



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 1, 2026 – 01:00 AM UTC

PDB ID : 1OME / pdb_00001ome
Title : CRYSTAL STRUCTURE OF THE OMEGA LOOP DELETION MUTANT
(RESIDUES 163-178 DELETED) OF BETA-LACTAMASE FROM STAPHY-
LOCOCCUS AUREUS PC1
Authors : Banerjee, S.; Pieper, U.; Herzberg, O.
Deposited on : 1998-02-09
Resolution : 2.30 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
Xtriage (Phenix)	:	NOT EXECUTED
EDS	:	NOT EXECUTED
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.49

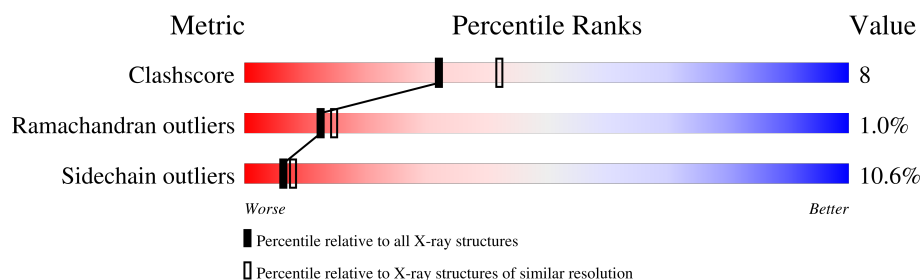
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.30 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))
Clashscore	190562	6919 (2.30-2.30)
Ramachandran outliers	187476	6854 (2.30-2.30)
Sidechain outliers	187428	6854 (2.30-2.30)

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 $\leq 5\%$.

Note EDS was not executed.

Mol	Chain	Length	Quality of chain
1	A	258	
1	B	258	

2 Entry composition

There are 3 unique types of molecules in this entry. The entry contains 3926 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 BETA-LACTAMASE.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	241	Total	C	N	O	S	0	0	0
			1877	1192	316	366	3			
1	B	240	Total	C	N	O	S	0	0	0
			1867	1186	313	365	3			

- Molecule 2 is CHLORIDE ION (CCD ID: CL) (formula: Cl).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	B	1	Total	Cl	0	0
			1	1		

- Molecule 3 is water.

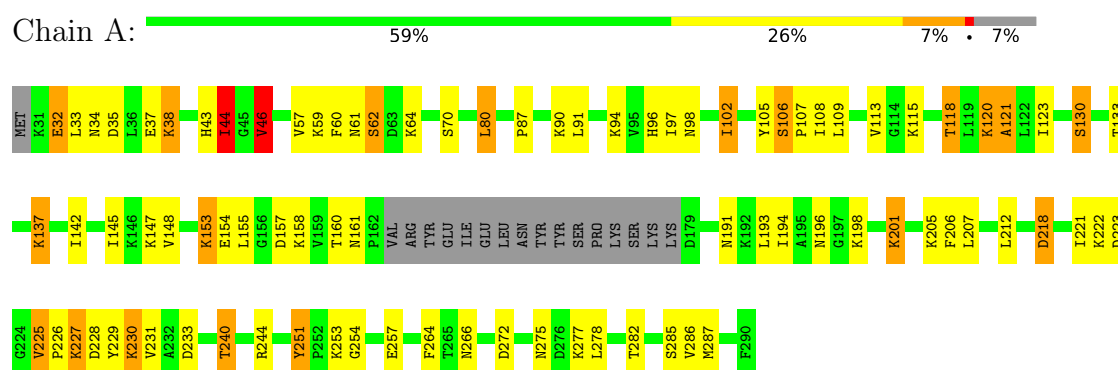
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	A	105	Total	O	0	0
			105	105		
3	B	76	Total	O	0	0
			76	76		

3 Residue-property plots

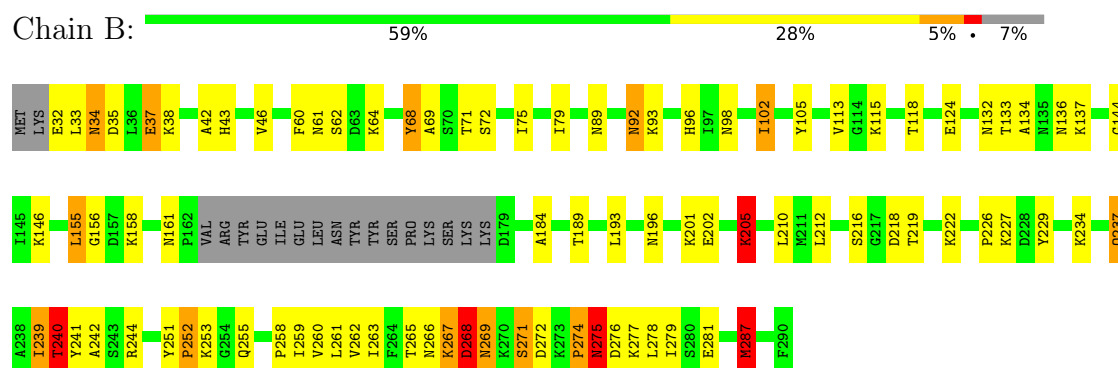
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry. Residues are color-coded 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. 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.

Note EDS was not executed.

• Molecule 1: BETA-LACTAMASE



• Molecule 1: BETA-LACTAMASE



4 Data and refinement statistics

Xtriage (Phenix) and EDS were not executed - this section is therefore incomplete.

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α , β , γ	76.00Å 55.00Å 79.20Å 90.00° 90.25° 90.00°	Depositor
Resolution (Å)	7.00 – 2.30	Depositor
% Data completeness (in resolution range)	79.0 (7.00-2.30)	Depositor
R_{merge}	0.11	Depositor
R_{sym}	(Not available)	Depositor
Refinement program	X-PLOR 3.8	Depositor
R, R_{free}	0.190 , 0.298	Depositor
Estimated twinning fraction	No twinning to report.	Xtriage
Total number of atoms	3926	wwPDB-VP
Average B, all atoms (Å ²)	20.0	wwPDB-VP

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: CL

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	1.20	6/1902 (0.3%)	1.97	59/2556 (2.3%)
1	B	1.09	3/1892 (0.2%)	1.94	47/2545 (1.8%)
All	All	1.15	9/3794 (0.2%)	1.95	106/5101 (2.1%)

All (9) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	46	VAL	CA-CB	6.58	1.64	1.54
1	B	43	HIS	CD2-NE2	-6.52	1.30	1.37
1	B	263	ILE	CA-CB	6.48	1.62	1.54
1	A	96	HIS	CD2-NE2	-6.16	1.31	1.37
1	B	96	HIS	CD2-NE2	-6.09	1.31	1.37
1	A	212	LEU	CA-CB	-5.92	1.43	1.53
1	A	221	ILE	CA-CB	5.87	1.61	1.54
1	A	43	HIS	CD2-NE2	-5.60	1.31	1.37
1	A	43	HIS	CG-ND1	-5.15	1.32	1.38

All (106) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	35	ASP	CA-CB-CG	11.46	124.06	112.60
1	B	240	THR	N-CA-CB	-10.78	94.02	110.73
1	A	98	ASN	CA-CB-CG	10.56	123.16	112.60
1	B	33	LEU	N-CA-C	10.11	123.54	111.82
1	A	240	THR	N-CA-CB	-10.04	95.76	110.53
1	B	161	ASN	CA-CB-CG	9.31	121.91	112.60
1	B	276	ASP	CA-CB-CG	8.34	120.94	112.60
1	A	161	ASN	CA-CB-CG	8.20	120.80	112.60
1	A	80	LEU	CD1-CG-CD2	-8.12	92.92	110.80
1	B	98	ASN	CA-CB-CG	8.12	120.72	112.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	239	ILE	N-CA-C	7.94	118.72	110.62
1	A	154	GLU	CA-CB-CG	7.43	128.96	114.10
1	B	269	ASN	OD1-CG-ND2	-7.26	115.34	122.60
1	B	240	THR	CB-CA-C	7.26	122.99	110.72
1	B	266	ASN	OD1-CG-ND2	-7.25	115.35	122.60
1	B	69	ALA	N-CA-C	7.01	119.93	108.08
1	A	38	LYS	CA-CB-CG	6.96	128.02	114.10
1	B	216	SER	N-CA-C	6.92	119.67	111.71
1	A	61	ASN	CA-CB-CG	6.91	119.51	112.60
1	A	43	HIS	CA-CB-CG	-6.88	106.92	113.80
1	A	257	GLU	N-CA-C	-6.71	101.33	109.72
1	A	201	LYS	CA-C-N	6.66	129.09	120.44
1	A	201	LYS	C-N-CA	6.66	129.09	120.44
1	A	191	ASN	CA-CB-CG	-6.63	105.97	112.60
1	A	272	ASP	CA-CB-CG	6.63	119.23	112.60
1	B	37	GLU	CB-CA-C	-6.54	100.88	110.96
1	A	227	LYS	N-CA-C	6.54	119.24	111.71
1	B	268	ASP	CA-CB-CG	6.51	119.11	112.60
1	A	108	ILE	N-CA-C	6.50	117.50	111.45
1	A	285	SER	CA-CB-OG	6.40	123.90	111.10
1	A	121	ALA	N-CA-CB	6.39	121.29	110.49
1	A	37	GLU	N-CA-C	-6.36	104.26	111.07
1	B	89	ASN	CA-CB-CG	6.36	118.96	112.60
1	A	142	ILE	N-CA-C	-6.36	104.30	110.72
1	B	271	SER	N-CA-C	6.27	120.03	112.38
1	B	275	ASN	O-C-N	6.26	132.14	122.87
1	A	157	ASP	CA-CB-CG	6.22	118.82	112.60
1	A	154	GLU	N-CA-CB	-6.20	100.98	110.16
1	A	32	GLU	N-CA-C	-6.18	100.22	110.17
1	A	194	ILE	O-C-N	-6.17	116.49	121.98
1	A	206	PHE	N-CA-C	-6.10	104.55	111.14
1	A	233	ASP	N-CA-C	6.05	118.61	109.41
1	B	102	ILE	N-CA-C	6.04	117.48	108.54
1	A	148	VAL	N-CA-C	-6.00	104.66	110.72
1	B	75	ILE	CA-C-N	5.96	128.26	120.28
1	B	75	ILE	C-N-CA	5.96	128.26	120.28
1	A	264	PHE	O-C-N	-5.91	116.32	123.29
1	A	35	ASP	CA-CB-CG	5.91	118.50	112.60
1	A	275	ASN	OD1-CG-ND2	-5.87	116.73	122.60
1	B	276	ASP	N-CA-C	-5.86	104.97	111.36
1	B	251	TYR	CA-C-N	5.85	125.86	119.90
1	B	251	TYR	C-N-CA	5.85	125.86	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	68	TYR	N-CA-C	5.84	120.53	113.17
1	B	259	ILE	O-C-N	-5.83	115.82	122.94
1	A	102	ILE	N-CA-C	5.78	116.73	108.93
1	A	254	GLY	CA-C-N	-5.78	114.85	122.99
1	A	254	GLY	C-N-CA	-5.78	114.85	122.99
1	B	61	ASN	OD1-CG-ND2	-5.77	116.83	122.60
1	B	287	MET	N-CA-C	5.76	119.79	112.87
1	A	106	SER	CA-C-N	5.76	125.23	119.24
1	A	106	SER	C-N-CA	5.76	125.23	119.24
1	B	69	ALA	CB-CA-C	-5.71	110.00	116.63
1	A	240	THR	CB-CA-C	5.71	119.67	109.29
1	B	261	LEU	N-CA-C	5.67	118.11	108.02
1	A	218	ASP	N-CA-C	5.66	117.53	111.36
1	A	37	GLU	CA-C-N	5.62	127.75	120.44
1	A	37	GLU	C-N-CA	5.62	127.75	120.44
1	B	205	LYS	CB-CG-CD	5.62	124.21	111.30
1	B	96	HIS	CB-CG-CD2	-5.50	124.05	131.20
1	B	37	GLU	N-CA-CB	5.49	117.93	109.91
1	A	207	LEU	N-CA-C	5.48	116.93	111.07
1	B	274	PRO	CA-C-N	-5.46	114.38	123.33
1	B	274	PRO	C-N-CA	-5.46	114.38	123.33
1	B	279	ILE	CA-C-O	-5.43	115.10	120.85
1	B	258	PRO	N-CA-C	5.41	120.72	111.68
1	A	251	TYR	CA-C-N	5.39	125.33	119.78
1	A	251	TYR	C-N-CA	5.39	125.33	119.78
1	A	44	ILE	N-CA-CB	-5.34	103.99	111.25
1	A	121	ALA	CB-CA-C	-5.31	99.85	110.42
1	A	120	LYS	O-C-N	-5.30	115.46	122.57
1	B	266	ASN	CB-CG-ND2	5.29	124.34	116.40
1	A	130	SER	N-CA-CB	-5.28	103.88	111.70
1	B	196	ASN	CA-CB-CG	-5.27	107.33	112.60
1	A	70	SER	N-CA-C	5.27	119.34	113.01
1	A	285	SER	CB-CA-C	-5.21	102.70	110.88
1	B	260	VAL	O-C-N	-5.20	117.00	122.67
1	A	118	THR	CA-CB-OG1	-5.19	101.82	109.60
1	A	115	LYS	CA-CB-CG	-5.18	103.73	114.10
1	A	61	ASN	OD1-CG-ND2	-5.18	117.42	122.60
1	B	46	VAL	CG1-CB-CG2	-5.18	99.41	110.80
1	A	196	ASN	OD1-CG-ND2	-5.17	117.42	122.60
1	B	133	THR	CA-CB-OG1	-5.17	101.84	109.60
1	A	62	SER	N-CA-C	5.16	116.59	111.07
1	B	253	LYS	N-CA-C	-5.16	102.00	109.59

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	225	VAL	CA-C-N	5.15	126.28	119.84
1	A	225	VAL	C-N-CA	5.15	126.28	119.84
1	A	240	THR	OG1-CB-CG2	5.12	119.55	109.30
1	B	144	GLY	CA-C-O	-5.11	118.48	122.52
1	A	118	THR	N-CA-C	5.11	116.53	110.19
1	A	266	ASN	CA-CB-CG	5.08	117.68	112.60
1	B	134	ALA	CA-C-O	-5.08	115.17	120.55
1	A	64	LYS	CG-CD-CE	5.08	122.97	111.30
1	B	262	VAL	N-CA-CB	-5.06	105.20	110.72
1	B	115	LYS	CA-CB-CG	5.06	124.21	114.10
1	B	136	ASN	CA-CB-CG	5.03	117.63	112.60
1	A	160	THR	CA-CB-OG1	-5.02	102.07	109.60

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	1877	0	1940	31	0
1	B	1867	0	1921	34	0
2	B	1	0	0	0	0
3	A	105	0	0	3	0
3	B	76	0	0	1	0
All	All	3926	0	3861	61	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 8.

All (61) 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:80:LEU:HD22	1:A:123:ILE:HD11	1.65	0.78
1:A:155:LEU:HD11	1:A:193:LEU:HG	1.73	0.71
1:B:252:PRO:HB2	1:B:255:GLN:HB3	1.73	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:68:TYR:CE1	1:B:72:SER:HB3	2.26	0.70
1:B:68:TYR:HE1	1:B:72:SER:HB3	1.62	0.65
1:B:156:GLY:HA2	1:B:158:LYS:NZ	2.14	0.62
1:B:275:ASN:HB3	1:B:278:LEU:HB3	1.82	0.61
1:A:201:LYS:HG3	1:A:205:LYS:HZ3	1.66	0.60
1:B:34:ASN:HA	1:B:37:GLU:HG2	1.84	0.60
1:A:44:ILE:HD11	1:A:278:LEU:HD11	1.83	0.59
1:A:201:LYS:O	1:A:205:LYS:HD3	2.02	0.59
1:B:287:MET:HA	1:B:287:MET:HE3	1.86	0.58
1:A:106:SER:H	1:B:240:THR:CG2	2.16	0.58
1:B:201:LYS:O	1:B:205:LYS:HG2	2.04	0.58
1:A:106:SER:HB2	1:B:240:THR:HG21	1.86	0.57
1:A:222:LYS:HG2	1:A:231:VAL:HB	1.87	0.56
1:A:46:VAL:HG13	1:A:60:PHE:HB3	1.89	0.55
1:B:267:LYS:NZ	1:B:275:ASN:HB2	2.21	0.54
1:A:222:LYS:HG3	3:A:302:HOH:O	2.07	0.54
1:A:102:ILE:HD13	1:A:133:THR:HG21	1.90	0.54
1:B:105:TYR:HB2	1:B:132:ASN:HD22	1.74	0.53
1:B:71:THR:HG22	1:B:234:LYS:O	2.08	0.53
1:B:218:ASP:HA	1:B:222:LYS:HB2	1.92	0.51
1:B:267:LYS:HZ1	1:B:275:ASN:HB2	1.76	0.51
1:B:156:GLY:HA2	1:B:158:LYS:HZ3	1.76	0.50
1:B:268:ASP:HB3	1:B:269:ASN:OD1	2.10	0.50
1:A:228:ASP:HB3	1:A:253:LYS:HD2	1.94	0.50
1:A:87:PRO:HD2	1:A:90:LYS:HG3	1.94	0.50
1:A:94:LYS:HG2	1:A:118:THR:HG22	1.93	0.49
1:A:44:ILE:HD11	1:A:278:LEU:HD21	1.95	0.49
1:A:282:THR:O	1:A:286:VAL:HG23	2.13	0.48
1:A:57:VAL:HG11	1:A:286:VAL:HG13	1.95	0.48
1:B:275:ASN:HD22	1:B:277:LYS:HG3	1.79	0.47
1:B:42:ALA:HB2	1:B:267:LYS:HD2	1.96	0.47
1:A:153:LYS:N	1:A:153:LYS:HD3	2.29	0.47
1:A:230:LYS:HB3	1:A:251:TYR:HB2	1.97	0.46
1:B:92:ASN:ND2	1:B:92:ASN:H	2.13	0.45
1:B:105:TYR:HB2	1:B:132:ASN:ND2	2.32	0.45
1:A:97:ILE:HD13	3:A:296:HOH:O	2.17	0.44
1:B:244:ARG:HG3	1:B:265:THR:O	2.18	0.44
1:B:267:LYS:O	1:B:268:ASP:HB2	2.18	0.43
1:A:225:VAL:HG12	1:A:287:MET:HG3	2.01	0.43
1:A:218:ASP:O	1:A:223:ASP:HB2	2.17	0.43
1:A:44:ILE:CD1	1:A:278:LEU:HD11	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:79:ILE:HG12	1:B:193:LEU:HD11	2.01	0.42
1:A:222:LYS:HE3	1:A:231:VAL:O	2.19	0.42
1:B:226:PRO:HG2	1:B:229:TYR:CD1	2.55	0.42
1:B:242:ALA:HB1	1:B:274:PRO:HB3	2.01	0.42
1:A:107:PRO:HA	1:B:241:TYR:CE1	2.55	0.42
1:A:105:TYR:C	1:A:107:PRO:HD3	2.45	0.41
1:A:226:PRO:HB2	1:A:229:TYR:CD1	2.55	0.41
1:B:124:GLU:HG2	1:B:210:LEU:HD21	2.03	0.41
1:B:155:LEU:HD11	1:B:193:LEU:HB2	2.03	0.41
1:B:219:THR:HB	3:B:301:HOH:O	2.20	0.41
1:A:91:LEU:HB3	1:A:120:LYS:HB2	2.02	0.41
1:A:137:LYS:HD2	3:A:296:HOH:O	2.21	0.40
1:B:62:SER:HB3	1:B:184:ALA:HB2	2.03	0.40
1:B:102:ILE:CD1	1:B:113:VAL:HG22	2.50	0.40
1:A:106:SER:N	1:A:107:PRO:HD3	2.36	0.40
1:A:107:PRO:HA	1:B:241:TYR:HE1	1.85	0.40
1:B:93:LYS:O	1:B:118:THR:HA	2.22	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	239/258 (93%)	232 (97%)	6 (2%)	1 (0%)	30	38
1	B	238/258 (92%)	221 (93%)	13 (6%)	4 (2%)	7	7
All	All	477/516 (92%)	453 (95%)	19 (4%)	5 (1%)	12	15

All (5) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	60	PHE

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Mol	Chain	Res	Type
1	A	121	ALA
1	B	227	LYS
1	B	268	ASP
1	B	237	GLN

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	208/228 (91%)	186 (89%)	22 (11%)	6	8
1	B	206/228 (90%)	184 (89%)	22 (11%)	6	8
All	All	414/456 (91%)	370 (89%)	44 (11%)	6	8

All (44) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	32	GLU
1	A	33	LEU
1	A	34	ASN
1	A	38	LYS
1	A	44	ILE
1	A	46	VAL
1	A	59	LYS
1	A	62	SER
1	A	109	LEU
1	A	113	VAL
1	A	130	SER
1	A	137	LYS
1	A	145	ILE
1	A	147	LYS
1	A	153	LYS
1	A	158	LYS
1	A	198	LYS
1	A	227	LYS
1	A	230	LYS

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Mol	Chain	Res	Type
1	A	240	THR
1	A	244	ARG
1	A	277	LYS
1	B	32	GLU
1	B	34	ASN
1	B	38	LYS
1	B	64	LYS
1	B	92	ASN
1	B	137	LYS
1	B	146	LYS
1	B	155	LEU
1	B	189	THR
1	B	202	GLU
1	B	205	LYS
1	B	212	LEU
1	B	237	GLN
1	B	239	ILE
1	B	240	THR
1	B	252	PRO
1	B	267	LYS
1	B	271	SER
1	B	272	ASP
1	B	275	ASN
1	B	281	GLU
1	B	287	MET

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (11) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	41	ASN
1	A	61	ASN
1	A	83	GLN
1	A	98	ASN
1	A	237	GLN
1	B	76	ASN
1	B	92	ASN
1	B	98	ASN
1	B	135	ASN
1	B	196	ASN
1	B	275	ASN

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](#)

Of 1 ligands modelled in this entry, 1 is 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 [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

EDS was not executed - this section is therefore empty.

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

EDS was not executed - this section is therefore empty.

6.3 Carbohydrates

EDS was not executed - this section is therefore empty.

6.4 Ligands

EDS was not executed - this section is therefore empty.

6.5 Other polymers

EDS was not executed - this section is therefore empty.