Full wwPDB X-ray Structure Validation Report ⓘ

Dec 2, 2023 – 03:39 pm GMT

PDB ID	:	2IZO
Title	:	Structure of an Archaeal PCNA1-PCNA2-FEN1 Complex
Authors	:	Dore, A.S.; Kilkenny, M.L.; Roe, S.M.; Pearl, L.H.
Deposited on	:	2006-07-25
Resolution	:	2.90 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:

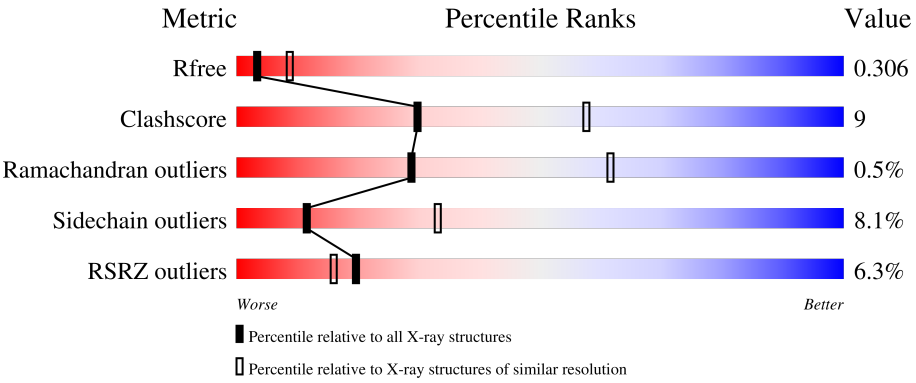
MolProbity	:	4.02b-467
Xtriage (Phenix)	:	1.13
EDS	:	2.36
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
X-RAY DIFFRACTION

The reported resolution of this entry is 2.90 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	1957 (2.90-2.90)
Clashscore	141614	2172 (2.90-2.90)
Ramachandran outliers	138981	2115 (2.90-2.90)
Sidechain outliers	138945	2117 (2.90-2.90)
RSRZ outliers	127900	1906 (2.90-2.90)

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	346	9% 63% 13% 23%
2	B	246	5% 74% 22%
3	C	249	2% 77% 18%

2 Entry composition (i)

There are 6 unique types of molecules in this entry. The entry contains 5811 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 FLAP STRUCTURE-SPECIFIC ENDONUCLEASE.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	268	Total	C	N	O	S	0	0	0
			2043	1308	350	381	4			

- Molecule 2 is a protein called DNA POLYMERASE SLIDING CLAMP C.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	245	Total	C	N	O	S	0	0	1
			1866	1201	294	366	5			

- Molecule 3 is a protein called DNA POLYMERASE SLIDING CLAMP B.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	C	244	Total	C	N	O	S	0	0	0
			1816	1158	288	361	9			

- Molecule 4 is ZINC ION (three-letter code: ZN) (formula: Zn).

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

- Molecule 5 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

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

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Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	C	1	Total Mg 1 1	0	0

- Molecule 6 is water.

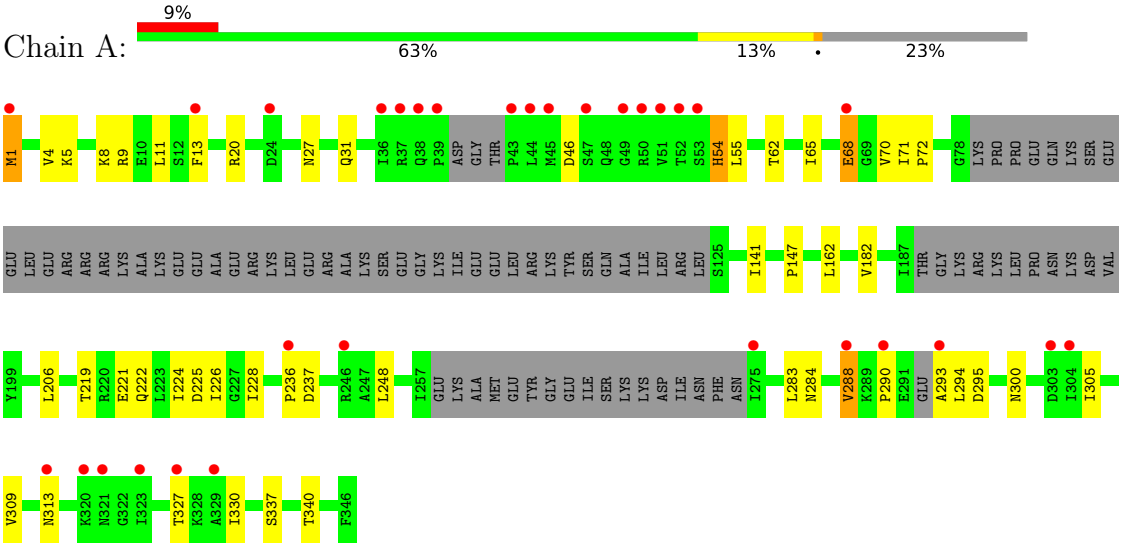
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	A	26	Total O 26 26	0	0
6	B	23	Total O 23 23	0	0
6	C	29	Total O 29 29	0	0

3 Residue-property plots (i)

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.

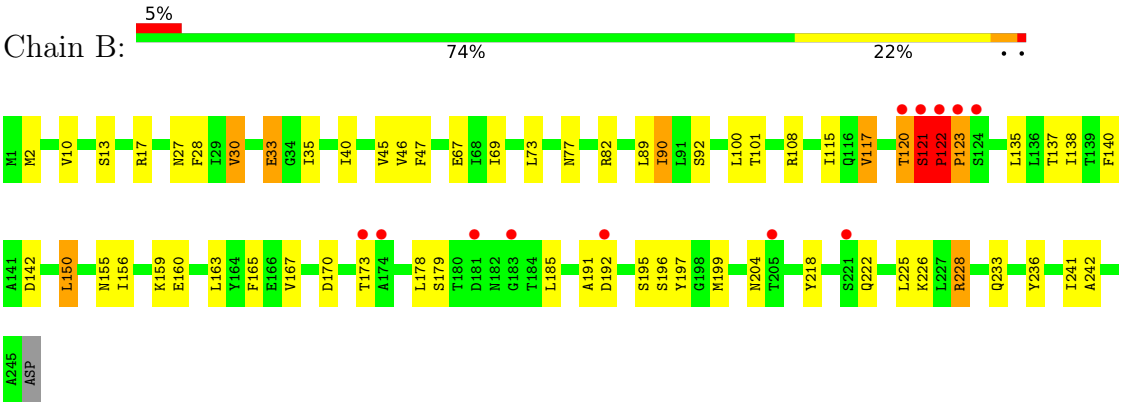
• Molecule 1: FLAP STRUCTURE-SPECIFIC ENDONUCLEASE

Chain A:



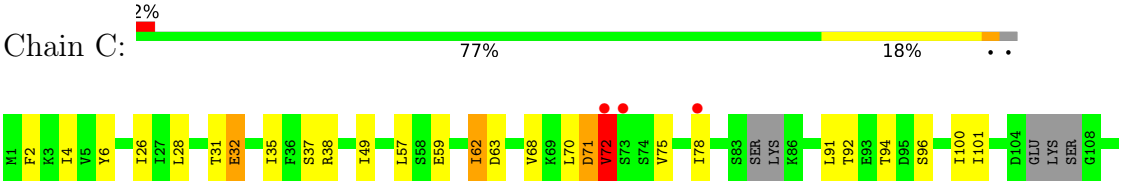
• Molecule 2: DNA POLYMERASE SLIDING CLAMP C

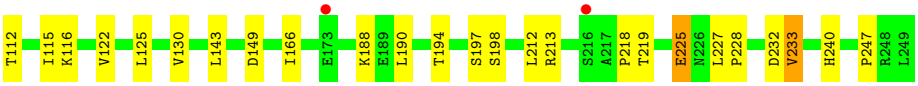
Chain B:



• Molecule 3: DNA POLYMERASE SLIDING CLAMP B

Chain C:




T112
I115
K116
V122
L125
V130
L143
D149
I166
E173
K188
E189
L190
T194
S197
S198
L212
R213
S216
A217
P218
T219
E225
N226
L227
P228
D232
V233
H240
P247
R248
L249

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α, β, γ	93.99Å 99.77Å 99.96Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	30.00 – 2.90 29.96 – 2.90	Depositor EDS
% Data completeness (in resolution range)	98.9 (30.00-2.90) 98.9 (29.96-2.90)	Depositor EDS
R_{merge}	0.08	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	2.95 (at 2.90Å)	Xtriage
Refinement program	REFMAC 5.2.0019	Depositor
R, R_{free}	0.250 , 0.312 0.246 , 0.306	Depositor DCC
R_{free} test set	1088 reflections (5.13%)	wwPDB-VP
Wilson B-factor (Å^2)	61.8	Xtriage
Anisotropy	0.446	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.29 , 80.1	EDS
L-test for twinning[2]	$< \|L\| > = 0.47$, $< L^2 > = 0.30$	Xtriage
Estimated twinning fraction	0.029 for -h,l,k	Xtriage
F_o,F_c correlation	0.90	EDS
Total number of atoms	5811	wwPDB-VP
Average B, all atoms (Å^2)	49.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.81% of the height of the origin peak. No significant pseudotranslation is detected.*

[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	0.34	0/2070	0.51	0/2795
2	B	0.38	0/1901	0.63	3/2583 (0.1%)
3	C	0.35	0/1842	0.52	0/2498
All	All	0.36	0/5813	0.55	3/7876 (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
2	B	0	2

There are no bond length outliers.

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	B	122	PRO	N-CA-C	10.89	140.41	112.10
2	B	121	SER	N-CA-CB	-7.34	99.49	110.50
2	B	122	PRO	CB-CA-C	-5.15	99.13	112.00

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	B	120	THR	Peptide
2	B	122	PRO	Peptide

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	2043	0	2051	37	0
2	B	1866	0	1805	43	0
3	C	1816	0	1778	29	1
4	A	1	0	0	0	0
4	B	1	0	0	0	0
4	C	2	0	0	0	0
5	A	2	0	0	0	0
5	B	1	0	0	0	0
5	C	1	0	0	0	0
6	A	26	0	0	0	0
6	B	23	0	0	1	0
6	C	29	0	0	1	1
All	All	5811	0	5634	107	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 (107) 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:1:MET:CE	1:A:4:VAL:HG21	1.61	1.28
2:B:122:PRO:HB2	2:B:123:PRO:CA	1.69	1.23
2:B:122:PRO:CB	2:B:123:PRO:HA	1.78	1.14
2:B:40:ILE:CD1	2:B:123:PRO:HD2	1.84	1.06
1:A:1:MET:HE3	1:A:4:VAL:HG21	1.02	0.98
3:C:225:GLU:OE1	6:C:2025:HOH:O	1.82	0.97
2:B:40:ILE:HD11	2:B:123:PRO:HD2	1.44	0.97
1:A:1:MET:HE3	1:A:4:VAL:CG2	1.97	0.93
2:B:122:PRO:HB2	2:B:123:PRO:HA	0.92	0.91
2:B:233:GLN:OE1	6:B:2022:HOH:O	1.89	0.90
1:A:1:MET:HE2	1:A:4:VAL:HG21	1.61	0.83
2:B:40:ILE:HD11	2:B:123:PRO:CD	2.11	0.81
2:B:17:ARG:HA	2:B:77:ASN:HD21	1.48	0.79
2:B:120:THR:HA	2:B:121:SER:O	1.83	0.77
1:A:5:LYS:NZ	1:A:226:ILE:HG21	2.01	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:17:ARG:HA	2:B:77:ASN:ND2	2.02	0.73
1:A:13:PHE:CG	1:A:68:GLU:HG2	2.26	0.70
1:A:1:MET:CE	1:A:4:VAL:CG2	2.55	0.70
2:B:135:LEU:HD11	2:B:140:PHE:HB2	1.75	0.69
1:A:293:ALA:HB1	1:A:294:LEU:HD23	1.75	0.68
2:B:178:LEU:HB3	2:B:185:LEU:HD13	1.78	0.66
1:A:46:ASP:HB2	1:A:313:ASN:HB3	1.78	0.66
2:B:90:ILE:HG23	2:B:101:THR:HB	1.77	0.66
1:A:20:ARG:NH1	1:A:294:LEU:O	2.26	0.65
3:C:219:THR:HG23	3:C:233:VAL:HG12	1.80	0.64
1:A:5:LYS:HZ1	1:A:226:ILE:HG21	1.60	0.63
1:A:54:HIS:CD2	1:A:55:LEU:HG	2.32	0.63
2:B:40:ILE:CD1	2:B:123:PRO:CD	2.68	0.62
3:C:70:LEU:O	3:C:72:VAL:N	2.34	0.61
3:C:32:GLU:H	3:C:32:GLU:CD	2.04	0.59
2:B:218:TYR:HB2	2:B:226:LYS:HB3	1.85	0.58
1:A:54:HIS:HD2	1:A:55:LEU:H	1.50	0.58
1:A:5:LYS:HZ1	1:A:226:ILE:HD13	1.69	0.56
3:C:2:PHE:HB3	3:C:62:ILE:HG23	1.87	0.56
1:A:162:LEU:HD13	1:A:290:PRO:HG3	1.87	0.55
2:B:156:ILE:HG22	2:B:165:PHE:HA	1.87	0.55
2:B:120:THR:HG23	2:B:120:THR:O	2.07	0.54
3:C:166:ILE:CD1	3:C:190:LEU:HD11	2.37	0.54
1:A:65:ILE:HG23	1:A:70:VAL:HB	1.90	0.54
2:B:30:VAL:HG13	2:B:67:GLU:HB3	1.90	0.54
3:C:31:THR:HG22	3:C:122:VAL:HG21	1.90	0.54
1:A:219:THR:H	1:A:222:GLN:HE21	1.57	0.53
1:A:54:HIS:HD2	1:A:55:LEU:N	2.06	0.53
2:B:28:PHE:HB2	2:B:69:ILE:HB	1.91	0.53
1:A:13:PHE:CD1	1:A:68:GLU:HG2	2.44	0.53
2:B:40:ILE:HD12	2:B:123:PRO:HD2	1.82	0.52
3:C:6:TYR:HD1	3:C:57:LEU:HD23	1.74	0.52
3:C:26:ILE:HD11	3:C:70:LEU:HD12	1.91	0.52
1:A:11:LEU:HD22	1:A:206:LEU:HB2	1.92	0.52
1:A:5:LYS:HE3	1:A:248:LEU:HB2	1.92	0.51
3:C:228:PRO:HA	3:C:247:PRO:HD3	1.91	0.51
3:C:227:LEU:HB3	3:C:228:PRO:HD2	1.91	0.51
1:A:1:MET:HE2	1:A:4:VAL:CG2	2.33	0.51
3:C:94:THR:HG22	3:C:96:SER:H	1.76	0.51
2:B:228:ARG:O	2:B:228:ARG:HG3	2.10	0.50
3:C:197:SER:H	3:C:225:GLU:HG2	1.77	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:27:ASN:O	1:A:31:GLN:HG2	2.10	0.50
2:B:82:ARG:HD3	3:C:149:ASP:OD2	2.12	0.50
2:B:47:PHE:CD2	2:B:122:PRO:O	2.65	0.50
1:A:224:ILE:O	1:A:228:ILE:HG12	2.12	0.50
3:C:166:ILE:HD13	3:C:190:LEU:HD11	1.94	0.49
2:B:228:ARG:HD3	2:B:236:TYR:HB2	1.93	0.49
3:C:4:ILE:HG21	3:C:35:ILE:HD11	1.94	0.49
1:A:236:PRO:O	1:A:237:ASP:HB2	2.13	0.49
3:C:38:ARG:HG3	3:C:49:ILE:HG12	1.94	0.49
2:B:155:ASN:HA	2:B:196:SER:HA	1.95	0.48
1:A:54:HIS:CD2	1:A:55:LEU:N	2.82	0.48
2:B:2:MET:HG3	2:B:30:VAL:HG21	1.95	0.47
1:A:62:THR:HG21	1:A:141:ILE:HD13	1.97	0.47
2:B:135:LEU:CD1	2:B:140:PHE:HB2	2.43	0.47
2:B:197:TYR:CZ	2:B:225:LEU:HB2	2.50	0.47
2:B:33:GLU:H	2:B:33:GLU:HG2	1.51	0.47
3:C:101:ILE:HG12	3:C:112:THR:HG22	1.97	0.47
2:B:46:VAL:HG22	2:B:241:ILE:HG12	1.96	0.47
2:B:122:PRO:CB	2:B:123:PRO:CA	2.51	0.47
1:A:327:THR:HA	1:A:330:ILE:HD12	1.97	0.46
3:C:2:PHE:HB3	3:C:62:ILE:CG2	2.45	0.46
1:A:305:ILE:HG23	1:A:309:VAL:HB	1.97	0.46
2:B:2:MET:O	2:B:92:SER:HA	2.16	0.45
3:C:100:ILE:O	3:C:112:THR:HA	2.16	0.45
3:C:91:LEU:HD23	3:C:100:ILE:HG12	1.98	0.45
1:A:13:PHE:HB3	1:A:68:GLU:HG2	1.99	0.44
3:C:71:ASP:HB2	3:C:116:LYS:O	2.18	0.44
2:B:150:LEU:O	2:B:167:VAL:HG11	2.18	0.44
3:C:130:VAL:HG21	3:C:227:LEU:HD22	1.99	0.44
1:A:5:LYS:HZ2	1:A:226:ILE:HG21	1.78	0.44
2:B:27:ASN:ND2	2:B:117:VAL:HG13	2.33	0.44
2:B:30:VAL:HB	2:B:35:ILE:HG12	2.00	0.44
2:B:179:SER:HA	2:B:185:LEU:HD22	2.00	0.43
1:A:293:ALA:HA	1:A:294:LEU:HA	1.70	0.43
1:A:13:PHE:CB	1:A:68:GLU:HG2	2.48	0.42
3:C:70:LEU:HD22	3:C:115:ILE:HG21	2.00	0.42
2:B:45:VAL:HG13	2:B:242:ALA:HB3	2.00	0.42
1:A:221:GLU:HG2	1:A:283:LEU:HD21	2.01	0.42
2:B:204:ASN:HD22	2:B:204:ASN:HA	1.65	0.42
2:B:89:LEU:HD11	2:B:100:LEU:HB3	2.02	0.41
3:C:212:LEU:HD22	3:C:233:VAL:HG13	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:28:LEU:HB2	3:C:68:VAL:HG13	2.02	0.41
3:C:75:VAL:HA	3:C:78:ILE:HD12	2.02	0.41
2:B:120:THR:CA	2:B:121:SER:O	2.63	0.41
3:C:188:LYS:NZ	3:C:218:PRO:HB3	2.35	0.41
1:A:71:ILE:HA	1:A:72:PRO:HD3	1.91	0.41
2:B:121:SER:HA	2:B:122:PRO:HA	1.52	0.41
2:B:138:ILE:H	2:B:138:ILE:HG13	1.74	0.41
1:A:147:PRO:HD3	1:A:288:VAL:HG22	2.04	0.40
1:A:340:THR:HG22	3:C:247:PRO:O	2.20	0.40
2:B:191:ALA:HA	2:B:192:ASP:HA	1.92	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)
3:C:59:GLU:OE1	6:C:2025:HOH:O[2_454]	1.99	0.21

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	256/346 (74%)	233 (91%)	23 (9%)	0	100	100
2	B	243/246 (99%)	224 (92%)	17 (7%)	2 (1%)	19	51
3	C	238/249 (96%)	226 (95%)	10 (4%)	2 (1%)	19	51
All	All	737/841 (88%)	683 (93%)	50 (7%)	4 (0%)	29	61

All (4) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	B	123	PRO
3	C	71	ASP

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Mol	Chain	Res	Type
3	C	72	VAL
2	B	122	PRO

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	209/297 (70%)	197 (94%)	12 (6%)	20 51
2	B	202/220 (92%)	180 (89%)	22 (11%)	6 19
3	C	196/220 (89%)	181 (92%)	15 (8%)	13 35
All	All	607/737 (82%)	558 (92%)	49 (8%)	11 33

All (49) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	1	MET
1	A	8	LYS
1	A	9	ARG
1	A	54	HIS
1	A	68	GLU
1	A	182	VAL
1	A	225	ASP
1	A	284	ASN
1	A	288	VAL
1	A	295	ASP
1	A	300	ASN
1	A	337	SER
2	B	10	VAL
2	B	13	SER
2	B	30	VAL
2	B	33	GLU
2	B	73	LEU
2	B	90	ILE
2	B	108	ARG
2	B	115	ILE

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Mol	Chain	Res	Type
2	B	117	VAL
2	B	121	SER
2	B	137	THR
2	B	142	ASP
2	B	150	LEU
2	B	159	LYS
2	B	160	GLU
2	B	163	LEU
2	B	170	ASP
2	B	173	THR
2	B	195	SER
2	B	199	MET
2	B	222	GLN
2	B	228	ARG
3	C	32	GLU
3	C	37	SER
3	C	62	ILE
3	C	63	ASP
3	C	72	VAL
3	C	92	THR
3	C	125	LEU
3	C	143	LEU
3	C	194	THR
3	C	198	SER
3	C	213	ARG
3	C	225	GLU
3	C	232	ASP
3	C	233	VAL
3	C	240	HIS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (9) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	54	HIS
1	A	222	GLN
1	A	300	ASN
2	B	27	ASN
2	B	77	ASN
2	B	134	GLN
2	B	204	ASN
2	B	233	GLN
3	C	39	HIS

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 8 ligands modelled in this entry, 8 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, 95^{th} 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	268/346 (77%)	0.67	31 (11%) 4 3	43, 50, 54, 56	2 (0%)
2	B	245/246 (99%)	0.33	12 (4%) 29 26	45, 50, 54, 59	0
3	C	244/249 (97%)	0.15	5 (2%) 65 63	44, 50, 54, 56	0
All	All	757/841 (90%)	0.39	48 (6%) 20 16	43, 50, 54, 59	2 (0%)

All (48) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	51	VAL	7.8
1	A	45	MET	6.2
2	B	123	PRO	4.9
2	B	121	SER	4.4
1	A	43	PRO	4.4
1	A	50	ARG	4.3
1	A	320	LYS	4.2
3	C	78	ILE	3.8
2	B	173	THR	3.7
1	A	38	GLN	3.6
3	C	72	VAL	3.5
1	A	37	ARG	3.4
2	B	122	PRO	3.4
1	A	313	ASN	3.0
1	A	303	ASP	3.0
1	A	39	PRO	2.9
1	A	329	ALA	2.9
2	B	124	SER	2.9
1	A	304	ILE	2.8
1	A	1	MET	2.8
1	A	288	VAL	2.8
1	A	323	ILE	2.7
1	A	327	THR	2.7

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Mol	Chain	Res	Type	RSRZ
1	A	293	ALA	2.7
3	C	216	SER	2.7
1	A	52	THR	2.7
1	A	53	SER	2.6
3	C	73	SER	2.5
1	A	246	ARG	2.5
2	B	120	THR	2.5
1	A	44	LEU	2.4
2	B	205	THR	2.3
1	A	290	PRO	2.3
1	A	47	SER	2.3
3	C	173	GLU	2.3
2	B	192	ASP	2.2
1	A	49	GLY	2.2
1	A	236	PRO	2.2
1	A	36	ILE	2.2
1	A	275	ILE	2.2
1	A	68	GLU	2.1
2	B	183	GLY	2.1
2	B	221	SER	2.1
2	B	174	ALA	2.1
1	A	13	PHE	2.1
1	A	321	ASN	2.1
1	A	24	ASP	2.0
2	B	181	ASP	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, 95^{th} 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
5	MG	A	1349	1/1	0.84	0.61	50,50,50,50	0
5	MG	C	1250	1/1	0.84	0.12	42,42,42,42	0
4	ZN	B	1246	1/1	0.89	0.07	87,87,87,87	0
4	ZN	C	1252	1/1	0.94	0.08	75,75,75,75	0
5	MG	A	1348	1/1	0.94	0.12	20,20,20,20	0
5	MG	B	1247	1/1	0.96	0.14	39,39,39,39	0
4	ZN	C	1251	1/1	0.96	0.06	74,74,74,74	0
4	ZN	A	1347	1/1	0.98	0.10	83,83,83,83	0

6.5 Other polymers (i)

There are no such residues in this entry.