



# Full wwPDB X-ray Structure Validation Report

May 26, 2020 – 10:53 am BST

PDB ID : 4WHJ  
Title : Myxovirus Resistance Protein 2 (MxB)  
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Deposited on : 2014-09-22  
Resolution : 3.20 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](mailto: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.

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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 : 2.11  
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) : 2.11

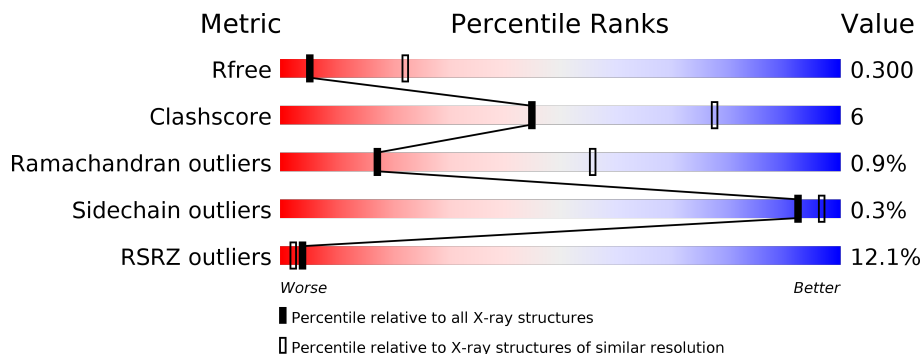
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 3.20 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	1133 (3.20-3.20)
Clashscore	141614	1253 (3.20-3.20)
Ramachandran outliers	138981	1234 (3.20-3.20)
Sidechain outliers	138945	1233 (3.20-3.20)
RSRZ outliers	127900	1095 (3.20-3.20)

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  $\geq 3$ , 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	646	
1	B	646	

## 2 Entry composition i

There is only 1 type of molecule in this entry. The entry contains 9082 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 Interferon-induced GTP-binding protein Mx2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	565	4541	2881	790	847	23	0	0	0
1	B	565	4541	2881	790	847	23	0	0	0

There are 36 discrepancies between the modelled and reference sequences:

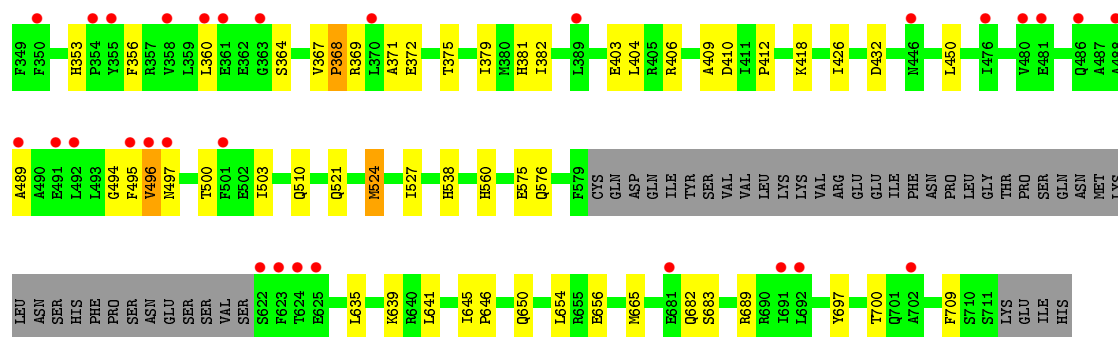
Chain	Residue	Modelled	Actual	Comment	Reference
A	70	MET	-	initiating methionine	UNP P20592
A	71	GLY	-	expression tag	UNP P20592
A	72	SER	-	expression tag	UNP P20592
A	73	SER	-	expression tag	UNP P20592
A	74	HIS	-	expression tag	UNP P20592
A	75	HIS	-	expression tag	UNP P20592
A	76	HIS	-	expression tag	UNP P20592
A	77	HIS	-	expression tag	UNP P20592
A	78	HIS	-	expression tag	UNP P20592
A	79	HIS	-	expression tag	UNP P20592
A	80	SER	-	expression tag	UNP P20592
A	81	GLN	-	expression tag	UNP P20592
A	82	ASP	-	expression tag	UNP P20592
A	83	PRO	-	expression tag	UNP P20592
A	487	ALA	TYR	engineered mutation	UNP P20592
A	488	ALA	ARG	engineered mutation	UNP P20592
A	489	ALA	GLY	engineered mutation	UNP P20592
A	490	ALA	LYS	engineered mutation	UNP P20592
B	70	MET	-	initiating methionine	UNP P20592
B	71	GLY	-	expression tag	UNP P20592
B	72	SER	-	expression tag	UNP P20592
B	73	SER	-	expression tag	UNP P20592
B	74	HIS	-	expression tag	UNP P20592
B	75	HIS	-	expression tag	UNP P20592
B	76	HIS	-	expression tag	UNP P20592

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Chain	Residue	Modelled	Actual	Comment	Reference
B	77	HIS	-	expression tag	UNP P20592
B	78	HIS	-	expression tag	UNP P20592
B	79	HIS	-	expression tag	UNP P20592
B	80	SER	-	expression tag	UNP P20592
B	81	GLN	-	expression tag	UNP P20592
B	82	ASP	-	expression tag	UNP P20592
B	83	PRO	-	expression tag	UNP P20592
B	487	ALA	TYR	engineered mutation	UNP P20592
B	488	ALA	ARG	engineered mutation	UNP P20592
B	489	ALA	GLY	engineered mutation	UNP P20592
B	490	ALA	LYS	engineered mutation	UNP P20592





## 4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	53.19Å 80.78Å 183.67Å 90.00° 95.73° 90.00°	Depositor
Resolution (Å)	43.93 – 3.20 43.93 – 3.20	Depositor EDS
% Data completeness (in resolution range)	90.3 (43.93-3.20) 93.6 (43.93-3.20)	Depositor EDS
$R_{merge}$	0.09	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	1.68 (at 3.19Å)	Xtrriage
Refinement program	PHENIX (phenix.refine: 1.9_1692)	Depositor
R, $R_{free}$	0.265 , 0.299 0.266 , 0.300	Depositor DCC
$R_{free}$ test set	1237 reflections (5.10%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	103.9	Xtrriage
Anisotropy	0.398	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.27 , 87.8	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.46$ , $\langle L^2 \rangle = 0.29$	Xtrriage
Estimated twinning fraction	0.045 for h,-k,-h-l	Xtrriage
$F_o, F_c$ correlation	0.92	EDS
Total number of atoms	9082	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	162.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 5.49% of the height of the origin peak. No significant pseudotranslation is detected.*

<sup>1</sup>Intensities estimated from amplitudes.

<sup>2</sup>Theoretical 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	0.21	0/4609	0.39	0/6209
1	B	0.22	0/4609	0.40	0/6209
All	All	0.22	0/9218	0.40	0/12418

There are no bond length outliers.

There are no bond angle outliers.

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	4541	0	4662	57	0
1	B	4541	0	4662	62	0
All	All	9082	0	9324	119	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 6.

All (119) 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:356:PHE:HA	1:A:360:LEU:HD13	1.73	0.71
1:B:409:ALA:HB1	1:B:410:ASP:HA	1.75	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:111:GLY:HA2	1:A:112:VAL:HB	1.76	0.66
1:B:450:LEU:HD21	1:B:527:ILE:HG12	1.78	0.66
1:A:328:ARG:NH2	1:A:337:LEU:O	2.29	0.66
1:B:99:PRO:HA	1:B:102:ASP:HB2	1.77	0.65
1:A:367:VAL:O	1:A:369:ARG:N	2.26	0.65
1:B:650:GLN:HG3	1:B:654:LEU:HD12	1.80	0.62
1:A:263:VAL:HG22	1:A:292:ILE:HD11	1.79	0.62
1:B:356:PHE:HA	1:B:360:LEU:HD13	1.80	0.61
1:B:111:GLY:HA2	1:B:112:VAL:HB	1.82	0.61
1:B:239:ARG:N	1:B:240:ASP:HA	2.16	0.61
1:A:438:GLU:OE2	1:A:655:ARG:NH2	2.34	0.60
1:B:324:ILE:HD12	1:B:360:LEU:HD21	1.85	0.58
1:B:162:GLN:NE2	1:B:164:CYS:SG	2.77	0.58
1:B:253:ILE:HG13	1:B:282:VAL:HG11	1.85	0.58
1:B:143:LEU:HD12	1:B:144:PRO:HD2	1.87	0.57
1:B:293:LEU:HB2	1:B:324:ILE:HG12	1.87	0.56
1:B:682:GLN:N	1:B:683:SER:HA	2.20	0.56
1:B:432:ASP:OD2	1:B:538:HIS:NE2	2.28	0.56
1:B:250:LYS:HA	1:B:253:ILE:HG12	1.87	0.56
1:B:215:SER:HB3	1:B:218:VAL:HG22	1.87	0.56
1:A:450:LEU:HD21	1:A:527:ILE:HG12	1.88	0.56
1:A:264:VAL:HG21	1:A:270:ILE:HG13	1.88	0.55
1:B:403:GLU:HA	1:B:406:ARG:HD2	1.88	0.55
1:B:219:PRO:HG2	1:B:371:ALA:HB3	1.89	0.54
1:A:418:LYS:NZ	1:A:676:SER:OG	2.41	0.54
1:B:426:ILE:HG23	1:B:665:MET:HB3	1.91	0.52
1:A:99:PRO:HA	1:A:102:ASP:HB2	1.91	0.52
1:B:410:ASP:HB2	1:B:412:PRO:HD2	1.91	0.52
1:B:94:GLU:HA	1:B:97:VAL:HG22	1.91	0.52
1:A:162:GLN:NE2	1:A:164:CYS:SG	2.83	0.52
1:B:367:VAL:O	1:B:369:ARG:N	2.40	0.52
1:A:432:ASP:OD2	1:A:538:HIS:NE2	2.30	0.51
1:A:356:PHE:O	1:A:360:LEU:HB2	2.12	0.50
1:A:635:LEU:HG	1:A:639:LYS:HE3	1.94	0.50
1:B:353:HIS:HB3	1:B:356:PHE:HB2	1.92	0.50
1:A:239:ARG:N	1:A:240:ASP:HA	2.27	0.50
1:B:239:ARG:H	1:B:240:ASP:HA	1.77	0.50
1:A:320:LYS:O	1:A:373:ARG:NH2	2.37	0.49
1:A:324:ILE:HD12	1:A:360:LEU:HD21	1.94	0.49
1:B:101:ILE:HG22	1:B:382:ILE:HD12	1.95	0.49
1:B:239:ARG:NH1	1:B:244:GLN:OE1	2.45	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:403:GLU:OE1	1:B:406:ARG:NH1	2.47	0.48
1:A:367:VAL:HG13	1:A:369:ARG:HG3	1.95	0.48
1:A:262:VAL:HG23	1:A:291:GLY:HA2	1.95	0.48
1:B:404:LEU:HD11	1:B:689:ARG:HG3	1.95	0.48
1:B:375:THR:O	1:B:379:ILE:HG12	2.13	0.48
1:B:171:ILE:HB	1:B:210:SER:HB3	1.95	0.48
1:A:156:VAL:HB	1:A:210:SER:HA	1.96	0.47
1:B:220:ASP:O	1:B:375:THR:OG1	2.27	0.47
1:A:215:SER:HB3	1:A:218:VAL:HG22	1.96	0.47
1:A:426:ILE:HG23	1:A:665:MET:HB3	1.95	0.47
1:B:173:TYR:C	1:B:175:ASN:H	2.18	0.47
1:A:302:GLY:HA2	1:A:305:LYS:HD2	1.96	0.47
1:B:343:THR:HG23	1:B:368:PRO:HD2	1.96	0.47
1:A:124:ILE:HD12	1:A:249:ILE:HG21	1.97	0.47
1:A:500:THR:O	1:A:503:ILE:HG22	2.15	0.47
1:B:163:PRO:HA	1:B:216:PRO:HB3	1.97	0.47
1:A:123:VAL:HG22	1:A:261:LEU:HD23	1.97	0.47
1:A:143:LEU:HD12	1:A:151:THR:HG22	1.97	0.46
1:B:494:GLY:HA2	1:B:495:PHE:HB2	1.97	0.46
1:B:510:GLN:OE1	1:B:576:GLN:NE2	2.34	0.46
1:A:242:GLY:HA2	1:A:245:ILE:HD12	1.98	0.46
1:A:495:PHE:HB2	1:A:498:TYR:CE2	2.50	0.46
1:B:172:SER:HB3	1:B:176:THR:OG1	2.15	0.46
1:B:238:PRO:HA	1:B:239:ARG:HA	1.70	0.46
1:B:409:ALA:HB3	1:B:689:ARG:CZ	2.46	0.46
1:A:206:HIS:CD2	1:A:248:LEU:HD13	2.51	0.46
1:A:172:SER:HB3	1:A:176:THR:OG1	2.16	0.45
1:A:121:ILE:HB	1:A:223:ILE:HG22	1.98	0.45
1:A:361:GLU:OE2	1:A:366:THR:OG1	2.32	0.45
1:A:301:ARG:HG3	1:A:303:THR:HB	1.98	0.45
1:B:156:VAL:HB	1:B:210:SER:HA	1.99	0.45
1:A:270:ILE:HG12	1:A:276:LEU:HD22	1.98	0.45
1:A:312:ARG:NH1	1:A:313:ASN:OD1	2.50	0.45
1:B:316:TYR:HB3	1:B:318:LEU:HD13	1.98	0.45
1:B:500:THR:O	1:B:503:ILE:HG22	2.16	0.44
1:A:293:LEU:HD13	1:A:308:MET:SD	2.56	0.44
1:A:173:TYR:C	1:A:175:ASN:H	2.21	0.44
1:B:496:VAL:HG12	1:B:497:ASN:HD22	1.82	0.44
1:A:409:ALA:HB1	1:A:421:PHE:CE1	2.53	0.44
1:A:520:LEU:HD22	1:A:568:ILE:HD12	1.99	0.44
1:B:123:VAL:HG22	1:B:261:LEU:HD23	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:645:ILE:HB	1:B:646:PRO:HD3	2.00	0.43
1:B:356:PHE:O	1:B:360:LEU:HB2	2.18	0.43
1:B:635:LEU:HG	1:B:639:LYS:HE3	2.00	0.43
1:A:645:ILE:HB	1:A:646:PRO:HD3	2.00	0.43
1:B:412:PRO:HB3	1:B:418:LYS:HB2	2.00	0.42
1:A:226:LEU:HD13	1:A:249:ILE:HA	2.01	0.42
1:A:94:GLU:HA	1:A:97:VAL:HG22	2.01	0.42
1:B:226:LEU:HD13	1:B:249:ILE:HA	2.02	0.42
1:B:152:ARG:NH1	1:B:195:ASN:OD1	2.52	0.42
1:A:375:THR:O	1:A:379:ILE:HG12	2.20	0.42
1:B:308:MET:O	1:B:312:ARG:HG2	2.19	0.42
1:B:218:VAL:HA	1:B:219:PRO:HD3	1.90	0.42
1:B:305:LYS:HD3	1:B:353:HIS:CE1	2.55	0.42
1:A:238:PRO:HA	1:A:239:ARG:HA	1.69	0.42
1:A:312:ARG:NH2	1:A:359:LEU:HB3	2.34	0.42
1:A:708:GLN:O	1:A:711:SER:OG	2.34	0.42
1:B:257:GLN:C	1:B:381:HIS:HE2	2.23	0.42
1:B:372:GLU:O	1:B:375:THR:HB	2.20	0.41
1:B:103:LEU:HD13	1:B:709:PHE:HB2	2.02	0.41
1:A:517:LEU:HD11	1:A:569:GLN:NE2	2.36	0.41
1:A:174:ARG:NH1	1:A:207:GLU:OE2	2.50	0.41
1:B:560:HIS:CE1	1:B:656:GLU:HB3	2.55	0.41
1:A:239:ARG:H	1:A:240:ASP:HA	1.85	0.41
1:A:253:ILE:HG13	1:A:282:VAL:HG11	2.02	0.41
1:B:323:MET:HG2	1:B:364:SER:OG	2.20	0.41
1:B:575:GLU:HG3	1:B:641:LEU:HD21	2.02	0.41
1:A:111:GLY:HA2	1:A:112:VAL:CB	2.47	0.41
1:A:108:ARG:NH2	1:A:120:ALA:HB2	2.35	0.41
1:A:494:GLY:HA3	1:A:495:PHE:CD2	2.56	0.41
1:A:421:PHE:CZ	1:A:425:LYS:HD2	2.55	0.41
1:B:118:LEU:HD12	1:B:119:PRO:HD2	2.03	0.40
1:B:697:TYR:O	1:B:700:THR:OG1	2.28	0.40
1:A:270:ILE:HD12	1:A:293:LEU:HD21	2.03	0.40
1:B:521:GLN:O	1:B:524:MET:HG3	2.20	0.40
1:A:121:ILE:HG13	1:A:378:LEU:HD13	2.04	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	557/646 (86%)	527 (95%)	24 (4%)	6 (1%)	14	51
1	B	557/646 (86%)	531 (95%)	22 (4%)	4 (1%)	22	61
All	All	1114/1292 (86%)	1058 (95%)	46 (4%)	10 (1%)	17	56

All (10) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	112	VAL
1	B	496	VAL
1	A	314	LEU
1	A	368	PRO
1	A	412	PRO
1	A	497	ASN
1	B	489	ALA
1	A	408	GLY
1	B	112	VAL
1	B	368	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	502/577 (87%)	500 (100%)	2 (0%)	91	95
1	B	502/577 (87%)	501 (100%)	1 (0%)	93	98
All	All	1004/1154 (87%)	1001 (100%)	3 (0%)	92	96

All (3) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	180	LEU
1	A	333	ILE
1	B	524	MET

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (13) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	162	GLN
1	A	206	HIS
1	A	383	GLN
1	A	397	HIS
1	A	550	GLN
1	A	569	GLN
1	A	629	HIS
1	A	708	GLN
1	B	162	GLN
1	B	497	ASN
1	B	546	ASN
1	B	550	GLN
1	B	708	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, 95<sup>th</sup> 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 <sup>2</sup> )	Q < 0.9
1	A	565/646 (87%)	0.37	40 (7%) 16 9	63, 130, 232, 306	0
1	B	565/646 (87%)	0.81	97 (17%) 1 1	60, 198, 295, 374	0
All	All	1130/1292 (87%)	0.59	137 (12%) 4 2	60, 150, 281, 374	0

All (137) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	B	180	LEU	14.4
1	A	491	GLU	11.6
1	B	238	PRO	10.3
1	A	476	ILE	9.2
1	B	181	GLN	8.2
1	B	178	LEU	7.7
1	B	334	THR	7.3
1	A	490	ALA	6.5
1	B	496	VAL	6.3
1	B	446	ASN	6.0
1	B	270	ILE	5.8
1	B	162	GLN	5.7
1	B	177	GLU	5.5
1	B	480	VAL	5.4
1	A	333	ILE	5.3
1	B	170	ARG	5.2
1	B	179	GLU	5.1
1	B	264	VAL	5.1
1	A	484	GLU	5.1
1	A	622	SER	5.1
1	A	626	ILE	5.0
1	B	303	THR	4.9
1	B	137	ALA	4.8
1	B	476	ILE	4.6

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	B	488	ALA	4.5
1	B	304	GLU	4.5
1	B	355	TYR	4.3
1	A	495	PHE	4.1
1	B	495	PHE	4.0
1	B	497	ASN	4.0
1	A	480	VAL	4.0
1	A	483	TYR	3.9
1	B	222	THR	3.9
1	B	308	MET	3.9
1	A	304	GLU	3.9
1	B	681	GLU	3.8
1	B	124	ILE	3.8
1	B	492	LEU	3.7
1	A	624	THR	3.7
1	B	491	GLU	3.7
1	B	302	GLY	3.6
1	B	119	PRO	3.6
1	B	358	VAL	3.6
1	B	301	ARG	3.5
1	B	316	TYR	3.5
1	A	489	ALA	3.5
1	A	492	LEU	3.5
1	A	486	GLN	3.5
1	B	489	ALA	3.5
1	B	95	GLN	3.4
1	A	144	PRO	3.4
1	B	189	GLU	3.4
1	B	210	SER	3.4
1	B	217	GLU	3.4
1	B	624	THR	3.3
1	A	475	ILE	3.3
1	A	541	GLU	3.3
1	A	366	THR	3.3
1	B	202	ARG	3.3
1	B	239	ARG	3.3
1	A	358	VAL	3.2
1	B	204	ILE	3.2
1	B	341	GLU	3.2
1	A	335	ASN	3.1
1	B	354	PRO	3.1
1	A	334	THR	3.1

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	B	182	ASP	3.0
1	B	625	GLU	3.0
1	A	623	PHE	3.0
1	B	173	TYR	3.0
1	B	266	CYS	3.0
1	B	216	PRO	3.0
1	B	623	PHE	2.9
1	B	293	LEU	2.9
1	A	579	PHE	2.8
1	B	275	ALA	2.8
1	B	244	GLN	2.8
1	B	389	LEU	2.7
1	B	360	LEU	2.7
1	B	249	ILE	2.7
1	A	414	GLN	2.6
1	B	99	PRO	2.6
1	B	317	PRO	2.6
1	B	310	VAL	2.6
1	B	161	LYS	2.6
1	A	316	TYR	2.6
1	B	370	LEU	2.6
1	B	361	GLU	2.5
1	B	307	VAL	2.5
1	B	297	ASP	2.5
1	B	296	PRO	2.5
1	B	331	GLN	2.5
1	B	294	THR	2.5
1	A	487	ALA	2.5
1	B	128	SER	2.5
1	A	174	ARG	2.5
1	B	282	VAL	2.5
1	B	290	ILE	2.5
1	B	190	ILE	2.4
1	B	330	GLN	2.4
1	A	173	TYR	2.4
1	B	93	TYR	2.4
1	A	494	GLY	2.4
1	B	265	PRO	2.4
1	B	118	LEU	2.4
1	B	214	THR	2.4
1	B	343	THR	2.4
1	B	501	PHE	2.4

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Mol	Chain	Res	Type	RSRZ
1	B	344	LYS	2.3
1	B	702	ALA	2.3
1	B	164	CYS	2.3
1	A	350	PHE	2.3
1	A	332	GLU	2.3
1	A	472	VAL	2.3
1	B	160	LYS	2.2
1	B	305	LYS	2.2
1	B	622	SER	2.2
1	B	363	GLY	2.2
1	A	239	ARG	2.2
1	B	350	PHE	2.2
1	A	167	TRP	2.2
1	A	374	LEU	2.1
1	B	133	SER	2.1
1	A	627	GLY	2.1
1	B	691	ILE	2.1
1	A	299	MET	2.1
1	B	298	LEU	2.1
1	B	348	THR	2.1
1	A	115	ASP	2.1
1	B	692	LEU	2.1
1	B	138	LEU	2.1
1	B	306	SER	2.1
1	B	481	GLU	2.0
1	A	629	HIS	2.0
1	B	226	LEU	2.0
1	B	96	LYS	2.0
1	B	486	GLN	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

There are no such residues in this entry.