



# Full wwPDB X-ray Structure Validation Report ⓘ

Feb 14, 2017 – 07:09 am GMT

PDB ID : 3RSR  
Title : Crystal Structure of 5-NITP Inhibition of Yeast Ribonucleotide Reductase  
Authors : Wan, Q.; Mohammed, F.; Jha, S.; Motea, E.; Berdis, A.; Dealwis, C.G.  
Deposited on : 2011-05-02  
Resolution : 2.30 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.

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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  
Mogul : 1.7.2 (RC1), CSD as538be (2017)  
Xtriage (Phenix) : 1.9-1692  
EDS : trunk28620  
Percentile statistics : 20161228.v01 (using entries in the PDB archive December 28th 2016)  
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) : recalc28949

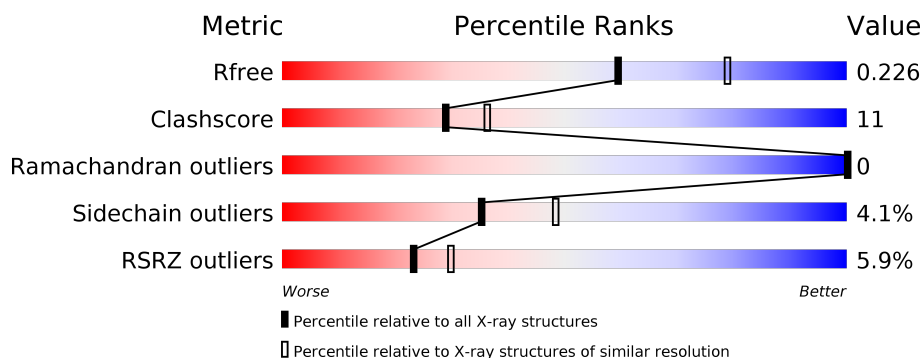
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

## *X-RAY DIFFRACTION*

The reported resolution of this entry is 2.30 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))
$R_{free}$	100719	4130 (2.30-2.30)
Clashscore	112137	4751 (2.30-2.30)
Ramachandran outliers	110173	4705 (2.30-2.30)
Sidechain outliers	110143	4704 (2.30-2.30)
RSRZ outliers	101464	4156 (2.30-2.30)

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	888	

## 2 Entry composition [i](#)

There are 4 unique types of molecules in this entry. The entry contains 5070 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.

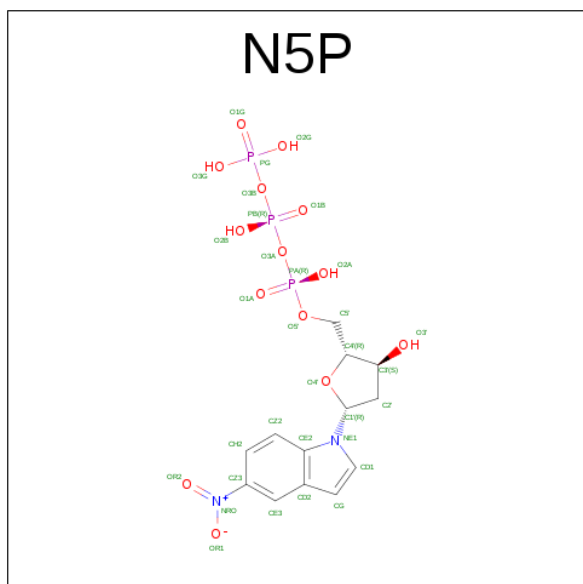
- Molecule 1 is a protein called Ribonucleoside-diphosphate reductase large chain 1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	610	Total	C	N	O	S	0	0	0
			4794	3066	800	900	28			

- Molecule 2 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

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

- Molecule 3 is 1-{2-DEOXY-5-O-[(R)-HYDROXY{[(R)-HYDROXY(PHOSPHONOOXY)P HOSPHORYL]OXY}PHOSPHORYL]-BETA-D-ERYTHRO-PENTOFURANOSYL}-5-NITRO-1H-INDOLE (three-letter code: N5P) (formula: C<sub>13</sub>H<sub>17</sub>N<sub>2</sub>O<sub>14</sub>P<sub>3</sub>).



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
3	A	1	Total	C	N	O	P	0	0
			32	13	2	14	3		

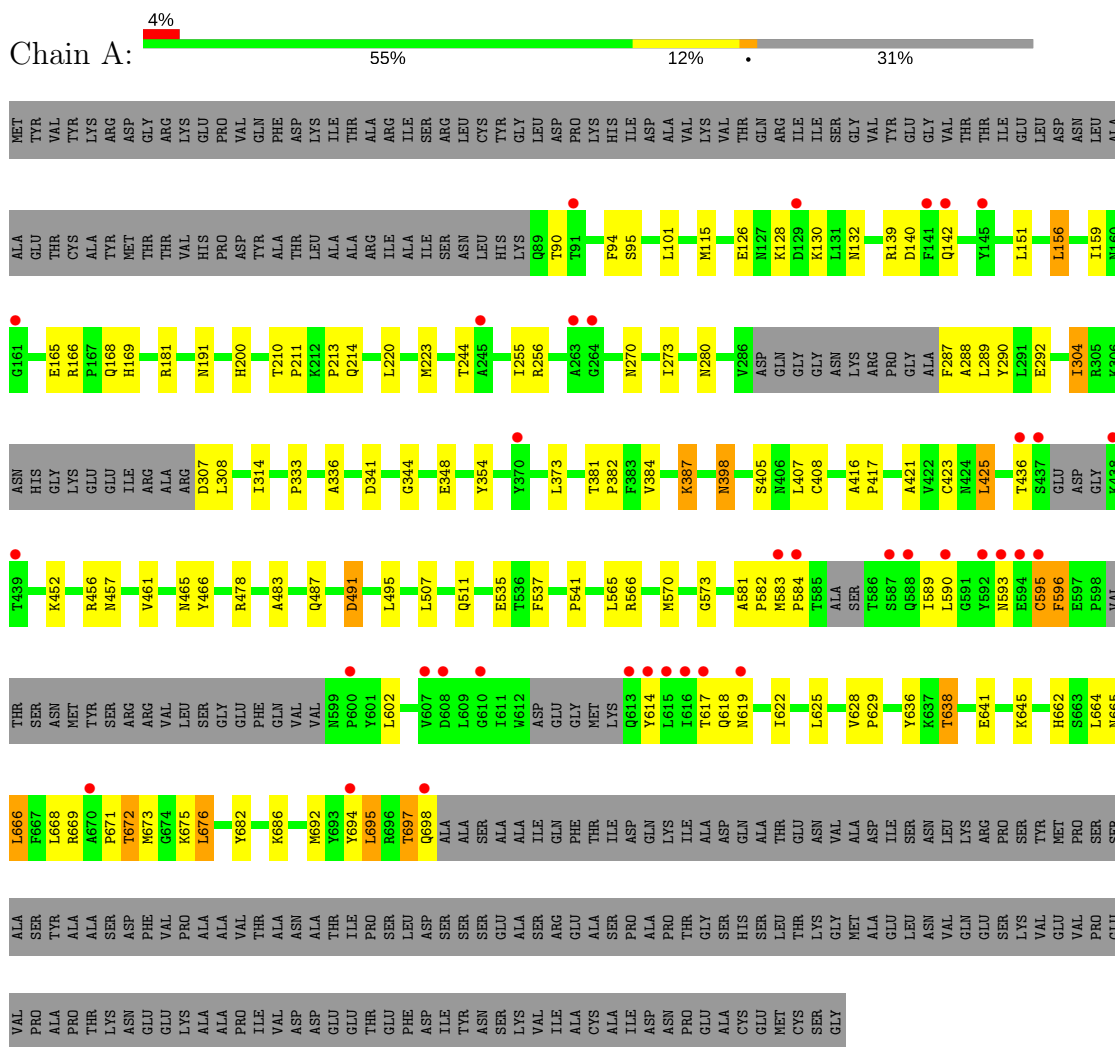
- Molecule 4 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	243	Total 243	O 243	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 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: Ribonucleoside-diphosphate reductase large chain 1



## 4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 2	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	108.35Å 118.21Å 63.92Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	19.97 – 2.30 19.97 – 2.20	Depositor EDS
% Data completeness (in resolution range)	100.0 (19.97-2.30) 99.5 (19.97-2.20)	Depositor EDS
$R_{merge}$	(Not available)	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	1.77 (at 2.19Å)	Xtriage
Refinement program	PHENIX (phenix.refine: 1.7_650)	Depositor
R, $R_{free}$	0.188 , 0.233 0.181 , 0.226	Depositor DCC
$R_{free}$ test set	1860 reflections (5.01%)	DCC
Wilson B-factor (Å <sup>2</sup> )	36.7	Xtriage
Anisotropy	0.627	Xtriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.36 , 51.1	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.49$ , $\langle L^2 \rangle = 0.32$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
$F_o, F_c$ correlation	0.96	EDS
Total number of atoms	5070	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	44.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 5.15% 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](#)

Bond lengths and bond angles in the following residue types are not validated in this section: MG, N5P

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	0.42	0/4903	0.58	0/6653

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	4794	0	4643	102	0
2	A	1	0	0	0	0
3	A	32	0	13	1	0
4	A	243	0	0	7	0
All	All	5070	0	4656	103	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 11.

All (103) 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:214:GLN:HG2	1:A:244:THR:HB	1.51	0.93
1:A:95:SER:H	1:A:132:ASN:HD21	1.16	0.92
1:A:582:PRO:O	1:A:596:PHE:HZ	1.59	0.86
1:A:582:PRO:HB2	1:A:596:PHE:CZ	2.11	0.85
1:A:595:CYS:SG	1:A:596:PHE:HA	2.24	0.78
1:A:596:PHE:CD1	1:A:596:PHE:N	2.50	0.77
1:A:595:CYS:HB3	1:A:596:PHE:HD1	1.51	0.75
1:A:669:ARG:O	1:A:698:GLN:HB2	1.89	0.72
1:A:596:PHE:HE2	1:A:662:HIS:HB2	1.54	0.72
1:A:398:ASN:H	1:A:398:ASN:HD22	1.37	0.72
1:A:487:GLN:HE22	1:A:590:LEU:HB2	1.57	0.70
1:A:423:CYS:HB3	1:A:425:LEU:HD21	1.73	0.70
1:A:614:TYR:CZ	1:A:618:GLN:HG3	2.27	0.69
1:A:90:THR:HG23	1:A:166:ARG:HE	1.57	0.69
1:A:408:CYS:SG	1:A:584:PRO:HG2	2.35	0.68
1:A:596:PHE:CE2	1:A:662:HIS:HB2	2.29	0.67
1:A:483:ALA:HB1	1:A:581:ALA:HB3	1.76	0.67
1:A:213:PRO:HD2	1:A:466:TYR:HB2	1.77	0.66
1:A:95:SER:H	1:A:132:ASN:ND2	1.91	0.65
1:A:373:LEU:HG	1:A:676:LEU:HD13	1.77	0.65
1:A:665:ASN:ND2	1:A:694:TYR:HB2	2.12	0.64
1:A:200:HIS:HE1	1:A:457:ASN:HD22	1.46	0.64
1:A:314:ILE:HD12	1:A:384:VAL:HG13	1.80	0.63
1:A:582:PRO:C	1:A:596:PHE:HZ	2.01	0.63
1:A:507:LEU:O	1:A:511:GLN:HG3	1.99	0.62
3:A:841:N5P:O1G	3:A:841:N5P:O1A	2.18	0.61
1:A:582:PRO:C	1:A:596:PHE:CZ	2.75	0.60
1:A:625:LEU:HD22	1:A:628:VAL:HG23	1.82	0.60
1:A:487:GLN:HA	1:A:595:CYS:HB2	1.83	0.60
1:A:566:ARG:O	1:A:570:MET:HG3	2.02	0.60
1:A:290:TYR:OH	1:A:405:SER:HB3	2.02	0.59
1:A:200:HIS:HD2	4:A:889:HOH:O	1.85	0.59
1:A:582:PRO:HB2	1:A:596:PHE:CE2	2.38	0.58
1:A:214:GLN:HG2	1:A:244:THR:CB	2.32	0.56
1:A:140:ASP:OD1	1:A:168:GLN:HG2	2.05	0.56
1:A:130:LYS:HB2	4:A:895:HOH:O	2.04	0.56
1:A:535:GLU:HG3	4:A:872:HOH:O	2.05	0.56
1:A:537:PHE:CZ	1:A:573:GLY:HA2	2.40	0.55
1:A:669:ARG:O	1:A:671:PRO:HD3	2.06	0.55
1:A:126:GLU:OE1	1:A:181:ARG:NH1	2.40	0.55
1:A:583:MET:O	1:A:596:PHE:HE1	1.90	0.55
1:A:115:MET:HE3	1:A:159:ILE:HG12	1.88	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:115:MET:CE	1:A:159:ILE:HG12	2.37	0.54
1:A:292:GLU:CD	1:A:387:LYS:HE2	2.28	0.54
1:A:407:LEU:O	1:A:407:LEU:HD23	2.08	0.54
1:A:672:THR:HG23	1:A:675:LYS:CB	2.38	0.54
1:A:662:HIS:HD2	4:A:865:HOH:O	1.92	0.53
1:A:289:LEU:HD11	1:A:308:LEU:HD23	1.91	0.52
1:A:582:PRO:O	1:A:596:PHE:CZ	2.50	0.52
1:A:95:SER:N	1:A:132:ASN:HD21	1.97	0.52
1:A:666:LEU:HD22	1:A:692:MET:HG3	1.92	0.51
1:A:595:CYS:CB	1:A:596:PHE:HA	2.41	0.51
1:A:94:PHE:HB3	1:A:132:ASN:HD22	1.76	0.50
1:A:101:LEU:HD23	1:A:115:MET:HE3	1.93	0.50
1:A:288:ALA:HB2	1:A:407:LEU:HA	1.94	0.50
1:A:582:PRO:CB	1:A:596:PHE:CZ	2.92	0.50
1:A:461:VAL:O	1:A:465:ASN:HB2	2.12	0.49
1:A:139:ARG:HH12	1:A:191:ASN:HD22	1.59	0.49
1:A:270:ASN:HB2	4:A:898:HOH:O	2.13	0.49
1:A:381:THR:HB	1:A:382:PRO:HA	1.95	0.49
1:A:617:THR:HG22	1:A:618:GLN:HG2	1.94	0.49
1:A:645:LYS:HG3	1:A:682:TYR:CE2	2.47	0.48
1:A:416:ALA:HB1	1:A:417:PRO:HD2	1.96	0.48
1:A:583:MET:O	1:A:596:PHE:CE1	2.68	0.47
1:A:256:ARG:HA	1:A:333:PRO:HD2	1.98	0.46
1:A:682:TYR:O	1:A:686:LYS:HG2	2.14	0.46
1:A:280:ASN:OD1	1:A:308:LEU:HD13	2.16	0.46
1:A:128:LYS:HE2	1:A:128:LYS:HB2	1.64	0.46
1:A:307:ASP:OD2	1:A:307:ASP:N	2.49	0.46
1:A:491:ASP:OD1	1:A:593:ASN:HB2	2.16	0.45
1:A:602:LEU:HD13	1:A:636:TYR:CD1	2.51	0.45
1:A:156:LEU:HG	1:A:165:GLU:O	2.16	0.45
1:A:665:ASN:HD22	1:A:694:TYR:HB2	1.81	0.45
1:A:273:ILE:HD12	1:A:304:ILE:HD11	1.98	0.45
1:A:638:THR:O	1:A:641:GLU:N	2.46	0.45
1:A:668:LEU:HD13	1:A:671:PRO:HA	1.98	0.45
1:A:304:ILE:HA	1:A:304:ILE:HD13	1.57	0.43
1:A:336:ALA:HB1	1:A:354:TYR:CD2	2.52	0.43
1:A:614:TYR:CE2	1:A:618:GLN:HG3	2.52	0.43
1:A:398:ASN:N	1:A:398:ASN:HD22	2.09	0.43
1:A:452:LYS:O	1:A:456:ARG:HG3	2.18	0.43
1:A:541:PRO:HD3	4:A:880:HOH:O	2.17	0.43
1:A:487:GLN:NE2	1:A:590:LEU:HB2	2.30	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:596:PHE:HE2	1:A:662:HIS:HD1	1.66	0.43
1:A:407:LEU:C	1:A:407:LEU:HD23	2.38	0.42
1:A:478:ARG:NH1	4:A:1080:HOH:O	2.53	0.42
1:A:583:MET:CB	1:A:584:PRO:CD	2.96	0.42
1:A:220:LEU:HB2	1:A:421:ALA:HB3	2.02	0.42
1:A:408:CYS:HB3	1:A:584:PRO:CG	2.50	0.42
1:A:425:LEU:HD22	1:A:483:ALA:HB3	2.01	0.42
1:A:344:GLY:O	1:A:348:GLU:HG3	2.19	0.42
1:A:151:LEU:HD13	1:A:589:ILE:HD13	2.02	0.42
1:A:619:ASN:O	1:A:619:ASN:OD1	2.37	0.42
1:A:622:ILE:HD11	1:A:636:TYR:HB2	2.01	0.42
1:A:292:GLU:OE1	1:A:387:LYS:HE2	2.19	0.41
1:A:697:THR:HG23	1:A:698:GLN:N	2.34	0.41
1:A:166:ARG:HD2	1:A:169:HIS:CE1	2.56	0.41
1:A:223:MET:HG2	1:A:255:ILE:HD11	2.03	0.41
1:A:628:VAL:HA	1:A:629:PRO:HD3	1.86	0.41
1:A:692:MET:SD	1:A:695:LEU:HB2	2.61	0.41
1:A:210:THR:HB	1:A:211:PRO:CD	2.51	0.41
1:A:139:ARG:O	1:A:142:GLN:HG2	2.21	0.40
1:A:416:ALA:HB1	1:A:417:PRO:CD	2.50	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	596/888 (67%)	584 (98%)	12 (2%)	0	100	100

There are no Ramachandran outliers to report.

### 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	509/761 (67%)	488 (96%)	21 (4%)	35 48

All (21) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	156	LEU
1	A	287	PHE
1	A	304	ILE
1	A	341	ASP
1	A	387	LYS
1	A	398	ASN
1	A	425	LEU
1	A	436	THR
1	A	491	ASP
1	A	495	LEU
1	A	565	LEU
1	A	595	CYS
1	A	596	PHE
1	A	638	THR
1	A	664	LEU
1	A	666	LEU
1	A	672	THR
1	A	673	MET
1	A	676	LEU
1	A	695	LEU
1	A	697	THR

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (11) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	93	GLN
1	A	106	ASN
1	A	132	ASN
1	A	160	ASN

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Mol	Chain	Res	Type
1	A	191	ASN
1	A	200	HIS
1	A	398	ASN
1	A	487	GLN
1	A	554	GLN
1	A	618	GLN
1	A	665	ASN

### 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 carbohydrates in this entry.

## 5.6 Ligand geometry ⓘ

Of 2 ligands modelled in this entry, 1 is monoatomic - leaving 1 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	$\# Z  > 2$
3	N5P	A	841	2	29,34,34	2.16	5 (17%)	34,53,53	1.75	6 (17%)

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
3	N5P	A	841	2	-	0/20/38/38	0/3/3/3

All (5) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	A	841	N5P	CZ3-NRO	-3.29	1.39	1.45
3	A	841	N5P	CE2-NE1	-3.27	1.34	1.38
3	A	841	N5P	CD2-CE2	2.41	1.46	1.41
3	A	841	N5P	PG-O3B	3.36	1.65	1.60
3	A	841	N5P	OR2-NRO	9.26	1.39	1.22

All (6) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	A	841	N5P	CH2-CZ3-NRO	-4.25	116.17	119.41
3	A	841	N5P	O3G-PG-O1G	-3.49	96.85	110.50
3	A	841	N5P	CZ3-CE3-CD2	-2.01	117.22	120.36
3	A	841	N5P	O2G-PG-O1G	2.61	120.73	110.50
3	A	841	N5P	O2G-PG-O3G	4.25	124.75	107.61
3	A	841	N5P	CG-CD2-CE2	4.43	109.99	106.20

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	A	841	N5P	1	0

## 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	610/888 (68%)	-0.01	36 (5%)	23 30	26, 40, 73, 91	0

All (36) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	437	SER	5.8
1	A	595	CYS	5.5
1	A	145	TYR	5.4
1	A	583	MET	5.1
1	A	587	SER	5.1
1	A	439	THR	4.8
1	A	588	GLN	4.6
1	A	592	TYR	4.5
1	A	370	TYR	4.2
1	A	590	LEU	4.2
1	A	436	THR	4.1
1	A	594	GLU	4.1
1	A	694	TYR	4.0
1	A	698	GLN	3.6
1	A	670	ALA	3.5
1	A	438	LYS	3.5
1	A	264	GLY	3.5
1	A	142	GLN	3.5
1	A	617	THR	3.4
1	A	610	GLY	3.3
1	A	614	TYR	3.3
1	A	593	ASN	3.2
1	A	141	PHE	3.1
1	A	584	PRO	3.0
1	A	600	PRO	3.0
1	A	607	VAL	2.8
1	A	615	LEU	2.7

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Mol	Chain	Res	Type	RSRZ
1	A	608	ASP	2.6
1	A	129	ASP	2.5
1	A	619	ASN	2.5
1	A	245	ALA	2.5
1	A	161	GLY	2.3
1	A	91	THR	2.3
1	A	613	GLN	2.3
1	A	616	ILE	2.2
1	A	263	ALA	2.1

## 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	N5P	A	841	32/32	0.90	0.13	-0.18	29,35,46,74	0
2	MG	A	2001	1/1	0.91	0.09	-	54,54,54,54	0

## 6.5 Other polymers [i](#)

There are no such residues in this entry.