Full wwPDB X-ray Structure Validation Report ⓘ

Jun 23, 2024 – 04:24 AM EDT

PDB ID	:	4YPI
Title	:	Structure of Ebola virus nucleoprotein N-terminal fragment bound to a peptide derived from Ebola VP35
Authors	:	Leung, D.W.; Borek, D.M.; Binning, J.M.; Otwinowski, Z.; Amarasinghe, G.K.; Center for Structural Genomics of Infectious Diseases (CSGID)
Deposited on	:	2015-03-13
Resolution	:	3.71 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:

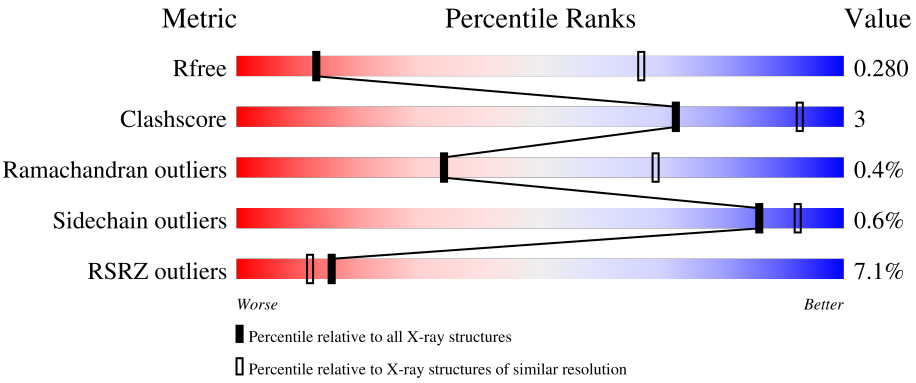
MolProbity	:	4.02b-467
Xtriage (Phenix)	:	1.13
EDS	:	2.37.1
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.37.1

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 3.71 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	1089 (3.90-3.54)
Clashscore	141614	1012 (3.88-3.56)
Ramachandran outliers	138981	1114 (3.90-3.54)
Sidechain outliers	138945	1110 (3.90-3.54)
RSRZ outliers	127900	1020 (3.90-3.54)

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	348	91% 8%
1	B	348	9% 92% 7%
1	C	348	93% 6%
1	D	348	20% 92% 6%
2	E	28	75% 21%

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Mol	Chain	Length	Quality of chain
2	F	28	75% 25%
2	G	28	86% 14%
2	H	28	82% 14%

2 Entry composition (i)

There are 2 unique types of molecules in this entry. The entry contains 11780 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 Nucleoprotein.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	C	348	Total	C	N	O	S	0	0	0
			2739	1741	486	501	11			
1	A	346	Total	C	N	O	S	0	0	0
			2721	1731	483	496	11			
1	B	347	Total	C	N	O	S	0	0	0
			2730	1736	484	499	11			
1	D	347	Total	C	N	O	S	0	0	0
			2730	1736	484	499	11			

- Molecule 2 is a protein called Polymerase cofactor VP35.

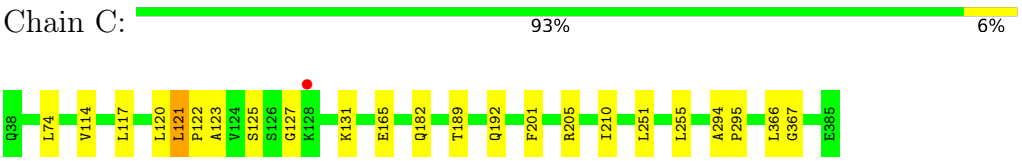
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	G	28	Total	C	N	O	S	0	0	0
			215	137	33	42	3			
2	E	28	Total	C	N	O	S	0	0	0
			215	137	33	42	3			
2	F	28	Total	C	N	O	S	0	0	0
			215	137	33	42	3			
2	H	28	Total	C	N	O	S	0	0	0
			215	137	33	42	3			

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.

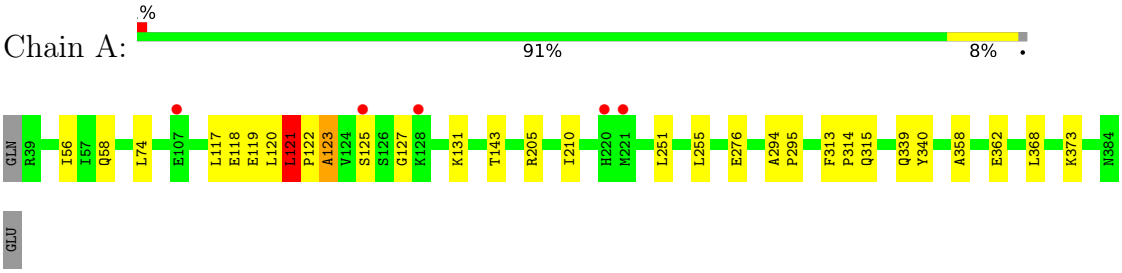
• Molecule 1: Nucleoprotein

Chain C:



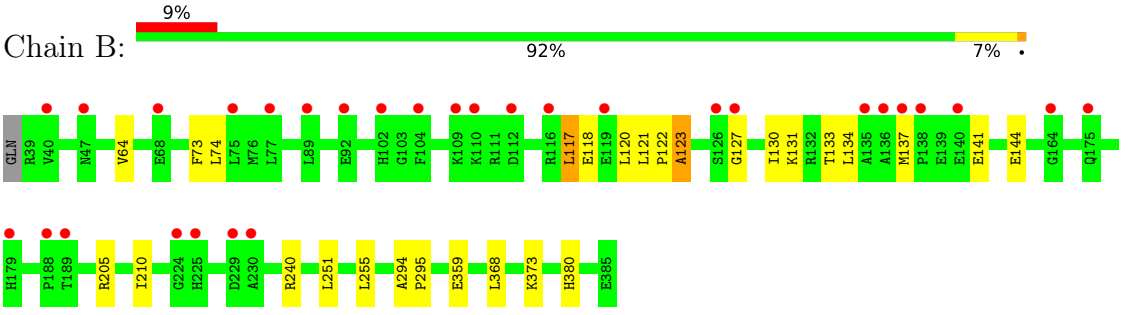
• Molecule 1: Nucleoprotein

Chain A:



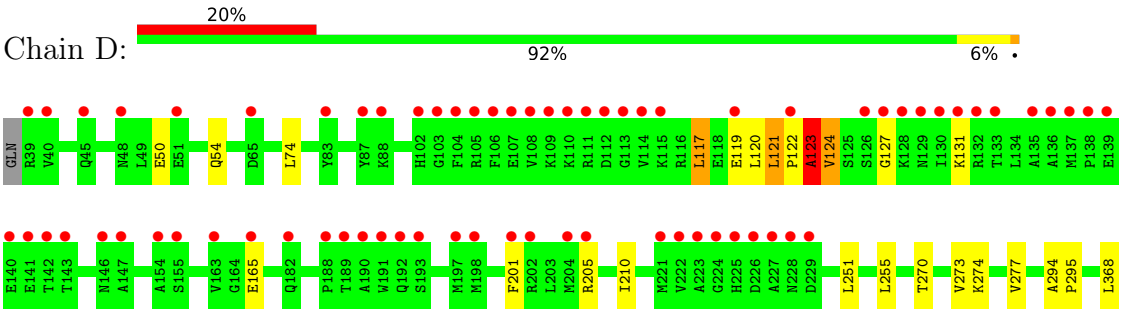
• Molecule 1: Nucleoprotein

Chain B:



• Molecule 1: Nucleoprotein

Chain D:

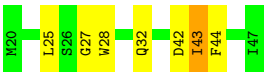


• Molecule 2: Polymerase cofactor VP35

Chain G:

• Molecule 2: Polymerase cofactor VP35

Chain E:



• Molecule 2: Polymerase cofactor VP35

Chain F:

• Molecule 2: Polymerase cofactor VP35

Chain H:

4 Data and refinement statistics (i)

Property	Value	Source
Space group	F 2 2 2	Depositor
Cell constants a, b, c, α, β, γ	149.75Å 194.82Å 347.68Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	25.00 – 3.71 24.96 – 3.71	Depositor EDS
% Data completeness (in resolution range)	84.8 (25.00-3.71) 85.3 (24.96-3.71)	Depositor EDS
R_{merge}	0.12	Depositor
R_{sym}	0.12	Depositor
$< I/\sigma(I) >$ [1]	3.80 (at 3.74Å)	Xtriage
Refinement program	REFMAC 5.8.0049	Depositor
R, R_{free}	0.253 , 0.285 0.251 , 0.280	Depositor DCC
R_{free} test set	1163 reflections (5.04%)	wwPDB-VP
Wilson B-factor (Å^2)	96.0	Xtriage
Anisotropy	0.165	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.26 , 85.8	EDS
L-test for twinning[2]	$< \|L\| > = 0.49$, $< L^2 > = 0.32$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.91	EDS
Total number of atoms	11780	wwPDB-VP
Average B, all atoms (Å^2)	154.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.22% 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

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	0/2770	0.65	3/3734 (0.1%)
1	B	0.33	0/2779	0.52	1/3746 (0.0%)
1	C	0.34	0/2788	0.54	2/3758 (0.1%)
1	D	0.34	0/2779	0.54	2/3746 (0.1%)
2	E	0.33	0/220	0.54	0/297
2	F	0.36	0/220	0.60	0/297
2	G	0.35	0/220	0.56	0/297
2	H	0.36	0/220	0.55	0/297
All	All	0.34	0/11996	0.56	8/16172 (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	0	1
1	B	0	1
1	C	0	1
1	D	0	1
All	All	0	4

There are no bond length outliers.

All (8) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	205	ARG	NE-CZ-NH2	15.40	128.00	120.30
1	A	205	ARG	NE-CZ-NH1	-14.63	112.98	120.30
1	A	121	LEU	CA-CB-CG	7.04	131.48	115.30
1	D	124	VAL	N-CA-C	6.06	127.36	111.00
1	C	205	ARG	NE-CZ-NH2	-5.69	117.45	120.30
1	C	205	ARG	NE-CZ-NH1	5.40	123.00	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	D	205	ARG	NE-CZ-NH2	-5.25	117.67	120.30
1	B	205	ARG	NE-CZ-NH2	-5.19	117.71	120.30

There are no chirality outliers.

All (4) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	123	ALA	Peptide
1	B	123	ALA	Peptide
1	C	123	ALA	Peptide
1	D	123	ALA	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	2721	0	2752	21	0
1	B	2730	0	2758	23	1
1	C	2739	0	2766	11	0
1	D	2730	0	2758	13	6
2	E	215	0	208	4	0
2	F	215	0	208	5	0
2	G	215	0	209	2	1
2	H	215	0	209	3	0
All	All	11780	0	11868	80	8

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 3.

All (80) 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:D:127:GLY:O	1:D:131:LYS:HG2	1.76	0.85
1:A:276:GLU:OE1	1:A:315:GLN:HB2	1.77	0.84
1:A:118:GLU:O	1:A:131:LYS:HE3	1.87	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:359:GLU:OE1	1:B:380:HIS:CG	2.42	0.73
1:A:276:GLU:OE2	1:A:313:PHE:HA	1.95	0.66
1:C:120:LEU:C	1:C:121:LEU:HD12	2.18	0.64
1:D:274:LYS:O	1:D:277:VAL:HG22	1.98	0.63
1:B:73:PHE:HE1	1:B:120:LEU:HD13	1.66	0.60
1:B:120:LEU:HD12	1:B:121:LEU:HD12	1.82	0.60
1:B:118:GLU:HB3	1:B:131:LYS:HG2	1.83	0.60
1:C:127:GLY:O	1:C:131:LYS:HG3	2.02	0.59
1:B:118:GLU:HG3	1:B:134:LEU:HD13	1.87	0.57
1:B:117:LEU:HD23	1:B:121:LEU:HD11	1.87	0.57
1:D:50:GLU:OE2	1:D:54:GLN:HG3	2.05	0.56
1:A:339:GLN:NE2	1:A:340:TYR:CE2	2.73	0.56
2:E:28:TRP:O	2:E:32:GLN:HG2	2.06	0.56
2:G:28:TRP:O	2:G:32:GLN:HG2	2.07	0.55
1:A:127:GLY:O	1:A:131:LYS:HG2	2.06	0.55
1:C:121:LEU:N	1:C:122:PRO:HD3	2.22	0.55
1:D:121:LEU:N	1:D:122:PRO:HD3	2.22	0.55
2:H:28:TRP:O	2:H:32:GLN:HG2	2.07	0.54
1:B:127:GLY:O	1:B:131:LYS:HG3	2.07	0.54
1:D:119:GLU:HG3	1:D:120:LEU:HD12	1.90	0.53
2:F:28:TRP:O	2:F:32:GLN:HG2	2.09	0.53
1:B:117:LEU:O	1:B:120:LEU:HG	2.09	0.53
1:B:73:PHE:CE1	1:B:120:LEU:HD13	2.43	0.53
1:A:119:GLU:HG3	1:A:120:LEU:HD12	1.90	0.52
1:D:117:LEU:HD23	1:D:121:LEU:HD11	1.90	0.52
1:C:189:THR:O	1:C:192:GLN:HG2	2.09	0.52
1:A:276:GLU:OE2	1:A:313:PHE:CA	2.60	0.49
2:H:43:ILE:HD11	2:H:44:PHE:CE1	2.48	0.49
1:A:121:LEU:N	1:A:122:PRO:HD3	2.27	0.49
1:A:276:GLU:OE2	1:A:314:PRO:HD2	2.13	0.48
2:E:43:ILE:HD11	2:E:44:PHE:CE1	2.48	0.48
1:A:58:GLN:HG3	1:A:143:THR:HG23	1.94	0.48
1:C:121:LEU:N	1:C:122:PRO:CD	2.76	0.48
1:B:64:VAL:HG12	1:B:133:THR:HG21	1.95	0.48
1:B:240:ARG:NH2	2:F:31:GLU:OE2	2.40	0.48
1:B:118:GLU:HG2	1:B:131:LYS:HA	1.95	0.47
1:C:74:LEU:HD13	1:C:210:ILE:HB	1.96	0.47
1:B:74:LEU:HD13	1:B:210:ILE:HB	1.96	0.47
1:A:74:LEU:HD13	1:A:210:ILE:HB	1.96	0.47
1:D:74:LEU:HD13	1:D:210:ILE:HB	1.96	0.47
1:C:114:VAL:HG11	1:C:120:LEU:HD21	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:121:LEU:N	1:D:122:PRO:CD	2.79	0.46
1:B:121:LEU:HD21	1:B:130:ILE:HG21	1.97	0.46
1:D:251:LEU:HD23	1:D:255:LEU:HD13	1.99	0.45
1:B:251:LEU:HD23	1:B:255:LEU:HD13	1.98	0.45
1:A:251:LEU:HD23	1:A:255:LEU:HD13	1.99	0.45
1:C:165:GLU:HG3	1:C:201:PHE:CE2	2.52	0.44
1:D:368:LEU:HD13	1:D:373:LYS:HB2	2.00	0.44
1:A:121:LEU:N	1:A:122:PRO:CD	2.81	0.44
1:A:368:LEU:HD13	1:A:373:LYS:HB2	2.00	0.44
1:D:165:GLU:HG3	1:D:201:PHE:CE2	2.53	0.44
1:A:276:GLU:OE2	1:A:313:PHE:C	2.55	0.44
1:C:366:LEU:HD12	1:C:367:GLY:N	2.33	0.43
1:A:56:ILE:HG13	1:A:117:LEU:HD21	2.00	0.43
1:B:121:LEU:O	1:B:123:ALA:N	2.51	0.43
1:B:144:GLU:O	1:B:144:GLU:HG3	2.18	0.43
1:C:251:LEU:HD23	1:C:255:LEU:HD13	2.00	0.43
1:A:358:ALA:O	1:A:362:GLU:HG2	2.19	0.42
1:B:368:LEU:HD13	1:B:373:LYS:HB2	2.00	0.42
1:B:121:LEU:N	1:B:122:PRO:CD	2.83	0.42
2:F:29:ILE:HG22	2:F:33:LEU:HD13	2.02	0.42
1:B:121:LEU:N	1:B:122:PRO:HD3	2.35	0.42
1:A:118:GLU:O	1:A:131:LYS:CE	2.64	0.41
1:A:121:LEU:O	1:A:123:ALA:N	2.53	0.41
2:G:27:GLY:O	2:G:28:TRP:C	2.58	0.41
1:B:294:ALA:N	1:B:295:PRO:HD2	2.35	0.41
1:C:294:ALA:N	1:C:295:PRO:HD2	2.35	0.41
1:D:294:ALA:N	1:D:295:PRO:HD2	2.36	0.41
1:A:294:ALA:N	1:A:295:PRO:HD2	2.36	0.41
2:H:27:GLY:O	2:H:28:TRP:C	2.59	0.41
2:E:42:ASP:OD1	2:F:41:SER:HB3	2.20	0.41
1:A:117:LEU:HA	1:A:117:LEU:HD12	1.78	0.41
2:F:27:GLY:O	2:F:28:TRP:C	2.59	0.40
2:E:27:GLY:O	2:E:28:TRP:C	2.58	0.40
1:D:270:THR:CG2	1:D:273:VAL:HG23	2.52	0.40
1:B:64:VAL:HG12	1:B:133:THR:CG2	2.52	0.40
1:B:134:LEU:HD23	1:B:137:MET:SD	2.61	0.40

All (8) 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)
1:D:123:ALA:O	1:D:123:ALA:O[8_544]	1.45	0.75
1:D:123:ALA:C	1:D:123:ALA:O[8_544]	1.59	0.61
1:D:123:ALA:N	1:D:123:ALA:O[8_544]	1.87	0.33
1:B:141:GLU:OE1	1:B:141:GLU:OE1[4_554]	1.88	0.32
1:D:124:VAL:CG1	1:D:127:GLY:CA[8_544]	1.98	0.22
1:D:123:ALA:CA	1:D:123:ALA:O[8_544]	2.01	0.19
1:D:124:VAL:CG1	1:D:127:GLY:N[8_544]	2.01	0.19
2:G:41:SER:OG	2:G:41:SER:OG[14_655]	2.06	0.14

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	344/348 (99%)	314 (91%)	28 (8%)	2 (1%)	25 61
1	B	345/348 (99%)	313 (91%)	32 (9%)	0	100 100
1	C	346/348 (99%)	313 (90%)	31 (9%)	2 (1%)	25 61
1	D	345/348 (99%)	315 (91%)	28 (8%)	2 (1%)	25 61
2	E	26/28 (93%)	25 (96%)	1 (4%)	0	100 100
2	F	26/28 (93%)	25 (96%)	1 (4%)	0	100 100
2	G	26/28 (93%)	25 (96%)	1 (4%)	0	100 100
2	H	26/28 (93%)	24 (92%)	2 (8%)	0	100 100
All	All	1484/1504 (99%)	1354 (91%)	124 (8%)	6 (0%)	34 69

All (6) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	D	123	ALA
1	C	125	SER
1	A	125	SER
1	C	121	LEU
1	A	121	LEU

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Mol	Chain	Res	Type
1	D	121	LEU

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	288/290 (99%)	287 (100%)	1 (0%)	92 96
1	B	289/290 (100%)	288 (100%)	1 (0%)	92 96
1	C	290/290 (100%)	288 (99%)	2 (1%)	84 91
1	D	289/290 (100%)	288 (100%)	1 (0%)	92 96
2	E	25/25 (100%)	23 (92%)	2 (8%)	12 42
2	F	25/25 (100%)	25 (100%)	0	100 100
2	G	25/25 (100%)	25 (100%)	0	100 100
2	H	25/25 (100%)	24 (96%)	1 (4%)	31 59
All	All	1256/1260 (100%)	1248 (99%)	8 (1%)	86 92

All (8) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	C	117	LEU
1	C	182	GLN
1	A	121	LEU
2	E	25	LEU
2	E	43	ILE
1	B	117	LEU
1	D	117	LEU
2	H	43	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (6) such sidechains are listed below:

Mol	Chain	Res	Type
1	C	253	HIS

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Mol	Chain	Res	Type
1	A	129	ASN
1	B	327	HIS
1	B	342	GLN
2	F	32	GLN
1	D	327	HIS

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 (i)

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	346/348 (99%)	-0.32	5 (1%) 75 69	39, 116, 203, 231	0
1	B	347/348 (99%)	0.44	30 (8%) 10 9	53, 211, 279, 299	0
1	C	348/348 (100%)	-0.48	1 (0%) 94 93	30, 80, 157, 194	0
1	D	347/348 (99%)	0.72	70 (20%) 1 1	80, 255, 359, 554	0
2	E	28/28 (100%)	-0.52	0 100 100	62, 87, 123, 138	0
2	F	28/28 (100%)	-0.52	0 100 100	73, 98, 132, 133	0
2	G	28/28 (100%)	-0.63	0 100 100	43, 61, 107, 113	0
2	H	28/28 (100%)	-0.39	0 100 100	94, 131, 148, 151	0
All	All	1500/1504 (99%)	0.05	106 (7%) 16 12	30, 129, 299, 554	0

All (106) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	D	112	ASP	7.4
1	B	136	ALA	7.2
1	D	142	THR	6.8
1	D	138	PRO	6.7
1	D	113	GLY	6.4
1	D	140	GLU	6.2
1	D	136	ALA	5.5
1	D	223	ALA	5.4
1	D	224	GLY	4.9
1	B	47	ASN	4.7
1	D	192	GLN	4.6
1	D	155	SER	4.6
1	D	115	LYS	4.4
1	D	129	ASN	4.3
1	D	139	GLU	4.2
1	B	119	GLU	4.2

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Mol	Chain	Res	Type	RSRZ
1	D	225	HIS	4.2
1	D	109	LYS	4.0
1	D	130	ILE	4.0
1	B	126	SER	4.0
1	B	102	HIS	3.9
1	D	126	SER	3.9
1	D	143	THR	3.9
1	D	133	THR	3.9
1	D	190	ALA	3.8
1	B	109	LYS	3.8
1	D	197	MET	3.8
1	D	132	ARG	3.7
1	D	229	ASP	3.7
1	D	189	THR	3.7
1	B	137	MET	3.7
1	D	228	ASN	3.6
1	B	230	ALA	3.6
1	D	227	ALA	3.6
1	D	51	GLU	3.6
1	D	111	ARG	3.6
1	B	189	THR	3.5
1	D	188	PRO	3.5
1	B	229	ASP	3.5
1	D	135	ALA	3.5
1	D	45	GLN	3.4
1	D	105	ARG	3.4
1	D	141	GLU	3.4
1	B	175	GLN	3.3
1	D	106	PHE	3.3
1	B	127	GLY	3.3
1	D	102	HIS	3.2
1	A	221	MET	3.2
1	D	154	ALA	3.2
1	B	104	PHE	3.1
1	D	137	MET	3.1
1	D	205	ARG	3.1
1	C	128	LYS	3.1
1	B	188	PRO	3.1
1	D	48	ASN	3.1
1	D	191	TRP	3.0
1	D	165	GLU	3.0
1	B	135	ALA	2.9

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Mol	Chain	Res	Type	RSRZ
1	B	110	LYS	2.9
1	D	108	VAL	2.9
1	D	193	SER	2.9
1	D	163	VAL	2.9
1	B	112	ASP	2.9
1	D	110	LYS	2.8
1	B	116	ARG	2.8
1	D	39	ARG	2.8
1	D	40	VAL	2.8
1	D	107	GLU	2.7
1	D	127	GLY	2.7
1	D	204	MET	2.7
1	D	114	VAL	2.7
1	D	147	ALA	2.6
1	D	65	ASP	2.6
1	B	77	LEU	2.6
1	D	122	PRO	2.5
1	B	40	VAL	2.5
1	B	92	GLU	2.5
1	A	128	LYS	2.5
1	D	83	TYR	2.5
1	D	198	MET	2.5
1	D	182	GLN	2.4
1	A	125	SER	2.4
1	B	138	PRO	2.3
1	A	107	GLU	2.3
1	B	68	GLU	2.3
1	D	226	ASP	2.3
1	D	131	LYS	2.3
1	B	164	GLY	2.3
1	B	140	GLU	2.3
1	D	221	MET	2.2
1	D	88	LYS	2.2
1	D	202	ARG	2.2
1	D	87	TYR	2.2
1	A	220	HIS	2.2
1	D	222	VAL	2.2
1	D	103	GLY	2.1
1	D	104	PHE	2.1
1	D	119	GLU	2.1
1	D	128	LYS	2.1
1	B	89	LEU	2.1

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Mol	Chain	Res	Type	RSRZ
1	B	224	GLY	2.1
1	B	179	HIS	2.1
1	D	201	PHE	2.0
1	D	146	ASN	2.0
1	B	75	LEU	2.0
1	B	225	HIS	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)

There are no ligands in this entry.

6.5 Other polymers (i)

There are no such residues in this entry.