



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 6, 2026 – 05:24 PM UTC

PDB ID : 7FNT / pdb_00007fnt
Title : PanDDA analysis group deposition – Aar2/RNaseH in complex with fragment P07E12 from the F2X-Universal Library
Authors : Barthel, T.; Wollenhaupt, J.; Lima, G.M.A.; Wahl, M.C.; Weiss, M.S.
Deposited on : 2022-08-26
Resolution : 1.61 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

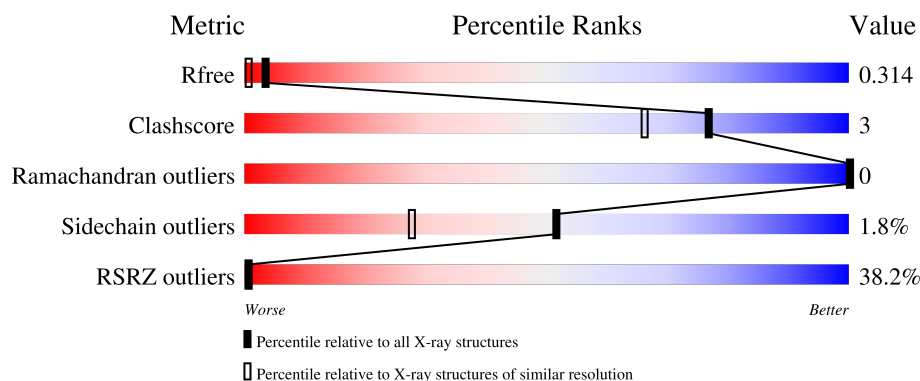
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 1.61 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	6728 (1.64-1.60)
Clashscore	190562	7023 (1.64-1.60)
Ramachandran outliers	187476	6898 (1.64-1.60)
Sidechain outliers	187428	6896 (1.64-1.60)
RSRZ outliers	180081	6727 (1.64-1.60)

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 ≥ 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	258	31% 84% 8% 8%
2	B	308	40% 86% 10% ..

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
3	VYB	B	402	-	X	-	-

2 Entry composition

There are 4 unique types of molecules in this entry. The entry contains 4700 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 Pre-mRNA-splicing factor 8.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	237	Total	C	N	O	S	0	12	0
			2008	1287	336	373	12			

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	1833	GLY	-	expression tag	UNP P33334
A	1834	ALA	-	expression tag	UNP P33334
A	1835	MET	-	expression tag	UNP P33334

- Molecule 2 is a protein called A1 cistron-splicing factor AAR2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	300	Total	C	N	O	S	0	9	0
			2580	1654	421	485	20			

There are 20 discrepancies between the modelled and reference sequences:

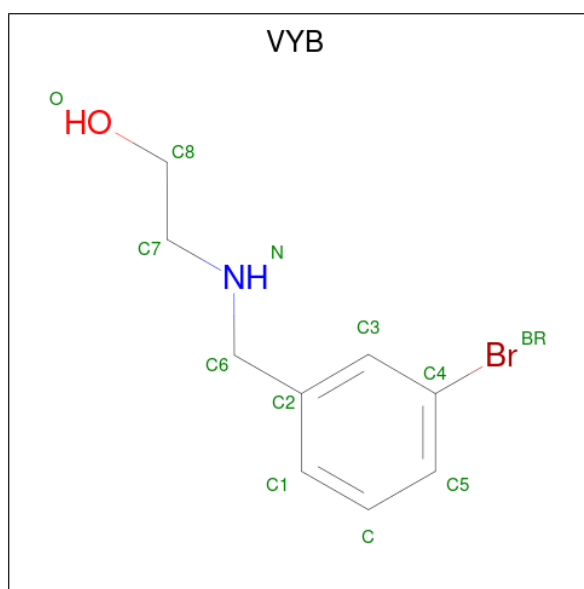
Chain	Residue	Modelled	Actual	Comment	Reference
B	-3	GLY	-	expression tag	UNP P32357
B	-2	ALA	-	expression tag	UNP P32357
B	-1	MET	-	expression tag	UNP P32357
B	0	ALA	-	expression tag	UNP P32357
B	166	SER	LEU	conflict	UNP P32357
B	167	SER	LYS	conflict	UNP P32357
B	?	-	LEU	deletion	UNP P32357
B	?	-	GLN	deletion	UNP P32357
B	?	-	LYS	deletion	UNP P32357
B	?	-	ALA	deletion	UNP P32357
B	?	-	GLY	deletion	UNP P32357
B	?	-	SER	deletion	UNP P32357
B	?	-	LYS	deletion	UNP P32357

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Chain	Residue	Modelled	Actual	Comment	Reference
B	?	-	MET	deletion	UNP P32357
B	?	-	GLU	deletion	UNP P32357
B	?	-	ALA	deletion	UNP P32357
B	?	-	LYS	deletion	UNP P32357
B	?	-	ASN	deletion	UNP P32357
B	?	-	GLU	deletion	UNP P32357
B	170	SER	ASP	conflict	UNP P32357

- Molecule 3 is 2-[[[(3-bromophenyl)methyl]amino]ethan-1-ol (CCD ID: VYB) (formula: C₉H₁₂BrNO).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
3	B	1	Total	Br	C	N	O	0	0
			12	1	9	1	1		
3	B	1	Total	Br	C	N	O	0	0
			12	1	9	1	1		
3	B	1	Total	Br	C	N	O	0	0
			12	1	9	1	1		

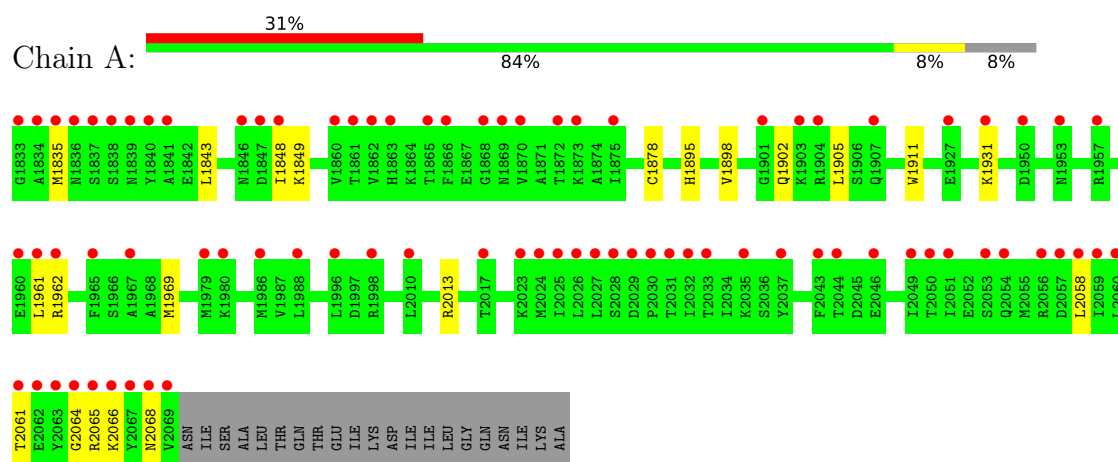
- Molecule 4 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	38	Total	O	0	0
			38	38		
4	B	38	Total	O	0	0
			38	38		

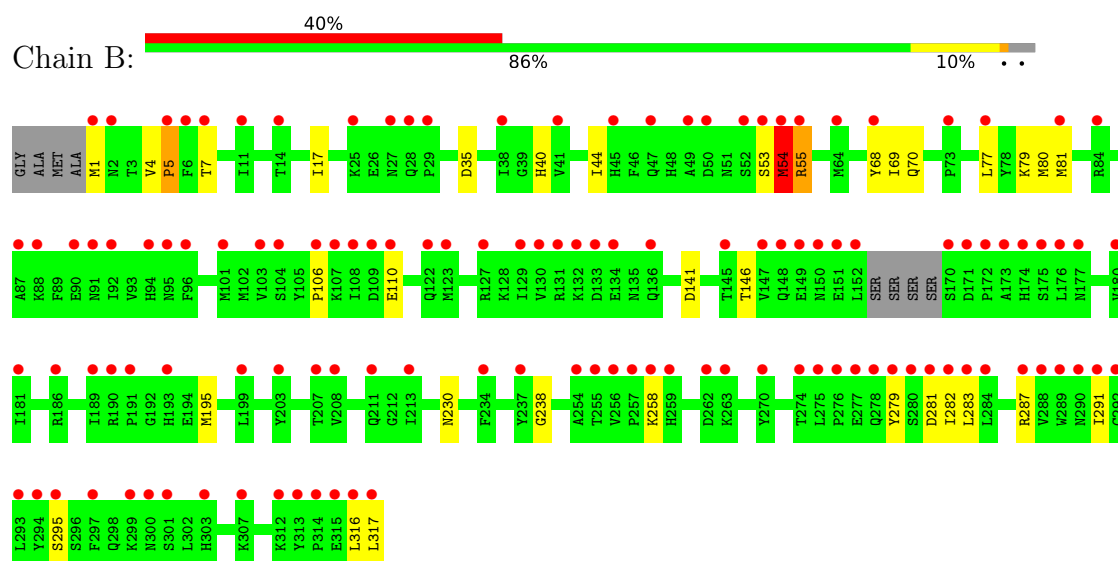
3 Residue-property plots

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: Pre-mRNA-splicing factor 8



• Molecule 2: A1 cistron-splicing factor AAR2



4 Data and refinement statistics

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, α , β , γ	88.96Å 82.05Å 93.87Å 90.00° 108.37° 90.00°	Depositor
Resolution (Å)	44.78 – 1.61 44.78 – 1.61	Depositor EDS
% Data completeness (in resolution range)	99.1 (44.78-1.61) 99.8 (44.78-1.61)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	0.95 (at 1.61Å)	Xtriage
Refinement program	PHENIX 1.17.1_3660	Depositor
R, R_{free}	0.287 , 0.315 0.287 , 0.314	Depositor DCC
R_{free} test set	2093 reflections (2.52%)	wwPDB-VP
Wilson B-factor (Å ²)	37.2	Xtriage
Anisotropy	0.359	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.36 , 38.4	EDS
L-test for twinning ²	$\langle L \rangle = 0.50$, $\langle L^2 \rangle = 0.34$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o, F_c correlation	0.94	EDS
Total number of atoms	4700	wwPDB-VP
Average B, all atoms (Å ²)	59.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 5.38% 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

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: VYB

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	0.45	0/2055	0.59	0/2784
2	B	0.87	9/2651 (0.3%)	1.07	20/3581 (0.6%)
All	All	0.72	9/4706 (0.2%)	0.90	20/6365 (0.3%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
2	B	0	2

All (9) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	B	5	PRO	N-CA	17.91	1.68	1.47
2	B	55	ARG	N-CA	7.54	1.55	1.45
2	B	4	VAL	C-N	7.50	1.43	1.33
2	B	230[A]	ASN	C-O	6.93	1.32	1.24
2	B	230[B]	ASN	C-O	6.93	1.32	1.24
2	B	54[A]	MET	C-N	5.99	1.41	1.33
2	B	54[B]	MET	C-N	5.99	1.41	1.33
2	B	7	THR	C-O	-5.94	1.17	1.24
2	B	53	SER	C-O	-5.40	1.17	1.23

All (20) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	4	VAL	CA-C-N	15.20	135.20	119.85
2	B	4	VAL	C-N-CA	15.20	135.20	119.85

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	B	5	PRO	CB-CA-C	11.11	125.53	110.98
2	B	230[A]	ASN	CA-C-O	9.65	131.01	120.10
2	B	230[B]	ASN	CA-C-O	9.65	131.01	120.10
2	B	54[A]	MET	CA-C-N	-8.89	106.63	121.39
2	B	54[A]	MET	C-N-CA	-8.89	106.63	121.39
2	B	54[B]	MET	CA-C-N	-8.89	106.63	121.39
2	B	54[B]	MET	C-N-CA	-8.89	106.63	121.39
2	B	7	THR	N-CA-C	-6.78	103.89	111.28
2	B	70	GLN	CB-CA-C	-6.39	98.46	109.65
2	B	230[A]	ASN	O-C-N	-6.18	114.98	122.22
2	B	230[B]	ASN	O-C-N	-6.18	114.98	122.22
2	B	5	PRO	N-CA-C	-5.96	101.90	111.38
2	B	5	PRO	CA-N-CD	-5.71	104.00	112.00
2	B	141	ASP	CA-C-N	5.67	128.66	120.38
2	B	141	ASP	C-N-CA	5.67	128.66	120.38
2	B	279	TYR	CB-CA-C	-5.62	100.97	110.64
2	B	7	THR	CA-C-O	-5.42	114.80	120.55
2	B	7	THR	CB-CA-C	5.19	119.40	110.79

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	B	54[A]	MET	Mainchain
2	B	54[B]	MET	Mainchain

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	2008	0	2041	12	1
2	B	2580	0	2450	15	1
3	B	36	0	0	0	0
4	A	38	0	0	0	0
4	B	38	0	0	1	0
All	All	4700	0	4491	26	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 3.

All (26) 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)
2:B:5:PRO:N	2:B:5:PRO:CA	1.68	1.39
2:B:77:LEU:HD21	2:B:79:LYS:HE3	1.77	0.67
2:B:5:PRO:N	2:B:5:PRO:C	2.50	0.66
1:A:1835:MET:HE1	1:A:1961:LEU:HD12	1.84	0.60
2:B:1:MET:HB3	2:B:35:ASP:HA	1.88	0.54
2:B:17:ILE:HD13	2:B:44[B]:ILE:CG1	2.40	0.52
1:A:1895:HIS:O	1:A:1898[A]:VAL:HG22	2.10	0.51
1:A:1878:CYS:SG	1:A:1969:MET:HE3	2.51	0.50
2:B:17:ILE:HD13	2:B:44[B]:ILE:HG12	1.93	0.49
1:A:1911:TRP:CD1	2:B:195:MET:HE3	2.47	0.49
2:B:40:HIS:HD2	4:B:510:HOH:O	1.95	0.49
1:A:1848:ILE:H	1:A:1931[A]:LYS:HZ2	1.62	0.47
2:B:258:LYS:HD2	2:B:258:LYS:H	1.79	0.47
2:B:68:TYR:CE2	2:B:81:MET:HE3	2.50	0.46
1:A:1843:LEU:HA	1:A:1849:LYS:HD2	1.97	0.46
2:B:287:ARG:O	2:B:291:ILE:HD13	2.17	0.45
1:A:1962:ARG:O	1:A:2013:ARG:NH2	2.50	0.45
2:B:110:GLU:HG2	2:B:110:GLU:O	2.17	0.44
1:A:2061:THR:O	1:A:2064:GLY:N	2.48	0.43
2:B:77:LEU:N	2:B:77:LEU:HD23	2.33	0.42
1:A:2058:LEU:C	1:A:2058:LEU:HD23	2.45	0.41
1:A:1902:GLN:HB2	1:A:1905:LEU:HD21	2.02	0.41
2:B:69:ILE:HD13	2:B:80:MET:HA	2.02	0.41
2:B:146:THR:HG23	2:B:238:GLY:HA3	2.02	0.41
1:A:2064:GLY:O	1:A:2068:ASN:N	2.53	0.41
1:A:1962:ARG:HD3	1:A:1962:ARG:H	1.85	0.41

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:A:2065:ARG:O	2:B:55:ARG:NH2[2_655]	1.49	0.71

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	248/258 (96%)	242 (98%)	6 (2%)	0	100	100
2	B	306/308 (99%)	293 (96%)	13 (4%)	0	100	100
All	All	554/566 (98%)	535 (97%)	19 (3%)	0	100	100

There are no Ramachandran outliers to report.

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	228/233 (98%)	227 (100%)	1 (0%)	84	75
2	B	287/284 (101%)	278 (97%)	9 (3%)	35	12
All	All	515/517 (100%)	505 (98%)	10 (2%)	51	26

All (10) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	2066	LYS
2	B	54[A]	MET
2	B	54[B]	MET
2	B	106	PRO
2	B	281	ASP
2	B	282	ILE
2	B	283	LEU
2	B	295	SER

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Mol	Chain	Res	Type
2	B	316	LEU
2	B	317	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (6) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	1863	HIS
1	A	1907	GLN
2	B	40	HIS
2	B	150	ASN
2	B	206	ASN
2	B	259	HIS

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](#)

3 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	$\# Z > 2$
3	VYB	B	401	-	12,12,12	1.01	0	14,14,14	1.09	2 (14%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
3	VYB	B	403	-	12,12,12	2.12	5 (41%)	14,14,14	1.06	1 (7%)
3	VYB	B	402	-	12,12,12	1.93	3 (25%)	14,14,14	2.08	7 (50%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	VYB	B	401	-	-	1/5/5/5	0/1/1/1
3	VYB	B	403	-	-	3/5/5/5	0/1/1/1
3	VYB	B	402	-	-	3/5/5/5	0/1/1/1

All (8) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	B	402	VYB	BR-C4	-3.84	1.82	1.90
3	B	403	VYB	BR-C4	-3.63	1.83	1.90
3	B	402	VYB	C6-C2	-3.09	1.44	1.51
3	B	403	VYB	C7-N	3.08	1.57	1.47
3	B	402	VYB	C-C1	-3.05	1.33	1.38
3	B	403	VYB	C6-N	2.95	1.59	1.45
3	B	403	VYB	C5-C4	-2.93	1.32	1.38
3	B	403	VYB	C7-C8	2.47	1.58	1.50

All (10) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	B	402	VYB	BR-C4-C3	3.24	123.82	119.23
3	B	402	VYB	O-C8-C7	-3.04	100.35	111.50
3	B	402	VYB	C1-C2-C3	2.93	122.59	118.55
3	B	402	VYB	C2-C6-N	-2.81	103.94	112.79
3	B	402	VYB	BR-C4-C5	-2.75	115.56	119.30
3	B	401	VYB	O-C8-C7	-2.42	102.61	111.50
3	B	403	VYB	BR-C4-C5	-2.33	116.12	119.30
3	B	402	VYB	C8-C7-N	-2.13	104.63	110.71
3	B	401	VYB	C2-C6-N	-2.08	106.23	112.79
3	B	402	VYB	C6-C2-C1	-2.02	116.82	120.94

There are no chirality outliers.

All (7) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	B	402	VYB	N-C7-C8-O
3	B	402	VYB	C2-C6-N-C7
3	B	403	VYB	C2-C6-N-C7
3	B	402	VYB	C8-C7-N-C6
3	B	403	VYB	C8-C7-N-C6
3	B	403	VYB	N-C7-C8-O
3	B	401	VYB	C2-C6-N-C7

There are no ring outliers.

No monomer is involved in short contacts.

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	237/258 (91%)	2.00	81 (34%) 1 1	19, 47, 116, 161	12 (5%)
2	B	300/308 (97%)	2.05	124 (41%) 0 0	17, 51, 113, 151	9 (3%)
All	All	537/566 (94%)	2.03	205 (38%) 1 1	17, 50, 113, 161	21 (3%)

All (205) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	1979[A]	MET	13.3
1	A	2060	LEU	10.4
1	A	2069	VAL	10.1
2	B	283	LEU	8.7
2	B	282	ILE	8.2
1	A	1834	ALA	7.8
2	B	316	LEU	7.7
1	A	2061	THR	7.6
2	B	275	LEU	7.4
1	A	2064	GLY	7.1
1	A	1835	MET	6.9
2	B	108	ILE	6.6
1	A	2063	TYR	6.5
2	B	313	TYR	6.4
1	A	2017[A]	THR	6.1
1	A	1833	GLY	6.1
2	B	54[A]	MET	6.1
2	B	152	LEU	6.1
1	A	1840	TYR	5.9
2	B	279	TYR	5.6
2	B	101	MET	5.5
1	A	2065	ARG	5.4
2	B	172	PRO	5.3
1	A	2027	LEU	5.2

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Mol	Chain	Res	Type	RSRZ
2	B	49	ALA	5.2
2	B	122[A]	GLN	5.1
1	A	1836	ASN	5.1
1	A	2032	ILE	5.0
2	B	173	ALA	5.0
1	A	2066	LYS	5.0
1	A	2068	ASN	5.0
2	B	290	ASN	4.8
2	B	213	ILE	4.8
2	B	174	HIS	4.8
2	B	211[A]	GLN	4.8
2	B	180	VAL	4.6
2	B	291	ILE	4.5
2	B	276	PRO	4.4
1	A	1862	VAL	4.4
1	A	2058	LEU	4.4
1	A	1927	GLU	4.3
2	B	237	TYR	4.3
2	B	1	MET	4.3
2	B	129	ILE	4.2
1	A	1866	PHE	4.2
1	A	1953	ASN	4.2
2	B	29	PRO	4.2
1	A	2067	TYR	4.1
2	B	134	GLU	4.0
2	B	170	SER	4.0
2	B	132	LYS	4.0
2	B	87	ALA	3.9
2	B	317	LEU	3.9
1	A	1837	SER	3.8
1	A	2049	ILE	3.8
1	A	2059	ILE	3.8
2	B	147	VAL	3.8
2	B	288	VAL	3.8
2	B	52	SER	3.8
2	B	294	TYR	3.7
2	B	258	LYS	3.7
1	A	1841	ALA	3.7
2	B	77	LEU	3.7
2	B	107	LYS	3.6
2	B	84	ARG	3.6
2	B	295	SER	3.6

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Mol	Chain	Res	Type	RSRZ
2	B	28	GLN	3.6
2	B	106	PRO	3.5
1	A	1950	ASP	3.5
1	A	2025	ILE	3.5
2	B	41[A]	VAL	3.5
1	A	2028	SER	3.5
2	B	55	ARG	3.5
1	A	1961	LEU	3.4
1	A	2044	THR	3.4
2	B	95	ASN	3.4
2	B	293	LEU	3.4
2	B	203[A]	TYR	3.4
2	B	96	PHE	3.4
2	B	257	PRO	3.3
1	A	2062	GLU	3.2
1	A	1875	ILE	3.2
1	A	2030	PRO	3.2
1	A	1839	ASN	3.2
1	A	1860	VAL	3.2
1	A	1861	THR	3.2
2	B	11	ILE	3.2
1	A	1962	ARG	3.2
2	B	92	ILE	3.1
2	B	131	ARG	3.1
2	B	307	LYS	3.1
2	B	150	ASN	3.1
2	B	110	GLU	3.1
2	B	171	ASP	3.1
2	B	2	ASN	3.1
1	A	1838	SER	3.1
2	B	193	HIS	3.0
2	B	254	ALA	3.0
1	A	2033	THR	3.0
2	B	25	LYS	3.0
1	A	2056[A]	ARG	3.0
1	A	1988	LEU	3.0
2	B	314	PRO	3.0
2	B	81	MET	2.9
1	A	1998	ARG	2.9
2	B	50	ASP	2.9
1	A	2024[A]	MET	2.9
2	B	45	HIS	2.9

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Mol	Chain	Res	Type	RSRZ
1	A	1870	VAL	2.9
1	A	1868	GLY	2.9
2	B	148	GLN	2.9
2	B	91	ASN	2.9
2	B	301	SER	2.9
2	B	27	ASN	2.9
1	A	2053[A]	SER	2.8
2	B	191	PRO	2.8
2	B	278	GLN	2.8
2	B	130	VAL	2.8
2	B	208	VAL	2.8
2	B	176	LEU	2.8
2	B	284	LEU	2.8
1	A	1863	HIS	2.8
2	B	109	ASP	2.8
1	A	2050	THR	2.8
2	B	38	ILE	2.7
2	B	177[A]	ASN	2.7
2	B	312	LYS	2.7
2	B	133	ASP	2.7
2	B	281	ASP	2.7
2	B	7	THR	2.7
1	A	1903	LYS	2.7
1	A	1846	ASN	2.6
1	A	1901	GLY	2.6
1	A	1980	LYS	2.6
1	A	1904	ARG	2.6
2	B	73	PRO	2.6
1	A	2043	PHE	2.6
1	A	1996	LEU	2.6
2	B	277	GLU	2.6
1	A	2037	TYR	2.6
1	A	1986	MET	2.6
2	B	207	THR	2.6
2	B	315	GLU	2.6
2	B	289	TRP	2.6
1	A	2057[A]	ASP	2.5
2	B	234	PHE	2.5
1	A	1873	LYS	2.5
2	B	136	GLN	2.5
1	A	1872	THR	2.5
1	A	2031	THR	2.5

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Mol	Chain	Res	Type	RSRZ
2	B	189	ILE	2.5
2	B	299	LYS	2.5
2	B	292	CYS	2.4
1	A	1960[A]	GLU	2.4
2	B	5	PRO	2.4
2	B	186	ARG	2.4
2	B	303	HIS	2.4
2	B	280	SER	2.4
2	B	127	ARG	2.4
2	B	270	TYR	2.4
2	B	53	SER	2.3
2	B	262	ASP	2.3
1	A	2054	GLN	2.3
2	B	47	GLN	2.3
2	B	175	SER	2.3
2	B	149	GLU	2.3
1	A	2010	LEU	2.3
2	B	297	PHE	2.3
2	B	90	GLU	2.3
2	B	103	VAL	2.3
2	B	145	THR	2.3
1	A	1965	PHE	2.3
1	A	2029	ASP	2.3
2	B	181	ILE	2.3
2	B	64[A]	MET	2.3
2	B	259	HIS	2.2
2	B	255	THR	2.2
2	B	287	ARG	2.2
1	A	1931[A]	LYS	2.2
2	B	123	MET	2.2
1	A	2051	ILE	2.2
2	B	300	ASN	2.2
2	B	263	LYS	2.2
1	A	2026	LEU	2.2
2	B	199	LEU	2.2
1	A	1848	ILE	2.2
1	A	1865	THR	2.2
2	B	256	VAL	2.1
2	B	88	LYS	2.1
1	A	1967	ALA	2.1
2	B	94	HIS	2.1
2	B	274	THR	2.1

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Mol	Chain	Res	Type	RSRZ
2	B	6	PHE	2.1
1	A	1869	ASN	2.1
1	A	1957	ARG	2.1
2	B	14	THR	2.1
2	B	68	TYR	2.1
1	A	2046	GLU	2.0
2	B	151	GLU	2.0
1	A	1907	GLN	2.0
2	B	104	SER	2.0
2	B	190	ARG	2.0
1	A	1847	ASP	2.0
1	A	2023	LYS	2.0
1	A	2035	LYS	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 oligosaccharides 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, 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($\text{\AA}^2$)	Q<0.9
3	VYB	B	401	12/12	0.95	0.20	20,20,20,20	12
3	VYB	B	403	12/12	0.95	0.21	20,20,20,20	12
3	VYB	B	402	12/12	0.96	0.19	20,20,20,20	12

6.5 Other polymers [i](#)

There are no such residues in this entry.