4	1	2	1		
2	A	1	Total	C	N	O	0	0
			4	1	2	1		
2	A	1	Total	C	N	O	0	0
			4	1	2	1		

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[illegible]

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Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
2	A	1	Total	C	N	O	0	0
			4	1	2	1		
2	A	1	Total	C	N	O	0	0
			4	1	2	1		
2	A	1	Total	C	N	O	0	0
			4	1	2	1		
2	A	1	Total	C	N	O	0	0
			4	1	2	1		
2	A	1	Total	C	N	O	0	0
			4	1	2	1		
2	A	1	Total	C	N	O	0	0
			4	1	2	1		
2	A	1	Total	C	N	O	0	0
			3	1	1	1		

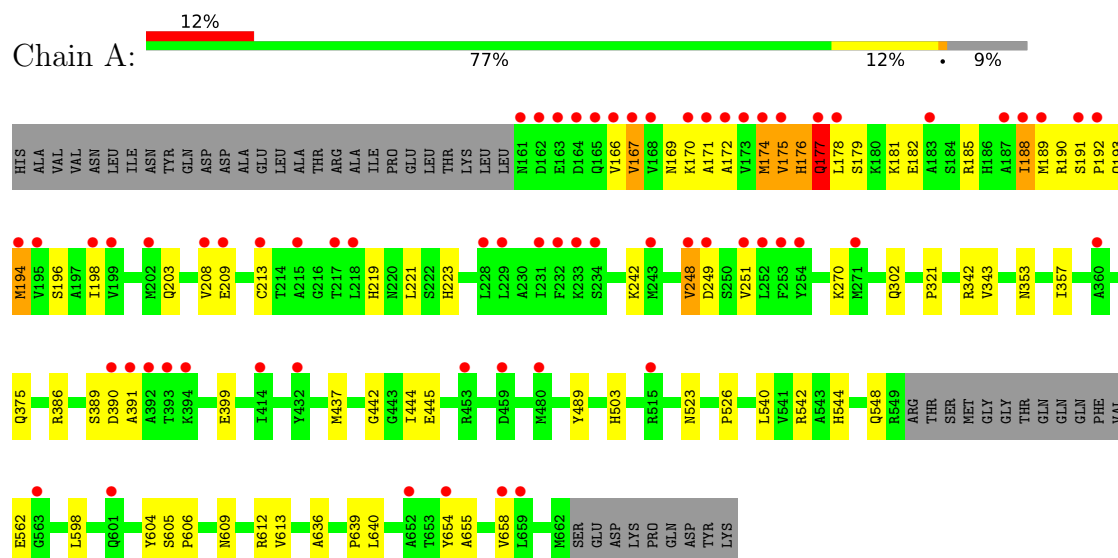
- Molecule 3 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	86	Total	O	0	0
			86	86		

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: Catenin beta-1



4 Data and refinement statistics

Property	Value	Source
Space group	C 2 2 21	Depositor
Cell constants a, b, c, α , β , γ	64.75Å 102.61Å 187.39Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	46.99 – 2.34 46.99 – 2.34	Depositor EDS
% Data completeness (in resolution range)	99.8 (46.99-2.34) 99.7 (46.99-2.34)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	0.07	Depositor
$\langle I/\sigma(I) \rangle$ ¹	5.17 (at 2.27Å)	Xtriage
Refinement program	PHENIX (phenix.refine: 1.7.3_928)	Depositor
R, R_{free}	0.191 , 0.225 0.222 , 0.230	Depositor DCC
R_{free} test set	1495 reflections (5.08%)	wwPDB-VP
Wilson B-factor (Å ²)	39.6	Xtriage
Anisotropy	0.436	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.34 , 58.5	EDS
L-test for twinning ²	$\langle L \rangle = 0.50$, $\langle L^2 \rangle = 0.33$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.95	EDS
Total number of atoms	4036	wwPDB-VP
Average B, all atoms (Å ²)	72.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 5.54% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical 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: URE

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	0.33	0/3779	0.76	0/5127

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	3727	0	3864	54	0
2	A	223	0	222	13	0
3	A	86	0	0	1	0
All	All	4036	0	4086	54	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 (54) 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:166:VAL:O	1:A:167:VAL:HG12	1.43	1.16

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:166:VAL:O	1:A:167:VAL:CG1	2.30	0.76
1:A:177:GLN:OE1	1:A:178:LEU:N	2.21	0.73
1:A:612:ARG:HE	2:A:741:URE:HN21	1.39	0.69
1:A:270:LYS:NZ	3:A:864:HOH:O	2.28	0.66
1:A:193:GLN:O	1:A:196:SER:OG	2.17	0.62
1:A:174:MET:O	1:A:176:HIS:N	2.36	0.59
1:A:503:HIS:CD2	2:A:754:URE:HN11	2.21	0.58
1:A:169:ASN:O	1:A:172:ALA:N	2.25	0.55
1:A:203:GLN:HG3	1:A:242:LYS:HD2	1.89	0.55
1:A:176:HIS:O	1:A:179:SER:OG	2.25	0.54
1:A:171:ALA:HA	1:A:174:MET:HB3	1.90	0.53
1:A:171:ALA:O	1:A:174:MET:HB3	2.09	0.53
1:A:542:ARG:HG2	2:A:736:URE:HN12	1.73	0.53
1:A:248:VAL:HG13	1:A:249:ASP:HB2	1.92	0.51
1:A:188:ILE:O	1:A:191:SER:OG	2.28	0.51
1:A:386:ARG:HH21	2:A:725:URE:HN12	1.59	0.50
1:A:442:GLY:HA2	2:A:719:URE:HN12	1.76	0.50
1:A:604:TYR:CZ	1:A:639:PRO:HG3	2.47	0.50
1:A:612:ARG:NE	2:A:741:URE:HN21	2.08	0.49
1:A:302:GLN:HB2	1:A:343:VAL:HG22	1.95	0.49
1:A:194:MET:O	1:A:198:ILE:HG12	2.13	0.48
1:A:321:PRO:HB3	1:A:357:ILE:HD13	1.94	0.48
1:A:353:ASN:O	1:A:357:ILE:HG12	2.13	0.48
1:A:185:ARG:O	1:A:189:MET:HG2	2.14	0.48
1:A:185:ARG:O	1:A:188:ILE:HG22	2.15	0.47
1:A:489:TYR:HA	2:A:743:URE:HN22	1.78	0.47
1:A:270:LYS:H	2:A:721:URE:HN12	1.62	0.46
1:A:189:MET:HB3	1:A:221:LEU:HD22	1.97	0.46
1:A:190:ARG:O	1:A:192:PRO:HD3	2.16	0.46
1:A:636:ALA:C	1:A:639:PRO:HD2	2.41	0.46
1:A:249:ASP:O	1:A:249:ASP:OD1	2.34	0.45
1:A:444:ILE:HB	2:A:719:URE:HN21	1.82	0.45
1:A:194:MET:HB2	1:A:194:MET:HE3	1.69	0.44
1:A:342:ARG:HG2	2:A:727:URE:HN12	1.82	0.44
1:A:540:LEU:HG	1:A:598:LEU:HD21	2.00	0.43
1:A:445:GLU:HG2	2:A:712:URE:N2	2.33	0.43
1:A:604:TYR:OH	1:A:639:PRO:HG3	2.19	0.42
1:A:442:GLY:HA2	2:A:719:URE:N1	2.34	0.42
1:A:209:GLU:O	1:A:213:CYS:HB2	2.20	0.42
1:A:175:VAL:HG13	1:A:188:ILE:HD11	2.02	0.42
1:A:182:GLU:OE1	1:A:185:ARG:NH1	2.52	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:375:GLN:HG2	2:A:726:URE:HN21	1.85	0.41
1:A:640:LEU:HD22	1:A:655:ALA:HA	2.02	0.41
1:A:523:ASN:C	1:A:526:PRO:HD2	2.46	0.41
1:A:605:SER:HA	1:A:606:PRO:HD3	1.90	0.41
1:A:389:SER:O	1:A:391:ALA:N	2.53	0.41
1:A:654:TYR:O	1:A:658:VAL:HG23	2.21	0.40
1:A:219:HIS:CD2	1:A:223:HIS:HE1	2.39	0.40
1:A:399:GLU:HG3	1:A:437:MET:SD	2.61	0.40
1:A:609:ASN:O	1:A:613:VAL:HG22	2.21	0.40
1:A:544:HIS:O	1:A:548:GLN:HG2	2.20	0.40
1:A:221:LEU:HD23	1:A:221:LEU:HA	1.88	0.40
1:A:188:ILE:CG2	1:A:221:LEU:HD21	2.52	0.40

There are no symmetry-related clashes.

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	487/538 (90%)	467 (96%)	12 (2%)	8 (2%)	7 5

All (8) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	167	VAL
1	A	174	MET
1	A	390	ASP
1	A	175	VAL
1	A	177	GLN
1	A	248	VAL
1	A	170	LYS
1	A	176	HIS

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	401/447 (90%)	394 (98%)	7 (2%)	53 66

All (7) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	177	GLN
1	A	181	LYS
1	A	188	ILE
1	A	194	MET
1	A	208	VAL
1	A	251	VAL
1	A	562	GLU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (7) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	203	GLN
1	A	204	ASN
1	A	223	HIS
1	A	322	GLN
1	A	488	HIS
1	A	530	GLN
1	A	548	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 ⓘ

There are no oligosaccharides in this entry.

5.6 Ligand geometry ⓘ

56 ligands are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. 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 $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
2	URE	A	705	-	3,3,3	1.29	1 (33%)	3,3,3	0.75	0
2	URE	A	719	-	3,3,3	1.29	1 (33%)	3,3,3	0.92	0
2	URE	A	707	-	3,3,3	1.29	1 (33%)	3,3,3	0.87	0
2	URE	A	721	-	3,3,3	1.30	1 (33%)	3,3,3	0.84	0
2	URE	A	740	-	3,3,3	1.28	1 (33%)	3,3,3	0.82	0
2	URE	A	751	-	3,3,3	1.26	0	3,3,3	0.78	0
2	URE	A	709	-	3,3,3	1.28	1 (33%)	3,3,3	0.82	0
2	URE	A	734	-	3,3,3	1.28	0	3,3,3	0.80	0
2	URE	A	715	-	3,3,3	1.29	1 (33%)	3,3,3	0.80	0
2	URE	A	712	-	3,3,3	1.30	1 (33%)	3,3,3	0.72	0
2	URE	A	725	-	3,3,3	1.30	1 (33%)	3,3,3	0.89	0
2	URE	A	713	-	3,3,3	1.28	1 (33%)	3,3,3	0.67	0
2	URE	A	754	-	3,3,3	1.30	0	3,3,3	0.60	0
2	URE	A	714	-	3,3,3	1.30	1 (33%)	3,3,3	0.85	0
2	URE	A	752	-	3,3,3	1.30	1 (33%)	3,3,3	0.94	0
2	URE	A	731	-	3,3,3	1.29	1 (33%)	3,3,3	0.84	0
2	URE	A	746	-	3,3,3	1.30	1 (33%)	3,3,3	0.84	0
2	URE	A	755	-	3,3,3	1.30	1 (33%)	3,3,3	0.84	0
2	URE	A	702	-	3,3,3	1.27	1 (33%)	3,3,3	0.78	0
2	URE	A	730	-	3,3,3	1.28	1 (33%)	3,3,3	0.89	0
2	URE	A	708	-	3,3,3	1.29	1 (33%)	3,3,3	0.78	0
2	URE	A	728	-	3,3,3	1.30	1 (33%)	3,3,3	0.80	0
2	URE	A	729	-	3,3,3	1.29	1 (33%)	3,3,3	0.82	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
2	URE	A	701	-	3,3,3	1.30	1 (33%)	3,3,3	0.79	0
2	URE	A	720	-	3,3,3	1.28	1 (33%)	3,3,3	0.76	0
2	URE	A	724	-	3,3,3	1.29	1 (33%)	3,3,3	0.80	0
2	URE	A	739	-	3,3,3	1.26	1 (33%)	3,3,3	0.77	0
2	URE	A	744	-	3,3,3	1.27	1 (33%)	3,3,3	0.79	0
2	URE	A	710	-	3,3,3	1.29	1 (33%)	3,3,3	0.79	0
2	URE	A	711	-	3,3,3	1.28	1 (33%)	3,3,3	0.83	0
2	URE	A	750	-	3,3,3	1.29	1 (33%)	3,3,3	0.82	0
2	URE	A	717	-	3,3,3	1.26	0	3,3,3	0.81	0
2	URE	A	706	-	3,3,3	1.28	1 (33%)	3,3,3	0.83	0
2	URE	A	722	-	3,3,3	1.29	1 (33%)	3,3,3	0.84	0
2	URE	A	726	-	3,3,3	1.28	1 (33%)	3,3,3	0.79	0
2	URE	A	735	-	3,3,3	1.28	1 (33%)	3,3,3	0.78	0
2	URE	A	723	-	3,3,3	1.28	1 (33%)	3,3,3	0.79	0
2	URE	A	727	-	3,3,3	1.29	1 (33%)	3,3,3	0.84	0
2	URE	A	733	-	3,3,3	1.28	1 (33%)	3,3,3	0.78	0
2	URE	A	756	-	2,2,3	0.91	0	1,1,3	0.78	0
2	URE	A	743	-	3,3,3	1.27	1 (33%)	3,3,3	0.83	0
2	URE	A	716	-	3,3,3	1.28	1 (33%)	3,3,3	0.80	0
2	URE	A	749	-	3,3,3	1.30	1 (33%)	3,3,3	0.94	0
2	URE	A	704	-	3,3,3	1.30	1 (33%)	3,3,3	0.81	0
2	URE	A	736	-	3,3,3	1.30	1 (33%)	3,3,3	0.79	0
2	URE	A	753	-	3,3,3	1.29	1 (33%)	3,3,3	0.81	0
2	URE	A	737	-	3,3,3	1.30	1 (33%)	3,3,3	0.74	0
2	URE	A	732	-	3,3,3	1.28	1 (33%)	3,3,3	0.73	0
2	URE	A	718	-	3,3,3	1.27	1 (33%)	3,3,3	0.87	0
2	URE	A	741	-	3,3,3	1.31	1 (33%)	3,3,3	0.80	0
2	URE	A	703	-	3,3,3	1.29	1 (33%)	3,3,3	0.80	0
2	URE	A	738	-	3,3,3	1.29	1 (33%)	3,3,3	0.81	0
2	URE	A	747	-	3,3,3	1.28	1 (33%)	3,3,3	0.80	0
2	URE	A	745	-	3,3,3	1.26	0	3,3,3	0.82	0
2	URE	A	748	-	3,3,3	1.26	0	3,3,3	0.84	0
2	URE	A	742	-	3,3,3	1.26	0	3,3,3	0.76	0

All (48) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A	752	URE	O-C	-2.07	1.18	1.26
2	A	714	URE	O-C	-2.06	1.18	1.26
2	A	719	URE	O-C	-2.06	1.18	1.26
2	A	728	URE	O-C	-2.06	1.18	1.26
2	A	731	URE	O-C	-2.06	1.18	1.26
2	A	749	URE	O-C	-2.05	1.18	1.26
2	A	725	URE	O-C	-2.05	1.18	1.26
2	A	701	URE	O-C	-2.05	1.18	1.26
2	A	741	URE	O-C	-2.05	1.18	1.26
2	A	722	URE	O-C	-2.04	1.18	1.26
2	A	727	URE	O-C	-2.04	1.18	1.26
2	A	721	URE	O-C	-2.04	1.18	1.26
2	A	750	URE	O-C	-2.04	1.18	1.26
2	A	753	URE	O-C	-2.04	1.18	1.26
2	A	755	URE	O-C	-2.04	1.18	1.26
2	A	738	URE	O-C	-2.04	1.18	1.26
2	A	708	URE	O-C	-2.04	1.18	1.26
2	A	703	URE	O-C	-2.03	1.18	1.26
2	A	735	URE	O-C	-2.03	1.18	1.26
2	A	715	URE	O-C	-2.03	1.18	1.26
2	A	736	URE	O-C	-2.03	1.18	1.26
2	A	746	URE	O-C	-2.03	1.18	1.26
2	A	705	URE	O-C	-2.03	1.18	1.26
2	A	730	URE	O-C	-2.03	1.18	1.26
2	A	712	URE	O-C	-2.03	1.18	1.26
2	A	737	URE	O-C	-2.03	1.18	1.26
2	A	724	URE	O-C	-2.03	1.18	1.26
2	A	704	URE	O-C	-2.03	1.18	1.26
2	A	710	URE	O-C	-2.03	1.18	1.26
2	A	707	URE	O-C	-2.03	1.19	1.26
2	A	711	URE	O-C	-2.02	1.19	1.26
2	A	709	URE	O-C	-2.02	1.19	1.26
2	A	723	URE	O-C	-2.02	1.19	1.26
2	A	729	URE	O-C	-2.02	1.19	1.26
2	A	747	URE	O-C	-2.02	1.19	1.26
2	A	713	URE	O-C	-2.02	1.19	1.26
2	A	716	URE	O-C	-2.02	1.19	1.26
2	A	706	URE	O-C	-2.02	1.19	1.26
2	A	726	URE	O-C	-2.02	1.19	1.26
2	A	743	URE	O-C	-2.02	1.19	1.26
2	A	718	URE	O-C	-2.01	1.19	1.26
2	A	740	URE	O-C	-2.01	1.19	1.26
2	A	732	URE	O-C	-2.01	1.19	1.26

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	A	733	URE	O-C	-2.01	1.19	1.26
2	A	744	URE	O-C	-2.01	1.19	1.26
2	A	702	URE	O-C	-2.01	1.19	1.26
2	A	739	URE	O-C	-2.01	1.19	1.26
2	A	720	URE	O-C	-2.00	1.19	1.26

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

10 monomers are involved in 13 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	A	719	URE	3	0
2	A	721	URE	1	0
2	A	712	URE	1	0
2	A	725	URE	1	0
2	A	754	URE	1	0
2	A	726	URE	1	0
2	A	727	URE	1	0
2	A	743	URE	1	0
2	A	736	URE	1	0
2	A	741	URE	2	0

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, 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	490/538 (91%)	0.98	65 (13%) 7 8	23, 60, 138, 156	2 (0%)

All (65) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	248	VAL	6.8
1	A	166	VAL	5.7
1	A	164	ASP	5.4
1	A	168	VAL	4.9
1	A	163	GLU	4.3
1	A	167	VAL	4.3
1	A	161	ASN	4.1
1	A	165	GLN	3.9
1	A	392	ALA	3.7
1	A	183	ALA	3.6
1	A	172	ALA	3.5
1	A	229	LEU	3.5
1	A	251	VAL	3.4
1	A	391	ALA	3.3
1	A	162	ASP	3.3
1	A	194	MET	3.3
1	A	393	THR	3.1
1	A	249	ASP	3.1
1	A	173	VAL	3.1
1	A	171	ALA	2.9
1	A	188	ILE	2.9
1	A	234	SER	2.9
1	A	187	ALA	2.9
1	A	202	MET	2.9
1	A	271	MET	2.9
1	A	515[A]	ARG	2.8
1	A	198	ILE	2.8

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Mol	Chain	Res	Type	RSRZ
1	A	253	PHE	2.8
1	A	178	LEU	2.7
1	A	390	ASP	2.6
1	A	170	LYS	2.6
1	A	208	VAL	2.6
1	A	459	ASP	2.5
1	A	174	MET	2.5
1	A	652	ALA	2.5
1	A	175	VAL	2.5
1	A	209	GLU	2.4
1	A	199	VAL	2.4
1	A	192	PRO	2.4
1	A	480	MET	2.4
1	A	254	TYR	2.4
1	A	215	ALA	2.4
1	A	177	GLN	2.4
1	A	654	TYR	2.4
1	A	563	GLY	2.4
1	A	191	SER	2.3
1	A	228	LEU	2.3
1	A	232	PHE	2.3
1	A	360	ALA	2.3
1	A	453	ARG	2.3
1	A	231	ILE	2.3
1	A	394	LYS	2.3
1	A	195	VAL	2.3
1	A	252	LEU	2.2
1	A	233	LYS	2.2
1	A	659	LEU	2.2
1	A	189	MET	2.2
1	A	601	GLN	2.1
1	A	218	LEU	2.1
1	A	432	TYR	2.1
1	A	217	THR	2.0
1	A	213	CYS	2.0
1	A	658	VAL	2.0
1	A	243	MET	2.0
1	A	414	ILE	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 oligosaccharides in this entry.

6.4 Ligands ⓘ

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, 95th 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 ²)	Q<0.9
2	URE	A	756	3/4	0.35	0.21	102,102,105,108	0
2	URE	A	750	4/4	0.45	0.16	99,113,124,132	0
2	URE	A	754	4/4	0.49	0.25	86,96,102,116	0
2	URE	A	751	4/4	0.49	0.27	62,96,97,109	0
2	URE	A	712	4/4	0.57	0.17	77,99,101,103	0
2	URE	A	755	4/4	0.58	0.23	97,98,113,119	0
2	URE	A	716	4/4	0.58	0.18	95,97,102,117	0
2	URE	A	726	4/4	0.61	0.15	85,92,97,99	0
2	URE	A	715	4/4	0.63	0.20	75,84,100,107	0
2	URE	A	727	4/4	0.64	0.19	79,93,98,113	0
2	URE	A	721	4/4	0.64	0.15	92,93,106,112	0
2	URE	A	719	4/4	0.64	0.24	58,82,82,85	0
2	URE	A	749	4/4	0.67	0.36	76,79,95,97	0
2	URE	A	746	4/4	0.69	0.17	98,109,116,127	0
2	URE	A	740	4/4	0.71	0.19	88,97,99,106	0
2	URE	A	729	4/4	0.71	0.18	91,103,104,104	0
2	URE	A	710	4/4	0.72	0.20	78,87,91,119	0
2	URE	A	741	4/4	0.73	0.18	99,104,111,115	0
2	URE	A	742	4/4	0.73	0.20	70,84,94,99	0
2	URE	A	732	4/4	0.73	0.17	79,94,96,97	0
2	URE	A	736	4/4	0.74	0.19	69,88,90,96	0
2	URE	A	738	4/4	0.74	0.19	63,90,92,96	0
2	URE	A	713	4/4	0.74	0.21	75,101,103,120	0
2	URE	A	725	4/4	0.74	0.14	83,90,95,96	0
2	URE	A	709	4/4	0.74	0.15	78,84,90,100	0
2	URE	A	744	4/4	0.74	0.19	72,82,92,105	0
2	URE	A	745	4/4	0.74	0.14	85,86,98,106	0
2	URE	A	722	4/4	0.75	0.14	77,81,94,102	0
2	URE	A	730	4/4	0.76	0.15	87,87,106,113	0
2	URE	A	724	4/4	0.76	0.14	84,88,99,101	0
2	URE	A	748	4/4	0.76	0.23	65,74,107,111	0
2	URE	A	753	4/4	0.78	0.12	94,96,99,103	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
2	URE	A	733	4/4	0.78	0.15	88,99,105,112	0
2	URE	A	747	4/4	0.78	0.14	85,88,94,103	0
2	URE	A	752	4/4	0.78	0.22	70,78,91,96	0
2	URE	A	717	4/4	0.80	0.23	75,83,93,94	0
2	URE	A	728	4/4	0.80	0.16	87,89,98,124	0
2	URE	A	731	4/4	0.81	0.22	66,75,81,92	0
2	URE	A	739	4/4	0.81	0.30	64,67,101,102	0
2	URE	A	707	4/4	0.81	0.15	81,84,99,112	0
2	URE	A	703	4/4	0.83	0.24	74,79,97,98	0
2	URE	A	734	4/4	0.84	0.11	78,86,98,101	0
2	URE	A	711	4/4	0.84	0.18	73,73,75,87	0
2	URE	A	714	4/4	0.84	0.20	77,80,95,98	0
2	URE	A	720	4/4	0.84	0.18	67,83,89,101	0
2	URE	A	718	4/4	0.85	0.14	67,82,95,103	0
2	URE	A	706	4/4	0.86	0.14	69,72,74,94	0
2	URE	A	737	4/4	0.86	0.17	83,84,94,96	0
2	URE	A	735	4/4	0.87	0.15	71,81,84,97	0
2	URE	A	701	4/4	0.88	0.15	46,47,48,52	4
2	URE	A	743	4/4	0.89	0.19	58,81,96,99	0
2	URE	A	723	4/4	0.89	0.13	64,74,83,87	0
2	URE	A	704	4/4	0.92	0.10	49,53,54,62	0
2	URE	A	702	4/4	0.93	0.15	44,50,59,60	0
2	URE	A	705	4/4	0.93	0.10	49,52,53,59	0
2	URE	A	708	4/4	0.95	0.10	59,59,71,87	0

6.5 Other polymers

There are no such residues in this entry.