Full wwPDB X-ray Structure Validation Report (i)

Feb 8, 2024 – 10:52 AM EST

PDB ID	:	2HBV
Title	:	Crystal Structure of alpha-Amino-beta-Carboxymuconate-epsilon-Semialdehyde-Decarboxylase (ACMSD)
Authors	:	Martynowski, D.; Eyobo, Y.; Li, T.; Yang, K.; Liu, A.; Zhang, H.
Deposited on	:	2006-06-14
Resolution	:	1.65 Å(reported)

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

|		
MolProbity	:	4.02b-467
Xtriage (Phenix)	:	1.13
EDS	:	2.36
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)	:	2.36

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 1.65 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
Rfree		0.248
Clashscore		9
Ramachandran outliers		0.6%
Sidechain outliers		2.8%
RSRZ outliers		25.7%

Worse   *Better*

▌Percentile relative to all X-ray structures

▯Percentile relative to X-ray structures of similar resolution
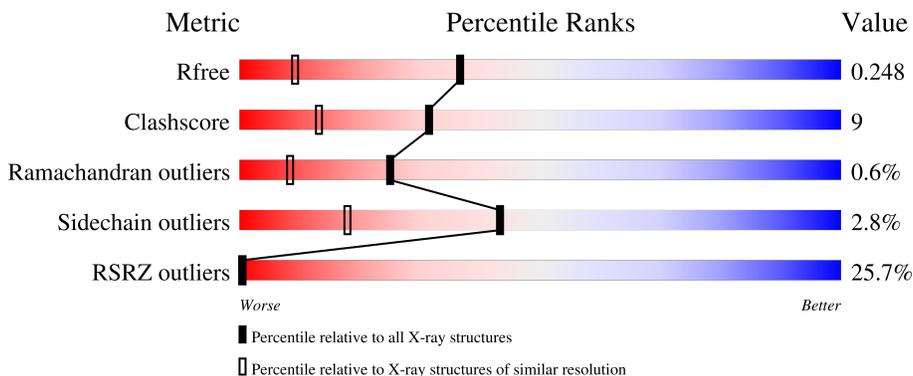
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R$_{free}$	130704	1827 (1.66-1.66)
Clashscore	141614	1931 (1.66-1.66)
Ramachandran outliers	138981	1891 (1.66-1.66)
Sidechain outliers	138945	1891 (1.66-1.66)
RSRZ outliers	127900	1791 (1.66-1.66)

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	334	19% / 84% / 14%
1	B	334	32% / 80% / 16%

2 Entry composition ⓘ

There are 4 unique types of molecules in this entry. The entry contains 5634 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 2-amino-3-carboxymuconate 6-semialdehyde decarboxylase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	331	Total 2597	C 1656	N 450	O 473	S 18	0	5	0
1	B	330	Total 2593	C 1651	N 455	O 469	S 18	0	3	0

- Molecule 2 is ZINC ION (three-letter code: ZN) (formula: Zn).

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

- Molecule 3 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	1	Total 1	Mg 1	0	0

- Molecule 4 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	305	Total 305	O 305	0	0
4	B	136	Total 136	O 136	0	0

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: 2-amino-3-carboxymuconate 6-semialdehyde decarboxylase
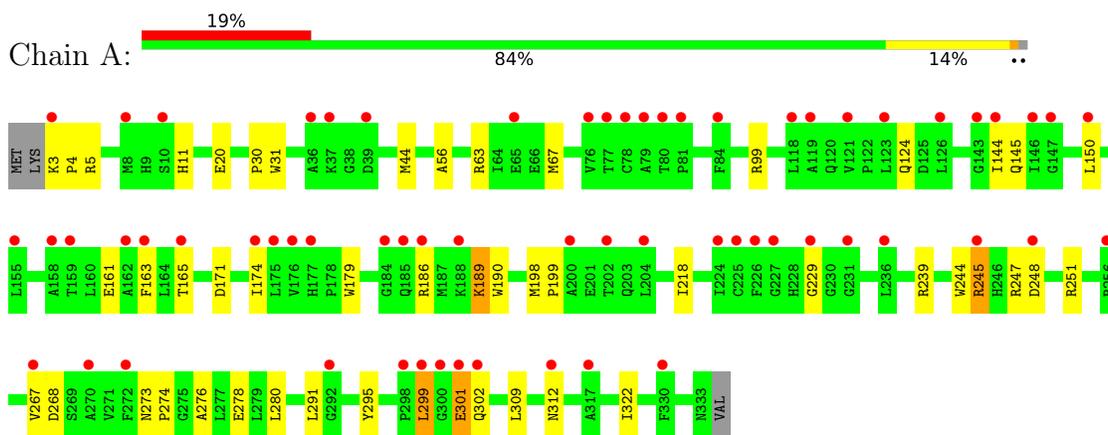
• Molecule 1: 2-amino-3-carboxymuconate 6-semialdehyde decarboxylase
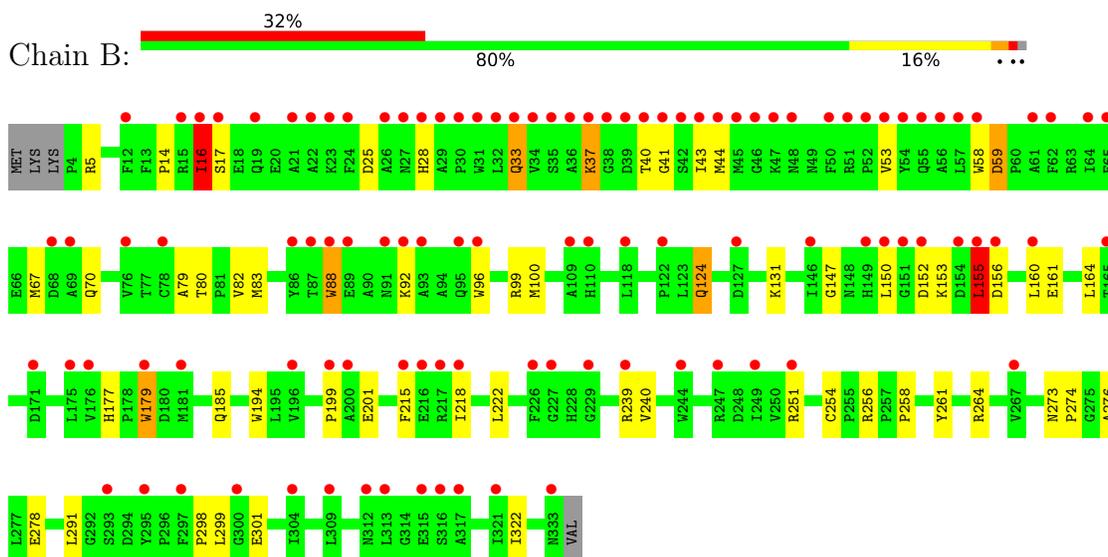
4 Data and refinement statistics ⓘ

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, α, β, γ	153.56Å　48.11Å　110.70Å 90.00°　127.31°　90.00°	Depositor
Resolution (Å)	33.81　–　1.65 33.81　–　1.65	Depositor EDS
% Data completeness (in resolution range)	95.2 (33.81-1.65) 88.8 (33.81-1.65)	Depositor EDS
R_{merge}	0.03	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	3.90 (at 1.65Å)	Xtriage
Refinement program	REFMAC 5.2.0005	Depositor
R, R_{free}	0.211　,　0.251 0.208　,　0.248	Depositor DCC
R_{free} test set	3532 reflections (5.11%)	wwPDB-VP
Wilson B-factor (Å^2)	31.2	Xtriage
Anisotropy	0.135	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.32 , 48.7	EDS
L-test for twinning[2]	$< |L| > = 0.50, < L^2 > = 0.33$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.95	EDS
Total number of atoms	5634	wwPDB-VP
Average B, all atoms (Å^2)	41.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 5.47% of the height of the origin peak. No significant pseudotranslation is detected.*

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[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 ⓘ

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

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	0.48	0/2692	0.64	0/3648
1	B	0.42	1/2675 (0.0%)	0.57	3/3623 (0.1%)
All	All	0.45	1/5367 (0.0%)	0.61	3/7271 (0.0%)

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
1	A	2	0

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B	254	CYS	CB-SG	-6.98	1.70	1.82

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	239[A]	ARG	N-CA-CB	6.05	121.50	110.60
1	B	239[B]	ARG	N-CA-CB	6.05	121.50	110.60
1	B	155	LEU	CA-CB-CG	5.01	126.83	115.30

All (2) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
1	A	159[A]	THR	CB
1	A	159[B]	THR	CB

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	2597	0	2536	50	0
1	B	2593	0	2536	48	0
2	A	1	0	0	0	0
2	B	1	0	0	0	0
3	A	1	0	0	0	0
4	A	305	0	0	6	1
4	B	136	0	0	4	1
All	All	5634	0	5072	93	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 9.

All (93) 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:63:ARG:HG2	1:A:67[A]:MET:CE	1.78	1.14
1:A:63:ARG:HG2	1:A:67[A]:MET:HE2	1.25	1.09
1:B:124:GLN:HE21	1:B:124:GLN:H	1.18	0.91
1:A:186:ARG:HE	1:B:155:LEU:HB2	1.36	0.90
1:A:165[B]:THR:HG21	4:A:587:HOH:O	1.77	0.82
1:B:80:THR:O	1:B:83:MET:HG2	1.81	0.81
1:B:301:GLU:OE1	4:B:445:HOH:O	1.98	0.80
1:B:16:ILE:HG22	1:B:17:SER:H	1.47	0.78
1:A:63:ARG:HG2	1:A:67[A]:MET:HE1	1.67	0.74
1:B:40:THR:HG23	1:B:41:GLY:H	1.53	0.74
1:A:144[B]:ILE:CD1	1:A:163:PHE:HE2	2.01	0.73
1:A:144[B]:ILE:CD1	1:A:163:PHE:CE2	2.72	0.72
1:A:161:GLU:O	1:A:165[B]:THR:HG23	1.92	0.70
1:B:273:ASN:HD22	1:B:276:ALA:H	1.40	0.69
1:B:155:LEU:HD13	1:B:156:ASP:HB2	1.77	0.67
1:B:79:ALA:HB1	1:B:83:MET:HG3	1.78	0.64
1:A:189:LYS:HE3	1:A:190:TRP:H	1.61	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:273:ASN:HD22	1:A:276:ALA:H	1.43	0.64
1:B:201:GLU:CG	4:B:498:HOH:O	2.47	0.62
1:B:67:MET:O	1:B:70:GLN:O	2.18	0.62
1:B:147:GLY:HA2	1:B:177:HIS:O	2.00	0.61
1:B:14:PRO:HG2	1:B:16:ILE:HD11	1.82	0.61
1:A:247:ARG:HE	1:B:298:PRO:HB2	1.65	0.61
1:A:63:ARG:CG	1:A:67[A]:MET:CE	2.70	0.59
1:A:186:ARG:NE	1:B:155:LEU:HB2	2.13	0.58
1:A:291:LEU:HD22	1:A:322:ILE:HD13	1.85	0.58
1:A:299:LEU:H	1:A:299:LEU:CD2	2.17	0.57
1:B:201:GLU:HG3	4:B:498:HOH:O	2.05	0.57
1:B:218:ILE:HG21	1:B:222:LEU:HD22	1.86	0.56
1:A:20:GLU:OE2	1:A:99:ARG:NH2	2.39	0.56
1:B:179:TRP:O	1:B:201:GLU:HG3	2.07	0.55
1:A:144[B]:ILE:HD13	1:A:163:PHE:CZ	2.43	0.54
1:A:63:ARG:CG	1:A:67[A]:MET:HE1	2.38	0.54
1:A:144[B]:ILE:HD13	1:A:163:PHE:CE2	2.43	0.53
1:A:248:ASP:OD1	1:A:251:ARG:NH2	2.41	0.53
1:B:58:TRP:O	1:B:59:ASP:HB3	2.09	0.53
1:A:186:ARG:NH1	1:B:201:GLU:OE1	2.37	0.52
1:A:278:GLU:OE2	1:A:312:ASN:HB2	2.09	0.52
1:A:245:ARG:HD3	4:A:658:HOH:O	2.10	0.51
1:B:274:PRO:O	1:B:278:GLU:HG3	2.11	0.51
1:A:3:LYS:N	1:A:4:PRO:HD3	2.26	0.50
1:A:144[B]:ILE:HD11	1:A:174:ILE:HG12	1.94	0.49
1:A:301:GLU:O	1:A:301:GLU:HG3	2.12	0.49
1:B:25:ASP:CG	1:B:28:HIS:HB2	2.32	0.49
1:A:239:ARG:CZ	1:B:199:PRO:HG3	2.41	0.49
1:B:5:ARG:HG3	1:B:322:ILE:HG23	1.94	0.49
1:A:291:LEU:HD22	1:A:322:ILE:CD1	2.43	0.49
1:A:5:ARG:HH21	1:A:309:LEU:HD11	1.78	0.48
1:A:189:LYS:HG3	1:A:190:TRP:H	1.79	0.48
1:A:274:PRO:HD3	4:A:592:HOH:O	2.12	0.48
1:A:267:VAL:HG21	1:A:280:LEU:HD11	1.95	0.48
1:B:88:TRP:CD1	1:B:88:TRP:N	2.81	0.48
1:A:244:TRP:O	1:A:251:ARG:HG3	2.14	0.47
1:A:124:GLN:HA	1:A:150:LEU:HD21	1.97	0.47
1:B:96:TRP:CZ2	1:B:100:MET:HE2	2.50	0.47
1:B:291:LEU:HD22	1:B:322:ILE:HD13	1.97	0.47
1:B:240:VAL:HG12	1:B:258:PRO:HG2	1.98	0.46
1:B:150:LEU:HD13	1:B:153:LYS:HD2	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:80:THR:HG22	1:B:82:VAL:HG23	1.98	0.46
1:A:144[B]:ILE:CG1	1:A:174:ILE:HG12	2.46	0.46
1:A:144[B]:ILE:HG12	1:A:174:ILE:HG12	1.97	0.45
1:B:215:PHE:O	1:B:264:ARG:NH1	2.46	0.45
1:B:256:ARG:HG2	1:B:261:TYR:OH	2.16	0.45
1:A:11:HIS:HE1	1:A:145:GLN:HE22	1.64	0.45
1:A:189:LYS:HE3	1:A:190:TRP:N	2.31	0.45
1:B:96:TRP:CZ2	1:B:100:MET:CE	3.00	0.45
1:B:161:GLU:HG3	1:B:218:ILE:HD11	1.99	0.44
1:A:247:ARG:NE	1:B:298:PRO:HB2	2.32	0.44
1:A:56:ALA:HB1	1:A:295:TYR:OH	2.18	0.44
1:A:171:ASP:HA	4:A:654:HOH:O	2.17	0.44
1:B:16:ILE:HG22	1:B:17:SER:N	2.26	0.43
1:A:229:GLY:HA2	1:A:268:ASP:O	2.18	0.43
1:B:58:TRP:O	1:B:59:ASP:CB	2.66	0.43
1:A:30:PRO:HA	1:A:44:MET:O	2.19	0.43
1:B:179:TRP:CE3	1:B:179:TRP:HA	2.54	0.43
1:A:165[B]:THR:HG22	1:A:218:ILE:HG12	2.00	0.43
1:B:43:ILE:HG13	1:B:53:VAL:HG21	2.01	0.42
1:B:150:LEU:HB2	1:B:153:LYS:HB2	2.01	0.42
1:B:194:TRP:CZ3	1:B:299:LEU:HD13	2.55	0.42
1:A:299:LEU:CD2	1:A:299:LEU:N	2.82	0.42
1:B:251:ARG:NH2	4:B:532:HOH:O	2.31	0.42
1:B:33:GLN:HB2	1:B:44:MET:HG3	2.02	0.42
1:B:37:LYS:HA	1:B:37:LYS:HE2	2.01	0.41
1:A:31:TRP:CE2	1:A:44:MET:HB2	2.55	0.41
1:A:198:MET:HB3	1:A:199:PRO:HD3	2.03	0.41
1:B:160:LEU:O	1:B:164:LEU:HG	2.21	0.41
1:A:299:LEU:H	1:A:299:LEU:HD22	1.86	0.41
1:B:40:THR:HG23	1:B:41:GLY:N	2.28	0.40
1:B:179:TRP:HA	1:B:179:TRP:HE3	1.84	0.40
1:A:20:GLU:HG2	4:A:639:HOH:O	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)
4:A:655:HOH:O	4:B:418:HOH:O[3_555]	2.02	0.18

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	334/334 (100%)	325 (97%)	8 (2%)	1 (0%)	41	22
1	B	331/334 (99%)	312 (94%)	16 (5%)	3 (1%)	17	4
All	All	665/668 (100%)	637 (96%)	24 (4%)	4 (1%)	25	8

All (4) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	301	GLU
1	B	152	ASP
1	B	59	ASP
1	B	16	ILE

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	276/274 (101%)	271 (98%)	5 (2%)	59	36
1	B	273/274 (100%)	263 (96%)	10 (4%)	34	10
All	All	549/548 (100%)	534 (97%)	15 (3%)	43	19

All (15) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	179	TRP
1	A	189	LYS

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Mol	Chain	Res	Type
1	A	245	ARG
1	A	299	LEU
1	A	302	GLN
1	B	16	ILE
1	B	33	GLN
1	B	37	LYS
1	B	88	TRP
1	B	92	LYS
1	B	124	GLN
1	B	131	LYS
1	B	155	LEU
1	B	179	TRP
1	B	185	GLN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (10) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	28	HIS
1	A	95	GLN
1	A	145	GLN
1	A	273	ASN
1	B	55	GLN
1	B	124	GLN
1	B	185	GLN
1	B	246	HIS
1	B	273	ASN
1	B	333	ASN

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　ⓘ

Of 3 ligands modelled in this entry, 3 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, 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(Å²)	Q<0.9
1	A	331/334 (99%)	0.96	63 (19%)	1	1	25, 30, 43, 50	0
1	B	330/334 (98%)	1.74	107 (32%)	0	0	32, 43, 94, 100	0
All	All	661/668 (98%)	1.35	170 (25%)	0	0	25, 38, 84, 100	0

All (170) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	54	TYR	11.8
1	B	36	ALA	10.4
1	B	35	SER	9.9
1	B	155	LEU	8.0
1	B	150	LEU	7.6
1	B	156	ASP	7.3
1	B	34	VAL	7.2
1	B	154	ASP	6.7
1	B	38	GLY	6.6
1	A	144[A]	ILE	6.6
1	B	24	PHE	6.3
1	B	26	ALA	6.3
1	B	43	ILE	6.0
1	B	57	LEU	5.8
1	B	53	VAL	5.8
1	A	300	GLY	5.7
1	A	299	LEU	5.7
1	B	317	ALA	5.7
1	B	58	TRP	5.7
1	B	31	TRP	5.5
1	A	176	VAL	5.3
1	B	179	TRP	5.3
1	B	62	PHE	5.2
1	A	175	LEU	5.1

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Mol	Chain	Res	Type	RSRZ
1	B	39	ASP	5.1
1	B	50	PHE	5.0
1	B	239[A]	ARG	4.8
1	B	37	LYS	4.8
1	B	16	ILE	4.6
1	B	32	LEU	4.6
1	B	88	TRP	4.5
1	B	22	ALA	4.3
1	A	146	ILE	4.3
1	B	313	LEU	4.2
1	B	151	GLY	4.2
1	B	152	ASP	4.2
1	A	118	LEU	4.1
1	B	61	ALA	4.1
1	B	309	LEU	4.1
1	B	110	HIS	4.0
1	B	27	ASN	4.0
1	A	185	GLN	4.0
1	B	45	MET	4.0
1	B	87	THR	4.0
1	B	316	SER	4.0
1	B	44	MET	4.0
1	B	47	LYS	3.9
1	B	95	GLN	3.9
1	A	312	ASN	3.8
1	B	96	TRP	3.7
1	B	78	CYS	3.6
1	A	155	LEU	3.6
1	B	29	ALA	3.6
1	B	56	ALA	3.5
1	A	79	ALA	3.5
1	B	51	ARG	3.5
1	B	176	VAL	3.5
1	A	226	PHE	3.5
1	A	119	ALA	3.4
1	A	163	PHE	3.4
1	A	188	LYS	3.4
1	B	19	GLN	3.4
1	B	65	GLU	3.4
1	B	69	ALA	3.3
1	A	236	LEU	3.3
1	A	174	ILE	3.3

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Mol	Chain	Res	Type	RSRZ
1	B	109	ALA	3.3
1	A	225	CYS	3.3
1	A	202	THR	3.2
1	A	298	PRO	3.2
1	B	46	GLY	3.2
1	A	302	GLN	3.2
1	A	165[A]	THR	3.1
1	B	175	LEU	3.1
1	B	196	VAL	3.1
1	B	40	THR	3.1
1	B	217	ARG	3.1
1	B	17	SER	3.1
1	A	76	VAL	3.0
1	B	171	ASP	3.0
1	A	204	LEU	3.0
1	A	159[A]	THR	3.0
1	B	48	ASN	3.0
1	B	41	GLY	2.9
1	A	126	LEU	2.9
1	B	92	LYS	2.9
1	A	227	GLY	2.9
1	B	200	ALA	2.9
1	A	78	CYS	2.9
1	B	68	ASP	2.9
1	B	86	TYR	2.9
1	A	121	VAL	2.8
1	B	297	PHE	2.8
1	B	181	MET	2.7
1	A	147	GLY	2.7
1	A	177	HIS	2.7
1	A	248	ASP	2.7
1	B	227	GLY	2.7
1	B	93	ALA	2.7
1	B	91	ASN	2.7
1	B	295	TYR	2.7
1	B	30	PRO	2.7
1	B	333	ASN	2.7
1	B	21	ALA	2.7
1	B	118	LEU	2.7
1	B	12	PHE	2.7
1	A	245	ARG	2.7
1	B	89	GLU	2.7

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Mol	Chain	Res	Type	RSRZ
1	B	122	PRO	2.7
1	A	158	ALA	2.6
1	B	42	SER	2.6
1	B	218	ILE	2.6
1	B	76	VAL	2.6
1	A	184	GLY	2.6
1	B	33	GLN	2.6
1	B	251	ARG	2.6
1	B	312	ASN	2.6
1	B	52	PRO	2.6
1	B	226	PHE	2.6
1	B	300	GLY	2.6
1	B	23	LYS	2.6
1	A	267	VAL	2.6
1	A	224	ILE	2.5
1	A	229	GLY	2.5
1	A	3	LYS	2.5
1	A	330	PHE	2.5
1	A	143	GLY	2.5
1	B	165	THR	2.5
1	A	123	LEU	2.5
1	B	247	ARG	2.4
1	B	55	GLN	2.4
1	B	64	ILE	2.4
1	A	231	GLY	2.4
1	B	199	PRO	2.3
1	A	39	ASP	2.3
1	A	301	GLU	2.3
1	A	36	ALA	2.3
1	B	28	HIS	2.3
1	A	84	PHE	2.3
1	A	200	ALA	2.3
1	B	315	GLU	2.3
1	A	256	ARG	2.3
1	A	8	MET	2.3
1	B	160	LEU	2.3
1	A	65	GLU	2.3
1	B	304	ILE	2.3
1	B	321	ILE	2.3
1	B	267	VAL	2.2
1	A	270	ALA	2.2
1	A	272	PHE	2.2

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Mol	Chain	Res	Type	RSRZ
1	A	10	SER	2.2
1	A	81	PRO	2.2
1	B	215	PHE	2.2
1	B	249	ILE	2.2
1	A	37	LYS	2.2
1	A	80	THR	2.2
1	B	293	SER	2.1
1	B	149	HIS	2.1
1	B	146	ILE	2.1
1	A	162	ALA	2.1
1	B	216	GLU	2.1
1	B	15	ARG	2.1
1	B	127	ASP	2.1
1	A	150	LEU	2.1
1	A	186	ARG	2.0
1	A	77	THR	2.0
1	A	292	GLY	2.0
1	A	317	ALA	2.0
1	B	244	TRP	2.0
1	B	229	GLY	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 ⓘ

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	ZN	A	401	1/1	0.98	0.22	44,44,44,44	0
3	MG	A	403	1/1	0.98	0.24	35,35,35,35	0
2	ZN	B	402	1/1	0.99	0.18	54,54,54,54	0

6.5 Other polymers (i)

There are no such residues in this entry.