



# Full wwPDB NMR Structure Validation Report ⓘ

Feb 12, 2017 – 06:08 pm GMT

PDB ID : 1FNX  
Title : SOLUTION STRUCTURE OF THE HUC RBD1-RBD2 COMPLEXED WITH THE AU-RICH ELEMENT  
Authors : Inoue, M.; Hirao, M.; Kasashima, K.; Kim, I.-S.; Kawai, G.; Kigawa, T.; Sakamoto, H.; Muto, Y.; Yokoyama, S.  
Deposited on : 2000-08-24

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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/NMRValidationReportHelp>

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:

Cyrange	:	Kirchner and Güntert (2011)
NmrClust	:	Kelley et al. (1996)
MolProbity	:	4.02b-467
Percentile statistics	:	20161228.v01 (using entries in the PDB archive December 28th 2016)
RCI	:	v_1n_11_5_13_A (Berjanski et al., 2005)
PANAV	:	Wang et al. (2010)
ShiftChecker	:	trunk28760
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	recalc28949

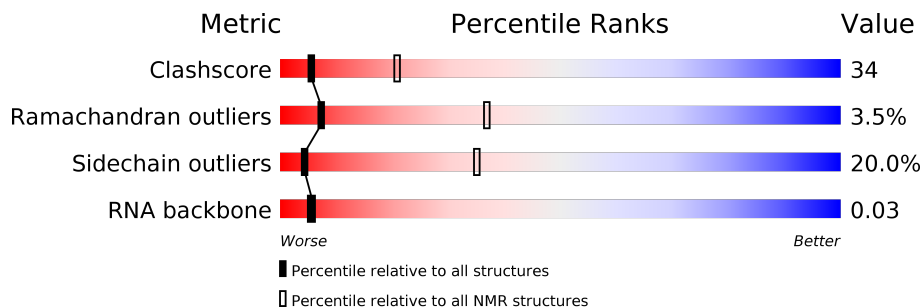
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*SOLUTION NMR*

The overall completeness of chemical shifts assignment was not calculated.

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)	NMR archive (#Entries)
Clashscore	125131	11601
Ramachandran outliers	121729	10391
Sidechain outliers	121581	10367
RNA backbone	3398	623

The table below summarises the geometric issues observed across the polymeric chains and their fit to the experimental data. The red, orange, yellow and green segments indicate the fraction of residues that contain outliers for  $\geq 3$ , 2, 1 and 0 types of geometric quality criteria. A cyan segment indicates the fraction of residues that are not part of the well-defined cores, and 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  $\leq 5\%$

Mol	Chain	Length	Quality of chain
1	R	10	
2	H	174	

## 2 Ensemble composition and analysis

This entry contains 21 models. Model 21 is the overall representative, medoid model (most similar to other models).

The following residues are included in the computation of the global validation metrics.

Well-defined (core) protein residues			
Well-defined core	Residue range (total)	Backbone RMSD (Å)	Medoid model
1	H:38-H:71, H:79-H:119, H:124-H:188, H:198-H:204 (147)	0.96	21

Ill-defined regions of proteins are excluded from the global statistics.

Ligands and non-protein polymers are included in the analysis.

The models can be grouped into 3 clusters and 6 single-model clusters were found.

Cluster number	Models
1	4, 8, 9, 11, 12, 17, 18, 21
2	1, 6, 15, 19, 20
3	3, 5
Single-model clusters	2; 7; 10; 13; 14; 16

### 3 Entry composition

There are 2 unique types of molecules in this entry. The entry contains 3022 atoms, of which 1471 are hydrogens and 0 are deuteriums.

- Molecule 1 is a RNA chain called AU-RICH RNA ELEMENT.

Mol	Chain	Residues	Atoms						Trace
1	R	10	Total	C	H	N	O	P	0
			309	92	104	26	77	10	

- Molecule 2 is a protein called HU ANTIGEN C.

Mol	Chain	Residues	Atoms						Trace
2	H	174	Total	C	H	N	O	S	0
			2713	844	1367	233	264	5	

There is a discrepancy between the modelled and reference sequences:

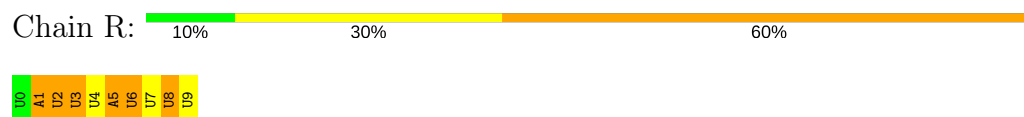
Chain	Residue	Modelled	Actual	Comment	Reference
H	35	MET	ASP	CLONING ARTIFACT	UNP Q60900

## 4 Residue-property plots

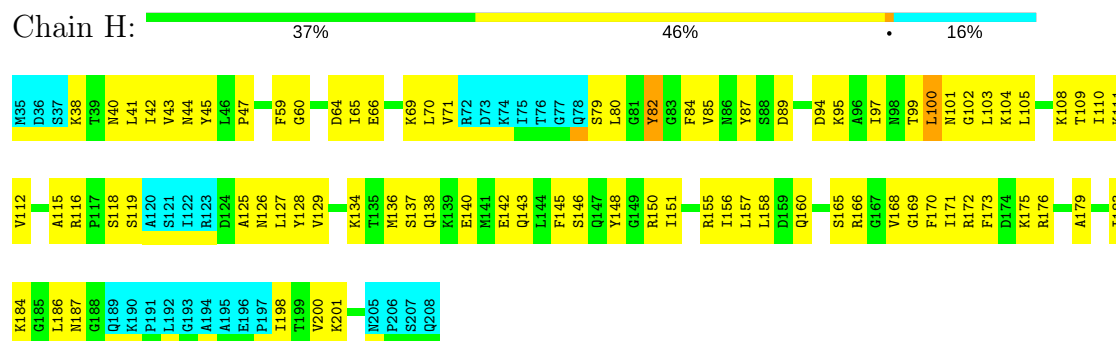
### 4.1 Average score per residue in the NMR ensemble

These plots are provided for all protein, RNA and DNA chains in the entry. The first graphic is the same as shown in the summary in section 1 of this report. The second graphic shows the sequence where residues are colour-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. Stretches of 2 or more consecutive residues without any outliers are shown as green connectors. Residues which are classified as ill-defined in the NMR ensemble, are shown in cyan with an underline colour-coded according to the previous scheme. Residues which were present in the experimental sample, but not modelled in the final structure are shown in grey.

#### • Molecule 1: AU-RICH RNA ELEMENT



#### • Molecule 2: HU ANTIGEN C

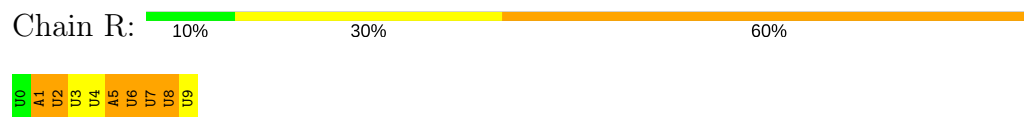


### 4.2 Scores per residue for each member of the ensemble

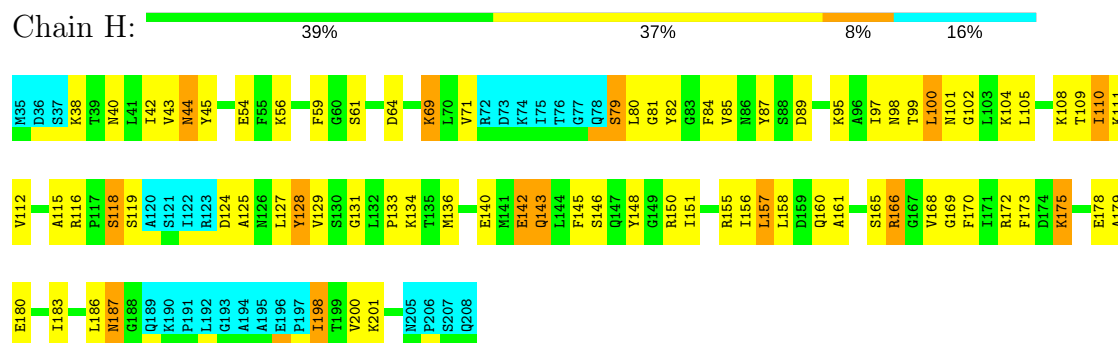
Colouring as in section 4.1 above.

#### 4.2.1 Score per residue for model 1

##### • Molecule 1: AU-RICH RNA ELEMENT



##### • Molecule 2: HU ANTIGEN C

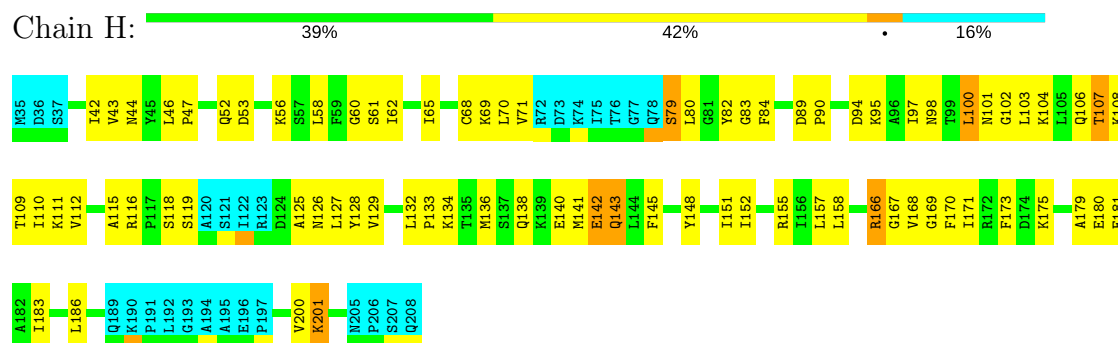


#### 4.2.2 Score per residue for model 2

- Molecule 1: AU-RICH RNA ELEMENT



- Molecule 2: HU ANTIGEN C

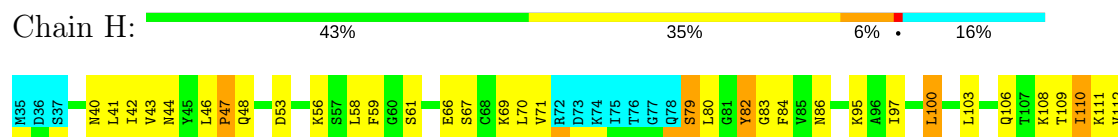


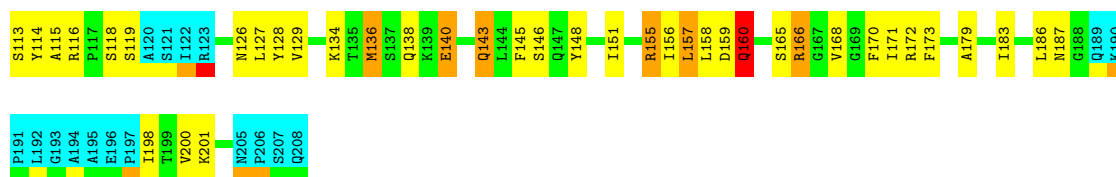
#### 4.2.3 Score per residue for model 3

- Molecule 1: AU-RICH RNA ELEMENT



- Molecule 2: HU ANTIGEN C



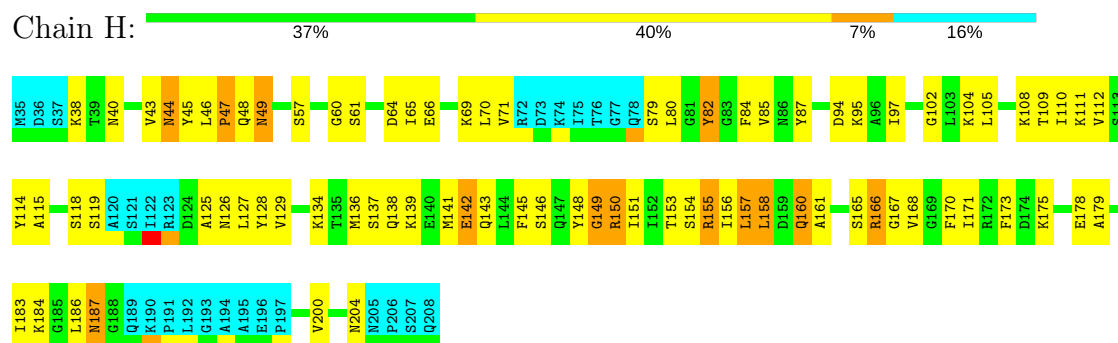


#### 4.2.4 Score per residue for model 4

- Molecule 1: AU-RICH RNA ELEMENT



- Molecule 2: HU ANTIGEN C

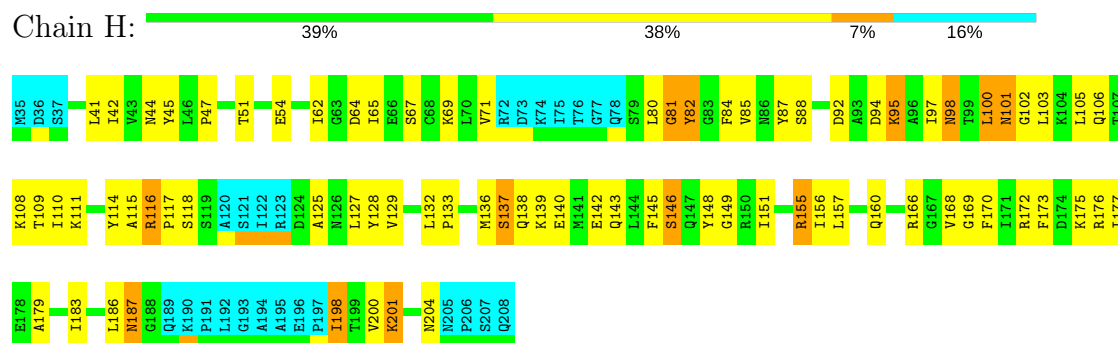


#### 4.2.5 Score per residue for model 5

- Molecule 1: AU-RICH RNA ELEMENT



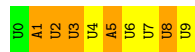
- Molecule 2: HU ANTIGEN C



### 4.2.6 Score per residue for model 6

- Molecule 1: AU-RICH RNA ELEMENT

Chain R:



- Molecule 2: HU ANTIGEN C

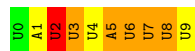
Chain H:



### 4.2.7 Score per residue for model 7

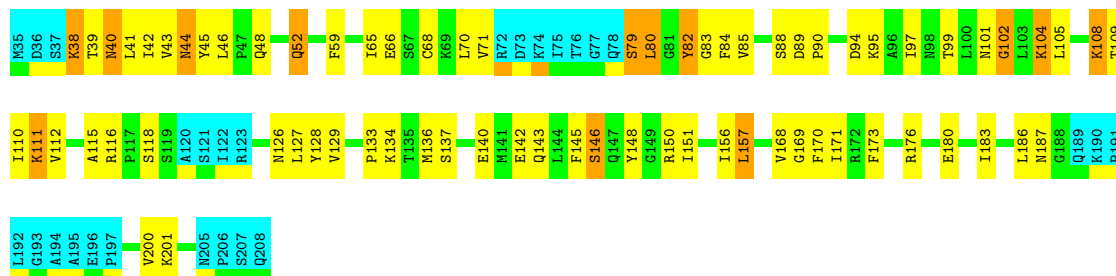
- Molecule 1: AU-RICH RNA ELEMENT

Chain R:



- Molecule 2: HU ANTIGEN C

Chain H:

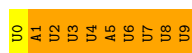


### 4.2.8 Score per residue for model 8

- Molecule 1: AU-RICH RNA ELEMENT

Chain R:





• Molecule 2: HU ANTIGEN C

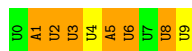
Chain H: 34% 45% 5% 16%



#### 4.2.9 Score per residue for model 9

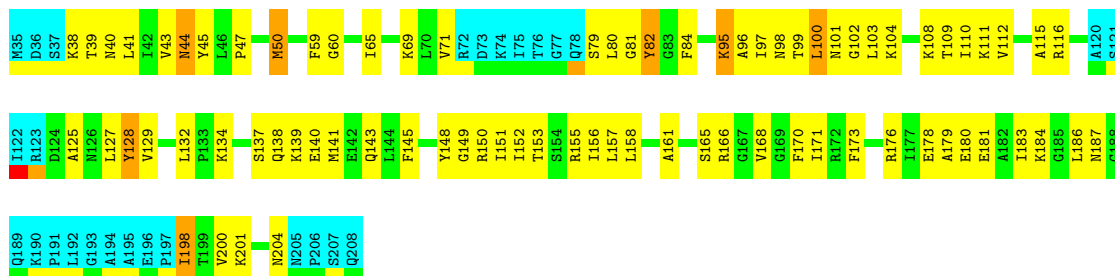
• Molecule 1: AU-RICH RNA ELEMENT

Chain R: 20% 20% 60%



• Molecule 2: HU ANTIGEN C

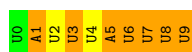
Chain H: 39% 41% 16%



#### 4.2.10 Score per residue for model 10

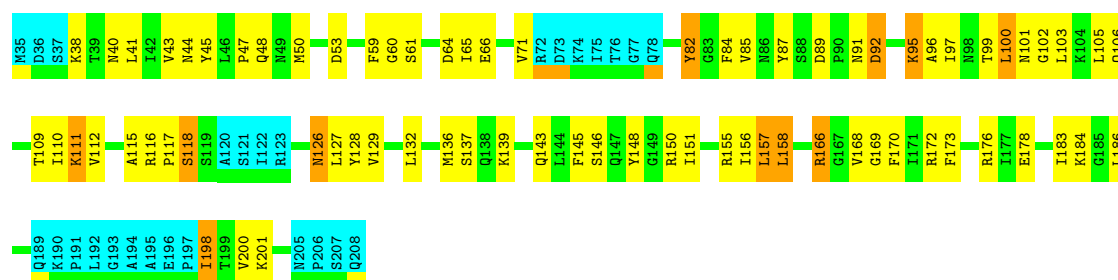
• Molecule 1: AU-RICH RNA ELEMENT

Chain R: 10% 20% 70%



• Molecule 2: HU ANTIGEN C

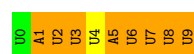
Chain H: 42% 36% 6% 16%



#### 4.2.11 Score per residue for model 11

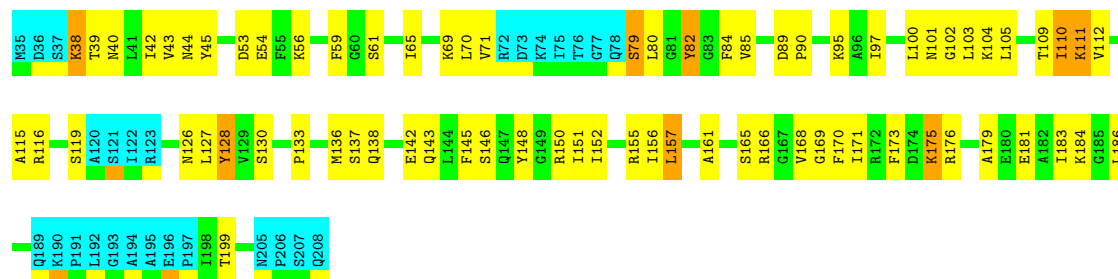
- Molecule 1: AU-RICH RNA ELEMENT

Chain R: 10% 10% 80%



- Molecule 2: HU ANTIGEN C

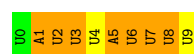
Chain H: 43% 37% 5% 16%



#### 4.2.12 Score per residue for model 12

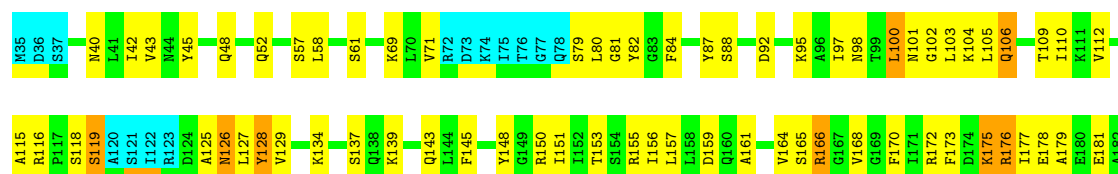
- Molecule 1: AU-RICH RNA ELEMENT

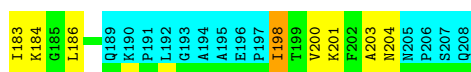
Chain R: 10% 20% 70%



- Molecule 2: HU ANTIGEN C

Chain H: 41% 39% 5% 16%



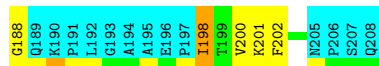
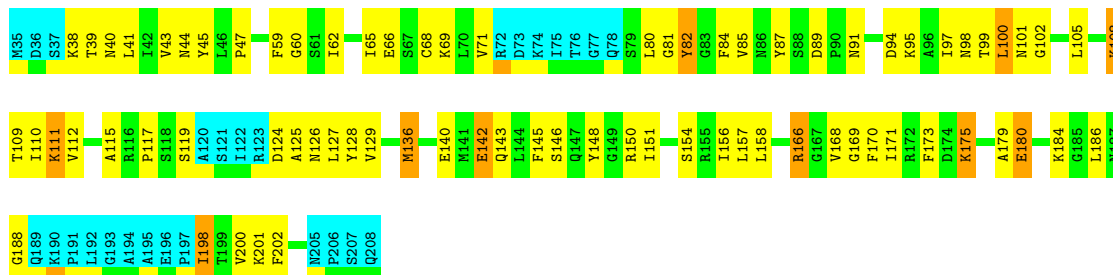


#### 4.2.13 Score per residue for model 13

- Molecule 1: AU-RICH RNA ELEMENT

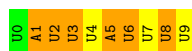


- Molecule 2: HU ANTIGEN C

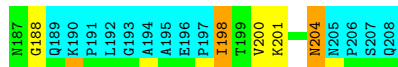
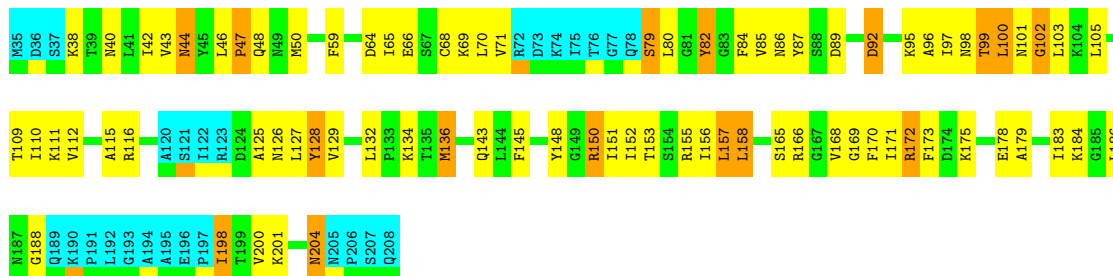


#### 4.2.14 Score per residue for model 14

- Molecule 1: AU-RICH RNA ELEMENT



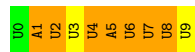
- Molecule 2: HU ANTIGEN C



### 4.2.15 Score per residue for model 15

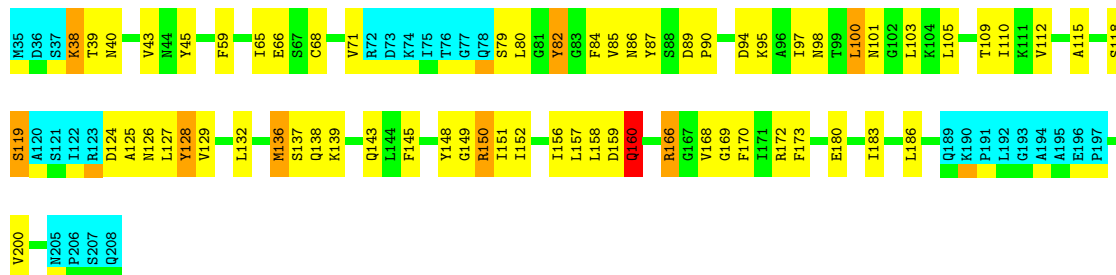
- Molecule 1: AU-RICH RNA ELEMENT

Chain R:



- Molecule 2: HU ANTIGEN C

Chain H:



### 4.2.16 Score per residue for model 16

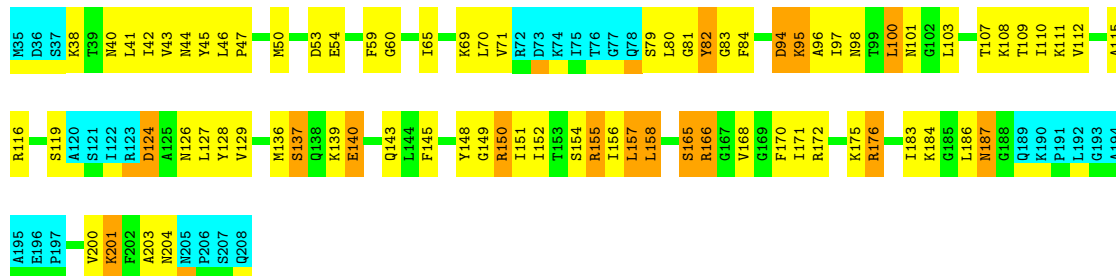
- Molecule 1: AU-RICH RNA ELEMENT

Chain R:



- Molecule 2: HU ANTIGEN C

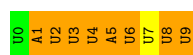
Chain H:



### 4.2.17 Score per residue for model 17

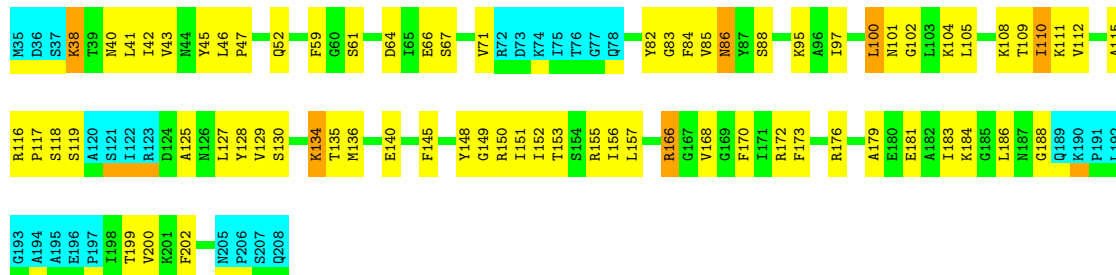
- Molecule 1: AU-RICH RNA ELEMENT

Chain R:



• Molecule 2: HU ANTIGEN C

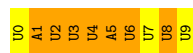
Chain H: 43% 38% 16%



#### 4.2.18 Score per residue for model 18

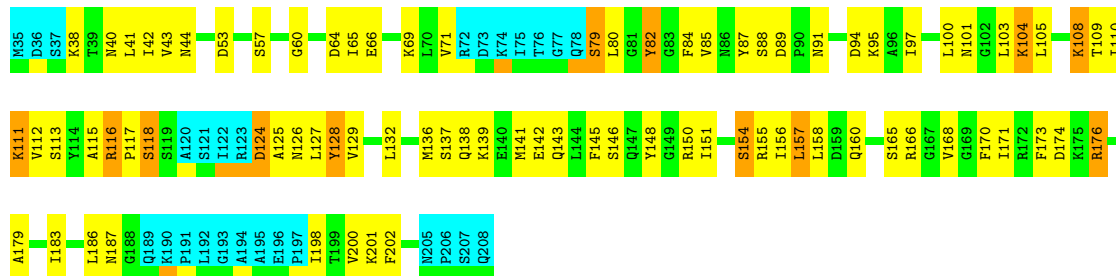
• Molecule 1: AU-RICH RNA ELEMENT

Chain R: 30% 70%



• Molecule 2: HU ANTIGEN C

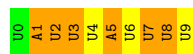
Chain H: 37% 40% 7% 16%



#### 4.2.19 Score per residue for model 19

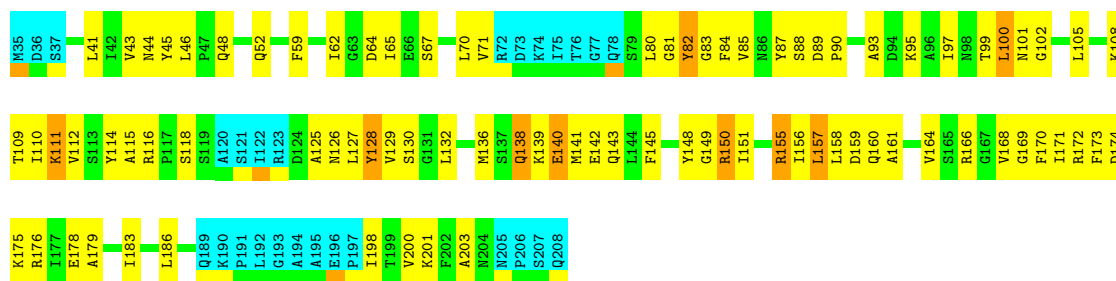
• Molecule 1: AU-RICH RNA ELEMENT

Chain R: 10% 30% 60%



• Molecule 2: HU ANTIGEN C

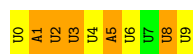
Chain H: 35% 44% 5% 16%



#### 4.2.20 Score per residue for model 20

- Molecule 1: AU-RICH RNA ELEMENT

Chain R: 10% 40% 50%



- Molecule 2: HU ANTIGEN C

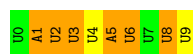
Chain H: 40% 39% 5% 16%



#### 4.2.21 Score per residue for model 21 (medoid)

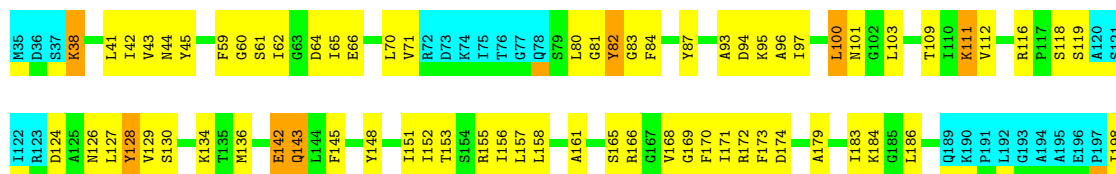
- Molecule 1: AU-RICH RNA ELEMENT

Chain R: 20% 20% 60%



- Molecule 2: HU ANTIGEN C

Chain H: 43% 37% 5% 16%



T199	A203	N205	P206	S207	Q208
V200	N204	P206	S207	Q208	

## 5 Refinement protocol and experimental data overview

The models were refined using the following method: *simulated annealing, torsion angle dynamics*.

Of the 200 calculated structures, 21 were deposited, based on the following criterion: *structures with the lowest energy. CONFORMER 21 IS THE MINIMIZED AVERAGE STRUCTURE OF CONFORMERS 1-20.*

The following table shows the software used for structure solution, optimisation and refinement.

Software name	Classification	Version
CNS	structure solution	0.9
CNS	refinement	0.9

No chemical shift data was provided. No validations of the models with respect to experimental NMR restraints is performed at this time.



## 6 Model quality

### 6.1 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 (average) 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	R	0.30±0.02	0±0/226 (0.0±0.0%)	0.72±0.02	0±0/346 (0.0±0.0%)
2	H	0.30±0.00	0±0/1161 (0.0±0.0%)	0.44±0.01	1±1/1564 (0.1±0.1%)
All	All	0.30	0/29127 (0.0%)	0.50	20/40110 (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	Planarity
1	R	0.0±0.0	0.0±0.2
All	All	0	1

There are no bond-length outliers.

All unique angle outliers are listed below. They are sorted according to the Z-score of the worst occurrence in the ensemble.

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)	Models	
								Worst	Total
2	H	128	TYR	CB-CG-CD1	6.21	124.72	121.00	12	10
2	H	128	TYR	CB-CG-CD2	-6.05	117.37	121.00	12	10

There are no chirality outliers.

All unique planar outliers are listed below.

Mol	Chain	Res	Type	Group	Models (Total)
1	R	2	U	Sidechain	1

## 6.2 Too-close contacts ⓘ

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in each 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 averaged over the ensemble.

Mol	Chain	Non-H	H(model)	H(added)	Clashes
1	R	205	104	103	32±7
2	H	1144	1163	1163	86±11
All	All	28329	26607	26586	1879

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 34.

All unique clashes are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:R:8:U:O4'	2:H:71:VAL:HG22	1.05	1.50	19	13
2:H:157:LEU:HD21	2:H:168:VAL:HB	0.97	1.37	13	10
1:R:2:U:C6	2:H:170:PHE:CZ	0.93	2.57	2	21
1:R:5:A:C2	2:H:80:LEU:HD21	0.89	2.02	5	1
1:R:5:A:N3	2:H:80:LEU:HD21	0.89	1.81	5	2
2:H:40:ASN:ND2	2:H:115:ALA:HB3	0.88	1.82	10	13
2:H:127:LEU:HD22	2:H:183:ILE:HD11	0.88	1.46	4	12
2:H:128:TYR:CE1	2:H:168:VAL:HG11	0.87	2.05	18	20
2:H:136:MET:HB3	2:H:156:ILE:HD13	0.86	1.44	13	14
2:H:105:LEU:HD11	2:H:110:ILE:HD11	0.85	1.45	11	5
2:H:129:VAL:HG22	2:H:200:VAL:HG23	0.85	1.46	13	20
1:R:5:A:N3	2:H:80:LEU:HD23	0.85	1.85	9	10
1:R:5:A:N3	2:H:80:LEU:HD11	0.85	1.87	7	3
2:H:71:VAL:HG21	2:H:82:TYR:CE2	0.83	2.08	6	4
1:R:2:U:O5'	2:H:157:LEU:HD13	0.83	1.72	20	11
1:R:1:A:H4'	2:H:157:LEU:HD21	0.82	1.49	10	4
2:H:145:PHE:HB2	2:H:151:ILE:HD11	0.82	1.49	7	19
2:H:60:GLY:HA2	2:H:65:ILE:HD11	0.82	1.51	6	1
1:R:2:U:C6	2:H:170:PHE:CE1	0.82	2.68	8	2
2:H:43:VAL:HG22	2:H:112:VAL:HG22	0.81	1.50	1	17
1:R:2:U:C6	2:H:170:PHE:CE2	0.81	2.68	18	19
2:H:127:LEU:HD11	2:H:179:ALA:HB1	0.81	1.52	5	14
2:H:157:LEU:HD22	2:H:170:PHE:CE2	0.80	2.12	20	6
1:R:5:A:C4	2:H:80:LEU:HD11	0.80	2.11	7	1
2:H:157:LEU:HD23	2:H:168:VAL:O	0.80	1.76	5	7
2:H:129:VAL:HG12	2:H:132:LEU:HD21	0.80	1.54	9	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:R:2:U:C5	2:H:170:PHE:CZ	0.79	2.70	11	21
2:H:127:LEU:HD21	2:H:183:ILE:HD11	0.78	1.55	9	8
2:H:127:LEU:HD21	2:H:179:ALA:HB1	0.78	1.53	4	3
1:R:7:U:C4	2:H:115:ALA:HB1	0.78	2.13	8	3
2:H:80:LEU:HD13	2:H:82:TYR:OH	0.78	1.79	19	7
1:R:7:U:O4	2:H:115:ALA:HB1	0.77	1.79	3	5
2:H:106:GLN:O	2:H:107:THR:HG23	0.77	1.80	2	1
2:H:43:VAL:HG22	2:H:112:VAL:HG13	0.76	1.58	7	6
1:R:1:A:C6	2:H:128:TYR:CE2	0.75	2.75	10	17
1:R:5:A:H4'	1:R:6:U:O5'	0.75	1.80	8	1
2:H:157:LEU:HD11	2:H:168:VAL:HB	0.75	1.57	14	3
1:R:2:U:H5''	1:R:4:U:O3'	0.75	1.82	16	1
2:H:145:PHE:CB	2:H:151:ILE:HD11	0.74	2.12	19	19
1:R:2:U:C5	2:H:170:PHE:CE2	0.74	2.74	8	2
2:H:129:VAL:HG13	2:H:200:VAL:HB	0.74	1.58	13	14
2:H:158:LEU:HD12	2:H:167:GLY:HA2	0.74	1.57	2	3
2:H:68:CYS:SG	2:H:85:VAL:HG22	0.74	2.22	7	1
2:H:71:VAL:HG23	2:H:84:PHE:CZ	0.73	2.18	19	12
2:H:157:LEU:HD21	2:H:170:PHE:CE2	0.73	2.18	7	1
1:R:2:U:C5	2:H:170:PHE:CE1	0.73	2.77	5	18
2:H:80:LEU:HD12	2:H:82:TYR:OH	0.73	1.82	7	2
2:H:59:PHE:CZ	2:H:100:LEU:HD22	0.73	2.19	14	8
2:H:100:LEU:HD12	2:H:103:LEU:HD11	0.73	1.59	12	4
2:H:43:VAL:HG13	2:H:112:VAL:HG22	0.72	1.59	7	5
2:H:80:LEU:HD22	2:H:82:TYR:OH	0.72	1.85	9	3
1:R:8:U:O4'	2:H:71:VAL:HG21	0.72	1.84	4	7
1:R:8:U:C6	2:H:84:PHE:CZ	0.72	2.77	19	17
2:H:125:ALA:HB3	2:H:173:PHE:O	0.71	1.84	1	14
2:H:148:TYR:CE2	2:H:186:LEU:HD21	0.71	2.21	10	3
2:H:59:PHE:CE2	2:H:100:LEU:HD13	0.71	2.20	3	8
2:H:42:ILE:HD11	2:H:82:TYR:CD2	0.71	2.20	18	5
2:H:62:ILE:HD13	2:H:100:LEU:HD11	0.71	1.63	21	2
2:H:71:VAL:HB	2:H:82:TYR:CD1	0.70	2.21	5	2
1:R:1:A:C2	2:H:128:TYR:CD2	0.70	2.79	21	21
2:H:129:VAL:HG22	2:H:200:VAL:CG2	0.70	2.15	16	19
2:H:148:TYR:CZ	2:H:186:LEU:HD21	0.70	2.21	16	12
2:H:186:LEU:O	2:H:198:ILE:HD11	0.69	1.87	3	3
2:H:145:PHE:CE2	2:H:200:VAL:HG21	0.69	2.23	21	3
2:H:157:LEU:HD21	2:H:170:PHE:CZ	0.69	2.22	7	1
1:R:1:A:C5	2:H:128:TYR:CZ	0.69	2.81	10	20
2:H:71:VAL:HB	2:H:82:TYR:CE1	0.69	2.22	13	8

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
2:H:85:VAL:HG11	2:H:87:TYR:CE2	0.69	2.23	18	4
1:R:4:U:H2'	1:R:4:U:O2	0.69	1.87	5	1
2:H:105:LEU:HD12	2:H:110:ILE:HD12	0.68	1.65	12	1
2:H:157:LEU:CD2	2:H:168:VAL:HB	0.68	2.19	15	15
1:R:8:U:O2'	1:R:9:U:H4'	0.68	1.87	5	1
2:H:157:LEU:HD12	2:H:166:ARG:HG3	0.68	1.63	2	2
1:R:2:U:H5'	2:H:157:LEU:HD13	0.68	1.65	13	3
2:H:127:LEU:CD2	2:H:183:ILE:HD11	0.68	2.19	5	15
2:H:71:VAL:HG23	2:H:84:PHE:CE2	0.68	2.23	2	5
1:R:7:U:C5	2:H:115:ALA:HB1	0.68	2.24	8	2
1:R:8:U:C4'	2:H:71:VAL:HG13	0.67	2.19	18	9
1:R:7:U:H2'	1:R:7:U:O2	0.67	1.89	5	1
1:R:6:U:C5	2:H:152:ILE:HG22	0.67	2.24	11	5
2:H:145:PHE:CD2	2:H:186:LEU:HD13	0.67	2.25	7	3
2:H:97:ILE:HG23	2:H:101:ASN:ND2	0.67	2.03	18	4
1:R:3:U:C2	2:H:109:THR:HB	0.67	2.25	20	15
2:H:157:LEU:HD22	2:H:170:PHE:HE2	0.67	1.46	5	3
1:R:1:A:H4'	2:H:157:LEU:HD11	0.66	1.66	2	7
1:R:8:U:C5	2:H:84:PHE:CE1	0.66	2.83	19	6
2:H:128:TYR:HE1	2:H:168:VAL:HG11	0.66	1.49	19	13
2:H:145:PHE:CE2	2:H:186:LEU:HD13	0.66	2.25	21	8
2:H:59:PHE:CE2	2:H:100:LEU:HD22	0.66	2.24	16	3
2:H:71:VAL:HG23	2:H:84:PHE:HZ	0.66	1.50	19	3
1:R:1:A:N1	2:H:204:ASN:HB3	0.65	2.06	21	5
2:H:41:LEU:CD1	2:H:97:ILE:HD11	0.65	2.21	6	2
2:H:126:ASN:HD22	2:H:203:ALA:HB2	0.65	1.51	21	1
2:H:85:VAL:HG11	2:H:87:TYR:CZ	0.65	2.27	5	9
1:R:5:A:H2'	2:H:80:LEU:O	0.64	1.92	20	2
2:H:157:LEU:HD22	2:H:157:LEU:O	0.64	1.92	14	1
2:H:42:ILE:CG2	2:H:115:ALA:HB2	0.64	2.23	1	4
2:H:97:ILE:HD12	2:H:114:TYR:CE2	0.64	2.27	3	2
2:H:52:GLN:HG3	2:H:70:LEU:HD13	0.64	1.68	7	1
2:H:128:TYR:CD1	2:H:168:VAL:HG11	0.64	2.28	7	18
2:H:71:VAL:HG23	2:H:84:PHE:HE2	0.64	1.53	2	3
2:H:157:LEU:O	2:H:157:LEU:HD22	0.64	1.93	10	1
2:H:42:ILE:HD11	2:H:82:TYR:HB2	0.63	1.69	5	1
2:H:40:ASN:HD22	2:H:115:ALA:HB3	0.63	1.53	14	7
1:R:8:U:C4	2:H:84:PHE:CE2	0.63	2.86	5	11
1:R:8:U:C4'	2:H:71:VAL:HG21	0.62	2.24	7	3
1:R:8:U:C6	2:H:84:PHE:CE1	0.62	2.87	3	4
2:H:157:LEU:HG	2:H:166:ARG:HB2	0.62	1.70	8	11

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
2:H:157:LEU:HD12	2:H:168:VAL:O	0.62	1.94	7	1
2:H:42:ILE:HD11	2:H:82:TYR:HD2	0.62	1.53	18	3
2:H:145:PHE:HB2	2:H:151:ILE:CD1	0.62	2.25	7	5
2:H:157:LEU:CD1	2:H:168:VAL:HB	0.61	2.24	14	3
2:H:109:THR:HG22	2:H:109:THR:O	0.61	1.94	7	1
1:R:8:U:H5'	2:H:82:TYR:OH	0.61	1.96	3	1
2:H:157:LEU:HD22	2:H:170:PHE:CZ	0.61	2.30	13	3
1:R:8:U:H1'	1:R:9:U:O5'	0.61	1.96	8	1
2:H:82:TYR:N	2:H:82:TYR:CD1	0.61	2.69	5	3
1:R:1:A:C2	2:H:128:TYR:CG	0.60	2.89	21	17
2:H:71:VAL:HG23	2:H:84:PHE:HE1	0.60	1.55	4	1
2:H:59:PHE:CB	2:H:65:ILE:HD11	0.60	2.26	7	1
1:R:2:U:H5'	2:H:157:LEU:CD2	0.60	2.27	7	1
1:R:3:U:C2	2:H:45:TYR:CD2	0.60	2.89	1	8
1:R:1:A:C4'	2:H:157:LEU:HD11	0.60	2.27	2	4
2:H:71:VAL:HG23	2:H:84:PHE:CE1	0.60	2.31	13	11
2:H:151:ILE:HG21	2:H:171:ILE:CG2	0.60	2.26	19	1
1:R:1:A:C4	2:H:128:TYR:CE1	0.60	2.90	7	15
1:R:9:U:OP1	2:H:71:VAL:CG2	0.59	2.50	3	2
2:H:65:ILE:HG23	2:H:85:VAL:HG13	0.59	1.74	15	5
2:H:129:VAL:CG2	2:H:200:VAL:HG23	0.59	2.26	2	2
2:H:46:LEU:HD12	2:H:70:LEU:HG	0.59	1.73	8	3
2:H:157:LEU:HD12	2:H:170:PHE:CE2	0.59	2.31	14	3
2:H:41:LEU:HD11	2:H:97:ILE:HD11	0.59	1.74	16	1
2:H:129:VAL:CG1	2:H:132:LEU:HD21	0.59	2.25	9	1
1:R:2:U:O5'	2:H:157:LEU:CD1	0.59	2.50	21	8
2:H:97:ILE:HD13	2:H:112:VAL:HB	0.59	1.74	2	1
2:H:103:LEU:HB2	2:H:110:ILE:HG22	0.59	1.73	14	1
2:H:105:LEU:CD1	2:H:110:ILE:HD13	0.59	2.28	17	1
2:H:105:LEU:CD1	2:H:110:ILE:HD11	0.59	2.27	15	5
1:R:5:A:C4	2:H:80:LEU:HD21	0.59	2.33	14	2
2:H:154:SER:HB2	2:H:171:ILE:HD13	0.59	1.74	18	4
2:H:80:LEU:HB3	2:H:82:TYR:CZ	0.58	2.33	2	3
2:H:146:SER:N	2:H:151:ILE:HD11	0.58	2.13	3	6
2:H:59:PHE:HB2	2:H:65:ILE:HD11	0.58	1.74	7	1
2:H:156:ILE:HG23	2:H:168:VAL:O	0.58	1.97	14	15
1:R:1:A:N3	2:H:128:TYR:CG	0.58	2.72	5	15
2:H:157:LEU:HD11	2:H:166:ARG:HG3	0.58	1.74	4	2
1:R:5:A:N3	2:H:80:LEU:CD2	0.58	2.67	19	3
2:H:103:LEU:HB2	2:H:110:ILE:CG2	0.58	2.28	8	4
1:R:5:A:C4	2:H:80:LEU:HD23	0.58	2.34	19	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
2:H:188:GLY:HA3	2:H:198:ILE:HG13	0.58	1.76	13	3
2:H:97:ILE:HD12	2:H:114:TYR:CZ	0.58	2.34	4	1
2:H:158:LEU:HD22	2:H:158:LEU:C	0.57	2.20	14	1
1:R:8:U:C1'	2:H:71:VAL:HG22	0.57	2.29	12	7
2:H:105:LEU:HD11	2:H:110:ILE:CG1	0.57	2.30	10	1
1:R:1:A:O5'	2:H:157:LEU:HD21	0.57	1.99	16	1
2:H:175:LYS:CE	2:H:178:GLU:HB2	0.57	2.29	4	1
2:H:128:TYR:CE1	2:H:168:VAL:CG1	0.57	2.88	3	13
1:R:6:U:O4'	2:H:44:ASN:HB3	0.57	2.00	8	4
2:H:82:TYR:CD1	2:H:82:TYR:N	0.57	2.73	19	4
2:H:41:LEU:HG	2:H:97:ILE:HD11	0.57	1.75	3	1
2:H:94:ASP:HA	2:H:97:ILE:HD12	0.57	1.77	15	2
2:H:65:ILE:HG21	2:H:68:CYS:SG	0.57	2.40	7	4
2:H:43:VAL:CG1	2:H:112:VAL:HG22	0.56	2.30	7	1
2:H:119:SER:O	2:H:175:LYS:NZ	0.56	2.35	13	2
2:H:96:ALA:O	2:H:100:LEU:HD12	0.56	2.00	16	3
2:H:65:ILE:CG2	2:H:68:CYS:SG	0.56	2.93	7	2
1:R:8:U:C5	2:H:84:PHE:CE2	0.56	2.94	4	1
2:H:87:TYR:CD2	2:H:93:ALA:HA	0.56	2.35	8	2
2:H:148:TYR:CE1	2:H:186:LEU:HD21	0.56	2.35	8	7
1:R:3:U:C2	2:H:45:TYR:CG	0.56	2.94	20	5
2:H:141:MET:CE	2:H:171:ILE:HD11	0.56	2.30	2	1
2:H:151:ILE:HG21	2:H:154:SER:HB3	0.56	1.76	16	1
2:H:71:VAL:HG11	2:H:82:TYR:OH	0.56	2.01	4	2
2:H:109:THR:O	2:H:109:THR:HG22	0.56	2.01	17	4
1:R:2:U:H5'	2:H:157:LEU:CD1	0.56	2.31	2	3
2:H:43:VAL:CG2	2:H:112:VAL:HG22	0.55	2.29	13	3
2:H:138:GLN:CB	2:H:155:ARG:HA	0.55	2.30	19	1
1:R:5:A:O2'	1:R:6:U:P	0.55	2.65	17	5
2:H:157:LEU:O	2:H:157:LEU:HG	0.55	2.02	2	8
2:H:151:ILE:CG2	2:H:171:ILE:HG22	0.55	2.31	19	2
2:H:92:ASP:HA	2:H:95:LYS:HG2	0.55	1.77	10	1
2:H:103:LEU:HB3	2:H:110:ILE:HD12	0.55	1.77	5	1
2:H:97:ILE:HG23	2:H:101:ASN:HD22	0.55	1.61	2	2
1:R:1:A:C4'	2:H:157:LEU:HD21	0.55	2.31	16	3
1:R:0:U:O2'	1:R:1:A:P	0.55	2.64	5	2
1:R:6:U:C5	2:H:152:ILE:CG2	0.55	2.89	8	3
2:H:47:PRO:HB2	2:H:50:MET:HB2	0.55	1.76	14	1
2:H:100:LEU:HB2	2:H:112:VAL:HG21	0.55	1.78	3	1
1:R:2:U:H4'	2:H:157:LEU:HB2	0.55	1.79	8	5
1:R:8:U:C4	2:H:84:PHE:CE1	0.54	2.95	15	3

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:R:5:A:N3	2:H:80:LEU:HA	0.54	2.17	18	1
2:H:157:LEU:HG	2:H:157:LEU:O	0.54	2.02	17	6
2:H:129:VAL:HG22	2:H:200:VAL:CB	0.54	2.31	21	5
1:R:1:A:H5'	2:H:168:VAL:HG21	0.54	1.78	20	4
1:R:1:A:C5'	2:H:157:LEU:HD11	0.54	2.32	2	4
1:R:6:U:C5	2:H:153:THR:HG23	0.54	2.38	4	1
2:H:71:VAL:CG2	2:H:84:PHE:CZ	0.54	2.91	17	11
2:H:97:ILE:O	2:H:101:ASN:HB2	0.54	2.03	9	14
1:R:2:U:O2'	1:R:3:U:H5'	0.54	2.03	6	3
2:H:71:VAL:CG1	2:H:82:TYR:CE1	0.54	2.90	5	1
2:H:80:LEU:HB3	2:H:82:TYR:CE2	0.54	2.38	11	1
2:H:157:LEU:HD12	2:H:157:LEU:H	0.54	1.63	7	1
2:H:134:LYS:HG3	2:H:158:LEU:HD11	0.54	1.78	20	2
1:R:1:A:C5	2:H:128:TYR:CE2	0.54	2.96	10	15
2:H:142:GLU:HG2	2:H:143:GLN:N	0.54	2.16	2	3
2:H:47:PRO:HD3	2:H:110:ILE:HD11	0.54	1.80	20	2
2:H:100:LEU:HD23	2:H:103:LEU:CD1	0.54	2.33	6	1
1:R:7:U:O2	1:R:7:U:C2'	0.54	2.56	5	1
2:H:80:LEU:HB3	2:H:82:TYR:CE1	0.54	2.37	8	1
2:H:47:PRO:HB2	2:H:50:MET:CB	0.54	2.33	14	1
2:H:152:ILE:O	2:H:153:THR:HG23	0.53	2.02	9	2
2:H:117:PRO:O	2:H:118:SER:CB	0.53	2.55	10	1
2:H:103:LEU:HB2	2:H:110:ILE:HB	0.53	1.80	2	4
2:H:132:LEU:HB3	2:H:136:MET:SD	0.53	2.44	6	5
2:H:126:ASN:O	2:H:127:LEU:HD23	0.53	2.03	4	2
2:H:100:LEU:HD23	2:H:103:LEU:HD11	0.53	1.79	6	4
2:H:136:MET:CB	2:H:156:ILE:HD13	0.53	2.30	5	4
2:H:187:ASN:HA	2:H:200:VAL:HG12	0.53	1.81	6	1
2:H:42:ILE:HG21	2:H:115:ALA:HB2	0.53	1.80	11	1
2:H:157:LEU:CD2	2:H:170:PHE:CZ	0.53	2.92	11	1
1:R:1:A:H4'	2:H:157:LEU:CD1	0.53	2.33	20	9
1:R:2:U:H4'	2:H:157:LEU:CB	0.53	2.33	3	5
1:R:4:U:O5'	1:R:4:U:H6	0.53	1.85	17	1
2:H:128:TYR:HA	2:H:170:PHE:CD2	0.53	2.38	8	1
2:H:145:PHE:CZ	2:H:200:VAL:HG21	0.53	2.39	21	1
1:R:6:U:O2	2:H:42:ILE:HG23	0.53	2.04	21	2
1:R:8:U:C2	2:H:84:PHE:CE2	0.53	2.97	10	2
2:H:59:PHE:CE1	2:H:100:LEU:HD22	0.53	2.39	14	1
1:R:1:A:O5'	2:H:166:ARG:HG2	0.52	2.04	17	3
2:H:59:PHE:CD2	2:H:85:VAL:HG21	0.52	2.39	6	2
1:R:8:U:H4'	2:H:71:VAL:HG13	0.52	1.80	12	6

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
2:H:145:PHE:HB3	2:H:173:PHE:CZ	0.52	2.39	10	15
2:H:125:ALA:HB1	2:H:173:PHE:HB2	0.52	1.82	9	1
1:R:7:U:O2	2:H:116:ARG:HD3	0.52	2.03	5	1
1:R:1:A:O3'	1:R:2:U:C6	0.52	2.63	3	1
2:H:42:ILE:HB	2:H:84:PHE:CD2	0.52	2.40	21	2
2:H:198:ILE:HG13	2:H:198:ILE:O	0.52	2.05	13	4
1:R:1:A:C4	2:H:128:TYR:CD1	0.52	2.97	7	13
1:R:1:A:C5'	2:H:157:LEU:HD21	0.52	2.35	16	1
1:R:1:A:N1	2:H:204:ASN:HB2	0.52	2.19	14	1
2:H:44:ASN:OD1	2:H:82:TYR:CD2	0.52	2.63	19	1
1:R:6:U:OP2	2:H:45:TYR:CE2	0.52	2.62	11	1
1:R:8:U:C6	2:H:71:VAL:HG22	0.52	2.40	20	8
2:H:60:GLY:CA	2:H:65:ILE:HD11	0.52	2.32	6	1
2:H:126:ASN:ND2	2:H:203:ALA:HB2	0.52	2.19	21	3
2:H:145:PHE:CB	2:H:171:ILE:HG21	0.51	2.35	21	2
2:H:118:SER:OG	2:H:119:SER:N	0.51	2.43	2	3
2:H:102:GLY:HA2	2:H:111:LYS:HD2	0.51	1.80	7	1
2:H:71:VAL:CB	2:H:82:TYR:CE1	0.51	2.93	13	2
1:R:1:A:N9	2:H:128:TYR:CE1	0.51	2.79	7	3
2:H:105:LEU:HD12	2:H:110:ILE:HD13	0.51	1.82	17	2
2:H:87:TYR:CD1	2:H:92:ASP:HB3	0.51	2.40	12	2
2:H:128:TYR:HA	2:H:170:PHE:CD1	0.51	2.41	21	5
2:H:101:ASN:O	2:H:111:LYS:NZ	0.51	2.43	2	8
1:R:8:U:C5	2:H:84:PHE:CZ	0.51	2.99	19	3
2:H:46:LEU:HD11	2:H:83:GLY:CA	0.51	2.36	8	3
2:H:43:VAL:HG11	2:H:110:ILE:HD11	0.51	1.83	16	1
1:R:3:U:O2	2:H:109:THR:HB	0.51	2.05	14	6
2:H:60:GLY:HA2	2:H:65:ILE:CD1	0.51	2.36	9	8
1:R:8:U:OP1	2:H:71:VAL:HG11	0.51	2.06	15	1
2:H:142:GLU:HA	2:H:151:ILE:CD1	0.51	2.36	7	1
2:H:152:ILE:HB	2:H:172:ARG:HG3	0.51	1.83	14	1
2:H:41:LEU:O	2:H:84:PHE:HA	0.50	2.06	20	8
2:H:103:LEU:HB2	2:H:110:ILE:HG23	0.50	1.83	18	1
2:H:80:LEU:HB2	2:H:82:TYR:CE1	0.50	2.41	18	1
2:H:41:LEU:HD13	2:H:114:TYR:HA	0.50	1.81	19	2
2:H:60:GLY:HA2	2:H:65:ILE:HD13	0.50	1.83	10	1
2:H:153:THR:OG1	2:H:172:ARG:NH1	0.50	2.36	12	1
2:H:126:ASN:HB2	2:H:172:ARG:NH1	0.50	2.21	15	1
2:H:70:LEU:HA	2:H:83:GLY:HA2	0.50	1.83	21	2
2:H:183:ILE:HD13	2:H:201:LYS:HA	0.50	1.82	1	3
2:H:44:ASN:CG	2:H:82:TYR:HB3	0.50	2.27	10	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
1:R:0:U:O3'	1:R:1:A:H3'	0.50	2.07	18	1
2:H:153:THR:OG1	2:H:172:ARG:NE	0.50	2.39	21	1
2:H:168:VAL:CG1	2:H:169:GLY:N	0.50	2.74	7	2
1:R:7:U:H1'	1:R:8:U:OP1	0.50	2.06	3	1
2:H:104:LYS:HA	2:H:109:THR:HA	0.50	1.84	20	3
1:R:8:U:C2	2:H:84:PHE:CE1	0.50	3.00	6	3
2:H:105:LEU:HB2	2:H:108:LYS:O	0.50	2.07	18	3
2:H:116:ARG:HB3	2:H:117:PRO:HD2	0.49	1.83	20	3
2:H:157:LEU:CD1	2:H:166:ARG:HG2	0.49	2.37	20	1
2:H:137:SER:HB3	2:H:140:GLU:HG2	0.49	1.83	5	1
2:H:99:THR:HG22	2:H:100:LEU:HG	0.49	1.85	14	1
1:R:8:U:O4'	2:H:71:VAL:CG2	0.49	2.56	9	7
1:R:6:U:O2'	1:R:7:U:P	0.49	2.70	12	4
1:R:3:U:O2'	2:H:45:TYR:OH	0.49	2.30	7	1
2:H:157:LEU:HD11	2:H:166:ARG:HD2	0.49	1.83	8	1
2:H:100:LEU:CB	2:H:112:VAL:HG21	0.49	2.37	3	1
2:H:151:ILE:HG12	2:H:173:PHE:CE1	0.49	2.42	12	5
2:H:116:ARG:CB	2:H:117:PRO:HD2	0.49	2.37	18	1
2:H:133:PRO:HD2	2:H:136:MET:SD	0.49	2.48	7	5
1:R:3:U:C2	2:H:45:TYR:CD1	0.49	3.01	10	1
1:R:8:U:H5	2:H:42:ILE:HD12	0.49	1.67	3	1
2:H:134:LYS:HE2	2:H:135:THR:HG23	0.49	1.84	17	1
1:R:8:U:O4'	2:H:71:VAL:HA	0.49	2.07	5	1
2:H:141:MET:HE2	2:H:171:ILE:HD11	0.49	1.82	2	1
2:H:145:PHE:CD2	2:H:171:ILE:HG13	0.49	2.42	6	2
2:H:157:LEU:HD12	2:H:166:ARG:CG	0.49	2.38	11	2
2:H:85:VAL:CG1	2:H:87:TYR:CZ	0.49	2.96	5	3
1:R:7:U:C2'	1:R:7:U:O2	0.49	2.61	14	1
2:H:59:PHE:O	2:H:65:ILE:HD11	0.49	2.07	21	2
2:H:170:PHE:O	2:H:171:ILE:HD13	0.49	2.08	19	3
2:H:105:LEU:HD11	2:H:110:ILE:CD1	0.49	2.34	4	1
2:H:136:MET:HG3	2:H:156:ILE:CD1	0.49	2.38	21	6
1:R:6:U:O2'	1:R:7:U:H6	0.49	1.91	10	1
2:H:157:LEU:HD21	2:H:168:VAL:CB	0.49	2.31	5	1
2:H:154:SER:O	2:H:155:ARG:HB3	0.49	2.08	16	1
2:H:188:GLY:HA3	2:H:198:ILE:O	0.49	2.07	14	1
2:H:128:TYR:CD1	2:H:168:VAL:CG1	0.48	2.96	7	3
1:R:2:U:H4'	2:H:157:LEU:HB3	0.48	1.84	5	1
2:H:157:LEU:CD2	2:H:170:PHE:CE2	0.48	2.96	11	1
2:H:39:THR:O	2:H:86:ASN:HA	0.48	2.08	8	1
1:R:8:U:H4'	2:H:71:VAL:HG21	0.48	1.84	3	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
2:H:47:PRO:HG2	2:H:50:MET:CB	0.48	2.38	10	4
2:H:97:ILE:HG23	2:H:101:ASN:CG	0.48	2.28	5	2
2:H:152:ILE:HD11	2:H:174:ASP:OD1	0.48	2.08	21	1
2:H:71:VAL:CG2	2:H:84:PHE:HZ	0.48	2.21	17	8
1:R:7:U:C2	2:H:116:ARG:HD3	0.48	2.42	5	1
2:H:124:ASP:HB2	2:H:176:ARG:CG	0.48	2.38	16	1
1:R:8:U:H1'	1:R:9:U:OP1	0.48	2.08	3	2
1:R:1:A:O3'	1:R:2:U:H6	0.48	1.91	12	6
1:R:4:U:H6	1:R:4:U:O5'	0.48	1.92	15	1
2:H:157:LEU:HG	2:H:166:ARG:CB	0.48	2.39	8	2
2:H:137:SER:HB3	2:H:140:GLU:CG	0.48	2.38	5	1
2:H:69:LYS:HB3	2:H:84:PHE:CD1	0.48	2.44	1	3
2:H:44:ASN:OD1	2:H:45:TYR:CD2	0.48	2.66	7	1
2:H:41:LEU:CG	2:H:97:ILE:HD11	0.48	2.39	3	1
2:H:129:VAL:HG22	2:H:200:VAL:HB	0.48	1.86	21	1
2:H:138:GLN:OE1	2:H:155:ARG:NH1	0.48	2.44	3	2
2:H:157:LEU:CD1	2:H:170:PHE:CE2	0.48	2.97	10	2
2:H:97:ILE:HG12	2:H:112:VAL:HG11	0.48	1.85	8	1
2:H:71:VAL:CG2	2:H:82:TYR:CE2	0.48	2.93	17	2
2:H:156:ILE:HA	2:H:169:GLY:HA2	0.48	1.85	11	6
1:R:5:A:H4'	1:R:6:U:OP1	0.47	2.09	3	3
2:H:180:GLU:HG3	2:H:202:PHE:CE2	0.47	2.43	13	1
1:R:4:U:O2'	1:R:5:A:P	0.47	2.72	8	1
2:H:43:VAL:HG12	2:H:110:ILE:HG12	0.47	1.86	14	1
2:H:136:MET:SD	2:H:141:MET:HG3	0.47	2.49	20	1
2:H:141:MET:SD	2:H:156:ILE:HD11	0.47	2.48	20	1
2:H:145:PHE:HE2	2:H:200:VAL:HG21	0.47	1.69	21	1
2:H:157:LEU:HD12	2:H:166:ARG:HD3	0.47	1.85	19	1
2:H:115:ALA:O	2:H:116:ARG:HD2	0.47	2.09	14	1
1:R:8:U:O2'	1:R:9:U:H5''	0.47	2.10	3	1
2:H:96:ALA:HB1	2:H:100:LEU:HD12	0.47	1.86	14	1
2:H:97:ILE:O	2:H:101:ASN:N	0.47	2.47	6	3
1:R:2:U:N1	2:H:170:PHE:CE2	0.47	2.82	18	10
2:H:157:LEU:HD12	2:H:166:ARG:HG2	0.47	1.86	13	2
1:R:1:A:H5''	2:H:157:LEU:HD11	0.47	1.87	11	2
2:H:136:MET:CG	2:H:156:ILE:HD13	0.47	2.40	8	1
2:H:97:ILE:O	2:H:101:ASN:CB	0.47	2.63	14	1
2:H:96:ALA:O	2:H:100:LEU:HD22	0.47	2.09	9	1
1:R:6:U:H4'	1:R:7:U:OP1	0.47	2.10	10	1
2:H:176:ARG:HG2	2:H:177:ILE:N	0.47	2.25	12	1
2:H:105:LEU:HD11	2:H:110:ILE:HG12	0.47	1.86	10	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
2:H:142:GLU:O	2:H:146:SER:N	0.47	2.45	6	1
2:H:129:VAL:O	2:H:168:VAL:HG13	0.47	2.10	20	2
1:R:6:U:O2'	2:H:42:ILE:HD11	0.47	2.09	2	1
2:H:100:LEU:HB2	2:H:112:VAL:CG2	0.47	2.40	8	1
1:R:7:U:OP1	2:H:82:TYR:CE2	0.47	2.68	13	1
1:R:4:U:O2	1:R:4:U:C2'	0.47	2.57	5	1
2:H:165:SER:O	2:H:166:ARG:HD3	0.47	2.10	20	1
2:H:96:ALA:HB1	2:H:100:LEU:CD1	0.47	2.40	14	1
2:H:159:ASP:OD1	2:H:160:GLN:N	0.47	2.45	3	2
2:H:70:LEU:C	2:H:70:LEU:HD23	0.47	2.30	11	3
2:H:142:GLU:HB2	2:H:154:SER:OG	0.47	2.10	6	2
1:R:8:U:C2	2:H:84:PHE:CZ	0.47	3.02	6	4
1:R:5:A:N6	2:H:79:SER:O	0.47	2.48	12	1
1:R:7:U:C6	1:R:8:U:C5	0.46	3.03	19	1
2:H:82:TYR:HB2	2:H:84:PHE:CZ	0.46	2.45	7	1
2:H:43:VAL:O	2:H:82:TYR:HA	0.46	2.09	3	2
1:R:4:U:O2	2:H:172:ARG:HB2	0.46	2.11	5	1
2:H:46:LEU:HG	2:H:83:GLY:N	0.46	2.25	2	1
1:R:8:U:N1	2:H:84:PHE:CE2	0.46	2.84	8	1
2:H:183:ILE:HG23	2:H:200:VAL:O	0.46	2.11	17	2
2:H:43:VAL:CG1	2:H:110:ILE:HG23	0.46	2.41	17	1
1:R:2:U:OP2	1:R:2:U:C6	0.46	2.69	8	2
2:H:198:ILE:O	2:H:198:ILE:HG13	0.46	2.09	20	4
1:R:1:A:H5''	2:H:166:ARG:HD3	0.46	1.86	5	1
1:R:1:A:C5'	2:H:166:ARG:HG2	0.46	2.40	16	1
2:H:44:ASN:O	2:H:45:TYR:HB2	0.46	2.10	7	2
1:R:2:U:C5'	2:H:157:LEU:HD13	0.46	2.40	2	2
2:H:145:PHE:CE1	2:H:186:LEU:HD13	0.46	2.45	14	1
2:H:38:LYS:O	2:H:39:THR:HG23	0.46	2.10	6	1
2:H:96:ALA:C	2:H:100:LEU:HD12	0.46	2.31	21	1
2:H:70:LEU:HD23	2:H:71:VAL:O	0.46	2.11	19	1
2:H:46:LEU:CD1	2:H:70:LEU:HG	0.46	2.40	4	1
2:H:95:LYS:O	2:H:98:ASN:HB2	0.46	2.11	5	2
2:H:39:THR:O	2:H:41:LEU:HD22	0.46	2.11	7	1
2:H:41:LEU:N	2:H:41:LEU:HD22	0.46	2.25	3	2
1:R:2:U:H5'	2:H:157:LEU:HD12	0.46	1.88	1	2
2:H:187:ASN:HB3	2:H:200:VAL:O	0.46	2.11	4	3
2:H:97:ILE:HG13	2:H:114:TYR:CE2	0.46	2.44	19	1
2:H:137:SER:HB3	2:H:140:GLU:HB2	0.46	1.87	16	1
2:H:126:ASN:HB2	2:H:172:ARG:CD	0.46	2.41	3	1
2:H:136:MET:HG3	2:H:156:ILE:HD13	0.46	1.87	21	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
2:H:42:ILE:HD11	2:H:82:TYR:CB	0.46	2.41	5	1
1:R:6:U:O4'	2:H:44:ASN:HB2	0.46	2.11	3	1
2:H:176:ARG:HD2	2:H:202:PHE:CE2	0.46	2.46	18	1
1:R:2:U:P	2:H:157:LEU:HD13	0.46	2.50	20	2
2:H:69:LYS:HG3	2:H:70:LEU:N	0.46	2.26	8	2
2:H:47:PRO:O	2:H:49:ASN:N	0.46	2.45	4	1
2:H:127:LEU:O	2:H:170:PHE:HA	0.45	2.11	13	2
2:H:62:ILE:HD11	2:H:100:LEU:HD21	0.45	1.88	13	4
2:H:151:ILE:HG21	2:H:171:ILE:HG22	0.45	1.86	19	1
1:R:9:U:H5'	2:H:69:LYS:HG2	0.45	1.87	8	1
2:H:82:TYR:HD1	2:H:82:TYR:N	0.45	2.08	8	1
2:H:175:LYS:HE3	2:H:178:GLU:HB2	0.45	1.88	4	1
2:H:43:VAL:N	2:H:83:GLY:O	0.45	2.49	8	3
2:H:46:LEU:CD2	2:H:110:ILE:HD11	0.45	2.41	8	1
2:H:40:ASN:HD21	2:H:115:ALA:HB3	0.45	1.62	10	1
2:H:109:THR:CG2	2:H:109:THR:O	0.45	2.64	7	1
1:R:1:A:O5'	2:H:166:ARG:HD2	0.45	2.12	8	1
2:H:157:LEU:CD1	2:H:170:PHE:CZ	0.45	2.99	14	1
1:R:7:U:O4	2:H:115:ALA:CB	0.45	2.61	5	1
2:H:87:TYR:HB2	2:H:93:ALA:HB2	0.45	1.87	20	1
2:H:151:ILE:CG2	2:H:171:ILE:CG2	0.45	2.94	19	1
2:H:157:LEU:HD13	2:H:168:VAL:HB	0.45	1.87	7	1
2:H:157:LEU:C	2:H:157:LEU:HD22	0.45	2.32	16	1
2:H:172:ARG:NE	2:H:173:PHE:O	0.45	2.42	14	1
2:H:43:VAL:CG1	2:H:110:ILE:HG22	0.45	2.40	11	2
2:H:175:LYS:HG3	2:H:178:GLU:HB2	0.45	1.89	4	2
2:H:45:TYR:N	2:H:81:GLY:O	0.45	2.49	5	1
1:R:1:A:OP2	2:H:166:ARG:HD3	0.45	2.11	11	1
2:H:97:ILE:HG23	2:H:112:VAL:HB	0.45	1.86	8	1
1:R:3:U:N3	2:H:109:THR:HG22	0.45	2.26	8	1
2:H:157:LEU:H	2:H:157:LEU:HD23	0.45	1.70	13	2
2:H:158:LEU:HB2	2:H:165:SER:HA	0.45	1.87	16	1
1:R:7:U:H4'	2:H:82:TYR:OH	0.45	2.11	18	3
1:R:3:U:C4	2:H:45:TYR:CE2	0.45	3.04	21	2
2:H:102:GLY:N	2:H:111:LYS:HG2	0.45	2.27	14	2
2:H:157:LEU:HD11	2:H:166:ARG:HG2	0.45	1.88	17	1
2:H:89:ASP:CG	2:H:90:PRO:HD2	0.45	2.32	7	5
2:H:127:LEU:CD1	2:H:179:ALA:HB1	0.45	2.40	18	1
2:H:59:PHE:HE2	2:H:100:LEU:HD13	0.45	1.70	1	1
2:H:157:LEU:HD13	2:H:157:LEU:H	0.45	1.72	10	1
2:H:168:VAL:HG12	2:H:169:GLY:N	0.45	2.27	7	5

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
2:H:43:VAL:HA	2:H:112:VAL:HA	0.45	1.89	20	1
2:H:46:LEU:HD23	2:H:110:ILE:HD12	0.45	1.89	20	1
2:H:130:SER:OG	2:H:199:THR:HB	0.45	2.12	11	1
1:R:0:U:O3'	1:R:1:A:H2'	0.45	2.12	8	1
2:H:46:LEU:HD13	2:H:70:LEU:HD11	0.45	1.87	3	1
2:H:129:VAL:HA	2:H:199:THR:O	0.45	2.12	17	1
2:H:154:SER:CB	2:H:171:ILE:HD13	0.45	2.42	4	1
1:R:2:U:O4'	2:H:157:LEU:HG	0.45	2.11	16	1
2:H:181:GLU:OE2	2:H:184:LYS:NZ	0.44	2.44	9	1
2:H:151:ILE:HG12	2:H:171:ILE:CG2	0.44	2.42	7	1
2:H:46:LEU:HD23	2:H:110:ILE:HD11	0.44	1.88	14	1
2:H:127:LEU:HD21	2:H:183:ILE:CD1	0.44	2.34	9	1
2:H:101:ASN:OD1	2:H:111:LYS:NZ	0.44	2.39	6	1
2:H:97:ILE:O	2:H:101:ASN:ND2	0.44	2.49	12	1
2:H:90:PRO:HA	2:H:93:ALA:HB3	0.44	1.88	19	1
1:R:5:A:H4'	1:R:6:U:OP2	0.44	2.12	4	1
2:H:71:VAL:HG21	2:H:82:TYR:HE2	0.44	1.69	17	1
1:R:8:U:O5'	1:R:8:U:H6	0.44	1.96	6	1
2:H:157:LEU:HD12	2:H:166:ARG:CB	0.44	2.42	11	1
1:R:4:U:O2	1:R:4:U:H3'	0.44	2.13	4	1
1:R:2:U:O5'	2:H:157:LEU:HG	0.44	2.12	14	1
2:H:153:THR:OG1	2:H:172:ARG:HB3	0.44	2.12	14	1
2:H:132:LEU:HB3	2:H:136:MET:HG2	0.44	1.89	19	2
2:H:56:LYS:O	2:H:60:GLY:N	0.44	2.47	2	1
1:R:1:A:N1	2:H:204:ASN:CB	0.44	2.79	21	2
2:H:157:LEU:HD12	2:H:170:PHE:CZ	0.44	2.48	14	1
2:H:151:ILE:HD13	2:H:171:ILE:HG23	0.44	1.90	18	3
1:R:2:U:O5'	1:R:2:U:H6	0.44	1.95	18	1
2:H:157:LEU:CD1	2:H:157:LEU:N	0.44	2.81	10	1
2:H:157:LEU:HD12	2:H:166:ARG:HE	0.44	1.73	15	1
2:H:162:THR:OG1	2:H:163:GLY:N	0.44	2.51	8	1
2:H:141:MET:HB3	2:H:171:ILE:HD11	0.44	1.89	18	1
1:R:8:U:O4'	2:H:71:VAL:HG13	0.44	2.12	18	1
1:R:6:U:H5	2:H:152:ILE:HG22	0.44	1.70	14	3
2:H:69:LYS:HB3	2:H:84:PHE:CD2	0.44	2.48	8	2
2:H:175:LYS:HE2	2:H:178:GLU:CD	0.44	2.33	4	1
2:H:103:LEU:O	2:H:110:ILE:N	0.44	2.51	10	2
2:H:79:SER:OG	2:H:80:LEU:N	0.44	2.49	20	1
2:H:97:ILE:HG12	2:H:112:VAL:CG1	0.44	2.43	8	1
2:H:100:LEU:HA	2:H:103:LEU:CD1	0.44	2.43	18	1
2:H:97:ILE:HG23	2:H:101:ASN:HB2	0.44	1.90	7	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
2:H:127:LEU:HD11	2:H:179:ALA:CB	0.43	2.40	18	1
1:R:0:U:HO2'	1:R:1:A:P	0.43	2.37	5	1
1:R:2:U:C1'	2:H:170:PHE:CE2	0.43	3.01	16	2
2:H:151:ILE:HG21	2:H:171:ILE:HG23	0.43	1.89	19	1
2:H:95:LYS:HG3	2:H:96:ALA:N	0.43	2.28	10	1
1:R:2:U:H6	1:R:2:U:O5'	0.43	1.97	6	1
2:H:82:TYR:CD2	2:H:84:PHE:HE1	0.43	2.31	8	1
1:R:6:U:OP2	2:H:45:TYR:CD1	0.43	2.71	8	1
2:H:149:GLY:O	2:H:150:ARG:C	0.43	2.56	20	2
1:R:7:U:C4'	1:R:8:U:OP1	0.43	2.66	19	1
2:H:128:TYR:HE1	2:H:168:VAL:HG21	0.43	1.73	7	1
2:H:68:CYS:HA	2:H:84:PHE:O	0.43	2.12	7	3
1:R:8:U:C1'	1:R:9:U:OP1	0.43	2.66	3	1
1:R:3:U:C4	2:H:45:TYR:CE1	0.43	3.06	13	1
2:H:132:LEU:HB3	2:H:136:MET:CG	0.43	2.44	19	1
2:H:110:ILE:O	2:H:110:ILE:HG23	0.43	2.12	16	1
1:R:3:U:H2'	2:H:45:TYR:CD1	0.43	2.48	16	1
2:H:105:LEU:CD1	2:H:110:ILE:HG13	0.43	2.44	10	1
2:H:47:PRO:HG2	2:H:50:MET:HB2	0.43	1.90	10	1
1:R:4:U:C5	1:R:5:A:N7	0.43	2.87	13	1
2:H:70:LEU:HD23	2:H:70:LEU:C	0.43	2.33	14	2
2:H:45:TYR:CD1	2:H:108:LYS:HG2	0.43	2.49	7	1
2:H:126:ASN:C	2:H:127:LEU:HD23	0.43	2.34	16	1
2:H:128:TYR:O	2:H:200:VAL:HA	0.43	2.13	1	1
2:H:103:LEU:N	2:H:110:ILE:O	0.43	2.49	20	1
2:H:140:GLU:O	2:H:143:GLN:HG3	0.43	2.14	19	3
2:H:180:GLU:HA	2:H:183:ILE:HD12	0.43	1.91	9	1
2:H:142:GLU:O	2:H:146:SER:HB2	0.43	2.13	5	4
2:H:129:VAL:CG1	2:H:200:VAL:HB	0.43	2.42	21	1
2:H:132:LEU:CD1	2:H:169:GLY:HA3	0.43	2.43	8	1
1:R:6:U:N3	2:H:113:SER:HB2	0.43	2.29	3	1
2:H:66:GLU:HB3	2:H:86:ASN:O	0.43	2.14	17	1
1:R:1:A:H4'	2:H:157:LEU:CD2	0.43	2.44	17	6
1:R:8:U:H3'	1:R:9:U:O3'	0.43	2.13	17	1
1:R:9:U:OP2	2:H:71:VAL:HG13	0.43	2.13	10	1
2:H:118:SER:O	2:H:119:SER:CB	0.43	2.66	15	1
1:R:0:U:OP3	1:R:0:U:C6	0.43	2.72	5	1
2:H:47:PRO:HG2	2:H:50:MET:HB3	0.43	1.91	16	3
1:R:1:A:OP1	2:H:166:ARG:HD2	0.43	2.13	5	1
1:R:0:U:H3'	1:R:0:U:O2	0.43	2.13	20	2
2:H:179:ALA:HB3	2:H:202:PHE:CZ	0.42	2.48	8	2

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
2:H:44:ASN:HA	2:H:82:TYR:CB	0.42	2.44	1	1
1:R:1:A:P	1:R:1:A:H3'	0.42	2.54	5	1
1:R:3:U:N3	2:H:45:TYR:CD2	0.42	2.87	21	1
1:R:6:U:C2'	1:R:7:U:O5'	0.42	2.66	11	2
2:H:156:ILE:HA	2:H:168:VAL:O	0.42	2.14	16	1
2:H:128:TYR:O	2:H:201:LYS:N	0.42	2.50	1	1
2:H:126:ASN:HB2	2:H:172:ARG:CZ	0.42	2.44	20	1
2:H:106:GLN:O	2:H:107:THR:CG2	0.42	2.62	2	1
2:H:183:ILE:HG23	2:H:201:LYS:HA	0.42	1.90	16	1
2:H:46:LEU:HD11	2:H:83:GLY:HA3	0.42	1.90	19	1
2:H:137:SER:CB	2:H:140:GLU:CD	0.42	2.88	7	1
2:H:157:LEU:HD11	2:H:170:PHE:CZ	0.42	2.49	7	1
1:R:8:U:C5	2:H:42:ILE:HD12	0.42	2.49	3	2
2:H:166:ARG:N	2:H:166:ARG:HD2	0.42	2.29	13	1
2:H:70:LEU:HD23	2:H:71:VAL:N	0.42	2.29	20	1
1:R:8:U:C5	2:H:84:PHE:CD1	0.42	3.07	2	1
2:H:138:GLN:HB3	2:H:155:ARG:HA	0.42	1.91	19	1
2:H:137:SER:HB3	2:H:140:GLU:CD	0.42	2.35	7	1
1:R:5:A:N3	2:H:80:LEU:CD1	0.42	2.74	7	1
1:R:2:U:O4'	2:H:157:LEU:HB3	0.42	2.13	8	1
1:R:1:A:O5'	2:H:157:LEU:HD11	0.42	2.14	3	1
2:H:71:VAL:CG2	2:H:84:PHE:CE2	0.42	3.02	8	2
2:H:145:PHE:C	2:H:151:ILE:HD11	0.42	2.35	20	1
2:H:138:GLN:HB2	2:H:155:ARG:HA	0.42	1.91	19	1
2:H:71:VAL:HG11	2:H:82:TYR:HE1	0.42	1.74	3	1
2:H:69:LYS:HB3	2:H:84:PHE:HD2	0.42	1.74	3	3
2:H:127:LEU:HD22	2:H:183:ILE:CD1	0.42	2.33	1	1
1:R:8:U:OP1	2:H:71:VAL:CG1	0.42	2.67	15	1
2:H:41:LEU:O	2:H:85:VAL:N	0.42	2.50	8	1
2:H:157:LEU:CD1	2:H:157:LEU:H	0.42	2.28	14	1
2:H:155:ARG:O	2:H:170:PHE:N	0.42	2.46	6	2
2:H:62:ILE:CD1	2:H:100:LEU:HD21	0.42	2.45	5	1
2:H:132:LEU:HD12	2:H:169:GLY:N	0.42	2.29	5	1
2:H:96:ALA:O	2:H:99:THR:HG22	0.42	2.15	20	1
2:H:128:TYR:HA	2:H:170:PHE:HD1	0.42	1.72	21	1
2:H:134:LYS:HD2	2:H:135:THR:N	0.42	2.30	8	1
2:H:46:LEU:O	2:H:108:LYS:NZ	0.42	2.43	16	1
2:H:157:LEU:CD1	2:H:166:ARG:HG3	0.42	2.44	9	2
1:R:3:U:O2'	1:R:4:U:O5'	0.42	2.37	18	1
2:H:158:LEU:HA	2:H:166:ARG:HG3	0.42	1.92	10	1
2:H:71:VAL:HG11	2:H:82:TYR:CZ	0.42	2.49	6	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
2:H:47:PRO:HA	2:H:108:LYS:CE	0.42	2.45	3	1
2:H:132:LEU:HD13	2:H:136:MET:HG2	0.42	1.90	18	1
2:H:84:PHE:CD1	2:H:84:PHE:N	0.42	2.87	21	2
1:R:0:U:H4'	1:R:1:A:OP2	0.42	2.15	13	1
2:H:92:ASP:OD2	2:H:95:LYS:NZ	0.42	2.52	14	1
2:H:43:VAL:O	2:H:83:GLY:N	0.41	2.47	3	1
2:H:101:ASN:C	2:H:111:LYS:HG2	0.41	2.35	18	1
2:H:69:LYS:HB3	2:H:84:PHE:HB2	0.41	1.91	13	2
2:H:139:LYS:NZ	2:H:142:GLU:OE1	0.41	2.51	8	1
1:R:5:A:OP2	2:H:172:ARG:HD2	0.41	2.15	8	1
2:H:127:LEU:HD23	2:H:127:LEU:N	0.41	2.30	16	1
2:H:43:VAL:HG21	2:H:59:PHE:CZ	0.41	2.50	3	1
2:H:44:ASN:HA	2:H:82:TYR:HB3	0.41	1.92	18	2
1:R:3:U:O4	2:H:111:LYS:HE3	0.41	2.15	4	1
2:H:145:PHE:HB3	2:H:171:ILE:HG21	0.41	1.91	16	1
2:H:80:LEU:HD23	2:H:82:TYR:OH	0.41	2.15	11	1
1:R:6:U:O4'	2:H:44:ASN:CB	0.41	2.68	7	1
2:H:130:SER:N	2:H:199:THR:O	0.41	2.48	17	1
1:R:7:U:O2'	1:R:8:U:H5	0.41	1.99	15	1
2:H:176:ARG:HG3	2:H:177:ILE:N	0.41	2.30	5	1
2:H:130:SER:HA	2:H:168:VAL:HG13	0.41	1.92	19	2
2:H:130:SER:CA	2:H:168:VAL:HG13	0.41	2.45	19	1
2:H:129:VAL:N	2:H:169:GLY:O	0.41	2.49	19	1
2:H:136:MET:CG	2:H:156:ILE:CD1	0.41	2.98	8	1
2:H:158:LEU:HD22	2:H:158:LEU:O	0.41	2.15	14	1
1:R:2:U:C6	1:R:2:U:OP2	0.41	2.73	9	1
2:H:157:LEU:O	2:H:166:ARG:HB2	0.41	2.15	10	2
1:R:6:U:O2	2:H:45:TYR:CE2	0.41	2.74	5	1
1:R:2:U:C4'	2:H:157:LEU:HD13	0.41	2.45	12	1
2:H:157:LEU:HD12	2:H:157:LEU:N	0.41	2.29	7	1
1:R:3:U:O4	2:H:111:LYS:HD2	0.41	2.15	8	1
1:R:5:A:C6	2:H:79:SER:O	0.41	2.74	16	1
2:H:105:LEU:HD11	2:H:110:ILE:HB	0.41	1.93	14	1
2:H:104:LYS:HG2	2:H:104:LYS:O	0.41	2.16	18	1
2:H:42:ILE:N	2:H:113:SER:O	0.41	2.52	6	1
2:H:105:LEU:HG	2:H:110:ILE:HD11	0.41	1.93	13	1
2:H:43:VAL:HG22	2:H:112:VAL:CG2	0.41	2.40	13	1
1:R:3:U:H3	2:H:109:THR:HG22	0.41	1.76	8	1
2:H:41:LEU:HD12	2:H:114:TYR:HA	0.41	1.93	3	1
2:H:42:ILE:HG22	2:H:115:ALA:HB2	0.41	1.92	1	1
1:R:2:U:C6	1:R:2:U:O5'	0.41	2.74	6	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
2:H:159:ASP:HB3	2:H:164:VAL:N	0.41	2.31	12	2
1:R:3:U:OP1	2:H:155:ARG:HD3	0.41	2.15	21	1
2:H:142:GLU:O	2:H:151:ILE:HD12	0.41	2.15	11	1
2:H:83:GLY:C	2:H:84:PHE:CD1	0.41	2.93	8	1
2:H:42:ILE:HD12	2:H:84:PHE:CE2	0.41	2.50	16	1
2:H:95:LYS:O	2:H:95:LYS:HE3	0.41	2.15	9	1
2:H:93:ALA:O	2:H:97:ILE:HG12	0.41	2.16	19	1
1:R:1:A:C4	2:H:128:TYR:CZ	0.41	3.08	7	1
1:R:2:U:O4'	2:H:170:PHE:CE2	0.41	2.73	16	1
1:R:6:U:O2	2:H:42:ILE:HD13	0.41	2.16	14	1
1:R:3:U:O2	2:H:109:THR:O	0.41	2.38	5	2
2:H:51:THR:HG22	2:H:54:GLU:OE1	0.41	2.16	5	1
2:H:70:LEU:HG	2:H:82:TYR:O	0.41	2.15	20	1
1:R:6:U:H5''	2:H:45:TYR:CE2	0.41	2.51	21	1
2:H:71:VAL:HG11	2:H:82:TYR:CE1	0.41	2.51	19	1
2:H:127:LEU:HB2	2:H:171:ILE:O	0.41	2.16	14	1
1:R:6:U:H5	2:H:153:THR:HG23	0.41	1.75	14	1
2:H:138:GLN:OE1	2:H:155:ARG:NH2	0.41	2.51	4	2
1:R:3:U:O2	2:H:45:TYR:CD2	0.41	2.74	7	1
2:H:129:VAL:HA	2:H:200:VAL:HA	0.41	1.92	4	1
2:H:176:ARG:HG2	2:H:202:PHE:CE1	0.40	2.51	17	1
1:R:7:U:C2	2:H:115:ALA:HB1	0.40	2.51	15	1
2:H:149:GLY:HA3	2:H:173:PHE:CE2	0.40	2.51	5	1
2:H:100:LEU:O	2:H:111:LYS:HA	0.40	2.16	11	1
2:H:141:MET:SD	2:H:171:ILE:HD11	0.40	2.56	8	1
1:R:9:U:OP1	2:H:71:VAL:HG21	0.40	2.16	8	1
2:H:102:GLY:HA2	2:H:111:LYS:HE2	0.40	1.93	14	1
2:H:46:LEU:HD12	2:H:83:GLY:N	0.40	2.31	17	1
2:H:101:ASN:OD1	2:H:111:LYS:HE2	0.40	2.15	10	1
2:H:118:SER:O	2:H:119:SER:HB3	0.40	2.16	15	1
2:H:58:LEU:HD13	2:H:58:LEU:C	0.40	2.37	12	1
1:R:1:A:H5'	2:H:168:VAL:CG2	0.40	2.47	7	1
2:H:41:LEU:HD22	2:H:41:LEU:N	0.40	2.30	8	1
2:H:66:GLU:O	2:H:67:SER:HB2	0.40	2.17	3	2
1:R:1:A:N1	2:H:128:TYR:CD2	0.40	2.89	12	1
2:H:165:SER:O	2:H:166:ARG:NE	0.40	2.38	11	1
2:H:107:THR:O	2:H:108:LYS:HG3	0.40	2.16	16	1
1:R:6:U:C2	2:H:44:ASN:OD1	0.40	2.75	14	1
2:H:82:TYR:CE2	2:H:84:PHE:CZ	0.40	3.09	14	1
2:H:104:LYS:O	2:H:105:LEU:HG	0.40	2.17	17	1
2:H:125:ALA:HB3	2:H:173:PHE:C	0.40	2.37	6	1

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Atom-1	Atom-2	Clash(Å)	Distance(Å)	Models	
				Worst	Total
2:H:157:LEU:O	2:H:157:LEU:CG	0.40	2.69	6	1
2:H:139:LYS:NZ	2:H:140:GLU:OE2	0.40	2.45	5	1
2:H:45:TYR:CB	2:H:109:THR:O	0.40	2.69	19	1
1:R:5:A:C4	2:H:80:LEU:HA	0.40	2.51	16	1
2:H:179:ALA:HB3	2:H:202:PHE:HZ	0.40	1.77	18	1
2:H:187:ASN:OD1	2:H:201:LYS:NZ	0.40	2.52	5	1
1:R:6:U:O2'	1:R:7:U:OP1	0.40	2.40	12	1
2:H:41:LEU:CD1	2:H:114:TYR:HA	0.40	2.47	19	1
1:R:6:U:H4'	2:H:82:TYR:CE1	0.40	2.51	11	1
1:R:8:U:C2	2:H:84:PHE:CD2	0.40	3.09	8	1

## 6.3 Torsion angles [i](#)

### 6.3.1 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 PDB entries followed by that with respect to all NMR entries. 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	
2	H	147/174 (84%)	119±3 (81±2%)	23±3 (16±2%)	5±2 (4±1%)	7	37
All	All	3087/3654 (84%)	2493 (81%)	485 (16%)	109 (4%)	7	37

All 28 unique Ramachandran outliers are listed below. They are sorted by the frequency of occurrence in the ensemble.

Mol	Chain	Res	Type	Models (Total)
2	H	102	GLY	16
2	H	198	ILE	11
2	H	150	ARG	10
2	H	161	ALA	9
2	H	81	GLY	9
2	H	47	PRO	7
2	H	149	GLY	7
2	H	79	SER	6
2	H	99	THR	4
2	H	160	GLN	3
2	H	119	SER	3
2	H	187	ASN	3

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Mol	Chain	Res	Type	Models (Total)
2	H	117	PRO	2
2	H	110	ILE	2
2	H	118	SER	2
2	H	124	ASP	2
2	H	38	LYS	2
2	H	204	ASN	1
2	H	107	THR	1
2	H	48	GLN	1
2	H	49	ASN	1
2	H	90	PRO	1
2	H	65	ILE	1
2	H	155	ARG	1
2	H	203	ALA	1
2	H	39	THR	1
2	H	101	ASN	1
2	H	106	GLN	1

### 6.3.2 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 PDB entries followed by that with respect to all NMR entries. 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	
2	H	127/149 (85%)	102±4 (80±3%)	25±4 (20±3%)	4	35
All	All	2667/3129 (85%)	2134 (80%)	533 (20%)	4	35

All 70 unique residues with a non-rotameric sidechain are listed below. They are sorted by the frequency of occurrence in the ensemble.

Mol	Chain	Res	Type	Models (Total)
2	H	95	LYS	20
2	H	143	GLN	19
2	H	100	LEU	17
2	H	82	TYR	16
2	H	116	ARG	14
2	H	155	ARG	14
2	H	158	LEU	13
2	H	166	ARG	13
2	H	38	LYS	13

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Mol	Chain	Res	Type	Models (Total)
2	H	111	LYS	12
2	H	184	LYS	12
2	H	64	ASP	12
2	H	134	LYS	11
2	H	165	SER	11
2	H	201	LYS	11
2	H	150	ARG	11
2	H	44	ASN	11
2	H	61	SER	10
2	H	94	ASP	10
2	H	137	SER	10
2	H	157	LEU	10
2	H	66	GLU	10
2	H	108	LYS	10
2	H	140	GLU	9
2	H	176	ARG	9
2	H	104	LYS	9
2	H	175	LYS	9
2	H	160	GLN	9
2	H	126	ASN	8
2	H	142	GLU	8
2	H	53	ASP	8
2	H	139	LYS	8
2	H	98	ASN	8
2	H	138	GLN	7
2	H	178	GLU	7
2	H	99	THR	7
2	H	89	ASP	7
2	H	69	LYS	7
2	H	88	SER	7
2	H	48	GLN	6
2	H	187	ASN	6
2	H	52	GLN	6
2	H	180	GLU	6
2	H	118	SER	6
2	H	172	ARG	6
2	H	136	MET	5
2	H	181	GLU	5
2	H	106	GLN	5
2	H	39	THR	5
2	H	86	ASN	5
2	H	79	SER	5

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Mol	Chain	Res	Type	Models (Total)
2	H	124	ASP	5
2	H	56	LYS	4
2	H	58	LEU	4
2	H	141	MET	4
2	H	54	GLU	4
2	H	91	ASN	4
2	H	57	SER	3
2	H	67	SER	3
2	H	146	SER	3
2	H	110	ILE	3
2	H	204	ASN	2
2	H	119	SER	2
2	H	92	ASP	2
2	H	40	ASN	2
2	H	113	SER	1
2	H	80	LEU	1
2	H	154	SER	1
2	H	50	MET	1
2	H	101	ASN	1

### 6.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers	Suiteness
1	R	9/10 (90%)	8±0 (94±6%)	0±0 (0±0%)	0.03±0.03
All	All	189/210 (90%)	178 (94%)	0 (0%)	0.03

The overall RNA backbone suiteness is 0.03.

All unique RNA backbone outliers are listed below:

Mol	Chain	Res	Type	Models (Total)
1	R	6	U	21
1	R	8	U	21
1	R	9	U	21
1	R	4	U	21
1	R	2	U	20
1	R	5	A	20
1	R	1	A	20
1	R	3	U	19
1	R	7	U	15

There are no RNA pucker outliers to report.

## 6.4 Non-standard residues in protein, DNA, RNA chains [i](#)

There are no non-standard protein/DNA/RNA residues in this entry.

## 6.5 Carbohydrates [i](#)

There are no carbohydrates in this entry.

## 6.6 Ligand geometry [i](#)

There are no ligands in this entry.

## 6.7 Other polymers [i](#)

There are no such molecules in this entry.

## 6.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

## 7 Chemical shift validation

No chemical shift data were provided