



Full wwPDB EM Validation Report ⓘ

Dec 11, 2022 – 05:28 pm GMT

PDB ID : 5AJ0
EMDB ID : EMD-2875
Title : Cryo electron microscopy of actively translating human polysomes (POST state).
Authors : Behrmann, E.; Loerke, J.; Budkevich, T.V.; Yamamoto, K.; Schmidt, A.; Penczek, P.A.; Vos, M.R.; Burger, J.; Mielke, T.; Scheerer, P.; Spahn, C.M.T.
Deposited on : 2015-02-19
Resolution : 3.50 Å (reported)
Based on initial model : 4UJE

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 ⓘ 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 ⓘ](#)) 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) : 2.31.3

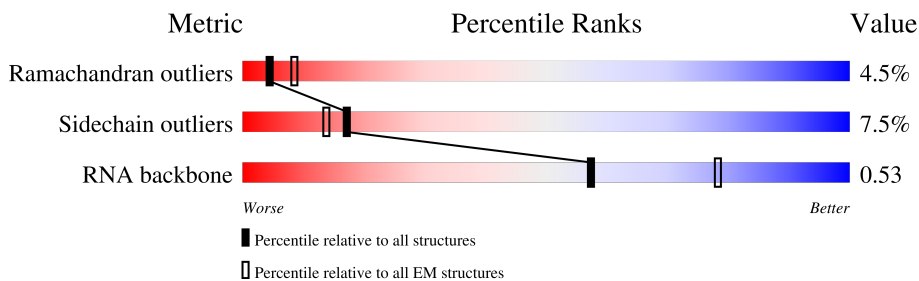
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.50 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 $\leq 5\%$. 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	A3	194	81% (Upper red bar) 46% (Green), 27% (Yellow), 8% (Orange), 19% (Grey)
2	A4	121	98% (Upper red bar) 44% (Green), 49% (Yellow), 6% (Orange), 1% (Grey)
3	AA	257	98% (Upper red bar) 92% (Green), 6% (Yellow), 2% (Orange), 1% (Grey)
4	AB	403	98% (Upper red bar) 90% (Green), 7% (Yellow), 3% (Orange), 1% (Grey)
5	AC	427	85% (Upper red bar) 76% (Green), 8% (Yellow), 15% (Grey)
6	AD	297	99% (Upper red bar) 91% (Green), 8% (Yellow), 1% (Orange), 1% (Grey)
7	AE	288	67% (Upper red bar) 46% (Green), 18% (Yellow), 33% (Grey)
8	AF	248	94% (Upper red bar) 88% (Green), 6% (Yellow), 6% (Grey)

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Mol	Chain	Length	Quality of chain
9	AG	266	88% 84% 12%
10	AH	192	99% 91% 7% ...
11	AI	214	97% 93% 5% .
12	AJ	178	95% 90% . . 5%
13	AK	317	34% 17% 11% 5% . 66%
14	AL	211	97% 82% 12% . . .
15	AM	215	65% 56% 8% 35%
16	AN	204	100% 95% 5%
17	AO	203	96% 93% . .
18	AP	184	83% 77% 6% 17%
19	AQ	188	99% 81% 16% . .
20	AR	196	92% 83% 8% . 8%
21	AS	176	99% 92% 6% . .
22	AT	160	98% 88% 11% .
23	AU	128	77% 62% 14% . 23%
24	AV	140	92% 91% . 8%
25	AW	157	77% 68% 9% 23%
26	AX	156	75% 69% 6% 25%
27	AY	145	88% 78% 10% 12%
28	AZ	136	99% 82% 14% . .
29	Aa	148	99% 90% 9% . .
30	Ab	159	43% 38% 5% 57%
31	Ac	115	90% 85% . 10%
32	Ad	125	85% 82% . 15%
33	Ae	135	96% 91% . . .

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Mol	Chain	Length	Quality of chain
34	Af	110	99% 90% 6% ...
35	Ag	117	97% 91% 6% .
36	Ah	123	99% 83% 16% .
37	Ai	105	92% 85% 8% 8%
38	Aj	97	87% 72% 12% . 13%
39	Ak	70	99% 66% 24% 9% .
40	Al	51	98% 92% 6% .
41	Am	128	39% 38% . 61%
42	An	25	100% 96% .
43	Ao	106	99% 88% 11% .
44	Ap	92	99% 93% 5% .
45	Aq	165	84% 41% 30% 11% . 16%
46	At	137	89% 74% 15% 11%
47	Au	217	100% 87% 10% . .
48	A2	5029	72% 42% 26% . 28%
49	B1	1869	91% 54% 34% . 9%
50	BA	295	73% 66% 6% . 27%
51	BB	264	80% 68% 12% 20%
52	BC	293	76% 69% 7% 24%
53	BD	243	91% 84% 6% 9%
54	BE	263	98% 90% 6% . .
55	BF	204	93% 85% 7% 7%
56	BG	249	93% 80% 14% 7%
57	BH	194	94% 90% 5% 6%
58	BI	208	100% 93% 7%

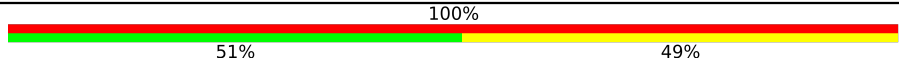

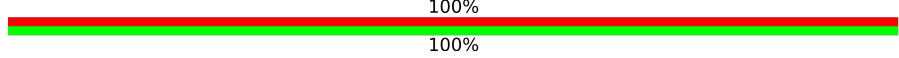
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Mol	Chain	Length	Quality of chain
59	BJ	194	92% 81% 10% 8%
60	BK	165	59% 54% 41%
61	BL	158	97% 89% 8%
62	BM	132	91% 87% 9%
63	BN	151	99% 86% 12%
64	BO	151	90% 79% 10% 10%
65	BP	145	83% 65% 12% 17%
66	BQ	146	95% 79% 14% 5%
67	BR	135	93% 74% 15% 7%
68	BS	152	91% 77% 14% 9%
69	BT	145	99% 88% 10%
70	BU	119	82% 75% 7% 18%
71	BV	83	98% 89% 8%
72	BW	130	99% 92% 5%
73	BX	143	97% 86% 10%
74	BY	133	94% 90% 6%
75	BZ	125	69% 52% 17% 31%
76	Ba	115	84% 76% 8% 16%
77	Bb	84	95% 93% 5%
78	Bc	69	90% 84% 10%
79	Bd	56	91% 71% 18% 9%
80	Be	59	93% 80% 14% 7%
81	Bf	156	47% 46% 53%
82	Bg	317	99% 96%
83	Bv	76	100% 46% 51%

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Mol	Chain	Length	Quality of chain
83	Bw	76	 <p>100% 51% 49%</p>
84	Bx	28	 <p>100% 18% 82%</p>
85	By	24	 <p>100% 100%</p>

2 Entry composition [i](#)

There are 87 unique types of molecules in this entry. The entry contains 218559 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 RNA chain called 5.8S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
1	A3	157	3337	1489	587	1104	157	0	0

- Molecule 2 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
2	A4	119	2541	1132	454	836	119	0	0

- Molecule 3 is a protein called 60S ribosomal protein L8.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	AA	252	1930	1209	395	320	6	0	0

- Molecule 4 is a protein called 60S ribosomal protein L3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	AB	394	3178	2024	596	544	14	0	0

- Molecule 5 is a protein called 60S ribosomal protein L4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	AC	363	2888	1817	577	480	14	0	0

- Molecule 6 is a protein called 60S ribosomal protein L5.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	AD	294	2392	1510	436	432	14	0	0

- Molecule 7 is a protein called 60S ribosomal protein L6.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
7	AE	194	1571	1013	294	263	1	0	0

- Molecule 8 is a protein called 60S ribosomal protein L7.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
8	AF	234	1950	1252	376	313	9	0	0

- Molecule 9 is a protein called 60S ribosomal protein L7a.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
9	AG	234	1880	1197	362	317	4	0	0

- Molecule 10 is a protein called 60S ribosomal protein L9.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
10	AH	191	1526	960	285	275	6	0	0

- Molecule 11 is a protein called 60S ribosomal protein L10.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
11	AI	208	1692	1074	327	278	13	0	0

- Molecule 12 is a protein called 60S ribosomal protein L11.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
12	AJ	169	1353	855	252	240	6	0	0

- Molecule 13 is a protein called 60S acidic ribosomal protein P0.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
13	AK	109	872	554	159	151	8	0	0

- Molecule 14 is a protein called 60S ribosomal protein L13.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	AL	205	Total	C	N	O	S	0	0
			1657	1036	344	273	4		

- Molecule 15 is a protein called 60S ribosomal protein L14.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	AM	139	Total	C	N	O	S	0	0
			1138	730	218	183	7		

- Molecule 16 is a protein called 60S ribosomal protein L15.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	AN	203	Total	C	N	O	S	0	0
			1701	1072	359	266	4		

- Molecule 17 is a protein called 60S ribosomal protein L13a.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	AO	195	Total	C	N	O	S	0	0
			1606	1034	315	252	5		

- Molecule 18 is a protein called 60S ribosomal protein L17.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	AP	153	Total	C	N	O	S	0	0
			1242	776	241	216	9		

- Molecule 19 is a protein called 60S ribosomal protein L18.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	AQ	187	Total	C	N	O	S	0	0
			1513	944	314	250	5		

- Molecule 20 is a protein called 60S ribosomal protein L19.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	AR	181	Total	C	N	O	S	0	0
			1517	938	329	241	9		

- Molecule 21 is a protein called 60S ribosomal protein L18a.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
21	AS	175	1449	921	283	234	11	0	0

- Molecule 22 is a protein called 60S ribosomal protein L21.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
22	AT	157	1284	815	250	214	5	0	0

- Molecule 23 is a protein called 60S ribosomal protein L22.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
23	AU	99	808	518	141	147	2	0	0

- Molecule 24 is a protein called 60S ribosomal protein L23.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
24	AV	129	969	613	182	169	5	0	0

- Molecule 25 is a protein called 60S ribosomal protein L24.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
25	AW	121	989	617	202	167	3	0	0

- Molecule 26 is a protein called 60S ribosomal protein L23a.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
26	AX	117	958	612	180	165	1	0	0

- Molecule 27 is a protein called 60S ribosomal protein L26.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
27	AY	127	1064	668	216	177	3	0	0

- Molecule 28 is a protein called 60S ribosomal protein L27.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
28	AZ	134	1103	712	207	181	3	0	0

- Molecule 29 is a protein called 60S ribosomal protein L27a.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
29	Aa	147	1162	736	237	186	3	0	0

- Molecule 30 is a protein called 60S ribosomal protein L29.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
30	Ab	68	559	344	122	90	3	0	0

- Molecule 31 is a protein called 60S ribosomal protein L30.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
31	Ac	103	801	508	141	145	7	0	0

- Molecule 32 is a protein called 60S ribosomal protein L31.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
32	Ad	106	879	555	170	152	2	0	0

- Molecule 33 is a protein called 60S ribosomal protein L32.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
33	Ae	129	1064	673	220	166	5	0	0

- Molecule 34 is a protein called 60S ribosomal protein L35a.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
34	Af	109	876	555	174	144	3	0	0

- Molecule 35 is a protein called 60S ribosomal protein L34.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
35	Ag	114	906	566	187	147	6	0	0

- Molecule 36 is a protein called 60S ribosomal protein L35.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
36	Ah	122	1015	641	205	168	1	0	0

- Molecule 37 is a protein called 60S ribosomal protein L36.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
37	Ai	97	794	497	168	124	5	0	0

- Molecule 38 is a protein called 60S ribosomal protein L37.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
38	Aj	84	689	423	152	109	5	0	0

- Molecule 39 is a protein called 60S ribosomal protein L38.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
39	Ak	69	569	366	103	99	1	0	0

- Molecule 40 is a protein called 60S ribosomal protein L39.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
40	Al	50	444	281	98	64	1	0	0

- Molecule 41 is a protein called Ubiquitin-60S ribosomal protein L40.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
41	Am	50	411	254	87	64	6	0	0

- Molecule 42 is a protein called 60S ribosomal protein L41.

Mol	Chain	Residues	Atoms					AltConf	Trace
42	An	25	Total	C	N	O	S	0	0
			240	145	64	28	3		

- Molecule 43 is a protein called 60S ribosomal protein L36a.

Mol	Chain	Residues	Atoms					AltConf	Trace
43	Ao	105	Total	C	N	O	S	0	0
			863	542	175	140	6		

- Molecule 44 is a protein called 60S ribosomal protein L37a.

Mol	Chain	Residues	Atoms					AltConf	Trace
44	Ap	91	Total	C	N	O	S	0	0
			708	445	136	120	7		

- Molecule 45 is a protein called 60S ribosomal protein L12.

Mol	Chain	Residues	Atoms					AltConf	Trace
45	Aq	138	Total	C	N	O	S	0	0
			1046	654	196	193	3		

- Molecule 46 is a protein called 60S ribosomal protein L28.

Mol	Chain	Residues	Atoms					AltConf	Trace
46	At	122	Total	C	N	O	S	0	0
			980	607	204	165	4		

- Molecule 47 is a protein called 60S ribosomal protein L10a.

Mol	Chain	Residues	Atoms					AltConf	Trace
47	Au	217	Total	C	N	O	S	0	0
			1744	1114	314	307	9		

- Molecule 48 is a RNA chain called 28S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
48	A2	3612	Total	C	N	O	P	0	0
			77427	34482	14158	25175	3612		

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A2	245	C	-	insertion	GB 337381
A2	246	C	-	insertion	GB 337381
A2	247	C	-	insertion	GB 337381
A2	4684	G	-	insertion	GB 337381

- Molecule 49 is a RNA chain called 18S ribosomal RNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
49	B1	1708	36456	16274	6546	11928	1708	0	0

- Molecule 50 is a protein called 40S ribosomal protein SA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
50	BA	215	1704	1083	298	315	8	0	0

- Molecule 51 is a protein called 40S ribosomal protein S3a.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
51	BB	212	1722	1093	308	307	14	0	0

- Molecule 52 is a protein called 40S ribosomal protein S2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
52	BC	222	1724	1114	296	304	10	0	0

- Molecule 53 is a protein called 40S ribosomal protein S3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
53	BD	220	1709	1090	308	304	7	0	0

- Molecule 54 is a protein called 40S ribosomal protein S4, Y isoform 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
54	BE	257	2031	1298	381	344	8	0	0

- Molecule 55 is a protein called 40S ribosomal protein S5.

Mol	Chain	Residues	Atoms					AltConf	Trace
55	BF	190	Total	C	N	O	S	0	0
			1502	939	285	271	7		

- Molecule 56 is a protein called 40S ribosomal protein S6.

Mol	Chain	Residues	Atoms					AltConf	Trace
56	BG	232	Total	C	N	O	S	0	0
			1884	1176	379	322	7		

- Molecule 57 is a protein called 40S ribosomal protein S7.

Mol	Chain	Residues	Atoms					AltConf	Trace
57	BH	183	Total	C	N	O	S	0	0
			1479	941	272	265	1		

- Molecule 58 is a protein called 40S ribosomal protein S8.

Mol	Chain	Residues	Atoms					AltConf	Trace
58	BI	207	Total	C	N	O	S	0	0
			1696	1064	334	293	5		

- Molecule 59 is a protein called 40S ribosomal protein S9.

Mol	Chain	Residues	Atoms					AltConf	Trace
59	BJ	179	Total	C	N	O	S	0	0
			1495	953	299	241	2		

- Molecule 60 is a protein called 40S ribosomal protein S10.

Mol	Chain	Residues	Atoms					AltConf	Trace
60	BK	98	Total	C	N	O	S	0	0
			827	539	148	134	6		

- Molecule 61 is a protein called 40S ribosomal protein S11.

Mol	Chain	Residues	Atoms					AltConf	Trace
61	BL	153	Total	C	N	O	S	0	0
			1258	804	235	213	6		

- Molecule 62 is a protein called 40S ribosomal protein S12.

Mol	Chain	Residues	Atoms					AltConf	Trace
62	BM	120	Total	C	N	O	S	0	0
			931	584	164	174	9		

- Molecule 63 is a protein called 40S ribosomal protein S13.

Mol	Chain	Residues	Atoms					AltConf	Trace
63	BN	149	Total	C	N	O	S	0	0
			1202	770	228	203	1		

- Molecule 64 is a protein called 40S ribosomal protein S14.

Mol	Chain	Residues	Atoms					AltConf	Trace
64	BO	136	Total	C	N	O	S	0	0
			1016	621	199	190	6		

- Molecule 65 is a protein called 40S ribosomal protein S15.

Mol	Chain	Residues	Atoms					AltConf	Trace
65	BP	120	Total	C	N	O	S	0	0
			999	636	188	168	7		

- Molecule 66 is a protein called 40S ribosomal protein S16.

Mol	Chain	Residues	Atoms					AltConf	Trace
66	BQ	139	Total	C	N	O	S	0	0
			1109	704	210	192	3		

- Molecule 67 is a protein called 40S ribosomal protein S17-like.

Mol	Chain	Residues	Atoms					AltConf	Trace
67	BR	125	Total	C	N	O	S	0	0
			1011	634	187	186	4		

- Molecule 68 is a protein called 40S ribosomal protein S18.

Mol	Chain	Residues	Atoms					AltConf	Trace
68	BS	139	Total	C	N	O	S	0	0
			1154	725	233	195	1		

- Molecule 69 is a protein called 40S ribosomal protein S19.

Mol	Chain	Residues	Atoms					AltConf	Trace
69	BT	143	Total	C	N	O	S	0	0
			1112	697	214	198	3		

- Molecule 70 is a protein called 40S ribosomal protein S20.

Mol	Chain	Residues	Atoms					AltConf	Trace
70	BU	97	Total	C	N	O	S	0	0
			769	483	144	138	4		

- Molecule 71 is a protein called 40S ribosomal protein S21.

Mol	Chain	Residues	Atoms					AltConf	Trace
71	BV	81	Total	C	N	O	S	0	0
			617	380	114	118	5		

- Molecule 72 is a protein called 40S ribosomal protein S15a.

Mol	Chain	Residues	Atoms					AltConf	Trace
72	BW	129	Total	C	N	O	S	0	0
			1034	659	193	176	6		

- Molecule 73 is a protein called 40S ribosomal protein S23.

Mol	Chain	Residues	Atoms					AltConf	Trace
73	BX	139	Total	C	N	O	S	0	0
			1080	682	214	181	3		

- Molecule 74 is a protein called 40S ribosomal protein S24.

Mol	Chain	Residues	Atoms					AltConf	Trace
74	BY	125	Total	C	N	O	S	0	0
			1015	642	199	169	5		

- Molecule 75 is a protein called 40S ribosomal protein S25.

Mol	Chain	Residues	Atoms					AltConf	Trace
75	BZ	86	Total	C	N	O	S	0	0
			688	442	129	116	1		

- Molecule 76 is a protein called 40S ribosomal protein S26.

Mol	Chain	Residues	Atoms					AltConf	Trace
76	Ba	97	Total	C	N	O	S	0	0
			774	481	160	128	5		

- Molecule 77 is a protein called 40S ribosomal protein S27.

Mol	Chain	Residues	Atoms					AltConf	Trace
77	Bb	80	Total	C	N	O	S	0	0
			625	391	116	111	7		

- Molecule 78 is a protein called 40S ribosomal protein S28.

Mol	Chain	Residues	Atoms					AltConf	Trace
78	Bc	62	Total	C	N	O	S	0	0
			488	297	97	92	2		

- Molecule 79 is a protein called 40S ribosomal protein S29.

Mol	Chain	Residues	Atoms					AltConf	Trace
79	Bd	51	Total	C	N	O	S	0	0
			427	269	87	66	5		

- Molecule 80 is a protein called 40S ribosomal protein S30.

Mol	Chain	Residues	Atoms					AltConf	Trace
80	Be	55	Total	C	N	O	S	0	0
			437	272	96	68	1		

- Molecule 81 is a protein called Ubiquitin-40S ribosomal protein S27a.

Mol	Chain	Residues	Atoms					AltConf	Trace
81	Bf	73	Total	C	N	O	S	0	0
			601	379	115	100	7		

- Molecule 82 is a protein called Guanine nucleotide-binding protein subunit beta-2-like 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
82	Bg	314	Total	C	N	O	S	0	0
			2440	1537	425	466	12		

- Molecule 83 is a RNA chain called tRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
83	Bv	76	Total	C	N	O	P	0	0
			1623	723	290	534	76		
83	Bw	76	Total	C	N	O	P	0	0
			1623	723	290	534	76		

- Molecule 84 is a RNA chain called mRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
84	Bx	28	Total	C	N	O	P	0	0
			561	252	56	225	28		

- Molecule 85 is a protein called Nascent protein chain.

Mol	Chain	Residues	Atoms				AltConf	Trace
85	By	24	Total	C	N	O	0	0
			120	72	24	24		

- Molecule 86 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
86	A3	8	Total	Mg	0
			8	8	
86	A4	9	Total	Mg	0
			9	9	
86	AA	1	Total	Mg	0
			1	1	
86	AB	2	Total	Mg	0
			2	2	
86	AN	2	Total	Mg	0
			2	2	
86	AY	1	Total	Mg	0
			1	1	
86	Aa	3	Total	Mg	0
			3	3	
86	Ae	2	Total	Mg	0
			2	2	
86	An	1	Total	Mg	0
			1	1	
86	A2	220	Total	Mg	0
			220	220	
86	B1	72	Total	Mg	0
			72	72	

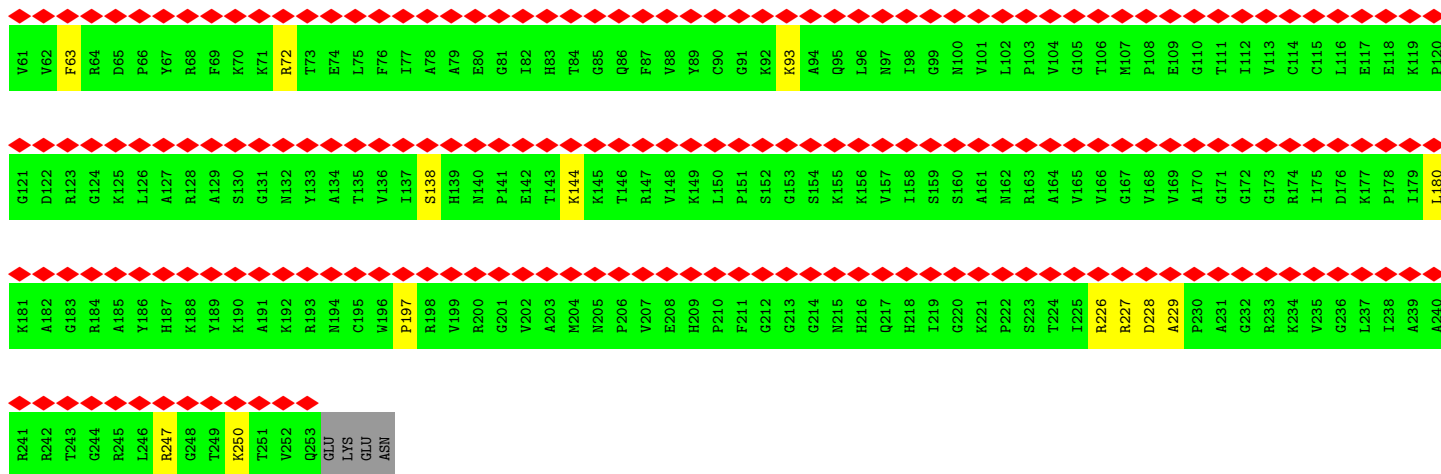
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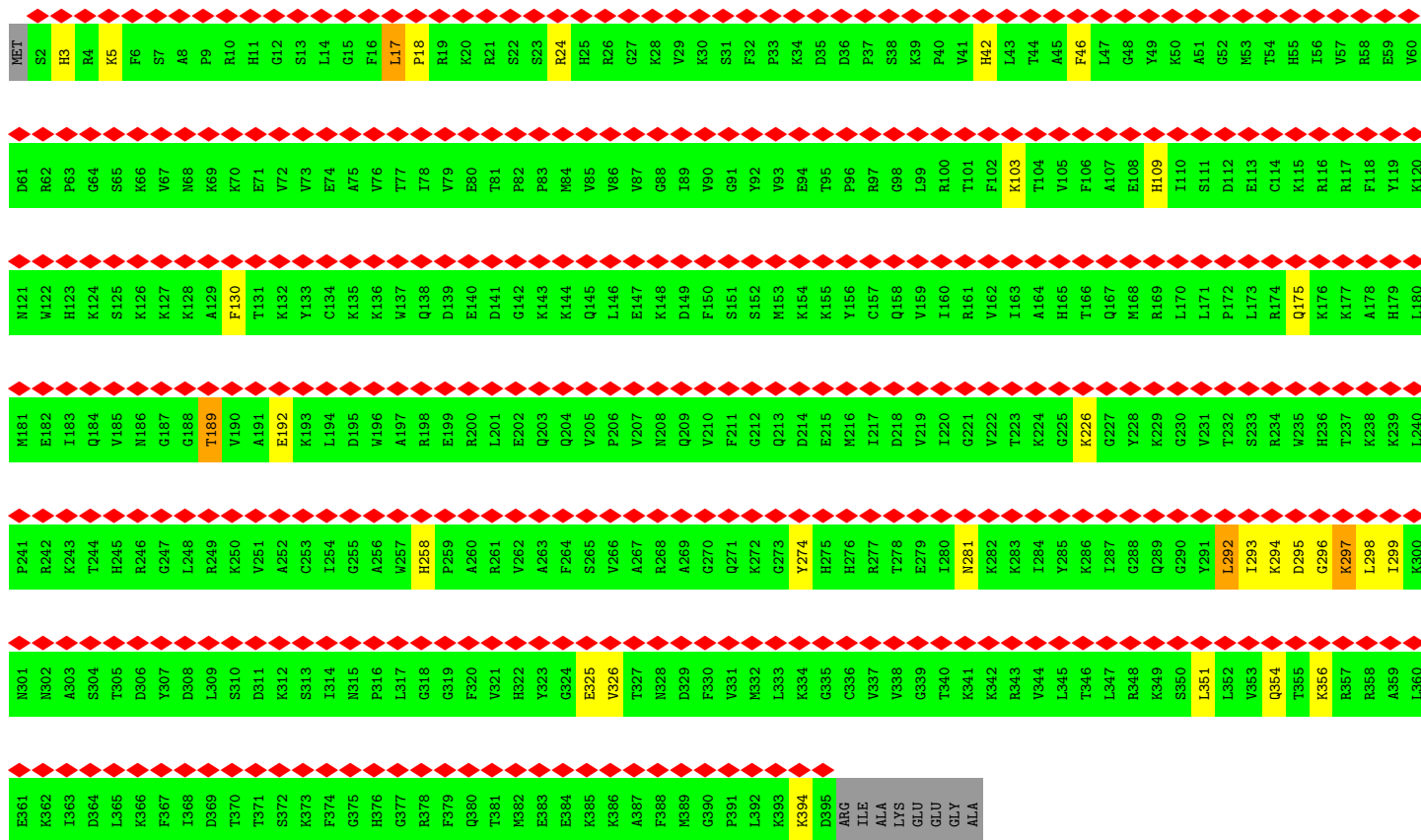
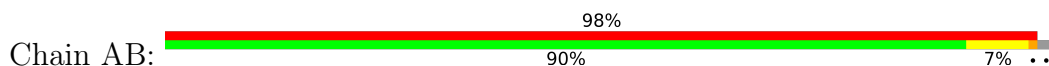
Mol	Chain	Residues	Atoms		AltConf
86	BD	1	Total 1	Mg 1	0
86	BX	1	Total 1	Mg 1	0
86	Bv	2	Total 2	Mg 2	0
86	Bx	1	Total 1	Mg 1	0

- Molecule 87 is ZINC ION (three-letter code: ZN) (formula: Zn).

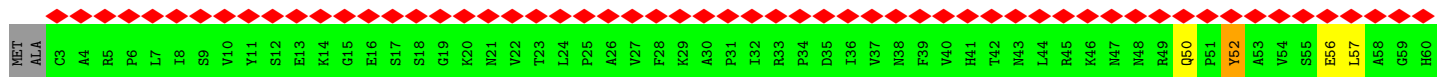
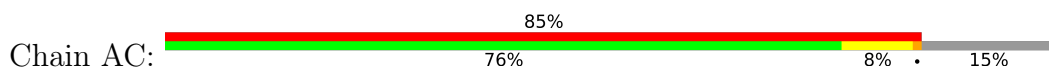
Mol	Chain	Residues	Atoms		AltConf
87	Aj	1	Total 1	Zn 1	0
87	Ao	1	Total 1	Zn 1	0
87	Ap	1	Total 1	Zn 1	0
87	Ba	1	Total 1	Zn 1	0
87	Bd	1	Total 1	Zn 1	0

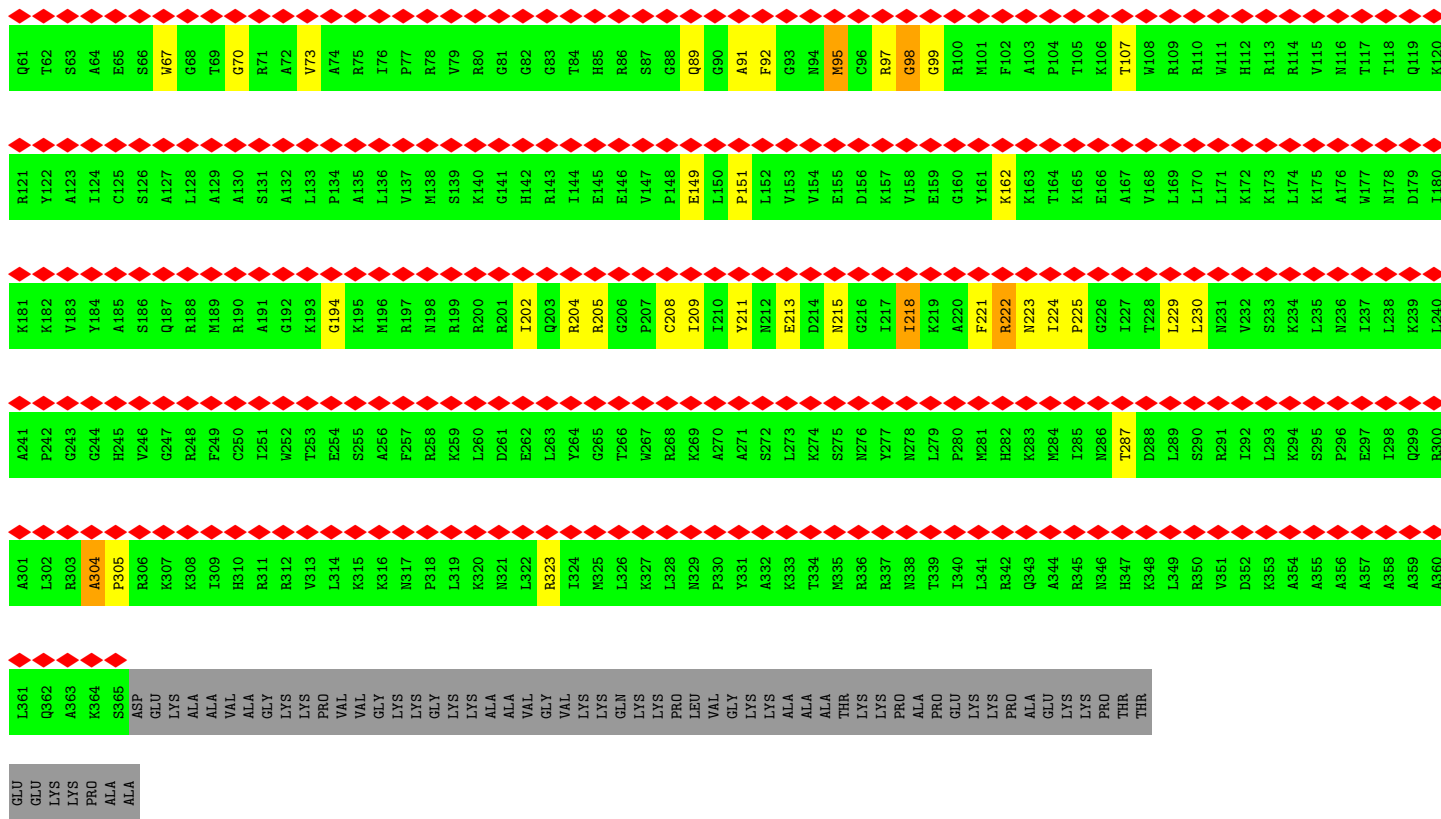


• Molecule 4: 60S ribosomal protein L3

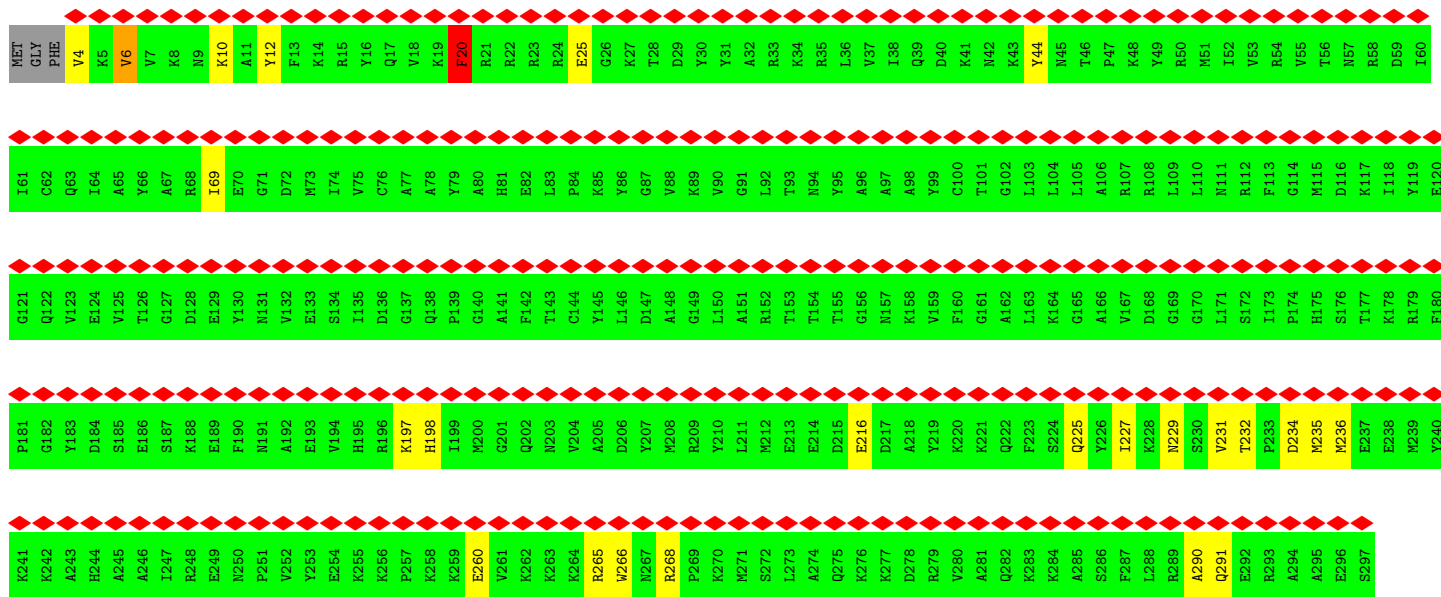
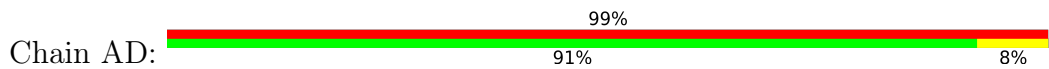


• Molecule 5: 60S ribosomal protein L4



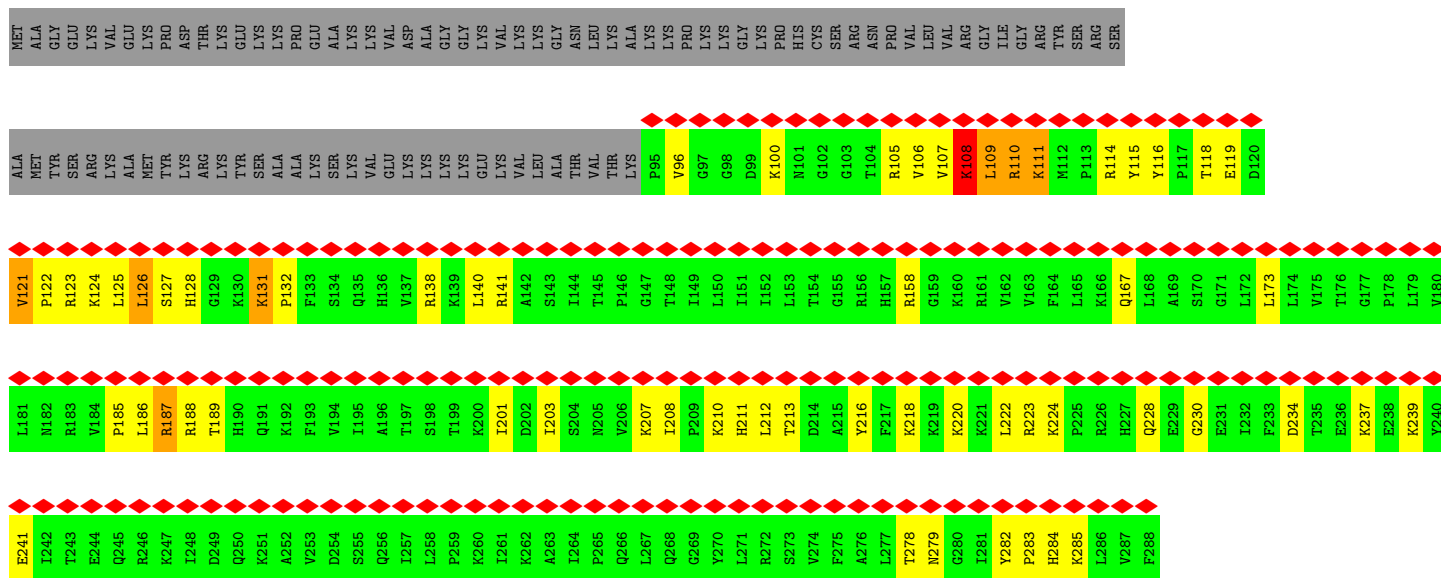


• Molecule 6: 60S ribosomal protein L5

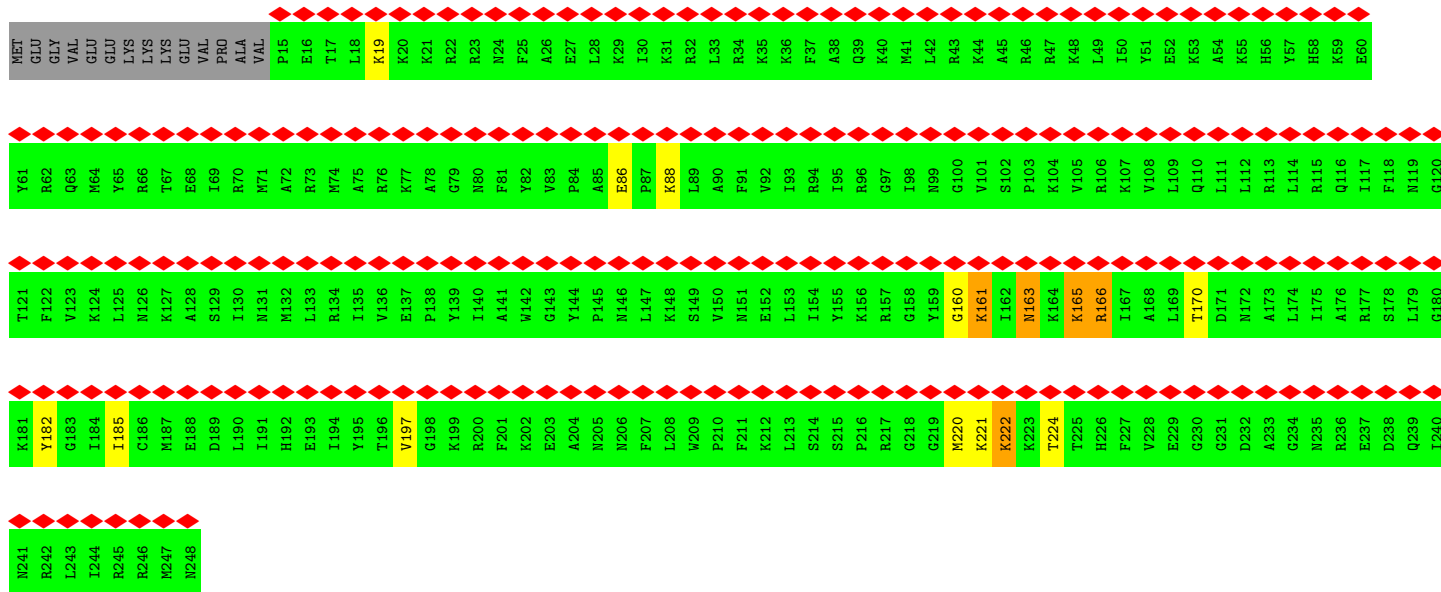
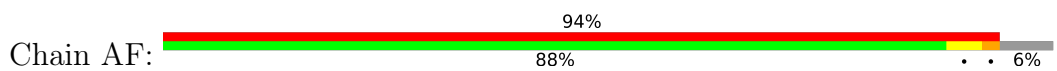


• Molecule 7: 60S ribosomal protein L6

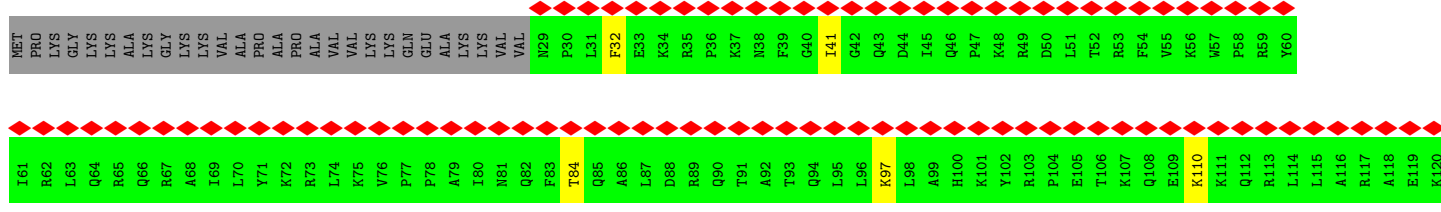
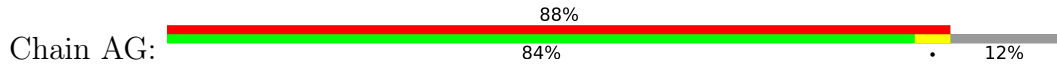


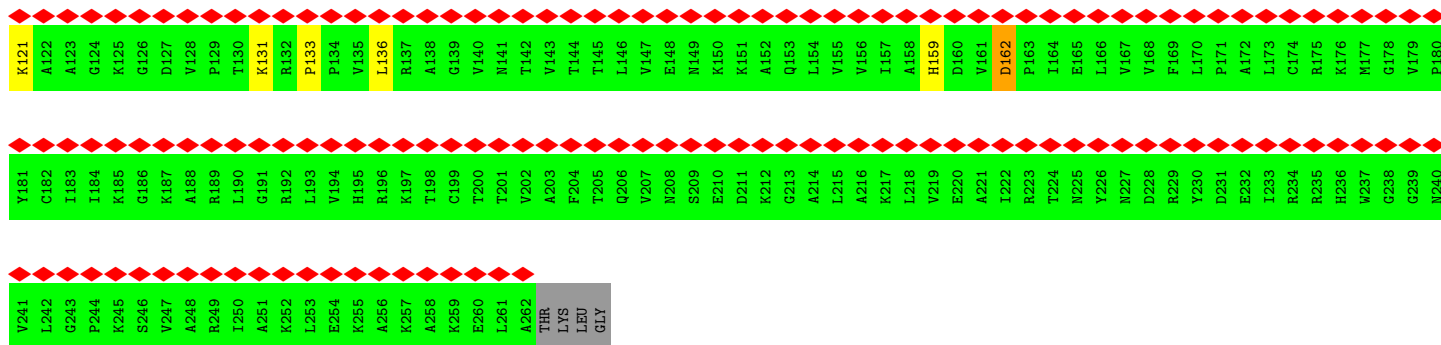


• Molecule 8: 60S ribosomal protein L7

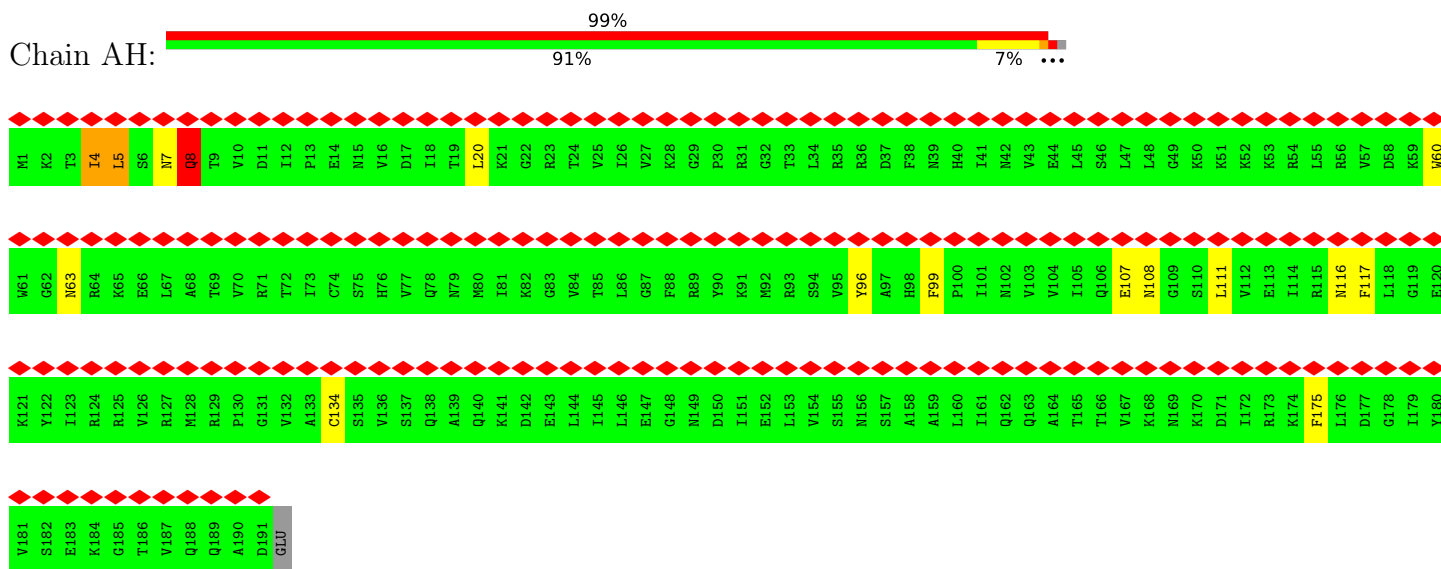


• Molecule 9: 60S ribosomal protein L7a

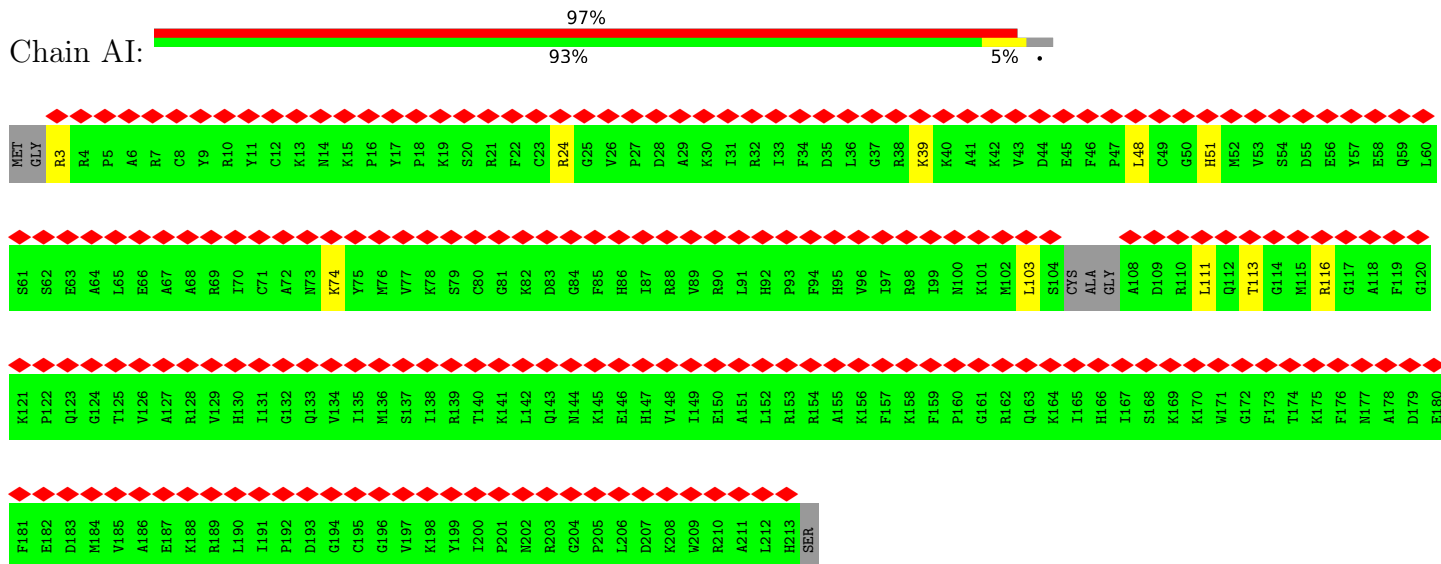




• Molecule 10: 60S ribosomal protein L9

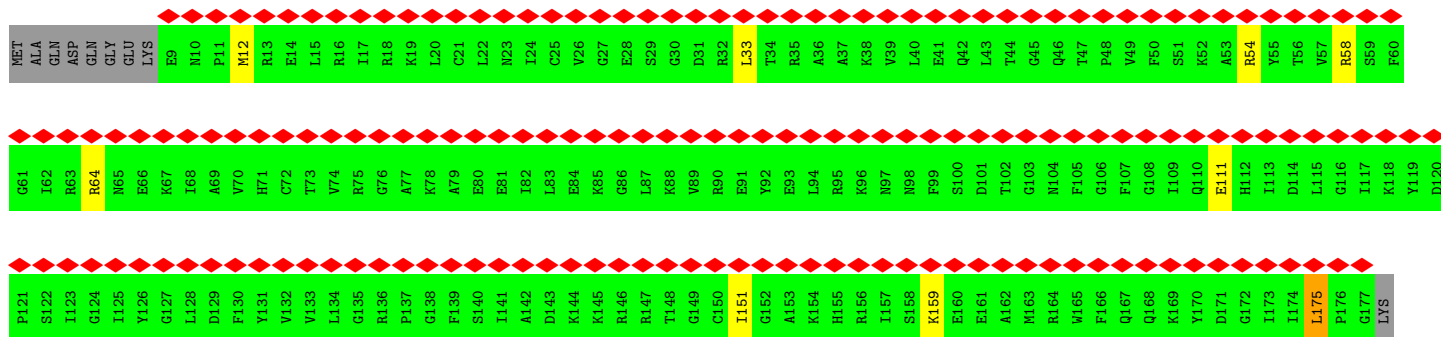


• Molecule 11: 60S ribosomal protein L10

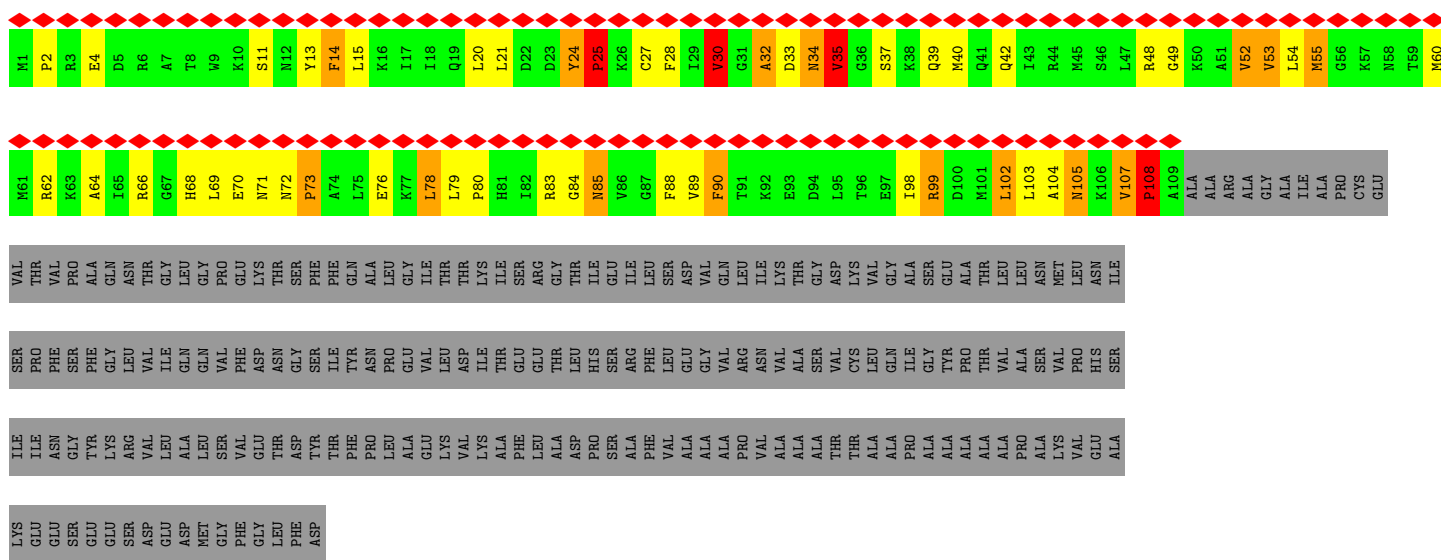


• Molecule 12: 60S ribosomal protein L11

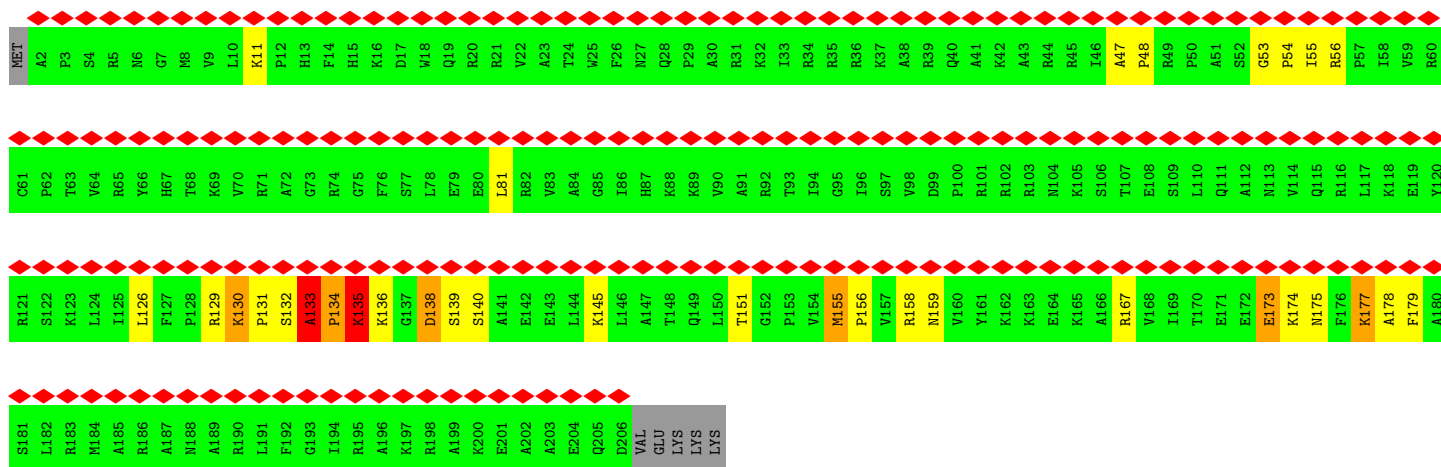
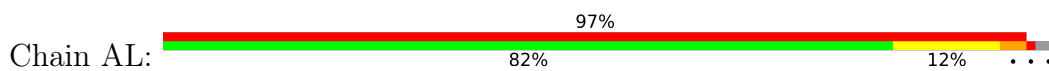




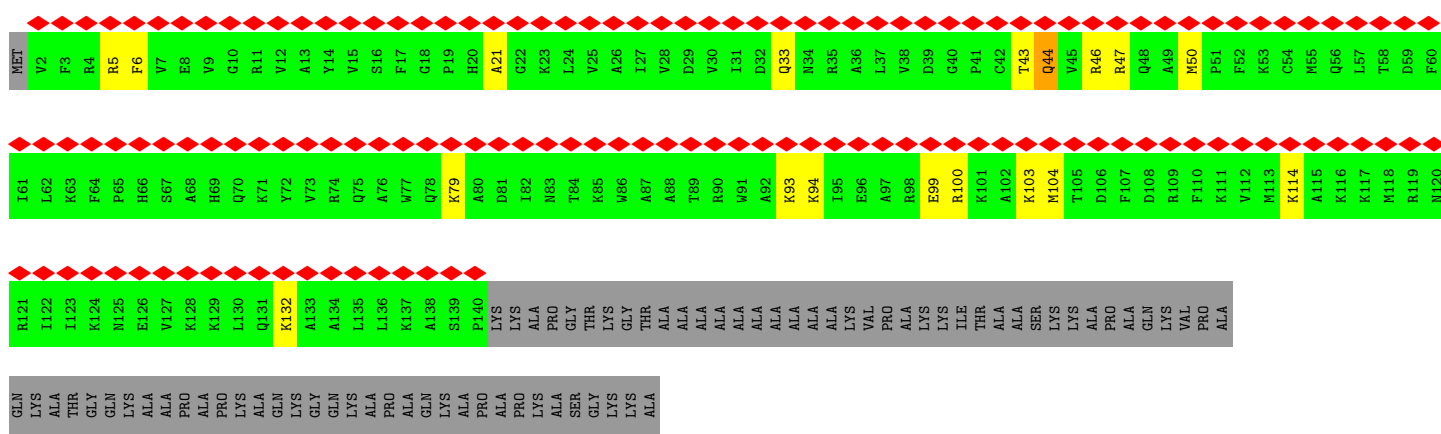
• Molecule 13: 60S acidic ribosomal protein P0



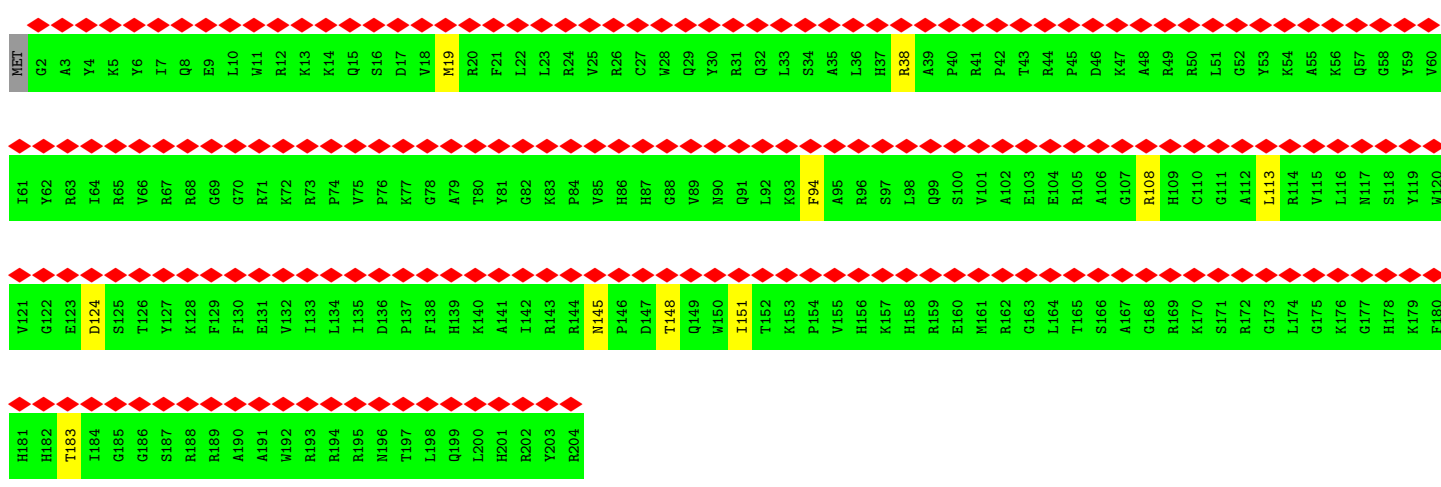
• Molecule 14: 60S ribosomal protein L13



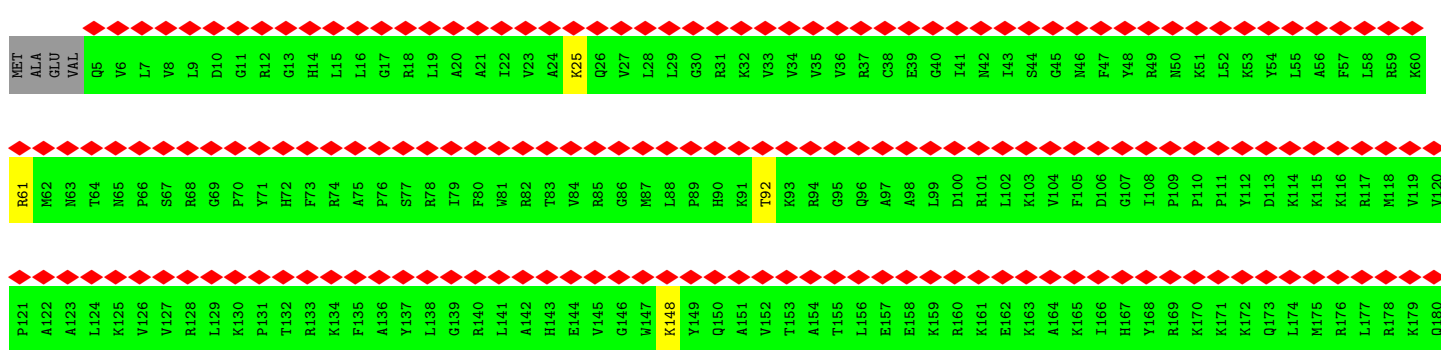
• Molecule 15: 60S ribosomal protein L14

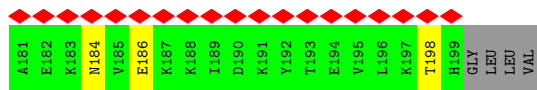


• Molecule 16: 60S ribosomal protein L15

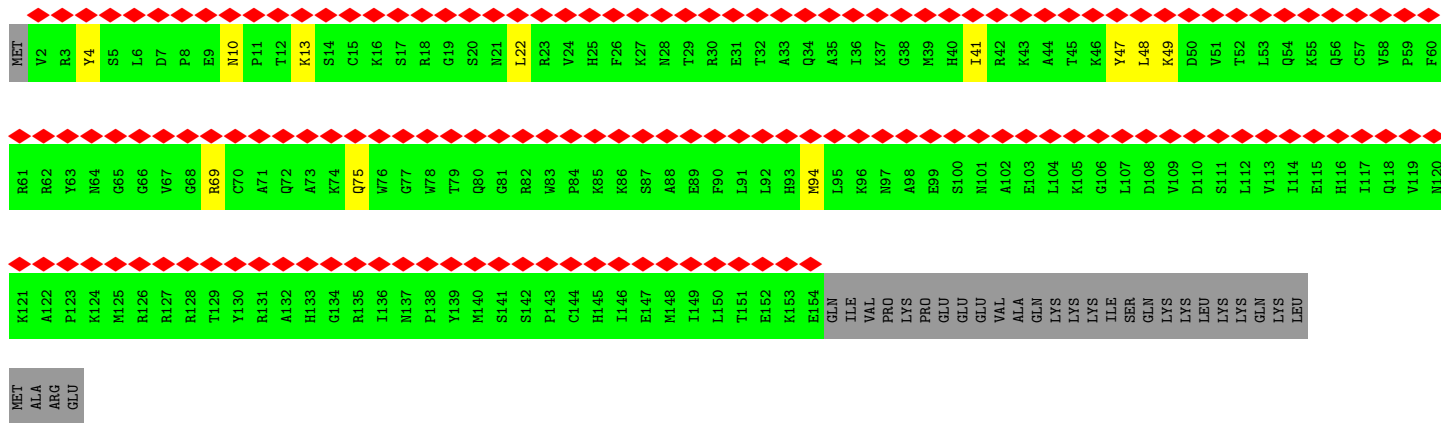
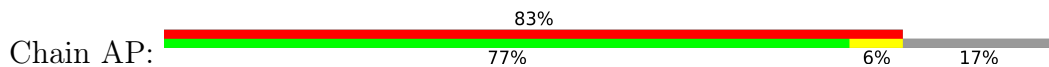


• Molecule 17: 60S ribosomal protein L13a

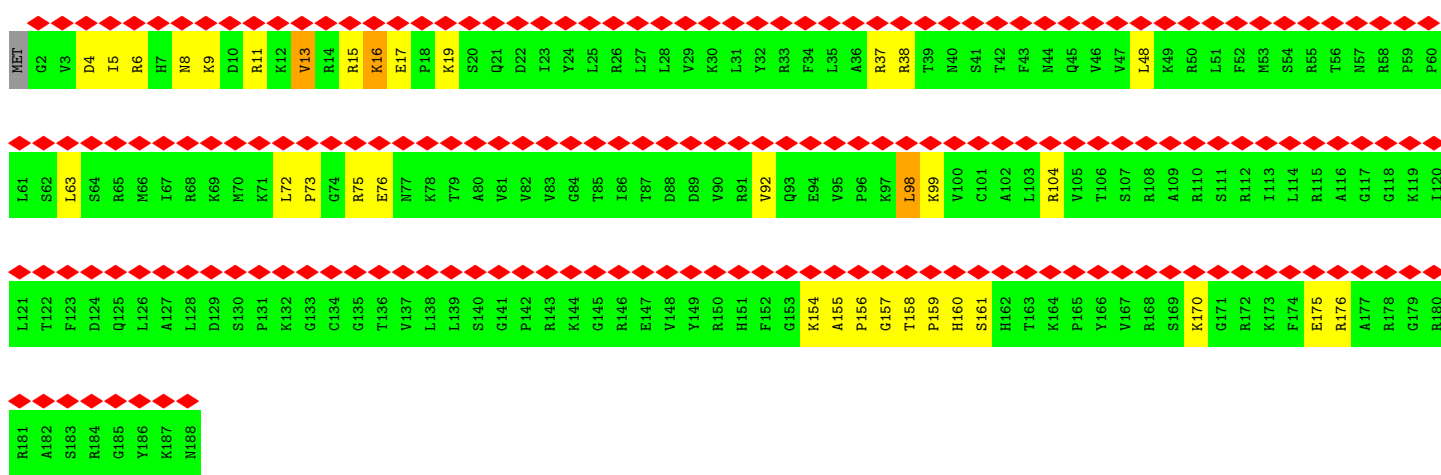
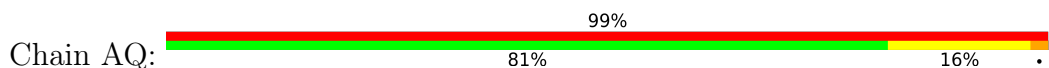




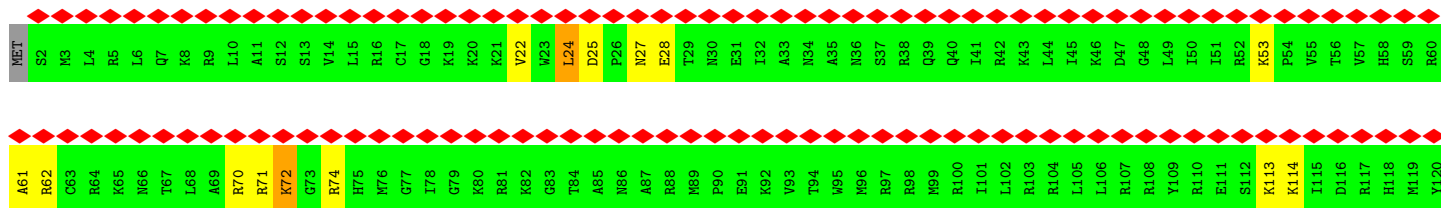
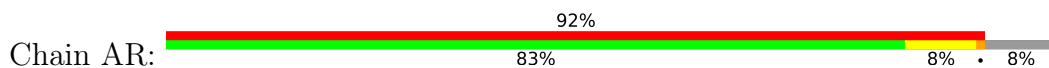
• Molecule 18: 60S ribosomal protein L17

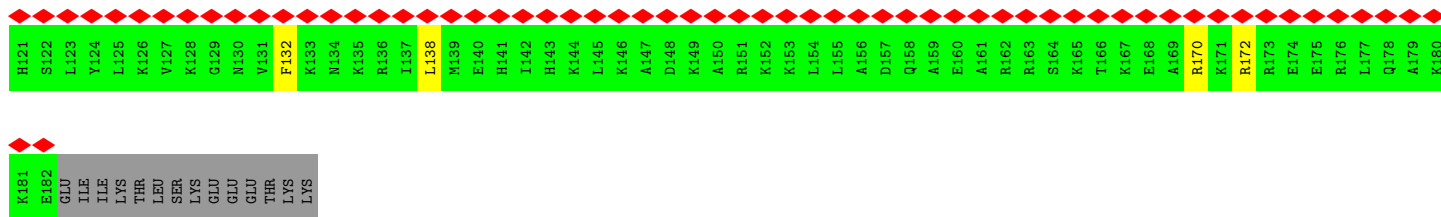


• Molecule 19: 60S ribosomal protein L18

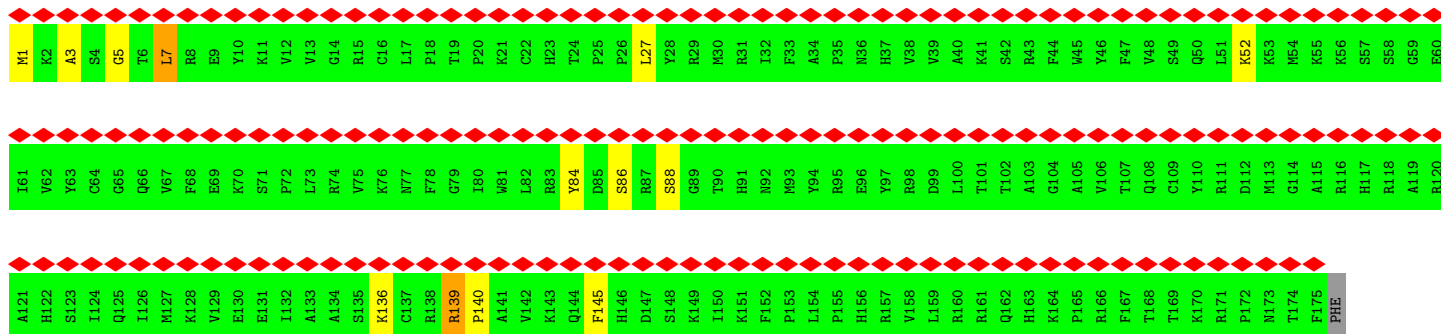
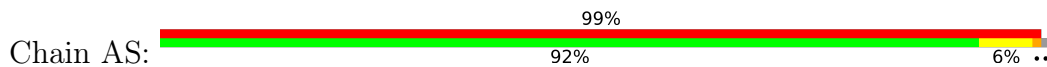


• Molecule 20: 60S ribosomal protein L19

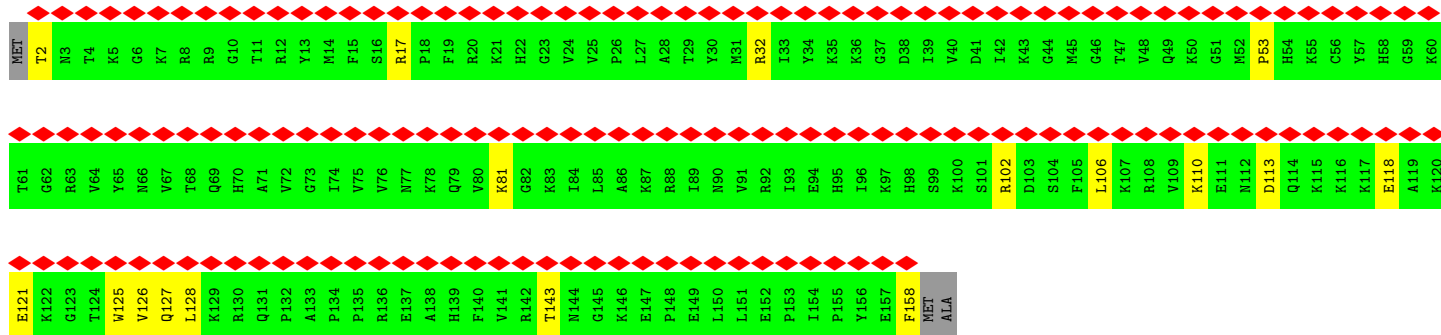
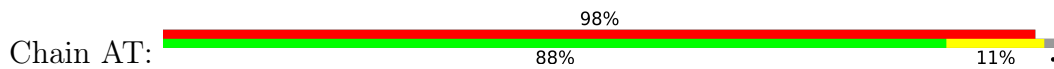




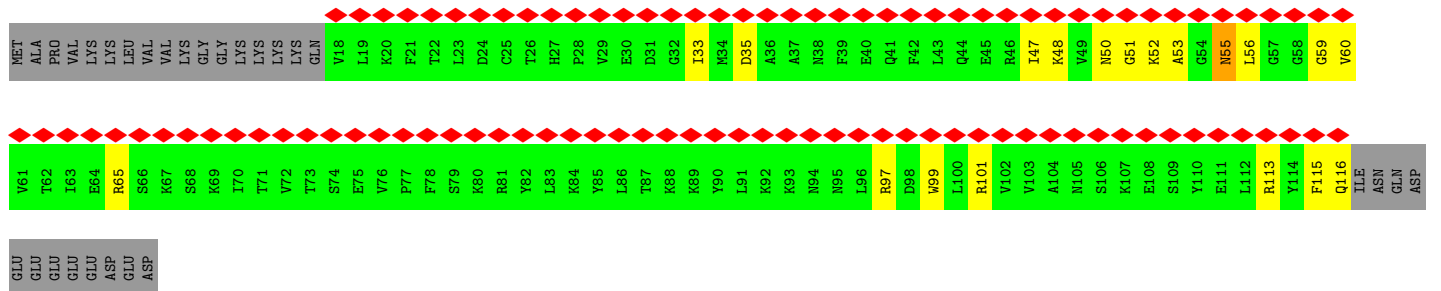
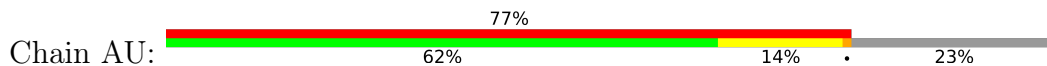
• Molecule 21: 60S ribosomal protein L18a



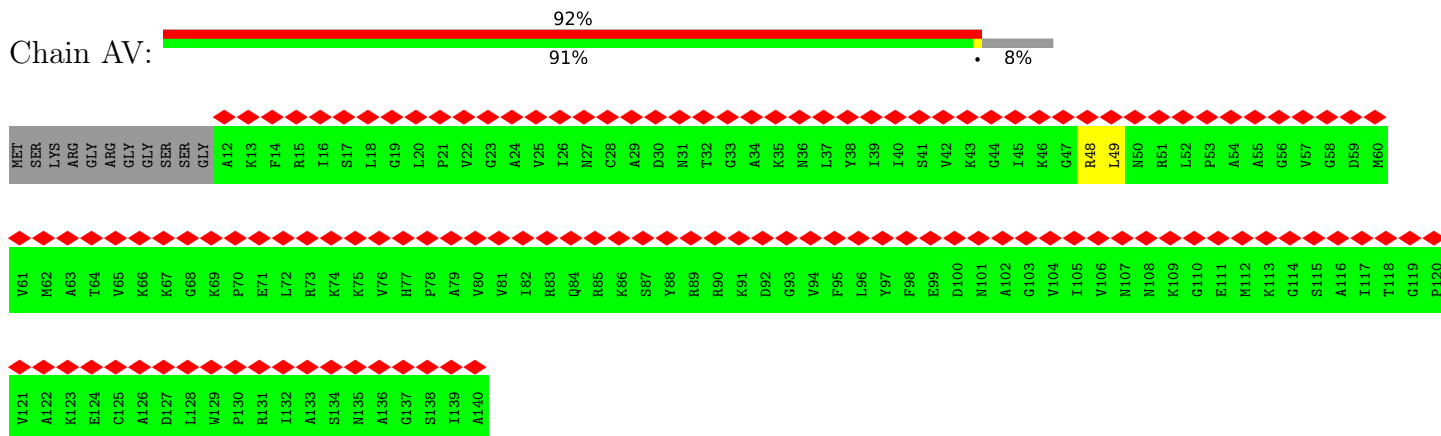
• Molecule 22: 60S ribosomal protein L21



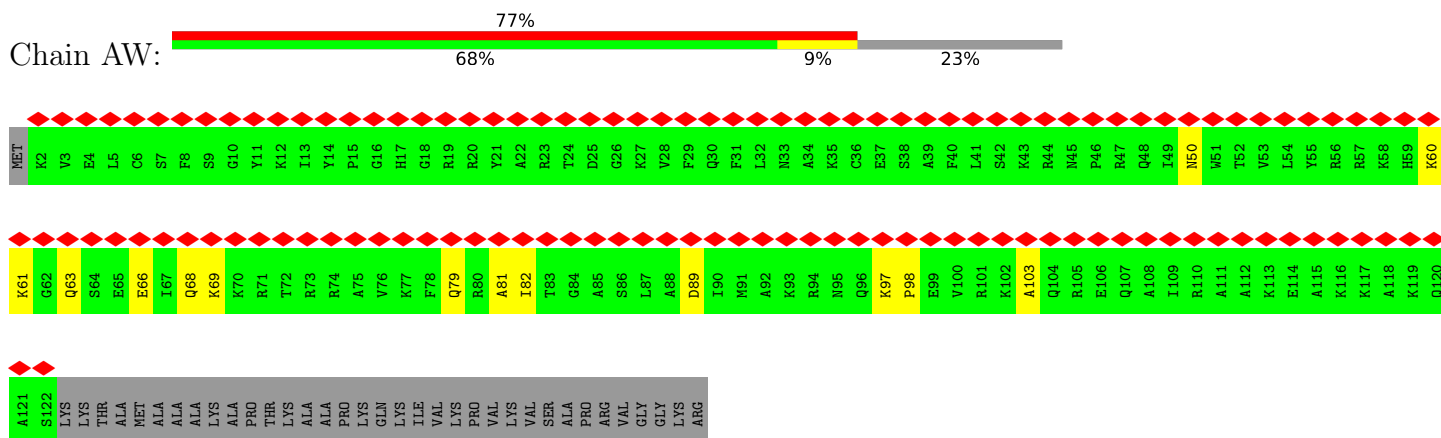
• Molecule 23: 60S ribosomal protein L22



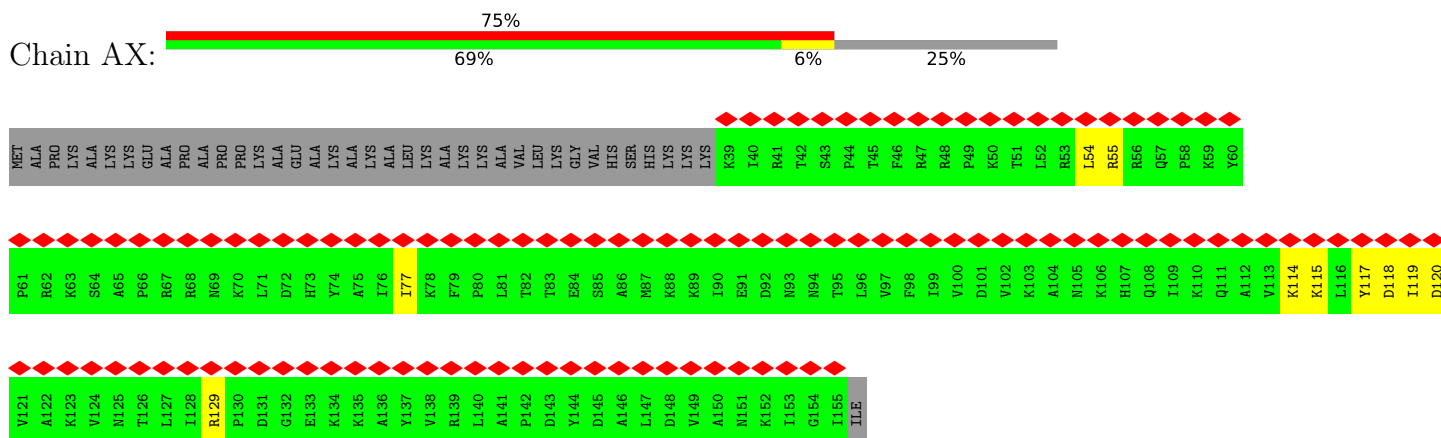
• Molecule 24: 60S ribosomal protein L23



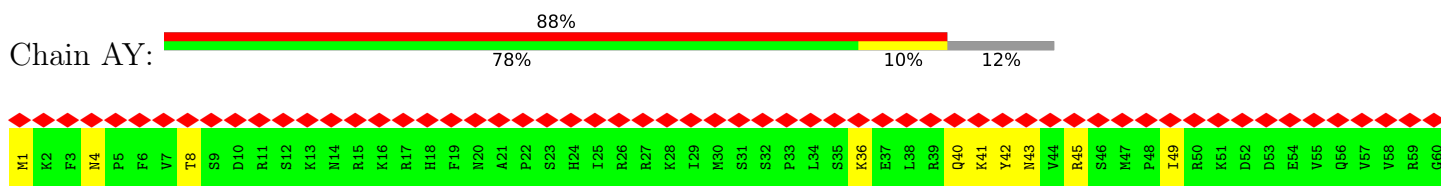
• Molecule 25: 60S ribosomal protein L24

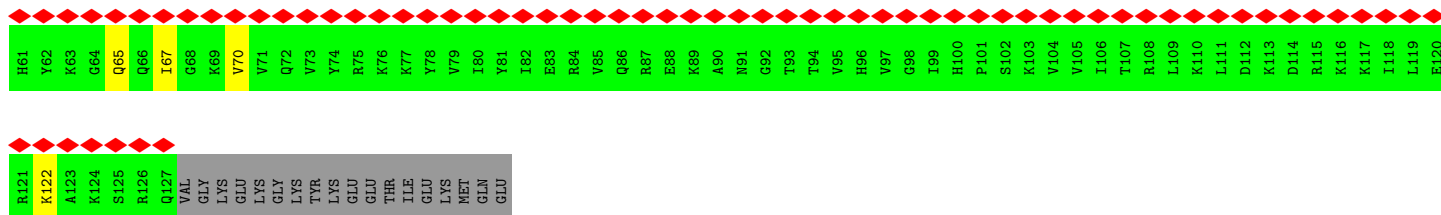


• Molecule 26: 60S ribosomal protein L23a

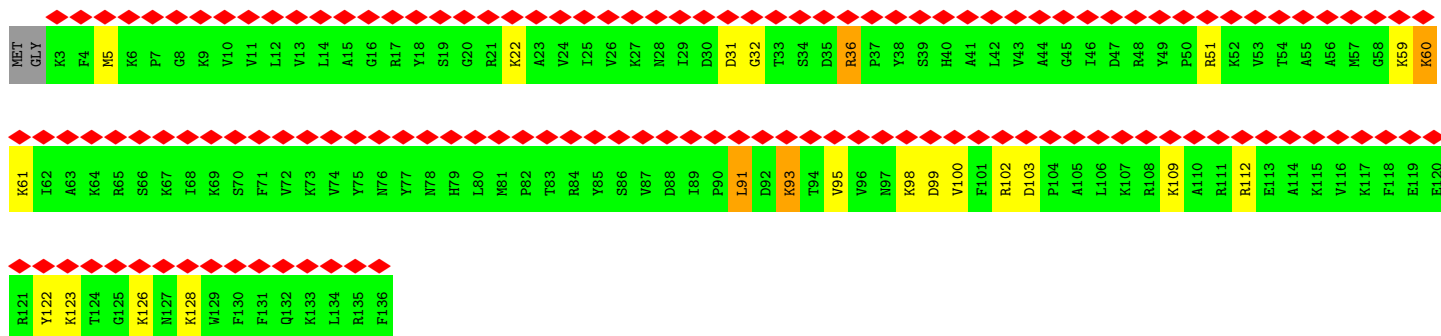
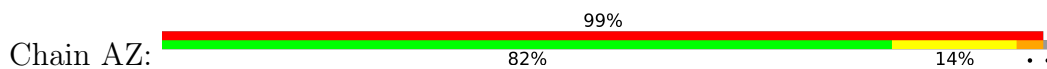


• Molecule 27: 60S ribosomal protein L26

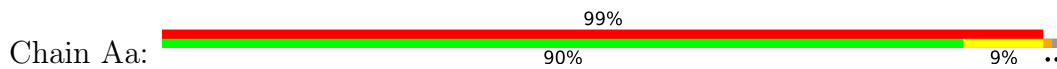




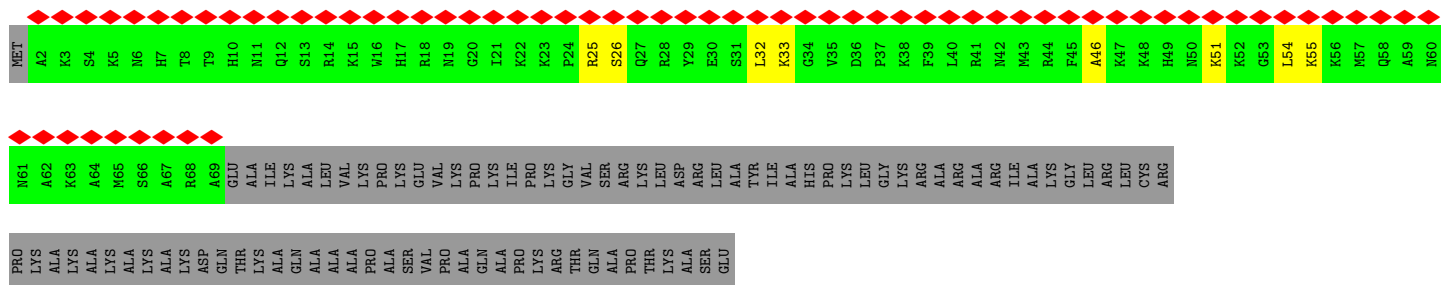
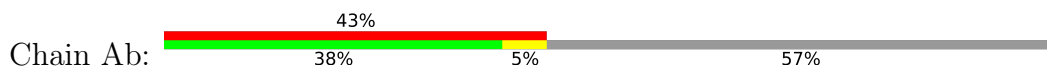
- Molecule 28: 60S ribosomal protein L27



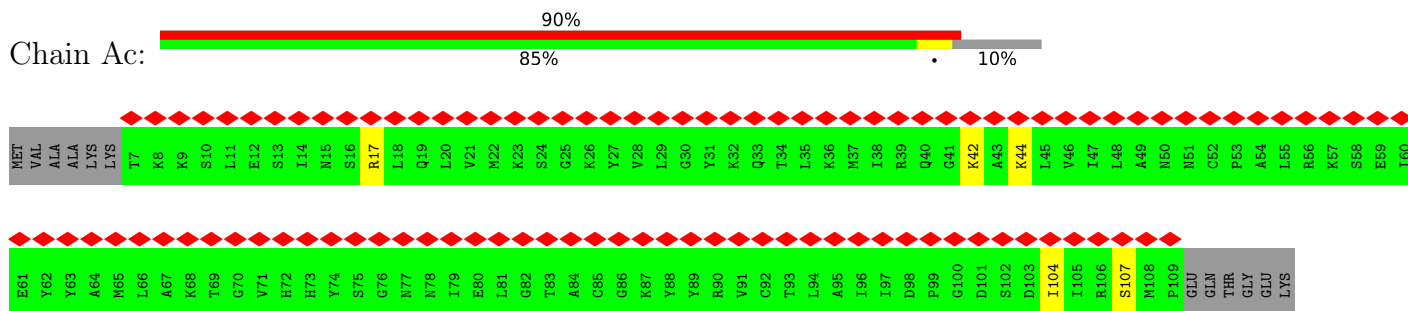
- Molecule 29: 60S ribosomal protein L27a



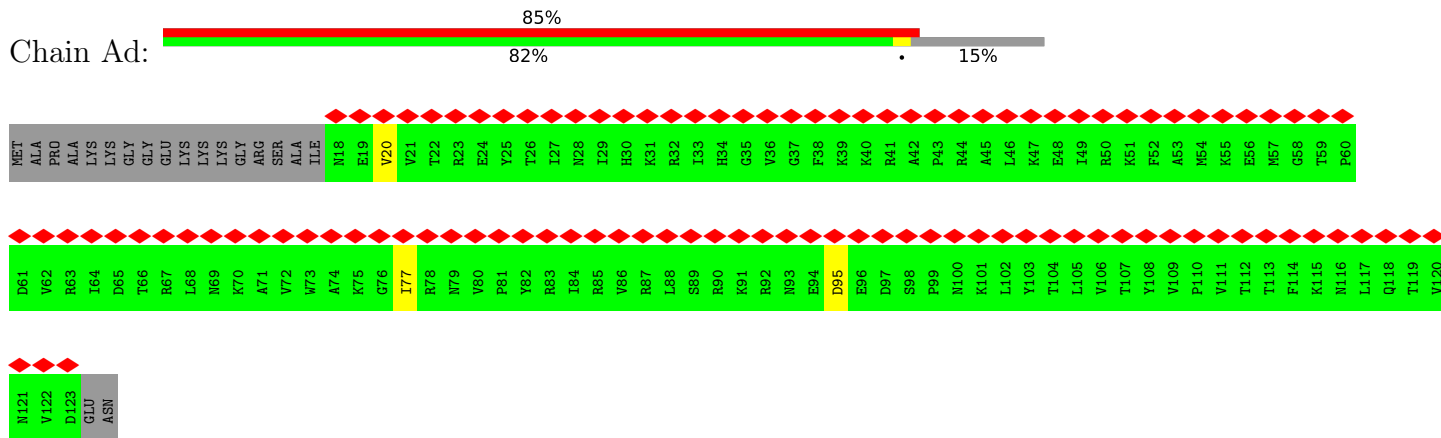
- Molecule 30: 60S ribosomal protein L29



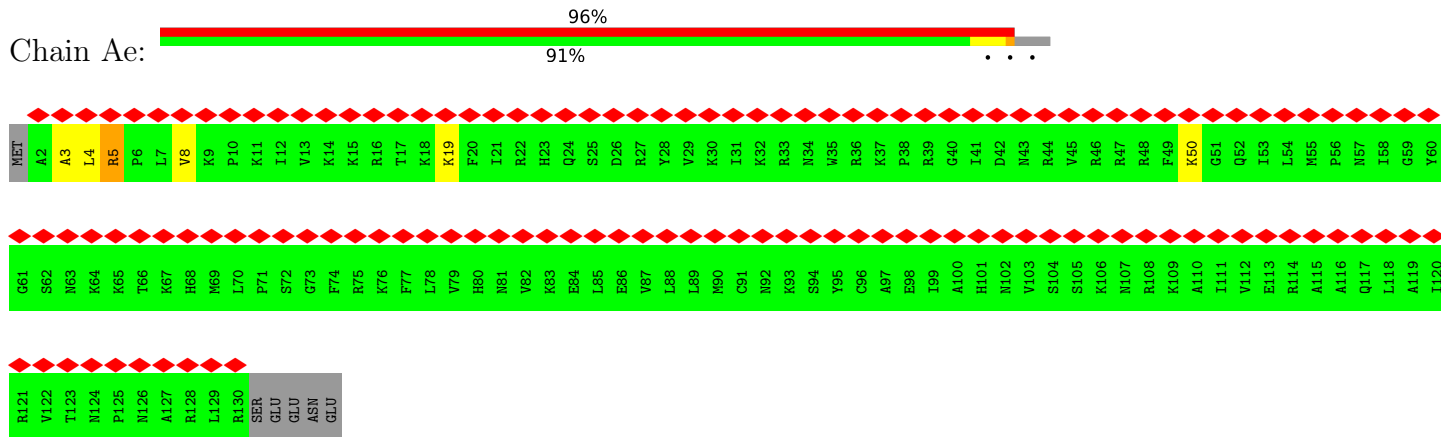
- Molecule 31: 60S ribosomal protein L30



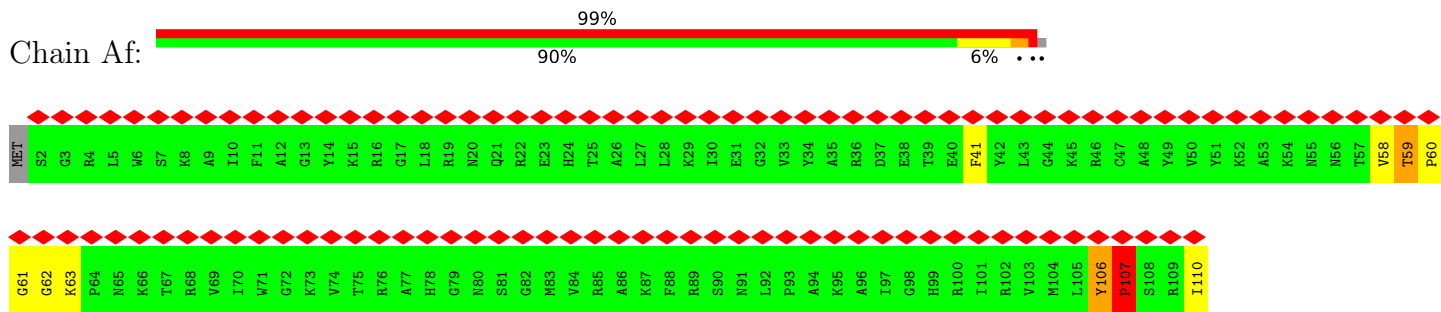
• Molecule 32: 60S ribosomal protein L31



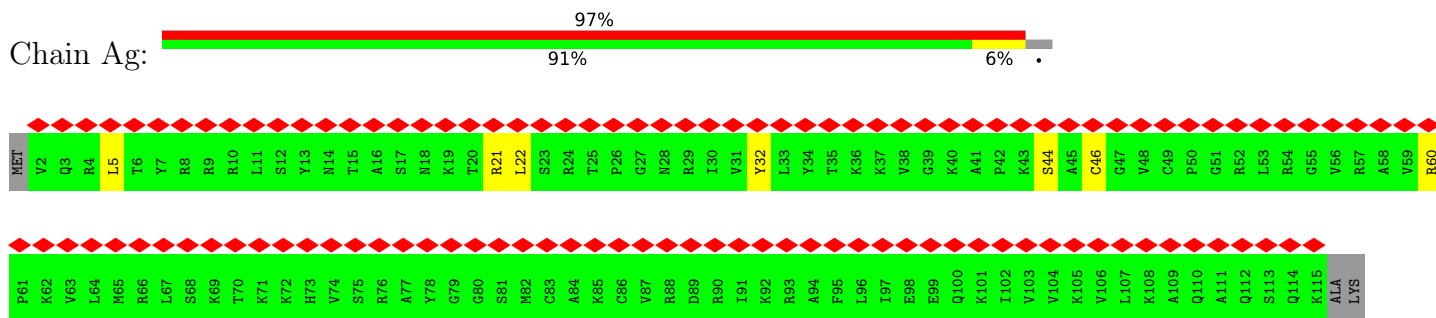
• Molecule 33: 60S ribosomal protein L32



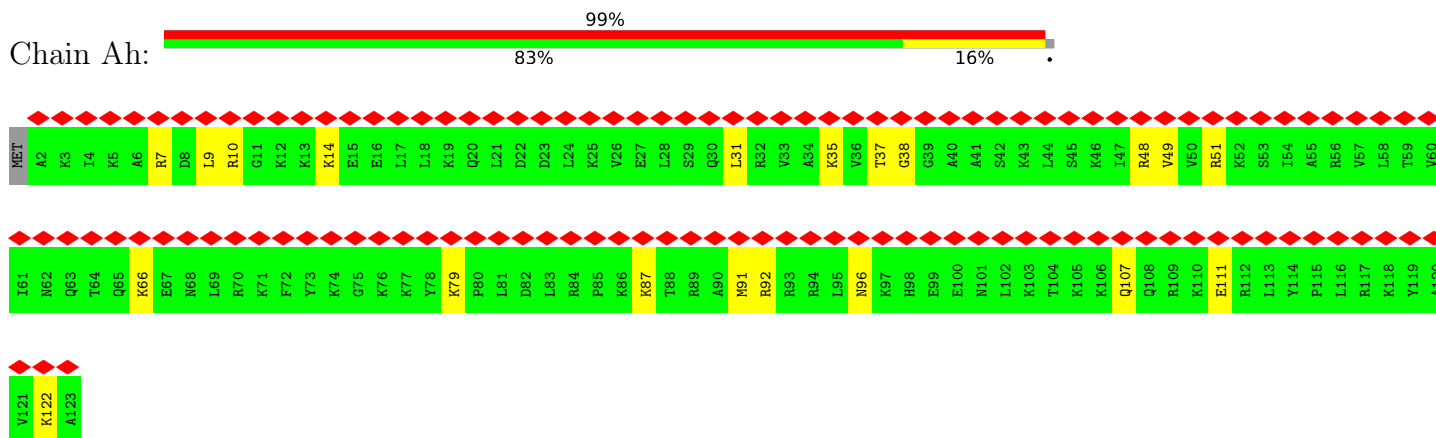
• Molecule 34: 60S ribosomal protein L35a



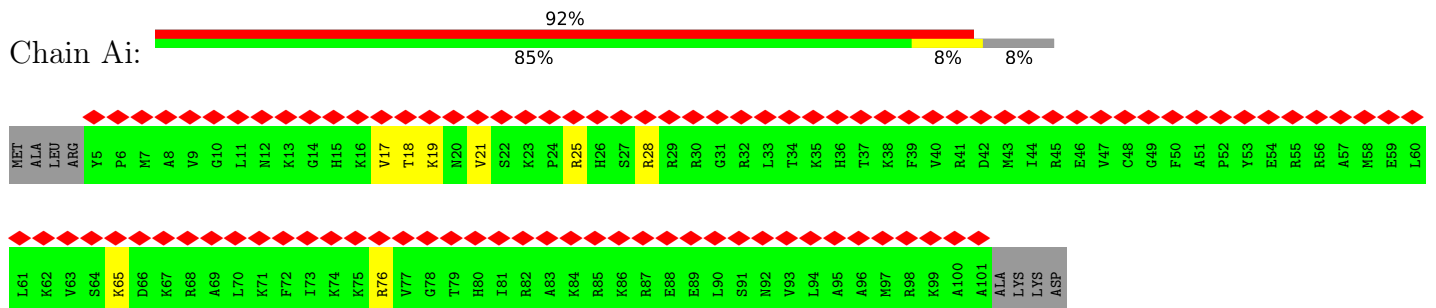
• Molecule 35: 60S ribosomal protein L34



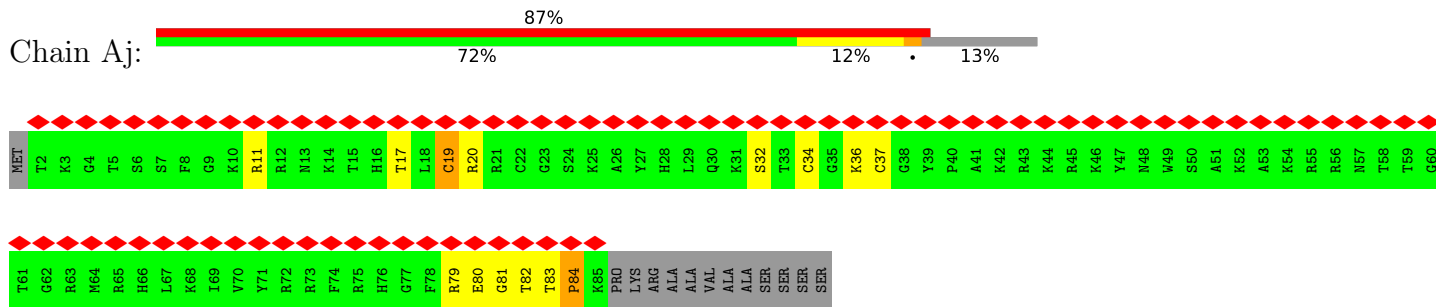
• Molecule 36: 60S ribosomal protein L35



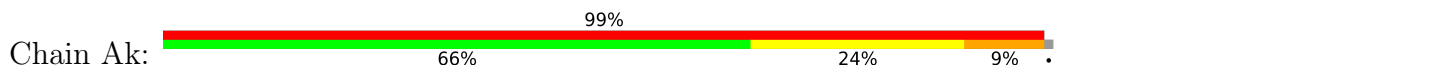
• Molecule 37: 60S ribosomal protein L36

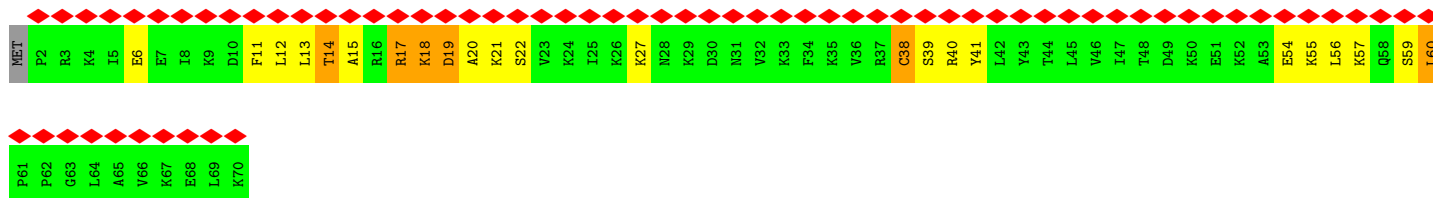


• Molecule 38: 60S ribosomal protein L37



• Molecule 39: 60S ribosomal protein L38





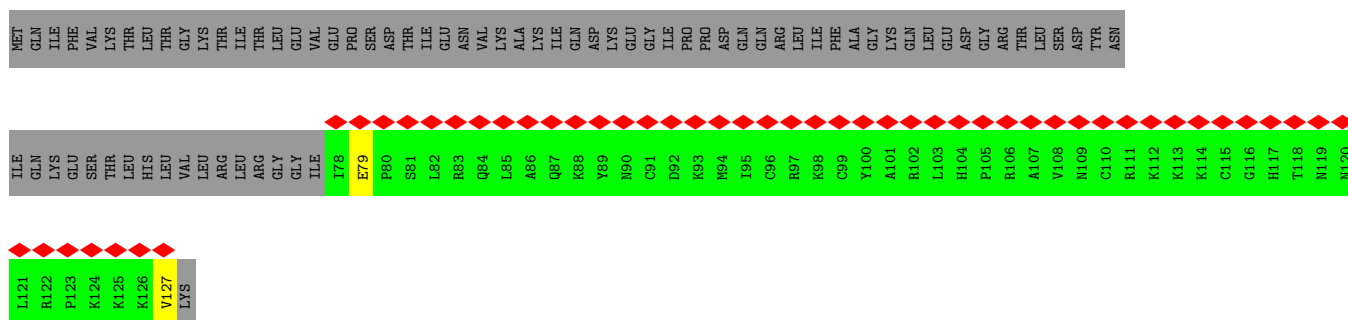
- Molecule 40: 60S ribosomal protein L39

Chain Al:
98%
92% 6%



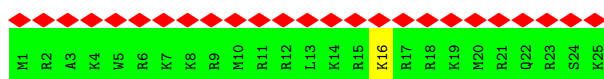
- Molecule 41: Ubiquitin-60S ribosomal protein L40

Chain Am:
39%
38% 61%



- Molecule 42: 60S ribosomal protein L41

Chain An:
100%
96%



- Molecule 43: 60S ribosomal protein L36a

Chain Ao:
99%
88% 11%

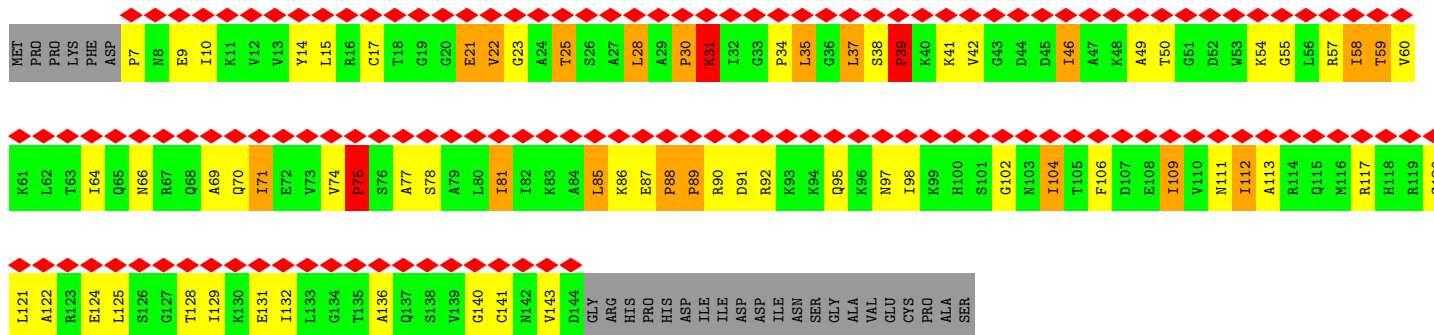
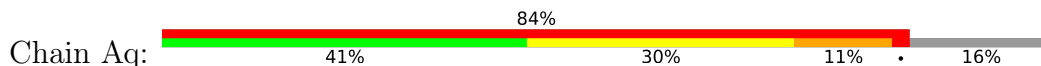


- Molecule 44: 60S ribosomal protein L37a

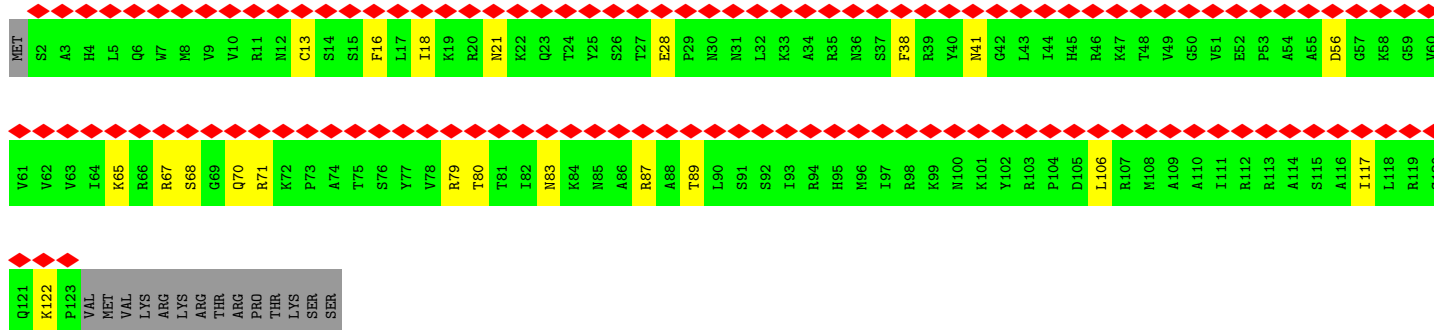
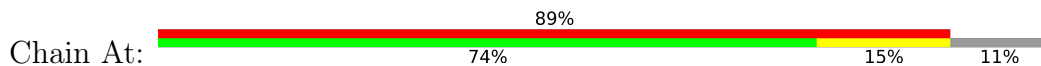
Chain Ap:
99%
93% 5%



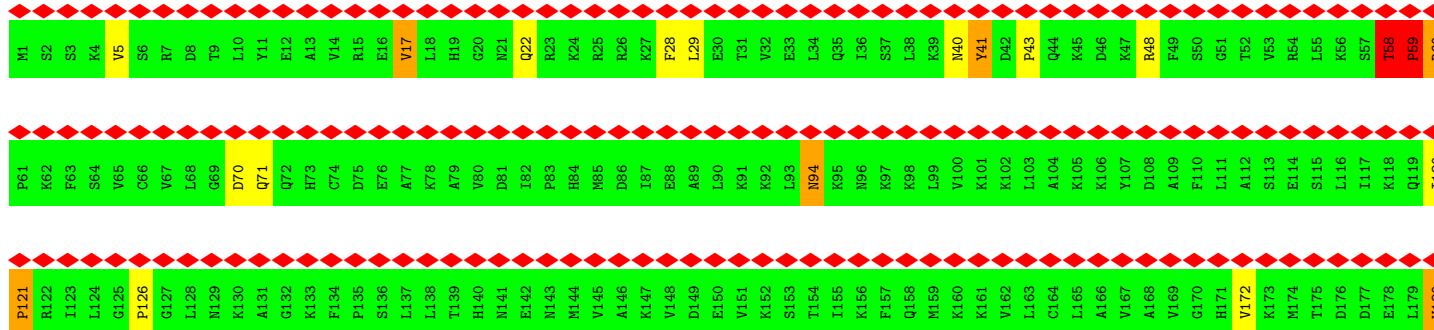
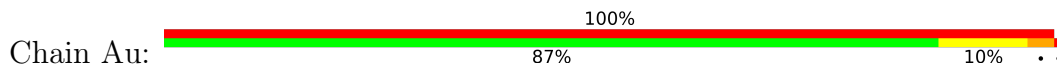
• Molecule 45: 60S ribosomal protein L12

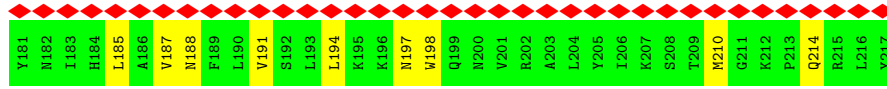


• Molecule 46: 60S ribosomal protein L28

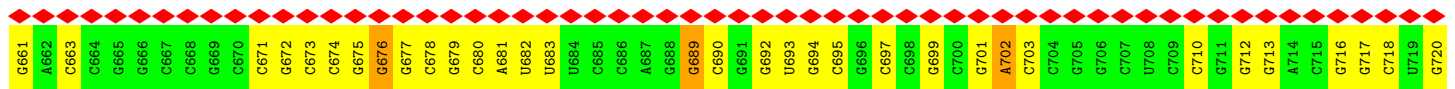
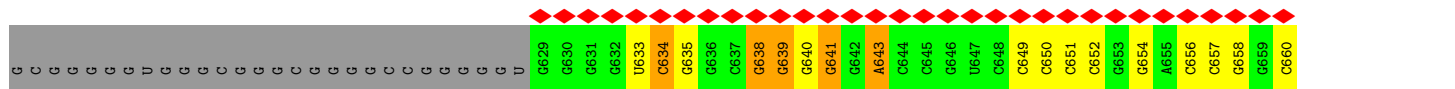
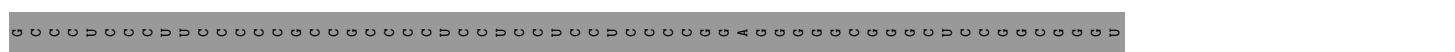
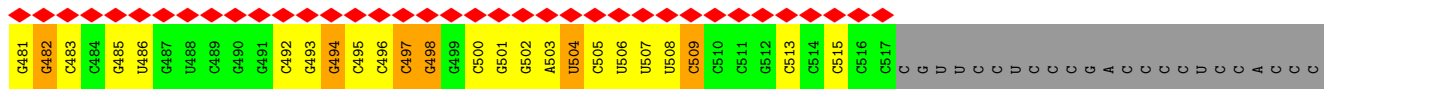
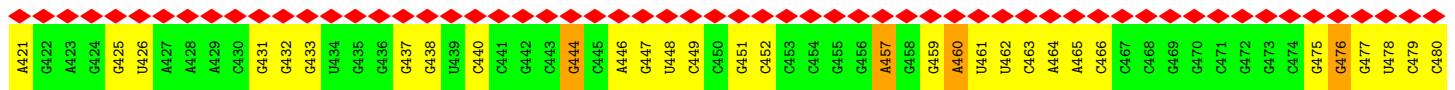
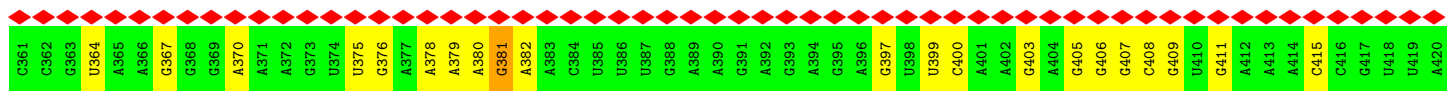
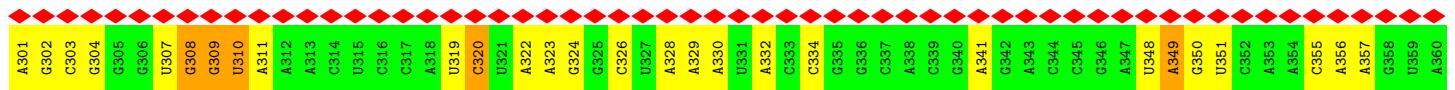
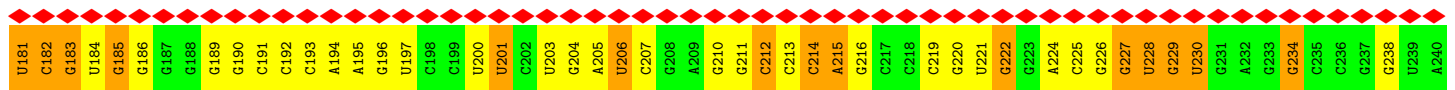
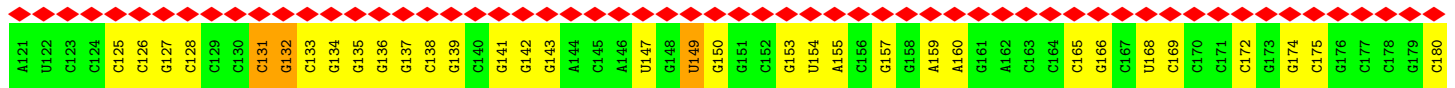
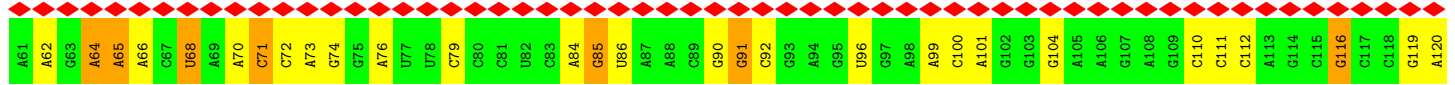
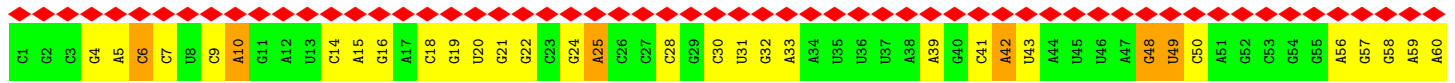
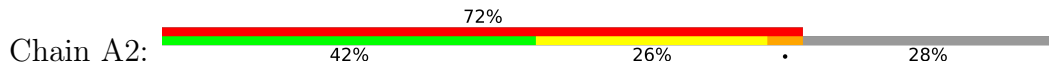


• Molecule 47: 60S ribosomal protein L10a





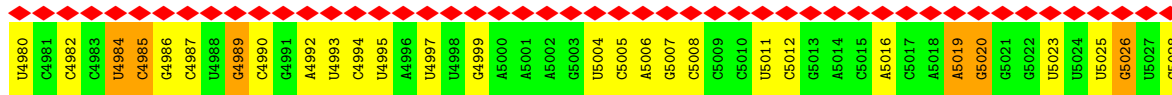
• Molecule 48: 28S ribosomal RNA



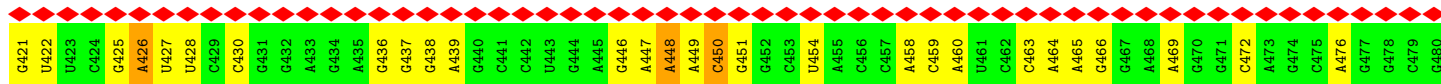
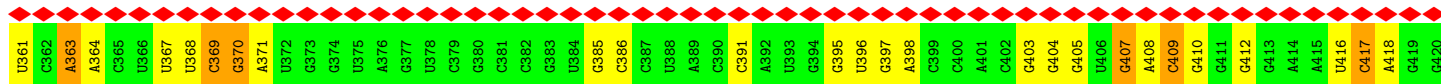
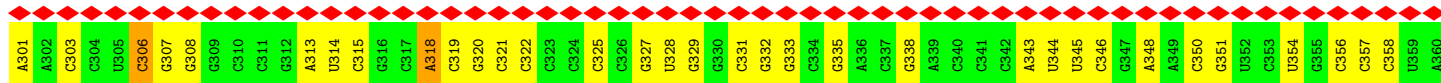
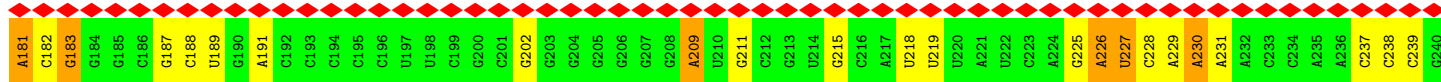
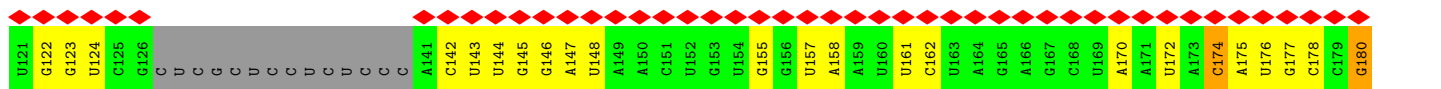
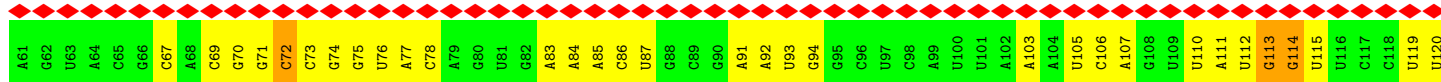
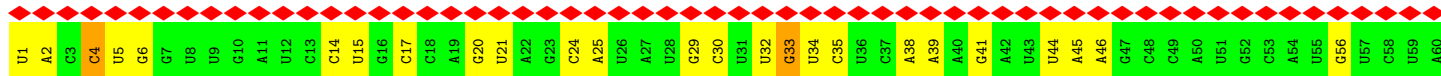
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C1384	A1325	U1324	G1264	A	G	C1084	C964	A904	C	C893
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G1389	C1329	U	C1269	U	C	A1089	C969	C909	C	C898
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G1407	U1347	C	C1287	G	U	C	C	C927	C	
G1408	C1348	C	G1288	G	U	C	C	C928	C	
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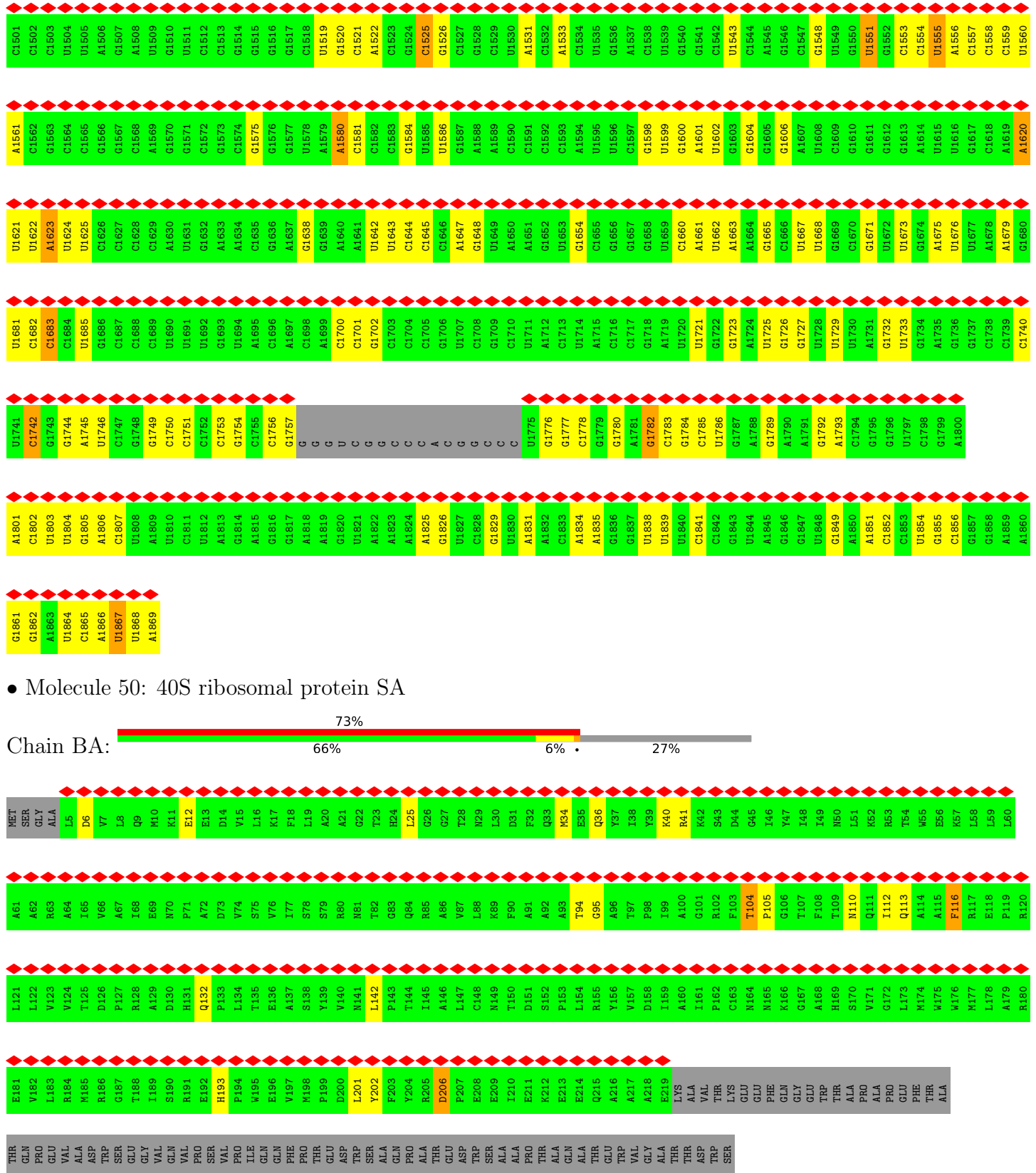
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G2316	C2017	G	C	C	G1897	G1957	G1897	C1837	A1777	C	C1657	C1597	G1537
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U2338	G2039	G	C	C	A1919	A1979	A1919	G1859	U1799	C	A1679	A1620	G1559
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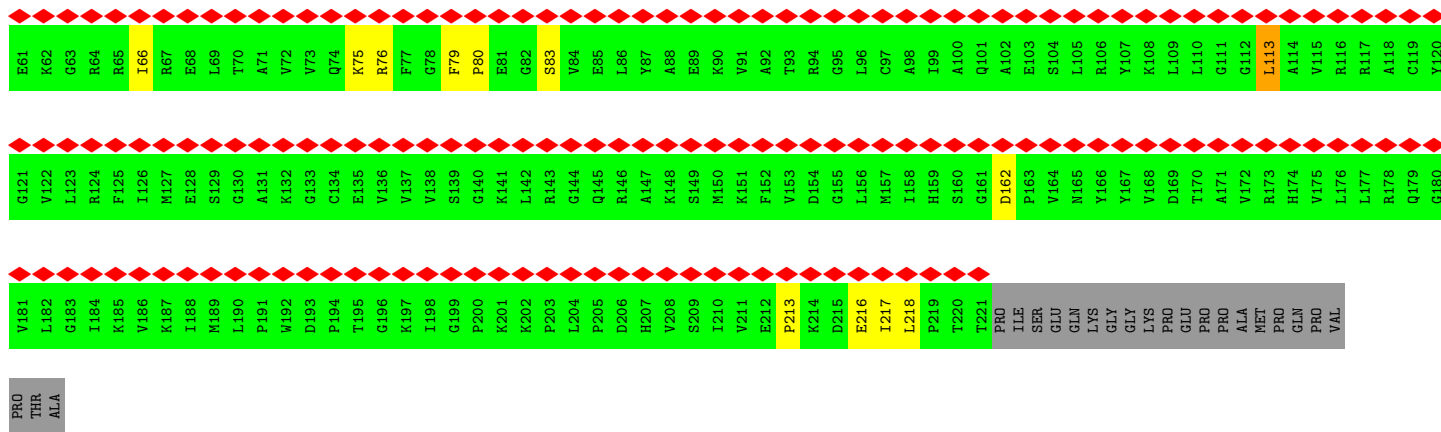
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G4860	G4861	G4862	C4863	C4864	C4865	C4866	A4867	C4868	C4869	C4870	G4871	C4872	C4873	C4874	C4875	C4876	C4877	C4878	C4879	C4880	C4881	C4882	C4883	U4884	U4885	C4886	C4887	C4888	C4889	U4890	C4891	C4892	C4893	C4894	C4895	C4896	C4897	C4898	C4899	C4900	C4901	C4902	C4903	U4904	U4905	C4906	C4907	U4908	C4909	C4910	C4911	G4912	C4913	A4914	C4915	C4916	U4917	C4918	C4919				
G4680	G4681	C4682	G4683	C4684	A4685	A4686	C4687	C4688	C4689	U4690	A4691	C4692	C4693	G4694	C4695	A4696	C4697	C4698	C4699	C4700	C4701	G4702	C4703	G4704	C4705	A4706	C4707	C4708	C4709	U4710	C4711	C4712	C4713	U4714	U4715	C4716	C4717	C4718	C4719	U4720	C4721	G4722	C4723	A4724	U4725	U4726	C4727	C4728	C4729	C4730	C4731	U4732	C4733	C4734	C	C	C	C	C				
C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
C4818	C4819	C4820	C4821	U4822	C4823	C4824	C4825	G4826	U4827	G4828	C4829	G4830	C4831	C4832	C4833	U4834	C4835	C4836	C4837	C4838	C4839	C4840	C4841	C4842	U4843	C4844	C4845	U4846	C4847	G4848	C4849	A4850	A4851	C4852	C4853	C4854	C4855	C4856	C4857	C4858	A4859	C4860	C4861	C4862	C4863	C4864	C4865	C4866	C4867	C4868	C4869	C4870	C4871	C4872	C4873	C4874	C4875	C4876	C4877	C4878	C4879		
C4200	A4201	G4202	C4203	U4204	C4205	A4206	G4207	C4208	C4209	A4210	G4211	C4212	C4213	C4214	A4215	G4216	A4217	C4218	A4219	C4220	C4221	U4222	C4223	G4224	C4225	G4226	U4227	C4228	C4229	A4230	C4231	C4232	C4233	G4234	A4235	C4236	C4237	C4238	C4239	C4240	A4241	A4242	A4243	A4244	C4245	C4246	U4247	C4248	C4249	C4250	U4251	U4252	C4253	A4254	C4255	C4256	U4257	U4258	C4259				
U4320	U4321	U4322	U4323	A4324	A4325	C4326	C4327	C4328	C4329	G4330	A4331	C4332	C4333	U4334	C4335	C4336	C4337	A4338	C4339	A4340	A4341	A4342	A4343	U4344	U4345	U4346	A4347	C4348	C4349	A4350	C4351	A4352	C4353	C4354	C4355	A4356	U4357	A4358	A4359	C4360	U4361	C4362	C4363	C4364	U4365	U4366	C4367	U4368	C4369	C4370	C4371	C4372	C4373	U4374	C4375	C4376	A4377	C4378	C4379				
G4380	U4381	U4382	C4383	U4384	U4385	A4386	G4387	C4388	C4389	A4390	C4391	C4392	U4393	C4394	G4395	C4396	U4397	U4398	U4399	U4400	A4401	G4402	A4403	U4404	C4405	C4406	U4407	U4408	C4409	G4410	A4411	U4412	C4413	U4414	C4415	G4416	C4417	C4418	U4419	C4420	U4421	U4422	C4423	C4424	U4425	A4426	U4427	C4428	C4429	C4430	C4431	U4432	U4433	G4434	A4435	A4436	U4437	C4438	A4439				
G4440	A4441	A4442	U4443	U4444	U4445	G4446	C4447	C4448	A4449	U4450	C4451	C4452	G4453	U4454	U4455	G4456	A4457	A4458	U4459	U4460	A4461	U4462	A4463	C4464	U4465	C4466	C4467	C4468	A4469	C4470	U4471	A4472	U4473	U4474	A4475	G4476	G4477	G4478	A4479	A4480	C4481	G4482	U4483	G4484	A4485	G4486	U4487	U4488	C4489	G4490	U4491	U4492	U4493	G4494	A4495	G4496	U4497	C4498	C4499				
G4500	U4501	C4502	G4503	U4504	G4505	C4506	G4507	C4508	C4509	A4510	G4511	U4512	U4513	U4514	A4515	U4516	C4517	U4518	U4519	U4520	A4521	C4522	C4523	C4524	U4525	A4526	C4527	U4528	C4529	A4530	U4531	C4532	A4533	U4534	C4535	U4536	C4537	U4538	U4539	U4540	U4541	U4542	C4543	C4544	C4545	A4546	U4547	C4548	C4549	U4550	A4551	A4552	U4553	C4554	C4555	U4556	C4557	C4558	U4559				
C4560	A4561	G4562	U4563	C4564	C4565	C4566	A4567	C4568	C4569	G4570	C4571	A4572	C4573	C4574	C4575	C4576	C4577	C4578	C4579	C4580	U4581	U4582	C4583	A4584	C4585	A4586	C4587	U4588	U4589	U4590	C4591	C4592	C4593	U4594	C4595	U4596	U4597	U4598	C4599	U4600	C4601	C4602	U4603	U4604	C4605	C4606	U4607	U4608	C4609	U4610	G4611	C4612	U4613	C4614	C4615	C4616	U4617	A4618	U4619				
C4620	C4621	G4622	C4623	C4624	C4625	A4626	A4627	C4628	C4629	U4630	A4631	C4632	C4633	A4634	U4635	C4636	U4637	C4638	U4639	C4640	C4641	G4642	A4643	U4644	U4645	A4646	U4647	C4648	A4649	C4650	U4651	C4652	A4653	U4654	C4655	C4656	C4657	C4658	U4659	C4660	U4661	A4662	A4663	C4664	U4665	C4666	A4667	C4668	A4669	A4670	U4671	C4672	C4673	C4674	C4675	C4676	U4677	C4678	A4679				



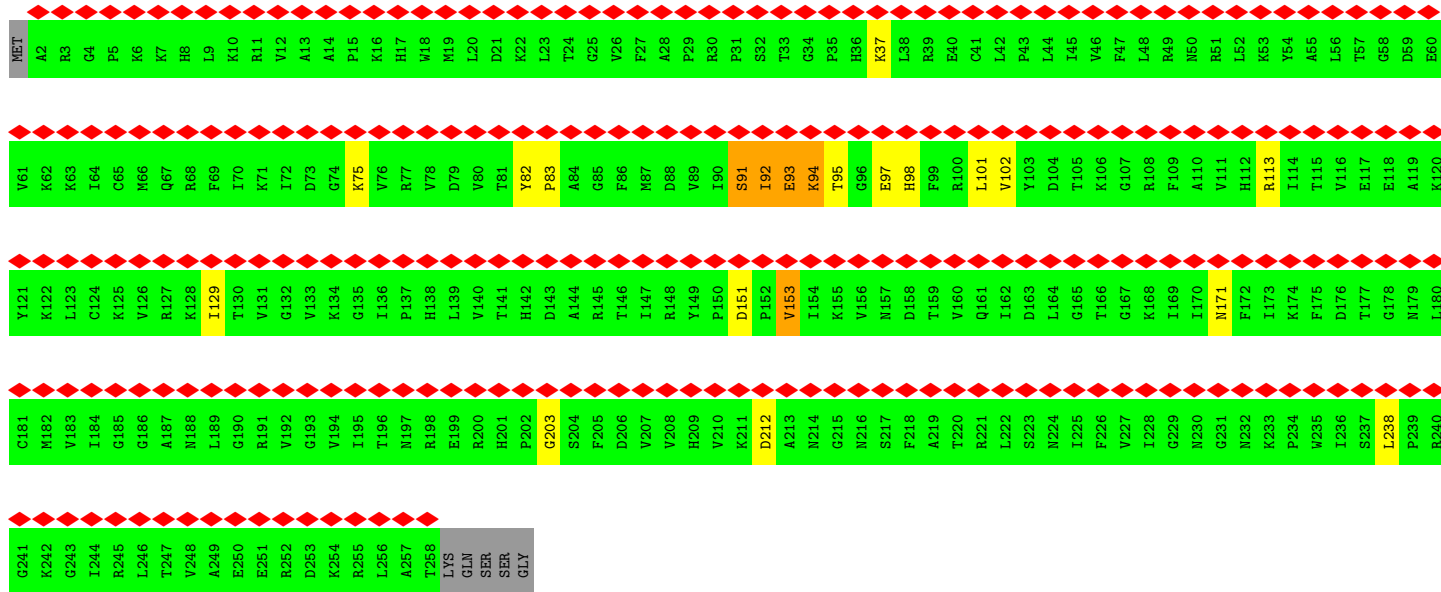
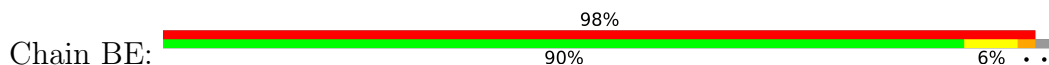
● Molecule 49: 18S ribosomal RNA



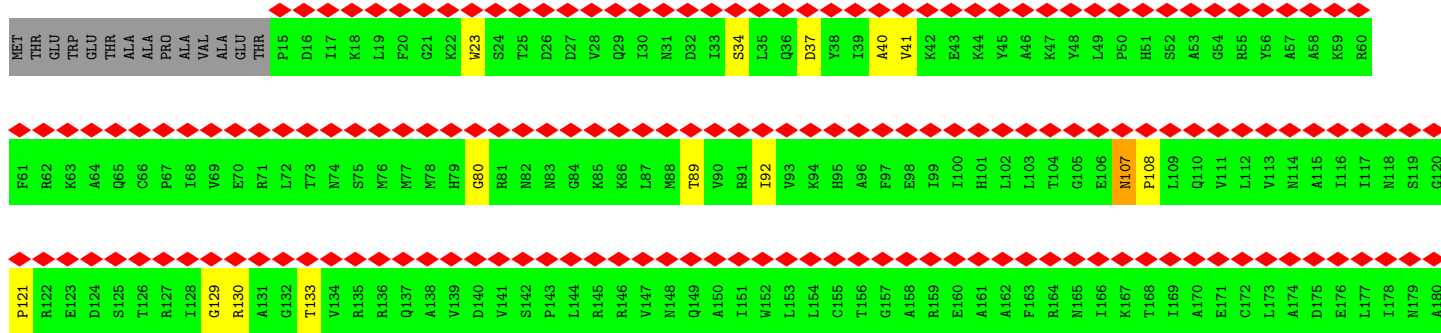
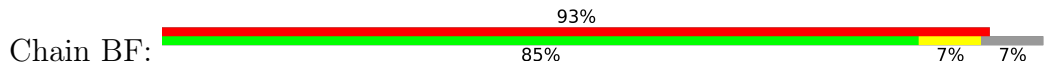


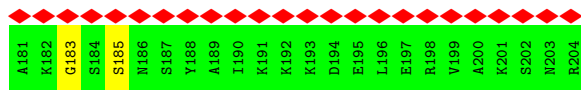


• Molecule 54: 40S ribosomal protein S4, Y isoform 1

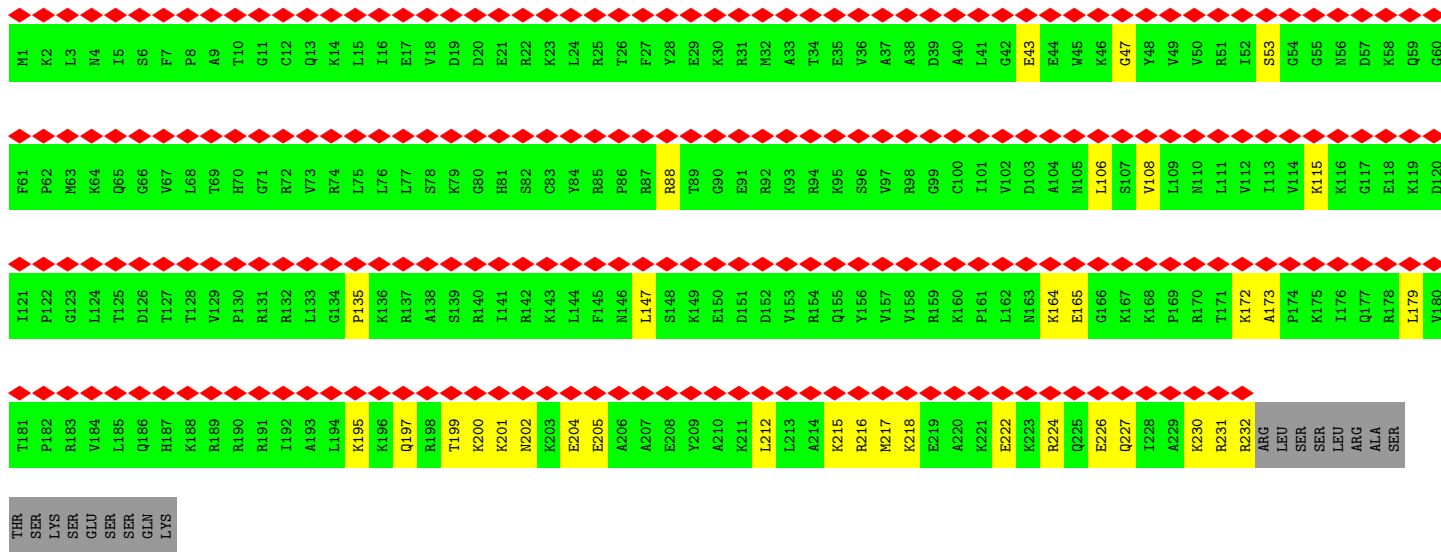
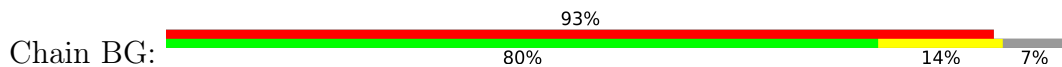


• Molecule 55: 40S ribosomal protein S5

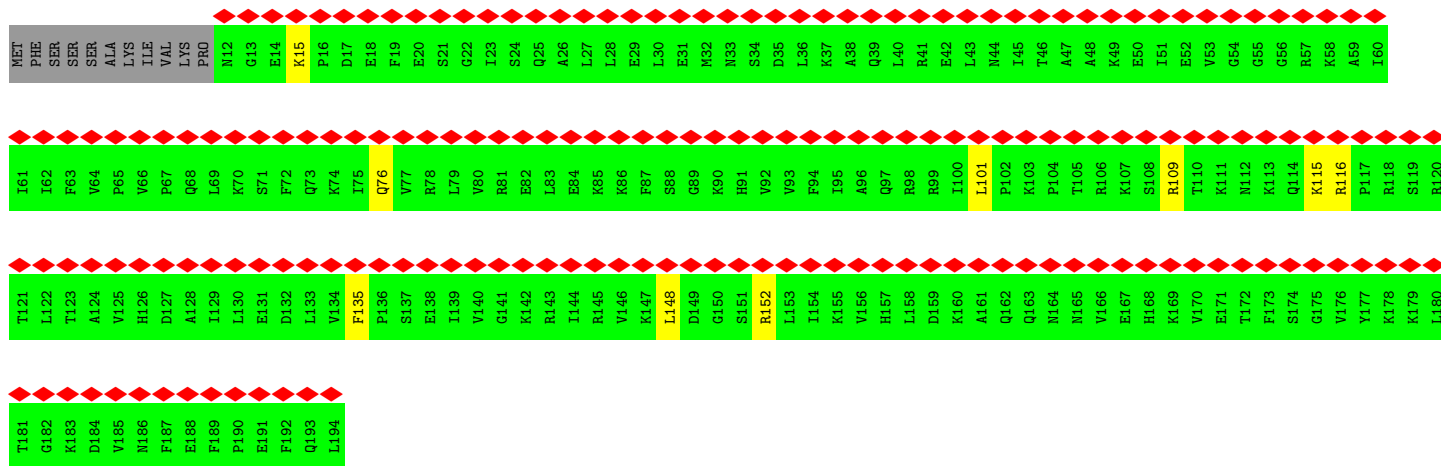
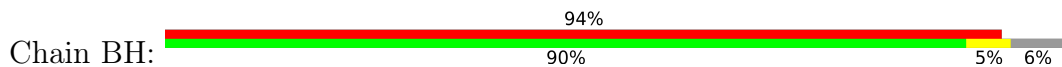




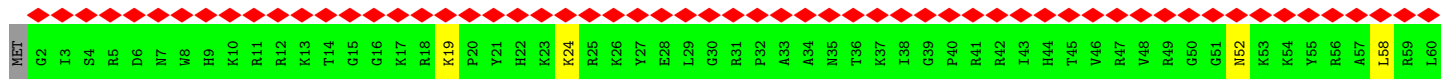
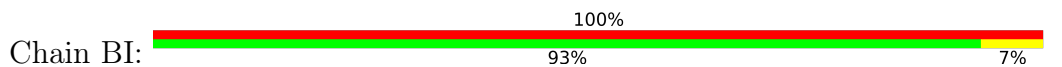
• Molecule 56: 40S ribosomal protein S6



• Molecule 57: 40S ribosomal protein S7

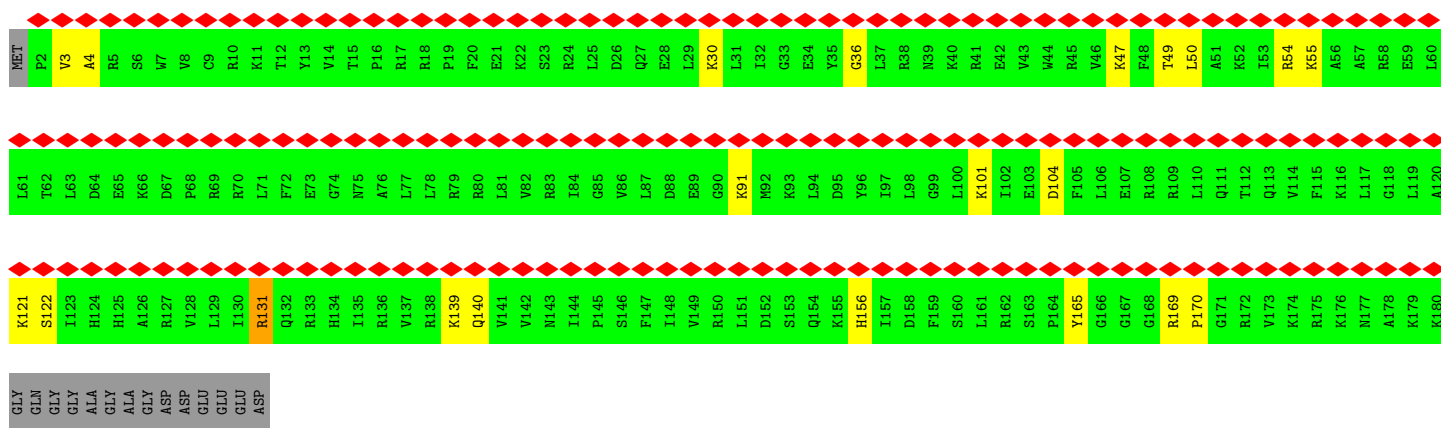
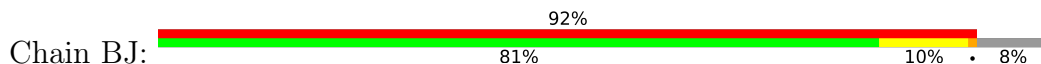


• Molecule 58: 40S ribosomal protein S8

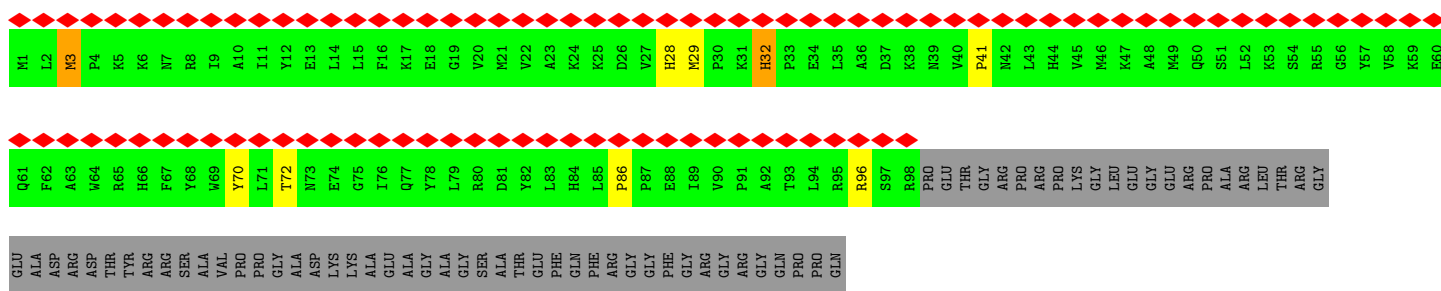




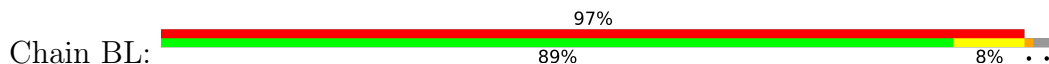
• Molecule 59: 40S ribosomal protein S9



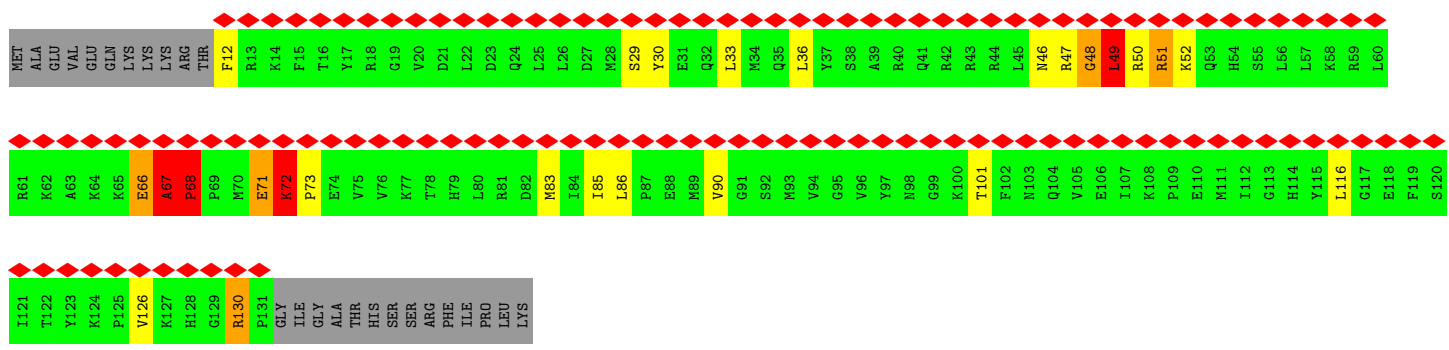
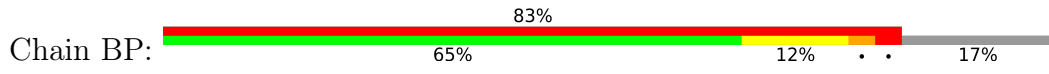
• Molecule 60: 40S ribosomal protein S10



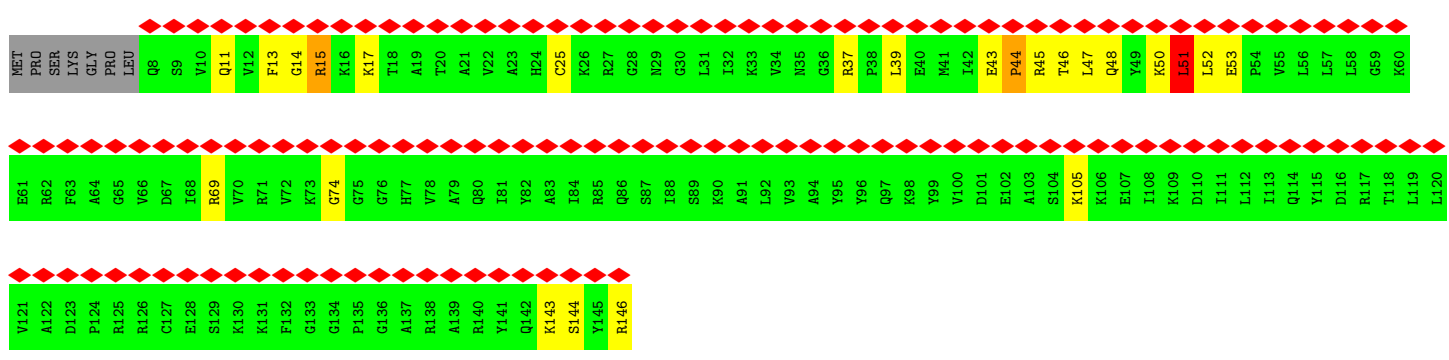
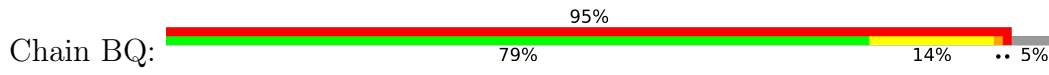
• Molecule 61: 40S ribosomal protein S11



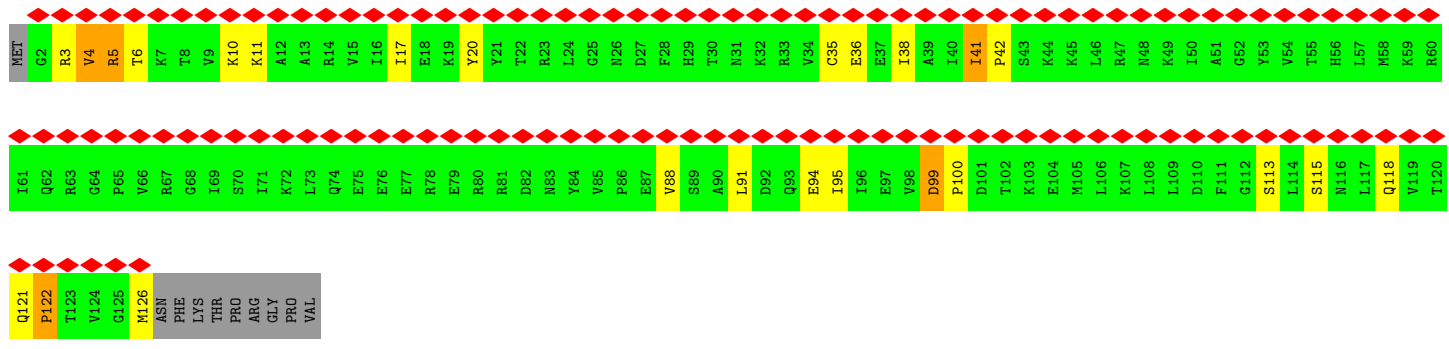
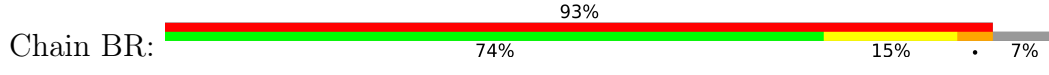
• Molecule 65: 40S ribosomal protein S15



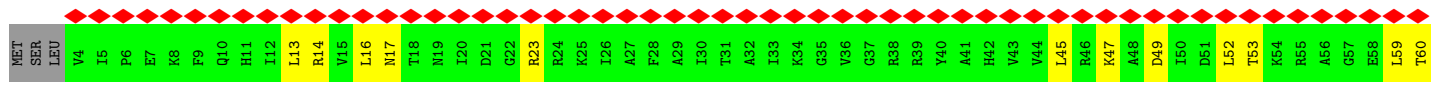
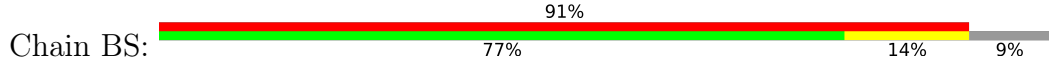
• Molecule 66: 40S ribosomal protein S16

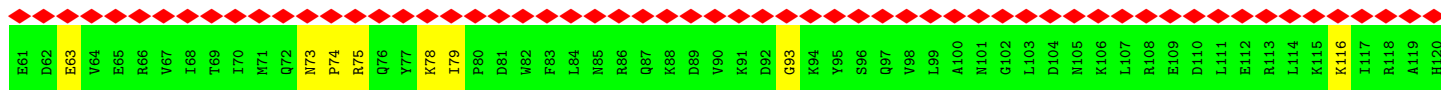


• Molecule 67: 40S ribosomal protein S17-like

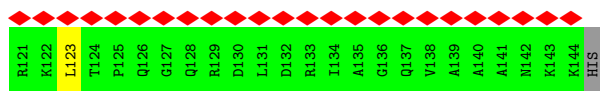
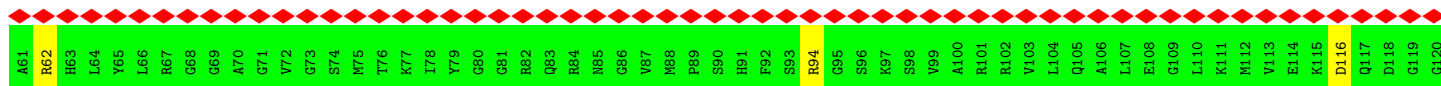
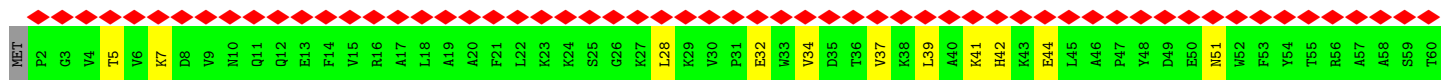
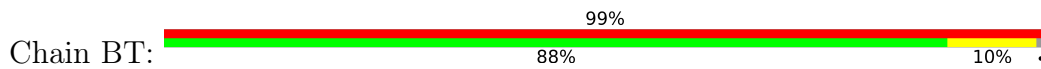


• Molecule 68: 40S ribosomal protein S18

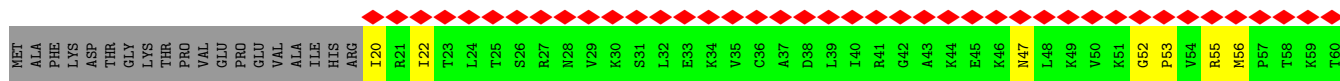
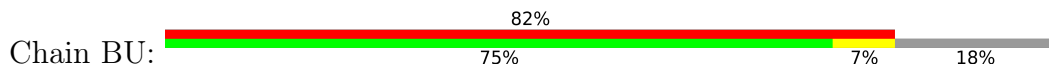




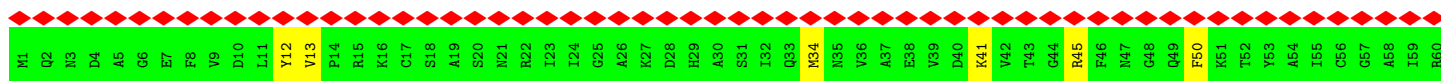
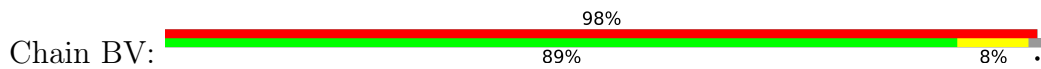
• Molecule 69: 40S ribosomal protein S19



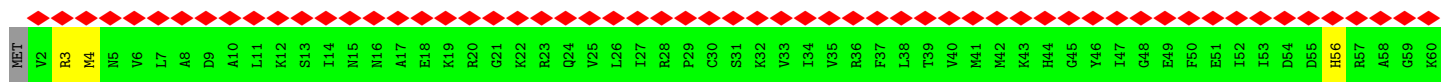
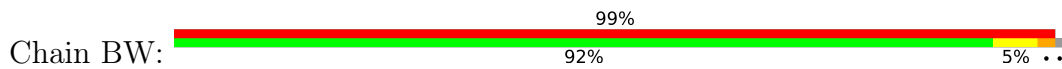
• Molecule 70: 40S ribosomal protein S20

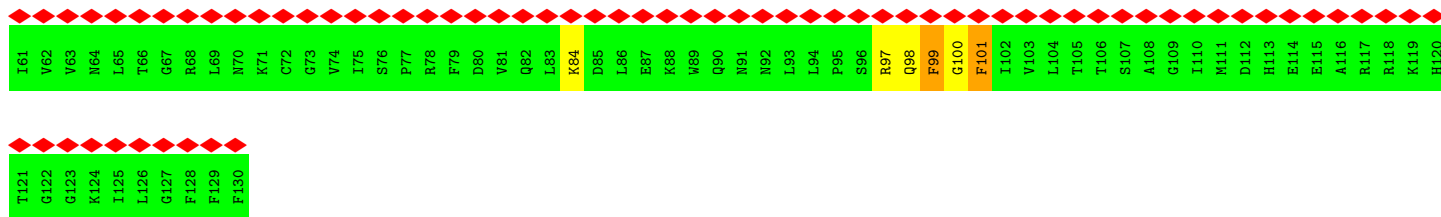


• Molecule 71: 40S ribosomal protein S21

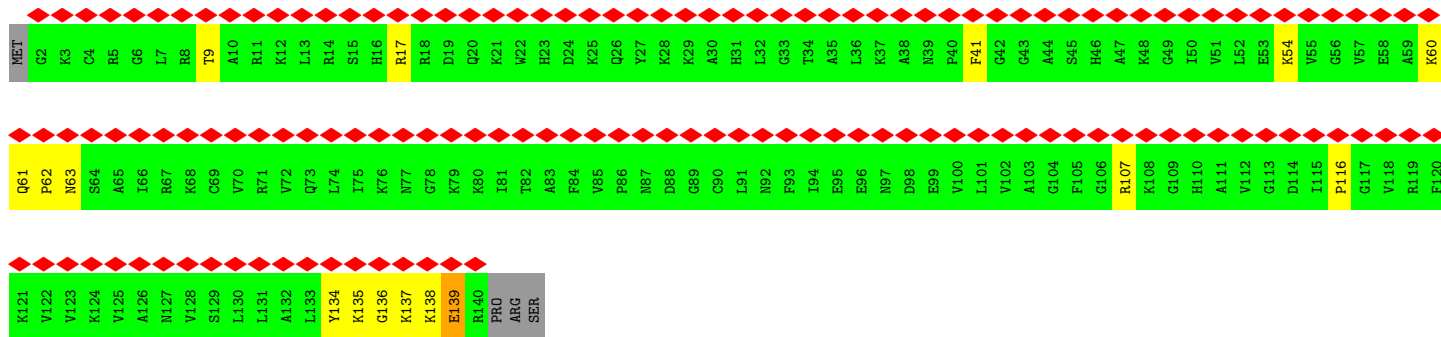
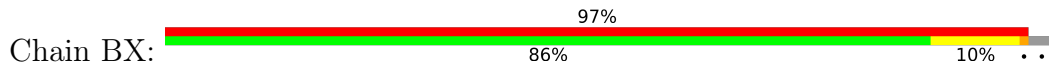


• Molecule 72: 40S ribosomal protein S15a





• Molecule 73: 40S ribosomal protein S23



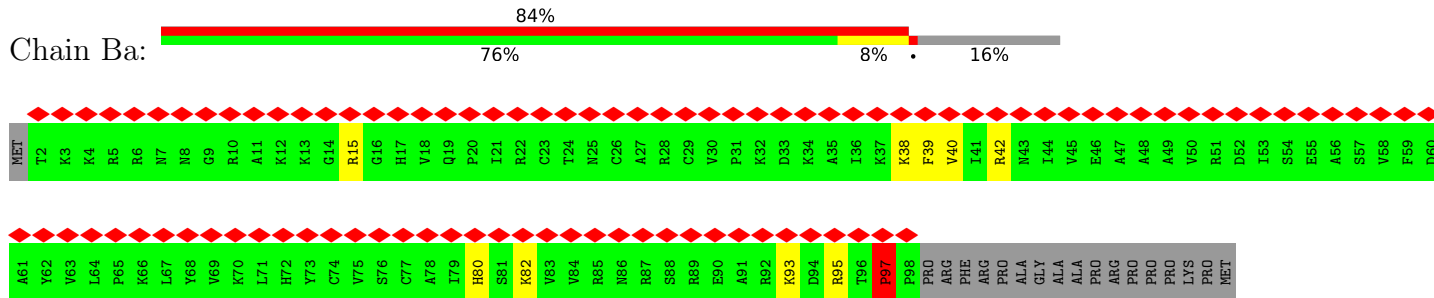
• Molecule 74: 40S ribosomal protein S24



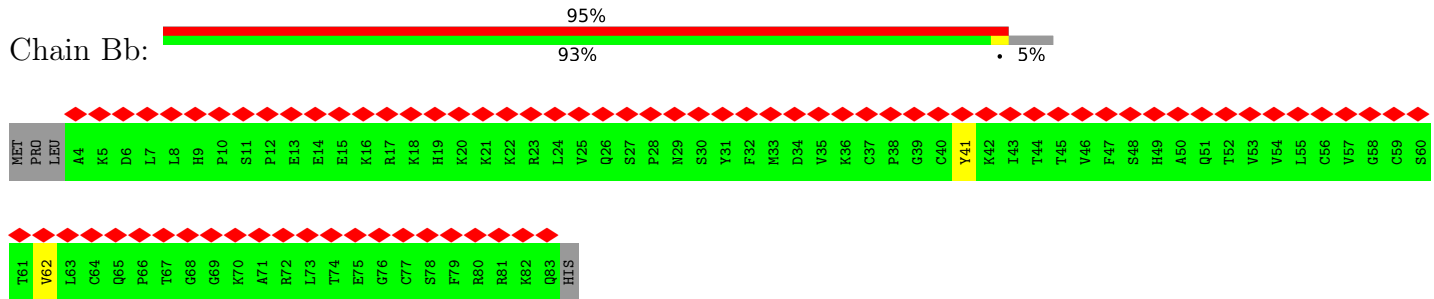
• Molecule 75: 40S ribosomal protein S25



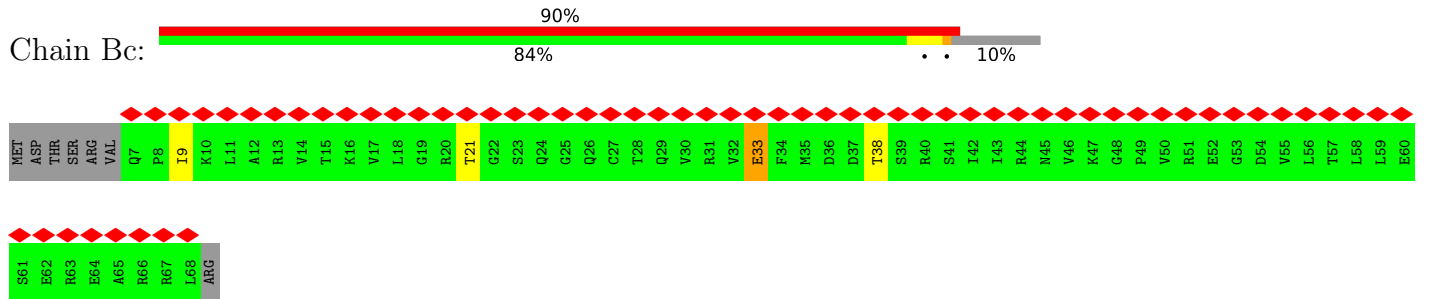
• Molecule 76: 40S ribosomal protein S26



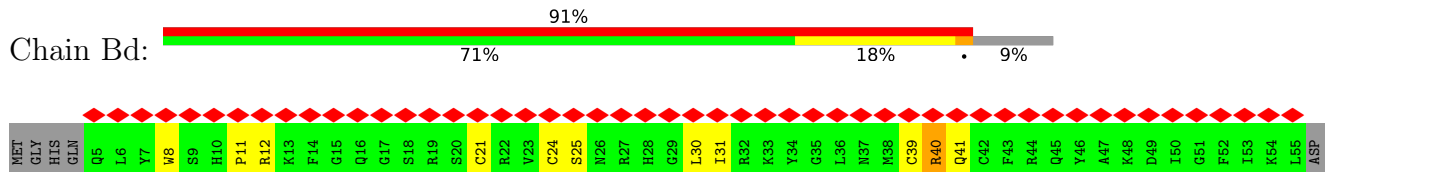
• Molecule 77: 40S ribosomal protein S27



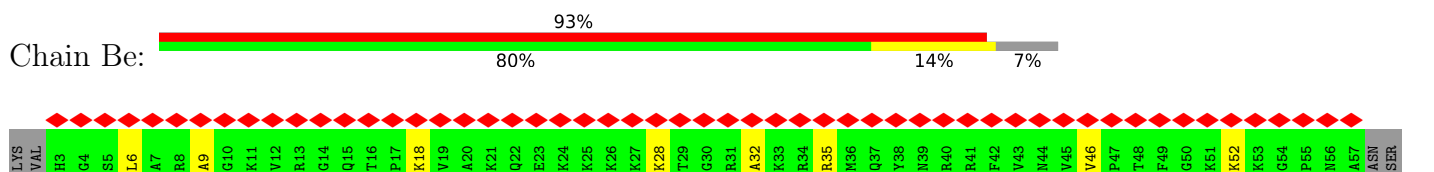
• Molecule 78: 40S ribosomal protein S28



• Molecule 79: 40S ribosomal protein S29



• Molecule 80: 40S ribosomal protein S30

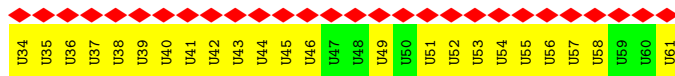


• Molecule 81: Ubiquitin-40S ribosomal protein S27a

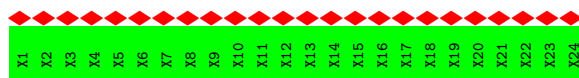




- Molecule 84: mRNA



- Molecule 85: Nascent protein chain



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	313321	Depositor
Resolution determination method	Not provided	
CTF correction method	DEFOCUS GROUPS	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	20.00	Depositor
Minimum defocus (nm)	2000.00	Depositor
Maximum defocus (nm)	4500.00	Depositor
Magnification	205000	Depositor
Image detector	TVIPS TEMCAM-F416 (4k x 4k)	Depositor
Maximum map value	15.028	Depositor
Minimum map value	-7.978	Depositor
Average map value	0.000	Depositor
Map value standard deviation	1.000	Depositor
Recommended contour level	3.0	Depositor
Map size (\AA)	378.0, 378.0, 378.0	wwPDB
Map dimensions	400, 400, 400	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (\AA)	0.945, 0.945, 0.945	Depositor

5 Model quality i

5.1 Standard geometry i

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

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	A3	1.12	40/3726 (1.1%)	1.17	52/5804 (0.9%)
2	A4	1.10	32/2839 (1.1%)	1.13	40/4425 (0.9%)
3	AA	0.44	0/1968	0.65	1/2639 (0.0%)
4	AB	0.39	0/3246	0.64	0/4345
5	AC	0.41	1/2942 (0.0%)	0.62	3/3951 (0.1%)
6	AD	0.42	0/2437	0.65	2/3262 (0.1%)
7	AE	0.50	0/1603	0.80	4/2153 (0.2%)
8	AF	0.37	0/1986	0.57	0/2644
9	AG	0.38	0/1913	0.57	0/2576
10	AH	0.38	0/1545	0.54	1/2077 (0.0%)
11	AI	0.41	0/1730	0.61	1/2311 (0.0%)
12	AJ	0.39	0/1376	0.59	0/1841
13	AK	0.85	3/886 (0.3%)	1.53	23/1188 (1.9%)
14	AL	0.48	3/1688 (0.2%)	0.73	5/2260 (0.2%)
15	AM	0.39	0/1161	0.64	0/1554
16	AN	0.39	0/1746	0.57	0/2338
17	AO	0.37	0/1638	0.60	0/2191
18	AP	0.42	0/1268	0.70	0/1701
19	AQ	0.47	2/1537 (0.1%)	0.63	3/2052 (0.1%)
20	AR	0.38	0/1533	0.63	1/2025 (0.0%)
21	AS	0.38	1/1488 (0.1%)	0.60	1/1997 (0.1%)
22	AT	0.38	0/1312	0.60	0/1753
23	AU	0.35	0/822	0.58	0/1103
24	AV	0.37	0/983	0.55	0/1319
25	AW	0.42	1/1004 (0.1%)	0.74	3/1332 (0.2%)
26	AX	0.34	0/975	0.51	0/1312
27	AY	0.35	0/1081	0.56	0/1439
28	AZ	0.42	0/1126	0.69	2/1502 (0.1%)
29	Aa	0.50	0/1191	0.70	1/1591 (0.1%)
30	Ab	0.36	0/569	0.58	0/750
31	Ac	0.38	0/812	0.60	0/1089
32	Ad	0.38	0/894	0.58	0/1204

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
33	Ae	0.42	0/1082	0.58	1/1443 (0.1%)
34	Af	0.47	0/895	0.73	2/1198 (0.2%)
35	Ag	0.39	0/916	0.58	0/1220
36	Ah	0.37	0/1023	0.63	1/1351 (0.1%)
37	Ai	0.35	0/805	0.58	0/1065
38	Aj	0.47	1/703 (0.1%)	0.92	3/929 (0.3%)
39	Ak	0.51	0/575	0.74	0/761
40	Al	0.37	0/454	0.54	0/599
41	Am	0.42	0/417	0.59	0/553
42	An	0.36	0/241	0.60	0/305
43	Ao	0.39	0/877	0.66	0/1156
44	Ap	0.39	0/718	0.60	0/953
45	Aq	0.89	3/1058 (0.3%)	1.93	34/1424 (2.4%)
46	At	0.41	0/995	0.69	0/1334
47	Au	0.73	1/1772 (0.1%)	1.28	17/2375 (0.7%)
48	A2	0.98	666/86613 (0.8%)	1.13	1094/135108 (0.8%)
49	B1	0.96	275/40767 (0.7%)	1.13	515/63536 (0.8%)
50	BA	0.52	1/1741 (0.1%)	0.72	5/2366 (0.2%)
51	BB	0.42	0/1749	0.62	0/2340
52	BC	0.37	0/1761	0.58	0/2379
53	BD	0.44	1/1736 (0.1%)	0.63	1/2338 (0.0%)
54	BE	0.41	1/2072 (0.0%)	0.59	1/2793 (0.0%)
55	BF	0.40	1/1524 (0.1%)	0.62	1/2048 (0.0%)
56	BG	0.41	0/1907	0.62	1/2538 (0.0%)
57	BH	0.43	0/1501	0.64	1/2009 (0.0%)
58	BI	0.41	0/1725	0.59	0/2298
59	BJ	0.36	0/1520	0.55	1/2030 (0.0%)
60	BK	0.43	0/851	0.68	0/1147
61	BL	0.44	1/1281 (0.1%)	0.65	2/1710 (0.1%)
62	BM	0.39	0/941	0.63	0/1264
63	BN	0.40	1/1226 (0.1%)	0.57	1/1649 (0.1%)
64	BO	0.43	0/1029	0.64	0/1380
65	BP	0.50	1/1019 (0.1%)	0.74	3/1361 (0.2%)
66	BQ	0.38	0/1126	0.58	2/1506 (0.1%)
67	BR	0.49	3/1023 (0.3%)	0.68	3/1373 (0.2%)
68	BS	0.42	1/1172 (0.1%)	0.63	1/1570 (0.1%)
69	BT	0.36	0/1131	0.60	0/1515
70	BU	0.45	0/778	0.65	1/1045 (0.1%)
71	BV	0.41	0/623	0.60	1/833 (0.1%)
72	BW	0.37	0/1051	0.55	0/1406
73	BX	0.44	1/1097 (0.1%)	0.61	1/1464 (0.1%)
74	BY	0.40	0/1032	0.64	0/1371
75	BZ	0.43	0/696	0.62	0/929

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
76	Ba	0.49	0/786	0.75	2/1053 (0.2%)
77	Bb	0.42	0/637	0.59	0/854
78	Bc	0.40	0/490	0.66	0/656
79	Bd	0.54	0/437	0.89	3/580 (0.5%)
80	Be	0.37	0/443	0.60	0/583
81	Bf	0.44	0/613	0.62	0/811
82	Bg	0.40	0/2497	0.60	0/3399
83	Bv	0.58	4/1813 (0.2%)	0.84	5/2823 (0.2%)
83	Bw	0.43	2/1813 (0.1%)	0.90	4/2823 (0.1%)
84	Bx	0.60	2/616 (0.3%)	1.20	11/948 (1.2%)
All	All	0.80	1049/234393 (0.4%)	0.98	1861/344230 (0.5%)

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
4	AB	0	3
5	AC	0	2
7	AE	0	1
8	AF	0	2
10	AH	0	3
13	AK	0	3
14	AL	0	6
39	Ak	0	1
48	A2	2	3
49	B1	1	0
54	BE	0	6
63	BN	0	2
64	BO	0	2
65	BP	0	11
66	BQ	0	6
72	BW	0	3
76	Ba	0	1
79	Bd	0	1
All	All	3	56

All (1049) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	A2	3612	U	O3'-P	-21.32	1.35	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
49	B1	842	C	O3'-P	20.18	1.85	1.61
48	A2	2689	C	O3'-P	-19.59	1.37	1.61
49	B1	558	G	O3'-P	19.39	1.84	1.61
49	B1	497	C	O3'-P	18.59	1.83	1.61
49	B1	72	C	O3'-P	17.80	1.82	1.61
49	B1	1253	A	O3'-P	17.54	1.82	1.61
49	B1	1439	A	O3'-P	-17.24	1.40	1.61
48	A2	925	C	O3'-P	-17.23	1.40	1.61
49	B1	2	A	O3'-P	-17.22	1.40	1.61
48	A2	1274	G	O3'-P	-17.14	1.40	1.61
48	A2	673	C	O3'-P	-17.07	1.40	1.61
49	B1	38	A	O3'-P	-17.07	1.40	1.61
49	B1	1792	G	O3'-P	-17.07	1.40	1.61
48	A2	1288	C	O3'-P	-17.03	1.40	1.61
48	A2	2335	U	O3'-P	-17.02	1.40	1.61
48	A2	3852	G	O3'-P	-17.01	1.40	1.61
48	A2	4906	C	O3'-P	-17.00	1.40	1.61
48	A2	210	G	O3'-P	-16.98	1.40	1.61
48	A2	4903	G	O3'-P	-16.92	1.40	1.61
49	B1	1389	C	O3'-P	-16.86	1.41	1.61
48	A2	2457	C	O3'-P	-16.84	1.41	1.61
1	A3	124	U	O3'-P	-16.74	1.41	1.61
48	A2	4907	G	O3'-P	-16.74	1.41	1.61
49	B1	619	A	O3'-P	-16.74	1.41	1.61
48	A2	4519	U	O3'-P	-16.69	1.41	1.61
48	A2	238	G	O3'-P	-16.68	1.41	1.61
48	A2	1433	C	O3'-P	-16.65	1.41	1.61
48	A2	3649	G	O3'-P	-16.62	1.41	1.61
48	A2	4117	C	O3'-P	-16.61	1.41	1.61
49	B1	1725	U	O3'-P	-16.59	1.41	1.61
48	A2	4664	G	O3'-P	-16.57	1.41	1.61
48	A2	4538	U	O3'-P	-16.55	1.41	1.61
48	A2	3697	A	O3'-P	-16.55	1.41	1.61
49	B1	348	A	O3'-P	-16.54	1.41	1.61
49	B1	1648	G	O3'-P	-16.37	1.41	1.61
48	A2	1716	G	O3'-P	16.25	1.80	1.61
48	A2	4316	U	O3'-P	-16.23	1.41	1.61
48	A2	3604	C	O3'-P	-16.05	1.41	1.61
2	A4	4	U	O3'-P	-16.04	1.42	1.61
49	B1	426	A	O3'-P	-16.01	1.42	1.61
48	A2	99	A	O3'-P	-15.96	1.42	1.61
49	B1	292	A	O3'-P	-15.91	1.42	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	A2	2602	A	O3'-P	-15.86	1.42	1.61
2	A4	71	G	O3'-P	-15.80	1.42	1.61
49	B1	1420	G	O3'-P	15.78	1.80	1.61
48	A2	4537	G	O3'-P	-15.70	1.42	1.61
49	B1	1475	G	O3'-P	-15.70	1.42	1.61
48	A2	100	C	O3'-P	-15.69	1.42	1.61
49	B1	421	G	O3'-P	-15.68	1.42	1.61
48	A2	3665	U	O3'-P	-15.66	1.42	1.61
48	A2	4457	G	O3'-P	-15.60	1.42	1.61
49	B1	999	G	O3'-P	-15.56	1.42	1.61
48	A2	4488	U	O3'-P	-15.43	1.42	1.61
49	B1	56	G	O3'-P	-15.37	1.42	1.61
2	A4	114	U	O3'-P	-15.37	1.42	1.61
48	A2	2832	C	O3'-P	-15.33	1.42	1.61
49	B1	1122	A	O3'-P	-15.29	1.42	1.61
48	A2	4045	U	O3'-P	-15.29	1.42	1.61
49	B1	368	U	O3'-P	-15.26	1.42	1.61
49	B1	1331	C	O3'-P	-15.24	1.42	1.61
48	A2	4020	A	O3'-P	-15.24	1.42	1.61
49	B1	1291	A	O3'-P	-15.24	1.42	1.61
48	A2	1712	U	O3'-P	-15.21	1.43	1.61
49	B1	1408	U	O3'-P	-15.17	1.43	1.61
48	A2	2330	C	O3'-P	-15.17	1.43	1.61
49	B1	114	G	O3'-P	-15.12	1.43	1.61
48	A2	4135	G	O3'-P	-15.04	1.43	1.61
48	A2	1711	A	O3'-P	-15.01	1.43	1.61
48	A2	111	C	O3'-P	-14.92	1.43	1.61
48	A2	1312	G	O3'-P	-14.91	1.43	1.61
48	A2	4486	G	O3'-P	-14.91	1.43	1.61
48	A2	963	G	O3'-P	-14.89	1.43	1.61
48	A2	4520	U	O3'-P	-14.84	1.43	1.61
49	B1	1683	C	O3'-P	-14.83	1.43	1.61
48	A2	4925	A	O3'-P	-14.79	1.43	1.61
48	A2	2734	A	O3'-P	-14.78	1.43	1.61
48	A2	1760	C	O3'-P	-14.77	1.43	1.61
48	A2	1771	C	O3'-P	-14.71	1.43	1.61
49	B1	1181	A	O3'-P	-14.69	1.43	1.61
49	B1	808	A	O3'-P	-14.68	1.43	1.61
49	B1	677	G	O3'-P	-14.59	1.43	1.61
48	A2	4834	U	O3'-P	-14.58	1.43	1.61
48	A2	295	G	O3'-P	-14.57	1.43	1.61
48	A2	2679	G	O3'-P	-14.56	1.43	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	A2	960	G	O3'-P	-14.54	1.43	1.61
48	A2	503	A	O3'-P	-14.50	1.43	1.61
49	B1	4	C	O3'-P	-14.34	1.44	1.61
49	B1	436	G	O3'-P	-14.32	1.44	1.61
48	A2	3860	G	O3'-P	-14.32	1.44	1.61
48	A2	2502	G	O3'-P	-14.29	1.44	1.61
48	A2	3876	A	O3'-P	-14.28	1.44	1.61
48	A2	4633	C	O3'-P	-14.28	1.44	1.61
48	A2	1376	G	O3'-P	-14.27	1.44	1.61
49	B1	1407	U	O3'-P	-14.27	1.44	1.61
49	B1	684	G	O3'-P	-14.26	1.44	1.61
48	A2	2525	G	O3'-P	-14.13	1.44	1.61
48	A2	4712	G	O3'-P	-14.10	1.44	1.61
48	A2	3593	C	O3'-P	-14.07	1.44	1.61
49	B1	495	U	O3'-P	-14.00	1.44	1.61
48	A2	927	C	O3'-P	-13.95	1.44	1.61
1	A3	139	G	O3'-P	-13.91	1.44	1.61
48	A2	4606	G	O3'-P	-13.91	1.44	1.61
48	A2	9	C	O3'-P	-13.87	1.44	1.61
48	A2	1593	C	O3'-P	-13.82	1.44	1.61
48	A2	2781	C	O3'-P	-13.74	1.44	1.61
48	A2	1854	A	O3'-P	-13.69	1.44	1.61
48	A2	2798	U	O3'-P	-13.67	1.44	1.61
49	B1	291	G	O3'-P	-13.65	1.44	1.61
49	B1	1316	C	O3'-P	-13.65	1.44	1.61
48	A2	2830	G	O3'-P	-13.62	1.44	1.61
48	A2	4461	G	O3'-P	-13.62	1.44	1.61
49	B1	632	C	O3'-P	-13.62	1.44	1.61
48	A2	958	U	C3'-O3'	-13.59	1.23	1.42
48	A2	1346	C	O3'-P	-13.59	1.44	1.61
48	A2	2601	G	O3'-P	-13.55	1.44	1.61
48	A2	1228	C	O3'-P	-13.54	1.45	1.61
49	B1	418	A	O3'-P	-13.54	1.45	1.61
48	A2	3707	A	O3'-P	-13.49	1.45	1.61
48	A2	154	U	O3'-P	-13.47	1.45	1.61
48	A2	5006	A	O3'-P	-13.37	1.45	1.61
48	A2	303	C	O3'-P	-13.33	1.45	1.61
49	B1	297	A	O3'-P	-13.32	1.45	1.61
48	A2	4989	G	O3'-P	-13.29	1.45	1.61
1	A3	15	G	O3'-P	-13.24	1.45	1.61
48	A2	4462	U	O3'-P	-13.23	1.45	1.61
49	B1	1484	A	O3'-P	-13.23	1.45	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	A2	3910	G	O3'-P	-13.22	1.45	1.61
48	A2	2826	G	O3'-P	-13.20	1.45	1.61
48	A2	2751	C	O3'-P	-13.18	1.45	1.61
48	A2	15	A	O3'-P	-13.15	1.45	1.61
48	A2	25	A	O3'-P	-13.14	1.45	1.61
48	A2	2053	C	O3'-P	-13.13	1.45	1.61
49	B1	404	G	O3'-P	-13.13	1.45	1.61
49	B1	1682	C	O3'-P	-13.13	1.45	1.61
48	A2	4990	C	O3'-P	-13.12	1.45	1.61
1	A3	14	U	O3'-P	-13.09	1.45	1.61
48	A2	4521	A	O3'-P	-13.07	1.45	1.61
48	A2	1259	C	O3'-P	-13.05	1.45	1.61
48	A2	2750	G	O3'-P	-13.04	1.45	1.61
49	B1	626	G	O3'-P	-13.02	1.45	1.61
1	A3	126	C	O3'-P	-13.01	1.45	1.61
49	B1	215	G	O3'-P	-13.01	1.45	1.61
48	A2	350	G	O3'-P	-13.01	1.45	1.61
49	B1	188	C	O3'-P	-12.98	1.45	1.61
49	B1	412	G	O3'-P	-12.96	1.45	1.61
48	A2	4823	C	O3'-P	-12.95	1.45	1.61
49	B1	1526	G	O3'-P	-12.91	1.45	1.61
48	A2	1057	G	O3'-P	12.90	1.76	1.61
49	B1	459	C	O3'-P	-12.90	1.45	1.61
48	A2	4976	C	O3'-P	-12.89	1.45	1.61
48	A2	974	C	O3'-P	-12.86	1.45	1.61
48	A2	3792	A	O3'-P	-12.85	1.45	1.61
48	A2	298	C	O3'-P	-12.83	1.45	1.61
49	B1	32	U	O3'-P	-12.81	1.45	1.61
49	B1	1080	A	O3'-P	-12.81	1.45	1.61
49	B1	681	U	O3'-P	-12.79	1.45	1.61
48	A2	958	U	O3'-P	-12.79	1.45	1.61
48	A2	79	C	O3'-P	-12.72	1.45	1.61
49	B1	501	C	O3'-P	-12.72	1.45	1.61
48	A2	4830	G	O3'-P	-12.71	1.45	1.61
49	B1	370	G	O3'-P	-12.71	1.46	1.61
48	A2	1759	C	O3'-P	-12.69	1.46	1.61
48	A2	4682	C	O3'-P	-12.66	1.46	1.61
49	B1	1022	U	O3'-P	-12.65	1.46	1.61
48	A2	1353	G	O3'-P	-12.62	1.46	1.61
48	A2	4677	C	O3'-P	-12.61	1.46	1.61
49	B1	1031	A	O3'-P	-12.60	1.46	1.61
48	A2	1227	G	O3'-P	-12.58	1.46	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	A2	1249	G	O3'-P	12.57	1.76	1.61
48	A2	451	G	O3'-P	-12.54	1.46	1.61
48	A2	4992	A	O3'-P	-12.52	1.46	1.61
1	A3	150	C	O3'-P	-12.52	1.46	1.61
48	A2	1973	U	O3'-P	-12.50	1.46	1.61
1	A3	89	U	O3'-P	-12.48	1.46	1.61
48	A2	452	C	O3'-P	-12.46	1.46	1.61
2	A4	104	C	O3'-P	-12.46	1.46	1.61
49	B1	683	G	O3'-P	12.45	1.76	1.61
48	A2	3624	A	O3'-P	-12.38	1.46	1.61
48	A2	2445	G	O3'-P	-12.36	1.46	1.61
48	A2	2290	C	O3'-P	-12.36	1.46	1.61
48	A2	1295	A	O3'-P	-12.35	1.46	1.61
48	A2	4059	G	O3'-P	-12.33	1.46	1.61
48	A2	3850	G	O3'-P	-12.30	1.46	1.61
48	A2	1061	A	O3'-P	-12.29	1.46	1.61
48	A2	3651	U	O3'-P	-12.29	1.46	1.61
49	B1	351	G	O3'-P	12.28	1.75	1.61
48	A2	2505	C	O3'-P	-12.28	1.46	1.61
48	A2	3839	G	O3'-P	-12.28	1.46	1.61
48	A2	2268	C	O3'-P	-12.22	1.46	1.61
48	A2	1763	U	O3'-P	-12.22	1.46	1.61
49	B1	1220	A	O3'-P	-12.20	1.46	1.61
49	B1	615	C	O3'-P	-12.18	1.46	1.61
48	A2	319	U	O3'-P	-12.15	1.46	1.61
48	A2	3629	C	O3'-P	-12.12	1.46	1.61
1	A3	115	G	O3'-P	-12.07	1.46	1.61
48	A2	1292	C	O3'-P	-12.07	1.46	1.61
1	A3	4	C	O3'-P	-12.06	1.46	1.61
48	A2	1053	G	O3'-P	-12.04	1.46	1.61
2	A4	41	G	O3'-P	-12.04	1.46	1.61
48	A2	4040	U	O3'-P	-12.01	1.46	1.61
48	A2	260	C	O3'-P	-12.00	1.46	1.61
48	A2	959	C	O3'-P	-12.00	1.46	1.61
48	A2	2782	U	O3'-P	-12.00	1.46	1.61
48	A2	4980	U	O3'-P	-11.97	1.46	1.61
48	A2	1981	G	O3'-P	-11.92	1.46	1.61
48	A2	4974	A	O3'-P	-11.91	1.46	1.61
49	B1	105	U	O3'-P	-11.88	1.46	1.61
49	B1	1746	U	O3'-P	-11.88	1.46	1.61
48	A2	200	U	O3'-P	-11.86	1.47	1.61
48	A2	160	A	O3'-P	-11.86	1.47	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
49	B1	35	C	O3'-P	-11.86	1.47	1.61
48	A2	3859	G	O3'-P	-11.85	1.47	1.61
49	B1	502	C	O3'-P	-11.84	1.47	1.61
48	A2	1357	G	O3'-P	-11.84	1.47	1.61
48	A2	1530	G	O3'-P	-11.83	1.47	1.61
48	A2	2869	C	O3'-P	-11.83	1.47	1.61
49	B1	454	U	O3'-P	-11.82	1.47	1.61
48	A2	1872	A	O3'-P	-11.81	1.47	1.61
48	A2	2292	A	O3'-P	-11.81	1.47	1.61
49	B1	930	C	O3'-P	-11.79	1.47	1.61
48	A2	1271	G	O3'-P	-11.78	1.47	1.61
48	A2	2570	A	O3'-P	-11.72	1.47	1.61
49	B1	405	G	O3'-P	-11.71	1.47	1.61
49	B1	933	G	O3'-P	-11.71	1.47	1.61
49	B1	976	G	O3'-P	-11.64	1.47	1.61
48	A2	2280	G	O3'-P	-11.62	1.47	1.61
49	B1	21	U	O3'-P	-11.61	1.47	1.61
48	A2	19	G	O3'-P	-11.61	1.47	1.61
48	A2	2876	G	O3'-P	-11.58	1.47	1.61
48	A2	703	C	O3'-P	-11.58	1.47	1.61
48	A2	4704	G	O3'-P	-11.55	1.47	1.61
49	B1	1194	A	O3'-P	-11.54	1.47	1.61
49	B1	1806	A	O3'-P	-11.54	1.47	1.61
48	A2	2501	G	O3'-P	-11.51	1.47	1.61
48	A2	716	G	O3'-P	-11.51	1.47	1.61
49	B1	112	U	O3'-P	11.49	1.75	1.61
49	B1	298	G	O3'-P	-11.48	1.47	1.61
48	A2	718	C	O3'-P	-11.47	1.47	1.61
48	A2	2503	U	O3'-P	-11.47	1.47	1.61
1	A3	118	C	O3'-P	-11.46	1.47	1.61
48	A2	421	A	O3'-P	-11.45	1.47	1.61
49	B1	1460	C	O3'-P	-11.44	1.47	1.61
2	A4	106	G	O3'-P	-11.41	1.47	1.61
48	A2	190	G	O3'-P	11.37	1.74	1.61
48	A2	68	U	O3'-P	-11.36	1.47	1.61
49	B1	1395	C	O3'-P	-11.35	1.47	1.61
49	B1	33	G	O3'-P	-11.35	1.47	1.61
48	A2	961	C	O3'-P	-11.32	1.47	1.61
48	A2	2818	U	O3'-P	-11.31	1.47	1.61
48	A2	1488	G	O3'-P	-11.30	1.47	1.61
48	A2	2603	G	O3'-P	-11.28	1.47	1.61
48	A2	226	G	O3'-P	-11.24	1.47	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
49	B1	1676	U	O3'-P	-11.23	1.47	1.61
49	B1	1855	G	O3'-P	-11.23	1.47	1.61
48	A2	4160	G	O3'-P	-11.22	1.47	1.61
49	B1	361	U	O3'-P	11.22	1.74	1.61
48	A2	2521	G	O3'-P	-11.21	1.47	1.61
1	A3	141	C	O3'-P	-11.18	1.47	1.61
48	A2	2327	G	O3'-P	-11.18	1.47	1.61
48	A2	2458	G	O3'-P	-11.18	1.47	1.61
48	A2	4913	A	O3'-P	-11.16	1.47	1.61
48	A2	3667	C	O3'-P	-11.15	1.47	1.61
48	A2	4602	C	O3'-P	-11.13	1.47	1.61
48	A2	92	C	O3'-P	-11.12	1.47	1.61
48	A2	3617	A	O3'-P	-11.11	1.47	1.61
49	B1	1744	G	O3'-P	-11.10	1.47	1.61
49	B1	660	C	O3'-P	-11.09	1.47	1.61
48	A2	1359	C	O3'-P	-11.06	1.47	1.61
48	A2	204	G	O3'-P	-11.06	1.47	1.61
48	A2	1218	G	O3'-P	-11.05	1.47	1.61
48	A2	1193	C	O3'-P	-11.03	1.48	1.61
49	B1	350	C	O3'-P	-11.03	1.48	1.61
48	A2	49	U	O3'-P	-11.01	1.48	1.61
48	A2	4605	G	O3'-P	-11.01	1.48	1.61
48	A2	296	C	O3'-P	-11.00	1.48	1.61
48	A2	4012	G	O3'-P	-10.99	1.48	1.61
48	A2	1070	A	O3'-P	-10.98	1.48	1.61
49	B1	416	U	O3'-P	-10.98	1.48	1.61
48	A2	2704	A	O3'-P	-10.89	1.48	1.61
48	A2	207	C	O3'-P	-10.88	1.48	1.61
48	A2	4483	U	O3'-P	-10.82	1.48	1.61
48	A2	431	G	O3'-P	-10.78	1.48	1.61
1	A3	67	U	O3'-P	-10.77	1.48	1.61
48	A2	308	G	O3'-P	-10.76	1.48	1.61
48	A2	2786	A	O3'-P	-10.76	1.48	1.61
48	A2	4617	A	O3'-P	-10.76	1.48	1.61
49	B1	1453	C	O3'-P	-10.75	1.48	1.61
48	A2	2753	C	O3'-P	-10.72	1.48	1.61
48	A2	1851	C	O3'-P	-10.71	1.48	1.61
48	A2	90	G	O3'-P	-10.71	1.48	1.61
2	A4	40	U	O3'-P	-10.70	1.48	1.61
48	A2	2569	G	O3'-P	-10.66	1.48	1.61
45	Aq	46	ILE	CB-CG2	-10.65	1.19	1.52
48	A2	3740	C	O3'-P	-10.65	1.48	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	A2	286	G	O3'-P	-10.63	1.48	1.61
48	A2	916	A	O3'-P	10.63	1.74	1.61
49	B1	1123	C	O3'-P	-10.63	1.48	1.61
49	B1	450	C	O3'-P	-10.63	1.48	1.61
48	A2	1616	A	O3'-P	-10.61	1.48	1.61
48	A2	3836	A	O3'-P	-10.58	1.48	1.61
48	A2	4306	U	O3'-P	-10.55	1.48	1.61
48	A2	2269	C	O3'-P	-10.54	1.48	1.61
2	A4	33	U	O3'-P	-10.51	1.48	1.61
48	A2	2694	G	O3'-P	-10.51	1.48	1.61
48	A2	2422	G	O3'-P	-10.50	1.48	1.61
48	A2	1245	G	O3'-P	-10.49	1.48	1.61
48	A2	3818	C	O3'-P	-10.49	1.48	1.61
49	B1	20	G	O3'-P	-10.48	1.48	1.61
49	B1	1276	A	O3'-P	-10.48	1.48	1.61
1	A3	136	U	O3'-P	-10.46	1.48	1.61
48	A2	22	G	O3'-P	-10.45	1.48	1.61
1	A3	25	G	O3'-P	-10.45	1.48	1.61
49	B1	84	A	O3'-P	-10.44	1.48	1.61
48	A2	2841	G	O3'-P	-10.42	1.48	1.61
48	A2	405	G	O3'-P	-10.40	1.48	1.61
48	A2	3623	A	O3'-P	-10.36	1.48	1.61
48	A2	3662	G	O3'-P	-10.35	1.48	1.61
48	A2	2599	G	O3'-P	-10.34	1.48	1.61
49	B1	604	A	O3'-P	-10.34	1.48	1.61
48	A2	1846	G	O3'-P	-10.32	1.48	1.61
2	A4	5	A	O3'-P	-10.28	1.48	1.61
49	B1	106	C	O3'-P	-10.28	1.48	1.61
49	B1	597	G	O3'-P	-10.25	1.48	1.61
49	B1	147	A	O3'-P	-10.24	1.48	1.61
48	A2	2435	G	O3'-P	-10.22	1.48	1.61
48	A2	3687	C	O3'-P	-10.22	1.48	1.61
83	Bw	1	G	OP3-P	-10.21	1.49	1.61
48	A2	1631	U	O3'-P	-10.20	1.49	1.61
49	B1	1742	C	O3'-P	-10.20	1.49	1.61
48	A2	2328	A	O3'-P	-10.18	1.49	1.61
83	Bv	1	G	OP3-P	-10.18	1.49	1.61
1	A3	113	C	O3'-P	-10.17	1.49	1.61
84	Bx	34	U	OP3-P	-10.17	1.49	1.61
49	B1	1561	A	O3'-P	-10.16	1.49	1.61
48	A2	2472	G	O3'-P	-10.15	1.49	1.61
48	A2	356	A	O3'-P	-10.13	1.49	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
49	B1	219	U	O3'-P	-10.11	1.49	1.61
48	A2	4587	C	O3'-P	-10.10	1.49	1.61
48	A2	3834	C	O3'-P	-10.10	1.49	1.61
48	A2	2783	C	O3'-P	-10.07	1.49	1.61
48	A2	4618	A	O3'-P	-10.01	1.49	1.61
1	A3	3	A	O3'-P	-9.98	1.49	1.61
49	B1	1789	G	O3'-P	-9.98	1.49	1.61
48	A2	4125	U	O3'-P	-9.98	1.49	1.61
48	A2	1572	C	O3'-P	-9.97	1.49	1.61
48	A2	3808	C	O3'-P	-9.96	1.49	1.61
48	A2	1198	C	O3'-P	-9.96	1.49	1.61
48	A2	2758	C	O3'-P	-9.96	1.49	1.61
48	A2	153	G	O3'-P	-9.96	1.49	1.61
2	A4	34	C	O3'-P	9.92	1.73	1.61
48	A2	4924	A	O3'-P	-9.91	1.49	1.61
49	B1	425	G	O3'-P	-9.90	1.49	1.61
49	B1	864	A	O3'-P	-9.86	1.49	1.61
48	A2	432	G	O3'-P	-9.84	1.49	1.61
48	A2	1313	A	O3'-P	-9.84	1.49	1.61
48	A2	656	C	O3'-P	-9.84	1.49	1.61
2	A4	90	A	O3'-P	-9.81	1.49	1.61
49	B1	1643	U	O3'-P	-9.80	1.49	1.61
48	A2	2527	C	O3'-P	-9.80	1.49	1.61
48	A2	4835	G	O3'-P	-9.80	1.49	1.61
48	A2	4041	U	O3'-P	-9.79	1.49	1.61
49	B1	1491	G	O3'-P	-9.79	1.49	1.61
49	B1	1219	C	O3'-P	-9.73	1.49	1.61
48	A2	3738	C	O3'-P	-9.71	1.49	1.61
49	B1	448	A	O3'-P	9.71	1.72	1.61
49	B1	1024	A	O3'-P	-9.70	1.49	1.61
48	A2	3663	A	O3'-P	-9.68	1.49	1.61
48	A2	1612	A	O3'-P	-9.66	1.49	1.61
48	A2	378	A	O3'-P	-9.62	1.49	1.61
48	A2	4590	U	O3'-P	-9.61	1.49	1.61
49	B1	1727	G	O3'-P	-9.60	1.49	1.61
49	B1	1107	G	O3'-P	-9.59	1.49	1.61
48	A2	4060	G	O3'-P	-9.59	1.49	1.61
48	A2	2611	U	O3'-P	-9.58	1.49	1.61
49	B1	689	U	O3'-P	-9.57	1.49	1.61
48	A2	4720	U	O3'-P	-9.56	1.49	1.61
48	A2	4723	G	O3'-P	-9.54	1.49	1.61
49	B1	1306	U	O3'-P	-9.52	1.49	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	A2	4308	U	O3'-P	-9.49	1.49	1.61
48	A2	2302	C	O3'-P	-9.48	1.49	1.61
48	A2	440	C	O3'-P	-9.47	1.49	1.61
2	A4	63	C	O3'-P	-9.46	1.49	1.61
48	A2	1071	C	O3'-P	-9.43	1.49	1.61
48	A2	2746	U	O3'-P	-9.40	1.49	1.61
48	A2	4413	G	O3'-P	-9.38	1.49	1.61
48	A2	1803	G	O3'-P	-9.38	1.49	1.61
1	A3	129	C	O3'-P	-9.37	1.50	1.61
1	A3	23	C	O3'-P	-9.37	1.50	1.61
48	A2	2747	C	O3'-P	-9.37	1.50	1.61
48	A2	2454	G	O3'-P	-9.36	1.50	1.61
49	B1	680	G	O3'-P	-9.35	1.50	1.61
48	A2	1588	U	O3'-P	-9.33	1.50	1.61
49	B1	1856	C	O3'-P	-9.32	1.50	1.61
48	A2	2245	C	O3'-P	-9.31	1.50	1.61
48	A2	4985	C	O3'-P	-9.29	1.50	1.61
48	A2	504	U	O3'-P	-9.27	1.50	1.61
48	A2	466	C	O3'-P	-9.25	1.50	1.61
49	B1	94	G	O3'-P	-9.23	1.50	1.61
48	A2	4828	G	O3'-P	-9.22	1.50	1.61
48	A2	4318	G	O3'-P	-9.21	1.50	1.61
49	B1	817	G	O3'-P	-9.20	1.50	1.61
48	A2	4124	C	O3'-P	-9.20	1.50	1.61
48	A2	2877	G	O3'-P	-9.19	1.50	1.61
48	A2	433	G	O3'-P	-9.18	1.50	1.61
48	A2	929	G	O3'-P	-9.18	1.50	1.61
48	A2	3660	G	O3'-P	-9.18	1.50	1.61
49	B1	1015	U	O3'-P	-9.16	1.50	1.61
48	A2	2872	U	O3'-P	-9.16	1.50	1.61
49	B1	1476	A	O3'-P	-9.14	1.50	1.61
48	A2	4601	G	O3'-P	-9.14	1.50	1.61
48	A2	3718	A	O3'-P	-9.13	1.50	1.61
49	B1	369	C	O3'-P	-9.09	1.50	1.61
48	A2	2523	G	O3'-P	-9.07	1.50	1.61
48	A2	278	G	O3'-P	-9.07	1.50	1.61
1	A3	119	C	O3'-P	-9.07	1.50	1.61
48	A2	2701	G	O3'-P	-9.06	1.50	1.61
48	A2	959	C	P-O5'	-9.05	1.50	1.59
48	A2	3816	A	O3'-P	-9.04	1.50	1.61
48	A2	1736	U	O3'-P	-9.03	1.50	1.61
48	A2	4523	C	O3'-P	-9.02	1.50	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
49	B1	1047	C	O3'-P	-9.02	1.50	1.61
48	A2	4056	G	O3'-P	-9.02	1.50	1.61
48	A2	892	C	O3'-P	-9.00	1.50	1.61
48	A2	650	C	O3'-P	-8.99	1.50	1.61
48	A2	20	U	O3'-P	-8.99	1.50	1.61
48	A2	4360	C	O3'-P	-8.99	1.50	1.61
48	A2	4162	G	O3'-P	8.98	1.72	1.61
48	A2	4728	C	O3'-P	-8.96	1.50	1.61
48	A2	1368	G	O3'-P	-8.96	1.50	1.61
2	A4	67	C	O3'-P	-8.95	1.50	1.61
48	A2	4406	C	O3'-P	8.94	1.71	1.61
48	A2	4459	U	O3'-P	-8.93	1.50	1.61
49	B1	953	C	O3'-P	-8.91	1.50	1.61
48	A2	4993	U	O3'-P	-8.90	1.50	1.61
48	A2	1314	C	O3'-P	-8.90	1.50	1.61
48	A2	2059	C	O3'-P	-8.90	1.50	1.61
48	A2	3570	A	O3'-P	-8.89	1.50	1.61
48	A2	1987	U	O3'-P	-8.89	1.50	1.61
48	A2	4840	U	O3'-P	-8.88	1.50	1.61
48	A2	1586	G	O3'-P	-8.87	1.50	1.61
49	B1	946	U	O3'-P	-8.87	1.50	1.61
49	B1	1334	G	O3'-P	-8.87	1.50	1.61
48	A2	483	C	O3'-P	-8.84	1.50	1.61
48	A2	216	G	O3'-P	-8.84	1.50	1.61
48	A2	3728	G	O3'-P	-8.84	1.50	1.61
48	A2	4959	U	O3'-P	-8.82	1.50	1.61
49	B1	307	G	O3'-P	-8.82	1.50	1.61
49	B1	1388	A	O3'-P	-8.80	1.50	1.61
49	B1	1645	C	O3'-P	-8.80	1.50	1.61
48	A2	4010	C	O3'-P	-8.79	1.50	1.61
49	B1	1667	U	O3'-P	-8.78	1.50	1.61
48	A2	1788	G	O3'-P	-8.78	1.50	1.61
48	A2	1983	A	O3'-P	-8.74	1.50	1.61
48	A2	2671	U	O3'-P	-8.74	1.50	1.61
49	B1	847	A	O3'-P	-8.73	1.50	1.61
48	A2	3670	C	O3'-P	-8.73	1.50	1.61
48	A2	4456	G	O3'-P	-8.71	1.50	1.61
49	B1	979	C	O3'-P	-8.70	1.50	1.61
48	A2	60	A	O3'-P	-8.70	1.50	1.61
49	B1	295	C	O3'-P	-8.69	1.50	1.61
49	B1	663	C	O3'-P	-8.68	1.50	1.61
49	B1	1644	C	O3'-P	-8.68	1.50	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	A2	1569	G	O3'-P	-8.66	1.50	1.61
49	B1	410	G	O3'-P	-8.63	1.50	1.61
49	B1	844	U	O3'-P	-8.63	1.50	1.61
49	B1	639	C	O3'-P	-8.63	1.50	1.61
49	B1	174	C	O3'-P	-8.62	1.50	1.61
49	B1	1340	U	O3'-P	-8.62	1.50	1.61
49	B1	1729	U	O3'-P	-8.61	1.50	1.61
48	A2	910	C	O3'-P	-8.60	1.50	1.61
49	B1	1224	G	O3'-P	-8.60	1.50	1.61
48	A2	220	G	O3'-P	-8.58	1.50	1.61
49	B1	1868	U	O3'-P	8.57	1.71	1.61
48	A2	1199	C	O3'-P	8.56	1.71	1.61
48	A2	4052	G	O3'-P	-8.55	1.50	1.61
2	A4	55	A	O3'-P	-8.55	1.50	1.61
48	A2	4039	U	O3'-P	-8.54	1.50	1.61
48	A2	4994	C	O3'-P	-8.54	1.50	1.61
49	B1	803	C	O3'-P	-8.52	1.50	1.61
49	B1	940	U	O3'-P	-8.51	1.50	1.61
48	A2	4663	A	O3'-P	8.50	1.71	1.61
49	B1	1445	U	O3'-P	-8.50	1.50	1.61
48	A2	1296	C	O3'-P	-8.50	1.50	1.61
48	A2	3685	G	O3'-P	8.49	1.71	1.61
48	A2	4594	U	O3'-P	-8.48	1.50	1.61
48	A2	1731	A	O3'-P	-8.47	1.50	1.61
48	A2	2433	U	O3'-P	-8.47	1.50	1.61
48	A2	1879	C	O3'-P	-8.46	1.51	1.61
49	B1	918	U	O3'-P	8.45	1.71	1.61
48	A2	1191	G	O3'-P	-8.45	1.51	1.61
48	A2	1340	C	O3'-P	-8.44	1.51	1.61
48	A2	1725	A	O3'-P	-8.44	1.51	1.61
48	A2	4327	C	O3'-P	-8.42	1.51	1.61
48	A2	125	C	O3'-P	8.42	1.71	1.61
48	A2	1319	G	O3'-P	8.39	1.71	1.61
49	B1	804	U	O3'-P	-8.38	1.51	1.61
48	A2	2733	G	O3'-P	-8.37	1.51	1.61
48	A2	1464	G	O3'-P	-8.37	1.51	1.61
48	A2	1727	G	O3'-P	-8.37	1.51	1.61
48	A2	1714	C	O3'-P	-8.36	1.51	1.61
48	A2	2728	C	O3'-P	-8.35	1.51	1.61
49	B1	148	U	O3'-P	-8.34	1.51	1.61
48	A2	3587	U	O3'-P	-8.34	1.51	1.61
48	A2	4890	U	O3'-P	-8.30	1.51	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
49	B1	1310	U	O3'-P	-8.30	1.51	1.61
48	A2	1613	A	O3'-P	-8.29	1.51	1.61
49	B1	974	C	O3'-P	-8.29	1.51	1.61
48	A2	1957	G	O3'-P	-8.28	1.51	1.61
48	A2	4660	C	O3'-P	-8.27	1.51	1.61
48	A2	1348	C	O3'-P	-8.27	1.51	1.61
1	A3	24	G	O3'-P	-8.26	1.51	1.61
48	A2	917	G	O3'-P	8.24	1.71	1.61
48	A2	1490	A	O3'-P	-8.24	1.51	1.61
1	A3	127	U	O3'-P	8.21	1.71	1.61
48	A2	1972	A	O3'-P	-8.19	1.51	1.61
48	A2	4603	U	O3'-P	-8.18	1.51	1.61
48	A2	3917	G	O3'-P	-8.18	1.51	1.61
49	B1	1248	U	O3'-P	-8.17	1.51	1.61
48	A2	14	C	O3'-P	-8.16	1.51	1.61
48	A2	2061	U	O3'-P	-8.14	1.51	1.61
49	B1	984	C	O3'-P	-8.14	1.51	1.61
49	B1	1304	U	O3'-P	-8.14	1.51	1.61
48	A2	4524	C	O3'-P	-8.13	1.51	1.61
48	A2	4319	G	O3'-P	-8.12	1.51	1.61
48	A2	2270	G	O3'-P	-8.11	1.51	1.61
49	B1	69	C	O3'-P	-8.10	1.51	1.61
48	A2	634	C	O3'-P	8.04	1.70	1.61
48	A2	643	A	O3'-P	-8.03	1.51	1.61
48	A2	2697	U	O3'-P	-8.03	1.51	1.61
48	A2	288	G	O3'-P	-8.03	1.51	1.61
48	A2	1974	C	O3'-P	8.02	1.70	1.61
49	B1	1254	C	O3'-P	-8.02	1.51	1.61
49	B1	1421	A	O3'-P	-8.01	1.51	1.61
2	A4	70	G	O3'-P	-8.00	1.51	1.61
49	B1	1462	U	O3'-P	-7.99	1.51	1.61
45	Aq	75	PRO	N-CD	7.99	1.59	1.47
1	A3	135	C	O3'-P	-7.99	1.51	1.61
48	A2	147	U	O3'-P	7.98	1.70	1.61
45	Aq	75	PRO	CG-CD	7.96	1.76	1.50
2	A4	105	C	O3'-P	-7.96	1.51	1.61
48	A2	348	U	O3'-P	-7.94	1.51	1.61
48	A2	726	G	O3'-P	-7.93	1.51	1.61
1	A3	2	G	O3'-P	-7.90	1.51	1.61
1	A3	93	C	O3'-P	-7.88	1.51	1.61
48	A2	930	A	O3'-P	-7.86	1.51	1.61
48	A2	1954	G	O3'-P	7.85	1.70	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	A2	1845	G	O3'-P	-7.85	1.51	1.61
48	A2	4827	U	C5'-C4'	-7.84	1.42	1.51
48	A2	205	A	O3'-P	-7.83	1.51	1.61
48	A2	110	C	O3'-P	-7.83	1.51	1.61
48	A2	3702	C	O3'-P	7.80	1.70	1.61
48	A2	2672	G	O3'-P	-7.79	1.51	1.61
48	A2	3611	U	O3'-P	-7.76	1.51	1.61
48	A2	3736	G	O3'-P	-7.76	1.51	1.61
48	A2	7	C	O3'-P	-7.75	1.51	1.61
48	A2	2702	U	O3'-P	-7.75	1.51	1.61
48	A2	3719	A	O3'-P	-7.75	1.51	1.61
49	B1	289	G	O3'-P	-7.75	1.51	1.61
48	A2	4094	C	O3'-P	-7.74	1.51	1.61
1	A3	72	A	O3'-P	-7.74	1.51	1.61
48	A2	1560	U	O3'-P	7.73	1.70	1.61
48	A2	2698	C	O3'-P	-7.73	1.51	1.61
48	A2	2759	C	O3'-P	-7.70	1.51	1.61
49	B1	119	U	O3'-P	-7.69	1.51	1.61
48	A2	2736	A	O3'-P	-7.68	1.51	1.61
48	A2	724	A	O3'-P	-7.68	1.51	1.61
49	B1	1642	U	O3'-P	-7.66	1.51	1.61
48	A2	1059	C	O3'-P	7.65	1.70	1.61
49	B1	86	C	O3'-P	-7.65	1.51	1.61
48	A2	5007	G	O3'-P	-7.64	1.51	1.61
48	A2	299	A	O3'-P	-7.63	1.51	1.61
48	A2	4825	G	O3'-P	-7.63	1.51	1.61
48	A2	1804	U	O3'-P	-7.63	1.51	1.61
49	B1	123	G	O3'-P	-7.63	1.51	1.61
48	A2	4173	C	O3'-P	-7.63	1.51	1.61
48	A2	4123	G	O3'-P	-7.62	1.52	1.61
48	A2	919	A	O3'-P	7.61	1.70	1.61
48	A2	2699	C	O3'-P	-7.61	1.52	1.61
49	B1	1726	G	O3'-P	-7.60	1.52	1.61
48	A2	4685	A	O3'-P	-7.59	1.52	1.61
48	A2	1574	G	O3'-P	-7.58	1.52	1.61
48	A2	4707	G	O3'-P	-7.58	1.52	1.61
48	A2	702	A	O3'-P	-7.58	1.52	1.61
48	A2	4837	C	O3'-P	-7.58	1.52	1.61
2	A4	112	U	O3'-P	7.58	1.70	1.61
48	A2	3669	G	O3'-P	-7.54	1.52	1.61
49	B1	849	A	O3'-P	-7.54	1.52	1.61
2	A4	48	G	O3'-P	-7.53	1.52	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
49	B1	367	U	O3'-P	-7.53	1.52	1.61
48	A2	1282	G	O3'-P	-7.53	1.52	1.61
49	B1	1044	G	O3'-P	-7.52	1.52	1.61
48	A2	1679	G	O3'-P	7.51	1.70	1.61
48	A2	2246	U	O3'-P	-7.50	1.52	1.61
48	A2	4311	C	O3'-P	-7.50	1.52	1.61
48	A2	4009	G	O3'-P	-7.50	1.52	1.61
48	A2	1333	C	O3'-P	-7.49	1.52	1.61
49	B1	447	A	O3'-P	-7.49	1.52	1.61
2	A4	44	C	O3'-P	-7.49	1.52	1.61
49	B1	1554	C	O3'-P	-7.48	1.52	1.61
2	A4	62	U	O3'-P	-7.47	1.52	1.61
48	A2	2489	G	O3'-P	-7.47	1.52	1.61
48	A2	406	G	O3'-P	-7.46	1.52	1.61
48	A2	2677	G	O3'-P	-7.44	1.52	1.61
48	A2	2329	U	O3'-P	-7.44	1.52	1.61
49	B1	346	C	O3'-P	-7.44	1.52	1.61
48	A2	50	C	O3'-P	-7.43	1.52	1.61
49	B1	1278	A	O3'-P	7.43	1.70	1.61
48	A2	182	C	O3'-P	-7.41	1.52	1.61
48	A2	2285	G	O3'-P	-7.41	1.52	1.61
49	B1	338	G	O3'-P	7.41	1.70	1.61
48	A2	2722	A	O3'-P	-7.40	1.52	1.61
48	A2	2824	A	O3'-P	-7.40	1.52	1.61
48	A2	921	C	O3'-P	7.38	1.70	1.61
48	A2	3615	U	O3'-P	-7.37	1.52	1.61
49	B1	977	C	O3'-P	-7.36	1.52	1.61
49	B1	176	U	O3'-P	-7.36	1.52	1.61
48	A2	2673	G	O3'-P	-7.36	1.52	1.61
49	B1	917	U	O3'-P	-7.36	1.52	1.61
48	A2	1467	C	O3'-P	-7.35	1.52	1.61
49	B1	1702	G	O3'-P	-7.35	1.52	1.61
48	A2	3613	A	C5'-C4'	-7.33	1.42	1.51
48	A2	4599	G	O3'-P	7.33	1.70	1.61
49	B1	446	G	O3'-P	-7.33	1.52	1.61
48	A2	2490	A	O3'-P	-7.33	1.52	1.61
48	A2	908	C	O3'-P	-7.31	1.52	1.61
48	A2	3934	A	O3'-P	-7.31	1.52	1.61
48	A2	4686	A	O3'-P	-7.31	1.52	1.61
13	AK	27	CYS	CB-SG	-7.30	1.69	1.82
49	B1	85	A	O3'-P	-7.29	1.52	1.61
48	A2	3688	A	O3'-P	-7.29	1.52	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	A2	1287	C	O3'-P	-7.29	1.52	1.61
1	A3	142	U	O3'-P	-7.28	1.52	1.61
48	A2	326	C	O3'-P	-7.26	1.52	1.61
48	A2	2526	G	O3'-P	-7.26	1.52	1.61
48	A2	3612	U	C3'-O3'	-7.26	1.31	1.42
49	B1	124	U	O3'-P	-7.25	1.52	1.61
48	A2	950	G	O3'-P	7.24	1.69	1.61
1	A3	12	G	O3'-P	-7.22	1.52	1.61
48	A2	3791	G	O3'-P	-7.22	1.52	1.61
48	A2	1299	G	O3'-P	-7.21	1.52	1.61
48	A2	4915	C	O3'-P	7.19	1.69	1.61
49	B1	1335	G	O3'-P	-7.19	1.52	1.61
49	B1	1681	U	O3'-P	-7.19	1.52	1.61
48	A2	3672	C	O3'-P	7.18	1.69	1.61
48	A2	21	G	O3'-P	7.17	1.69	1.61
48	A2	1331	U	O3'-P	-7.17	1.52	1.61
49	B1	407	G	O3'-P	-7.14	1.52	1.61
49	B1	1452	A	O3'-P	-7.14	1.52	1.61
49	B1	1584	G	O3'-P	-7.14	1.52	1.61
49	B1	1575	G	O3'-P	7.12	1.69	1.61
1	A3	116	C	O3'-P	-7.12	1.52	1.61
48	A2	1434	G	O3'-P	-7.11	1.52	1.61
48	A2	180	C	O3'-P	7.09	1.69	1.61
48	A2	1571	C	O3'-P	-7.09	1.52	1.61
48	A2	4713	G	O3'-P	-7.07	1.52	1.61
48	A2	497	C	O3'-P	-7.07	1.52	1.61
49	B1	749	U	C3'-O3'	-7.05	1.32	1.42
49	B1	369	C	P-O5'	-7.04	1.52	1.59
49	B1	1700	C	O3'-P	-7.02	1.52	1.61
83	Bv	33	U	O3'-P	-7.01	1.52	1.61
49	B1	1732	G	O3'-P	-7.00	1.52	1.61
48	A2	478	U	O3'-P	-7.00	1.52	1.61
49	B1	120	U	O3'-P	-6.99	1.52	1.61
48	A2	1416	A	O3'-P	6.98	1.69	1.61
48	A2	3801	A	O3'-P	6.97	1.69	1.61
49	B1	343	A	O3'-P	-6.97	1.52	1.61
48	A2	172	C	O3'-P	-6.96	1.52	1.61
48	A2	1764	U	O3'-P	-6.95	1.52	1.61
49	B1	1647	A	O3'-P	-6.95	1.52	1.61
49	B1	1417	C	O3'-P	6.94	1.69	1.61
48	A2	2313	C	O3'-P	-6.94	1.52	1.61
48	A2	4136	U	O3'-P	-6.94	1.52	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
49	B1	122	G	O3'-P	-6.93	1.52	1.61
48	A2	4984	U	O3'-P	-6.92	1.52	1.61
49	B1	1442	U	O3'-P	-6.91	1.52	1.61
1	A3	79	G	O3'-P	-6.91	1.52	1.61
1	A3	11	C	O3'-P	-6.90	1.52	1.61
48	A2	713	G	O3'-P	-6.90	1.52	1.61
48	A2	2690	G	P-O5'	-6.89	1.52	1.59
48	A2	1850	G	O3'-P	-6.89	1.52	1.61
49	B1	924	G	O3'-P	-6.88	1.52	1.61
48	A2	66	A	O3'-P	-6.88	1.52	1.61
2	A4	6	C	O3'-P	-6.88	1.52	1.61
48	A2	10	A	O3'-P	-6.88	1.52	1.61
48	A2	4407	U	O3'-P	-6.87	1.52	1.61
48	A2	680	C	O3'-P	-6.86	1.52	1.61
48	A2	2057	G	O3'-P	-6.84	1.52	1.61
48	A2	4648	G	O3'-P	-6.84	1.52	1.61
48	A2	307	U	O3'-P	-6.84	1.52	1.61
1	A3	110	U	O3'-P	-6.83	1.52	1.61
48	A2	150	G	O4'-C1'	6.83	1.50	1.41
49	B1	1581	C	O3'-P	-6.80	1.52	1.61
48	A2	2676	A	O3'-P	-6.80	1.52	1.61
48	A2	4097	A	O3'-P	-6.78	1.53	1.61
49	B1	1158	G	O3'-P	-6.78	1.53	1.61
48	A2	946	G	O3'-P	-6.75	1.53	1.61
48	A2	1944	C	O3'-P	-6.74	1.53	1.61
48	A2	1273	G	O3'-P	-6.74	1.53	1.61
48	A2	355	C	O3'-P	-6.73	1.53	1.61
48	A2	1765	C	O3'-P	-6.73	1.53	1.61
48	A2	2478	C	O3'-P	-6.70	1.53	1.61
48	A2	926	G	O3'-P	6.70	1.69	1.61
2	A4	61	G	O3'-P	-6.69	1.53	1.61
48	A2	1290	A	O3'-P	-6.69	1.53	1.61
49	B1	498	C	O3'-P	-6.69	1.53	1.61
48	A2	1270	G	O3'-P	-6.69	1.53	1.61
48	A2	1225	G	O3'-P	6.67	1.69	1.61
49	B1	1801	A	O3'-P	-6.65	1.53	1.61
48	A2	127	G	C1'-N9	-6.63	1.37	1.46
48	A2	1260	G	P-O5'	-6.62	1.53	1.59
48	A2	328	A	O3'-P	-6.61	1.53	1.61
49	B1	929	G	O3'-P	-6.59	1.53	1.61
48	A2	1365	G	O3'-P	-6.59	1.53	1.61
49	B1	1685	U	O3'-P	-6.59	1.53	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	A2	267	U	O3'-P	-6.57	1.53	1.61
48	A2	2427	G	O3'-P	-6.56	1.53	1.61
49	B1	674	C	O3'-P	-6.56	1.53	1.61
48	A2	2312	G	O3'-P	6.55	1.69	1.61
48	A2	3589	C	O3'-P	-6.55	1.53	1.61
48	A2	457	A	O3'-P	-6.55	1.53	1.61
48	A2	4033	U	O4'-C1'	6.54	1.50	1.41
48	A2	690	C	O3'-P	6.53	1.69	1.61
48	A2	1281	C	O3'-P	-6.52	1.53	1.61
48	A2	1800	G	O3'-P	6.52	1.69	1.61
48	A2	4463	U	O3'-P	-6.51	1.53	1.61
49	B1	985	G	O3'-P	-6.51	1.53	1.61
49	B1	863	U	O3'-P	-6.50	1.53	1.61
48	A2	1797	G	O3'-P	-6.50	1.53	1.61
48	A2	3838	A	O3'-P	6.50	1.69	1.61
48	A2	501	G	O4'-C1'	6.50	1.50	1.41
48	A2	4086	U	O3'-P	-6.50	1.53	1.61
48	A2	3731	A	O3'-P	-6.48	1.53	1.61
49	B1	363	A	O3'-P	6.48	1.69	1.61
1	A3	38	U	O3'-P	-6.46	1.53	1.61
48	A2	2700	G	O3'-P	-6.46	1.53	1.61
48	A2	3678	U	O3'-P	-6.46	1.53	1.61
49	B1	1222	G	O3'-P	-6.46	1.53	1.61
48	A2	4036	U	O3'-P	-6.45	1.53	1.61
48	A2	927	C	O4'-C1'	-6.45	1.33	1.41
48	A2	4156	U	O3'-P	-6.44	1.53	1.61
48	A2	509	C	O3'-P	6.43	1.68	1.61
48	A2	5005	C	O3'-P	-6.42	1.53	1.61
49	B1	218	U	O3'-P	-6.42	1.53	1.61
48	A2	309	G	O3'-P	-6.41	1.53	1.61
48	A2	4091	G	O3'-P	-6.41	1.53	1.61
48	A2	329	A	O3'-P	-6.41	1.53	1.61
48	A2	4175	A	O3'-P	-6.41	1.53	1.61
49	B1	837	A	O3'-P	6.40	1.68	1.61
48	A2	1732	G	O3'-P	-6.40	1.53	1.61
49	B1	345	U	O3'-P	-6.40	1.53	1.61
48	A2	2735	G	O3'-P	-6.40	1.53	1.61
48	A2	1796	C	O3'-P	-6.39	1.53	1.61
83	Bv	1	G	P-OP2	6.39	1.59	1.49
48	A2	1758	A	O3'-P	-6.38	1.53	1.61
84	Bx	34	U	P-OP2	6.38	1.59	1.49
49	B1	1807	C	O3'-P	-6.37	1.53	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
49	B1	403	G	O3'-P	-6.36	1.53	1.61
83	Bw	1	G	P-OP2	6.36	1.59	1.49
48	A2	1058	G	O3'-P	6.35	1.68	1.61
48	A2	4055	A	O3'-P	6.34	1.68	1.61
48	A2	922	A	O3'-P	-6.33	1.53	1.61
48	A2	4694	G	O3'-P	-6.33	1.53	1.61
49	B1	422	U	O3'-P	-6.33	1.53	1.61
48	A2	86	U	O3'-P	-6.33	1.53	1.61
49	B1	1396	A	O3'-P	-6.32	1.53	1.61
48	A2	4836	C	O3'-P	-6.31	1.53	1.61
48	A2	211	G	O3'-P	6.30	1.68	1.61
48	A2	5025	U	O3'-P	-6.30	1.53	1.61
2	A4	116	G	O3'-P	-6.29	1.53	1.61
48	A2	112	C	O3'-P	-6.29	1.53	1.61
48	A2	3840	C	O3'-P	-6.27	1.53	1.61
48	A2	1955	U	O3'-P	6.27	1.68	1.61
49	B1	451	G	O3'-P	-6.26	1.53	1.61
48	A2	721	G	O3'-P	-6.25	1.53	1.61
48	A2	2480	C	O3'-P	-6.22	1.53	1.61
48	A2	166	G	O3'-P	-6.21	1.53	1.61
48	A2	1065	C	O3'-P	-6.21	1.53	1.61
48	A2	3683	A	O3'-P	-6.21	1.53	1.61
48	A2	4722	G	O3'-P	-6.20	1.53	1.61
49	B1	5	U	O3'-P	6.20	1.68	1.61
49	B1	107	A	O3'-P	-6.19	1.53	1.61
48	A2	657	C	O3'-P	-6.19	1.53	1.61
49	B1	843	C	O3'-P	6.19	1.68	1.61
48	A2	438	G	O3'-P	-6.18	1.53	1.61
49	B1	30	C	O3'-P	-6.18	1.53	1.61
48	A2	4922	C	O3'-P	-6.17	1.53	1.61
48	A2	1260	G	O3'-P	6.17	1.68	1.61
48	A2	893	C	O3'-P	-6.17	1.53	1.61
49	B1	653	A	O3'-P	-6.16	1.53	1.61
48	A2	1248	G	O3'-P	6.16	1.68	1.61
2	A4	42	A	O3'-P	-6.15	1.53	1.61
48	A2	399	U	O3'-P	-6.14	1.53	1.61
48	A2	2322	G	O3'-P	-6.14	1.53	1.61
48	A2	1855	A	O3'-P	-6.14	1.53	1.61
48	A2	48	G	O3'-P	-6.13	1.53	1.61
48	A2	324	G	O3'-P	-6.13	1.53	1.61
48	A2	1433	C	O4'-C1'	6.13	1.49	1.41
49	B1	417	C	O3'-P	-6.13	1.53	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
49	B1	1103	C	O3'-P	-6.12	1.53	1.61
48	A2	2251	C	O3'-P	-6.11	1.53	1.61
48	A2	671	C	O3'-P	-6.11	1.53	1.61
49	B1	657	U	O3'-P	-6.11	1.53	1.61
48	A2	465	A	O3'-P	-6.10	1.53	1.61
48	A2	3627	A	O3'-P	-6.09	1.53	1.61
48	A2	1614	A	O3'-P	6.08	1.68	1.61
48	A2	300	A	O4'-C1'	-6.08	1.33	1.41
48	A2	320	C	O3'-P	-6.08	1.53	1.61
48	A2	4326	G	O3'-P	-6.08	1.53	1.61
48	A2	4140	A	O3'-P	-6.07	1.53	1.61
48	A2	4623	G	O3'-P	-6.07	1.53	1.61
49	B1	601	G	O3'-P	-6.06	1.53	1.61
48	A2	2836	A	O3'-P	-6.06	1.53	1.61
49	B1	947	G	O3'-P	-6.06	1.53	1.61
48	A2	219	C	O4'-C1'	6.06	1.49	1.41
48	A2	4095	C	O3'-P	-6.04	1.53	1.61
48	A2	104	G	O3'-P	-6.04	1.53	1.61
48	A2	4715	U	O3'-P	-6.04	1.53	1.61
48	A2	2682	G	O4'-C1'	6.04	1.49	1.41
48	A2	43	U	O3'-P	-6.03	1.53	1.61
48	A2	1219	C	O3'-P	-6.03	1.53	1.61
49	B1	1275	G	O3'-P	6.02	1.68	1.61
49	B1	1443	C	O3'-P	-6.01	1.53	1.61
48	A2	1194	G	O3'-P	6.01	1.68	1.61
48	A2	56	A	O3'-P	-6.00	1.53	1.61
48	A2	1916	C	O3'-P	-6.00	1.53	1.61
49	B1	24	C	O3'-P	6.00	1.68	1.61
48	A2	1498	G	O3'-P	-5.99	1.53	1.61
1	A3	33	G	O3'-P	-5.98	1.53	1.61
48	A2	894	C	O3'-P	-5.98	1.53	1.61
49	B1	1223	A	O4'-C1'	5.98	1.49	1.41
48	A2	1294	G	O3'-P	-5.97	1.53	1.61
48	A2	4841	C	O3'-P	-5.97	1.53	1.61
48	A2	1306	A	O3'-P	-5.97	1.53	1.61
49	B1	1049	A	O3'-P	-5.96	1.53	1.61
48	A2	2873	A	O3'-P	-5.95	1.54	1.61
48	A2	57	G	O3'-P	-5.94	1.54	1.61
48	A2	689	G	O3'-P	5.94	1.68	1.61
48	A2	4414	U	O3'-P	-5.93	1.54	1.61
48	A2	3787	A	O3'-P	-5.93	1.54	1.61
49	B1	430	C	O3'-P	-5.92	1.54	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
49	B1	1007	C	O3'-P	-5.92	1.54	1.61
1	A3	152	U	O3'-P	-5.92	1.54	1.61
48	A2	1950	G	O3'-P	5.92	1.68	1.61
48	A2	310	U	O3'-P	-5.90	1.54	1.61
49	B1	29	G	O3'-P	-5.89	1.54	1.61
49	B1	848	U	O3'-P	-5.86	1.54	1.61
48	A2	909	C	O3'-P	-5.84	1.54	1.61
48	A2	475	G	O3'-P	-5.83	1.54	1.61
48	A2	5004	U	O3'-P	-5.83	1.54	1.61
48	A2	287	G	C3'-O3'	-5.83	1.33	1.42
48	A2	4157	G	O3'-P	-5.83	1.54	1.61
48	A2	3837	C	O3'-P	-5.83	1.54	1.61
49	B1	209	A	O3'-P	5.83	1.68	1.61
1	A3	117	C	O3'-P	-5.82	1.54	1.61
49	B1	178	C	O3'-P	-5.82	1.54	1.61
48	A2	62	A	O3'-P	-5.81	1.54	1.61
48	A2	2600	A	O3'-P	-5.80	1.54	1.61
13	AK	25	PRO	N-CD	5.80	1.55	1.47
48	A2	3628	U	O3'-P	-5.80	1.54	1.61
48	A2	256	C	O3'-P	5.79	1.68	1.61
48	A2	1187	C	O3'-P	-5.79	1.54	1.61
48	A2	131	C	O3'-P	5.79	1.68	1.61
48	A2	4827	U	O3'-P	5.79	1.68	1.61
48	A2	1798	C	O3'-P	-5.77	1.54	1.61
48	A2	895	G	O3'-P	-5.77	1.54	1.61
49	B1	395	G	O3'-P	5.76	1.68	1.61
48	A2	1968	C	O3'-P	5.76	1.68	1.61
49	B1	1176	G	O3'-P	-5.76	1.54	1.61
48	A2	155	A	O3'-P	-5.75	1.54	1.61
1	A3	34	U	O3'-P	5.74	1.68	1.61
48	A2	1202	G	O4'-C1'	5.74	1.49	1.41
48	A2	4134	A	O3'-P	-5.74	1.54	1.61
48	A2	1497	A	O3'-P	-5.74	1.54	1.61
48	A2	658	G	O3'-P	-5.72	1.54	1.61
48	A2	437	G	O3'-P	-5.71	1.54	1.61
48	A2	3723	C	O3'-P	5.70	1.68	1.61
48	A2	2871	C	O3'-P	-5.70	1.54	1.61
49	B1	620	G	O3'-P	-5.70	1.54	1.61
48	A2	2332	U	O3'-P	-5.70	1.54	1.61
49	B1	1419	C	O3'-P	-5.69	1.54	1.61
48	A2	215	A	O3'-P	-5.69	1.54	1.61
48	A2	2424	C	O3'-P	-5.69	1.54	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
49	B1	303	C	O3'-P	-5.68	1.54	1.61
83	Bv	34	G	O3'-P	-5.68	1.54	1.61
49	B1	460	A	O3'-P	-5.68	1.54	1.61
48	A2	1428	U	O3'-P	-5.66	1.54	1.61
48	A2	2311	A	O3'-P	-5.65	1.54	1.61
1	A3	106	G	O3'-P	-5.65	1.54	1.61
48	A2	918	C	O3'-P	5.64	1.68	1.61
48	A2	4995	U	O3'-P	-5.63	1.54	1.61
48	A2	4409	C	O3'-P	-5.63	1.54	1.61
48	A2	1778	U	O3'-P	-5.63	1.54	1.61
48	A2	4172	U	O3'-P	-5.63	1.54	1.61
49	B1	1422	G	O3'-P	-5.62	1.54	1.61
25	AW	98	PRO	N-CD	5.61	1.55	1.47
49	B1	1740	C	O3'-P	-5.61	1.54	1.61
49	B1	1804	U	O3'-P	5.60	1.67	1.61
48	A2	4708	C	O3'-P	5.60	1.67	1.61
49	B1	872	A	O3'-P	-5.59	1.54	1.61
48	A2	357	A	O3'-P	-5.57	1.54	1.61
48	A2	332	A	O3'-P	-5.56	1.54	1.61
48	A2	949	C	O3'-P	5.56	1.67	1.61
48	A2	131	C	C3'-O3'	-5.55	1.34	1.42
48	A2	4727	G	O3'-P	-5.54	1.54	1.61
48	A2	142	G	O3'-P	5.54	1.67	1.61
48	A2	2325	C	O3'-P	-5.54	1.54	1.61
49	B1	954	U	O3'-P	-5.54	1.54	1.61
48	A2	41	C	O3'-P	-5.53	1.54	1.61
48	A2	257	G	O3'-P	-5.53	1.54	1.61
49	B1	449	A	O3'-P	-5.52	1.54	1.61
2	A4	95	C	O3'-P	-5.51	1.54	1.61
48	A2	6	C	O3'-P	-5.51	1.54	1.61
48	A2	4021	C	O3'-P	-5.51	1.54	1.61
48	A2	2058	C	O3'-P	5.49	1.67	1.61
48	A2	2785	A	O3'-P	-5.48	1.54	1.61
48	A2	1863	U	O3'-P	-5.47	1.54	1.61
48	A2	1437	G	O3'-P	-5.47	1.54	1.61
49	B1	1803	U	O3'-P	-5.47	1.54	1.61
48	A2	2695	C	O3'-P	-5.46	1.54	1.61
49	B1	690	G	O5'-C5'	5.46	1.53	1.44
49	B1	1446	A	O3'-P	-5.43	1.54	1.61
49	B1	1285	G	C5'-C4'	-5.43	1.44	1.51
48	A2	2875	G	O3'-P	-5.42	1.54	1.61
49	B1	344	U	O3'-P	-5.41	1.54	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
68	BS	74	PRO	N-CD	5.41	1.55	1.47
48	A2	4158	G	O3'-P	-5.41	1.54	1.61
49	B1	745	C	O3'-P	-5.41	1.54	1.61
49	B1	628	A	O3'-P	5.40	1.67	1.61
49	B1	1485	U	O3'-P	-5.39	1.54	1.61
48	A2	302	G	O3'-P	-5.39	1.54	1.61
48	A2	734	G	O3'-P	-5.38	1.54	1.61
48	A2	640	G	O4'-C1'	5.38	1.48	1.41
49	B1	1560	U	O3'-P	-5.38	1.54	1.61
38	Aj	84	PRO	N-CD	5.38	1.55	1.47
48	A2	4410	G	O3'-P	-5.37	1.54	1.61
49	B1	620	G	O4'-C1'	5.37	1.48	1.41
54	BE	83	PRO	N-CD	5.37	1.55	1.47
2	A4	54	A	O3'-P	-5.37	1.54	1.61
48	A2	4684	G	O4'-C1'	5.36	1.48	1.41
2	A4	25	G	O3'-P	-5.35	1.54	1.61
48	A2	4663	A	O4'-C1'	5.35	1.48	1.41
48	A2	951	A	O3'-P	-5.35	1.54	1.61
48	A2	1291	C	O3'-P	-5.34	1.54	1.61
49	B1	1415	C	O3'-P	-5.34	1.54	1.61
48	A2	1201	G	O4'-C1'	5.34	1.48	1.41
53	BD	80	PRO	N-CD	5.33	1.55	1.47
48	A2	681	A	O3'-P	-5.33	1.54	1.61
48	A2	4586	A	O4'-C1'	5.33	1.48	1.41
48	A2	297	C	O3'-P	-5.33	1.54	1.61
2	A4	117	G	O4'-C1'	5.33	1.48	1.41
48	A2	1774	U	O3'-P	-5.33	1.54	1.61
49	B1	1441	U	O3'-P	-5.32	1.54	1.61
49	B1	145	G	O3'-P	-5.32	1.54	1.61
49	B1	1223	A	O3'-P	5.32	1.67	1.61
50	BA	105	PRO	N-CD	5.31	1.55	1.47
48	A2	1226	C	C5'-C4'	5.31	1.57	1.51
48	A2	1644	C	O4'-C1'	5.31	1.48	1.41
48	A2	3835	C	O3'-P	-5.31	1.54	1.61
14	AL	131	PRO	N-CD	5.30	1.55	1.47
48	A2	4910	G	O3'-P	-5.29	1.54	1.61
48	A2	212	C	O4'-C1'	5.29	1.48	1.41
48	A2	3597	G	O3'-P	-5.29	1.54	1.61
49	B1	87	U	O4'-C1'	5.28	1.48	1.41
48	A2	64	A	O3'-P	-5.28	1.54	1.61
48	A2	379	A	O3'-P	5.27	1.67	1.61
48	A2	2756	G	O3'-P	-5.27	1.54	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	A2	4310	A	O3'-P	5.26	1.67	1.61
48	A2	1336	G	O3'-P	5.26	1.67	1.61
48	A2	376	G	O4'-C1'	5.25	1.48	1.41
48	A2	476	G	O3'-P	-5.25	1.54	1.61
48	A2	1590	G	O3'-P	-5.25	1.54	1.61
49	B1	1155	U	O3'-P	-5.24	1.54	1.61
49	B1	1317	C	O3'-P	-5.24	1.54	1.61
61	BL	14	PRO	N-CD	5.24	1.55	1.47
14	AL	134	PRO	N-CD	5.23	1.55	1.47
49	B1	144	U	O3'-P	-5.23	1.54	1.61
48	A2	219	C	O3'-P	-5.23	1.54	1.61
48	A2	2754	C	O3'-P	5.22	1.67	1.61
49	B1	299	A	O3'-P	-5.22	1.54	1.61
19	AQ	73	PRO	N-CD	5.22	1.55	1.47
48	A2	21	G	O4'-C1'	5.22	1.48	1.41
48	A2	4977	A	O4'-C1'	5.22	1.48	1.41
49	B1	631	U	O3'-P	-5.21	1.54	1.61
48	A2	252	C	O3'-P	5.21	1.67	1.61
2	A4	36	C	O3'-P	-5.21	1.54	1.61
48	A2	2513	C	O3'-P	-5.20	1.54	1.61
63	BN	82	PRO	N-CD	5.20	1.55	1.47
48	A2	1848	A	O3'-P	-5.20	1.54	1.61
49	B1	1753	C	O3'-P	-5.20	1.54	1.61
21	AS	140	PRO	N-CD	5.19	1.55	1.47
48	A2	2689	C	C3'-O3'	-5.19	1.34	1.42
48	A2	4526	A	O3'-P	-5.19	1.54	1.61
48	A2	4600	U	O3'-P	-5.19	1.54	1.61
49	B1	915	G	C5'-C4'	5.18	1.57	1.51
2	A4	115	A	O3'-P	5.18	1.67	1.61
48	A2	2504	U	O3'-P	5.18	1.67	1.61
49	B1	627	U	O3'-P	-5.18	1.54	1.61
49	B1	690	G	C5'-C4'	5.18	1.57	1.51
48	A2	4467	C	O3'-P	-5.18	1.54	1.61
48	A2	1919	C	O3'-P	-5.18	1.54	1.61
49	B1	356	C	O3'-P	-5.17	1.54	1.61
49	B1	688	U	O3'-P	-5.17	1.54	1.61
49	B1	975	G	O3'-P	-5.17	1.54	1.61
48	A2	660	C	O3'-P	-5.17	1.54	1.61
73	BX	62	PRO	N-CD	5.17	1.55	1.47
2	A4	91	C	O3'-P	-5.17	1.54	1.61
48	A2	2553	G	O3'-P	-5.17	1.54	1.61
49	B1	1733	U	O3'-P	-5.17	1.54	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
48	A2	227	G	O3'-P	-5.16	1.54	1.61
48	A2	4516	G	O3'-P	5.16	1.67	1.61
48	A2	1960	A	O3'-P	5.16	1.67	1.61
48	A2	961	C	O5'-C5'	-5.15	1.34	1.42
48	A2	3684	U	O3'-P	-5.15	1.54	1.61
48	A2	2283	U	O3'-P	5.14	1.67	1.61
48	A2	3817	C	O4'-C1'	5.12	1.48	1.41
1	A3	144	U	O4'-C1'	5.11	1.48	1.41
48	A2	1761	U	O3'-P	-5.11	1.55	1.61
48	A2	3696	G	O3'-P	-5.11	1.55	1.61
2	A4	53	U	O3'-P	-5.11	1.55	1.61
48	A2	1958	C	O3'-P	-5.10	1.55	1.61
1	A3	153	C	O4'-C1'	5.10	1.48	1.41
48	A2	3613	A	O3'-P	-5.10	1.55	1.61
47	Au	121	PRO	N-CD	5.10	1.54	1.47
48	A2	2568	C	O4'-C1'	5.10	1.48	1.41
19	AQ	156	PRO	N-CD	5.09	1.54	1.47
67	BR	42	PRO	N-CD	5.09	1.54	1.47
67	BR	100	PRO	N-CD	5.09	1.54	1.47
48	A2	3697	A	O4'-C1'	-5.08	1.35	1.41
65	BP	68	PRO	N-CD	5.08	1.54	1.47
48	A2	3595	A	O3'-P	-5.08	1.55	1.61
49	B1	370	G	C3'-C2'	-5.08	1.47	1.52
5	AC	225	PRO	N-CD	5.07	1.54	1.47
48	A2	126	C	C1'-N1	5.07	1.56	1.48
48	A2	4726	A	O3'-P	-5.06	1.55	1.61
13	AK	80	PRO	N-CD	5.06	1.54	1.47
49	B1	458	A	O3'-P	-5.05	1.55	1.61
48	A2	712	G	O4'-C1'	5.05	1.48	1.41
48	A2	1954	G	O4'-C1'	5.05	1.48	1.41
48	A2	1468	C	O3'-P	-5.04	1.55	1.61
49	B1	92	A	O3'-P	5.04	1.67	1.61
48	A2	4842	G	O4'-C1'	5.04	1.48	1.41
49	B1	1675	A	O3'-P	-5.03	1.55	1.61
67	BR	122	PRO	N-CD	5.03	1.54	1.47
14	AL	54	PRO	N-CD	5.03	1.54	1.47
48	A2	1969	G	O3'-P	-5.02	1.55	1.61
1	A3	134	G	O3'-P	-5.01	1.55	1.61
55	BF	108	PRO	N-CD	5.01	1.54	1.47
48	A2	159	A	O4'-C1'	5.01	1.48	1.41

All (1861) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
45	Aq	75	PRO	CA-N-CD	-36.28	60.70	111.50
48	A2	1225	G	O5'-P-OP1	-28.99	75.91	110.70
48	A2	131	C	C4'-C3'-O3'	28.78	170.56	113.00
49	B1	558	G	P-O3'-C3'	-28.42	85.60	119.70
48	A2	137	G	C4'-C3'-O3'	26.49	165.98	113.00
48	A2	132	G	O5'-P-OP1	-26.34	79.09	110.70
49	B1	842	C	O3'-P-O5'	-25.65	55.26	104.00
48	A2	1225	G	O5'-P-OP2	25.02	140.72	110.70
48	A2	1341	G	C4'-C3'-O3'	25.00	162.99	113.00
47	Au	121	PRO	CA-N-CD	-24.11	77.74	111.50
49	B1	837	A	C4'-C3'-O3'	23.94	160.87	113.00
49	B1	111	A	P-O3'-C3'	-23.44	91.57	119.70
49	B1	688	U	C4'-C3'-O3'	-22.29	62.59	109.40
13	AK	52	VAL	CG1-CB-CG2	20.77	144.12	110.90
48	A2	1283	G	P-O3'-C3'	-20.73	94.82	119.70
48	A2	494	G	C4'-C3'-O3'	20.66	154.32	113.00
49	B1	743	U	C4'-C3'-O3'	-20.49	66.37	109.40
48	A2	1300	U	P-O3'-C3'	-20.34	95.29	119.70
45	Aq	75	PRO	CA-CB-CG	-19.95	66.09	104.00
48	A2	958	U	C4'-C3'-O3'	19.67	152.34	113.00
2	A4	34	C	P-O3'-C3'	19.18	142.71	119.70
48	A2	50	C	P-O5'-C5'	18.69	150.81	120.90
48	A2	494	G	P-O3'-C3'	-18.51	97.49	119.70
49	B1	1285	G	O5'-C5'-C4'	18.18	146.23	111.70
48	A2	132	G	O5'-P-OP2	17.88	132.16	110.70
48	A2	203	U	P-O3'-C3'	17.68	140.92	119.70
48	A2	462	U	C4'-C3'-O3'	17.49	147.98	113.00
48	A2	3736	G	P-O3'-C3'	17.00	140.10	119.70
49	B1	1554	C	C4'-C3'-O3'	-16.87	73.97	109.40
48	A2	4619	U	P-O3'-C3'	16.74	139.79	119.70
49	B1	112	U	P-O3'-C3'	16.29	139.25	119.70
49	B1	748	C	C4'-C3'-O3'	-16.13	75.52	109.40
45	Aq	74	VAL	C-N-CD	-15.76	85.94	120.60
49	B1	1778	C	C2'-C3'-O3'	15.71	144.07	109.50
48	A2	191	C	P-O5'-C5'	15.58	145.83	120.90
48	A2	4907	G	P-O3'-C3'	15.55	138.36	119.70
48	A2	5007	G	P-O5'-C5'	-15.20	96.57	120.90
48	A2	309	G	O5'-P-OP2	-15.16	92.06	105.70
48	A2	49	U	O3'-P-O5'	14.96	132.41	104.00
48	A2	309	G	O5'-P-OP1	14.93	128.61	110.70
48	A2	916	A	P-O3'-C3'	14.86	137.53	119.70
48	A2	1716	G	P-O3'-C3'	-14.85	101.88	119.70
48	A2	3682	A	C4'-C3'-O3'	-14.79	78.35	109.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	A2	1259	C	C4'-C3'-O3'	-14.56	78.81	109.40
48	A2	958	U	C2'-C3'-O3'	-14.55	77.48	109.50
48	A2	2482	G	P-O3'-C3'	-14.51	102.29	119.70
48	A2	1715	G	P-O3'-C3'	-14.47	102.34	119.70
49	B1	368	U	P-O3'-C3'	14.31	136.87	119.70
1	A3	112	G	O5'-P-OP2	-14.20	92.92	105.70
48	A2	2246	U	C2'-C3'-O3'	-14.19	78.29	109.50
48	A2	2689	C	P-O5'-C5'	-14.16	98.25	120.90
48	A2	3727	A	P-O5'-C5'	14.12	143.50	120.90
49	B1	688	U	P-O3'-C3'	14.09	136.61	119.70
48	A2	1226	C	P-O5'-C5'	14.04	143.36	120.90
84	Bx	45	U	C4'-C3'-O3'	14.04	141.08	113.00
48	A2	495	C	P-O3'-C3'	-14.03	102.86	119.70
48	A2	4686	A	P-O5'-C5'	14.00	143.30	120.90
25	AW	97	LYS	C-N-CD	-13.80	90.23	120.60
48	A2	1433	C	P-O3'-C3'	-13.78	103.16	119.70
48	A2	131	C	P-O3'-C3'	-13.72	103.24	119.70
49	B1	803	C	C4'-C3'-O3'	-13.71	80.60	109.40
48	A2	1217	G	P-O3'-C3'	-13.66	103.30	119.70
48	A2	939	G	P-O5'-C5'	13.66	142.75	120.90
48	A2	463	C	P-O5'-C5'	13.62	142.69	120.90
48	A2	5	A	P-O3'-C3'	13.58	136.00	119.70
48	A2	1631	U	C1'-C2'-O2'	-13.54	69.99	110.60
49	B1	836	G	C4'-C3'-O3'	-13.45	81.15	109.40
48	A2	2686	U	P-O5'-C5'	-13.43	99.41	120.90
49	B1	306	C	O5'-P-OP2	-13.33	93.70	105.70
49	B1	1284	A	C2'-C3'-O3'	13.20	138.54	109.50
48	A2	464	A	P-O5'-C5'	13.12	141.90	120.90
48	A2	1350	C	C4'-C3'-O3'	-13.12	81.84	109.40
48	A2	85	G	C4'-C3'-O3'	-13.10	81.88	109.40
48	A2	1342	G	P-O5'-C5'	-13.09	99.96	120.90
48	A2	4306	U	P-O3'-C3'	-12.99	104.11	119.70
49	B1	182	C	P-O5'-C5'	-12.91	100.25	120.90
48	A2	3684	U	C2'-C3'-O3'	12.89	137.87	109.50
48	A2	2748	U	C4'-C3'-O3'	-12.89	82.33	109.40
48	A2	58	G	C3'-C2'-O2'	-12.87	75.98	113.30
49	B1	747	U	C4'-C3'-O3'	12.87	138.73	113.00
49	B1	178	C	P-O3'-C3'	12.86	135.13	119.70
13	AK	24	TYR	C-N-CD	-12.82	92.39	120.60
49	B1	1620	A	C4'-C3'-O3'	12.82	138.64	113.00
49	B1	748	C	O4'-C1'-N1	12.80	118.44	108.20
49	B1	225	G	C4'-C3'-O3'	-12.77	82.59	109.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	A2	3933	A	P-O3'-C3'	12.74	134.99	119.70
45	Aq	39	PRO	CA-N-CD	-12.74	93.67	111.50
48	A2	2325	C	C3'-C2'-O2'	-12.69	76.49	113.30
48	A2	4617	A	P-O3'-C3'	12.67	134.91	119.70
49	B1	867	G	C4'-C3'-O3'	-12.60	82.95	109.40
49	B1	38	A	P-O3'-C3'	-12.57	104.61	119.70
1	A3	34	U	C3'-C2'-O2'	-12.54	76.92	113.30
48	A2	1341	G	C2'-C3'-O3'	-12.54	81.91	109.50
49	B1	848	U	P-O5'-C5'	-12.50	100.89	120.90
48	A2	3697	A	P-O3'-C3'	12.49	134.69	119.70
48	A2	2859	U	C4'-C3'-O3'	12.47	137.94	113.00
1	A3	110	U	C2'-C3'-O3'	-12.47	82.08	109.50
48	A2	2686	U	O5'-P-OP1	-12.45	94.50	105.70
49	B1	114	G	P-O3'-C3'	-12.43	104.78	119.70
48	A2	3946	C	P-O3'-C3'	-12.40	104.83	119.70
48	A2	1057	G	P-O3'-C3'	-12.37	104.85	119.70
48	A2	2511	C	P-O3'-C3'	12.35	134.52	119.70
48	A2	961	C	C2'-C3'-O3'	12.33	136.63	109.50
48	A2	3851	G	P-O3'-C3'	-12.33	104.90	119.70
48	A2	1429	C	P-O5'-C5'	12.21	140.44	120.90
48	A2	65	A	C3'-C2'-O2'	-12.20	77.94	113.30
48	A2	3682	A	N9-C1'-C2'	-12.17	98.18	114.00
48	A2	2690	G	C5'-C4'-C3'	-12.16	96.54	116.00
1	A3	126	C	P-O3'-C3'	12.08	134.20	119.70
48	A2	3917	G	P-O3'-C3'	-12.08	105.20	119.70
48	A2	4162	G	P-O3'-C3'	12.07	134.19	119.70
48	A2	4666	C	P-O3'-C3'	-12.05	105.24	119.70
48	A2	3611	U	C4'-C3'-O3'	-12.03	84.14	109.40
48	A2	961	C	C5'-C4'-C3'	-12.00	96.79	116.00
48	A2	1244	G	P-O3'-C3'	-11.99	105.32	119.70
48	A2	221	U	C3'-C2'-O2'	-11.94	78.67	113.30
49	B1	740	C	C4'-C3'-O3'	-11.92	84.36	109.40
48	A2	4537	G	P-O3'-C3'	11.91	133.99	119.70
48	A2	2689	C	O5'-P-OP1	-11.90	94.99	105.70
49	B1	306	C	P-O5'-C5'	-11.87	101.91	120.90
48	A2	966	C	P-O3'-C3'	11.86	133.94	119.70
48	A2	3649	G	P-O3'-C3'	11.86	133.93	119.70
48	A2	1341	G	C3'-C2'-O2'	-11.86	78.92	113.30
49	B1	1022	U	P-O3'-C3'	11.82	133.88	119.70
45	Aq	42	VAL	CG1-CB-CG2	11.81	129.79	110.90
48	A2	2523	G	P-O3'-C3'	11.80	133.86	119.70
48	A2	4037	U	P-O3'-C3'	-11.80	105.54	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	A2	212	C	P-O3'-C3'	-11.74	105.61	119.70
1	A3	94	G	C4'-C3'-O3'	-11.72	84.80	109.40
49	B1	804	U	C2'-C3'-O3'	11.71	135.27	109.50
83	Bw	34	G	C4'-C3'-O3'	-11.70	84.82	109.40
48	A2	931	A	C3'-C2'-O2'	-11.66	79.50	113.30
49	B1	533	A	C4'-C3'-O3'	11.63	136.26	113.00
48	A2	2793	C	C4'-C3'-O3'	-11.62	84.99	109.40
49	B1	873	G	P-O3'-C3'	-11.62	105.75	119.70
48	A2	500	C	P-O3'-C3'	11.60	133.62	119.70
49	B1	744	G	O4'-C4'-C3'	-11.59	92.41	104.00
48	A2	1799	U	P-O3'-C3'	11.57	133.59	119.70
48	A2	3613	A	C3'-C2'-O2'	-11.57	79.75	113.30
48	A2	925	C	OP1-P-O3'	11.55	130.61	105.20
49	B1	1786	U	P-O5'-C5'	-11.55	102.42	120.90
1	A3	109	C	O5'-P-OP1	11.54	124.55	110.70
49	B1	437	G	P-O3'-C3'	11.54	133.55	119.70
48	A2	1316	A	P-O3'-C3'	11.53	133.54	119.70
48	A2	507	U	P-O3'-C3'	-11.53	105.87	119.70
48	A2	131	C	C2'-C3'-O3'	-11.52	84.16	109.50
49	B1	744	G	C4'-C3'-O3'	-11.52	85.21	109.40
48	A2	357	A	C3'-C2'-O2'	-11.50	79.95	113.30
48	A2	2751	C	P-O3'-C3'	-11.47	105.94	119.70
49	B1	238	C	C4'-C3'-O3'	11.47	135.93	113.00
48	A2	1260	G	C5'-C4'-C3'	-11.43	97.71	116.00
48	A2	1307	A	C3'-C2'-O2'	-11.42	80.17	113.30
48	A2	3685	G	P-O3'-C3'	11.40	133.38	119.70
49	B1	306	C	O4'-C1'-N1	-11.39	99.09	108.20
48	A2	211	G	P-O3'-C3'	11.38	133.36	119.70
48	A2	4827	U	C4'-C3'-O3'	-11.35	85.56	109.40
49	B1	890	U	C4'-C3'-O3'	-11.35	85.57	109.40
48	A2	1256	G	C4'-C3'-O3'	11.34	135.69	113.00
48	A2	2460	G	P-O3'-C3'	-11.34	106.10	119.70
48	A2	229	G	C4'-C3'-O3'	-11.32	85.62	109.40
38	Aj	34	CYS	CA-CB-SG	11.32	134.38	114.00
48	A2	3590	G	C1'-C2'-O2'	-11.31	76.66	110.60
49	B1	397	G	P-O3'-C3'	-11.31	106.13	119.70
48	A2	3731	A	C4'-C3'-O3'	-11.30	85.68	109.40
48	A2	2690	G	O4'-C1'-N9	11.29	117.23	108.20
1	A3	109	C	O5'-P-OP2	-11.25	95.57	105.70
45	Aq	30	PRO	CA-N-CD	-11.20	95.83	111.50
49	B1	805	U	C2'-C3'-O3'	11.19	134.12	109.50
49	B1	1805	G	P-O3'-C3'	11.16	133.09	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	A2	718	C	C3'-C2'-O2'	-11.15	80.97	113.30
48	A2	185	G	P-O3'-C3'	11.13	133.06	119.70
48	A2	1975	C	P-O3'-C3'	-11.13	106.34	119.70
48	A2	137	G	C2'-C3'-O3'	-11.13	85.01	109.50
49	B1	836	G	C2'-C3'-O3'	11.10	133.91	109.50
1	A3	129	C	P-O3'-C3'	-11.09	106.39	119.70
48	A2	506	U	C4'-C3'-O3'	11.09	135.19	113.00
48	A2	1253	A	P-O3'-C3'	11.08	133.00	119.70
48	A2	2689	C	C4'-C3'-O3'	-11.08	86.14	109.40
48	A2	4980	U	P-O3'-C3'	-11.06	106.43	119.70
2	A4	72	U	P-O3'-C3'	11.04	132.94	119.70
48	A2	1260	G	C4'-C3'-O3'	11.03	135.07	113.00
48	A2	4707	G	P-O3'-C3'	-11.02	106.48	119.70
48	A2	2462	G	P-O3'-C3'	-10.97	106.54	119.70
48	A2	1261	C	P-O5'-C5'	-10.96	103.36	120.90
13	AK	25	PRO	CA-N-CD	-10.94	96.18	111.50
49	B1	1556	A	C4'-C3'-O3'	-10.93	86.44	109.40
48	A2	2688	C	O5'-P-OP1	-10.90	95.89	105.70
13	AK	52	VAL	CA-CB-CG1	-10.89	94.56	110.90
48	A2	2618	U	P-O5'-C5'	-10.89	103.48	120.90
83	Bw	35	A	C4'-C3'-O3'	10.88	134.77	113.00
48	A2	1632	A	C3'-C2'-O2'	-10.84	81.86	113.30
48	A2	2691	G	O5'-P-OP1	-10.83	95.95	105.70
48	A2	2684	G	C4'-C3'-O3'	10.82	134.65	113.00
1	A3	153	C	P-O3'-C3'	-10.82	106.72	119.70
48	A2	1764	U	P-O3'-C3'	-10.80	106.74	119.70
49	B1	1453	C	P-O3'-C3'	-10.80	106.74	119.70
48	A2	25	A	P-O3'-C3'	10.76	132.61	119.70
48	A2	966	C	C4'-C3'-O3'	10.76	134.52	113.00
48	A2	4015	G	C4'-C3'-O3'	10.76	134.52	113.00
49	B1	1289	U	C4'-C3'-O3'	10.74	134.48	113.00
48	A2	5007	G	C3'-C2'-O2'	-10.72	82.20	113.30
48	A2	309	G	C1'-C2'-O2'	-10.71	78.46	110.60
48	A2	2512	C	P-O3'-C3'	-10.71	106.85	119.70
49	B1	738	C	C2'-C3'-O3'	10.71	133.06	109.50
48	A2	4718	C	P-O5'-C5'	10.70	138.02	120.90
48	A2	960	G	N9-C1'-C2'	-10.69	100.11	114.00
49	B1	293	C	P-O3'-C3'	-10.69	106.88	119.70
48	A2	3737	A	C4'-C3'-O3'	10.67	134.34	113.00
49	B1	24	C	P-O3'-C3'	10.65	132.48	119.70
49	B1	744	G	N9-C1'-C2'	-10.62	100.19	114.00
2	A4	75	G	C4'-C3'-O3'	10.62	134.24	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
47	Au	191	VAL	CA-CB-CG2	10.61	126.81	110.90
48	A2	2691	G	O5'-C5'-C4'	10.60	131.84	111.70
49	B1	1105	G	O5'-P-OP1	-10.58	96.18	105.70
45	Aq	88	PRO	CA-N-CD	-10.57	96.70	111.50
48	A2	2689	C	O5'-P-OP2	10.57	123.38	110.70
48	A2	4715	U	N1-C1'-C2'	-10.54	100.29	114.00
1	A3	34	U	C4'-C3'-O3'	-10.53	87.28	109.40
49	B1	1285	G	C5'-C4'-C3'	10.51	132.82	116.00
48	A2	1353	G	P-O3'-C3'	10.49	132.29	119.70
48	A2	3611	U	C3'-C2'-O2'	-10.48	82.90	113.30
49	B1	106	C	P-O3'-C3'	-10.47	107.14	119.70
48	A2	381	G	C4'-C3'-O3'	10.45	133.90	113.00
48	A2	2328	A	P-O3'-C3'	10.45	132.24	119.70
48	A2	671	C	P-O3'-C3'	-10.44	107.17	119.70
48	A2	4828	G	O5'-P-OP2	-10.41	96.33	105.70
48	A2	958	U	P-O3'-C3'	-10.40	107.22	119.70
48	A2	191	C	C4'-C3'-O3'	-10.38	87.61	109.40
49	B1	795	A	C4'-C3'-O3'	-10.38	87.61	109.40
48	A2	85	G	P-O5'-C5'	-10.37	104.31	120.90
48	A2	186	G	P-O3'-C3'	-10.36	107.27	119.70
49	B1	1286	G	C4'-C3'-O3'	10.35	133.70	113.00
45	Aq	22	VAL	CG1-CB-CG2	-10.35	94.35	110.90
48	A2	2825	G	C2'-C3'-O3'	10.34	132.26	109.50
47	Au	121	PRO	CA-CB-CG	-10.34	84.36	104.00
49	B1	1625	U	P-O5'-C5'	-10.31	104.40	120.90
49	B1	460	A	P-O3'-C3'	-10.31	107.33	119.70
49	B1	793	G	P-O5'-C5'	10.29	137.37	120.90
48	A2	2689	C	C2'-C3'-O3'	10.29	132.14	109.50
48	A2	4596	U	N1-C1'-C2'	10.27	127.35	114.00
13	AK	108	PRO	CA-N-CD	-10.26	97.14	111.50
48	A2	1260	G	P-O3'-C3'	-10.26	107.39	119.70
48	A2	3789	U	P-O3'-C3'	-10.24	107.41	119.70
48	A2	2010	A	P-O3'-C3'	10.24	131.99	119.70
48	A2	2617	G	O5'-P-OP2	-10.23	96.49	105.70
48	A2	221	U	N1-C1'-C2'	10.20	127.26	114.00
49	B1	690	G	O5'-C5'-C4'	10.20	131.07	111.70
48	A2	3928	U	P-O3'-C3'	10.19	131.93	119.70
49	B1	915	G	C5'-C4'-C3'	10.17	132.28	116.00
1	A3	124	U	P-O3'-C3'	-10.17	107.50	119.70
48	A2	4136	U	P-O3'-C3'	-10.17	107.50	119.70
48	A2	727	C	C5'-C4'-C3'	-10.17	99.73	116.00
48	A2	1741	G	O4'-C1'-N9	10.16	116.33	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A3	94	G	C3'-C2'-O2'	-10.15	83.87	113.30
49	B1	791	C	C2'-C3'-O3'	10.15	131.82	109.50
48	A2	2690	G	C5'-C4'-O4'	-10.13	96.94	109.10
49	B1	1854	U	P-O3'-C3'	-10.12	107.55	119.70
49	B1	356	C	O5'-P-OP2	-10.12	96.59	105.70
48	A2	4896	A	P-O5'-C5'	10.11	137.07	120.90
49	B1	639	C	P-O5'-C5'	10.10	137.06	120.90
48	A2	961	C	P-O5'-C5'	-10.07	104.78	120.90
49	B1	369	C	C4'-C3'-O3'	-10.07	88.25	109.40
48	A2	2683	C	C2'-C3'-O3'	10.07	131.65	109.50
48	A2	154	U	C2'-C3'-O3'	10.06	131.63	109.50
48	A2	650	C	P-O3'-C3'	-10.06	107.63	119.70
49	B1	615	C	P-O3'-C3'	10.06	131.77	119.70
45	Aq	59	THR	OG1-CB-CG2	-10.06	86.87	110.00
49	B1	227	U	C4'-C3'-O3'	-10.03	88.34	109.40
49	B1	1289	U	C5'-C4'-C3'	10.03	132.04	116.00
48	A2	651	C	P-O3'-C3'	9.99	131.68	119.70
48	A2	931	A	P-O3'-C3'	9.96	131.66	119.70
48	A2	1225	G	C4'-C3'-O3'	9.95	132.90	113.00
49	B1	690	G	C2'-C3'-O3'	-9.95	87.62	109.50
48	A2	3929	G	P-O5'-C5'	-9.94	104.99	120.90
49	B1	237	C	C4'-C3'-O3'	9.94	132.87	113.00
48	A2	2691	G	P-O5'-C5'	9.91	136.75	120.90
48	A2	2690	G	C4-N9-C1'	-9.90	113.62	126.50
48	A2	111	C	C3'-C2'-O2'	-9.90	84.59	113.30
48	A2	154	U	C5'-C4'-C3'	-9.90	100.16	116.00
48	A2	2792	A	P-O3'-C3'	9.90	131.57	119.70
25	AW	98	PRO	CA-N-CD	-9.88	97.67	111.50
49	B1	746	C	P-O5'-C5'	-9.88	105.09	120.90
49	B1	842	C	OP2-P-O3'	9.88	126.94	105.20
49	B1	1826	G	P-O5'-C5'	-9.87	105.11	120.90
48	A2	206	U	P-O3'-C3'	-9.85	107.88	119.70
48	A2	2601	G	P-O3'-C3'	-9.85	107.88	119.70
48	A2	1258	G	O4'-C1'-N9	9.84	116.07	108.20
48	A2	497	C	P-O3'-C3'	-9.83	107.91	119.70
48	A2	4827	U	C2'-C3'-O3'	9.82	131.11	109.50
48	A2	3613	A	C5'-C4'-C3'	-9.82	100.29	116.00
45	Aq	46	ILE	CG1-CB-CG2	9.80	132.96	111.40
48	A2	287	G	C3'-C2'-O2'	-9.79	84.91	113.30
48	A2	220	G	P-O3'-C3'	-9.78	107.96	119.70
49	B1	1557	C	C4'-C3'-O3'	9.78	132.56	113.00
49	B1	744	G	O4'-C1'-N9	9.77	116.02	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
49	B1	1454	A	P-O5'-C5'	-9.77	105.27	120.90
48	A2	192	C	O5'-P-OP1	-9.76	96.92	105.70
49	B1	690	G	C5'-C4'-O4'	9.76	120.81	109.10
49	B1	215	G	P-O3'-C3'	9.75	131.40	119.70
48	A2	2793	C	C2'-C3'-O3'	-9.75	88.05	109.50
48	A2	7	C	C4'-C3'-O3'	-9.73	88.97	109.40
48	A2	2825	G	C5'-C4'-C3'	-9.71	100.46	116.00
48	A2	2692	C	P-O5'-C5'	9.71	136.44	120.90
48	A2	4717	G	C4'-C3'-O3'	-9.71	89.00	109.40
48	A2	641	G	P-O3'-C3'	9.70	131.34	119.70
48	A2	1259	C	P-O3'-C3'	-9.69	108.07	119.70
48	A2	4828	G	C2'-C3'-O3'	-9.68	88.21	109.50
49	B1	25	A	O4'-C1'-N9	9.68	115.94	108.20
48	A2	4458	A	P-O3'-C3'	9.64	131.27	119.70
48	A2	3578	U	P-O5'-C5'	9.64	136.32	120.90
48	A2	2682	G	O4'-C1'-N9	9.62	115.90	108.20
48	A2	5006	A	C3'-C2'-O2'	-9.62	85.40	113.30
49	B1	502	C	P-O3'-C3'	-9.62	108.15	119.70
49	B1	1647	A	P-O3'-C3'	9.60	131.22	119.70
48	A2	728	C	P-O3'-C3'	-9.60	108.18	119.70
48	A2	1296	C	P-O5'-C5'	-9.58	105.58	120.90
48	A2	290	A	C2'-C3'-O3'	9.57	130.55	109.50
48	A2	968	C	C5'-C4'-O4'	9.57	120.58	109.10
49	B1	33	G	OP2-P-O3'	9.57	126.25	105.20
48	A2	2299	G	P-O5'-C5'	-9.56	105.60	120.90
49	B1	1802	C	P-O3'-C3'	-9.55	108.24	119.70
48	A2	330	A	P-O3'-C3'	9.53	131.13	119.70
48	A2	4906	C	P-O3'-C3'	-9.52	108.28	119.70
48	A2	4030	U	P-O3'-C3'	-9.51	108.29	119.70
45	Aq	46	ILE	CA-CB-CG1	-9.47	93.00	111.00
49	B1	438	G	P-O3'-C3'	-9.47	108.33	119.70
48	A2	1258	G	P-O5'-C5'	-9.46	105.76	120.90
48	A2	959	C	C5'-C4'-C3'	-9.45	100.88	116.00
49	B1	306	C	O5'-P-OP1	9.44	122.03	110.70
48	A2	4685	A	O5'-P-OP2	-9.43	97.21	105.70
48	A2	4620	G	P-O3'-C3'	9.42	131.01	119.70
48	A2	3737	A	C2'-C3'-O3'	-9.40	88.82	109.50
48	A2	1559	G	P-O3'-C3'	9.39	130.97	119.70
49	B1	1723	G	P-O3'-C3'	-9.35	108.48	119.70
48	A2	49	U	O5'-P-OP1	9.33	121.90	110.70
48	A2	4409	C	P-O3'-C3'	-9.32	108.52	119.70
48	A2	1741	G	P-O5'-C5'	9.31	135.80	120.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
49	B1	837	A	C2'-C3'-O3'	-9.31	89.03	109.50
49	B1	804	U	P-O5'-C5'	-9.30	106.02	120.90
1	A3	103	A	P-O5'-C5'	-9.29	106.04	120.90
48	A2	1296	C	C4'-C3'-O3'	-9.29	89.90	109.40
48	A2	3590	G	C2'-C3'-O3'	-9.26	89.12	109.50
48	A2	19	G	P-O3'-C3'	9.25	130.80	119.70
49	B1	1448	A	P-O5'-C5'	9.23	135.67	120.90
48	A2	4827	U	N1-C1'-C2'	9.22	125.98	114.00
48	A2	953	A	P-O3'-C3'	9.21	130.75	119.70
48	A2	967	U	C4'-C3'-O3'	9.20	131.40	113.00
48	A2	295	G	P-O3'-C3'	-9.20	108.67	119.70
49	B1	1481	G	P-O3'-C3'	9.19	130.73	119.70
48	A2	968	C	C4'-C3'-O3'	9.13	131.27	113.00
48	A2	229	G	N9-C1'-C2'	9.12	125.86	114.00
38	Aj	19	CYS	CA-CB-SG	9.12	130.41	114.00
49	B1	1554	C	P-O5'-C5'	-9.11	106.33	120.90
49	B1	792	C	C2'-C3'-O3'	9.10	129.53	109.50
48	A2	4526	A	P-O3'-C3'	9.09	130.61	119.70
48	A2	228	U	C1'-C2'-O2'	-9.09	83.34	110.60
48	A2	917	G	P-O3'-C3'	9.08	130.60	119.70
49	B1	450	C	O5'-P-OP1	-9.08	97.53	105.70
48	A2	968	C	C5'-C4'-C3'	-9.07	101.48	116.00
49	B1	1491	G	P-O3'-C3'	-9.07	108.82	119.70
48	A2	7	C	C3'-C2'-O2'	-9.05	87.07	113.30
48	A2	463	C	C4'-C3'-O3'	9.02	131.04	113.00
2	A4	105	C	O3'-P-O5'	9.02	121.14	104.00
48	A2	229	G	P-O5'-C5'	-9.02	106.47	120.90
48	A2	930	A	C3'-C2'-O2'	-9.02	87.15	113.30
48	A2	4827	U	P-O3'-C3'	-9.02	108.88	119.70
48	A2	3930	U	P-O5'-C5'	9.01	135.32	120.90
48	A2	2054	C	P-O3'-C3'	-9.00	108.90	119.70
48	A2	4586	A	O4'-C1'-N9	9.00	115.40	108.20
48	A2	1357	G	P-O3'-C3'	8.99	130.49	119.70
48	A2	1981	G	P-O3'-C3'	8.98	130.47	119.70
49	B1	308	G	O4'-C1'-N9	8.97	115.38	108.20
49	B1	239	C	O5'-C5'-C4'	8.96	128.73	111.70
48	A2	192	C	O5'-P-OP2	8.96	121.45	110.70
48	A2	3612	U	C3'-C2'-O2'	-8.95	87.35	113.30
49	B1	882	U	P-O5'-C5'	8.95	135.21	120.90
48	A2	1297	C	N1-C1'-C2'	8.94	125.62	114.00
48	A2	2526	G	P-O3'-C3'	8.93	130.42	119.70
48	A2	2284	U	P-O3'-C3'	8.93	130.41	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
49	B1	903	A	O4'-C1'-N9	8.93	115.34	108.20
48	A2	2485	G	O4'-C1'-N9	8.92	115.34	108.20
13	AK	107	VAL	CA-CB-CG1	8.92	124.27	110.90
49	B1	369	C	C2'-C3'-O3'	8.92	129.12	109.50
49	B1	1285	G	P-O5'-C5'	-8.90	106.67	120.90
49	B1	230	A	C4'-C3'-O3'	8.87	130.75	113.00
48	A2	229	G	P-O3'-C3'	8.87	130.34	119.70
48	A2	2056	G	O4'-C1'-N9	8.87	115.29	108.20
48	A2	1226	C	O5'-C5'-C4'	-8.86	94.87	111.70
48	A2	960	G	C4'-C3'-O3'	-8.86	90.81	109.40
83	Bv	72	C	N1-C1'-C2'	-8.85	102.27	112.00
48	A2	112	C	C5'-C4'-O4'	8.85	119.72	109.10
49	B1	744	G	O5'-C5'-C4'	8.83	128.48	111.70
48	A2	159	A	P-O3'-C3'	-8.83	109.10	119.70
48	A2	279	G	P-O3'-C3'	8.82	130.28	119.70
48	A2	737	A	C4'-C3'-O3'	-8.81	90.90	109.40
49	B1	1301	A	O4'-C1'-N9	8.81	115.25	108.20
13	AK	90	PHE	CA-CB-CG	8.80	135.03	113.90
48	A2	2793	C	P-O3'-C3'	8.80	130.26	119.70
48	A2	319	U	P-O3'-C3'	8.80	130.26	119.70
48	A2	4532	G	P-O3'-C3'	8.80	130.26	119.70
48	A2	2685	G	P-O3'-C3'	-8.79	109.15	119.70
48	A2	326	C	P-O3'-C3'	-8.78	109.17	119.70
48	A2	918	C	P-O3'-C3'	8.76	130.21	119.70
48	A2	3597	G	P-O5'-C5'	-8.75	106.89	120.90
48	A2	3683	A	C4'-C3'-O3'	-8.75	91.02	109.40
48	A2	139	G	C4'-C3'-O3'	8.74	130.48	113.00
48	A2	4119	A	P-O3'-C3'	-8.74	109.21	119.70
48	A2	2329	U	P-O3'-C3'	8.73	130.18	119.70
49	B1	1782	G	C4'-C3'-O3'	8.73	130.46	113.00
48	A2	652	C	P-O3'-C3'	-8.72	109.23	119.70
48	A2	713	G	C1'-C2'-O2'	-8.72	84.43	110.60
48	A2	1227	G	P-O3'-C3'	-8.72	109.23	119.70
48	A2	286	G	C3'-C2'-O2'	-8.72	88.02	113.30
48	A2	328	A	P-O3'-C3'	8.71	130.15	119.70
49	B1	689	U	C5'-C4'-O4'	8.71	119.55	109.10
48	A2	3627	A	P-O3'-C3'	8.71	130.15	119.70
48	A2	228	U	C4'-C3'-O3'	-8.70	91.12	109.40
49	B1	874	G	C4'-C3'-O3'	8.70	130.40	113.00
48	A2	91	G	OP1-P-O3'	-8.70	86.07	105.20
48	A2	1219	C	P-O3'-C3'	-8.69	109.27	119.70
49	B1	21	U	P-O3'-C3'	-8.69	109.27	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	A2	2748	U	C1'-C2'-O2'	-8.69	84.54	110.60
48	A2	4086	U	C4'-C3'-O3'	-8.69	91.16	109.40
49	B1	873	G	C4'-C3'-O3'	-8.68	91.17	109.40
13	AK	73	PRO	CA-N-CD	-8.67	99.36	111.50
48	A2	1467	C	P-O3'-C3'	8.67	130.11	119.70
48	A2	967	U	P-O3'-C3'	-8.67	109.30	119.70
48	A2	741	U	P-O3'-C3'	8.66	130.09	119.70
49	B1	1702	G	C4'-C3'-O3'	-8.65	91.23	109.40
48	A2	1282	G	P-O3'-C3'	-8.65	109.33	119.70
48	A2	713	G	C4'-C3'-O3'	-8.64	91.24	109.40
49	B1	1554	C	O3'-P-O5'	-8.64	87.58	104.00
48	A2	4135	G	P-O3'-C3'	-8.63	109.34	119.70
49	B1	748	C	O5'-C5'-C4'	-8.63	95.30	111.70
48	A2	1742	G	O5'-P-OP1	-8.61	97.95	105.70
48	A2	1201	G	O4'-C1'-N9	8.60	115.08	108.20
50	BA	116	PHE	N-CA-C	-8.59	87.80	111.00
45	Aq	22	VAL	CA-CB-CG2	8.59	123.78	110.90
48	A2	210	G	O3'-P-O5'	-8.59	87.68	104.00
48	A2	1319	G	P-O3'-C3'	8.59	130.01	119.70
48	A2	1269	C	P-O3'-C3'	-8.59	109.40	119.70
49	B1	1339	U	P-O3'-C3'	8.59	130.00	119.70
48	A2	62	A	OP2-P-O3'	8.57	124.05	105.20
48	A2	480	C	P-O3'-C3'	8.57	129.98	119.70
48	A2	3793	U	OP2-P-O3'	8.57	124.05	105.20
48	A2	925	C	O3'-P-O5'	-8.55	87.75	104.00
49	B1	183	G	O5'-C5'-C4'	-8.53	95.49	111.70
48	A2	4119	A	OP2-P-O3'	8.53	123.96	105.20
48	A2	460	A	C4'-C3'-O3'	-8.51	91.53	109.40
48	A2	3911	U	P-O3'-C3'	-8.51	109.49	119.70
49	B1	371	A	O5'-C5'-C4'	8.50	127.86	111.70
48	A2	958	U	O3'-P-O5'	-8.50	87.85	104.00
48	A2	2690	G	C3'-C2'-O2'	-8.50	88.65	113.30
48	A2	1225	G	C5'-C4'-O4'	-8.49	98.91	109.10
49	B1	1683	C	P-O3'-C3'	8.49	129.89	119.70
48	A2	4130	G	P-O3'-C3'	-8.49	109.52	119.70
2	A4	3	C	P-O5'-C5'	8.48	134.47	120.90
48	A2	91	G	OP2-P-O3'	8.47	123.83	105.20
48	A2	1849	A	C4'-C3'-O3'	-8.47	91.62	109.40
49	B1	417	C	P-O3'-C3'	-8.47	109.54	119.70
48	A2	4600	U	P-O3'-C3'	8.46	129.85	119.70
48	A2	5006	A	P-O5'-C5'	-8.46	107.36	120.90
49	B1	909	G	C4'-C3'-O3'	8.45	129.91	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
49	B1	806	U	P-O5'-C5'	-8.45	107.38	120.90
49	B1	447	A	P-O3'-C3'	-8.45	109.57	119.70
49	B1	1283	C	C4'-C3'-O3'	8.44	129.88	113.00
48	A2	1741	G	C4-N9-C1'	-8.44	115.53	126.50
49	B1	345	U	P-O3'-C3'	-8.43	109.58	119.70
48	A2	150	G	O4'-C1'-N9	8.42	114.93	108.20
48	A2	2617	G	C3'-C2'-O2'	-8.41	88.91	113.30
49	B1	298	G	P-O3'-C3'	-8.40	109.62	119.70
49	B1	533	A	P-O3'-C3'	8.40	129.78	119.70
49	B1	798	G	C4'-C3'-O3'	-8.40	91.76	109.40
49	B1	1556	A	N9-C1'-C2'	8.39	124.91	114.00
48	A2	1066	U	OP2-P-O3'	8.38	123.64	105.20
48	A2	1572	C	P-O3'-C3'	8.38	129.75	119.70
48	A2	959	C	O4'-C1'-N1	8.37	114.89	108.20
48	A2	356	A	C3'-C2'-O2'	-8.36	89.05	113.30
49	B1	320	G	C5'-C4'-C3'	8.35	129.36	116.00
2	A4	56	G	P-O3'-C3'	8.34	129.71	119.70
49	B1	689	U	O4'-C1'-N1	8.34	114.87	108.20
48	A2	2876	G	P-O3'-C3'	-8.34	109.70	119.70
47	Au	180	VAL	CA-CB-CG1	8.33	123.40	110.90
48	A2	85	G	C1'-C2'-O2'	-8.33	85.60	110.60
48	A2	444	G	O4'-C1'-N9	8.32	114.85	108.20
48	A2	4033	U	O4'-C1'-N1	8.31	114.85	108.20
49	B1	180	G	C4'-C3'-O3'	8.31	129.63	113.00
48	A2	938	G	O3'-P-O5'	8.31	119.79	104.00
48	A2	1877	A	P-O5'-C5'	8.31	134.20	120.90
48	A2	732	C	P-O3'-C3'	-8.29	109.75	119.70
48	A2	4319	G	P-O3'-C3'	-8.29	109.75	119.70
48	A2	111	C	P-O3'-C3'	8.28	129.64	119.70
49	B1	748	C	C2'-C3'-O3'	8.28	127.72	109.50
48	A2	85	G	O5'-C5'-C4'	8.28	127.43	111.70
48	A2	4597	A	P-O3'-C3'	8.26	129.61	119.70
49	B1	1753	C	C4'-C3'-O3'	8.25	129.50	113.00
48	A2	228	U	N1-C1'-C2'	8.25	124.72	114.00
49	B1	1525	C	P-O3'-C3'	-8.25	109.80	119.70
48	A2	2508	A	O4'-C1'-N9	8.24	114.79	108.20
49	B1	1015	U	P-O3'-C3'	8.24	129.59	119.70
49	B1	451	G	P-O5'-C5'	-8.24	107.72	120.90
13	AK	89	VAL	CA-CB-CG1	8.23	123.25	110.90
48	A2	3921	U	P-O3'-C3'	-8.23	109.82	119.70
49	B1	110	U	P-O3'-C3'	-8.23	109.82	119.70
49	B1	1223	A	O4'-C1'-N9	8.23	114.78	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
49	B1	1445	U	C4'-C3'-O3'	-8.22	92.14	109.40
49	B1	604	A	P-O3'-C3'	-8.21	109.84	119.70
49	B1	1554	C	P-O3'-C3'	8.21	129.56	119.70
48	A2	1196	G	P-O3'-C3'	-8.21	109.85	119.70
45	Aq	25	THR	CA-CB-CG2	8.20	123.89	112.40
48	A2	4597	A	N9-C1'-C2'	8.20	124.67	114.00
48	A2	4631	A	P-O3'-C3'	8.19	129.53	119.70
48	A2	1258	G	P-O3'-C3'	-8.19	109.87	119.70
48	A2	1255	C	P-O3'-C3'	-8.18	109.88	119.70
48	A2	2245	C	C3'-C2'-O2'	-8.18	89.58	113.30
48	A2	494	G	C2'-C3'-O3'	-8.17	91.52	109.50
48	A2	4407	U	P-O3'-C3'	-8.17	109.89	119.70
48	A2	2330	C	P-O3'-C3'	8.17	129.50	119.70
48	A2	4318	G	OP2-P-O3'	8.17	123.17	105.20
36	Ah	38	GLY	N-CA-C	8.15	133.48	113.10
48	A2	1579	G	P-O5'-C5'	-8.15	107.86	120.90
49	B1	1749	G	C4'-C3'-O3'	-8.15	92.28	109.40
48	A2	2683	C	C4'-C3'-O3'	-8.15	92.29	109.40
49	B1	742	U	C4'-C3'-O3'	-8.15	92.29	109.40
48	A2	2684	G	N9-C1'-C2'	-8.14	103.04	112.00
48	A2	3877	A	P-O5'-C5'	-8.14	107.88	120.90
48	A2	181	U	P-O3'-C3'	-8.13	109.94	119.70
47	Au	17	VAL	CA-CB-CG1	8.11	123.06	110.90
48	A2	3732	C	C5'-C4'-C3'	-8.11	103.03	116.00
48	A2	4593	G	P-O3'-C3'	8.11	129.43	119.70
49	B1	890	U	C2'-C3'-O3'	8.11	127.34	109.50
48	A2	736	G	C4'-C3'-O3'	-8.10	92.39	109.40
48	A2	3736	G	C4'-C3'-O3'	8.10	129.19	113.00
49	B1	866	U	C4'-C3'-O3'	8.08	129.17	113.00
49	B1	741	C	C5'-C4'-O4'	-8.07	99.41	109.10
48	A2	4017	A	P-O5'-C5'	-8.06	108.00	120.90
48	A2	4827	U	O4'-C1'-N1	-8.05	101.76	108.20
49	B1	1624	U	C5'-C4'-O4'	8.05	118.76	109.10
48	A2	4984	U	P-O3'-C3'	-8.03	110.06	119.70
49	B1	741	C	C2'-C3'-O3'	8.02	127.14	109.50
48	A2	4684	G	O4'-C1'-N9	8.01	114.61	108.20
48	A2	1256	G	O5'-C5'-C4'	-8.01	96.48	111.70
49	B1	368	U	C4'-C3'-O3'	-8.01	92.58	109.40
83	Bw	34	G	C2'-C3'-O3'	7.98	127.06	109.50
2	A4	112	U	OP2-P-O3'	7.98	122.76	105.20
45	Aq	112	ILE	CA-CB-CG1	7.97	126.14	111.00
1	A3	130	C	P-O3'-C3'	-7.96	110.15	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	A2	1066	U	P-O3'-C3'	-7.96	110.15	119.70
48	A2	1741	G	C8-N9-C1'	7.96	137.34	127.00
48	A2	2793	C	O5'-C5'-C4'	7.95	126.81	111.70
48	A2	1251	G	P-O3'-C3'	7.95	129.24	119.70
49	B1	748	C	P-O5'-C5'	7.95	133.62	120.90
49	B1	1496	U	P-O3'-C3'	-7.95	110.16	119.70
49	B1	985	G	C3'-C2'-O2'	-7.95	90.25	113.30
1	A3	94	G	C5'-C4'-O4'	-7.94	99.57	109.10
13	AK	27	CYS	CA-CB-SG	7.94	128.29	114.00
48	A2	296	C	P-O3'-C3'	-7.93	110.18	119.70
49	B1	497	C	O3'-P-O5'	-7.93	88.93	104.00
48	A2	496	C	C4'-C3'-O3'	7.93	128.86	113.00
49	B1	1181	A	P-O3'-C3'	7.93	129.21	119.70
48	A2	1218	G	P-O3'-C3'	-7.92	110.20	119.70
48	A2	1741	G	C2'-C3'-O3'	7.92	126.92	109.50
49	B1	801	U	C4'-C3'-O3'	7.92	128.84	113.00
48	A2	4016	A	O3'-P-O5'	-7.92	88.96	104.00
49	B1	33	G	P-O3'-C3'	-7.91	110.21	119.70
49	B1	859	G	C4'-C3'-O3'	7.91	128.81	113.00
49	B1	1867	U	P-O3'-C3'	-7.90	110.22	119.70
49	B1	1825	A	P-O5'-C5'	-7.89	108.27	120.90
1	A3	129	C	OP2-P-O3'	7.89	122.56	105.20
1	A3	111	U	P-O3'-C3'	7.89	129.17	119.70
48	A2	3597	G	C2'-C3'-O3'	-7.89	92.14	109.50
49	B1	693	A	C2'-C3'-O3'	7.89	126.85	109.50
48	A2	4586	A	P-O3'-C3'	7.88	129.16	119.70
49	B1	1702	G	C1'-C2'-O2'	-7.87	86.98	110.60
48	A2	409	G	P-O3'-C3'	7.86	129.13	119.70
2	A4	9	C	P-O3'-C3'	7.86	129.13	119.70
48	A2	3736	G	O3'-P-O5'	-7.85	89.08	104.00
49	B1	745	C	C4'-C3'-O3'	-7.85	92.92	109.40
48	A2	228	U	C5'-C4'-C3'	-7.85	103.45	116.00
48	A2	1742	G	C4-N9-C1'	-7.82	116.33	126.50
48	A2	718	C	C1'-C2'-O2'	-7.81	87.17	110.60
49	B1	422	U	P-O3'-C3'	7.81	129.07	119.70
84	Bx	44	U	O3'-P-O5'	-7.79	89.19	104.00
47	Au	120	ILE	C-N-CD	-7.78	103.49	120.60
48	A2	1950	G	O4'-C1'-N9	7.78	114.42	108.20
49	B1	369	C	P-O5'-C5'	-7.77	108.47	120.90
49	B1	1783	C	O4'-C1'-N1	7.75	114.40	108.20
48	A2	3928	U	C4'-C3'-O3'	7.75	128.50	113.00
48	A2	1253	A	C4'-C3'-O3'	7.74	128.49	113.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	A2	2324	G	C4'-C3'-O3'	-7.74	93.14	109.40
49	B1	802	A	C4'-C3'-O3'	-7.74	93.14	109.40
48	A2	4705	G	P-O3'-C3'	7.74	128.99	119.70
48	A2	1274	G	OP2-P-O3'	7.73	122.22	105.20
49	B1	1555	U	C5'-C4'-C3'	7.73	128.37	116.00
48	A2	2612	U	P-O3'-C3'	-7.73	110.42	119.70
49	B1	1224	G	P-O3'-C3'	7.72	128.96	119.70
48	A2	1752	A	O5'-P-OP1	-7.71	98.76	105.70
48	A2	2673	G	C1'-C2'-O2'	-7.71	87.48	110.60
48	A2	3743	U	C4'-C3'-O3'	-7.70	93.23	109.40
48	A2	3667	C	P-O3'-C3'	7.69	128.92	119.70
49	B1	627	U	P-O3'-C3'	-7.68	110.48	119.70
49	B1	886	A	C2'-C3'-O3'	7.68	126.41	109.50
48	A2	241	G	P-O3'-C3'	7.68	128.92	119.70
49	B1	740	C	O4'-C1'-N1	7.67	114.33	108.20
48	A2	138	C	P-O5'-C5'	7.67	133.16	120.90
49	B1	1620	A	P-O3'-C3'	7.66	128.90	119.70
48	A2	1761	U	P-O3'-C3'	-7.66	110.51	119.70
48	A2	509	C	P-O3'-C3'	-7.66	110.51	119.70
48	A2	1992	C	O4'-C1'-N1	7.66	114.32	108.20
49	B1	320	G	P-O5'-C5'	-7.65	108.66	120.90
49	B1	742	U	N1-C1'-C2'	7.65	123.95	114.00
49	B1	239	C	C5'-C4'-C3'	7.65	128.24	116.00
48	A2	661	G	P-O5'-C5'	7.65	133.13	120.90
48	A2	3850	G	P-O3'-C3'	7.64	128.87	119.70
49	B1	231	A	C5'-C4'-O4'	7.64	118.27	109.10
49	B1	1014	G	P-O3'-C3'	7.64	128.86	119.70
48	A2	3682	A	O4'-C4'-C3'	-7.63	96.37	104.00
49	B1	1453	C	C3'-C2'-O2'	-7.63	91.17	113.30
48	A2	9	C	O5'-P-OP1	-7.63	98.83	105.70
48	A2	1755	U	O5'-P-OP1	-7.62	98.84	105.70
48	A2	3731	A	O5'-P-OP2	-7.62	98.84	105.70
49	B1	306	C	N1-C1'-C2'	7.62	123.91	114.00
48	A2	204	G	P-O3'-C3'	7.62	128.84	119.70
49	B1	1785	C	O4'-C1'-N1	7.62	114.29	108.20
48	A2	322	A	C4'-C3'-O3'	-7.62	93.41	109.40
48	A2	737	A	P-O5'-C5'	7.62	133.09	120.90
49	B1	1287	A	O4'-C1'-N9	7.62	114.29	108.20
49	B1	1338	G	P-O3'-C3'	7.62	128.84	119.70
49	B1	14	C	O4'-C1'-N1	7.61	114.29	108.20
49	B1	869	A	O4'-C1'-N9	7.61	114.29	108.20
84	Bx	45	U	C5'-C4'-C3'	7.61	128.18	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	A2	4606	G	P-O3'-C3'	7.60	128.82	119.70
48	A2	2600	A	P-O3'-C3'	-7.59	110.59	119.70
48	A2	3916	A	P-O3'-C3'	-7.58	110.61	119.70
48	A2	968	C	P-O5'-C5'	-7.58	108.78	120.90
49	B1	903	A	C5'-C4'-O4'	7.58	118.19	109.10
49	B1	689	U	C2'-C3'-O3'	-7.57	92.84	109.50
48	A2	482	G	P-O3'-C3'	-7.57	110.61	119.70
83	Bv	1	G	OP1-P-OP2	-7.57	108.25	119.60
49	B1	293	C	O4'-C1'-N1	-7.56	102.15	108.20
49	B1	688	U	O4'-C1'-N1	7.56	114.25	108.20
48	A2	1763	U	P-O3'-C3'	-7.56	110.63	119.70
49	B1	318	A	C4'-C3'-O3'	-7.55	93.53	109.40
48	A2	675	G	P-O3'-C3'	7.55	128.76	119.70
49	B1	1553	C	P-O5'-C5'	7.55	132.97	120.90
83	Bw	1	G	OP1-P-OP2	-7.54	108.29	119.60
48	A2	2872	U	P-O3'-C3'	-7.54	110.66	119.70
84	Bx	34	U	OP1-P-OP2	-7.53	108.30	119.60
47	Au	58	THR	CA-CB-OG1	7.53	124.82	109.00
48	A2	258	C	C2'-C3'-O3'	7.53	126.07	109.50
48	A2	289	A	C1'-C2'-O2'	-7.53	88.01	110.60
48	A2	912	C	O3'-P-O5'	-7.51	89.72	104.00
48	A2	965	G	O3'-P-O5'	-7.51	89.73	104.00
49	B1	238	C	C2'-C3'-O3'	-7.51	92.98	109.50
49	B1	741	C	P-O5'-C5'	-7.51	108.89	120.90
49	B1	1557	C	C2'-C3'-O3'	-7.51	92.99	109.50
1	A3	93	C	C4'-C3'-O3'	-7.50	93.65	109.40
2	A4	81	G	P-O3'-C3'	-7.50	110.70	119.70
48	A2	681	A	C2'-C3'-O3'	-7.49	93.01	109.50
48	A2	968	C	P-O3'-C3'	-7.49	110.71	119.70
48	A2	2457	C	P-O3'-C3'	-7.49	110.71	119.70
48	A2	1742	G	C8-N9-C1'	7.49	136.74	127.00
48	A2	4916	C	P-O3'-C3'	-7.48	110.72	119.70
48	A2	1743	G	O4'-C1'-N9	7.48	114.18	108.20
48	A2	49	U	C3'-C2'-O2'	-7.48	91.62	113.30
48	A2	2689	C	C5'-C4'-O4'	-7.48	100.13	109.10
48	A2	229	G	C5'-C4'-C3'	7.46	127.94	116.00
1	A3	123	U	O4'-C1'-N1	7.45	114.16	108.20
48	A2	4828	G	C1'-C2'-O2'	-7.45	88.24	110.60
48	A2	49	U	P-O3'-C3'	-7.45	110.76	119.70
49	B1	1620	A	C2'-C3'-O3'	-7.45	93.12	109.50
48	A2	4720	U	P-O3'-C3'	7.44	128.62	119.70
49	B1	1487	A	C4'-C3'-O3'	-7.44	93.78	109.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	A2	494	G	O3'-P-O5'	7.43	118.12	104.00
2	A4	6	C	P-O3'-C3'	7.41	128.60	119.70
48	A2	191	C	C2'-C3'-O3'	7.40	125.78	109.50
48	A2	3877	A	C3'-C2'-O2'	-7.39	91.86	113.30
1	A3	13	G	O4'-C1'-N9	7.39	114.11	108.20
48	A2	2688	C	C2'-C3'-O3'	7.39	125.75	109.50
48	A2	3877	A	C5'-C4'-C3'	7.39	127.82	116.00
48	A2	4686	A	O5'-C5'-C4'	-7.38	97.67	111.70
48	A2	1615	G	P-O3'-C3'	7.38	128.55	119.70
49	B1	416	U	O3'-P-O5'	-7.38	89.98	104.00
49	B1	881	G	C2'-C3'-O3'	7.38	125.73	109.50
48	A2	3613	A	C5'-C4'-O4'	-7.37	100.25	109.10
49	B1	1623	A	O3'-P-O5'	-7.37	90.00	104.00
48	A2	2492	A	P-O3'-C3'	-7.37	110.86	119.70
48	A2	1433	C	OP2-P-O3'	7.36	121.39	105.20
49	B1	1389	C	P-O3'-C3'	7.36	128.53	119.70
49	B1	407	G	P-O3'-C3'	-7.36	110.87	119.70
48	A2	2425	C	P-O3'-C3'	7.36	128.53	119.70
49	B1	880	G	O4'-C1'-N9	7.35	114.08	108.20
49	B1	15	U	P-O3'-C3'	7.34	128.51	119.70
49	B1	289	G	P-O3'-C3'	-7.34	110.89	119.70
1	A3	94	G	P-O5'-C5'	-7.34	109.16	120.90
49	B1	876	C	C2'-C3'-O3'	7.34	125.65	109.50
48	A2	3590	G	O5'-P-OP2	-7.33	99.10	105.70
48	A2	959	C	C4'-C3'-O3'	7.31	127.63	113.00
45	Aq	109	ILE	CA-CB-CG1	7.31	124.89	111.00
1	A3	118	C	P-O3'-C3'	-7.31	110.93	119.70
48	A2	5007	G	N9-C1'-C2'	7.30	123.49	114.00
49	B1	745	C	C2'-C3'-O3'	7.30	125.55	109.50
49	B1	356	C	P-O3'-C3'	7.29	128.45	119.70
48	A2	2335	U	OP2-P-O3'	7.28	121.21	105.20
49	B1	1600	G	O4'-C1'-N9	7.27	114.02	108.20
48	A2	2673	G	C4'-C3'-O3'	-7.27	94.14	109.40
48	A2	4597	A	O4'-C1'-N9	7.26	114.01	108.20
48	A2	2700	G	P-O3'-C3'	-7.26	110.99	119.70
49	B1	892	U	C2'-C3'-O3'	7.26	125.47	109.50
48	A2	959	C	C5'-C4'-O4'	7.26	117.81	109.10
48	A2	736	G	P-O3'-C3'	-7.25	111.00	119.70
48	A2	676	G	O5'-P-OP2	7.25	119.40	110.70
49	B1	1621	U	P-O5'-C5'	-7.24	109.31	120.90
48	A2	4827	U	C4'-C3'-C2'	-7.24	95.36	102.60
45	Aq	37	LEU	CB-CG-CD1	7.23	123.29	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	A2	2569	G	P-O3'-C3'	-7.23	111.03	119.70
49	B1	688	U	O5'-C5'-C4'	7.22	125.42	111.70
48	A2	4826	G	C3'-C2'-O2'	-7.22	92.37	113.30
49	B1	690	G	C5'-C4'-C3'	7.22	127.55	116.00
49	B1	915	G	O5'-C5'-C4'	7.20	125.39	111.70
48	A2	4715	U	C2'-C3'-O3'	-7.20	93.66	109.50
49	B1	361	U	O3'-P-O5'	7.20	117.68	104.00
49	B1	1526	G	P-O3'-C3'	-7.20	111.06	119.70
49	B1	1624	U	P-O5'-C5'	-7.20	109.38	120.90
48	A2	4841	C	P-O3'-C3'	7.20	128.34	119.70
48	A2	4717	G	O3'-P-O5'	-7.19	90.33	104.00
49	B1	396	U	P-O3'-C3'	-7.19	111.07	119.70
49	B1	1396	A	O4'-C1'-N9	7.19	113.95	108.20
48	A2	1202	G	O4'-C1'-N9	7.19	113.95	108.20
49	B1	790	C	O5'-P-OP1	-7.18	99.23	105.70
48	A2	1274	G	P-O3'-C3'	-7.18	111.09	119.70
48	A2	4980	U	OP2-P-O3'	7.17	120.98	105.20
49	B1	426	A	P-O3'-C3'	7.17	128.31	119.70
49	B1	799	U	N1-C1'-C2'	7.15	123.30	114.00
48	A2	4828	G	C3'-C2'-O2'	-7.15	92.56	113.30
48	A2	498	G	O4'-C1'-N9	7.14	113.92	108.20
48	A2	736	G	C1'-C2'-O2'	-7.14	89.17	110.60
49	B1	838	G	C5'-C4'-O4'	7.14	117.67	109.10
49	B1	368	U	O4'-C1'-N1	-7.14	102.49	108.20
48	A2	2245	C	O5'-P-OP2	-7.14	99.28	105.70
49	B1	809	A	P-O3'-C3'	-7.14	111.14	119.70
49	B1	737	G	O5'-P-OP2	-7.13	99.28	105.70
49	B1	183	G	O5'-P-OP2	7.13	119.26	110.70
49	B1	1105	G	C3'-C2'-O2'	-7.13	92.62	113.30
48	A2	286	G	C5'-C4'-O4'	7.13	117.65	109.10
48	A2	2245	C	O5'-P-OP1	-7.12	99.29	105.70
48	A2	4665	U	OP2-P-O3'	7.12	120.87	105.20
49	B1	1621	U	C4'-C3'-O3'	7.12	127.24	113.00
49	B1	358	C	P-O3'-C3'	-7.12	111.16	119.70
48	A2	3787	A	OP2-P-O3'	7.11	120.85	105.20
49	B1	841	G	O4'-C1'-N9	7.11	113.89	108.20
48	A2	3681	G	P-O3'-C3'	7.11	128.23	119.70
48	A2	1965	A	P-O3'-C3'	-7.11	111.17	119.70
49	B1	790	C	O5'-P-OP2	-7.11	99.30	105.70
48	A2	138	C	O4'-C4'-C3'	-7.10	96.90	104.00
48	A2	4685	A	O3'-P-O5'	7.09	117.47	104.00
84	Bx	46	U	C5'-C4'-C3'	-7.08	104.67	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
84	Bx	46	U	P-O5'-C5'	-7.08	109.58	120.90
2	A4	67	C	P-O3'-C3'	-7.08	111.21	119.70
83	Bv	34	G	O5'-P-OP2	-7.08	99.33	105.70
49	B1	737	G	O5'-P-OP1	-7.07	99.34	105.70
48	A2	3835	C	P-O3'-C3'	7.07	128.18	119.70
48	A2	2859	U	C2'-C3'-O3'	-7.07	93.95	109.50
49	B1	226	A	O4'-C1'-N9	-7.06	102.55	108.20
48	A2	3592	A	P-O3'-C3'	7.05	128.16	119.70
48	A2	1342	G	O4'-C4'-C3'	7.04	111.73	106.10
49	B1	1484	A	P-O3'-C3'	-7.04	111.25	119.70
48	A2	2245	C	P-O3'-C3'	-7.04	111.25	119.70
48	A2	3684	U	C5'-C4'-C3'	-7.04	104.74	116.00
48	A2	4722	G	P-O3'-C3'	-7.04	111.26	119.70
48	A2	4706	A	P-O3'-C3'	7.04	128.14	119.70
48	A2	2860	A	C2'-C3'-O3'	-7.03	94.05	109.50
48	A2	4596	U	O4'-C1'-N1	7.02	113.82	108.20
1	A3	150	C	OP2-P-O3'	7.02	120.65	105.20
49	B1	1557	C	O5'-C5'-C4'	-7.02	98.36	111.70
48	A2	3612	U	C5'-C4'-O4'	7.02	117.52	109.10
49	B1	852	G	P-O5'-C5'	-7.02	109.67	120.90
49	B1	871	U	O4'-C1'-N1	7.02	113.81	108.20
48	A2	4140	A	P-O3'-C3'	7.01	128.11	119.70
48	A2	43	U	C5'-C4'-C3'	7.01	127.22	116.00
48	A2	2617	G	C5'-C4'-C3'	7.01	127.21	116.00
49	B1	902	G	C4'-C3'-O3'	7.00	127.01	113.00
48	A2	2608	C	C4'-C3'-O3'	7.00	127.01	113.00
48	A2	1225	G	P-O5'-C5'	-7.00	109.70	120.90
48	A2	682	U	C5'-C4'-O4'	7.00	117.50	109.10
48	A2	699	G	O4'-C1'-N9	7.00	113.80	108.20
49	B1	1290	G	C5'-C4'-O4'	7.00	117.50	109.10
48	A2	1260	G	C5'-C4'-O4'	-6.99	100.71	109.10
49	B1	1454	A	O5'-C5'-C4'	6.99	124.98	111.70
48	A2	2325	C	C1'-C2'-O2'	-6.99	89.64	110.60
48	A2	50	C	C3'-C2'-O2'	-6.98	93.05	113.30
48	A2	961	C	C1'-C2'-O2'	6.98	131.55	110.60
49	B1	915	G	O4'-C1'-N9	6.98	113.78	108.20
48	A2	4459	U	OP2-P-O3'	6.98	120.55	105.20
48	A2	1071	C	P-O3'-C3'	-6.97	111.33	119.70
48	A2	2273	G	O4'-C1'-N9	6.97	113.78	108.20
48	A2	2480	C	OP2-P-O3'	6.97	120.54	105.20
48	A2	257	G	O5'-P-OP1	-6.97	99.43	105.70
1	A3	124	U	OP2-P-O3'	6.97	120.53	105.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
49	B1	370	G	O4'-C1'-N9	-6.97	102.62	108.20
48	A2	3612	U	O4'-C4'-C3'	6.96	111.67	106.10
48	A2	1271	G	P-O3'-C3'	6.96	128.05	119.70
48	A2	68	U	OP2-P-O3'	6.96	120.50	105.20
1	A3	80	A	O4'-C1'-N9	6.94	113.75	108.20
2	A4	15	C	C4'-C3'-O3'	6.94	126.88	113.00
48	A2	727	C	C2'-C3'-O3'	6.92	124.78	113.70
48	A2	1973	U	P-O3'-C3'	-6.92	111.39	119.70
48	A2	2325	C	P-O3'-C3'	6.92	128.01	119.70
49	B1	144	U	P-O3'-C3'	6.92	128.00	119.70
49	B1	738	C	P-O5'-C5'	-6.92	109.83	120.90
1	A3	150	C	OP1-P-O3'	-6.91	90.00	105.20
48	A2	131	C	O5'-P-OP2	-6.91	99.48	105.70
48	A2	2690	G	C4'-C3'-O3'	6.91	126.81	113.00
48	A2	2269	C	P-O3'-C3'	6.91	127.99	119.70
48	A2	4682	C	O3'-P-O5'	-6.90	90.89	104.00
49	B1	368	U	O5'-P-OP1	-6.90	99.49	105.70
48	A2	2458	G	P-O3'-C3'	-6.89	111.43	119.70
48	A2	356	A	P-O3'-C3'	-6.89	111.43	119.70
45	Aq	112	ILE	CG1-CB-CG2	-6.89	96.25	111.40
48	A2	1296	C	C1'-C2'-O2'	-6.88	89.95	110.60
48	A2	680	C	O4'-C4'-C3'	-6.88	97.12	104.00
49	B1	1284	A	C4'-C3'-O3'	-6.87	94.97	109.40
49	B1	692	G	P-O5'-C5'	6.87	131.88	120.90
48	A2	1589	C	P-O3'-C3'	6.85	127.92	119.70
48	A2	3605	G	O4'-C1'-N9	6.85	113.68	108.20
49	B1	1395	C	OP2-P-O3'	6.85	120.27	105.20
45	Aq	75	PRO	N-CA-CB	6.85	111.52	103.30
49	B1	891	G	P-O5'-C5'	-6.84	109.96	120.90
48	A2	257	G	N9-C1'-C2'	-6.84	104.48	112.00
49	B1	1555	U	C5'-C4'-O4'	6.84	117.30	109.10
48	A2	1880	G	P-O3'-C3'	6.83	127.90	119.70
48	A2	210	G	OP2-P-O3'	6.83	120.23	105.20
49	B1	656	G	C3'-C2'-O2'	-6.83	93.50	113.30
49	B1	1624	U	O5'-C5'-C4'	6.83	124.67	111.70
48	A2	3922	G	P-O3'-C3'	-6.82	111.51	119.70
48	A2	4045	U	P-O3'-C3'	-6.82	111.52	119.70
48	A2	463	C	C5'-C4'-O4'	-6.82	100.92	109.10
48	A2	2282	C	P-O3'-C3'	-6.81	111.52	119.70
48	A2	731	G	O3'-P-O5'	-6.81	91.06	104.00
48	A2	1061	A	P-O3'-C3'	-6.81	111.53	119.70
50	BA	113	GLN	N-CA-C	6.80	129.37	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
49	B1	847	A	C3'-C2'-O2'	-6.80	93.59	113.30
47	Au	48	ARG	NE-CZ-NH2	-6.79	116.91	120.30
49	B1	1447	G	O3'-P-O5'	6.78	116.88	104.00
2	A4	9	C	O4'-C1'-N1	6.78	113.62	108.20
49	B1	177	G	P-O3'-C3'	-6.78	111.56	119.70
49	B1	804	U	C5'-C4'-C3'	-6.78	105.15	116.00
48	A2	1741	G	C5'-C4'-O4'	-6.78	100.97	109.10
49	B1	738	C	C4'-C3'-O3'	-6.78	95.17	109.40
48	A2	3617	A	O4'-C1'-N9	-6.77	102.78	108.20
48	A2	1225	G	OP1-P-OP2	-6.77	109.44	119.60
48	A2	201	U	P-O3'-C3'	-6.77	111.58	119.70
49	B1	657	U	C3'-C2'-O2'	-6.77	93.67	113.30
48	A2	191	C	O5'-C5'-C4'	-6.77	98.84	111.70
48	A2	400	C	O3'-P-O5'	-6.77	91.14	104.00
48	A2	3669	G	P-O3'-C3'	-6.77	111.58	119.70
48	A2	1752	A	N9-C1'-C2'	-6.76	104.56	112.00
49	B1	638	C	O3'-P-O5'	6.76	116.85	104.00
48	A2	2820	G	O4'-C1'-N9	6.76	113.61	108.20
2	A4	35	U	P-O3'-C3'	-6.75	111.60	119.70
48	A2	4040	U	P-O3'-C3'	-6.75	111.60	119.70
45	Aq	87	GLU	C-N-CD	-6.75	105.75	120.60
48	A2	2747	C	C3'-C2'-O2'	-6.75	93.72	113.30
49	B1	1	U	O4'-C1'-N1	6.75	113.60	108.20
49	B1	1284	A	P-O5'-C5'	-6.75	110.10	120.90
49	B1	1785	C	P-O3'-C3'	-6.75	111.60	119.70
49	B1	689	U	O3'-P-O5'	-6.75	91.18	104.00
48	A2	320	C	P-O3'-C3'	6.74	127.79	119.70
48	A2	1849	A	P-O3'-C3'	-6.74	111.61	119.70
48	A2	4048	C	P-O3'-C3'	-6.74	111.61	119.70
48	A2	737	A	O5'-P-OP2	6.73	118.78	110.70
65	BP	68	PRO	C-N-CD	6.73	142.53	128.40
49	B1	308	G	C4'-C3'-O3'	-6.73	95.28	109.40
49	B1	1289	U	N1-C1'-C2'	6.72	122.74	114.00
48	A2	4714	U	C3'-C2'-O2'	-6.72	93.82	113.30
48	A2	712	G	O4'-C1'-N9	6.72	113.57	108.20
48	A2	2292	A	O4'-C1'-N9	6.72	113.57	108.20
49	B1	1745	A	P-O3'-C3'	6.71	127.76	119.70
49	B1	1777	G	N9-C1'-C2'	-6.71	104.62	112.00
1	A3	111	U	O3'-P-O5'	6.70	116.74	104.00
48	A2	912	C	OP2-P-O3'	6.70	119.95	105.20
48	A2	1974	C	O4'-C1'-N1	6.70	113.56	108.20
48	A2	3597	G	O5'-C5'-C4'	6.70	124.44	111.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
49	B1	1421	A	P-O3'-C3'	-6.70	111.66	119.70
48	A2	2860	A	C5'-C4'-O4'	6.69	117.13	109.10
49	B1	1785	C	C5'-C4'-C3'	-6.69	105.29	116.00
48	A2	506	U	P-O3'-C3'	-6.69	111.67	119.70
48	A2	3788	A	O4'-C1'-N9	-6.69	102.85	108.20
48	A2	4053	U	P-O3'-C3'	6.69	127.72	119.70
48	A2	5026	G	P-O3'-C3'	-6.69	111.67	119.70
48	A2	1053	G	O4'-C1'-N9	6.68	113.54	108.20
1	A3	124	U	OP1-P-O3'	-6.67	90.52	105.20
48	A2	464	A	O4'-C4'-C3'	-6.67	97.33	104.00
48	A2	3867	C	C4'-C3'-O3'	-6.67	95.39	109.40
48	A2	2534	G	O4'-C1'-N9	6.67	113.53	108.20
48	A2	1756	C	P-O5'-C5'	-6.67	110.23	120.90
48	A2	1970	G	P-O5'-C5'	6.66	131.56	120.90
49	B1	447	A	O3'-P-O5'	-6.66	91.34	104.00
48	A2	2745	A	C2'-C3'-O3'	6.65	124.34	113.70
48	A2	461	U	O5'-C5'-C4'	-6.65	99.07	111.70
48	A2	640	G	O4'-C1'-N9	6.64	113.51	108.20
48	A2	2688	C	C4'-C3'-O3'	-6.64	95.45	109.40
48	A2	1742	G	O4'-C1'-N9	6.64	113.51	108.20
48	A2	970	C	C4'-C3'-O3'	6.64	126.27	113.00
65	BP	72	LYS	C-N-CD	6.64	142.34	128.40
48	A2	1741	G	O5'-C5'-C4'	-6.63	99.10	111.70
49	B1	225	G	C2'-C3'-O3'	6.63	124.31	113.70
48	A2	111	C	C5'-C4'-C3'	6.63	126.60	116.00
48	A2	4660	C	P-O3'-C3'	6.63	127.65	119.70
48	A2	4891	C	P-O3'-C3'	-6.63	111.75	119.70
49	B1	1194	A	P-O3'-C3'	6.63	127.65	119.70
2	A4	63	C	P-O3'-C3'	-6.62	111.75	119.70
48	A2	1261	C	O5'-P-OP2	-6.62	99.74	105.70
48	A2	3916	A	O3'-P-O5'	-6.62	91.41	104.00
48	A2	1845	G	O4'-C1'-N9	6.61	113.49	108.20
48	A2	4839	U	P-O3'-C3'	6.61	127.63	119.70
49	B1	903	A	C2'-C3'-O3'	-6.60	94.97	109.50
48	A2	3588	G	C4'-C3'-O3'	6.60	126.20	113.00
48	A2	1420	C	P-O3'-C3'	-6.59	111.79	119.70
48	A2	4418	C	P-O3'-C3'	6.59	127.61	119.70
48	A2	4842	G	O4'-C1'-N9	6.59	113.47	108.20
49	B1	744	G	C5'-C4'-O4'	6.59	117.01	109.10
48	A2	2826	G	O4'-C1'-N9	6.59	113.47	108.20
48	A2	733	G	O4'-C1'-N9	6.58	113.47	108.20
48	A2	4158	G	P-O3'-C3'	6.58	127.60	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A3	102	G	P-O3'-C3'	-6.58	111.81	119.70
48	A2	682	U	O5'-C5'-C4'	6.58	124.19	111.70
49	B1	86	C	O4'-C1'-N1	6.57	113.46	108.20
48	A2	227	G	O4'-C1'-N9	-6.57	102.94	108.20
48	A2	2820	G	P-O3'-C3'	-6.57	111.82	119.70
48	A2	724	A	O3'-P-O5'	6.57	116.47	104.00
48	A2	1614	A	O4'-C1'-N9	6.57	113.45	108.20
48	A2	2246	U	C1'-C2'-O2'	-6.57	90.90	110.60
49	B1	446	G	P-O3'-C3'	6.57	127.58	119.70
49	B1	691	G	C4'-C3'-O3'	6.56	126.13	113.00
48	A2	502	G	O4'-C1'-N9	6.56	113.45	108.20
48	A2	4059	G	OP2-P-O3'	6.56	119.63	105.20
1	A3	108	A	O5'-P-OP2	-6.55	99.80	105.70
84	Bx	45	U	O4'-C4'-C3'	6.55	111.34	106.10
49	B1	237	C	P-O3'-C3'	6.55	127.56	119.70
49	B1	1867	U	O4'-C1'-N1	-6.55	102.96	108.20
49	B1	113	G	O4'-C1'-N9	-6.54	102.97	108.20
49	B1	848	U	C1'-C2'-O2'	-6.54	90.97	110.60
48	A2	3596	G	N9-C1'-C2'	-6.54	104.81	112.00
49	B1	533	A	C2'-C3'-O3'	-6.53	95.13	109.50
49	B1	1559	C	C4'-C3'-O3'	-6.53	95.69	109.40
48	A2	1260	G	O4'-C1'-N9	6.53	113.42	108.20
48	A2	3791	G	P-O5'-C5'	-6.53	110.45	120.90
49	B1	1701	C	P-O3'-C3'	6.53	127.53	119.70
49	B1	1337	C	O4'-C1'-N1	6.53	113.42	108.20
49	B1	32	U	OP2-P-O3'	6.52	119.55	105.20
49	B1	887	U	O4'-C1'-N1	6.52	113.42	108.20
49	B1	397	G	OP2-P-O3'	6.52	119.54	105.20
49	B1	976	G	C5'-C4'-O4'	6.52	116.92	109.10
48	A2	2750	G	OP2-P-O3'	6.52	119.54	105.20
49	B1	1080	A	OP2-P-O3'	6.52	119.54	105.20
76	Ba	97	PRO	C-N-CD	6.52	142.09	128.40
48	A2	724	A	P-O3'-C3'	6.52	127.52	119.70
48	A2	1732	G	P-O3'-C3'	-6.51	111.89	119.70
48	A2	4602	C	P-O3'-C3'	-6.51	111.89	119.70
49	B1	677	G	OP2-P-O3'	6.51	119.52	105.20
48	A2	214	C	P-O3'-C3'	-6.50	111.89	119.70
49	B1	351	G	P-O3'-C3'	-6.50	111.90	119.70
48	A2	153	G	C3'-C2'-O2'	-6.50	94.46	113.30
48	A2	963	G	P-O3'-C3'	-6.50	111.90	119.70
1	A3	126	C	O4'-C1'-N1	6.49	113.39	108.20
48	A2	2278	G	P-O3'-C3'	6.49	127.49	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
49	B1	231	A	O4'-C1'-N9	6.49	113.39	108.20
49	B1	690	G	O4'-C1'-N9	6.49	113.39	108.20
49	B1	209	A	P-O3'-C3'	-6.48	111.93	119.70
49	B1	418	A	P-O3'-C3'	6.48	127.47	119.70
49	B1	1285	G	C4'-C3'-O3'	-6.48	95.80	109.40
48	A2	462	U	O3'-P-O5'	6.47	116.30	104.00
49	B1	749	U	C4'-C3'-O3'	-6.47	95.81	109.40
1	A3	34	U	N1-C1'-C2'	6.47	122.41	114.00
48	A2	1707	U	O4'-C1'-N1	6.46	113.37	108.20
49	B1	609	U	P-O3'-C3'	-6.46	111.95	119.70
48	A2	1350	C	C2'-C3'-O3'	6.46	124.03	113.70
48	A2	1280	U	P-O3'-C3'	-6.46	111.95	119.70
48	A2	1058	G	OP2-P-O3'	6.45	119.40	105.20
48	A2	2492	A	OP2-P-O3'	6.45	119.40	105.20
48	A2	2685	G	O5'-P-OP2	-6.45	99.89	105.70
48	A2	3737	A	O4'-C1'-N9	6.45	113.36	108.20
48	A2	2285	G	O4'-C1'-N9	6.45	113.36	108.20
49	B1	977	C	O5'-P-OP2	6.45	118.44	110.70
48	A2	1995	C	P-O3'-C3'	-6.45	111.96	119.70
49	B1	1031	A	OP2-P-O3'	6.44	119.38	105.20
48	A2	702	A	P-O3'-C3'	6.44	127.43	119.70
48	A2	1269	C	O4'-C1'-N1	6.44	113.35	108.20
48	A2	1954	G	O4'-C1'-N9	6.44	113.35	108.20
48	A2	1225	G	P-O3'-C3'	6.44	127.42	119.70
49	B1	680	G	P-O3'-C3'	6.43	127.42	119.70
49	B1	843	C	P-O3'-C3'	6.43	127.41	119.70
49	B1	409	C	O3'-P-O5'	-6.43	91.79	104.00
45	Aq	59	THR	CA-CB-CG2	6.42	121.39	112.40
48	A2	224	A	C4'-C3'-O3'	6.42	125.85	113.00
48	A2	3613	A	P-O5'-C5'	-6.42	110.63	120.90
48	A2	42	A	C5'-C4'-C3'	-6.41	105.74	116.00
48	A2	4959	U	P-O3'-C3'	-6.41	112.01	119.70
49	B1	1254	C	P-O3'-C3'	-6.41	112.01	119.70
48	A2	153	G	O5'-P-OP1	-6.41	99.93	105.70
49	B1	503	C	P-O3'-C3'	-6.41	112.01	119.70
48	A2	657	C	O4'-C1'-N1	6.40	113.32	108.20
84	Bx	45	U	C2'-C3'-O3'	-6.40	95.42	109.50
48	A2	1952	C	O5'-P-OP2	6.39	118.37	110.70
48	A2	1525	G	OP2-P-O3'	6.39	119.26	105.20
48	A2	2823	A	O4'-C1'-N9	6.39	113.31	108.20
49	B1	803	C	C2'-C3'-O3'	6.38	123.91	113.70
48	A2	221	U	C1'-C2'-O2'	-6.38	91.47	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	A2	4486	G	P-O3'-C3'	-6.38	112.05	119.70
49	B1	231	A	O4'-C4'-C3'	-6.38	97.62	104.00
48	A2	3737	A	P-O5'-C5'	6.37	131.10	120.90
48	A2	116	G	P-O3'-C3'	6.36	127.33	119.70
49	B1	534	G	P-O5'-C5'	6.36	131.07	120.90
49	B1	1750	C	O4'-C4'-C3'	6.36	111.19	106.10
13	AK	2	PRO	CA-N-CD	-6.36	102.60	111.50
48	A2	4682	C	P-O3'-C3'	-6.36	112.07	119.70
48	A2	4695	C	P-O3'-C3'	6.36	127.33	119.70
48	A2	5007	G	O4'-C1'-N9	-6.36	103.12	108.20
49	B1	1312	G	P-O3'-C3'	6.36	127.33	119.70
48	A2	1974	C	P-O3'-C3'	-6.35	112.08	119.70
13	AK	25	PRO	N-CA-CB	6.35	110.92	103.30
49	B1	1415	C	P-O3'-C3'	-6.35	112.08	119.70
48	A2	3596	G	C4-N9-C1'	6.34	134.75	126.50
48	A2	191	C	C1'-C2'-O2'	-6.34	91.57	110.60
2	A4	79	U	O3'-P-O5'	6.34	116.04	104.00
48	A2	230	U	P-O3'-C3'	6.34	127.30	119.70
48	A2	1952	C	C2'-C3'-O3'	6.34	123.84	113.70
48	A2	400	C	OP2-P-O3'	6.33	119.13	105.20
49	B1	187	G	O4'-C1'-N9	6.33	113.27	108.20
48	A2	2690	G	O3'-P-O5'	6.33	116.03	104.00
48	A2	49	U	O5'-P-OP2	-6.33	100.00	105.70
49	B1	687	C	C4'-C3'-O3'	6.33	125.66	113.00
48	A2	1498	G	P-O5'-C5'	-6.33	110.78	120.90
48	A2	221	U	C2'-C3'-O3'	-6.32	95.59	109.50
48	A2	1308	C	C4'-C3'-O3'	-6.32	96.13	109.40
48	A2	2684	G	C4-N9-C1'	-6.32	118.29	126.50
49	B1	802	A	C2'-C3'-O3'	6.32	123.80	113.70
48	A2	225	C	O4'-C4'-C3'	-6.31	97.69	104.00
49	B1	742	U	P-O5'-C5'	-6.31	110.81	120.90
45	Aq	7	PRO	CA-N-CD	-6.30	102.67	111.50
48	A2	967	U	O3'-P-O5'	6.30	115.98	104.00
49	B1	791	C	C4'-C3'-O3'	-6.30	96.17	109.40
49	B1	370	G	C3'-C2'-O2'	-6.30	95.03	113.30
45	Aq	88	PRO	N-CA-CB	6.30	110.86	103.30
49	B1	861	A	C4'-C3'-O3'	-6.30	96.18	109.40
48	A2	893	C	P-O3'-C3'	-6.29	112.15	119.70
49	B1	1069	U	P-O3'-C3'	6.29	127.25	119.70
48	A2	496	C	O5'-C5'-C4'	-6.29	99.75	111.70
48	A2	405	G	O4'-C1'-N9	6.29	113.23	108.20
49	B1	356	C	O5'-P-OP1	6.29	118.24	110.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	A2	2059	C	P-O3'-C3'	-6.28	112.16	119.70
48	A2	323	A	P-O5'-C5'	-6.28	110.85	120.90
48	A2	1226	C	O4'-C4'-C3'	-6.28	97.72	104.00
48	A2	2751	C	OP2-P-O3'	6.28	119.02	105.20
48	A2	50	C	O5'-C5'-C4'	-6.28	99.77	111.70
49	B1	1777	G	P-O5'-C5'	-6.28	110.86	120.90
49	B1	1290	G	P-O5'-C5'	6.28	130.94	120.90
66	BQ	43	GLU	C-N-CD	6.28	141.58	128.40
1	A3	36	G	C4'-C3'-O3'	-6.27	96.23	109.40
48	A2	300	A	P-O3'-C3'	6.26	127.22	119.70
49	B1	114	G	OP1-P-O3'	-6.26	91.42	105.20
48	A2	718	C	P-O3'-C3'	-6.26	112.19	119.70
49	B1	1825	A	C4'-C3'-O3'	6.26	125.52	113.00
49	B1	887	U	P-O5'-C5'	6.26	130.91	120.90
48	A2	640	G	P-O3'-C3'	-6.25	112.20	119.70
49	B1	1126	G	P-O3'-C3'	-6.25	112.20	119.70
48	A2	4895	C	C4'-C3'-O3'	-6.25	96.28	109.40
48	A2	4977	A	O4'-C1'-N9	6.25	113.20	108.20
49	B1	907	G	C5'-C4'-O4'	6.25	116.60	109.10
48	A2	4467	C	P-O3'-C3'	-6.25	112.20	119.70
48	A2	4317	G	O4'-C1'-N9	6.24	113.19	108.20
49	B1	985	G	O5'-P-OP1	-6.24	100.09	105.70
48	A2	1249	G	O4'-C1'-N9	6.23	113.19	108.20
48	A2	681	A	O4'-C4'-C3'	-6.23	97.77	104.00
48	A2	968	C	C2'-C3'-O3'	-6.23	95.79	109.50
48	A2	2680	U	P-O3'-C3'	-6.23	112.22	119.70
48	A2	4171	G	P-O3'-C3'	-6.23	112.22	119.70
48	A2	212	C	OP2-P-O3'	6.23	118.90	105.20
48	A2	16	G	O4'-C1'-N9	6.23	113.18	108.20
48	A2	183	G	O4'-C1'-N9	6.22	113.18	108.20
49	B1	900	C	C4'-C3'-O3'	-6.22	96.33	109.40
48	A2	2245	C	C4'-C3'-O3'	-6.22	96.34	109.40
48	A2	2285	G	P-O3'-C3'	6.21	127.16	119.70
1	A3	144	U	P-O3'-C3'	-6.21	112.25	119.70
2	A4	43	U	P-O3'-C3'	6.21	127.15	119.70
48	A2	681	A	C5'-C4'-O4'	6.21	116.55	109.10
48	A2	746	C	P-O3'-C3'	-6.21	112.25	119.70
48	A2	2324	G	P-O3'-C3'	6.21	127.15	119.70
49	B1	1784	G	C5'-C4'-C3'	-6.21	106.07	116.00
49	B1	874	G	C5'-C4'-O4'	6.20	116.54	109.10
48	A2	1197	C	P-O5'-C5'	6.20	130.82	120.90
48	A2	3619	A	O4'-C1'-N9	6.20	113.16	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	A2	4410	G	P-O3'-C3'	6.20	127.14	119.70
49	B1	1289	U	C2'-C3'-O3'	-6.20	95.86	109.50
48	A2	1850	G	C1'-C2'-O2'	-6.19	92.02	110.60
48	A2	4717	G	C2'-C3'-O3'	6.19	123.61	113.70
48	A2	2794	A	C4'-C3'-O3'	-6.19	96.40	109.40
48	A2	62	A	O3'-P-O5'	-6.19	92.24	104.00
48	A2	104	G	P-O3'-C3'	-6.19	112.28	119.70
49	B1	1106	C	C5'-C4'-C3'	6.19	125.90	116.00
48	A2	242	C	P-O5'-C5'	-6.19	111.00	120.90
48	A2	3817	C	O4'-C1'-N1	6.19	113.15	108.20
48	A2	2689	C	N1-C1'-C2'	-6.18	105.20	112.00
65	BP	67	ALA	C-N-CD	6.18	141.39	128.40
48	A2	2618	U	C4'-C3'-O3'	-6.18	96.42	109.40
48	A2	5006	A	P-O3'-C3'	-6.18	112.29	119.70
48	A2	1252	G	P-O5'-C5'	-6.17	111.03	120.90
48	A2	2747	C	C4'-C3'-O3'	-6.17	96.45	109.40
48	A2	2673	G	C2'-C3'-O3'	-6.16	95.94	109.50
34	Af	59	THR	C-N-CD	6.16	141.34	128.40
48	A2	477	G	P-O3'-C3'	-6.16	112.31	119.70
48	A2	1194	G	O3'-P-O5'	6.16	115.71	104.00
48	A2	1265	G	C4'-C3'-O3'	-6.16	96.46	109.40
49	B1	370	G	C4'-C3'-O3'	6.15	125.30	113.00
5	AC	304	ALA	C-N-CD	6.15	141.31	128.40
49	B1	306	C	O4'-C4'-C3'	6.15	111.02	106.10
49	B1	1254	C	O4'-C1'-N1	6.15	113.12	108.20
49	B1	1288	U	P-O3'-C3'	-6.15	112.32	119.70
48	A2	212	C	OP1-P-O3'	-6.15	91.68	105.20
48	A2	4617	A	OP2-P-O3'	6.15	118.72	105.20
48	A2	5004	U	C1'-C2'-O2'	-6.14	92.17	110.60
48	A2	909	C	P-O3'-C3'	-6.14	112.33	119.70
48	A2	3771	A	C4'-C3'-O3'	6.14	125.27	113.00
48	A2	681	A	C4'-C3'-O3'	6.13	125.27	113.00
48	A2	57	G	C4'-C3'-O3'	-6.13	96.53	109.40
49	B1	1287	A	P-O5'-C5'	-6.13	111.09	120.90
49	B1	231	A	C2'-C3'-O3'	-6.13	96.02	109.50
48	A2	3596	G	C8-N9-C1'	-6.12	119.05	127.00
49	B1	1176	G	O4'-C1'-N9	6.12	113.09	108.20
48	A2	4725	U	C4'-C3'-O3'	-6.11	96.56	109.40
48	A2	2304	C	P-O3'-C3'	-6.11	112.36	119.70
49	B1	895	G	C5'-C4'-O4'	6.11	116.43	109.10
48	A2	1296	C	C2'-C3'-O3'	6.11	123.47	113.70
48	A2	4015	G	P-O3'-C3'	-6.11	112.38	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	A2	960	G	O5'-P-OP1	6.10	118.02	110.70
33	Ae	5	ARG	C-N-CD	6.10	141.21	128.40
48	A2	4907	G	O3'-P-O5'	6.10	115.59	104.00
49	B1	91	A	O4'-C1'-N9	6.10	113.08	108.20
45	Aq	7	PRO	N-CA-CB	6.10	110.62	103.30
49	B1	110	U	OP2-P-O3'	6.09	118.61	105.20
48	A2	308	G	C3'-C2'-O2'	-6.09	95.64	113.30
49	B1	898	U	O5'-C5'-C4'	6.09	123.28	111.70
2	A4	114	U	OP2-P-O3'	6.09	118.60	105.20
48	A2	4017	A	C5'-C4'-C3'	6.09	125.74	116.00
49	B1	639	C	O5'-C5'-C4'	-6.08	100.14	111.70
48	A2	4925	A	O4'-C1'-N9	6.08	113.06	108.20
49	B1	1675	A	O4'-C1'-N9	6.08	113.06	108.20
49	B1	1481	G	O3'-P-O5'	6.07	115.54	104.00
48	A2	403	G	P-O3'-C3'	-6.07	112.41	119.70
48	A2	683	U	C5'-C4'-O4'	6.07	116.39	109.10
61	BL	33	LEU	C-N-CD	6.07	141.15	128.40
49	B1	1105	G	P-O5'-C5'	6.07	130.61	120.90
48	A2	1433	C	O3'-P-O5'	-6.07	92.47	104.00
48	A2	3597	G	O4'-C1'-N9	6.07	113.05	108.20
49	B1	1285	G	N9-C1'-C2'	-6.06	105.33	112.00
13	AK	73	PRO	N-CA-CB	6.06	110.58	103.30
1	A3	117	C	P-O3'-C3'	-6.06	112.43	119.70
48	A2	744	C	O4'-C1'-N1	6.06	113.05	108.20
70	BU	52	GLY	C-N-CD	6.06	141.12	128.40
48	A2	5025	U	OP1-P-O3'	6.05	118.52	105.20
13	AK	2	PRO	N-CA-CB	6.05	110.56	103.30
48	A2	508	U	C2'-C3'-O3'	6.05	123.38	113.70
48	A2	680	C	N1-C1'-C2'	-6.05	105.34	112.00
49	B1	322	C	C4'-C3'-O3'	-6.05	96.69	109.40
56	BG	173	ALA	C-N-CD	6.05	141.10	128.40
48	A2	2328	A	OP2-P-O3'	6.05	118.50	105.20
57	BH	101	LEU	C-N-CD	6.05	141.10	128.40
84	Bx	45	U	P-O5'-C5'	-6.04	111.23	120.90
49	B1	1285	G	C2'-C3'-O3'	-6.04	96.20	109.50
49	B1	918	U	P-O3'-C3'	-6.04	112.45	119.70
48	A2	967	U	C5'-C4'-O4'	6.04	116.34	109.10
49	B1	1777	G	C4'-C3'-O3'	-6.03	96.74	109.40
19	AQ	17	GLU	C-N-CD	6.03	141.05	128.40
49	B1	1700	C	C1'-C2'-O2'	-6.03	92.53	110.60
48	A2	3727	A	O5'-C5'-C4'	-6.02	100.25	111.70
48	A2	290	A	O4'-C1'-N9	-6.02	103.38	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
13	AK	108	PRO	N-CA-CB	6.02	110.52	103.30
28	AZ	36	ARG	C-N-CD	6.02	141.04	128.40
48	A2	1741	G	O5'-P-OP1	-6.02	100.28	105.70
49	B1	1826	G	C2'-C3'-O3'	6.02	123.33	113.70
48	A2	2690	G	P-O5'-C5'	-6.01	111.28	120.90
49	B1	370	G	C3'-C2'-C1'	-6.01	96.69	101.50
59	BJ	169	ARG	C-N-CD	6.01	141.03	128.40
49	B1	306	C	C3'-C2'-O2'	-6.01	95.86	113.30
48	A2	1586	G	OP2-P-O3'	6.01	118.43	105.20
49	B1	1278	A	OP2-P-O3'	6.00	118.41	105.20
13	AK	25	PRO	N-CD-CG	6.00	112.21	103.20
48	A2	968	C	O4'-C1'-N1	6.00	113.00	108.20
49	B1	1288	U	N1-C1'-C2'	6.00	121.80	114.00
48	A2	2794	A	C2'-C3'-O3'	5.99	123.29	113.70
14	AL	133	ALA	C-N-CD	5.99	140.98	128.40
48	A2	85	G	O4'-C1'-N9	5.99	112.99	108.20
48	A2	1845	G	P-O3'-C3'	-5.99	112.51	119.70
48	A2	2798	U	OP2-P-O3'	5.99	118.37	105.20
1	A3	34	U	P-O3'-C3'	5.98	126.88	119.70
48	A2	234	G	P-O3'-C3'	-5.98	112.52	119.70
2	A4	15	C	P-O5'-C5'	5.98	130.47	120.90
48	A2	1265	G	C2'-C3'-O3'	5.98	123.27	113.70
48	A2	4085	C	C4'-C3'-O3'	5.98	124.96	113.00
1	A3	111	U	C1'-C2'-O2'	-5.98	92.66	110.60
49	B1	793	G	O5'-C5'-C4'	-5.98	100.35	111.70
49	B1	976	G	P-O5'-C5'	5.97	130.46	120.90
48	A2	940	C	P-O5'-C5'	-5.97	111.35	120.90
48	A2	1992	C	P-O5'-C5'	5.97	130.44	120.90
48	A2	131	C	O5'-P-OP1	5.96	117.86	110.70
1	A3	153	C	O4'-C1'-N1	5.96	112.97	108.20
48	A2	279	G	O4'-C1'-N9	5.96	112.97	108.20
48	A2	959	C	C4'-C3'-C2'	-5.96	96.64	102.60
49	B1	1497	G	P-O5'-C5'	-5.96	111.37	120.90
49	B1	113	G	OP2-P-O3'	5.95	118.30	105.20
48	A2	4056	G	P-O3'-C3'	-5.94	112.57	119.70
49	B1	1287	A	C5'-C4'-O4'	5.94	116.23	109.10
48	A2	3731	A	N9-C1'-C2'	5.93	121.71	114.00
48	A2	1847	U	P-O3'-C3'	5.93	126.82	119.70
48	A2	4622	G	P-O3'-C3'	-5.93	112.58	119.70
48	A2	3790	G	C5'-C4'-O4'	5.93	116.22	109.10
48	A2	2690	G	C8-N9-C1'	5.92	134.70	127.00
48	A2	180	C	O3'-P-O5'	5.92	115.25	104.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	A2	481	G	OP2-P-O3'	5.92	118.23	105.20
48	A2	4058	C	P-O3'-C3'	5.92	126.81	119.70
48	A2	680	C	C5'-C4'-C3'	-5.92	106.53	116.00
49	B1	319	C	O3'-P-O5'	-5.92	92.75	104.00
48	A2	663	C	O4'-C1'-N1	5.92	112.93	108.20
48	A2	933	C	O4'-C1'-N1	5.92	112.94	108.20
2	A4	75	G	C2'-C3'-O3'	-5.92	96.48	109.50
45	Aq	31	LYS	CB-CG-CD	5.91	126.97	111.60
48	A2	1352	C	P-O5'-C5'	5.91	130.36	120.90
48	A2	2673	G	C3'-C2'-O2'	-5.91	96.15	113.30
48	A2	3589	C	C4'-C3'-O3'	-5.91	96.99	109.40
48	A2	48	G	C4'-C3'-O3'	5.91	124.81	113.00
48	A2	229	G	C3'-C2'-O2'	-5.90	96.18	113.30
48	A2	965	G	C4'-C3'-O3'	-5.90	97.01	109.40
48	A2	1973	U	O4'-C1'-N1	-5.89	103.49	108.20
48	A2	221	U	P-O3'-C3'	-5.89	112.63	119.70
48	A2	1764	U	OP2-P-O3'	5.89	118.16	105.20
2	A4	115	A	P-O3'-C3'	-5.88	112.64	119.70
48	A2	1198	C	P-O5'-C5'	-5.88	111.50	120.90
48	A2	2685	G	O3'-P-O5'	5.88	115.16	104.00
45	Aq	89	PRO	N-CA-CB	5.87	110.35	103.30
49	B1	1286	G	P-O5'-C5'	5.87	130.29	120.90
48	A2	238	G	O3'-P-O5'	5.87	115.14	104.00
49	B1	887	U	N1-C1'-C2'	5.86	121.62	114.00
29	Aa	28	HIS	C-N-CD	5.86	140.71	128.40
49	B1	1125	C	P-O3'-C3'	-5.86	112.67	119.70
10	AH	99	PHE	C-N-CD	5.85	140.69	128.40
48	A2	1295	A	C1'-C2'-O2'	-5.85	93.04	110.60
48	A2	3683	A	O3'-P-O5'	-5.85	92.88	104.00
48	A2	50	C	O4'-C4'-C3'	-5.85	98.15	104.00
48	A2	1751	G	C4'-C3'-O3'	5.85	124.69	113.00
49	B1	803	C	O5'-C5'-C4'	-5.84	100.60	111.70
48	A2	1273	G	O4'-C1'-N9	5.84	112.87	108.20
48	A2	2246	U	C3'-C2'-O2'	-5.84	96.37	113.30
49	B1	1557	C	P-O5'-C5'	5.84	130.24	120.90
45	Aq	39	PRO	N-CA-CB	5.83	110.30	103.30
48	A2	485	G	O4'-C1'-N9	5.83	112.86	108.20
49	B1	202	G	P-O3'-C3'	-5.83	112.71	119.70
49	B1	975	G	C4'-C3'-O3'	-5.83	97.16	109.40
48	A2	248	C	P-O3'-C3'	-5.83	112.71	119.70
49	B1	398	A	P-O3'-C3'	-5.82	112.72	119.70
48	A2	138	C	N1-C1'-C2'	-5.82	105.60	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	AC	50	GLN	C-N-CD	5.81	140.61	128.40
48	A2	4708	C	O4'-C1'-N1	5.81	112.85	108.20
48	A2	3576	C	O4'-C1'-N1	5.81	112.85	108.20
49	B1	841	G	O4'-C4'-C3'	-5.81	98.19	104.00
48	A2	928	C	P-O3'-C3'	-5.81	112.73	119.70
48	A2	1742	G	P-O5'-C5'	-5.81	111.61	120.90
2	A4	70	G	O4'-C1'-N9	5.80	112.84	108.20
48	A2	5005	C	C2'-C3'-O3'	-5.80	96.73	109.50
48	A2	1200	G	P-O3'-C3'	5.80	126.66	119.70
48	A2	1918	C	O4'-C1'-N1	5.80	112.84	108.20
45	Aq	59	THR	CA-CB-OG1	-5.80	96.82	109.00
48	A2	193	C	P-O5'-C5'	-5.80	111.62	120.90
48	A2	3666	U	O4'-C1'-N1	5.80	112.84	108.20
1	A3	37	A	O4'-C1'-N9	-5.80	103.56	108.20
48	A2	3737	A	C5'-C4'-O4'	5.79	116.05	109.10
55	BF	107	ASN	C-N-CD	5.79	140.57	128.40
48	A2	718	C	O5'-P-OP1	5.79	117.65	110.70
48	A2	4924	A	O3'-P-O5'	-5.79	93.00	104.00
71	BV	13	VAL	C-N-CD	5.79	140.56	128.40
48	A2	2282	C	OP2-P-O3'	5.79	117.93	105.20
48	A2	2302	C	P-O3'-C3'	-5.79	112.75	119.70
49	B1	1105	G	O5'-P-OP2	5.79	117.64	110.70
1	A3	10	G	C5'-C4'-C3'	5.78	125.25	116.00
2	A4	3	C	O5'-C5'-C4'	-5.78	100.71	111.70
48	A2	222	G	O4'-C1'-N9	5.78	112.83	108.20
48	A2	2449	C	O4'-C1'-N1	-5.78	103.58	108.20
49	B1	306	C	P-O3'-C3'	-5.78	112.76	119.70
45	Aq	34	PRO	N-CA-CB	5.78	110.23	103.30
14	AL	11	LYS	C-N-CD	5.77	140.52	128.40
48	A2	4633	C	OP2-P-O3'	5.77	117.90	105.20
49	B1	306	C	C4'-C3'-O3'	5.77	124.54	113.00
14	AL	53	GLY	C-N-CD	5.77	140.52	128.40
48	A2	737	A	C2'-C3'-O3'	5.77	122.93	113.70
83	Bv	73	A	C3'-C2'-O2'	-5.77	96.57	113.30
48	A2	1191	G	P-O3'-C3'	5.77	126.62	119.70
5	AC	224	ILE	C-N-CD	5.77	140.51	128.40
48	A2	66	A	C3'-C2'-O2'	-5.77	96.58	113.30
48	A2	4533	A	P-O5'-C5'	-5.77	111.67	120.90
2	A4	47	G	P-O5'-C5'	-5.76	111.68	120.90
48	A2	1283	G	OP2-P-O3'	5.76	117.87	105.20
49	B1	239	C	C2'-C3'-O3'	-5.76	96.83	109.50
49	B1	460	A	OP2-P-O3'	5.76	117.87	105.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	A2	3590	G	C3'-C2'-O2'	-5.76	96.60	113.30
48	A2	3795	A	P-O3'-C3'	5.76	126.61	119.70
48	A2	710	C	P-O3'-C3'	5.75	126.61	119.70
49	B1	1558	C	P-O3'-C3'	5.75	126.60	119.70
48	A2	3596	G	C4'-C3'-O3'	5.75	124.50	113.00
48	A2	1297	C	P-O5'-C5'	-5.75	111.70	120.90
48	A2	66	A	C2'-C3'-O3'	-5.75	96.86	109.50
49	B1	871	U	N1-C1'-C2'	5.75	121.47	114.00
2	A4	83	A	P-O3'-C3'	5.74	126.59	119.70
48	A2	43	U	P-O5'-C5'	-5.74	111.71	120.90
67	BR	121	GLN	C-N-CD	5.74	140.45	128.40
2	A4	113	G	P-O3'-C3'	-5.74	112.81	119.70
48	A2	717	G	C2'-C3'-O3'	5.74	122.88	113.70
48	A2	1193	C	OP2-P-O3'	5.74	117.82	105.20
48	A2	1308	C	P-O5'-C5'	-5.74	111.72	120.90
49	B1	746	C	C5'-C4'-C3'	-5.74	106.82	116.00
48	A2	931	A	N9-C1'-C2'	5.73	121.45	114.00
48	A2	18	C	P-O3'-C3'	5.73	126.57	119.70
49	B1	802	A	O5'-C5'-C4'	-5.73	100.82	111.70
67	BR	99	ASP	C-N-CD	5.73	140.43	128.40
48	A2	1351	A	P-O3'-C3'	-5.73	112.83	119.70
13	AK	79	LEU	C-N-CD	5.72	140.42	128.40
48	A2	4139	C	O4'-C1'-N1	5.72	112.78	108.20
49	B1	1475	G	OP2-P-O3'	5.72	117.79	105.20
48	A2	4010	C	P-O3'-C3'	5.72	126.56	119.70
48	A2	4989	G	P-O3'-C3'	5.72	126.57	119.70
1	A3	34	U	O5'-C5'-C4'	-5.72	100.84	111.70
48	A2	1317	A	O4'-C1'-N9	5.72	112.77	108.20
49	B1	1444	U	O5'-C5'-C4'	-5.72	100.84	111.70
49	B1	986	G	N9-C1'-C2'	-5.71	105.72	112.00
1	A3	127	U	O4'-C1'-N1	5.71	112.77	108.20
48	A2	464	A	O5'-C5'-C4'	-5.71	100.85	111.70
48	A2	1739	U	N1-C1'-C2'	-5.71	105.72	112.00
48	A2	221	U	P-O5'-C5'	-5.71	111.77	120.90
48	A2	932	U	N1-C1'-C2'	5.71	121.42	114.00
48	A2	1644	C	O3'-P-O5'	5.71	114.85	104.00
49	B1	39	A	P-O3'-C3'	5.71	126.55	119.70
48	A2	959	C	C1'-C2'-O2'	-5.71	93.48	110.60
48	A2	1771	C	O3'-P-O5'	5.71	114.84	104.00
48	A2	4597	A	C4'-C3'-O3'	-5.71	97.42	109.40
48	A2	1287	C	P-O3'-C3'	-5.71	112.85	119.70
19	AQ	155	ALA	C-N-CD	5.70	140.38	128.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	A2	14	C	P-O3'-C3'	5.70	126.54	119.70
48	A2	908	C	P-O5'-C5'	5.70	130.02	120.90
48	A2	2269	C	OP2-P-O3'	5.70	117.74	105.20
48	A2	4704	G	O4'-C1'-N9	5.70	112.76	108.20
49	B1	56	G	P-O3'-C3'	5.70	126.54	119.70
48	A2	656	C	O4'-C1'-N1	5.70	112.76	108.20
48	A2	4599	G	O4'-C1'-N9	5.70	112.76	108.20
49	B1	112	U	O3'-P-O5'	5.70	114.82	104.00
49	B1	558	G	OP2-P-O3'	5.70	117.73	105.20
48	A2	3877	A	C4'-C3'-O3'	-5.69	97.44	109.40
67	BR	41	ILE	C-N-CD	5.69	140.35	128.40
48	A2	4462	U	P-O3'-C3'	-5.69	112.87	119.70
48	A2	507	U	O3'-P-O5'	5.69	114.80	104.00
21	AS	139	ARG	C-N-CD	5.68	140.34	128.40
48	A2	4606	G	O4'-C1'-N9	5.68	112.74	108.20
1	A3	34	U	C1'-C2'-O2'	5.67	127.62	110.60
73	BX	61	GLN	C-N-CD	5.67	140.31	128.40
48	A2	3597	G	C5'-C4'-C3'	5.67	125.06	116.00
19	AQ	72	LEU	C-N-CD	5.66	140.29	128.40
48	A2	1756	C	P-O3'-C3'	-5.66	112.90	119.70
50	BA	104	THR	C-N-CD	5.66	140.29	128.40
48	A2	3731	A	C2'-C3'-O3'	5.66	122.75	113.70
14	AL	130	LYS	C-N-CD	5.66	140.28	128.40
49	B1	416	U	OP2-P-O3'	5.66	117.64	105.20
48	A2	1712	U	OP2-P-O3'	5.66	117.64	105.20
2	A4	28	C	P-O3'-C3'	5.65	126.48	119.70
49	B1	29	G	OP2-P-O3'	5.65	117.62	105.20
49	B1	1289	U	P-O3'-C3'	-5.65	112.92	119.70
48	A2	1632	A	P-O5'-C5'	-5.64	111.87	120.90
48	A2	1244	G	O4'-C1'-N9	5.64	112.71	108.20
48	A2	58	G	O5'-C5'-C4'	-5.64	100.99	111.70
48	A2	4319	G	OP2-P-O3'	5.64	117.60	105.20
48	A2	150	G	C1'-O4'-C4'	-5.63	105.39	109.90
48	A2	2686	U	O5'-C5'-C4'	5.63	122.41	111.70
49	B1	601	G	P-O3'-C3'	5.63	126.46	119.70
48	A2	225	C	O4'-C1'-N1	5.63	112.71	108.20
48	A2	4997	U	P-O3'-C3'	5.63	126.46	119.70
49	B1	338	G	P-O3'-C3'	-5.63	112.95	119.70
49	B1	793	G	O4'-C1'-N9	5.63	112.70	108.20
1	A3	126	C	O3'-P-O5'	5.63	114.69	104.00
48	A2	673	C	O3'-P-O5'	5.63	114.69	104.00
48	A2	697	C	P-O3'-C3'	-5.62	112.95	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
49	B1	354	U	P-O3'-C3'	-5.62	112.96	119.70
49	B1	746	C	C2'-C3'-O3'	5.62	122.69	113.70
48	A2	1773	U	O4'-C1'-N1	5.62	112.69	108.20
48	A2	2680	U	O4'-C1'-N1	5.62	112.69	108.20
48	A2	2299	G	C2'-C3'-O3'	5.62	122.68	113.70
49	B1	792	C	C4'-C3'-O3'	5.61	124.23	113.00
61	BL	13	GLN	C-N-CD	5.61	140.19	128.40
48	A2	112	C	C3'-C2'-O2'	-5.61	97.03	113.30
49	B1	1553	C	O4'-C1'-N1	5.61	112.69	108.20
48	A2	309	G	C2'-C3'-O3'	5.61	122.67	113.70
48	A2	112	C	O5'-C5'-C4'	5.61	122.36	111.70
13	AK	73	PRO	N-CD-CG	5.61	111.61	103.20
49	B1	450	C	O5'-P-OP2	5.61	117.43	110.70
48	A2	1744	C	P-O5'-C5'	-5.60	111.93	120.90
48	A2	2270	G	P-O3'-C3'	-5.60	112.98	119.70
6	AD	20	PHE	CB-CG-CD2	-5.60	116.88	120.80
47	Au	41	TYR	CB-CG-CD2	-5.60	117.64	121.00
48	A2	4718	C	C4'-C3'-O3'	5.60	124.19	113.00
1	A3	85	U	C4'-C3'-O3'	-5.60	97.65	109.40
48	A2	168	U	O4'-C1'-N1	5.59	112.68	108.20
48	A2	654	G	O4'-C1'-N9	5.59	112.67	108.20
49	B1	898	U	P-O5'-C5'	-5.59	111.95	120.90
48	A2	1777	A	O4'-C1'-N9	5.59	112.67	108.20
49	B1	114	G	O3'-P-O5'	5.59	114.62	104.00
48	A2	1415	G	P-O3'-C3'	-5.59	112.99	119.70
48	A2	66	A	C5'-C4'-O4'	5.59	115.80	109.10
48	A2	1059	C	O4'-C1'-N1	5.59	112.67	108.20
47	Au	59	PRO	CA-N-CD	-5.58	103.68	111.50
48	A2	3925	A	P-O3'-C3'	5.58	126.39	119.70
49	B1	744	G	C4'-C3'-C2'	-5.58	97.03	102.60
49	B1	1337	C	P-O3'-C3'	5.58	126.39	119.70
48	A2	1727	G	O4'-C1'-N9	5.57	112.66	108.20
53	BD	79	PHE	C-N-CD	5.57	140.10	128.40
38	Aj	83	THR	C-N-CD	5.57	140.10	128.40
48	A2	3877	A	P-O3'-C3'	5.57	126.39	119.70
48	A2	4041	U	OP2-P-O3'	5.57	117.46	105.20
48	A2	4896	A	O5'-C5'-C4'	-5.57	101.12	111.70
48	A2	660	C	C4'-C3'-O3'	-5.57	97.70	109.40
48	A2	1878	A	O3'-P-O5'	-5.57	93.42	104.00
48	A2	4326	G	O4'-C1'-N9	5.57	112.66	108.20
49	B1	836	G	C5'-C4'-O4'	-5.57	102.42	109.10
7	AE	121	VAL	C-N-CD	5.57	140.09	128.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
63	BN	81	ALA	C-N-CD	5.57	140.09	128.40
48	A2	4514	U	C2'-C3'-O3'	5.56	122.60	113.70
48	A2	5	A	O3'-P-O5'	5.56	114.56	104.00
48	A2	701	G	P-O3'-C3'	5.56	126.37	119.70
48	A2	732	C	OP2-P-O3'	5.56	117.43	105.20
49	B1	306	C	C4'-C3'-C2'	-5.56	97.04	102.60
48	A2	219	C	O4'-C1'-N1	5.55	112.64	108.20
48	A2	4617	A	OP1-P-O3'	-5.55	92.98	105.20
49	B1	1154	U	C4'-C3'-O3'	-5.55	97.73	109.40
49	B1	1444	U	C4'-C3'-O3'	5.55	124.10	113.00
48	A2	2688	C	O5'-C5'-C4'	-5.54	101.17	111.70
49	B1	239	C	O4'-C1'-N1	5.54	112.63	108.20
48	A2	1711	A	O3'-P-O5'	-5.54	93.47	104.00
68	BS	73	ASN	C-N-CD	5.54	140.03	128.40
48	A2	727	C	P-O5'-C5'	-5.54	112.04	120.90
48	A2	1937	A	O4'-C1'-N9	5.54	112.63	108.20
48	A2	939	G	O5'-C5'-C4'	-5.53	101.19	111.70
48	A2	3818	C	P-O3'-C3'	-5.53	113.06	119.70
48	A2	251	G	P-O3'-C3'	5.53	126.34	119.70
49	B1	691	G	P-O5'-C5'	5.53	129.75	120.90
48	A2	447	G	C4'-C3'-O3'	5.53	124.05	113.00
49	B1	1447	G	O5'-C5'-C4'	-5.53	101.20	111.70
49	B1	1575	G	O4'-C1'-N9	5.53	112.62	108.20
48	A2	43	U	N1-C1'-C2'	-5.52	105.92	112.00
48	A2	1299	G	P-O3'-C3'	-5.52	113.08	119.70
2	A4	2	U	O3'-P-O5'	5.52	114.48	104.00
48	A2	934	C	OP2-P-O3'	5.52	117.34	105.20
48	A2	1743	G	P-O3'-C3'	-5.52	113.08	119.70
48	A2	4599	G	P-O3'-C3'	-5.52	113.08	119.70
48	A2	966	C	C2'-C3'-O3'	-5.52	97.36	109.50
48	A2	2687	U	C4'-C3'-O3'	-5.52	97.82	109.40
48	A2	3597	G	C4'-C3'-O3'	-5.51	97.82	109.40
1	A3	129	C	OP1-P-O3'	-5.51	93.08	105.20
1	A3	103	A	C4'-C3'-O3'	5.51	124.02	113.00
49	B1	1486	A	O4'-C1'-N9	5.51	112.61	108.20
49	B1	182	C	O4'-C1'-N1	5.50	112.60	108.20
48	A2	728	C	O4'-C1'-N1	5.50	112.60	108.20
45	Aq	30	PRO	N-CA-CB	5.50	109.90	103.30
48	A2	50	C	N1-C1'-C2'	-5.50	105.95	112.00
49	B1	238	C	O4'-C1'-N1	5.50	112.60	108.20
49	B1	1551	U	O4'-C1'-N1	5.50	112.60	108.20
49	B1	1645	C	O3'-P-O5'	5.50	114.45	104.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	A2	1857	U	P-O3'-C3'	-5.50	113.10	119.70
48	A2	1919	C	O3'-P-O5'	-5.50	93.56	104.00
48	A2	3629	C	P-O3'-C3'	-5.50	113.11	119.70
48	A2	3739	U	N1-C1'-C2'	-5.50	105.95	112.00
48	A2	286	G	O4'-C1'-N9	-5.49	103.81	108.20
48	A2	1890	G	O4'-C1'-N9	5.49	112.59	108.20
48	A2	4987	C	O4'-C1'-N1	5.49	112.59	108.20
48	A2	919	A	OP2-P-O3'	5.49	117.27	105.20
49	B1	903	A	O5'-C5'-C4'	5.49	122.12	111.70
54	BE	82	TYR	C-N-CD	5.49	139.92	128.40
48	A2	5019	A	OP2-P-O3'	5.48	117.26	105.20
48	A2	3687	C	OP2-P-O3'	5.48	117.26	105.20
1	A3	33	G	C2'-C3'-O3'	-5.48	97.44	109.50
48	A2	2684	G	C1'-C2'-O2'	-5.48	94.17	110.60
48	A2	671	C	OP2-P-O3'	5.47	117.24	105.20
48	A2	301	A	O4'-C1'-N9	5.47	112.58	108.20
48	A2	1428	U	P-O3'-C3'	-5.47	113.13	119.70
48	A2	230	U	C5'-C4'-O4'	-5.47	102.53	109.10
48	A2	5005	C	C4'-C3'-O3'	5.47	123.94	113.00
49	B1	882	U	O4'-C1'-N1	5.47	112.58	108.20
48	A2	1743	G	O5'-P-OP1	5.47	117.26	110.70
49	B1	875	A	C4'-C3'-O3'	-5.47	97.92	109.40
48	A2	910	C	OP2-P-O3'	5.47	117.22	105.20
49	B1	743	U	O4'-C1'-N1	5.47	112.57	108.20
49	B1	1623	A	N9-C1'-C2'	5.47	121.11	114.00
48	A2	2256	C	C4'-C3'-O3'	-5.46	97.92	109.40
49	B1	887	U	O5'-C5'-C4'	-5.46	101.32	111.70
48	A2	149	U	O4'-C1'-N1	5.46	112.57	108.20
48	A2	1255	C	O5'-P-OP1	-5.46	100.79	105.70
7	AE	127	SER	N-CA-C	5.46	125.73	111.00
48	A2	1741	G	C1'-C2'-O2'	-5.46	94.23	110.60
49	B1	34	U	P-O3'-C3'	5.46	126.25	119.70
48	A2	1757	A	C5'-C4'-C3'	5.45	124.72	116.00
48	A2	1255	C	O5'-P-OP2	5.45	117.24	110.70
49	B1	881	G	O4'-C4'-C3'	5.45	110.46	106.10
48	A2	1799	U	O3'-P-O5'	5.45	114.36	104.00
49	B1	839	C	O5'-C5'-C4'	-5.45	101.34	111.70
49	B1	1599	U	O4'-C1'-N1	-5.45	103.84	108.20
49	B1	189	U	OP2-P-O3'	5.45	117.19	105.20
49	B1	321	C	P-O3'-C3'	5.45	126.24	119.70
48	A2	480	C	OP1-P-O3'	5.45	117.18	105.20
48	A2	4685	A	C3'-C2'-O2'	-5.45	97.51	113.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	A2	3744	U	C4'-C3'-O3'	5.44	123.88	113.00
48	A2	4600	U	O3'-P-O5'	5.44	114.34	104.00
48	A2	5005	C	C5'-C4'-O4'	5.44	115.63	109.10
49	B1	1555	U	N1-C1'-C2'	5.44	121.07	114.00
48	A2	1753	U	P-O5'-C5'	-5.44	112.20	120.90
48	A2	1851	C	OP2-P-O3'	5.44	117.16	105.20
48	A2	3738	C	O5'-C5'-C4'	-5.44	101.37	111.70
48	A2	4726	A	C4'-C3'-O3'	5.44	123.87	113.00
49	B1	871	U	C4'-C3'-O3'	5.44	123.87	113.00
49	B1	1702	G	N9-C1'-C2'	-5.43	106.03	112.00
48	A2	2525	G	P-O3'-C3'	-5.43	113.19	119.70
48	A2	4726	A	C1'-C2'-O2'	-5.43	94.32	110.60
47	Au	48	ARG	NE-CZ-NH1	5.43	123.01	120.30
49	B1	1485	U	OP2-P-O3'	5.43	117.14	105.20
48	A2	746	C	O4'-C1'-N1	5.42	112.54	108.20
48	A2	656	C	OP2-P-O3'	5.42	117.13	105.20
48	A2	1337	A	O4'-C1'-N9	-5.42	103.86	108.20
48	A2	1990	A	O4'-C4'-C3'	-5.42	98.58	104.00
48	A2	1970	G	O4'-C1'-N9	5.42	112.53	108.20
48	A2	2282	C	O3'-P-O5'	-5.42	93.71	104.00
49	B1	1175	G	P-O3'-C3'	-5.41	113.20	119.70
48	A2	1425	C	P-O3'-C3'	-5.41	113.20	119.70
50	BA	110	ASN	C-N-CA	5.41	135.23	121.70
79	Bd	40	ARG	C-N-CA	-5.41	108.17	121.70
48	A2	2284	U	OP2-P-O3'	5.41	117.10	105.20
48	A2	3790	G	C2'-C3'-O3'	-5.41	97.60	109.50
49	B1	1580	A	O4'-C1'-N9	5.41	112.53	108.20
48	A2	137	G	N9-C1'-C2'	-5.41	106.05	112.00
49	B1	1475	G	P-O3'-C3'	-5.41	113.21	119.70
48	A2	4120	C	P-O3'-C3'	5.41	126.19	119.70
48	A2	892	C	P-O3'-C3'	-5.41	113.21	119.70
48	A2	1754	C	N1-C1'-C2'	-5.41	106.05	112.00
48	A2	1756	C	C4'-C3'-O3'	-5.41	98.05	109.40
48	A2	4039	U	O4'-C1'-N1	5.41	112.53	108.20
48	A2	4095	C	OP2-P-O3'	5.40	117.09	105.20
48	A2	2420	C	O4'-C1'-N1	5.40	112.52	108.20
49	B1	1287	A	O5'-C5'-C4'	5.40	121.96	111.70
1	A3	33	G	N9-C1'-C2'	-5.40	106.06	112.00
48	A2	192	C	C4'-C3'-O3'	-5.40	98.06	109.40
3	AA	247	ARG	N-CA-CB	-5.40	100.88	110.60
45	Aq	39	PRO	N-CD-CG	5.40	111.30	103.20
49	B1	1445	U	C5'-C4'-C3'	5.40	124.64	116.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	A2	1711	A	OP2-P-O3'	5.39	117.07	105.20
48	A2	5005	C	O4'-C1'-N1	-5.39	103.88	108.20
48	A2	3930	U	O4'-C4'-C3'	-5.39	98.61	104.00
48	A2	4974	A	P-O3'-C3'	5.39	126.17	119.70
48	A2	290	A	O4'-C4'-C3'	5.39	110.41	106.10
49	B1	742	U	P-O3'-C3'	5.39	126.17	119.70
48	A2	4014	U	O4'-C1'-N1	5.38	112.51	108.20
48	A2	85	G	O5'-P-OP2	-5.38	100.86	105.70
48	A2	919	A	P-O3'-C3'	5.38	126.15	119.70
2	A4	22	A	P-O3'-C3'	5.37	126.15	119.70
48	A2	3668	U	P-O3'-C3'	-5.37	113.25	119.70
48	A2	3877	A	C1'-C2'-O2'	-5.37	94.48	110.60
48	A2	1333	C	P-O3'-C3'	-5.37	113.26	119.70
45	Aq	71	ILE	CA-CB-CG2	-5.37	100.17	110.90
48	A2	2251	C	O5'-C5'-C4'	-5.37	101.50	111.70
1	A3	110	U	C3'-C2'-O2'	-5.36	97.75	113.30
48	A2	931	A	C2'-C3'-O3'	-5.36	97.70	109.50
48	A2	138	C	C4'-C3'-O3'	-5.36	98.16	109.40
48	A2	1763	U	OP2-P-O3'	5.36	116.98	105.20
48	A2	2692	C	C5'-C4'-C3'	-5.35	107.43	116.00
47	Au	60	ARG	C-N-CD	5.35	139.64	128.40
49	B1	356	C	C3'-C2'-O2'	-5.35	97.78	113.30
48	A2	1254	G	O4'-C4'-C3'	-5.35	98.65	104.00
49	B1	1806	A	O4'-C1'-N9	5.35	112.48	108.20
48	A2	1920	A	P-O5'-C5'	5.35	129.46	120.90
48	A2	189	G	O4'-C1'-N9	5.35	112.48	108.20
13	AK	24	TYR	CB-CG-CD1	5.34	124.21	121.00
49	B1	428	U	C4'-C3'-O3'	-5.34	98.18	109.40
2	A4	60	G	P-O3'-C3'	-5.34	113.29	119.70
48	A2	24	G	P-O3'-C3'	5.34	126.11	119.70
48	A2	350	G	P-O3'-C3'	-5.34	113.29	119.70
48	A2	2457	C	OP2-P-O3'	5.34	116.95	105.20
48	A2	4461	G	OP2-P-O3'	5.34	116.94	105.20
49	B1	534	G	C5'-C4'-C3'	-5.34	107.46	116.00
49	B1	6	G	P-O3'-C3'	5.33	126.10	119.70
49	B1	320	G	O5'-C5'-C4'	5.33	121.84	111.70
49	B1	796	G	O4'-C4'-C3'	5.33	110.37	106.10
48	A2	4840	U	O4'-C1'-N1	5.33	112.47	108.20
49	B1	1278	A	P-O3'-C3'	5.33	126.10	119.70
48	A2	502	G	P-O3'-C3'	5.33	126.10	119.70
2	A4	117	G	O4'-C1'-N9	5.33	112.46	108.20
48	A2	1284	C	OP2-P-O3'	5.33	116.92	105.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
49	B1	620	G	C1'-O4'-C4'	-5.33	105.64	109.90
48	A2	1615	G	OP2-P-O3'	5.33	116.92	105.20
48	A2	1877	A	O5'-C5'-C4'	-5.33	101.58	111.70
48	A2	437	G	P-O3'-C3'	5.33	126.09	119.70
48	A2	699	G	P-O3'-C3'	-5.33	113.31	119.70
48	A2	2701	G	O3'-P-O5'	-5.33	93.88	104.00
48	A2	5020	G	C3'-C2'-C1'	-5.33	97.24	101.50
49	B1	321	C	C2'-C3'-O3'	-5.33	97.78	109.50
49	B1	802	A	N9-C1'-C2'	-5.32	106.14	112.00
2	A4	112	U	O3'-P-O5'	-5.32	93.89	104.00
48	A2	2690	G	C2'-C3'-O3'	5.32	122.21	113.70
48	A2	3732	C	P-O5'-C5'	-5.32	112.39	120.90
48	A2	3930	U	O4'-C1'-N1	5.32	112.45	108.20
49	B1	915	G	C2'-C3'-O3'	-5.32	97.80	109.50
49	B1	1129	G	O4'-C1'-N9	5.32	112.45	108.20
45	Aq	81	ILE	CA-CB-CG2	5.32	121.53	110.90
48	A2	1966	G	P-O3'-C3'	5.32	126.08	119.70
49	B1	301	A	P-O3'-C3'	-5.32	113.32	119.70
48	A2	1714	C	P-O3'-C3'	-5.31	113.33	119.70
48	A2	76	A	P-O3'-C3'	5.31	126.07	119.70
48	A2	4647	U	P-O3'-C3'	-5.31	113.33	119.70
79	Bd	21	CYS	CA-CB-SG	5.31	123.56	114.00
7	AE	108	LYS	C-N-CA	-5.31	108.43	121.70
2	A4	43	U	OP2-P-O3'	-5.30	93.53	105.20
48	A2	1992	C	O4'-C4'-C3'	-5.30	98.69	104.00
48	A2	4727	G	N9-C1'-C2'	-5.30	106.17	112.00
49	B1	848	U	C2'-C3'-O3'	5.30	122.19	113.70
47	Au	191	VAL	CA-CB-CG1	5.30	118.85	110.90
48	A2	672	G	OP2-P-O3'	5.30	116.86	105.20
48	A2	4599	G	O3'-P-O5'	-5.30	93.93	104.00
45	Aq	28	LEU	CB-CG-CD1	5.30	120.01	111.00
48	A2	194	A	O5'-P-OP1	-5.30	100.93	105.70
48	A2	4586	A	C1'-O4'-C4'	-5.30	105.66	109.90
49	B1	737	G	N9-C1'-C2'	-5.30	106.17	112.00
48	A2	289	A	C3'-C2'-O2'	-5.29	97.95	113.30
48	A2	2304	C	O4'-C1'-N1	5.29	112.43	108.20
48	A2	2377	U	OP2-P-O3'	5.29	116.84	105.20
48	A2	4726	A	C5'-C4'-C3'	5.29	124.47	116.00
48	A2	382	A	P-O5'-C5'	5.29	129.36	120.90
48	A2	3930	U	O5'-C5'-C4'	-5.29	101.66	111.70
48	A2	112	C	C1'-C2'-O2'	5.29	126.46	110.60
48	A2	2784	C	P-O3'-C3'	5.29	126.04	119.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	A2	185	G	O3'-P-O5'	5.28	114.04	104.00
48	A2	4993	U	P-O3'-C3'	-5.28	113.36	119.70
48	A2	357	A	O5'-C5'-C4'	-5.28	101.66	111.70
48	A2	3618	A	O4'-C1'-N9	5.28	112.42	108.20
49	B1	663	C	OP2-P-O3'	5.27	116.80	105.20
14	AL	177	LYS	N-CA-C	5.27	125.24	111.00
48	A2	220	G	C4'-C3'-O3'	-5.27	98.33	109.40
48	A2	464	A	O4'-C1'-N9	5.27	112.42	108.20
48	A2	2693	G	P-O5'-C5'	-5.27	112.46	120.90
48	A2	1420	C	C4'-C3'-O3'	5.27	123.54	113.00
48	A2	4038	U	O4'-C1'-N1	5.27	112.42	108.20
48	A2	957	G	C5'-C4'-C3'	5.27	124.43	116.00
48	A2	638	G	O4'-C1'-N9	5.27	112.41	108.20
48	A2	1755	U	N1-C1'-C2'	-5.26	106.21	112.00
48	A2	3590	G	C4'-C3'-O3'	5.26	123.52	113.00
48	A2	676	G	O5'-P-OP1	-5.26	100.97	105.70
49	B1	744	G	C2'-C3'-O3'	-5.26	97.93	109.50
2	A4	48	G	P-O3'-C3'	-5.26	113.39	119.70
48	A2	2860	A	P-O5'-C5'	-5.26	112.49	120.90
48	A2	4666	C	OP2-P-O3'	5.26	116.76	105.20
49	B1	72	C	O3'-P-O5'	-5.26	94.01	104.00
49	B1	335	G	P-O3'-C3'	-5.25	113.39	119.70
48	A2	3789	U	O3'-P-O5'	-5.25	94.02	104.00
49	B1	920	A	P-O3'-C3'	5.25	126.00	119.70
48	A2	735	G	C2'-C3'-O3'	5.25	122.10	113.70
48	A2	2733	G	P-O3'-C3'	-5.25	113.40	119.70
49	B1	238	C	C5'-C4'-O4'	5.25	115.40	109.10
48	A2	1273	G	OP2-P-O3'	5.25	116.75	105.20
48	A2	4085	C	C3'-C2'-O2'	-5.25	98.07	113.30
48	A2	120	A	P-O5'-C5'	-5.25	112.50	120.90
48	A2	348	U	P-O3'-C3'	5.25	126.00	119.70
48	A2	200	U	OP2-P-O3'	5.25	116.74	105.20
48	A2	895	G	O4'-C1'-N9	5.24	112.39	108.20
48	A2	1421	U	O4'-C4'-C3'	-5.24	98.76	104.00
48	A2	5025	U	P-O3'-C3'	-5.24	113.41	119.70
2	A4	70	G	OP2-P-O3'	5.24	116.73	105.20
47	Au	187	VAL	CA-CB-CG2	5.24	118.76	110.90
48	A2	938	G	P-O3'-C3'	-5.24	113.41	119.70
48	A2	3588	G	P-O3'-C3'	-5.24	113.41	119.70
48	A2	65	A	O3'-P-O5'	-5.24	94.05	104.00
49	B1	880	G	O4'-C4'-C3'	-5.24	98.76	104.00
48	A2	1743	G	C4-N9-C1'	-5.23	119.70	126.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	A2	948	G	O4'-C1'-N9	5.23	112.39	108.20
48	A2	1300	U	OP2-P-O3'	5.23	116.71	105.20
49	B1	45	A	P-O3'-C3'	-5.23	113.43	119.70
48	A2	650	C	OP2-P-O3'	5.22	116.69	105.20
48	A2	2750	G	O5'-C5'-C4'	-5.22	101.78	111.70
49	B1	1598	G	P-O5'-C5'	5.22	129.25	120.90
48	A2	905	G	C2'-C3'-O3'	5.22	122.05	113.70
48	A2	651	C	O3'-P-O5'	-5.22	94.08	104.00
48	A2	3683	A	P-O5'-C5'	5.22	129.25	120.90
48	A2	3877	A	O5'-C5'-C4'	5.22	121.61	111.70
48	A2	1799	U	O4'-C1'-N1	5.21	112.37	108.20
48	A2	1805	G	O4'-C1'-N9	5.21	112.37	108.20
48	A2	4123	G	O3'-P-O5'	5.21	113.90	104.00
2	A4	60	G	O4'-C1'-N9	5.21	112.37	108.20
48	A2	2608	C	P-O3'-C3'	-5.21	113.45	119.70
49	B1	111	A	OP2-P-O3'	5.21	116.66	105.20
49	B1	836	G	O3'-P-O5'	5.21	113.89	104.00
25	AW	89	ASP	CB-CG-OD2	5.20	122.98	118.30
28	AZ	91	LEU	N-CA-C	-5.20	96.96	111.00
48	A2	227	G	C2'-C3'-O3'	-5.20	98.06	109.50
48	A2	2830	G	O3'-P-O5'	5.20	113.88	104.00
47	Au	43	PRO	N-CA-CB	5.20	109.54	103.30
48	A2	2325	C	C2'-C3'-O3'	-5.20	98.07	109.50
49	B1	882	U	O5'-C5'-C4'	-5.19	101.83	111.70
50	BA	110	ASN	O-C-N	5.19	131.01	122.70
2	A4	4	U	P-O3'-C3'	-5.19	113.47	119.70
48	A2	503	A	OP2-P-O3'	5.19	116.62	105.20
49	B1	1124	C	P-O3'-C3'	-5.19	113.47	119.70
48	A2	1757	A	C4'-C3'-O3'	5.19	123.38	113.00
48	A2	3623	A	OP2-P-O3'	5.19	116.61	105.20
48	A2	959	C	O4'-C4'-C3'	-5.19	98.81	104.00
49	B1	1702	G	O4'-C4'-C3'	-5.18	98.82	104.00
1	A3	93	C	O5'-P-OP1	-5.18	101.04	105.70
48	A2	308	G	O5'-P-OP1	5.18	116.92	110.70
48	A2	1850	G	O4'-C1'-N9	-5.18	104.06	108.20
49	B1	1624	U	O5'-P-OP1	5.18	116.91	110.70
48	A2	2728	C	P-O3'-C3'	5.17	125.91	119.70
2	A4	60	G	O3'-P-O5'	-5.17	94.17	104.00
49	B1	907	G	O5'-C5'-C4'	5.17	121.53	111.70
48	A2	1284	C	O4'-C1'-N1	5.17	112.34	108.20
49	B1	1388	A	OP2-P-O3'	5.17	116.58	105.20
48	A2	2747	C	O3'-P-O5'	-5.17	94.18	104.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	A4	39	C	OP2-P-O3'	5.17	116.57	105.20
48	A2	165	C	O4'-C1'-N1	5.17	112.33	108.20
48	A2	287	G	C1'-C2'-O2'	5.17	126.11	110.60
48	A2	1968	C	O4'-C1'-N1	5.17	112.33	108.20
48	A2	4694	G	OP2-P-O3'	5.17	116.57	105.20
49	B1	70	G	O4'-C1'-N9	5.17	112.33	108.20
49	B1	191	A	P-O3'-C3'	5.17	125.90	119.70
84	Bx	45	U	P-O3'-C3'	-5.17	113.50	119.70
48	A2	1755	U	O4'-C1'-N1	5.17	112.33	108.20
48	A2	1743	G	C8-N9-C1'	5.16	133.71	127.00
48	A2	1805	G	C1'-O4'-C4'	-5.16	105.77	109.90
49	B1	83	A	O4'-C1'-N9	5.16	112.33	108.20
49	B1	369	C	C5'-C4'-C3'	-5.16	107.74	116.00
48	A2	1944	C	P-O3'-C3'	-5.16	113.51	119.70
49	B1	38	A	OP2-P-O3'	5.15	116.54	105.20
48	A2	191	C	C5'-C4'-O4'	5.15	115.28	109.10
48	A2	2750	G	O3'-P-O5'	-5.15	94.21	104.00
48	A2	3604	C	OP2-P-O3'	5.15	116.52	105.20
7	AE	208	ILE	C-N-CD	5.14	139.20	128.40
47	Au	121	PRO	N-CA-CB	5.14	109.47	103.30
48	A2	1259	C	O3'-P-O5'	-5.14	94.23	104.00
48	A2	486	U	P-O3'-C3'	5.14	125.87	119.70
48	A2	1359	C	P-O3'-C3'	-5.14	113.53	119.70
48	A2	1957	G	OP2-P-O3'	5.14	116.51	105.20
48	A2	4826	G	C4'-C3'-O3'	-5.14	98.61	109.40
49	B1	357	C	C5'-C4'-C3'	5.14	124.22	116.00
20	AR	72	LYS	C-N-CA	5.14	133.09	122.30
84	Bx	43	U	N1-C1'-C2'	5.14	120.68	114.00
48	A2	3590	G	N9-C1'-C2'	5.14	120.68	114.00
45	Aq	129	ILE	CB-CG1-CD1	5.13	128.28	113.90
48	A2	726	G	P-O3'-C3'	-5.13	113.54	119.70
48	A2	2702	U	P-O3'-C3'	5.13	125.86	119.70
49	B1	871	U	C2'-C3'-O3'	-5.13	98.20	109.50
48	A2	2793	C	C4'-C3'-C2'	5.13	107.73	102.60
13	AK	11	SER	CA-CB-OG	5.13	125.05	111.20
48	A2	3629	C	O4'-C1'-N1	5.13	112.30	108.20
48	A2	3697	A	O3'-P-O5'	5.13	113.75	104.00
83	Bv	34	G	O5'-P-OP1	5.13	116.86	110.70
48	A2	15	A	OP2-P-O3'	5.12	116.47	105.20
48	A2	1841	U	O3'-P-O5'	5.12	113.73	104.00
76	Ba	97	PRO	CA-N-CD	-5.12	104.34	111.50
49	B1	688	U	N1-C1'-C2'	-5.12	106.37	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	A2	68	U	O5'-P-OP2	-5.11	101.10	105.70
48	A2	1944	C	OP2-P-O3'	5.11	116.45	105.20
48	A2	4061	G	O4'-C1'-N9	5.11	112.29	108.20
48	A2	3876	A	C5'-C4'-O4'	5.11	115.23	109.10
49	B1	1104	G	P-O3'-C3'	-5.11	113.57	119.70
49	B1	801	U	O5'-C5'-C4'	-5.11	101.99	111.70
48	A2	919	A	O3'-P-O5'	-5.11	94.30	104.00
49	B1	930	C	P-O3'-C3'	-5.11	113.57	119.70
48	A2	1971	A	OP2-P-O3'	5.10	116.43	105.20
48	A2	2736	A	O3'-P-O5'	-5.10	94.30	104.00
48	A2	2781	C	OP2-P-O3'	5.10	116.43	105.20
49	B1	1279	C	P-O3'-C3'	5.10	125.82	119.70
48	A2	481	G	P-O3'-C3'	-5.10	113.58	119.70
49	B1	1701	C	C1'-C2'-O2'	-5.10	95.30	110.60
34	Af	107	PRO	CA-N-CD	-5.10	104.36	111.50
49	B1	897	U	O3'-P-O5'	-5.10	94.31	104.00
49	B1	1558	C	C4'-C3'-O3'	5.10	123.19	113.00
48	A2	703	C	P-O3'-C3'	-5.09	113.59	119.70
47	Au	94	ASN	CA-CB-CG	5.09	124.60	113.40
49	B1	915	G	O4'-C4'-C3'	-5.09	98.91	104.00
48	A2	71	C	C1'-C2'-O2'	-5.08	95.34	110.60
48	A2	949	C	P-O3'-C3'	5.08	125.80	119.70
49	B1	231	A	O5'-C5'-C4'	5.08	121.36	111.70
48	A2	3789	U	C4'-C3'-O3'	-5.08	98.73	109.40
48	A2	3597	G	C5'-C4'-O4'	5.08	115.20	109.10
49	B1	93	U	P-O3'-C3'	5.08	125.80	119.70
48	A2	4827	U	O3'-P-O5'	5.07	113.64	104.00
48	A2	7	C	C1'-C2'-O2'	5.07	125.81	110.60
48	A2	1709	U	P-O3'-C3'	5.07	125.79	119.70
48	A2	2860	A	O5'-C5'-C4'	5.07	121.33	111.70
48	A2	3588	G	C2'-C3'-O3'	-5.07	98.35	109.50
48	A2	4924	A	OP2-P-O3'	5.07	116.35	105.20
48	A2	3578	U	O5'-C5'-C4'	-5.06	102.08	111.70
49	B1	889	U	O4'-C1'-N1	5.06	112.25	108.20
49	B1	890	U	P-O3'-C3'	5.06	125.78	119.70
48	A2	2325	C	C5'-C4'-C3'	5.06	124.10	116.00
11	AI	39	LYS	N-CA-CB	-5.06	101.49	110.60
48	A2	2428	A	O4'-C1'-N9	5.06	112.25	108.20
48	A2	639	G	P-O3'-C3'	-5.06	113.63	119.70
49	B1	1284	A	P-O3'-C3'	5.06	125.77	119.70
49	B1	893	U	O5'-C5'-C4'	-5.06	102.09	111.70
48	A2	1277	A	O4'-C1'-N9	5.05	112.24	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	A2	2539	C	P-O5'-C5'	-5.05	112.81	120.90
48	A2	3612	U	O3'-P-O5'	-5.05	94.40	104.00
49	B1	1153	C	C4'-C3'-O3'	5.05	123.11	113.00
49	B1	1389	C	O3'-P-O5'	5.05	113.60	104.00
66	BQ	44	PRO	CA-N-CD	-5.05	104.43	111.50
49	B1	691	G	O3'-P-O5'	5.05	113.60	104.00
49	B1	744	G	O4'-C1'-C2'	-5.05	100.75	105.80
48	A2	2422	G	OP2-P-O3'	5.05	116.31	105.20
49	B1	1679	A	O5'-C5'-C4'	-5.05	102.11	111.70
1	A3	135	C	OP2-P-O3'	5.05	116.30	105.20
48	A2	1752	A	P-O5'-C5'	5.05	128.97	120.90
48	A2	3586	G	O4'-C1'-N9	-5.05	104.16	108.20
49	B1	181	A	O3'-P-O5'	-5.05	94.41	104.00
49	B1	1080	A	O3'-P-O5'	-5.05	94.41	104.00
6	AD	20	PHE	CB-CG-CD1	5.04	124.33	120.80
48	A2	58	G	C2'-C3'-O3'	-5.04	98.40	109.50
49	B1	74	G	O4'-C1'-N9	5.04	112.23	108.20
13	AK	30	VAL	CA-CB-CG1	5.04	118.46	110.90
49	B1	898	U	C5'-C4'-O4'	5.04	115.15	109.10
48	A2	4406	C	O3'-P-O5'	-5.04	94.43	104.00
48	A2	309	G	N9-C1'-C2'	5.04	120.55	114.00
13	AK	108	PRO	N-CD-CG	5.03	110.75	103.20
48	A2	4685	A	O5'-P-OP1	5.03	116.74	110.70
49	B1	1555	U	O4'-C4'-C3'	5.03	110.13	106.10
49	B1	293	C	OP2-P-O3'	5.03	116.27	105.20
79	Bd	8	TRP	N-CA-CB	-5.03	101.55	110.60
48	A2	415	C	P-O3'-C3'	-5.03	113.67	119.70
48	A2	1297	C	C5'-C4'-O4'	5.03	115.14	109.10
48	A2	2064	C	C4'-C3'-O3'	5.03	123.06	113.00
2	A4	105	C	O4'-C1'-N1	5.03	112.22	108.20
48	A2	2674	A	C5'-C4'-O4'	5.03	115.13	109.10
49	B1	750	C	N1-C1'-C2'	5.03	120.53	114.00
49	B1	1754	G	C2'-C3'-O3'	5.03	121.74	113.70
48	A2	2697	U	P-O3'-C3'	5.02	125.72	119.70
49	B1	306	C	C5'-C4'-C3'	-5.02	107.97	116.00
49	B1	367	U	C2'-C3'-O3'	-5.02	98.45	109.50
49	B1	370	G	P-O3'-C3'	5.02	125.72	119.70
49	B1	1484	A	OP2-P-O3'	5.02	116.25	105.20
48	A2	349	A	O4'-C1'-N9	5.02	112.21	108.20
48	A2	967	U	N1-C1'-C2'	5.02	120.52	114.00
48	A2	2422	G	O3'-P-O5'	-5.02	94.47	104.00
48	A2	408	C	O4'-C1'-N1	5.01	112.21	108.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
48	A2	736	G	C3'-C2'-O2'	5.01	127.84	113.30
49	B1	307	G	C1'-C2'-O2'	-5.01	95.56	110.60
49	B1	308	G	N9-C1'-C2'	5.01	120.52	114.00
49	B1	1105	G	C5'-C4'-C3'	5.01	124.02	116.00
48	A2	4904	U	P-O3'-C3'	5.01	125.72	119.70
49	B1	321	C	C4'-C3'-O3'	5.01	123.02	113.00
48	A2	381	G	C2'-C3'-O3'	-5.01	98.48	109.50
13	AK	2	PRO	N-CD-CG	5.00	110.70	103.20
48	A2	230	U	C3'-C2'-C1'	-5.00	97.50	101.50
49	B1	1553	C	O4'-C4'-C3'	-5.00	99.00	104.00
48	A2	1429	C	O5'-C5'-C4'	-5.00	102.20	111.70
48	A2	4716	G	O5'-P-OP1	5.00	116.70	110.70

All (3) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
48	A2	131	C	C3'
48	A2	137	G	C3'
49	B1	1289	U	C4'

All (56) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
48	A2	1741	G	Sidechain
48	A2	2690	G	Sidechain
48	A2	3596	G	Sidechain
4	AB	295	ASP	Peptide
4	AB	296	GLY	Peptide
4	AB	297	LYS	Peptide
5	AC	98	GLY	Peptide
5	AC	99	GLY	Peptide
7	AE	108	LYS	Mainchain
8	AF	161	LYS	Peptide
8	AF	163	ASN	Peptide
10	AH	4	ILE	Peptide
10	AH	5	LEU	Peptide
10	AH	8	GLN	Peptide
13	AK	32	ALA	Peptide
13	AK	34	ASN	Peptide
13	AK	35	VAL	Peptide
14	AL	132	SER	Peptide
14	AL	133	ALA	Peptide

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Mol	Chain	Res	Type	Group
14	AL	134	PRO	Peptide
14	AL	135	LYS	Peptide
14	AL	136	LYS	Peptide
14	AL	138	ASP	Peptide
39	Ak	14	THR	Mainchain
54	BE	91	SER	Peptide
54	BE	92	ILE	Peptide
54	BE	93	GLU	Peptide
54	BE	94	LYS	Peptide
54	BE	95	THR	Peptide
54	BE	97	GLU	Peptide
63	BN	28	LEU	Peptide
63	BN	29	THR	Peptide
64	BO	138	ASP	Peptide
64	BO	139	SER	Peptide
65	BP	46	ASN	Peptide
65	BP	47	ARG	Peptide
65	BP	48	GLY	Peptide
65	BP	49	LEU	Peptide
65	BP	50	ARG	Peptide
65	BP	66	GLU	Peptide
65	BP	67	ALA	Peptide
65	BP	68	PRO	Peptide
65	BP	71	GLU	Peptide
65	BP	72	LYS	Peptide
65	BP	73	PRO	Peptide
66	BQ	13	PHE	Peptide
66	BQ	14	GLY	Peptide
66	BQ	15	ARG	Peptide
66	BQ	48	GLN	Peptide
66	BQ	51	LEU	Peptide
66	BQ	74	GLY	Peptide
72	BW	100	GLY	Peptide
72	BW	101	PHE	Peptide
72	BW	99	PHE	Peptide
76	Ba	97	PRO	Peptide
79	Bd	39	CYS	Peptide

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

5.3.1 Protein backbone

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all 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	
3	AA	250/257 (97%)	237 (95%)	7 (3%)	6 (2%)	6	35
4	AB	392/403 (97%)	370 (94%)	10 (3%)	12 (3%)	4	30
5	AC	361/427 (84%)	333 (92%)	13 (4%)	15 (4%)	3	23
6	AD	292/297 (98%)	270 (92%)	14 (5%)	8 (3%)	5	33
7	AE	192/288 (67%)	161 (84%)	12 (6%)	19 (10%)	0	7
8	AF	232/248 (94%)	213 (92%)	10 (4%)	9 (4%)	3	25
9	AG	232/266 (87%)	217 (94%)	10 (4%)	5 (2%)	6	37
10	AH	189/192 (98%)	175 (93%)	8 (4%)	6 (3%)	4	29
11	AI	204/214 (95%)	192 (94%)	7 (3%)	5 (2%)	5	34
12	AJ	167/178 (94%)	154 (92%)	7 (4%)	6 (4%)	3	26
13	AK	107/317 (34%)	34 (32%)	37 (35%)	36 (34%)	0	0
14	AL	203/211 (96%)	175 (86%)	14 (7%)	14 (7%)	1	12
15	AM	137/215 (64%)	127 (93%)	5 (4%)	5 (4%)	3	26
16	AN	201/204 (98%)	193 (96%)	6 (3%)	2 (1%)	15	54
17	AO	193/203 (95%)	187 (97%)	3 (2%)	3 (2%)	9	43
18	AP	151/184 (82%)	147 (97%)	4 (3%)	0	100	100
19	AQ	185/188 (98%)	163 (88%)	10 (5%)	12 (6%)	1	14
20	AR	179/196 (91%)	171 (96%)	4 (2%)	4 (2%)	6	37
21	AS	173/176 (98%)	156 (90%)	11 (6%)	6 (4%)	3	27
22	AT	155/160 (97%)	144 (93%)	6 (4%)	5 (3%)	4	29
23	AU	97/128 (76%)	81 (84%)	7 (7%)	9 (9%)	0	8
24	AV	127/140 (91%)	125 (98%)	2 (2%)	0	100	100
25	AW	119/157 (76%)	96 (81%)	18 (15%)	5 (4%)	3	23
26	AX	115/156 (74%)	113 (98%)	2 (2%)	0	100	100
27	AY	125/145 (86%)	119 (95%)	2 (2%)	4 (3%)	4	29

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
28	AZ	132/136 (97%)	118 (89%)	6 (4%)	8 (6%)	1	15
29	Aa	145/148 (98%)	135 (93%)	6 (4%)	4 (3%)	5	32
30	Ab	66/159 (42%)	57 (86%)	5 (8%)	4 (6%)	1	15
31	Ac	101/115 (88%)	97 (96%)	2 (2%)	2 (2%)	7	39
32	Ad	104/125 (83%)	99 (95%)	3 (3%)	2 (2%)	8	40
33	Ae	127/135 (94%)	116 (91%)	6 (5%)	5 (4%)	3	25
34	Af	107/110 (97%)	93 (87%)	5 (5%)	9 (8%)	1	9
35	Ag	112/117 (96%)	107 (96%)	3 (3%)	2 (2%)	8	41
36	Ah	120/123 (98%)	112 (93%)	2 (2%)	6 (5%)	2	19
37	Ai	95/105 (90%)	83 (87%)	7 (7%)	5 (5%)	2	17
38	Aj	82/97 (84%)	69 (84%)	7 (8%)	6 (7%)	1	11
39	Ak	67/70 (96%)	50 (75%)	7 (10%)	10 (15%)	0	3
40	Al	48/51 (94%)	47 (98%)	1 (2%)	0	100	100
41	Am	48/128 (38%)	44 (92%)	3 (6%)	1 (2%)	7	38
42	An	23/25 (92%)	23 (100%)	0	0	100	100
43	Ao	103/106 (97%)	94 (91%)	5 (5%)	4 (4%)	3	25
44	Ap	89/92 (97%)	84 (94%)	3 (3%)	2 (2%)	6	37
45	Aq	136/165 (82%)	40 (29%)	47 (35%)	49 (36%)	0	0
46	At	120/137 (88%)	107 (89%)	10 (8%)	3 (2%)	5	34
47	Au	215/217 (99%)	185 (86%)	20 (9%)	10 (5%)	2	20
50	BA	213/295 (72%)	197 (92%)	12 (6%)	4 (2%)	8	40
51	BB	210/264 (80%)	180 (86%)	12 (6%)	18 (9%)	1	9
52	BC	220/293 (75%)	204 (93%)	7 (3%)	9 (4%)	3	23
53	BD	218/243 (90%)	201 (92%)	10 (5%)	7 (3%)	4	29
54	BE	255/263 (97%)	230 (90%)	14 (6%)	11 (4%)	2	22
55	BF	188/204 (92%)	163 (87%)	15 (8%)	10 (5%)	2	17
56	BG	230/249 (92%)	211 (92%)	11 (5%)	8 (4%)	3	27
57	BH	181/194 (93%)	169 (93%)	8 (4%)	4 (2%)	6	37
58	BI	205/208 (99%)	175 (85%)	20 (10%)	10 (5%)	2	19
59	BJ	177/194 (91%)	137 (77%)	28 (16%)	12 (7%)	1	13
60	BK	96/165 (58%)	84 (88%)	7 (7%)	5 (5%)	2	18

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
61	BL	151/158 (96%)	133 (88%)	11 (7%)	7 (5%)	2	21
62	BM	118/132 (89%)	113 (96%)	1 (1%)	4 (3%)	3	28
63	BN	147/151 (97%)	126 (86%)	13 (9%)	8 (5%)	2	17
64	BO	134/151 (89%)	113 (84%)	11 (8%)	10 (8%)	1	11
65	BP	118/145 (81%)	100 (85%)	9 (8%)	9 (8%)	1	10
66	BQ	137/146 (94%)	120 (88%)	10 (7%)	7 (5%)	2	19
67	BR	123/135 (91%)	106 (86%)	9 (7%)	8 (6%)	1	14
68	BS	137/152 (90%)	125 (91%)	7 (5%)	5 (4%)	3	26
69	BT	141/145 (97%)	131 (93%)	6 (4%)	4 (3%)	5	32
70	BU	95/119 (80%)	91 (96%)	2 (2%)	2 (2%)	7	38
71	BV	79/83 (95%)	77 (98%)	2 (2%)	0	100	100
72	BW	127/130 (98%)	120 (94%)	3 (2%)	4 (3%)	4	30
73	BX	137/143 (96%)	124 (90%)	8 (6%)	5 (4%)	3	26
74	BY	123/133 (92%)	116 (94%)	6 (5%)	1 (1%)	19	58
75	BZ	84/125 (67%)	80 (95%)	1 (1%)	3 (4%)	3	26
76	Ba	95/115 (83%)	87 (92%)	7 (7%)	1 (1%)	14	52
77	Bb	78/84 (93%)	72 (92%)	4 (5%)	2 (3%)	5	33
78	Bc	60/69 (87%)	57 (95%)	1 (2%)	2 (3%)	4	28
79	Bd	49/56 (88%)	42 (86%)	4 (8%)	3 (6%)	1	15
80	Be	53/59 (90%)	49 (92%)	2 (4%)	2 (4%)	3	25
81	Bf	71/156 (46%)	63 (89%)	7 (10%)	1 (1%)	11	46
82	Bg	312/317 (98%)	292 (94%)	12 (4%)	8 (3%)	5	33
All	All	11580/13387 (86%)	10401 (90%)	657 (6%)	522 (4%)	4	21

All (522) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	AA	138	SER
3	AA	144	LYS
3	AA	197	PRO
4	AB	189	THR
4	AB	356	LYS
5	AC	149	GLU
5	AC	151	PRO

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Mol	Chain	Res	Type
5	AC	304	ALA
6	AD	6	VAL
6	AD	231	VAL
6	AD	290	ALA
6	AD	291	GLN
7	AE	96	VAL
7	AE	107	VAL
7	AE	110	ARG
7	AE	111	LYS
7	AE	128	HIS
7	AE	158	ARG
7	AE	185	PRO
7	AE	187	ARG
7	AE	230	GLY
7	AE	284	HIS
8	AF	166	ARG
8	AF	170	THR
8	AF	222	LYS
9	AG	162	ASP
11	AI	24	ARG
11	AI	113	THR
12	AJ	12	MET
12	AJ	54	ARG
13	AK	30	VAL
13	AK	32	ALA
13	AK	35	VAL
13	AK	48	ARG
13	AK	64	ALA
13	AK	72	ASN
13	AK	78	LEU
13	AK	85	ASN
13	AK	88	PHE
13	AK	102	LEU
13	AK	104	ALA
14	AL	47	ALA
14	AL	139	SER
14	AL	140	SER
14	AL	145	LYS
14	AL	156	PRO
14	AL	173	GLU
14	AL	178	ALA
14	AL	179	PHE

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Mol	Chain	Res	Type
15	AM	21	ALA
15	AM	44	GLN
17	AO	184	ASN
19	AQ	4	ASP
19	AQ	13	VAL
19	AQ	16	LYS
19	AQ	98	LEU
19	AQ	161	SER
20	AR	24	LEU
20	AR	61	ALA
20	AR	113	LYS
22	AT	32	ARG
22	AT	53	PRO
23	AU	48	LYS
23	AU	55	ASN
25	AW	61	LYS
25	AW	82	ILE
27	AY	67	ILE
28	AZ	93	LYS
28	AZ	95	VAL
28	AZ	100	VAL
29	Aa	24	LYS
29	Aa	82	VAL
29	Aa	93	ASN
29	Aa	95	THR
31	Ac	104	ILE
31	Ac	107	SER
32	Ad	20	VAL
34	Af	59	THR
34	Af	61	GLY
34	Af	62	GLY
34	Af	63	LYS
34	Af	106	TYR
34	Af	107	PRO
35	Ag	44	SER
36	Ah	10	ARG
37	Ai	18	THR
37	Ai	65	LYS
38	Aj	32	SER
38	Aj	79	ARG
38	Aj	82	THR
39	Ak	17	ARG

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Mol	Chain	Res	Type
39	Ak	19	ASP
39	Ak	38	CYS
43	Ao	76	ASN
45	Aq	10	ILE
45	Aq	17	CYS
45	Aq	25	THR
45	Aq	31	LYS
45	Aq	35	LEU
45	Aq	38	SER
45	Aq	39	PRO
45	Aq	49	ALA
45	Aq	58	ILE
45	Aq	75	PRO
45	Aq	77	ALA
45	Aq	78	SER
45	Aq	88	PRO
45	Aq	90	ARG
45	Aq	104	ILE
45	Aq	106	PHE
45	Aq	112	ILE
45	Aq	113	ALA
45	Aq	124	GLU
45	Aq	141	CYS
47	Au	5	VAL
47	Au	59	PRO
47	Au	60	ARG
50	BA	206	ASP
51	BB	39	PHE
51	BB	40	ASN
51	BB	51	ARG
51	BB	71	LEU
51	BB	73	ASP
52	BC	65	LYS
53	BD	213	PRO
53	BD	217	ILE
53	BD	218	LEU
54	BE	92	ILE
54	BE	93	GLU
54	BE	101	LEU
54	BE	113	ARG
54	BE	151	ASP
55	BF	40	ALA

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Mol	Chain	Res	Type
55	BF	121	PRO
55	BF	129	GLY
56	BG	43	GLU
57	BH	115	LYS
57	BH	116	ARG
58	BI	133	GLU
58	BI	155	ASN
58	BI	193	LYS
59	BJ	4	ALA
59	BJ	91	LYS
59	BJ	156	HIS
59	BJ	165	TYR
59	BJ	170	PRO
60	BK	28	HIS
61	BL	29	GLY
62	BM	129	LYS
63	BN	23	PRO
63	BN	25	TRP
63	BN	62	GLN
64	BO	90	ILE
64	BO	139	SER
64	BO	141	ARG
64	BO	146	ARG
65	BP	48	GLY
65	BP	68	PRO
65	BP	101	THR
65	BP	126	VAL
66	BQ	51	LEU
66	BQ	52	LEU
67	BR	3	ARG
67	BR	4	VAL
67	BR	5	ARG
67	BR	95	ILE
67	BR	115	SER
68	BS	78	LYS
68	BS	134	GLN
69	BT	37	VAL
72	BW	98	GLN
72	BW	99	PHE
72	BW	101	PHE
73	BX	136	GLY
73	BX	139	GLU

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Mol	Chain	Res	Type
76	Ba	97	PRO
77	Bb	41	TYR
78	Bc	38	THR
79	Bd	11	PRO
79	Bd	12	ARG
79	Bd	25	SER
81	Bf	87	THR
82	Bg	49	GLU
4	AB	5	LYS
4	AB	18	PRO
4	AB	175	GLN
5	AC	91	ALA
5	AC	218	ILE
5	AC	223	ASN
5	AC	323	ARG
6	AD	20	PHE
6	AD	266	TRP
7	AE	283	PRO
8	AF	165	LYS
8	AF	185	ILE
8	AF	224	THR
9	AG	41	ILE
9	AG	131	LYS
10	AH	4	ILE
10	AH	116	ASN
10	AH	117	PHE
11	AI	111	LEU
11	AI	116	ARG
12	AJ	151	ILE
13	AK	15	LEU
13	AK	37	SER
13	AK	39	GLN
13	AK	40	MET
13	AK	52	VAL
13	AK	55	MET
13	AK	68	HIS
13	AK	84	GLY
14	AL	138	ASP
14	AL	155	MET
15	AM	104	MET
17	AO	198	THR
19	AQ	19	LYS

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Mol	Chain	Res	Type
19	AQ	104	ARG
21	AS	5	GLY
21	AS	86	SER
21	AS	145	PHE
22	AT	81	LYS
23	AU	53	ALA
25	AW	81	ALA
27	AY	43	ASN
27	AY	65	GLN
28	AZ	32	GLY
28	AZ	102	ARG
30	Ab	26	SER
30	Ab	51	LYS
33	Ae	4	LEU
35	Ag	46	CYS
36	Ah	9	LEU
36	Ah	96	ASN
36	Ah	122	LYS
38	Aj	81	GLY
39	Ak	14	THR
39	Ak	20	ALA
43	Ao	29	GLY
45	Aq	14	TYR
45	Aq	21	GLU
45	Aq	41	LYS
45	Aq	55	GLY
45	Aq	60	VAL
45	Aq	66	ASN
45	Aq	69	ALA
45	Aq	71	ILE
45	Aq	91	ASP
45	Aq	117	ARG
45	Aq	140	GLY
47	Au	197	ASN
51	BB	37	ALA
52	BC	63	VAL
52	BC	103	LYS
52	BC	174	ILE
54	BE	98	HIS
55	BF	34	SER
55	BF	183	GLY
56	BG	88	ARG

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Mol	Chain	Res	Type
56	BG	165	GLU
57	BH	109	ARG
57	BH	148	LEU
58	BI	159	SER
59	BJ	3	VAL
59	BJ	131	ARG
60	BK	41	PRO
61	BL	14	PRO
61	BL	15	THR
63	BN	20	ARG
63	BN	24	THR
63	BN	31	ASP
63	BN	107	LYS
64	BO	19	PRO
64	BO	21	VAL
64	BO	91	THR
65	BP	51	ARG
65	BP	116	LEU
65	BP	130	ARG
66	BQ	15	ARG
66	BQ	53	GLU
66	BQ	144	SER
67	BR	113	SER
68	BS	93	GLY
70	BU	67	LYS
72	BW	84	LYS
73	BX	107	ARG
73	BX	116	PRO
75	BZ	104	ARG
78	Bc	33	GLU
80	Be	32	ALA
82	Bg	126	ASP
3	AA	229	ALA
4	AB	281	ASN
4	AB	292	LEU
5	AC	95	MET
5	AC	194	GLY
5	AC	222	ARG
7	AE	108	LYS
7	AE	109	LEU
7	AE	122	PRO
7	AE	126	LEU

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Mol	Chain	Res	Type
7	AE	131	LYS
7	AE	132	PRO
9	AG	32	PHE
9	AG	133	PRO
10	AH	175	PHE
12	AJ	58	ARG
13	AK	14	PHE
13	AK	25	PRO
13	AK	33	ASP
13	AK	34	ASN
13	AK	62	ARG
13	AK	70	GLU
13	AK	83	ARG
13	AK	103	LEU
13	AK	105	ASN
13	AK	107	VAL
14	AL	158	ARG
15	AM	5	ARG
16	AN	94	PHE
16	AN	145	ASN
19	AQ	160	HIS
21	AS	88	SER
22	AT	127	GLN
23	AU	33	ILE
23	AU	51	GLY
28	AZ	22	LYS
28	AZ	103	ASP
32	Ad	95	ASP
33	Ae	19	LYS
37	Ai	17	VAL
39	Ak	11	PHE
39	Ak	18	LYS
41	Am	79	GLU
43	Ao	31	ASP
44	Ap	12	GLY
45	Aq	15	LEU
45	Aq	54	LYS
45	Aq	70	GLN
45	Aq	86	LYS
45	Aq	95	GLN
45	Aq	131	GLU
47	Au	22	GLN

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Mol	Chain	Res	Type
47	Au	126	PRO
51	BB	70	SER
51	BB	76	ASN
51	BB	82	ARG
51	BB	119	THR
51	BB	207	LEU
51	BB	213	ARG
52	BC	171	GLY
52	BC	261	PHE
53	BD	75	LYS
55	BF	37	ASP
55	BF	80	GLY
58	BI	85	ALA
58	BI	171	LEU
59	BJ	101	LYS
59	BJ	121	LYS
59	BJ	122	SER
61	BL	11	GLN
61	BL	12	LYS
64	BO	89	GLY
67	BR	122	PRO
69	BT	28	LEU
69	BT	32	GLU
73	BX	41	PHE
75	BZ	40	VAL
75	BZ	78	LYS
82	Bg	146	SER
82	Bg	171	ASP
82	Bg	255	SER
82	Bg	284	PRO
3	AA	180	LEU
3	AA	250	LYS
4	AB	17	LEU
5	AC	52	TYR
5	AC	73	VAL
6	AD	44	TYR
7	AE	119	GLU
10	AH	7	ASN
10	AH	8	GLN
11	AI	103	LEU
12	AJ	111	GLU
13	AK	66	ARG

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Mol	Chain	Res	Type
14	AL	133	ALA
15	AM	33	GLN
20	AR	53	LYS
21	AS	3	ALA
21	AS	7	LEU
23	AU	101	ARG
28	AZ	60	LYS
33	Ae	3	ALA
34	Af	41	PHE
39	Ak	6	GLU
43	Ao	49	GLY
44	Ap	19	GLY
45	Aq	89	PRO
45	Aq	92	ARG
45	Aq	120	SER
45	Aq	122	ALA
46	At	21	ASN
47	Au	40	ASN
47	Au	58	THR
47	Au	70	ASP
50	BA	6	ASP
51	BB	23	ASP
51	BB	179	ASN
51	BB	209	ASP
52	BC	135	GLY
52	BC	176	LYS
53	BD	83	SER
54	BE	171	ASN
56	BG	47	GLY
56	BG	106	LEU
58	BI	127	ALA
58	BI	158	ILE
59	BJ	36	GLY
59	BJ	104	ASP
60	BK	32	HIS
61	BL	21	LYS
62	BM	102	LYS
65	BP	67	ALA
66	BQ	44	PRO
68	BS	79	ILE
5	AC	305	PRO
7	AE	234	ASP

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Mol	Chain	Res	Type
8	AF	160	GLY
13	AK	71	ASN
13	AK	98	ILE
13	AK	108	PRO
19	AQ	38	ARG
23	AU	35	ASP
23	AU	59	GLY
25	AW	69	LYS
30	Ab	25	ARG
30	Ab	46	ALA
33	Ae	5	ARG
34	Af	58	VAL
34	Af	60	PRO
36	Ah	7	ARG
36	Ah	87	LYS
37	Ai	19	LYS
38	Aj	80	GLU
45	Aq	98	ILE
45	Aq	121	LEU
45	Aq	136	ALA
53	BD	76	ARG
53	BD	113	LEU
54	BE	203	GLY
55	BF	92	ILE
56	BG	115	LYS
56	BG	135	PRO
58	BI	24	LYS
61	BL	34	PRO
63	BN	22	VAL
65	BP	49	LEU
66	BQ	143	LYS
68	BS	133	GLY
70	BU	53	PRO
74	BY	59	GLY
80	Be	9	ALA
4	AB	3	HIS
4	AB	293	ILE
4	AB	298	LEU
4	AB	326	VAL
6	AD	260	GLU
8	AF	163	ASN
13	AK	49	GLY

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Mol	Chain	Res	Type
13	AK	53	VAL
13	AK	99	ARG
14	AL	135	LYS
17	AO	186	GLU
19	AQ	157	GLY
25	AW	103	ALA
37	Ai	21	VAL
39	Ak	15	ALA
39	Ak	60	LEU
45	Aq	85	LEU
47	Au	172	VAL
50	BA	95	GLY
50	BA	193	HIS
51	BB	69	VAL
51	BB	132	GLY
51	BB	210	VAL
54	BE	91	SER
55	BF	185	SER
58	BI	192	GLY
64	BO	140	THR
69	BT	51	ASN
77	Bb	62	VAL
19	AQ	5	ILE
19	AQ	159	PRO
45	Aq	23	GLY
45	Aq	64	ILE
55	BF	41	VAL
60	BK	86	PRO
82	Bg	61	GLY
5	AC	70	GLY
5	AC	98	GLY
8	AF	197	VAL
23	AU	47	ILE
27	AY	70	VAL
45	Aq	102	GLY
45	Aq	132	ILE
52	BC	61	MET
60	BK	3	MET
62	BM	30	GLY
82	Bg	190	GLY
12	AJ	175	LEU
33	Ae	8	VAL

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Mol	Chain	Res	Type
46	At	28	GLU
54	BE	153	VAL
56	BG	108	VAL
14	AL	48	PRO
22	AT	126	VAL
46	At	122	LYS
54	BE	102	VAL
38	Aj	84	PRO
62	BM	115	GLY
64	BO	145	GLY
67	BR	88	VAL

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	
3	AA	194/199 (98%)	185 (95%)	9 (5%)	27	61
4	AB	343/349 (98%)	323 (94%)	20 (6%)	20	53
5	AC	302/348 (87%)	278 (92%)	24 (8%)	12	41
6	AD	248/250 (99%)	229 (92%)	19 (8%)	13	42
7	AE	174/252 (69%)	127 (73%)	47 (27%)	0	3
8	AF	203/215 (94%)	193 (95%)	10 (5%)	25	59
9	AG	199/223 (89%)	192 (96%)	7 (4%)	36	67
10	AH	170/171 (99%)	160 (94%)	10 (6%)	19	53
11	AI	178/181 (98%)	174 (98%)	4 (2%)	52	78
12	AJ	142/149 (95%)	138 (97%)	4 (3%)	43	72
13	AK	95/258 (37%)	70 (74%)	25 (26%)	0	3
14	AL	171/177 (97%)	156 (91%)	15 (9%)	10	38
15	AM	118/161 (73%)	104 (88%)	14 (12%)	5	25
16	AN	171/172 (99%)	163 (95%)	8 (5%)	26	60
17	AO	168/174 (97%)	164 (98%)	4 (2%)	49	76

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
18	AP	134/163 (82%)	123 (92%)	11 (8%)	11	40
19	AQ	164/165 (99%)	144 (88%)	20 (12%)	5	23
20	AR	160/175 (91%)	145 (91%)	15 (9%)	8	35
21	AS	156/157 (99%)	149 (96%)	7 (4%)	27	61
22	AT	138/140 (99%)	126 (91%)	12 (9%)	10	38
23	AU	89/115 (77%)	78 (88%)	11 (12%)	4	23
24	AV	100/107 (94%)	98 (98%)	2 (2%)	55	79
25	AW	100/126 (79%)	94 (94%)	6 (6%)	19	52
26	AX	105/133 (79%)	95 (90%)	10 (10%)	8	34
27	AY	119/135 (88%)	109 (92%)	10 (8%)	11	40
28	AZ	117/118 (99%)	100 (86%)	17 (14%)	3	18
29	Aa	120/121 (99%)	110 (92%)	10 (8%)	11	40
30	Ab	58/126 (46%)	54 (93%)	4 (7%)	15	47
31	Ac	88/97 (91%)	85 (97%)	3 (3%)	37	68
32	Ad	97/110 (88%)	96 (99%)	1 (1%)	76	88
33	Ae	115/121 (95%)	114 (99%)	1 (1%)	78	90
34	Af	88/89 (99%)	85 (97%)	3 (3%)	37	68
35	Ag	98/100 (98%)	93 (95%)	5 (5%)	24	57
36	Ah	109/110 (99%)	96 (88%)	13 (12%)	5	25
37	Ai	83/89 (93%)	80 (96%)	3 (4%)	35	66
38	Aj	71/80 (89%)	65 (92%)	6 (8%)	10	39
39	Ak	64/65 (98%)	46 (72%)	18 (28%)	0	3
40	Al	47/48 (98%)	44 (94%)	3 (6%)	17	50
41	Am	46/116 (40%)	45 (98%)	1 (2%)	52	78
42	An	24/24 (100%)	23 (96%)	1 (4%)	30	63
43	Ao	93/94 (99%)	85 (91%)	8 (9%)	10	38
44	Ap	74/75 (99%)	71 (96%)	3 (4%)	30	63
45	Aq	114/137 (83%)	90 (79%)	24 (21%)	1	5
46	At	106/121 (88%)	88 (83%)	18 (17%)	2	12
47	Au	196/196 (100%)	180 (92%)	16 (8%)	11	40
50	BA	180/243 (74%)	165 (92%)	15 (8%)	11	40

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
51	BB	193/231 (84%)	177 (92%)	16 (8%)	11	40
52	BC	188/225 (84%)	177 (94%)	11 (6%)	19	53
53	BD	183/202 (91%)	175 (96%)	8 (4%)	28	62
54	BE	220/225 (98%)	213 (97%)	7 (3%)	39	69
55	BF	160/170 (94%)	155 (97%)	5 (3%)	40	70
56	BG	202/218 (93%)	177 (88%)	25 (12%)	4	23
57	BH	164/174 (94%)	160 (98%)	4 (2%)	49	76
58	BI	179/180 (99%)	175 (98%)	4 (2%)	52	78
59	BJ	160/168 (95%)	151 (94%)	9 (6%)	21	54
60	BK	89/136 (65%)	83 (93%)	6 (7%)	16	48
61	BL	138/142 (97%)	134 (97%)	4 (3%)	42	71
62	BM	102/108 (94%)	101 (99%)	1 (1%)	76	88
63	BN	130/131 (99%)	122 (94%)	8 (6%)	18	51
64	BO	106/119 (89%)	99 (93%)	7 (7%)	16	49
65	BP	109/130 (84%)	93 (85%)	16 (15%)	3	18
66	BQ	115/121 (95%)	102 (89%)	13 (11%)	6	27
67	BR	113/122 (93%)	97 (86%)	16 (14%)	3	19
68	BS	121/132 (92%)	106 (88%)	15 (12%)	4	23
69	BT	113/115 (98%)	102 (90%)	11 (10%)	8	33
70	BU	90/107 (84%)	85 (94%)	5 (6%)	21	54
71	BV	65/67 (97%)	59 (91%)	6 (9%)	9	36
72	BW	112/113 (99%)	108 (96%)	4 (4%)	35	66
73	BX	111/115 (96%)	101 (91%)	10 (9%)	9	37
74	BY	107/115 (93%)	103 (96%)	4 (4%)	34	65
75	BZ	75/103 (73%)	57 (76%)	18 (24%)	0	4
76	Ba	84/98 (86%)	75 (89%)	9 (11%)	6	30
77	Bb	72/76 (95%)	72 (100%)	0	100	100
78	Bc	55/62 (89%)	52 (94%)	3 (6%)	21	54
79	Bd	45/49 (92%)	40 (89%)	5 (11%)	6	28
80	Be	44/48 (92%)	38 (86%)	6 (14%)	3	20
81	Bf	66/140 (47%)	65 (98%)	1 (2%)	65	84

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
82	Bg	272/275 (99%)	268 (98%)	4 (2%)	65	84
All	All	10112/11392 (89%)	9354 (92%)	758 (8%)	17	43

All (758) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	AA	10	LYS
3	AA	20	VAL
3	AA	58	LEU
3	AA	63	PHE
3	AA	72	ARG
3	AA	93	LYS
3	AA	226	ARG
3	AA	227	ARG
3	AA	228	ASP
4	AB	17	LEU
4	AB	24	ARG
4	AB	42	HIS
4	AB	46	PHE
4	AB	103	LYS
4	AB	109	HIS
4	AB	130	PHE
4	AB	189	THR
4	AB	192	GLU
4	AB	226	LYS
4	AB	258	HIS
4	AB	274	TYR
4	AB	292	LEU
4	AB	294	LYS
4	AB	297	LYS
4	AB	299	ILE
4	AB	325	GLU
4	AB	351	LEU
4	AB	354	GLN
4	AB	394	LYS
5	AC	52	TYR
5	AC	56	GLU
5	AC	57	LEU
5	AC	67	TRP
5	AC	89	GLN
5	AC	92	PHE
5	AC	95	MET

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Mol	Chain	Res	Type
5	AC	97	ARG
5	AC	107	THR
5	AC	162	LYS
5	AC	202	ILE
5	AC	204	ARG
5	AC	205	ARG
5	AC	208	CYS
5	AC	209	ILE
5	AC	211	TYR
5	AC	213	GLU
5	AC	215	ASN
5	AC	218	ILE
5	AC	221	PHE
5	AC	222	ARG
5	AC	229	LEU
5	AC	230	LEU
5	AC	287	THR
6	AD	4	VAL
6	AD	6	VAL
6	AD	10	LYS
6	AD	12	TYR
6	AD	20	PHE
6	AD	25	GLU
6	AD	69	ILE
6	AD	197	LYS
6	AD	198	HIS
6	AD	216	GLU
6	AD	225	GLN
6	AD	227	ILE
6	AD	229	ASN
6	AD	232	THR
6	AD	234	ASP
6	AD	235	MET
6	AD	236	MET
6	AD	265	ARG
6	AD	268	ARG
7	AE	100	LYS
7	AE	105	ARG
7	AE	106	VAL
7	AE	108	LYS
7	AE	109	LEU
7	AE	110	ARG

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Mol	Chain	Res	Type
7	AE	111	LYS
7	AE	114	ARG
7	AE	115	TYR
7	AE	116	TYR
7	AE	118	THR
7	AE	121	VAL
7	AE	123	ARG
7	AE	124	LYS
7	AE	125	LEU
7	AE	126	LEU
7	AE	131	LYS
7	AE	138	ARG
7	AE	140	LEU
7	AE	141	ARG
7	AE	167	GLN
7	AE	173	LEU
7	AE	186	LEU
7	AE	187	ARG
7	AE	188	ARG
7	AE	189	THR
7	AE	201	ILE
7	AE	203	ILE
7	AE	207	LYS
7	AE	210	LYS
7	AE	211	HIS
7	AE	212	LEU
7	AE	213	THR
7	AE	216	TYR
7	AE	218	LYS
7	AE	220	LYS
7	AE	222	LEU
7	AE	223	ARG
7	AE	224	LYS
7	AE	228	GLN
7	AE	237	LYS
7	AE	239	LYS
7	AE	241	GLU
7	AE	278	THR
7	AE	279	ASN
7	AE	282	TYR
7	AE	285	LYS
8	AF	19	LYS

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Mol	Chain	Res	Type
8	AF	86	GLU
8	AF	88	LYS
8	AF	161	LYS
8	AF	165	LYS
8	AF	166	ARG
8	AF	182	TYR
8	AF	220	MET
8	AF	221	LYS
8	AF	222	LYS
9	AG	84	THR
9	AG	97	LYS
9	AG	110	LYS
9	AG	121	LYS
9	AG	136	LEU
9	AG	159	HIS
9	AG	162	ASP
10	AH	5	LEU
10	AH	8	GLN
10	AH	20	LEU
10	AH	60	TRP
10	AH	63	ASN
10	AH	96	TYR
10	AH	107	GLU
10	AH	108	ASN
10	AH	111	LEU
10	AH	134	CYS
11	AI	3	ARG
11	AI	48	LEU
11	AI	51	HIS
11	AI	74	LYS
12	AJ	33	LEU
12	AJ	64	ARG
12	AJ	159	LYS
12	AJ	175	LEU
13	AK	4	GLU
13	AK	13	TYR
13	AK	14	PHE
13	AK	20	LEU
13	AK	21	LEU
13	AK	24	TYR
13	AK	25	PRO
13	AK	28	PHE

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Mol	Chain	Res	Type
13	AK	30	VAL
13	AK	35	VAL
13	AK	42	GLN
13	AK	53	VAL
13	AK	54	LEU
13	AK	55	MET
13	AK	60	MET
13	AK	69	LEU
13	AK	73	PRO
13	AK	76	GLU
13	AK	78	LEU
13	AK	85	ASN
13	AK	90	PHE
13	AK	99	ARG
13	AK	102	LEU
13	AK	105	ASN
13	AK	108	PRO
14	AL	55	ILE
14	AL	56	ARG
14	AL	81	LEU
14	AL	126	LEU
14	AL	129	ARG
14	AL	130	LYS
14	AL	135	LYS
14	AL	151	THR
14	AL	155	MET
14	AL	159	ASN
14	AL	167	ARG
14	AL	173	GLU
14	AL	174	LYS
14	AL	175	ASN
14	AL	177	LYS
15	AM	6	PHE
15	AM	43	THR
15	AM	44	GLN
15	AM	46	ARG
15	AM	47	ARG
15	AM	50	MET
15	AM	79	LYS
15	AM	93	LYS
15	AM	94	LYS
15	AM	99	GLU

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Mol	Chain	Res	Type
15	AM	100	ARG
15	AM	103	LYS
15	AM	114	LYS
15	AM	132	LYS
16	AN	19	MET
16	AN	38	ARG
16	AN	108	ARG
16	AN	113	LEU
16	AN	124	ASP
16	AN	148	THR
16	AN	151	ILE
16	AN	183	THR
17	AO	25	LYS
17	AO	61	ARG
17	AO	92	THR
17	AO	148	LYS
18	AP	4	TYR
18	AP	10	ASN
18	AP	13	LYS
18	AP	22	LEU
18	AP	41	ILE
18	AP	47	TYR
18	AP	48	LEU
18	AP	49	LYS
18	AP	69	ARG
18	AP	75	GLN
18	AP	94	MET
19	AQ	6	ARG
19	AQ	8	ASN
19	AQ	9	LYS
19	AQ	11	ARG
19	AQ	13	VAL
19	AQ	15	ARG
19	AQ	16	LYS
19	AQ	37	ARG
19	AQ	48	LEU
19	AQ	63	LEU
19	AQ	75	ARG
19	AQ	76	GLU
19	AQ	92	VAL
19	AQ	98	LEU
19	AQ	99	LYS

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Mol	Chain	Res	Type
19	AQ	154	LYS
19	AQ	158	THR
19	AQ	170	LYS
19	AQ	175	GLU
19	AQ	176	ARG
20	AR	22	VAL
20	AR	24	LEU
20	AR	25	ASP
20	AR	27	ASN
20	AR	28	GLU
20	AR	62	ARG
20	AR	70	ARG
20	AR	71	ARG
20	AR	72	LYS
20	AR	74	ARG
20	AR	114	LYS
20	AR	132	PHE
20	AR	138	LEU
20	AR	170	ARG
20	AR	172	ARG
21	AS	1	MET
21	AS	7	LEU
21	AS	27	LEU
21	AS	52	LYS
21	AS	84	TYR
21	AS	136	LYS
21	AS	139	ARG
22	AT	2	THR
22	AT	17	ARG
22	AT	102	ARG
22	AT	106	LEU
22	AT	110	LYS
22	AT	113	ASP
22	AT	118	GLU
22	AT	121	GLU
22	AT	125	TRP
22	AT	128	LEU
22	AT	143	THR
22	AT	158	PHE
23	AU	50	ASN
23	AU	52	LYS
23	AU	55	ASN

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Mol	Chain	Res	Type
23	AU	56	LEU
23	AU	60	VAL
23	AU	65	ARG
23	AU	97	ARG
23	AU	99	TRP
23	AU	113	ARG
23	AU	115	PHE
23	AU	116	GLN
24	AV	48	ARG
24	AV	49	LEU
25	AW	50	ASN
25	AW	60	LYS
25	AW	63	GLN
25	AW	66	GLU
25	AW	68	GLN
25	AW	79	GLN
26	AX	54	LEU
26	AX	55	ARG
26	AX	77	ILE
26	AX	114	LYS
26	AX	115	LYS
26	AX	117	TYR
26	AX	118	ASP
26	AX	119	ILE
26	AX	120	ASP
26	AX	129	ARG
27	AY	1	MET
27	AY	4	ASN
27	AY	8	THR
27	AY	36	LYS
27	AY	40	GLN
27	AY	41	LYS
27	AY	42	TYR
27	AY	45	ARG
27	AY	49	ILE
27	AY	122	LYS
28	AZ	5	MET
28	AZ	31	ASP
28	AZ	36	ARG
28	AZ	51	ARG
28	AZ	59	LYS
28	AZ	60	LYS

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Mol	Chain	Res	Type
28	AZ	61	LYS
28	AZ	91	LEU
28	AZ	93	LYS
28	AZ	98	LYS
28	AZ	99	ASP
28	AZ	109	LYS
28	AZ	112	ARG
28	AZ	122	TYR
28	AZ	123	LYS
28	AZ	126	LYS
28	AZ	128	LYS
29	Aa	25	HIS
29	Aa	27	LYS
29	Aa	28	HIS
29	Aa	47	LYS
29	Aa	61	TYR
29	Aa	87	ARG
29	Aa	92	LYS
29	Aa	94	LYS
29	Aa	116	LYS
29	Aa	132	ARG
30	Ab	32	LEU
30	Ab	33	LYS
30	Ab	54	LEU
30	Ab	55	LYS
31	Ac	17	ARG
31	Ac	42	LYS
31	Ac	44	LYS
32	Ad	77	ILE
33	Ae	50	LYS
34	Af	106	TYR
34	Af	107	PRO
34	Af	110	ILE
35	Ag	5	LEU
35	Ag	21	ARG
35	Ag	22	LEU
35	Ag	32	TYR
35	Ag	60	ARG
36	Ah	14	LYS
36	Ah	31	LEU
36	Ah	35	LYS
36	Ah	37	THR

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Mol	Chain	Res	Type
36	Ah	48	ARG
36	Ah	49	VAL
36	Ah	51	ARG
36	Ah	66	LYS
36	Ah	79	LYS
36	Ah	91	MET
36	Ah	92	ARG
36	Ah	107	GLN
36	Ah	111	GLU
37	Ai	25	ARG
37	Ai	28	ARG
37	Ai	76	ARG
38	Aj	11	ARG
38	Aj	17	THR
38	Aj	19	CYS
38	Aj	20	ARG
38	Aj	36	LYS
38	Aj	37	CYS
39	Ak	12	LEU
39	Ak	13	LEU
39	Ak	17	ARG
39	Ak	18	LYS
39	Ak	19	ASP
39	Ak	21	LYS
39	Ak	22	SER
39	Ak	27	LYS
39	Ak	38	CYS
39	Ak	39	SER
39	Ak	40	ARG
39	Ak	41	TYR
39	Ak	54	GLU
39	Ak	55	LYS
39	Ak	56	LEU
39	Ak	57	LYS
39	Ak	59	SER
39	Ak	60	LEU
40	Al	13	LEU
40	Al	21	ARG
40	Al	28	ARG
41	Am	127	VAL
42	An	16	LYS
43	Ao	40	ARG

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Mol	Chain	Res	Type
43	Ao	42	ASP
43	Ao	43	ARG
43	Ao	97	LYS
43	Ao	98	LYS
43	Ao	102	GLN
43	Ao	103	VAL
43	Ao	105	GLN
44	Ap	28	LYS
44	Ap	62	LYS
44	Ap	84	ARG
45	Aq	9	GLU
45	Aq	21	GLU
45	Aq	22	VAL
45	Aq	28	LEU
45	Aq	30	PRO
45	Aq	31	LYS
45	Aq	35	LEU
45	Aq	37	LEU
45	Aq	39	PRO
45	Aq	46	ILE
45	Aq	50	THR
45	Aq	57	ARG
45	Aq	58	ILE
45	Aq	59	THR
45	Aq	75	PRO
45	Aq	81	ILE
45	Aq	85	LEU
45	Aq	97	ASN
45	Aq	104	ILE
45	Aq	109	ILE
45	Aq	111	ASN
45	Aq	125	LEU
45	Aq	128	THR
45	Aq	143	VAL
46	At	13	CYS
46	At	16	PHE
46	At	18	ILE
46	At	38	PHE
46	At	41	ASN
46	At	56	ASP
46	At	65	LYS
46	At	67	ARG

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Mol	Chain	Res	Type
46	At	68	SER
46	At	70	GLN
46	At	71	ARG
46	At	79	ARG
46	At	80	THR
46	At	83	ASN
46	At	87	ARG
46	At	89	THR
46	At	106	LEU
46	At	117	ILE
47	Au	17	VAL
47	Au	28	PHE
47	Au	29	LEU
47	Au	41	TYR
47	Au	58	THR
47	Au	59	PRO
47	Au	71	GLN
47	Au	94	ASN
47	Au	121	PRO
47	Au	180	VAL
47	Au	185	LEU
47	Au	188	ASN
47	Au	194	LEU
47	Au	198	TRP
47	Au	210	MET
47	Au	214	GLN
50	BA	12	GLU
50	BA	25	LEU
50	BA	34	MET
50	BA	36	GLN
50	BA	40	LYS
50	BA	41	ARG
50	BA	94	THR
50	BA	104	THR
50	BA	112	ILE
50	BA	116	PHE
50	BA	132	GLN
50	BA	142	LEU
50	BA	201	LEU
50	BA	202	TYR
50	BA	206	ASP
51	BB	75	GLN

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Mol	Chain	Res	Type
51	BB	79	VAL
51	BB	81	PHE
51	BB	116	LYS
51	BB	117	TRP
51	BB	135	LEU
51	BB	137	LEU
51	BB	174	ARG
51	BB	175	GLU
51	BB	177	GLN
51	BB	179	ASN
51	BB	182	LYS
51	BB	183	GLU
51	BB	184	VAL
51	BB	187	LYS
51	BB	218	LEU
52	BC	98	LEU
52	BC	102	LEU
52	BC	116	THR
52	BC	121	ARG
52	BC	123	ARG
52	BC	134	ASN
52	BC	160	LEU
52	BC	166	ARG
52	BC	167	ARG
52	BC	200	ARG
52	BC	209	VAL
53	BD	12	VAL
53	BD	18	LYS
53	BD	26	THR
53	BD	55	THR
53	BD	66	ILE
53	BD	113	LEU
53	BD	162	ASP
53	BD	216	GLU
54	BE	37	LYS
54	BE	75	LYS
54	BE	94	LYS
54	BE	129	ILE
54	BE	153	VAL
54	BE	212	ASP
54	BE	238	LEU
55	BF	23	TRP

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Mol	Chain	Res	Type
55	BF	89	THR
55	BF	107	ASN
55	BF	130	ARG
55	BF	133	THR
56	BG	53	SER
56	BG	147	LEU
56	BG	164	LYS
56	BG	172	LYS
56	BG	179	LEU
56	BG	195	LYS
56	BG	197	GLN
56	BG	199	THR
56	BG	200	LYS
56	BG	201	LYS
56	BG	202	ASN
56	BG	204	GLU
56	BG	205	GLU
56	BG	212	LEU
56	BG	215	LYS
56	BG	216	ARG
56	BG	217	MET
56	BG	218	LYS
56	BG	222	GLU
56	BG	224	ARG
56	BG	226	GLU
56	BG	227	GLN
56	BG	230	LYS
56	BG	231	ARG
56	BG	232	ARG
57	BH	15	LYS
57	BH	76	GLN
57	BH	135	PHE
57	BH	152	ARG
58	BI	19	LYS
58	BI	52	ASN
58	BI	58	LEU
58	BI	139	LYS
59	BJ	30	LYS
59	BJ	47	LYS
59	BJ	49	THR
59	BJ	50	LEU
59	BJ	54	ARG

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Mol	Chain	Res	Type
59	BJ	55	LYS
59	BJ	131	ARG
59	BJ	139	LYS
59	BJ	140	GLN
60	BK	3	MET
60	BK	29	MET
60	BK	32	HIS
60	BK	70	TYR
60	BK	72	THR
60	BK	96	ARG
61	BL	24	LEU
61	BL	27	GLU
61	BL	54	THR
61	BL	151	THR
62	BM	88	TRP
63	BN	25	TRP
63	BN	26	LEU
63	BN	40	LEU
63	BN	42	LYS
63	BN	54	LEU
63	BN	58	HIS
63	BN	76	LYS
63	BN	78	LYS
64	BO	45	THR
64	BO	75	MET
64	BO	76	LEU
64	BO	79	GLN
64	BO	83	GLN
64	BO	105	THR
64	BO	138	ASP
65	BP	12	PHE
65	BP	29	SER
65	BP	30	TYR
65	BP	33	LEU
65	BP	36	LEU
65	BP	49	LEU
65	BP	51	ARG
65	BP	52	LYS
65	BP	66	GLU
65	BP	71	GLU
65	BP	72	LYS
65	BP	83	MET

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Mol	Chain	Res	Type
65	BP	85	ILE
65	BP	86	LEU
65	BP	90	VAL
65	BP	130	ARG
66	BQ	11	GLN
66	BQ	17	LYS
66	BQ	25	CYS
66	BQ	37	ARG
66	BQ	39	LEU
66	BQ	45	ARG
66	BQ	46	THR
66	BQ	47	LEU
66	BQ	50	LYS
66	BQ	51	LEU
66	BQ	69	ARG
66	BQ	105	LYS
66	BQ	146	ARG
67	BR	4	VAL
67	BR	5	ARG
67	BR	6	THR
67	BR	10	LYS
67	BR	11	LYS
67	BR	17	ILE
67	BR	20	TYR
67	BR	35	CYS
67	BR	36	GLU
67	BR	38	ILE
67	BR	41	ILE
67	BR	91	LEU
67	BR	94	GLU
67	BR	99	ASP
67	BR	118	GLN
67	BR	126	MET
68	BS	13	LEU
68	BS	14	ARG
68	BS	16	LEU
68	BS	17	ASN
68	BS	23	ARG
68	BS	45	LEU
68	BS	47	LYS
68	BS	49	ASP
68	BS	52	LEU

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Mol	Chain	Res	Type
68	BS	53	THR
68	BS	59	LEU
68	BS	60	THR
68	BS	63	GLU
68	BS	75	ARG
68	BS	116	LYS
69	BT	5	THR
69	BT	7	LYS
69	BT	34	VAL
69	BT	39	LEU
69	BT	41	LYS
69	BT	42	HIS
69	BT	44	GLU
69	BT	62	ARG
69	BT	94	ARG
69	BT	116	ASP
69	BT	123	LEU
70	BU	20	ILE
70	BU	22	ILE
70	BU	47	ASN
70	BU	55	ARG
70	BU	56	MET
71	BV	12	TYR
71	BV	34	MET
71	BV	41	LYS
71	BV	45	ARG
71	BV	50	PHE
71	BV	81	LYS
72	BW	3	ARG
72	BW	4	MET
72	BW	56	HIS
72	BW	97	ARG
73	BX	9	THR
73	BX	17	ARG
73	BX	54	LYS
73	BX	60	LYS
73	BX	63	ASN
73	BX	134	TYR
73	BX	135	LYS
73	BX	137	LYS
73	BX	138	LYS
73	BX	139	GLU

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Mol	Chain	Res	Type
74	BY	29	HIS
74	BY	93	ARG
74	BY	102	THR
74	BY	122	LYS
75	BZ	34	LYS
75	BZ	44	LEU
75	BZ	50	PHE
75	BZ	55	TYR
75	BZ	60	LYS
75	BZ	61	GLU
75	BZ	65	TYR
75	BZ	66	LYS
75	BZ	67	LEU
75	BZ	75	GLU
75	BZ	77	LEU
75	BZ	83	LEU
75	BZ	85	ARG
75	BZ	88	LEU
75	BZ	92	LEU
75	BZ	96	LEU
75	BZ	98	LYS
75	BZ	102	LYS
76	Ba	15	ARG
76	Ba	38	LYS
76	Ba	39	PHE
76	Ba	40	VAL
76	Ba	42	ARG
76	Ba	80	HIS
76	Ba	82	LYS
76	Ba	93	LYS
76	Ba	95	ARG
78	Bc	9	ILE
78	Bc	21	THR
78	Bc	33	GLU
79	Bd	24	CYS
79	Bd	30	LEU
79	Bd	31	ILE
79	Bd	40	ARG
79	Bd	41	GLN
80	Be	6	LEU
80	Be	18	LYS
80	Be	28	LYS

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Mol	Chain	Res	Type
80	Be	35	ARG
80	Be	46	VAL
80	Be	52	LYS
81	Bf	89	LYS
82	Bg	24	THR
82	Bg	94	THR
82	Bg	195	LEU
82	Bg	255	SER

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (196) such sidechains are listed below:

Mol	Chain	Res	Type
3	AA	95	GLN
3	AA	132	ASN
3	AA	187	HIS
3	AA	209	HIS
3	AA	216	HIS
4	AB	55	HIS
4	AB	158	GLN
4	AB	167	GLN
4	AB	179	HIS
4	AB	186	ASN
4	AB	245	HIS
4	AB	322	HIS
5	AC	48	ASN
5	AC	50	GLN
5	AC	187	GLN
5	AC	198	ASN
5	AC	212	ASN
5	AC	223	ASN
5	AC	286	ASN
5	AC	362	GLN
6	AD	9	ASN
6	AD	63	GLN
6	AD	191	ASN
6	AD	229	ASN
6	AD	244	HIS
7	AE	167	GLN
7	AE	191	GLN
7	AE	268	GLN
7	AE	279	ASN
8	AF	80	ASN

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Mol	Chain	Res	Type
8	AF	131	ASN
8	AF	226	HIS
9	AG	82	GLN
9	AG	195	HIS
10	AH	8	GLN
10	AH	102	ASN
10	AH	108	ASN
10	AH	163	GLN
11	AI	14	ASN
11	AI	59	GLN
11	AI	147	HIS
11	AI	213	HIS
12	AJ	42	GLN
12	AJ	46	GLN
12	AJ	112	HIS
12	AJ	168	GLN
13	AK	85	ASN
14	AL	15	HIS
14	AL	175	ASN
15	AM	20	HIS
15	AM	70	GLN
15	AM	83	ASN
15	AM	125	ASN
16	AN	37	HIS
16	AN	87	HIS
16	AN	145	ASN
16	AN	201	HIS
17	AO	42	ASN
17	AO	63	ASN
17	AO	96	GLN
18	AP	10	ASN
18	AP	93	HIS
18	AP	120	ASN
19	AQ	8	ASN
19	AQ	40	ASN
19	AQ	45	GLN
19	AQ	162	HIS
20	AR	118	HIS
21	AS	77	ASN
21	AS	156	HIS
21	AS	162	GLN
22	AT	3	ASN

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Mol	Chain	Res	Type
23	AU	50	ASN
23	AU	116	GLN
24	AV	101	ASN
24	AV	135	ASN
25	AW	63	GLN
26	AX	93	ASN
27	AY	4	ASN
27	AY	86	GLN
28	AZ	40	HIS
29	Aa	25	HIS
29	Aa	39	HIS
29	Aa	49	HIS
29	Aa	60	HIS
29	Aa	85	GLN
29	Aa	89	ASN
30	Ab	6	ASN
30	Ab	12	GLN
30	Ab	60	ASN
31	Ac	15	ASN
32	Ad	79	ASN
33	Ae	24	GLN
33	Ae	34	ASN
34	Af	65	ASN
34	Af	99	HIS
35	Ag	110	GLN
36	Ah	63	GLN
38	Aj	66	HIS
40	Al	19	GLN
40	Al	20	ASN
40	Al	33	ASN
41	Am	87	GLN
43	Ao	3	ASN
43	Ao	18	HIS
43	Ao	36	GLN
43	Ao	45	GLN
43	Ao	51	GLN
43	Ao	102	GLN
45	Aq	70	GLN
45	Aq	103	ASN
46	At	4	HIS
46	At	6	GLN
46	At	21	ASN

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Mol	Chain	Res	Type
46	At	41	ASN
46	At	70	GLN
46	At	95	HIS
46	At	100	ASN
46	At	121	GLN
47	Au	143	ASN
50	BA	111	GLN
50	BA	169	HIS
51	BB	75	GLN
51	BB	118	GLN
51	BB	177	GLN
51	BB	179	ASN
51	BB	186	ASN
52	BC	115	GLN
52	BC	134	ASN
52	BC	178	HIS
52	BC	235	ASN
53	BD	74	GLN
54	BE	216	ASN
55	BF	65	GLN
55	BF	82	ASN
55	BF	83	ASN
55	BF	95	HIS
55	BF	107	ASN
55	BF	203	ASN
56	BG	65	GLN
56	BG	70	HIS
56	BG	146	ASN
56	BG	225	GLN
57	BH	114	GLN
58	BI	44	HIS
58	BI	88	ASN
59	BJ	75	ASN
59	BJ	111	GLN
59	BJ	125	HIS
60	BK	28	HIS
61	BL	13	GLN
63	BN	5	HIS
64	BO	20	GLN
64	BO	79	GLN
64	BO	83	GLN
64	BO	113	GLN

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Mol	Chain	Res	Type
65	BP	35	GLN
65	BP	41	GLN
65	BP	79	HIS
65	BP	104	GLN
66	BQ	11	GLN
66	BQ	24	HIS
66	BQ	77	HIS
66	BQ	80	GLN
66	BQ	86	GLN
66	BQ	142	GLN
68	BS	17	ASN
68	BS	19	ASN
68	BS	42	HIS
68	BS	73	ASN
68	BS	125	HIS
69	BT	42	HIS
70	BU	81	GLN
70	BU	92	HIS
70	BU	100	GLN
71	BV	29	HIS
72	BW	15	ASN
72	BW	16	ASN
72	BW	24	GLN
72	BW	44	HIS
72	BW	56	HIS
72	BW	70	ASN
73	BX	16	HIS
73	BX	127	ASN
74	BY	89	HIS
74	BY	94	HIS
75	BZ	106	GLN
76	Ba	19	GLN
76	Ba	25	ASN
78	Bc	7	GLN
78	Bc	29	GLN
79	Bd	41	GLN
80	Be	39	ASN
82	Bg	26	GLN
82	Bg	56	GLN
82	Bg	226	HIS

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	A3	156/194 (80%)	28 (17%)	4 (2%)
2	A4	118/121 (97%)	23 (19%)	1 (0%)
48	A2	3600/5029 (71%)	695 (19%)	48 (1%)
49	B1	1701/1869 (91%)	290 (17%)	19 (1%)
83	Bv	75/76 (98%)	38 (50%)	0
83	Bw	75/76 (98%)	34 (45%)	0
84	Bx	27/28 (96%)	18 (66%)	0
All	All	5752/7393 (77%)	1126 (19%)	72 (1%)

All (1126) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	A3	2	G
1	A3	12	G
1	A3	16	G
1	A3	35	C
1	A3	59	A
1	A3	63	U
1	A3	72	A
1	A3	80	A
1	A3	81	C
1	A3	82	A
1	A3	87	G
1	A3	105	C
1	A3	108	A
1	A3	109	C
1	A3	110	U
1	A3	111	U
1	A3	112	G
1	A3	121	G
1	A3	122	G
1	A3	123	U
1	A3	124	U
1	A3	126	C
1	A3	128	C
1	A3	129	C
1	A3	130	C
1	A3	135	C
1	A3	148	A
1	A3	151	G
2	A4	12	U
2	A4	13	A
2	A4	14	C

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Mol	Chain	Res	Type
2	A4	16	A
2	A4	22	A
2	A4	23	A
2	A4	25	G
2	A4	27	G
2	A4	33	U
2	A4	34	C
2	A4	49	A
2	A4	53	U
2	A4	54	A
2	A4	57	C
2	A4	64	G
2	A4	66	G
2	A4	74	A
2	A4	103	A
2	A4	104	C
2	A4	107	G
2	A4	110	G
2	A4	118	C
2	A4	119	U
48	A2	4	G
48	A2	6	C
48	A2	10	A
48	A2	25	A
48	A2	28	C
48	A2	30	C
48	A2	32	G
48	A2	33	A
48	A2	39	A
48	A2	42	A
48	A2	48	G
48	A2	49	U
48	A2	59	A
48	A2	64	A
48	A2	65	A
48	A2	68	U
48	A2	71	C
48	A2	72	C
48	A2	73	A
48	A2	74	G
48	A2	84	A
48	A2	85	G

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Mol	Chain	Res	Type
48	A2	91	G
48	A2	96	U
48	A2	101	A
48	A2	116	G
48	A2	119	G
48	A2	128	C
48	A2	131	C
48	A2	132	G
48	A2	133	C
48	A2	134	G
48	A2	135	G
48	A2	136	G
48	A2	141	G
48	A2	143	G
48	A2	149	U
48	A2	157	G
48	A2	169	C
48	A2	174	G
48	A2	175	C
48	A2	181	U
48	A2	182	C
48	A2	183	G
48	A2	184	U
48	A2	185	G
48	A2	195	A
48	A2	196	G
48	A2	197	U
48	A2	201	U
48	A2	206	U
48	A2	212	C
48	A2	213	C
48	A2	214	C
48	A2	215	A
48	A2	222	G
48	A2	227	G
48	A2	228	U
48	A2	234	G
48	A2	253	G
48	A2	256	C
48	A2	260	C
48	A2	285	U
48	A2	286	G

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Mol	Chain	Res	Type
48	A2	289	A
48	A2	291	U
48	A2	300	A
48	A2	304	G
48	A2	308	G
48	A2	309	G
48	A2	310	U
48	A2	311	A
48	A2	320	C
48	A2	334	C
48	A2	341	A
48	A2	349	A
48	A2	351	U
48	A2	364	U
48	A2	367	G
48	A2	370	A
48	A2	375	U
48	A2	380	A
48	A2	381	G
48	A2	397	G
48	A2	407	G
48	A2	411	G
48	A2	425	G
48	A2	426	U
48	A2	444	G
48	A2	446	A
48	A2	448	U
48	A2	449	C
48	A2	457	A
48	A2	459	G
48	A2	460	A
48	A2	476	G
48	A2	479	C
48	A2	482	G
48	A2	492	C
48	A2	493	G
48	A2	494	G
48	A2	497	C
48	A2	498	G
48	A2	504	U
48	A2	505	C
48	A2	509	C

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Mol	Chain	Res	Type
48	A2	513	C
48	A2	515	C
48	A2	633	U
48	A2	634	C
48	A2	635	G
48	A2	638	G
48	A2	639	G
48	A2	641	G
48	A2	643	A
48	A2	649	C
48	A2	674	C
48	A2	676	G
48	A2	677	G
48	A2	678	C
48	A2	679	G
48	A2	689	G
48	A2	692	G
48	A2	693	U
48	A2	694	G
48	A2	695	C
48	A2	702	A
48	A2	720	G
48	A2	721	G
48	A2	724	A
48	A2	731	G
48	A2	733	G
48	A2	735	G
48	A2	736	G
48	A2	738	A
48	A2	739	G
48	A2	741	U
48	A2	901	U
48	A2	902	A
48	A2	903	C
48	A2	904	A
48	A2	905	G
48	A2	906	C
48	A2	909	C
48	A2	913	G
48	A2	914	G
48	A2	917	G
48	A2	918	C

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Mol	Chain	Res	Type
48	A2	919	A
48	A2	920	G
48	A2	921	C
48	A2	923	C
48	A2	924	U
48	A2	925	C
48	A2	926	G
48	A2	927	C
48	A2	929	G
48	A2	932	U
48	A2	933	C
48	A2	942	G
48	A2	943	A
48	A2	944	G
48	A2	947	A
48	A2	949	C
48	A2	950	G
48	A2	951	A
48	A2	953	A
48	A2	955	C
48	A2	956	C
48	A2	960	G
48	A2	965	G
48	A2	967	U
48	A2	969	U
48	A2	1055	C
48	A2	1058	G
48	A2	1059	C
48	A2	1065	C
48	A2	1067	C
48	A2	1084	C
48	A2	1085	U
48	A2	1087	C
48	A2	1147	G
48	A2	1149	G
48	A2	1150	C
48	A2	1152	G
48	A2	1156	G
48	A2	1159	C
48	A2	1161	G
48	A2	1162	U
48	A2	1163	C

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Mol	Chain	Res	Type
48	A2	1164	C
48	A2	1165	C
48	A2	1167	A
48	A2	1192	U
48	A2	1193	C
48	A2	1196	G
48	A2	1201	G
48	A2	1220	C
48	A2	1221	A
48	A2	1222	C
48	A2	1223	G
48	A2	1249	G
48	A2	1250	C
48	A2	1257	A
48	A2	1267	G
48	A2	1268	U
48	A2	1269	C
48	A2	1270	G
48	A2	1271	G
48	A2	1277	A
48	A2	1278	C
48	A2	1309	A
48	A2	1320	A
48	A2	1337	A
48	A2	1341	G
48	A2	1343	G
48	A2	1348	C
48	A2	1349	G
48	A2	1351	A
48	A2	1362	C
48	A2	1370	A
48	A2	1374	A
48	A2	1380	A
48	A2	1381	A
48	A2	1391	G
48	A2	1392	C
48	A2	1393	U
48	A2	1394	C
48	A2	1395	G
48	A2	1403	A
48	A2	1408	G
48	A2	1426	A

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Mol	Chain	Res	Type
48	A2	1428	U
48	A2	1430	C
48	A2	1431	G
48	A2	1432	C
48	A2	1460	C
48	A2	1463	C
48	A2	1464	G
48	A2	1465	C
48	A2	1466	G
48	A2	1467	C
48	A2	1480	G
48	A2	1483	C
48	A2	1485	A
48	A2	1499	G
48	A2	1500	A
48	A2	1501	C
48	A2	1507	A
48	A2	1516	A
48	A2	1548	C
48	A2	1560	U
48	A2	1573	U
48	A2	1578	U
48	A2	1581	A
48	A2	1589	C
48	A2	1595	A
48	A2	1606	G
48	A2	1607	G
48	A2	1613	A
48	A2	1620	A
48	A2	1623	G
48	A2	1636	G
48	A2	1643	C
48	A2	1659	U
48	A2	1678	C
48	A2	1679	G
48	A2	1702	C
48	A2	1713	C
48	A2	1721	G
48	A2	1723	G
48	A2	1737	C
48	A2	1739	U
48	A2	1745	C

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Mol	Chain	Res	Type
48	A2	1746	G
48	A2	1747	A
48	A2	1748	A
48	A2	1751	G
48	A2	1769	A
48	A2	1776	A
48	A2	1784	A
48	A2	1785	G
48	A2	1786	A
48	A2	1803	G
48	A2	1814	G
48	A2	1815	U
48	A2	1816	G
48	A2	1817	G
48	A2	1818	A
48	A2	1823	G
48	A2	1833	U
48	A2	1834	G
48	A2	1835	G
48	A2	1836	G
48	A2	1844	U
48	A2	1860	C
48	A2	1862	C
48	A2	1873	A
48	A2	1876	G
48	A2	1889	A
48	A2	1893	G
48	A2	1896	C
48	A2	1902	C
48	A2	1903	G
48	A2	1921	G
48	A2	1928	U
48	A2	1929	G
48	A2	1932	G
48	A2	1939	A
48	A2	1940	U
48	A2	1941	A
48	A2	1942	G
48	A2	1943	A
48	A2	1945	A
48	A2	1956	G
48	A2	1961	U

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Mol	Chain	Res	Type
48	A2	1963	G
48	A2	1964	A
48	A2	1965	A
48	A2	1968	C
48	A2	1972	A
48	A2	1973	U
48	A2	1978	U
48	A2	1980	A
48	A2	1983	A
48	A2	1984	G
48	A2	2004	C
48	A2	2005	G
48	A2	2006	A
48	A2	2007	A
48	A2	2008	U
48	A2	2011	A
48	A2	2025	U
48	A2	2029	U
48	A2	2037	G
48	A2	2044	G
48	A2	2050	A
48	A2	2057	G
48	A2	2246	U
48	A2	2247	A
48	A2	2279	A
48	A2	2280	G
48	A2	2285	G
48	A2	2301	G
48	A2	2312	G
48	A2	2324	G
48	A2	2327	G
48	A2	2330	C
48	A2	2331	U
48	A2	2339	A
48	A2	2340	G
48	A2	2356	C
48	A2	2357	G
48	A2	2358	A
48	A2	2373	G
48	A2	2374	A
48	A2	2377	U
48	A2	2385	G

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Mol	Chain	Res	Type
48	A2	2389	C
48	A2	2400	G
48	A2	2401	C
48	A2	2419	U
48	A2	2423	U
48	A2	2426	U
48	A2	2429	G
48	A2	2449	C
48	A2	2450	G
48	A2	2467	C
48	A2	2468	C
48	A2	2469	U
48	A2	2482	G
48	A2	2485	G
48	A2	2486	A
48	A2	2490	A
48	A2	2492	A
48	A2	2498	U
48	A2	2515	A
48	A2	2516	A
48	A2	2522	A
48	A2	2523	G
48	A2	2524	U
48	A2	2525	G
48	A2	2528	G
48	A2	2531	G
48	A2	2534	G
48	A2	2565	G
48	A2	2580	A
48	A2	2584	G
48	A2	2595	C
48	A2	2606	C
48	A2	2619	G
48	A2	2620	A
48	A2	2632	C
48	A2	2637	G
48	A2	2638	A
48	A2	2639	A
48	A2	2648	C
48	A2	2651	C
48	A2	2665	G
48	A2	2666	U

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Mol	Chain	Res	Type
48	A2	2667	G
48	A2	2673	G
48	A2	2675	A
48	A2	2676	A
48	A2	2683	C
48	A2	2684	G
48	A2	2690	G
48	A2	2691	G
48	A2	2700	G
48	A2	2704	A
48	A2	2705	G
48	A2	2706	C
48	A2	2713	U
48	A2	2719	U
48	A2	2720	U
48	A2	2723	A
48	A2	2739	G
48	A2	2741	G
48	A2	2742	U
48	A2	2744	A
48	A2	2751	C
48	A2	2755	G
48	A2	2766	A
48	A2	2767	U
48	A2	2769	U
48	A2	2773	C
48	A2	2776	C
48	A2	2785	A
48	A2	2786	A
48	A2	2805	U
48	A2	2806	G
48	A2	2834	G
48	A2	2852	U
48	A2	2853	U
48	A2	2854	C
48	A2	2859	U
48	A2	2870	U
48	A2	2871	C
48	A2	2880	G
48	A2	3572	C
48	A2	3577	U
48	A2	3586	G

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Mol	Chain	Res	Type
48	A2	3587	U
48	A2	3591	G
48	A2	3595	A
48	A2	3596	G
48	A2	3606	A
48	A2	3624	A
48	A2	3633	A
48	A2	3645	G
48	A2	3657	G
48	A2	3663	A
48	A2	3681	G
48	A2	3683	A
48	A2	3688	A
48	A2	3694	A
48	A2	3699	A
48	A2	3707	A
48	A2	3711	G
48	A2	3719	A
48	A2	3724	G
48	A2	3731	A
48	A2	3733	U
48	A2	3741	U
48	A2	3748	G
48	A2	3751	G
48	A2	3754	A
48	A2	3781	C
48	A2	3782	G
48	A2	3785	U
48	A2	3788	A
48	A2	3789	U
48	A2	3795	A
48	A2	3797	C
48	A2	3798	G
48	A2	3799	A
48	A2	3811	U
48	A2	3813	C
48	A2	3814	C
48	A2	3825	C
48	A2	3838	A
48	A2	3847	A
48	A2	3848	A
48	A2	3850	G

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Mol	Chain	Res	Type
48	A2	3852	G
48	A2	3860	G
48	A2	3866	G
48	A2	3872	A
48	A2	3875	G
48	A2	3876	A
48	A2	3878	G
48	A2	3879	A
48	A2	3886	U
48	A2	3889	G
48	A2	3890	C
48	A2	3909	G
48	A2	3926	G
48	A2	3927	G
48	A2	3928	U
48	A2	3935	U
48	A2	3936	A
48	A2	3943	A
48	A2	3944	G
48	A2	4015	G
48	A2	4019	U
48	A2	4020	A
48	A2	4025	U
48	A2	4026	A
48	A2	4027	C
48	A2	4029	C
48	A2	4033	U
48	A2	4035	G
48	A2	4046	G
48	A2	4065	G
48	A2	4066	C
48	A2	4067	G
48	A2	4068	A
48	A2	4073	G
48	A2	4074	A
48	A2	4076	G
48	A2	4078	G
48	A2	4079	C
48	A2	4081	C
48	A2	4087	U
48	A2	4088	C
48	A2	4089	U

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Mol	Chain	Res	Type
48	A2	4105	C
48	A2	4106	C
48	A2	4108	G
48	A2	4109	G
48	A2	4110	C
48	A2	4118	G
48	A2	4120	C
48	A2	4126	C
48	A2	4132	A
48	A2	4133	C
48	A2	4145	G
48	A2	4146	G
48	A2	4153	G
48	A2	4157	G
48	A2	4159	G
48	A2	4165	A
48	A2	4176	A
48	A2	4191	U
48	A2	4195	A
48	A2	4213	A
48	A2	4216	G
48	A2	4228	G
48	A2	4230	A
48	A2	4234	G
48	A2	4235	A
48	A2	4242	A
48	A2	4243	A
48	A2	4252	U
48	A2	4253	G
48	A2	4266	A
48	A2	4267	G
48	A2	4276	C
48	A2	4291	G
48	A2	4292	G
48	A2	4294	C
48	A2	4301	A
48	A2	4307	C
48	A2	4316	U
48	A2	4332	G
48	A2	4333	G
48	A2	4334	U
48	A2	4338	A

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Mol	Chain	Res	Type
48	A2	4339	G
48	A2	4340	A
48	A2	4341	A
48	A2	4342	A
48	A2	4349	C
48	A2	4356	A
48	A2	4360	C
48	A2	4361	U
48	A2	4382	U
48	A2	4384	A
48	A2	4386	A
48	A2	4399	U
48	A2	4426	A
48	A2	4428	C
48	A2	4436	A
48	A2	4437	G
48	A2	4438	C
48	A2	4439	A
48	A2	4448	C
48	A2	4459	U
48	A2	4462	U
48	A2	4474	U
48	A2	4475	A
48	A2	4477	G
48	A2	4481	C
48	A2	4482	G
48	A2	4485	A
48	A2	4486	G
48	A2	4502	C
48	A2	4510	A
48	A2	4545	C
48	A2	4546	A
48	A2	4551	A
48	A2	4552	A
48	A2	4570	G
48	A2	4579	G
48	A2	4589	U
48	A2	4596	U
48	A2	4598	U
48	A2	4599	G
48	A2	4614	G
48	A2	4618	A

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Mol	Chain	Res	Type
48	A2	4620	G
48	A2	4621	G
48	A2	4632	C
48	A2	4633	C
48	A2	4640	G
48	A2	4641	G
48	A2	4662	A
48	A2	4679	A
48	A2	4693	G
48	A2	4694	G
48	A2	4695	C
48	A2	4696	A
48	A2	4697	G
48	A2	4700	C
48	A2	4702	G
48	A2	4703	C
48	A2	4704	G
48	A2	4705	G
48	A2	4714	U
48	A2	4715	U
48	A2	4726	A
48	A2	4730	G
48	A2	4731	G
48	A2	4732	U
48	A2	4826	G
48	A2	4827	U
48	A2	4828	G
48	A2	4829	C
48	A2	4831	G
48	A2	4832	A
48	A2	4833	G
48	A2	4834	U
48	A2	4840	U
48	A2	4841	C
48	A2	4847	G
48	A2	4852	A
48	A2	4853	C
48	A2	4854	G
48	A2	4855	G
48	A2	4856	G
48	A2	4858	C
48	A2	4859	G

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Mol	Chain	Res	Type
48	A2	4861	G
48	A2	4865	G
48	A2	4866	G
48	A2	4867	A
48	A2	4868	A
48	A2	4869	A
48	A2	4870	G
48	A2	4871	G
48	A2	4880	C
48	A2	4882	C
48	A2	4885	G
48	A2	4886	C
48	A2	4887	C
48	A2	4888	C
48	A2	4895	C
48	A2	4899	G
48	A2	4902	C
48	A2	4907	G
48	A2	4908	U
48	A2	4909	G
48	A2	4910	G
48	A2	4934	U
48	A2	4937	A
48	A2	4947	U
48	A2	4950	G
48	A2	4971	C
48	A2	4975	G
48	A2	4977	A
48	A2	4982	C
48	A2	4984	U
48	A2	4985	C
48	A2	4986	G
48	A2	4989	G
48	A2	4999	G
48	A2	5008	C
48	A2	5011	U
48	A2	5012	C
48	A2	5016	A
48	A2	5019	A
48	A2	5020	G
48	A2	5023	U
48	A2	5026	G

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Mol	Chain	Res	Type
48	A2	5028	C
49	B1	4	C
49	B1	17	C
49	B1	33	G
49	B1	41	G
49	B1	44	U
49	B1	46	A
49	B1	67	C
49	B1	71	G
49	B1	72	C
49	B1	73	C
49	B1	75	G
49	B1	76	U
49	B1	77	A
49	B1	78	C
49	B1	103	A
49	B1	113	G
49	B1	114	G
49	B1	115	U
49	B1	142	C
49	B1	143	U
49	B1	146	G
49	B1	155	G
49	B1	157	U
49	B1	158	A
49	B1	161	U
49	B1	162	C
49	B1	170	A
49	B1	172	U
49	B1	174	C
49	B1	175	A
49	B1	181	A
49	B1	183	G
49	B1	209	A
49	B1	211	G
49	B1	228	C
49	B1	229	A
49	B1	230	A
49	B1	283	G
49	B1	284	C
49	B1	285	U
49	B1	286	U

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Mol	Chain	Res	Type
49	B1	287	U
49	B1	292	A
49	B1	296	U
49	B1	306	C
49	B1	313	A
49	B1	314	U
49	B1	315	C
49	B1	318	A
49	B1	325	C
49	B1	327	G
49	B1	328	U
49	B1	329	G
49	B1	331	C
49	B1	332	G
49	B1	333	G
49	B1	363	A
49	B1	364	A
49	B1	370	G
49	B1	385	G
49	B1	386	C
49	B1	391	C
49	B1	407	G
49	B1	408	A
49	B1	409	C
49	B1	417	C
49	B1	426	A
49	B1	427	U
49	B1	439	A
49	B1	448	A
49	B1	450	C
49	B1	463	C
49	B1	464	A
49	B1	465	A
49	B1	466	G
49	B1	469	A
49	B1	472	C
49	B1	476	A
49	B1	482	G
49	B1	485	A
49	B1	486	A
49	B1	487	U
49	B1	489	A

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Mol	Chain	Res	Type
49	B1	492	C
49	B1	493	A
49	B1	509	G
49	B1	522	A
49	B1	525	A
49	B1	526	A
49	B1	529	A
49	B1	533	A
49	B1	536	A
49	B1	541	U
49	B1	542	U
49	B1	544	G
49	B1	545	A
49	B1	546	G
49	B1	547	G
49	B1	548	C
49	B1	554	A
49	B1	559	G
49	B1	560	A
49	B1	561	A
49	B1	562	U
49	B1	563	G
49	B1	588	G
49	B1	590	A
49	B1	591	U
49	B1	592	C
49	B1	605	A
49	B1	606	G
49	B1	607	U
49	B1	608	C
49	B1	614	C
49	B1	629	A
49	B1	630	U
49	B1	635	G
49	B1	636	C
49	B1	643	A
49	B1	644	G
49	B1	645	C
49	B1	651	U
49	B1	660	C
49	B1	668	A
49	B1	669	A

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Mol	Chain	Res	Type
49	B1	671	A
49	B1	672	A
49	B1	673	G
49	B1	675	U
49	B1	681	U
49	B1	684	G
49	B1	696	G
49	B1	748	C
49	B1	750	C
49	B1	797	C
49	B1	798	G
49	B1	800	U
49	B1	808	A
49	B1	834	C
49	B1	847	A
49	B1	858	A
49	B1	869	A
49	B1	870	A
49	B1	911	C
49	B1	913	A
49	B1	914	U
49	B1	916	A
49	B1	917	U
49	B1	919	A
49	B1	920	A
49	B1	925	G
49	B1	929	G
49	B1	933	G
49	B1	943	U
49	B1	956	G
49	B1	960	U
49	B1	969	U
49	B1	987	A
49	B1	989	C
49	B1	990	A
49	B1	1001	A
49	B1	1008	A
49	B1	1025	U
49	B1	1044	G
49	B1	1045	U
49	B1	1048	G
49	B1	1055	A

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Mol	Chain	Res	Type
49	B1	1061	U
49	B1	1066	U
49	B1	1083	A
49	B1	1085	C
49	B1	1109	C
49	B1	1110	G
49	B1	1114	U
49	B1	1115	U
49	B1	1116	C
49	B1	1117	C
49	B1	1119	A
49	B1	1120	U
49	B1	1121	G
49	B1	1123	C
49	B1	1139	C
49	B1	1140	G
49	B1	1148	A
49	B1	1149	A
49	B1	1150	A
49	B1	1199	A
49	B1	1207	G
49	B1	1215	C
49	B1	1224	G
49	B1	1242	U
49	B1	1243	U
49	B1	1251	A
49	B1	1256	G
49	B1	1257	G
49	B1	1258	A
49	B1	1259	A
49	B1	1261	C
49	B1	1274	G
49	B1	1275	G
49	B1	1286	G
49	B1	1288	U
49	B1	1301	A
49	B1	1302	G
49	B1	1303	C
49	B1	1311	C
49	B1	1330	G
49	B1	1332	A
49	B1	1344	A

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Mol	Chain	Res	Type
49	B1	1345	G
49	B1	1348	G
49	B1	1354	G
49	B1	1371	U
49	B1	1372	U
49	B1	1378	A
49	B1	1380	C
49	B1	1381	G
49	B1	1396	A
49	B1	1399	C
49	B1	1409	A
49	B1	1411	G
49	B1	1416	C
49	B1	1418	C
49	B1	1419	C
49	B1	1420	G
49	B1	1439	A
49	B1	1442	U
49	B1	1462	U
49	B1	1463	U
49	B1	1476	A
49	B1	1477	U
49	B1	1478	U
49	B1	1489	A
49	B1	1495	G
49	B1	1498	A
49	B1	1519	U
49	B1	1520	G
49	B1	1521	C
49	B1	1522	A
49	B1	1525	C
49	B1	1531	A
49	B1	1533	A
49	B1	1543	U
49	B1	1548	G
49	B1	1551	U
49	B1	1580	A
49	B1	1586	U
49	B1	1601	A
49	B1	1602	U
49	B1	1604	G
49	B1	1606	G

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Mol	Chain	Res	Type
49	B1	1620	A
49	B1	1622	U
49	B1	1623	A
49	B1	1638	G
49	B1	1654	G
49	B1	1660	C
49	B1	1661	A
49	B1	1662	U
49	B1	1663	A
49	B1	1665	G
49	B1	1668	U
49	B1	1671	G
49	B1	1673	U
49	B1	1683	C
49	B1	1721	U
49	B1	1742	C
49	B1	1751	C
49	B1	1757	G
49	B1	1776	G
49	B1	1780	G
49	B1	1782	G
49	B1	1793	A
49	B1	1829	G
49	B1	1831	A
49	B1	1834	A
49	B1	1835	A
49	B1	1838	U
49	B1	1839	U
49	B1	1841	C
49	B1	1849	G
49	B1	1851	A
49	B1	1852	C
49	B1	1861	G
49	B1	1862	G
49	B1	1864	U
49	B1	1865	C
49	B1	1866	A
49	B1	1867	U
49	B1	1869	A
83	Bv	2	C
83	Bv	7	A
83	Bv	8	U

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Mol	Chain	Res	Type
83	Bv	9	A
83	Bv	11	C
83	Bv	13	C
83	Bv	17	C
83	Bv	18	G
83	Bv	19	G
83	Bv	20	U
83	Bv	24	G
83	Bv	25	C
83	Bv	26	A
83	Bv	31	A
83	Bv	33	U
83	Bv	37	A
83	Bv	38	A
83	Bv	39	U
83	Bv	41	C
83	Bv	42	C
83	Bv	43	C
83	Bv	44	G
83	Bv	45	U
83	Bv	46	G
83	Bv	48	C
83	Bv	51	U
83	Bv	53	G
83	Bv	54	U
83	Bv	58	A
83	Bv	60	U
83	Bv	61	C
83	Bv	63	G
83	Bv	66	U
83	Bv	69	G
83	Bv	71	G
83	Bv	72	C
83	Bv	75	C
83	Bv	76	A
83	Bw	2	C
83	Bw	3	C
83	Bw	5	G
83	Bw	6	G
83	Bw	7	A
83	Bw	9	A
83	Bw	10	G

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Mol	Chain	Res	Type
83	Bw	16	U
83	Bw	17	C
83	Bw	18	G
83	Bw	19	G
83	Bw	20	U
83	Bw	21	A
83	Bw	26	A
83	Bw	32	U
83	Bw	36	A
83	Bw	40	C
83	Bw	41	C
83	Bw	46	G
83	Bw	47	U
83	Bw	48	C
83	Bw	50	U
83	Bw	52	G
83	Bw	53	G
83	Bw	54	U
83	Bw	55	U
83	Bw	58	A
83	Bw	59	U
83	Bw	65	G
83	Bw	66	U
83	Bw	68	C
83	Bw	71	G
83	Bw	75	C
83	Bw	76	A
84	Bx	35	U
84	Bx	36	U
84	Bx	37	U
84	Bx	38	U
84	Bx	39	U
84	Bx	40	U
84	Bx	41	U
84	Bx	42	U
84	Bx	49	U
84	Bx	51	U
84	Bx	52	U
84	Bx	53	U
84	Bx	54	U
84	Bx	55	U
84	Bx	56	U

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Mol	Chain	Res	Type
84	Bx	57	U
84	Bx	58	U
84	Bx	61	U

All (72) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
1	A3	34	U
1	A3	81	C
1	A3	108	A
1	A3	110	U
2	A4	13	A
48	A2	31	U
48	A2	70	A
48	A2	71	C
48	A2	84	A
48	A2	135	G
48	A2	227	G
48	A2	229	G
48	A2	230	U
48	A2	309	G
48	A2	738	A
48	A2	740	G
48	A2	901	U
48	A2	902	A
48	A2	958	U
48	A2	959	C
48	A2	1161	G
48	A2	1162	U
48	A2	1342	G
48	A2	1379	G
48	A2	1402	G
48	A2	1500	A
48	A2	1559	G
48	A2	1785	G
48	A2	1816	G
48	A2	1943	A
48	A2	2005	G
48	A2	2006	A
48	A2	2485	G
48	A2	2508	A
48	A2	2684	G

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Mol	Chain	Res	Type
48	A2	2743	A
48	A2	3595	A
48	A2	3798	G
48	A2	3799	A
48	A2	3814	C
48	A2	4026	A
48	A2	4107	C
48	A2	4242	A
48	A2	4596	U
48	A2	4597	A
48	A2	4661	U
48	A2	4714	U
48	A2	4828	G
48	A2	4832	A
48	A2	4865	G
48	A2	4870	G
48	A2	4907	G
48	A2	4946	U
49	B1	180	G
49	B1	226	A
49	B1	227	U
49	B1	229	A
49	B1	283	G
49	B1	286	U
49	B1	369	C
49	B1	546	G
49	B1	547	G
49	B1	560	A
49	B1	561	A
49	B1	683	G
49	B1	797	C
49	B1	869	A
49	B1	1287	A
49	B1	1289	U
49	B1	1398	G
49	B1	1555	U
49	B1	1756	C

5.4 Non-standard residues in protein, DNA, RNA chains

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 331 ligands modelled in this entry, 331 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers [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
49	B1	8
48	A2	5

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	B1	842:C	O3'	843:C	P	1.85
1	B1	558:G	O3'	559:G	P	1.84
1	B1	497:C	O3'	498:C	P	1.83
1	B1	72:C	O3'	73:C	P	1.82
1	B1	1253:A	O3'	1254:C	P	1.82
1	A2	1716:G	O3'	1717:U	P	1.80
1	B1	1420:G	O3'	1421:A	P	1.80
1	A2	1057:G	O3'	1058:G	P	1.76
1	A2	1249:G	O3'	1250:C	P	1.76
1	B1	683:G	O3'	684:G	P	1.76
1	B1	351:G	O3'	352:U	P	1.75

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Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	A2	2689:C	O3'	2690:G	P	1.37
1	A2	3612:U	O3'	3613:A	P	1.35

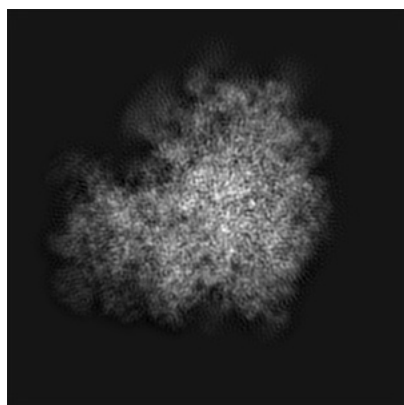
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-2875. These allow visual inspection of the internal detail of the map and identification of artifacts.

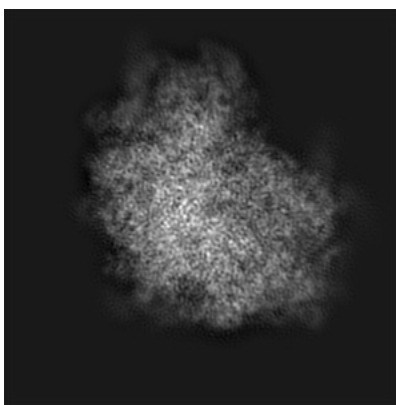
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

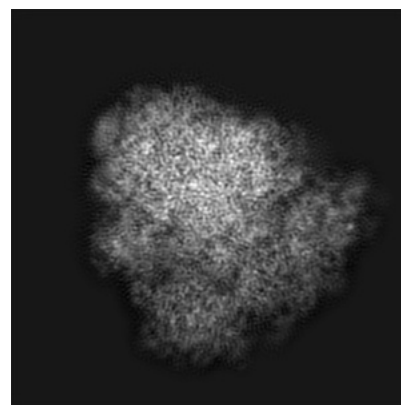
6.1.1 Primary map



X



Y

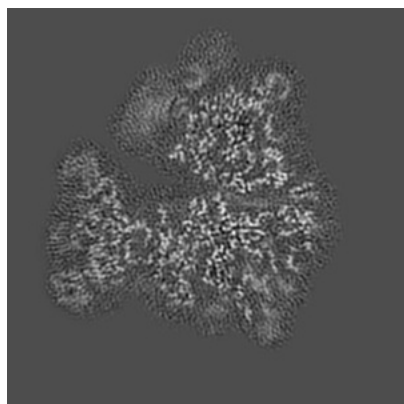


Z

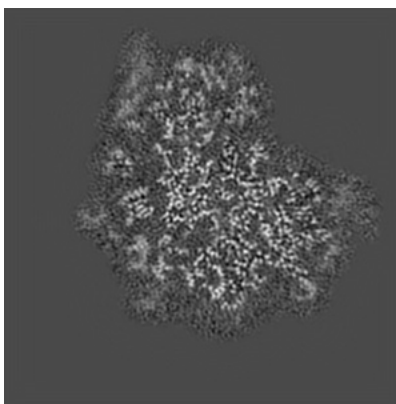
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

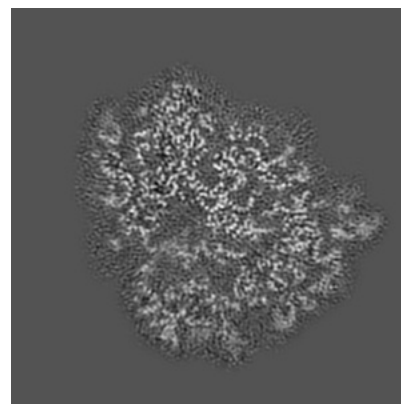
6.2.1 Primary map



X Index: 200



Y Index: 200

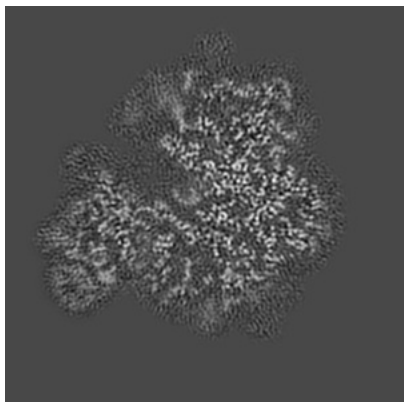


Z Index: 200

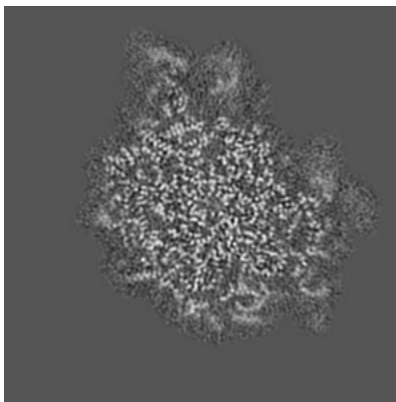
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

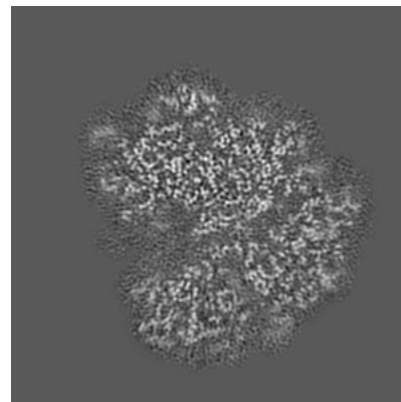
6.3.1 Primary map



X Index: 186



Y Index: 220

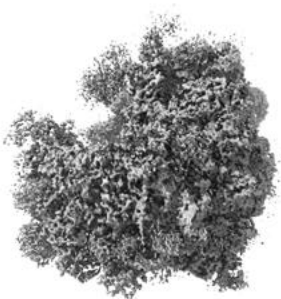


Z Index: 184

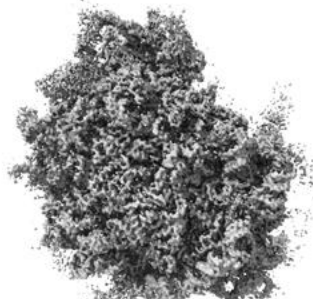
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal surface views [i](#)

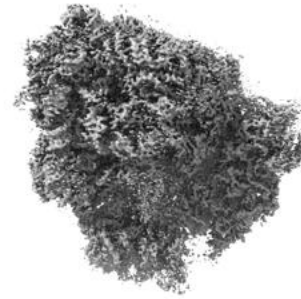
6.4.1 Primary map



X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 3.0. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

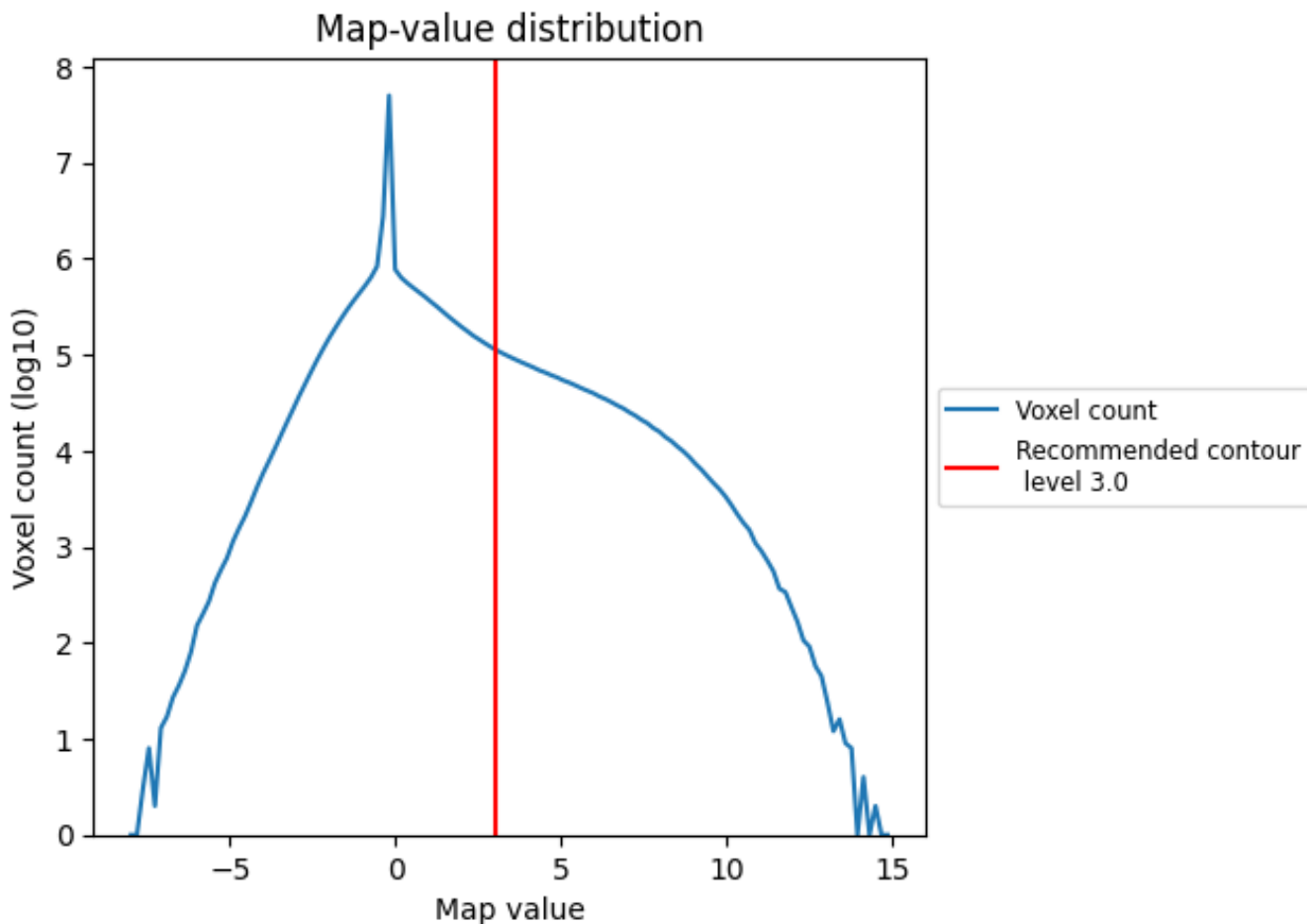
6.5 Mask visualisation

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

7 Map analysis [i](#)

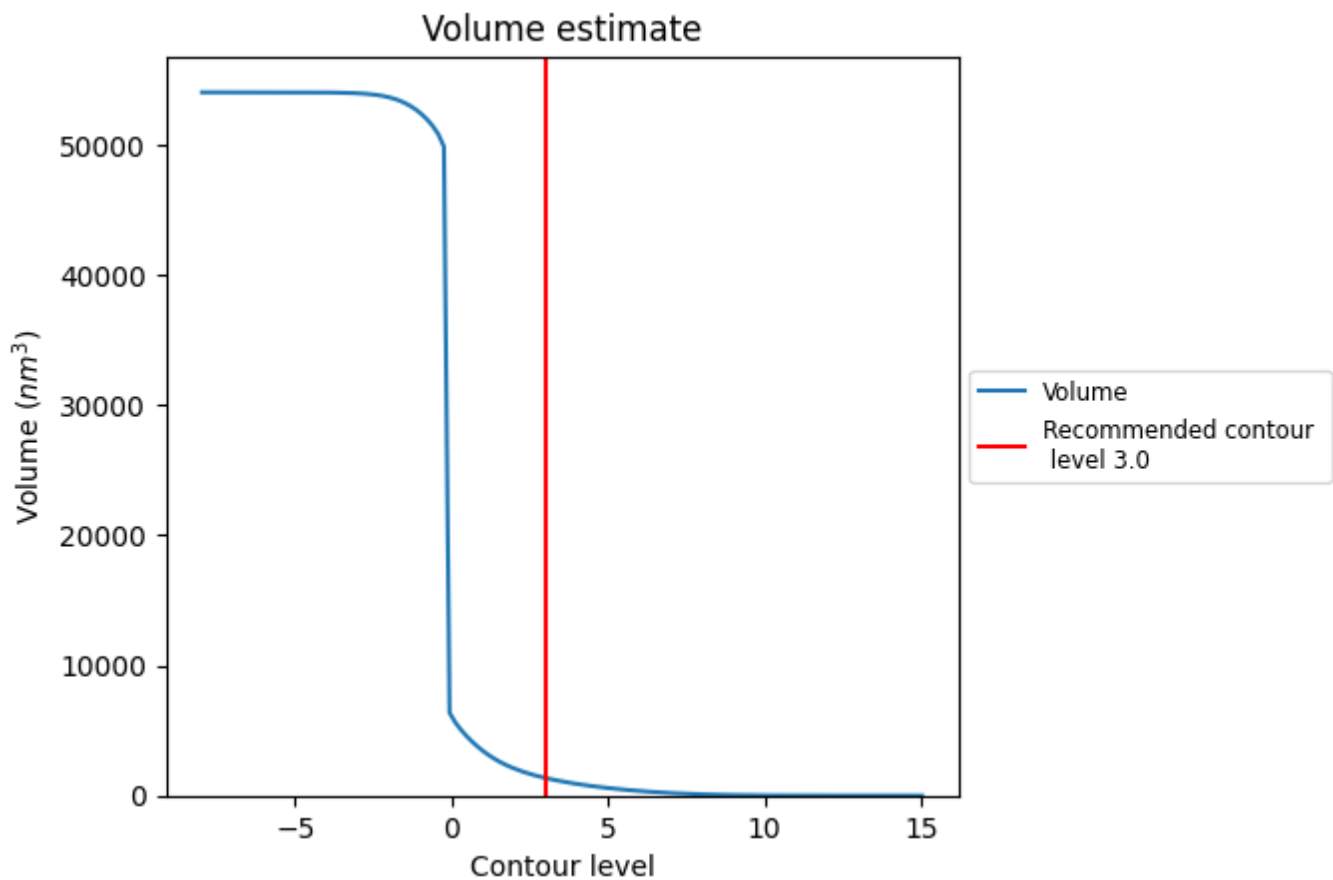
This section contains the results of statistical analysis of the map.

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.

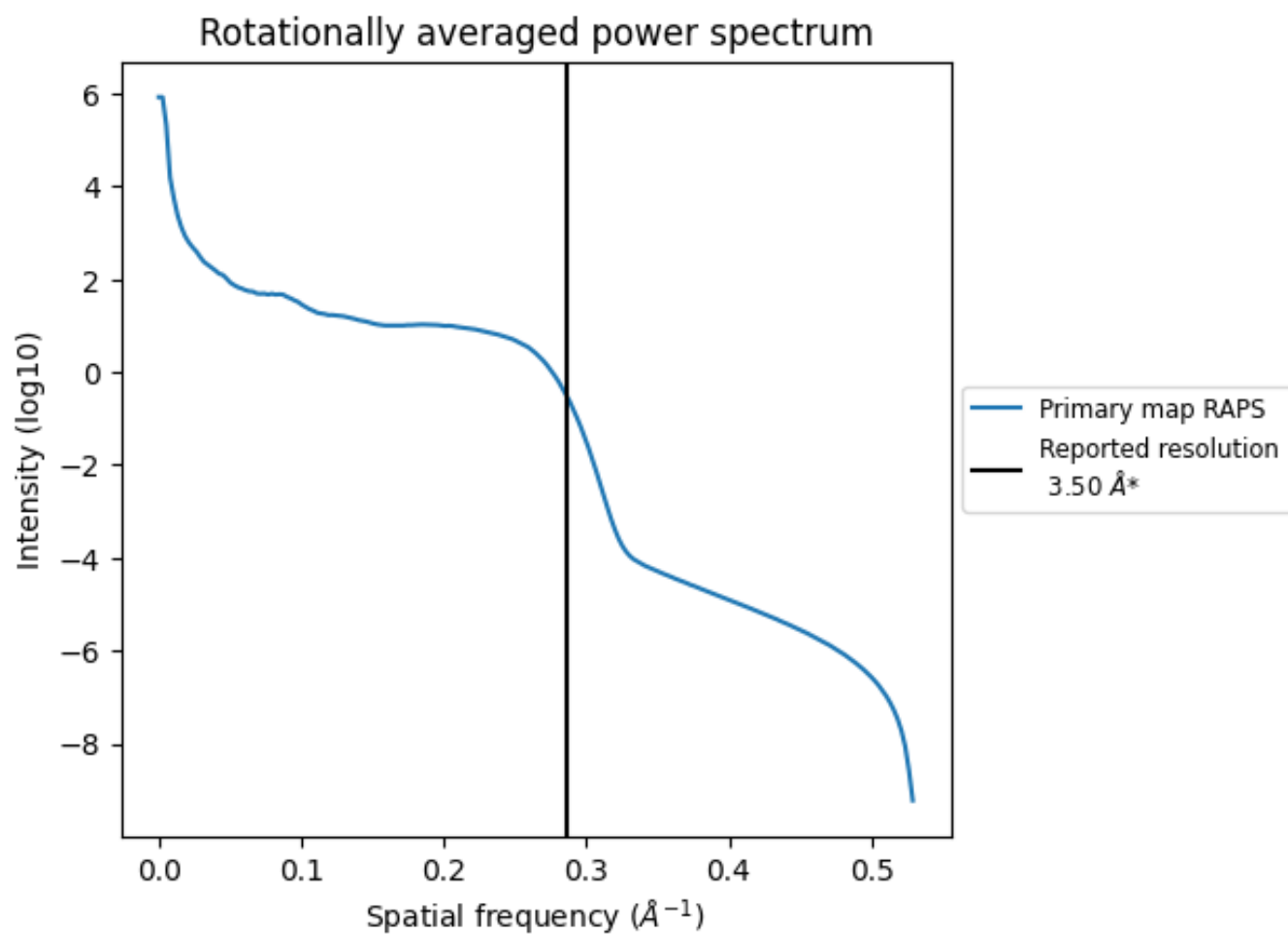
7.2 Volume estimate [\(i\)](#)



The volume at the recommended contour level is 1346 nm³; this corresponds to an approximate mass of 1216 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 0.286\AA^{-1}

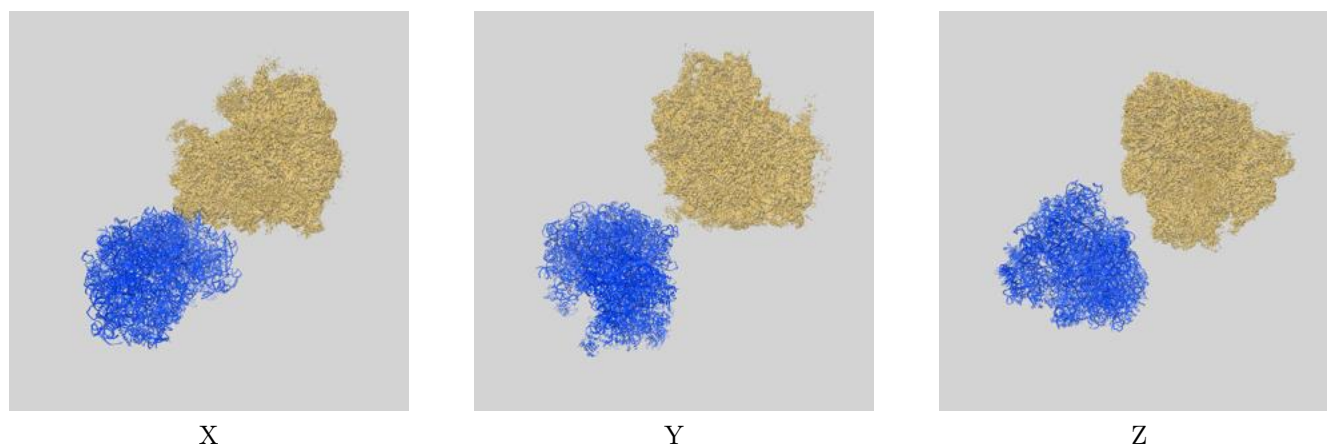
8 Fourier-Shell correlation

This section was not generated. No FSC curve or half-maps provided.

9 Map-model fit [i](#)

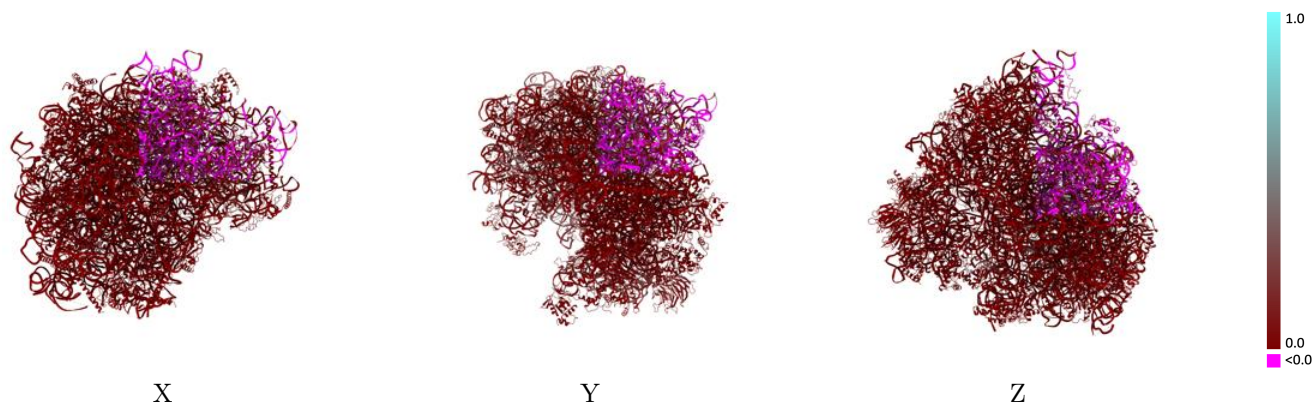
This section contains information regarding the fit between EMDB map EMD-2875 and PDB model 5AJ0. Per-residue inclusion information can be found in section 3 on page 21.

9.1 Map-model overlay [i](#)



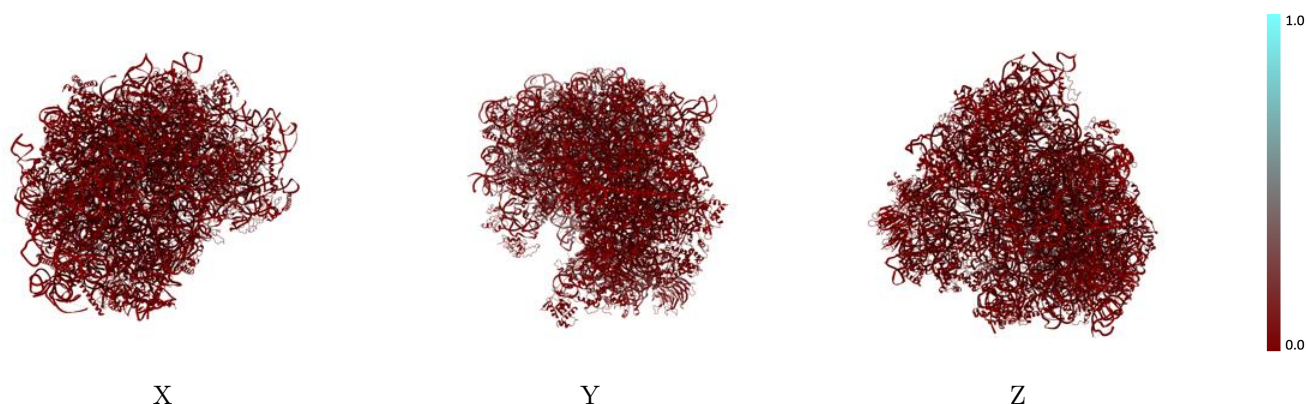
The images above show the 3D surface view of the map at the recommended contour level 3.0 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model [i](#)



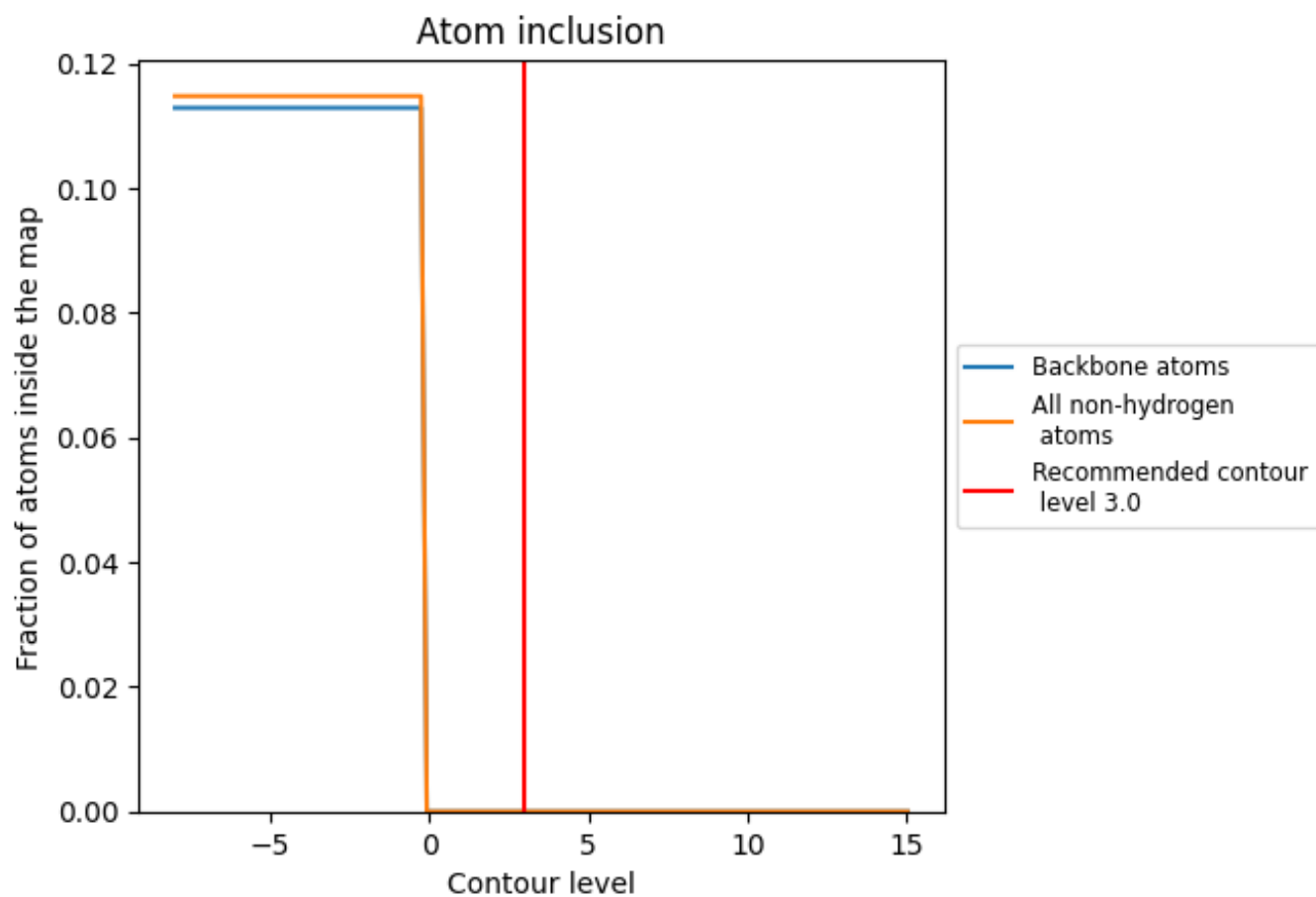
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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](#)



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 (3.0).

9.4 Atom inclusion [i](#)

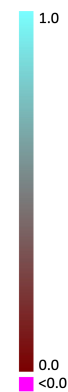


At the recommended contour level, 0% of all backbone atoms, 0% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (3.0) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.0000	0.0000
A2	0.0000	0.0000
A3	0.0000	0.0030
A4	0.0000	0.0000
AA	0.0000	0.0010
AB	0.0000	0.0000
AC	0.0000	0.0000
AD	0.0000	0.0000
AE	0.0000	0.0000
AF	0.0000	0.0000
AG	0.0000	-0.0010
AH	0.0000	0.0000
AI	0.0000	0.0000
AJ	0.0000	0.0000
AK	0.0000	0.0000
AL	0.0000	0.0000
AM	0.0000	0.0000
AN	0.0000	0.0000
AO	0.0000	0.0000
AP	0.0000	0.0010
AQ	0.0000	0.0000
AR	0.0000	0.0150
AS	0.0000	0.0000
AT	0.0000	0.0000
AU	0.0000	-0.0210
AV	0.0000	0.0000
AW	0.0000	0.0000
AX	0.0000	0.0020
AY	0.0000	0.0000
AZ	0.0000	0.0050
Aa	0.0000	0.0000
Ab	0.0000	0.0000
Ac	0.0000	-0.0080
Ad	0.0000	0.0000
Ae	0.0000	0.0000























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Chain	Atom inclusion	Q-score
Af	0.0000	0.0000
Ag	0.0000	0.0190
Ah	0.0000	0.0000
Ai	0.0000	0.0000
Aj	0.0000	-0.0050
Ak	0.0000	0.0040
Al	0.0000	0.0220
Am	0.0000	0.0000
An	0.0000	0.0000
Ao	0.0000	0.0000
Ap	0.0000	-0.0110
Aq	0.0000	0.0000
At	0.0000	0.0000
Au	0.0000	0.0000
B1	0.0000	0.0000
BA	0.0000	0.0000
BB	0.0000	0.0000
BC	0.0000	0.0000
BD	0.0000	0.0000
BE	0.0000	0.0000
BF	0.0000	0.0000
BG	0.0000	0.0000
BH	0.0000	0.0000
BI	0.0000	0.0150
BJ	0.0000	0.0000
BK	0.0000	0.0000
BL	0.0000	0.0040
BM	0.0000	0.0000
BN	0.0000	0.0010
BO	0.0000	0.0000
BP	0.0000	0.0000
BQ	0.0000	0.0000
BR	0.0000	0.0000
BS	0.0000	0.0000
BT	0.0000	0.0000
BU	0.0000	0.0000
BV	0.0000	0.0000
BW	0.0000	0.0000
BX	0.0000	0.0000
BY	0.0000	0.0000
BZ	0.0000	0.0000
Ba	0.0000	0.0000

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Chain	Atom inclusion	Q-score
Bb	 0.0000	 0.0000
Bc	 0.0000	 0.0000
Bd	 0.0000	 0.0000
Be	 0.0000	 0.0000
Bf	 0.0000	 0.0000
Bg	 0.0000	 0.0000
Bv	 0.0000	 0.0000
Bw	 0.0000	 0.0000
Bx	 0.0000	 0.0000
By	 0.0000	 0.0220