



# Full wwPDB X-ray Structure Validation Report ⓘ

Feb 1, 2016 – 08:55 AM GMT

PDB ID : 3GJ7  
Title : Crystal structure of human RanGDP-Nup153ZnF12 complex  
Authors : Partridge, J.R.; Schwartz, T.U.  
Deposited on : 2009-03-07  
Resolution : 1.93 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  
<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 : 1.7 (RC4), CSD as536be (2015)  
Xtriage (Phenix) : 1.9-1692  
EDS : rb-20026688  
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) : trunk26865

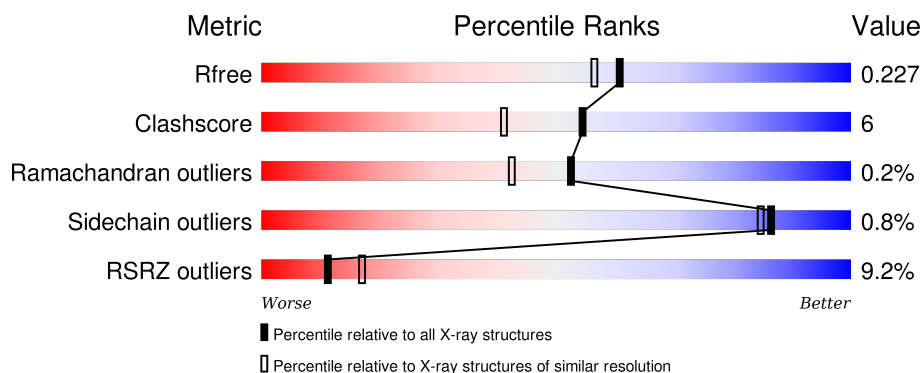
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

## *X-RAY DIFFRACTION*

The reported resolution of this entry is 1.93 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	2910 (1.96-1.92)
Clashscore	102246	3095 (1.96-1.92)
Ramachandran outliers	100387	3062 (1.96-1.92)
Sidechain outliers	100360	3062 (1.96-1.92)
RSRZ outliers	91569	2915 (1.96-1.92)

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. 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	221	<div> <div>7%</div> <div>77%</div> <div>13%</div> <div>9%</div> </div>
1	C	221	<div> <div>5%</div> <div>84%</div> <div>8%</div> <div>9%</div> </div>
2	B	98	<div> <div>11%</div> <div>16%</div> <div>10%</div> <div>72%</div> </div>
2	D	98	<div> <div>4%</div> <div>19%</div> <div>8%</div> <div>72%</div> </div>

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard

residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
3	MG	A	306	-	-	-	X
3	MG	C	303	-	-	-	X

## 2 Entry composition

There are 6 unique types of molecules in this entry. The entry contains 3983 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 GTP-binding nuclear protein Ran.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	201	Total	C	N	O	S	0	0	0
			1609	1039	279	285	6			
1	C	202	Total	C	N	O	S	0	0	0
			1614	1042	280	286	6			

There are 14 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-4	GLY	-	EXPRESSION TAG	UNP P62826
A	-3	PRO	-	EXPRESSION TAG	UNP P62826
A	-2	HIS	-	EXPRESSION TAG	UNP P62826
A	-1	MET	-	EXPRESSION TAG	UNP P62826
A	0	ALA	-	EXPRESSION TAG	UNP P62826
A	1	SER	-	EXPRESSION TAG	UNP P62826
A	35	SER	PHE	ENGINEERED	UNP P62826
C	-4	GLY	-	EXPRESSION TAG	UNP P62826
C	-3	PRO	-	EXPRESSION TAG	UNP P62826
C	-2	HIS	-	EXPRESSION TAG	UNP P62826
C	-1	MET	-	EXPRESSION TAG	UNP P62826
C	0	ALA	-	EXPRESSION TAG	UNP P62826
C	1	SER	-	EXPRESSION TAG	UNP P62826
C	35	SER	PHE	ENGINEERED	UNP P62826

- Molecule 2 is a protein called Nuclear pore complex protein Nup153.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	27	Total	C	N	O	S	0	0	0
			201	124	33	40	4			
2	D	27	Total	C	N	O	S	0	0	0
			201	124	33	40	4			

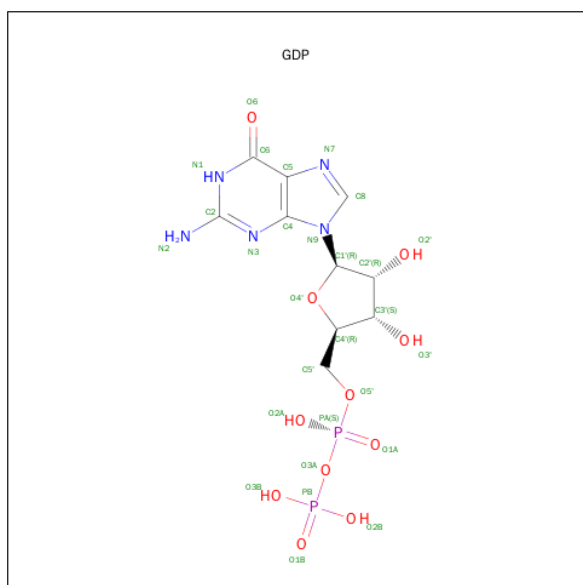
There are 10 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	653	GLY	-	EXPRESSION TAG	UNP P49791
B	654	PRO	-	EXPRESSION TAG	UNP P49791
B	655	LEU	-	EXPRESSION TAG	UNP P49791
B	656	GLY	-	EXPRESSION TAG	UNP P49791
B	657	SER	-	EXPRESSION TAG	UNP P49791
D	653	GLY	-	EXPRESSION TAG	UNP P49791
D	654	PRO	-	EXPRESSION TAG	UNP P49791
D	655	LEU	-	EXPRESSION TAG	UNP P49791
D	656	GLY	-	EXPRESSION TAG	UNP P49791
D	657	SER	-	EXPRESSION TAG	UNP P49791

- Molecule 3 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	3	Total Mg 3 3	0	0
3	C	3	Total Mg 3 3	0	0

- Molecule 4 is GUANOSINE-5'-DIPHOSPHATE (three-letter code: GDP) (formula: C<sub>10</sub>H<sub>15</sub>N<sub>5</sub>O<sub>11</sub>P<sub>2</sub>).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	1	Total C N O P 28 10 5 11 2	0	0
4	C	1	Total C N O P 28 10 5 11 2	0	0

- Molecule 5 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	B	1	Total	Zn	0	0
			1	1		
5	D	1	Total	Zn	0	0
			1	1		

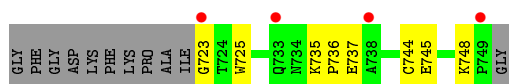
- Molecule 6 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	A	107	Total	O	0	0
			107	107		
6	B	4	Total	O	0	0
			4	4		
6	C	169	Total	O	0	0
			169	169		
6	D	14	Total	O	0	0
			14	14		



- Molecule 1: GTP-binding nuclear protein Ran







## 4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	58.52Å 61.13Å 80.22Å 90.00° 93.71° 90.00°	Depositor
Resolution (Å)	29.75 – 1.93 29.75 – 1.93	Depositor EDS
% Data completeness (in resolution range)	91.9 (29.75-1.93) 91.9 (29.75-1.93)	Depositor EDS
$R_{merge}$	(Not available)	Depositor
$R_{sym}$	0.06	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	1.25 (at 1.93Å)	Xtriage
Refinement program	PHENIX (phenix.refine)	Depositor
R, $R_{free}$	0.186 , 0.229 0.179 , 0.227	Depositor DCC
$R_{free}$ test set	1992 reflections (5.08%)	DCC
Wilson B-factor (Å <sup>2</sup> )	37.6	Xtriage
Anisotropy	0.363	Xtriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.30 , 52.1	EDS
Estimated twinning fraction	No twinning to report.	Xtriage
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.50$ , $\langle L^2 \rangle = 0.33$	Xtriage
Outliers	1 of 39241 reflections (0.003%)	Xtriage
$F_o, F_c$ correlation	0.97	EDS
Total number of atoms	3983	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	54.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 6.28% 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, 0.375 respectively for untwinned datasets, and 0.333, 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: GDP, 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	0/1649	0.49	0/2235
1	C	0.39	0/1654	0.54	1/2242 (0.0%)
2	B	0.24	0/205	0.45	0/280
2	D	0.31	0/205	0.45	0/280
All	All	0.36	0/3713	0.51	1/5037 (0.0%)

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	C	50	LEU	CA-CB-CG	5.55	128.06	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	1609	0	1626	21	0
1	C	1614	0	1631	9	0
2	B	201	0	191	12	0
2	D	201	0	191	6	0
3	A	3	0	0	0	0
3	C	3	0	0	0	0

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
4	A	28	0	12	0	0
4	C	28	0	12	0	0
5	B	1	0	0	0	0
5	D	1	0	0	0	0
6	A	107	0	0	3	0
6	B	4	0	0	0	0
6	C	169	0	0	1	0
6	D	14	0	0	0	0
All	All	3983	0	3663	47	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 (47) 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:C:60:LYS:HE2	1:C:62:ASN:OD1	1.70	0.92
1:A:60:LYS:HE3	1:A:62:ASN:OD1	1.84	0.77
1:A:81:ILE:HA	6:A:297:HOH:O	1.98	0.63
2:B:734:ASN:HD21	2:B:742:VAL:HG12	1.68	0.59
2:B:734:ASN:HD21	2:B:742:VAL:H	1.51	0.58
2:D:725:TRP:NE1	2:D:748:LYS:HE2	2.18	0.57
2:B:724:THR:HG22	2:B:735:LYS:HA	1.89	0.54
2:D:723:GLY:C	2:D:736:PRO:HG3	2.29	0.53
2:D:725:TRP:CE2	2:D:748:LYS:HE2	2.44	0.53
2:B:734:ASN:ND2	2:B:742:VAL:HG12	2.24	0.53
2:D:735:LYS:HB3	2:D:737:GLU:HG2	1.90	0.53
1:A:111:VAL:CG1	6:A:297:HOH:O	2.57	0.52
2:B:723:GLY:O	2:B:736:PRO:HB3	2.11	0.51
1:A:24:THR:CG2	1:A:28:LYS:HE2	2.40	0.51
1:A:86:ALA:CB	1:A:108:LEU:HD21	2.41	0.51
1:A:81:ILE:HG21	2:B:743:ALA:HA	1.91	0.50
2:B:725:TRP:CE2	2:B:748:LYS:HE2	2.46	0.50
1:C:49:PRO:HB3	1:C:60:LYS:HE3	1.94	0.49
1:A:80:TYR:HB2	1:A:111:VAL:HG11	1.94	0.49
2:B:724:THR:HB	2:B:734:ASN:O	2.13	0.49
2:B:735:LYS:HE2	2:B:737:GLU:OE2	2.13	0.49
2:B:724:THR:HA	2:B:736:PRO:HD3	1.97	0.47
1:A:111:VAL:HG13	6:A:297:HOH:O	2.14	0.47
1:A:139:HIS:HA	1:A:144:LEU:HB2	1.97	0.47
1:A:139:HIS:HB2	1:A:144:LEU:O	2.16	0.45

*Continued on next page...*

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:123:LYS:HB3	1:C:126:ILE:HD12	1.98	0.45
1:A:112:CYS:O	1:A:113:GLU:HB2	2.16	0.45
1:C:159:LYS:HB2	1:C:160:PRO:HD3	1.97	0.45
2:B:734:ASN:ND2	2:B:742:VAL:H	2.12	0.45
1:A:85:CYS:HB2	1:A:164:LEU:HD22	1.99	0.44
1:A:153:SER:O	1:A:154:ASN:HB2	2.18	0.43
1:A:12:LYS:HE3	1:A:64:TRP:CE2	2.53	0.43
1:A:124:VAL:HG22	1:A:149:ILE:O	2.18	0.43
1:A:159:LYS:HB2	1:A:160:PRO:HD3	2.00	0.43
1:A:105:HIS:CE1	1:A:109:VAL:HG21	2.54	0.42
2:D:744:CYS:O	2:D:745:GLU:HB2	2.19	0.42
1:C:153:SER:HA	1:C:185:PRO:HB3	2.02	0.42
1:A:199:HIS:O	1:A:203:VAL:HG23	2.20	0.41
1:A:80:TYR:CB	1:A:111:VAL:HG11	2.51	0.41
1:C:105:HIS:CE1	1:C:142:LYS:HE2	2.55	0.41
1:A:117:ILE:HB	1:A:144:LEU:HD23	2.03	0.41
2:D:737:GLU:HG2	2:D:737:GLU:H	1.76	0.40
1:C:95:ARG:HG2	1:C:99:LYS:NZ	2.36	0.40
1:A:142:LYS:O	1:A:144:LEU:HG	2.22	0.40
1:C:202:GLU:HA	1:C:202:GLU:OE1	2.21	0.40
1:C:103:ASN:ND2	6:C:364:HOH:O	2.54	0.40
2:B:748:LYS:HA	2:B:749:PRO:HD3	1.96	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	199/221 (90%)	192 (96%)	6 (3%)	1 (0%)	34	20
1	C	200/221 (90%)	196 (98%)	4 (2%)	0	100	100
2	B	25/98 (26%)	24 (96%)	1 (4%)	0	100	100

Continued on next page...

*Continued from previous page...*

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	D	25/98 (26%)	23 (92%)	2 (8%)	0	100	100
All	All	449/638 (70%)	435 (97%)	13 (3%)	1 (0%)	52	42

All (1) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	113	GLU

### 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	174/188 (93%)	173 (99%)	1 (1%)	90	89
1	C	174/188 (93%)	173 (99%)	1 (1%)	90	89
2	B	24/79 (30%)	23 (96%)	1 (4%)	36	20
2	D	24/79 (30%)	24 (100%)	0	100	100
All	All	396/534 (74%)	393 (99%)	3 (1%)	86	85

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

Mol	Chain	Res	Type
1	A	141	LYS
2	B	737	GLU
1	C	137	VAL

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (10) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	48	HIS
1	A	100	ASN
1	A	103	ASN
1	A	105	HIS
2	B	734	ASN

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type
1	C	48	HIS
1	C	100	ASN
1	C	103	ASN
1	C	105	HIS
1	C	139	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 carbohydrates in this entry.

## 5.6 Ligand geometry [i](#)

Of 10 ligands modelled in this entry, 8 are monoatomic - leaving 2 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the chemical component dictionary. The Link column lists molecule types, if any, to which the group is linked. 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  $|Z| > 2$  is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z  > 2$	Counts	RMSZ	$\# Z  > 2$
4	GDP	A	302	3	23,30,30	1.16	2 (8%)	30,47,47	1.80	7 (23%)
4	GDP	C	302	3	23,30,30	1.12	2 (8%)	30,47,47	1.79	7 (23%)

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the chemical component dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	GDP	A	302	3	-	0/12/32/32	0/3/3/3
4	GDP	C	302	3	-	0/12/32/32	0/3/3/3

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	C	302	GDP	C5-C4	2.84	1.46	1.40
4	A	302	GDP	C5-C4	3.20	1.47	1.40
4	C	302	GDP	C6-C5	3.30	1.47	1.41
4	A	302	GDP	C6-C5	3.49	1.48	1.41

All (14) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	A	302	GDP	C5-C6-N1	-4.16	117.90	123.59
4	C	302	GDP	C5-C6-N1	-4.11	117.96	123.59
4	C	302	GDP	C6-C5-C4	-3.61	116.59	120.90
4	A	302	GDP	C2'-C1'-N9	-3.18	109.43	114.29
4	C	302	GDP	N3-C2-N1	-3.08	122.75	127.44
4	A	302	GDP	C6-C5-C4	-3.02	117.29	120.90
4	A	302	GDP	N3-C2-N1	-2.80	123.19	127.44
4	A	302	GDP	C4-C5-N7	-2.77	106.93	109.48
4	C	302	GDP	C4-C5-N7	-2.47	107.21	109.48
4	C	302	GDP	PA-O3A-PB	-2.31	124.92	132.67
4	A	302	GDP	O3A-PA-O5'	-2.16	97.20	102.94
4	C	302	GDP	C1'-N9-C4	-2.08	123.81	126.94
4	A	302	GDP	C6-N1-C2	4.73	122.50	115.94
4	C	302	GDP	C6-N1-C2	4.92	122.77	115.94

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<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	201/221 (90%)	0.34	15 (7%) 17 25	31, 50, 100, 124	0
1	C	202/221 (91%)	0.15	12 (5%) 26 34	27, 40, 72, 127	0
2	B	27/98 (27%)	2.38	11 (40%) 0 0	55, 101, 148, 163	0
2	D	27/98 (27%)	0.78	4 (14%) 3 5	36, 63, 96, 114	0
All	All	457/638 (71%)	0.41	42 (9%) 11 17	27, 47, 107, 163	0

All (42) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
2	B	723	GLY	10.1
2	B	739	VAL	6.9
2	B	749	PRO	6.4
2	B	738	ALA	5.9
1	A	207	THR	5.1
2	B	736	PRO	5.0
2	B	725	TRP	5.0
2	B	747	PRO	4.3
1	C	7	PRO	3.8
1	A	87	ILE	3.7
1	A	143	ASN	3.6
1	A	8	GLN	3.6
1	C	207	THR	3.5
2	D	749	PRO	3.5
2	B	724	THR	3.4
2	B	748	LYS	3.4
1	C	87	ILE	3.3
1	A	141	LYS	3.2
1	C	141	LYS	3.2
1	A	7	PRO	3.2
2	D	723	GLY	3.2

*Continued on next page...*

*Continued from previous page...*

Mol	Chain	Res	Type	RSRZ
2	B	733	GLN	3.0
1	A	205	GLN	2.8
1	C	149	ILE	2.6
1	C	114	ASN	2.6
1	A	149	ILE	2.6
1	A	14	VAL	2.5
1	C	208	ALA	2.5
2	B	735	LYS	2.5
1	A	134	LYS	2.5
1	A	199	HIS	2.4
1	C	13	LEU	2.3
1	A	16	VAL	2.3
1	C	63	VAL	2.3
1	C	15	LEU	2.3
2	D	738	ALA	2.3
1	A	13	LEU	2.2
1	A	142	LYS	2.2
1	C	16	VAL	2.2
1	A	63	VAL	2.1
1	C	26	PHE	2.0
2	D	733	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](#)

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. LLDF column lists the quality of electron density of the group with respect to its neighbouring residues in protein, DNA or RNA chains. The B-factors column lists the minimum, median, 95<sup>th</sup> 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	LLDF	B-factors(Å <sup>2</sup> )	Q<0.9
3	MG	C	303	1/1	0.95	0.18	6.99	57,57,57,57	0

*Continued on next page...*

*Continued from previous page...*

Mol	Type	Chain	Res	Atoms	RSCC	RSR	LLDF	B-factors( $\text{\AA}^2$ )	Q<0.9
3	MG	A	306	1/1	1.00	0.16	4.75	43,43,43,43	0
3	MG	C	305	1/1	0.98	0.12	0.34	40,40,40,40	0
5	ZN	B	300	1/1	1.00	0.09	-0.54	67,67,67,67	0
5	ZN	D	300	1/1	1.00	0.07	-0.87	40,40,40,40	0
4	GDP	A	302	28/28	0.98	0.08	-1.06	33,42,51,55	0
4	GDP	C	302	28/28	0.99	0.08	-1.37	27,35,40,49	0
3	MG	A	304	1/1	0.98	0.11	-	48,48,48,48	0
3	MG	A	301	1/1	0.98	0.16	-	44,44,44,44	0
3	MG	C	301	1/1	0.99	0.12	-	34,34,34,34	0

## 6.5 Other polymers [i](#)

There are no such residues in this entry.