Full wwPDB EM Validation Report (i)

Nov 19, 2022 – 08:36 pm GMT

PDB ID	:	5JPQ
EMDB ID	:	EMD-8143
Title	:	Cryo-EM structure of the 90S pre-ribosome
Authors	:	Turk, M.; Cheng, J.; Berninghausen, O.; Kornprobst, M.; Flemming, D.; Kos-Braun, I.C.; Kos, M.; Thoms, M.; Hurt, E.; Beckmann, R.
Deposited on	:	2016-05-04
Resolution	:	7.30 Å(reported)

This is a Full wwPDB EM Validation Report for a publicly released PDB entry.

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/EMValidationReportHelp
with specific help available everywhere you see the (i) symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

The following versions of software and data (see references (i)) were used in the production of this report:

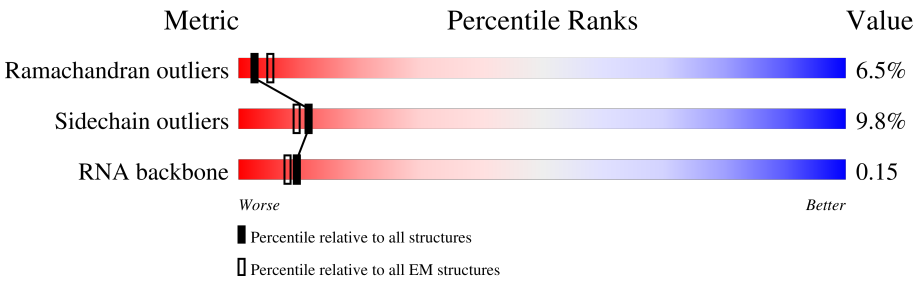
EMDB validation analysis	:	0.0.1.dev43
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.9
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.31.2

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
ELECTRON MICROSCOPY

The reported resolution of this entry is 7.30 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)	EM structures (#Entries)
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826
RNA backbone	4643	859

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion < 40%). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	1290	8% 23% 77%
1	B	1290	9% 23% 77%
1	C	1290	11% 23% 77%
1	D	1290	9% 23% 77%
1	E	1290	9% 23% 77%
1	F	1290	22% 23% 77%
1	J	1290	13% 23% 77%
1	K	1290	10% 23% 77%

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Mol	Chain	Length	Quality of chain
1	L	1290	9% 23% 77%
1	N	1290	18% 23% 77%
1	P	1290	11% 23% 77%
1	l	1290	9% 23% 77%
1	n	1290	13% 23% 77%
2	G	1802	14% 15% 84%
3	H	920	19% 34% 63%
4	I	939	21% 68% 32%
5	M	870	12% 36% 64%
5	O	870	32% 36% 64%
5	m	870	16% 36% 64%
6	Q	456	32% 82% 18%
7	R	560	15% 59% 41%
8	S	412	42% 88% 11%
8	T	412	49% 89% 11%
9	U	130	62% 92% 6%
9	V	130	61% 92% 6%
10	W	232	59% 96%
10	X	232	53% 96%
11	Y	573	30% 64% 36%
12	Z	367	38% 97%
13	a	1183	5% 95%
14	b	183	45% 76% 7% 16%
15	c	297	33% 56% 6% 35%
16	d	184	35% 52% 15% 33%

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Mol	Chain	Length	Quality of chain
17	e	252	43% 84% 16%
17	f	252	42% 86% 13%
18	g	322	36% 54% 46%
18	h	322	37% 54% 46%
19	i	1073	36% 57% 39%
19	j	1073	41% 58% 37%
20	k	391	21% 42% 53%
21	o	265	52% 66% 14% 19%
22	p	259	56% 81% 18%
23	q	225	50% 46% 28% 25%
24	r	293	38% 72% 7% 20%
25	s	197	60% 82% 11% 6%
26	t	208	45% 84% 15%
27	u	197	29% 51% 27% 20%
28	v	151	62% 56% 19% 23%
29	w	137	65% 66% 26% 7%
30	x	143	71% 63% 29% 6%
31	y	157	57% 83% 15%
32	z	130	68% 67% 28%
33	0	149	65% 87% 11%
34	1	67	40% 45% 25% 30%
35	2	1800	9% 16% 26% 53%
36	3	274	15% 26% 23% 11% 40%

2 Entry composition (i)

There are 36 unique types of molecules in this entry. The entry contains 95839 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, 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 WD40 domain proteins.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
1	A	300	1500	900	300	300	0	0
1	B	300	1500	900	300	300	0	0
1	C	300	1500	900	300	300	0	0
1	D	300	1500	900	300	300	0	0
1	E	300	1500	900	300	300	0	0
1	F	300	1500	900	300	300	0	0
1	J	300	1500	900	300	300	0	0
1	K	300	1500	900	300	300	0	0
1	L	300	1500	900	300	300	0	0
1	N	300	1500	900	300	300	0	0
1	P	300	1500	900	300	300	0	0
1	l	300	1500	900	300	300	0	0
1	n	300	1500	900	300	300	0	0

- Molecule 2 is a protein called UTP10.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
2	G	283	1402	836	283	283	0	0

- Molecule 3 is a protein called UTP-A oligomerization domain.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
3	H	343	1715	1029	343	343	0	0

- Molecule 4 is a protein called U3 small nucleolar RNA-associated protein 21.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
4	I	634	3124	1856	634	634	0	0

- Molecule 5 is a protein called WD40 domain proteins.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
5	M	309	1545	927	309	309	0	0
5	O	309	1545	927	309	309	0	0
5	m	309	1545	927	309	309	0	0

- Molecule 6 is a protein called UTP6.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
6	Q	375	1875	1125	375	375	0	0

- Molecule 7 is a protein called UTP-B oligomerisation domain.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
7	R	332	1660	996	332	332	0	0

- Molecule 8 is a protein called Pre mRNA splicing protein.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
8	S	367	1815	1081	367	367	0	0
8	T	367	1815	1081	367	367	0	0

- Molecule 9 is a protein called Snu13.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
9	U	122	603	359	122	122	0	0
9	V	122	603	359	122	122	0	0

- Molecule 10 is a protein called Nop1.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
10	W	227	1124	670	227	227	0	0
10	X	227	1124	670	227	227	0	0

- Molecule 11 is a protein called rrp9.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
11	Y	365	1799	1069	365	365	0	0

- Molecule 12 is a protein called Rcl1.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
12	Z	355	1742	1032	355	355	0	0

- Molecule 13 is a protein called Bms1.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
13	a	54	267	160	54	53	0	0

- Molecule 14 is a protein called Imp3.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
14	b	153	760	454	153	153	0	0

- Molecule 15 is a protein called Putative U3 small nucleolar ribonucleoprotein.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
15	c	192	951	567	192	192	0	0

- Molecule 16 is a protein called Utp24.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
16	d	124	616	368	124	124	0	0

- Molecule 17 is a protein called Emg1.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
17	e	211	1047	625	211	211	0	0
17	f	218	1081	645	218	218	0	0

- Molecule 18 is a protein called KRR1 small subunit processome component.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
18	g	174	861	513	174	174	0	0
18	h	174	861	513	174	174	0	0

- Molecule 19 is a protein called Kre33.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
19	i	659	3254	1936	659	659	0	0
19	j	677	3342	1988	677	677	0	0

- Molecule 20 is a protein called Utp30.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
20	k	182	905	541	182	182	0	0

- Molecule 21 is a protein called eS1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
21	o	215	1724	1090	314	316	4	0	0

- Molecule 22 is a protein called eS4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
22	p	259	2079	1322	383	370	4	0	0

- Molecule 23 is a protein called uS7.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
23	q	169	836	498	169	169	0	0

- Molecule 24 is a protein called eS6.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
24	r	235	1868	1184	347	326	11	0	0

- Molecule 25 is a protein called eS7.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
25	s	186	1539	989	271	278	1	0	0

- Molecule 26 is a protein called eS8.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
26	t	207	1693	1057	336	296	4	0	0

- Molecule 27 is a protein called uS4.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
27	u	157	777	463	157	157	0	0

- Molecule 28 is a protein called uS15.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
28	v	117	580	346	117	117	0	0

- Molecule 29 is a protein called uS11.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
29	w	128	627	371	128	128	0	0

- Molecule 30 is a protein called uS9.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
30	x	134	658	390	134	134	0	0

- Molecule 31 is a protein called uS17.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
31	y	157	1275	818	235	217	5	0	0

- Molecule 32 is a protein called uS8.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
32	z	127	622	368	127	127	0	0

- Molecule 33 is a protein called eS24.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
33	0	148	1197	763	221	213	0	0

- Molecule 34 is a protein called eS28.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
34	1	47	230	136	47	47	0	0

- Molecule 35 is a RNA chain called 18S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
35	2	852	18149	8120	3229	5948	852	0	0

- Molecule 36 is a RNA chain called U3 RNA.

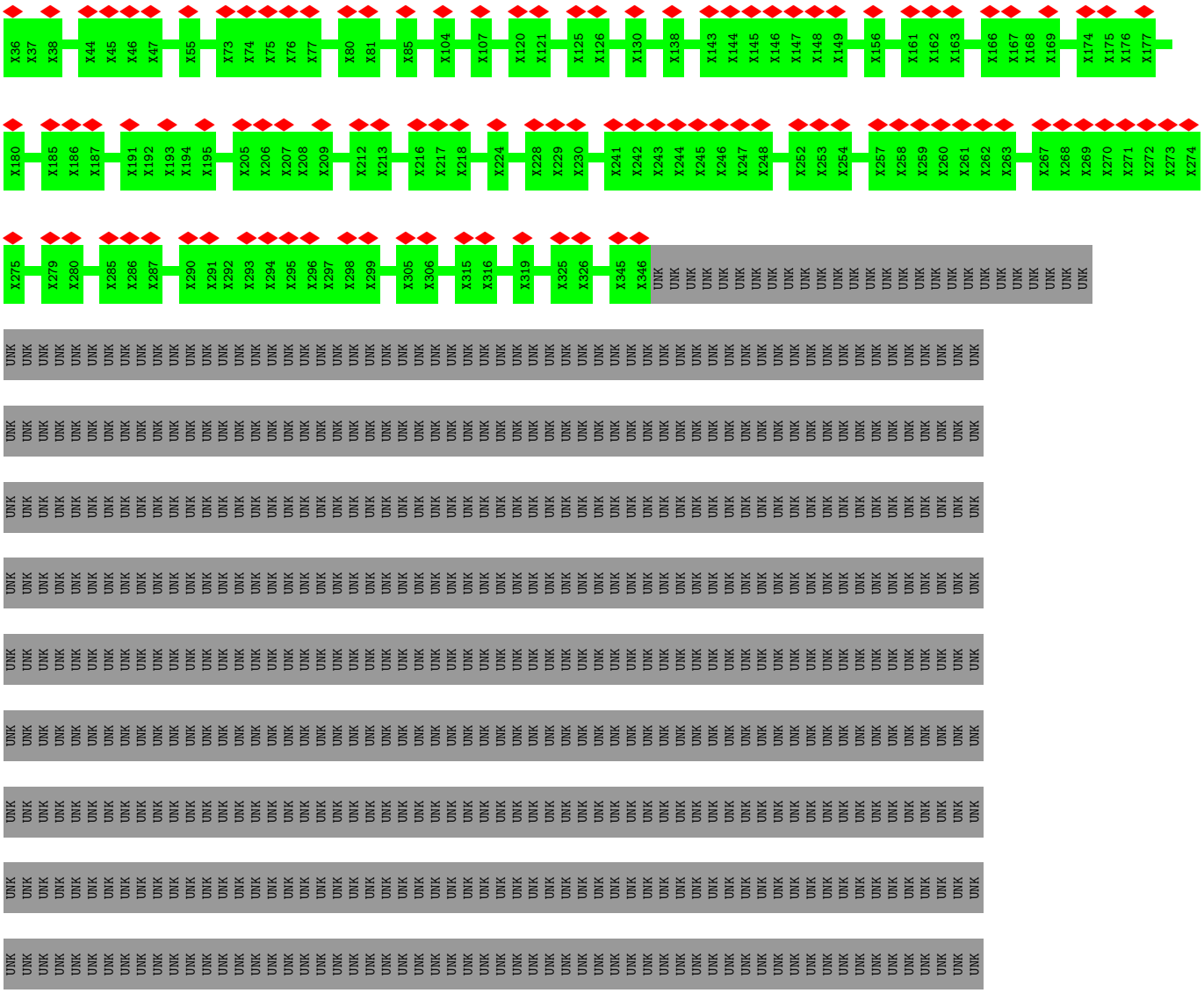
Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
36	3	164	3504	1560	626	1154	164	0	0

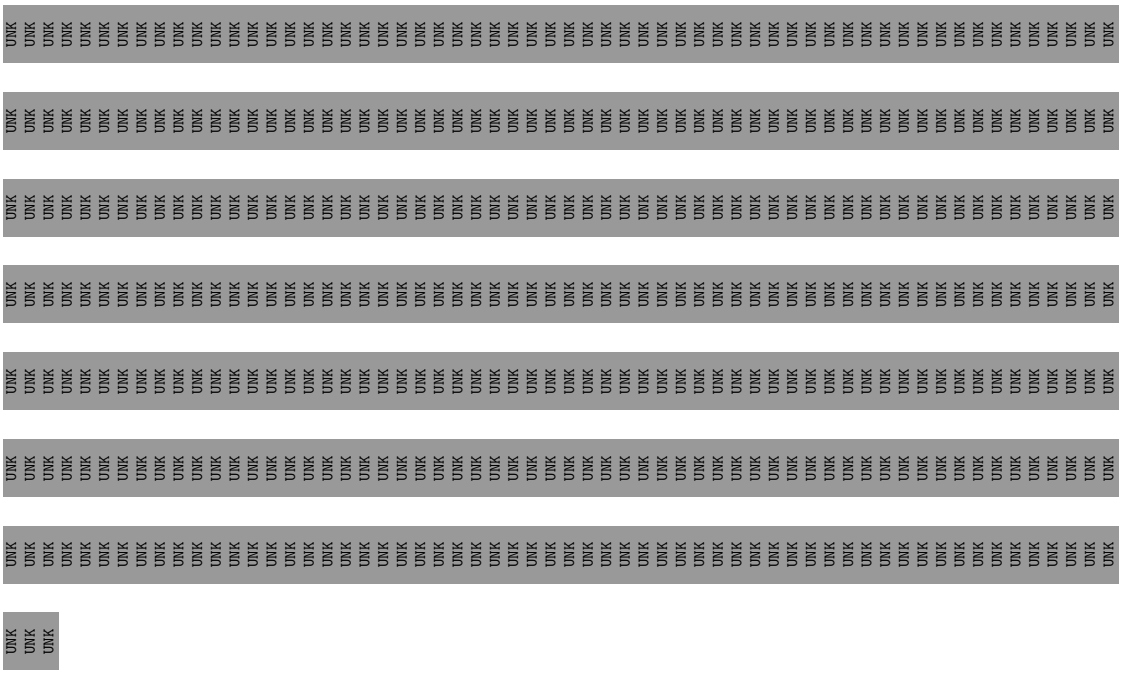
3 Residue-property plots (i)

These plots are drawn for all protein, RNA, DNA and oligosaccharide 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 atom inclusion in map 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 diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). 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: WD40 domain proteins

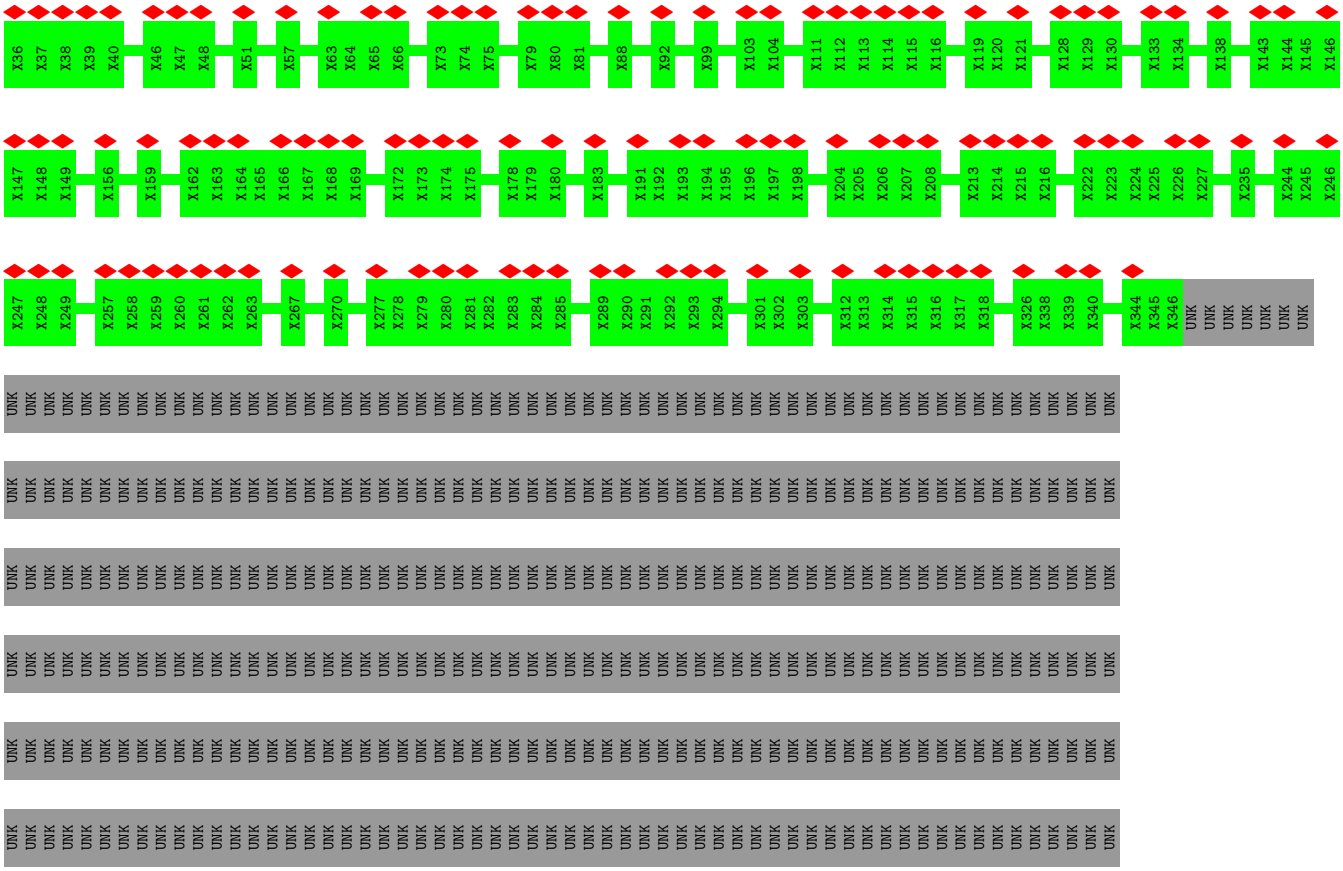
Chain A: 8% 23% 77%

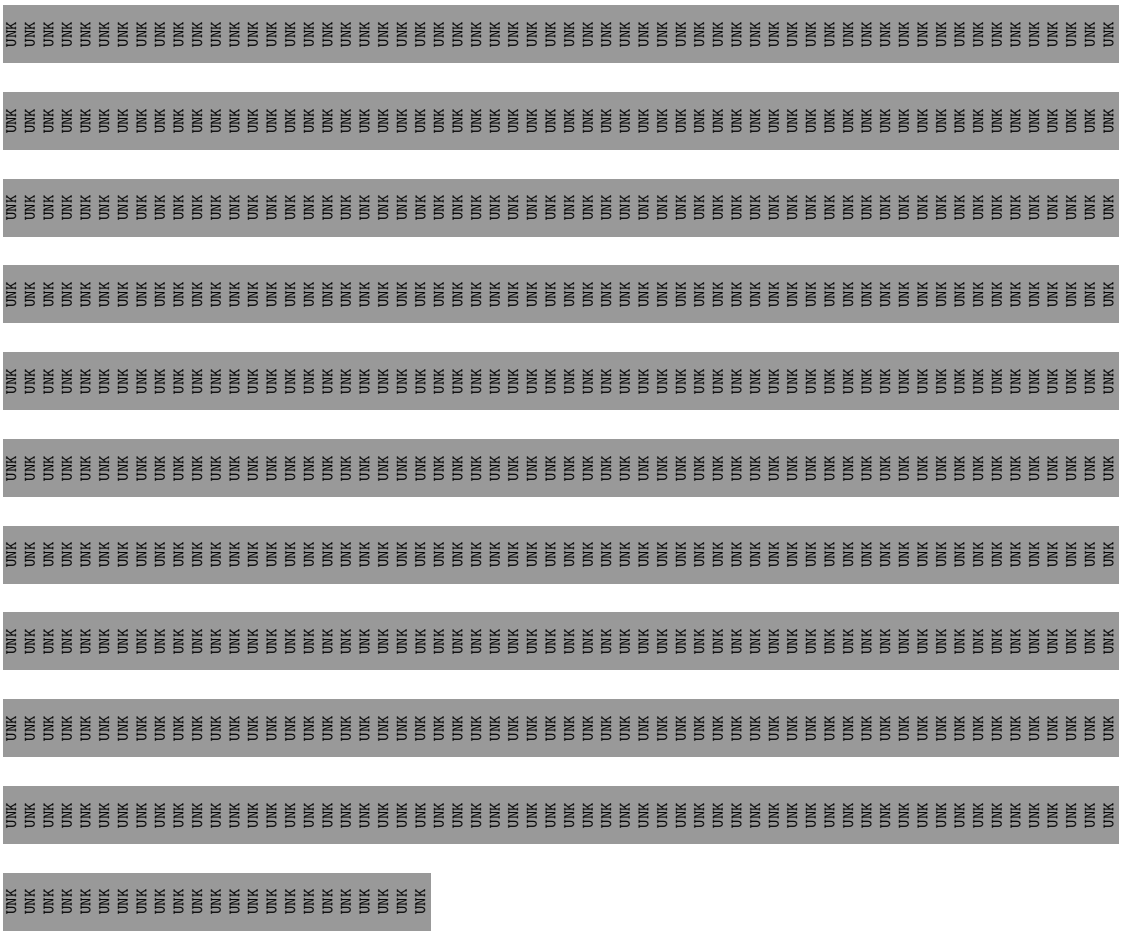




• Molecule 1: WD40 domain proteins

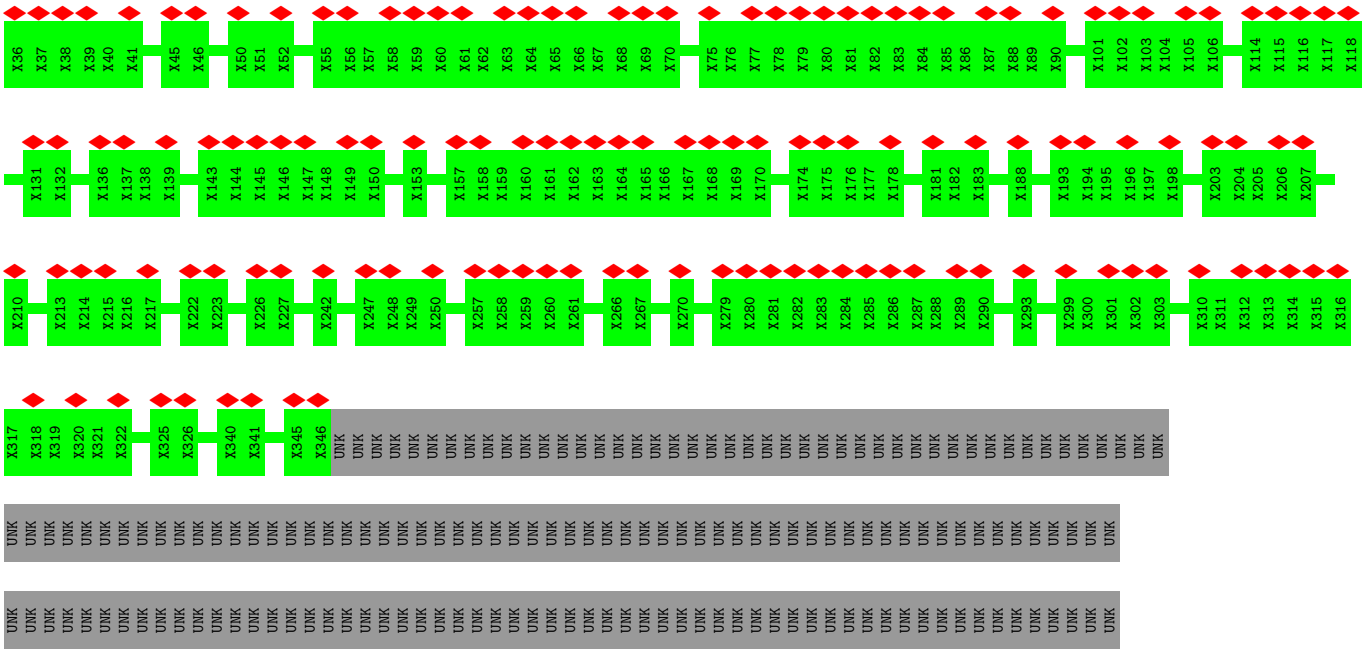
Chain B:

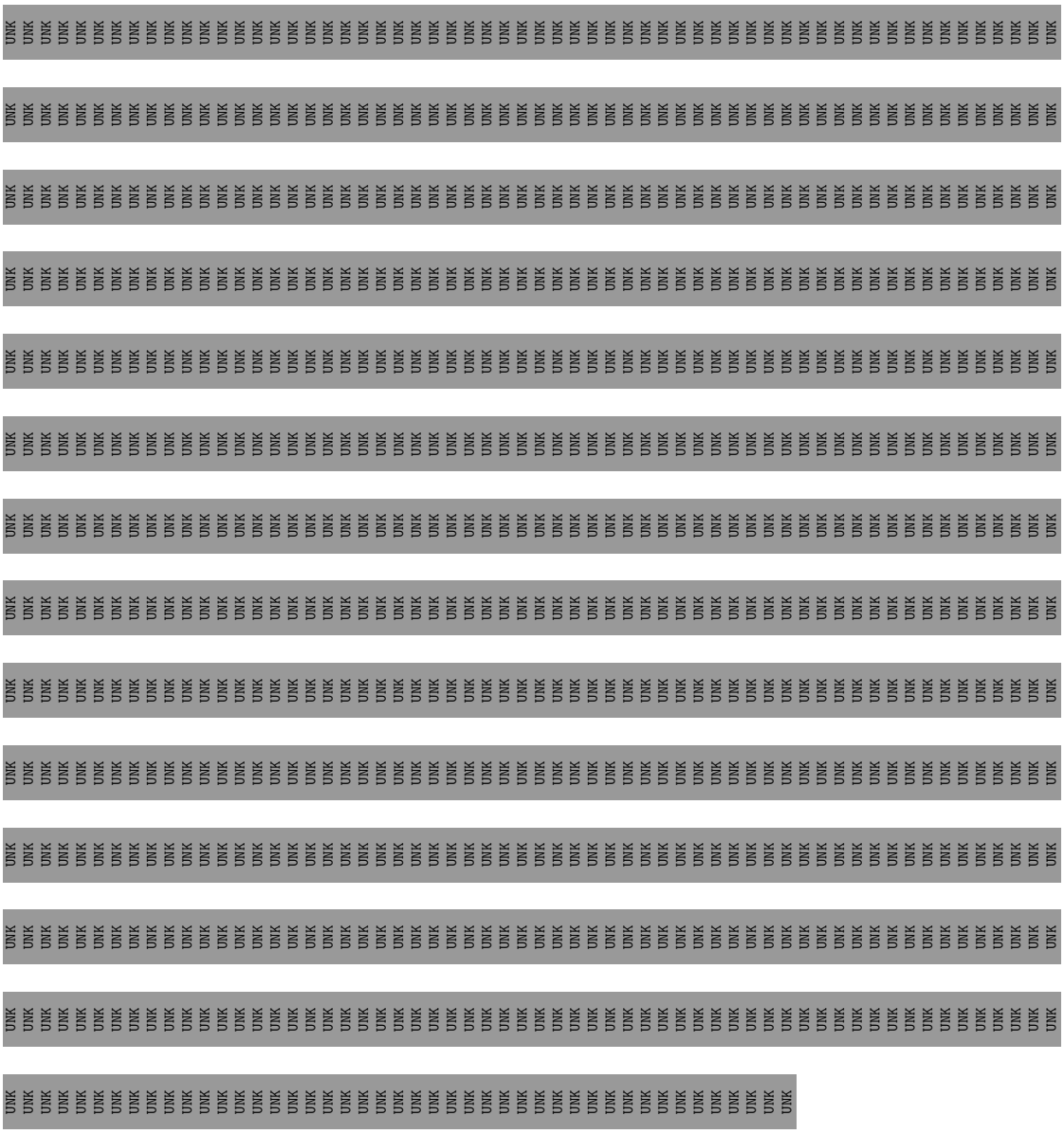




• Molecule 1: WD40 domain proteins

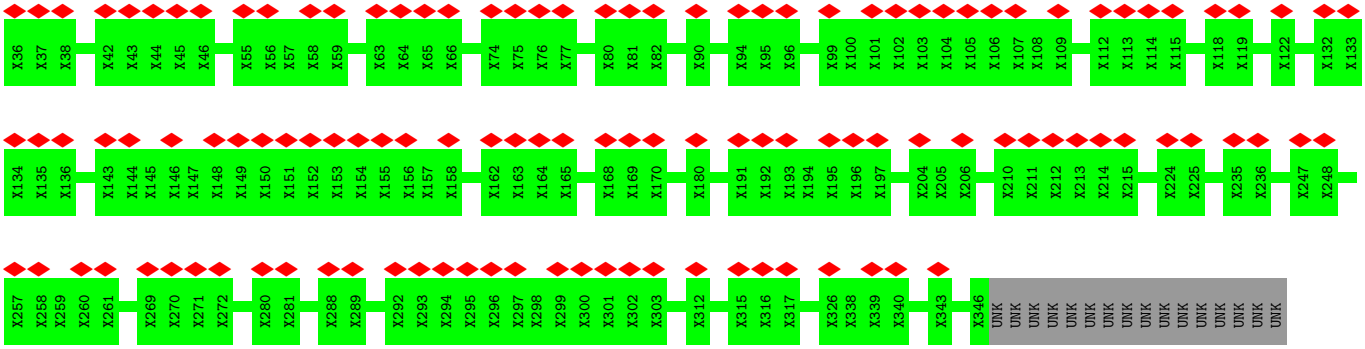
Chain C:

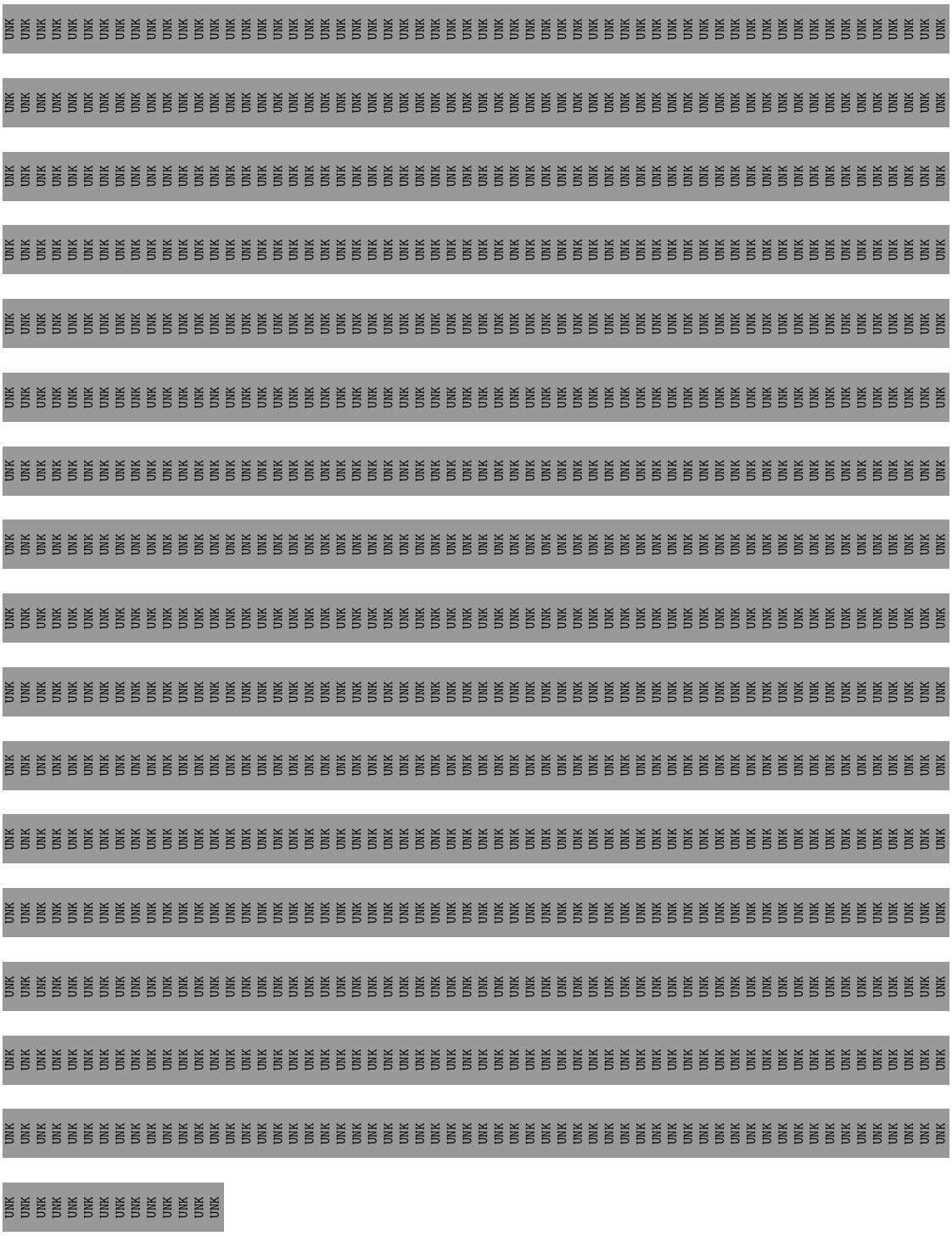




- Molecule 1: WD40 domain proteins

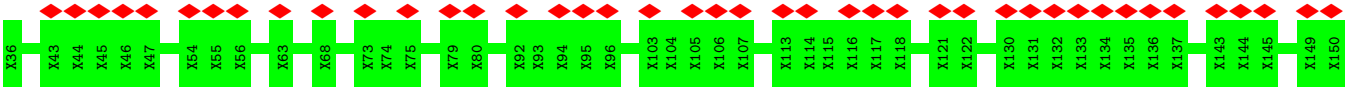
Chain D:

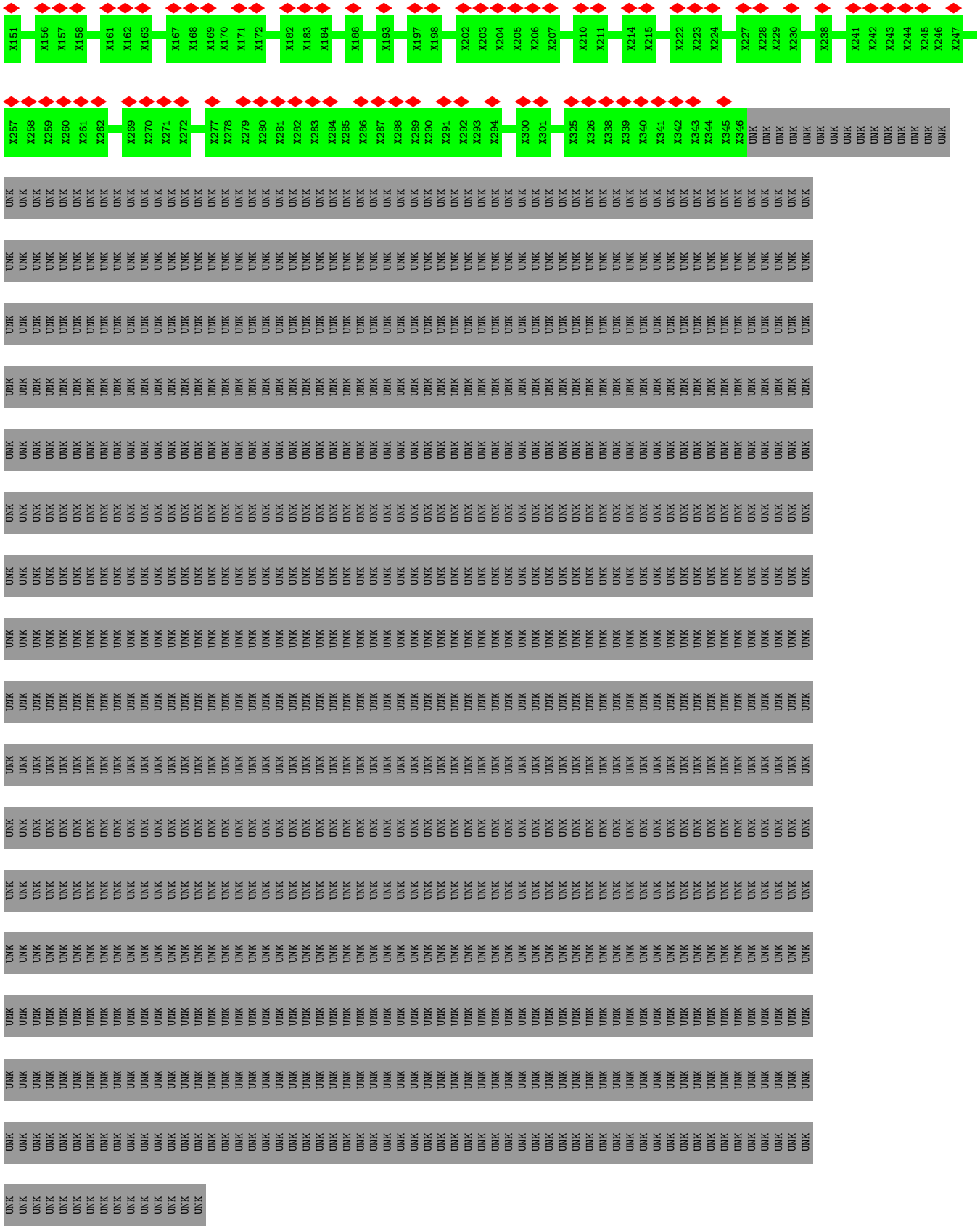




- Molecule 1: WD40 domain proteins

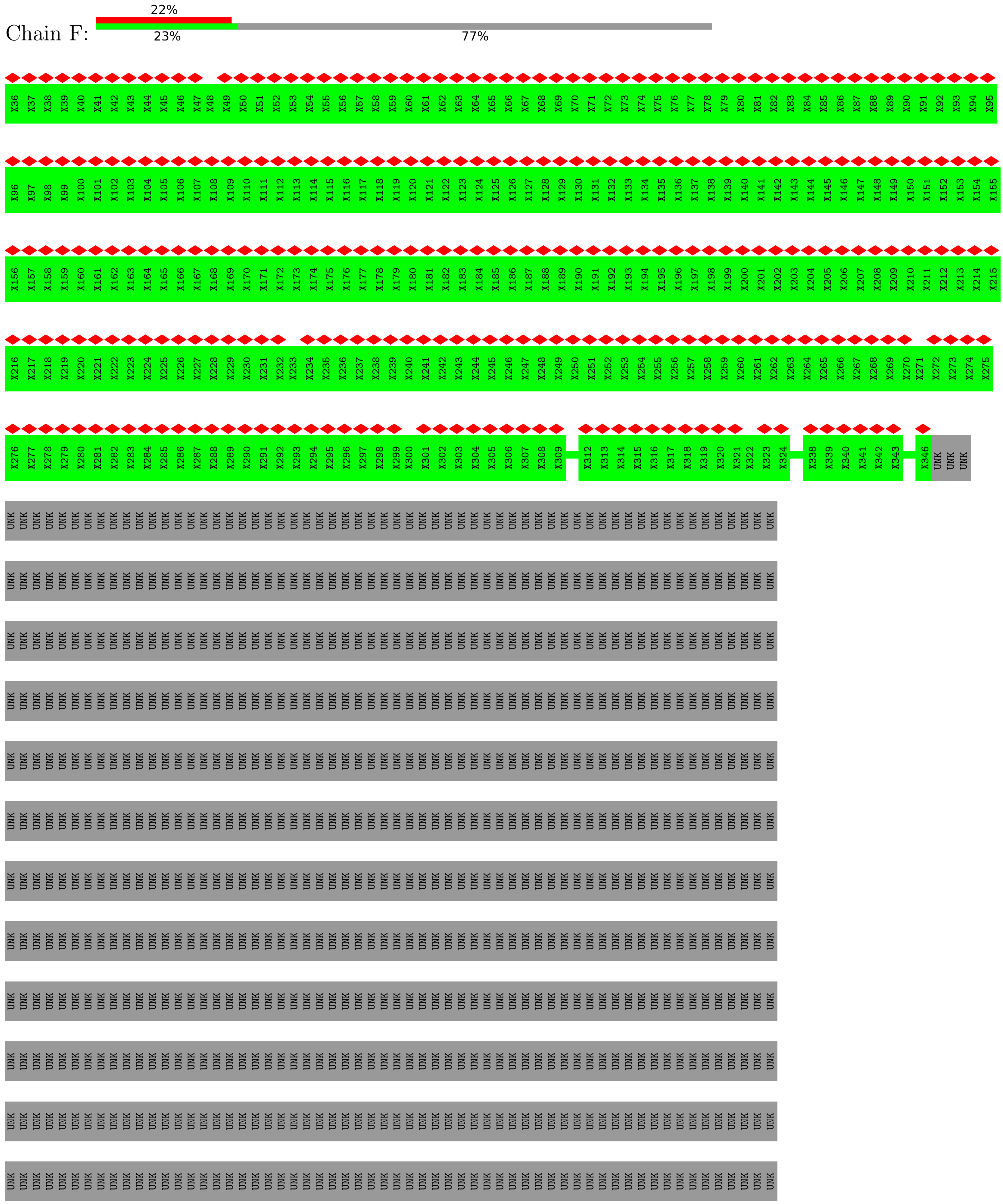
Chain E:





- Molecule 1: WD40 domain proteins

Chain F: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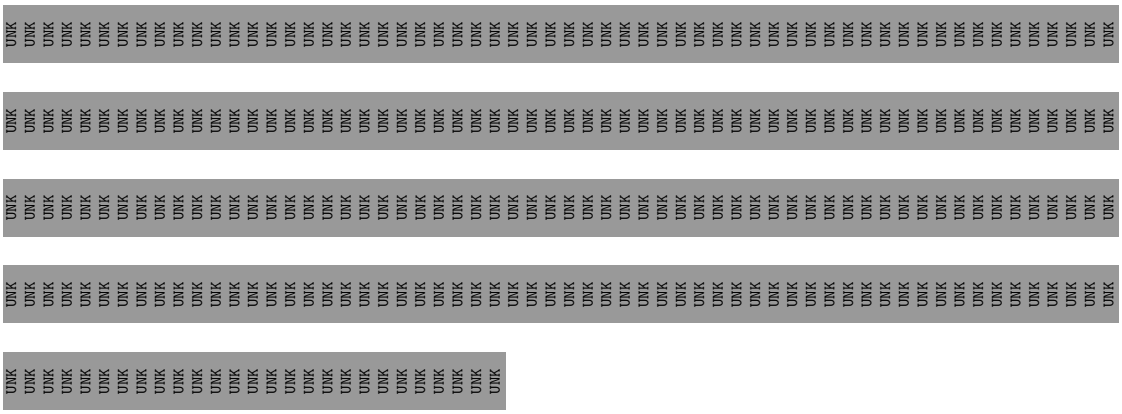
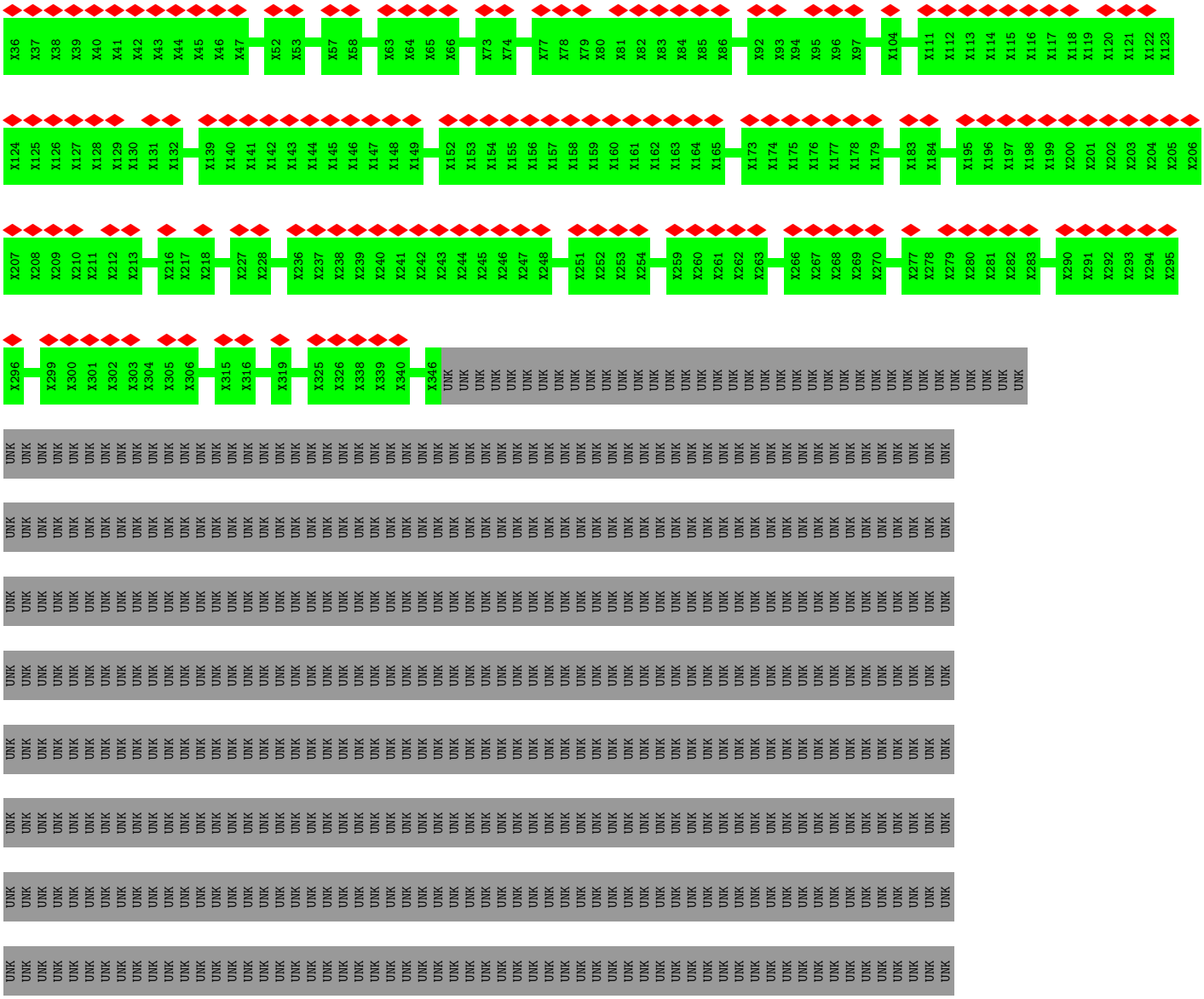
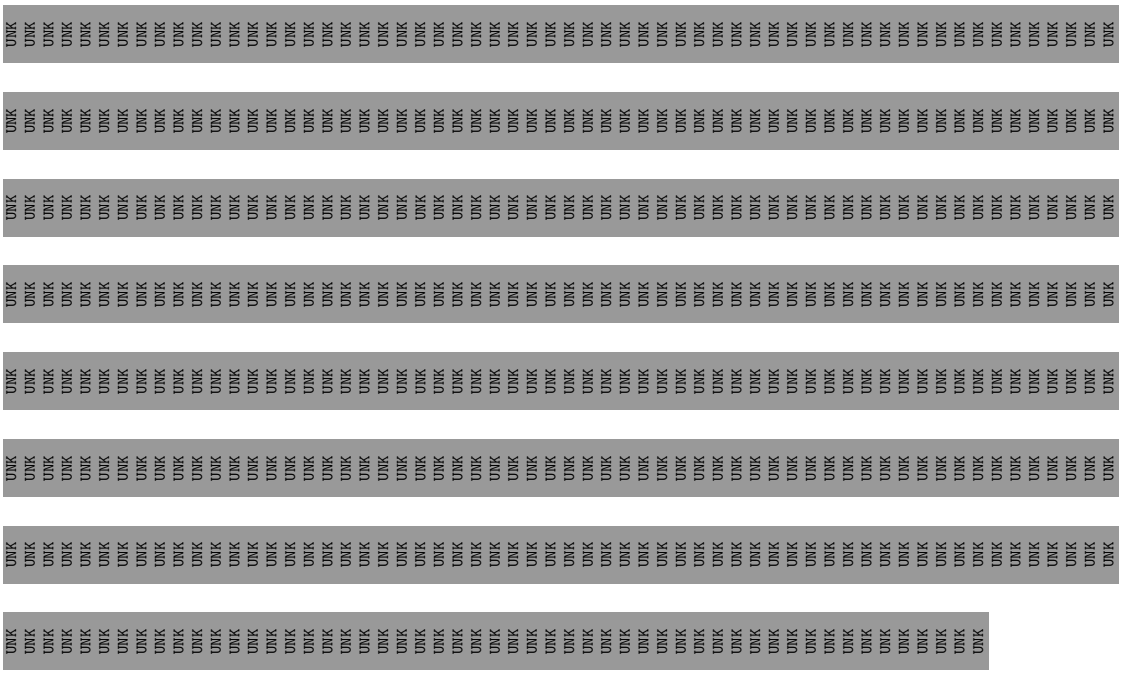


• Molecule 1: WD40 domain proteins

Chain J:





• Molecule 1: WD40 domain proteins

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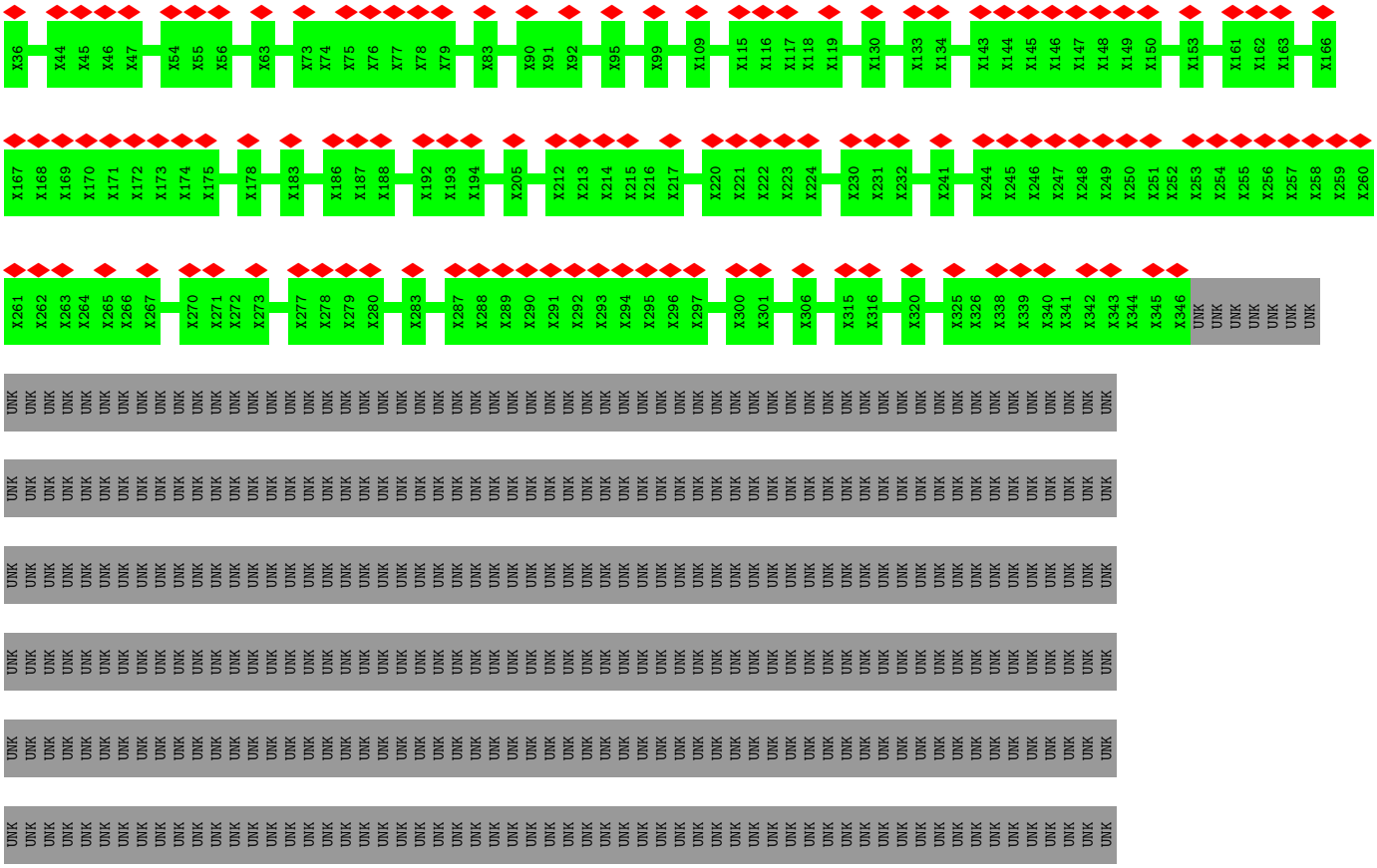

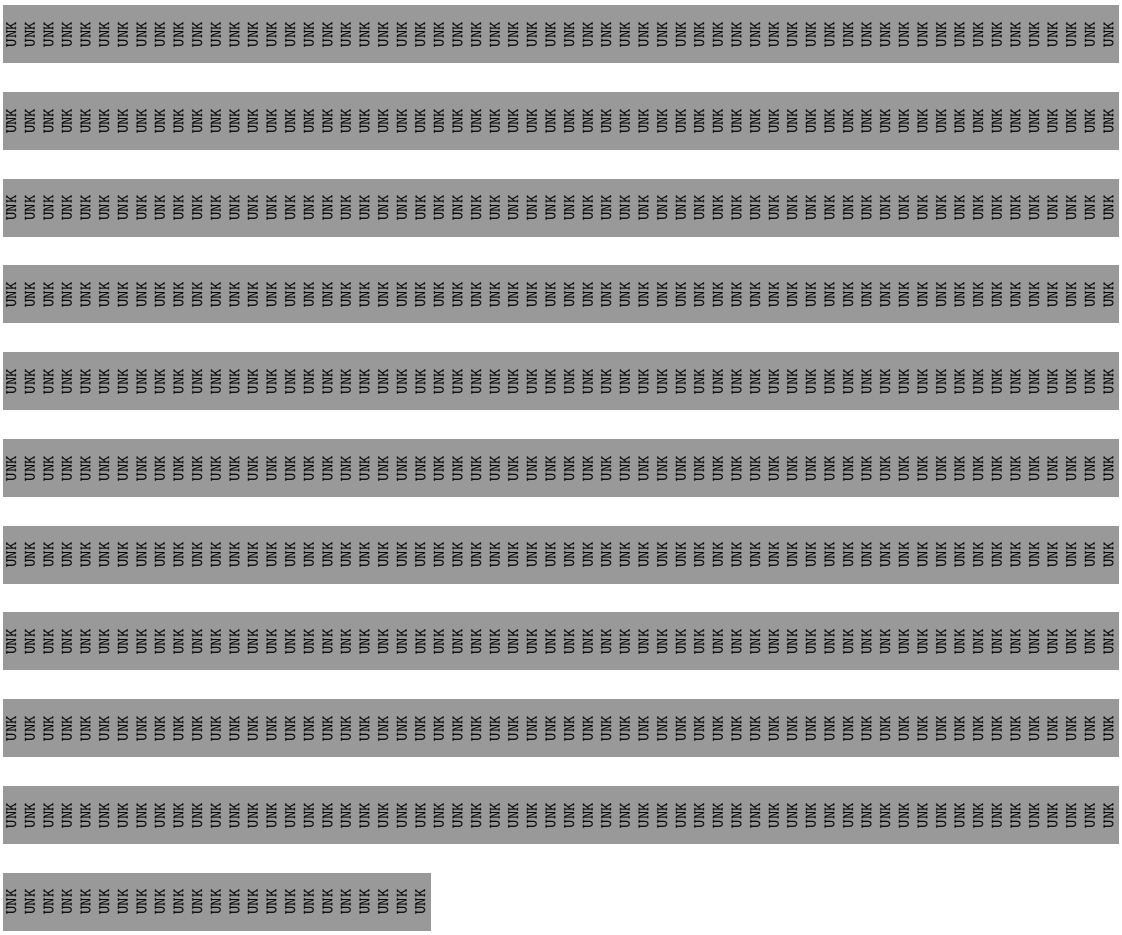

• Molecule 1: WD40 domain proteins

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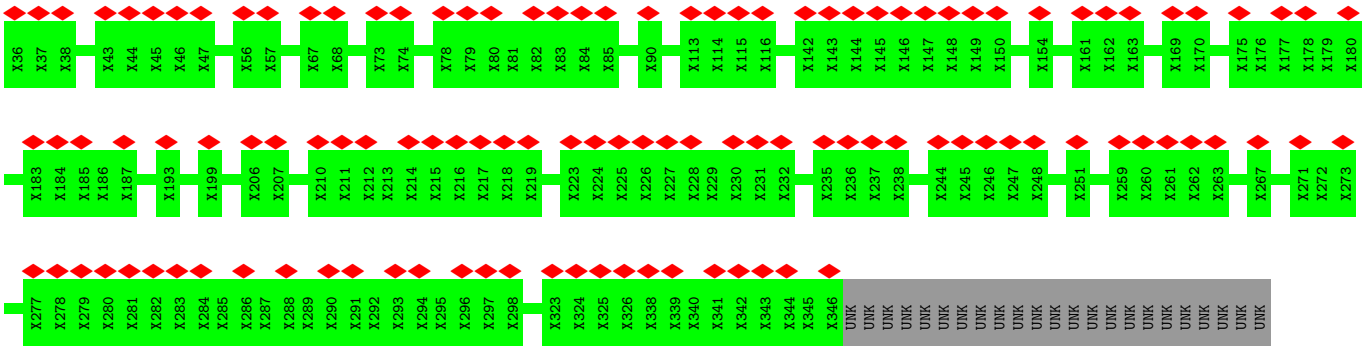

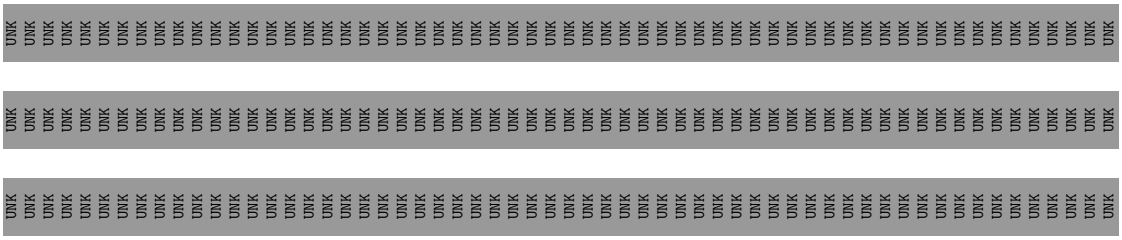

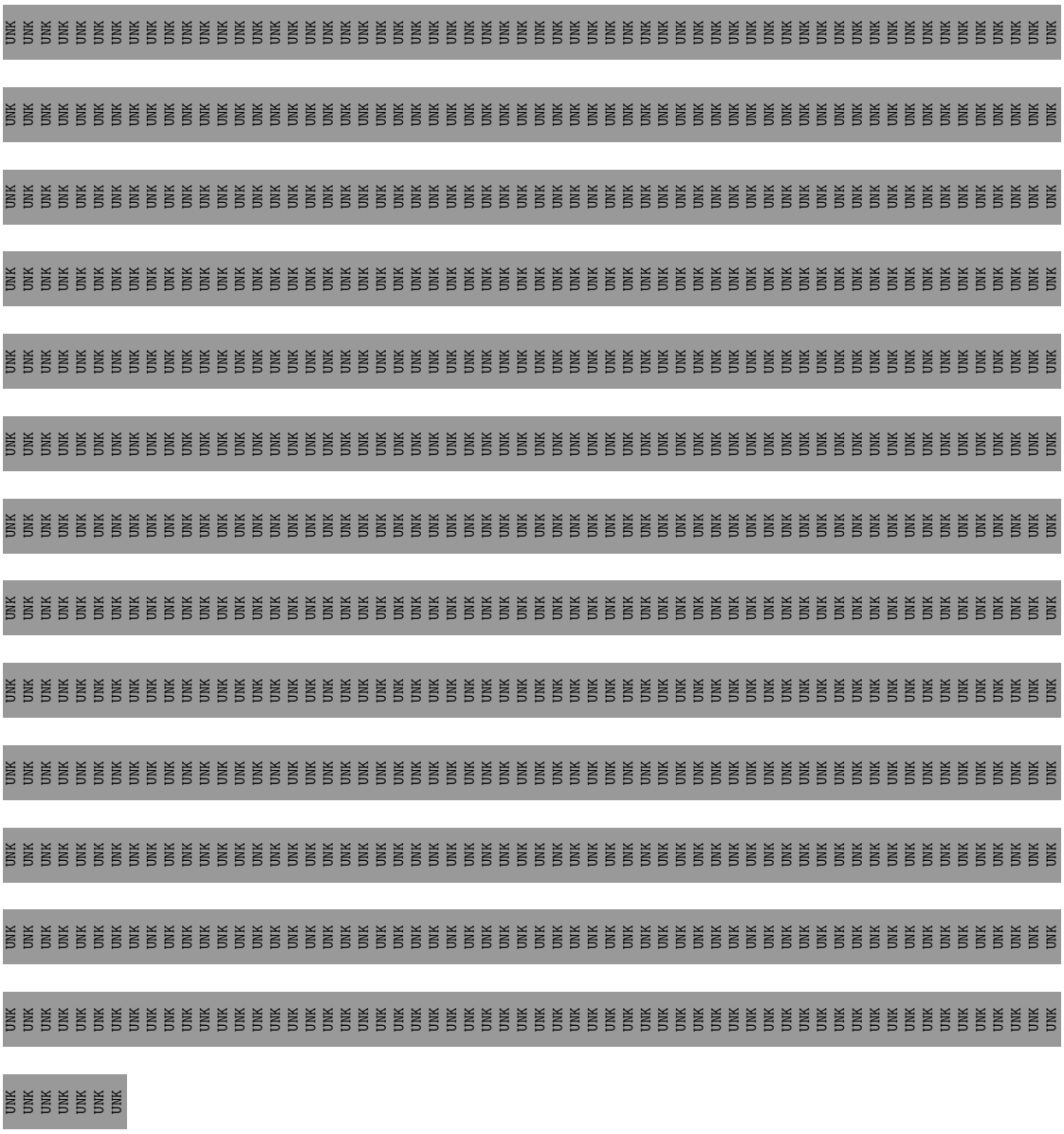

- Molecule 1: WD40 domain proteins

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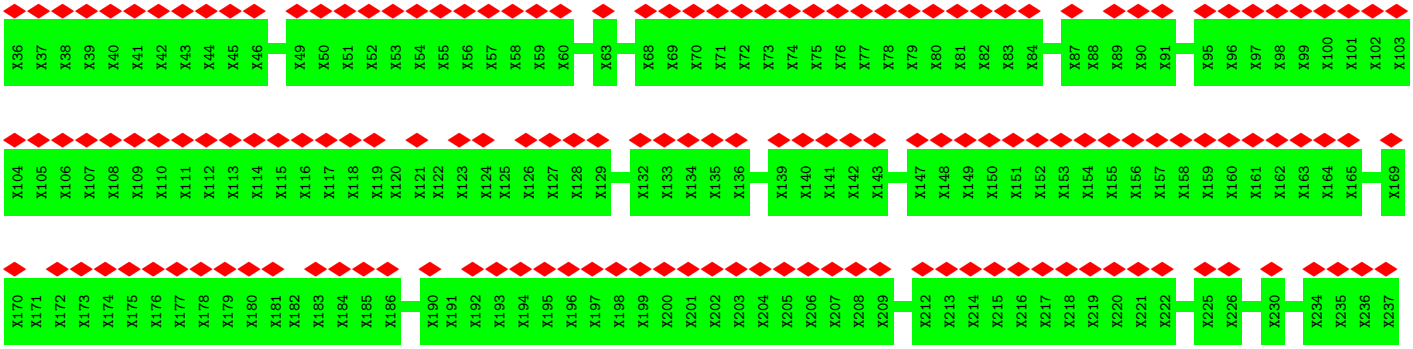
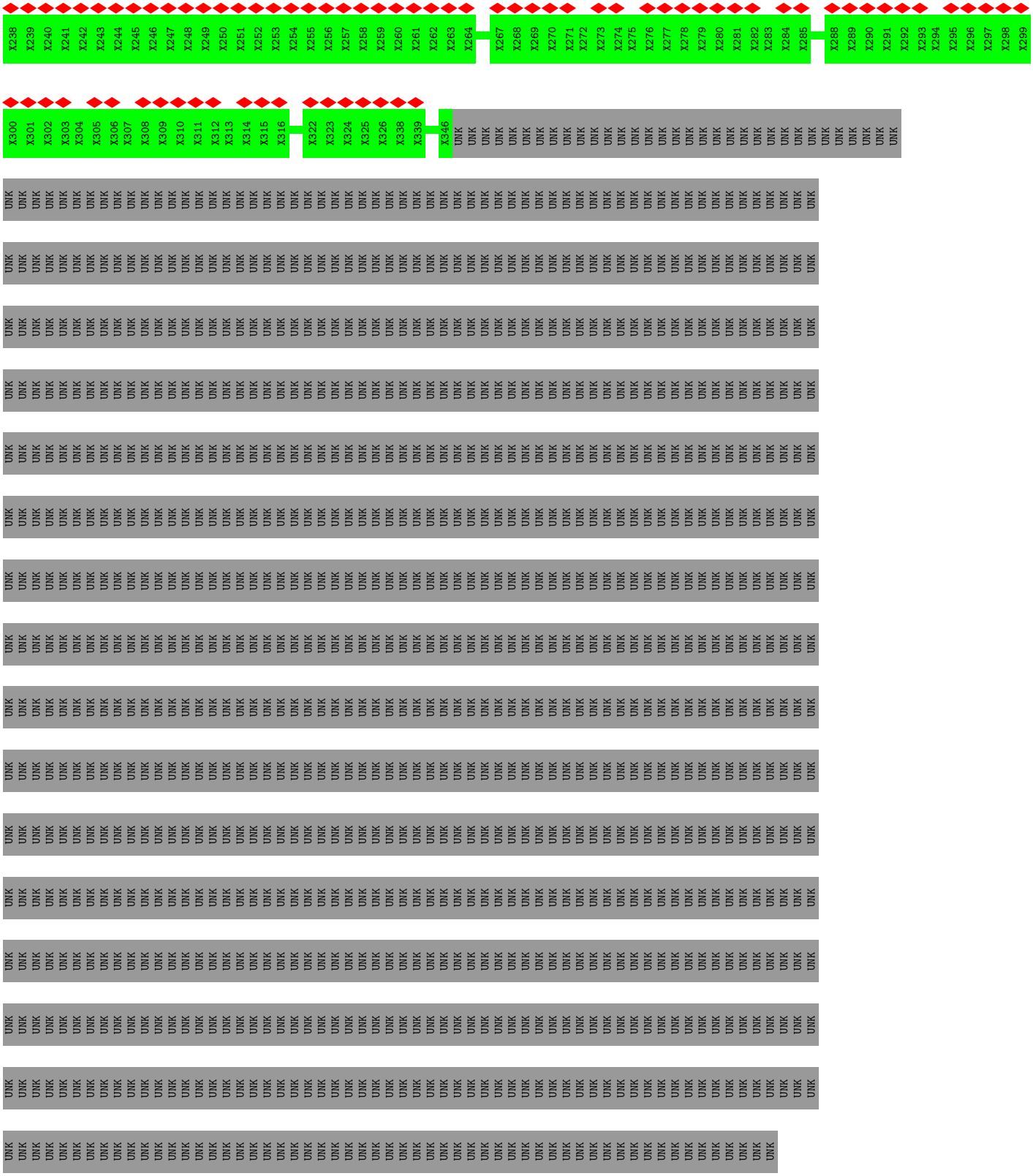
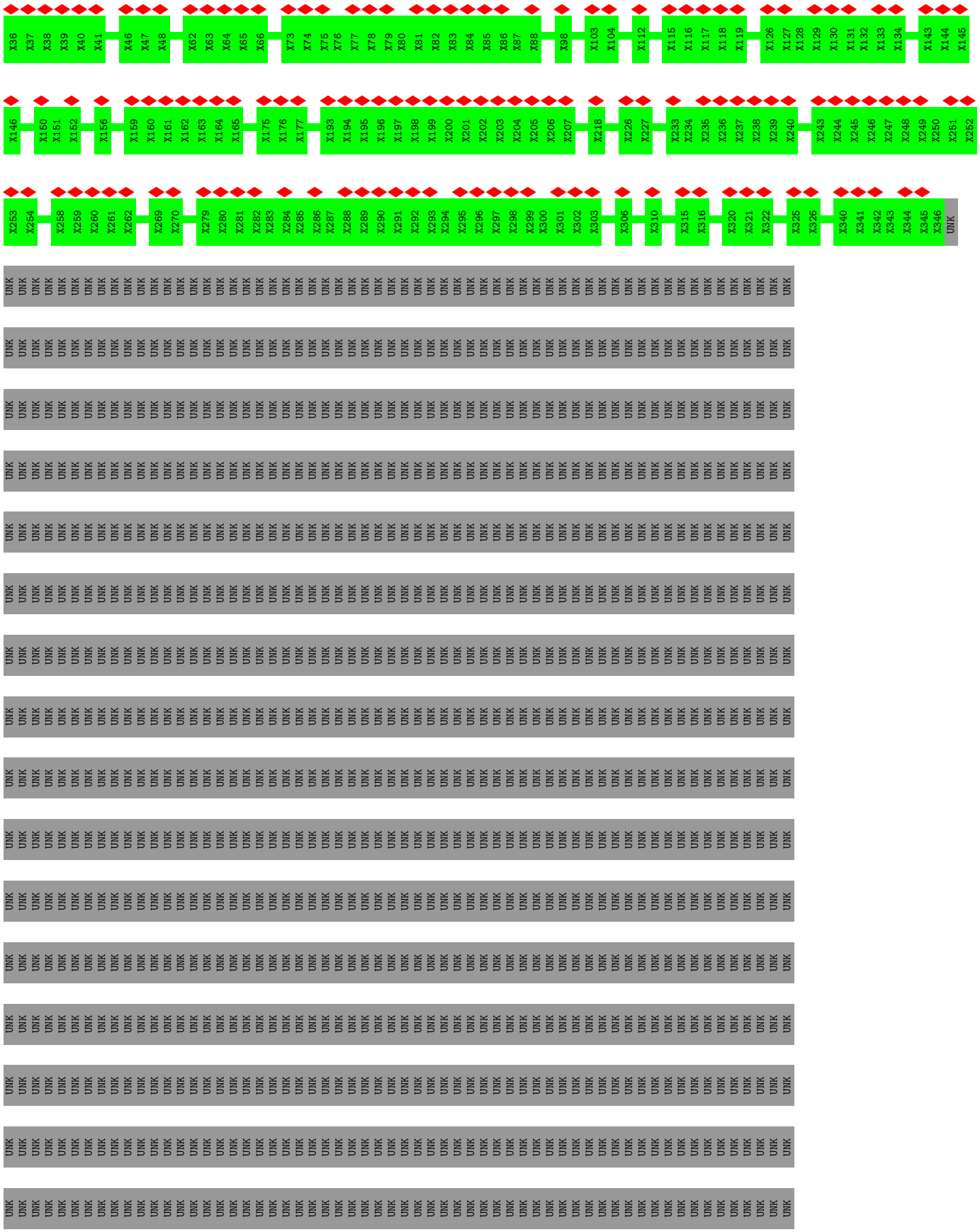




- Molecule 1: WD40 domain proteins

Chain P: 11% 23% 77%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X146 X150 X151 X152 X156 X159 X160 X161 X162 X163 X164 X165 X175 X176 X177 X193 X194 X195 X196 X197 X198 X199 X200 X201 X202 X203 X204 X205 X206 X207 X218 X226 X227 X233 X234 X235 X236 X237 X238 X239 X240 X243 X244 X245 X246 X247 X248 X249 X250 X251 X252
X253 X254 X258 X259 X260 X261 X262 X269 X270 X279 X280 X281 X282 X283 X284 X285 X286 X287 X288 X289 X290 X291 X292 X293 X294 X295 X296 X297 X298 X299 X300 X301 X302 X303 X306 X310 X315 X316 X320 X321 X322 X325 X326 X340 X341 X342 X343 X344 X345 X346 UNK
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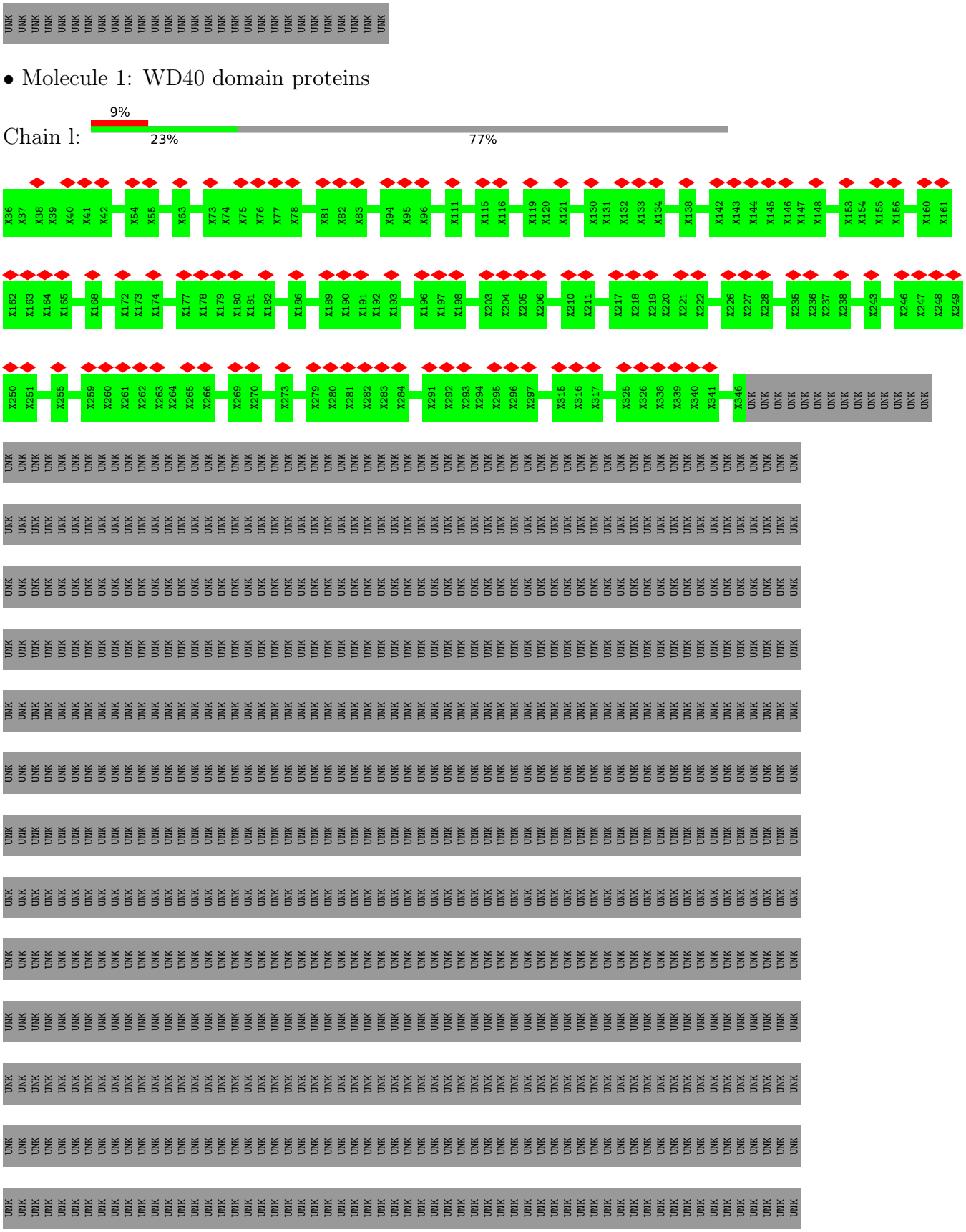
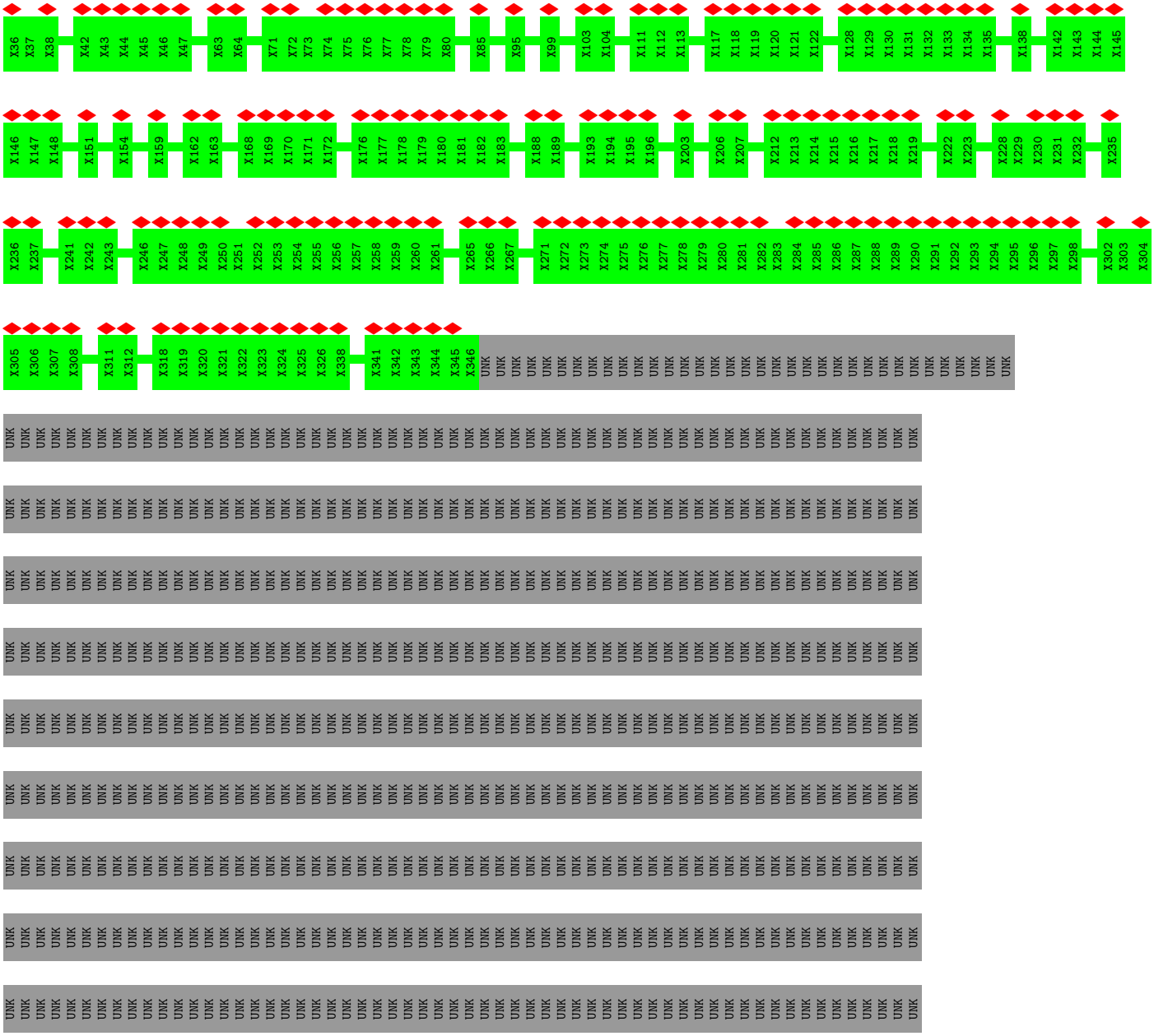

• Molecule 1: WD40 domain proteins
Chain l:
9%
23%
77%

- Molecule 1: WD40 domain proteins

Chain n: 13% 23% 77%



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- Molecule 2: UTP10

Chain G:

MET ALA SER SER LEU ALA GLN GLN LEU ALA GLN ILE ALA ALA ASN SER ARG SER SER PHE ASN VAL LYS ALA LEU LYS ALA SER HIS SER LYS SER LEU ILE TRP GLU PRO ARG VAL ALA VAL SER GLN THR PHE ALA GLU ILE TYR SER GLN CYS TYR GLU GLY PHE LYS GLU LEU CYS

HIS LEU ASP SER ARG PHE VAL PRO PHE ASP ALA THR LEU PHE SER ALA GLN SER GLN GLU VAL ASP ARG THR GLN MET THR ALA GLU ASN ALA ALA LEU ASP LYS ARG VAL ASP SER PHE LEU HIS LEU VAL GLY SER ARG LEU ARG LEU MET PRO ALA ILE LYS ALA VAL GLU TRP

LEU ILE ARG ARG PHE ARG ILE HIS GLU PHE ASN THR GLY THR LEU LEU ALA THR PHE LEU PRO TYR HIS THR ILE PRO ALA PHE VAL THR LEU LEU SER ILE LEU PRO VAL GLN ARG ILE PRO ILE GLU TYR ARG PHE LEU ASP PRO TYR ILE LYS SER LEU THR PRO PRO PRO ARG ALA

ALA ILE VAL GLN GLN ALA THR ASN ARG PRO ASP LEU LEU SER ALA ILE SER ARG TYR THR LEU ASP SER CYS ARG ALA LYS GLN GLU TYR PRO GLY LEU ILE SER PHE TRP GLY GLY ILE MET ALA GLU ALA VAL ASN GLY MET ILE ASP LYS MET ARG SER GLY ARG ARG ALA ILE GLN

LEU GLU ASN ASP HIS LEU LEU LEU GLN GLN ILE GLY PRO VAL LEU SER GLU ALA MET VAL MET LYS ASP VAL PRO GLY ILE GLN ILE ALA SER TYR MET VAL VAL ALA ILE LEU ALA ALA LYS GLY SER LEU ASN ASP ASN ILE LEU THR ALA PHE MET GLU GLN LEU VAL HIS GLY TRP

THR VAL ASP THR LEU ARG PRO GLY LEU VAL CYS LEU THR MET LEU ALA GLN HIS ARG SER ALA LYS GLN LEU SER GLY ARG VAL ALA LYS ALA VAL ILE LYS VAL PRO ASP LEU VAL SER SER LEU ARG ASP ILE SER LYS GLU HIS GLN VAL ASP LYS LEU ALA ASN GLY LEU VAL LEU

ALA PHE VAL ASP ARG LEU ALA LYS LYS GLY ASP ILE ARG THR LEU PRO VAL ILE ASN SER LEU LEU LEU SER GLU LEU GLN GLU LYS GLN ALA LYS VAL ALA TYR LYS ALA LEU LEU LEU ALA ALA HIS LYS ILE ASP ASP ASN VAL ASP ALA ASP GLY ASN ILE ARG LYS GLN VAL

GLY SER ALA LEU VAL ARG LEU SER GLN ALA GLU GLY ASP VAL GLY ASP ALA ILE ARG THR ALA ILE GLN GLU VAL ASP PHE ASN ILE GLU GLU LEU GLU LEU LYS LEU GLY ALA ALA ILE ARG PRO LYS LEU ALA ILE GLU GLU ALA PRO GLU PRO SER ASP GLU ALA MET THR VAL ARG

PRO VAL ASP GLN ARG PRO SER LEU ASP SER THR PHE GLU ARG LEU SER LYS LEU GLN PRO THR ALA THR SER CYS LEU ALA LYS ASP SER GLU SER LEU PHE ASN ASP LEU CYS SER VAL PHE LEU SER ALA ALA VAL SER GLU SER ASP LEU GLU ARG PHE ASP ALA THR PRO VAL LEU

SER ARG PRO LYS ALA PRO SER ASN SER PHE TYR LEU SER PHE TYR LEU ARG VAL TRP CYS GLY PRO TYR PRO THR LEU ALA LYS VAL ALA ALA LEU GLU ARG VAL LYS THR ARG LEU LYS GLU GLY ASP CYS VAL ASP LYS ASP PHE GLN ALA ILE PHE PRO TYR CYS ILE ALA ALA LEU

SER ASP PRO ALA LYS LYS VAL ARG ARG ALA ALA ALA ASP LEU VAL ALA VAL LEU GLY SER ALA TYR LYS SER LEU GLU LYS SER GLN GLN LEU TRP ALA ALA LYS ASP LEU TYR GLY LYS THR GLY THR THR SER PRO LEU ASP LYS ASP ALA LEU LYS ALA LEU ILE ARG SER VAL LEU

ILE PRO CYS LEU GLU GLU SER VAL LEU HIS GLU ASP HIS VAL VAL ALA ALA LEU VAL GLY ALA LEU GLU SER SER LYS ASP SER GLU ASN LYS ASN ALA ASP LYS ARG HIS LEU SER HIS SER ALA ARG LEU SER ILE PHE LYS PHE LEU CYS GLY HIS VAL VAL GLU THR PRO LEU LEU

ALA VAL LYS LEU ARG LEU LEU ARG SER LEU ASN GLN ILE ARG ARG ILE SER GLY THR THR ARG THR ASP LEU LEU LEU LEU PRO LEU LEU ARG TRP TRP ALA GLY LEU LYS MET TRP PRO SER MET LYS SER ASP THR LYS TYR SER THR ALA LYS TRP LEU LEU ASP ASP ALA ILE ASP PRO LYS
VAL VAL VAL PRO ASN HIS ALA ALA GLY LEU GLU ALA PHE PHE GLN LEU LEU VAL LYS GLU ALA ILE ARG PRO GLY LEU LEU GLN ALA ILE PHE ALA ARG ILE ALA ASP TRP GLU LEU GLU GLY PRO ALA ASN ARG VAL PRO GLY GLU LEU ARG ARG ARG VAL SER THR THR GLU PRO GLY ARG GLY VAL
LEU ASN ALA GLU GLN SER ASP VAL ILE THR GLU ALA VAL GLU VAL LEU ARG LYS VAL ASP LEU THR THR ASP ILE LEU HIS TYR PHE ILE ASP SER LEU GLN ASP GLU VAL ARG LEU ALA THR GLU GLY PRO ALA ASN LYS ARG ARG VAL SER THR THR GLU PRO GLY GLN ASP
GLY THR GLN SER SER PRO GLU LEU GLN ALA ALA LEU VAL LEU GLU SER THR PRO ALA ALA HIS PRO GLU LEU LEU PRO SER LEU PHE THR THR LEU SER ASP LEU HIS HIS LEU SER ALA ILE VAL GLY THR GLU GLU LEU GLY TYR LEU GLN
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VAL VAL LEU GLN SER VAL MET PRO ILE PHE THR PHE MET GLY SER SER VAL LEU LYS GLN ALA ASP ASP TYR SER ALA HIS VAL VAL ASN GLN THR ILE LYS GLU VAL ILE PRO PRO LEU ILE GLU THR PHE ARG LYS ARG GLY ASP ASN VAL VAL ALA SER ALA ASP LEU LEU
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ARG LEU LYS ARG GLU ILE MET GLN LEU ALA ALA GLU ARG ASP ASP MET GLU ALA GLY LYS ILE ARG GLU LEU TYR ALA ALA LEU LEU GLU GLY GLY ILE LEU THR VAL ALA SER THR VAL LYS THR LYS LYS THR LEU HIS SER ARG CYS GLY ASP ALA LEU SER ASN LEU LEU LEU ASN LEU LEU SER
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VAL LEU GLN ASP GLY ILE VAL PRO VAL LEU PRO VAL ALA ILE PRO LYS ALA LEU ASN ARG ASP VAL GLU LEU HIS ASN ALA ALA TYR ALA PHE MET THR ALA LEU ALA GLN HIS ILE PRO TYR MET ILE THR GLY ASN TYR LEU ASP ARG

LEU LEU ALA CYS SER ASN ALA SER ALA ALA ALA ASN LEU ASP ASP GLU ALA ASN ALA ASN ARG MET GLN CYS LEU GLN PHE LEU ALA LYS LEU VAL ASP ALA ARG V1476 L1477 Y1478 T1479 G1480 L1481 H1482 Q1483 N1487 W1488 A1489 S1510 A1513 A1514 LYS PHE GLY PHE SER ALA I1521 S1526 E1530 Y1531 L1532

Q1534 I1535 L1546 G1551 I1552 A1553 L1554 D1555 K1581 H1589 S1594 LYS THR VAL V1595 V1602 K1603 N1604 V1620 S1623 S1624 L1625 S1626 S1627 I1628 F1634 L1637 S1638 A1649 M1659 D1660 L1684 R1685 R1686 T1687 V1694 A1695 A1720 GLY ASP ILE ALA SER GLN ILE S1721 A1751 M1752 E1753 L1759 D1760 E1763 I1772 E1777 T1778 K1799 T1807 H1811 E1812 D1813

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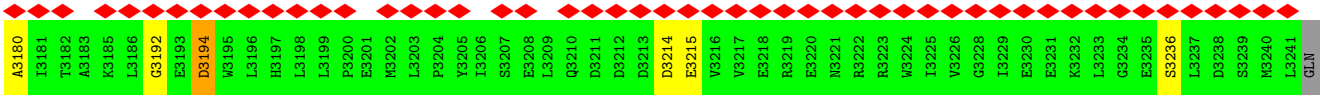
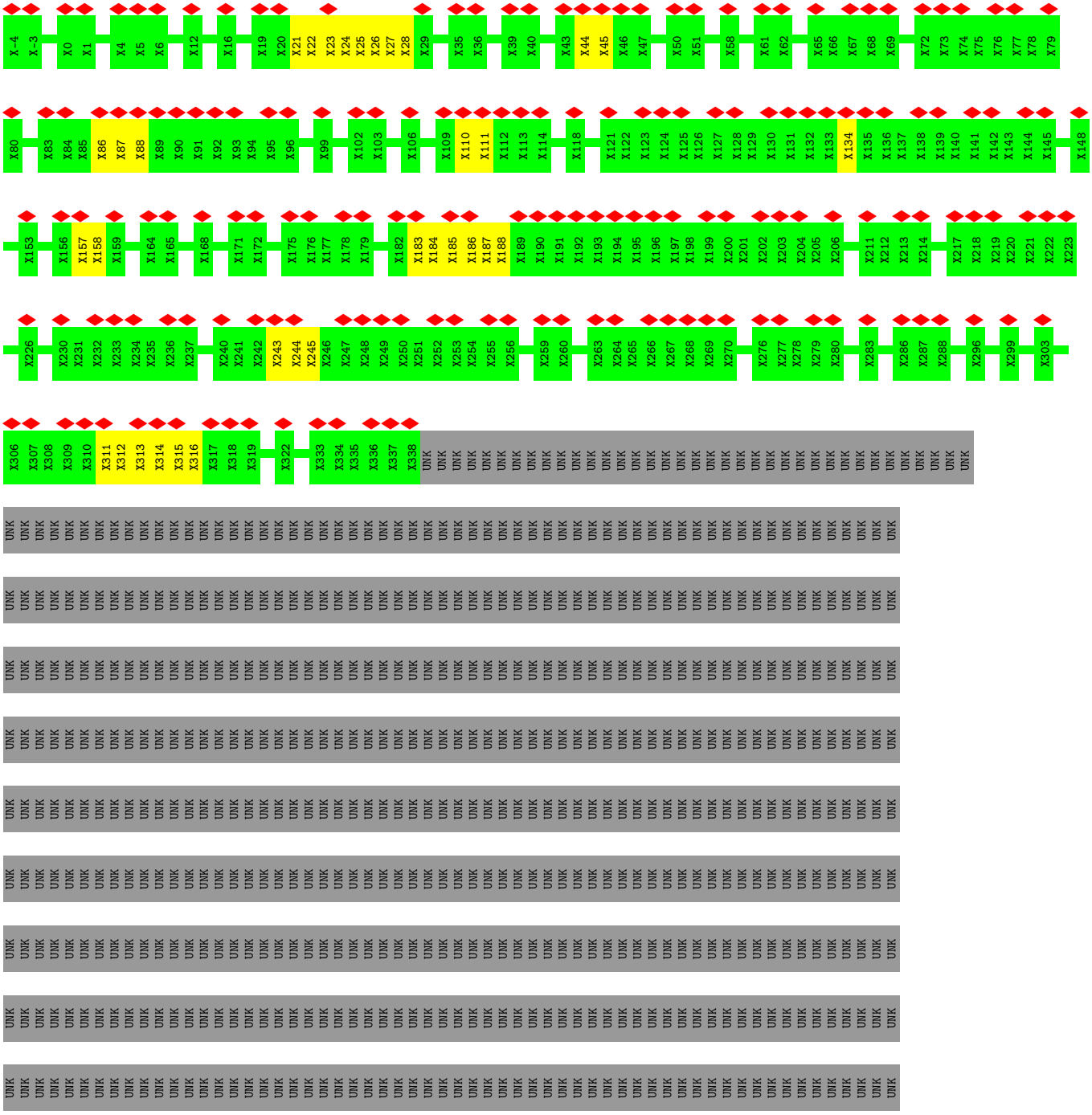
L2603 R2650 ALA GLU GLY GLN VAL THR ALA THR N2651 V2663 N2668 D2669 V2670 I2677 Q2680 D2694 V2706 V2710 V2723 V2742 E2748 L2749 A2788 A2805 A2809 V2813 E2819 S2824 Q2833 E2867 H2897 Y2900 K2928 E2937 I2938 A2946 L2951 L2954 K2975 H2976 L2977 R2984 N2992 G3006 S3007 P3019 G3033 V3034 R3044 L3046 A3047 V3089 V3095 K3112 C3126



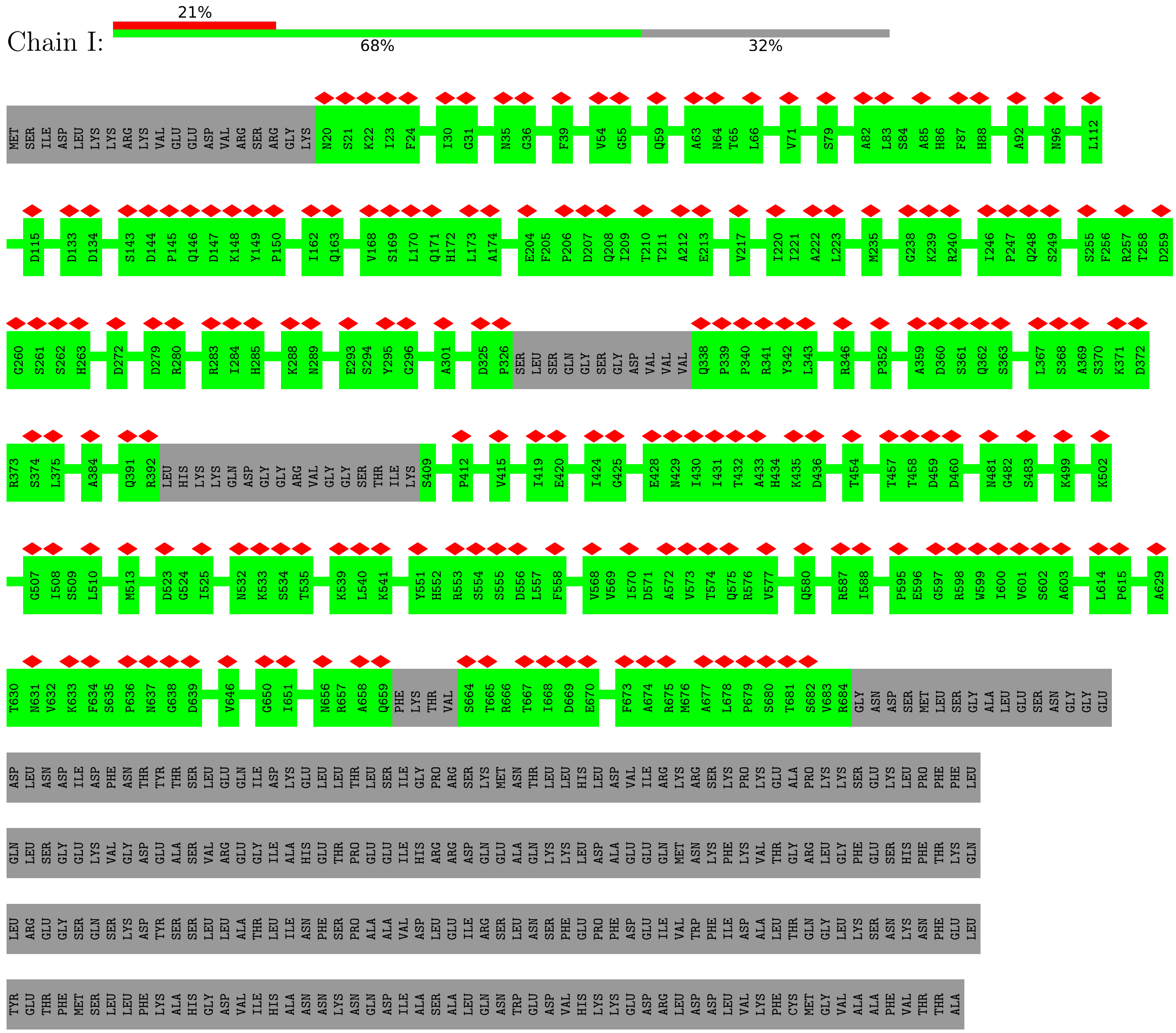
• Molecule 3: UTP-A oligomerization domain

Chain H:



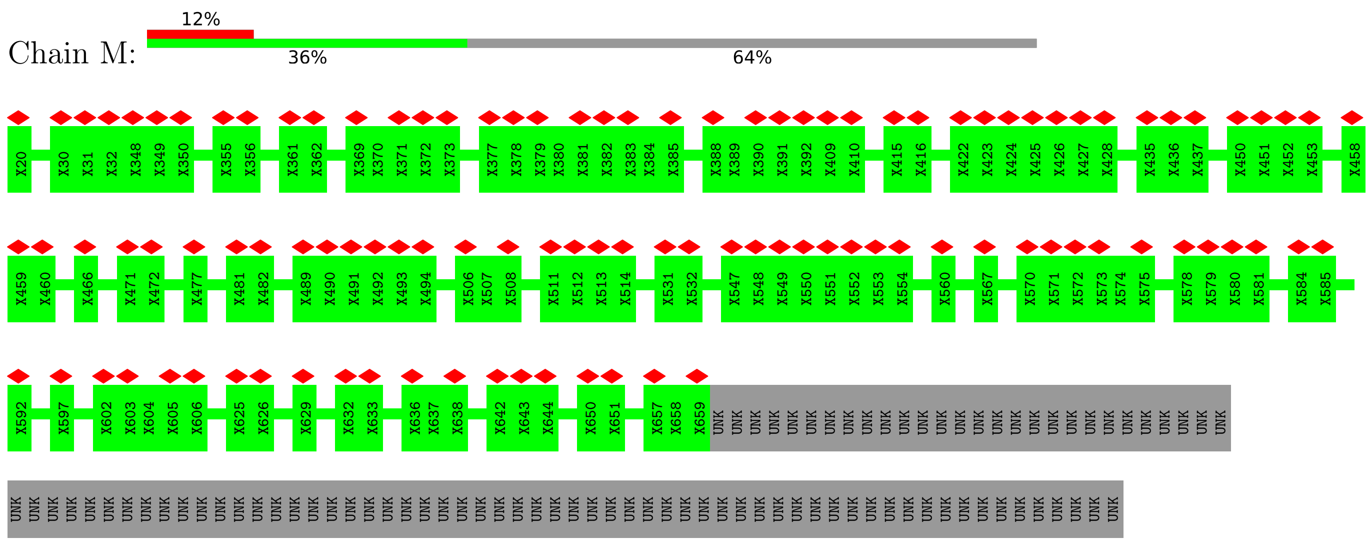
• Molecule 4: U3 small nucleolar RNA-associated protein 21

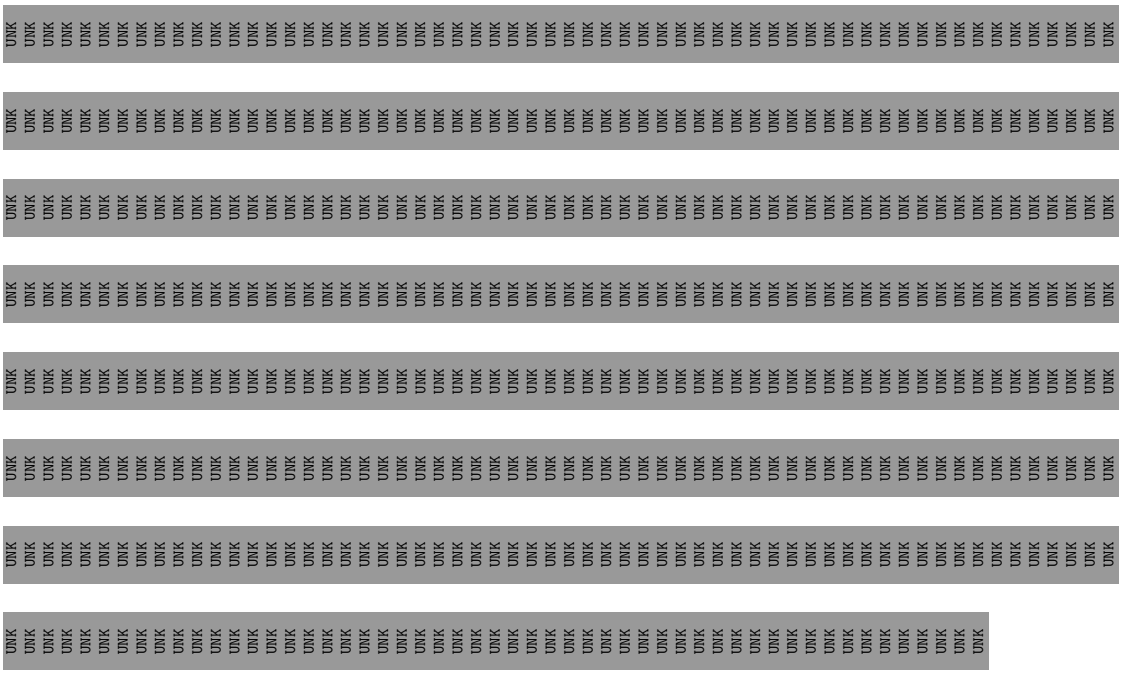
Chain I:



- Molecule 5: WD40 domain proteins

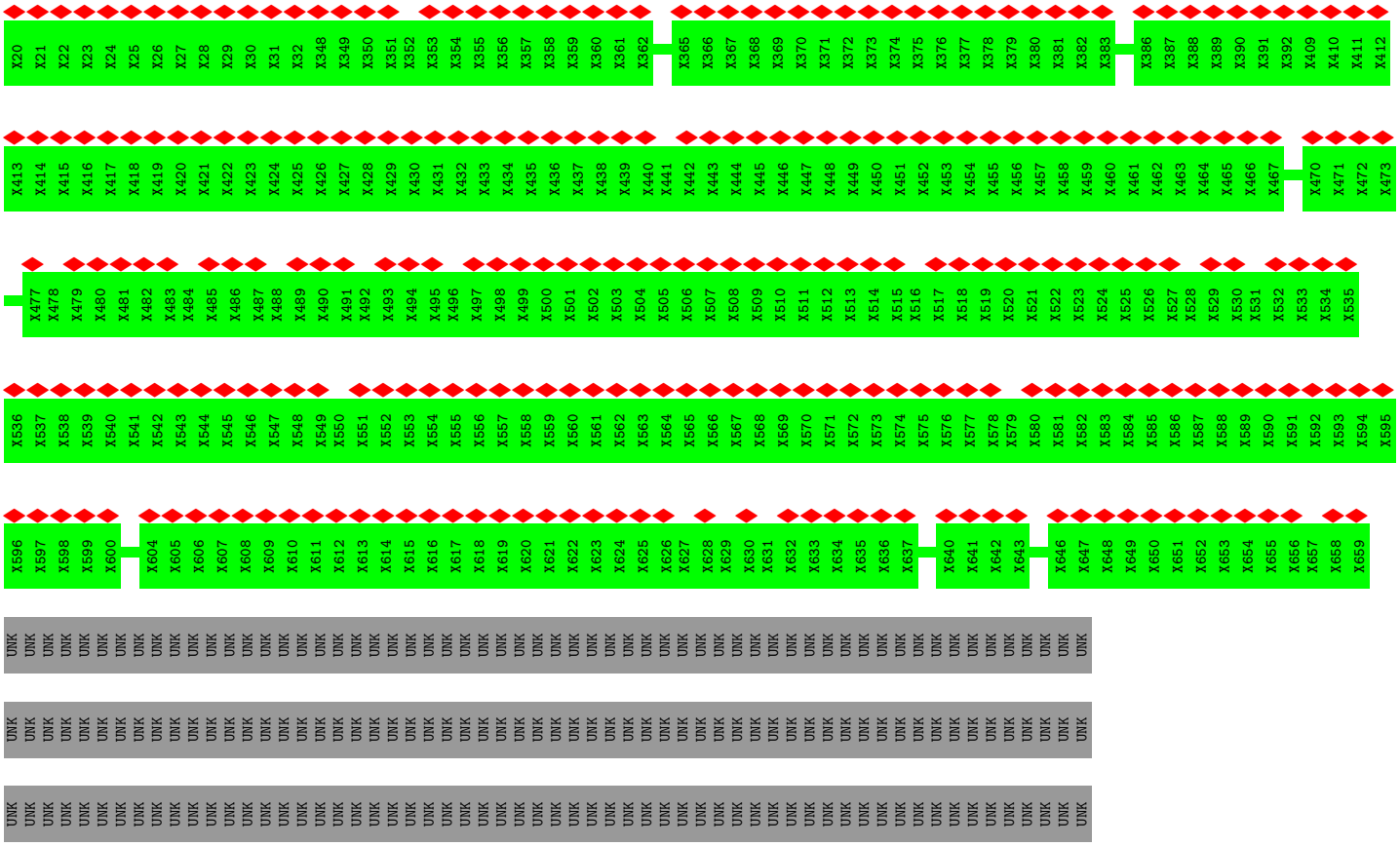
Chain M:

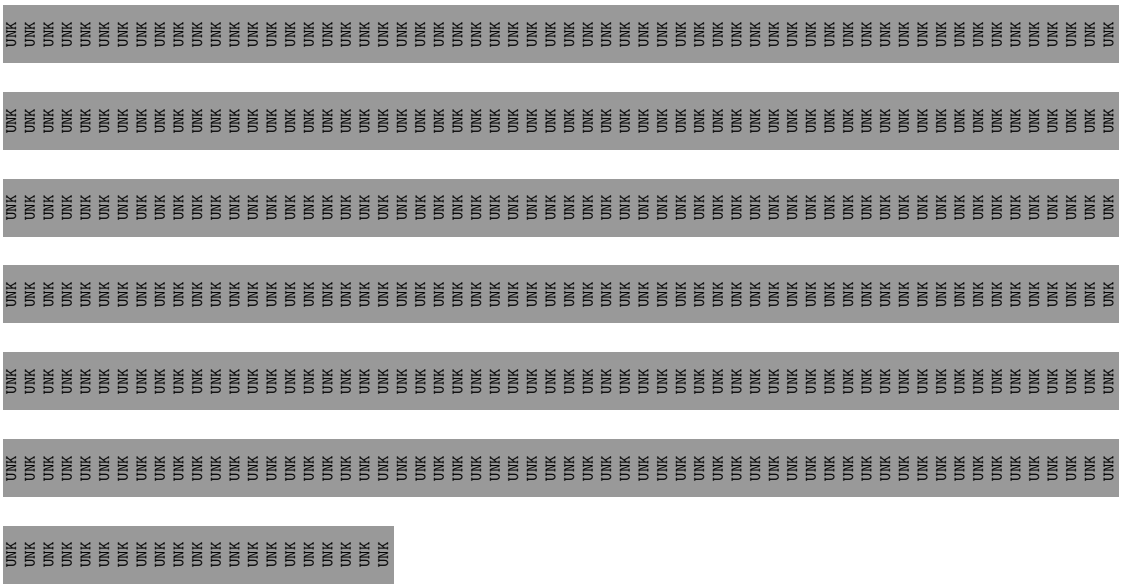




• Molecule 5: WD40 domain proteins

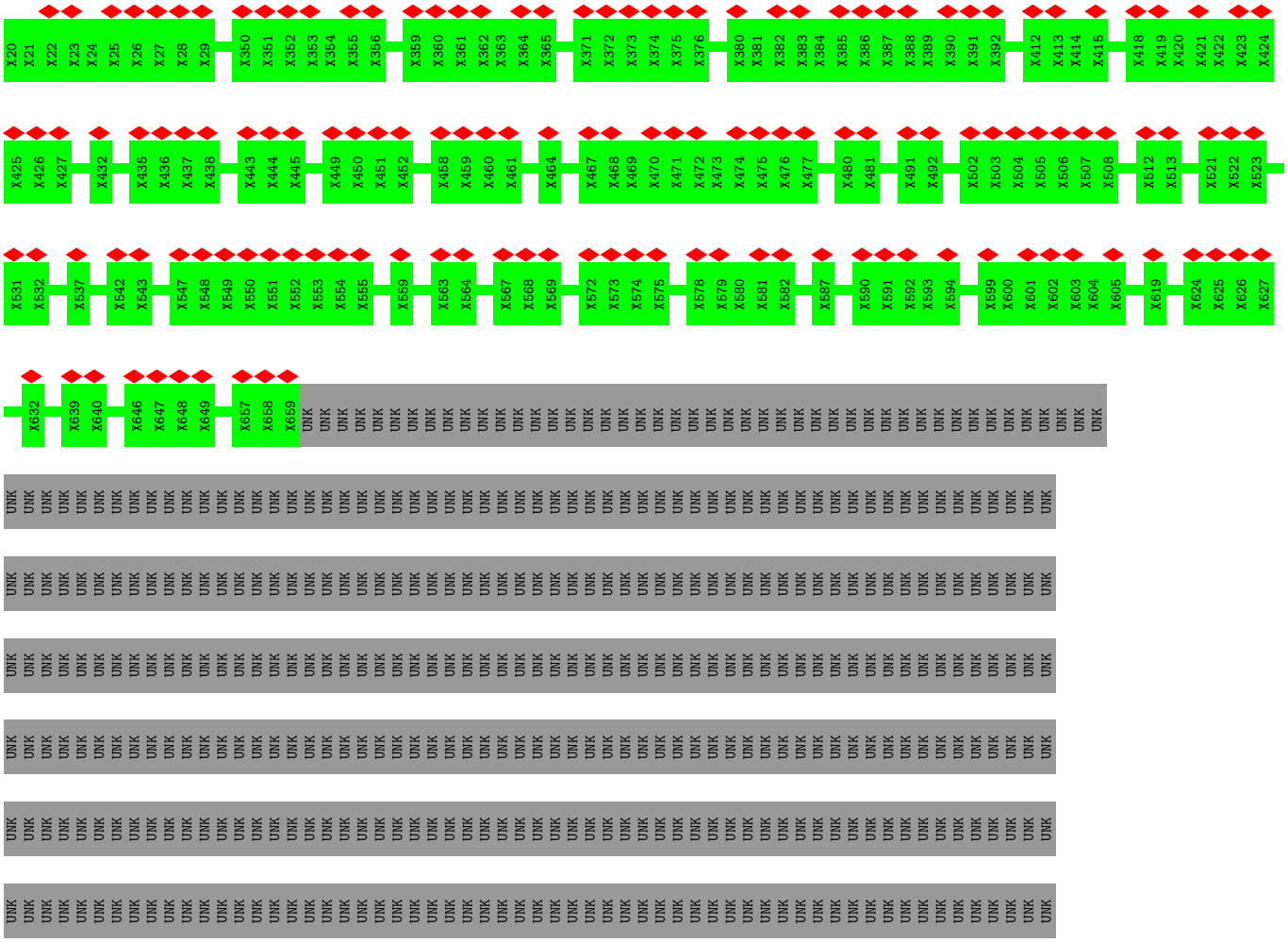
Chain O:

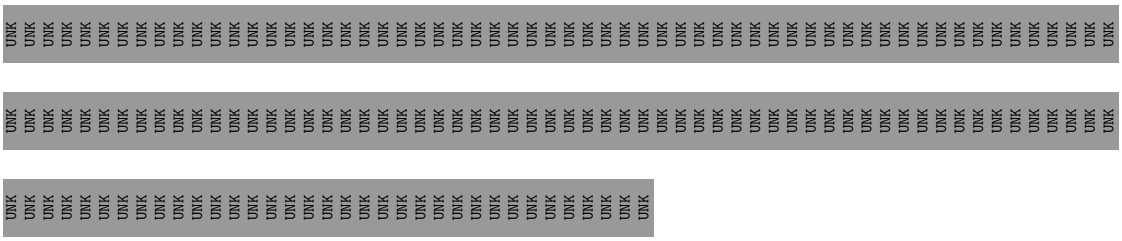




• Molecule 5: WD40 domain proteins

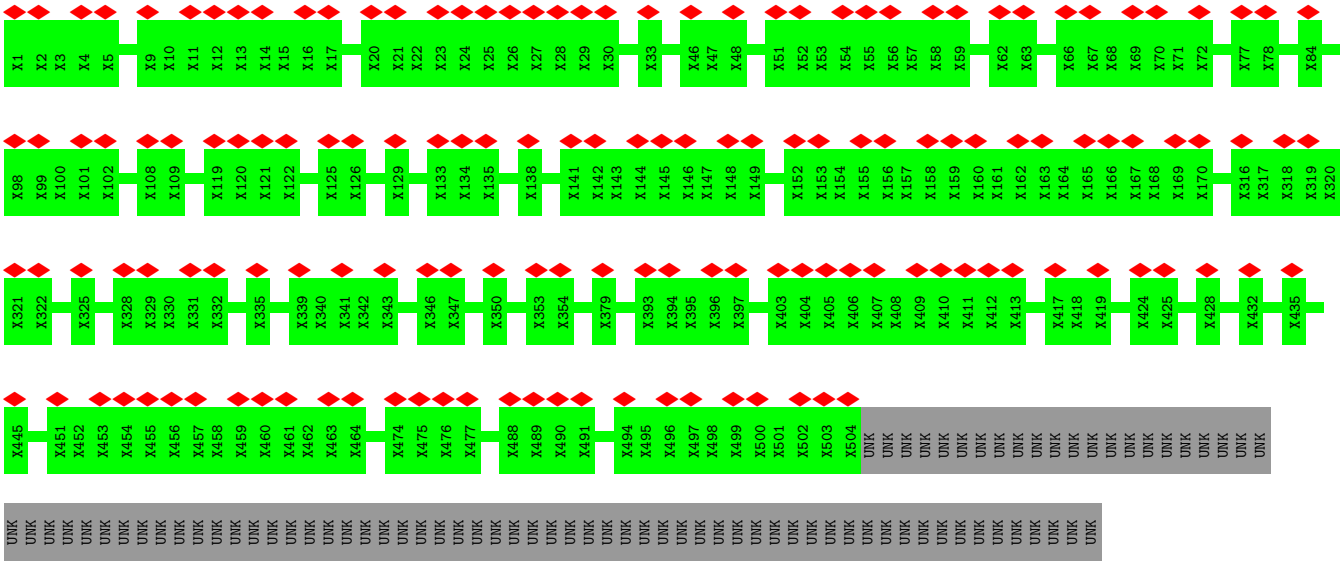
Chain m:





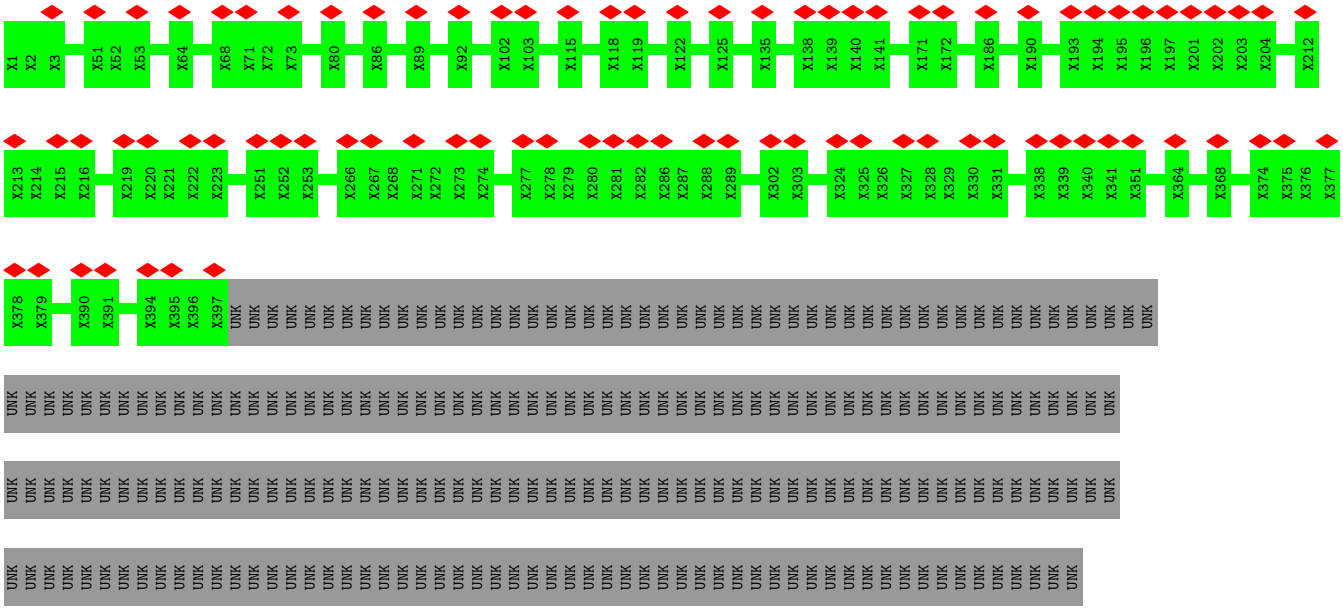
- Molecule 6: UTP6

Chain Q:



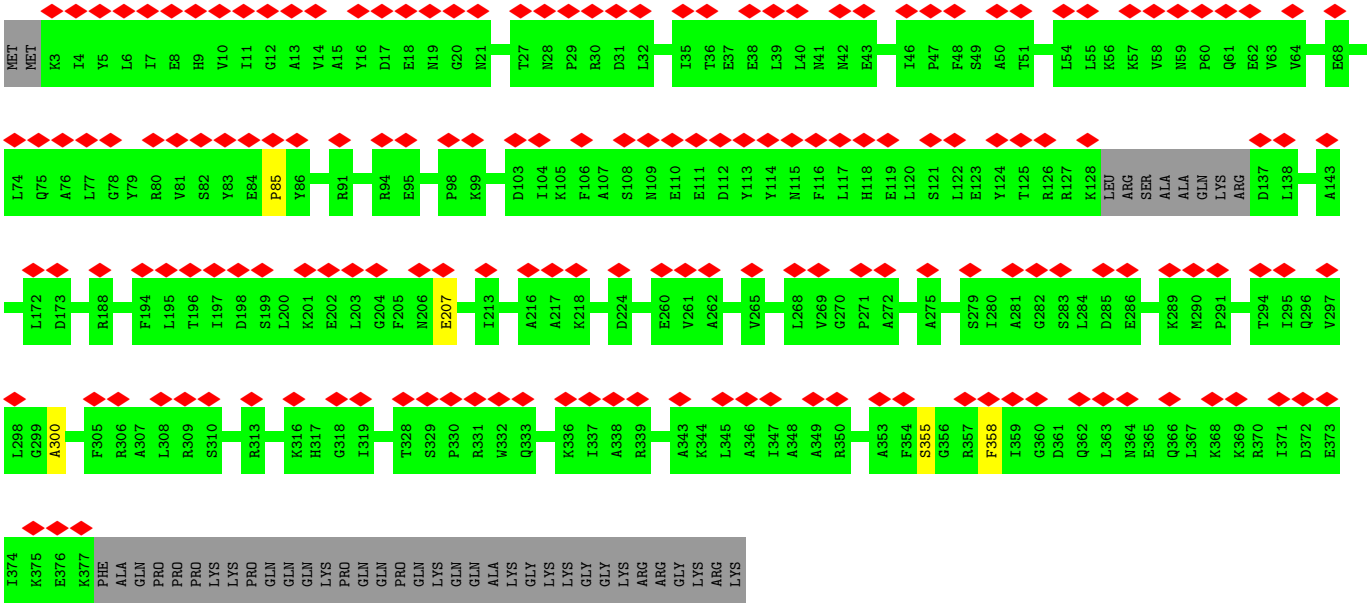
- Molecule 7: UTP-B oligomerisation domain

Chain R:



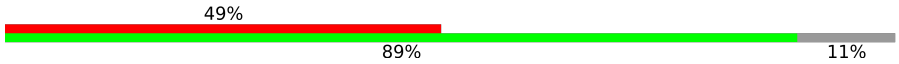
• Molecule 8: Pre mRNA splicing protein

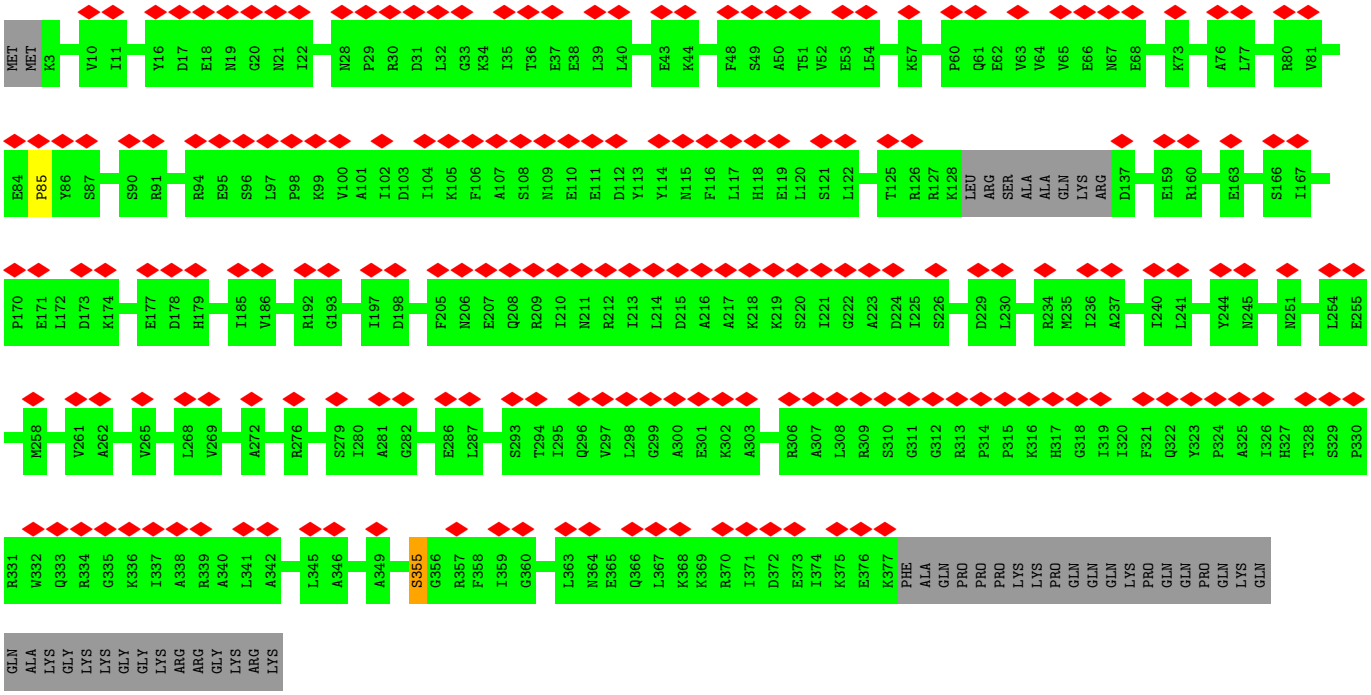
Chain S:



• Molecule 8: Pre mRNA splicing protein

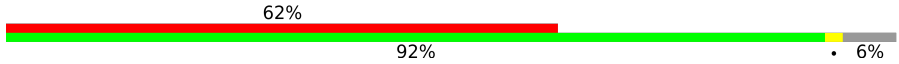
Chain T:

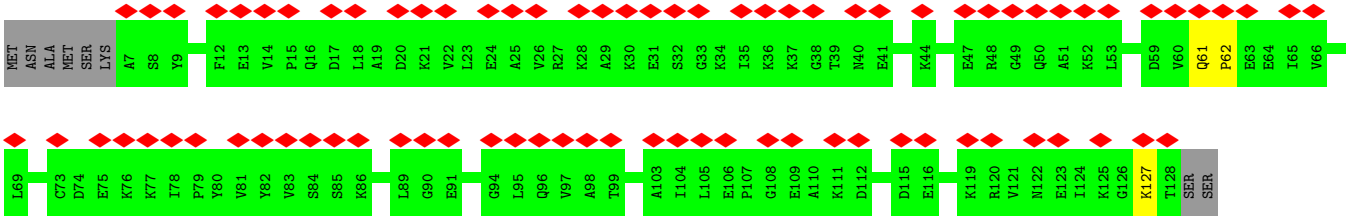




• Molecule 9: Snu13

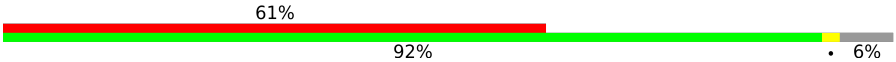
Chain U:

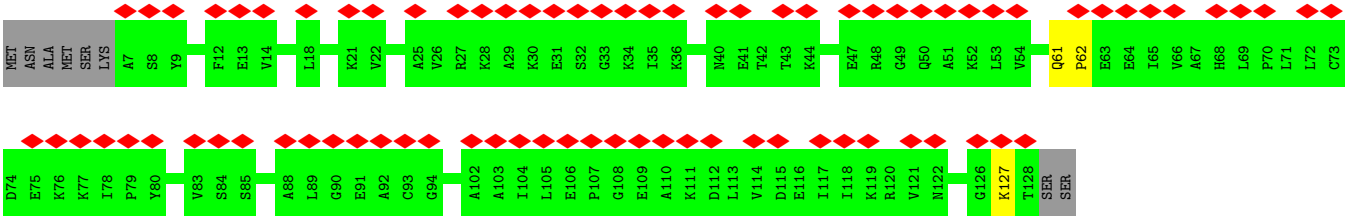




- Molecule 9: Snu13

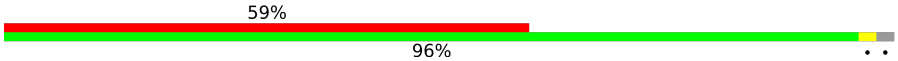
Chain V:

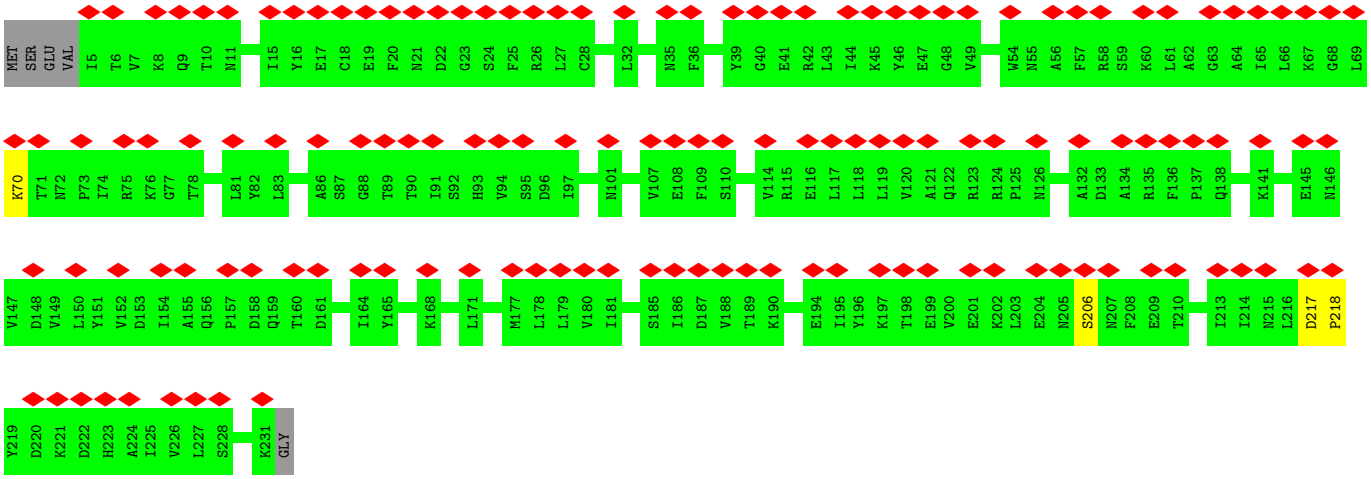




- Molecule 10: Nop1

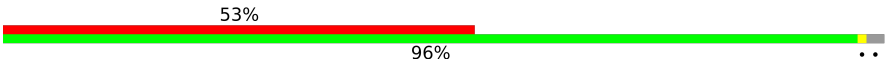
Chain W:

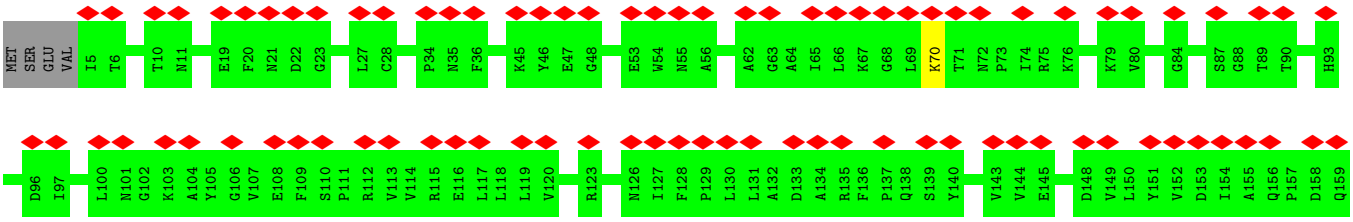


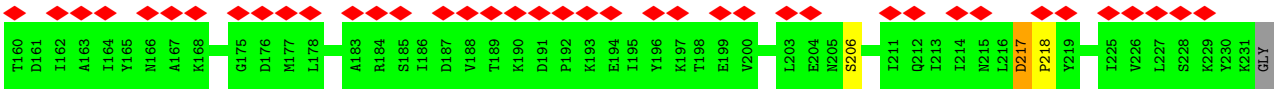


- Molecule 10: Nop1

Chain X:

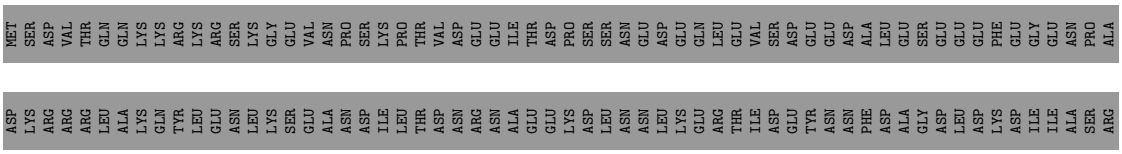


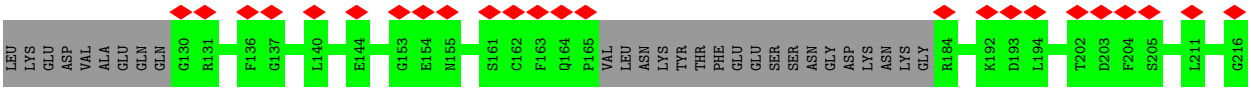


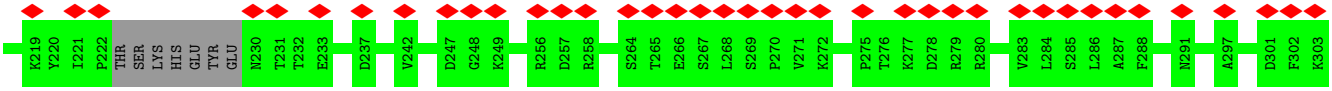


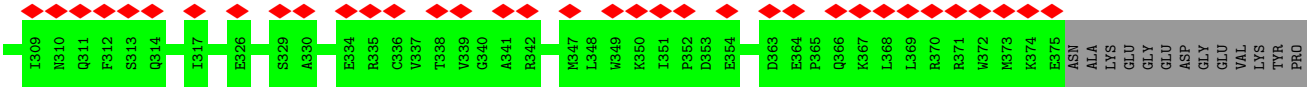
- Molecule 11: rrp9

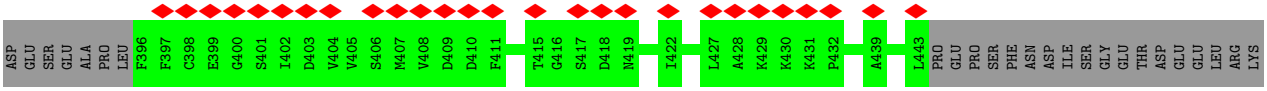
Chain Y:

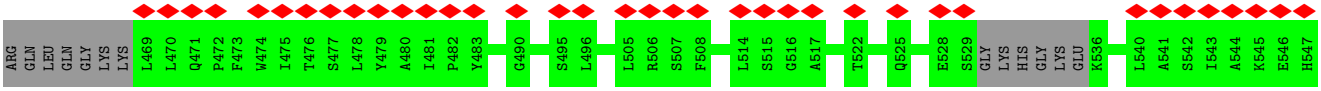


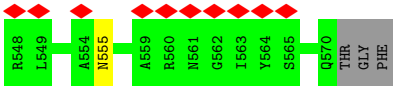






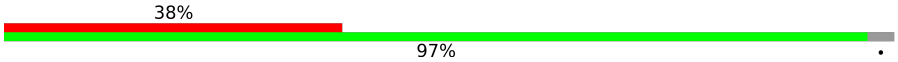


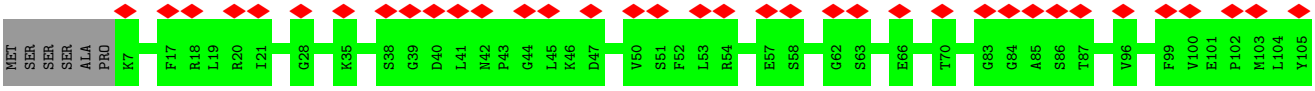


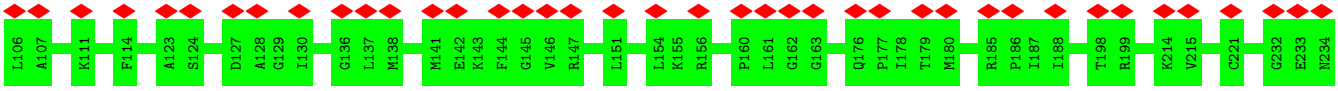


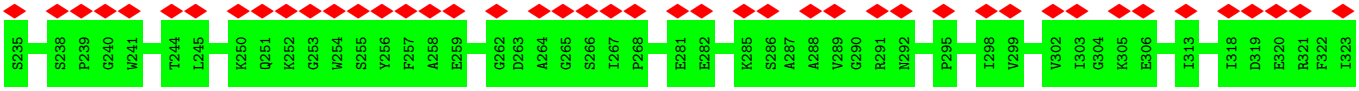
- Molecule 12: Rcl1

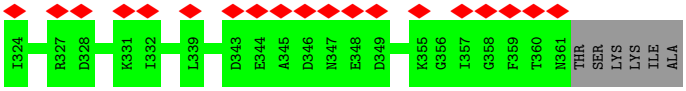
Chain Z:





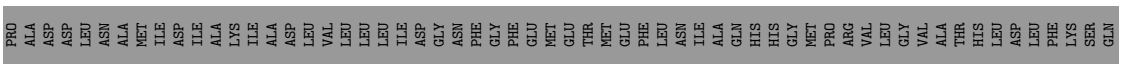


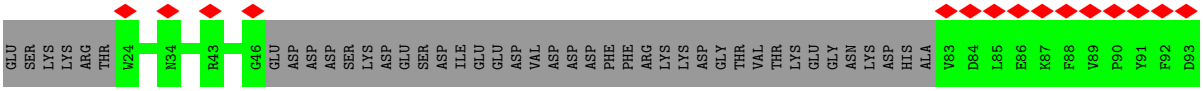


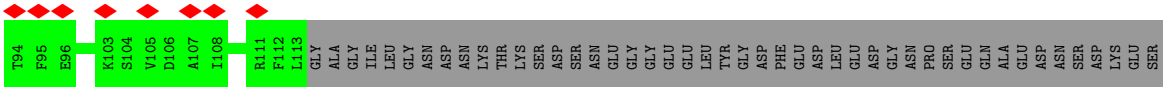


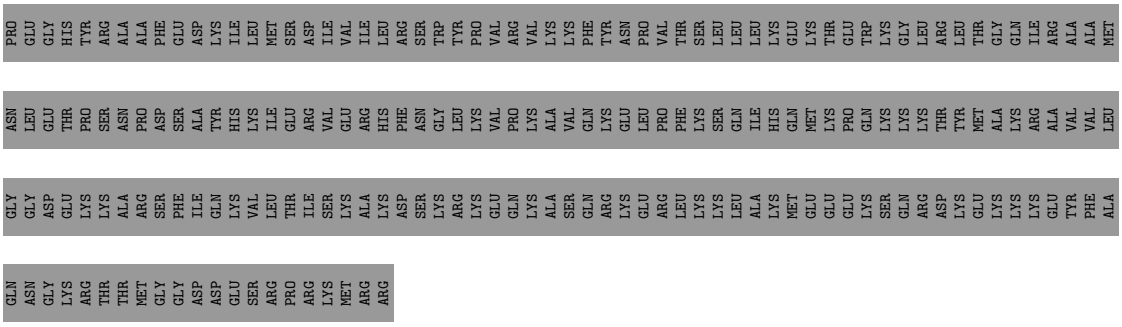
• Molecule 13: Bms1

Chain a: 5% 95%



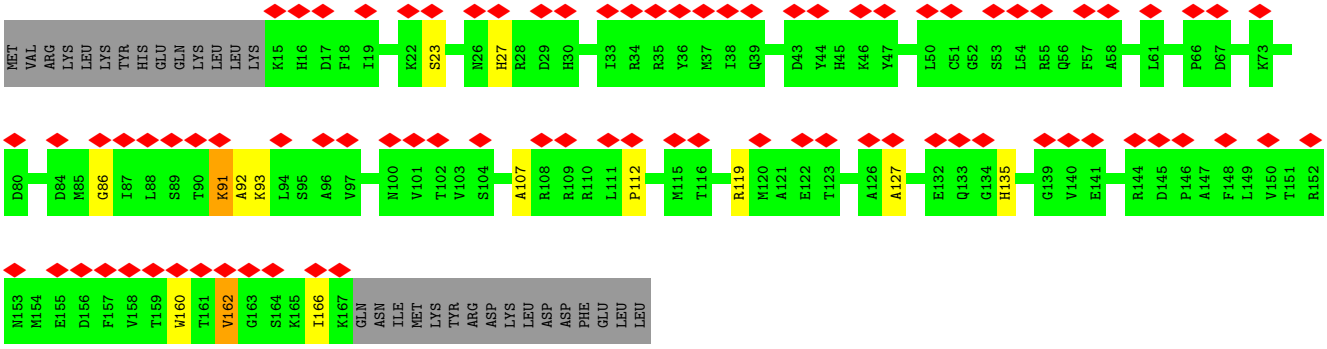






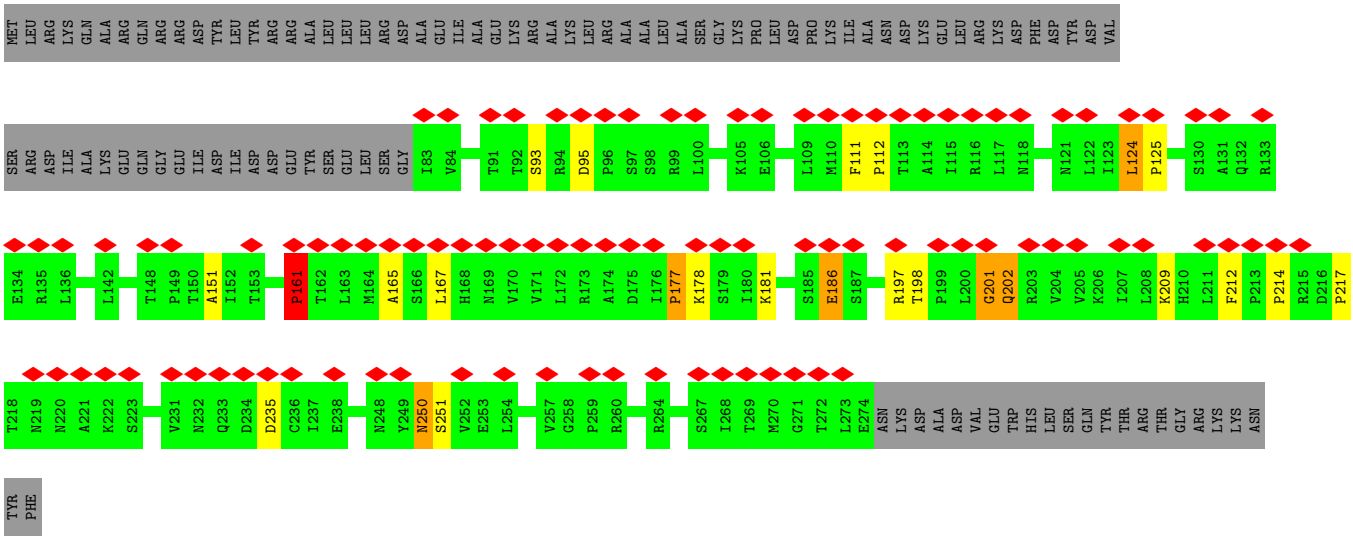
- Molecule 14: Imp3

Chain b:



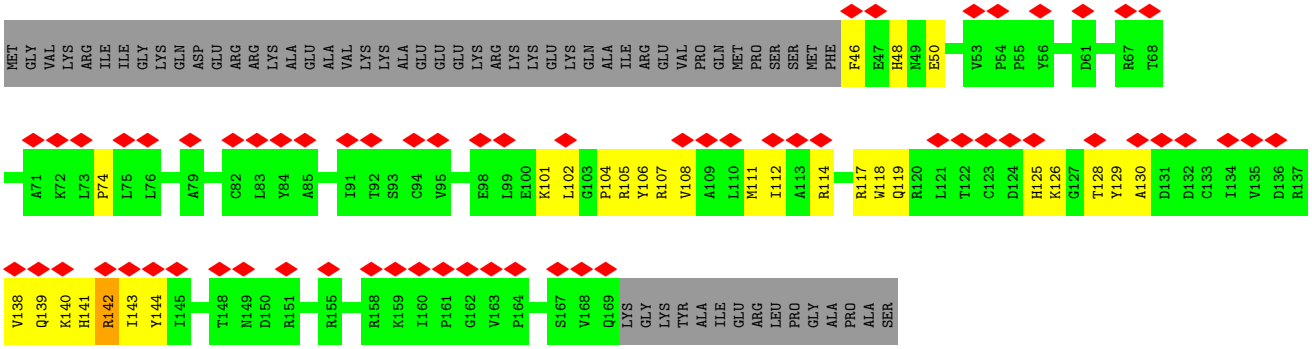
- Molecule 15: Putative U3 small nucleolar ribonucleoprotein

Chain c:



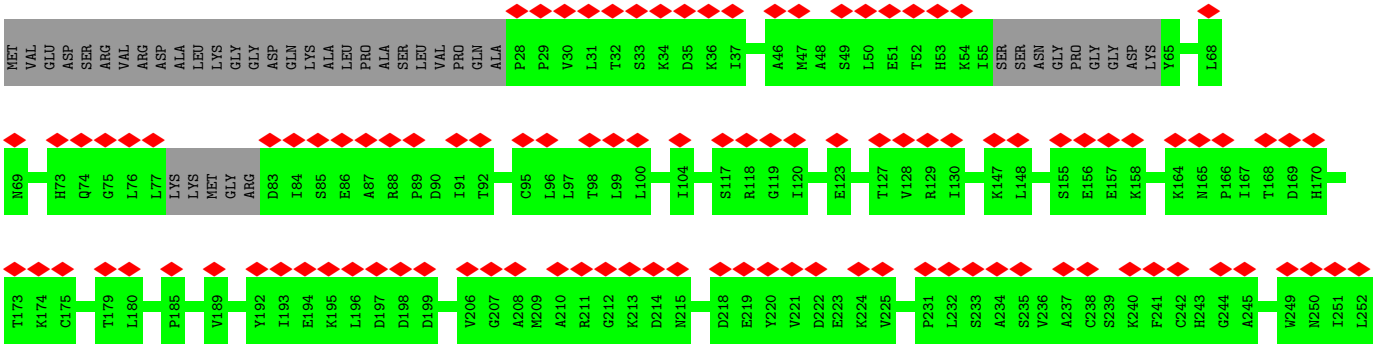
- Molecule 16: Utp24

Chain d:



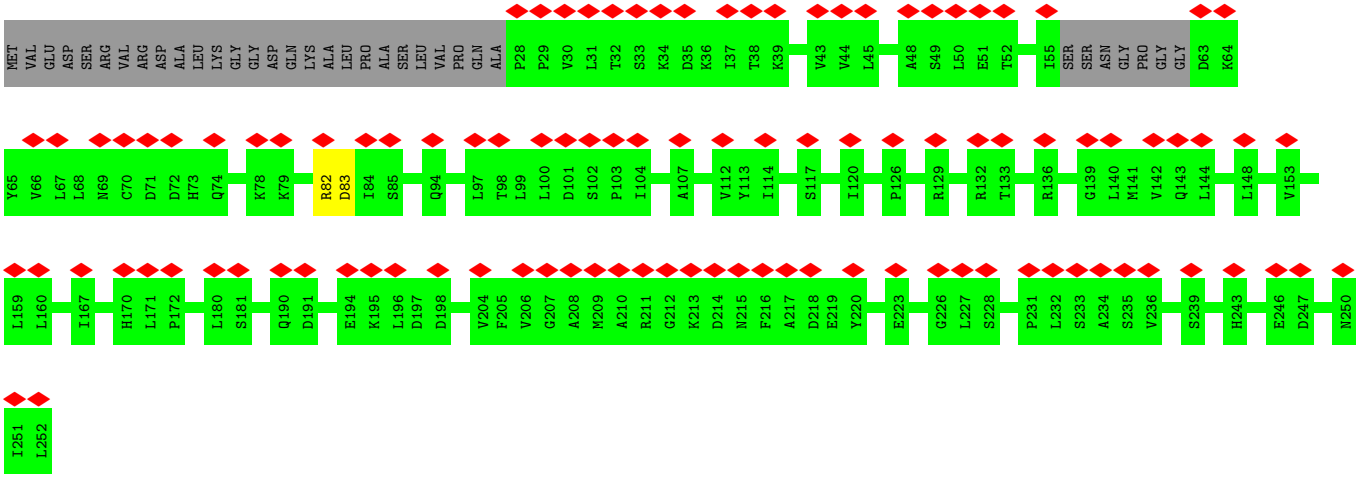
• Molecule 17: Emg1

Chain e:



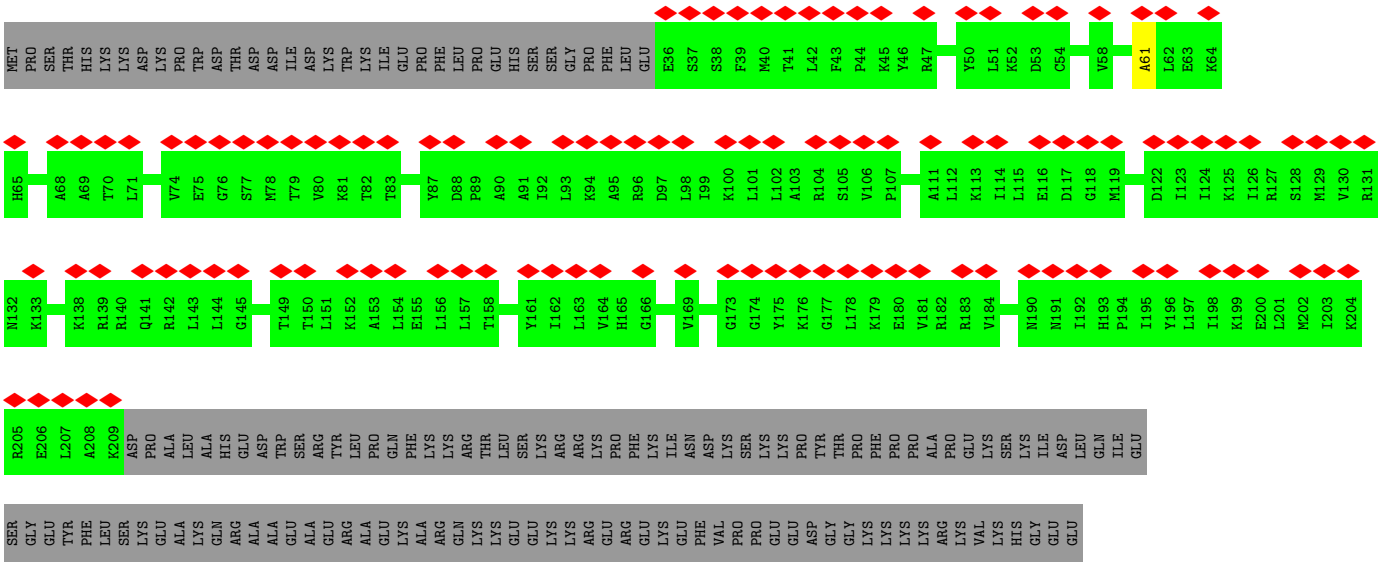
• Molecule 17: Emg1

Chain f:



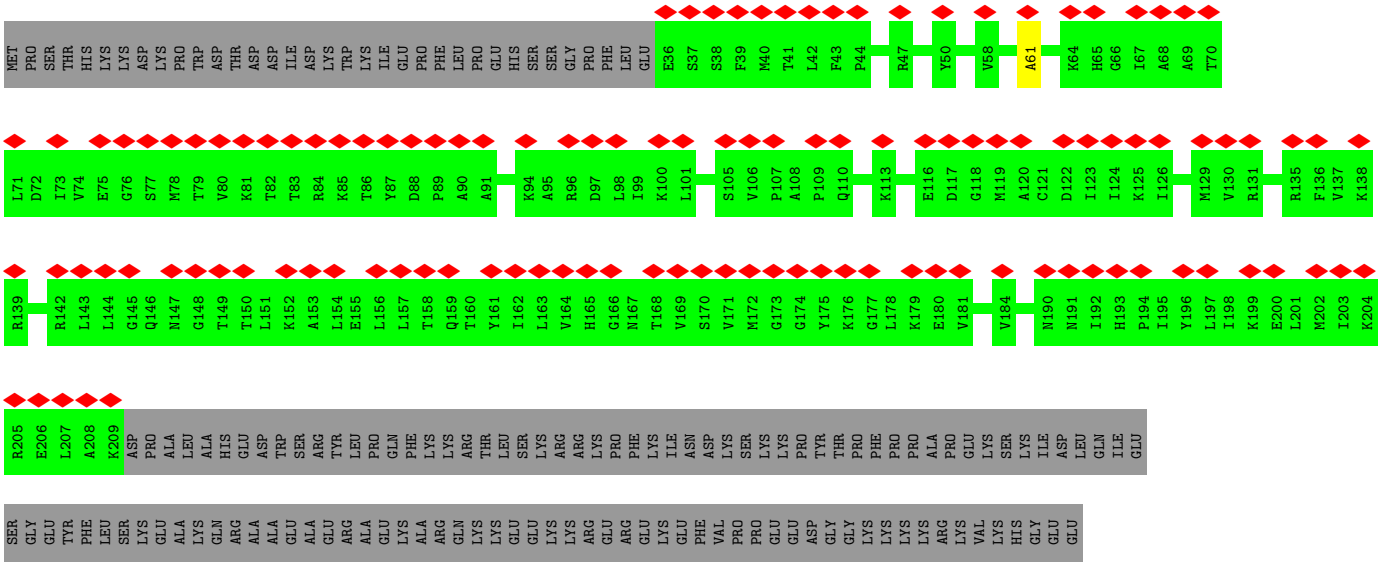
• Molecule 18: KRR1 small subunit processome component

Chain g:



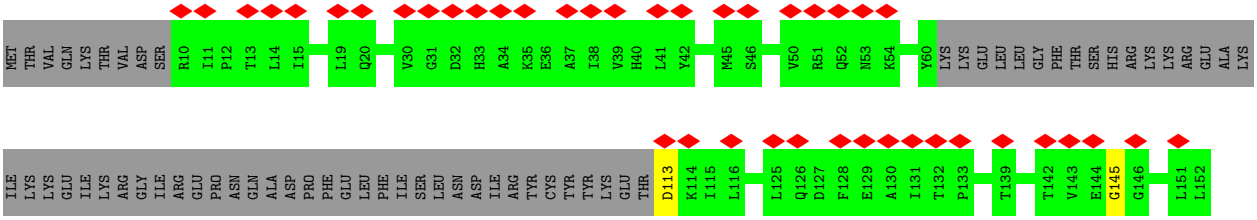
- Molecule 18: KRR1 small subunit processome component

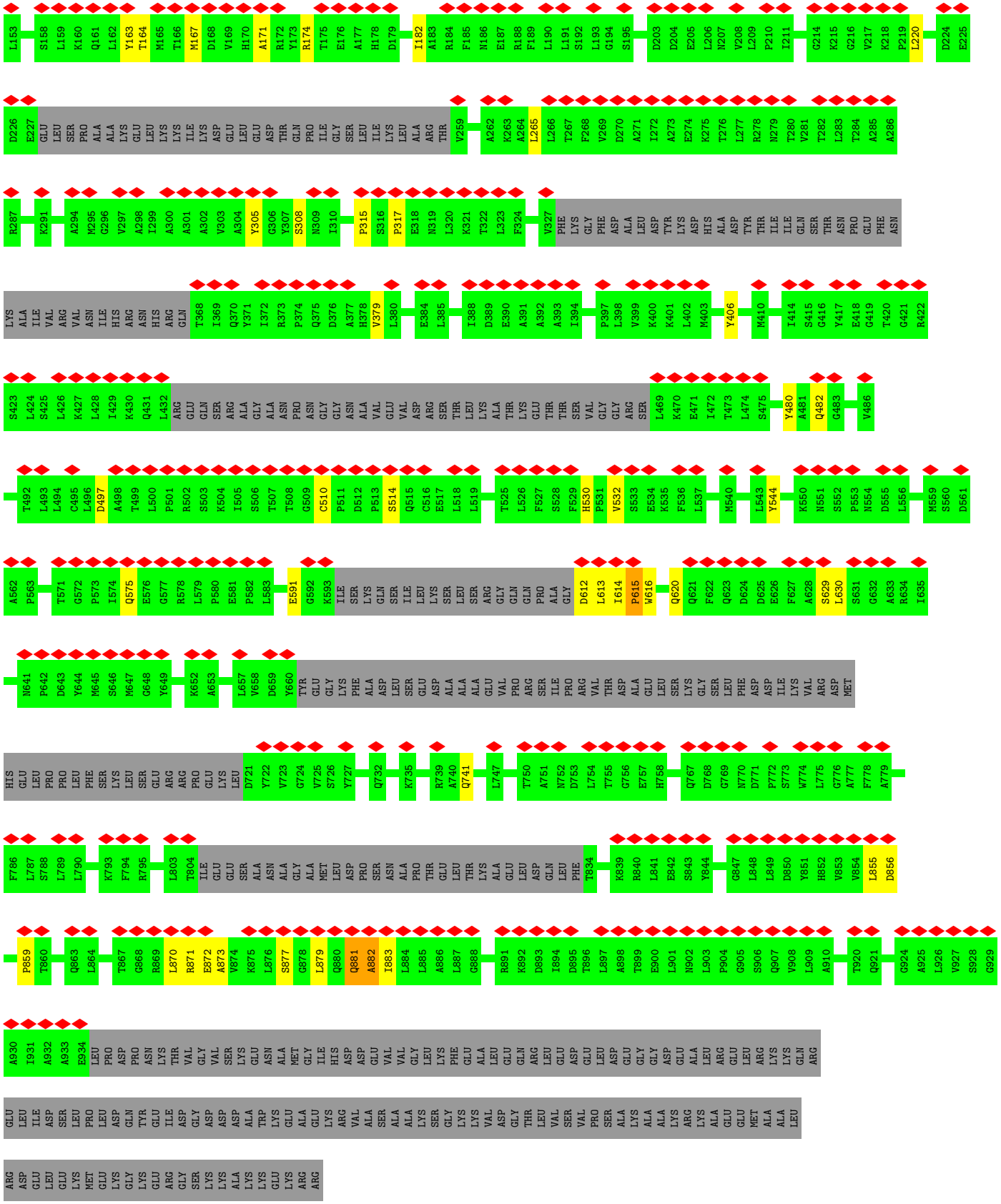
Chain h:



- Molecule 19: Kre33

Chain i:

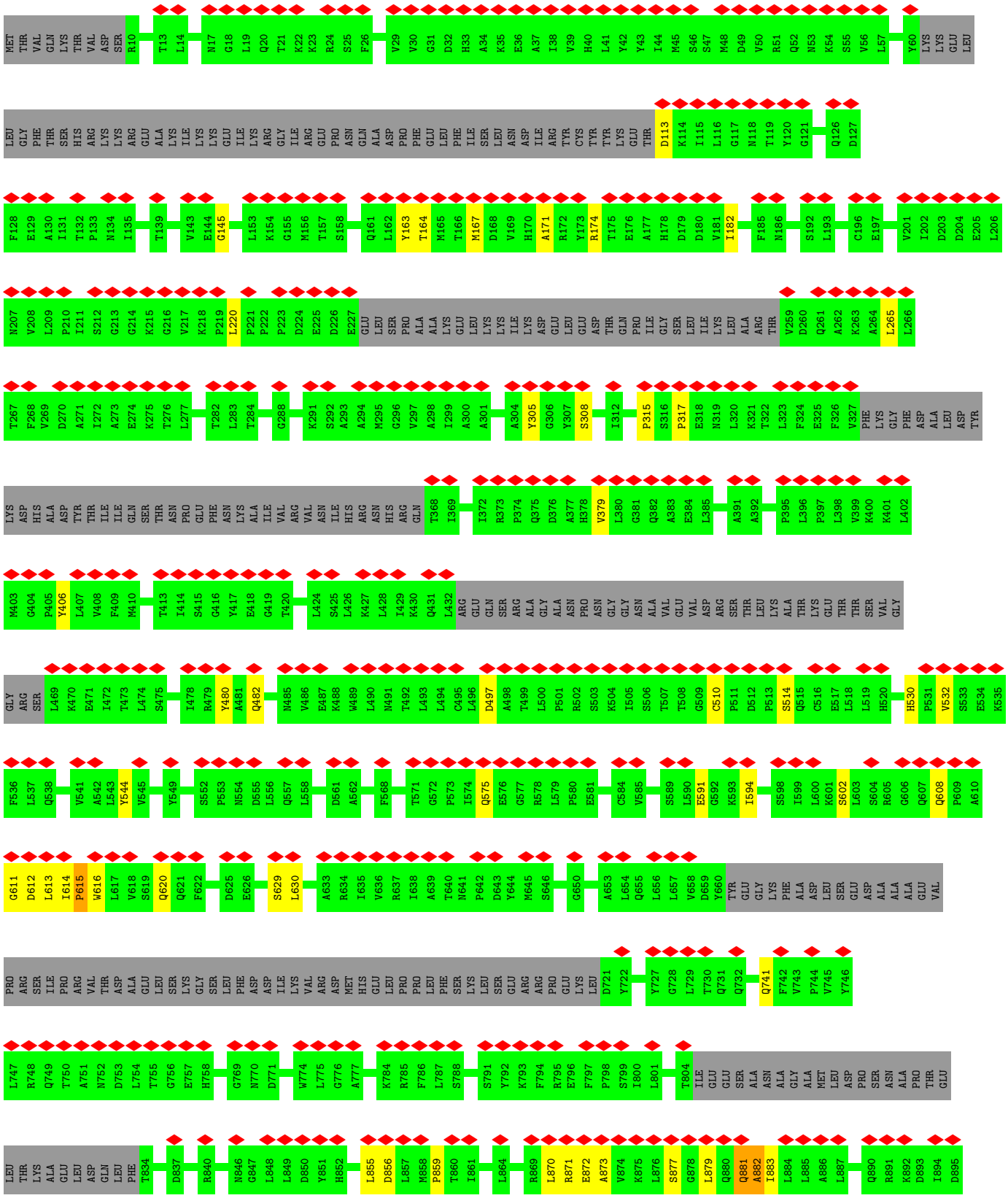


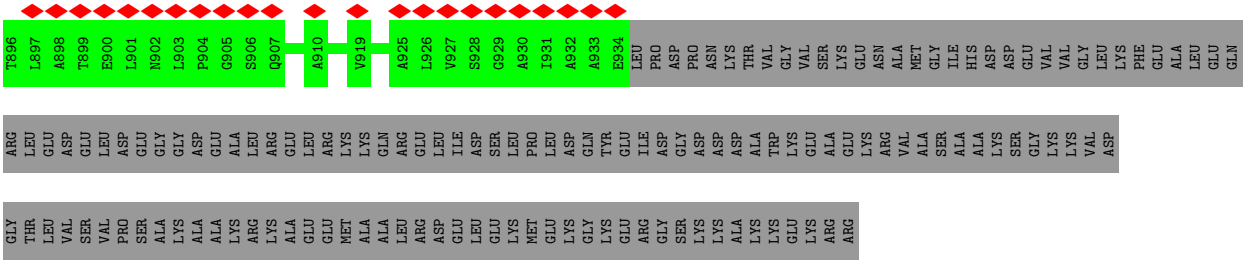


- Molecule 19: Kre33

Chain j:

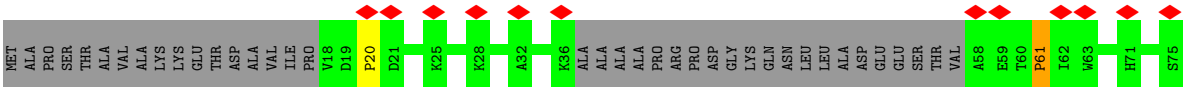
41%
58%
37%

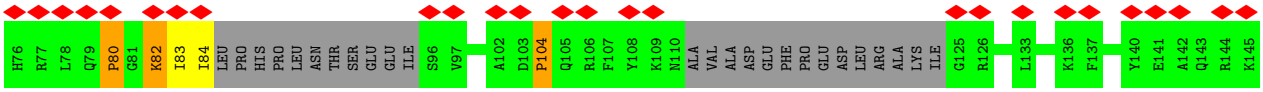

MET THR VAL GLN LYS THR VAL ASP SER R10 T13 L14 N17 G18 L19 Q20 T21 K22 K23 R24 S25 F26 V29 V30 G31 D32 H33 A34 K35 E36 A37 I38 V39 H40 L41 Y42 Y43 I44 M45 S46 S47 M48 D49 V50 R51 Q52 N53 K54 S55 V56 L57 Y60 LYS LYS GLU LEU
LEU GLY PHE THR SER HIS ARG LYS LYS ARG GLU ALA LYS ILE LYS LYS GLU ILE LYS ARG GLY ILE ARG GLU PRO ASN GLN ALA ASP PRO PHE GLU LEU PHE ILE SER LEU ASN ASP ILE ARG TYR CYS TYR TYR LYS GLU THR D113 K114 I115 L116 G117 N118 T119 Y120 G121 Q126 D127
F128 E129 A130 I131 T132 P133 N134 I135 T139 V143 E144 G145 L153 K154 G155 M156 T157 S158 Q161 L162 Y163 T164 M165 T166 M167 D168 V169 H170 A171 R172 Y173 R174 T175 E176 A177 H178 D179 D180 V181 I182 F185 N186 S192 L193 C196 E197 V201 I202 D203 D204 E205 L206
N207 V208 L209 P210 I211 S212 G213 G214 K215 G216 V217 K218 P219 L220 P221 P222 P223 D224 E225 D226 E227 GLU LEU SER PRO ALA ALA LYS GLU LEU LYS LYS ILE LYS ASP GLU LEU GLU ASP THR GLN PRO ILE GLY SER LEU ILE LYS LEU ALA ARG THR V259 D260 Q261 A262 K263 A264 L265 L266
T267 F268 V269 D270 A271 I272 A273 E274 K275 T276 L277 T282 L283 T284 G288 K291 S292 A293 A294 M295 G296 V297 A298 I299 A300 A301 A304 Y305 G306 Y307 S308 I312 P315 S316 P317 E318 N319 L320 K321 T322 L323 F324 E325 F326 V327 PHE LYS GLY PHE ASP ALA LEU ASP TYR
LYS ASP HIS ALA ASP TYR THR ILE ILE GLN SER THR ASN PRO GLU PHE ASN LYS ALA ILE VAL ARG VAL ASN ILE HIS ARG ASN HIS ARG GLN T368 I369 I372 R373 P374 Q375 D376 A377 H378 V379 L380 G381 Q382 A383 E384 L385 A391 A392 P395 L396 P397 L398 V399 K400 K401 L402
M403 G404 P405 Y406 L407 V408 F409 M410 T413 I414 S415 G416 Y417 E418 G419 T420 L424 S425 L426 K427 L428 I429 K430 Q431 L432 ARG GLU GLN SER ARG ALA GLY ALA ASN PRO ASN GLY GLY ASN ALA VAL GLU VAL ASP ARG SER THR LEU LYS ALA THR LYS GLU THR THR SER VAL GLY
GLY ARG SER L469 K470 E471 I472 T473 L474 S475 T478 R479 Y480 A481 Q482 N485 V486 E487 K488 W489 L490 N491 T492 L493 L494 C495 L496 D497 A498 T499 L500 P501 R502 S503 K504 I505 S506 T507 T508 C509 C510 P511 D512 P513 S514 Q515 C516 E517 L518 L519 H520 H530 P531 V532 S533 E534 K535
F536 L537 Q538 V541 A542 L543 Y544 V545 Y549 S552 P553 N554 D555 L556 Q557 L558 D561 A562 F568 T571 G572 P573 I574 Q575 E576 G577 R578 L579 P580 E581 C584 V585 S589 L590 E591 G592 K593 I594 S598 I599 L600 K601 S602 L603 S604 R605 G606 Q607 Q608 P609 A610
G611 D612 L613 I614 P615 W616 L617 V618 S619 Q620 Q621 F622 D625 E626 S629 L630 A633 R634 I635 V636 R637 I638 A639 T640 N641 P642 D643 Y644 M645 S646 G650 A653 L654 Q655 L656 L657 V658 D659 Y660 TYR GLU GLY LYS PHE ALA ASP LEU SER GLU ASP ALA ALA ALA GLU GLU VAL
PRO ARG SER ILE PRO ARG VAL THR ASP ALA GLU LEU SER LYS GLY SER LEU PHE ASP ASP ILE LYS VAL ARG ASP MET HIS GLU LEU PRO PRO LEU PHE SER LYS LEU SER GLU ARG ARG PRO GLU LYS LEU D721 Y722 Y727 G728 L729 T730 Q731 Q732 Q741 F742 V743 P744 V745 Y746
L747 R748 Q749 T750 A751 N752 D753 L754 T755 G756 E757 H758 G769 N770 D771 W774 L775 G776 A777 K784 R785 F786 L787 S788 S791 Y792 K793 F794 R795 E796 F797 P798 S799 I800 L801 T804 ILE GLU GLU GLU SER ALA ASN ALA GLY ALA MET LEU ASP PRO SER ASN ALA PRO THR GLU
LEU THR LYS ALA GLU LEU ASP GLN LEU PHE T834 D837 R840 N846 G847 L848 L849 D850 Y851 H852 L855 D856 L857 M858 P859 T860 I861 L864 R869 L870 R871 E872 A873 V874 K875 L876 S877 G878 L879 Q880 Q881 A882 I883 L884 L885 A886 A887 Q890 R891 K892 D893 I894 D895

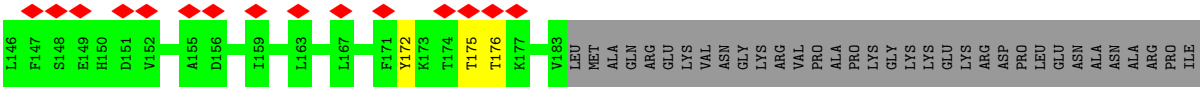


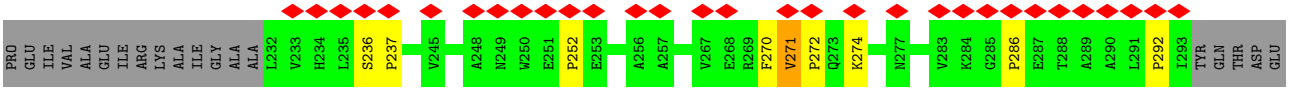
- Molecule 20: Utp30

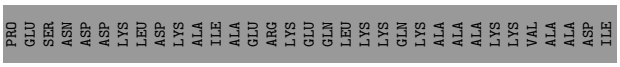
Chain k:





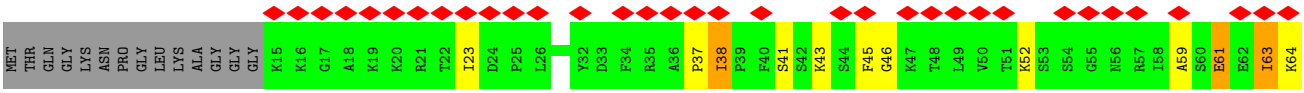


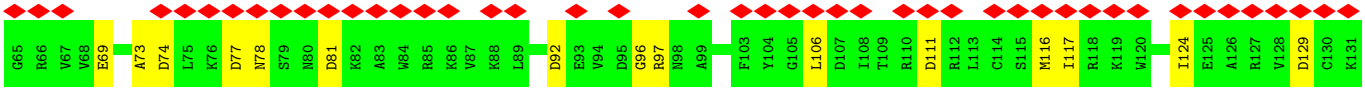


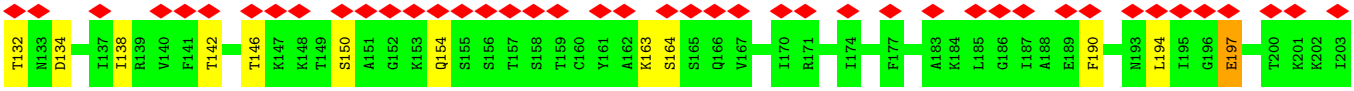


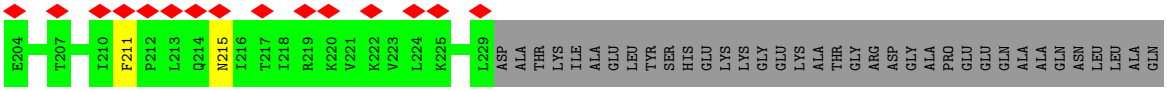
- Molecule 21: eS1

Chain o:



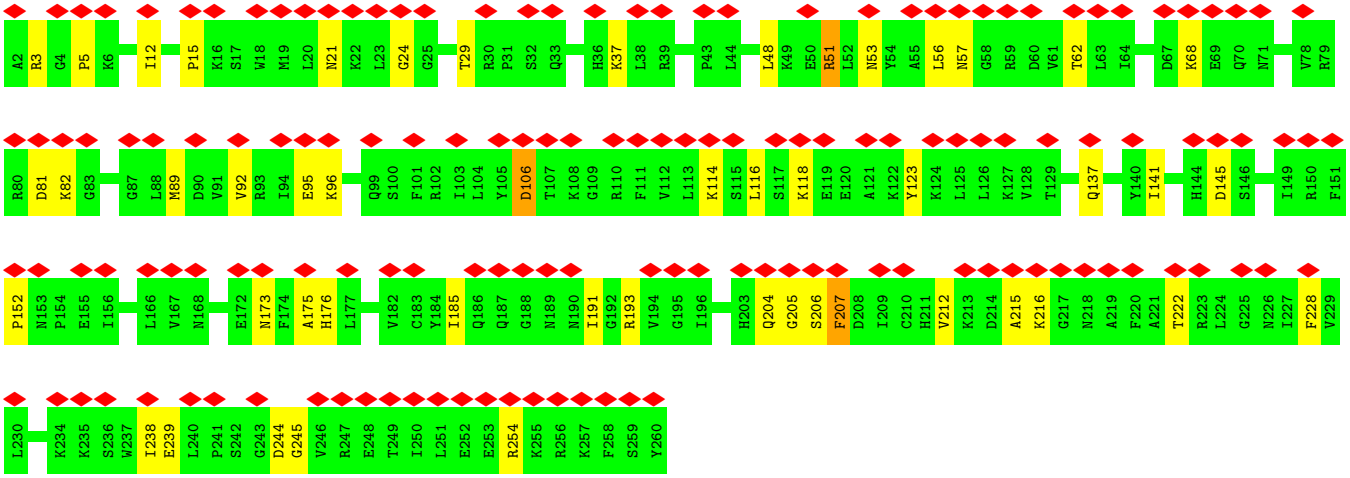






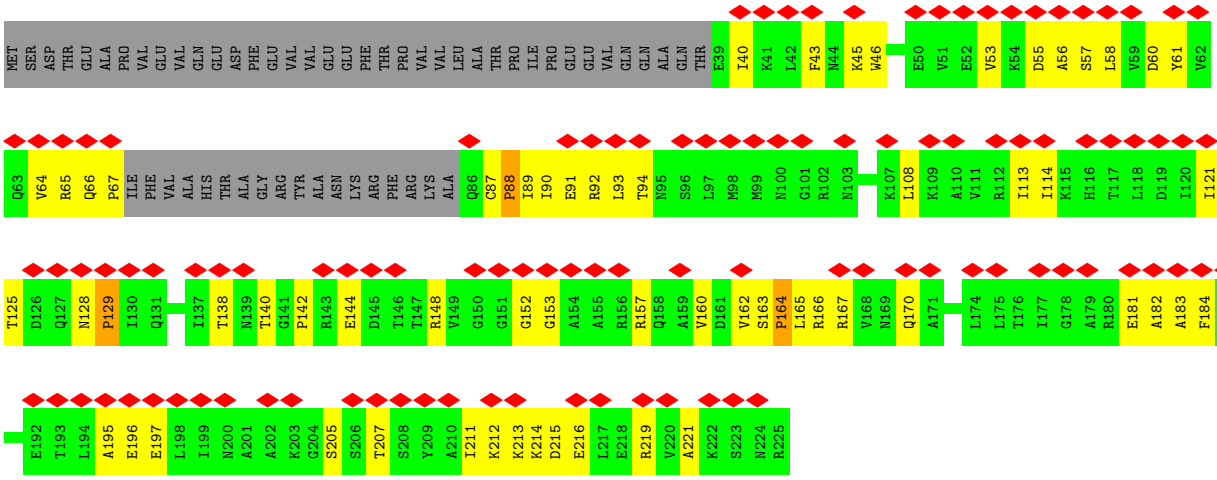
- Molecule 22: eS4

Chain p:



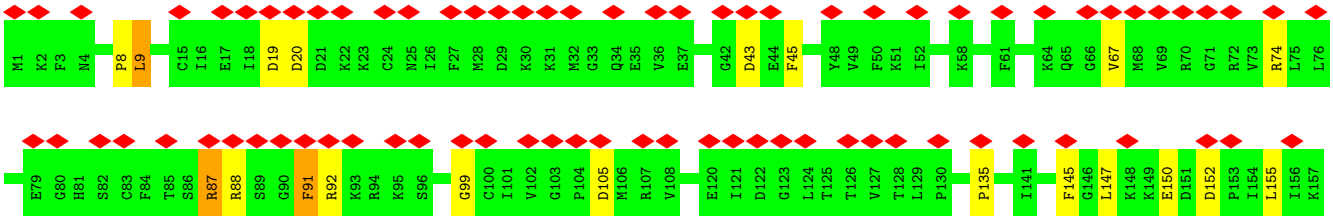
- Molecule 23: uS7

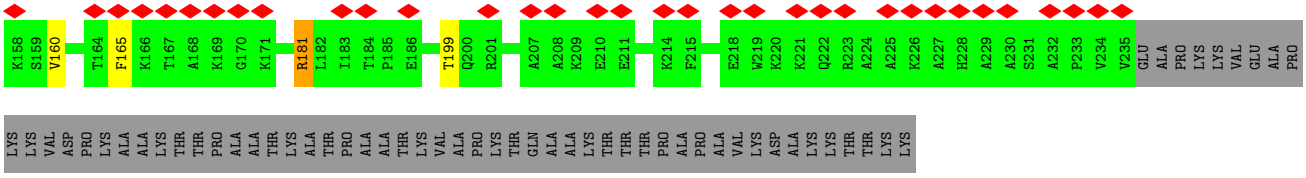
Chain q:



- Molecule 24: eS6

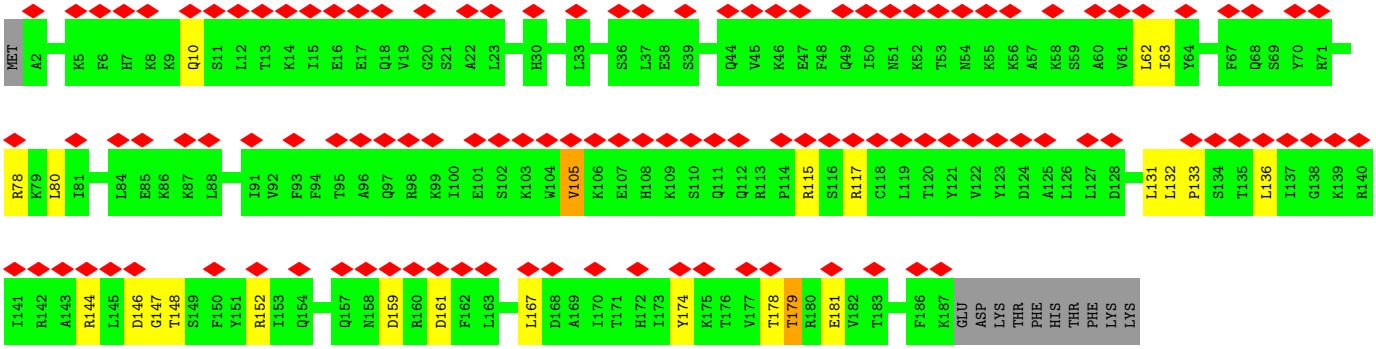
Chain r:





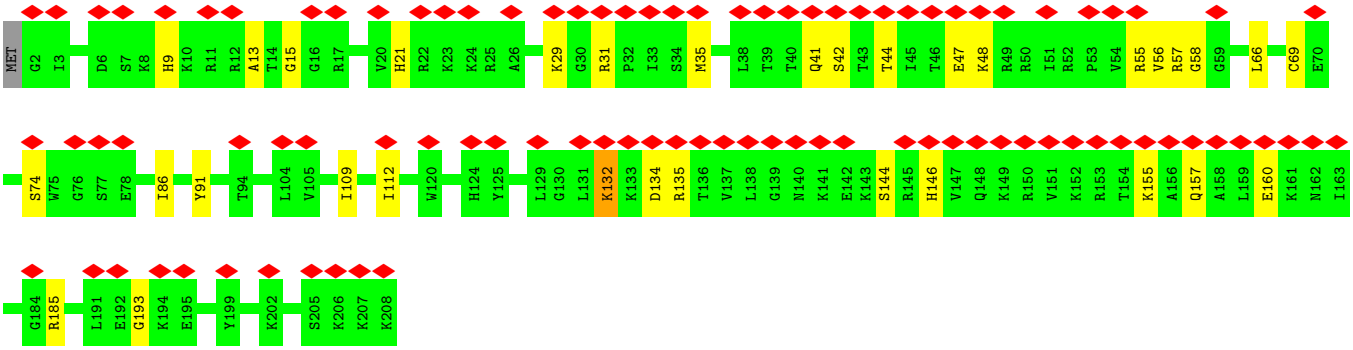
- Molecule 25: eS7

Chain s:



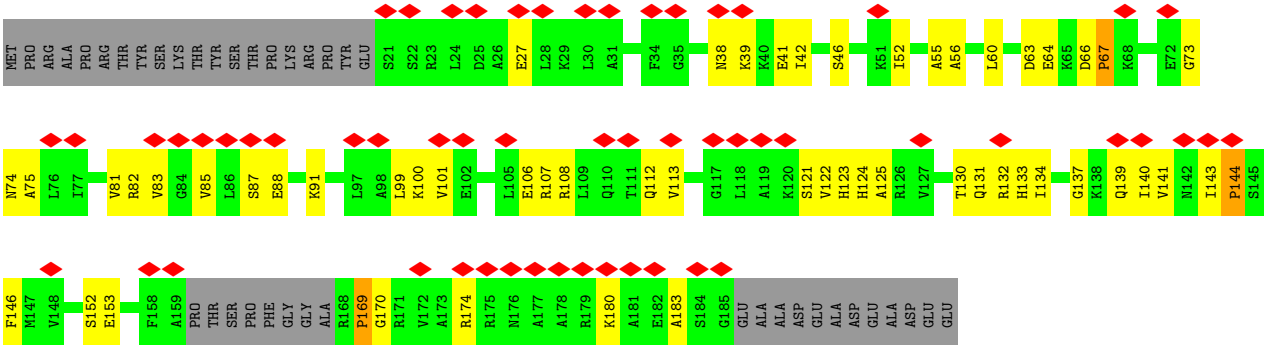
- Molecule 26: eS8

Chain t:



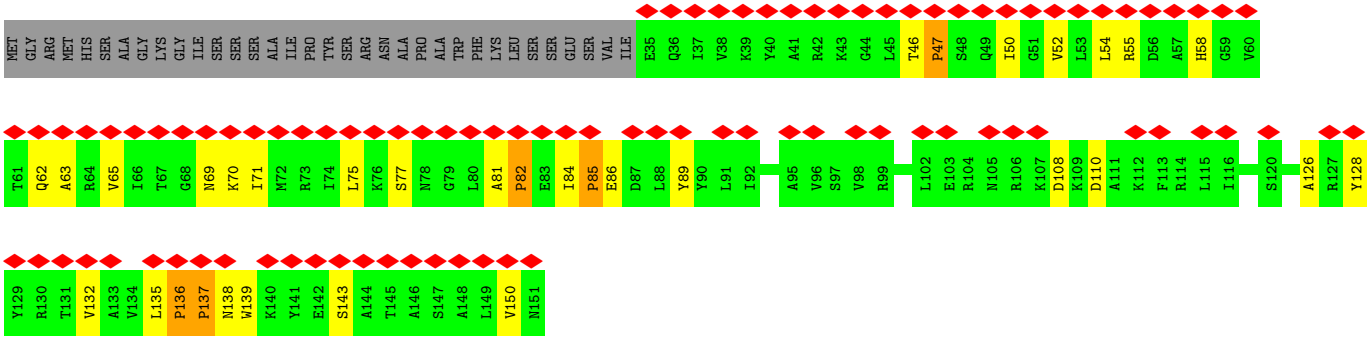
- Molecule 27: uS4

Chain u:



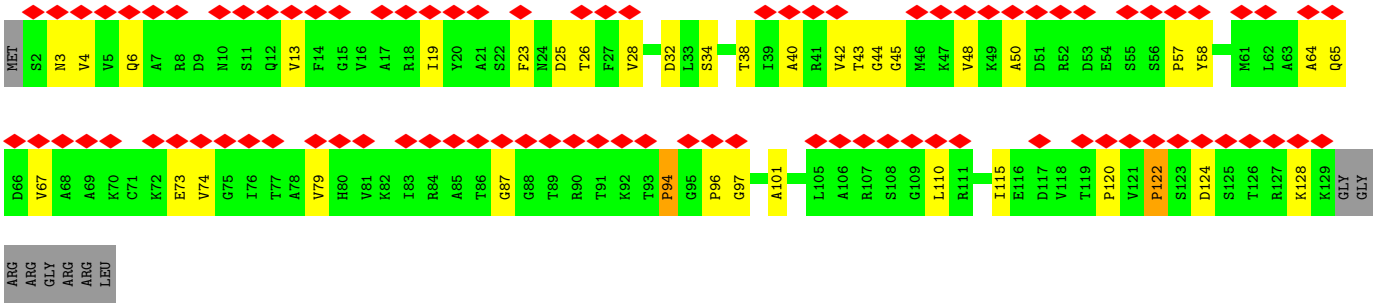
- Molecule 28: uS15

Chain v:



- Molecule 29: uS11

Chain w:

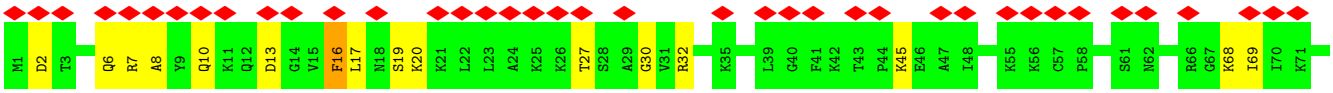


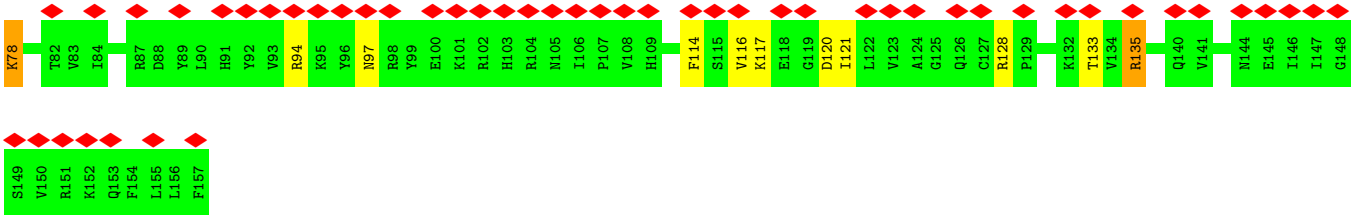
- Molecule 30: uS9

Chain x:

- Molecule 31: uS17

Chain y:



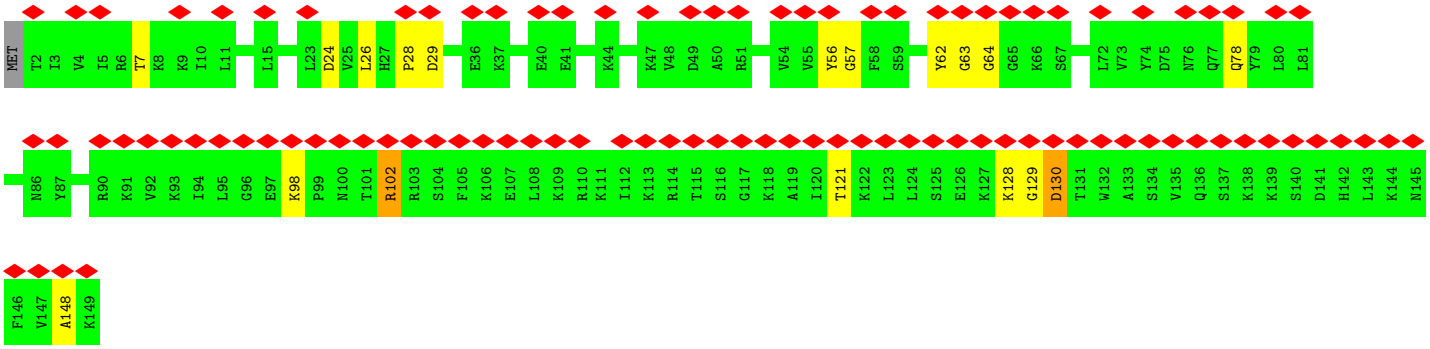


• Molecule 32: uS8

Chain z:

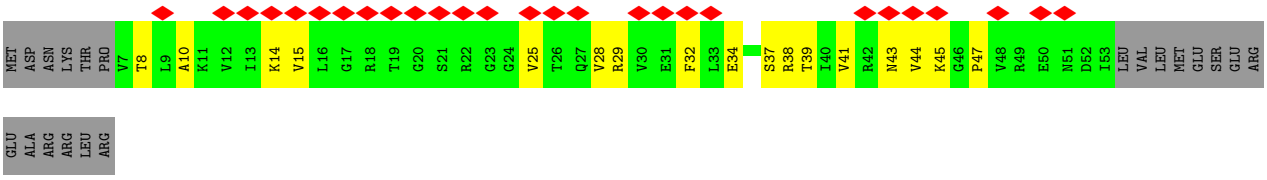
• Molecule 33: eS24

Chain 0:



• Molecule 34: eS28

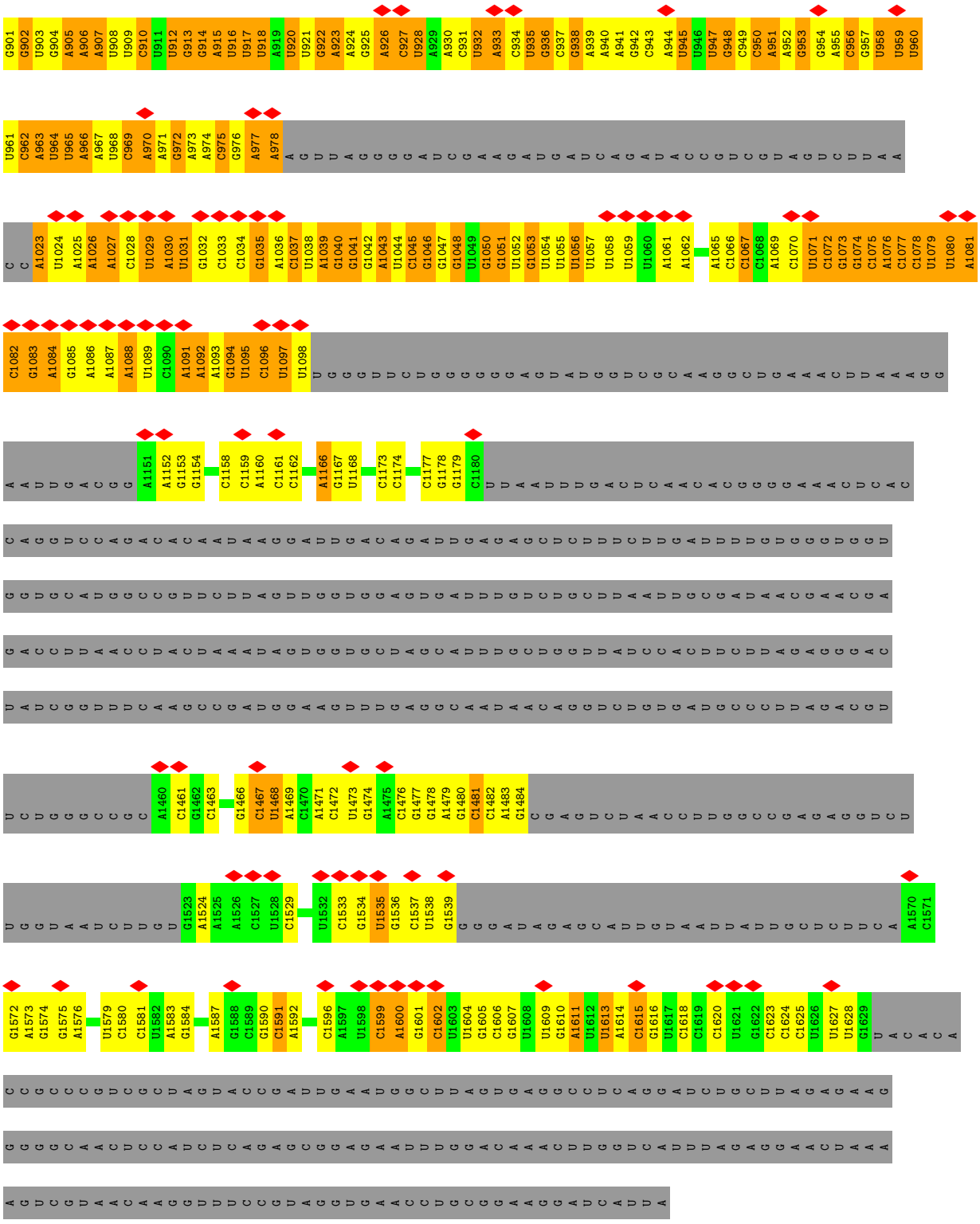
Chain 1:



• Molecule 35: 18S ribosomal RNA

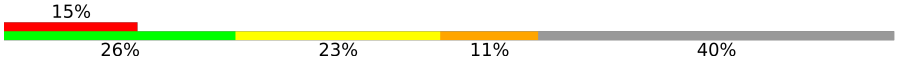
Chain 2:

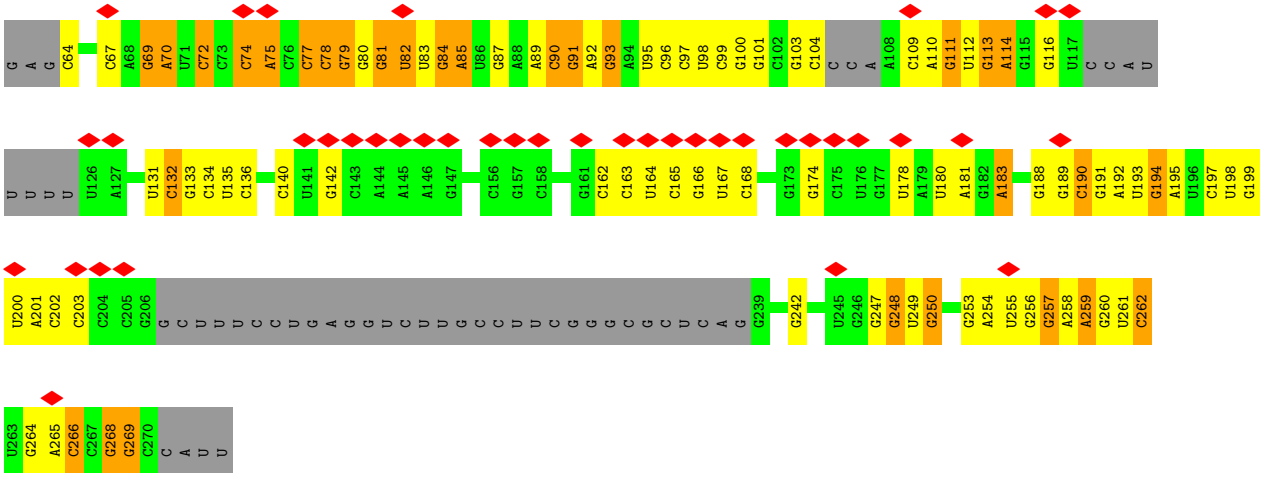
U A U C U G G U U G A U C C U G C C A
C20 U21 A22 G23 U24 C25 A26 U27 A28 U29 G30 C31 U32 U33 G34 U35 C36 U37 C38 A39 A40 A41 G42 A43 U44 U45 A46 A47 G48 C49 C50 A51 U52 G53 C54 A55 U56 G57 U58 C59 U60
A61 A62 G63 U64 A65 U66 A67 A68 G69 C70 A71 A72 U73 U74 U75 A76 U77 A78 C79 A80 G81 U82 G83 A84 A85 A86 C87 U88 G89 C90 G91 A92 A93 U94 G95 G96 C97 U98 C99 A100 U101 U102 A103 A104 A105 U106 C107 A108 G109 U110 U111 A112 U113 C114 G115 U116 U117 U118 A119 U120
U121 U122 G123 A124 U125 A126 G127 U128 U129 C130 C131 U132 U133 U134 A135 C136 U137 A138 C139 A140 U141 G142 G143 U144 A145 U146 A147 A148 C149 U150 G151 U152 G153 G154 U155 A156 A157 U158 U159 C160 U161 A162 G163 A164 G165 C166 U167 A168 A169 U170 A171 C172 A173 U174 G175 C176 U177 U178 A179 A180
A181 A182 U183 C184 U185 C186 G187 A188 C189 C190 C191 U192 U193 U194 G195 G196 A197 A198 G199 A200 G201 A202 U G204 U205 A206 U207 U208 U209 A210 U211 U212 A213 G214 A215 U A A A A A A U C A A U G U C U U C G G A C U C U
U U242 G243 A244 U245 G246 A247 U248 U249 C250 A251 U252 A253 A254 U255 A256 A257 C258 U259 U260 U261 U262 C263 G264 A265 A266 U267 C268 G269 C270 A271 U272 G273 G274 C275 C276 U277 U278 G279 U280 G281 C282 U283 G284 G285 C286 G287 A288 U289 G290 G291 U292 U293 C294 A295 U296 U297 C298 A299 A300
A301 U302 U303 U304 C305 U306 G307 C308 C309 C310 U311 A312 U313 C314 A315 A316 C317 U318 U319 U320 C321 G322 A323 U324 G325 G326 U327 A328 G329 G330 A331 U332 A333 G334 U335 G336 G337 C338 C339 U340 A341 C342 C343 A344 U345 G346 G347 U348 U349 U350 C351 A352 A353 C354 G355 G356 G357 U358 A359 A360
C361 G362 G363 G G365 A366 A367 U368 A369 A370 G371 G372 G373 U374 U375 C376 G377 A378 U379 U380 C381 C382 G383 G384 A385 G386 A387 G388 G389 G390 A391 G392 C393 C394 U395 G396 A397 G398 A399 A400 A401 G402 G403 G404 C405 U406 A407 C408 C409 A410 C411 A412 U413 C414 C415 A416 A417 G418 G419 A420
A421 G422 G423 C424 A425 G426 C427 A428 G429 G430 C431 G432 C433 G434 C435 A436 A437 A438 U439 U440 A441 C442 C443 C444 A445 A446 U447 C448 G449 U450 A451 A452 U453 U454 C455 A456 G457 G458 G459 A460 G461 G462 U463 A464 G465 U466 G467 A468 C469 A470 A471 U472 A473 A474 A475 U476 A477 A478 C479 G480
A481 U482 A483 C484 A485 G486 G487 G488 C489 C490 C491 A492 U493 U494 C495 G496 G497 G498 U499 C500 U501 U502 G503 U504 A505 A506 U507 U508 G509 G510 A511 A512 U513 G514 A515 G516 U517 A518 C519 A520 A521 U522 G523 U524 A525 A526 A527 U528 A529 C530 C531 U532 U533 A534 A535 C536 G537 A538 G539 G540
A A C A A U546 U547 G548 G549 A550 G G G C A A G U C U G G U G C A C A G G C A G C C C G G U A A U U C C A G C587 U588 C589 C590 A591 A592 U593 A G C C G U A U
A U U A A A G U U U G U U U U G613 C614 A615 G616 U617 U618 A619 A620 A621 A622 A623 G624 C625 U626 C627 G628 U629 A630 G631 U632 U633 G634 A635 A C U U U C C U U U G G G G C C C G G G G U U U G G G C C C G G U U C C G
A U U U A C U U U C G G A U U U C U U U G G U U A A A U U A A C G G G C U U G G U U A A G U U C C C U U G
U U G G C U U A G U U U G G G U U U U U G G G C C C C G G U U A G G G G U U A
U U G C U C G A A U A U G C A U U A A G G C C G A U U A A G U U C C A A U U G A A C C C G U U A A U U G
U C U A G C A C C A U C G G U A A U U A A A U U G G A A U U U A A A U U U U U



• Molecule 36: U3 RNA

Chain 3:




G A G C64 C67 A68 G69 A70 U71 C72 C73 C74 A75 C76 C77 C78 G79 G80 G81 U82 U83 G84 A85 U86 G87 A88 A89 C90 G91 A92 G93 A94 U95 C96 C97 U98 C99 G100 G101 C102 G103 C104 C C A A108 C109 A110 G111 U112 G113 A114 G115 G116 U117 C C A U
U U U U U126 A127 U131 C132 G133 C134 U135 C136 C140 U141 G142 C143 A144 A145 A146 G147 C156 G157 C158 G161 C162 C163 U164 C165 G166 U167 C168 G173 G174 C175 U176 G177 U178 A179 U180 A181 G182 A183 G188 G189 C190 G191 A192 U193 G194 A195 U196 C197 U198 G199
U200 A201 C202 C203 C204 C205 G206 G C U U U C C U G A G G U C U U G C C U U C G G G C G C U C A G G239 G242 U245 G246 G247 G248 U249 G250 G253 A254 U255 G256 G257 A258 A259 G260 U261 C262
U263 G264 A265 C266 C267 G268 G269 C270 C A U U

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	43000	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	16	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	FEI FALCON II (4k x 4k)	Depositor
Maximum map value	0.107	Depositor
Minimum map value	-0.056	Depositor
Average map value	-0.000	Depositor
Map value standard deviation	0.007	Depositor
Recommended contour level	0.025	Depositor
Map size (Å)	478.464, 478.464, 478.464	wwPDB
Map dimensions	448, 448, 448	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.068, 1.068, 1.068	Depositor

5 Model quality (i)

5.1 Standard geometry (i)

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
2	G	0.99	0/1393	1.23	7/1928 (0.4%)
4	I	0.23	0/3120	0.49	0/4334
8	S	0.36	0/1813	0.53	0/2523
8	T	0.38	0/1813	0.55	0/2523
9	U	0.35	0/602	0.57	0/837
9	V	0.39	0/602	0.59	0/837
10	W	0.40	0/1123	0.62	0/1564
10	X	0.35	0/1123	0.57	0/1564
11	Y	0.23	0/1793	0.52	0/2485
12	Z	0.45	0/1741	0.70	0/2416
13	a	0.48	0/265	0.70	0/367
14	b	0.72	0/759	1.01	2/1058 (0.2%)
15	c	0.74	3/950 (0.3%)	1.32	15/1323 (1.1%)
16	d	0.55	1/615 (0.2%)	2.34	41/857 (4.8%)
17	e	0.35	0/1044	0.61	0/1452
17	f	0.39	0/1079	0.58	0/1502
18	g	0.53	0/860	0.73	1/1197 (0.1%)
18	h	0.53	0/860	0.74	1/1197 (0.1%)
19	i	1.00	5/3246 (0.2%)	1.37	27/4507 (0.6%)
19	j	1.01	5/3335 (0.1%)	1.40	31/4632 (0.7%)
20	k	0.88	0/900	2.02	18/1249 (1.4%)
21	o	0.40	0/1748	0.71	1/2340 (0.0%)
22	p	0.42	0/2119	0.74	0/2849
23	q	0.45	0/834	0.71	5/1159 (0.4%)
24	r	0.38	0/1895	0.67	0/2523
25	s	0.41	0/1563	0.71	0/2100
26	t	0.38	0/1717	0.70	1/2288 (0.0%)
27	u	0.54	0/775	0.73	3/1077 (0.3%)
28	v	0.52	0/579	0.79	5/806 (0.6%)
29	w	0.44	0/626	0.72	4/867 (0.5%)
30	x	0.49	0/657	0.78	5/911 (0.5%)
31	y	0.46	0/1298	0.74	0/1741
32	z	0.56	0/621	0.85	3/860 (0.3%)
33	0	0.41	0/1215	0.70	0/1626

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
34	1	0.40	0/229	0.64	1/316 (0.3%)
35	2	2.02	729/20292 (3.6%)	2.64	2257/31586 (7.1%)
36	3	1.06	8/3912 (0.2%)	1.68	94/6092 (1.5%)
All	All	1.22	751/69116 (1.1%)	1.71	2522/99493 (2.5%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand.A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
3	H	0	33
8	T	0	1
9	U	0	1
9	V	0	1
10	W	0	1
10	X	0	1
14	b	0	5
15	c	0	7
16	d	0	2
19	i	0	3
19	j	0	3
20	k	0	1
All	All	0	59

All (751) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
35	2	407	A	N9-C4	-12.24	1.30	1.37
35	2	485	A	N9-C4	-12.21	1.30	1.37
35	2	328	A	N9-C4	-12.18	1.30	1.37
35	2	432	G	N7-C5	-12.13	1.31	1.39
35	2	503	G	N9-C4	-11.40	1.28	1.38
35	2	210	A	N9-C4	-11.25	1.31	1.37
35	2	1023	A	N9-C4	-11.05	1.31	1.37
35	2	307	G	N9-C4	-10.94	1.29	1.38
35	2	256	A	C5-C6	-10.86	1.31	1.41
35	2	1039	A	N9-C4	-10.85	1.31	1.37
35	2	53	G	N9-C4	-10.79	1.29	1.38
35	2	549	G	C2-N3	-10.59	1.24	1.32
35	2	381	C	N3-C4	-10.53	1.26	1.33
35	2	173	A	N9-C4	-10.52	1.31	1.37

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
35	2	196	G	N9-C4	-10.37	1.29	1.38
35	2	537	G	C2-N3	-10.28	1.24	1.32
35	2	288	A	N9-C4	-10.22	1.31	1.37
35	2	941	A	N9-C4	-10.12	1.31	1.37
35	2	456	A	C5-C6	-9.94	1.32	1.41
35	2	375	U	C2-N3	-9.89	1.30	1.37
35	2	484	C	N1-C6	-9.87	1.31	1.37
35	2	196	G	C2-N3	-9.78	1.25	1.32
35	2	905	A	N9-C4	-9.75	1.32	1.37
35	2	914	G	N9-C4	-9.74	1.30	1.38
35	2	497	G	N9-C4	-9.70	1.30	1.38
35	2	488	G	C8-N7	-9.67	1.25	1.30
35	2	498	G	N9-C4	-9.53	1.30	1.38
35	2	521	A	N9-C4	-9.51	1.32	1.37
35	2	497	G	C5-C4	-9.50	1.31	1.38
35	2	301	A	N9-C4	-9.48	1.32	1.37
35	2	481	A	N9-C4	-9.48	1.32	1.37
35	2	156	A	N9-C4	-9.44	1.32	1.37
35	2	496	G	C6-N1	-9.31	1.33	1.39
35	2	432	G	N9-C8	-9.24	1.31	1.37
35	2	1083	G	N9-C4	-9.21	1.30	1.38
35	2	382	C	N3-C4	-9.20	1.27	1.33
35	2	488	G	C5-C6	-9.19	1.33	1.42
35	2	503	G	C5-C6	-9.19	1.33	1.42
35	2	589	C	C2-N3	-9.11	1.28	1.35
35	2	171	A	N9-C4	-9.07	1.32	1.37
35	2	365	G	N7-C5	-9.07	1.33	1.39
35	2	366	A	N9-C4	-9.06	1.32	1.37
35	2	419	G	N9-C4	-9.03	1.30	1.38
35	2	548	G	C5-C6	-9.03	1.33	1.42
35	2	463	U	C2-N3	-9.02	1.31	1.37
35	2	488	G	N7-C5	-9.00	1.33	1.39
35	2	411	C	N1-C6	-8.97	1.31	1.37
35	2	922	G	N9-C4	-8.96	1.30	1.38
35	2	312	A	N9-C4	-8.95	1.32	1.37
35	2	357	G	C2-N3	-8.92	1.25	1.32
35	2	72	A	N9-C4	-8.89	1.32	1.37
35	2	404	G	N9-C4	-8.89	1.30	1.38
35	2	1076	A	N9-C4	-8.89	1.32	1.37
35	2	412	A	N9-C4	-8.87	1.32	1.37
35	2	365	G	C8-N7	-8.87	1.25	1.30
35	2	309	C	N1-C2	-8.86	1.31	1.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
35	2	391	A	C5-C6	-8.86	1.33	1.41
35	2	955	A	N9-C4	-8.85	1.32	1.37
35	2	456	A	N9-C4	-8.83	1.32	1.37
35	2	493	U	N1-C2	-8.80	1.30	1.38
35	2	152	U	C2-N3	-8.76	1.31	1.37
35	2	1094	G	C8-N7	-8.75	1.25	1.30
35	2	514	G	C6-O6	-8.71	1.16	1.24
35	2	142	G	N9-C4	-8.71	1.30	1.38
35	2	210	A	C5-C6	-8.69	1.33	1.41
35	2	885	G	N9-C4	-8.59	1.31	1.38
35	2	84	A	C8-N7	-8.59	1.25	1.31
19	i	615	PRO	CA-C	8.52	1.69	1.52
19	j	615	PRO	CA-C	8.52	1.69	1.52
35	2	502	U	C2-N3	-8.49	1.31	1.37
35	2	514	G	N9-C4	-8.47	1.31	1.38
35	2	407	A	C5-C6	-8.45	1.33	1.41
35	2	430	G	N9-C4	-8.45	1.31	1.38
35	2	484	C	C2-N3	-8.44	1.28	1.35
35	2	491	C	C2-N3	-8.35	1.29	1.35
35	2	485	A	C5-C4	-8.35	1.32	1.38
35	2	148	A	N9-C4	-8.33	1.32	1.37
35	2	1045	C	C2-N3	-8.31	1.29	1.35
35	2	482	U	C2-N3	-8.29	1.31	1.37
35	2	548	G	N9-C4	-8.29	1.31	1.38
35	2	503	G	C2-N3	-8.28	1.26	1.32
35	2	107	C	N3-C4	-8.27	1.28	1.33
35	2	288	A	N3-C4	-8.26	1.29	1.34
35	2	923	A	N7-C5	-8.25	1.34	1.39
35	2	868	G	C2-N3	-8.19	1.26	1.32
35	2	202	A	N9-C4	-8.19	1.32	1.37
35	2	162	A	C5-C6	-8.18	1.33	1.41
35	2	93	A	N3-C4	-8.17	1.29	1.34
35	2	53	G	C2-N3	-8.14	1.26	1.32
35	2	295	A	N9-C4	-8.10	1.32	1.37
35	2	390	G	C2-N3	-8.09	1.26	1.32
35	2	407	A	C2-N3	-8.09	1.26	1.33
35	2	73	U	C2-N3	-8.05	1.32	1.37
35	2	142	G	C5-C4	-8.05	1.32	1.38
35	2	381	C	C2-N3	-8.01	1.29	1.35
35	2	151	G	C5-C4	-7.98	1.32	1.38
35	2	84	A	N7-C5	-7.97	1.34	1.39
35	2	93	A	N9-C4	-7.96	1.33	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
35	2	907	A	N9-C4	-7.96	1.33	1.37
35	2	486	G	C8-N7	-7.95	1.26	1.30
35	2	492	A	N9-C4	-7.95	1.33	1.37
35	2	323	A	N9-C4	-7.93	1.33	1.37
35	2	1084	A	N9-C4	-7.92	1.33	1.37
35	2	490	C	N1-C6	-7.90	1.32	1.37
35	2	902	G	C8-N7	-7.88	1.26	1.30
35	2	496	G	N9-C4	-7.87	1.31	1.38
35	2	514	G	C6-N1	-7.86	1.34	1.39
35	2	307	G	C2-N3	-7.86	1.26	1.32
35	2	65	A	N9-C4	-7.85	1.33	1.37
35	2	473	A	N7-C5	-7.79	1.34	1.39
35	2	108	A	C5-C6	-7.78	1.34	1.41
35	2	333	A	N9-C4	-7.78	1.33	1.37
35	2	419	G	N3-C4	-7.77	1.30	1.35
35	2	399	A	N7-C5	-7.75	1.34	1.39
35	2	324	U	C4-O4	-7.75	1.17	1.23
35	2	369	A	N9-C4	-7.75	1.33	1.37
35	2	309	C	N1-C6	-7.73	1.32	1.37
35	2	164	A	N9-C4	-7.72	1.33	1.37
35	2	1094	G	N9-C4	-7.70	1.31	1.38
35	2	497	G	C5-C6	-7.69	1.34	1.42
35	2	392	G	C6-N1	-7.69	1.34	1.39
35	2	480	G	C2-N3	-7.67	1.26	1.32
35	2	495	C	C2-N3	-7.66	1.29	1.35
35	2	1042	G	C6-N1	-7.65	1.34	1.39
35	2	360	A	N9-C4	-7.61	1.33	1.37
35	2	880	C	N1-C6	-7.58	1.32	1.37
35	2	461	G	N9-C8	-7.57	1.32	1.37
35	2	520	A	N7-C5	-7.57	1.34	1.39
35	2	124	A	C5-C4	-7.54	1.33	1.38
35	2	488	G	C6-N1	-7.54	1.34	1.39
35	2	357	G	C5-C6	-7.54	1.34	1.42
35	2	188	A	N9-C4	-7.54	1.33	1.37
35	2	269	G	N9-C4	-7.44	1.31	1.38
35	2	375	U	N1-C2	-7.41	1.31	1.38
35	2	164	A	C5-C4	-7.41	1.33	1.38
35	2	287	G	C5-C6	-7.40	1.34	1.42
35	2	497	G	C2-N3	-7.38	1.26	1.32
35	2	326	G	N9-C4	-7.36	1.32	1.38
35	2	189	C	N1-C6	-7.34	1.32	1.37
35	2	83	G	C2-N3	-7.33	1.26	1.32

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
35	2	1025	A	N9-C4	7.33	1.42	1.37
35	2	497	G	N9-C8	-7.32	1.32	1.37
35	2	484	C	N1-C2	-7.31	1.32	1.40
35	2	406	U	N1-C6	-7.30	1.31	1.38
35	2	253	A	C5-C6	-7.30	1.34	1.41
35	2	295	A	C5-C6	-7.30	1.34	1.41
35	2	307	G	C5-C6	-7.29	1.35	1.42
35	2	365	G	N9-C8	-7.29	1.32	1.37
35	2	328	A	C5-C6	-7.28	1.34	1.41
35	2	549	G	N9-C4	-7.27	1.32	1.38
35	2	549	G	N1-C2	-7.26	1.31	1.37
35	2	874	C	N1-C6	-7.26	1.32	1.37
35	2	162	A	C6-N1	-7.26	1.30	1.35
35	2	497	G	N3-C4	-7.25	1.30	1.35
35	2	47	A	C6-N1	-7.23	1.30	1.35
35	2	548	G	C2-N3	-7.23	1.26	1.32
35	2	872	G	N9-C4	-7.21	1.32	1.38
35	2	496	G	N3-C4	-7.21	1.30	1.35
35	2	396	G	N9-C4	-7.20	1.32	1.38
35	2	303	U	C2-N3	-7.19	1.32	1.37
35	2	108	A	N9-C4	-7.19	1.33	1.37
35	2	1053	G	N9-C4	-7.17	1.32	1.38
35	2	191	C	N1-C2	-7.17	1.32	1.40
35	2	281	G	C5-C6	-7.16	1.35	1.42
35	2	923	A	N9-C4	-7.16	1.33	1.37
35	2	386	G	C8-N7	-7.15	1.26	1.30
35	2	243	G	C5-C6	-7.14	1.35	1.42
35	2	1094	G	N7-C5	-7.13	1.34	1.39
35	2	34	G	P-O5'	7.12	1.66	1.59
35	2	419	G	C2-N3	-7.11	1.27	1.32
35	2	199	G	N9-C4	-7.11	1.32	1.38
35	2	514	G	C5-C6	-7.08	1.35	1.42
35	2	406	U	C2-N3	-7.08	1.32	1.37
35	2	1091	A	N9-C4	-7.06	1.33	1.37
35	2	498	G	N3-C4	-7.03	1.30	1.35
35	2	588	U	C2-N3	-7.03	1.32	1.37
35	2	32	U	C2-N3	-7.01	1.32	1.37
35	2	307	G	C5-C4	-7.01	1.33	1.38
35	2	967	A	N9-C4	-7.01	1.33	1.37
35	2	502	U	C5-C6	-7.00	1.27	1.34
35	2	309	C	C2-N3	-6.99	1.30	1.35
35	2	1039	A	C5-C6	-6.97	1.34	1.41

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
35	2	195	G	N9-C4	-6.96	1.32	1.38
35	2	507	U	C2-N3	-6.96	1.32	1.37
35	2	212	U	C2-N3	-6.95	1.32	1.37
35	2	412	A	N9-C8	-6.94	1.32	1.37
35	2	460	A	N9-C4	-6.93	1.33	1.37
35	2	27	U	C2-N3	-6.93	1.32	1.37
35	2	496	G	C5-C6	-6.92	1.35	1.42
35	2	498	G	C6-N1	-6.91	1.34	1.39
35	2	195	G	C2-N3	-6.91	1.27	1.32
35	2	592	A	N9-C8	-6.90	1.32	1.37
35	2	294	C	N1-C6	-6.90	1.33	1.37
35	2	53	G	N3-C4	-6.89	1.30	1.35
35	2	124	A	N9-C4	-6.88	1.33	1.37
35	2	71	A	N9-C4	-6.88	1.33	1.37
35	2	365	G	C5-C6	-6.88	1.35	1.42
35	2	592	A	C5-C4	-6.88	1.33	1.38
35	2	83	G	N9-C4	-6.87	1.32	1.38
35	2	490	C	C2-N3	-6.87	1.30	1.35
35	2	200	A	N9-C4	-6.87	1.33	1.37
35	2	246	G	N7-C5	-6.83	1.35	1.39
35	2	280	U	N1-C2	-6.83	1.32	1.38
35	2	285	G	N9-C8	-6.83	1.33	1.37
35	2	50	C	N1-C6	-6.82	1.33	1.37
35	2	460	A	C5-C4	-6.81	1.33	1.38
35	2	955	A	N7-C5	-6.81	1.35	1.39
35	2	256	A	C8-N7	-6.81	1.26	1.31
35	2	462	G	C2-N3	-6.80	1.27	1.32
35	2	425	A	N7-C5	-6.79	1.35	1.39
35	2	123	G	C5-C6	-6.79	1.35	1.42
35	2	498	G	C5-C4	-6.78	1.33	1.38
35	2	142	G	C2-N3	-6.77	1.27	1.32
35	2	512	A	N9-C4	-6.75	1.33	1.37
19	i	616	TRP	N-CA	6.74	1.59	1.46
35	2	456	A	C8-N7	-6.74	1.26	1.31
35	2	326	G	C2-N3	-6.73	1.27	1.32
35	2	97	C	N1-C6	-6.73	1.33	1.37
19	j	616	TRP	N-CA	6.72	1.59	1.46
35	2	1038	U	C2-N3	-6.72	1.33	1.37
35	2	1070	C	C2-N3	-6.72	1.30	1.35
35	2	1094	G	C5-C6	-6.72	1.35	1.42
15	c	161	PRO	CA-C	-6.71	1.39	1.52
35	2	174	U	C2-N3	-6.71	1.33	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
35	2	344	A	N9-C4	-6.71	1.33	1.37
35	2	404	G	C5-C6	-6.70	1.35	1.42
35	2	407	A	N3-C4	-6.70	1.30	1.34
35	2	469	C	N1-C6	-6.70	1.33	1.37
35	2	401	A	N9-C4	-6.70	1.33	1.37
35	2	485	A	C5-C6	-6.70	1.35	1.41
35	2	880	C	C2-N3	-6.70	1.30	1.35
35	2	530	C	C5-C6	-6.70	1.28	1.34
35	2	539	G	N9-C8	-6.70	1.33	1.37
35	2	1023	A	C2-N3	-6.70	1.27	1.33
35	2	80	A	C6-N1	-6.69	1.30	1.35
35	2	341	A	N9-C4	-6.67	1.33	1.37
35	2	173	A	N3-C4	-6.67	1.30	1.34
35	2	1053	G	C2-N3	-6.67	1.27	1.32
35	2	281	G	N9-C4	-6.66	1.32	1.38
35	2	343	C	C2-N3	-6.66	1.30	1.35
35	2	390	G	C5-C4	-6.66	1.33	1.38
35	2	540	G	N7-C5	-6.66	1.35	1.39
35	2	537	G	N9-C4	-6.65	1.32	1.38
35	2	527	A	C6-N1	-6.65	1.30	1.35
35	2	371	G	N9-C4	-6.65	1.32	1.38
35	2	456	A	N7-C5	-6.64	1.35	1.39
35	2	456	A	C6-N1	-6.63	1.30	1.35
35	2	47	A	N7-C5	-6.62	1.35	1.39
35	2	288	A	C6-N1	-6.61	1.30	1.35
35	2	1041	G	C5-C6	-6.61	1.35	1.42
35	2	213	A	N9-C4	-6.61	1.33	1.37
35	2	1042	G	C5-C6	-6.60	1.35	1.42
35	2	955	A	N9-C8	-6.59	1.32	1.37
35	2	108	A	N7-C5	-6.59	1.35	1.39
35	2	1080	U	C4-O4	-6.59	1.18	1.23
35	2	243	G	C8-N7	-6.59	1.26	1.30
35	2	496	G	C2-N3	-6.58	1.27	1.32
35	2	328	A	C2-N3	-6.57	1.27	1.33
35	2	974	A	C5-C6	-6.57	1.35	1.41
15	c	161	PRO	C-O	-6.55	1.10	1.23
35	2	243	G	C6-N1	-6.55	1.34	1.39
35	2	951	A	N9-C4	-6.55	1.33	1.37
35	2	549	G	C6-N1	-6.55	1.34	1.39
35	2	367	A	N9-C4	-6.54	1.33	1.37
35	2	441	A	C5-C6	-6.53	1.35	1.41
35	2	428	A	N9-C4	-6.53	1.33	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
35	2	255	U	C2-N3	-6.52	1.33	1.37
35	2	163	G	C8-N7	-6.52	1.27	1.30
35	2	549	G	C5-C4	-6.52	1.33	1.38
35	2	163	G	C5-C6	-6.52	1.35	1.42
35	2	1053	G	N9-C8	-6.52	1.33	1.37
35	2	309	C	C4-C5	-6.51	1.37	1.43
35	2	519	C	N1-C2	-6.51	1.33	1.40
35	2	391	A	C5-C4	-6.50	1.34	1.38
35	2	405	C	C2-N3	-6.50	1.30	1.35
35	2	117	U	C2-N3	-6.50	1.33	1.37
35	2	112	A	N9-C4	-6.49	1.33	1.37
35	2	900	A	N9-C4	-6.46	1.33	1.37
35	2	589	C	N1-C2	-6.46	1.33	1.40
35	2	1074	G	C5-C6	-6.45	1.35	1.42
19	j	612	ASP	CA-C	-6.42	1.36	1.52
35	2	353	A	C5-C6	-6.42	1.35	1.41
35	2	386	G	C6-N1	-6.42	1.35	1.39
35	2	460	A	C5-C6	-6.42	1.35	1.41
35	2	922	G	C5-C6	-6.42	1.35	1.42
19	i	612	ASP	CA-C	-6.40	1.36	1.52
35	2	432	G	C8-N7	-6.40	1.27	1.30
35	2	955	A	N3-C4	-6.39	1.31	1.34
35	2	883	C	N1-C6	-6.39	1.33	1.37
35	2	1074	G	C6-N1	-6.39	1.35	1.39
35	2	527	A	N9-C4	-6.38	1.34	1.37
35	2	976	G	N3-C4	-6.38	1.30	1.35
35	2	390	G	N3-C4	-6.37	1.30	1.35
35	2	382	C	N1-C6	-6.36	1.33	1.37
35	2	388	G	C5-C6	-6.36	1.35	1.42
35	2	496	G	C5-C4	-6.36	1.33	1.38
35	2	923	A	C5-C6	-6.35	1.35	1.41
35	2	1045	C	N1-C2	-6.35	1.33	1.40
35	2	1083	G	C2-N3	-6.35	1.27	1.32
35	2	589	C	N3-C4	-6.35	1.29	1.33
35	2	53	G	C5-C4	-6.34	1.33	1.38
35	2	85	A	N9-C4	-6.34	1.34	1.37
35	2	629	U	N1-C2	-6.34	1.32	1.38
35	2	196	G	N3-C4	-6.34	1.31	1.35
35	2	279	G	N7-C5	-6.33	1.35	1.39
35	2	1082	C	P-O5'	6.33	1.66	1.59
35	2	492	A	N3-C4	-6.33	1.31	1.34
35	2	404	G	C5-C4	-6.32	1.33	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
35	2	256	A	N7-C5	-6.31	1.35	1.39
35	2	357	G	C6-N1	-6.30	1.35	1.39
35	2	495	C	N3-C4	-6.30	1.29	1.33
35	2	271	A	N9-C4	-6.30	1.34	1.37
35	2	477	A	C6-N1	-6.29	1.31	1.35
35	2	267	U	C2-N3	-6.29	1.33	1.37
35	2	151	G	C5-C6	-6.29	1.36	1.42
35	2	109	G	C8-N7	-6.29	1.27	1.30
35	2	163	G	N9-C4	-6.29	1.32	1.38
35	2	124	A	C6-N1	-6.28	1.31	1.35
35	2	309	C	C5-C6	-6.28	1.29	1.34
35	2	491	C	N1-C2	-6.28	1.33	1.40
35	2	462	G	N9-C4	-6.27	1.32	1.38
35	2	922	G	C2-N3	-6.26	1.27	1.32
35	2	502	U	C4-O4	-6.24	1.18	1.23
35	2	344	A	C5-C6	-6.24	1.35	1.41
35	2	377	G	N9-C8	-6.23	1.33	1.37
35	2	1043	A	N9-C4	-6.23	1.34	1.37
35	2	504	U	C2-N3	-6.23	1.33	1.37
35	2	167	U	C4-O4	-6.23	1.18	1.23
35	2	285	G	C6-N1	-6.23	1.35	1.39
35	2	107	C	N1-C6	-6.22	1.33	1.37
35	2	163	G	N7-C5	-6.22	1.35	1.39
35	2	341	A	C5-C6	-6.22	1.35	1.41
35	2	460	A	C6-N6	-6.21	1.28	1.33
35	2	419	G	C2-N2	-6.21	1.28	1.34
35	2	624	G	N9-C4	-6.21	1.32	1.38
35	2	530	C	C4-C5	-6.21	1.38	1.43
35	2	407	A	N7-C5	-6.20	1.35	1.39
35	2	477	A	C6-N6	-6.20	1.28	1.33
35	2	548	G	C5-C4	-6.20	1.34	1.38
35	2	210	A	C5-C4	-6.19	1.34	1.38
35	2	163	G	N9-C8	-6.19	1.33	1.37
35	2	630	A	C6-N6	-6.19	1.28	1.33
35	2	142	G	N3-C4	-6.19	1.31	1.35
36	3	84	G	N9-C4	-6.19	1.32	1.38
35	2	316	A	N3-C4	-6.17	1.31	1.34
35	2	512	A	C6-N6	-6.17	1.29	1.33
35	2	109	G	N9-C4	-6.16	1.33	1.38
35	2	307	G	N3-C4	-6.16	1.31	1.35
35	2	295	A	N3-C4	-6.16	1.31	1.34
35	2	1076	A	C5-C6	-6.16	1.35	1.41

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
35	2	340	U	N1-C2	-6.15	1.33	1.38
35	2	103	A	N9-C4	6.15	1.41	1.37
35	2	387	A	N3-C4	-6.14	1.31	1.34
35	2	206	A	N9-C4	-6.14	1.34	1.37
35	2	514	G	N9-C8	-6.13	1.33	1.37
35	2	382	C	C5-C6	-6.12	1.29	1.34
35	2	494	U	C5-C6	-6.12	1.28	1.34
35	2	885	G	C5-C4	-6.12	1.34	1.38
35	2	398	G	C5-C4	-6.12	1.34	1.38
35	2	489	C	N1-C6	-6.11	1.33	1.37
35	2	1080	U	C2-N3	-6.11	1.33	1.37
35	2	885	G	C6-N1	-6.09	1.35	1.39
35	2	213	A	C5-C4	-6.09	1.34	1.38
35	2	592	A	N7-C5	-6.08	1.35	1.39
35	2	168	A	N7-C5	-6.07	1.35	1.39
35	2	496	G	N7-C5	-6.07	1.35	1.39
35	2	488	G	N1-C2	-6.07	1.32	1.37
35	2	112	A	C5-C6	-6.06	1.35	1.41
35	2	173	A	C2-N3	-6.06	1.28	1.33
35	2	187	G	N9-C4	-6.06	1.33	1.38
35	2	950	C	N1-C6	-6.04	1.33	1.37
35	2	325	G	C5-C6	-6.04	1.36	1.42
35	2	156	A	C5-C6	-6.04	1.35	1.41
36	3	81	G	N9-C4	-6.04	1.33	1.38
35	2	28	A	N9-C4	6.04	1.41	1.37
35	2	316	A	C5-C6	-6.04	1.35	1.41
35	2	477	A	C5-C6	-6.03	1.35	1.41
35	2	546	U	C2-N3	-6.03	1.33	1.37
35	2	65	A	N3-C4	-6.03	1.31	1.34
35	2	84	A	N9-C8	-6.03	1.32	1.37
35	2	948	G	N9-C4	-6.03	1.33	1.38
35	2	100	A	N9-C4	-6.02	1.34	1.37
35	2	441	A	C6-N1	-6.02	1.31	1.35
35	2	142	G	C5-C6	-6.01	1.36	1.42
35	2	973	A	C5-C6	-6.00	1.35	1.41
35	2	922	G	C5-C4	-5.99	1.34	1.38
35	2	955	A	C5-C6	-5.99	1.35	1.41
35	2	288	A	C5-C4	-5.99	1.34	1.38
35	2	879	G	C6-N1	-5.99	1.35	1.39
35	2	301	A	N7-C5	-5.99	1.35	1.39
35	2	352	A	N9-C4	-5.99	1.34	1.37
35	2	548	G	C8-N7	-5.99	1.27	1.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
35	2	72	A	C5-C4	-5.98	1.34	1.38
35	2	514	G	C5-C4	-5.98	1.34	1.38
35	2	110	U	C2-O2	-5.98	1.17	1.22
35	2	881	A	N9-C4	-5.98	1.34	1.37
35	2	244	A	N9-C4	-5.97	1.34	1.37
35	2	361	C	N1-C2	-5.97	1.34	1.40
35	2	872	G	C5-C4	-5.97	1.34	1.38
35	2	465	G	N9-C8	-5.97	1.33	1.37
35	2	384	G	C5-C6	-5.97	1.36	1.42
35	2	99	C	C5-C6	-5.96	1.29	1.34
35	2	286	C	N1-C6	-5.96	1.33	1.37
35	2	305	C	N1-C6	-5.96	1.33	1.37
35	2	85	A	C8-N7	-5.96	1.27	1.31
35	2	885	G	C2-N3	-5.95	1.27	1.32
35	2	89	G	N9-C4	-5.95	1.33	1.38
35	2	926	A	C5-C6	-5.95	1.35	1.41
35	2	80	A	C5-C6	-5.94	1.35	1.41
35	2	895	G	C5-C4	-5.94	1.34	1.38
35	2	57	G	N9-C4	-5.94	1.33	1.38
35	2	1079	U	N1-C2	-5.94	1.33	1.38
35	2	878	G	C2-N3	-5.93	1.28	1.32
35	2	279	G	N9-C8	-5.92	1.33	1.37
35	2	295	A	N9-C8	-5.92	1.33	1.37
35	2	955	A	C6-N1	-5.92	1.31	1.35
35	2	209	U	C2-N3	-5.91	1.33	1.37
35	2	471	A	N9-C4	-5.91	1.34	1.37
35	2	465	G	N9-C4	-5.91	1.33	1.38
35	2	1023	A	C6-N1	-5.91	1.31	1.35
35	2	483	A	C5-C6	-5.91	1.35	1.41
35	2	185	U	C2-N3	-5.91	1.33	1.37
35	2	254	A	N9-C4	-5.91	1.34	1.37
35	2	457	G	C5-C4	-5.91	1.34	1.38
35	2	484	C	C5-C6	-5.91	1.29	1.34
35	2	1023	A	N3-C4	-5.91	1.31	1.34
35	2	538	A	C5-C6	-5.90	1.35	1.41
35	2	281	G	N7-C5	-5.90	1.35	1.39
35	2	365	G	C6-N1	-5.90	1.35	1.39
35	2	48	G	N9-C4	5.89	1.42	1.38
35	2	406	U	C5-C6	-5.89	1.28	1.34
35	2	464	A	C5-C4	-5.89	1.34	1.38
35	2	34	G	C6-N1	-5.88	1.35	1.39
35	2	590	C	N1-C2	-5.88	1.34	1.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
35	2	496	G	N1-C2	-5.86	1.33	1.37
35	2	328	A	N3-C4	-5.86	1.31	1.34
35	2	316	A	N9-C4	-5.83	1.34	1.37
35	2	590	C	N1-C6	-5.83	1.33	1.37
35	2	377	G	C8-N7	-5.82	1.27	1.30
35	2	405	C	C5-C6	-5.82	1.29	1.34
35	2	47	A	N3-C4	-5.82	1.31	1.34
35	2	949	C	C2-N3	-5.82	1.31	1.35
35	2	462	G	N1-C2	-5.82	1.33	1.37
35	2	1042	G	C5-C4	-5.82	1.34	1.38
35	2	496	G	C2-N2	-5.80	1.28	1.34
35	2	100	A	N7-C5	-5.80	1.35	1.39
35	2	404	G	C8-N7	-5.79	1.27	1.30
35	2	884	A	C5-C6	-5.79	1.35	1.41
35	2	269	G	C5-C4	-5.79	1.34	1.38
35	2	898	A	C5-C6	-5.79	1.35	1.41
35	2	295	A	C8-N7	-5.78	1.27	1.31
35	2	1075	C	N1-C2	-5.78	1.34	1.40
35	2	210	A	C8-N7	-5.78	1.27	1.31
35	2	390	G	N9-C4	-5.78	1.33	1.38
35	2	497	G	C8-N7	-5.78	1.27	1.30
35	2	625	C	N1-C6	-5.78	1.33	1.37
35	2	143	G	C5-C4	-5.77	1.34	1.38
35	2	900	A	C5-C4	-5.76	1.34	1.38
35	2	270	C	N1-C6	-5.76	1.33	1.37
35	2	927	C	N1-C6	-5.76	1.33	1.37
35	2	253	A	C6-N1	-5.75	1.31	1.35
35	2	448	C	N1-C6	-5.75	1.33	1.37
35	2	1041	G	C8-N7	-5.75	1.27	1.30
35	2	433	C	N1-C6	-5.75	1.33	1.37
15	c	167	LEU	CA-CB	-5.74	1.40	1.53
35	2	353	A	N7-C5	-5.74	1.35	1.39
35	2	147	A	N7-C5	-5.73	1.35	1.39
35	2	357	G	C5-C4	-5.73	1.34	1.38
35	2	891	A	N9-C4	-5.73	1.34	1.37
35	2	1039	A	C5-C4	-5.73	1.34	1.38
35	2	162	A	N7-C5	-5.72	1.35	1.39
35	2	91	G	C6-O6	-5.72	1.19	1.24
35	2	36	C	C2-N3	-5.71	1.31	1.35
35	2	1074	G	C8-N7	-5.70	1.27	1.30
35	2	108	A	C6-N1	-5.70	1.31	1.35
35	2	497	G	N1-C2	-5.70	1.33	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
35	2	894	U	N1-C2	-5.70	1.33	1.38
35	2	516	G	C2-N3	-5.70	1.28	1.32
35	2	900	A	C5-C6	-5.70	1.35	1.41
35	2	357	G	N9-C4	-5.69	1.33	1.38
35	2	1043	A	C5-C6	-5.69	1.35	1.41
35	2	273	G	C5-C6	-5.68	1.36	1.42
35	2	430	G	C8-N7	-5.68	1.27	1.30
35	2	87	C	C2-N3	-5.68	1.31	1.35
35	2	172	C	N1-C6	-5.68	1.33	1.37
35	2	303	U	N1-C2	-5.68	1.33	1.38
35	2	399	A	C5-C6	-5.68	1.35	1.41
35	2	401	A	C5-C4	-5.68	1.34	1.38
35	2	61	A	N9-C4	-5.67	1.34	1.37
35	2	100	A	C5-C6	-5.67	1.35	1.41
35	2	100	A	C6-N6	-5.67	1.29	1.33
35	2	936	G	C5-C4	-5.67	1.34	1.38
35	2	295	A	C5-C4	-5.67	1.34	1.38
35	2	179	A	N9-C4	5.66	1.41	1.37
35	2	325	G	C6-N1	-5.66	1.35	1.39
35	2	295	A	N7-C5	-5.66	1.35	1.39
35	2	516	G	C5-C4	-5.66	1.34	1.38
35	2	79	C	N1-C6	-5.66	1.33	1.37
35	2	269	G	C2-N3	-5.66	1.28	1.32
35	2	489	C	N3-C4	-5.66	1.29	1.33
35	2	312	A	C5-C4	-5.65	1.34	1.38
35	2	547	U	C5-C6	-5.65	1.29	1.34
35	2	392	G	N9-C8	-5.65	1.33	1.37
35	2	406	U	C4-C5	-5.64	1.38	1.43
35	2	506	A	N9-C4	-5.64	1.34	1.37
35	2	1083	G	C5-C6	-5.64	1.36	1.42
35	2	591	A	C5-C4	-5.64	1.34	1.38
35	2	914	G	C2-N3	-5.64	1.28	1.32
35	2	288	A	C2-N3	-5.64	1.28	1.33
35	2	498	G	C2-N3	-5.63	1.28	1.32
36	3	114	A	N9-C4	-5.63	1.34	1.37
35	2	488	G	C5-C4	-5.63	1.34	1.38
35	2	156	A	C5-C4	-5.63	1.34	1.38
35	2	152	U	N1-C2	-5.62	1.33	1.38
35	2	510	G	N9-C4	-5.62	1.33	1.38
35	2	353	A	N9-C8	-5.62	1.33	1.37
35	2	493	U	C2-N3	-5.62	1.33	1.37
35	2	353	A	C8-N7	-5.61	1.27	1.31

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
35	2	432	G	N3-C4	-5.61	1.31	1.35
35	2	497	G	N7-C5	-5.61	1.35	1.39
35	2	392	G	N1-C2	-5.60	1.33	1.37
35	2	588	U	C5-C6	-5.60	1.29	1.34
35	2	387	A	N9-C4	-5.60	1.34	1.37
35	2	428	A	C2-N3	-5.60	1.28	1.33
35	2	504	U	C4-O4	-5.60	1.19	1.23
35	2	151	G	N9-C4	-5.59	1.33	1.38
35	2	538	A	N7-C5	-5.59	1.35	1.39
35	2	87	C	N3-C4	-5.59	1.30	1.33
35	2	499	U	C2-N3	-5.59	1.33	1.37
35	2	405	C	N1-C6	-5.58	1.33	1.37
35	2	1037	C	N1-C2	-5.58	1.34	1.40
35	2	915	A	N9-C4	-5.58	1.34	1.37
35	2	442	C	N1-C6	-5.57	1.33	1.37
35	2	626	U	C2-N3	-5.57	1.33	1.37
35	2	151	G	C6-O6	-5.56	1.19	1.24
35	2	162	A	N9-C8	-5.56	1.33	1.37
35	2	491	C	N1-C6	-5.55	1.33	1.37
35	2	157	A	N9-C4	-5.55	1.34	1.37
35	2	390	G	C6-N1	-5.55	1.35	1.39
35	2	162	A	C8-N7	-5.55	1.27	1.31
35	2	1078	C	C2-N3	-5.54	1.31	1.35
36	3	250	G	N9-C4	-5.54	1.33	1.38
35	2	283	U	N1-C2	-5.54	1.33	1.38
35	2	325	G	C6-O6	-5.53	1.19	1.24
35	2	414	C	N1-C6	-5.53	1.33	1.37
35	2	153	G	N9-C4	-5.52	1.33	1.38
35	2	486	G	N7-C5	-5.52	1.35	1.39
35	2	1071	U	C2-N3	-5.52	1.33	1.37
19	j	882	ALA	CA-C	-5.52	1.38	1.52
35	2	503	G	N7-C5	-5.52	1.35	1.39
35	2	519	C	N3-C4	-5.52	1.30	1.33
19	i	882	ALA	CA-C	-5.50	1.38	1.52
35	2	949	C	N1-C6	-5.50	1.33	1.37
35	2	334	G	C8-N7	-5.50	1.27	1.30
35	2	474	A	N9-C4	-5.50	1.34	1.37
35	2	481	A	C5-C6	-5.50	1.36	1.41
35	2	884	A	N9-C4	-5.50	1.34	1.37
35	2	515	A	C2-N3	-5.49	1.28	1.33
35	2	399	A	N9-C4	-5.49	1.34	1.37
35	2	440	U	N1-C2	5.49	1.43	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
35	2	70	C	N1-C2	-5.49	1.34	1.40
35	2	1040	G	N9-C4	-5.49	1.33	1.38
35	2	189	C	C5-C6	-5.48	1.29	1.34
35	2	281	G	N9-C8	-5.48	1.34	1.37
35	2	394	C	C2-N3	-5.48	1.31	1.35
35	2	162	A	N9-C4	-5.47	1.34	1.37
35	2	442	C	N1-C2	-5.47	1.34	1.40
35	2	392	G	C8-N7	-5.47	1.27	1.30
35	2	496	G	C8-N7	-5.47	1.27	1.30
35	2	124	A	N3-C4	-5.46	1.31	1.34
35	2	243	G	C5-C4	-5.46	1.34	1.38
35	2	324	U	C2-N3	-5.46	1.33	1.37
35	2	109	G	C5-C4	-5.46	1.34	1.38
35	2	881	A	C5-C6	-5.45	1.36	1.41
35	2	284	G	C5-C6	-5.45	1.36	1.42
35	2	341	A	C5-C4	-5.44	1.34	1.38
35	2	123	G	N1-C2	-5.44	1.33	1.37
35	2	163	G	N3-C4	-5.44	1.31	1.35
35	2	173	A	C5-C4	-5.44	1.34	1.38
35	2	872	G	C2-N3	-5.43	1.28	1.32
35	2	32	U	N3-C4	-5.43	1.33	1.38
35	2	93	A	C5-C4	-5.43	1.34	1.38
35	2	46	A	N9-C4	5.43	1.41	1.37
35	2	65	A	C2-N3	-5.43	1.28	1.33
35	2	357	G	N1-C2	-5.42	1.33	1.37
19	i	615	PRO	C-N	5.42	1.46	1.34
35	2	1053	G	C5-C4	-5.42	1.34	1.38
35	2	473	A	N9-C8	-5.42	1.33	1.37
35	2	879	G	C5-C6	-5.41	1.36	1.42
35	2	877	G	N9-C4	-5.40	1.33	1.38
35	2	518	A	C6-N6	-5.40	1.29	1.33
35	2	1030	A	N9-C4	5.40	1.41	1.37
35	2	35	U	C2-N3	-5.40	1.33	1.37
35	2	464	A	C5-C6	-5.40	1.36	1.41
35	2	880	C	N1-C2	-5.40	1.34	1.40
35	2	87	C	C2-O2	-5.40	1.19	1.24
35	2	301	A	N3-C4	-5.39	1.31	1.34
35	2	523	G	C6-O6	-5.39	1.19	1.24
19	j	615	PRO	C-N	5.39	1.46	1.34
35	2	317	C	C2-N3	-5.39	1.31	1.35
35	2	538	A	N9-C8	-5.39	1.33	1.37
35	2	386	G	C5-C6	-5.38	1.36	1.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
35	2	441	A	C8-N7	-5.38	1.27	1.31
35	2	30	G	N7-C5	-5.38	1.36	1.39
35	2	1082	C	C5'-C4'	5.38	1.57	1.51
35	2	270	C	N1-C2	-5.37	1.34	1.40
35	2	83	G	C5-C4	-5.37	1.34	1.38
35	2	389	G	C5-C6	-5.37	1.36	1.42
36	3	248	G	N9-C4	-5.37	1.33	1.38
35	2	154	G	N9-C4	-5.36	1.33	1.38
35	2	498	G	N7-C5	-5.36	1.36	1.39
35	2	503	G	C8-N7	-5.36	1.27	1.30
35	2	57	G	C5-C4	-5.36	1.34	1.38
35	2	963	A	N9-C4	-5.36	1.34	1.37
35	2	488	G	N9-C8	-5.36	1.34	1.37
35	2	865	A	N9-C4	-5.36	1.34	1.37
35	2	103	A	N7-C5	-5.35	1.36	1.39
35	2	624	G	N3-C4	-5.35	1.31	1.35
35	2	325	G	N9-C4	-5.35	1.33	1.38
35	2	420	A	N9-C8	-5.35	1.33	1.37
35	2	113	U	C2-N3	-5.35	1.34	1.37
35	2	941	A	C5-C6	-5.35	1.36	1.41
35	2	413	U	C2-N3	-5.34	1.34	1.37
35	2	283	U	C2-N3	-5.34	1.34	1.37
35	2	397	A	N7-C5	-5.33	1.36	1.39
35	2	481	A	C2-N3	-5.33	1.28	1.33
35	2	527	A	C5-C6	-5.33	1.36	1.41
35	2	419	G	N9-C8	-5.33	1.34	1.37
35	2	186	C	N1-C2	-5.33	1.34	1.40
35	2	415	C	N3-C4	-5.33	1.30	1.33
35	2	538	A	C8-N7	-5.33	1.27	1.31
35	2	299	A	N9-C4	-5.32	1.34	1.37
35	2	263	C	N1-C6	-5.32	1.33	1.37
35	2	902	G	N7-C5	-5.32	1.36	1.39
35	2	960	U	N1-C2	-5.32	1.33	1.38
35	2	504	U	C5-C6	-5.32	1.29	1.34
35	2	393	C	C2-N3	-5.31	1.31	1.35
35	2	1027	A	C5-C6	-5.30	1.36	1.41
35	2	442	C	C2-N3	-5.30	1.31	1.35
35	2	388	G	C6-N1	-5.30	1.35	1.39
35	2	465	G	N7-C5	-5.30	1.36	1.39
35	2	105	A	C6-N6	-5.30	1.29	1.33
35	2	395	U	C2-N3	-5.30	1.34	1.37
35	2	316	A	C5-C4	-5.29	1.35	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
35	2	100	A	C5-C4	-5.28	1.35	1.38
35	2	974	A	N9-C4	-5.28	1.34	1.37
35	2	466	U	C2-N3	-5.28	1.34	1.37
35	2	253	A	C5-C4	-5.28	1.35	1.38
35	2	39	A	C6-N1	-5.28	1.31	1.35
35	2	143	G	N9-C4	-5.28	1.33	1.38
35	2	353	A	C6-N1	-5.27	1.31	1.35
35	2	336	G	C2-N3	-5.27	1.28	1.32
35	2	483	A	C6-N1	-5.26	1.31	1.35
35	2	503	G	C5-C4	-5.26	1.34	1.38
35	2	483	A	N9-C4	-5.26	1.34	1.37
35	2	148	A	C6-N6	-5.26	1.29	1.33
35	2	70	C	C4-N4	-5.25	1.29	1.33
35	2	497	G	C6-N1	-5.25	1.35	1.39
35	2	537	G	C5-C6	-5.25	1.37	1.42
16	d	50	GLU	C-N	-5.25	1.22	1.34
35	2	119	A	C5-C4	-5.25	1.35	1.38
35	2	353	A	C6-N6	-5.24	1.29	1.33
35	2	198	A	N9-C8	-5.24	1.33	1.37
35	2	267	U	N3-C4	-5.24	1.33	1.38
35	2	326	G	C5-C4	-5.24	1.34	1.38
35	2	393	C	C5-C6	-5.24	1.30	1.34
36	3	114	A	C5-C6	-5.24	1.36	1.41
35	2	869	A	N9-C4	-5.23	1.34	1.37
35	2	506	A	C5-C6	-5.23	1.36	1.41
35	2	285	G	N7-C5	-5.23	1.36	1.39
35	2	328	A	N7-C5	-5.22	1.36	1.39
35	2	1041	G	N9-C4	-5.22	1.33	1.38
35	2	147	A	N9-C4	-5.22	1.34	1.37
35	2	145	A	C2-N3	-5.22	1.28	1.33
35	2	536	C	N1-C2	-5.21	1.34	1.40
35	2	960	U	N1-C6	-5.21	1.33	1.38
35	2	415	C	C2-N3	-5.20	1.31	1.35
35	2	285	G	N3-C4	-5.19	1.31	1.35
35	2	366	A	C6-N1	-5.19	1.31	1.35
35	2	513	U	C2-N3	-5.19	1.34	1.37
35	2	389	G	C8-N7	-5.19	1.27	1.30
35	2	415	C	C2-O2	-5.19	1.19	1.24
35	2	590	C	C2-N3	-5.19	1.31	1.35
35	2	930	A	N9-C4	-5.18	1.34	1.37
35	2	1074	G	C2-N3	-5.18	1.28	1.32
35	2	419	G	C6-N1	-5.18	1.35	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
35	2	1077	C	C2-N3	-5.18	1.31	1.35
35	2	281	G	C8-N7	-5.17	1.27	1.30
35	2	1026	A	N9-C4	5.17	1.41	1.37
35	2	936	G	N9-C4	-5.17	1.33	1.38
35	2	41	A	N9-C4	5.15	1.41	1.37
35	2	151	G	N1-C2	-5.15	1.33	1.37
35	2	537	G	N3-C4	-5.15	1.31	1.35
35	2	281	G	C2-N3	-5.15	1.28	1.32
35	2	518	A	N9-C4	-5.15	1.34	1.37
35	2	922	G	C6-N1	-5.15	1.35	1.39
35	2	465	G	C8-N7	-5.14	1.27	1.30
35	2	276	C	C4-C5	-5.13	1.38	1.43
35	2	412	A	C8-N7	-5.13	1.27	1.31
35	2	506	A	C6-N1	-5.13	1.31	1.35
35	2	1080	U	N1-C2	-5.13	1.33	1.38
36	3	75	A	N9-C4	-5.12	1.34	1.37
35	2	287	G	C2-N3	-5.12	1.28	1.32
35	2	384	G	N9-C4	-5.11	1.33	1.38
35	2	865	A	C5-C6	-5.11	1.36	1.41
35	2	949	C	N1-C2	-5.11	1.35	1.40
35	2	87	C	N1-C2	-5.11	1.35	1.40
35	2	1043	A	N7-C5	-5.11	1.36	1.39
35	2	246	G	N9-C8	-5.10	1.34	1.37
35	2	269	G	N9-C8	-5.10	1.34	1.37
35	2	324	U	N3-C4	-5.09	1.33	1.38
35	2	333	A	N3-C4	-5.09	1.31	1.34
35	2	488	G	N9-C4	-5.09	1.33	1.38
35	2	480	G	N1-C2	-5.08	1.33	1.37
35	2	930	A	N7-C5	-5.08	1.36	1.39
35	2	243	G	N9-C4	-5.08	1.33	1.38
35	2	427	C	N3-C4	-5.08	1.30	1.33
35	2	1091	A	N3-C4	-5.08	1.31	1.34
36	3	268	G	C5-C6	-5.08	1.37	1.42
35	2	202	A	C5-C6	-5.08	1.36	1.41
35	2	591	A	C2-N3	-5.08	1.28	1.33
35	2	411	C	C5-C6	-5.08	1.30	1.34
35	2	81	G	C5-C6	-5.08	1.37	1.42
35	2	412	A	N3-C4	-5.07	1.31	1.34
35	2	279	G	C8-N7	-5.07	1.27	1.30
35	2	906	A	N7-C5	-5.07	1.36	1.39
35	2	926	A	C5-C4	-5.07	1.35	1.38
35	2	927	C	C4-C5	-5.07	1.38	1.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
35	2	317	C	C5-C6	-5.07	1.30	1.34
35	2	1053	G	N3-C4	-5.06	1.31	1.35
35	2	384	G	C2-N3	-5.06	1.28	1.32
35	2	973	A	C5-C4	-5.05	1.35	1.38
35	2	259	U	N1-C2	-5.05	1.34	1.38
35	2	69	G	N9-C4	-5.05	1.33	1.38
35	2	871	G	N9-C4	-5.05	1.33	1.38
35	2	1041	G	C6-N1	-5.04	1.36	1.39
35	2	481	A	C5-C4	-5.04	1.35	1.38
35	2	57	G	C5-C6	-5.04	1.37	1.42
35	2	85	A	N9-C8	-5.04	1.33	1.37
35	2	171	A	C6-N1	-5.04	1.32	1.35
35	2	448	C	C5-C6	-5.03	1.30	1.34
35	2	151	G	C8-N7	-5.02	1.27	1.30
35	2	310	C	C2-N3	-5.02	1.31	1.35
35	2	624	G	N9-C8	-5.01	1.34	1.37
35	2	70	C	C2-N3	-5.01	1.31	1.35
35	2	935	U	C5-C6	-5.01	1.29	1.34
35	2	406	U	C4-O4	-5.01	1.19	1.23
35	2	389	G	C6-N1	-5.00	1.36	1.39
35	2	514	G	N1-C2	-5.00	1.33	1.37
35	2	163	G	C2-N3	-5.00	1.28	1.32
35	2	246	G	C8-N7	-5.00	1.27	1.30

All (2522) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
20	k	272	PRO	N-CA-CB	37.92	148.80	103.30
16	d	104	PRO	N-CA-CB	37.74	148.58	103.30
20	k	82	LYS	O-C-N	-24.01	84.28	122.70
16	d	128	THR	N-CA-CB	23.81	155.54	110.30
35	2	381	C	N3-C4-N4	-22.05	102.57	118.00
35	2	432	G	C8-N9-C4	-20.04	98.38	106.40
35	2	432	G	N7-C8-N9	19.61	122.90	113.10
35	2	485	A	C8-N9-C4	19.54	113.61	105.80
35	2	381	C	C5-C4-N4	18.90	133.43	120.20
35	2	503	G	N3-C4-C5	18.61	137.90	128.60
35	2	256	A	N1-C6-N6	18.03	129.42	118.60
35	2	589	C	C6-N1-C2	17.41	127.26	120.30
35	2	278	U	N3-C2-O2	-17.25	110.13	122.20
35	2	398	G	C2-N3-C4	16.81	120.30	111.90
35	2	139	C	C6-N1-C2	-16.73	113.61	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	2	256	A	C4-C5-N7	16.55	118.97	110.70
35	2	381	C	N1-C2-O2	16.18	128.61	118.90
35	2	540	G	C8-N9-C4	-16.16	99.94	106.40
36	3	266	C	N3-C2-O2	-16.12	110.62	121.90
35	2	381	C	N3-C2-O2	-15.99	110.71	121.90
35	2	495	C	N1-C2-O2	15.96	128.47	118.90
35	2	1056	U	C5-C6-N1	15.52	130.46	122.70
35	2	256	A	N9-C4-C5	-15.46	99.61	105.80
35	2	256	A	C5-C6-N6	-15.40	111.38	123.70
35	2	1070	C	C6-N1-C2	15.36	126.44	120.30
35	2	360	A	C2-N3-C4	-15.28	102.96	110.60
35	2	50	C	C4-C5-C6	15.28	125.04	117.40
35	2	484	C	C4-C5-C6	-15.21	109.80	117.40
35	2	488	G	C4-C5-N7	15.14	116.86	110.80
35	2	386	G	N9-C4-C5	-15.10	99.36	105.40
35	2	30	G	O4'-C1'-N9	15.05	120.24	108.20
35	2	488	G	C5-N7-C8	-15.03	96.79	104.30
35	2	307	G	N3-C4-C5	14.92	136.06	128.60
35	2	503	G	C2-N3-C4	-14.88	104.46	111.90
35	2	328	A	C2-N3-C4	-14.74	103.23	110.60
35	2	243	G	N9-C4-C5	-14.71	99.52	105.40
16	d	104	PRO	CB-CA-C	-14.69	75.27	112.00
35	2	914	G	N3-C4-C5	14.64	135.92	128.60
35	2	243	G	C4-C5-N7	14.57	116.63	110.80
35	2	1023	A	C2-N3-C4	-14.57	103.31	110.60
35	2	503	G	C4-C5-N7	14.56	116.62	110.80
35	2	378	A	C8-N9-C4	-14.52	99.99	105.80
35	2	488	G	N7-C8-N9	14.49	120.34	113.10
35	2	1097	U	C6-N1-C2	-14.45	112.33	121.00
35	2	256	A	C5-N7-C8	-14.41	96.69	103.90
35	2	278	U	N1-C2-O2	14.40	132.88	122.80
35	2	196	G	N3-C4-N9	-14.39	117.37	126.00
35	2	30	G	C8-N9-C4	-14.38	100.65	106.40
35	2	500	C	C6-N1-C2	-14.28	114.59	120.30
20	k	271	VAL	N-CA-CB	14.25	142.85	111.50
35	2	196	G	N3-C4-C5	14.24	135.72	128.60
35	2	365	G	C6-C5-N7	-14.21	121.87	130.40
20	k	272	PRO	CB-CA-C	-14.16	76.59	112.00
35	2	191	C	C6-N1-C1'	14.16	137.80	120.80
35	2	53	G	N3-C4-C5	14.15	135.67	128.60
35	2	99	C	N1-C2-O2	14.11	127.36	118.90
35	2	440	U	C2-N1-C1'	13.63	134.06	117.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	2	456	A	C4-C5-N7	13.59	117.50	110.70
35	2	394	C	C6-N1-C2	13.54	125.72	120.30
35	2	588	U	C5-C4-O4	-13.52	117.79	125.90
35	2	28	A	O4'-C1'-N9	13.51	119.01	108.20
35	2	142	G	N1-C6-O6	13.51	128.01	119.90
35	2	48	G	N3-C4-N9	13.50	134.10	126.00
36	3	266	C	N1-C2-O2	13.34	126.90	118.90
20	k	271	VAL	CB-CA-C	-13.34	86.06	111.40
35	2	391	A	N9-C4-C5	-13.33	100.47	105.80
35	2	308	C	C6-N1-C2	13.26	125.60	120.30
35	2	362	G	N1-C6-O6	-13.22	111.97	119.90
35	2	1094	G	C2-N3-C4	-13.18	105.31	111.90
19	j	611	GLY	C-N-CA	-13.16	88.80	121.70
35	2	256	A	C6-C5-N7	-13.16	123.09	132.30
35	2	142	G	C5-C6-O6	-13.09	120.74	128.60
16	d	128	THR	CB-CA-C	-13.07	76.30	111.60
35	2	872	G	N1-C6-O6	13.03	127.72	119.90
35	2	360	A	N1-C2-N3	13.01	135.81	129.30
35	2	53	G	N3-C4-N9	-12.88	118.27	126.00
35	2	955	A	C2-N3-C4	-12.88	104.16	110.60
35	2	210	A	N9-C4-C5	-12.83	100.67	105.80
35	2	524	U	C6-N1-C2	-12.79	113.33	121.00
35	2	403	G	N7-C8-N9	12.73	119.46	113.10
35	2	488	G	C6-C5-N7	-12.66	122.81	130.40
35	2	386	G	C4-C5-N7	12.58	115.83	110.80
35	2	191	C	C2-N1-C1'	-12.57	104.98	118.80
35	2	407	A	C5-N7-C8	-12.56	97.62	103.90
35	2	512	A	N1-C6-N6	-12.55	111.07	118.60
35	2	243	G	N1-C6-O6	12.51	127.41	119.90
35	2	485	A	N9-C4-C5	-12.51	100.80	105.80
35	2	142	G	N3-C4-C5	12.49	134.85	128.60
35	2	253	A	N9-C4-C5	-12.45	100.82	105.80
35	2	404	G	C4-C5-N7	12.44	115.78	110.80
35	2	922	G	N3-C4-C5	12.42	134.81	128.60
35	2	34	G	O5'-P-OP2	12.38	125.55	110.70
35	2	71	A	O4'-C1'-N9	12.32	118.06	108.20
35	2	191	C	N1-C2-O2	-12.27	111.54	118.90
35	2	530	C	N1-C2-O2	12.27	126.26	118.90
35	2	1039	A	C8-N9-C4	12.24	110.69	105.80
35	2	589	C	C5-C6-N1	-12.19	114.90	121.00
35	2	1074	G	C4-C5-N7	12.16	115.66	110.80
35	2	123	G	C4-C5-N7	12.13	115.65	110.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	2	460	A	C8-N9-C4	12.13	110.65	105.80
35	2	872	G	C5-C6-O6	-12.13	121.32	128.60
35	2	589	C	C2-N1-C1'	-12.12	105.47	118.80
35	2	312	A	C8-N9-C4	12.11	110.64	105.80
35	2	358	U	C5-C6-N1	12.08	128.74	122.70
35	2	50	C	N3-C4-C5	-12.08	117.07	121.90
35	2	456	A	N1-C6-N6	12.06	125.84	118.60
35	2	491	C	N3-C4-C5	11.92	126.67	121.90
35	2	386	G	C6-C5-N7	-11.92	123.25	130.40
35	2	548	G	N3-C4-C5	11.90	134.55	128.60
35	2	1091	A	N1-C2-N3	11.89	135.25	129.30
35	2	50	C	O4'-C1'-N1	11.88	117.71	108.20
35	2	375	U	C2-N1-C1'	-11.87	103.46	117.70
35	2	493	U	N3-C2-O2	11.86	130.50	122.20
35	2	287	G	C4-C5-N7	11.80	115.52	110.80
35	2	523	G	O4'-C1'-N9	11.79	117.64	108.20
35	2	456	A	C5-N7-C8	-11.79	98.01	103.90
35	2	485	A	N7-C8-N9	-11.77	107.91	113.80
35	2	1094	G	N1-C6-O6	11.77	126.96	119.90
35	2	1083	G	N3-C4-C5	11.77	134.48	128.60
35	2	102	U	C5-C4-O4	-11.71	118.87	125.90
35	2	503	G	N9-C4-C5	-11.65	100.74	105.40
35	2	1091	A	C2-N3-C4	-11.62	104.79	110.60
35	2	243	G	C6-C5-N7	-11.60	123.44	130.40
35	2	365	G	C4-C5-N7	11.57	115.43	110.80
35	2	377	G	C8-N9-C4	11.55	111.02	106.40
35	2	378	A	N7-C8-N9	11.52	119.56	113.80
35	2	28	A	C8-N9-C4	-11.49	101.20	105.80
35	2	406	U	C5-C6-N1	11.46	128.43	122.70
35	2	333	A	C2-N3-C4	-11.44	104.88	110.60
35	2	210	A	C8-N9-C4	11.42	110.37	105.80
35	2	354	C	C5-C4-N4	-11.41	112.21	120.20
35	2	914	G	N3-C4-N9	-11.41	119.16	126.00
35	2	440	U	C5-C4-O4	-11.40	119.06	125.90
35	2	540	G	N7-C8-N9	11.36	118.78	113.10
35	2	79	C	N1-C2-O2	11.35	125.71	118.90
35	2	142	G	N3-C4-N9	-11.34	119.20	126.00
35	2	1096	C	C6-N1-C2	-11.33	115.77	120.30
35	2	456	A	N9-C4-C5	-11.32	101.27	105.80
35	2	432	G	C4-N9-C1'	11.30	141.19	126.50
35	2	900	A	C8-N9-C4	11.27	110.31	105.80
35	2	1041	G	C4-C5-N7	11.25	115.30	110.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
15	c	151	ALA	N-CA-CB	-11.25	94.35	110.10
20	k	84	ILE	CB-CA-C	-11.25	89.10	111.60
35	2	539	G	C8-N9-C4	11.25	110.90	106.40
35	2	38	C	C6-N1-C2	-11.23	115.81	120.30
35	2	494	U	C5-C6-N1	11.16	128.28	122.70
35	2	959	U	C6-N1-C2	11.14	127.69	121.00
35	2	99	C	C5-C6-N1	11.13	126.57	121.00
35	2	493	U	C6-N1-C2	11.11	127.67	121.00
35	2	65	A	C2-N3-C4	-11.11	105.05	110.60
35	2	495	C	N3-C2-O2	-11.11	114.13	121.90
35	2	317	C	C6-N1-C2	11.10	124.74	120.30
35	2	973	A	N9-C4-C5	-11.09	101.37	105.80
35	2	523	G	C4-C5-N7	11.08	115.23	110.80
35	2	500	C	C5-C6-N1	11.07	126.53	121.00
15	c	167	LEU	CB-CA-C	-11.06	89.18	110.20
35	2	281	G	C5-N7-C8	-11.05	98.78	104.30
35	2	71	A	O5'-P-OP1	-11.03	95.78	105.70
35	2	377	G	N9-C4-C5	-11.00	101.00	105.40
35	2	485	A	N3-C4-C5	10.98	134.48	126.80
35	2	455	C	O4'-C1'-N1	-10.94	99.44	108.20
35	2	977	A	N1-C6-N6	-10.91	112.05	118.60
35	2	80	A	N1-C2-N3	-10.90	123.85	129.30
35	2	391	A	C8-N9-C4	10.90	110.16	105.80
35	2	333	A	N1-C2-N3	10.90	134.75	129.30
35	2	549	G	C8-N9-C4	10.85	110.74	106.40
35	2	592	A	C6-N1-C2	-10.83	112.10	118.60
36	3	77	C	OP1-P-O3'	-10.83	81.37	105.20
35	2	80	A	N9-C4-C5	-10.82	101.47	105.80
35	2	376	C	C6-N1-C2	10.81	124.63	120.30
35	2	502	U	N3-C4-C5	10.79	121.08	114.60
35	2	1023	A	C5-C6-N1	-10.79	112.31	117.70
35	2	99	C	C4-C5-C6	-10.78	112.01	117.40
35	2	412	A	C5-N7-C8	-10.77	98.51	103.90
35	2	473	A	N1-C2-N3	10.76	134.68	129.30
35	2	309	C	C6-N1-C2	10.75	124.60	120.30
35	2	487	G	C8-N9-C4	-10.75	102.10	106.40
36	3	268	G	N9-C4-C5	-10.74	101.10	105.40
35	2	444	C	N1-C2-O2	-10.71	112.47	118.90
35	2	32	U	C2-N1-C1'	-10.69	104.88	117.70
35	2	139	C	C5-C6-N1	10.68	126.34	121.00
35	2	487	G	N7-C8-N9	10.67	118.44	113.10
35	2	365	G	N7-C8-N9	10.66	118.43	113.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	2	496	G	C2-N3-C4	-10.65	106.57	111.90
35	2	166	C	N3-C2-O2	-10.65	114.44	121.90
35	2	391	A	C4-C5-N7	10.64	116.02	110.70
36	3	259	A	O4'-C1'-N9	10.64	116.71	108.20
35	2	404	G	N9-C4-C5	-10.63	101.15	105.40
35	2	151	G	C8-N9-C4	10.61	110.64	106.40
35	2	936	G	C8-N9-C4	10.60	110.64	106.40
35	2	523	G	C5-C6-N1	10.57	116.78	111.50
35	2	512	A	C4-C5-C6	-10.57	111.72	117.00
35	2	955	A	C5-N7-C8	-10.57	98.62	103.90
20	k	104	PRO	N-CA-CB	10.56	115.98	103.30
35	2	166	C	C6-N1-C2	-10.56	116.07	120.30
35	2	65	A	N3-C4-N9	-10.56	118.95	127.40
35	2	493	U	C2-N1-C1'	-10.55	105.04	117.70
35	2	103	A	C8-N9-C4	-10.55	101.58	105.80
35	2	432	G	C4-C5-C6	10.54	125.12	118.80
35	2	872	G	N3-C4-C5	10.54	133.87	128.60
35	2	487	G	N3-C4-C5	-10.51	123.34	128.60
35	2	362	G	O5'-P-OP1	-10.51	96.24	105.70
35	2	163	G	C5-N7-C8	-10.50	99.05	104.30
35	2	326	G	C4-N9-C1'	-10.50	112.85	126.50
35	2	63	G	C5-C6-O6	10.48	134.89	128.60
36	3	114	A	N9-C4-C5	-10.48	101.61	105.80
35	2	162	A	N9-C4-C5	-10.47	101.61	105.80
35	2	243	G	C8-N9-C4	10.47	110.59	106.40
35	2	199	G	C2-N3-C4	-10.46	106.67	111.90
35	2	432	G	C6-C5-N7	-10.46	124.13	130.40
35	2	419	G	C2-N3-C4	-10.44	106.68	111.90
35	2	503	G	C5-N7-C8	-10.44	99.08	104.30
35	2	326	G	N3-C4-C5	10.43	133.82	128.60
35	2	287	G	N9-C4-C5	-10.42	101.23	105.40
35	2	457	G	N9-C1'-C2'	-10.41	100.46	114.00
35	2	923	A	C2-N3-C4	-10.40	105.40	110.60
35	2	463	U	C2-N1-C1'	-10.40	105.22	117.70
35	2	307	G	N3-C4-N9	-10.39	119.76	126.00
36	3	192	A	C8-N9-C4	-10.39	101.64	105.80
35	2	142	G	C4-N9-C1'	-10.36	113.04	126.50
35	2	164	A	C8-N9-C4	10.34	109.94	105.80
35	2	524	U	C5-C6-N1	10.34	127.87	122.70
35	2	1023	A	N3-C4-C5	10.32	134.02	126.80
35	2	1094	G	N3-C4-C5	10.31	133.75	128.60
35	2	486	G	C8-N9-C1'	-10.31	113.60	127.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	2	48	G	C6-C5-N7	-10.29	124.22	130.40
35	2	403	G	C8-N9-C4	-10.29	102.28	106.40
35	2	973	A	C8-N9-C4	10.27	109.91	105.80
35	2	1070	C	C5-C6-N1	-10.25	115.87	121.00
35	2	407	A	N7-C8-N9	10.24	118.92	113.80
35	2	531	C	N1-C2-O2	10.20	125.02	118.90
36	3	266	C	C6-N1-C2	-10.19	116.22	120.30
35	2	935	U	C5-C4-O4	-10.18	119.79	125.90
35	2	301	A	C5-N7-C8	-10.16	98.82	103.90
35	2	485	A	C4-C5-C6	-10.14	111.93	117.00
35	2	388	G	N1-C6-O6	10.13	125.98	119.90
35	2	366	A	C6-N1-C2	10.11	124.67	118.60
35	2	195	G	N3-C4-C5	10.10	133.65	128.60
35	2	151	G	N9-C4-C5	-10.09	101.36	105.40
35	2	162	A	C4-C5-N7	10.04	115.72	110.70
35	2	301	A	C2-N3-C4	-10.04	105.58	110.60
35	2	456	A	C6-C5-N7	-10.04	125.27	132.30
35	2	452	A	N9-C4-C5	-10.03	101.79	105.80
36	3	77	C	OP2-P-O3'	-10.04	83.12	105.20
35	2	548	G	C4-C5-N7	10.03	114.81	110.80
35	2	53	G	C4-N9-C1'	-10.03	113.46	126.50
35	2	548	G	C2-N3-C4	-10.03	106.89	111.90
35	2	99	C	C2-N1-C1'	10.02	129.82	118.80
35	2	955	A	N7-C8-N9	10.02	118.81	113.80
35	2	256	A	N7-C8-N9	10.01	118.80	113.80
35	2	343	C	N3-C4-C5	10.01	125.90	121.90
35	2	488	G	N1-C6-O6	9.99	125.90	119.90
35	2	162	A	C5-N7-C8	-9.99	98.91	103.90
35	2	391	A	N1-C2-N3	-9.98	124.31	129.30
35	2	1092	A	N1-C2-N3	9.98	134.29	129.30
35	2	401	A	O4'-C1'-N9	9.96	116.17	108.20
35	2	403	G	C5-N7-C8	-9.96	99.32	104.30
35	2	87	C	C6-N1-C1'	9.96	132.75	120.80
35	2	210	A	C4-C5-N7	9.95	115.68	110.70
35	2	440	U	C6-N1-C1'	-9.95	107.27	121.20
35	2	301	A	N7-C8-N9	9.95	118.77	113.80
35	2	393	C	N3-C4-C5	9.94	125.88	121.90
20	k	83	ILE	CB-CA-C	-9.93	91.74	111.60
35	2	30	G	O5'-P-OP1	-9.92	96.78	105.70
35	2	514	G	C4-C5-N7	9.91	114.76	110.80
35	2	502	U	C4-C5-C6	-9.90	113.76	119.70
35	2	197	A	N1-C2-N3	9.90	134.25	129.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	2	326	G	N3-C4-N9	-9.87	120.08	126.00
35	2	73	U	N1-C2-O2	9.86	129.70	122.80
35	2	282	C	C6-N1-C2	9.86	124.24	120.30
35	2	539	G	N3-C4-C5	9.86	133.53	128.60
35	2	430	G	N3-C4-C5	9.83	133.52	128.60
35	2	529	A	C5-C6-N1	9.80	122.60	117.70
36	3	268	G	C4-C5-N7	9.80	114.72	110.80
35	2	362	G	C5-C6-O6	9.79	134.48	128.60
35	2	539	G	C4-N9-C1'	-9.79	113.77	126.50
35	2	63	G	N1-C6-O6	-9.79	114.03	119.90
35	2	1042	G	N1-C6-O6	9.78	125.77	119.90
35	2	394	C	N3-C4-C5	9.76	125.80	121.90
35	2	253	A	C8-N9-C4	9.75	109.70	105.80
35	2	491	C	C2-N1-C1'	-9.75	108.07	118.80
35	2	135	A	N9-C1'-C2'	-9.74	101.29	112.00
16	d	143	ILE	CB-CA-C	-9.73	92.14	111.60
35	2	454	U	C6-N1-C2	-9.71	115.17	121.00
35	2	1073	G	C4-C5-N7	9.71	114.68	110.80
35	2	243	G	C5-C6-O6	-9.70	122.78	128.60
35	2	430	G	C4-C5-N7	9.69	114.68	110.80
35	2	131	C	C2-N1-C1'	9.69	129.46	118.80
35	2	289	U	N1-C2-O2	9.69	129.58	122.80
35	2	357	G	C4-C5-N7	9.67	114.67	110.80
35	2	28	A	N3-C4-C5	-9.66	120.04	126.80
35	2	1042	G	N9-C4-C5	-9.66	101.53	105.40
35	2	486	G	C4-N9-C1'	9.65	139.05	126.50
35	2	296	U	C5-C6-N1	9.64	127.52	122.70
35	2	1070	C	C2-N1-C1'	-9.64	108.20	118.80
35	2	79	C	C6-N1-C1'	-9.64	109.24	120.80
35	2	441	A	N9-C4-C5	-9.61	101.95	105.80
35	2	1620	C	C6-N1-C2	-9.61	116.46	120.30
35	2	497	G	N3-C4-C5	9.61	133.40	128.60
2	G	3214	ASP	C-N-CA	9.60	145.69	121.70
35	2	487	G	C4-N9-C1'	9.60	138.97	126.50
35	2	537	G	N3-C4-C5	9.59	133.40	128.60
35	2	131	C	C6-N1-C1'	-9.59	109.30	120.80
35	2	922	G	C4-N9-C1'	-9.58	114.04	126.50
35	2	163	G	C4-C5-N7	9.58	114.63	110.80
35	2	334	G	C4-C5-N7	9.58	114.63	110.80
15	c	165	ALA	N-CA-CB	-9.57	96.70	110.10
35	2	334	G	C5-N7-C8	-9.57	99.52	104.30
35	2	491	C	C6-N1-C2	9.57	124.13	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
16	d	112	ILE	CB-CA-C	-9.56	92.48	111.60
35	2	48	G	N3-C4-C5	-9.56	123.82	128.60
35	2	549	G	C4-C5-C6	-9.55	113.07	118.80
35	2	322	G	N9-C4-C5	-9.55	101.58	105.40
35	2	1067	C	C6-N1-C2	9.54	124.11	120.30
35	2	196	G	C4-N9-C1'	-9.52	114.13	126.50
35	2	1042	G	C8-N9-C4	9.52	110.21	106.40
35	2	404	G	C8-N9-C4	9.51	110.20	106.40
35	2	151	G	C4-C5-N7	9.51	114.60	110.80
35	2	57	G	C8-N9-C4	9.50	110.20	106.40
35	2	473	A	O4'-C1'-N9	9.49	115.79	108.20
35	2	926	A	C5-C6-N6	-9.48	116.12	123.70
35	2	124	A	C8-N9-C4	9.46	109.58	105.80
35	2	253	A	C4-C5-N7	9.46	115.43	110.70
35	2	396	G	N3-C4-C5	9.45	133.32	128.60
35	2	191	C	C6-N1-C2	-9.44	116.53	120.30
35	2	41	A	N9-C4-C5	-9.43	102.03	105.80
35	2	471	A	C8-N9-C4	9.41	109.56	105.80
35	2	186	C	C5-C6-N1	9.40	125.70	121.00
19	i	480	TYR	CB-CA-C	-9.40	91.60	110.40
35	2	366	A	C8-N9-C4	9.39	109.56	105.80
35	2	1620	C	C2-N1-C1'	9.39	129.13	118.80
35	2	307	G	C4-N9-C1'	-9.39	114.30	126.50
19	j	480	TYR	CB-CA-C	-9.38	91.64	110.40
35	2	128	U	N3-C2-O2	-9.38	115.64	122.20
35	2	273	G	C4-C5-N7	9.38	114.55	110.80
35	2	390	G	N3-C2-N2	-9.37	113.34	119.90
35	2	103	A	C4-C5-C6	9.36	121.68	117.00
35	2	957	G	C8-N9-C4	9.36	110.14	106.40
35	2	1094	G	N9-C4-C5	-9.36	101.66	105.40
35	2	358	U	C4-C5-C6	-9.35	114.09	119.70
35	2	484	C	N3-C4-C5	9.35	125.64	121.90
35	2	538	A	N9-C4-C5	-9.34	102.06	105.80
35	2	412	A	N7-C8-N9	9.34	118.47	113.80
35	2	452	A	O4'-C1'-N9	-9.34	100.73	108.20
35	2	443	C	C6-N1-C2	9.33	124.03	120.30
35	2	103	A	N3-C4-C5	-9.32	120.27	126.80
35	2	173	A	C2-N3-C4	-9.32	105.94	110.60
35	2	519	C	C2-N1-C1'	-9.31	108.56	118.80
35	2	523	G	N3-C2-N2	9.29	126.41	119.90
35	2	502	U	C6-N1-C2	9.29	126.57	121.00
35	2	549	G	N3-C4-C5	9.28	133.24	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	2	503	G	C8-N9-C4	9.25	110.10	106.40
35	2	960	U	C5-C6-N1	-9.24	118.08	122.70
35	2	65	A	N9-C4-C5	9.24	109.50	105.80
35	2	184	C	C2-N1-C1'	9.23	128.96	118.80
35	2	463	U	N3-C2-O2	-9.21	115.75	122.20
35	2	460	A	N9-C4-C5	-9.21	102.11	105.80
35	2	1041	G	N9-C4-C5	-9.21	101.72	105.40
36	3	248	G	N3-C4-N9	-9.21	120.47	126.00
35	2	67	A	C5-C6-N1	9.19	122.30	117.70
35	2	281	G	N7-C8-N9	9.19	117.69	113.10
35	2	404	G	N3-C4-C5	9.18	133.19	128.60
35	2	53	G	C2-N3-C4	-9.17	107.32	111.90
35	2	1094	G	C5-C6-N1	-9.17	106.92	111.50
35	2	142	G	C8-N9-C1'	9.16	138.91	127.00
35	2	67	A	O4'-C1'-N9	-9.16	100.87	108.20
35	2	123	G	N9-C4-C5	-9.16	101.74	105.40
35	2	354	C	N3-C4-C5	9.15	125.56	121.90
35	2	365	G	C5-N7-C8	-9.14	99.73	104.30
35	2	328	A	N3-C4-C5	9.13	133.19	126.80
35	2	376	C	N3-C4-C5	9.12	125.55	121.90
35	2	309	C	N3-C2-O2	9.11	128.28	121.90
36	3	84	G	N3-C4-C5	9.12	133.16	128.60
35	2	305	C	C5-C6-N1	9.11	125.56	121.00
35	2	588	U	N1-C2-O2	9.11	129.18	122.80
35	2	398	G	N3-C4-C5	-9.11	124.05	128.60
35	2	432	G	N1-C6-O6	9.11	125.36	119.90
35	2	303	U	C5-C6-N1	-9.10	118.15	122.70
35	2	529	A	N7-C8-N9	9.10	118.35	113.80
35	2	347	G	C4-C5-N7	9.09	114.43	110.80
35	2	898	A	N9-C4-C5	-9.09	102.17	105.80
35	2	1075	C	C6-N1-C2	9.08	123.93	120.30
35	2	868	G	N1-C2-N2	9.08	124.37	116.20
35	2	497	G	C8-N9-C4	9.08	110.03	106.40
35	2	36	C	O5'-P-OP2	-9.07	97.53	105.70
35	2	357	G	N9-C4-C5	-9.07	101.77	105.40
35	2	513	U	N3-C4-O4	-9.06	113.06	119.40
35	2	431	C	N3-C4-C5	9.06	125.52	121.90
35	2	365	G	N9-C4-C5	-9.04	101.78	105.40
35	2	384	G	C4-C5-N7	9.04	114.42	110.80
35	2	60	U	O5'-P-OP2	-9.03	97.57	105.70
35	2	87	C	C2-N1-C1'	-9.03	108.87	118.80
35	2	112	A	N9-C4-C5	-9.03	102.19	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	2	1039	A	N9-C4-C5	-9.01	102.20	105.80
35	2	894	U	N1-C2-O2	-9.01	116.49	122.80
35	2	1041	G	N1-C6-O6	9.01	125.30	119.90
35	2	504	U	C5-C4-O4	-9.00	120.50	125.90
35	2	121	U	C2-N1-C1'	-8.99	106.91	117.70
35	2	1038	U	C5-C4-O4	-8.98	120.51	125.90
35	2	328	A	C5-N7-C8	-8.98	99.41	103.90
16	d	112	ILE	N-CA-CB	8.97	131.44	110.80
35	2	312	A	N7-C8-N9	-8.97	109.31	113.80
35	2	34	G	C5-C6-O6	8.97	133.98	128.60
35	2	1023	A	N3-C4-N9	-8.97	120.23	127.40
35	2	957	G	N9-C4-C5	-8.97	101.81	105.40
35	2	393	C	N1-C2-O2	8.96	124.28	118.90
35	2	1045	C	C2-N1-C1'	-8.96	108.94	118.80
35	2	326	G	C8-N9-C1'	8.96	138.65	127.00
35	2	1039	A	C2-N3-C4	-8.96	106.12	110.60
35	2	369	A	C8-N9-C4	8.95	109.38	105.80
35	2	200	A	C2-N3-C4	-8.94	106.13	110.60
35	2	936	G	C4-N9-C1'	-8.93	114.89	126.50
16	d	143	ILE	N-CA-CB	8.92	131.32	110.80
35	2	1046	G	N9-C4-C5	-8.92	101.83	105.40
35	2	54	C	N3-C4-C5	8.92	125.47	121.90
35	2	386	G	N3-C4-N9	8.92	131.35	126.00
35	2	388	G	C4-C5-N7	8.92	114.37	110.80
35	2	131	C	N1-C2-O2	8.91	124.25	118.90
35	2	539	G	N9-C4-C5	-8.91	101.84	105.40
35	2	103	A	C4-N9-C1'	8.90	142.32	126.30
35	2	523	G	N1-C2-N3	-8.90	118.56	123.90
35	2	523	G	N9-C4-C5	-8.90	101.84	105.40
35	2	402	C	O5'-P-OP1	-8.90	97.69	105.70
35	2	282	C	C6-N1-C1'	-8.90	110.12	120.80
35	2	488	G	C8-N9-C4	-8.89	102.84	106.40
35	2	210	A	N1-C6-N6	8.88	123.93	118.60
35	2	407	A	N3-C4-N9	-8.88	120.29	127.40
35	2	167	U	C2-N1-C1'	8.88	128.35	117.70
35	2	48	G	N3-C2-N2	8.87	126.11	119.90
35	2	502	U	N1-C2-N3	-8.87	109.58	114.90
19	i	615	PRO	N-CA-C	8.86	135.13	112.10
35	2	1080	U	N3-C4-C5	8.86	119.91	114.60
35	2	26	A	N9-C4-C5	-8.85	102.26	105.80
35	2	406	U	C4-C5-C6	-8.85	114.39	119.70
19	j	615	PRO	N-CA-C	8.84	135.08	112.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	2	548	G	N1-C6-O6	8.83	125.20	119.90
35	2	99	C	C6-N1-C1'	-8.82	110.21	120.80
35	2	885	G	N3-C4-C5	8.82	133.01	128.60
35	2	473	A	C6-N1-C2	-8.81	113.31	118.60
35	2	398	G	N1-C2-N3	-8.81	118.62	123.90
20	k	83	ILE	N-CA-CB	8.79	131.03	110.80
35	2	588	U	N3-C4-C5	8.79	119.88	114.60
35	2	1046	G	C4-C5-N7	8.79	114.32	110.80
35	2	196	G	C8-N9-C1'	8.79	138.42	127.00
35	2	1025	A	C8-N9-C4	-8.79	102.29	105.80
35	2	488	G	C5-C6-O6	-8.78	123.33	128.60
20	k	237	PRO	N-CA-CB	8.78	113.83	103.30
35	2	134	U	C5-C4-O4	-8.77	120.64	125.90
35	2	900	A	N9-C4-C5	-8.77	102.29	105.80
35	2	57	G	N9-C4-C5	-8.77	101.89	105.40
35	2	31	C	C5-C6-N1	8.76	125.38	121.00
35	2	87	C	N1-C2-N3	8.76	125.33	119.20
35	2	273	G	N1-C6-O6	8.76	125.15	119.90
35	2	1081	A	O4'-C1'-N9	-8.76	101.20	108.20
35	2	209	U	C5-C4-O4	-8.75	120.65	125.90
35	2	955	A	N1-C2-N3	8.75	133.67	129.30
35	2	500	C	N3-C2-O2	-8.74	115.78	121.90
35	2	79	C	C2-N1-C1'	8.74	128.41	118.80
35	2	432	G	C5-N7-C8	-8.74	99.93	104.30
35	2	108	A	C5-N7-C8	-8.73	99.53	103.90
35	2	398	G	C5-C6-N1	8.73	115.86	111.50
35	2	471	A	C5-C6-N1	-8.72	113.34	117.70
20	k	61	PRO	N-CA-CB	8.72	113.77	103.30
35	2	41	A	C6-C5-N7	-8.71	126.20	132.30
35	2	212	U	N1-C2-O2	8.71	128.90	122.80
35	2	1097	U	N1-C2-N3	8.71	120.12	114.90
35	2	205	U	C6-N1-C2	8.71	126.22	121.00
35	2	162	A	C6-N1-C2	8.70	123.82	118.60
35	2	344	A	C5-N7-C8	-8.70	99.55	103.90
35	2	485	A	C4-N9-C1'	-8.70	110.64	126.30
35	2	1070	C	N3-C4-C5	8.70	125.38	121.90
20	k	80	PRO	N-CA-CB	8.68	113.72	103.30
35	2	922	G	C2-N3-C4	-8.68	107.56	111.90
35	2	288	A	C2-N3-C4	-8.67	106.27	110.60
35	2	101	U	C4-C5-C6	8.67	124.90	119.70
35	2	146	U	N3-C2-O2	8.67	128.27	122.20
35	2	589	C	N3-C4-N4	-8.66	111.94	118.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	2	34	G	N1-C6-O6	-8.66	114.70	119.90
35	2	70	C	N3-C4-C5	8.66	125.36	121.90
35	2	868	G	N3-C2-N2	-8.66	113.84	119.90
35	2	281	G	C4-C5-N7	8.66	114.26	110.80
20	k	292	PRO	N-CA-CB	8.64	113.67	103.30
35	2	407	A	C8-N9-C4	-8.64	102.34	105.80
35	2	1073	G	N9-C4-C5	-8.64	101.94	105.40
35	2	163	G	N1-C6-O6	8.63	125.08	119.90
35	2	922	G	N3-C4-N9	-8.62	120.83	126.00
35	2	48	G	N1-C2-N2	-8.62	108.44	116.20
35	2	139	C	O4'-C1'-N1	8.62	115.10	108.20
35	2	394	C	C5-C6-N1	-8.61	116.70	121.00
35	2	529	A	C8-N9-C4	-8.61	102.36	105.80
36	3	81	G	C4-N9-C1'	-8.61	115.31	126.50
35	2	340	U	N3-C2-O2	8.60	128.22	122.20
35	2	25	C	C6-N1-C2	-8.59	116.86	120.30
35	2	80	A	C6-N1-C2	8.59	123.75	118.60
35	2	1053	G	N3-C4-C5	8.59	132.90	128.60
35	2	156	A	N1-C6-N6	8.59	123.75	118.60
35	2	199	G	O4'-C1'-N9	8.59	115.07	108.20
35	2	506	A	N9-C4-C5	-8.59	102.37	105.80
35	2	33	U	C6-N1-C2	-8.57	115.86	121.00
35	2	139	C	C2-N1-C1'	8.57	128.22	118.80
35	2	451	A	C8-N9-C4	8.56	109.22	105.80
35	2	187	G	N3-C4-N9	-8.54	120.87	126.00
35	2	365	G	C3'-C2'-C1'	-8.55	94.66	101.50
35	2	974	A	C5-C6-N6	-8.53	116.88	123.70
35	2	184	C	N1-C2-O2	8.53	124.02	118.90
35	2	386	G	C2-N3-C4	-8.52	107.64	111.90
35	2	491	C	N1-C2-O2	-8.52	113.79	118.90
35	2	407	A	N3-C4-C5	8.52	132.76	126.80
35	2	28	A	C6-N1-C2	-8.50	113.50	118.60
35	2	353	A	C5-N7-C8	-8.50	99.65	103.90
35	2	362	G	N9-C4-C5	8.50	108.80	105.40
35	2	388	G	N9-C4-C5	-8.50	102.00	105.40
35	2	184	C	C6-N1-C1'	-8.50	110.60	120.80
35	2	407	A	C8-N9-C1'	8.50	143.00	127.70
16	d	106	TYR	N-CA-CB	8.48	125.87	110.60
35	2	289	U	N3-C2-O2	-8.48	116.26	122.20
35	2	484	C	C5-C6-N1	8.48	125.24	121.00
35	2	973	A	N9-C1'-C2'	-8.48	102.67	112.00
35	2	125	U	O4'-C1'-N1	8.48	114.98	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	2	30	G	N9-C4-C5	8.47	108.79	105.40
35	2	366	A	N3-C4-C5	8.47	132.73	126.80
35	2	111	U	N1-C2-O2	8.46	128.72	122.80
35	2	914	G	C8-N9-C4	8.46	109.78	106.40
35	2	48	G	C4-C5-N7	8.46	114.18	110.80
15	c	151	ALA	CB-CA-C	8.45	122.77	110.10
35	2	30	G	N7-C8-N9	8.45	117.32	113.10
35	2	27	U	C5-C6-N1	-8.44	118.48	122.70
35	2	213	A	C8-N9-C4	8.44	109.17	105.80
35	2	960	U	C4-C5-C6	8.43	124.76	119.70
35	2	460	A	N1-C2-N3	-8.42	125.09	129.30
35	2	148	A	C5-N7-C8	-8.41	99.69	103.90
35	2	195	G	C2-N3-C4	-8.41	107.69	111.90
35	2	347	G	N9-C4-C5	-8.41	102.04	105.40
35	2	437	A	C8-N9-C4	-8.40	102.44	105.80
35	2	163	G	N7-C8-N9	8.40	117.30	113.10
35	2	428	A	N3-C4-N9	-8.40	120.68	127.40
35	2	430	G	N9-C4-C5	-8.40	102.04	105.40
35	2	1094	G	C8-N9-C4	8.39	109.76	106.40
35	2	316	A	N9-C4-C5	-8.39	102.44	105.80
35	2	591	A	C4-C5-C6	-8.39	112.81	117.00
35	2	520	A	C8-N9-C4	-8.37	102.45	105.80
35	2	504	U	O4'-C1'-N1	-8.36	101.51	108.20
35	2	199	G	N3-C4-C5	8.36	132.78	128.60
35	2	259	U	C6-N1-C2	8.36	126.01	121.00
35	2	898	A	C5-C6-N6	-8.36	117.02	123.70
35	2	199	G	C8-N9-C4	8.35	109.74	106.40
35	2	289	U	C2-N1-C1'	8.35	127.71	117.70
35	2	905	A	C8-N9-C1'	8.35	142.72	127.70
35	2	404	G	C5-C6-O6	-8.34	123.60	128.60
35	2	519	C	C6-N1-C2	8.34	123.64	120.30
35	2	514	G	C5-N7-C8	-8.33	100.14	104.30
35	2	528	U	O4'-C1'-N1	8.33	114.86	108.20
35	2	1042	G	C4-C5-N7	8.33	114.13	110.80
35	2	1048	G	C4-N9-C1'	-8.33	115.67	126.50
35	2	109	G	C4-C5-N7	8.32	114.13	110.80
35	2	209	U	N1-C2-N3	-8.32	109.91	114.90
35	2	48	G	N9-C4-C5	-8.31	102.08	105.40
35	2	386	G	C8-N9-C4	8.30	109.72	106.40
35	2	926	A	N9-C4-C5	-8.30	102.48	105.80
35	2	53	G	C8-N9-C1'	8.30	137.79	127.00
35	2	504	U	C6-N1-C1'	-8.30	109.58	121.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	2	389	G	N9-C4-C5	-8.30	102.08	105.40
35	2	467	G	N7-C8-N9	8.30	117.25	113.10
35	2	362	G	C6-C5-N7	8.29	135.37	130.40
35	2	479	C	O5'-P-OP2	-8.28	98.24	105.70
35	2	482	U	N1-C2-O2	8.29	128.60	122.80
35	2	928	U	C5-C6-N1	8.28	126.84	122.70
35	2	405	C	N3-C4-C5	8.28	125.21	121.90
35	2	952	A	C8-N9-C4	8.28	109.11	105.80
35	2	872	G	N3-C4-N9	-8.28	121.03	126.00
35	2	80	A	C4-C5-N7	8.27	114.84	110.70
35	2	523	G	C4-C5-C6	-8.26	113.84	118.80
35	2	951	A	C8-N9-C1'	8.25	142.56	127.70
35	2	365	G	N9-C1'-C2'	-8.25	102.93	112.00
35	2	41	A	N3-C4-N9	8.24	134.00	127.40
35	2	922	G	C8-N9-C1'	8.24	137.71	127.00
35	2	419	G	N3-C4-C5	8.23	132.71	128.60
35	2	273	G	C5-C6-O6	-8.23	123.66	128.60
35	2	914	G	C4-N9-C1'	-8.23	115.80	126.50
35	2	344	A	C4-C5-N7	8.23	114.81	110.70
35	2	156	A	C5-C6-N6	-8.22	117.12	123.70
35	2	299	A	C8-N9-C4	8.22	109.09	105.80
35	2	951	A	O4'-C1'-N9	8.22	114.78	108.20
35	2	489	C	C2-N1-C1'	-8.22	109.76	118.80
36	3	248	G	C2-N3-C4	-8.22	107.79	111.90
35	2	366	A	C2-N3-C4	-8.21	106.49	110.60
35	2	31	C	N1-C2-O2	8.21	123.83	118.90
35	2	322	G	C4-C5-N7	8.21	114.08	110.80
35	2	334	G	C5-C6-O6	-8.21	123.67	128.60
35	2	936	G	N7-C8-N9	-8.21	109.00	113.10
35	2	489	C	O4'-C1'-N1	8.21	114.76	108.20
35	2	910	C	C2-N1-C1'	-8.20	109.78	118.80
36	3	248	G	N3-C4-C5	8.19	132.69	128.60
35	2	441	A	C4-C5-N7	8.19	114.79	110.70
35	2	974	A	N1-C6-N6	8.18	123.51	118.60
35	2	67	A	C5-C6-N6	-8.17	117.17	123.70
35	2	883	C	C5-C6-N1	8.16	125.08	121.00
35	2	430	G	C5-N7-C8	-8.16	100.22	104.30
35	2	518	A	C4-C5-C6	-8.16	112.92	117.00
36	3	114	A	C8-N9-C4	8.16	109.06	105.80
35	2	624	G	C2-N3-C4	-8.15	107.82	111.90
35	2	1174	C	C6-N1-C2	8.14	123.56	120.30
35	2	185	U	N3-C2-O2	-8.14	116.50	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
20	k	84	ILE	N-CA-CB	8.13	129.51	110.80
35	2	191	C	N1-C2-N3	8.13	124.89	119.20
35	2	452	A	C4-C5-N7	8.12	114.76	110.70
35	2	486	G	C6-C5-N7	-8.12	125.53	130.40
35	2	872	G	C4-N9-C1'	-8.12	115.94	126.50
35	2	1173	C	C6-N1-C2	8.12	123.55	120.30
35	2	1093	A	C8-N9-C4	8.12	109.05	105.80
35	2	936	G	N9-C1'-C2'	-8.12	103.07	112.00
35	2	303	U	C6-N1-C2	8.12	125.87	121.00
35	2	529	A	C5-N7-C8	-8.12	99.84	103.90
35	2	466	U	N3-C4-C5	8.11	119.47	114.60
35	2	463	U	O4'-C1'-N1	8.11	114.68	108.20
35	2	548	G	C5-N7-C8	-8.10	100.25	104.30
35	2	256	A	N3-C4-N9	8.10	133.88	127.40
35	2	880	C	C2-N1-C1'	-8.10	109.89	118.80
35	2	1075	C	C4-C5-C6	-8.10	113.35	117.40
35	2	277	U	N3-C2-O2	8.09	127.86	122.20
35	2	57	G	C4-C5-N7	8.08	114.03	110.80
35	2	491	C	O5'-P-OP2	-8.07	98.43	105.70
35	2	487	G	N3-C4-N9	8.07	130.84	126.00
35	2	865	A	N9-C4-C5	-8.07	102.57	105.80
35	2	303	U	C2-N1-C1'	-8.06	108.02	117.70
35	2	343	C	N3-C4-N4	-8.06	112.36	118.00
35	2	974	A	C4-C5-N7	8.06	114.73	110.70
2	G	3215	GLU	N-CA-C	8.06	132.76	111.00
35	2	510	G	N3-C4-N9	-8.06	121.16	126.00
35	2	1031	U	N1-C2-O2	-8.06	117.16	122.80
35	2	60	U	O4'-C1'-N1	8.06	114.65	108.20
35	2	467	G	C8-N9-C4	-8.05	103.18	106.40
35	2	68	A	C8-N9-C4	-8.04	102.58	105.80
35	2	421	A	N1-C6-N6	8.04	123.43	118.60
35	2	286	C	C5-C6-N1	8.04	125.02	121.00
16	d	144	TYR	CB-CA-C	-8.04	94.33	110.40
35	2	142	G	N3-C2-N2	-8.04	114.27	119.90
35	2	42	G	N3-C4-C5	-8.03	124.58	128.60
35	2	53	G	N3-C2-N2	-8.03	114.28	119.90
35	2	151	G	C5-C6-O6	-8.03	123.78	128.60
35	2	1077	C	C6-N1-C2	8.03	123.51	120.30
35	2	365	G	N1-C6-O6	8.03	124.72	119.90
35	2	503	G	C6-N1-C2	8.03	129.92	125.10
35	2	1083	G	C5-N7-C8	-8.02	100.29	104.30
35	2	1023	A	C6-N1-C2	8.02	123.41	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	2	424	C	C2-N1-C1'	8.01	127.61	118.80
35	2	136	C	C4-C5-C6	8.01	121.40	117.40
35	2	407	A	C2-N3-C4	-8.00	106.60	110.60
35	2	1481	C	C6-N1-C2	-8.00	117.10	120.30
35	2	872	G	N1-C2-N2	8.00	123.40	116.20
35	2	142	G	N1-C2-N2	8.00	123.40	116.20
35	2	537	G	C5-C6-O6	7.99	133.40	128.60
35	2	87	C	C5-C4-N4	7.99	125.79	120.20
35	2	1053	G	N9-C1'-C2'	-7.99	103.21	112.00
35	2	430	G	N9-C1'-C2'	-7.99	103.21	112.00
32	z	95	PRO	N-CA-CB	7.97	112.87	103.30
35	2	510	G	N3-C4-C5	7.96	132.58	128.60
35	2	201	G	N9-C4-C5	-7.96	102.22	105.40
35	2	163	G	C5-C6-O6	-7.95	123.83	128.60
35	2	65	A	N1-C2-N3	7.95	133.27	129.30
35	2	162	A	N1-C6-N6	7.95	123.37	118.60
35	2	138	A	O4'-C1'-N9	7.94	114.55	108.20
35	2	479	C	P-O3'-C3'	-7.94	110.18	119.70
35	2	977	A	C2-N3-C4	7.93	114.57	110.60
35	2	27	U	O4'-C1'-N1	7.93	114.54	108.20
35	2	178	U	C2-N1-C1'	7.93	127.21	117.70
35	2	136	C	C5-C6-N1	-7.92	117.04	121.00
35	2	1039	A	N3-C4-C5	7.92	132.34	126.80
35	2	592	A	C5-C6-N1	7.91	121.66	117.70
35	2	932	U	C2-N1-C1'	-7.91	108.21	117.70
35	2	185	U	N1-C2-O2	7.91	128.34	122.80
20	k	286	PRO	N-CA-CB	7.91	112.79	103.30
36	3	84	G	N3-C4-N9	-7.91	121.26	126.00
35	2	184	C	C5-C6-N1	7.90	124.95	121.00
35	2	353	A	N7-C8-N9	7.90	117.75	113.80
35	2	973	A	C4-C5-N7	7.90	114.65	110.70
35	2	537	G	C6-N1-C2	7.90	129.84	125.10
35	2	1056	U	C2-N1-C1'	7.90	127.17	117.70
35	2	444	C	N3-C2-O2	7.89	127.43	121.90
35	2	1041	G	C6-C5-N7	-7.89	125.66	130.40
35	2	307	G	C2-N3-C4	-7.89	107.96	111.90
35	2	923	A	N1-C6-N6	7.88	123.33	118.60
35	2	398	G	C8-N9-C4	-7.88	103.25	106.40
35	2	504	U	N3-C4-C5	7.88	119.33	114.60
35	2	342	C	O4'-C1'-N1	7.88	114.50	108.20
35	2	467	G	N9-C1'-C2'	-7.87	103.34	112.00
35	2	342	C	C2-N1-C1'	-7.87	110.14	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	2	164	A	N7-C8-N9	-7.87	109.87	113.80
20	k	20	PRO	N-CA-CB	7.86	112.73	103.30
35	2	965	U	C2-N1-C1'	7.85	127.12	117.70
35	2	493	U	C5-C6-N1	-7.85	118.77	122.70
35	2	112	A	C8-N9-C4	7.84	108.94	105.80
35	2	187	G	C8-N9-C1'	7.84	137.19	127.00
35	2	460	A	C4-C5-C6	-7.83	113.08	117.00
35	2	390	G	N1-C2-N2	7.83	123.25	116.20
35	2	503	G	N3-C4-N9	-7.83	121.30	126.00
35	2	504	U	C4-C5-C6	-7.82	115.01	119.70
35	2	149	C	N1-C2-O2	7.82	123.59	118.90
35	2	1579	U	C5-C4-O4	-7.82	121.21	125.90
35	2	393	C	C6-N1-C1'	-7.81	111.42	120.80
35	2	302	U	C4-C5-C6	-7.81	115.01	119.70
35	2	357	G	N3-C4-C5	7.81	132.50	128.60
35	2	146	U	C5-C4-O4	-7.81	121.22	125.90
35	2	361	C	N1-C2-O2	-7.80	114.22	118.90
35	2	167	U	C5-C4-O4	-7.79	121.22	125.90
35	2	974	A	N9-C4-C5	-7.79	102.69	105.80
35	2	1083	G	N3-C4-N9	-7.78	121.33	126.00
35	2	164	A	C4-C5-C6	-7.78	113.11	117.00
35	2	514	G	N9-C4-C5	-7.78	102.29	105.40
35	2	256	A	N1-C2-N3	-7.78	125.41	129.30
35	2	1083	G	C4-C5-N7	7.77	113.91	110.80
35	2	287	G	N1-C6-O6	7.77	124.56	119.90
35	2	208	U	N1-C2-O2	7.77	128.24	122.80
35	2	24	U	N1-C2-O2	7.77	128.24	122.80
35	2	208	U	N3-C2-O2	-7.77	116.76	122.20
35	2	386	G	C8-N9-C1'	-7.77	116.90	127.00
35	2	1074	G	N9-C1'-C2'	-7.76	103.47	112.00
35	2	423	G	N3-C4-C5	-7.75	124.72	128.60
35	2	471	A	O5'-P-OP1	-7.75	98.72	105.70
35	2	341	A	N9-C4-C5	-7.74	102.70	105.80
35	2	464	A	N9-C4-C5	-7.74	102.70	105.80
35	2	33	U	C5-C4-O4	7.72	130.53	125.90
35	2	201	G	C4-C5-N7	7.72	113.89	110.80
35	2	31	C	C6-N1-C2	-7.72	117.21	120.30
36	3	262	C	C6-N1-C2	7.72	123.39	120.30
35	2	1075	C	N3-C2-O2	7.72	127.30	121.90
35	2	401	A	C4-N9-C1'	-7.71	112.42	126.30
35	2	186	C	N1-C2-O2	-7.71	114.27	118.90
35	2	196	G	C2-N3-C4	-7.71	108.04	111.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
36	3	114	A	C4-C5-N7	7.71	114.56	110.70
35	2	489	C	C6-N1-C1'	7.70	130.04	120.80
19	j	615	PRO	C-N-CA	7.70	140.94	121.70
35	2	480	G	N9-C1'-C2'	-7.69	103.54	112.00
19	i	615	PRO	C-N-CA	7.69	140.93	121.70
35	2	546	U	C6-N1-C2	7.69	125.61	121.00
35	2	205	U	N1-C2-O2	7.69	128.18	122.80
35	2	871	G	C8-N9-C4	7.68	109.47	106.40
35	2	405	C	C6-N1-C2	7.68	123.37	120.30
35	2	430	G	N1-C6-O6	7.68	124.51	119.90
35	2	332	U	C5-C6-N1	7.67	126.53	122.70
35	2	448	C	C4-C5-C6	-7.67	113.57	117.40
35	2	1620	C	N3-C2-O2	-7.67	116.53	121.90
35	2	333	A	O5'-P-OP2	-7.67	98.80	105.70
35	2	1591	C	C2-N1-C1'	-7.67	110.37	118.80
35	2	538	A	N1-C6-N6	7.66	123.20	118.60
35	2	1042	G	N9-C1'-C2'	-7.66	103.57	112.00
35	2	243	G	C2-N3-C4	-7.66	108.07	111.90
35	2	87	C	N1-C2-O2	-7.66	114.31	118.90
35	2	391	A	C5-C6-N6	-7.66	117.58	123.70
35	2	432	G	C5-C6-N1	-7.65	107.67	111.50
35	2	389	G	C8-N9-C4	7.65	109.46	106.40
35	2	173	A	N1-C2-N3	7.64	133.12	129.30
20	k	252	PRO	N-CA-CB	7.64	112.46	103.30
36	3	192	A	N7-C8-N9	7.63	117.62	113.80
35	2	332	U	C2-N1-C1'	7.63	126.86	117.70
35	2	591	A	N1-C2-N3	-7.63	125.48	129.30
35	2	396	G	N3-C2-N2	-7.63	114.56	119.90
35	2	334	G	N7-C8-N9	7.62	116.91	113.10
35	2	357	G	C8-N9-C4	7.62	109.45	106.40
35	2	1606	C	C6-N1-C2	7.62	123.35	120.30
35	2	310	C	C4-C5-C6	-7.61	113.59	117.40
35	2	932	U	C5-C6-N1	-7.61	118.89	122.70
35	2	530	C	N1-C1'-C2'	-7.61	103.63	112.00
35	2	263	C	C6-N1-C2	7.60	123.34	120.30
35	2	591	A	O4'-C1'-N9	-7.60	102.12	108.20
35	2	495	C	C6-N1-C1'	-7.60	111.68	120.80
35	2	33	U	OP2-P-O3'	-7.59	88.49	105.20
35	2	898	A	C4-C5-N7	7.59	114.50	110.70
35	2	490	C	C6-N1-C2	7.59	123.34	120.30
35	2	283	U	C2-N1-C1'	-7.58	108.60	117.70
35	2	527	A	C2-N3-C4	-7.58	106.81	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
36	3	250	G	N3-C4-C5	7.57	132.39	128.60
35	2	964	U	C5-C4-O4	-7.57	121.36	125.90
35	2	69	G	N3-C4-C5	7.56	132.38	128.60
35	2	1053	G	N3-C2-N2	-7.56	114.61	119.90
35	2	136	C	C2-N3-C4	-7.55	116.12	119.90
35	2	460	A	N7-C8-N9	-7.55	110.03	113.80
35	2	97	C	N3-C4-C5	7.55	124.92	121.90
35	2	167	U	C6-N1-C1'	-7.55	110.63	121.20
35	2	400	A	C8-N9-C4	-7.55	102.78	105.80
35	2	184	C	C4-C5-C6	-7.55	113.63	117.40
35	2	490	C	N3-C4-C5	7.54	124.92	121.90
35	2	393	C	C6-N1-C2	7.54	123.32	120.30
35	2	1062	A	C5-N7-C8	-7.53	100.13	103.90
35	2	447	U	C6-N1-C2	7.53	125.52	121.00
35	2	513	U	N1-C2-O2	7.53	128.07	122.80
36	3	114	A	N1-C6-N6	7.53	123.12	118.60
35	2	1067	C	N3-C4-C5	7.53	124.91	121.90
35	2	935	U	C2-N1-C1'	7.53	126.73	117.70
35	2	1074	G	N9-C4-C5	-7.52	102.39	105.40
35	2	325	G	C4-C5-N7	7.52	113.81	110.80
35	2	486	G	N9-C4-C5	-7.51	102.39	105.40
35	2	1074	G	C6-C5-N7	-7.51	125.89	130.40
35	2	386	G	N1-C2-N2	-7.51	109.44	116.20
35	2	82	U	P-O3'-C3'	-7.51	110.69	119.70
35	2	284	G	C4-C5-N7	7.50	113.80	110.80
35	2	307	G	C8-N9-C4	7.50	109.40	106.40
35	2	406	U	N1-C2-O2	7.50	128.05	122.80
35	2	945	U	C5-C4-O4	-7.50	121.40	125.90
35	2	1074	G	C5-N7-C8	-7.50	100.55	104.30
35	2	913	G	C8-N9-C4	-7.50	103.40	106.40
35	2	162	A	N1-C2-N3	-7.50	125.55	129.30
35	2	900	A	N1-C6-N6	7.50	123.10	118.60
35	2	29	U	C2-N1-C1'	-7.49	108.71	117.70
35	2	325	G	C8-N9-C4	7.49	109.40	106.40
35	2	87	C	N3-C4-N4	-7.48	112.76	118.00
35	2	495	C	C2-N1-C1'	7.48	127.03	118.80
35	2	531	C	N3-C2-O2	-7.48	116.67	121.90
35	2	276	C	C5-C4-N4	-7.47	114.97	120.20
35	2	1159	C	C2-N1-C1'	7.47	127.02	118.80
36	3	194	G	N3-C4-C5	-7.47	124.86	128.60
35	2	286	C	C6-N1-C2	-7.47	117.31	120.30
35	2	514	G	C5-C6-N1	7.47	115.23	111.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	2	246	G	N7-C8-N9	7.47	116.83	113.10
35	2	491	C	N3-C4-N4	-7.46	112.78	118.00
35	2	140	A	C8-N9-C4	-7.46	102.82	105.80
35	2	32	U	C6-N1-C1'	7.45	131.64	121.20
35	2	375	U	C6-N1-C1'	7.45	131.63	121.20
35	2	537	G	N3-C4-N9	-7.45	121.53	126.00
35	2	898	A	N1-C6-N6	7.45	123.07	118.60
35	2	451	A	N9-C4-C5	-7.45	102.82	105.80
35	2	42	G	N3-C4-N9	7.45	130.47	126.00
35	2	67	A	C2-N3-C4	7.44	114.32	110.60
35	2	456	A	C2-N3-C4	-7.44	106.88	110.60
35	2	400	A	N7-C8-N9	7.44	117.52	113.80
35	2	391	A	N1-C6-N6	7.43	123.06	118.60
35	2	361	C	C6-N1-C2	7.43	123.27	120.30
35	2	529	A	C5-C6-N6	-7.43	117.76	123.70
35	2	354	C	C4-C5-C6	-7.42	113.69	117.40
35	2	1056	U	C4-C5-C6	-7.42	115.25	119.70
35	2	309	C	N1-C2-N3	-7.41	114.01	119.20
36	3	190	C	C6-N1-C2	7.41	123.27	120.30
35	2	452	A	N1-C6-N6	7.41	123.05	118.60
35	2	587	C	N3-C2-O2	-7.41	116.71	121.90
19	i	612	ASP	O-C-N	7.41	134.55	122.70
35	2	325	G	N9-C4-C5	-7.40	102.44	105.40
35	2	46	A	C8-N9-C4	-7.40	102.84	105.80
35	2	317	C	N1-C2-O2	7.40	123.34	118.90
35	2	1038	U	N3-C2-O2	-7.39	117.03	122.20
35	2	199	G	N9-C4-C5	-7.39	102.44	105.40
36	3	197	C	N3-C2-O2	-7.39	116.73	121.90
35	2	316	A	C8-N9-C4	7.39	108.75	105.80
35	2	1620	C	N1-C2-O2	7.39	123.33	118.90
35	2	323	A	C2-N3-C4	-7.39	106.91	110.60
35	2	432	G	N3-C4-C5	-7.39	124.91	128.60
35	2	307	G	N9-C1'-C2'	-7.38	103.88	112.00
35	2	630	A	C5-C6-N1	7.38	121.39	117.70
35	2	34	G	C8-N9-C4	-7.38	103.45	106.40
35	2	214	G	O4'-C1'-N9	7.38	114.10	108.20
35	2	587	C	N1-C2-O2	7.38	123.33	118.90
35	2	254	A	C8-N9-C4	7.38	108.75	105.80
35	2	45	U	N3-C2-O2	-7.37	117.04	122.20
35	2	375	U	C5-C6-N1	-7.37	119.02	122.70
19	j	612	ASP	O-C-N	7.37	134.49	122.70
35	2	1062	A	C5-C6-N6	-7.37	117.80	123.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	2	70	C	C4-C5-C6	-7.37	113.72	117.40
35	2	396	G	C4-N9-C1'	-7.37	116.92	126.50
35	2	506	A	C4-C5-N7	7.36	114.38	110.70
35	2	492	A	C8-N9-C4	7.35	108.74	105.80
2	G	3180	ALA	N-CA-CB	7.34	120.38	110.10
35	2	105	A	N1-C6-N6	-7.34	114.19	118.60
35	2	455	C	C2-N1-C1'	-7.34	110.72	118.80
15	c	202	GLN	C-N-CA	7.34	140.05	121.70
35	2	872	G	N3-C2-N2	-7.34	114.76	119.90
36	3	90	C	C6-N1-C2	7.33	123.23	120.30
35	2	413	U	C6-N1-C2	7.33	125.40	121.00
15	c	251	SER	N-CA-CB	7.33	121.49	110.50
35	2	124	A	C5-C6-N6	-7.33	117.84	123.70
35	2	246	G	C6-C5-N7	-7.33	126.00	130.40
35	2	479	C	C6-N1-C2	-7.33	117.37	120.30
35	2	187	G	C4-N9-C1'	-7.33	116.98	126.50
35	2	491	C	C4-C5-C6	-7.33	113.74	117.40
35	2	105	A	C5-C6-N1	7.32	121.36	117.70
16	d	144	TYR	N-CA-CB	7.32	123.78	110.60
19	i	612	ASP	C-N-CA	7.32	140.00	121.70
35	2	366	A	C5-C6-N1	-7.32	114.04	117.70
35	2	941	A	N9-C4-C5	-7.32	102.87	105.80
19	j	406	TYR	C-N-CA	7.32	139.99	121.70
35	2	341	A	C8-N9-C4	7.32	108.73	105.80
35	2	973	A	N1-C2-N3	-7.32	125.64	129.30
35	2	163	G	C6-C5-N7	-7.31	126.01	130.40
19	j	612	ASP	C-N-CA	7.31	139.97	121.70
35	2	148	A	N7-C8-N9	7.31	117.45	113.80
35	2	109	G	C5-N7-C8	-7.31	100.65	104.30
35	2	404	G	N1-C6-O6	7.31	124.28	119.90
35	2	1051	G	N3-C4-N9	7.30	130.38	126.00
35	2	382	C	N1-C2-O2	7.30	123.28	118.90
35	2	157	A	C5-N7-C8	-7.30	100.25	103.90
35	2	35	U	N1-C1'-C2'	-7.30	103.97	112.00
35	2	309	C	C4-C5-C6	-7.30	113.75	117.40
35	2	380	U	C2-N1-C1'	-7.29	108.95	117.70
35	2	1091	A	C8-N9-C4	7.29	108.72	105.80
19	i	406	TYR	C-N-CA	7.29	139.93	121.70
35	2	456	A	C5-C6-N6	-7.29	117.87	123.70
35	2	948	G	C4-C5-N7	7.28	113.71	110.80
35	2	317	C	N3-C4-C5	7.28	124.81	121.90
35	2	526	A	C2-N3-C4	7.28	114.24	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	2	210	A	N3-C4-C5	7.28	131.90	126.80
35	2	540	G	C6-C5-N7	-7.28	126.03	130.40
35	2	255	U	C4-C5-C6	-7.27	115.34	119.70
35	2	323	A	C5-N7-C8	-7.27	100.26	103.90
35	2	549	G	C4-N9-C1'	-7.27	117.05	126.50
35	2	27	U	C6-N1-C2	7.27	125.36	121.00
35	2	865	A	C4-C5-N7	7.27	114.33	110.70
35	2	1042	G	C2-N3-C4	-7.27	108.27	111.90
36	3	114	A	C5-C6-N6	-7.27	117.89	123.70
35	2	935	U	C5-C6-N1	7.26	126.33	122.70
35	2	1097	U	C5-C6-N1	7.26	126.33	122.70
36	3	113	G	C4-N9-C1'	-7.26	117.06	126.50
35	2	324	U	N1-C2-N3	-7.26	110.54	114.90
35	2	500	C	N1-C2-O2	7.26	123.26	118.90
35	2	139	C	N3-C4-C5	-7.26	119.00	121.90
35	2	407	A	N1-C6-N6	7.26	122.95	118.60
35	2	273	G	N9-C4-C5	-7.25	102.50	105.40
35	2	154	G	N7-C8-N9	7.25	116.73	113.10
35	2	951	A	C4-N9-C1'	-7.25	113.25	126.30
35	2	865	A	C5-N7-C8	-7.25	100.28	103.90
35	2	281	G	N3-C4-C5	7.25	132.22	128.60
35	2	335	U	N1-C2-O2	7.24	127.87	122.80
35	2	950	C	C5-C6-N1	7.24	124.62	121.00
35	2	549	G	C6-C5-N7	7.24	134.75	130.40
35	2	360	A	C5-C6-N1	-7.24	114.08	117.70
35	2	371	G	O5'-P-OP2	-7.24	99.18	105.70
35	2	388	G	C6-C5-N7	-7.24	126.06	130.40
35	2	477	A	C2-N3-C4	-7.24	106.98	110.60
35	2	952	A	N9-C4-C5	-7.24	102.90	105.80
36	3	81	G	N3-C4-C5	7.24	132.22	128.60
35	2	974	A	C5-N7-C8	-7.24	100.28	103.90
15	c	161	PRO	N-CA-CB	7.24	111.98	103.30
35	2	210	A	C5-N7-C8	-7.24	100.28	103.90
35	2	253	A	N1-C6-N6	7.23	122.94	118.60
35	2	462	G	C8-N9-C1'	7.23	136.40	127.00
35	2	81	G	N9-C4-C5	-7.23	102.51	105.40
35	2	1046	G	O4'-C1'-N9	-7.23	102.42	108.20
35	2	879	G	C2-N3-C4	-7.22	108.29	111.90
35	2	260	U	C6-N1-C2	-7.22	116.67	121.00
35	2	1027	A	N1-C6-N6	7.22	122.93	118.60
35	2	501	U	C5-C6-N1	-7.22	119.09	122.70
35	2	1096	C	N3-C2-O2	-7.21	116.85	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	2	132	U	O4'-C1'-N1	7.21	113.97	108.20
35	2	443	C	N3-C4-C5	7.21	124.78	121.90
35	2	941	A	C4-C5-N7	7.21	114.30	110.70
35	2	424	C	C6-N1-C1'	-7.21	112.15	120.80
35	2	91	G	C5-C6-O6	-7.20	124.28	128.60
35	2	92	A	O4'-C1'-N9	7.20	113.96	108.20
35	2	1053	G	N3-C4-N9	-7.19	121.68	126.00
35	2	38	C	N3-C4-C5	-7.18	119.03	121.90
35	2	590	C	C6-N1-C2	7.18	123.17	120.30
35	2	84	A	N9-C1'-C2'	-7.18	104.11	112.00
36	3	268	G	C8-N9-C4	7.17	109.27	106.40
35	2	324	U	N3-C4-C5	7.17	118.90	114.60
35	2	393	C	C4-C5-C6	-7.17	113.81	117.40
35	2	1065	A	N9-C4-C5	-7.17	102.93	105.80
35	2	328	A	N1-C2-N3	7.17	132.88	129.30
35	2	1076	A	N3-C4-C5	7.17	131.82	126.80
35	2	108	A	N1-C6-N6	7.17	122.90	118.60
35	2	202	A	N1-C6-N6	7.17	122.90	118.60
35	2	1078	C	C4-C5-C6	-7.16	113.82	117.40
35	2	905	A	C5-N7-C8	-7.16	100.32	103.90
35	2	1041	G	C5-N7-C8	-7.16	100.72	104.30
35	2	365	G	N3-C4-N9	7.15	130.29	126.00
35	2	486	G	N3-C4-N9	7.15	130.29	126.00
35	2	287	G	C5-C6-O6	-7.15	124.31	128.60
35	2	881	A	C4-C5-N7	7.15	114.27	110.70
35	2	115	G	N1-C2-N2	-7.14	109.77	116.20
35	2	523	G	C5-N7-C8	-7.14	100.73	104.30
35	2	905	A	O4'-C1'-N9	7.14	113.92	108.20
35	2	209	U	C6-N1-C2	7.14	125.28	121.00
35	2	463	U	N3-C4-O4	-7.14	114.41	119.40
35	2	518	A	C5-C6-N1	7.14	121.27	117.70
35	2	883	C	C4-C5-C6	-7.14	113.83	117.40
35	2	1062	A	C4-C5-N7	7.13	114.27	110.70
35	2	99	C	O4'-C1'-N1	-7.13	102.49	108.20
35	2	206	A	C6-N1-C2	7.13	122.88	118.60
35	2	880	C	C6-N1-C1'	7.13	129.36	120.80
35	2	346	G	O5'-P-OP1	-7.13	99.28	105.70
35	2	1039	A	N1-C6-N6	7.13	122.88	118.60
35	2	205	U	N1-C2-N3	-7.12	110.62	114.90
35	2	885	G	C2-N3-C4	-7.12	108.34	111.90
35	2	73	U	C6-N1-C2	7.12	125.27	121.00
35	2	965	U	C2-N3-C4	7.12	131.27	127.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	2	463	U	C6-N1-C1'	7.12	131.16	121.20
35	2	179	A	C8-N9-C4	-7.12	102.95	105.80
35	2	462	G	C4-N9-C1'	-7.12	117.25	126.50
35	2	926	A	N1-C6-N6	7.12	122.87	118.60
35	2	914	G	N3-C2-N2	-7.11	114.92	119.90
35	2	295	A	N9-C4-C5	-7.10	102.96	105.80
35	2	497	G	N9-C1'-C2'	-7.10	104.19	112.00
35	2	65	A	OP1-P-O3'	7.10	120.82	105.20
35	2	274	G	C2-N3-C4	-7.10	108.35	111.90
35	2	353	A	C4-C5-N7	7.09	114.25	110.70
35	2	387	A	N1-C2-N3	7.09	132.85	129.30
35	2	440	U	N3-C4-O4	7.09	124.37	119.40
35	2	353	A	N9-C4-C5	-7.09	102.96	105.80
35	2	119	A	O4'-C1'-N9	7.09	113.87	108.20
35	2	391	A	N9-C1'-C2'	-7.09	104.20	112.00
35	2	357	G	C6-N1-C2	7.08	129.35	125.10
35	2	902	G	C2-N3-C4	-7.08	108.36	111.90
35	2	966	A	N1-C6-N6	7.08	122.85	118.60
36	3	81	G	C8-N9-C1'	7.08	136.21	127.00
19	i	882	ALA	N-CA-C	-7.08	91.88	111.00
35	2	1094	G	C6-C5-N7	-7.08	126.15	130.40
35	2	1591	C	C6-N1-C1'	7.08	129.29	120.80
35	2	941	A	C5-N7-C8	-7.08	100.36	103.90
36	3	257	G	N3-C4-C5	7.08	132.14	128.60
35	2	339	C	N1-C2-O2	7.08	123.14	118.90
36	3	197	C	C6-N1-C2	-7.08	117.47	120.30
35	2	484	C	N3-C4-N4	-7.07	113.05	118.00
35	2	491	C	N3-C2-O2	7.07	126.85	121.90
35	2	48	G	C5-C6-O6	-7.07	124.36	128.60
35	2	962	C	N3-C2-O2	-7.07	116.95	121.90
36	3	91	G	N3-C4-C5	7.07	132.13	128.60
35	2	388	G	C5-C6-O6	-7.06	124.36	128.60
35	2	546	U	O5'-P-OP2	-7.06	99.35	105.70
35	2	322	G	N3-C4-N9	7.06	130.24	126.00
35	2	905	A	C4-N9-C1'	-7.06	113.60	126.30
19	j	882	ALA	N-CA-C	-7.05	91.96	111.00
35	2	89	G	N3-C4-C5	7.05	132.13	128.60
35	2	31	C	C2-N1-C1'	7.05	126.56	118.80
35	2	907	A	C4-C5-C6	-7.05	113.48	117.00
35	2	384	G	C5-N7-C8	-7.04	100.78	104.30
35	2	421	A	C5-C6-N6	-7.04	118.07	123.70
35	2	502	U	C5-C4-O4	-7.03	121.68	125.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	2	119	A	C8-N9-C4	7.03	108.61	105.80
35	2	941	A	N1-C6-N6	7.03	122.82	118.60
35	2	29	U	C6-N1-C1'	7.03	131.04	121.20
35	2	540	G	C4-N9-C1'	7.02	135.62	126.50
35	2	324	U	N3-C4-O4	-7.02	114.49	119.40
35	2	589	C	N3-C4-C5	7.01	124.71	121.90
35	2	315	A	O4'-C1'-N9	-7.01	102.59	108.20
35	2	112	A	C4-C5-N7	7.01	114.20	110.70
35	2	69	G	C4-C5-C6	-7.01	114.59	118.80
35	2	1083	G	N9-C1'-C2'	-7.01	104.29	112.00
35	2	1097	U	N3-C2-O2	-7.00	117.30	122.20
35	2	1071	U	C6-N1-C2	7.00	125.20	121.00
35	2	1083	G	C4-N9-C1'	-7.00	117.39	126.50
35	2	471	A	N1-C6-N6	7.00	122.80	118.60
35	2	270	C	C6-N1-C2	7.00	123.10	120.30
35	2	209	U	N1-C2-O2	6.99	127.70	122.80
35	2	73	U	N3-C2-O2	-6.99	117.31	122.20
35	2	154	G	N3-C4-N9	-6.99	121.81	126.00
35	2	243	G	O4'-C1'-N9	-6.99	102.61	108.20
35	2	396	G	C8-N9-C4	6.99	109.20	106.40
19	j	497	ASP	C-N-CA	6.99	139.17	121.70
35	2	955	A	N1-C6-N6	6.98	122.79	118.60
35	2	72	A	C8-N9-C4	6.98	108.59	105.80
35	2	72	A	N7-C8-N9	-6.98	110.31	113.80
19	i	497	ASP	C-N-CA	6.97	139.14	121.70
35	2	251	A	O4'-C1'-N9	6.97	113.78	108.20
35	2	367	A	C8-N9-C4	6.97	108.59	105.80
35	2	879	G	C4-C5-N7	6.97	113.59	110.80
35	2	914	G	C2-N3-C4	-6.97	108.42	111.90
35	2	917	U	C5-C6-N1	6.97	126.18	122.70
35	2	108	A	C4-C5-N7	6.96	114.18	110.70
35	2	471	A	C6-N1-C2	6.96	122.78	118.60
35	2	328	A	N1-C6-N6	6.96	122.78	118.60
35	2	166	C	N1-C2-O2	6.95	123.07	118.90
35	2	253	A	N1-C2-N3	-6.95	125.82	129.30
35	2	627	C	C6-N1-C2	6.95	123.08	120.30
35	2	936	G	N3-C4-C5	6.95	132.08	128.60
35	2	1041	G	C5-C6-O6	-6.95	124.43	128.60
35	2	347	G	N3-C2-N2	6.94	124.76	119.90
35	2	423	G	C4-N9-C1'	6.94	135.52	126.50
35	2	625	C	C5-C6-N1	6.94	124.47	121.00
35	2	865	A	N1-C6-N6	6.94	122.76	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	2	384	G	N3-C4-C5	6.93	132.07	128.60
35	2	865	A	C6-C5-N7	-6.93	127.44	132.30
35	2	50	C	N3-C2-O2	-6.93	117.05	121.90
35	2	502	U	N1-C2-O2	6.93	127.65	122.80
35	2	481	A	C8-N9-C4	6.93	108.57	105.80
35	2	314	C	C2-N1-C1'	6.92	126.42	118.80
35	2	67	A	OP1-P-OP2	-6.92	109.22	119.60
20	k	270	PHE	N-CA-CB	6.92	123.06	110.60
35	2	617	U	N3-C4-C5	6.92	118.75	114.60
35	2	879	G	N9-C4-C5	-6.91	102.64	105.40
35	2	353	A	N1-C6-N6	6.90	122.74	118.60
35	2	371	G	N3-C4-C5	6.90	132.05	128.60
35	2	378	A	N9-C4-C5	6.90	108.56	105.80
35	2	477	A	N1-C2-N3	6.89	132.75	129.30
35	2	267	U	O4'-C1'-N1	6.89	113.71	108.20
35	2	523	G	C5-C6-O6	-6.89	124.47	128.60
35	2	1043	A	N9-C1'-C2'	-6.89	104.42	112.00
35	2	33	U	N3-C2-O2	-6.88	117.38	122.20
35	2	1025	A	C4-C5-C6	6.88	120.44	117.00
35	2	80	A	C6-C5-N7	-6.88	127.49	132.30
35	2	965	U	C5-C6-N1	6.87	126.14	122.70
35	2	1041	G	C2-N3-C4	-6.87	108.46	111.90
35	2	162	A	C6-C5-N7	-6.87	127.49	132.30
35	2	1051	G	C8-N9-C1'	-6.87	118.07	127.00
35	2	463	U	N1-C2-O2	6.87	127.61	122.80
35	2	328	A	N9-C1'-C2'	-6.86	104.46	112.00
35	2	41	A	C4-C5-N7	6.86	114.13	110.70
35	2	481	A	N9-C4-C5	-6.86	103.06	105.80
35	2	41	A	N1-C2-N3	-6.85	125.88	129.30
35	2	242	U	C2-N1-C1'	6.85	125.92	117.70
35	2	540	G	C4-C5-C6	6.85	122.91	118.80
35	2	885	G	C4-N9-C1'	-6.85	117.60	126.50
35	2	28	A	C4-C5-C6	6.84	120.42	117.00
35	2	884	A	C4-C5-N7	6.84	114.12	110.70
35	2	922	G	C4-C5-N7	6.84	113.54	110.80
35	2	396	G	N3-C4-N9	-6.84	121.90	126.00
35	2	521	A	C5-N7-C8	-6.84	100.48	103.90
35	2	73	U	N3-C4-C5	6.83	118.70	114.60
35	2	166	C	C5-C4-N4	6.83	124.98	120.20
35	2	1606	C	N1-C2-O2	-6.83	114.80	118.90
35	2	211	U	C4-C5-C6	-6.83	115.60	119.70
35	2	498	G	C5-N7-C8	-6.83	100.89	104.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	2	462	G	N1-C6-O6	-6.83	115.80	119.90
35	2	371	G	C5-N7-C8	-6.82	100.89	104.30
35	2	258	C	O4'-C1'-N1	-6.82	102.75	108.20
35	2	163	G	N3-C2-N2	-6.82	115.13	119.90
35	2	201	G	C5-C6-O6	-6.82	124.51	128.60
35	2	941	A	N3-C4-C5	6.82	131.57	126.80
35	2	401	A	N9-C1'-C2'	6.81	122.86	114.00
35	2	1159	C	C6-N1-C1'	-6.81	112.63	120.80
35	2	334	G	N1-C6-O6	6.81	123.98	119.90
35	2	948	G	C5-N7-C8	-6.81	100.90	104.30
15	c	201	GLY	CA-C-O	-6.80	108.35	120.60
35	2	512	A	C6-C5-N7	6.80	137.06	132.30
35	2	1463	C	C6-N1-C2	6.80	123.02	120.30
35	2	273	G	C6-C5-N7	-6.80	126.32	130.40
35	2	894	U	N3-C2-O2	6.80	126.96	122.20
35	2	358	U	N1-C2-N3	-6.79	110.83	114.90
35	2	392	G	N3-C4-N9	6.79	130.07	126.00
35	2	548	G	N9-C4-C5	-6.79	102.69	105.40
35	2	187	G	N3-C4-C5	6.78	131.99	128.60
35	2	454	U	N1-C2-N3	6.78	118.97	114.90
35	2	538	A	C4-C5-N7	6.78	114.09	110.70
35	2	407	A	C4-C5-N7	6.78	114.09	110.70
35	2	593	U	N3-C2-O2	-6.78	117.46	122.20
35	2	473	A	C4-C5-C6	6.77	120.39	117.00
35	2	282	C	N3-C4-C5	6.77	124.61	121.90
35	2	894	U	C2-N1-C1'	-6.77	109.58	117.70
35	2	83	G	N3-C4-C5	6.76	131.98	128.60
35	2	425	A	N3-C4-C5	-6.76	122.06	126.80
35	2	401	A	N7-C8-N9	-6.76	110.42	113.80
35	2	115	G	N3-C2-N2	6.76	124.63	119.90
35	2	452	A	C5-C6-N6	-6.76	118.29	123.70
35	2	276	C	O4'-C1'-N1	6.76	113.61	108.20
35	2	81	G	C4-C5-N7	6.75	113.50	110.80
35	2	323	A	N9-C1'-C2'	-6.75	104.57	112.00
35	2	91	G	C5-C6-N1	6.75	114.88	111.50
35	2	428	A	N3-C4-C5	6.75	131.53	126.80
35	2	454	U	N3-C2-O2	-6.75	117.48	122.20
35	2	365	G	C2-N3-C4	-6.75	108.53	111.90
35	2	325	G	N3-C4-C5	6.74	131.97	128.60
19	j	611	GLY	N-CA-C	-6.74	96.24	113.10
36	3	84	G	C2-N3-C4	-6.74	108.53	111.90
35	2	503	G	C4-N9-C1'	-6.74	117.74	126.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
36	3	85	A	N1-C6-N6	6.74	122.64	118.60
35	2	540	G	N3-C4-C5	-6.73	125.23	128.60
35	2	362	G	C8-N9-C4	-6.73	103.71	106.40
35	2	493	U	N1-C2-O2	-6.73	118.09	122.80
35	2	910	C	O4'-C1'-N1	6.73	113.58	108.20
35	2	625	C	N1-C2-O2	-6.73	114.86	118.90
35	2	1043	A	C4-C5-N7	6.73	114.06	110.70
35	2	957	G	C4-C5-N7	6.72	113.49	110.80
35	2	1062	A	N1-C6-N6	6.72	122.64	118.60
14	b	107	ALA	CB-CA-C	6.72	120.18	110.10
35	2	33	U	O4'-C1'-N1	6.72	113.57	108.20
35	2	485	A	C2-N3-C4	-6.72	107.24	110.60
35	2	307	G	C8-N9-C1'	6.71	135.73	127.00
35	2	926	A	C4-C5-N7	6.71	114.06	110.70
35	2	184	C	O4'-C1'-N1	-6.71	102.83	108.20
35	2	259	U	N3-C2-O2	6.71	126.89	122.20
35	2	310	C	C6-N1-C2	6.71	122.98	120.30
35	2	332	U	N1-C2-O2	6.71	127.50	122.80
35	2	465	G	C5-N7-C8	-6.71	100.95	104.30
35	2	504	U	N1-C2-O2	6.71	127.50	122.80
35	2	195	G	C8-N9-C4	6.71	109.08	106.40
35	2	196	G	N3-C2-N2	-6.70	115.21	119.90
35	2	593	U	O4'-C1'-N1	6.70	113.56	108.20
35	2	266	A	N1-C6-N6	-6.70	114.58	118.60
35	2	29	U	O5'-P-OP1	-6.70	99.67	105.70
35	2	539	G	C4-C5-C6	-6.70	114.78	118.80
35	2	353	A	O5'-P-OP2	-6.69	99.67	105.70
35	2	907	A	C8-N9-C4	6.69	108.48	105.80
35	2	26	A	C4-C5-N7	6.69	114.05	110.70
35	2	289	U	C6-N1-C1'	-6.69	111.83	121.20
35	2	404	G	C5-N7-C8	-6.69	100.96	104.30
35	2	307	G	N1-C6-O6	6.69	123.91	119.90
35	2	27	U	C2-N1-C1'	-6.68	109.68	117.70
35	2	893	U	N3-C2-O2	-6.68	117.52	122.20
35	2	386	G	N3-C2-N2	6.68	124.58	119.90
35	2	900	A	C5-C6-N6	-6.68	118.36	123.70
35	2	977	A	N9-C4-C5	6.68	108.47	105.80
16	d	139	GLN	N-CA-CB	6.68	122.62	110.60
35	2	492	A	N3-C4-C5	6.67	131.47	126.80
35	2	923	A	C5-C6-N1	-6.67	114.36	117.70
36	3	190	C	C5-C6-N1	-6.67	117.67	121.00
30	x	51	PRO	N-CA-CB	6.66	111.29	103.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	2	327	U	C5-C6-N1	-6.66	119.37	122.70
35	2	519	C	N3-C2-O2	6.66	126.56	121.90
35	2	440	U	C5-C6-N1	6.65	126.03	122.70
35	2	35	U	N1-C2-O2	6.65	127.45	122.80
35	2	324	U	C6-N1-C2	6.65	124.99	121.00
35	2	530	C	N3-C2-O2	-6.65	117.25	121.90
35	2	173	A	N3-C4-C5	6.64	131.45	126.80
35	2	295	A	C5-N7-C8	-6.64	100.58	103.90
35	2	103	A	C8-N9-C1'	-6.64	115.74	127.70
35	2	206	A	O4'-C1'-N9	-6.64	102.89	108.20
35	2	964	U	C2-N1-C1'	6.64	125.67	117.70
35	2	366	A	N9-C4-C5	-6.63	103.15	105.80
35	2	884	A	N9-C4-C5	-6.63	103.15	105.80
35	2	210	A	C2-N3-C4	-6.63	107.29	110.60
35	2	50	C	C5-C6-N1	-6.62	117.69	121.00
35	2	162	A	N7-C8-N9	6.62	117.11	113.80
35	2	419	G	N3-C4-N9	-6.62	122.03	126.00
35	2	540	G	O5'-P-OP1	-6.61	99.75	105.70
35	2	633	U	N1-C2-O2	6.61	127.43	122.80
35	2	884	A	C5-N7-C8	-6.61	100.59	103.90
35	2	900	A	N7-C8-N9	-6.61	110.49	113.80
35	2	103	A	O4'-C1'-N9	6.61	113.49	108.20
35	2	392	G	C4-C5-N7	6.61	113.44	110.80
35	2	21	U	C5-C6-N1	6.60	126.00	122.70
35	2	1043	A	C5-N7-C8	-6.60	100.60	103.90
35	2	383	G	C4-N9-C1'	-6.60	117.92	126.50
35	2	415	C	N3-C2-O2	-6.60	117.28	121.90
35	2	1027	A	O4'-C1'-N9	6.60	113.48	108.20
35	2	48	G	C4-N9-C1'	6.60	135.07	126.50
35	2	431	C	N1-C2-O2	6.60	122.86	118.90
35	2	91	G	C4-C5-N7	6.59	113.44	110.80
35	2	173	A	N3-C4-N9	-6.59	122.13	127.40
35	2	878	G	N9-C1'-C2'	-6.59	104.75	112.00
35	2	1094	G	C4-C5-N7	6.59	113.44	110.80
35	2	593	U	N3-C4-O4	6.59	124.01	119.40
35	2	869	A	C5-N7-C8	-6.59	100.61	103.90
35	2	464	A	C4-C5-N7	6.58	113.99	110.70
35	2	871	G	N3-C4-C5	6.58	131.89	128.60
35	2	298	C	C6-N1-C2	6.58	122.93	120.30
30	x	41	PRO	N-CA-CB	6.58	111.19	103.30
35	2	206	A	N9-C4-C5	-6.58	103.17	105.80
35	2	212	U	N3-C2-O2	-6.58	117.60	122.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
36	3	64	C	N1-C2-O2	6.58	122.85	118.90
35	2	72	A	C4-N9-C1'	-6.57	114.47	126.30
35	2	151	G	O4'-C1'-N9	-6.57	102.94	108.20
35	2	444	C	C2-N1-C1'	-6.57	111.57	118.80
35	2	876	G	C4-C5-N7	6.57	113.43	110.80
35	2	143	G	C8-N9-C4	6.57	109.03	106.40
35	2	342	C	C6-N1-C1'	6.57	128.69	120.80
35	2	1095	U	C6-N1-C2	-6.57	117.06	121.00
35	2	321	C	C6-N1-C2	-6.57	117.67	120.30
35	2	324	U	C4-C5-C6	-6.57	115.76	119.70
35	2	955	A	C5-C6-N1	-6.57	114.42	117.70
35	2	28	A	N1-C2-N3	6.56	132.58	129.30
35	2	304	U	C5-C6-N1	6.56	125.98	122.70
35	2	487	G	C8-N9-C1'	-6.56	118.47	127.00
35	2	504	U	C2-N1-C1'	6.56	125.58	117.70
35	2	363	G	N3-C4-C5	6.56	131.88	128.60
35	2	454	U	C4-C5-C6	6.56	123.64	119.70
35	2	65	A	N3-C4-C5	6.56	131.39	126.80
35	2	448	C	N1-C2-O2	6.55	122.83	118.90
35	2	103	A	N7-C8-N9	6.55	117.07	113.80
35	2	518	A	N1-C6-N6	-6.55	114.67	118.60
15	c	177	PRO	CA-C-O	-6.55	104.49	120.20
35	2	514	G	C8-N9-C4	6.55	109.02	106.40
36	3	111	G	N3-C4-C5	6.55	131.87	128.60
35	2	1029	U	C6-N1-C2	-6.54	117.07	121.00
35	2	80	A	N1-C6-N6	6.54	122.53	118.60
35	2	195	G	N3-C4-N9	-6.54	122.07	126.00
35	2	463	U	C2-N3-C4	-6.54	123.07	127.00
35	2	480	G	C3'-C2'-C1'	-6.54	96.27	101.50
35	2	515	A	OP1-P-O3'	6.54	119.60	105.20
35	2	1083	G	C2-N3-C4	-6.54	108.63	111.90
35	2	592	A	N1-C2-N3	6.54	132.57	129.30
35	2	68	A	C6-N1-C2	-6.54	114.68	118.60
35	2	295	A	C4-C5-N7	6.54	113.97	110.70
35	2	874	C	C4-C5-C6	-6.54	114.13	117.40
35	2	1073	G	C6-C5-N7	-6.54	126.48	130.40
36	3	78	C	OP1-P-OP2	6.54	129.40	119.60
35	2	287	G	N3-C4-C5	6.53	131.87	128.60
35	2	593	U	C6-N1-C2	-6.53	117.08	121.00
35	2	131	C	C5'-C4'-O4'	6.53	116.94	109.10
35	2	337	G	C4-C5-N7	6.53	113.41	110.80
35	2	382	C	C4-C5-C6	6.52	120.66	117.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	2	490	C	C2-N1-C1'	-6.52	111.62	118.80
35	2	491	C	C2-N3-C4	-6.52	116.64	119.90
35	2	30	G	N3-C2-N2	-6.52	115.34	119.90
35	2	959	U	N1-C2-N3	-6.51	110.99	114.90
35	2	1091	A	N9-C4-C5	-6.51	103.19	105.80
35	2	498	G	N3-C4-C5	6.51	131.86	128.60
35	2	524	U	OP1-P-O3'	6.51	119.52	105.20
35	2	332	U	C6-N1-C1'	-6.51	112.09	121.20
19	j	591	GLU	CB-CA-C	6.50	123.41	110.40
35	2	483	A	N9-C4-C5	-6.50	103.20	105.80
36	3	91	G	C4-N9-C1'	-6.50	118.05	126.50
35	2	91	G	C4-N9-C1'	6.50	134.95	126.50
35	2	483	A	C4-C5-N7	6.50	113.95	110.70
35	2	419	G	N1-C6-O6	6.50	123.80	119.90
19	i	591	GLU	CB-CA-C	6.50	123.39	110.40
35	2	365	G	C4-C5-C6	6.50	122.70	118.80
36	3	79	G	N9-C4-C5	-6.50	102.80	105.40
36	3	268	G	C5-C6-O6	-6.50	124.70	128.60
35	2	31	C	N3-C2-O2	-6.49	117.36	121.90
35	2	36	C	C6-N1-C2	6.49	122.90	120.30
35	2	344	A	O4'-C1'-N9	-6.49	103.01	108.20
35	2	439	U	OP1-P-O3'	6.49	119.48	105.20
35	2	427	C	O4'-C1'-N1	6.49	113.39	108.20
35	2	901	G	C8-N9-C4	6.49	109.00	106.40
19	j	620	GLN	N-CA-CB	6.49	122.28	110.60
35	2	1035	G	C4-N9-C1'	-6.49	118.07	126.50
35	2	38	C	N3-C4-N4	6.49	122.54	118.00
35	2	432	G	N9-C4-C5	6.48	107.99	105.40
16	d	142	ARG	N-CA-CB	6.48	122.27	110.60
35	2	341	A	N1-C6-N6	6.48	122.49	118.60
19	i	620	GLN	N-CA-CB	6.48	122.26	110.60
35	2	474	A	C2-N3-C4	-6.48	107.36	110.60
35	2	153	G	C8-N9-C4	6.48	108.99	106.40
35	2	166	C	N3-C4-C5	-6.47	119.31	121.90
35	2	322	G	C8-N9-C1'	-6.47	118.58	127.00
35	2	914	G	N1-C2-N2	6.47	122.03	116.20
16	d	105	ARG	CB-CA-C	-6.47	97.46	110.40
35	2	407	A	C4-N9-C1'	-6.47	114.65	126.30
35	2	926	A	C5-C6-N1	6.47	120.94	117.70
35	2	452	A	C6-C5-N7	-6.46	127.78	132.30
35	2	1071	U	C5-C6-N1	-6.46	119.47	122.70
35	2	99	C	N3-C4-C5	6.46	124.48	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	2	121	U	O4'-C1'-N1	6.46	113.37	108.20
36	3	266	C	C2-N1-C1'	6.46	125.91	118.80
35	2	308	C	N1-C2-O2	6.46	122.78	118.90
35	2	401	A	C8-N9-C4	6.46	108.38	105.80
35	2	32	U	N1-C2-O2	6.46	127.32	122.80
35	2	413	U	N3-C4-C5	6.46	118.47	114.60
35	2	549	G	N1-C2-N2	6.46	122.01	116.20
35	2	935	U	N3-C4-O4	6.46	123.92	119.40
35	2	392	G	C5-C6-O6	-6.45	124.73	128.60
35	2	287	G	C8-N9-C4	6.45	108.98	106.40
35	2	915	A	C8-N9-C4	6.45	108.38	105.80
19	j	616	TRP	N-CA-C	6.45	128.41	111.00
35	2	1051	G	C4-N9-C1'	6.45	134.88	126.50
19	i	616	TRP	N-CA-C	6.45	128.41	111.00
35	2	62	A	O5'-P-OP2	-6.45	99.90	105.70
35	2	530	C	C5-C4-N4	-6.45	115.69	120.20
35	2	869	A	C4-C5-N7	6.45	113.92	110.70
35	2	110	U	N1-C2-N3	6.45	118.77	114.90
35	2	111	U	C2-N3-C4	6.45	130.87	127.00
35	2	1048	G	N3-C4-C5	6.45	131.82	128.60
35	2	158	U	O4'-C1'-N1	6.44	113.35	108.20
35	2	394	C	C2-N3-C4	-6.44	116.68	119.90
35	2	23	G	C8-N9-C4	-6.44	103.83	106.40
35	2	59	C	C5-C4-N4	-6.43	115.70	120.20
35	2	509	G	N1-C6-O6	-6.43	116.04	119.90
35	2	592	A	N3-C4-N9	6.43	132.55	127.40
35	2	485	A	C4-C5-N7	6.43	113.91	110.70
35	2	1065	A	C8-N9-C4	6.43	108.37	105.80
35	2	365	G	P-O3'-C3'	-6.43	111.99	119.70
35	2	550	A	C8-N9-C4	6.42	108.37	105.80
35	2	588	U	C6-N1-C2	6.42	124.85	121.00
36	3	248	G	C5-C6-O6	6.42	132.45	128.60
35	2	877	G	N3-C4-C5	6.42	131.81	128.60
35	2	617	U	C2-N3-C4	-6.42	123.15	127.00
35	2	881	A	C5-N7-C8	-6.42	100.69	103.90
35	2	479	C	N1-C1'-C2'	-6.42	104.94	112.00
35	2	91	G	N3-C4-N9	6.41	129.85	126.00
35	2	527	A	C8-N9-C4	6.41	108.36	105.80
35	2	108	A	N7-C8-N9	6.41	117.01	113.80
35	2	479	C	C3'-C2'-C1'	-6.41	96.37	101.50
35	2	123	G	C5-N7-C8	-6.41	101.10	104.30
35	2	614	C	C6-N1-C2	-6.41	117.74	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	2	1591	C	C2-N3-C4	-6.40	116.70	119.90
35	2	496	G	N3-C4-C5	6.40	131.80	128.60
35	2	308	C	C5-C6-N1	-6.40	117.80	121.00
35	2	1080	U	C6-N1-C2	6.40	124.84	121.00
35	2	154	G	C8-N9-C4	-6.40	103.84	106.40
35	2	440	U	N1-C2-O2	6.40	127.28	122.80
35	2	36	C	C4-C5-C6	-6.40	114.20	117.40
35	2	463	U	C5-C6-N1	-6.39	119.50	122.70
35	2	465	G	C4-C5-N7	6.39	113.36	110.80
35	2	86	A	C4-N9-C1'	-6.39	114.80	126.30
35	2	872	G	C8-N9-C4	6.39	108.96	106.40
35	2	461	G	N9-C1'-C2'	-6.39	104.97	112.00
35	2	45	U	C6-N1-C2	-6.38	117.17	121.00
35	2	199	G	C4-C5-N7	6.38	113.35	110.80
35	2	408	C	C6-N1-C2	6.38	122.85	120.30
15	c	161	PRO	N-CA-C	6.38	128.69	112.10
35	2	307	G	C6-N1-C2	6.38	128.93	125.10
35	2	295	A	N1-C6-N6	6.38	122.43	118.60
35	2	316	A	N1-C2-N3	-6.38	126.11	129.30
35	2	488	G	N9-C4-C5	-6.38	102.85	105.40
35	2	504	U	N1-C2-N3	-6.38	111.07	114.90
35	2	202	A	C5-N7-C8	-6.38	100.71	103.90
35	2	157	A	N7-C8-N9	6.37	116.99	113.80
35	2	314	C	C6-N1-C1'	-6.37	113.15	120.80
35	2	463	U	N3-C4-C5	6.37	118.42	114.60
16	d	106	TYR	CB-CA-C	-6.37	97.66	110.40
35	2	124	A	N7-C8-N9	-6.37	110.62	113.80
35	2	69	G	C6-C5-N7	6.37	134.22	130.40
35	2	72	A	N1-C2-N3	-6.37	126.12	129.30
35	2	375	U	C6-N1-C2	6.37	124.82	121.00
35	2	69	G	N3-C4-N9	-6.36	122.18	126.00
35	2	185	U	C3'-C2'-C1'	-6.36	96.41	101.50
19	j	881	GLN	C-N-CA	6.36	137.59	121.70
35	2	192	U	N1-C2-O2	6.36	127.25	122.80
35	2	466	U	C2-N3-C4	-6.36	123.19	127.00
35	2	975	C	N1-C2-O2	-6.36	115.09	118.90
36	3	85	A	C5-N7-C8	-6.36	100.72	103.90
35	2	408	C	C5-C6-N1	-6.36	117.82	121.00
19	i	881	GLN	C-N-CA	6.35	137.59	121.70
35	2	146	U	N1-C2-O2	-6.35	118.35	122.80
35	2	88	U	C6-N1-C2	6.35	124.81	121.00
35	2	550	A	O4'-C1'-N9	-6.35	103.12	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	2	540	G	N9-C4-C5	6.35	107.94	105.40
35	2	82	U	C3'-C2'-C1'	-6.34	96.43	101.50
35	2	331	A	N7-C8-N9	6.34	116.97	113.80
35	2	875	G	N3-C4-C5	6.34	131.77	128.60
35	2	260	U	N1-C2-N3	6.34	118.70	114.90
35	2	24	U	C6-N1-C1'	-6.33	112.33	121.20
35	2	128	U	N1-C2-O2	6.33	127.23	122.80
35	2	425	A	C5-N7-C8	6.33	107.07	103.90
35	2	868	G	O4'-C1'-N9	-6.33	103.14	108.20
35	2	1075	C	N3-C4-C5	6.33	124.43	121.90
35	2	1088	A	C6-C5-N7	-6.33	127.87	132.30
35	2	28	A	N9-C4-C5	6.33	108.33	105.80
35	2	316	A	C4-C5-N7	6.33	113.86	110.70
35	2	322	G	C6-C5-N7	-6.33	126.61	130.40
35	2	184	C	C5-C4-N4	-6.31	115.78	120.20
35	2	305	C	C2-N3-C4	6.31	123.06	119.90
35	2	54	C	C6-N1-C2	6.31	122.82	120.30
35	2	344	A	N1-C6-N6	6.31	122.39	118.60
36	3	249	U	C2-N1-C1'	-6.31	110.13	117.70
35	2	195	G	N1-C6-O6	6.31	123.68	119.90
19	i	482	GLN	CB-CA-C	-6.30	97.79	110.40
27	u	67	PRO	N-CA-CB	6.30	110.87	103.30
35	2	1042	G	C5-C6-O6	-6.30	124.82	128.60
35	2	539	G	C8-N9-C1'	6.30	135.19	127.00
19	j	482	GLN	CB-CA-C	-6.29	97.82	110.40
35	2	1606	C	N3-C2-O2	6.29	126.30	121.90
16	d	46	PHE	CB-CA-C	-6.29	97.83	110.40
35	2	1097	U	N3-C4-C5	-6.29	110.83	114.60
35	2	347	G	C5-N7-C8	-6.28	101.16	104.30
35	2	484	C	C6-N1-C2	6.28	122.81	120.30
35	2	1095	U	C2-N1-C1'	6.28	125.24	117.70
35	2	151	G	N9-C1'-C2'	-6.28	105.09	112.00
35	2	360	A	N3-C4-C5	6.28	131.20	126.80
35	2	474	A	N1-C2-N3	6.28	132.44	129.30
15	c	111	PHE	O-C-N	-6.27	109.19	121.10
35	2	341	A	C4-C5-N7	6.26	113.83	110.70
35	2	186	C	C6-N1-C2	-6.26	117.80	120.30
35	2	251	A	N1-C2-N3	-6.26	126.17	129.30
35	2	457	G	C4-N9-C1'	-6.26	118.36	126.50
35	2	1046	G	C8-N9-C4	6.26	108.90	106.40
35	2	164	A	C4-N9-C1'	-6.26	115.04	126.30
35	2	431	C	C4-C5-C6	-6.26	114.27	117.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	2	537	G	O4'-C1'-N9	-6.26	103.19	108.20
35	2	877	G	C8-N9-C4	6.25	108.90	106.40
35	2	386	G	N1-C6-O6	6.25	123.65	119.90
14	b	127	ALA	N-CA-CB	-6.25	101.35	110.10
35	2	955	A	C6-C5-N7	-6.25	127.92	132.30
35	2	1048	G	C8-N9-C1'	6.25	135.13	127.00
35	2	870	C	N3-C4-C5	6.25	124.40	121.90
35	2	163	G	N9-C1'-C2'	-6.25	105.13	112.00
35	2	587	C	C6-N1-C2	-6.25	117.80	120.30
35	2	124	A	N1-C6-N6	6.25	122.35	118.60
35	2	548	G	C5-C6-O6	-6.25	124.85	128.60
35	2	1043	A	N1-C6-N6	6.25	122.35	118.60
35	2	880	C	C4-C5-C6	-6.24	114.28	117.40
35	2	527	A	N9-C4-C5	-6.24	103.31	105.80
35	2	183	U	C5-C6-N1	6.23	125.82	122.70
35	2	550	A	N9-C1'-C2'	-6.23	105.14	112.00
35	2	167	U	N3-C4-C5	6.23	118.34	114.60
35	2	99	C	N1-C2-N3	-6.23	114.84	119.20
35	2	965	U	N1-C2-O2	6.23	127.16	122.80
35	2	206	A	C5-C6-N1	-6.23	114.59	117.70
28	v	82	PRO	N-CA-CB	6.23	110.77	103.30
36	3	250	G	N3-C4-N9	-6.22	122.27	126.00
35	2	910	C	C6-N1-C1'	6.22	128.26	120.80
16	d	140	LYS	N-CA-CB	6.22	121.80	110.60
35	2	1026	A	C8-N9-C4	-6.22	103.31	105.80
35	2	504	U	C6-N1-C2	6.21	124.73	121.00
35	2	1080	U	C2-N3-C4	-6.21	123.27	127.00
35	2	376	C	C4-C5-C6	-6.21	114.29	117.40
35	2	464	A	C5-C6-N6	-6.21	118.73	123.70
35	2	312	A	C2-N3-C4	-6.21	107.49	110.60
35	2	503	G	C5-C6-N1	-6.21	108.39	111.50
35	2	393	C	O4'-C1'-N1	-6.21	103.23	108.20
35	2	1591	C	N1-C2-O2	-6.21	115.17	118.90
35	2	33	U	N1-C2-N3	6.20	118.62	114.90
35	2	209	U	C6-N1-C1'	-6.20	112.52	121.20
35	2	67	A	C4-C5-C6	-6.20	113.90	117.00
35	2	196	G	C6-C5-N7	6.19	134.11	130.40
35	2	497	G	C2-N3-C4	-6.19	108.80	111.90
35	2	928	U	C6-N1-C2	-6.19	117.29	121.00
35	2	309	C	C2-N3-C4	6.19	122.99	119.90
35	2	1044	U	C2-N1-C1'	6.19	125.12	117.70
35	2	186	C	N3-C2-O2	6.18	126.23	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	2	510	G	N3-C2-N2	-6.18	115.57	119.90
35	2	546	U	C5-C6-N1	-6.18	119.61	122.70
35	2	328	A	C4-C5-N7	6.18	113.79	110.70
34	1	47	PRO	N-CA-CB	6.18	110.71	103.30
35	2	80	A	N3-C4-N9	6.18	132.34	127.40
35	2	962	C	N1-C2-O2	6.18	122.61	118.90
35	2	524	U	N1-C2-N3	6.18	118.61	114.90
35	2	457	G	C3'-C2'-C1'	-6.17	96.56	101.50
35	2	99	C	N3-C2-O2	-6.17	117.58	121.90
35	2	388	G	C2-N3-C4	-6.17	108.81	111.90
35	2	254	A	N9-C4-C5	-6.17	103.33	105.80
35	2	955	A	C4-C5-N7	6.17	113.78	110.70
35	2	872	G	C8-N9-C1'	6.17	135.01	127.00
35	2	935	U	C6-N1-C1'	-6.16	112.57	121.20
35	2	75	U	N1-C2-O2	6.16	127.11	122.80
35	2	48	G	C8-N9-C1'	-6.16	119.00	127.00
35	2	91	G	C8-N9-C1'	-6.16	119.00	127.00
35	2	360	A	N3-C4-N9	-6.15	122.48	127.40
16	d	107	ARG	CB-CA-C	-6.15	98.11	110.40
35	2	362	G	N3-C4-N9	-6.15	122.31	126.00
35	2	1042	G	C6-N1-C2	6.14	128.79	125.10
35	2	1081	A	C5-C6-N1	-6.14	114.63	117.70
35	2	927	C	C5-C6-N1	6.14	124.07	121.00
35	2	876	G	C8-N9-C4	6.14	108.86	106.40
35	2	530	C	P-O3'-C3'	-6.14	112.33	119.70
35	2	481	A	O5'-P-OP1	-6.14	100.18	105.70
35	2	314	C	N1-C1'-C2'	6.13	121.98	114.00
35	2	548	G	N9-C1'-C2'	-6.13	105.25	112.00
35	2	1611	A	N7-C8-N9	6.13	116.87	113.80
36	3	91	G	C8-N9-C4	6.13	108.85	106.40
35	2	271	A	N9-C1'-C2'	-6.13	105.26	112.00
35	2	117	U	N3-C4-O4	-6.13	115.11	119.40
35	2	448	C	C5-C6-N1	6.13	124.06	121.00
36	3	103	G	C5-C6-O6	-6.12	124.92	128.60
35	2	532	U	C5-C4-O4	-6.12	122.23	125.90
35	2	1599	C	N1-C2-O2	6.12	122.57	118.90
35	2	549	G	N1-C6-O6	-6.12	116.23	119.90
19	i	480	TYR	N-CA-CB	6.12	121.61	110.60
35	2	126	A	C5-C6-N6	-6.11	118.81	123.70
35	2	1062	A	N9-C4-C5	-6.11	103.36	105.80
35	2	1476	C	C6-N1-C2	6.11	122.75	120.30
16	d	139	GLN	CB-CA-C	-6.11	98.18	110.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	2	885	G	N3-C4-N9	-6.11	122.33	126.00
35	2	537	G	C5-N7-C8	-6.11	101.25	104.30
16	d	117	ARG	N-CA-CB	6.11	121.59	110.60
35	2	456	A	N9-C1'-C2'	-6.11	105.28	112.00
35	2	1088	A	N9-C4-C5	-6.11	103.36	105.80
35	2	549	G	O5'-P-OP2	-6.11	100.20	105.70
35	2	501	U	C2-N1-C1'	-6.10	110.38	117.70
35	2	329	G	C4-C5-N7	6.10	113.24	110.80
35	2	483	A	OP2-P-O3'	6.10	118.61	105.20
35	2	288	A	N3-C4-N9	-6.09	122.53	127.40
35	2	493	U	N1-C2-N3	-6.09	111.24	114.90
35	2	624	G	C5-C6-N1	-6.09	108.45	111.50
19	j	480	TYR	N-CA-CB	6.09	121.57	110.60
35	2	423	G	C8-N9-C4	-6.09	103.96	106.40
35	2	102	U	N3-C4-C5	6.09	118.25	114.60
35	2	402	C	O5'-P-OP2	6.09	118.01	110.70
35	2	483	A	C5-N7-C8	-6.09	100.86	103.90
35	2	959	U	N3-C4-C5	6.09	118.25	114.60
35	2	51	A	N1-C2-N3	-6.08	126.26	129.30
35	2	81	G	C8-N9-C4	6.08	108.83	106.40
35	2	117	U	C5-C4-O4	6.08	129.55	125.90
35	2	331	A	C8-N9-C4	-6.08	103.37	105.80
35	2	522	U	C6-N1-C2	-6.08	117.35	121.00
35	2	113	U	C2-N1-C1'	-6.08	110.41	117.70
35	2	284	G	C5-C6-O6	-6.08	124.95	128.60
35	2	404	G	C2-N3-C4	-6.08	108.86	111.90
35	2	538	A	C5-C6-N6	-6.08	118.84	123.70
35	2	593	U	C4-C5-C6	6.08	123.35	119.70
35	2	196	G	C6-N1-C2	6.08	128.75	125.10
35	2	284	G	N9-C4-C5	-6.08	102.97	105.40
35	2	75	U	C2-N1-C1'	6.07	124.99	117.70
35	2	497	G	N9-C4-C5	-6.07	102.97	105.40
16	d	114	ARG	N-CA-CB	6.07	121.53	110.60
35	2	546	U	N3-C4-C5	6.07	118.24	114.60
35	2	42	G	C4-N9-C1'	6.07	134.39	126.50
35	2	343	C	C4-C5-C6	-6.07	114.37	117.40
35	2	430	G	C2-N3-C4	-6.07	108.87	111.90
16	d	118	TRP	CB-CA-C	-6.07	98.27	110.40
35	2	401	A	C8-N9-C1'	6.06	138.61	127.70
35	2	442	C	C2-N1-C1'	-6.06	112.13	118.80
36	3	268	G	C6-C5-N7	-6.06	126.76	130.40
35	2	269	G	C4-N9-C1'	-6.06	118.62	126.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	2	521	A	N3-C4-C5	6.06	131.04	126.80
35	2	211	U	N3-C4-C5	6.06	118.23	114.60
36	3	79	G	C4-C5-N7	6.06	113.22	110.80
16	d	125	HIS	CB-CA-C	-6.05	98.29	110.40
35	2	964	U	C5-C6-N1	6.05	125.73	122.70
35	2	1024	U	N3-C4-C5	-6.05	110.97	114.60
35	2	351	C	C5-C6-N1	-6.05	117.97	121.00
29	w	94	PRO	N-CA-CB	6.05	110.56	103.30
36	3	85	A	C5-C6-N6	-6.05	118.86	123.70
35	2	288	A	N7-C8-N9	-6.04	110.78	113.80
35	2	334	G	C3'-C2'-C1'	-6.04	96.66	101.50
35	2	913	G	N3-C4-C5	-6.04	125.58	128.60
19	j	602	SER	C-N-CA	-6.04	106.59	121.70
27	u	169	PRO	N-CA-CB	6.04	110.55	103.30
35	2	164	A	N1-C2-N3	-6.04	126.28	129.30
35	2	485	A	C5-C6-N6	-6.04	118.87	123.70
35	2	922	G	C5-N7-C8	-6.04	101.28	104.30
19	i	855	LEU	N-CA-C	6.04	127.31	111.00
35	2	41	A	C4-N9-C1'	6.04	137.17	126.30
35	2	354	C	C5-C6-N1	6.04	124.02	121.00
35	2	354	C	N3-C4-N4	6.04	122.23	118.00
35	2	295	A	C6-C5-N7	-6.04	128.07	132.30
35	2	71	A	C8-N9-C4	6.03	108.21	105.80
35	2	353	A	C5-C6-N6	-6.03	118.87	123.70
35	2	466	U	N3-C2-O2	-6.03	117.98	122.20
35	2	136	C	N1-C2-N3	6.03	123.42	119.20
35	2	430	G	C5-C6-O6	-6.03	124.98	128.60
35	2	529	A	C4-C5-N7	6.03	113.72	110.70
35	2	926	A	C8-N9-C4	6.03	108.21	105.80
35	2	334	G	N9-C1'-C2'	-6.03	105.37	112.00
35	2	1579	U	C2-N1-C1'	6.03	124.93	117.70
35	2	301	A	N1-C6-N6	6.03	122.22	118.60
36	3	257	G	C2-N3-C4	-6.03	108.89	111.90
35	2	497	G	C4-C5-N7	6.02	113.21	110.80
19	j	855	LEU	N-CA-C	6.02	127.26	111.00
35	2	353	A	C6-C5-N7	-6.02	128.09	132.30
35	2	1052	U	C6-N1-C1'	6.02	129.63	121.20
35	2	424	C	N1-C2-O2	6.02	122.51	118.90
35	2	963	A	C8-N9-C4	6.02	108.21	105.80
35	2	1052	U	C2-N1-C1'	-6.02	110.48	117.70
35	2	419	G	C5-N7-C8	-6.01	101.29	104.30
35	2	1039	A	C4-C5-N7	6.01	113.71	110.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	2	243	G	N3-C4-N9	6.01	129.61	126.00
35	2	913	G	N7-C8-N9	6.01	116.10	113.10
35	2	401	A	C4-C5-C6	-6.01	114.00	117.00
35	2	285	G	C2-N3-C4	-6.00	108.90	111.90
35	2	514	G	N3-C4-C5	6.00	131.60	128.60
35	2	347	G	N9-C1'-C2'	-6.00	105.40	112.00
21	o	73	ALA	N-CA-C	-6.00	94.80	111.00
35	2	36	C	N3-C4-C5	6.00	124.30	121.90
35	2	82	U	C2'-C3'-O3'	6.00	123.30	113.70
35	2	593	U	C2-N1-C1'	6.00	124.90	117.70
19	i	620	GLN	CB-CA-C	-6.00	98.40	110.40
35	2	441	A	C6-C5-N7	-6.00	128.10	132.30
35	2	103	A	N3-C4-N9	6.00	132.20	127.40
35	2	486	G	C4-C5-C6	6.00	122.40	118.80
35	2	41	A	C8-N9-C1'	-5.99	116.91	127.70
35	2	276	C	N3-C4-N4	5.99	122.20	118.00
35	2	365	G	C4'-C3'-O3'	5.99	124.99	113.00
35	2	1048	G	C8-N9-C4	5.99	108.80	106.40
35	2	477	A	C6-C5-N7	-5.99	128.11	132.30
35	2	1025	A	N3-C4-C5	-5.99	122.61	126.80
35	2	202	A	C4-C5-N7	5.99	113.69	110.70
35	2	243	G	N9-C1'-C2'	-5.99	105.41	112.00
35	2	356	G	N9-C4-C5	-5.99	103.00	105.40
19	j	620	GLN	CB-CA-C	-5.99	98.43	110.40
35	2	502	U	C6-N1-C1'	-5.99	112.82	121.20
35	2	447	U	C4-C5-C6	-5.98	116.11	119.70
35	2	79	C	N3-C2-O2	-5.98	117.71	121.90
35	2	951	A	N3-C4-N9	-5.98	122.61	127.40
35	2	1173	C	N3-C4-C5	5.98	124.29	121.90
28	v	85	PRO	N-CA-CB	5.98	110.47	103.30
35	2	71	A	C2-N3-C4	-5.98	107.61	110.60
35	2	535	A	C5-C6-N1	5.98	120.69	117.70
35	2	592	A	N3-C4-C5	-5.98	122.62	126.80
35	2	877	G	N9-C1'-C2'	-5.97	105.43	112.00
35	2	442	C	N1-C2-O2	-5.97	115.32	118.90
35	2	512	A	N3-C4-C5	5.97	130.98	126.80
35	2	173	A	N9-C1'-C2'	-5.97	105.44	112.00
35	2	1088	A	N3-C4-N9	5.97	132.17	127.40
35	2	271	A	C3'-C2'-C1'	-5.96	96.73	101.50
35	2	312	A	N3-C4-C5	5.96	130.97	126.80
35	2	360	A	O4'-C1'-N9	5.96	112.97	108.20
35	2	447	U	C2-N1-C1'	-5.96	110.55	117.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	2	482	U	C4-C5-C6	-5.96	116.12	119.70
32	z	77	PRO	N-CA-CB	5.96	110.45	103.30
35	2	443	C	C2-N1-C1'	-5.96	112.25	118.80
35	2	214	G	N9-C4-C5	-5.95	103.02	105.40
35	2	288	A	C8-N9-C4	5.95	108.18	105.80
16	d	74	PRO	N-CA-CB	5.95	110.44	103.30
35	2	1086	A	C5-C6-N6	-5.95	118.94	123.70
35	2	458	G	N9-C4-C5	-5.95	103.02	105.40
35	2	593	U	N3-C4-C5	-5.94	111.03	114.60
36	3	194	G	N3-C4-N9	5.94	129.57	126.00
35	2	513	U	C5-C4-O4	5.94	129.47	125.90
35	2	966	A	C6-N1-C2	5.94	122.16	118.60
35	2	1078	C	C5-C6-N1	5.94	123.97	121.00
36	3	111	G	C4-N9-C1'	-5.94	118.78	126.50
35	2	90	C	N1-C2-O2	5.93	122.46	118.90
35	2	199	G	N1-C6-O6	5.93	123.46	119.90
35	2	481	A	C4-C5-N7	5.93	113.67	110.70
35	2	467	G	P-O3'-C3'	-5.93	112.58	119.70
23	q	67	PRO	N-CA-CB	5.93	110.41	103.30
28	v	47	PRO	N-CA-CB	5.93	110.41	103.30
35	2	412	A	C4-C5-N7	5.93	113.66	110.70
35	2	282	C	C2-N1-C1'	5.93	125.32	118.80
35	2	119	A	N9-C4-C5	-5.92	103.43	105.80
35	2	977	A	C5-C6-N1	5.92	120.66	117.70
16	d	114	ARG	CB-CA-C	-5.92	98.57	110.40
35	2	353	A	C2-N3-C4	-5.91	107.64	110.60
35	2	514	G	C4-C5-C6	-5.91	115.25	118.80
35	2	1037	C	C4-C5-C6	-5.91	114.44	117.40
32	z	29	PRO	N-CA-CB	5.91	110.39	103.30
35	2	512	A	C5-C6-N6	5.91	128.43	123.70
35	2	618	U	C5-C6-N1	5.91	125.65	122.70
35	2	39	A	O4'-C1'-N9	5.91	112.92	108.20
35	2	392	G	C6-C5-N7	-5.91	126.86	130.40
35	2	405	C	N1-C2-O2	5.90	122.44	118.90
35	2	900	A	C4-C5-N7	5.90	113.65	110.70
35	2	933	A	C2-N3-C4	-5.90	107.65	110.60
35	2	973	A	N1-C6-N6	5.90	122.14	118.60
35	2	83	G	N3-C4-N9	-5.90	122.46	126.00
35	2	1037	C	C5-C6-N1	5.90	123.95	121.00
35	2	78	A	OP2-P-O3'	5.90	118.17	105.20
36	3	257	G	N3-C4-N9	-5.90	122.46	126.00
35	2	524	U	O4'-C1'-N1	5.89	112.92	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	2	529	A	C2-N3-C4	5.89	113.55	110.60
35	2	537	G	C4-C5-N7	5.89	113.16	110.80
35	2	1024	U	N3-C4-O4	5.89	123.53	119.40
35	2	1050	G	N7-C8-N9	5.89	116.05	113.10
35	2	550	A	O5'-P-OP2	-5.89	100.40	105.70
35	2	282	C	C4-C5-C6	-5.89	114.46	117.40
35	2	869	A	N1-C6-N6	5.89	122.13	118.60
35	2	253	A	C6-C5-N7	-5.89	128.18	132.30
36	3	84	G	N3-C2-N2	-5.89	115.78	119.90
35	2	389	G	N1-C6-O6	5.88	123.43	119.90
35	2	941	A	C2-N3-C4	-5.88	107.66	110.60
16	d	46	PHE	N-CA-CB	5.88	121.19	110.60
35	2	299	A	N9-C4-C5	-5.88	103.45	105.80
35	2	363	G	C4-N9-C1'	-5.88	118.85	126.50
35	2	328	A	N3-C4-N9	-5.88	122.70	127.40
35	2	876	G	N9-C4-C5	-5.88	103.05	105.40
29	w	57	PRO	N-CA-CB	5.88	110.35	103.30
35	2	905	A	N3-C4-N9	-5.88	122.70	127.40
35	2	373	G	C5-C6-O6	5.87	132.12	128.60
35	2	276	C	C4-C5-C6	-5.87	114.47	117.40
35	2	196	G	C4-C5-C6	-5.87	115.28	118.80
35	2	29	U	OP1-P-O3'	5.86	118.10	105.20
35	2	456	A	N7-C8-N9	5.86	116.73	113.80
35	2	493	U	P-O3'-C3'	-5.86	112.66	119.70
16	d	117	ARG	CB-CA-C	-5.86	98.68	110.40
35	2	404	G	N9-C1'-C2'	-5.86	105.56	112.00
16	d	107	ARG	N-CA-CB	5.86	121.14	110.60
35	2	378	A	O4'-C1'-N9	5.86	112.88	108.20
35	2	898	A	C8-N9-C4	5.86	108.14	105.80
35	2	134	U	N3-C2-O2	-5.85	118.10	122.20
35	2	325	G	C2-N3-C4	-5.85	108.97	111.90
35	2	874	C	C5-C6-N1	5.85	123.93	121.00
2	G	3194	ASP	N-CA-C	5.85	126.80	111.00
35	2	506	A	C8-N9-C4	5.85	108.14	105.80
35	2	61	A	N3-C4-C5	5.85	130.90	126.80
23	q	142	PRO	N-CA-CB	5.85	110.32	103.30
35	2	72	A	C4-C5-C6	-5.85	114.08	117.00
35	2	619	A	N1-C6-N6	-5.85	115.09	118.60
35	2	30	G	C1'-O4'-C4'	-5.85	105.22	109.90
35	2	151	G	N7-C8-N9	-5.85	110.18	113.10
35	2	269	G	C8-N9-C4	5.85	108.74	106.40
35	2	389	G	N9-C1'-C2'	-5.85	105.57	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	2	623	A	C8-N9-C4	-5.84	103.46	105.80
35	2	1045	C	C6-N1-C1'	5.84	127.81	120.80
35	2	31	C	O4'-C1'-N1	5.84	112.87	108.20
35	2	101	U	N3-C4-C5	-5.84	111.10	114.60
35	2	200	A	C5-N7-C8	-5.84	100.98	103.90
35	2	1083	G	C8-N9-C1'	5.84	134.59	127.00
35	2	895	G	C4-C5-N7	5.84	113.14	110.80
35	2	301	A	C8-N9-C4	-5.84	103.47	105.80
35	2	307	G	C4-C5-N7	5.84	113.14	110.80
36	3	247	G	C4-C5-N7	5.84	113.13	110.80
35	2	953	G	N9-C4-C5	-5.83	103.07	105.40
35	2	1051	G	N3-C4-C5	-5.83	125.68	128.60
35	2	389	G	C4-C5-N7	5.83	113.13	110.80
35	2	905	A	N7-C8-N9	5.83	116.72	113.80
35	2	24	U	C2-N1-C1'	5.83	124.69	117.70
35	2	71	A	C5-C6-N1	-5.83	114.79	117.70
16	d	101	LYS	N-CA-CB	5.83	121.09	110.60
35	2	418	G	C6-C5-N7	-5.83	126.91	130.40
35	2	1615	C	C6-N1-C2	-5.83	117.97	120.30
35	2	272	U	O5'-P-OP1	5.82	117.69	110.70
35	2	393	C	C2-N1-C1'	5.82	125.21	118.80
35	2	84	A	C3'-C2'-C1'	-5.82	96.84	101.50
35	2	98	U	C2-N1-C1'	5.82	124.69	117.70
35	2	124	A	N9-C4-C5	-5.82	103.47	105.80
35	2	72	A	N9-C1'-C2'	-5.82	105.60	112.00
35	2	67	A	N1-C2-N3	-5.81	126.39	129.30
35	2	871	G	C4-N9-C1'	-5.81	118.94	126.50
35	2	523	G	C4-N9-C1'	-5.81	118.95	126.50
35	2	495	C	O5'-P-OP2	-5.81	100.47	105.70
35	2	1053	G	N1-C2-N2	5.81	121.43	116.20
35	2	522	U	C5-C6-N1	5.81	125.60	122.70
35	2	1056	U	C2-N3-C4	5.80	130.48	127.00
28	v	136	PRO	N-CA-CB	5.80	110.26	103.30
35	2	121	U	C6-N1-C1'	5.80	129.32	121.20
35	2	196	G	C5-C6-N1	-5.80	108.60	111.50
35	2	404	G	C4-N9-C1'	-5.80	118.96	126.50
35	2	418	G	C2-N3-C4	-5.80	109.00	111.90
35	2	430	G	C8-N9-C4	5.80	108.72	106.40
35	2	534	A	N1-C6-N6	-5.80	115.12	118.60
16	d	126	LYS	CB-CA-C	-5.80	98.81	110.40
35	2	441	A	C5-N7-C8	-5.80	101.00	103.90
35	2	97	C	C2-N3-C4	-5.79	117.00	119.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	2	202	A	N9-C4-C5	-5.79	103.48	105.80
35	2	98	U	N1-C2-O2	5.79	126.85	122.80
35	2	189	C	N3-C4-C5	-5.79	119.58	121.90
35	2	519	C	C6-N1-C1'	5.79	127.75	120.80
35	2	396	G	N1-C2-N2	5.79	121.41	116.20
35	2	464	A	C5-C6-N1	5.78	120.59	117.70
35	2	84	A	O4'-C1'-N9	-5.78	103.58	108.20
35	2	970	A	C8-N9-C4	5.78	108.11	105.80
35	2	1077	C	N3-C4-C5	5.78	124.21	121.90
35	2	880	C	N1-C1'-C2'	-5.77	105.65	112.00
19	j	113	ASP	N-CA-C	5.77	126.59	111.00
35	2	891	A	O4'-C1'-N9	-5.77	103.58	108.20
19	i	113	ASP	N-CA-C	5.77	126.57	111.00
35	2	286	C	N1-C2-O2	-5.77	115.44	118.90
36	3	111	G	N3-C4-N9	-5.77	122.54	126.00
35	2	485	A	N1-C6-N6	5.77	122.06	118.60
35	2	481	A	N3-C4-C5	5.76	130.84	126.80
35	2	178	U	N1-C2-O2	5.76	126.83	122.80
35	2	210	A	C5-C6-N6	-5.76	119.09	123.70
35	2	466	U	N3-C4-O4	-5.76	115.37	119.40
35	2	895	G	C5-C6-O6	-5.76	125.14	128.60
16	d	118	TRP	N-CA-CB	5.76	120.97	110.60
35	2	302	U	C5-C6-N1	5.76	125.58	122.70
35	2	875	G	C4-N9-C1'	-5.76	119.02	126.50
35	2	299	A	C2-N3-C4	-5.76	107.72	110.60
35	2	355	G	N9-C1'-C2'	-5.76	105.67	112.00
35	2	361	C	OP1-P-O3'	5.75	117.86	105.20
35	2	869	A	C5-C6-N6	-5.75	119.10	123.70
35	2	920	U	C5-C6-N1	5.75	125.58	122.70
35	2	1529	C	C6-N1-C2	5.75	122.60	120.30
35	2	33	U	N3-C4-C5	-5.75	111.15	114.60
35	2	466	U	N1-C2-O2	5.75	126.83	122.80
35	2	32	U	C5-C6-N1	-5.75	119.83	122.70
35	2	57	G	N3-C4-C5	5.75	131.47	128.60
35	2	171	A	C2-N3-C4	-5.74	107.73	110.60
36	3	85	A	N7-C8-N9	5.74	116.67	113.80
28	v	137	PRO	N-CA-CB	5.74	110.19	103.30
35	2	1602	C	C6-N1-C1'	-5.74	113.91	120.80
16	d	48	HIS	N-CA-CB	5.74	120.93	110.60
35	2	103	A	C6-N1-C2	-5.74	115.16	118.60
35	2	260	U	O4'-C1'-N1	5.74	112.79	108.20
35	2	271	A	C8-N9-C4	5.74	108.10	105.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	2	443	C	C5-C6-N1	-5.74	118.13	121.00
35	2	1042	G	C6-C5-N7	-5.74	126.96	130.40
35	2	549	G	N7-C8-N9	-5.74	110.23	113.10
16	d	102	LEU	CB-CA-C	-5.74	99.30	110.20
35	2	144	U	C6-N1-C2	5.74	124.44	121.00
35	2	327	U	C2-N1-C1'	-5.74	110.82	117.70
35	2	242	U	N3-C2-O2	-5.73	118.19	122.20
35	2	383	G	C8-N9-C1'	5.73	134.45	127.00
35	2	520	A	N7-C8-N9	5.73	116.67	113.80
35	2	269	G	N3-C4-C5	5.73	131.47	128.60
35	2	959	U	C5-C6-N1	-5.73	119.84	122.70
35	2	460	A	C4-C5-N7	5.73	113.56	110.70
35	2	408	C	C2-N1-C1'	-5.72	112.50	118.80
35	2	1602	C	C2-N1-C1'	5.72	125.10	118.80
35	2	1080	U	C4-C5-C6	-5.72	116.27	119.70
36	3	113	G	N9-C1'-C2'	-5.72	105.71	112.00
19	j	615	PRO	CA-C-N	5.72	129.78	117.20
35	2	255	U	N3-C4-C5	5.72	118.03	114.60
35	2	1038	U	C4-C5-C6	-5.72	116.27	119.70
16	d	141	HIS	N-CA-CB	5.72	120.89	110.60
35	2	109	G	N9-C4-C5	-5.72	103.11	105.40
35	2	351	C	N3-C4-N4	-5.71	114.00	118.00
35	2	1042	G	N3-C4-C5	5.71	131.46	128.60
35	2	1029	U	C5-C6-N1	5.71	125.56	122.70
35	2	135	A	C8-N9-C1'	-5.71	117.42	127.70
35	2	1081	A	N7-C8-N9	5.71	116.66	113.80
35	2	329	G	N9-C4-C5	-5.71	103.12	105.40
35	2	625	C	C4-C5-C6	-5.71	114.55	117.40
35	2	201	G	C8-N9-C4	5.70	108.68	106.40
35	2	281	G	C2-N3-C4	-5.70	109.05	111.90
19	i	615	PRO	CA-C-N	5.70	129.74	117.20
35	2	327	U	O4'-C1'-N1	5.70	112.76	108.20
35	2	1174	C	C5-C6-N1	-5.70	118.15	121.00
35	2	489	C	C2-N3-C4	-5.70	117.05	119.90
35	2	419	G	C5-C6-N1	-5.70	108.65	111.50
35	2	498	G	N3-C4-N9	-5.70	122.58	126.00
35	2	485	A	N9-C1'-C2'	-5.69	105.74	112.00
35	2	26	A	C5-C6-N6	-5.69	119.15	123.70
35	2	927	C	C4-C5-C6	-5.69	114.55	117.40
35	2	69	G	C4-N9-C1'	-5.69	119.10	126.50
35	2	101	U	N3-C2-O2	-5.69	118.22	122.20
35	2	267	U	C2-N1-C1'	-5.69	110.88	117.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	2	373	G	N3-C4-C5	-5.69	125.76	128.60
35	2	403	G	C4-C5-N7	5.69	113.08	110.80
35	2	28	A	N7-C8-N9	5.69	116.64	113.80
35	2	243	G	C5-N7-C8	-5.68	101.46	104.30
35	2	960	U	N1-C2-O2	-5.68	118.82	122.80
35	2	1076	A	N1-C6-N6	5.68	122.01	118.60
35	2	288	A	N3-C4-C5	5.68	130.77	126.80
35	2	334	G	N9-C4-C5	-5.68	103.13	105.40
35	2	389	G	C6-C5-N7	-5.68	126.99	130.40
35	2	324	U	N1-C1'-C2'	-5.67	105.76	112.00
35	2	538	A	C6-C5-N7	-5.67	128.33	132.30
35	2	59	C	N3-C4-C5	5.67	124.17	121.90
23	q	129	PRO	N-CA-CB	5.67	110.11	103.30
35	2	321	C	N3-C4-C5	-5.67	119.63	121.90
35	2	870	C	C4-C5-C6	-5.67	114.56	117.40
35	2	479	C	C5-C6-N1	5.67	123.83	121.00
35	2	1095	U	C5-C6-N1	5.67	125.53	122.70
35	2	629	U	C2-N1-C1'	-5.67	110.90	117.70
35	2	1038	U	C5-C6-N1	5.67	125.53	122.70
35	2	83	G	N9-C1'-C2'	-5.66	105.77	112.00
35	2	361	C	C2-N1-C1'	-5.66	112.57	118.80
35	2	617	U	C4-C5-C6	-5.66	116.30	119.70
35	2	342	C	N1-C1'-C2'	-5.66	105.77	112.00
35	2	123	G	C6-C5-N7	-5.66	127.00	130.40
35	2	26	A	N1-C6-N6	5.66	121.99	118.60
35	2	1076	A	C5-N7-C8	-5.66	101.07	103.90
35	2	346	G	C4-N9-C1'	5.65	133.85	126.50
35	2	82	U	N3-C4-C5	5.65	117.99	114.60
35	2	407	A	O4'-C1'-N9	5.65	112.72	108.20
35	2	27	U	N3-C4-C5	5.65	117.99	114.60
35	2	362	G	C8-N9-C1'	5.65	134.34	127.00
29	w	120	PRO	N-CA-CB	5.65	110.08	103.30
35	2	165	G	C4-C5-N7	5.65	113.06	110.80
35	2	427	C	N1-C2-O2	5.65	122.29	118.90
35	2	1045	C	N3-C4-N4	-5.65	114.05	118.00
35	2	351	C	C6-N1-C2	5.65	122.56	120.30
23	q	88	PRO	N-CA-CB	5.64	110.07	103.30
35	2	301	A	N1-C2-N3	5.64	132.12	129.30
35	2	324	U	N1-C2-O2	5.64	126.75	122.80
35	2	516	G	C4-C5-C6	-5.64	115.42	118.80
35	2	87	C	C6-N1-C2	-5.64	118.04	120.30
35	2	296	U	C5-C4-O4	-5.64	122.52	125.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	2	948	G	N3-C4-C5	5.64	131.42	128.60
35	2	347	G	N3-C4-N9	5.64	129.38	126.00
35	2	922	G	O4'-C1'-N9	5.64	112.71	108.20
35	2	190	C	N1-C2-O2	5.63	122.28	118.90
35	2	375	U	N3-C4-O4	-5.63	115.45	119.40
35	2	494	U	C4-C5-C6	-5.63	116.32	119.70
35	2	510	G	C2-N3-C4	-5.63	109.08	111.90
35	2	954	G	C4-C5-N7	5.63	113.05	110.80
35	2	328	A	C5-C6-N1	-5.63	114.89	117.70
35	2	296	U	C4-C5-C6	-5.63	116.32	119.70
36	3	268	G	N1-C6-O6	5.62	123.27	119.90
16	d	105	ARG	N-CA-CB	5.62	120.72	110.60
35	2	920	U	C4-C5-C6	-5.62	116.33	119.70
35	2	973	A	C5-C6-N6	-5.62	119.20	123.70
19	i	629	SER	C-N-CA	-5.62	107.66	121.70
35	2	497	G	C4-N9-C1'	-5.62	119.20	126.50
35	2	881	A	N9-C4-C5	-5.62	103.55	105.80
35	2	307	G	N1-C2-N2	5.62	121.25	116.20
35	2	467	G	C3'-C2'-C1'	-5.61	97.01	101.50
35	2	1074	G	C3'-C2'-C1'	-5.61	97.01	101.50
35	2	1076	A	C4-C5-N7	5.61	113.51	110.70
19	j	629	SER	C-N-CA	-5.61	107.67	121.70
35	2	287	G	C5-N7-C8	-5.61	101.50	104.30
35	2	464	A	C8-N9-C4	5.60	108.04	105.80
35	2	179	A	N3-C4-C5	-5.60	122.88	126.80
35	2	35	U	C4'-C3'-O3'	5.60	124.20	113.00
35	2	357	G	N1-C6-O6	5.60	123.26	119.90
35	2	184	C	N1-C2-N3	-5.60	115.28	119.20
35	2	959	U	O4'-C1'-N1	5.60	112.68	108.20
35	2	1083	G	N1-C6-O6	5.60	123.26	119.90
35	2	450	U	N1-C2-O2	5.60	126.72	122.80
35	2	28	A	C2-N3-C4	5.59	113.40	110.60
35	2	28	A	C4-N9-C1'	5.59	136.37	126.30
35	2	431	C	C5-C4-N4	-5.59	116.28	120.20
23	q	164	PRO	N-CA-CB	5.59	110.01	103.30
35	2	74	U	C6-N1-C2	5.59	124.35	121.00
35	2	624	G	N3-C4-C5	5.59	131.40	128.60
35	2	920	U	N1-C2-O2	5.59	126.71	122.80
35	2	950	C	C4-C5-C6	-5.59	114.60	117.40
35	2	487	G	C6-C5-N7	-5.59	127.05	130.40
35	2	454	U	N3-C4-C5	-5.59	111.25	114.60
35	2	885	G	C8-N9-C4	5.59	108.63	106.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	2	63	G	N3-C4-N9	-5.58	122.65	126.00
35	2	482	U	N3-C2-O2	-5.58	118.30	122.20
35	2	1025	A	N7-C8-N9	5.58	116.59	113.80
35	2	134	U	C2-N3-C4	-5.58	123.65	127.00
35	2	309	C	C2-N1-C1'	-5.58	112.67	118.80
35	2	69	G	O4'-C1'-N9	-5.58	103.74	108.20
35	2	332	U	O4'-C1'-N1	-5.58	103.74	108.20
35	2	68	A	N9-C4-C5	5.57	108.03	105.80
35	2	87	C	C2-N3-C4	-5.57	117.11	119.90
35	2	174	U	N1-C2-O2	5.57	126.70	122.80
35	2	246	G	C8-N9-C4	-5.57	104.17	106.40
35	2	871	G	N9-C1'-C2'	-5.57	105.88	112.00
35	2	1075	C	C2-N1-C1'	-5.57	112.68	118.80
35	2	86	A	O4'-C1'-N9	5.57	112.65	108.20
35	2	130	C	N3-C4-C5	5.57	124.13	121.90
35	2	363	G	N9-C1'-C2'	-5.57	105.88	112.00
35	2	512	A	C5-C6-N1	5.56	120.48	117.70
35	2	178	U	C6-N1-C1'	-5.56	113.42	121.20
35	2	591	A	C3'-C2'-C1'	-5.56	97.05	101.50
35	2	1467	C	N1-C2-O2	-5.56	115.57	118.90
35	2	539	G	C2-N3-C4	-5.56	109.12	111.90
35	2	868	G	N3-C4-N9	-5.55	122.67	126.00
35	2	967	A	N1-C6-N6	5.55	121.93	118.60
35	2	530	C	N3-C4-N4	5.55	121.89	118.00
35	2	905	A	C8-N9-C4	-5.55	103.58	105.80
36	3	93	G	C5-N7-C8	-5.55	101.52	104.30
35	2	47	A	C8-N9-C4	-5.55	103.58	105.80
35	2	539	G	C6-N1-C2	5.55	128.43	125.10
35	2	879	G	N1-C6-O6	5.55	123.23	119.90
35	2	495	C	O4'-C1'-N1	5.54	112.63	108.20
35	2	65	A	C5-C6-N1	-5.54	114.93	117.70
35	2	481	A	C4-C5-C6	-5.54	114.23	117.00
36	3	81	G	N9-C1'-C2'	-5.54	105.91	112.00
35	2	469	C	C5-C6-N1	-5.54	118.23	121.00
35	2	86	A	C8-N9-C1'	5.53	137.66	127.70
35	2	1031	U	C5-C6-N1	-5.53	119.93	122.70
35	2	126	A	N1-C6-N6	5.53	121.92	118.60
19	j	594	ILE	N-CA-CB	5.53	123.52	110.80
35	2	194	U	C2-N1-C1'	5.53	124.33	117.70
35	2	413	U	C5-C6-N1	-5.53	119.94	122.70
19	i	630	LEU	N-CA-CB	5.53	121.45	110.40
35	2	427	C	N3-C2-O2	-5.52	118.03	121.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
19	j	630	LEU	N-CA-CB	5.52	121.44	110.40
35	2	445	A	C5-C6-N1	5.52	120.46	117.70
35	2	423	G	N3-C4-N9	5.51	129.31	126.00
35	2	504	U	OP2-P-O3'	5.51	117.33	105.20
35	2	1026	A	C2-N3-C4	5.51	113.36	110.60
35	2	1166	A	C5-C6-N6	-5.51	119.29	123.70
36	3	93	G	C4-C5-N7	5.51	113.00	110.80
35	2	285	G	N1-C6-O6	5.51	123.21	119.90
35	2	880	C	N3-C4-C5	5.51	124.10	121.90
35	2	1039	A	N7-C8-N9	-5.51	111.05	113.80
35	2	357	G	C5-N7-C8	-5.51	101.55	104.30
35	2	23	G	N7-C8-N9	5.51	115.85	113.10
35	2	464	A	O5'-P-OP1	5.51	117.31	110.70
35	2	483	A	N1-C6-N6	5.51	121.90	118.60
35	2	442	C	N3-C4-C5	5.50	124.10	121.90
35	2	382	C	C2-N1-C1'	5.50	124.85	118.80
35	2	1045	C	C6-N1-C2	5.50	122.50	120.30
35	2	200	A	N1-C6-N6	5.50	121.90	118.60
35	2	521	A	C4-C5-C6	-5.50	114.25	117.00
35	2	61	A	C4-C5-C6	-5.49	114.25	117.00
35	2	163	G	C2-N3-C4	-5.49	109.15	111.90
35	2	361	C	N3-C4-C5	5.49	124.10	121.90
35	2	1050	G	C5-N7-C8	-5.49	101.55	104.30
35	2	196	G	N1-C2-N2	5.49	121.14	116.20
35	2	481	A	C5-N7-C8	-5.49	101.15	103.90
16	d	126	LYS	N-CA-CB	5.49	120.48	110.60
29	w	122	PRO	N-CA-CB	5.49	109.89	103.30
35	2	383	G	N3-C4-C5	5.49	131.34	128.60
35	2	1076	A	C2-N3-C4	-5.49	107.86	110.60
35	2	295	A	C5-C6-N6	-5.48	119.31	123.70
35	2	926	A	C6-N1-C2	-5.48	115.31	118.60
35	2	149	C	N3-C2-O2	-5.48	118.06	121.90
35	2	288	A	N1-C2-N3	5.48	132.04	129.30
35	2	440	U	N3-C2-O2	-5.48	118.36	122.20
35	2	878	G	N1-C2-N2	5.48	121.13	116.20
36	3	81	G	N3-C4-N9	-5.48	122.71	126.00
35	2	129	U	C2-N1-C1'	5.48	124.27	117.70
35	2	1052	U	C5-C6-N1	5.48	125.44	122.70
35	2	309	C	N1-C1'-C2'	-5.48	105.98	112.00
35	2	506	A	C5-N7-C8	-5.47	101.16	103.90
35	2	900	A	N9-C1'-C2'	-5.47	105.98	112.00
35	2	1041	G	N3-C4-C5	5.47	131.34	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
30	x	35	PRO	N-CA-CB	5.47	109.87	103.30
35	2	103	A	C2-N3-C4	5.47	113.34	110.60
35	2	183	U	C4-C5-C6	-5.47	116.42	119.70
35	2	213	A	N9-C4-C5	-5.47	103.61	105.80
35	2	247	A	C2-N3-C4	5.47	113.34	110.60
35	2	428	A	OP1-P-OP2	-5.47	111.39	119.60
35	2	471	A	C2-N3-C4	-5.47	107.86	110.60
35	2	914	G	C8-N9-C1'	5.47	134.11	127.00
35	2	1052	U	N1-C1'-C2'	-5.47	105.98	112.00
27	u	144	PRO	N-CA-CB	5.47	109.86	103.30
35	2	449	C	N1-C2-O2	5.47	122.18	118.90
35	2	938	G	C8-N9-C4	5.47	108.59	106.40
35	2	940	A	N1-C6-N6	-5.47	115.32	118.60
35	2	179	A	N9-C4-C5	5.47	107.99	105.80
35	2	83	G	C4-N9-C1'	-5.47	119.39	126.50
35	2	443	C	N3-C4-N4	-5.47	114.17	118.00
35	2	550	A	N7-C8-N9	-5.47	111.07	113.80
35	2	212	U	N1-C1'-C2'	-5.46	105.99	112.00
35	2	916	U	C4-C5-C6	5.46	122.98	119.70
36	3	203	C	N3-C2-O2	-5.46	118.08	121.90
35	2	383	G	N1-C2-N2	5.46	121.11	116.20
35	2	82	U	N1-C1'-C2'	-5.46	106.00	112.00
35	2	503	G	C4-C5-C6	-5.46	115.53	118.80
35	2	1072	C	N1-C2-O2	5.46	122.17	118.90
35	2	152	U	C2-N1-C1'	-5.45	111.16	117.70
35	2	156	A	C4-C5-N7	5.45	113.43	110.70
35	2	941	A	C8-N9-C4	5.45	107.98	105.80
36	3	113	G	N3-C4-C5	5.45	131.33	128.60
19	i	616	TRP	O-C-N	-5.45	113.98	122.70
35	2	922	G	C6-N1-C2	5.45	128.37	125.10
35	2	379	U	C2-N1-C1'	5.45	124.24	117.70
36	3	70	A	N7-C8-N9	5.45	116.52	113.80
35	2	251	A	N9-C4-C5	-5.45	103.62	105.80
35	2	442	C	C6-N1-C2	5.45	122.48	120.30
35	2	516	G	N1-C6-O6	-5.45	116.63	119.90
35	2	527	A	C6-N1-C2	5.45	121.87	118.60
35	2	201	G	N1-C6-O6	5.44	123.17	119.90
19	j	616	TRP	O-C-N	-5.44	113.99	122.70
35	2	1035	G	C8-N9-C4	5.44	108.58	106.40
35	2	413	U	N3-C4-O4	-5.44	115.59	119.40
35	2	425	A	N3-C4-N9	5.44	131.75	127.40
35	2	1086	A	C5-C6-N1	5.44	120.42	117.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
15	c	250	ASN	CB-CA-C	5.44	121.28	110.40
16	d	102	LEU	N-CA-CB	5.44	121.28	110.40
35	2	111	U	C2-N1-C1'	5.44	124.22	117.70
35	2	429	G	C5-C6-N1	-5.44	108.78	111.50
35	2	546	U	N3-C4-O4	-5.44	115.59	119.40
35	2	36	C	N1-C1'-C2'	-5.43	106.02	112.00
35	2	448	C	P-O3'-C3'	-5.43	113.18	119.70
35	2	912	U	C2-N3-C4	5.43	130.26	127.00
35	2	68	A	N7-C8-N9	5.43	116.52	113.80
35	2	287	G	C6-C5-N7	-5.43	127.14	130.40
35	2	462	G	C5-C6-O6	5.43	131.86	128.60
35	2	972	G	N9-C1'-C2'	-5.43	106.03	112.00
35	2	471	A	N9-C4-C5	-5.43	103.63	105.80
35	2	914	G	OP2-P-O3'	5.43	117.14	105.20
35	2	501	U	C5-C4-O4	5.43	129.16	125.90
35	2	48	G	C5-C6-N1	5.43	114.21	111.50
35	2	413	U	N1-C1'-C2'	-5.43	106.03	112.00
35	2	284	G	N1-C6-O6	5.42	123.15	119.90
35	2	548	G	N3-C4-N9	-5.42	122.75	126.00
35	2	53	G	N1-C2-N2	5.42	121.08	116.20
35	2	291	G	N7-C8-N9	5.42	115.81	113.10
35	2	1094	G	O4'-C1'-N9	-5.42	103.87	108.20
35	2	251	A	C8-N9-C4	5.42	107.97	105.80
35	2	281	G	N9-C1'-C2'	-5.41	106.05	112.00
35	2	380	U	C5-C6-N1	-5.41	119.99	122.70
35	2	397	A	N1-C6-N6	5.41	121.85	118.60
35	2	632	U	N1-C2-N3	-5.41	111.65	114.90
35	2	377	G	N7-C8-N9	-5.41	110.39	113.10
35	2	479	C	N3-C2-O2	-5.41	118.11	121.90
35	2	632	U	C5-C6-N1	5.41	125.40	122.70
35	2	1535	U	C2-N1-C1'	5.41	124.19	117.70
35	2	959	U	N3-C2-O2	5.40	125.98	122.20
35	2	384	G	C4-C5-C6	-5.40	115.56	118.80
36	3	268	G	N3-C4-N9	5.40	129.24	126.00
35	2	310	C	N1-C2-N3	-5.40	115.42	119.20
36	3	85	A	C4-C5-N7	5.40	113.40	110.70
35	2	317	C	C4-C5-C6	-5.40	114.70	117.40
35	2	446	A	C5-C6-N6	-5.40	119.38	123.70
35	2	539	G	N9-C1'-C2'	5.40	121.02	114.00
35	2	947	U	N1-C1'-C2'	-5.40	106.06	112.00
35	2	76	A	N1-C2-N3	5.40	132.00	129.30
35	2	307	G	C4-C5-C6	-5.40	115.56	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	2	51	A	O4'-C1'-N9	5.39	112.52	108.20
36	3	78	C	N3-C4-C5	5.39	124.06	121.90
36	3	91	G	N3-C4-N9	-5.39	122.77	126.00
36	3	183	A	N9-C4-C5	-5.39	103.64	105.80
35	2	295	A	O4'-C1'-N9	5.39	112.51	108.20
35	2	401	A	OP1-P-O3'	5.39	117.06	105.20
35	2	958	U	C4-C5-C6	-5.39	116.47	119.70
35	2	343	C	C2-N1-C1'	-5.38	112.88	118.80
35	2	305	C	C4-C5-C6	-5.38	114.71	117.40
35	2	129	U	C6-N1-C1'	-5.38	113.67	121.20
35	2	388	G	C8-N9-C4	5.38	108.55	106.40
35	2	466	U	C6-N1-C2	5.38	124.23	121.00
35	2	879	G	N3-C4-C5	5.38	131.29	128.60
35	2	290	G	C8-N9-C4	5.38	108.55	106.40
35	2	956	C	N1-C2-O2	-5.37	115.67	118.90
35	2	84	A	P-O3'-C3'	-5.37	113.25	119.70
35	2	357	G	N9-C1'-C2'	-5.37	106.09	112.00
35	2	398	G	N3-C4-N9	5.37	129.22	126.00
35	2	491	C	C6-N1-C1'	5.37	127.24	120.80
16	d	101	LYS	CB-CA-C	-5.37	99.66	110.40
35	2	154	G	C5-N7-C8	-5.37	101.61	104.30
35	2	206	A	C2-N3-C4	-5.37	107.92	110.60
35	2	425	A	C4-C5-C6	5.37	119.68	117.00
35	2	455	C	C6-N1-C1'	5.37	127.24	120.80
35	2	918	U	N1-C2-O2	5.37	126.56	122.80
35	2	112	A	C2-N3-C4	-5.37	107.92	110.60
35	2	588	U	N3-C2-O2	-5.37	118.44	122.20
35	2	1093	A	N7-C8-N9	-5.37	111.12	113.80
35	2	591	A	C5-C6-N1	5.36	120.38	117.70
35	2	112	A	C6-C5-N7	-5.36	128.55	132.30
35	2	914	G	C4-C5-C6	-5.36	115.58	118.80
35	2	26	A	C8-N9-C4	5.36	107.94	105.80
35	2	285	G	C6-C5-N7	-5.36	127.19	130.40
36	3	194	G	C2-N3-C4	5.36	114.58	111.90
35	2	334	G	O5'-P-OP2	-5.36	100.88	105.70
35	2	346	G	C6-C5-N7	-5.36	127.19	130.40
35	2	527	A	C4-C5-N7	5.35	113.38	110.70
35	2	323	A	N3-C4-C5	5.35	130.55	126.80
35	2	961	U	N1-C2-O2	-5.35	119.05	122.80
35	2	970	A	N7-C8-N9	-5.35	111.12	113.80
16	d	142	ARG	CB-CA-C	-5.35	99.70	110.40
35	2	922	G	C4-C5-C6	-5.35	115.59	118.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
36	3	194	G	O4'-C1'-N9	5.35	112.48	108.20
35	2	253	A	C5-C6-N6	-5.35	119.42	123.70
35	2	253	A	C6-N1-C2	5.35	121.81	118.60
35	2	332	U	OP2-P-O3'	5.35	116.97	105.20
35	2	254	A	N1-C6-N6	5.35	121.81	118.60
35	2	1620	C	C6-N1-C1'	-5.35	114.38	120.80
35	2	76	A	C6-N1-C2	-5.35	115.39	118.60
35	2	977	A	C6-C5-N7	5.35	136.04	132.30
36	3	266	C	O4'-C1'-N1	5.34	112.48	108.20
35	2	1038	U	N3-C4-C5	5.34	117.81	114.60
35	2	412	A	N1-C6-N6	5.34	121.81	118.60
35	2	447	U	N1-C2-N3	-5.34	111.70	114.90
35	2	630	A	C5-C6-N6	-5.34	119.43	123.70
35	2	1600	A	C8-N9-C4	-5.34	103.67	105.80
35	2	41	A	N1-C6-N6	5.34	121.80	118.60
35	2	105	A	O4'-C1'-N9	5.34	112.47	108.20
35	2	471	A	N7-C8-N9	-5.34	111.13	113.80
35	2	1620	C	C5-C6-N1	5.34	123.67	121.00
35	2	337	G	N3-C4-C5	5.34	131.27	128.60
35	2	1083	G	C6-N1-C2	5.34	128.30	125.10
35	2	589	C	N1-C1'-C2'	-5.33	106.13	112.00
35	2	173	A	C4-N9-C1'	-5.33	116.70	126.30
35	2	277	U	N1-C2-O2	-5.33	119.07	122.80
36	3	113	G	C8-N9-C1'	5.33	133.93	127.00
35	2	970	A	C5-N7-C8	5.33	106.56	103.90
35	2	464	A	N3-C4-N9	5.33	131.66	127.40
35	2	953	G	C4-C5-N7	5.33	112.93	110.80
35	2	168	A	N9-C4-C5	-5.33	103.67	105.80
35	2	276	C	N1-C2-N3	-5.33	115.47	119.20
35	2	72	A	N3-C4-C5	5.33	130.53	126.80
35	2	174	U	N3-C2-O2	-5.33	118.47	122.20
35	2	445	A	O4'-C1'-N9	-5.33	103.94	108.20
35	2	122	U	C5-C6-N1	-5.32	120.04	122.70
35	2	259	U	C5-C6-N1	-5.32	120.04	122.70
36	3	262	C	C5-C6-N1	-5.32	118.34	121.00
35	2	481	A	N9-C1'-C2'	-5.32	106.15	112.00
35	2	91	G	C6-N1-C2	-5.32	121.91	125.10
35	2	148	A	C4-C5-C6	-5.32	114.34	117.00
35	2	437	A	N9-C4-C5	5.32	107.93	105.80
35	2	178	U	C5-C6-N1	5.31	125.36	122.70
35	2	204	G	C8-N9-C4	5.31	108.53	106.40
35	2	974	A	C6-C5-N7	-5.31	128.58	132.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	2	498	G	N3-C2-N2	-5.31	116.18	119.90
35	2	302	U	N3-C4-C5	5.31	117.78	114.60
35	2	371	G	N7-C8-N9	5.31	115.75	113.10
35	2	966	A	N9-C4-C5	-5.31	103.68	105.80
35	2	291	G	C5-N7-C8	-5.31	101.65	104.30
35	2	511	A	C4-C5-C6	5.31	119.65	117.00
35	2	912	U	N1-C2-O2	5.31	126.51	122.80
35	2	199	G	N1-C2-N2	-5.30	111.43	116.20
35	2	447	U	N3-C2-O2	5.30	125.91	122.20
35	2	522	U	C2-N1-C1'	5.30	124.06	117.70
35	2	326	G	C4-C5-C6	-5.30	115.62	118.80
35	2	389	G	C2-N3-C4	-5.30	109.25	111.90
35	2	165	G	N9-C4-C5	-5.30	103.28	105.40
35	2	963	A	N1-C6-N6	5.30	121.78	118.60
35	2	973	A	N7-C8-N9	-5.30	111.15	113.80
35	2	322	G	C8-N9-C4	5.29	108.52	106.40
35	2	147	A	O5'-P-OP2	-5.29	100.94	105.70
35	2	448	C	N1-C1'-C2'	-5.29	106.18	112.00
35	2	192	U	N3-C2-O2	-5.29	118.50	122.20
35	2	398	G	N7-C8-N9	5.28	115.74	113.10
36	3	67	C	C2-N1-C1'	-5.28	112.99	118.80
35	2	1067	C	N1-C2-O2	5.28	122.07	118.90
35	2	42	G	C8-N9-C1'	-5.28	120.14	127.00
35	2	513	U	N1-C1'-C2'	-5.28	106.19	112.00
19	i	544	TYR	N-CA-CB	5.28	120.10	110.60
35	2	396	G	C8-N9-C1'	5.28	133.86	127.00
35	2	547	U	N3-C2-O2	5.28	125.89	122.20
35	2	1529	C	C5-C6-N1	-5.28	118.36	121.00
35	2	87	C	O4'-C1'-N1	5.27	112.42	108.20
35	2	98	U	C6-N1-C1'	-5.27	113.82	121.20
35	2	34	G	N9-C4-C5	5.27	107.51	105.40
35	2	161	U	N3-C2-O2	5.27	125.89	122.20
35	2	1166	A	C5-C6-N1	5.27	120.33	117.70
19	j	544	TYR	N-CA-CB	5.27	120.08	110.60
35	2	432	G	C8-N9-C1'	-5.27	120.15	127.00
35	2	628	G	C8-N9-C4	5.27	108.51	106.40
35	2	923	A	C8-N9-C4	5.27	107.91	105.80
35	2	473	A	C6-C5-N7	-5.26	128.62	132.30
35	2	523	G	C2-N3-C4	5.26	114.53	111.90
35	2	894	U	C6-N1-C1'	5.26	128.56	121.20
35	2	965	U	O4'-C1'-N1	5.26	112.41	108.20
35	2	550	A	N1-C6-N6	-5.25	115.45	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	2	1026	A	N3-C4-C5	-5.25	123.12	126.80
35	2	1096	C	C5-C6-N1	5.25	123.63	121.00
35	2	265	A	N1-C6-N6	5.25	121.75	118.60
35	2	1611	A	C5-N7-C8	-5.25	101.28	103.90
36	3	269	G	N3-C4-C5	5.25	131.22	128.60
35	2	492	A	C4-C5-C6	-5.25	114.38	117.00
35	2	526	A	C5-C6-N1	5.25	120.32	117.70
36	3	79	G	C8-N9-C4	5.25	108.50	106.40
35	2	411	C	C2-N1-C1'	5.24	124.57	118.80
35	2	129	U	N1-C2-O2	5.24	126.47	122.80
35	2	286	C	C4-C5-C6	-5.24	114.78	117.40
35	2	135	A	C4-N9-C1'	5.24	135.73	126.30
35	2	190	C	C5-C6-N1	5.24	123.62	121.00
35	2	358	U	P-O3'-C3'	-5.24	113.41	119.70
35	2	39	A	C8-N9-C4	-5.24	103.70	105.80
35	2	360	A	N9-C1'-C2'	-5.24	106.24	112.00
35	2	195	G	N3-C2-N2	-5.24	116.24	119.90
35	2	1084	A	N3-C4-C5	5.24	130.47	126.80
35	2	41	A	C4-C5-C6	5.23	119.62	117.00
35	2	964	U	N3-C4-O4	5.23	123.06	119.40
36	3	82	U	O4'-C1'-N1	5.23	112.39	108.20
35	2	549	G	C6-N1-C2	5.23	128.24	125.10
35	2	891	A	N9-C4-C5	-5.23	103.71	105.80
35	2	516	G	C5-C6-N1	5.23	114.12	111.50
35	2	866	G	N9-C1'-C2'	-5.23	106.25	112.00
35	2	883	C	C2-N3-C4	5.23	122.52	119.90
26	t	132	LYS	N-CA-C	5.23	125.11	111.00
35	2	317	C	N1-C2-N3	-5.23	115.54	119.20
35	2	926	A	C6-C5-N7	-5.22	128.64	132.30
35	2	953	G	C8-N9-C4	5.22	108.49	106.40
35	2	975	C	C6-N1-C2	-5.22	118.21	120.30
35	2	978	A	N7-C8-N9	5.22	116.41	113.80
35	2	276	C	C6-N1-C1'	-5.22	114.54	120.80
35	2	591	A	C2-N3-C4	5.22	113.21	110.60
35	2	959	U	OP1-P-O3'	5.22	116.68	105.20
35	2	386	G	C4-N9-C1'	5.22	133.28	126.50
35	2	1043	A	N9-C4-C5	-5.21	103.71	105.80
35	2	381	C	N3-C4-C5	5.21	123.98	121.90
35	2	301	A	N3-C4-C5	5.21	130.45	126.80
35	2	444	C	C5-C6-N1	-5.21	118.39	121.00
35	2	537	G	C5-C6-N1	-5.21	108.89	111.50
35	2	196	G	C5-C6-O6	5.21	131.73	128.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	2	452	A	N3-C4-N9	5.21	131.57	127.40
35	2	68	A	C5-C6-N1	5.21	120.30	117.70
35	2	363	G	C8-N9-C4	5.21	108.48	106.40
35	2	78	A	C2-N3-C4	5.21	113.20	110.60
35	2	284	G	N3-C4-C5	5.21	131.20	128.60
35	2	349	U	N1-C2-N3	-5.21	111.78	114.90
35	2	1030	A	C8-N9-C4	-5.21	103.72	105.80
35	2	186	C	C4-C5-C6	-5.20	114.80	117.40
35	2	428	A	C6-N1-C2	5.20	121.72	118.60
35	2	399	A	N9-C4-C5	-5.20	103.72	105.80
35	2	490	C	P-O3'-C3'	-5.20	113.46	119.70
35	2	319	U	C5-C6-N1	-5.20	120.10	122.70
35	2	498	G	C3'-C2'-C1'	-5.20	97.34	101.50
18	g	61	ALA	N-CA-CB	-5.20	102.83	110.10
35	2	1067	C	N1-C2-N3	-5.20	115.56	119.20
35	2	210	A	C6-C5-N7	-5.19	128.66	132.30
35	2	470	A	C6-N1-C2	5.19	121.72	118.60
35	2	1044	U	O4'-C1'-N1	-5.19	104.05	108.20
15	c	177	PRO	CA-C-N	5.19	128.61	117.20
35	2	344	A	N9-C4-C5	-5.18	103.73	105.80
18	h	61	ALA	N-CA-CB	-5.18	102.84	110.10
19	j	174	ARG	C-N-CA	5.18	134.65	121.70
35	2	139	C	C2-N3-C4	5.18	122.49	119.90
35	2	301	A	C5-C6-N1	-5.18	115.11	117.70
35	2	1080	U	C5-C4-O4	-5.18	122.79	125.90
16	d	130	ALA	N-CA-CB	-5.18	102.85	110.10
35	2	591	A	C6-C5-N7	5.18	135.93	132.30
35	2	967	A	C2-N3-C4	-5.18	108.01	110.60
35	2	369	A	N3-C4-C5	5.18	130.43	126.80
35	2	195	G	C4-N9-C1'	-5.18	119.77	126.50
35	2	377	G	N9-C1'-C2'	-5.18	106.31	112.00
19	j	613	LEU	N-CA-C	5.18	124.98	111.00
35	2	347	G	C5-C6-N1	5.18	114.09	111.50
35	2	441	A	N1-C6-N6	5.18	121.71	118.60
35	2	136	C	N1-C2-O2	-5.17	115.80	118.90
35	2	205	U	C4-C5-C6	-5.17	116.59	119.70
35	2	359	A	P-O3'-C3'	5.17	125.91	119.70
35	2	496	G	C5-C6-N1	-5.17	108.91	111.50
35	2	950	C	C2-N3-C4	5.17	122.49	119.90
19	i	613	LEU	N-CA-C	5.17	124.96	111.00
35	2	352	A	C8-N9-C4	5.17	107.87	105.80
35	2	477	A	N1-C6-N6	5.17	121.70	118.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	2	626	U	C4-C5-C6	-5.17	116.60	119.70
35	2	928	U	N3-C2-O2	-5.17	118.58	122.20
35	2	90	C	C4-C5-C6	-5.17	114.81	117.40
35	2	513	U	O4'-C1'-N1	5.17	112.33	108.20
35	2	405	C	C4-C5-C6	-5.17	114.82	117.40
35	2	914	G	N7-C8-N9	-5.17	110.52	113.10
35	2	1463	C	N3-C4-C5	5.17	123.97	121.90
15	c	186	GLU	O-C-N	-5.16	114.44	122.70
35	2	419	G	N1-C2-N3	5.16	127.00	123.90
35	2	878	G	C3'-C2'-C1'	-5.16	97.37	101.50
35	2	1024	U	C2-N1-C1'	5.16	123.89	117.70
19	i	174	ARG	C-N-CA	5.16	134.60	121.70
35	2	70	C	C2-N1-C1'	-5.16	113.13	118.80
35	2	351	C	C5-C4-N4	5.16	123.81	120.20
35	2	498	G	C4-C5-N7	5.16	112.86	110.80
35	2	923	A	N1-C2-N3	5.16	131.88	129.30
35	2	960	U	O5'-P-OP1	-5.16	101.06	105.70
35	2	1046	G	C6-C5-N7	-5.16	127.31	130.40
35	2	1052	U	C3'-C2'-C1'	-5.15	97.38	101.50
35	2	891	A	C4-C5-N7	5.15	113.28	110.70
35	2	448	C	N1-C2-N3	-5.15	115.60	119.20
35	2	972	G	C4-N9-C1'	-5.15	119.81	126.50
35	2	1591	C	N3-C4-N4	-5.15	114.40	118.00
35	2	28	A	N3-C4-N9	5.15	131.52	127.40
35	2	154	G	C5-C6-O6	5.14	131.69	128.60
35	2	32	U	C2-N3-C4	5.14	130.09	127.00
35	2	34	G	N3-C4-N9	-5.14	122.92	126.00
35	2	201	G	N9-C1'-C2'	-5.14	106.34	112.00
35	2	340	U	N1-C2-N3	-5.14	111.81	114.90
35	2	365	G	N1-C2-N2	-5.14	111.57	116.20
35	2	868	G	C3'-C2'-C1'	-5.14	97.39	101.50
35	2	194	U	N1-C2-O2	5.14	126.40	122.80
2	G	2984	ARG	CA-C-N	5.14	128.51	117.20
35	2	34	G	N1-C2-N3	5.14	126.98	123.90
35	2	518	A	N1-C2-N3	-5.14	126.73	129.30
35	2	887	A	C8-N9-C4	-5.14	103.74	105.80
35	2	902	G	N1-C6-O6	5.14	122.98	119.90
35	2	51	A	C4-C5-N7	5.14	113.27	110.70
30	x	124	PRO	N-CA-CB	5.14	109.46	103.30
35	2	103	A	N1-C2-N3	5.13	131.87	129.30
35	2	269	G	N3-C4-N9	-5.13	122.92	126.00
35	2	141	U	C5-C6-N1	5.13	125.27	122.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	2	202	A	N1-C2-N3	-5.13	126.73	129.30
35	2	361	C	C2-N3-C4	-5.13	117.33	119.90
35	2	441	A	O4'-C1'-N9	-5.13	104.09	108.20
35	2	883	C	C5-C4-N4	-5.13	116.61	120.20
35	2	885	G	C8-N9-C1'	5.13	133.67	127.00
35	2	163	G	N9-C4-C5	-5.13	103.35	105.40
35	2	79	C	C6-N1-C2	5.13	122.35	120.30
36	3	72	C	C6-N1-C1'	5.13	126.95	120.80
35	2	262	U	N3-C2-O2	-5.13	118.61	122.20
35	2	879	G	C6-C5-N7	-5.13	127.32	130.40
35	2	197	A	C2-N3-C4	-5.12	108.04	110.60
35	2	515	A	O4'-C1'-N9	-5.12	104.10	108.20
35	2	953	G	N9-C1'-C2'	-5.12	106.36	112.00
35	2	34	G	O4'-C1'-N9	5.12	112.30	108.20
35	2	247	A	C8-N9-C4	-5.12	103.75	105.80
35	2	1043	A	C3'-C2'-C1'	-5.12	97.40	101.50
35	2	1088	A	C4-C5-C6	5.12	119.56	117.00
35	2	1604	U	C2-N1-C1'	5.12	123.85	117.70
35	2	629	U	C6-N1-C1'	5.12	128.37	121.20
36	3	192	A	N9-C4-C5	5.12	107.85	105.80
35	2	304	U	C2-N3-C4	5.12	130.07	127.00
35	2	326	G	C6-C5-N7	5.12	133.47	130.40
36	3	69	G	C4-C5-N7	5.12	112.85	110.80
35	2	346	G	C8-N9-C1'	-5.12	120.35	127.00
36	3	74	C	C5-C6-N1	5.12	123.56	121.00
35	2	206	A	N1-C6-N6	5.11	121.67	118.60
35	2	267	U	C5-C4-O4	5.11	128.97	125.90
35	2	485	A	N1-C2-N3	-5.11	126.74	129.30
35	2	490	C	C4-C5-C6	-5.11	114.84	117.40
35	2	626	U	N1-C2-O2	5.11	126.38	122.80
36	3	140	C	C5-C6-N1	5.11	123.56	121.00
30	x	126	PRO	N-CA-CB	5.11	109.43	103.30
35	2	271	A	P-O3'-C3'	-5.11	113.57	119.70
2	G	3192	GLY	N-CA-C	-5.11	100.33	113.10
19	i	591	GLU	N-CA-CB	-5.11	101.40	110.60
35	2	63	G	N9-C4-C5	5.11	107.44	105.40
35	2	538	A	N9-C1'-C2'	-5.11	106.38	112.00
35	2	592	A	N9-C1'-C2'	-5.11	106.38	112.00
35	2	898	A	C6-C5-N7	-5.11	128.72	132.30
35	2	133	U	C5-C6-N1	5.11	125.25	122.70
35	2	269	G	P-O3'-C3'	-5.11	113.57	119.70
35	2	276	C	C5-C6-N1	5.11	123.55	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	2	423	G	C8-N9-C1'	-5.10	120.36	127.00
35	2	273	G	C5-N7-C8	-5.10	101.75	104.30
36	3	262	C	C2-N1-C1'	-5.10	113.19	118.80
35	2	70	C	OP1-P-O3'	5.10	116.42	105.20
19	j	591	GLU	N-CA-CB	-5.10	101.42	110.60
35	2	34	G	C2-N3-C4	-5.10	109.35	111.90
35	2	392	G	C5-N7-C8	-5.10	101.75	104.30
35	2	403	G	C6-C5-N7	-5.10	127.34	130.40
35	2	1073	G	C2-N3-C4	-5.10	109.35	111.90
35	2	104	A	C6-C5-N7	5.10	135.87	132.30
35	2	901	G	N9-C1'-C2'	-5.10	106.39	112.00
35	2	51	A	C2-N3-C4	5.10	113.15	110.60
35	2	1048	G	N9-C1'-C2'	-5.10	106.39	112.00
35	2	308	C	N1-C2-N3	-5.09	115.63	119.20
36	3	248	G	C8-N9-C1'	5.09	133.62	127.00
35	2	67	A	P-O5'-C5'	5.09	129.05	120.90
19	j	317	PRO	N-CA-C	5.09	125.34	112.10
35	2	355	G	C3'-C2'-C1'	-5.09	97.43	101.50
35	2	380	U	C6-N1-C1'	5.09	128.33	121.20
35	2	949	C	C4-C5-C6	-5.09	114.85	117.40
35	2	967	A	C4-C5-N7	5.09	113.25	110.70
35	2	1044	U	C6-N1-C1'	-5.09	114.07	121.20
35	2	212	U	C6-N1-C2	5.09	124.05	121.00
35	2	367	A	N7-C8-N9	-5.09	111.25	113.80
35	2	969	C	N1-C2-O2	5.09	121.95	118.90
35	2	1056	U	C6-N1-C2	-5.09	117.95	121.00
15	c	209	LYS	CA-C-O	-5.09	109.42	120.10
19	i	317	PRO	N-CA-C	5.09	125.32	112.10
35	2	199	G	C4-N9-C1'	-5.09	119.89	126.50
35	2	480	G	P-O3'-C3'	-5.09	113.60	119.70
35	2	362	G	C4-C5-C6	-5.08	115.75	118.80
35	2	415	C	N3-C4-N4	-5.08	114.44	118.00
35	2	278	U	O4'-C1'-N1	5.08	112.27	108.20
35	2	350	U	P-O3'-C3'	-5.08	113.60	119.70
35	2	1051	G	C2-N3-C4	5.08	114.44	111.90
35	2	1159	C	N1-C2-O2	5.08	121.95	118.90
35	2	456	A	O5'-P-OP2	-5.08	101.13	105.70
35	2	965	U	C6-N1-C1'	-5.08	114.09	121.20
35	2	72	A	N3-C4-N9	-5.07	123.34	127.40
35	2	205	U	N3-C4-C5	5.07	117.64	114.60
35	2	441	A	C5-C6-N6	-5.07	119.64	123.70
35	2	27	U	C2-N3-C4	-5.07	123.96	127.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	2	71	A	N9-C4-C5	-5.07	103.77	105.80
35	2	881	A	C5-C6-N6	-5.07	119.64	123.70
35	2	936	G	C5'-C4'-O4'	5.07	115.18	109.10
35	2	355	G	C5'-C4'-O4'	5.07	115.18	109.10
35	2	512	A	C8-N9-C4	5.07	107.83	105.80
35	2	926	A	N3-C4-N9	5.07	131.45	127.40
35	2	1468	U	C5-C4-O4	-5.07	122.86	125.90
35	2	32	U	C5-C4-O4	5.07	128.94	125.90
35	2	1042	G	N7-C8-N9	-5.07	110.57	113.10
36	3	87	G	C5-C6-O6	5.07	131.64	128.60
35	2	547	U	C4-C5-C6	-5.06	116.66	119.70
35	2	63	G	C6-C5-N7	5.06	133.44	130.40
35	2	165	G	C8-N9-C4	5.06	108.42	106.40
35	2	401	A	C3'-C2'-C1'	-5.06	97.45	101.50
35	2	525	A	N7-C8-N9	-5.06	111.27	113.80
35	2	881	A	C4-C5-C6	-5.06	114.47	117.00
35	2	93	A	C4-C5-C6	-5.05	114.47	117.00
35	2	167	U	O5'-P-OP2	-5.05	101.15	105.70
35	2	526	A	N1-C2-N3	-5.05	126.77	129.30
36	3	132	C	N1-C2-O2	-5.05	115.87	118.90
35	2	345	U	OP1-P-O3'	5.05	116.32	105.20
35	2	23	G	O4'-C1'-N9	5.05	112.24	108.20
35	2	164	A	C5-C6-N1	5.05	120.23	117.70
35	2	337	G	C5-N7-C8	-5.05	101.77	104.30
35	2	124	A	C6-N1-C2	-5.05	115.57	118.60
35	2	146	U	N3-C4-O4	5.05	122.93	119.40
35	2	394	C	C2-N1-C1'	-5.05	113.25	118.80
35	2	522	U	N3-C2-O2	-5.05	118.67	122.20
35	2	83	G	O4'-C1'-N9	-5.04	104.16	108.20
35	2	932	U	O4'-C1'-N1	5.04	112.24	108.20
35	2	391	A	N7-C8-N9	-5.04	111.28	113.80
35	2	130	C	C2-N3-C4	-5.04	117.38	119.90
35	2	1067	C	C4-C5-C6	-5.04	114.88	117.40
35	2	53	G	C8-N9-C4	5.04	108.42	106.40
35	2	72	A	C6-C5-N7	5.04	135.83	132.30
35	2	119	A	N7-C8-N9	-5.04	111.28	113.80
35	2	140	A	N9-C4-C5	5.04	107.81	105.80
35	2	358	U	C2-N3-C4	5.04	130.02	127.00
35	2	1481	C	C5-C6-N1	5.04	123.52	121.00
35	2	332	U	C4-C5-C6	-5.03	116.68	119.70
2	G	2867	GLU	N-CA-C	5.03	124.58	111.00
35	2	102	U	N1-C2-N3	-5.03	111.88	114.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
35	2	369	A	N9-C4-C5	-5.03	103.79	105.80
35	2	373	G	C8-N9-C4	-5.03	104.39	106.40
35	2	51	A	N9-C4-C5	-5.03	103.79	105.80
35	2	456	A	C6-N1-C2	5.03	121.62	118.60
35	2	462	G	C5-N7-C8	-5.03	101.79	104.30
35	2	957	G	N3-C4-C5	5.02	131.11	128.60
35	2	396	G	N1-C6-O6	5.02	122.91	119.90
35	2	428	A	C8-N9-C1'	5.02	136.74	127.70
35	2	1039	A	C5-C6-N6	-5.02	119.68	123.70
19	i	591	GLU	C-N-CA	-5.02	111.76	122.30
35	2	160	C	C6-N1-C2	-5.02	118.29	120.30
19	j	591	GLU	C-N-CA	-5.02	111.77	122.30
35	2	1611	A	C8-N9-C4	-5.02	103.79	105.80
35	2	83	G	C3'-C2'-C1'	-5.02	97.49	101.50
35	2	593	U	N1-C2-O2	5.02	126.31	122.80
35	2	1596	C	C6-N1-C2	5.02	122.31	120.30
16	d	141	HIS	CB-CA-C	-5.01	100.37	110.40
35	2	1065	A	C4-C5-N7	5.01	113.21	110.70
35	2	1072	C	C2-N1-C1'	5.01	124.31	118.80
35	2	514	G	N1-C6-O6	-5.01	116.89	119.90
35	2	1579	U	C6-N1-C1'	-5.01	114.18	121.20
35	2	34	G	N7-C8-N9	5.01	115.61	113.10
35	2	452	A	C5-N7-C8	-5.01	101.39	103.90
35	2	1177	C	C6-N1-C2	5.01	122.30	120.30
35	2	1613	U	N1-C2-O2	5.01	126.31	122.80
35	2	518	A	C6-C5-N7	5.01	135.81	132.30
35	2	206	A	C4-C5-N7	5.00	113.20	110.70
35	2	131	C	C5-C4-N4	-5.00	116.70	120.20
36	3	113	G	N3-C4-N9	-5.00	123.00	126.00

There are no chirality outliers.

All (59) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
3	H	110	UNK	Mainchain
3	H	111	UNK	Mainchain
3	H	134	UNK	Mainchain
3	H	157	UNK	Mainchain
3	H	158	UNK	Mainchain
3	H	183	UNK	Mainchain
3	H	184	UNK	Mainchain
3	H	185	UNK	Mainchain

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Mol	Chain	Res	Type	Group
3	H	186	UNK	Mainchain
3	H	187	UNK	Mainchain
3	H	188	UNK	Mainchain
3	H	21	UNK	Mainchain
3	H	22	UNK	Mainchain
3	H	23	UNK	Mainchain
3	H	24	UNK	Mainchain
3	H	243	UNK	Mainchain
3	H	244	UNK	Mainchain
3	H	245	UNK	Mainchain
3	H	25	UNK	Mainchain
3	H	26	UNK	Mainchain
3	H	27	UNK	Mainchain
3	H	28	UNK	Mainchain
3	H	311	UNK	Mainchain
3	H	312	UNK	Mainchain
3	H	313	UNK	Mainchain
3	H	314	UNK	Mainchain
3	H	315	UNK	Mainchain
3	H	316	UNK	Mainchain
3	H	44	UNK	Mainchain
3	H	45	UNK	Mainchain
3	H	86	UNK	Mainchain
3	H	87	UNK	Mainchain
3	H	88	UNK	Mainchain
8	T	355	SER	Peptide
9	U	61	GLN	Peptide
9	V	61	GLN	Peptide
10	W	217	ASP	Peptide
10	X	217	ASP	Peptide
14	b	160	TRP	Mainchain
14	b	162	VAL	Mainchain
14	b	23	SER	Mainchain
14	b	27	HIS	Mainchain
14	b	91	LYS	Peptide
15	c	124	LEU	Peptide
15	c	161	PRO	Peptide
15	c	177	PRO	Peptide,Mainchain
15	c	181	LYS	Peptide
15	c	197	ARG	Peptide
15	c	93	SER	Mainchain
16	d	111	MET	Mainchain

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Mol	Chain	Res	Type	Group
16	d	138	VAL	Mainchain
19	i	614	ILE	Peptide
19	i	615	PRO	Peptide
19	i	882	ALA	Peptide
19	j	614	ILE	Peptide
19	j	615	PRO	Peptide
19	j	882	ALA	Peptide
20	k	82	LYS	Mainchain

5.2 Too-close contacts (i)

Due to software issues we are unable to calculate clashes - this section is therefore empty.

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 PDB entries followed by that with respect to all EM 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	G	265/1802 (15%)	245 (92%)	11 (4%)	9 (3%)	3 26
4	I	626/939 (67%)	609 (97%)	17 (3%)	0	100 100
8	S	363/412 (88%)	344 (95%)	14 (4%)	5 (1%)	11 46
8	T	363/412 (88%)	341 (94%)	20 (6%)	2 (1%)	25 66
9	U	120/130 (92%)	111 (92%)	7 (6%)	2 (2%)	9 42
9	V	120/130 (92%)	112 (93%)	6 (5%)	2 (2%)	9 42
10	W	225/232 (97%)	206 (92%)	16 (7%)	3 (1%)	12 48
10	X	225/232 (97%)	204 (91%)	17 (8%)	4 (2%)	8 40
11	Y	353/573 (62%)	341 (97%)	11 (3%)	1 (0%)	41 77
12	Z	353/367 (96%)	347 (98%)	6 (2%)	0	100 100
13	a	50/1183 (4%)	49 (98%)	1 (2%)	0	100 100
14	b	151/183 (82%)	128 (85%)	14 (9%)	9 (6%)	1 17

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
15	c	190/297 (64%)	163 (86%)	12 (6%)	15 (8%)	1	12
16	d	122/184 (66%)	110 (90%)	8 (7%)	4 (3%)	4	26
17	e	205/252 (81%)	190 (93%)	15 (7%)	0	100	100
17	f	214/252 (85%)	201 (94%)	11 (5%)	2 (1%)	17	57
18	g	172/322 (53%)	163 (95%)	9 (5%)	0	100	100
18	h	172/322 (53%)	163 (95%)	9 (5%)	0	100	100
19	i	643/1073 (60%)	577 (90%)	38 (6%)	28 (4%)	2	22
19	j	663/1073 (62%)	591 (89%)	43 (6%)	29 (4%)	2	22
20	k	172/391 (44%)	151 (88%)	12 (7%)	9 (5%)	2	19
21	o	213/265 (80%)	161 (76%)	33 (16%)	19 (9%)	1	11
22	p	257/259 (99%)	193 (75%)	40 (16%)	24 (9%)	0	10
23	q	165/225 (73%)	55 (33%)	46 (28%)	64 (39%)	0	0
24	r	233/293 (80%)	188 (81%)	31 (13%)	14 (6%)	1	17
25	s	184/197 (93%)	151 (82%)	23 (12%)	10 (5%)	2	19
26	t	205/208 (99%)	147 (72%)	38 (18%)	20 (10%)	0	9
27	u	153/197 (78%)	48 (31%)	49 (32%)	56 (37%)	0	0
28	v	115/151 (76%)	49 (43%)	33 (29%)	33 (29%)	0	0
29	w	126/137 (92%)	51 (40%)	39 (31%)	36 (29%)	0	0
30	x	132/143 (92%)	57 (43%)	33 (25%)	42 (32%)	0	0
31	y	155/157 (99%)	115 (74%)	26 (17%)	14 (9%)	1	11
32	z	125/130 (96%)	50 (40%)	35 (28%)	40 (32%)	0	0
33	0	146/149 (98%)	115 (79%)	20 (14%)	11 (8%)	1	13
34	1	45/67 (67%)	17 (38%)	12 (27%)	16 (36%)	0	0
All	All	8021/13339 (60%)	6743 (84%)	755 (9%)	523 (6%)	2	16

All (523) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	G	2992	ASN
2	G	3194	ASP
8	T	355	SER
9	U	62	PRO
9	V	62	PRO
10	W	206	SER

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Mol	Chain	Res	Type
10	W	218	PRO
10	X	218	PRO
14	b	93	LYS
14	b	166	ILE
15	c	124	LEU
15	c	125	PRO
15	c	161	PRO
15	c	186	GLU
15	c	198	THR
15	c	214	PRO
15	c	235	ASP
16	d	108	VAL
16	d	119	GLN
16	d	142	ARG
17	f	83	ASP
19	i	145	GLY
19	i	163	TYR
19	i	164	THR
19	i	510	CYS
19	i	514	SER
19	i	530	HIS
19	i	856	ASP
19	i	873	ALA
19	i	877	SER
19	i	879	LEU
19	i	881	GLN
19	i	883	ILE
19	j	163	TYR
19	j	164	THR
19	j	510	CYS
19	j	514	SER
19	j	530	HIS
19	j	856	ASP
19	j	873	ALA
19	j	877	SER
19	j	879	LEU
19	j	881	GLN
19	j	883	ILE
20	k	80	PRO
20	k	104	PRO
20	k	172	TYR
20	k	175	THR

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Mol	Chain	Res	Type
20	k	176	THR
21	o	37	PRO
21	o	43	LYS
21	o	52	LYS
21	o	59	ALA
21	o	77	ASP
21	o	78	ASN
21	o	96	GLY
22	p	15	PRO
22	p	24	GLY
22	p	96	LYS
22	p	106	ASP
22	p	204	GLN
22	p	206	SER
22	p	207	PHE
22	p	215	ALA
23	q	40	ILE
23	q	46	TRP
23	q	53	VAL
23	q	57	SER
23	q	61	TYR
23	q	66	GLN
23	q	87	CYS
23	q	88	PRO
23	q	90	ILE
23	q	91	GLU
23	q	92	ARG
23	q	93	LEU
23	q	94	THR
23	q	128	ASN
23	q	129	PRO
23	q	160	VAL
23	q	162	VAL
23	q	163	SER
23	q	164	PRO
23	q	182	ALA
23	q	184	PHE
23	q	187	ILE
23	q	195	ALA
23	q	216	GLU
24	r	8	PRO
24	r	9	LEU

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Mol	Chain	Res	Type
24	r	43	ASP
24	r	87	ARG
24	r	181	ARG
25	s	132	LEU
25	s	178	THR
25	s	179	THR
26	t	13	ALA
26	t	15	GLY
26	t	44	THR
26	t	57	ARG
26	t	132	LYS
26	t	135	ARG
26	t	160	GLU
27	u	39	LYS
27	u	41	GLU
27	u	55	ALA
27	u	56	ALA
27	u	64	GLU
27	u	66	ASP
27	u	67	PRO
27	u	81	VAL
27	u	82	ARG
27	u	83	VAL
27	u	99	LEU
27	u	100	LYS
27	u	106	GLU
27	u	112	GLN
27	u	121	SER
27	u	122	VAL
27	u	124	HIS
27	u	130	THR
27	u	131	GLN
27	u	132	ARG
27	u	140	ILE
27	u	141	VAL
27	u	143	ILE
27	u	152	SER
27	u	153	GLU
27	u	169	PRO
27	u	174	ARG
28	v	46	THR
28	v	47	PRO

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Mol	Chain	Res	Type
28	v	50	ILE
28	v	58	HIS
28	v	62	GLN
28	v	65	VAL
28	v	69	ASN
28	v	71	ILE
28	v	82	PRO
28	v	84	ILE
28	v	85	PRO
28	v	86	GLU
28	v	126	ALA
28	v	132	VAL
28	v	135	LEU
28	v	136	PRO
28	v	137	PRO
29	w	4	VAL
29	w	23	PHE
29	w	26	THR
29	w	40	ALA
29	w	42	VAL
29	w	43	THR
29	w	50	ALA
29	w	65	GLN
29	w	67	VAL
29	w	79	VAL
29	w	94	PRO
29	w	96	PRO
29	w	101	ALA
29	w	122	PRO
30	x	34	SER
30	x	35	PRO
30	x	36	ILE
30	x	38	LEU
30	x	42	GLU
30	x	57	LEU
30	x	61	SER
30	x	63	ILE
30	x	70	THR
30	x	74	HIS
30	x	85	ILE
30	x	97	VAL
30	x	105	LEU

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Mol	Chain	Res	Type
30	x	118	ILE
30	x	126	PRO
30	x	136	SER
31	y	10	GLN
31	y	16	PHE
31	y	17	LEU
32	z	5	SER
32	z	24	GLN
32	z	27	ILE
32	z	28	ARG
32	z	29	PRO
32	z	30	SER
32	z	31	SER
32	z	38	LEU
32	z	63	VAL
32	z	76	SER
32	z	77	PRO
32	z	79	PHE
32	z	85	ASP
32	z	86	ILE
32	z	95	PRO
32	z	97	ARG
32	z	99	PHE
32	z	103	ILE
32	z	106	THR
32	z	118	ARG
32	z	120	HIS
32	z	126	LEU
33	0	29	ASP
33	0	57	GLY
33	0	148	ALA
34	1	10	ALA
34	1	14	LYS
34	1	15	VAL
34	1	34	GLU
34	1	39	THR
34	1	44	VAL
8	S	85	PRO
8	T	85	PRO
11	Y	555	ASN
14	b	86	GLY
14	b	91	LYS

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Mol	Chain	Res	Type
14	b	92	ALA
14	b	135	HIS
15	c	178	LYS
15	c	201	GLY
15	c	202	GLN
15	c	250	ASN
16	d	129	TYR
19	i	171	ALA
19	i	532	VAL
19	i	870	LEU
19	j	145	GLY
19	j	171	ALA
19	j	532	VAL
19	j	608	GLN
19	j	870	LEU
20	k	236	SER
20	k	274	LYS
21	o	38	ILE
21	o	46	GLY
21	o	61	GLU
21	o	197	GLU
21	o	215	ASN
22	p	5	PRO
22	p	62	THR
22	p	68	LYS
22	p	95	GLU
22	p	173	ASN
22	p	175	ALA
22	p	216	LYS
23	q	43	PHE
23	q	56	ALA
23	q	60	ASP
23	q	64	VAL
23	q	89	ILE
23	q	108	LEU
23	q	113	ILE
23	q	122	ASN
23	q	140	THR
23	q	144	GLU
23	q	153	GLY
23	q	165	LEU
23	q	166	ARG

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Mol	Chain	Res	Type
23	q	167	ARG
23	q	181	GLU
23	q	183	ALA
23	q	197	GLU
23	q	211	ILE
23	q	215	ASP
24	r	67	VAL
24	r	91	PHE
24	r	99	GLY
24	r	147	LEU
24	r	150	GLU
25	s	10	GLN
25	s	161	ASP
26	t	48	LYS
26	t	58	GLY
26	t	155	LYS
26	t	193	GLY
27	u	63	ASP
27	u	85	VAL
27	u	88	GLU
27	u	113	VAL
27	u	133	HIS
27	u	137	GLY
27	u	139	GLN
27	u	146	PHE
28	v	54	LEU
28	v	128	TYR
28	v	138	ASN
29	w	3	ASN
29	w	6	GLN
29	w	19	ILE
29	w	25	ASP
29	w	28	VAL
29	w	45	GLY
29	w	64	ALA
29	w	73	GLU
29	w	97	GLY
29	w	124	ASP
29	w	128	LYS
30	x	43	ILE
30	x	62	ASN
30	x	92	TYR

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Mol	Chain	Res	Type
30	x	98	ASP
30	x	104	GLU
30	x	107	LYS
30	x	129	PHE
31	y	6	GLN
31	y	8	ALA
31	y	19	SER
31	y	27	THR
31	y	30	GLY
31	y	94	ARG
32	z	22	LYS
32	z	56	HIS
32	z	62	VAL
32	z	68	ARG
32	z	72	CYS
32	z	81	VAL
32	z	94	LEU
32	z	100	GLY
32	z	113	HIS
33	0	62	TYR
33	0	63	GLY
33	0	102	ARG
33	0	129	GLY
33	0	130	ASP
34	1	28	VAL
34	1	29	ARG
34	1	41	VAL
34	1	45	LYS
2	G	1956	ARG
2	G	3236	SER
8	S	207	GLU
8	S	300	ALA
8	S	355	SER
8	S	358	PHE
9	V	127	LYS
10	W	70	LYS
10	X	206	SER
15	c	217	PRO
19	i	220	LEU
19	i	308	SER
19	i	741	GLN
19	i	859	PRO

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Mol	Chain	Res	Type
19	j	220	LEU
19	j	308	SER
19	j	741	GLN
19	j	859	PRO
20	k	61	PRO
21	o	41	SER
22	p	56	LEU
22	p	82	LYS
22	p	118	LYS
22	p	205	GLY
23	q	55	ASP
23	q	125	THR
23	q	205	SER
23	q	207	THR
24	r	92	ARG
24	r	160	VAL
25	s	147	GLY
25	s	167	LEU
26	t	42	SER
26	t	91	TYR
26	t	157	GLN
27	u	38	ASN
27	u	87	SER
27	u	107	ARG
27	u	108	ARG
27	u	123	HIS
27	u	134	ILE
28	v	52	VAL
28	v	63	ALA
28	v	70	LYS
28	v	89	TYR
28	v	110	ASP
28	v	139	TRP
29	w	34	SER
29	w	48	VAL
30	x	47	LYS
30	x	56	GLY
30	x	88	GLY
30	x	110	THR
30	x	114	ARG
30	x	125	GLU
30	x	138	PHE

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Mol	Chain	Res	Type
31	y	7	ARG
31	y	117	LYS
31	y	135	ARG
32	z	46	TYR
33	0	28	PRO
34	1	8	THR
34	1	25	VAL
34	1	43	ASN
2	G	1526	SER
2	G	2819	GLU
10	X	70	LYS
14	b	119	ARG
19	i	167	MET
19	i	265	LEU
19	i	305	TYR
19	j	167	MET
19	j	265	LEU
19	j	305	TYR
21	o	117	ILE
21	o	154	GLN
21	o	163	LYS
22	p	3	ARG
23	q	58	LEU
23	q	138	THR
23	q	148	ARG
23	q	157	ARG
23	q	186	ASN
23	q	196	GLU
23	q	212	LYS
23	q	219	ARG
24	r	135	PRO
26	t	9	HIS
26	t	29	LYS
26	t	47	GLU
26	t	69	CYS
27	u	27	GLU
27	u	46	SER
27	u	91	LYS
27	u	101	VAL
27	u	180	LYS
28	v	55	ARG
28	v	75	LEU

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Mol	Chain	Res	Type
28	v	81	ALA
29	w	32	ASP
29	w	38	THR
29	w	110	LEU
30	x	28	LEU
30	x	46	PHE
30	x	51	PRO
30	x	90	VAL
30	x	99	GLU
30	x	106	LYS
30	x	134	ALA
32	z	41	MET
32	z	50	PHE
32	z	60	LYS
32	z	83	ILE
32	z	104	LEU
32	z	107	SER
34	1	32	PHE
34	1	38	ARG
2	G	2408	PRO
14	b	112	PRO
17	f	82	ARG
19	i	182	ILE
19	i	575	GLN
19	i	872	GLU
19	j	182	ILE
19	j	575	GLN
19	j	872	GLU
21	o	23	ILE
21	o	164	SER
22	p	51	ARG
22	p	53	ASN
22	p	145	ASP
23	q	45	LYS
23	q	65	ARG
23	q	213	LYS
23	q	214	LYS
23	q	221	ALA
24	r	88	ARG
26	t	41	GLN
26	t	144	SER
27	u	60	LEU

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Mol	Chain	Res	Type
27	u	74	ASN
27	u	75	ALA
27	u	125	ALA
27	u	170	GLY
27	u	183	ALA
28	v	77	SER
28	v	150	VAL
30	x	15	SER
31	y	78	LYS
33	0	64	GLY
33	0	128	LYS
9	U	127	LYS
15	c	95	ASP
19	i	379	VAL
19	i	871	ARG
19	j	379	VAL
19	j	871	ARG
20	k	271	VAL
23	q	170	GLN
25	s	78	ARG
28	v	108	ASP
28	v	143	SER
29	w	58	TYR
29	w	87	GLY
29	w	115	ILE
30	x	33	GLY
30	x	84	ALA
32	z	7	LEU
34	1	37	SER
19	i	315	PRO
19	j	315	PRO
22	p	245	GLY
25	s	105	VAL
25	s	133	PRO
30	x	39	VAL
31	y	116	VAL
21	o	63	ILE
23	q	114	ILE
27	u	52	ILE
27	u	144	PRO
29	w	74	VAL
2	G	1942	LEU

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Mol	Chain	Res	Type
2	G	1943	PRO
14	b	162	VAL
15	c	212	PHE
23	q	121	ILE
23	q	152	GLY
27	u	42	ILE
29	w	13	VAL
32	z	25	VAL
10	X	217	ASP
27	u	73	GLY
29	w	44	GLY
30	x	50	GLU
15	c	112	PRO

5.3.2 Protein sidechains (i)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all PDB entries followed by that with respect to all EM 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
21	o	191/225 (85%)	166 (87%)	25 (13%)	4 18
22	p	226/226 (100%)	197 (87%)	29 (13%)	4 18
24	r	201/244 (82%)	187 (93%)	14 (7%)	15 40
25	s	172/183 (94%)	156 (91%)	16 (9%)	9 28
26	t	184/185 (100%)	171 (93%)	13 (7%)	14 39
31	y	141/141 (100%)	125 (89%)	16 (11%)	6 21
33	0	133/134 (99%)	124 (93%)	9 (7%)	16 41
All	All	1248/1338 (93%)	1126 (90%)	122 (10%)	11 26

All (122) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
21	o	38	ILE
21	o	45	PHE
21	o	61	GLU
21	o	63	ILE

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Mol	Chain	Res	Type
21	o	64	LYS
21	o	69	GLU
21	o	74	ASP
21	o	81	ASP
21	o	92	ASP
21	o	97	ARG
21	o	106	LEU
21	o	111	ASP
21	o	116	MET
21	o	124	ILE
21	o	129	ASP
21	o	132	THR
21	o	134	ASP
21	o	138	ILE
21	o	142	THR
21	o	146	THR
21	o	150	SER
21	o	190	PHE
21	o	194	LEU
21	o	197	GLU
21	o	211	PHE
22	p	12	ILE
22	p	21	ASN
22	p	29	THR
22	p	37	LYS
22	p	48	LEU
22	p	51	ARG
22	p	57	ASN
22	p	81	ASP
22	p	89	MET
22	p	92	VAL
22	p	106	ASP
22	p	114	LYS
22	p	116	LEU
22	p	123	TYR
22	p	137	GLN
22	p	141	ILE
22	p	152	PRO
22	p	176	HIS
22	p	185	ILE
22	p	191	ILE
22	p	193	ARG

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Mol	Chain	Res	Type
22	p	207	PHE
22	p	212	VAL
22	p	222	THR
22	p	228	PHE
22	p	238	ILE
22	p	239	GLU
22	p	244	ASP
22	p	254	ARG
24	r	9	LEU
24	r	19	ASP
24	r	20	ASP
24	r	45	PHE
24	r	74	ARG
24	r	87	ARG
24	r	91	PHE
24	r	105	ASP
24	r	145	PHE
24	r	152	ASP
24	r	155	LEU
24	r	165	PHE
24	r	181	ARG
24	r	199	THR
25	s	62	LEU
25	s	63	ILE
25	s	80	LEU
25	s	105	VAL
25	s	115	ARG
25	s	117	ARG
25	s	131	LEU
25	s	136	LEU
25	s	144	ARG
25	s	146	ASP
25	s	148	THR
25	s	152	ARG
25	s	159	ASP
25	s	174	TYR
25	s	179	THR
25	s	181	GLU
26	t	21	HIS
26	t	31	ARG
26	t	35	MET
26	t	55	ARG

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Mol	Chain	Res	Type
26	t	56	VAL
26	t	66	LEU
26	t	74	SER
26	t	86	ILE
26	t	109	ILE
26	t	112	ILE
26	t	134	ASP
26	t	146	HIS
26	t	185	ARG
31	y	2	ASP
31	y	13	ASP
31	y	16	PHE
31	y	20	LYS
31	y	32	ARG
31	y	45	LYS
31	y	68	LYS
31	y	69	ILE
31	y	78	LYS
31	y	97	ASN
31	y	114	PHE
31	y	120	ASP
31	y	121	ILE
31	y	128	ARG
31	y	133	THR
31	y	135	ARG
33	0	7	THR
33	0	24	ASP
33	0	26	LEU
33	0	56	TYR
33	0	78	GLN
33	0	98	LYS
33	0	102	ARG
33	0	121	THR
33	0	130	ASP

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (37) such sidechains are listed below:

Mol	Chain	Res	Type
21	o	133	ASN
21	o	166	GLN
21	o	175	ASN
21	o	180	ASN

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Mol	Chain	Res	Type
21	o	193	ASN
22	p	8	HIS
22	p	21	ASN
22	p	53	ASN
22	p	186	GLN
22	p	204	GLN
22	p	211	HIS
24	r	25	ASN
24	r	34	GLN
24	r	81	HIS
24	r	180	GLN
24	r	206	ASN
25	s	28	ASN
25	s	44	GLN
25	s	49	GLN
25	s	54	ASN
25	s	154	GLN
26	t	79	ASN
26	t	92	ASN
26	t	124	HIS
26	t	182	GLN
26	t	204	GLN
31	y	4	GLN
31	y	12	GLN
31	y	36	ASN
31	y	62	ASN
31	y	80	ASN
31	y	97	ASN
31	y	109	HIS
31	y	153	GLN
33	0	20	GLN
33	0	27	HIS
33	0	136	GLN

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
35	2	842/1800 (46%)	640 (76%)	124 (14%)
36	3	160/274 (58%)	80 (50%)	11 (6%)
All	All	1002/2074 (48%)	720 (71%)	135 (13%)

All (720) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
35	2	21	U
35	2	22	A
35	2	23	G
35	2	24	U
35	2	25	C
35	2	26	A
35	2	27	U
35	2	28	A
35	2	29	U
35	2	30	G
35	2	31	C
35	2	32	U
35	2	33	U
35	2	34	G
35	2	35	U
35	2	38	C
35	2	39	A
35	2	40	A
35	2	42	G
35	2	44	U
35	2	45	U
35	2	46	A
35	2	47	A
35	2	48	G
35	2	49	C
35	2	50	C
35	2	52	U
35	2	53	G
35	2	54	C
35	2	55	A
35	2	56	U
35	2	57	G
35	2	58	U
35	2	59	C
35	2	60	U
35	2	61	A
35	2	62	A
35	2	63	G
35	2	64	U
35	2	65	A
35	2	66	U
35	2	67	A
35	2	68	A

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Mol	Chain	Res	Type
35	2	69	G
35	2	70	C
35	2	71	A
35	2	72	A
35	2	73	U
35	2	74	U
35	2	75	U
35	2	76	A
35	2	77	U
35	2	78	A
35	2	79	C
35	2	80	A
35	2	82	U
35	2	83	G
35	2	84	A
35	2	85	A
35	2	87	C
35	2	88	U
35	2	89	G
35	2	91	G
35	2	93	A
35	2	94	U
35	2	95	G
35	2	96	G
35	2	97	C
35	2	99	C
35	2	100	A
35	2	101	U
35	2	104	A
35	2	105	A
35	2	106	U
35	2	107	C
35	2	108	A
35	2	109	G
35	2	110	U
35	2	111	U
35	2	113	U
35	2	114	C
35	2	115	G
35	2	116	U
35	2	117	U
35	2	119	A

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Mol	Chain	Res	Type
35	2	120	U
35	2	121	U
35	2	122	U
35	2	123	G
35	2	124	A
35	2	125	U
35	2	126	A
35	2	127	G
35	2	128	U
35	2	129	U
35	2	130	C
35	2	131	C
35	2	132	U
35	2	133	U
35	2	134	U
35	2	135	A
35	2	136	C
35	2	137	U
35	2	138	A
35	2	139	C
35	2	140	A
35	2	141	U
35	2	142	G
35	2	144	U
35	2	145	A
35	2	146	U
35	2	147	A
35	2	149	C
35	2	150	U
35	2	151	G
35	2	153	G
35	2	156	A
35	2	158	U
35	2	159	U
35	2	160	C
35	2	161	U
35	2	162	A
35	2	166	C
35	2	167	U
35	2	169	A
35	2	171	A
35	2	172	C

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Mol	Chain	Res	Type
35	2	173	A
35	2	174	U
35	2	176	C
35	2	177	U
35	2	178	U
35	2	179	A
35	2	180	A
35	2	181	A
35	2	182	A
35	2	185	U
35	2	186	C
35	2	187	G
35	2	188	A
35	2	189	C
35	2	190	C
35	2	191	C
35	2	192	U
35	2	193	U
35	2	194	U
35	2	195	G
35	2	197	A
35	2	198	A
35	2	199	G
35	2	200	A
35	2	205	U
35	2	206	A
35	2	207	U
35	2	208	U
35	2	209	U
35	2	210	A
35	2	211	U
35	2	212	U
35	2	213	A
35	2	214	G
35	2	215	A
35	2	243	G
35	2	244	A
35	2	246	G
35	2	247	A
35	2	248	U
35	2	249	U
35	2	250	C

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Mol	Chain	Res	Type
35	2	251	A
35	2	252	U
35	2	253	A
35	2	254	A
35	2	255	U
35	2	257	A
35	2	258	C
35	2	259	U
35	2	260	U
35	2	261	U
35	2	262	U
35	2	263	C
35	2	264	G
35	2	266	A
35	2	267	U
35	2	268	C
35	2	269	G
35	2	270	C
35	2	271	A
35	2	272	U
35	2	273	G
35	2	276	C
35	2	277	U
35	2	278	U
35	2	279	G
35	2	280	U
35	2	281	G
35	2	282	C
35	2	283	U
35	2	284	G
35	2	285	G
35	2	286	C
35	2	287	G
35	2	288	A
35	2	289	U
35	2	290	G
35	2	292	U
35	2	294	C
35	2	295	A
35	2	296	U
35	2	297	U
35	2	298	C

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Mol	Chain	Res	Type
35	2	299	A
35	2	300	A
35	2	301	A
35	2	302	U
35	2	303	U
35	2	304	U
35	2	307	G
35	2	308	C
35	2	309	C
35	2	313	U
35	2	314	C
35	2	315	A
35	2	316	A
35	2	317	C
35	2	318	U
35	2	319	U
35	2	320	U
35	2	321	C
35	2	322	G
35	2	323	A
35	2	327	U
35	2	328	A
35	2	329	G
35	2	330	G
35	2	331	A
35	2	332	U
35	2	333	A
35	2	334	G
35	2	335	U
35	2	336	G
35	2	337	G
35	2	338	C
35	2	340	U
35	2	341	A
35	2	342	C
35	2	343	C
35	2	345	U
35	2	346	G
35	2	348	U
35	2	349	U
35	2	351	C
35	2	353	A

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Mol	Chain	Res	Type
35	2	355	G
35	2	356	G
35	2	357	G
35	2	359	A
35	2	360	A
35	2	361	C
35	2	363	G
35	2	368	U
35	2	369	A
35	2	370	A
35	2	374	U
35	2	375	U
35	2	376	C
35	2	377	G
35	2	378	A
35	2	379	U
35	2	380	U
35	2	381	C
35	2	382	C
35	2	383	G
35	2	384	G
35	2	385	A
35	2	387	A
35	2	388	G
35	2	390	G
35	2	391	A
35	2	392	G
35	2	393	C
35	2	394	C
35	2	396	G
35	2	399	A
35	2	400	A
35	2	401	A
35	2	402	C
35	2	403	G
35	2	404	G
35	2	406	U
35	2	407	A
35	2	408	C
35	2	409	C
35	2	410	A
35	2	411	C

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Mol	Chain	Res	Type
35	2	412	A
35	2	413	U
35	2	414	C
35	2	415	C
35	2	416	A
35	2	417	A
35	2	418	G
35	2	419	G
35	2	420	A
35	2	424	C
35	2	425	A
35	2	426	G
35	2	428	A
35	2	429	G
35	2	430	G
35	2	431	C
35	2	433	C
35	2	434	G
35	2	435	C
35	2	436	A
35	2	437	A
35	2	438	A
35	2	439	U
35	2	440	U
35	2	441	A
35	2	442	C
35	2	444	C
35	2	445	A
35	2	446	A
35	2	447	U
35	2	448	C
35	2	449	C
35	2	451	A
35	2	452	A
35	2	453	U
35	2	454	U
35	2	455	C
35	2	456	A
35	2	457	G
35	2	458	G
35	2	459	G
35	2	460	A

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Mol	Chain	Res	Type
35	2	461	G
35	2	462	G
35	2	463	U
35	2	464	A
35	2	465	G
35	2	466	U
35	2	467	G
35	2	468	A
35	2	469	C
35	2	470	A
35	2	471	A
35	2	473	A
35	2	474	A
35	2	475	A
35	2	476	U
35	2	477	A
35	2	478	A
35	2	479	C
35	2	480	G
35	2	481	A
35	2	484	C
35	2	485	A
35	2	486	G
35	2	487	G
35	2	488	G
35	2	489	C
35	2	492	A
35	2	493	U
35	2	494	U
35	2	495	C
35	2	496	G
35	2	497	G
35	2	498	G
35	2	499	U
35	2	500	C
35	2	501	U
35	2	502	U
35	2	503	G
35	2	504	U
35	2	505	A
35	2	506	A
35	2	507	U

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Mol	Chain	Res	Type
35	2	508	U
35	2	510	G
35	2	511	A
35	2	512	A
35	2	513	U
35	2	514	G
35	2	515	A
35	2	516	G
35	2	517	U
35	2	519	C
35	2	520	A
35	2	522	U
35	2	523	G
35	2	525	A
35	2	526	A
35	2	527	A
35	2	528	U
35	2	529	A
35	2	530	C
35	2	531	C
35	2	532	U
35	2	533	U
35	2	534	A
35	2	536	C
35	2	537	G
35	2	538	A
35	2	539	G
35	2	540	G
35	2	547	U
35	2	549	G
35	2	588	U
35	2	589	C
35	2	591	A
35	2	592	A
35	2	593	U
35	2	614	C
35	2	615	A
35	2	617	U
35	2	619	A
35	2	620	A
35	2	622	A
35	2	623	A

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Mol	Chain	Res	Type
35	2	624	G
35	2	625	C
35	2	629	U
35	2	630	A
35	2	631	G
35	2	632	U
35	2	633	U
35	2	634	G
35	2	635	A
35	2	864	U
35	2	865	A
35	2	867	G
35	2	868	G
35	2	870	C
35	2	871	G
35	2	872	G
35	2	873	U
35	2	874	C
35	2	876	G
35	2	880	C
35	2	881	A
35	2	882	U
35	2	884	A
35	2	887	A
35	2	888	U
35	2	890	C
35	2	891	A
35	2	892	A
35	2	893	U
35	2	894	U
35	2	896	U
35	2	897	C
35	2	898	A
35	2	899	G
35	2	902	G
35	2	903	U
35	2	904	G
35	2	905	A
35	2	906	A
35	2	907	A
35	2	908	U
35	2	909	U

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Mol	Chain	Res	Type
35	2	910	C
35	2	912	U
35	2	913	G
35	2	914	G
35	2	915	A
35	2	916	U
35	2	917	U
35	2	918	U
35	2	920	U
35	2	921	U
35	2	922	G
35	2	923	A
35	2	924	A
35	2	925	G
35	2	926	A
35	2	927	C
35	2	928	U
35	2	931	C
35	2	932	U
35	2	933	A
35	2	934	C
35	2	935	U
35	2	936	G
35	2	937	C
35	2	938	G
35	2	939	A
35	2	942	G
35	2	943	C
35	2	944	A
35	2	945	U
35	2	947	U
35	2	948	G
35	2	950	C
35	2	951	A
35	2	953	G
35	2	956	C
35	2	958	U
35	2	959	U
35	2	960	U
35	2	962	C
35	2	963	A
35	2	964	U

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Mol	Chain	Res	Type
35	2	965	U
35	2	966	A
35	2	968	U
35	2	969	C
35	2	970	A
35	2	971	A
35	2	972	G
35	2	975	C
35	2	977	A
35	2	978	A
35	2	1026	A
35	2	1027	A
35	2	1028	C
35	2	1029	U
35	2	1030	A
35	2	1031	U
35	2	1032	G
35	2	1033	C
35	2	1034	C
35	2	1035	G
35	2	1036	A
35	2	1037	C
35	2	1039	A
35	2	1040	G
35	2	1041	G
35	2	1043	A
35	2	1045	C
35	2	1046	G
35	2	1047	G
35	2	1048	G
35	2	1050	G
35	2	1051	G
35	2	1053	G
35	2	1054	U
35	2	1055	U
35	2	1056	U
35	2	1057	U
35	2	1058	U
35	2	1059	U
35	2	1061	A
35	2	1066	C
35	2	1067	C

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Mol	Chain	Res	Type
35	2	1069	A
35	2	1071	U
35	2	1072	C
35	2	1073	G
35	2	1074	G
35	2	1075	C
35	2	1076	A
35	2	1077	C
35	2	1078	C
35	2	1079	U
35	2	1080	U
35	2	1081	A
35	2	1082	C
35	2	1083	G
35	2	1084	A
35	2	1085	G
35	2	1087	A
35	2	1088	A
35	2	1089	U
35	2	1091	A
35	2	1092	A
35	2	1094	G
35	2	1095	U
35	2	1096	C
35	2	1097	U
35	2	1098	U
35	2	1152	A
35	2	1153	G
35	2	1154	G
35	2	1158	C
35	2	1160	A
35	2	1161	C
35	2	1162	C
35	2	1166	A
35	2	1167	G
35	2	1168	U
35	2	1178	G
35	2	1179	G
35	2	1461	C
35	2	1466	G
35	2	1467	C
35	2	1468	U

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Mol	Chain	Res	Type
35	2	1469	A
35	2	1471	A
35	2	1472	C
35	2	1473	U
35	2	1474	G
35	2	1477	G
35	2	1478	G
35	2	1479	A
35	2	1481	C
35	2	1482	C
35	2	1483	A
35	2	1484	G
35	2	1524	A
35	2	1533	C
35	2	1534	G
35	2	1535	U
35	2	1536	G
35	2	1537	C
35	2	1538	U
35	2	1539	G
35	2	1572	G
35	2	1573	A
35	2	1574	G
35	2	1575	G
35	2	1576	A
35	2	1581	C
35	2	1583	A
35	2	1584	G
35	2	1587	A
35	2	1590	G
35	2	1591	C
35	2	1592	A
35	2	1599	C
35	2	1600	A
35	2	1601	G
35	2	1602	C
35	2	1605	G
35	2	1607	G
35	2	1609	U
35	2	1610	G
35	2	1611	A
35	2	1613	U

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Mol	Chain	Res	Type
35	2	1614	A
35	2	1615	C
35	2	1616	G
35	2	1618	C
35	2	1623	C
35	2	1624	C
35	2	1625	C
35	2	1627	U
35	2	1628	U
36	3	69	G
36	3	70	A
36	3	72	C
36	3	74	C
36	3	75	A
36	3	77	C
36	3	78	C
36	3	79	G
36	3	80	G
36	3	81	G
36	3	82	U
36	3	83	U
36	3	84	G
36	3	85	A
36	3	89	A
36	3	90	C
36	3	91	G
36	3	92	A
36	3	93	G
36	3	95	U
36	3	96	C
36	3	97	C
36	3	98	U
36	3	99	C
36	3	100	G
36	3	101	G
36	3	104	C
36	3	109	C
36	3	111	G
36	3	112	U
36	3	114	A
36	3	116	G
36	3	131	U

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Mol	Chain	Res	Type
36	3	132	C
36	3	133	G
36	3	134	C
36	3	135	U
36	3	136	C
36	3	142	G
36	3	162	C
36	3	163	C
36	3	164	U
36	3	165	C
36	3	166	G
36	3	167	U
36	3	168	C
36	3	174	G
36	3	178	U
36	3	180	U
36	3	181	A
36	3	183	A
36	3	188	G
36	3	189	G
36	3	190	C
36	3	191	G
36	3	193	U
36	3	194	G
36	3	195	A
36	3	198	U
36	3	199	G
36	3	200	U
36	3	201	A
36	3	202	C
36	3	242	G
36	3	248	G
36	3	250	G
36	3	253	G
36	3	254	A
36	3	255	U
36	3	256	G
36	3	257	G
36	3	259	A
36	3	260	G
36	3	261	U
36	3	262	C

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Mol	Chain	Res	Type
36	3	264	G
36	3	265	A
36	3	266	C
36	3	268	G
36	3	269	G

All (135) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
35	2	23	G
35	2	24	U
35	2	27	U
35	2	28	A
35	2	29	U
35	2	30	G
35	2	39	A
35	2	49	C
35	2	55	A
35	2	58	U
35	2	59	C
35	2	62	A
35	2	64	U
35	2	65	A
35	2	66	U
35	2	67	A
35	2	68	A
35	2	70	C
35	2	71	A
35	2	77	U
35	2	78	A
35	2	81	G
35	2	82	U
35	2	87	C
35	2	99	C
35	2	103	A
35	2	112	A
35	2	118	U
35	2	125	U
35	2	131	C
35	2	133	U
35	2	135	A
35	2	137	U

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Mol	Chain	Res	Type
35	2	138	A
35	2	140	A
35	2	141	U
35	2	159	U
35	2	160	C
35	2	173	A
35	2	179	A
35	2	192	U
35	2	199	G
35	2	208	U
35	2	259	U
35	2	263	C
35	2	272	U
35	2	278	U
35	2	294	C
35	2	295	A
35	2	314	C
35	2	322	G
35	2	327	U
35	2	332	U
35	2	342	C
35	2	344	A
35	2	345	U
35	2	355	G
35	2	359	A
35	2	365	G
35	2	379	U
35	2	386	G
35	2	398	G
35	2	400	A
35	2	401	A
35	2	416	A
35	2	417	A
35	2	440	U
35	2	447	U
35	2	455	C
35	2	457	G
35	2	459	G
35	2	461	G
35	2	467	G
35	2	473	A
35	2	474	A

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Mol	Chain	Res	Type
35	2	477	A
35	2	479	C
35	2	485	A
35	2	492	A
35	2	495	C
35	2	499	U
35	2	500	C
35	2	501	U
35	2	504	U
35	2	509	G
35	2	513	U
35	2	515	A
35	2	525	A
35	2	528	U
35	2	529	A
35	2	530	C
35	2	534	A
35	2	538	A
35	2	539	G
35	2	587	C
35	2	592	A
35	2	614	C
35	2	628	G
35	2	880	C
35	2	887	A
35	2	914	G
35	2	932	U
35	2	933	A
35	2	936	G
35	2	959	U
35	2	963	A
35	2	964	U
35	2	1023	A
35	2	1026	A
35	2	1045	C
35	2	1055	U
35	2	1080	U
35	2	1084	A
35	2	1091	A
35	2	1094	G
35	2	1472	C
35	2	1478	G

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Mol	Chain	Res	Type
35	2	1480	G
35	2	1481	C
35	2	1573	A
35	2	1574	G
35	2	1580	C
35	2	1591	C
35	2	1609	U
36	3	78	C
36	3	91	G
36	3	92	A
36	3	110	A
36	3	113	G
36	3	135	U
36	3	199	G
36	3	255	U
36	3	258	A
36	3	259	A
36	3	260	G

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 monosaccharides in this entry.

5.6 Ligand geometry (i)

There are no ligands in this entry.

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
6	Q	30
7	R	15
3	H	13
5	M	2
5	O	2
5	m	2
1	A	1
1	B	1
1	C	1
1	D	1
1	E	1
1	F	1
1	J	1
1	K	1
1	L	1
1	N	1
1	P	1
1	l	1
1	n	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	Q	171:UNK	C	301:UNK	N	88.70
1	R	41:UNK	C	51:UNK	N	66.84
1	R	141:UNK	C	151:UNK	N	66.84
1	R	241:UNK	C	251:UNK	N	66.84
1	R	341:UNK	C	351:UNK	N	66.84
1	H	287:UNK	C	288:UNK	N	58.68
1	R	197:UNK	C	201:UNK	N	55.89
1	H	135:UNK	C	136:UNK	N	47.92
1	R	297:UNK	C	301:UNK	N	46.21
1	H	66:UNK	C	67:UNK	N	46.19
1	H	217:UNK	C	218:UNK	N	41.95
1	R	97:UNK	C	101:UNK	N	41.50
1	H	89:UNK	C	90:UNK	N	37.62
1	Q	153:UNK	C	154:UNK	N	35.55
1	H	112:UNK	C	113:UNK	N	34.97
1	H	46:UNK	C	47:UNK	N	34.40
1	Q	416:UNK	C	417:UNK	N	31.57
1	H	159:UNK	C	160:UNK	N	30.20
1	Q	340:UNK	C	341:UNK	N	30.12
1	H	266:UNK	C	267:UNK	N	28.92
1	H	317:UNK	C	318:UNK	N	28.31

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	R	68:UNK	C	71:UNK	N	27.85
1	R	168:UNK	C	171:UNK	N	27.85
1	R	268:UNK	C	271:UNK	N	27.85
1	R	368:UNK	C	371:UNK	N	27.85
1	Q	96:UNK	C	97:UNK	N	26.91
1	Q	352:UNK	C	353:UNK	N	24.70
1	Q	402:UNK	C	403:UNK	N	24.25
1	Q	444:UNK	C	445:UNK	N	23.16
1	Q	366:UNK	C	367:UNK	N	22.53
1	Q	378:UNK	C	379:UNK	N	22.27
1	Q	120:UNK	C	121:UNK	N	22.17
1	H	29:UNK	C	30:UNK	N	21.69
1	H	246:UNK	C	247:UNK	N	21.15
1	Q	107:UNK	C	108:UNK	N	19.83
1	Q	330:UNK	C	331:UNK	N	18.77
1	Q	12:UNK	C	13:UNK	N	18.66
1	Q	342:UNK	C	343:UNK	N	18.27
1	Q	392:UNK	C	393:UNK	N	18.09
1	Q	133:UNK	C	134:UNK	N	17.79
1	Q	474:UNK	C	475:UNK	N	17.24
1	Q	316:UNK	C	317:UNK	N	17.11
1	Q	484:UNK	C	485:UNK	N	16.84
1	H	189:UNK	C	190:UNK	N	15.95
1	Q	494:UNK	C	495:UNK	N	14.94
1	M	392:UNK	C	409:UNK	N	13.48
1	O	392:UNK	C	409:UNK	N	13.48
1	Q	81:UNK	C	82:UNK	N	13.48
1	m	392:UNK	C	409:UNK	N	13.48
1	Q	26:UNK	C	27:UNK	N	11.03
1	Q	454:UNK	C	455:UNK	N	10.27
1	Q	430:UNK	C	431:UNK	N	9.59
1	Q	46:UNK	C	47:UNK	N	9.29
1	Q	33:UNK	C	34:UNK	N	9.18
1	R	82:UNK	C	86:UNK	N	7.41
1	R	182:UNK	C	186:UNK	N	7.41
1	R	282:UNK	C	286:UNK	N	7.41
1	R	382:UNK	C	386:UNK	N	7.41
1	Q	72:UNK	C	73:UNK	N	7.40
1	A	326:UNK	C	338:UNK	N	7.23
1	B	326:UNK	C	338:UNK	N	7.23
1	C	326:UNK	C	338:UNK	N	7.23
1	D	326:UNK	C	338:UNK	N	7.23

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	E	326:UNK	C	338:UNK	N	7.23
1	F	326:UNK	C	338:UNK	N	7.23
1	J	326:UNK	C	338:UNK	N	7.23
1	K	326:UNK	C	338:UNK	N	7.23
1	L	326:UNK	C	338:UNK	N	7.23
1	N	326:UNK	C	338:UNK	N	7.23
1	P	326:UNK	C	338:UNK	N	7.23
1	l	326:UNK	C	338:UNK	N	7.23
1	n	326:UNK	C	338:UNK	N	7.23
1	Q	59:UNK	C	60:UNK	N	7.16
1	O	32:UNK	C	348:UNK	N	6.12
1	M	32:UNK	C	348:UNK	N	6.11
1	m	32:UNK	C	348:UNK	N	6.11
1	Q	464:UNK	C	465:UNK	N	3.86

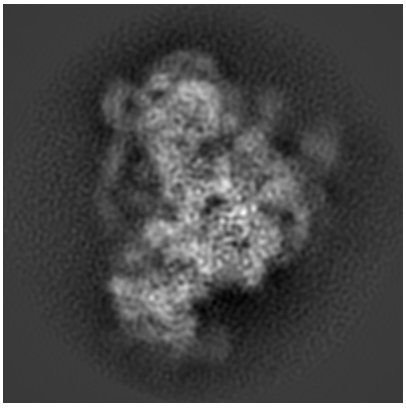
6 Map visualisation (i)

This section contains visualisations of the EMDB entry EMD-8143. These allow visual inspection of the internal detail of the map and identification of artifacts.

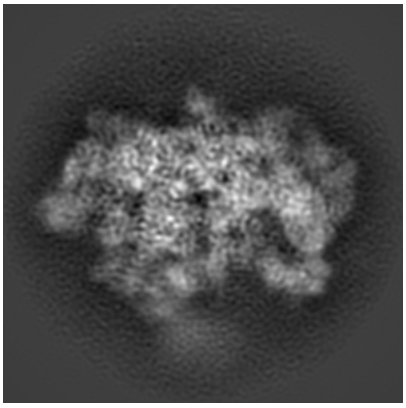
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections (i)

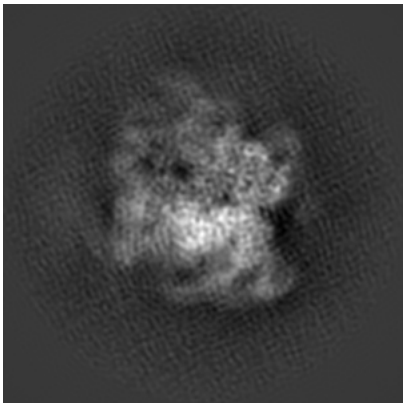
6.1.1 Primary map



X



Y

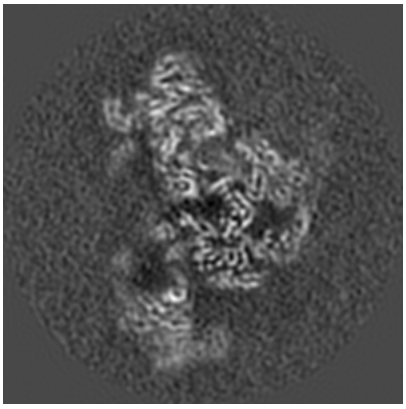


Z

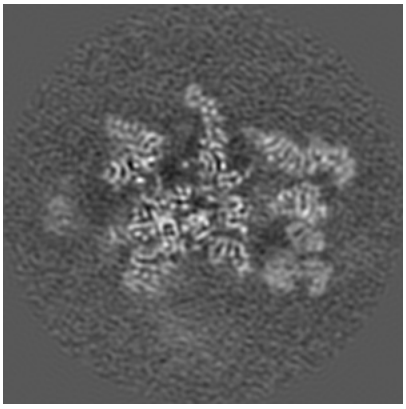
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

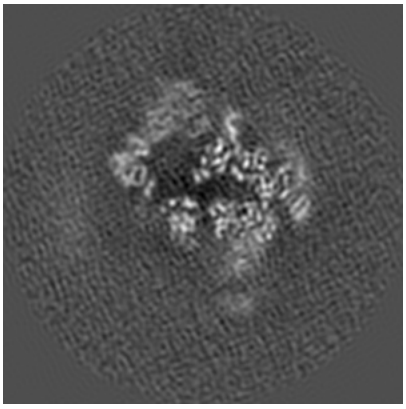
6.2.1 Primary map



X Index: 224



Y Index: 224

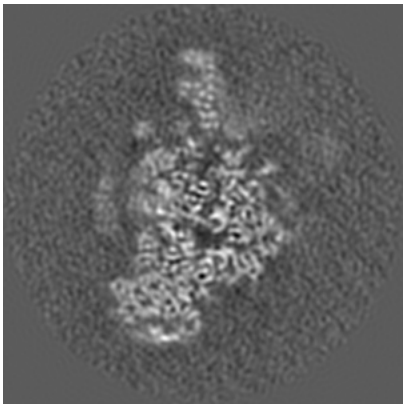


Z Index: 224

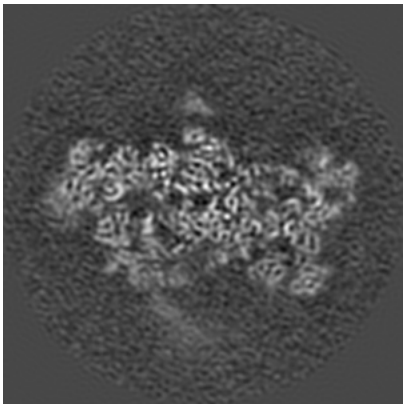
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

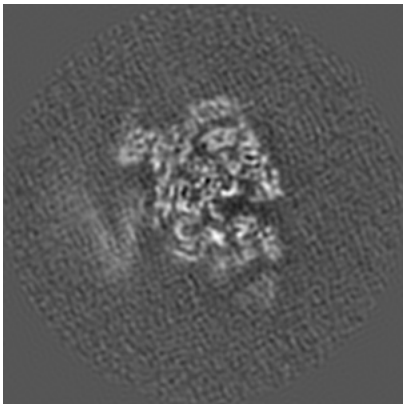
6.3.1 Primary map



X Index: 266



Y Index: 206



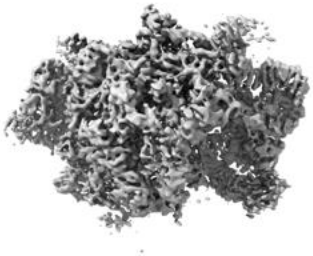
Z Index: 191

The images above show the largest variance slices of the map in three orthogonal directions.

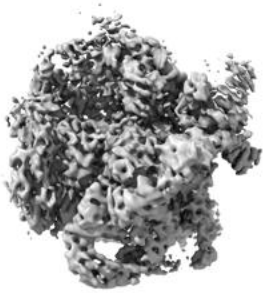
6.4 Orthogonal surface views (i)

6.4.1 Primary map

X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.025. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

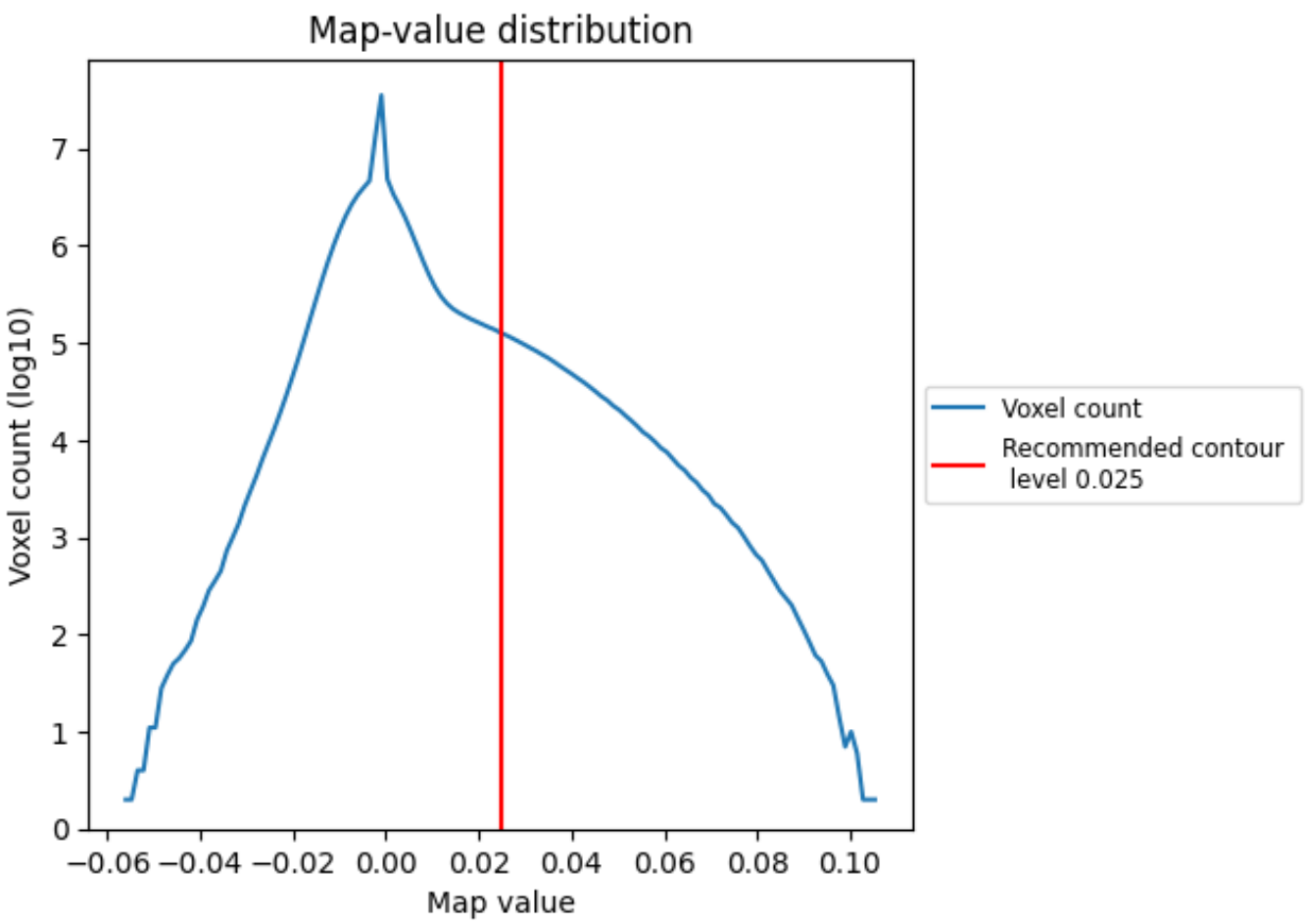
6.5 Mask visualisation (i)

This section was not generated. No masks/segmentation were deposited.

7 Map analysis (i)

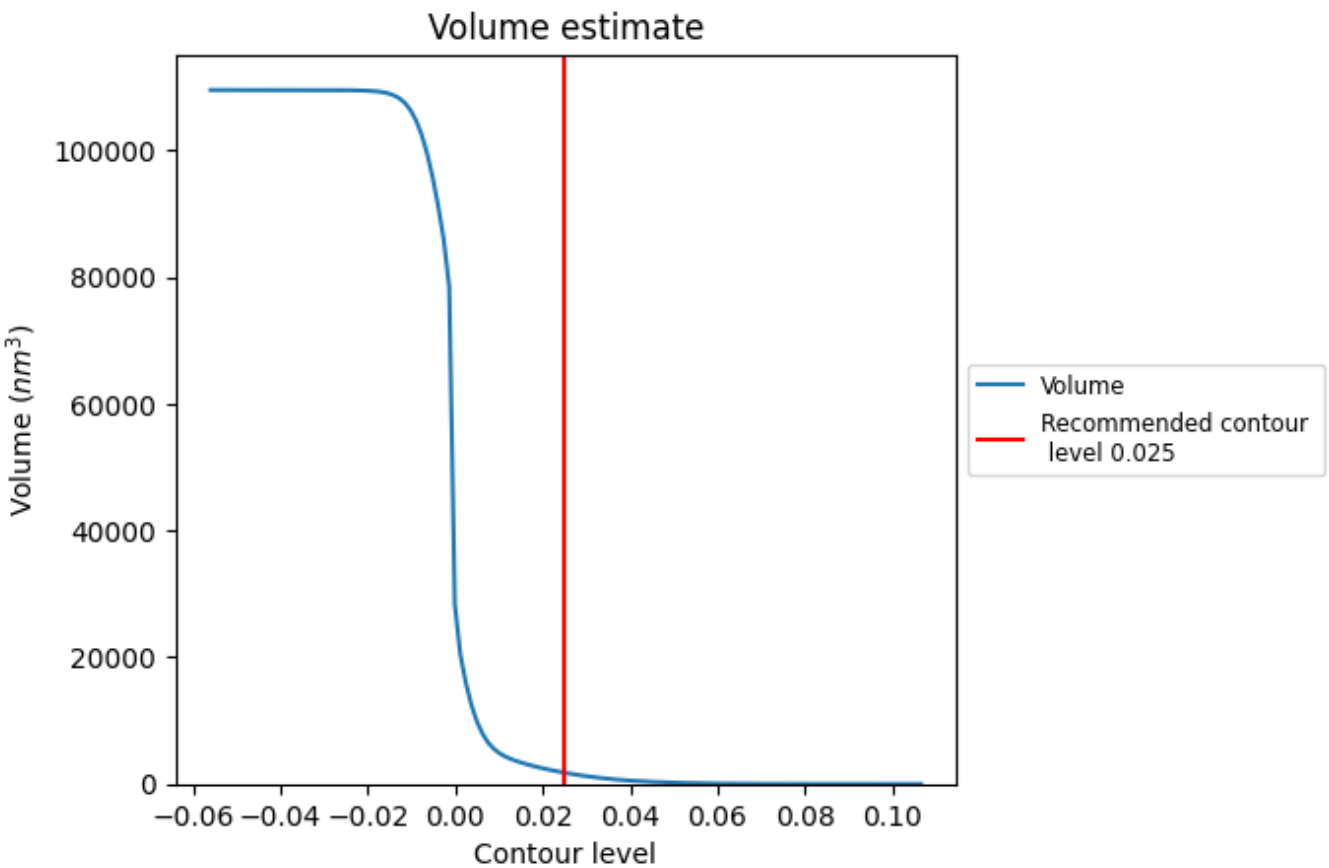
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution (i)



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

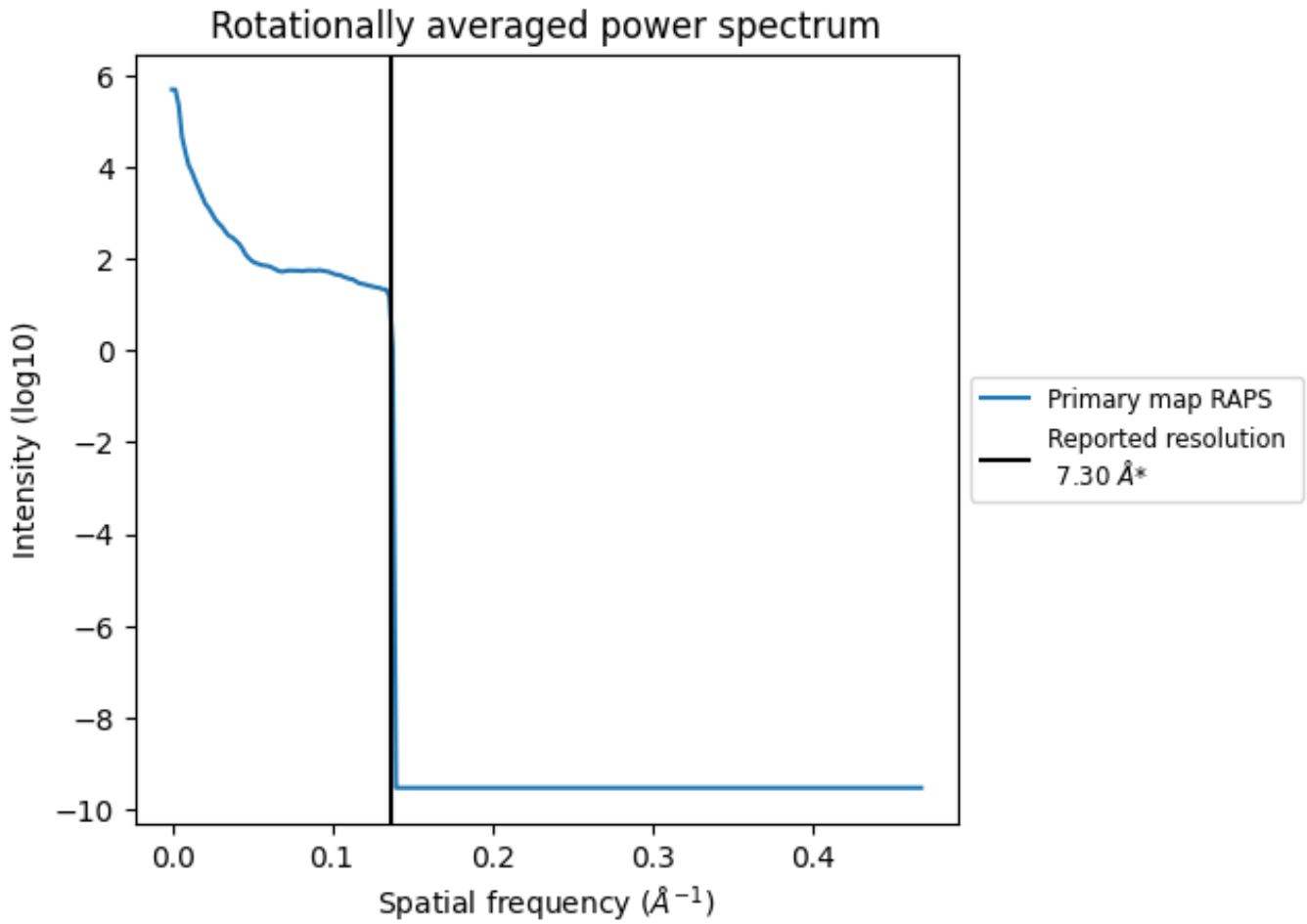
7.2 Volume estimate (i)



The volume at the recommended contour level is 1769 nm^3; this corresponds to an approximate mass of 1598 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum (i)

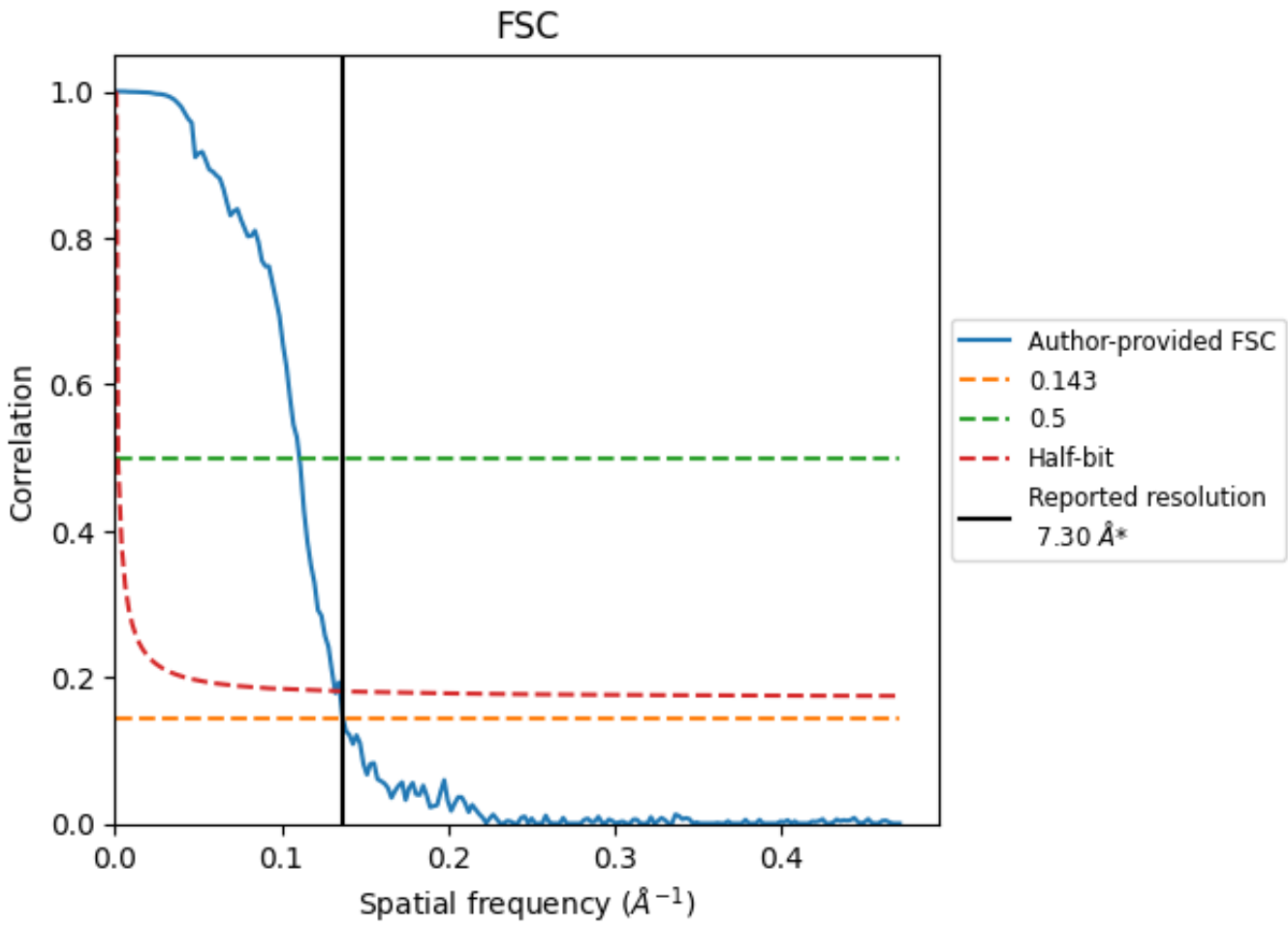


*Reported resolution corresponds to spatial frequency of 0.137 Å^{-1}

8 Fourier-Shell correlation (i)

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

8.1 FSC (i)



*Reported resolution corresponds to spatial frequency of 0.137 Å^{-1}

8.2 Resolution estimates (i)

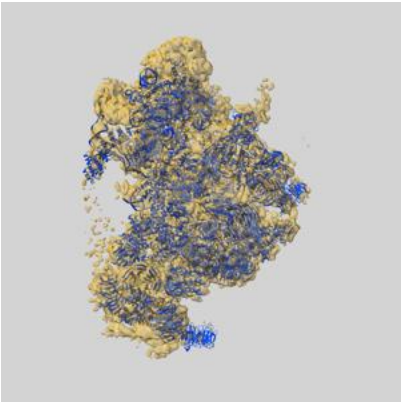
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	7.30	-	-
Author-provided FSC curve	7.30	9.03	7.56
Unmasked-calculated*	-	-	-

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps.

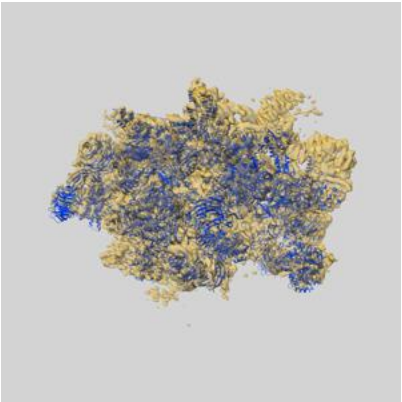
9 Map-model fit (i)

This section contains information regarding the fit between EMDB map EMD-8143 and PDB model 5JPQ. Per-residue inclusion information can be found in section 3 on page 12.

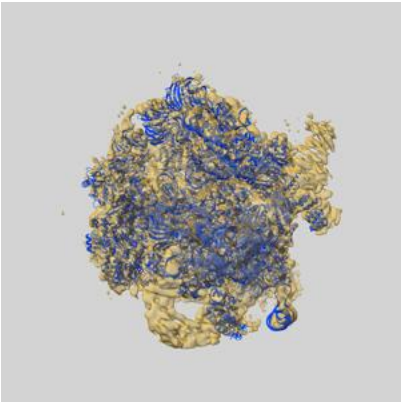
9.1 Map-model overlay (i)



X



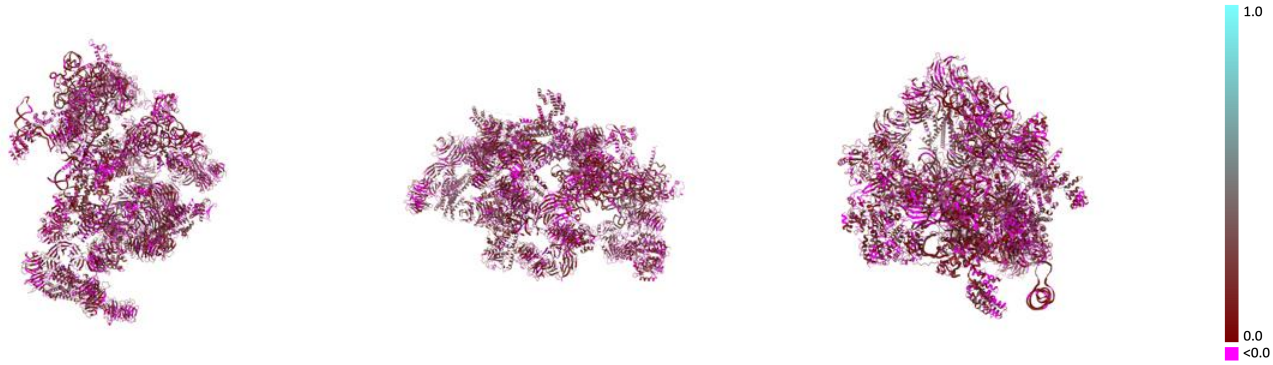
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.025 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

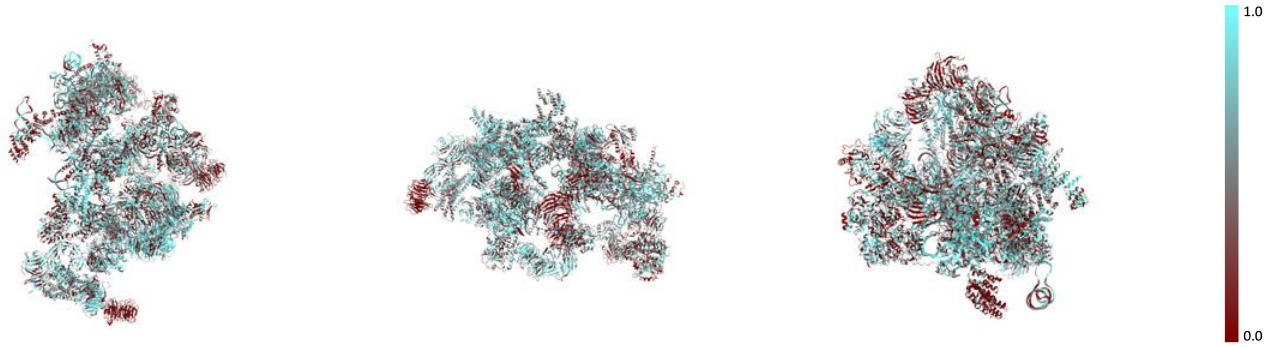
9.2 Q-score mapped to coordinate model (i)



X Y Z

The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

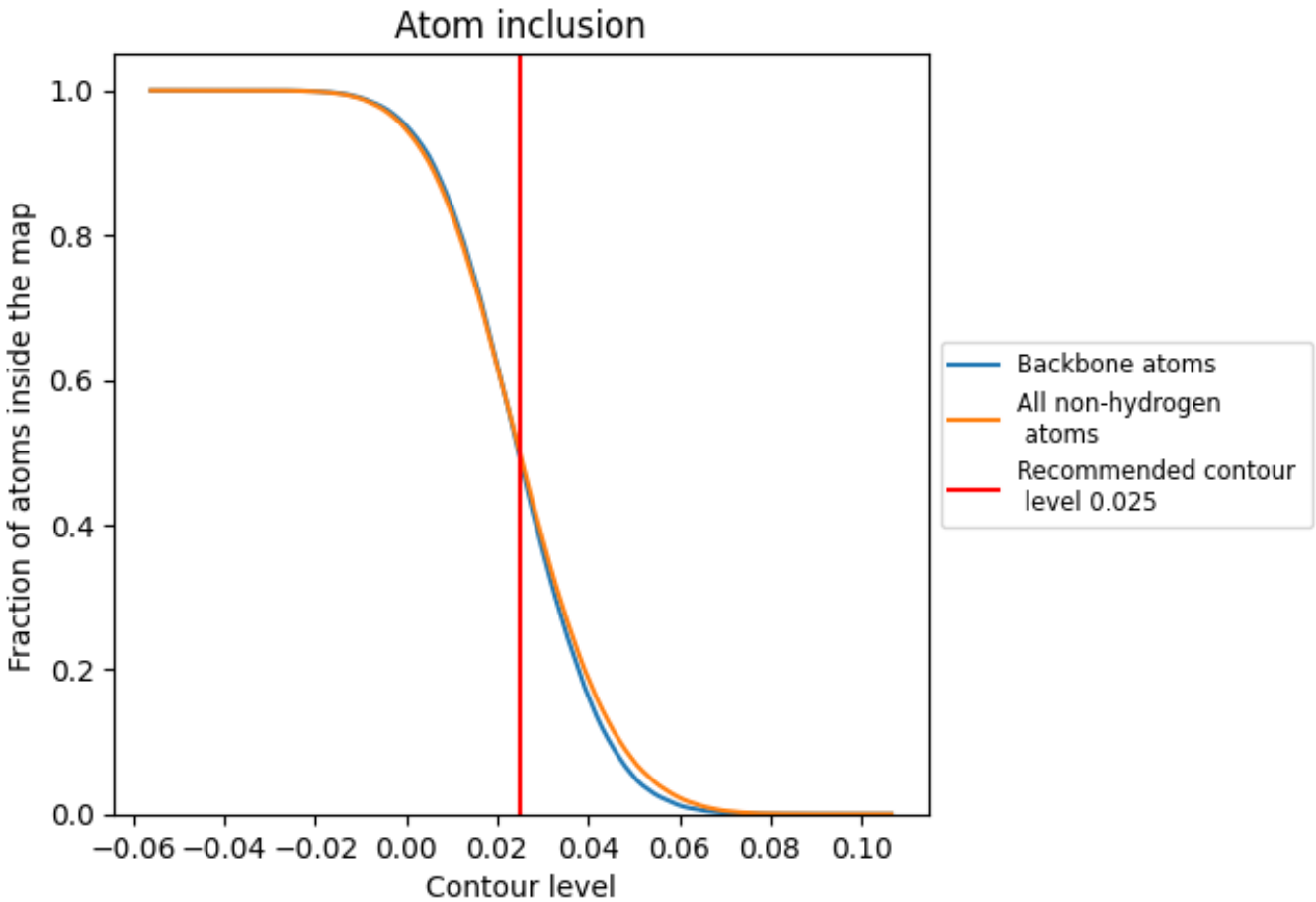
9.3 Atom inclusion mapped to coordinate model (i)



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.025).

9.4 Atom inclusion (i)



At the recommended contour level, 49% of all backbone atoms, 50% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary (i)

The table lists the average atom inclusion at the recommended contour level (0.025) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.4982	0.0970
0	0.3048	0.0260
1	0.4087	0.0650
2	0.6615	0.1280
3	0.6130	0.1220
A	0.6107	0.0820
B	0.5833	0.0830
C	0.5453	0.0770
D	0.6067	0.0980
E	0.5800	0.0960
F	0.0367	0.0420
G	0.1127	0.0640
H	0.4962	0.1840
I	0.6533	0.1260
J	0.4473	0.1170
K	0.5400	0.0860
L	0.5940	0.1300
M	0.6142	0.1110
N	0.2333	0.0800
O	0.1184	0.0390
P	0.5427	0.1060
Q	0.6011	0.1280
R	0.7247	0.2060
S	0.5240	0.1050
T	0.4567	0.0770
U	0.3582	0.0160
V	0.3449	0.0050
W	0.4004	0.0570
X	0.4600	0.0650
Y	0.5192	0.0970
Z	0.5695	0.1350
a	0.5281	0.1590
b	0.4855	0.1190
c	0.4658	0.1190
d	0.4562	0.1080

Continued on next page...

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Chain	Atom inclusion	Q-score
e	0.4718	0.1430
f	0.4801	0.1490
g	0.3554	0.0620
h	0.3438	0.0650
i	0.4084	0.0800
j	0.3612	0.0740
k	0.5392	0.1430
l	0.5987	0.1410
m	0.5476	0.0940
n	0.4407	0.0680
o	0.2979	0.0530
p	0.3622	0.0230
q	0.3373	0.0210
r	0.4370	0.0780
s	0.3024	0.0230
t	0.4474	0.0610
u	0.6242	0.1790
v	0.2138	0.0690
w	0.3270	0.0790
x	0.2401	-0.0630
y	0.3755	0.0250
z	0.3135	0.0310