



Full wwPDB X-ray Structure Validation Report ⓘ

Aug 7, 2023 – 02:30 AM EDT

PDB ID : 1LL7
Title : STRUCTURE OF THE E171Q MUTANT OF C. IMMITIS CHITINASE 1
Authors : Bortone, K.; Monzingo, A.F.; Ernst, S.; Robertus, J.D.
Deposited on : 2002-04-26
Resolution : 2.00 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 : 4.02b-467
Xtriage (Phenix) : 1.13
EDS : 2.35
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) : 2.35

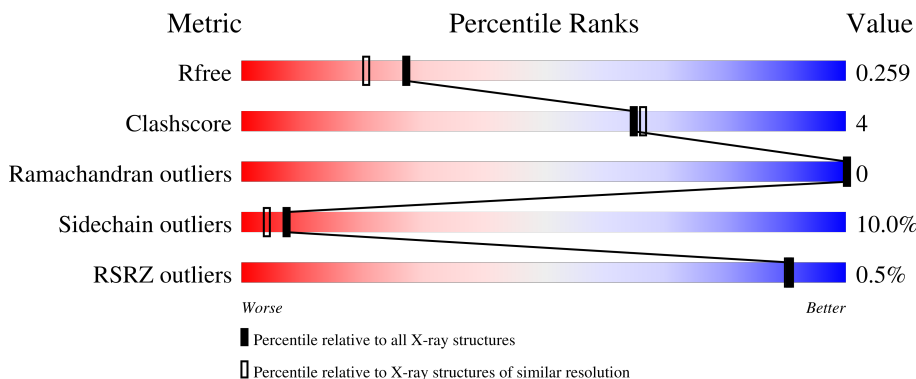
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.00 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	8085 (2.00-2.00)
Clashscore	141614	9178 (2.00-2.00)
Ramachandran outliers	138981	9054 (2.00-2.00)
Sidechain outliers	138945	9053 (2.00-2.00)
RSRZ outliers	127900	7900 (2.00-2.00)

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	392	 % 81% 16% . .
1	B	392	 % 79% 18% .

2 Entry composition

There are 2 unique types of molecules in this entry. The entry contains 6506 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 CHITINASE 1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	392	3083	1963	511	597	12	0	0	0
1	B	392	3083	1963	511	597	12	0	0	0

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	171	GLN	GLU	engineered mutation	UNP P54196
B	171	GLN	GLU	engineered mutation	UNP P54196

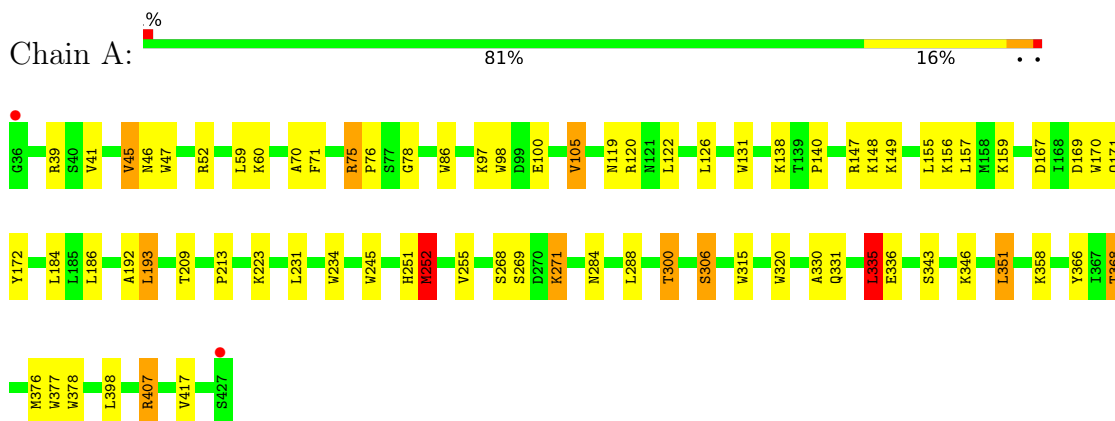
- Molecule 2 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	A	177	Total	O	0	0
			177	177		
2	B	163	Total	O	0	0
			163	163		

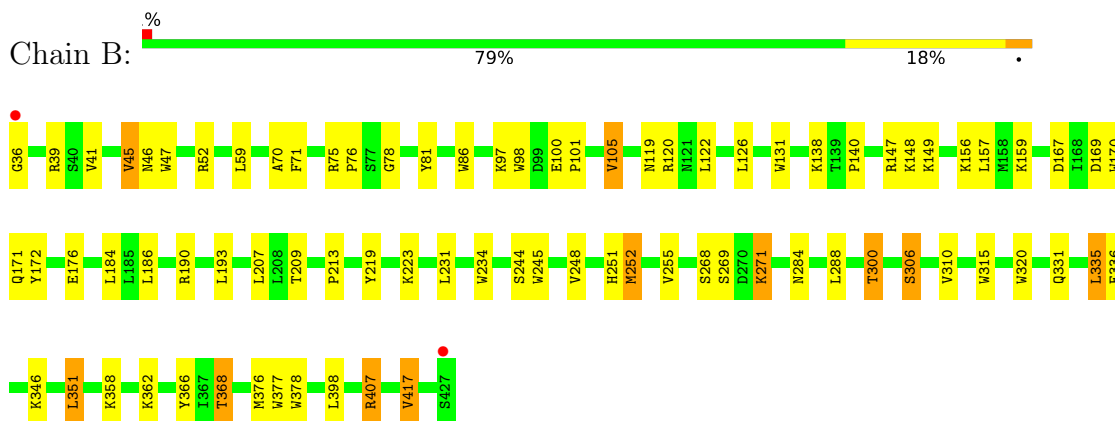
3 Residue-property plots

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: CHITINASE 1



- Molecule 1: CHITINASE 1



4 Data and refinement statistics i

Property	Value	Source
Space group	P 43	Depositor
Cell constants a, b, c, α , β , γ	90.33Å 90.33Å 95.63Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	5.00 – 2.00 19.92 – 2.00	Depositor EDS
% Data completeness (in resolution range)	(Not available) (5.00-2.00) 91.0 (19.92-2.00)	Depositor EDS
R_{merge}	0.05	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	2.37 (at 2.01Å)	Xtrriage
Refinement program	X-PLOR 3.851	Depositor
R, R_{free}	0.207 , 0.267 0.202 , 0.259	Depositor DCC
R_{free} test set	2367 reflections (5.02%)	wwPDB-VP
Wilson B-factor (Å ²)	15.3	Xtrriage
Anisotropy	0.339	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.36 , 41.5	EDS
L-test for twinning ²	$\langle L \rangle = 0.42$, $\langle L^2 \rangle = 0.25$	Xtrriage
Estimated twinning fraction	0.213 for h,-k,-l	Xtrriage
F_o, F_c correlation	0.94	EDS
Total number of atoms	6506	wwPDB-VP
Average B, all atoms (Å ²)	17.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.43% 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

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	0.81	0/3165	1.38	41/4282 (1.0%)
1	B	0.81	0/3165	1.41	55/4282 (1.3%)
All	All	0.81	0/6330	1.39	96/8564 (1.1%)

There are no bond length outliers.

All (96) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	86	TRP	CD1-CG-CD2	9.14	113.61	106.30
1	B	407	ARG	NE-CZ-NH2	-9.13	115.74	120.30
1	A	98	TRP	CD1-CG-CD2	9.07	113.55	106.30
1	B	98	TRP	CD1-CG-CD2	9.04	113.53	106.30
1	A	131	TRP	CD1-CG-CD2	8.91	113.43	106.30
1	B	47	TRP	CD1-CG-CD2	8.47	113.08	106.30
1	B	131	TRP	CD1-CG-CD2	8.47	113.08	106.30
1	B	245	TRP	CD1-CG-CD2	8.38	113.00	106.30
1	B	315	TRP	CD1-CG-CD2	8.38	113.00	106.30
1	A	86	TRP	CD1-CG-CD2	8.36	112.99	106.30
1	B	234	TRP	CD1-CG-CD2	8.32	112.96	106.30
1	B	320	TRP	CD1-CG-CD2	8.26	112.91	106.30
1	A	315	TRP	CD1-CG-CD2	8.23	112.88	106.30
1	B	120	ARG	NE-CZ-NH1	8.12	124.36	120.30
1	A	320	TRP	CD1-CG-CD2	8.11	112.79	106.30
1	A	234	TRP	CD1-CG-CD2	8.00	112.70	106.30
1	A	98	TRP	CE2-CD2-CG	-7.97	100.93	107.30
1	B	351	LEU	CA-CB-CG	7.92	133.53	115.30
1	A	252	MET	CG-SD-CE	-7.86	87.63	100.20
1	A	86	TRP	CE2-CD2-CG	-7.80	101.06	107.30
1	A	131	TRP	CE2-CD2-CG	-7.78	101.08	107.30
1	A	52	ARG	NE-CZ-NH1	7.70	124.15	120.30
1	B	86	TRP	CE2-CD2-CG	-7.67	101.17	107.30
1	B	98	TRP	CE2-CD2-CG	-7.61	101.21	107.30
1	B	335	LEU	CA-CB-CG	7.61	132.80	115.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	47	TRP	CD1-CG-CD2	7.60	112.38	106.30
1	B	131	TRP	CE2-CD2-CG	-7.58	101.23	107.30
1	A	320	TRP	CE2-CD2-CG	-7.57	101.25	107.30
1	A	315	TRP	CE2-CD2-CG	-7.50	101.30	107.30
1	A	245	TRP	CD1-CG-CD2	7.49	112.29	106.30
1	A	75	ARG	NE-CZ-NH2	-7.49	116.56	120.30
1	A	351	LEU	CA-CB-CG	7.46	132.46	115.30
1	A	335	LEU	CA-CB-CG	7.44	132.42	115.30
1	A	378	TRP	CD1-CG-CD2	7.36	112.19	106.30
1	A	407	ARG	NE-CZ-NH2	-7.34	116.63	120.30
1	B	320	TRP	CE2-CD2-CG	-7.33	101.44	107.30
1	B	315	TRP	CE2-CD2-CG	-7.30	101.46	107.30
1	B	252	MET	CG-SD-CE	-7.28	88.56	100.20
1	B	245	TRP	CE2-CD2-CG	-7.24	101.51	107.30
1	B	378	TRP	CD1-CG-CD2	7.23	112.08	106.30
1	B	234	TRP	CE2-CD2-CG	-7.15	101.58	107.30
1	A	170	TRP	CE2-CD2-CG	-7.14	101.59	107.30
1	A	234	TRP	CE2-CD2-CG	-7.10	101.62	107.30
1	A	245	TRP	CE2-CD2-CG	-7.08	101.63	107.30
1	B	170	TRP	CE2-CD2-CG	-7.01	101.69	107.30
1	B	407	ARG	NE-CZ-NH1	6.99	123.80	120.30
1	A	378	TRP	CE2-CD2-CG	-6.98	101.71	107.30
1	B	47	TRP	CE2-CD2-CG	-6.97	101.72	107.30
1	B	378	TRP	CE2-CD2-CG	-6.92	101.76	107.30
1	A	47	TRP	CE2-CD2-CG	-6.90	101.78	107.30
1	A	170	TRP	CD1-CG-CD2	6.89	111.81	106.30
1	B	170	TRP	CD1-CG-CD2	6.81	111.75	106.30
1	B	377	TRP	CE2-CD2-CG	-6.80	101.86	107.30
1	B	377	TRP	CD1-CG-CD2	6.67	111.63	106.30
1	A	377	TRP	CD1-CG-CD2	6.64	111.61	106.30
1	B	52	ARG	NE-CZ-NH1	6.48	123.54	120.30
1	A	377	TRP	CE2-CD2-CG	-6.46	102.13	107.30
1	B	366	TYR	CB-CG-CD2	-6.19	117.28	121.00
1	B	45	VAL	N-CA-CB	-6.10	98.07	111.50
1	A	45	VAL	N-CA-CB	-6.06	98.17	111.50
1	B	147	ARG	NE-CZ-NH2	-6.00	117.30	120.30
1	B	86	TRP	CG-CD1-NE1	-5.81	104.29	110.10
1	A	366	TYR	CB-CG-CD2	-5.70	117.58	121.00
1	B	98	TRP	CG-CD1-NE1	-5.69	104.41	110.10
1	B	234	TRP	CG-CD1-NE1	-5.58	104.52	110.10
1	B	219	TYR	CB-CG-CD1	-5.58	117.66	121.00
1	B	47	TRP	CG-CD1-NE1	-5.55	104.55	110.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	120	ARG	NE-CZ-NH2	-5.50	117.55	120.30
1	B	170	TRP	CG-CD2-CE3	5.47	138.82	133.90
1	A	105	VAL	CB-CA-C	-5.46	101.03	111.40
1	B	368	THR	N-CA-CB	-5.45	99.94	110.30
1	A	368	THR	N-CA-CB	-5.42	100.00	110.30
1	B	190	ARG	NE-CZ-NH1	5.42	123.01	120.30
1	A	98	TRP	CG-CD1-NE1	-5.42	104.68	110.10
1	A	170	TRP	CG-CD2-CE3	5.42	138.77	133.90
1	B	105	VAL	CB-CA-C	-5.39	101.15	111.40
1	B	81	TYR	CB-CG-CD1	-5.37	117.78	121.00
1	B	315	TRP	CG-CD1-NE1	-5.34	104.76	110.10
1	B	320	TRP	CG-CD1-NE1	-5.32	104.78	110.10
1	B	131	TRP	CG-CD1-NE1	-5.29	104.81	110.10
1	B	219	TYR	CA-CB-CG	5.28	123.43	113.40
1	A	45	VAL	CA-CB-CG2	-5.28	102.98	110.90
1	B	45	VAL	CA-CB-CG2	-5.27	102.99	110.90
1	B	245	TRP	CG-CD1-NE1	-5.26	104.84	110.10
1	A	131	TRP	CB-CG-CD1	-5.24	120.19	127.00
1	A	131	TRP	CG-CD1-NE1	-5.22	104.88	110.10
1	B	248	VAL	CA-CB-CG2	-5.22	103.08	110.90
1	A	131	TRP	CG-CD2-CE3	5.18	138.56	133.90
1	A	147	ARG	NE-CZ-NH2	-5.17	117.71	120.30
1	B	147	ARG	NE-CZ-NH1	5.16	122.88	120.30
1	B	52	ARG	NE-CZ-NH2	-5.15	117.73	120.30
1	B	131	TRP	CG-CD2-CE3	5.13	138.52	133.90
1	A	320	TRP	CG-CD2-CE3	5.10	138.49	133.90
1	B	86	TRP	CG-CD2-CE3	5.10	138.49	133.90
1	B	190	ARG	NE-CZ-NH2	-5.09	117.75	120.30
1	B	417	VAL	CA-CB-CG2	-5.05	103.32	110.90

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	3083	0	2963	25	0
1	B	3083	0	2963	24	0
2	A	177	0	0	8	0
2	B	163	0	0	8	0
All	All	6506	0	5926	49	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 4.

All (49) 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:B:176:GLU:HB3	2:B:523:HOH:O	1.92	0.70
1:A:300:THR:HG23	1:A:306:SER:O	2.04	0.57
1:B:207:LEU:HD13	2:B:543:HOH:O	2.06	0.55
1:A:192:ALA:HB2	2:A:598:HOH:O	2.07	0.55
1:A:138:LYS:HG2	2:A:541:HOH:O	2.07	0.55
1:B:167:ASP:OD2	1:B:209:THR:HG22	2.07	0.54
1:B:300:THR:HG23	1:B:306:SER:O	2.08	0.54
1:A:119:ASN:HB2	2:A:561:HOH:O	2.09	0.52
1:A:335:LEU:HD22	2:A:545:HOH:O	2.09	0.52
1:A:271:LYS:HB2	1:A:271:LYS:NZ	2.25	0.52
1:B:172:TYR:CE2	1:B:213:PRO:HB3	2.45	0.52
1:A:167:ASP:OD2	1:A:209:THR:HG22	2.10	0.51
1:A:172:TYR:CE2	1:A:213:PRO:HB3	2.46	0.51
1:B:41:VAL:O	1:B:376:MET:HA	2.10	0.51
1:A:251:HIS:HE1	2:A:508:HOH:O	1.95	0.50
1:A:41:VAL:O	1:A:376:MET:HA	2.12	0.50
1:A:251:HIS:HD2	2:A:491:HOH:O	1.95	0.49
1:B:251:HIS:HD2	2:B:499:HOH:O	1.96	0.49
1:B:271:LYS:HB2	1:B:271:LYS:NZ	2.28	0.48
1:B:251:HIS:HE1	2:B:500:HOH:O	1.95	0.48
1:A:100:GLU:HB2	2:A:552:HOH:O	2.14	0.47
1:B:70:ALA:HA	1:B:71:PHE:HA	1.65	0.47
1:B:138:LYS:HG2	2:B:453:HOH:O	2.14	0.47
1:A:271:LYS:HB2	1:A:271:LYS:HZ3	1.80	0.46
1:B:169:ASP:HB3	1:B:171:GLN:HE21	1.80	0.46
1:B:39:ARG:NH1	2:B:554:HOH:O	2.49	0.46
1:B:100:GLU:HA	1:B:101:PRO:HD2	1.77	0.46
1:B:255:VAL:O	1:B:268:SER:HB2	2.16	0.46
1:A:97:LYS:HB2	1:A:100:GLU:HG3	1.98	0.44
1:A:39:ARG:HH11	1:A:39:ARG:HD3	1.69	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:255:VAL:O	1:A:268:SER:HB2	2.18	0.43
1:B:97:LYS:HB2	1:B:100:GLU:HG3	1.99	0.43
1:A:169:ASP:HB3	1:A:171:GLN:HE21	1.82	0.43
1:A:70:ALA:HA	1:A:71:PHE:HA	1.64	0.43
1:B:244:SER:HB3	1:B:310:VAL:HG11	1.99	0.43
1:B:36:GLY:HA3	2:B:536:HOH:O	2.17	0.43
1:B:213:PRO:HA	2:B:444:HOH:O	2.18	0.43
1:A:155:LEU:HD23	1:A:193:LEU:HD12	2.01	0.42
1:A:78:GLY:HA2	1:A:140:PRO:HB3	2.01	0.42
1:B:148:LYS:HD3	1:B:148:LYS:HA	1.80	0.42
1:A:119:ASN:ND2	1:A:122:LEU:HB2	2.34	0.42
1:A:252:MET:HG3	2:A:492:HOH:O	2.19	0.41
1:A:255:VAL:HA	1:A:269:SER:OG	2.21	0.41
1:B:255:VAL:HA	1:B:269:SER:OG	2.21	0.41
1:A:330:ALA:HB1	1:A:343:SER:HB2	2.01	0.41
1:B:362:LYS:HD3	1:B:362:LYS:HA	1.90	0.41
1:A:148:LYS:HD3	1:A:148:LYS:HA	1.80	0.41
1:B:119:ASN:ND2	1:B:122:LEU:HB2	2.35	0.41
1:B:78:GLY:HA2	1:B:140:PRO:HB3	2.03	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	390/392 (100%)	380 (97%)	10 (3%)	0	100	100
1	B	390/392 (100%)	381 (98%)	9 (2%)	0	100	100
All	All	780/784 (100%)	761 (98%)	19 (2%)	0	100	100

There are no Ramachandran outliers to report.

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	326/326 (100%)	293 (90%)	33 (10%)	7 4
1	B	326/326 (100%)	294 (90%)	32 (10%)	8 4
All	All	652/652 (100%)	587 (90%)	65 (10%)	7 4

All (65) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	45	VAL
1	A	46	ASN
1	A	59	LEU
1	A	60	LYS
1	A	75	ARG
1	A	76	PRO
1	A	105	VAL
1	A	126	LEU
1	A	149	LYS
1	A	156	LYS
1	A	157	LEU
1	A	159	LYS
1	A	184	LEU
1	A	186	LEU
1	A	193	LEU
1	A	223	LYS
1	A	231	LEU
1	A	252	MET
1	A	271	LYS
1	A	284	ASN
1	A	288	LEU
1	A	300	THR
1	A	306	SER
1	A	331	GLN
1	A	335	LEU
1	A	336	GLU
1	A	346	LYS

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Mol	Chain	Res	Type
1	A	351	LEU
1	A	358	LYS
1	A	368	THR
1	A	398	LEU
1	A	407	ARG
1	A	417	VAL
1	B	45	VAL
1	B	46	ASN
1	B	59	LEU
1	B	75	ARG
1	B	76	PRO
1	B	105	VAL
1	B	126	LEU
1	B	149	LYS
1	B	156	LYS
1	B	157	LEU
1	B	159	LYS
1	B	184	LEU
1	B	186	LEU
1	B	193	LEU
1	B	223	LYS
1	B	231	LEU
1	B	252	MET
1	B	271	LYS
1	B	284	ASN
1	B	288	LEU
1	B	300	THR
1	B	306	SER
1	B	331	GLN
1	B	335	LEU
1	B	336	GLU
1	B	346	LYS
1	B	351	LEU
1	B	358	LYS
1	B	368	THR
1	B	398	LEU
1	B	407	ARG
1	B	417	VAL

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (17) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	46	ASN
1	A	55	ASN
1	A	66	HIS
1	A	118	ASN
1	A	171	GLN
1	A	200	HIS
1	A	251	HIS
1	A	284	ASN
1	A	347	ASN
1	B	46	ASN
1	B	55	ASN
1	B	66	HIS
1	B	111	GLN
1	B	171	GLN
1	B	200	HIS
1	B	251	HIS
1	B	284	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 monosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

5.7 Other polymers [i](#)

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 [i](#)

6.1 Protein, DNA and RNA chains [i](#)

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	392/392 (100%)	-0.44	2 (0%) 91 90	8, 16, 26, 34	0
1	B	392/392 (100%)	-0.43	2 (0%) 91 90	10, 17, 26, 35	0
All	All	784/784 (100%)	-0.43	4 (0%) 91 90	8, 17, 26, 35	0

All (4) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	427	SER	6.5
1	B	36	GLY	5.8
1	A	36	GLY	4.8
1	A	427	SER	4.0

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 monosaccharides in this entry.

6.4 Ligands [i](#)

There are no ligands in this entry.

6.5 Other polymers [i](#)

There are no such residues in this entry.