



Full wwPDB X-ray Structure Validation Report ⓘ

Feb 19, 2016 – 09:26 PM GMT

PDB ID : 5A97
Title : Hazara virus nucleocapsid protein
Authors : Surtees, R.; Ariza, A.; Hewson, R.; Barr, J.N.; Edwards, T.A.
Deposited on : 2015-07-17
Resolution : 2.70 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
<http://wwpdb.org/validation/2016/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
Mogul : unknown
Xtriage (Phenix) : 1.9-1692
EDS : rb-20026982
Percentile statistics : 20151230.v01 (using entries in the PDB archive December 30th 2015)
Refmac : 5.8.0135
CCP4 : 6.5.0
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : rb-20026982

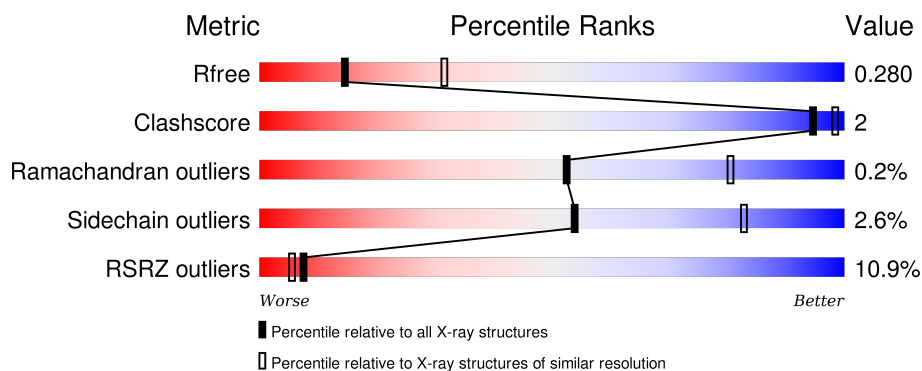
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.70 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}	91344	2103 (2.70-2.70)
Clashscore	102246	2422 (2.70-2.70)
Ramachandran outliers	100387	2382 (2.70-2.70)
Sidechain outliers	100360	2382 (2.70-2.70)
RSRZ outliers	91569	2107 (2.70-2.70)

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. 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	489	<div> <div>34%</div> <div>92% 5% .</div> </div>
1	B	489	<div> <div>%</div> <div>93% 5% .</div> </div>
1	C	489	<div> <div>4%</div> <div>94% . .</div> </div>
1	D	489	<div> <div>3%</div> <div>92% 5% .</div> </div>

2 Entry composition

There are 2 unique types of molecules in this entry. The entry contains 15226 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 NUCLEOCAPSID PROTEIN.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	473	Total	C	N	O	S	0	3	0
			3760	2393	641	708	18			
1	B	477	Total	C	N	O	S	0	6	0
			3800	2416	648	718	18			
1	C	479	Total	C	N	O	S	0	5	0
			3808	2421	653	716	18			
1	D	477	Total	C	N	O	S	0	4	0
			3788	2408	648	714	18			

There are 16 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-3	PRO	-	EXPRESSION TAG	UNP M4PWE6
A	-2	LEU	-	EXPRESSION TAG	UNP M4PWE6
A	-1	GLY	-	EXPRESSION TAG	UNP M4PWE6
A	0	SER	-	EXPRESSION TAG	UNP M4PWE6
B	-3	PRO	-	EXPRESSION TAG	UNP M4PWE6
B	-2	LEU	-	EXPRESSION TAG	UNP M4PWE6
B	-1	GLY	-	EXPRESSION TAG	UNP M4PWE6
B	0	SER	-	EXPRESSION TAG	UNP M4PWE6
C	-3	PRO	-	EXPRESSION TAG	UNP M4PWE6
C	-2	LEU	-	EXPRESSION TAG	UNP M4PWE6
C	-1	GLY	-	EXPRESSION TAG	UNP M4PWE6
C	0	SER	-	EXPRESSION TAG	UNP M4PWE6
D	-3	PRO	-	EXPRESSION TAG	UNP M4PWE6
D	-2	LEU	-	EXPRESSION TAG	UNP M4PWE6
D	-1	GLY	-	EXPRESSION TAG	UNP M4PWE6
D	0	SER	-	EXPRESSION TAG	UNP M4PWE6

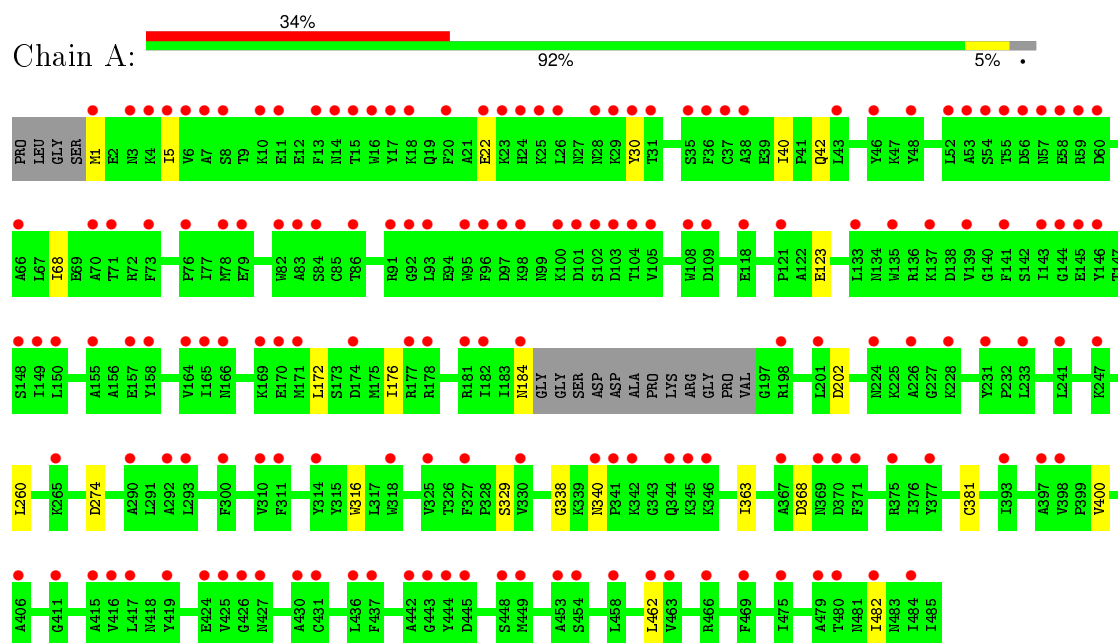
- Molecule 2 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	A	6	Total 6	O 6	0	0
2	B	26	Total 26	O 26	0	0
2	C	24	Total 24	O 24	0	0
2	D	14	Total 14	O 14	0	0

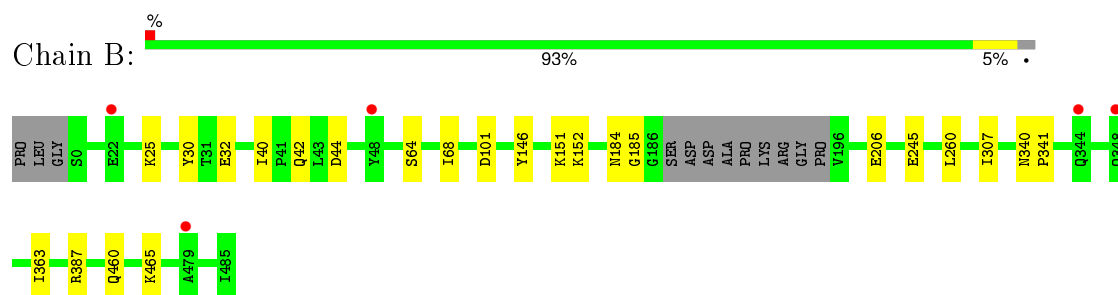
3 Residue-property plots

These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of errors 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.

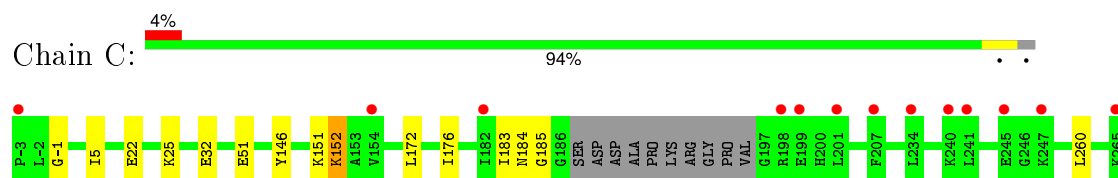
• Molecule 1: NUCLEOCAPSID PROTEIN



• Molecule 1: NUCLEOCAPSID PROTEIN

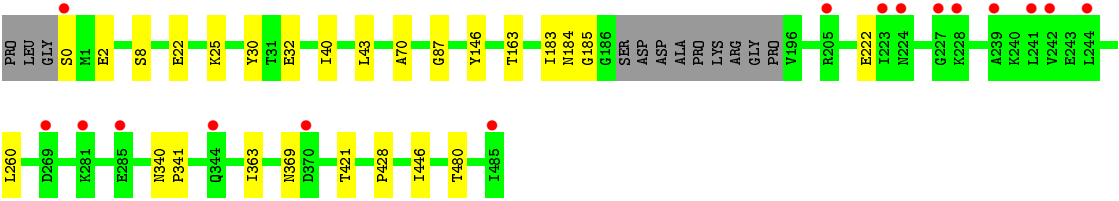
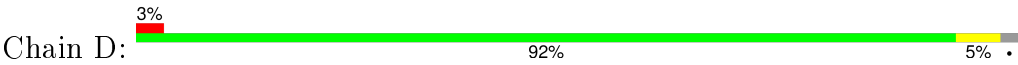


• Molecule 1: NUCLEOCAPSID PROTEIN





● Molecule 1: NUCLEOCAPSID PROTEIN



4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	64.99 Å 76.10 Å 449.28 Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	224.64 – 2.70 74.88 – 2.70	Depositor EDS
% Data completeness (in resolution range)	98.5 (224.64-2.70) 98.5 (74.88-2.70)	Depositor EDS
R_{merge}	0.11	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.84 (at 2.69 Å)	Xtriage
Refinement program	REFMAC 5.8.0124	Depositor
R, R_{free}	0.242 , 0.282 0.242 , 0.280	Depositor DCC
R_{free} test set	3135 reflections (5.34%)	DCC
Wilson B-factor (Å ²)	63.2	Xtriage
Anisotropy	0.105	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.31 , 40.7	EDS
Estimated twinning fraction	No twinning to report.	Xtriage
L-test for twinning ²	$\langle L \rangle = 0.48$, $\langle L^2 \rangle = 0.31$	Xtriage
Outliers	0 of 61795 reflections	Xtriage
F_o, F_c correlation	0.93	EDS
Total number of atoms	15226	wwPDB-VP
Average B, all atoms (Å ²)	86.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.64% 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, 0.375 respectively for untwinned datasets, and 0.333, 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	0.39	0/3842	0.52	0/5185
1	B	0.38	0/3885	0.56	0/5242
1	C	0.39	0/3891	0.58	0/5249
1	D	0.39	0/3867	0.56	0/5218
All	All	0.38	0/15485	0.56	0/20894

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	C	0	1

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	C	-1	GLY	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	3760	0	3760	6	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	B	3800	0	3796	20	0
1	C	3808	0	3809	13	0
1	D	3788	0	3784	13	0
2	A	6	0	0	0	0
2	B	26	0	0	0	0
2	C	24	0	0	0	0
2	D	14	0	0	0	0
All	All	15226	0	15149	52	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 2.

All (52) 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:184[B]:ASN:CB	1:B:185[B]:GLY:HA3	1.27	1.47
1:C:184[B]:ASN:CB	1:C:185[B]:GLY:HA3	1.31	1.42
1:D:184[B]:ASN:CB	1:D:185[B]:GLY:HA3	1.21	1.42
1:D:184[B]:ASN:CB	1:D:185[B]:GLY:CA	2.11	1.29
1:D:184[B]:ASN:HB2	1:D:185[B]:GLY:CA	1.66	1.21
1:B:184[B]:ASN:CB	1:B:185[B]:GLY:CA	2.17	1.20
1:C:184[B]:ASN:HB3	1:C:185[B]:GLY:CA	1.73	1.19
1:C:184[B]:ASN:CB	1:C:185[B]:GLY:CA	2.21	1.17
1:D:184[B]:ASN:HB3	1:D:185[B]:GLY:HA3	1.21	1.16
1:C:184[B]:ASN:HB2	1:C:185[B]:GLY:HA3	1.26	1.10
1:B:184[B]:ASN:HB3	1:B:185[B]:GLY:HA3	1.09	1.09
1:B:184[B]:ASN:HB2	1:B:185[B]:GLY:CA	1.80	1.05
1:B:184[B]:ASN:HB2	1:B:185[B]:GLY:HA3	1.03	1.01
1:C:184[B]:ASN:HB3	1:C:185[B]:GLY:HA3	0.92	0.91
1:D:184[B]:ASN:HB3	1:D:185[B]:GLY:CA	1.90	0.89
1:B:184[B]:ASN:HB3	1:B:185[B]:GLY:CA	1.89	0.89
1:C:151[B]:LYS:O	1:C:152[B]:LYS:HB2	1.70	0.89
1:D:184[B]:ASN:HB2	1:D:185[B]:GLY:HA3	0.82	0.81
1:C:151[B]:LYS:O	1:C:152[B]:LYS:CB	2.29	0.79
1:B:206[B]:GLU:OE1	1:B:206[B]:GLU:HA	1.84	0.78
1:B:151[B]:LYS:O	1:B:152[B]:LYS:CB	2.40	0.69
1:B:151[B]:LYS:O	1:B:152[B]:LYS:HB2	1.93	0.68
1:C:184[B]:ASN:HB2	1:C:185[B]:GLY:CA	2.05	0.67
1:B:151[B]:LYS:H	1:B:152[B]:LYS:HE3	1.64	0.62
1:B:151[B]:LYS:C	1:B:152[B]:LYS:HG3	2.25	0.57
1:D:43:LEU:HD11	1:D:70:ALA:HB2	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:5:ILE:HD12	1:A:400:VAL:HG12	1.89	0.55
1:B:151[B]:LYS:C	1:B:152[B]:LYS:CG	2.76	0.52
1:B:30:TYR:CD1	1:B:40:ILE:HD11	2.45	0.52
1:B:307:ILE:HD11	1:B:387:ARG:NE	2.28	0.49
1:D:183:ILE:O	1:D:184[A]:ASN:HB2	2.13	0.48
1:B:206[B]:GLU:CA	1:B:206[B]:GLU:OE1	2.58	0.48
1:D:8:SER:HA	1:D:87:GLY:HA3	1.95	0.48
1:B:64:SER:O	1:B:68:ILE:HG12	2.15	0.47
1:A:316:TRP:NE1	1:A:381:CYS:O	2.46	0.46
1:C:5:ILE:HD12	1:C:400:VAL:HG12	1.98	0.45
1:D:32:GLU:HG3	1:D:146:TYR:OH	2.17	0.44
1:D:30:TYR:CD1	1:D:40:ILE:HD11	2.52	0.44
1:A:172:LEU:O	1:A:176:ILE:HG12	2.18	0.44
1:C:151[B]:LYS:O	1:C:152[B]:LYS:CG	2.65	0.43
1:B:460:GLN:HE21	1:B:465:LYS:HE2	1.82	0.43
1:D:40:ILE:HD12	1:D:428:PRO:HB3	2.01	0.43
1:A:30:TYR:CD1	1:A:40:ILE:HD11	2.54	0.43
1:D:184[A]:ASN:HA	1:D:185[A]:GLY:HA2	1.59	0.42
1:C:183:ILE:O	1:C:184[A]:ASN:HB2	2.20	0.41
1:A:462:LEU:HD22	1:A:482:ILE:HG21	2.02	0.41
1:C:32:GLU:HG3	1:C:146:TYR:CZ	2.56	0.41
1:B:32:GLU:HG3	1:B:146:TYR:OH	2.20	0.41
1:B:151[B]:LYS:O	1:B:152[B]:LYS:CG	2.69	0.41
1:C:172:LEU:O	1:C:176:ILE:HG12	2.21	0.40
1:B:32:GLU:HG3	1:B:146:TYR:CZ	2.55	0.40
1:A:68:ILE:HD12	1:A:338:GLY:O	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	472/489 (96%)	464 (98%)	8 (2%)	0	100	100
1	B	479/489 (98%)	462 (96%)	16 (3%)	1 (0%)	52	80
1	C	480/489 (98%)	468 (98%)	9 (2%)	3 (1%)	30	59
1	D	477/489 (98%)	464 (97%)	12 (2%)	1 (0%)	52	80
All	All	1908/1956 (98%)	1858 (97%)	45 (2%)	5 (0%)	52	75

All (5) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	C	152[A]	LYS
1	C	152[B]	LYS
1	C	341	PRO
1	B	341	PRO
1	D	341	PRO

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	401/409 (98%)	388 (97%)	13 (3%)	46	77
1	B	405/409 (99%)	397 (98%)	8 (2%)	63	87
1	C	405/409 (99%)	397 (98%)	8 (2%)	63	87
1	D	403/409 (98%)	390 (97%)	13 (3%)	46	77
All	All	1614/1636 (99%)	1572 (97%)	42 (3%)	54	83

All (42) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	1	MET
1	A	22	GLU
1	A	42	GLN
1	A	123	GLU
1	A	184	ASN
1	A	202	ASP

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Mol	Chain	Res	Type
1	A	260	LEU
1	A	274[A]	ASP
1	A	274[B]	ASP
1	A	329	SER
1	A	340	ASN
1	A	363	ILE
1	A	368	ASP
1	B	25	LYS
1	B	42	GLN
1	B	44	ASP
1	B	101	ASP
1	B	245	GLU
1	B	260	LEU
1	B	340	ASN
1	B	363	ILE
1	C	22	GLU
1	C	25	LYS
1	C	51	GLU
1	C	260	LEU
1	C	340	ASN
1	C	363	ILE
1	C	370	ASP
1	C	421	THR
1	D	0	SER
1	D	2	GLU
1	D	22	GLU
1	D	25	LYS
1	D	163	THR
1	D	222	GLU
1	D	260	LEU
1	D	340	ASN
1	D	363	ILE
1	D	369	ASN
1	D	421	THR
1	D	446	ILE
1	D	480	THR

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (16) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	184	ASN
1	A	344	GLN

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Mol	Chain	Res	Type
1	A	460	GLN
1	B	57	ASN
1	B	166	ASN
1	B	167	ASN
1	B	344	GLN
1	B	460	GLN
1	C	57	ASN
1	C	344	GLN
1	C	369	ASN
1	D	42	GLN
1	D	57	ASN
1	D	166	ASN
1	D	344	GLN
1	D	460	GLN

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 carbohydrates 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, 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	473/489 (96%)	1.82	164 (34%) 0 0	75, 136, 191, 246	0
1	B	477/489 (97%)	0.14	5 (1%) 84 85	42, 61, 87, 144	0
1	C	479/489 (97%)	0.32	22 (4%) 36 35	35, 62, 110, 140	0
1	D	477/489 (97%)	0.26	16 (3%) 49 49	45, 71, 120, 147	0
All	All	1906/1956 (97%)	0.63	207 (10%) 7 5	35, 73, 162, 246	0

All (207) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	8	SER	17.5
1	A	7	ALA	12.9
1	A	5	ILE	10.0
1	A	416	VAL	8.4
1	A	54	SER	8.4
1	A	425	VAL	8.2
1	A	419	TYR	8.2
1	C	480	THR	7.7
1	A	16	TRP	7.4
1	A	479	ALA	7.4
1	A	141	PHE	7.3
1	A	17	TYR	7.1
1	A	93	LEU	7.0
1	A	38	ALA	6.7
1	A	103	ASP	6.2
1	A	52	LEU	6.2
1	A	78	MET	6.0
1	A	13	PHE	6.0
1	A	158	TYR	5.9
1	A	327	PHE	5.8
1	A	444	TYR	5.8

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Mol	Chain	Res	Type	RSRZ
1	A	139	VAL	5.8
1	A	6	VAL	5.7
1	A	20	PHE	5.7
1	A	415	ALA	5.7
1	A	36	PHE	5.6
1	A	96	PHE	5.5
1	C	-3	PRO	5.3
1	A	443	GLY	5.2
1	A	73	PHE	5.2
1	A	482	ILE	5.1
1	A	293	LEU	5.1
1	A	398	VAL	5.1
1	C	479	ALA	5.1
1	A	22	GLU	5.0
1	A	137	LYS	4.9
1	A	427	ASN	4.8
1	A	442	ALA	4.8
1	A	231	TYR	4.8
1	A	370	ASP	4.7
1	A	449	MET	4.7
1	A	466	ARG	4.7
1	C	198	ARG	4.6
1	A	411	GLY	4.5
1	A	18	LYS	4.5
1	A	102	SER	4.4
1	A	95	TRP	4.4
1	A	57	ASN	4.4
1	A	37	CYS	4.4
1	A	171	MET	4.4
1	A	445	ASP	4.3
1	D	0	SER	4.3
1	A	82	TRP	4.3
1	A	24	HIS	4.3
1	C	154	VAL	4.2
1	A	133	LEU	4.2
1	A	10	LYS	4.2
1	A	424	GLU	4.1
1	A	417	LEU	4.0
1	A	228	LYS	4.0
1	C	265	LYS	4.0
1	A	145	GLU	3.9
1	A	150	LEU	3.9

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Mol	Chain	Res	Type	RSRZ
1	A	56	ASP	3.9
1	A	25	LYS	3.8
1	A	178	ARG	3.7
1	D	285	GLU	3.7
1	A	148	SER	3.7
1	D	370	ASP	3.7
1	A	310	VAL	3.7
1	A	43	LEU	3.7
1	A	11	GLU	3.7
1	A	166	ASN	3.7
1	A	469	PHE	3.5
1	A	325	VAL	3.5
1	A	426	GLY	3.5
1	A	371	PHE	3.5
1	A	53	ALA	3.4
1	A	169	LYS	3.4
1	A	92	GLY	3.4
1	A	342	LYS	3.4
1	A	105	VAL	3.4
1	A	292	ALA	3.3
1	A	144	GLY	3.3
1	A	345	LYS	3.3
1	A	14	ASN	3.3
1	A	397	ALA	3.3
1	B	48	TYR	3.2
1	C	478	ASN	3.2
1	C	269	ASP	3.2
1	A	143	ILE	3.2
1	A	30	TYR	3.1
1	A	58	GLU	3.1
1	A	454	SER	3.1
1	D	344	GLN	3.1
1	A	330	VAL	3.1
1	A	35	SER	3.1
1	A	157	GLU	3.1
1	A	31	THR	3.0
1	A	318	TRP	3.0
1	B	479	ALA	3.0
1	A	55	THR	3.0
1	A	377	TYR	3.0
1	A	475	ILE	2.9
1	D	269	ASP	2.9

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Mol	Chain	Res	Type	RSRZ
1	A	118	GLU	2.9
1	A	184	ASN	2.9
1	A	431	CYS	2.9
1	A	174	ASP	2.8
1	A	66	ALA	2.8
1	A	314	TYR	2.8
1	A	70	ALA	2.8
1	A	375	ARG	2.8
1	A	101	ASP	2.8
1	A	224	ASN	2.8
1	A	1	MET	2.8
1	C	481	ASN	2.8
1	A	86	THR	2.8
1	A	165	ILE	2.8
1	A	104	THR	2.8
1	A	91	ARG	2.7
1	A	484	ILE	2.7
1	A	60	ASP	2.7
1	A	340	ASN	2.7
1	A	437	PHE	2.7
1	A	29	LYS	2.7
1	C	241	LEU	2.6
1	A	48	TYR	2.6
1	A	155	ALA	2.6
1	A	369	ASN	2.6
1	D	227	GLY	2.6
1	A	23	LYS	2.5
1	A	430	ALA	2.5
1	B	22	GLU	2.5
1	A	3	ASN	2.5
1	A	4	LYS	2.5
1	A	98	LYS	2.5
1	C	182	ILE	2.5
1	A	458	LEU	2.5
1	A	226	ALA	2.5
1	A	462	LEU	2.5
1	C	245	GLU	2.5
1	C	270	GLN	2.5
1	C	266	GLU	2.5
1	A	164	VAL	2.5
1	A	71	THR	2.5
1	A	453	ALA	2.4

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Mol	Chain	Res	Type	RSRZ
1	A	463	VAL	2.4
1	A	406	ALA	2.4
1	A	28	ASN	2.4
1	A	367	ALA	2.4
1	C	199	GLU	2.4
1	C	234	LEU	2.4
1	A	100	LYS	2.4
1	A	247	LYS	2.4
1	A	76	PRO	2.4
1	A	83	ALA	2.4
1	A	436	LEU	2.4
1	A	265	LYS	2.4
1	A	84	SER	2.4
1	D	224	ASN	2.4
1	A	393	ILE	2.3
1	A	300	PHE	2.3
1	A	241	LEU	2.3
1	A	26	LEU	2.3
1	A	290	ALA	2.3
1	D	485	ILE	2.3
1	A	79	GLU	2.3
1	A	135	TRP	2.3
1	A	177	ARG	2.3
1	A	311	PHE	2.3
1	A	181	ARG	2.3
1	B	348	GLN	2.3
1	C	277	GLU	2.3
1	D	242	VAL	2.3
1	A	233	LEU	2.2
1	A	346	LYS	2.2
1	A	448	SER	2.2
1	A	59	ARG	2.2
1	A	15	THR	2.2
1	A	46	TYR	2.2
1	D	223	ILE	2.2
1	D	228	LYS	2.2
1	A	121	PRO	2.2
1	A	146	TYR	2.2
1	C	247	LYS	2.1
1	D	281	LYS	2.1
1	A	149	ILE	2.1
1	A	97	ASP	2.1

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Mol	Chain	Res	Type	RSRZ
1	A	109	ASP	2.1
1	A	198	ARG	2.1
1	A	480	THR	2.1
1	A	182	ILE	2.1
1	A	341	PRO	2.1
1	D	239	ALA	2.1
1	D	241	LEU	2.1
1	A	108	TRP	2.1
1	D	205	ARG	2.1
1	A	201	LEU	2.1
1	C	207	PHE	2.1
1	C	484	ILE	2.1
1	B	344	GLN	2.1
1	C	240	LYS	2.1
1	D	244	LEU	2.0
1	A	344	GLN	2.0
1	A	170	GLU	2.0
1	C	201	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 carbohydrates 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.