



Full wwPDB X-ray Structure Validation Report ⓘ

Aug 29, 2020 – 12:02 PM BST

PDB ID : 4DX8
Title : ICAP1 in complex with KRIT1 N-terminus
Authors : Liu, W.; Draheim, K.; Zhang, R.; Calderwood, D.A.; Boggon, T.J.
Deposited on : 2012-02-27
Resolution : 2.54 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 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 : 2.13
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) : 2.13

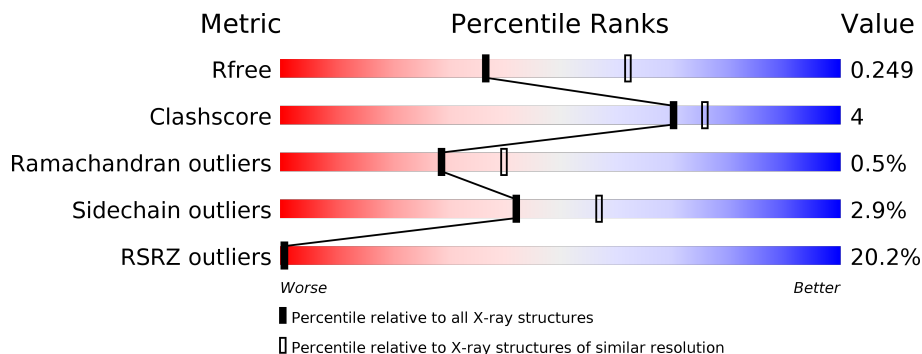
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.54 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	1284 (2.56-2.52)
Clashscore	141614	1332 (2.56-2.52)
Ramachandran outliers	138981	1315 (2.56-2.52)
Sidechain outliers	138945	1315 (2.56-2.52)
RSRZ outliers	127900	1272 (2.56-2.52)

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 on 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	154	<div style="display: flex; align-items: center;"> <div style="width: 6%; height: 10px; background-color: red; margin-right: 5px;"></div> <div style="width: 82%; height: 10px; background-color: green; margin-right: 5px;"></div> <div style="width: 8%; height: 10px; background-color: yellow; margin-right: 5px;"></div> <div style="width: 10%; height: 10px; background-color: grey;"></div> </div> <p style="margin-left: 20px;">6% 82% 8% 10%</p>
1	B	154	<div style="display: flex; align-items: center;"> <div style="width: 8%; height: 10px; background-color: red; margin-right: 5px;"></div> <div style="width: 81%; height: 10px; background-color: green; margin-right: 5px;"></div> <div style="width: 6%; height: 10px; background-color: yellow; margin-right: 5px;"></div> <div style="width: 12%; height: 10px; background-color: grey;"></div> </div> <p style="margin-left: 20px;">8% 81% 6% • 12%</p>
1	D	154	<div style="display: flex; align-items: center;"> <div style="width: 5%; height: 10px; background-color: red; margin-right: 5px;"></div> <div style="width: 76%; height: 10px; background-color: green; margin-right: 5px;"></div> <div style="width: 10%; height: 10px; background-color: yellow; margin-right: 5px;"></div> <div style="width: 14%; height: 10px; background-color: grey;"></div> </div> <p style="margin-left: 20px;">5% 76% 10% 14%</p>
1	E	154	<div style="display: flex; align-items: center;"> <div style="width: 2%; height: 10px; background-color: red; margin-right: 5px;"></div> <div style="width: 79%; height: 10px; background-color: green; margin-right: 5px;"></div> <div style="width: 7%; height: 10px; background-color: yellow; margin-right: 5px;"></div> <div style="width: 14%; height: 10px; background-color: grey;"></div> </div> <p style="margin-left: 20px;">2% 79% 7% • 14%</p>
2	H	203	<div style="display: flex; align-items: center;"> <div style="width: 16%; height: 10px; background-color: red; margin-right: 5px;"></div> <div style="width: 69%; height: 10px; background-color: green; margin-right: 5px;"></div> <div style="width: 7%; height: 10px; background-color: yellow; margin-right: 5px;"></div> <div style="width: 22%; height: 10px; background-color: grey;"></div> </div> <p style="margin-left: 20px;">16% 69% 7% • 22%</p>
2	I	203	<div style="display: flex; align-items: center;"> <div style="width: 20%; height: 10px; background-color: red; margin-right: 5px;"></div> <div style="width: 50%; height: 10px; background-color: green; margin-right: 5px;"></div> <div style="width: 45%; height: 10px; background-color: grey;"></div> </div> <p style="margin-left: 20px;">20% 50% • 45%</p>

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Mol	Chain	Length	Quality of chain
2	J	203	 <p>25% 51% 7% 41%</p>
2	K	203	 <p>24% 38% 7% 57%</p>

2 Entry composition

There are 4 unique types of molecules in this entry. The entry contains 8128 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 Integrin beta-1-binding protein 1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	139	1080	690	172	212	6	0	0	0
1	B	136	1061	680	168	207	6	0	0	0
1	D	133	1038	665	164	203	6	0	0	0
1	E	133	1038	665	164	203	6	0	0	0

There are 8 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	47	GLY	-	expression tag	UNP O14713
A	48	SER	-	expression tag	UNP O14713
B	47	GLY	-	expression tag	UNP O14713
B	48	SER	-	expression tag	UNP O14713
D	47	GLY	-	expression tag	UNP O14713
D	48	SER	-	expression tag	UNP O14713
E	47	GLY	-	expression tag	UNP O14713
E	48	SER	-	expression tag	UNP O14713

- Molecule 2 is a protein called Krev interaction trapped protein 1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	H	159	1278	825	221	225	7	0	0	0
2	I	111	906	590	159	152	5	0	0	0
2	J	120	979	634	166	176	3	0	0	0
2	K	88	718	465	126	125	2	0	0	0

There are 20 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
H	-4	GLY	-	expression tag	UNP O00522
H	-3	PRO	-	expression tag	UNP O00522
H	-2	LEU	-	expression tag	UNP O00522
H	-1	GLY	-	expression tag	UNP O00522
H	0	SER	-	expression tag	UNP O00522
I	-4	GLY	-	expression tag	UNP O00522
I	-3	PRO	-	expression tag	UNP O00522
I	-2	LEU	-	expression tag	UNP O00522
I	-1	GLY	-	expression tag	UNP O00522
I	0	SER	-	expression tag	UNP O00522
J	-4	GLY	-	expression tag	UNP O00522
J	-3	PRO	-	expression tag	UNP O00522
J	-2	LEU	-	expression tag	UNP O00522
J	-1	GLY	-	expression tag	UNP O00522
J	0	SER	-	expression tag	UNP O00522
K	-4	GLY	-	expression tag	UNP O00522
K	-3	PRO	-	expression tag	UNP O00522
K	-2	LEU	-	expression tag	UNP O00522
K	-1	GLY	-	expression tag	UNP O00522
K	0	SER	-	expression tag	UNP O00522

- Molecule 3 is BROMIDE ION (three-letter code: BR) (formula: Br).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	H	3	Total Br 3 3	0	0
3	B	3	Total Br 3 3	0	0
3	A	3	Total Br 3 3	0	0
3	D	4	Total Br 4 4	0	0
3	E	3	Total Br 3 3	0	0

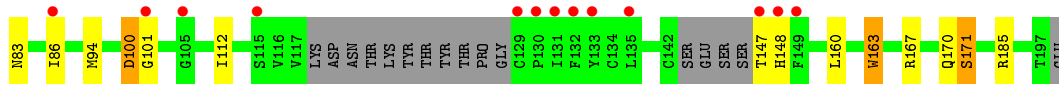
- Molecule 4 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	4	Total O 4 4	0	0
4	D	1	Total O 1 1	0	0

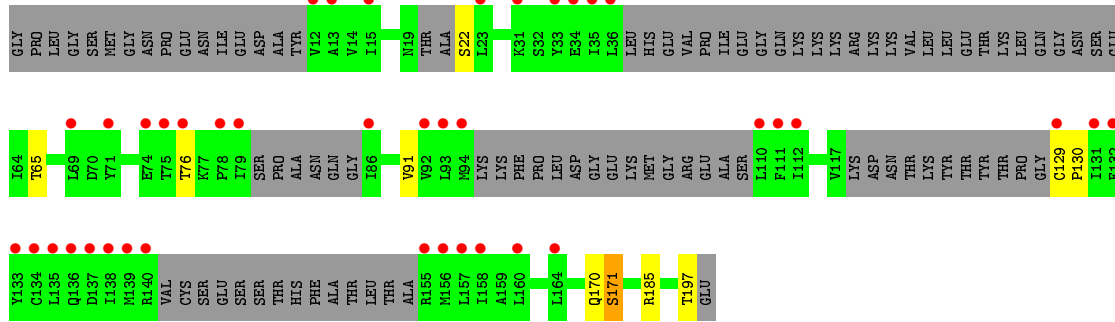
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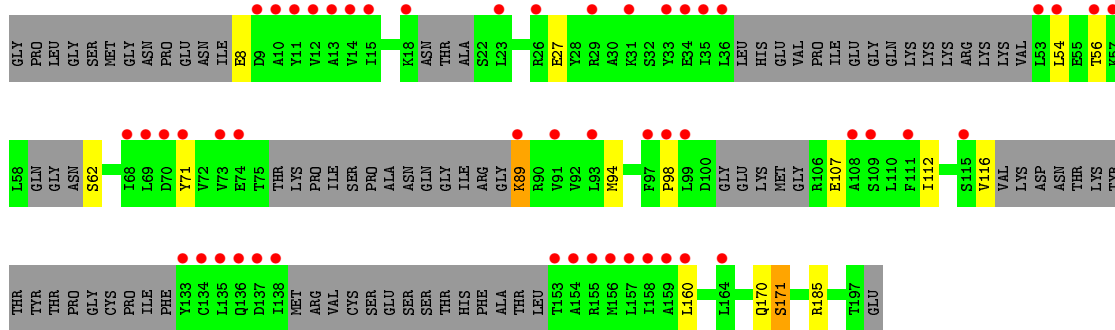
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	E	7	Total O 7 7	0	0
4	H	1	Total O 1 1	0	0
4	J	1	Total O 1 1	0	0



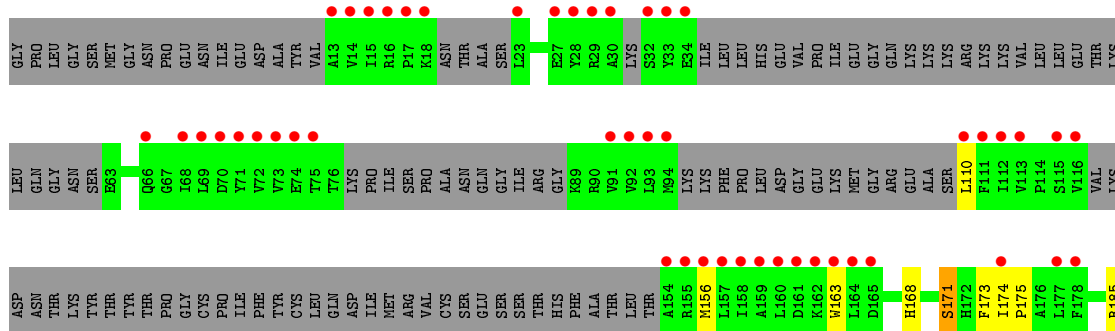
• Molecule 2: Krev interaction trapped protein 1



• Molecule 2: Krev interaction trapped protein 1



• Molecule 2: Krev interaction trapped protein 1



4 Data and refinement statistics

Property	Value	Source
Space group	C 2 2 21	Depositor
Cell constants a, b, c, α , β , γ	153.90Å 157.98Å 152.01Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	50.00 – 2.54 48.79 – 2.54	Depositor EDS
% Data completeness (in resolution range)	100.0 (50.00-2.54) 99.3 (48.79-2.54)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	0.09	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.59 (at 2.54Å)	Xtrriage
Refinement program	REFMAC 5.6.0117	Depositor
R, R_{free}	0.220 , 0.252 0.218 , 0.249	Depositor DCC
R_{free} test set	3101 reflections (5.06%)	wwPDB-VP
Wilson B-factor (Å ²)	83.6	Xtrriage
Anisotropy	0.053	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.35 , 72.3	EDS
L-test for twinning ²	$\langle L \rangle = 0.47$, $\langle L^2 \rangle = 0.30$	Xtrriage
Estimated twinning fraction	0.034 for -k,-h,-l	Xtrriage
F_o, F_c correlation	0.95	EDS
Total number of atoms	8128	wwPDB-VP
Average B, all atoms (Å ²)	102.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.34% 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: BR

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	0.43	1/1098 (0.1%)	0.58	1/1486 (0.1%)
1	B	0.41	0/1079	0.54	0/1460
1	D	0.42	0/1056	0.53	0/1430
1	E	0.43	1/1056 (0.1%)	0.55	0/1430
2	H	0.41	1/1299 (0.1%)	0.53	0/1750
2	I	0.47	1/920 (0.1%)	0.49	0/1239
2	J	0.38	0/992	0.50	0/1334
2	K	0.42	1/728 (0.1%)	0.50	0/980
All	All	0.42	5/8228 (0.1%)	0.53	1/11109 (0.0%)

All (5) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	I	22	SER	CB-OG	7.70	1.52	1.42
1	E	170	TRP	CD2-CE2	5.52	1.48	1.41
1	A	170	TRP	CD2-CE2	5.17	1.47	1.41
2	K	163	TRP	CD2-CE2	5.04	1.47	1.41
2	H	163	TRP	CD2-CE2	5.01	1.47	1.41

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	157	LEU	CA-CB-CG	5.98	129.06	115.30

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	1080	0	1070	5	0
1	B	1061	0	1057	6	0
1	D	1038	0	1028	10	0
1	E	1038	0	1028	8	0
2	H	1278	0	1322	19	0
2	I	906	0	953	5	0
2	J	979	0	1010	10	0
2	K	718	0	740	6	0
3	A	3	0	0	1	0
3	B	3	0	0	1	0
3	D	4	0	0	1	0
3	E	3	0	0	1	0
3	H	3	0	0	0	0
4	A	4	0	0	0	0
4	D	1	0	0	0	0
4	E	7	0	0	0	0
4	H	1	0	0	0	0
4	J	1	0	0	0	0
All	All	8128	0	8208	59	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 (59) 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:H:100:ASP:HB3	2:H:101:GLY:CA	1.77	1.15
2:H:100:ASP:HB3	2:H:101:GLY:HA3	1.30	1.09
2:H:147:THR:HA	2:H:148:HIS:HB2	1.48	0.93
1:D:140:ARG:NH1	3:D:302:BR:BR	2.61	0.88
1:E:140:ARG:NH1	3:E:302:BR:BR	2.62	0.87
1:A:140:ARG:NH1	3:A:302:BR:BR	2.73	0.76
2:H:147:THR:CA	2:H:148:HIS:HB2	2.17	0.73
2:H:100:ASP:HB3	2:H:101:GLY:HA2	1.71	0.73
1:B:140:ARG:NH1	3:B:302:BR:BR	2.77	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:100:ASP:CB	2:H:101:GLY:CA	2.61	0.72
1:D:190:ALA:O	1:D:194:VAL:HG13	1.90	0.71
1:D:143:CYS:HB2	1:D:155:LEU:HD23	1.76	0.67
2:J:94:MET:HE1	2:J:160:LEU:HA	1.78	0.65
2:H:83:ASN:N	2:J:62:SER:HG	1.96	0.64
1:E:93:ASP:OD2	2:K:185:ARG:NH2	2.31	0.64
1:E:160:THR:HG21	1:E:164:ASN:OD1	1.99	0.63
2:H:94:MET:HE1	2:H:160:LEU:HA	1.80	0.63
2:H:94:MET:HE2	2:H:112:ILE:HD11	1.83	0.60
2:I:170:GLN:O	2:I:171:SER:HB3	2.02	0.60
2:H:170:GLN:O	2:H:171:SER:HB3	2.02	0.60
1:A:134:ALA:HB1	1:E:134:ALA:HB1	1.84	0.59
2:H:100:ASP:CB	2:H:101:GLY:HA3	2.18	0.59
1:B:145:ASP:O	2:H:185:ARG:HD2	2.01	0.59
1:D:93:ASP:OD2	2:I:185:ARG:NH2	2.35	0.59
1:B:59:THR:HG21	1:B:116:LYS:HE2	1.83	0.59
1:B:160:THR:HG21	1:B:164:ASN:OD1	2.04	0.57
1:E:145:ASP:O	2:K:185:ARG:HD2	2.08	0.54
1:A:145:ASP:O	2:J:185:ARG:HD2	2.08	0.53
1:D:143:CYS:HB2	1:D:155:LEU:CD2	2.37	0.53
1:D:145:ASP:O	2:I:185:ARG:HD2	2.08	0.53
1:A:93:ASP:OD2	2:J:185:ARG:NH2	2.41	0.52
2:H:147:THR:HA	2:H:148:HIS:CB	2.27	0.52
1:D:135:LEU:CD2	1:D:194:VAL:HG11	2.41	0.51
2:J:170:GLN:O	2:J:171:SER:HB3	2.11	0.50
2:H:163:TRP:O	2:H:167:ARG:HG2	2.12	0.50
1:E:139:ILE:HD11	1:E:160:THR:HG23	1.95	0.48
2:J:89:LYS:HE2	2:J:116:VAL:HG23	1.95	0.48
2:I:65:THR:HG23	2:I:91:VAL:HB	1.95	0.48
1:D:135:LEU:HD23	1:D:194:VAL:HG11	1.95	0.47
2:H:94:MET:HE1	2:H:160:LEU:HD12	1.98	0.46
2:J:94:MET:CE	2:J:112:ILE:HD11	2.46	0.46
1:D:82:LEU:HD12	1:D:87:ASP:HB3	1.99	0.45
2:H:76:THR:HG22	2:H:76:THR:O	2.18	0.44
2:H:76:THR:HG21	2:H:86:ILE:HG12	2.00	0.44
1:E:93:ASP:CG	2:K:185:ARG:HH22	2.21	0.44
1:D:141:MET:CE	1:D:184:CYS:SG	3.06	0.44
2:H:76:THR:HG21	2:H:86:ILE:CG1	2.48	0.44
2:H:170:GLN:O	2:H:171:SER:CB	2.65	0.43
1:B:76:LEU:HD13	1:B:165:GLU:HA	2.01	0.42
2:J:98:PRO:HA	2:J:107:GLU:HG2	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:I:129:CYS:HB3	2:I:130:PRO:HD3	2.00	0.42
2:K:174:ILE:HB	2:K:175:PRO:HD3	2.01	0.42
2:K:171:SER:C	2:K:173:PHE:H	2.23	0.42
1:A:56:ASN:HA	1:A:57:SER:HA	1.91	0.42
2:J:54:LEU:HB3	2:J:71:TYR:HE2	1.85	0.42
2:K:110:LEU:HD22	2:K:156:MET:HB3	2.01	0.42
1:E:160:THR:HG22	1:E:166:GLU:O	2.19	0.41
1:B:111:ILE:HD12	1:B:126:GLN:HG3	2.03	0.41
2:J:94:MET:HE2	2:J:112:ILE:HD11	2.02	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	135/154 (88%)	130 (96%)	5 (4%)	0	100	100
1	B	132/154 (86%)	128 (97%)	4 (3%)	0	100	100
1	D	129/154 (84%)	126 (98%)	2 (2%)	1 (1%)	19	27
1	E	129/154 (84%)	127 (98%)	2 (2%)	0	100	100
2	H	145/203 (71%)	135 (93%)	9 (6%)	1 (1%)	22	30
2	I	97/203 (48%)	94 (97%)	2 (2%)	1 (1%)	15	22
2	J	104/203 (51%)	96 (92%)	7 (7%)	1 (1%)	15	22
2	K	74/203 (36%)	71 (96%)	2 (3%)	1 (1%)	11	15
All	All	945/1428 (66%)	907 (96%)	33 (4%)	5 (0%)	29	40

All (5) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	D	126	GLN

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Mol	Chain	Res	Type
2	K	171	SER
2	H	100	ASP
2	I	171	SER
2	J	171	SER

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	119/132 (90%)	115 (97%)	4 (3%)	37	50
1	B	117/132 (89%)	114 (97%)	3 (3%)	46	61
1	D	114/132 (86%)	111 (97%)	3 (3%)	46	61
1	E	114/132 (86%)	110 (96%)	4 (4%)	36	49
2	H	142/179 (79%)	138 (97%)	4 (3%)	43	58
2	I	102/179 (57%)	100 (98%)	2 (2%)	55	70
2	J	109/179 (61%)	105 (96%)	4 (4%)	34	46
2	K	79/179 (44%)	77 (98%)	2 (2%)	47	62
All	All	896/1244 (72%)	870 (97%)	26 (3%)	42	57

All (26) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	76	LEU
1	A	130	LEU
1	A	136	TYR
1	A	175	ASN
1	B	59	THR
1	B	160	THR
1	B	175	ASN
1	D	59	THR
1	D	125	ASP
1	D	157	LEU
1	E	125	ASP

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Mol	Chain	Res	Type
1	E	136	TYR
1	E	160	THR
1	E	175	ASN
2	H	23	LEU
2	H	56	THR
2	H	79	ILE
2	H	171	SER
2	I	76	THR
2	I	197	THR
2	J	8	GLU
2	J	27	GLU
2	J	56	THR
2	J	89	LYS
2	K	168	HIS
2	K	197	THR

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. There are no such sidechains identified.

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](#)

Of 16 ligands modelled in this entry, 16 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(Å ²)	Q<0.9
1	A	139/154 (90%)	0.77	10 (7%) 15 18	58, 73, 129, 152	0
1	B	136/154 (88%)	0.77	13 (9%) 8 10	57, 72, 118, 149	0
1	D	133/154 (86%)	0.70	8 (6%) 21 25	59, 73, 113, 158	0
1	E	133/154 (86%)	0.64	3 (2%) 60 67	58, 76, 113, 150	0
2	H	159/203 (78%)	1.07	33 (20%) 1 0	57, 91, 140, 162	0
2	I	111/203 (54%)	2.07	40 (36%) 0 0	57, 143, 208, 254	0
2	J	120/203 (59%)	2.65	51 (42%) 0 0	58, 143, 197, 219	0
2	K	88/203 (43%)	3.05	48 (54%) 0 0	58, 151, 210, 256	0
All	All	1019/1428 (71%)	1.35	206 (20%) 1 1	57, 87, 186, 256	0

All (206) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
2	K	33	TYR	14.8
2	J	135	LEU	13.2
2	J	11	TYR	10.1
2	J	54	LEU	10.1
2	K	156	MET	9.9
2	J	156	MET	9.8
2	K	158	ILE	9.8
2	K	69	LEU	9.8
2	I	111	PHE	9.7
2	K	157	LEU	9.4
2	J	10	ALA	9.1
2	I	110	LEU	8.7
2	I	12	VAL	8.7
2	J	53	LEU	8.5
2	J	12	VAL	8.5
2	K	14	VAL	8.4

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Mol	Chain	Res	Type	RSRZ
2	K	163	TRP	8.4
2	J	137	ASP	8.4
2	K	72	VAL	8.3
2	K	74	GLU	8.3
2	K	160	LEU	8.0
2	K	15	ILE	7.9
2	I	133	TYR	7.7
2	K	111	PHE	7.7
2	J	155	ARG	7.6
2	J	56	THR	7.6
2	I	156	MET	7.1
2	I	129	CYS	7.1
2	I	135	LEU	7.1
2	J	14	VAL	7.0
2	K	162	LYS	6.8
2	K	71	TYR	6.8
2	K	154	ALA	6.7
2	J	13	ALA	6.6
2	J	34	GLU	6.5
2	J	15	ILE	6.4
2	J	115	SER	6.4
2	J	138	ILE	6.4
2	J	57	LYS	6.3
2	I	157	LEU	6.2
2	J	36	LEU	6.2
1	D	127	TYR	6.0
2	K	23	LEU	5.9
2	J	74	GLU	5.8
2	I	158	ILE	5.8
1	B	127	TYR	5.7
2	J	154	ALA	5.7
2	I	71	TYR	5.5
2	J	99	LEU	5.5
2	J	157	LEU	5.5
2	J	33	TYR	5.5
2	H	40	VAL	5.4
2	I	155	ARG	5.3
2	K	112	ILE	5.3
2	K	91	VAL	5.3
2	H	50	LYS	5.2
2	I	132	PHE	5.2
2	K	159	ALA	5.2

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Mol	Chain	Res	Type	RSRZ
2	I	35	ILE	5.2
2	J	111	PHE	5.2
2	K	68	ILE	5.1
2	K	155	ARG	5.0
2	I	33	TYR	4.9
1	A	56	ASN	4.9
2	H	149	PHE	4.9
2	J	153	THR	4.9
2	K	110	LEU	4.9
2	K	94	MET	4.7
2	J	73	VAL	4.7
2	K	30	ALA	4.7
2	J	69	LEU	4.6
2	I	137	ASP	4.5
2	I	136	GLN	4.5
1	A	57	SER	4.4
2	J	108	ALA	4.4
2	K	13	ALA	4.4
2	J	134	CYS	4.3
2	J	133	TYR	4.3
2	K	17	PRO	4.2
2	H	132	PHE	4.2
2	H	133	TYR	4.1
2	J	91	VAL	4.1
1	B	110	PHE	4.0
2	J	29	ARG	4.0
2	I	13	ALA	4.0
2	J	158	ILE	3.9
2	H	131	ILE	3.9
1	B	81	GLY	3.9
2	I	76	THR	3.9
2	J	71	TYR	3.9
2	J	97	PHE	3.9
2	J	35	ILE	3.8
2	J	159	ALA	3.8
2	H	148	HIS	3.8
2	K	66	GLN	3.8
2	K	34	GLU	3.6
2	I	15	ILE	3.6
2	H	36	LEU	3.6
2	I	112	ILE	3.5
2	I	78	PRO	3.5

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Mol	Chain	Res	Type	RSRZ
2	I	139	MET	3.5
2	J	9	ASP	3.4
1	B	77	SER	3.4
2	J	89	LYS	3.4
2	H	54	LEU	3.4
1	A	76	LEU	3.4
2	H	51	LYS	3.3
1	B	194	VAL	3.3
1	A	77	SER	3.3
2	H	53	LEU	3.3
2	I	131	ILE	3.3
2	H	115	SER	3.3
2	J	136	GLN	3.2
2	I	86	ILE	3.2
2	K	27	GLU	3.2
1	D	60	CYS	3.2
2	K	75	THR	3.1
2	J	160	LEU	3.1
2	J	26	ARG	3.0
2	H	38	HIS	3.0
2	I	160	LEU	3.0
2	K	18	LYS	3.0
1	E	195	LEU	3.0
2	H	52	VAL	3.0
2	J	31	LYS	3.0
2	K	92	VAL	3.0
2	K	164	LEU	3.0
2	H	18	LYS	2.9
2	K	113	VAL	2.9
2	I	34	GLU	2.9
2	I	134	CYS	2.9
2	H	76	THR	2.9
2	H	35	ILE	2.8
2	K	115	SER	2.8
1	D	196	THR	2.8
2	J	109	SER	2.8
2	K	73	VAL	2.8
2	H	41	PRO	2.8
2	J	70	ASP	2.8
1	A	97	GLN	2.8
1	D	128	ASP	2.8
2	I	75	THR	2.7

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Mol	Chain	Res	Type	RSRZ
2	I	69	LEU	2.7
2	H	130	PRO	2.7
2	H	34	GLU	2.6
2	K	165	ASP	2.6
2	K	174	ILE	2.6
2	I	31	LYS	2.6
2	I	92	VAL	2.5
2	I	23	LEU	2.5
2	K	161	ASP	2.5
2	K	32	SER	2.5
1	B	76	LEU	2.5
2	H	135	LEU	2.5
2	J	23	LEU	2.5
2	I	93	LEU	2.5
2	H	75	THR	2.4
2	H	129	CYS	2.4
2	J	98	PRO	2.4
2	K	16	ARG	2.4
2	H	23	LEU	2.4
2	H	58	LEU	2.4
2	K	116	VAL	2.4
2	I	36	LEU	2.4
1	B	112	MET	2.4
2	K	28	TYR	2.4
2	J	93	LEU	2.4
1	A	157	LEU	2.3
2	I	140	ARG	2.3
2	H	59	GLN	2.3
2	J	68	ILE	2.3
1	D	58	ASP	2.3
2	H	31	LYS	2.3
2	I	164	LEU	2.3
2	I	94	MET	2.3
2	K	178	PHE	2.3
2	K	177	LEU	2.2
2	I	79	ILE	2.2
1	B	58	ASP	2.2
1	D	157	LEU	2.2
1	A	55	ASN	2.2
2	H	39	GLU	2.2
2	J	18	LYS	2.2
2	I	138	ILE	2.2

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Mol	Chain	Res	Type	RSRZ
2	H	86	ILE	2.2
1	B	107	GLU	2.2
2	I	74	GLU	2.2
1	E	59	THR	2.1
2	H	147	THR	2.1
1	B	155	LEU	2.1
1	D	97	GLN	2.1
1	A	127	TYR	2.1
2	H	101	GLY	2.1
1	B	64	ARG	2.1
2	H	79	ILE	2.1
2	H	105	GLY	2.1
2	K	29	ARG	2.1
2	K	70	ASP	2.1
1	B	124	SER	2.1
1	B	130	LEU	2.1
1	D	155	LEU	2.1
1	E	60	CYS	2.1
2	K	93	LEU	2.1
1	A	194	VAL	2.0
1	A	124	SER	2.0
2	J	164	LEU	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 monosaccharides 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(Å ²)	Q<0.9
3	BR	D	304	1/1	0.49	0.18	166,166,166,166	0

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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
3	BR	H	302	1/1	0.75	0.09	146,146,146,146	0
3	BR	B	303	1/1	0.76	0.12	146,146,146,146	0
3	BR	H	303	1/1	0.77	0.07	161,161,161,161	0
3	BR	A	303	1/1	0.87	0.17	162,162,162,162	0
3	BR	E	301	1/1	0.88	0.11	127,127,127,127	0
3	BR	H	301	1/1	0.94	0.17	135,135,135,135	0
3	BR	A	301	1/1	0.94	0.10	119,119,119,119	0
3	BR	B	301	1/1	0.95	0.06	121,121,121,121	0
3	BR	D	301	1/1	0.95	0.11	120,120,120,120	0
3	BR	D	303	1/1	0.96	0.12	133,133,133,133	0
3	BR	E	302	1/1	0.96	0.23	92,92,92,92	0
3	BR	E	303	1/1	0.96	0.34	139,139,139,139	1
3	BR	B	302	1/1	0.97	0.21	105,105,105,105	0
3	BR	D	302	1/1	0.98	0.19	95,95,95,95	0
3	BR	A	302	1/1	0.99	0.25	97,97,97,97	0

6.5 Other polymers [\(i\)](#)

There are no such residues in this entry.