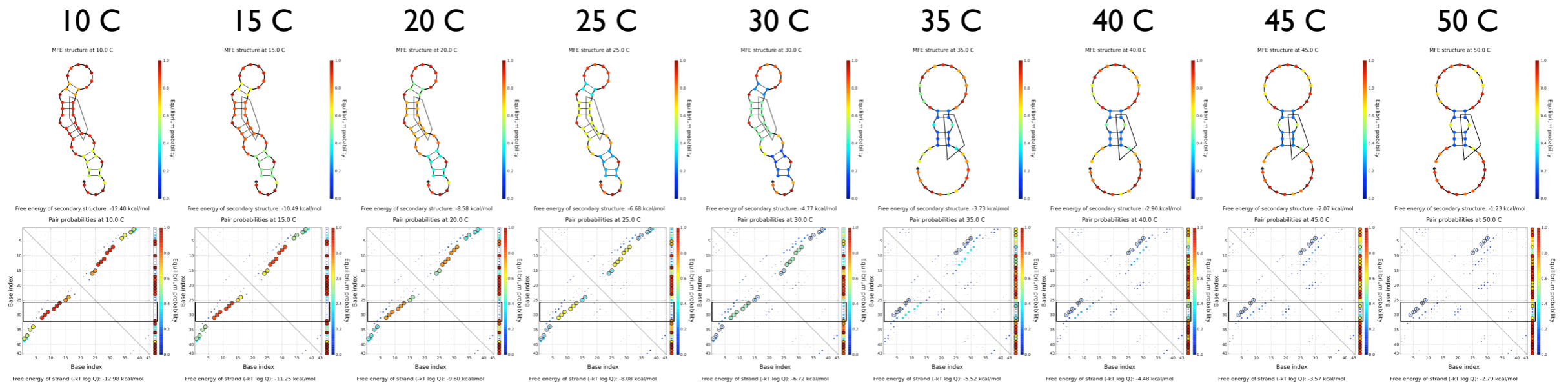


Systematic searching of U2 candidates

U2 GGAUCCCUCA CUUACUAGUC UGCAGAAGGA GAUAUACCCA UGG



Base pairs involved in doe sort of structure are 1, 2, 3, 4, 7, 8, 9, 11, 12, 13, 15, 16, 24, 25, 34, 35, 37, 38

Overall, 18 bp.

So do $18 \times (5 - 1) = 72$ calculations

Naming convention

U2<basepair#><identity of base pair = A, G, U, C or 0>

Save melt curves and everything else

S. No.	Name	Sequence
0	U2	<u>GGAUCCCUCA</u> <u>CUUACUAGUC</u> UGC <u>AGAAGGA</u> <u>GAUAUACCCA</u> <u>UGG</u>
1	U210	GAUCCCUCA CUUACUAGUC UGCAGA <u>AAGGA</u> <u>GAUAUACCCA</u> <u>UGG</u>
2	U21A	<u>A</u> GAUCCCUCA CUUACUAGUC UGCAGA <u>AAGGA</u> <u>GAUAUACCCA</u> <u>UGG</u>
3	U21C	<u>C</u> GAUCCCUCA CUUACUAGUC UGCAGA <u>AAGGA</u> <u>GAUAUACCCA</u> <u>UGG</u>
4	U21U	<u>U</u> GAUCCCUCA CUUACUAGUC UGCAGA <u>AAGGA</u> <u>GAUAUACCCA</u> <u>UGG</u>
5	U220	G AUCCCUCA CUUACUAGUC UGCAGA <u>AAGGA</u> <u>GAUAUACCCA</u> <u>UGG</u>
6	U22A	<u>G</u> AUCCCUCA CUUACUAGUC UGCAGA <u>AAGGA</u> <u>GAUAUACCCA</u> <u>UGG</u>
7	U22C	<u>G</u> CAUCCCUCA CUUACUAGUC UGCAGA <u>AAGGA</u> <u>GAUAUACCCA</u> <u>UGG</u>
8	U22U	<u>G</u> UAUCCCUCA CUUACUAGUC UGCAGA <u>AAGGA</u> <u>GAUAUACCCA</u> <u>UGG</u>
9	U230	GG UCCCUCA CUUACUAGUC UGCAGA <u>AAGGA</u> <u>GAUAUACCCA</u> <u>UGG</u>
10	U23C	GG <u>C</u> UCCCUCA CUUACUAGUC UGCAGA <u>AAGGA</u> <u>GAUAUACCCA</u> <u>UGG</u>
11	U23G	GG <u>G</u> UCCCUCA CUUACUAGUC UGCAGA <u>AAGGA</u> <u>GAUAUACCCA</u> <u>UGG</u>
12	U23U	GG <u>U</u> UCCCUCA CUUACUAGUC UGCAGA <u>AAGGA</u> <u>GAUAUACCCA</u> <u>UGG</u>
13	U240	GGA CCCUCA CUUACUAGUC UGCAGA <u>AAGGA</u> <u>GAUAUACCCA</u> <u>UGG</u>
14	U24A	GGA <u>A</u> CCCUCA CUUACUAGUC UGCAGA <u>AAGGA</u> <u>GAUAUACCCA</u> <u>UGG</u>
15	U24C	GG <u>A</u> CCCUCA CUUACUAGUC UGCAGA <u>AAGGA</u> <u>GAUAUACCCA</u> <u>UGG</u>
16	U24G	GG <u>G</u> CCCUCA CUUACUAGUC UGCAGA <u>AAGGA</u> <u>GAUAUACCCA</u> <u>UGG</u>

S. No.	Name	Sequence
0	U2	GGAUCCCUCA CUUACUAGUC UGCAGAAAGGA GAUAUACCCA UGG
17	U270	GGAUCC UCA CUUACUAGUC UGCAGAAAGGA GAUAUACCCA UGG
18	U27A	GGAUCCAUCA CUUACUAGUC UGCAGAAAGGA GAUAUACCCA UGG
19	U27G	GGAUCCGUCA CUUACUAGUC UGCAGAAAGGA GAUAUACCCA UGG
20	U27U	GGAUCCUUCA CUUACUAGUC UGCAGAAAGGA GAUAUACCCA UGG
21	U280	GGAUCCC CA CUUACUAGUC UGCAGAAAGGA GAUAUACCCA UGG
22	U28A	GGAUCCCACA CUUACUAGUC UGCAGAAAGGA GAUAUACCCA UGG
23	U28C	GGAUCCCCCA CUUACUAGUC UGCAGAAAGGA GAUAUACCCA UGG
24	U28G	GGAUCCCGCA CUUACUAGUC UGCAGAAAGGA GAUAUACCCA UGG
25	U290	GGAUCCCU A CUUACUAGUC UGCAGAAAGGA GAUAUACCCA UGG
26	U29A	GGAUCCCUAA CUUACUAGUC UGCAGAAAGGA GAUAUACCCA UGG
27	U29G	GGAUCCCUGA CUUACUAGUC UGCAGAAAGGA GAUAUACCCA UGG
28	U29U	GGAUCCCUUA CUUACUAGUC UGCAGAAAGGA GAUAUACCCA UGG
29	U2110	GGAUCCCUCA UUACUAGUC UGCAGAAAGGA GAUAUACCCA UGG
30	U211A	GGAUCCCUCA AUUACUAGUC UGCAGAAAGGA GAUAUACCCA UGG
31	U211G	GGAUCCCUCA GUUACUAGUC UGCAGAAAGGA GAUAUACCCA UGG
32	U211U	GGAUCCCUCA UUUACUAGUC UGCAGAAAGGA GAUAUACCCA UGG

S. No.	Name	Sequence
0	U2	GGAUCCCUCA CUUACUAGUC UGCAG <u>AAGGA</u> GAUAUACCCA UGG
33	U2120	GGAUCCCUCA C UACUAGUC UGCAG <u>AAGGA</u> GAUAUACCCA UGG
34	U212A	GGAUCCCUCA CAUACUAGUC UGCAG <u>AAGGA</u> GAUAUACCCA UGG
35	U212C	GGAUCCCUCA CCUACUAGUC UGCAG <u>AAGGA</u> GAUAUACCCA UGG
36	U212G	GGAUCCCUCA CGUACUAGUC UGCAG <u>AAGGA</u> GAUAUACCCA UGG
37	U2130	GGAUCCCUCA CU ACUAGUC UGCAG <u>AAGGA</u> GAUAUACCCA UGG
38	U213A	GGAUCCCUCA CUAACUAGUC UGCAG <u>AAGGA</u> GAUAUACCCA UGG
39	U213C	GGAUCCCUCA CUCACUAGUC UGCAG <u>AAGGA</u> GAUAUACCCA UGG
40	U213G	GGAUCCCUCA CUGACUAGUC UGCAG <u>AAGGA</u> GAUAUACCCA UGG
41	U2150	GGAUCCCUCA CUUA UAGUC UGCAG <u>AAGGA</u> GAUAUACCCA UGG
42	U215A	GGAUCCCUCA CUUA <u>A</u> UAGUC UGCAG <u>AAGGA</u> GAUAUACCCA UGG
43	U215G	GGAUCCCUCA CUUA <u>G</u> UAGUC UGCAG <u>AAGGA</u> GAUAUACCCA UGG
44	U215U	GGAUCCCUCA CUUA <u>U</u> UAGUC UGCAG <u>AAGGA</u> GAUAUACCCA UGG
45	U2160	GGAUCCCUCA CUUAC AGUC UGCAG <u>AAGGA</u> GAUAUACCCA UGG
46	U216A	GGAUCCCUCA CUUAC <u>A</u> AGUC UGCAG <u>AAGGA</u> GAUAUACCCA UGG
47	U216C	GGAUCCCUCA CUUAC <u>C</u> AGUC UGCAG <u>AAGGA</u> GAUAUACCCA UGG
48	U216G	GGAUCCCUCA CUUAC <u>G</u> AGUC UGCAG <u>AAGGA</u> GAUAUACCCA UGG

S. No.	Name	Sequence
0	U2	GGAUCCCUCA CUUACUAGUC UGCAG <u>AAGGA</u> GAU <u>AUACCCA</u> <u>UGG</u>
49	U2240	GGAUCCCUCA CUUACUAGUC UGC <u>GAAGGA</u> GAU <u>AUACCCA</u> <u>UGG</u>
50	U224C	GGAUCCCUCA CUUACUAGUC UGC <u>C</u> <u>GAAGGA</u> GAU <u>AUACCCA</u> <u>UGG</u>
51	U224G	GGAUCCCUCA CUUACUAGUC UGC <u>G</u> <u>GAAGGA</u> GAU <u>AUACCCA</u> <u>UGG</u>
52	U224U	GGAUCCCUCA CUUACUAGUC UGC <u>U</u> <u>GAAGGA</u> GAU <u>AUACCCA</u> <u>UGG</u>
53	U2250	GGAUCCCUCA CUUACUAGUC UGCA <u>AAGGA</u> GAU <u>AUACCCA</u> <u>UGG</u>
54	U225A	GGAUCCCUCA CUUACUAGUC UGCA <u>A</u> <u>AAGGA</u> GAU <u>AUACCCA</u> <u>UGG</u>
55	U225C	GGAUCCCUCA CUUACUAGUC UGCA <u>C</u> <u>AAGGA</u> GAU <u>AUACCCA</u> <u>UGG</u>
56	U225U	GGAUCCCUCA CUUACUAGUC UGCA <u>U</u> <u>AAGGA</u> GAU <u>AUACCCA</u> <u>UGG</u>
57	U2340	GGAUCCCUCA CUUACUAGUC UGCAG <u>AAGGA</u> GAU <u>UACCCA</u> <u>UGG</u>
58	U234C	GGAUCCCUCA CUUACUAGUC UGCAG <u>AAGGA</u> GAU <u>C</u> <u>UACCCA</u> <u>UGG</u>
59	U234G	GGAUCCCUCA CUUACUAGUC UGCAG <u>AAGGA</u> GAU <u>G</u> <u>UACCCA</u> <u>UGG</u>
60	U234U	GGAUCCCUCA CUUACUAGUC UGCAG <u>AAGGA</u> GAU <u>U</u> <u>UACCCA</u> <u>UGG</u>
61	U2350	GGAUCCCUCA CUUACUAGUC UGCAG <u>AAGGA</u> GAUA <u>ACCCA</u> <u>UGG</u>
62	U235A	GGAUCCCUCA CUUACUAGUC UGCAG <u>AAGGA</u> GAUA <u>A</u> <u>ACCCA</u> <u>UGG</u>
63	U235C	GGAUCCCUCA CUUACUAGUC UGCAG <u>AAGGA</u> GAUA <u>C</u> <u>ACCCA</u> <u>UGG</u>
64	U235G	GGAUCCCUCA CUUACUAGUC UGCAG <u>AAGGA</u> GAUA <u>G</u> <u>ACCCA</u> <u>UGG</u>

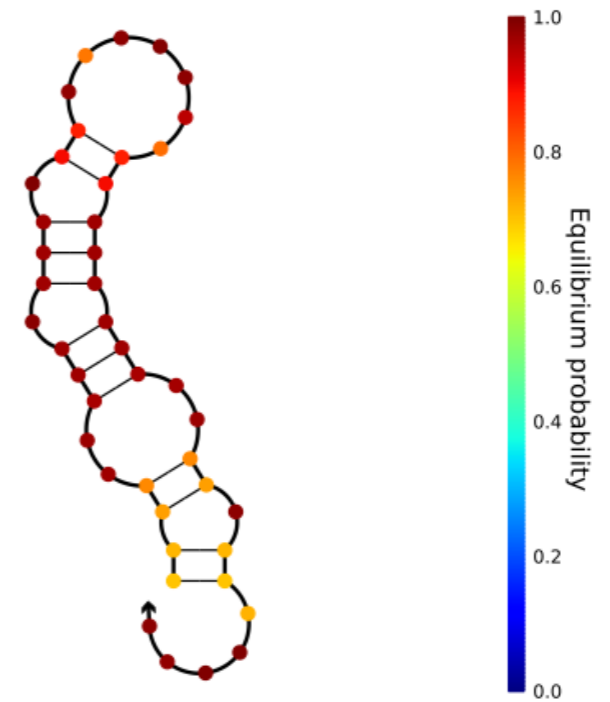
S. No.	Name	Sequence
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66	U237A	GGAUCCCUCA CUUACUAGUC UGCAGAAGGA GAUAUAACCA UGG
67	U237G	GGAUCCCUCA CUUACUAGUC UGCAGAAGGA GAUAUAGCCA UGG
68	U237U	GGAUCCCUCA CUUACUAGUC UGCAGAAGGA GAUAUAUCCA UGG
69	U2380	GGAUCCCUCA CUUACUAGUC UGCAGAAGGA GAUAUAC CA UGG
70	U238A	GGAUCCCUCA CUUACUAGUC UGCAGAAGGA GAUAUACACA UGG
71	U238G	GGAUCCCUCA CUUACUAGUC UGCAGAAGGA GAUAUACGCA UGG
72	U238U	GGAUCCCUCA CUUACUAGUC UGCAGAAGGA GAUAUACUCA UGG

S. No.	Name	Sequence
0	U2	GGAUCCCUCA CUUACUAGUC UGCAGAAGGA GAUAUACCA UGG
65	U2370	GGAUCCCUCA CUUACUAGUC UGCAGAAGGA GAUAUA CCA UGG
66	U237A	GGAUCCCUCA CUUACUAGUC UGCAGAAGGA GAUAUAACCA UGG
67	U237G	GGAUCCCUCA CUUACUAGUC UGCAGAAGGA GAUAUAGCCA UGG
68	U237U	GGAUCCCUCA CUUACUAGUC UGCAGAAGGA GAUAUAUCCA UGG
69	U2380	GGAUCCCUCA CUUACUAGUC UGCAGAAGGA GAUAUAC CA UGG
70	U238A	GGAUCCCUCA CUUACUAGUC UGCAGAAGGA GAUAUACACA UGG
71	U238G	GGAUCCCUCA CUUACUAGUC UGCAGAAGGA GAUAUACGCA UGG
72	U238U	GGAUCCCUCA CUUACUAGUC UGCAGAAGGA GAUAUACUCA UGG
73	U2100	GGAUCCCUCC CUUACUAGUC UGCAGAAGGA GAUAUACUCA UGG
74	U210C	GGAUCCCUCC C CUUACUAGUC UGCAGAAGGA GAUAUACUCA UGG
75	U210G	GGAUCCCUCC G CUUACUAGUC UGCAGAAGGA GAUAUACUCA UGG
76	U210U	GGAUCCCUCC U CUUACUAGUC UGCAGAAGGA GAUAUACUCA UGG

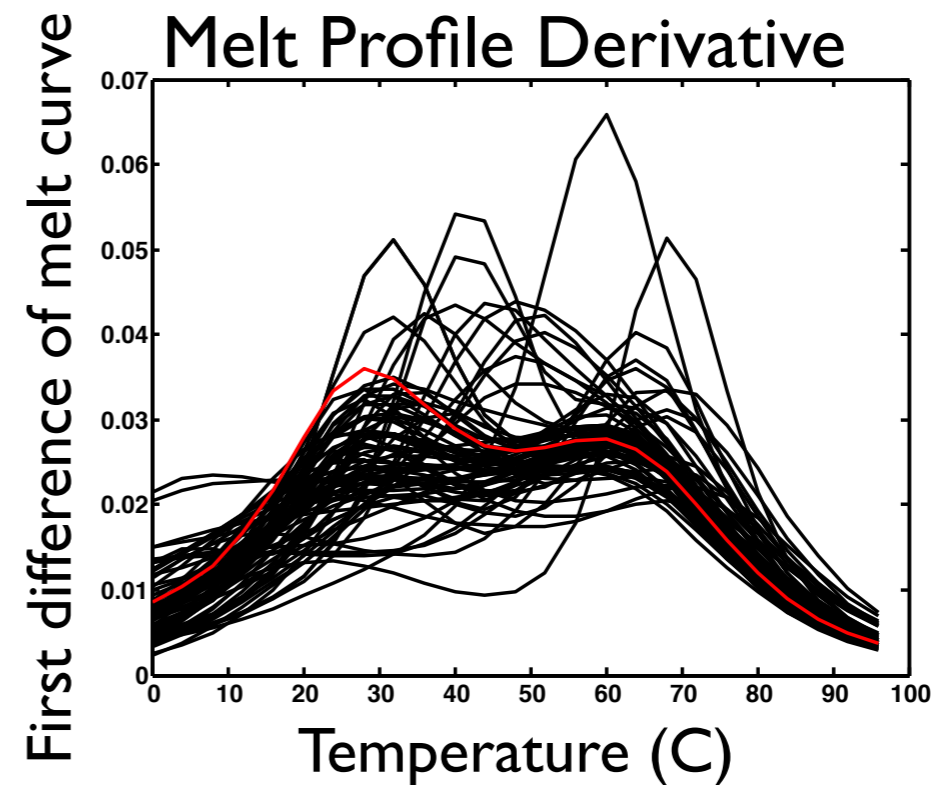
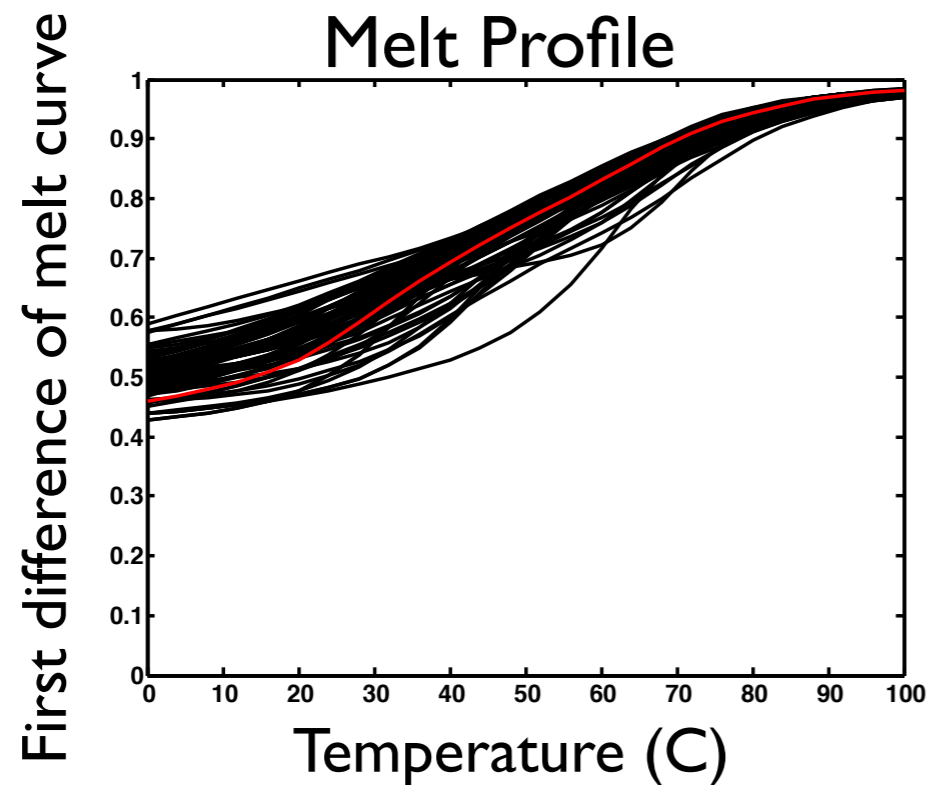
U2 all

Red curve corresponds to U2, rest are in black

MFE structure at 0.0 C



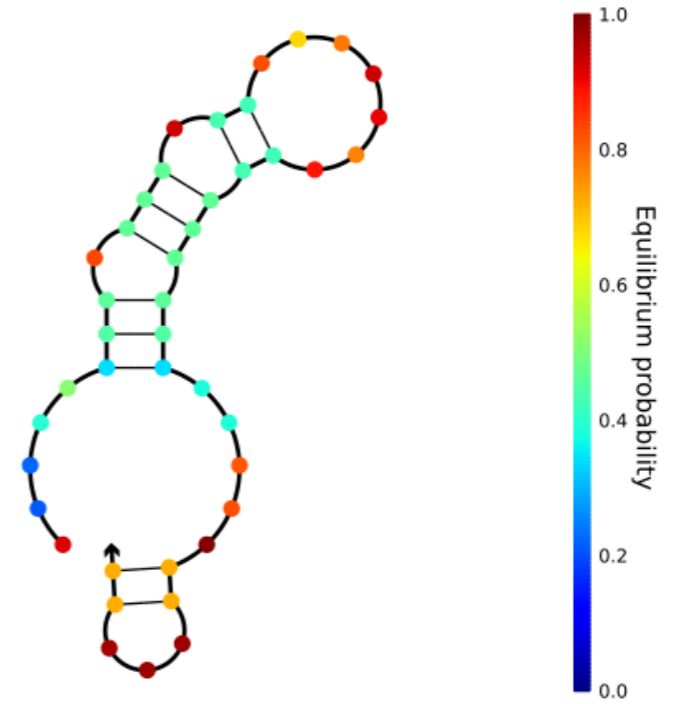
Free energy of secondary structure: -16.21 kcal/mol



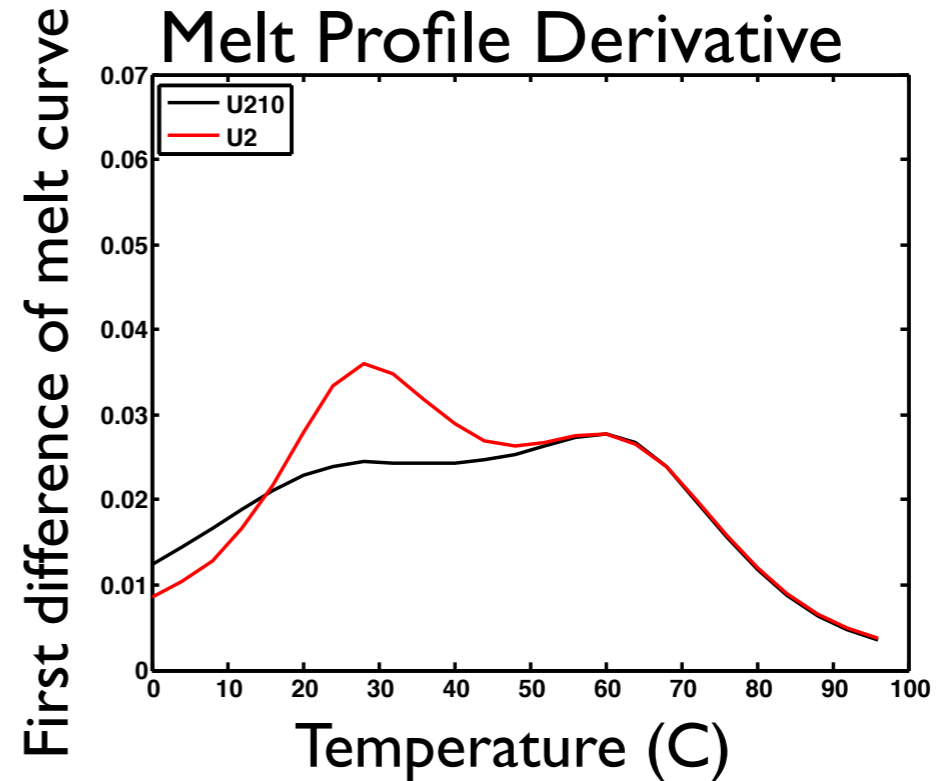
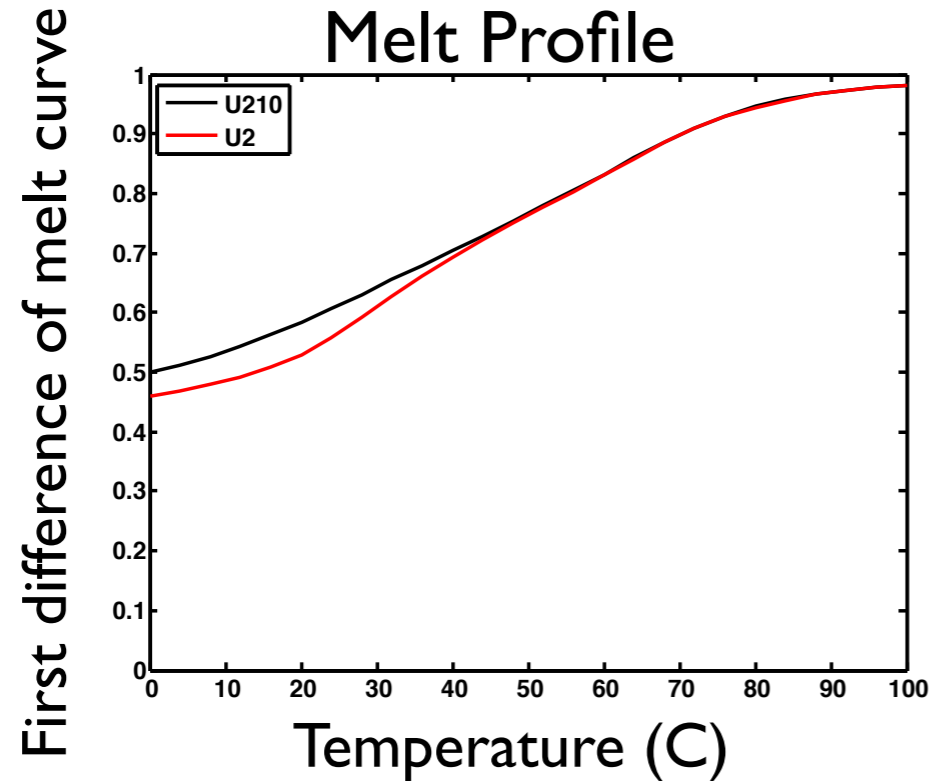
U210

Different - Linear

MFE structure at 0.0 C



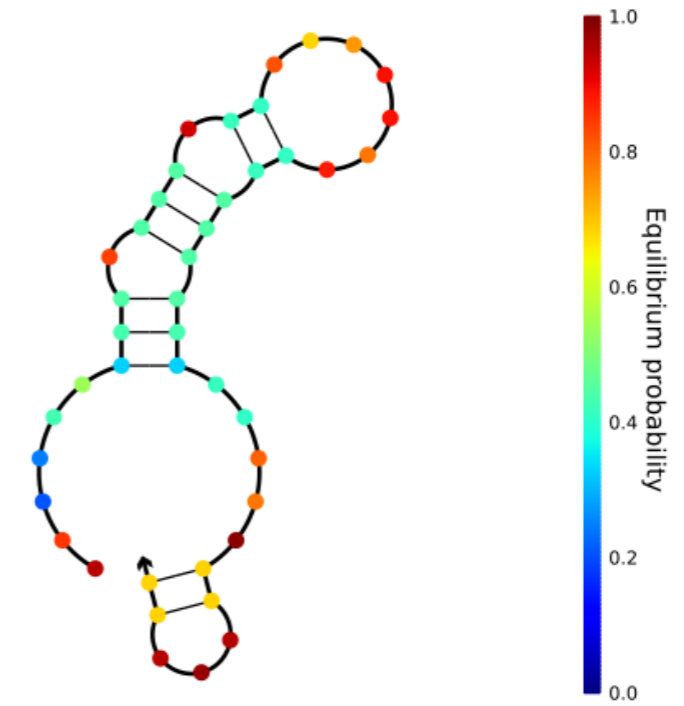
Free energy of secondary structure: -13.06 kcal/mol



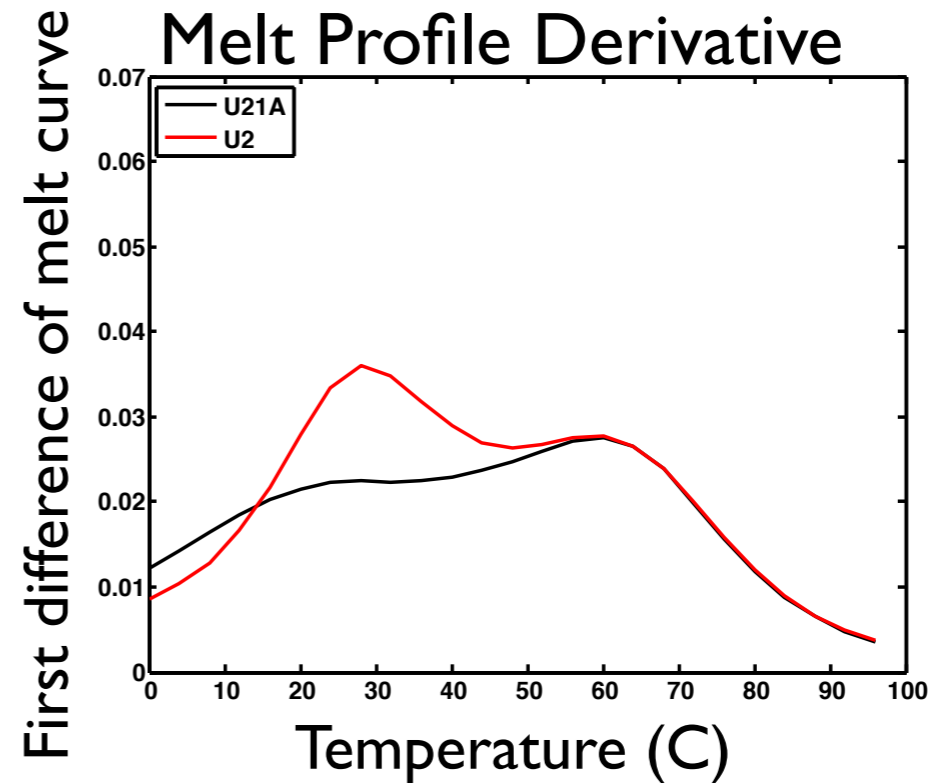
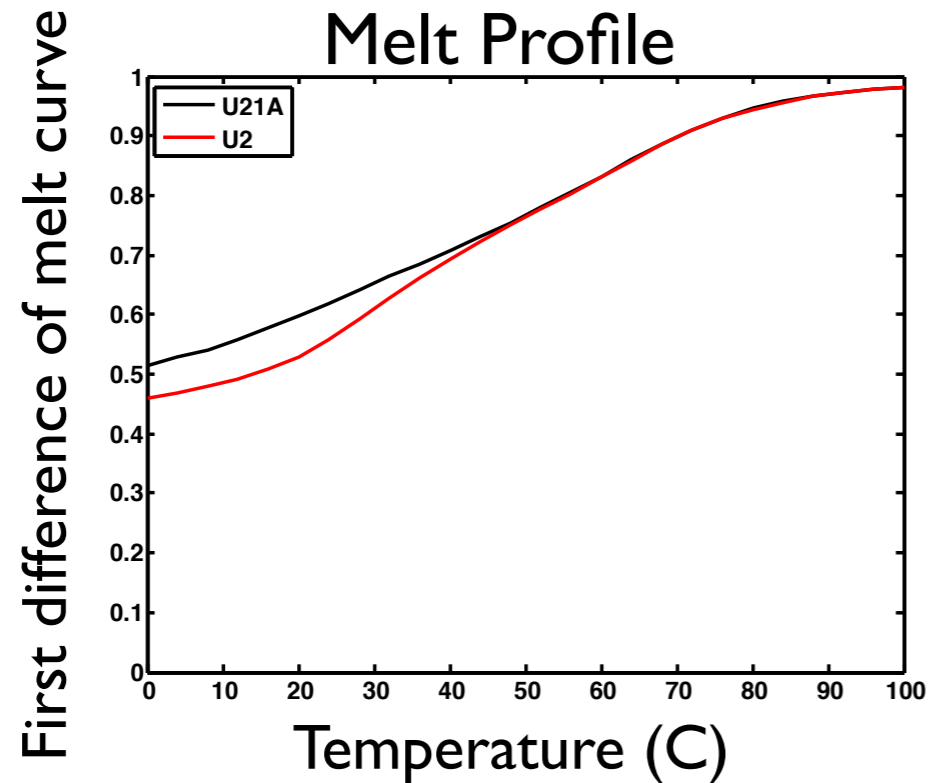
U21A

Different - Linear

MFE structure at 0.0 C



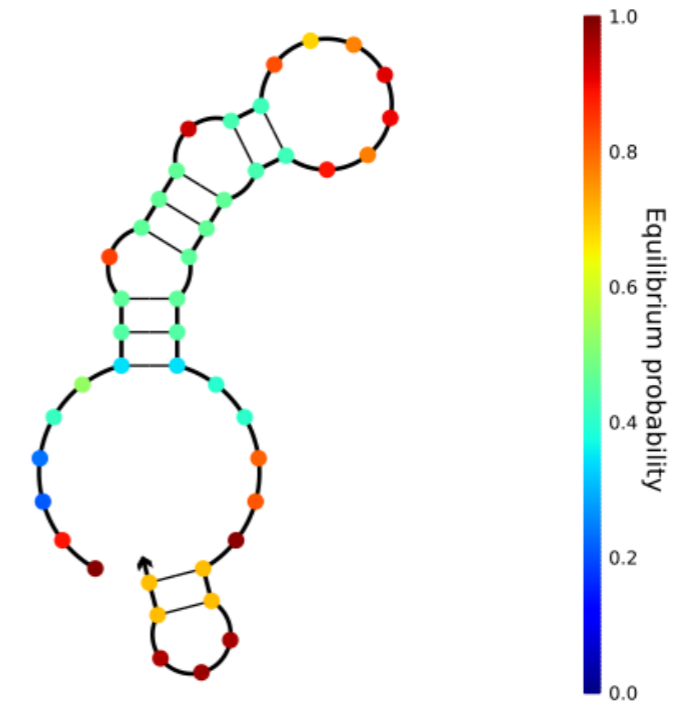
Free energy of secondary structure: -13.06 kcal/mol



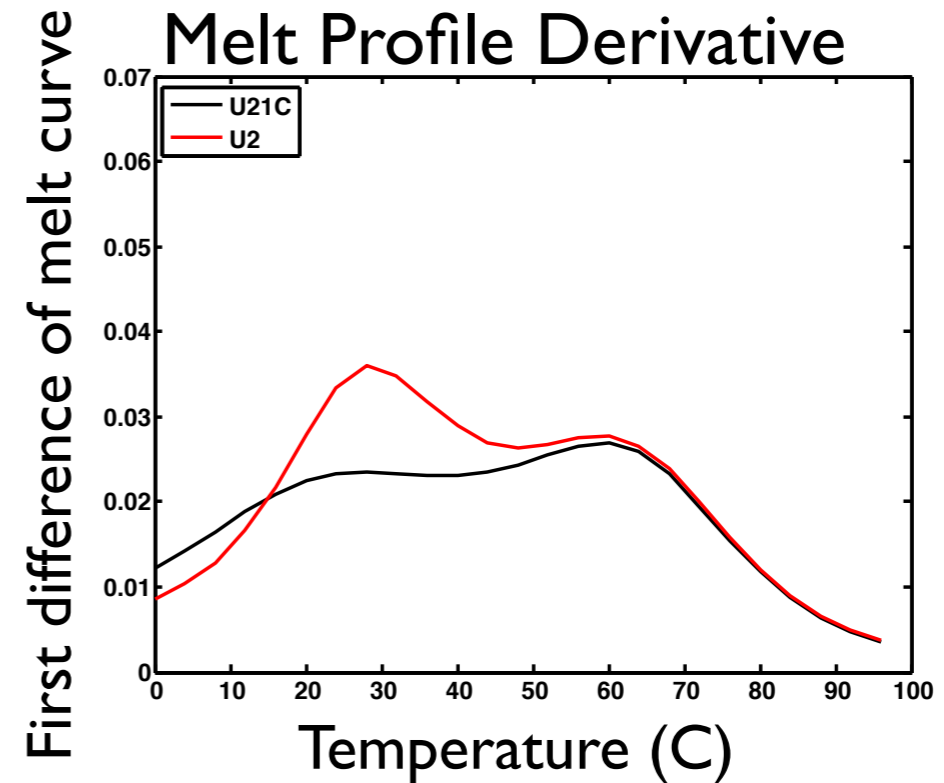
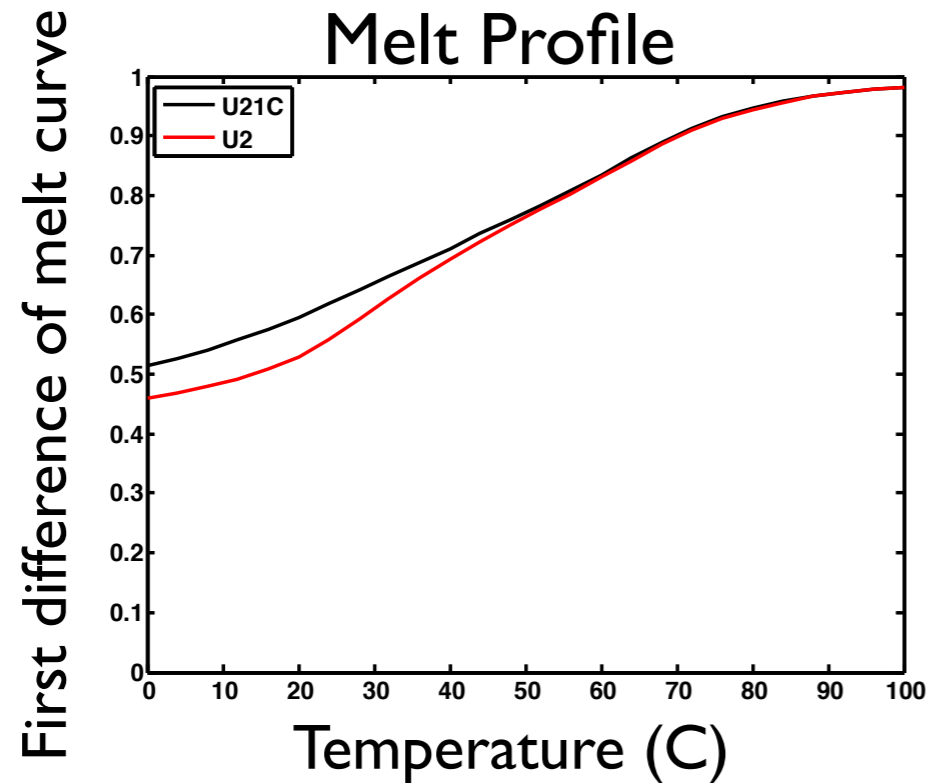
U21C

Different - Linear

MFE structure at 0.0 C



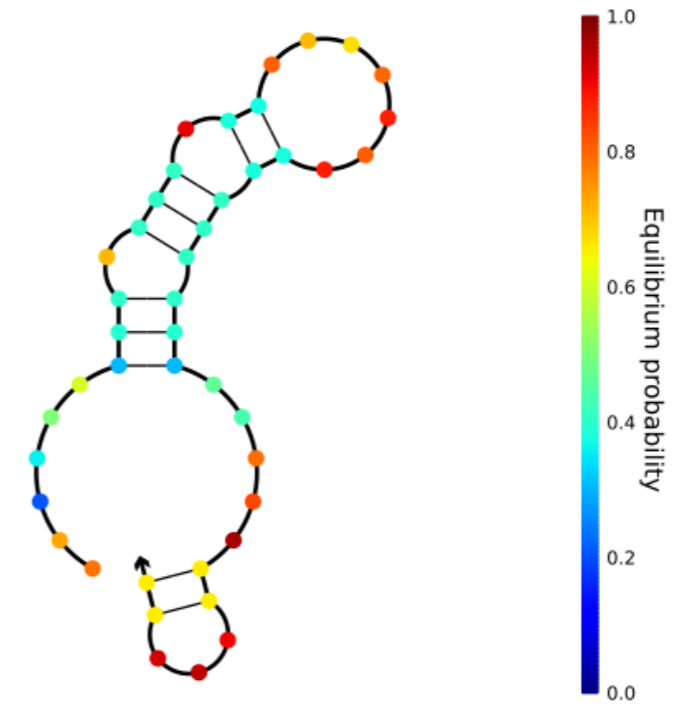
Free energy of secondary structure: -13.06 kcal/mol



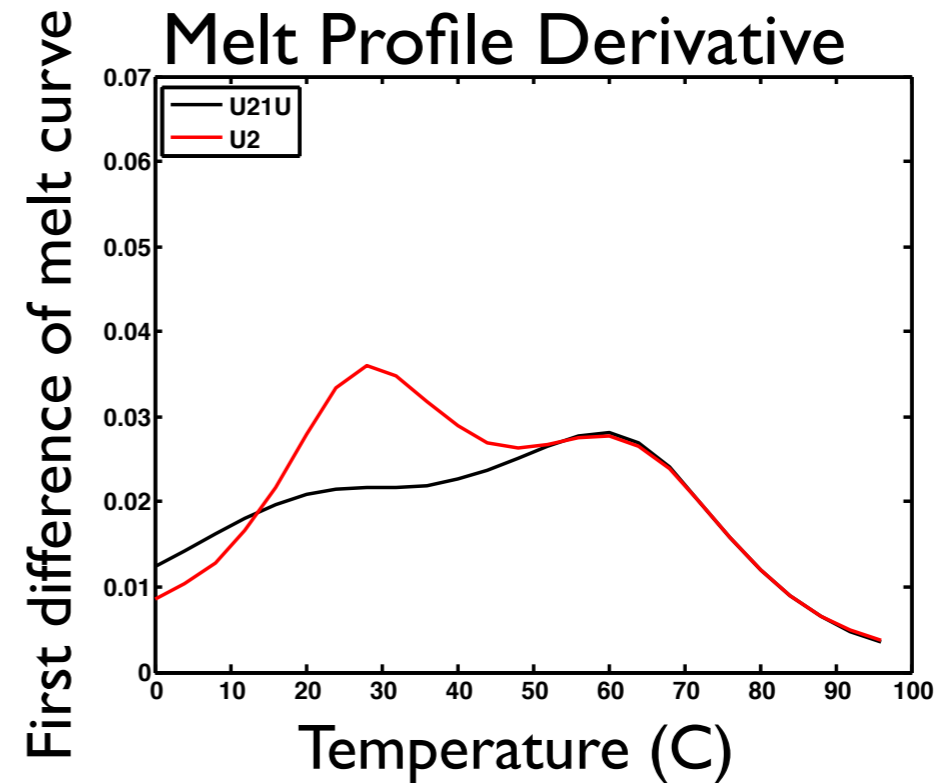
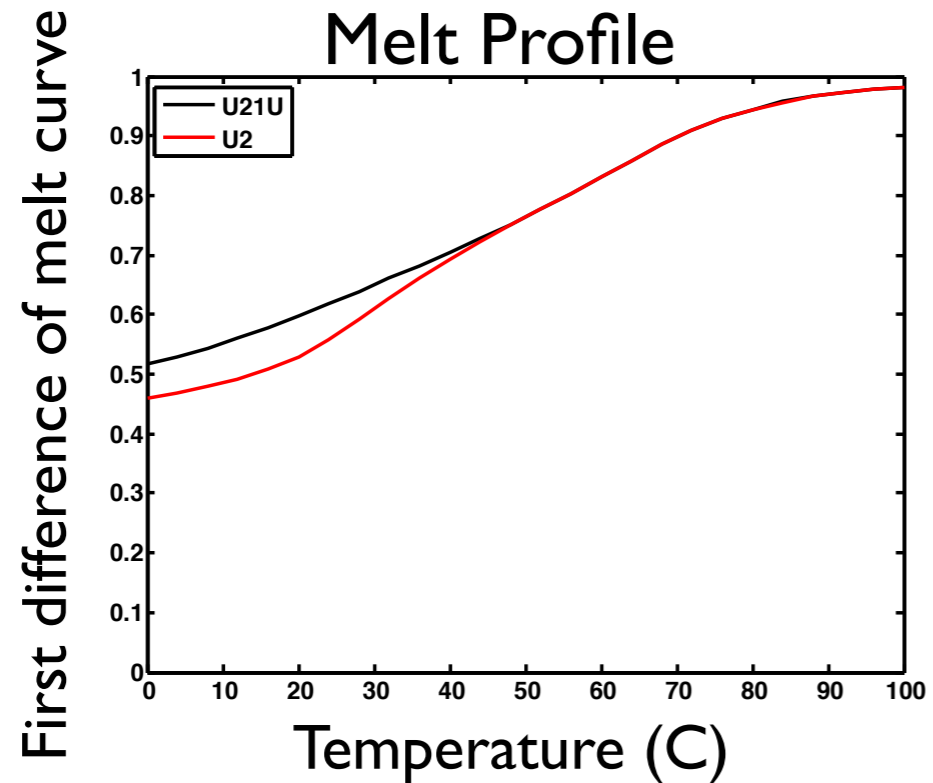
U21U

Different - Linear

MFE structure at 0.0 C



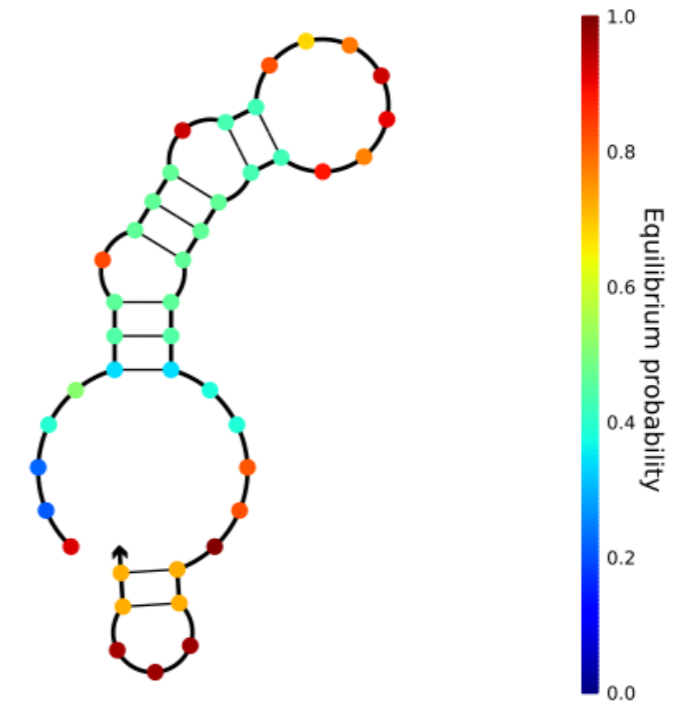
Free energy of secondary structure: -13.06 kcal/mol



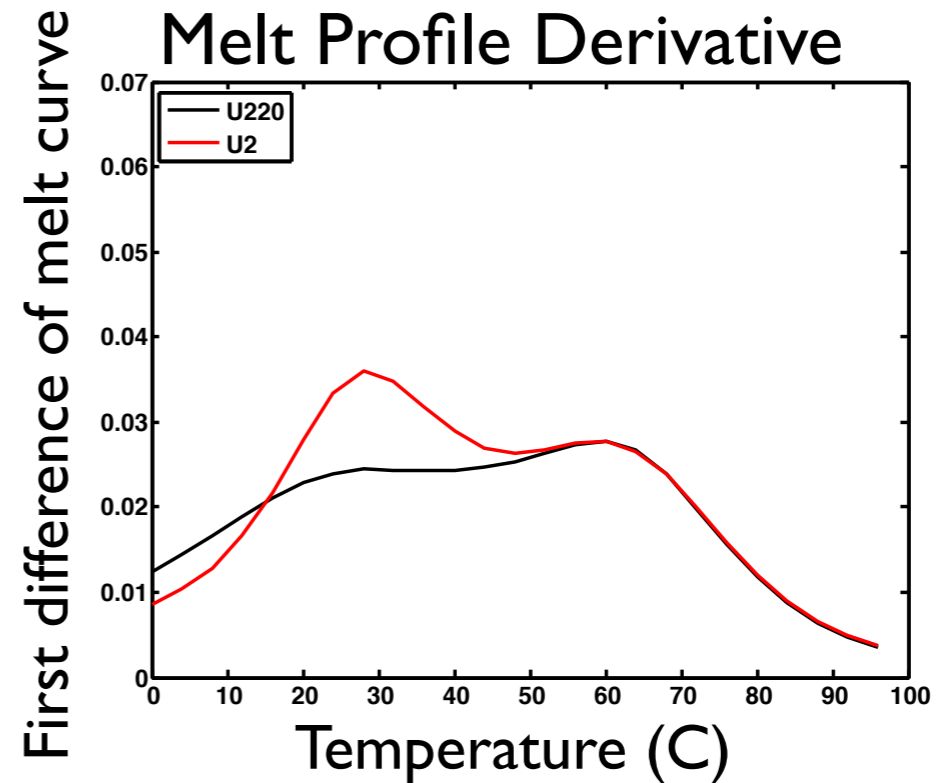
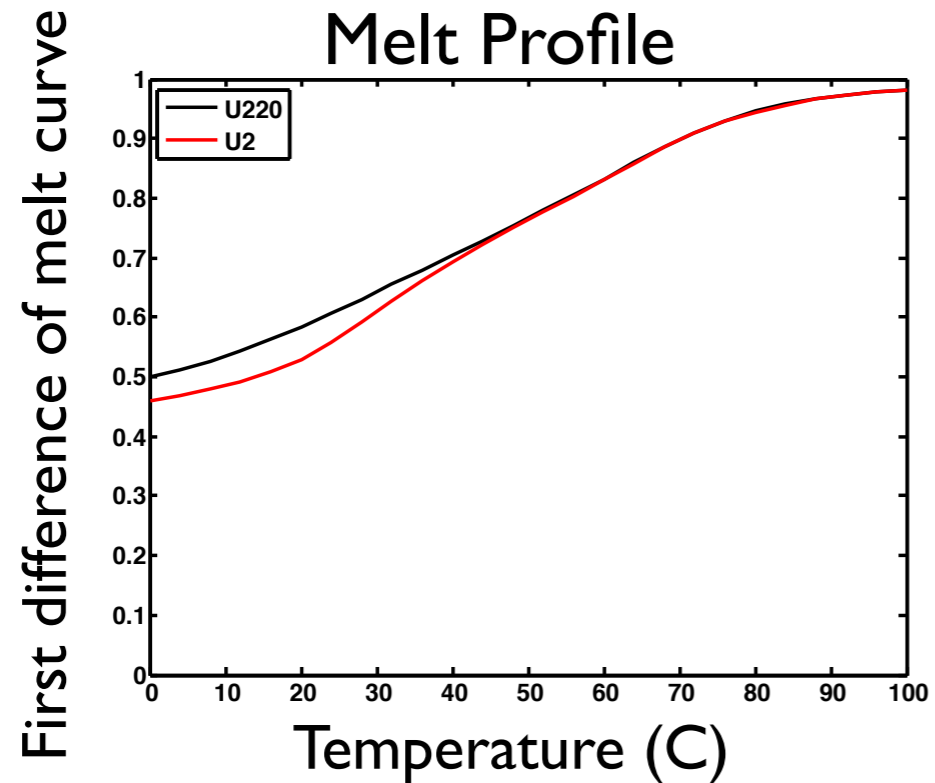
U220

Different - Linear

MFE structure at 0.0 C



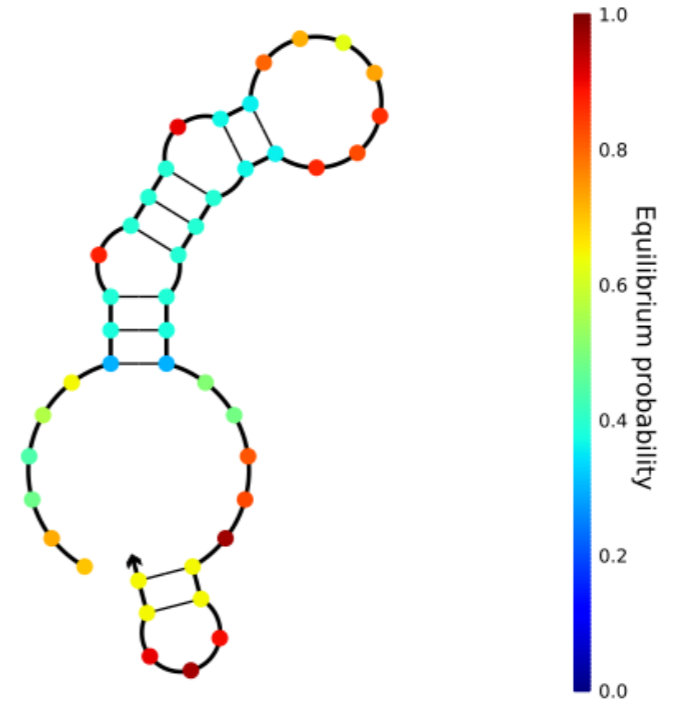
Free energy of secondary structure: -13.06 kcal/mol



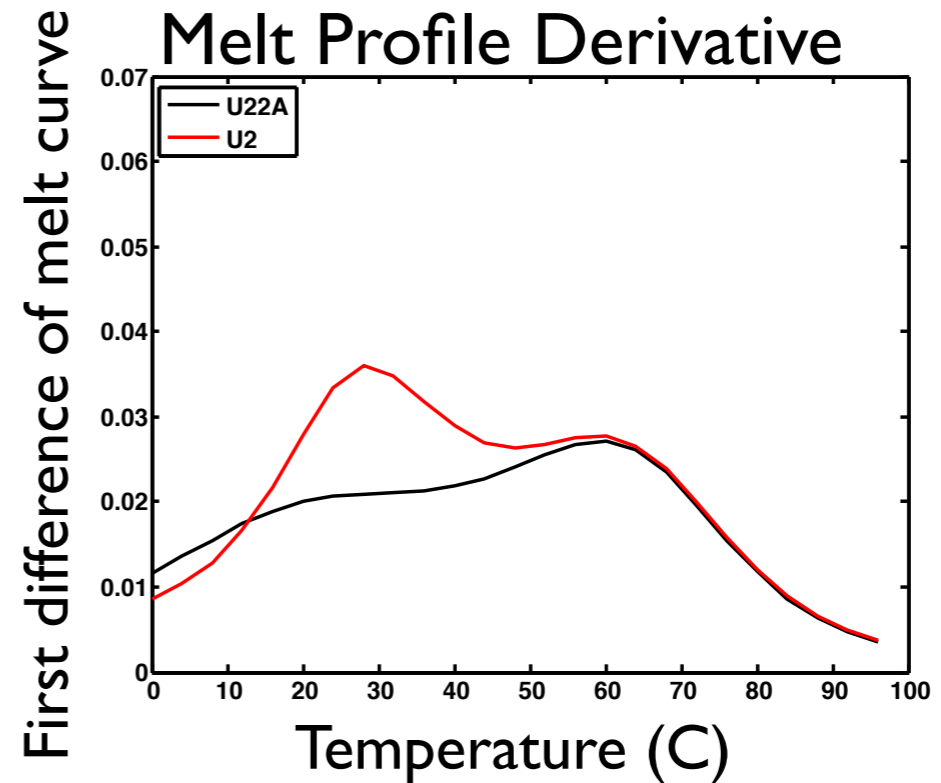
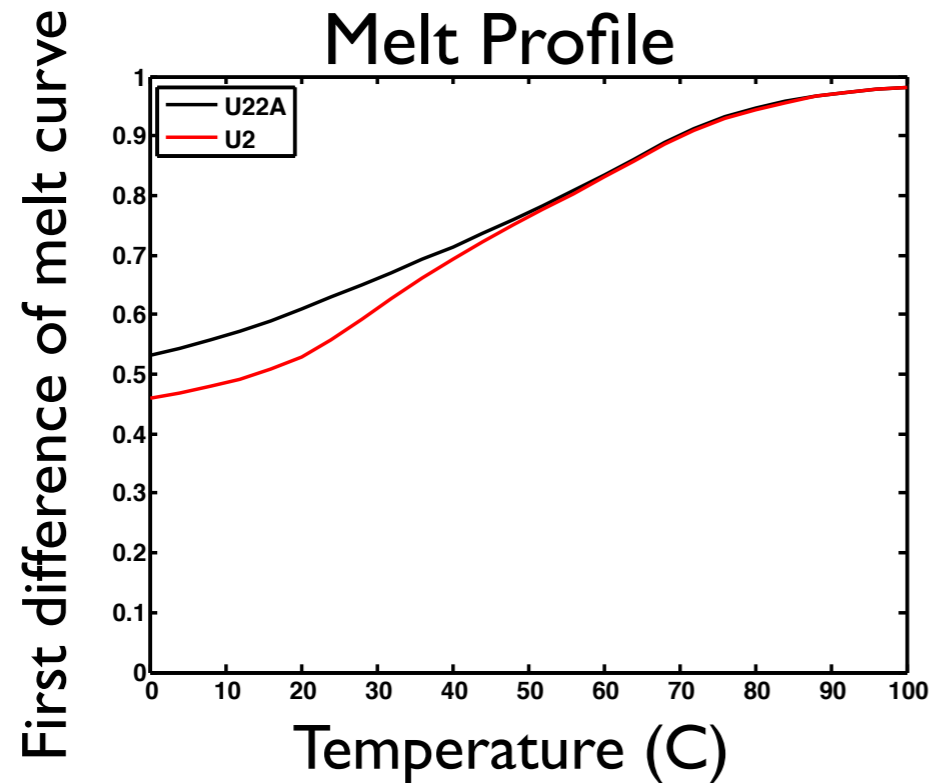
U22A

Different - Linear

MFE structure at 0.0 C

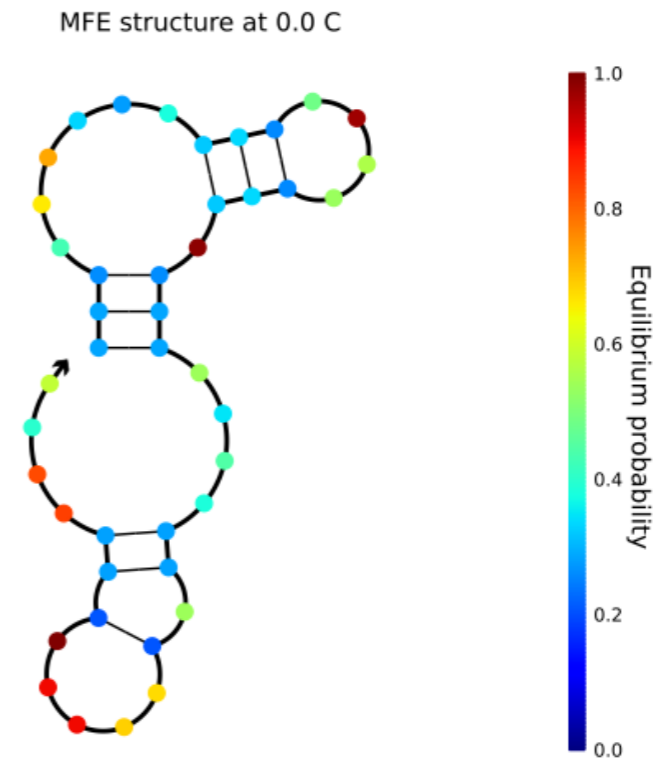


Free energy of secondary structure: -13.06 kcal/mol

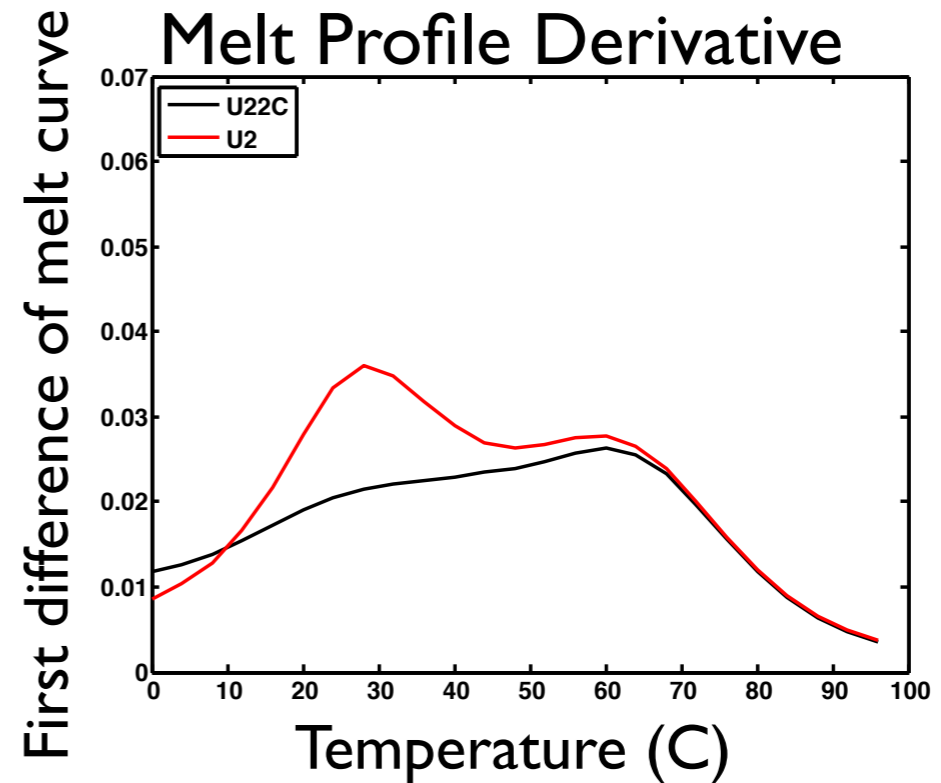
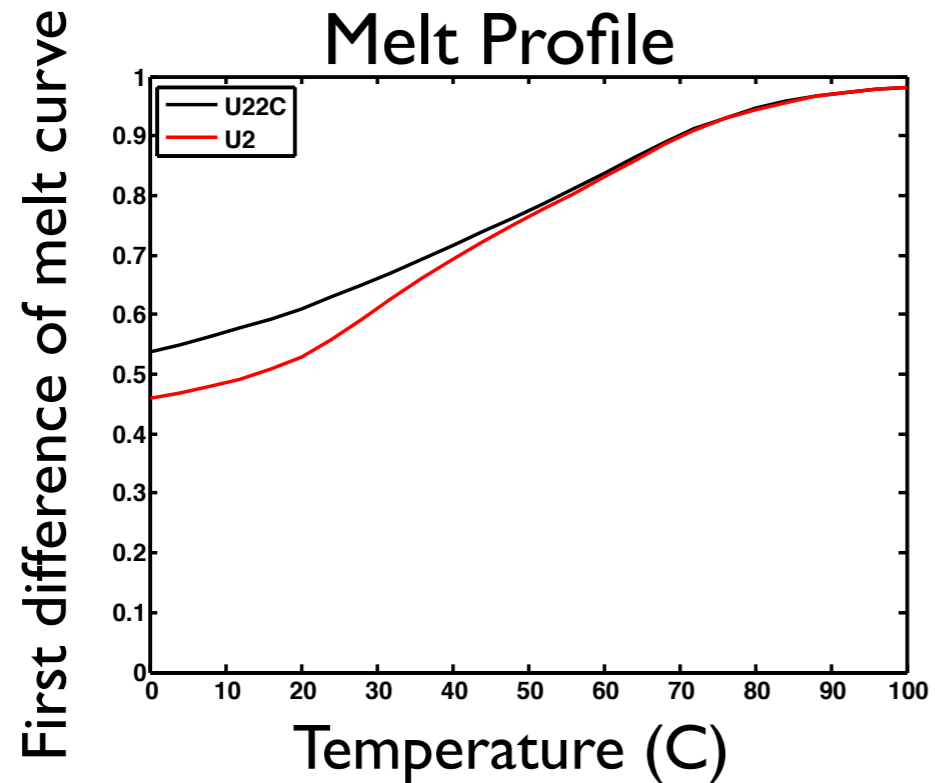


U22C

Different - Linear



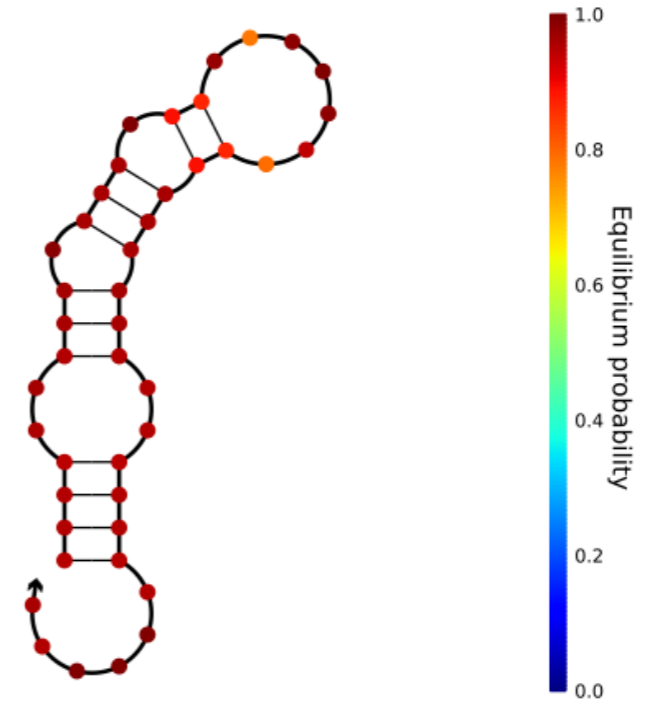
Free energy of secondary structure: -13.33 kcal/mol



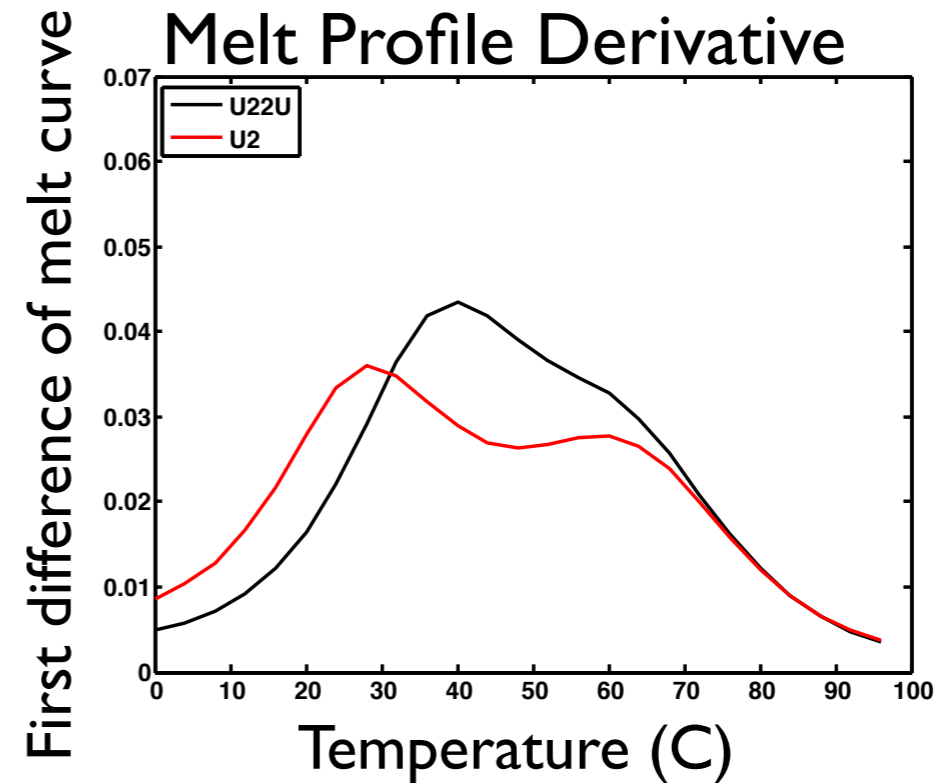
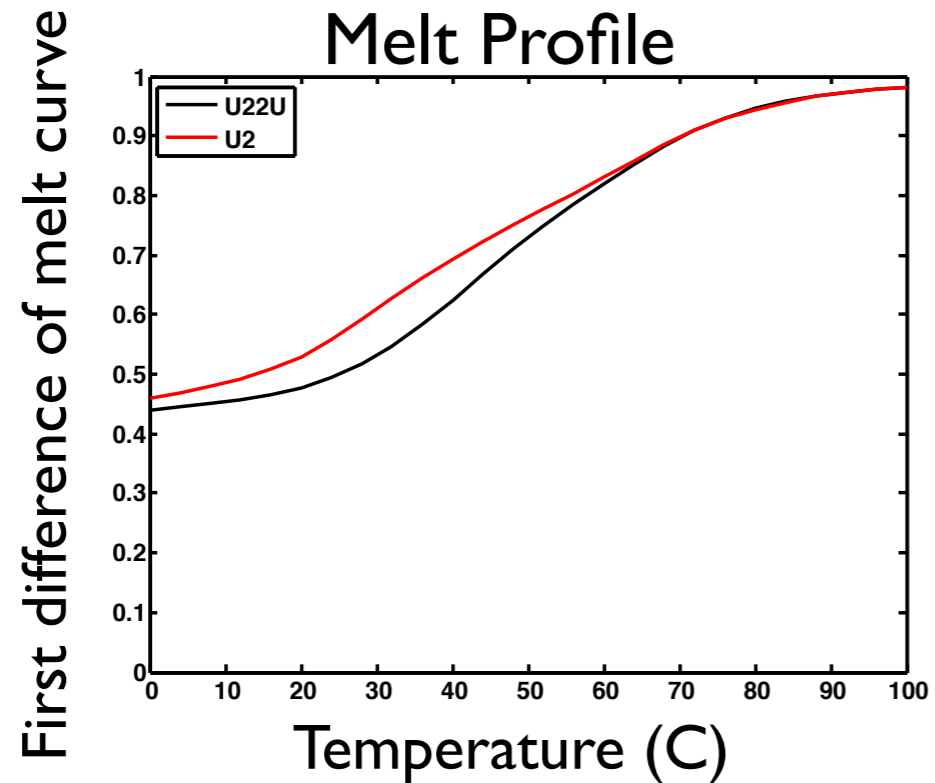
U22U

Different - Threshold, shifted

MFE structure at 0.0 C



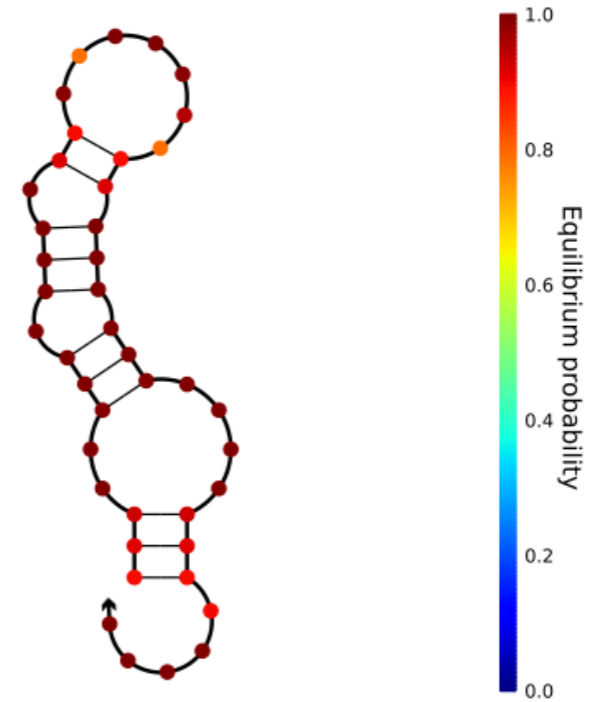
Free energy of secondary structure: -17.03 kcal/mol



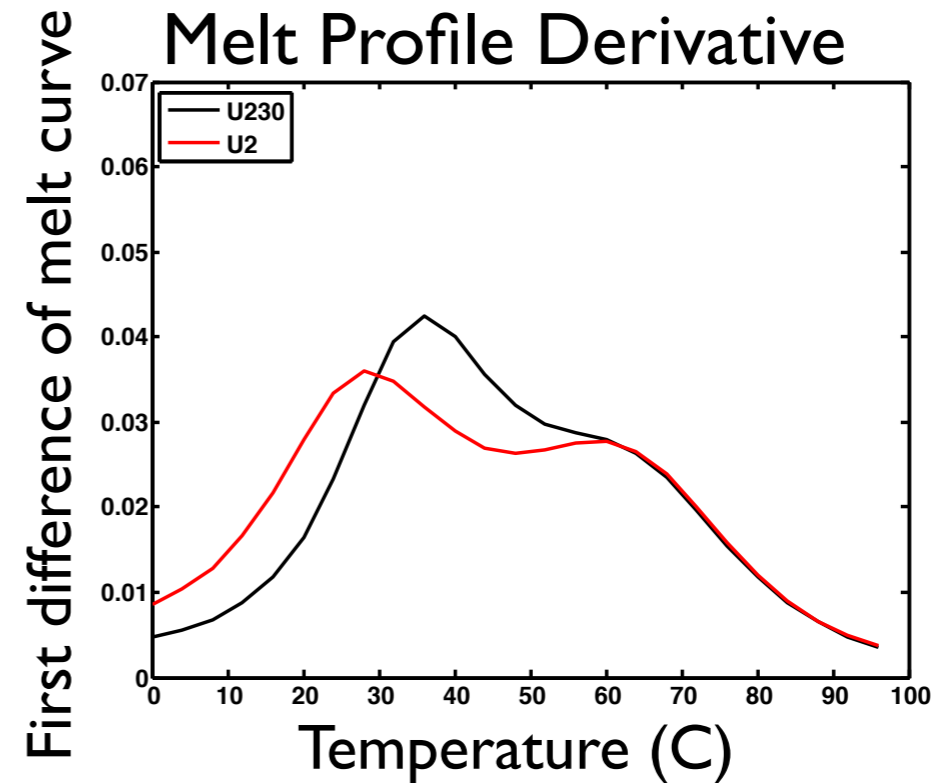
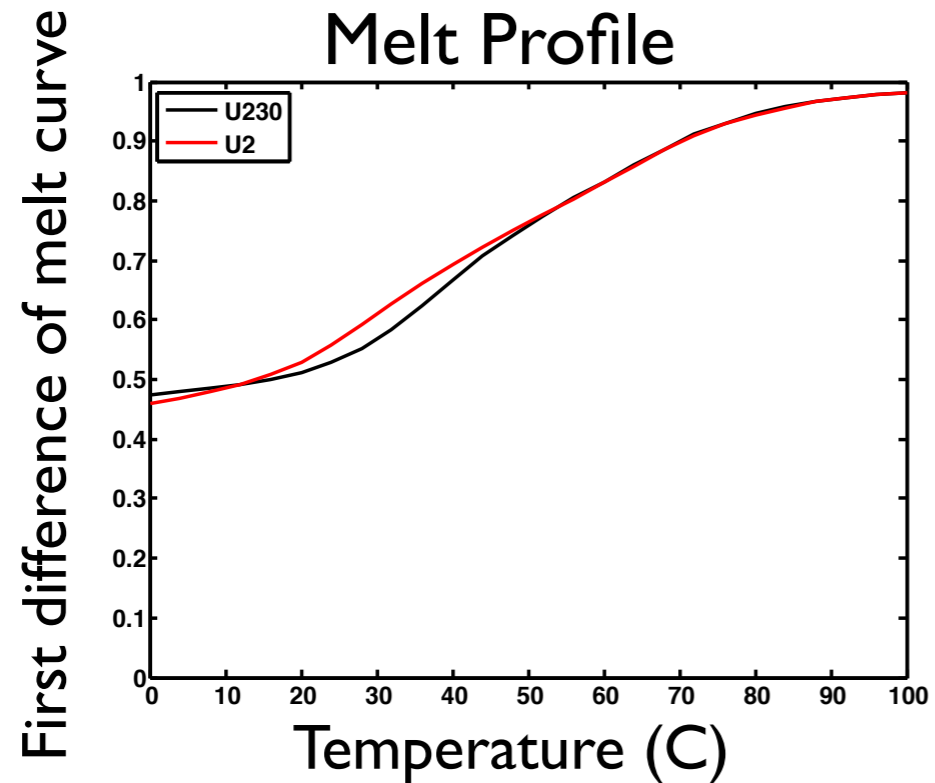
U230

Different - Threshold, shifted

MFE structure at 0.0 C



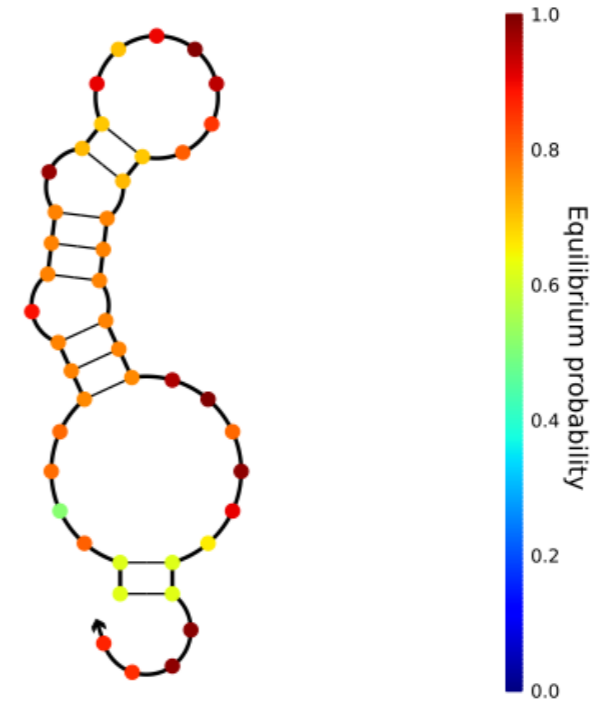
Free energy of secondary structure: -16.40 kcal/mol



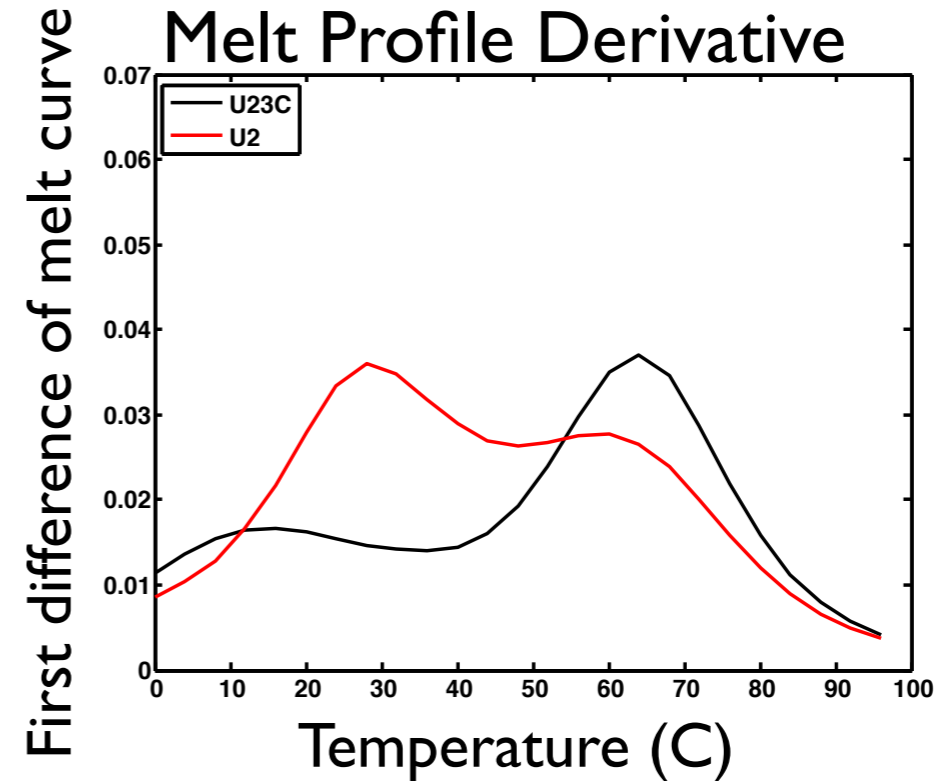
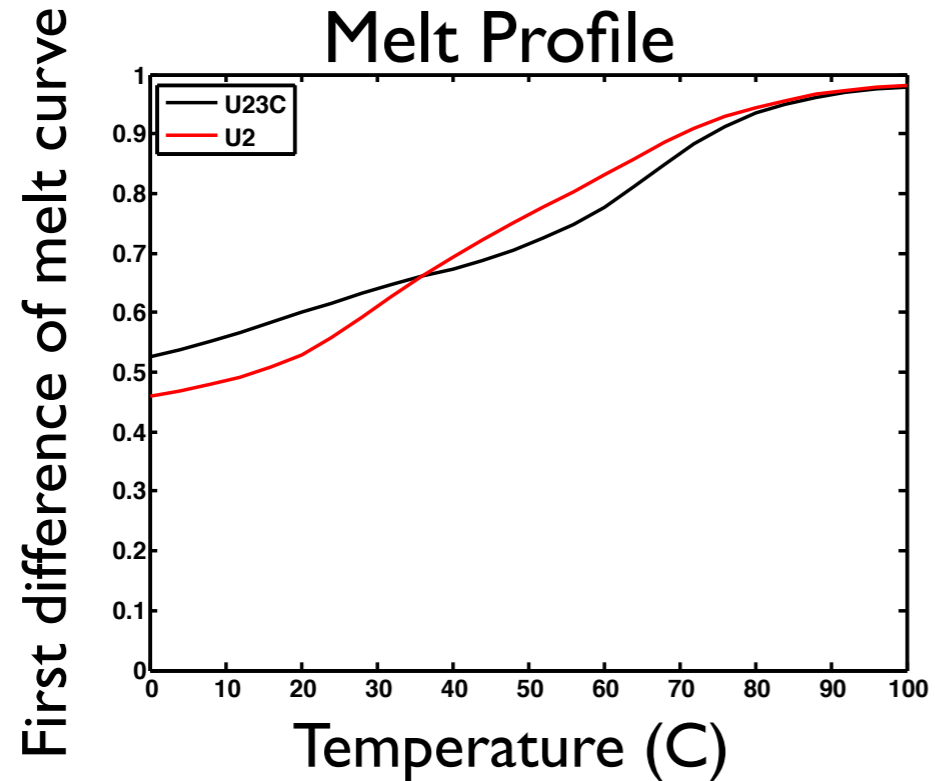
U23C

Different - Linear
Note temperature range

MFE structure at 0.0 C



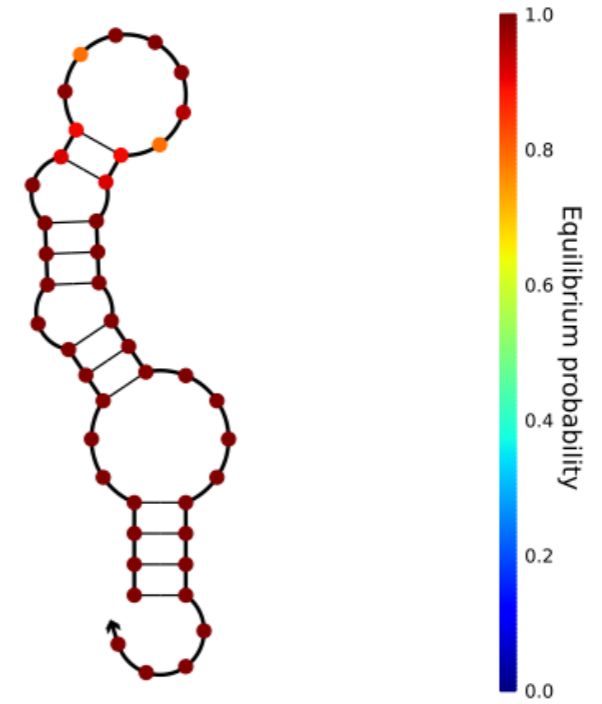
Free energy of secondary structure: -14.77 kcal/mol



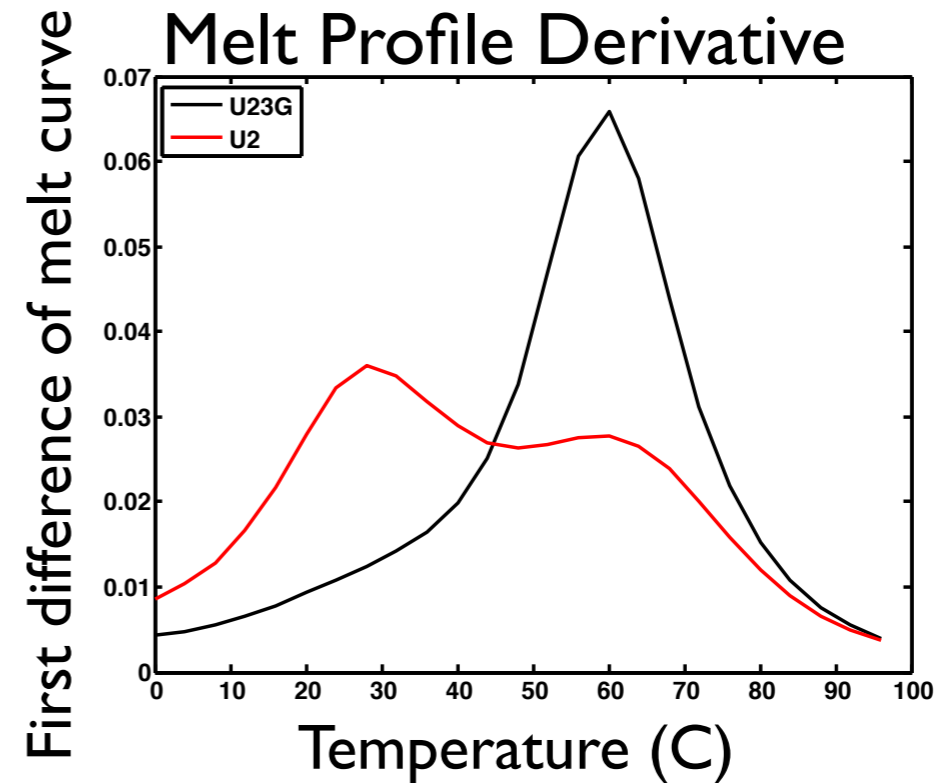
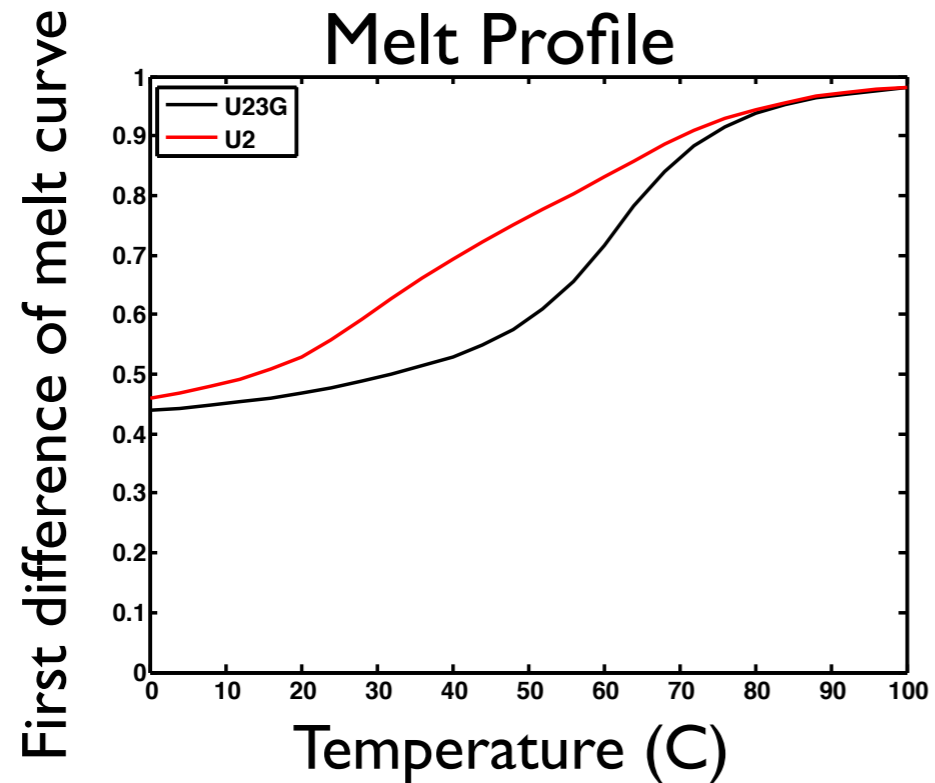
U23G

Different - Threshold
Note temperature range

MFE structure at 0.0 C



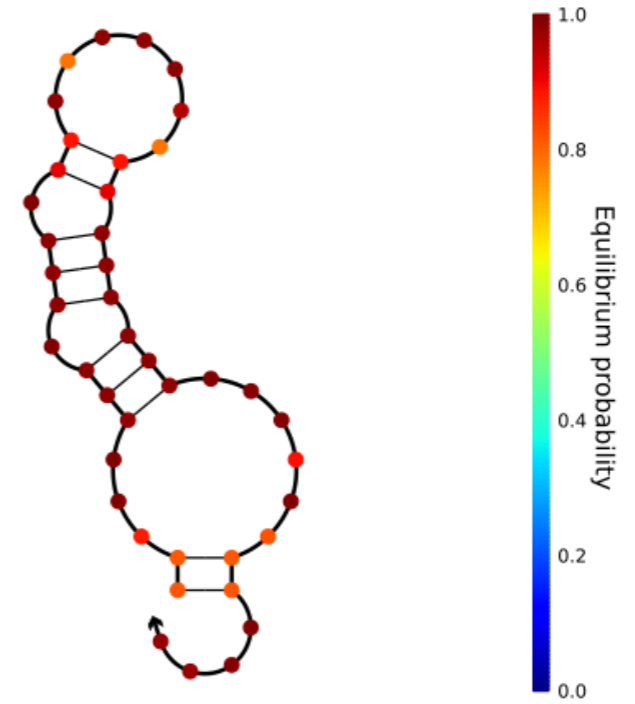
Free energy of secondary structure: -21.78 kcal/mol



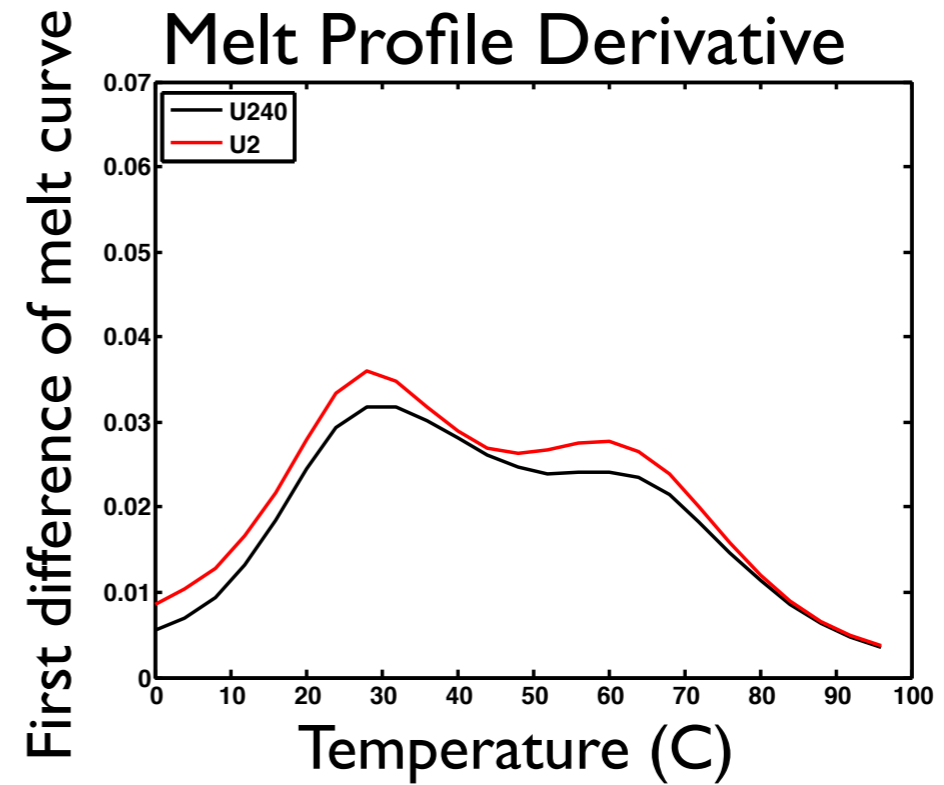
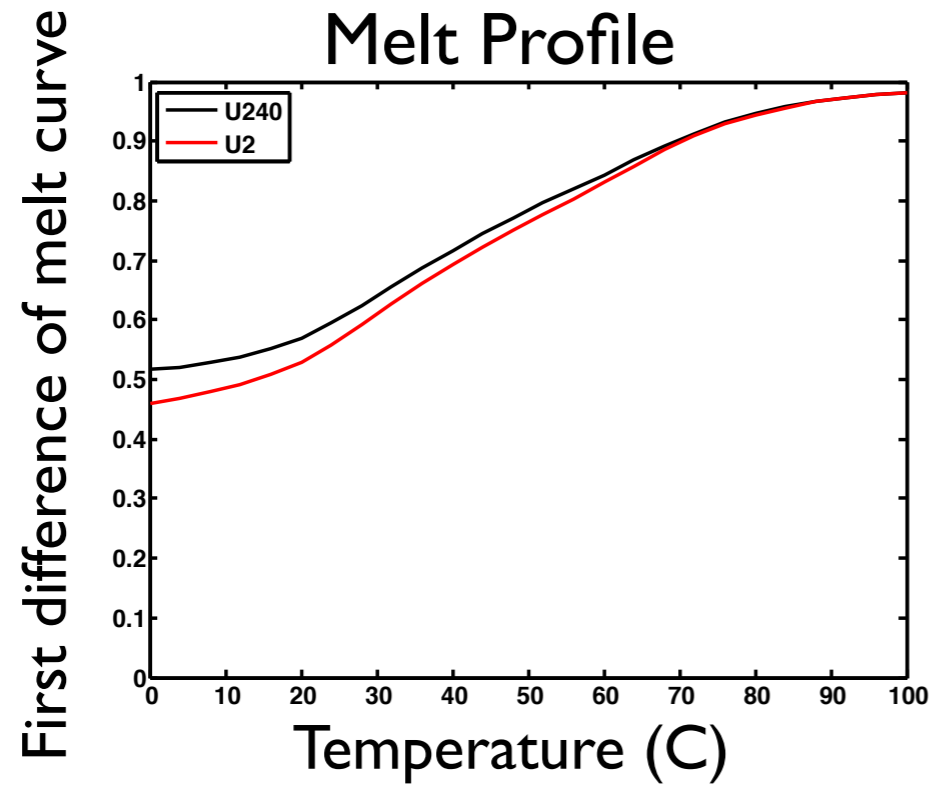
U240

Same

MFE structure at 0.0 C



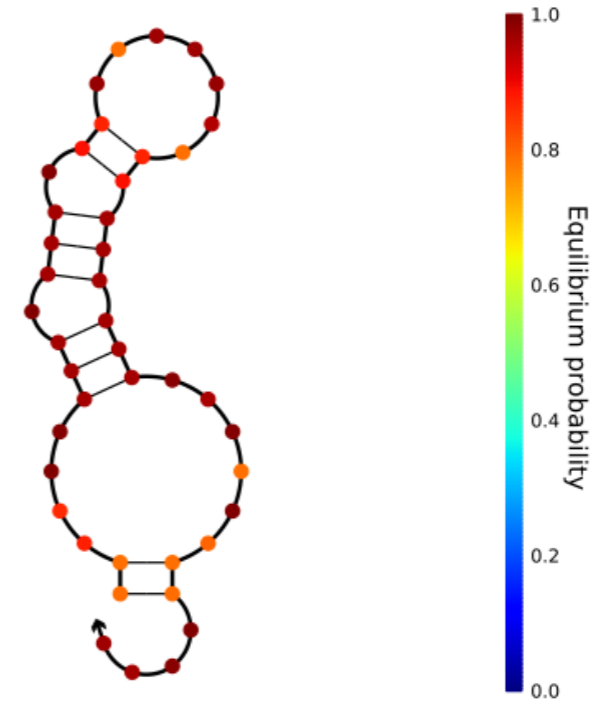
Free energy of secondary structure: -15.37 kcal/mol



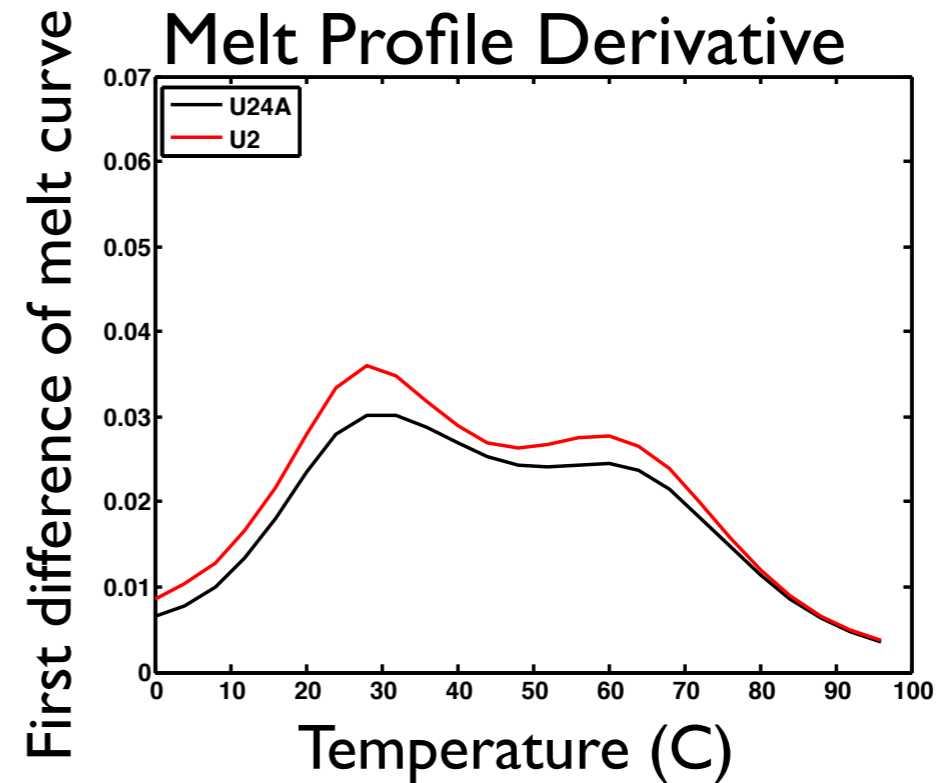
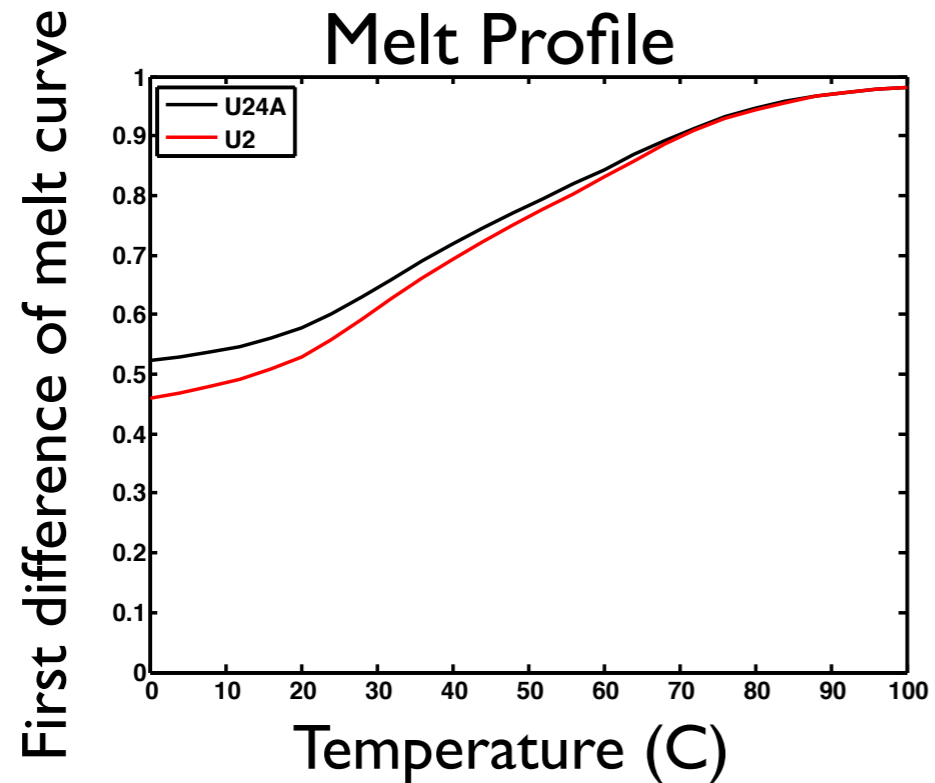
U24A

Same

MFE structure at 0.0 C



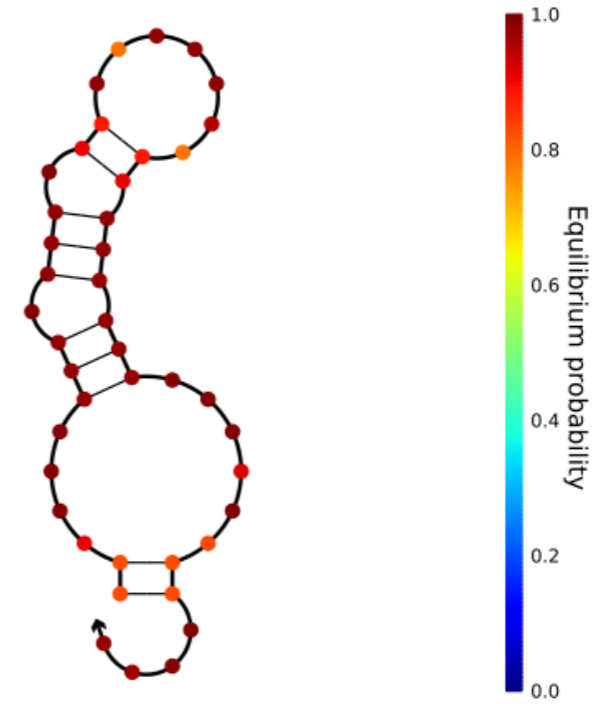
Free energy of secondary structure: -15.45 kcal/mol



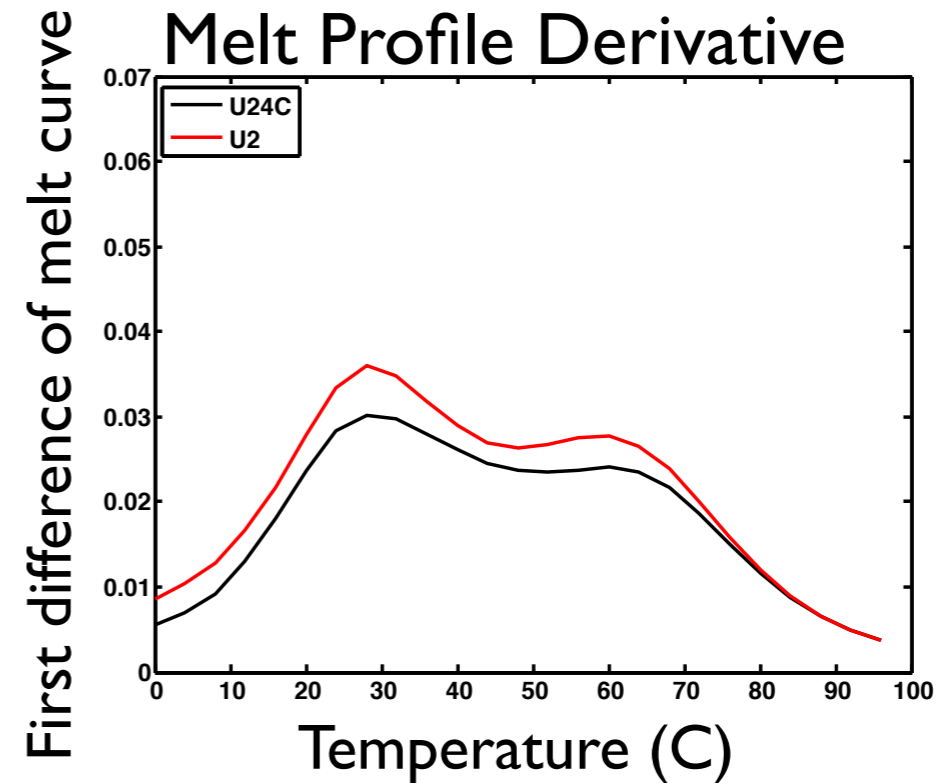
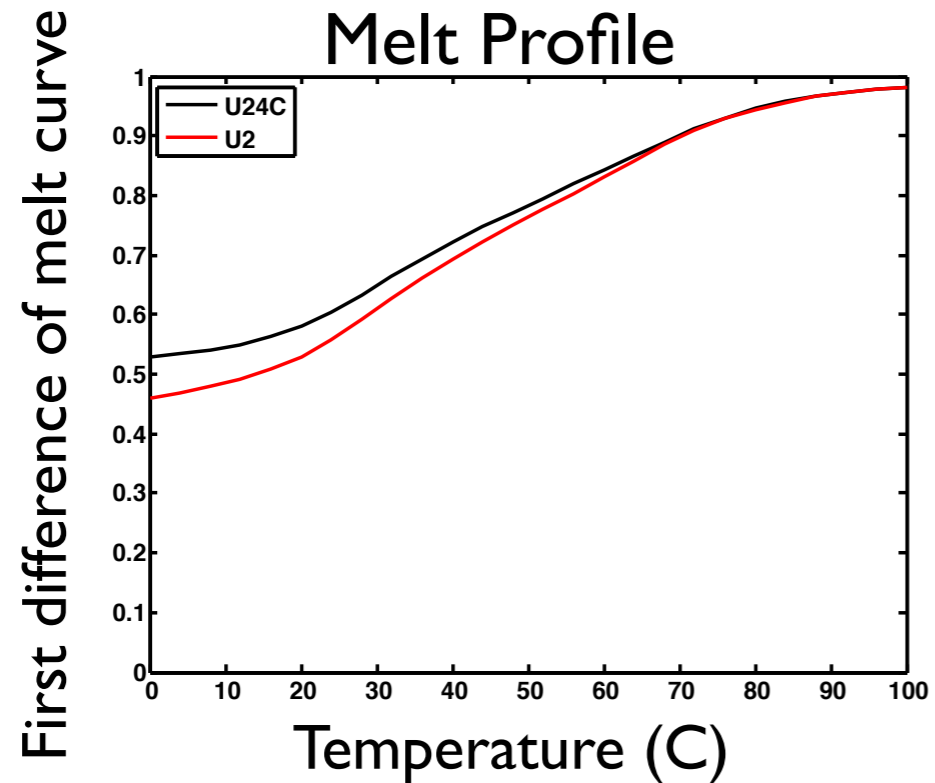
U24C

Same

MFE structure at 0.0 C



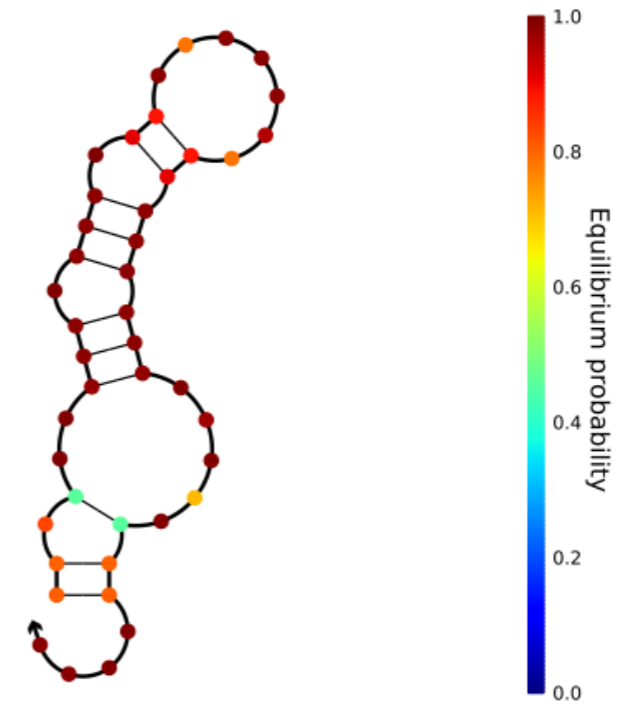
Free energy of secondary structure: -15.45 kcal/mol



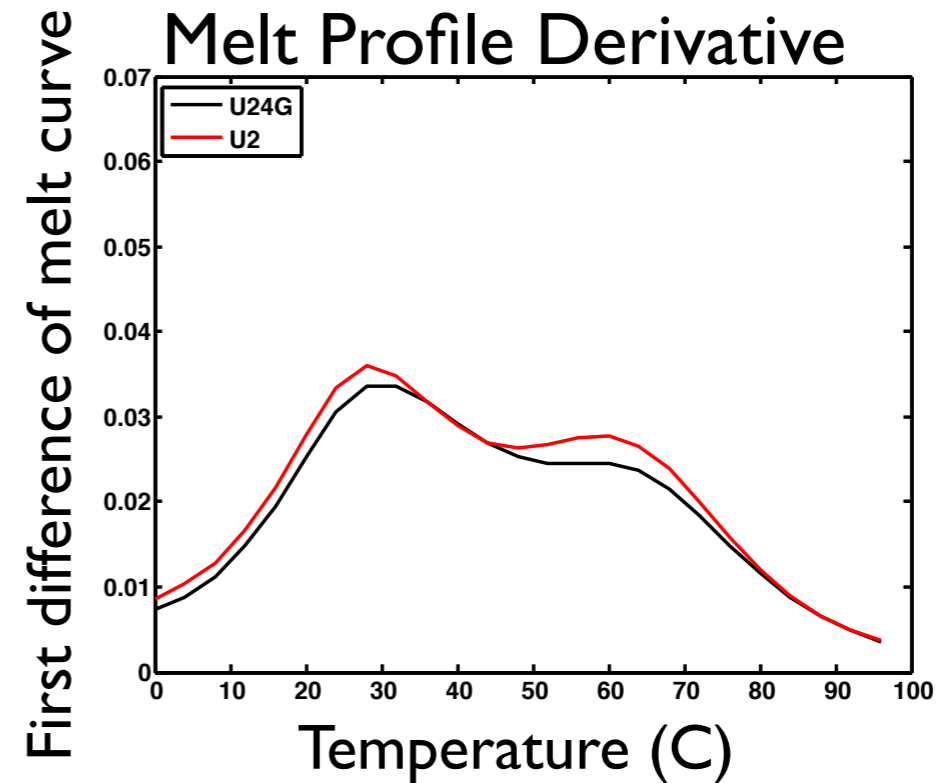
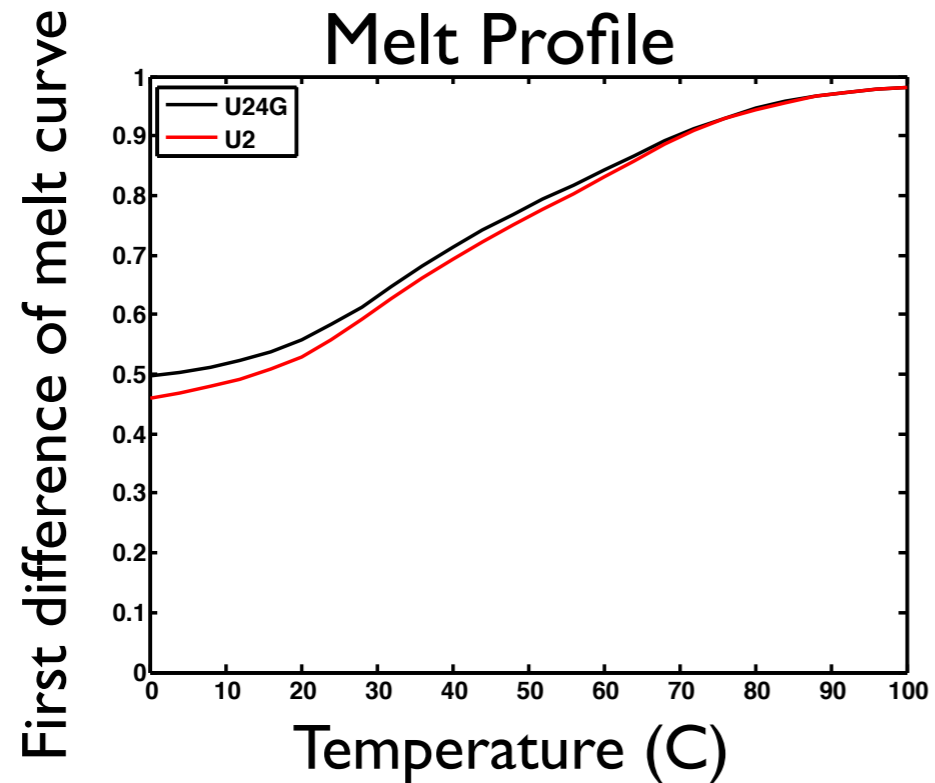
U24G

Same

MFE structure at 0.0 C



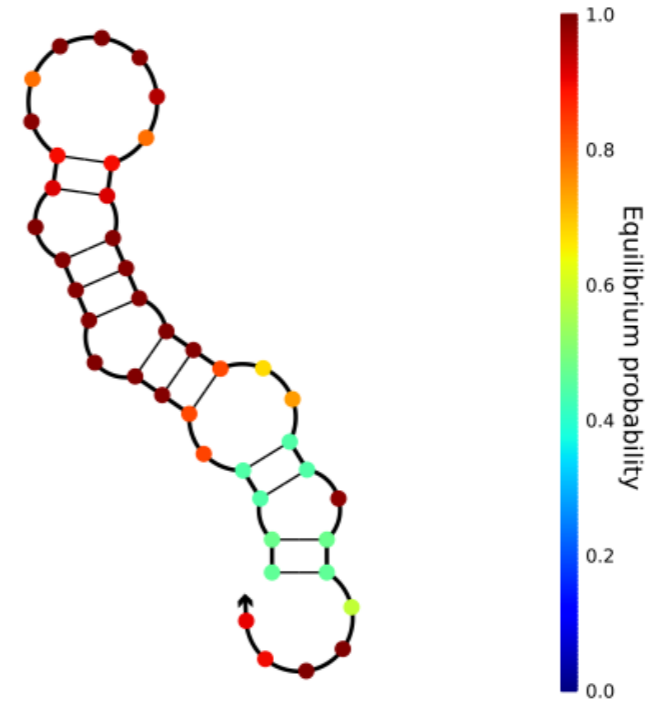
Free energy of secondary structure: -15.93 kcal/mol



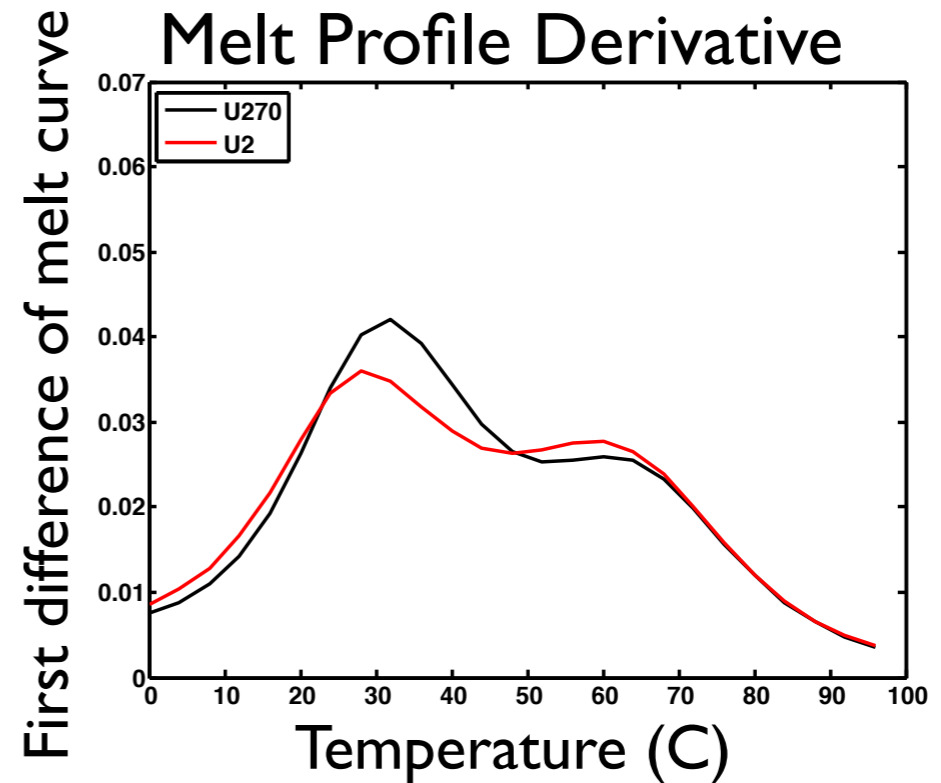
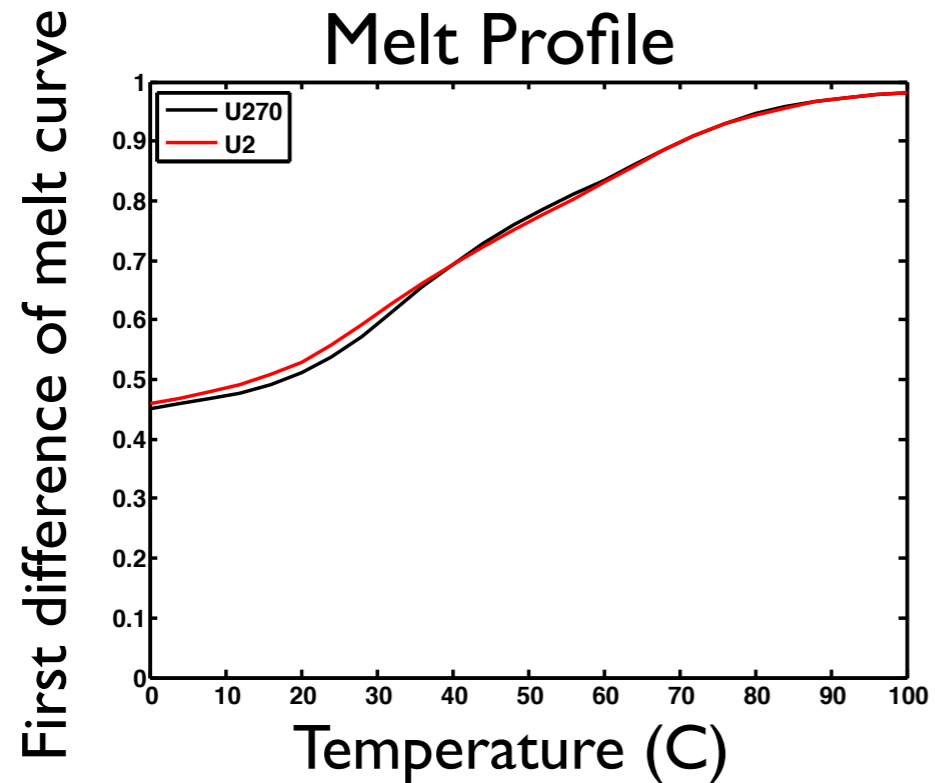
U270

Same

MFE structure at 0.0 C



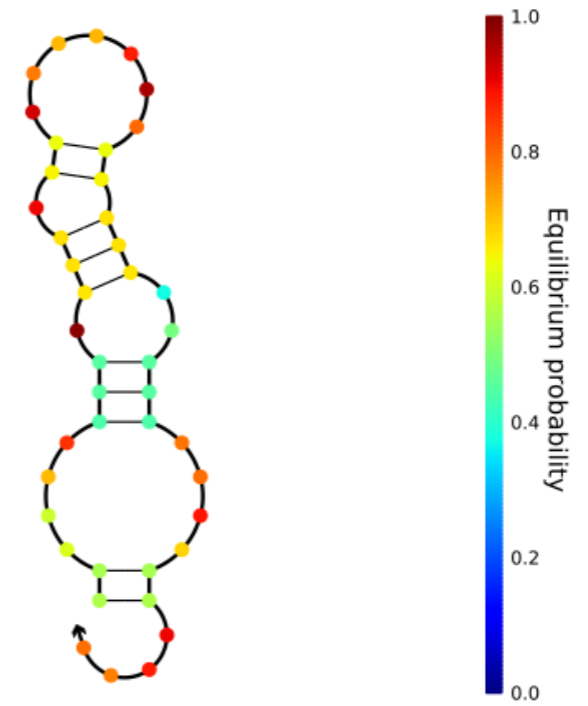
Free energy of secondary structure: -15.77 kcal/mol



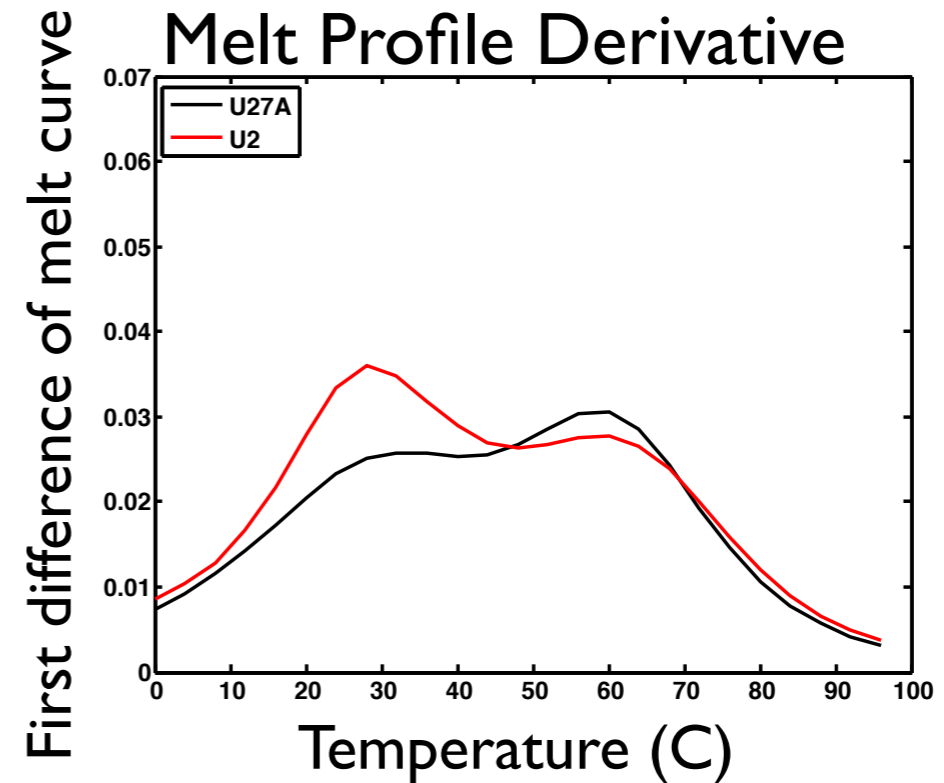
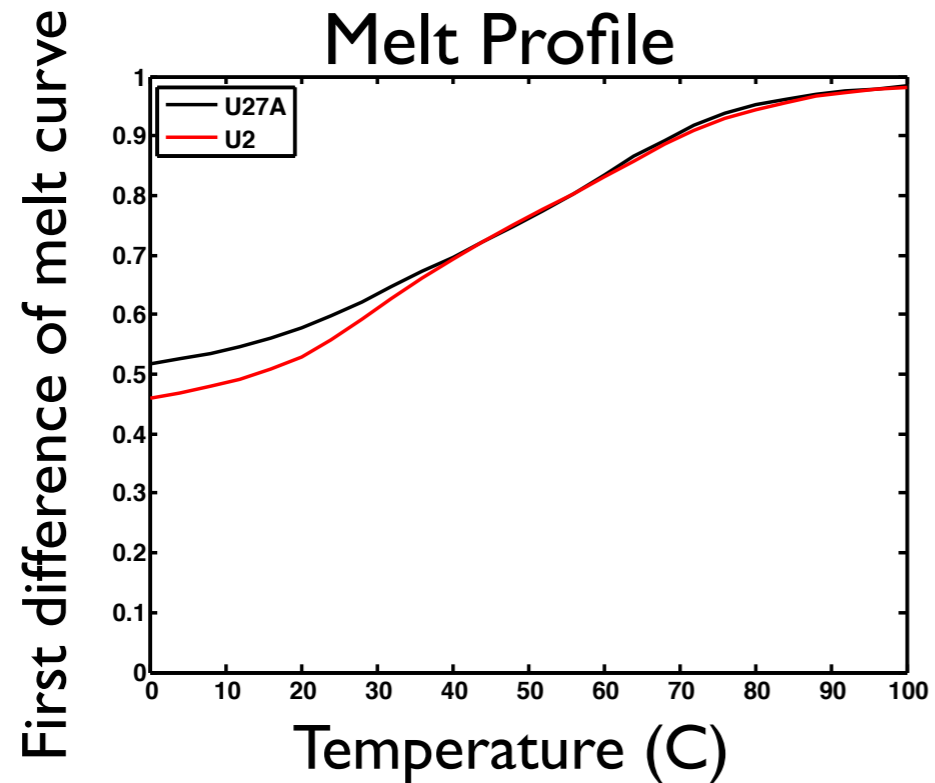
U27A

Different

MFE structure at 0.0 C



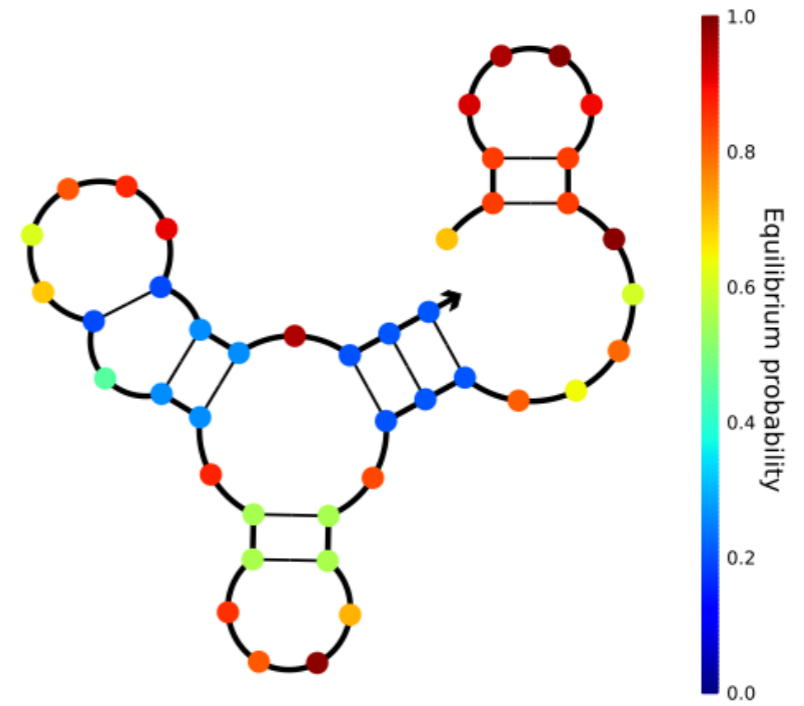
Free energy of secondary structure: -13.76 kcal/mol



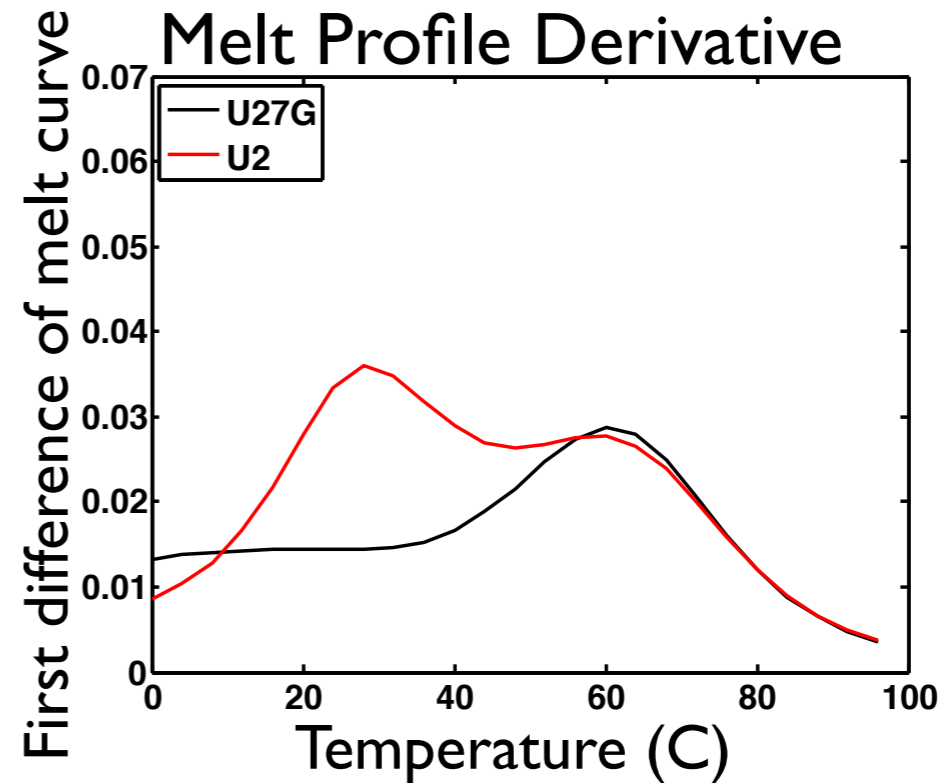
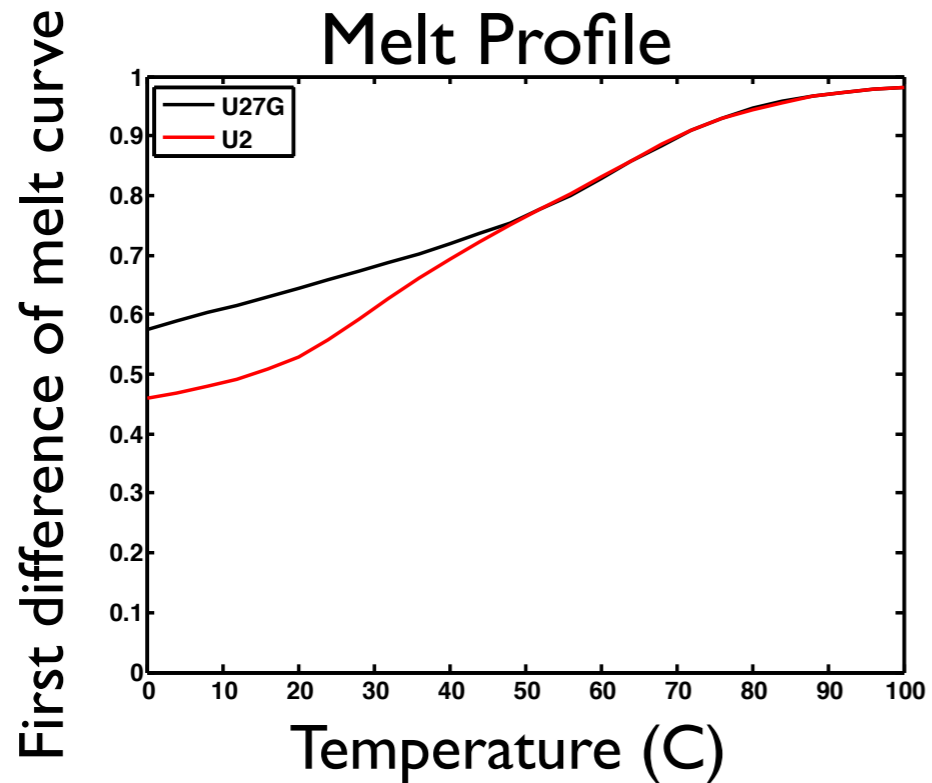
U27G

Different - Linear

MFE structure at 0.0 C



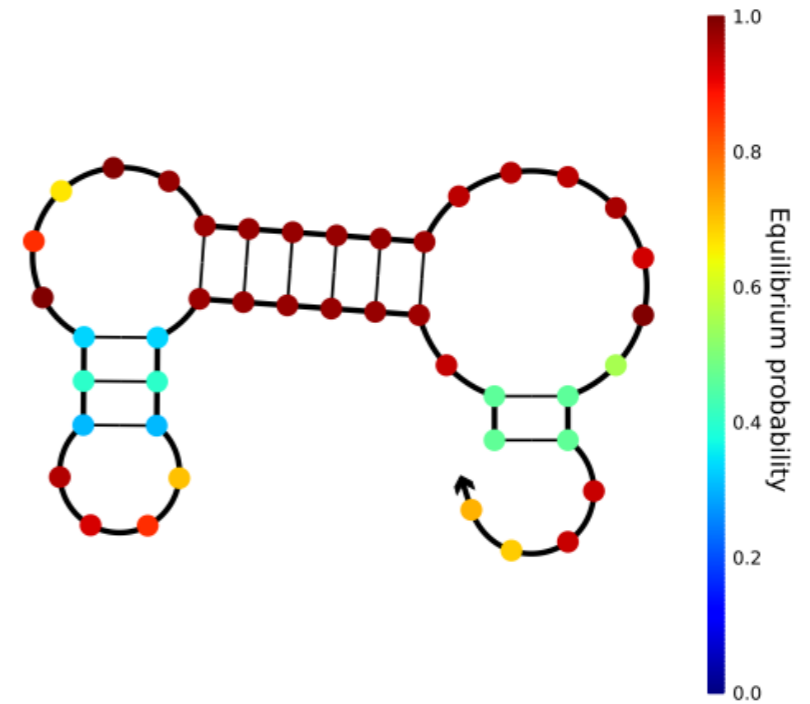
Free energy of secondary structure: -14.49 kcal/mol



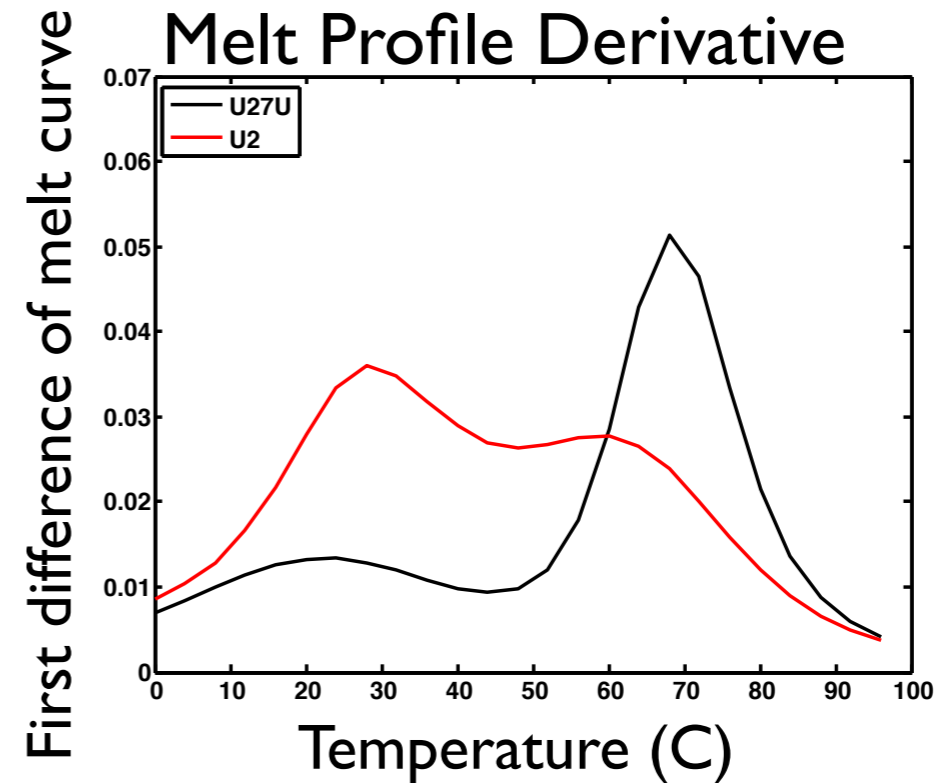
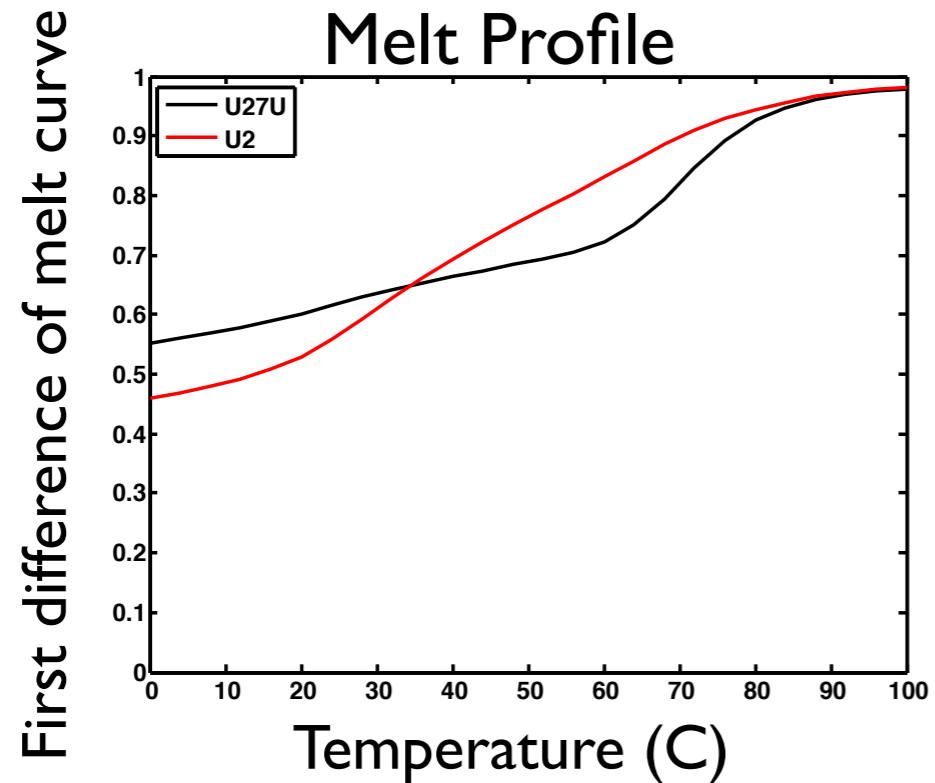
U27U

Different - Linear
Note Temperature Range

MFE structure at 0.0 C



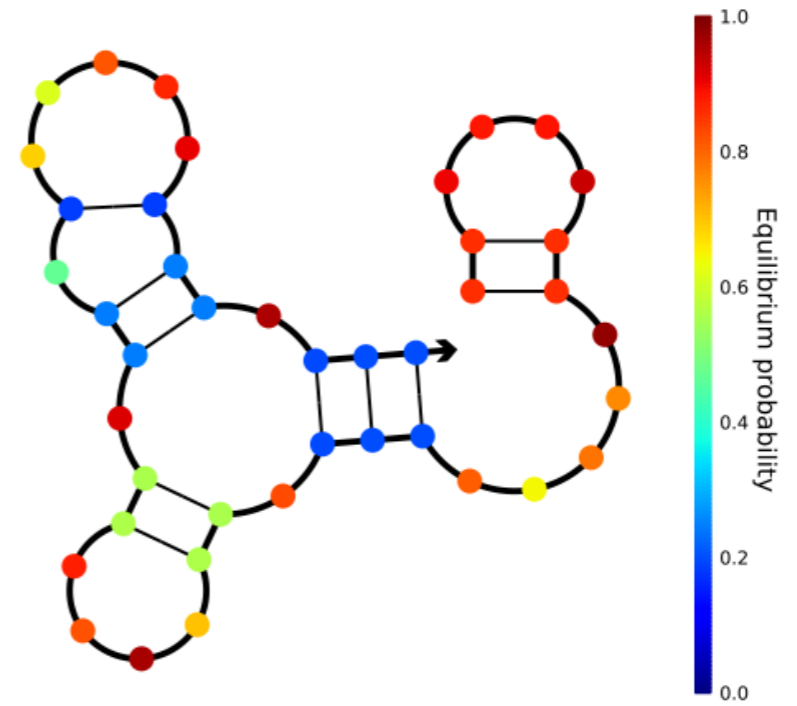
Free energy of secondary structure: -15.80 kcal/mol



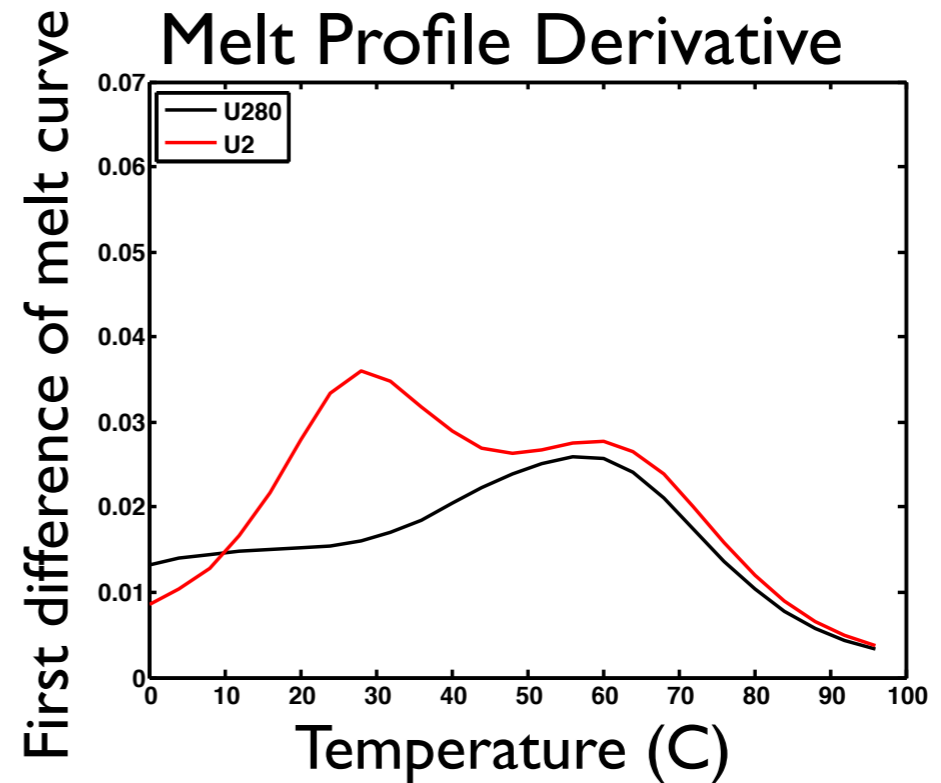
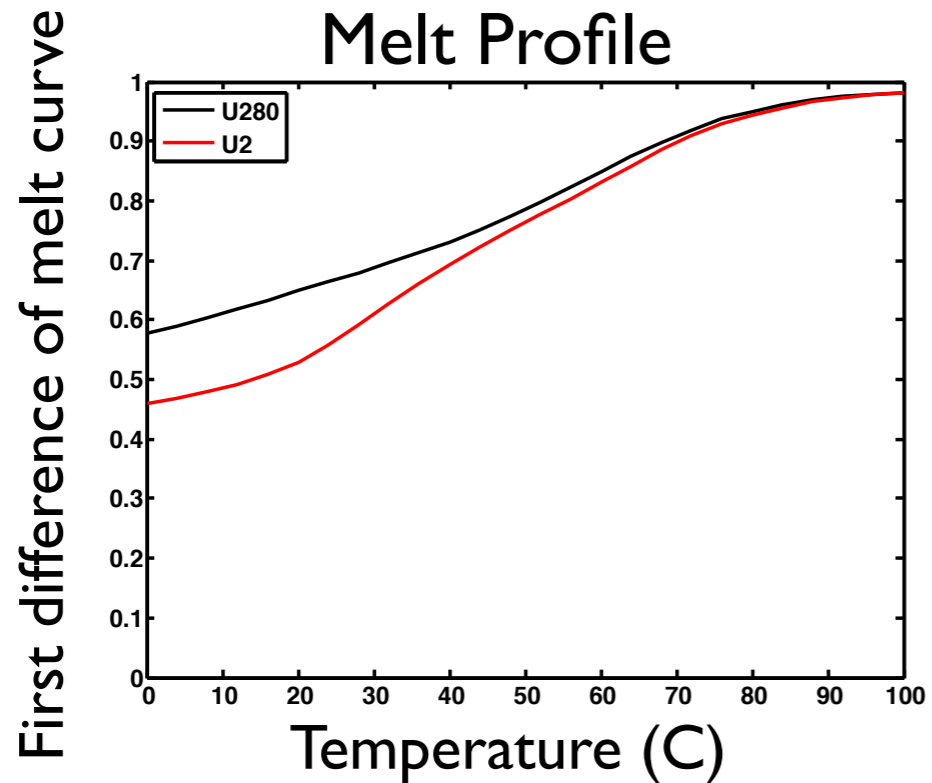
U280

Different - Linear

MFE structure at 0.0 C

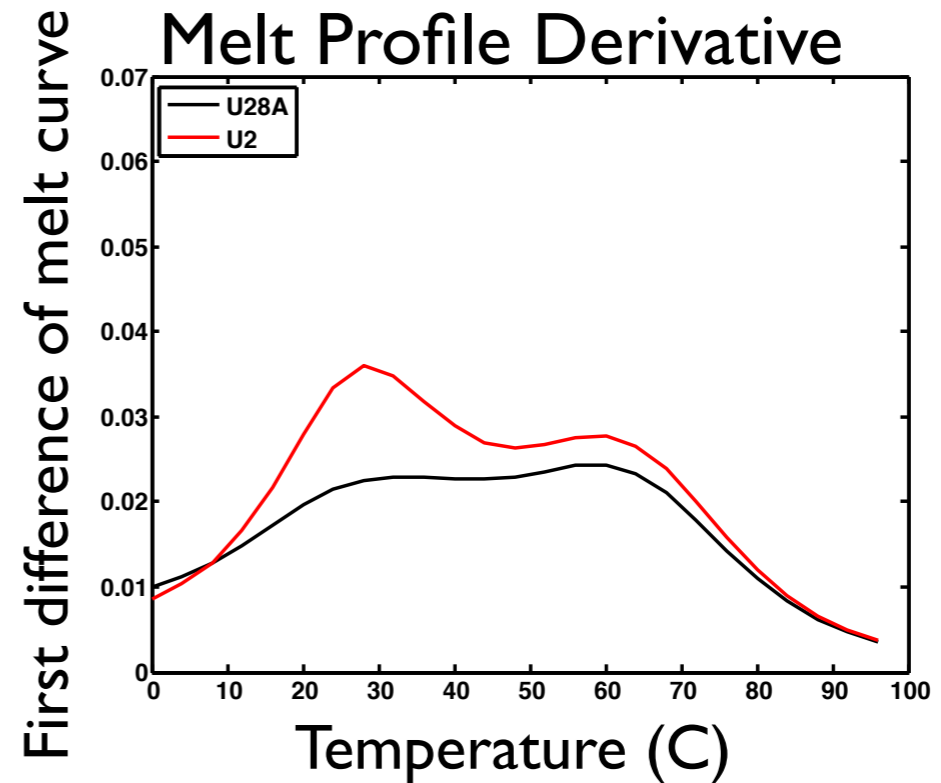
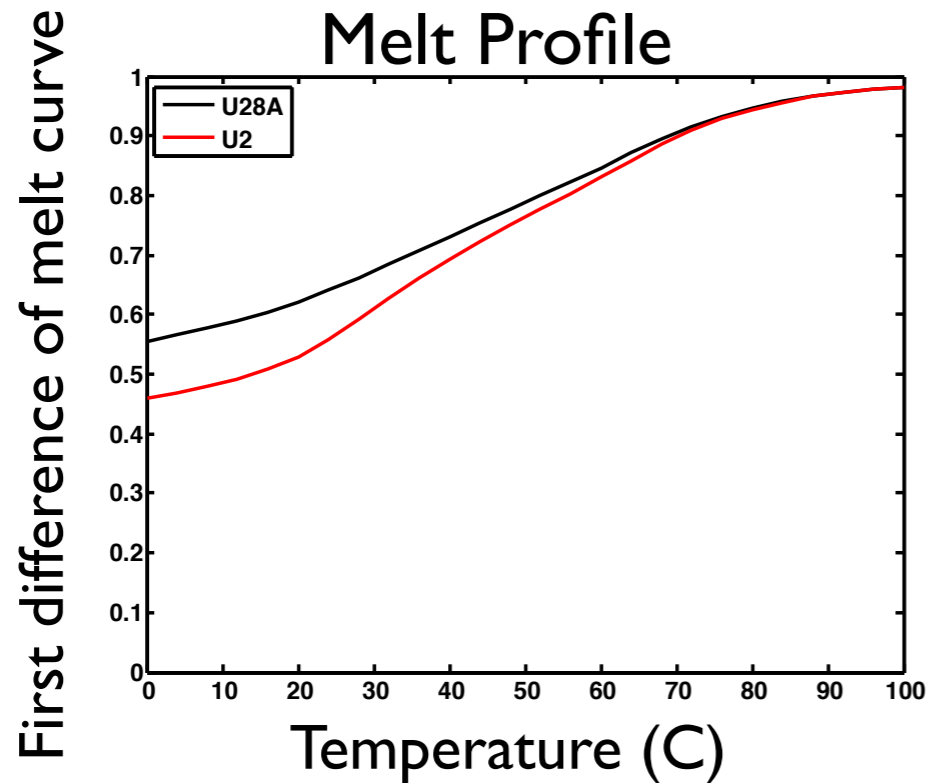
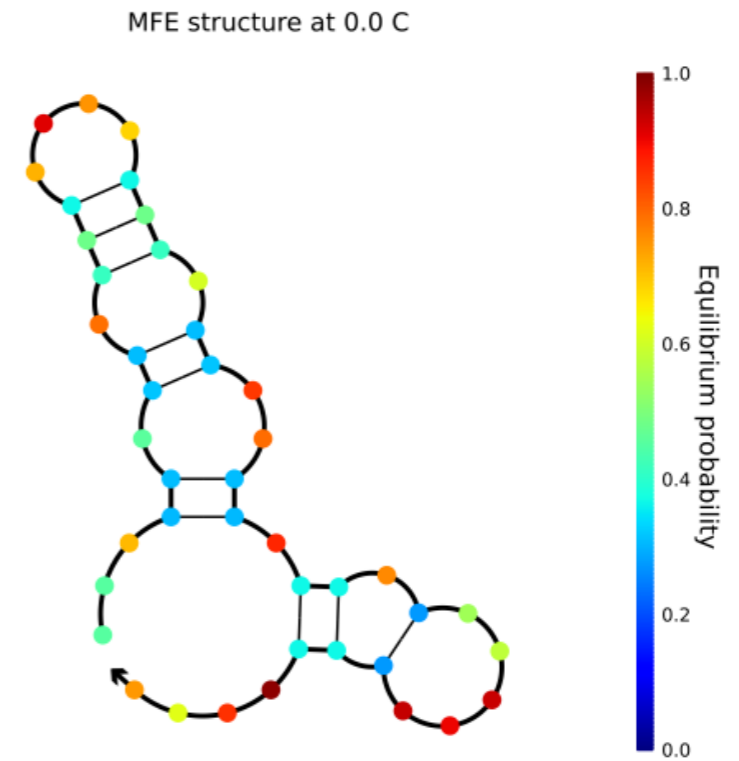


Free energy of secondary structure: -13.20 kcal/mol



U28A

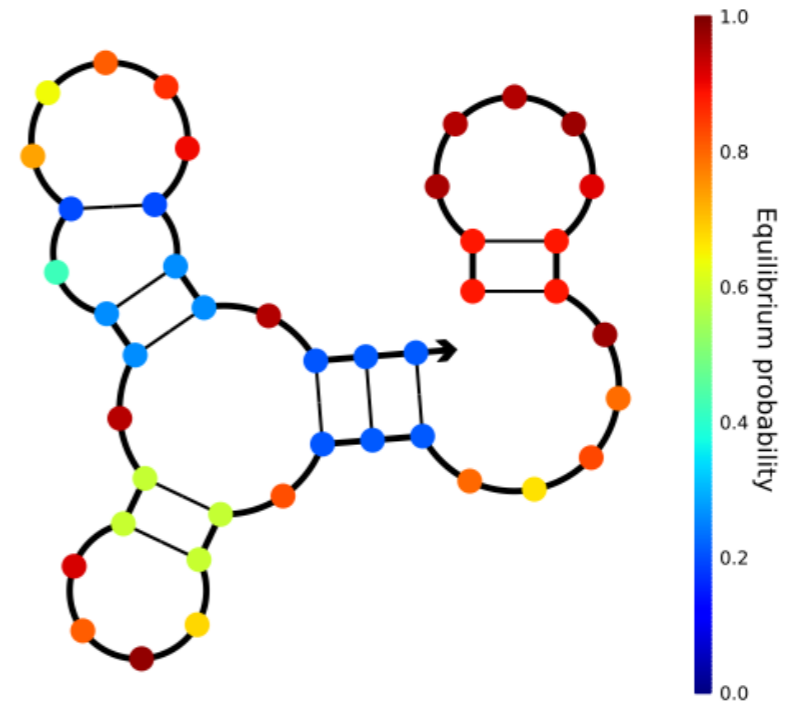
Different - Linear



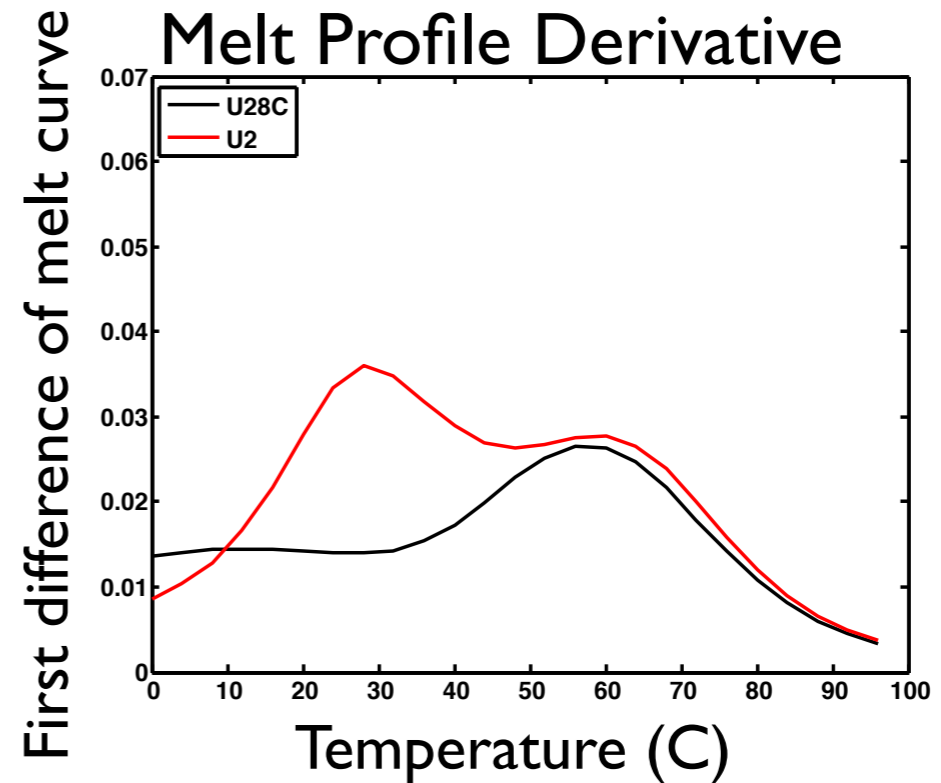
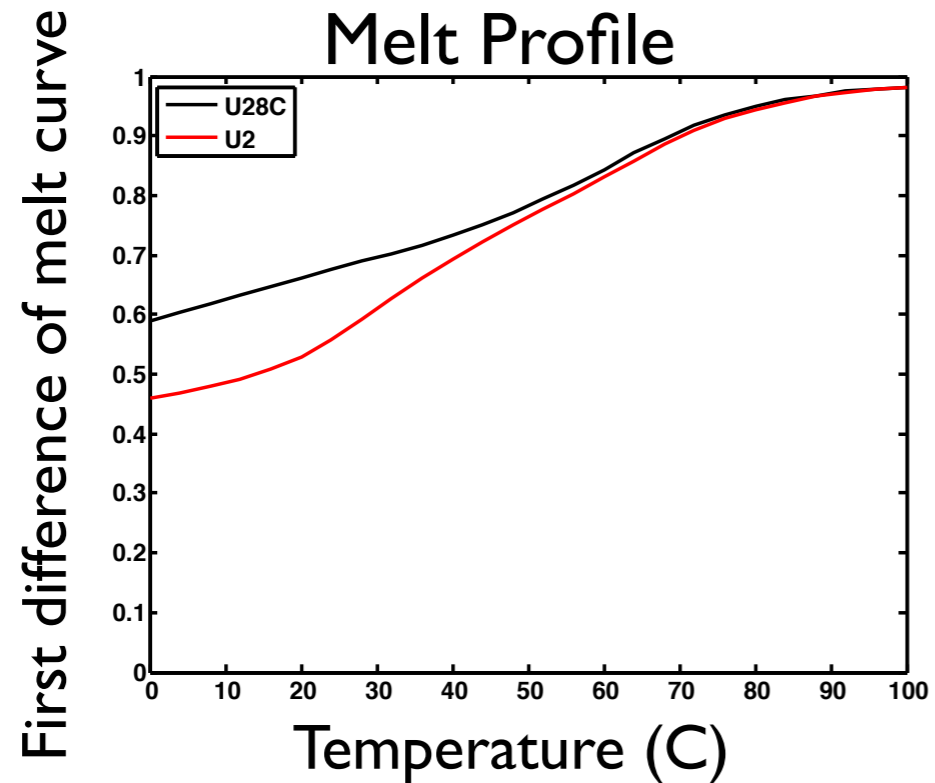
U28C

Different - Linear

MFE structure at 0.0 C

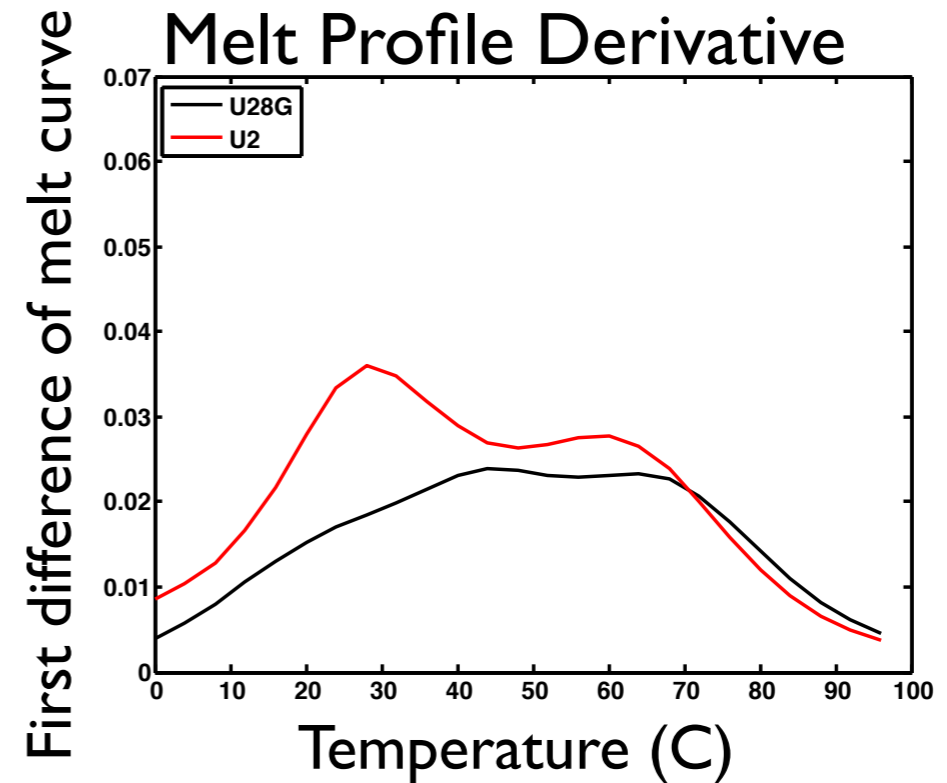
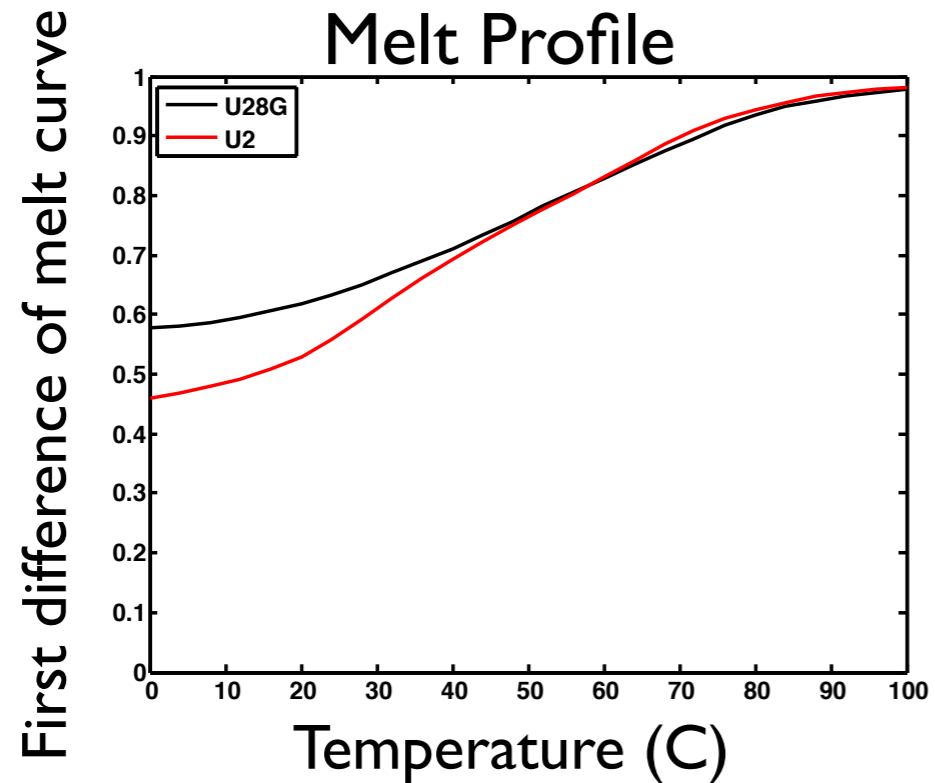
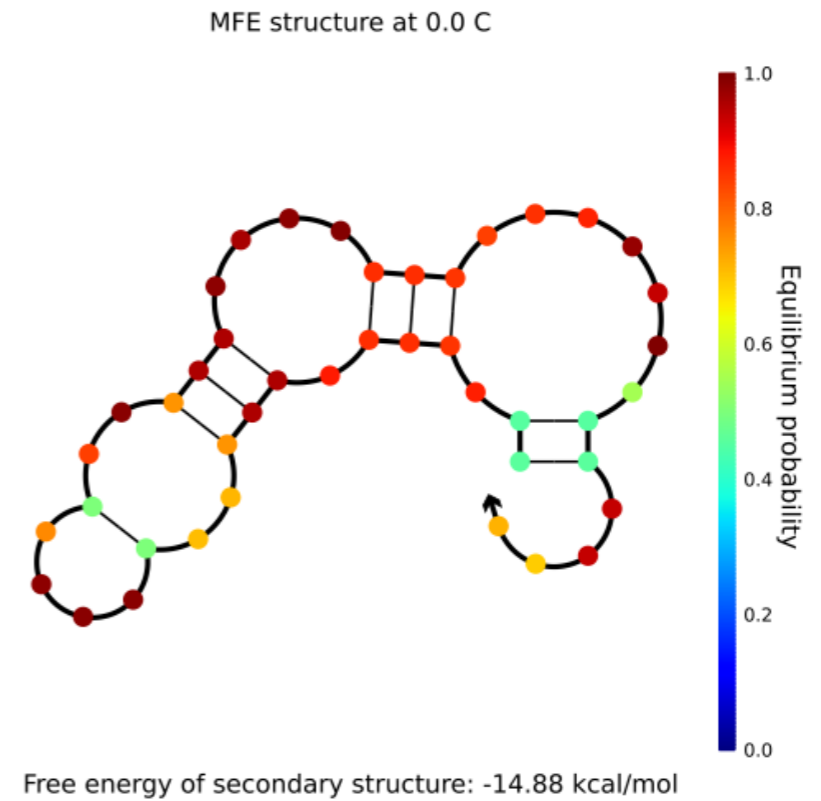


Free energy of secondary structure: -13.64 kcal/mol



U28G

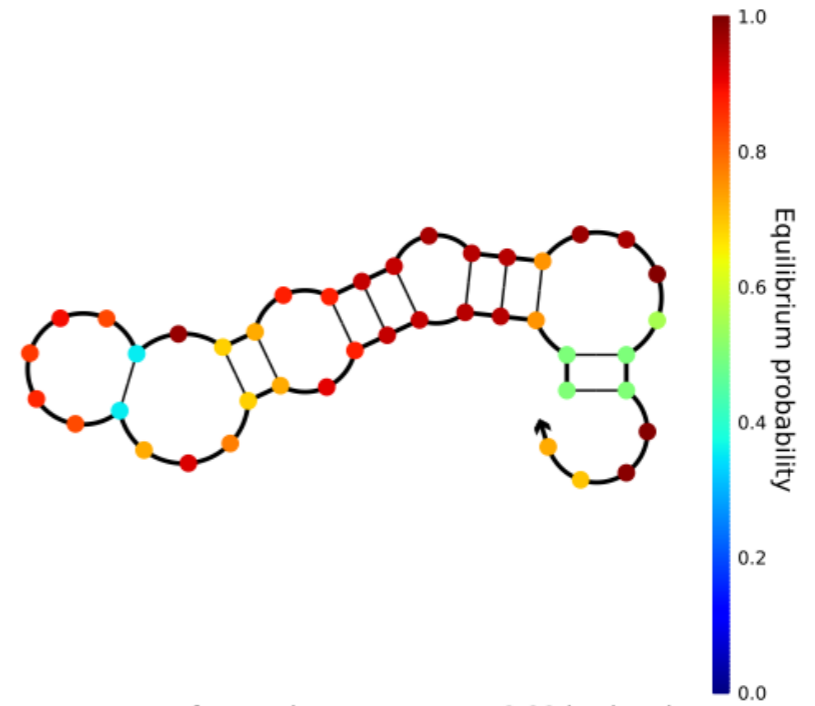
Different



U290

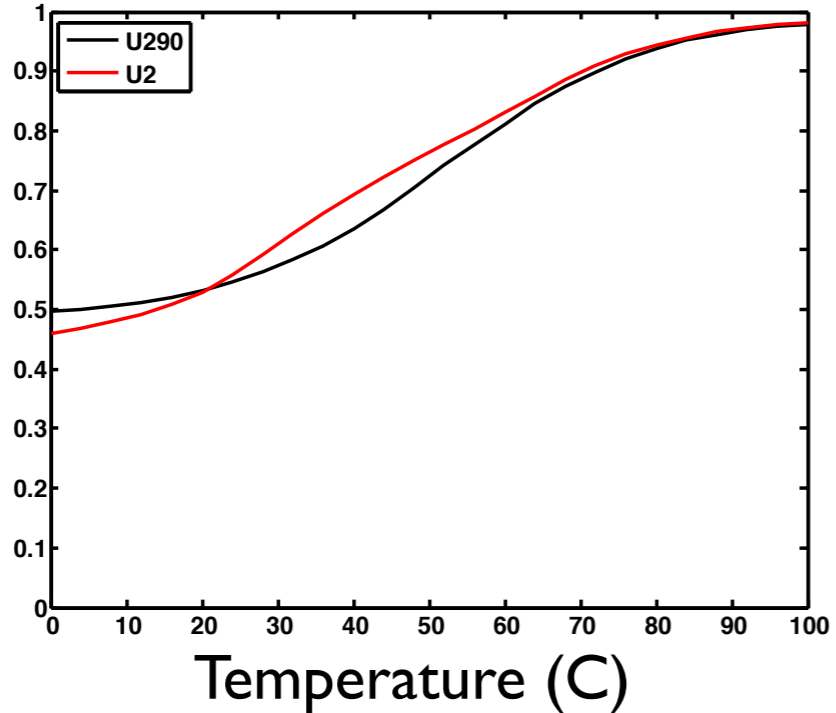
Different - Threshold, shifted

MFE structure at 0.0 C



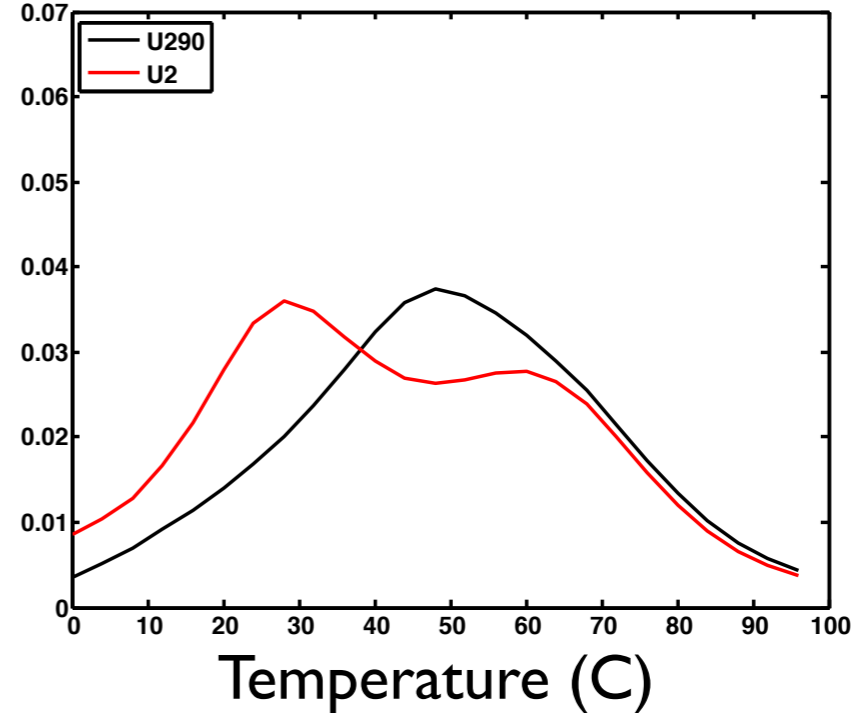
First difference of melt curve

Melt Profile



First difference of melt curve

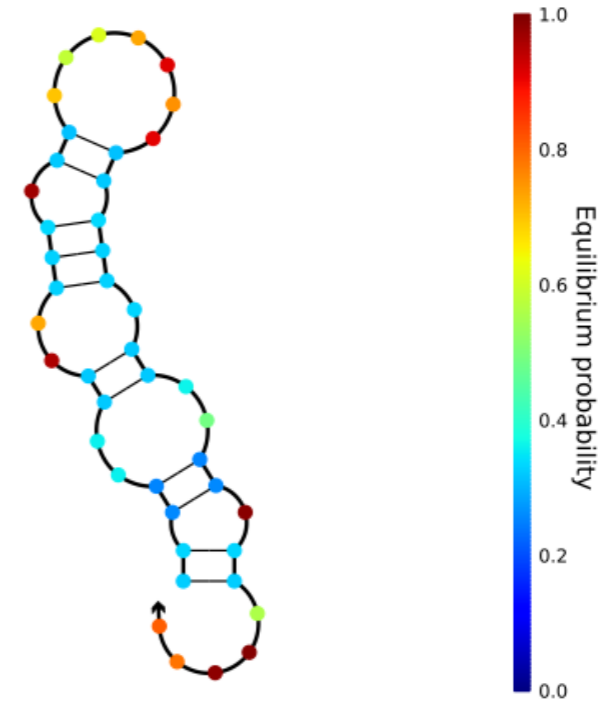
Melt Profile Derivative



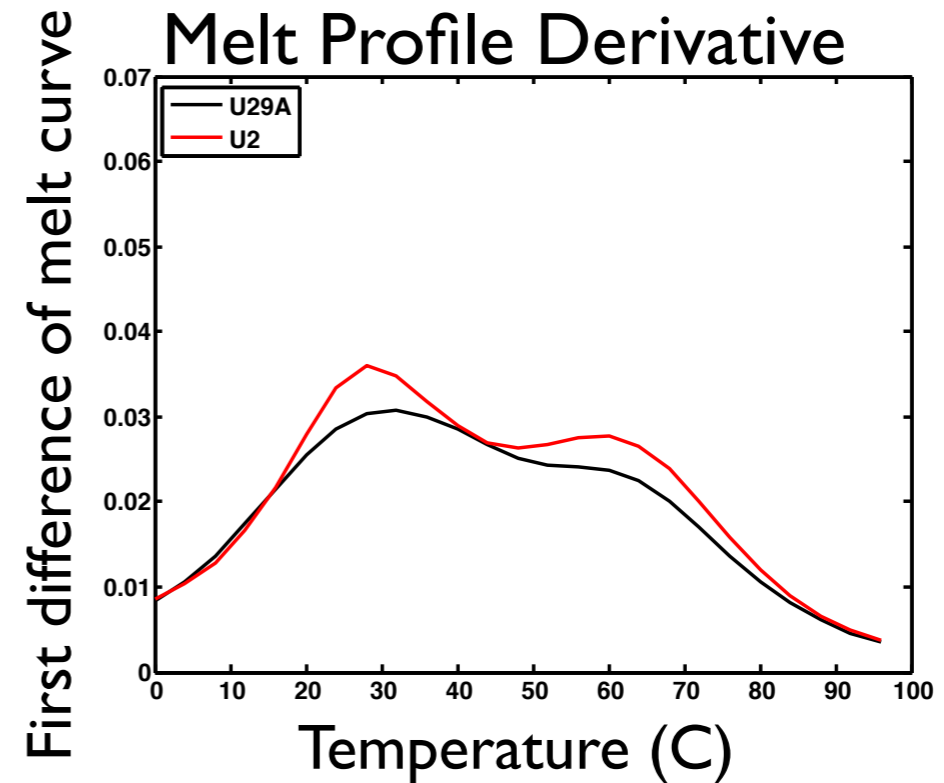
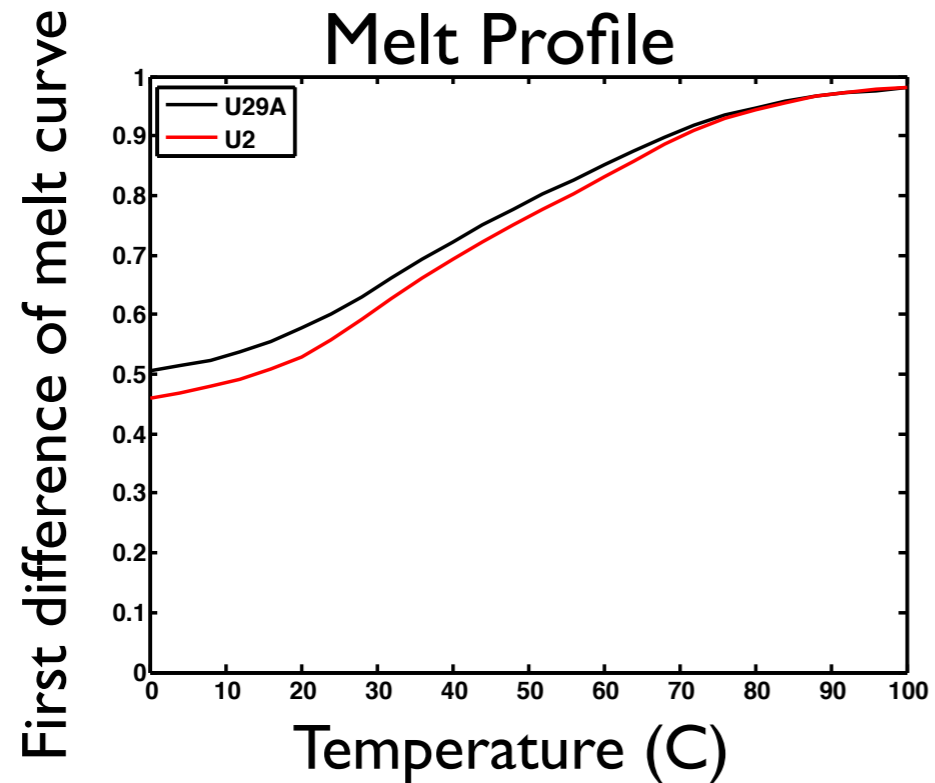
U29A

Same

MFE structure at 0.0 C



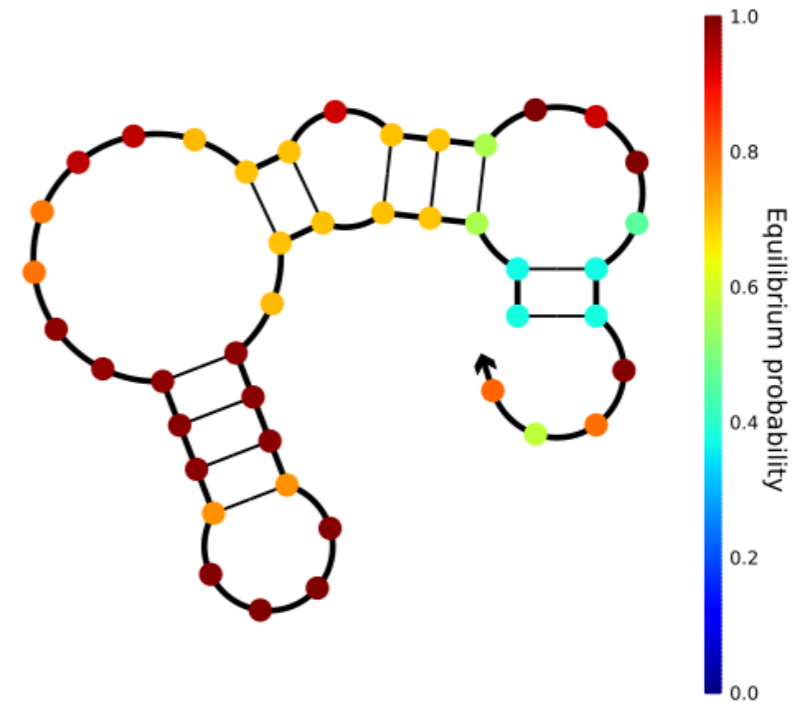
Free energy of secondary structure: -13.49 kcal/mol



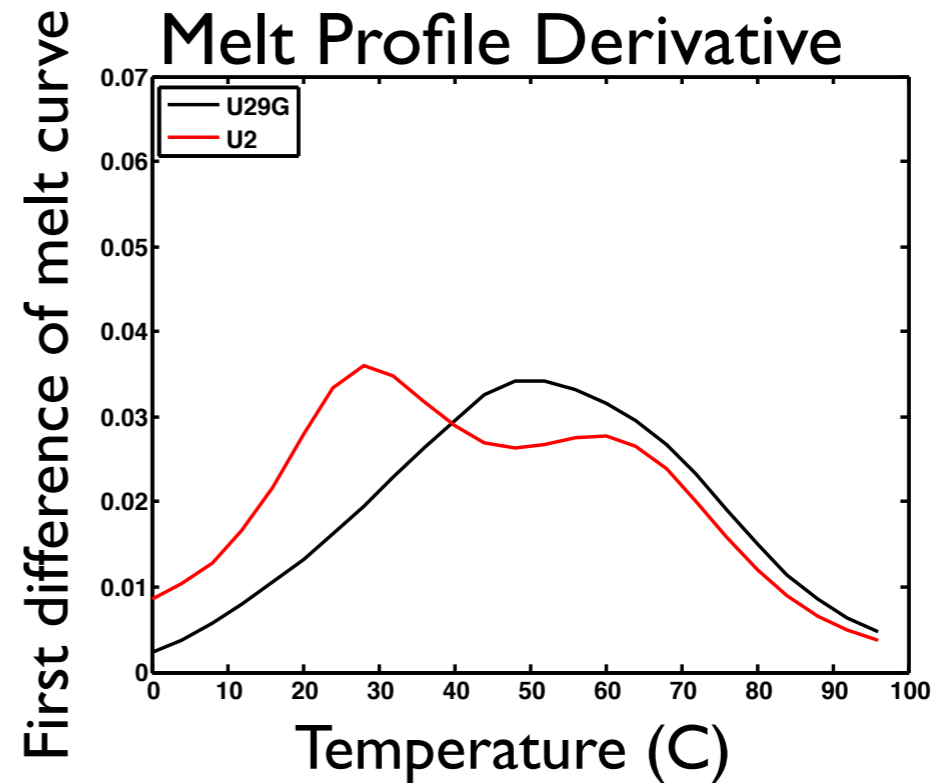
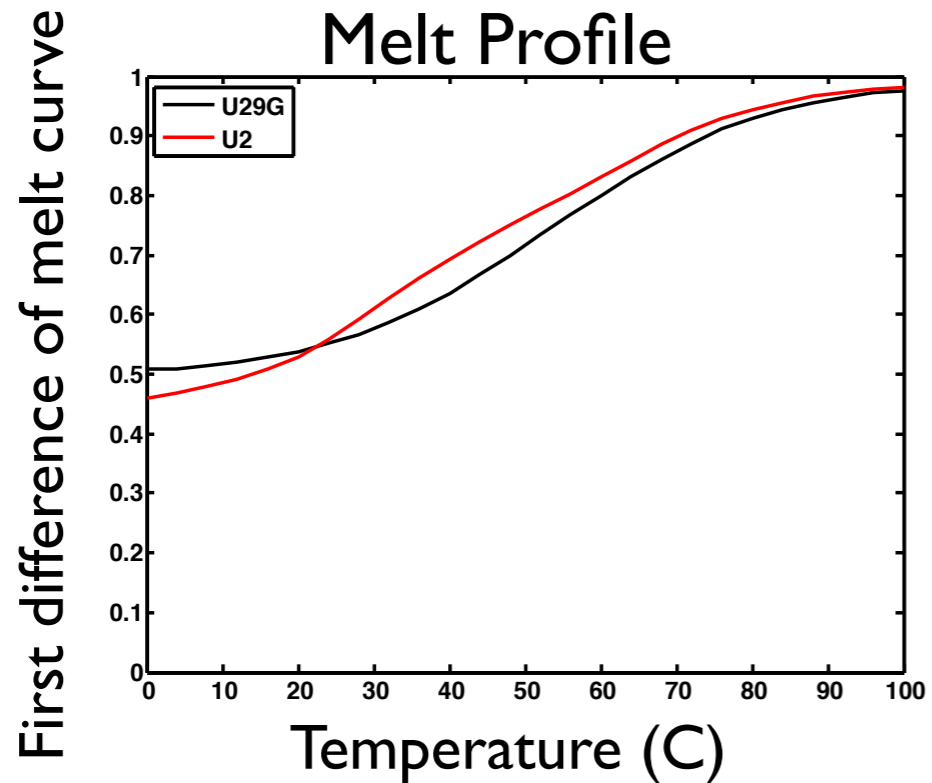
U29G

Different - Threshold, shifted

MFE structure at 0.0 C



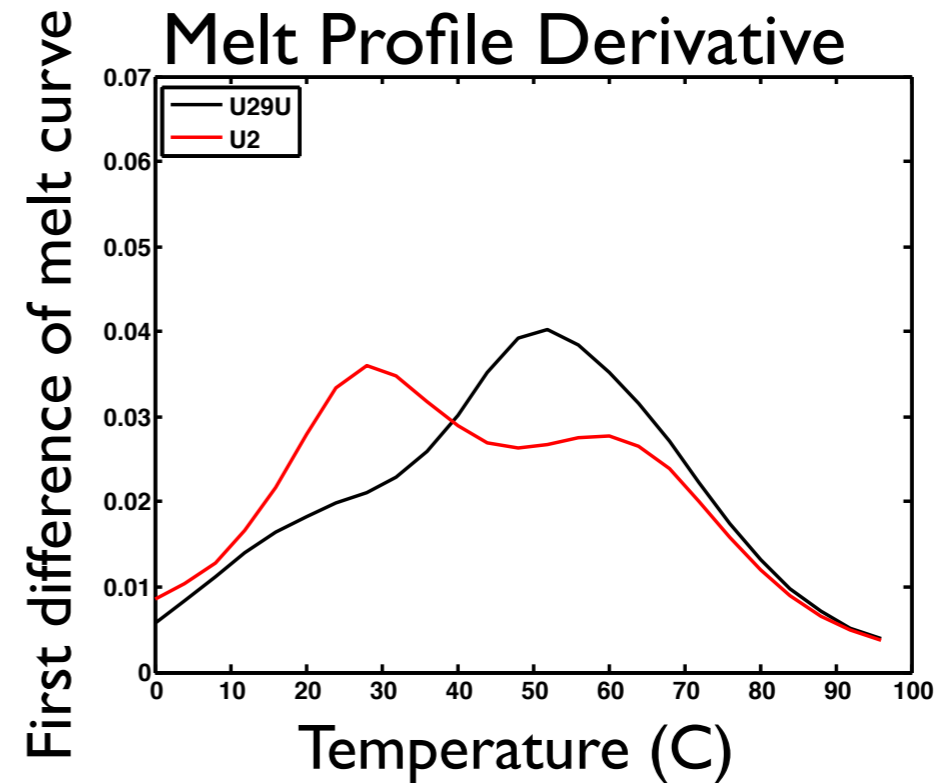
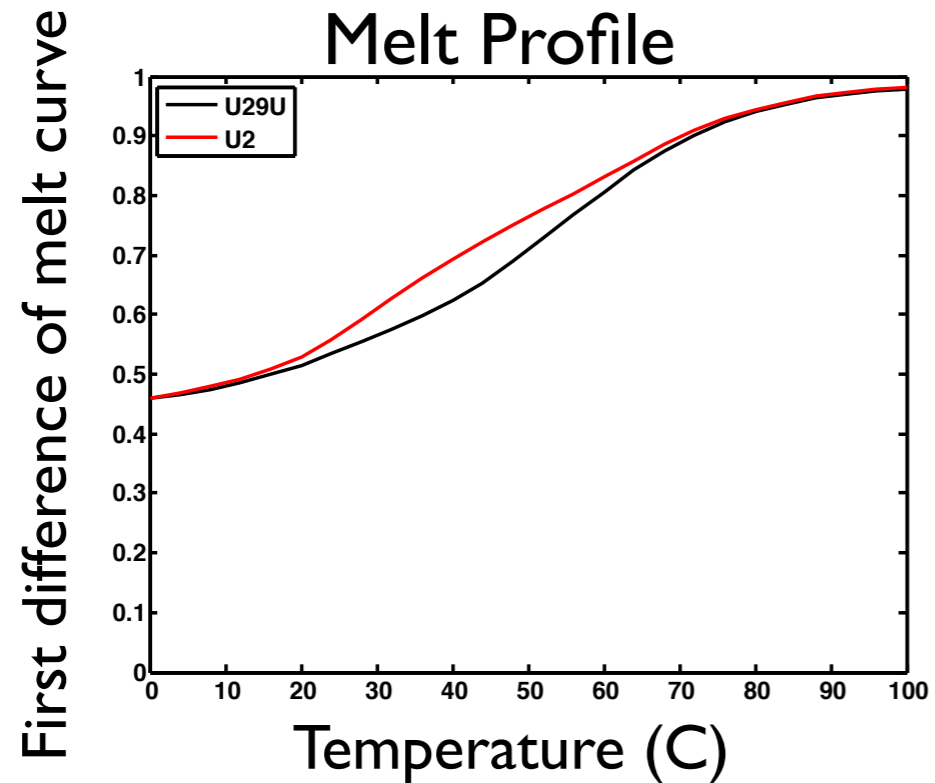
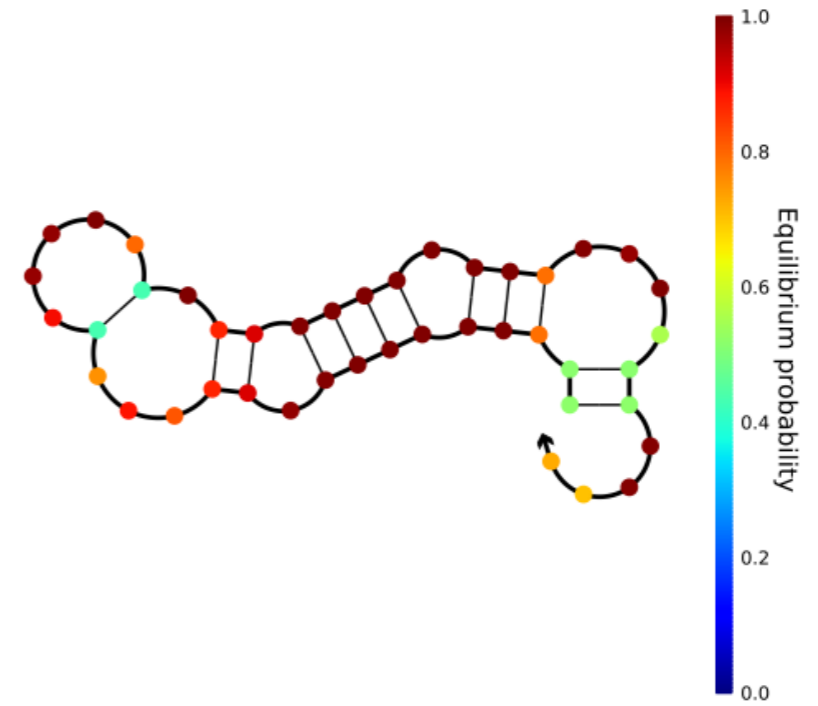
Free energy of secondary structure: -16.16 kcal/mol



U29U

Different

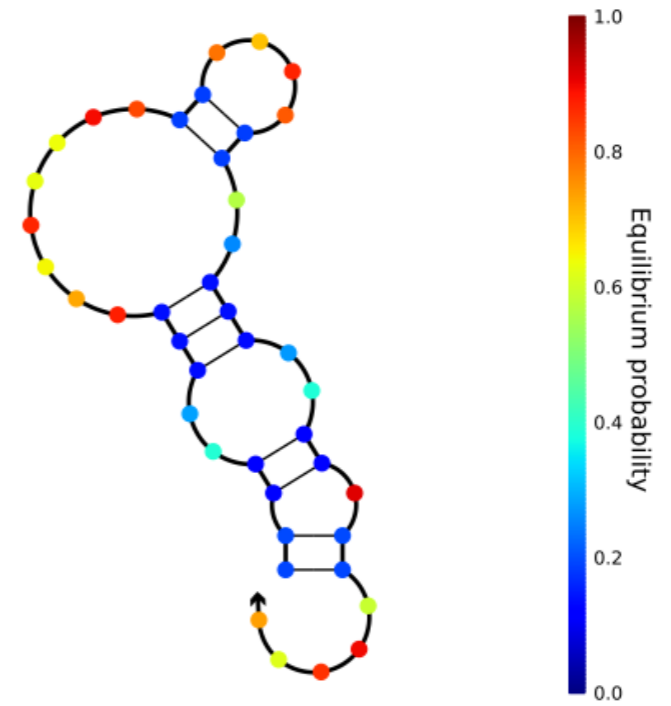
MFE structure at 0.0 C



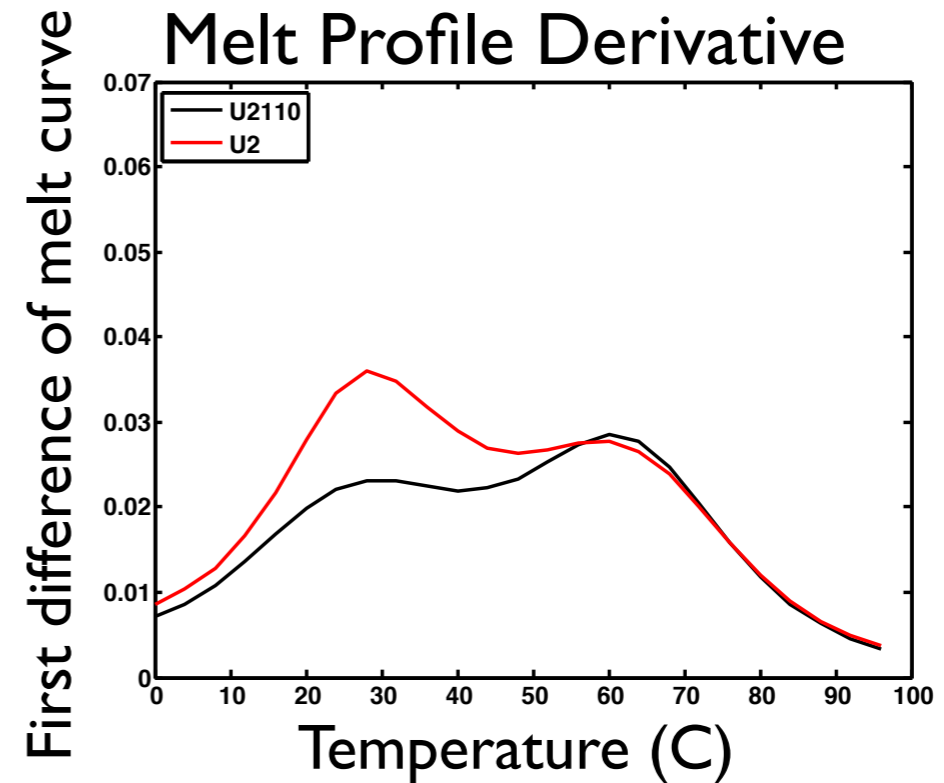
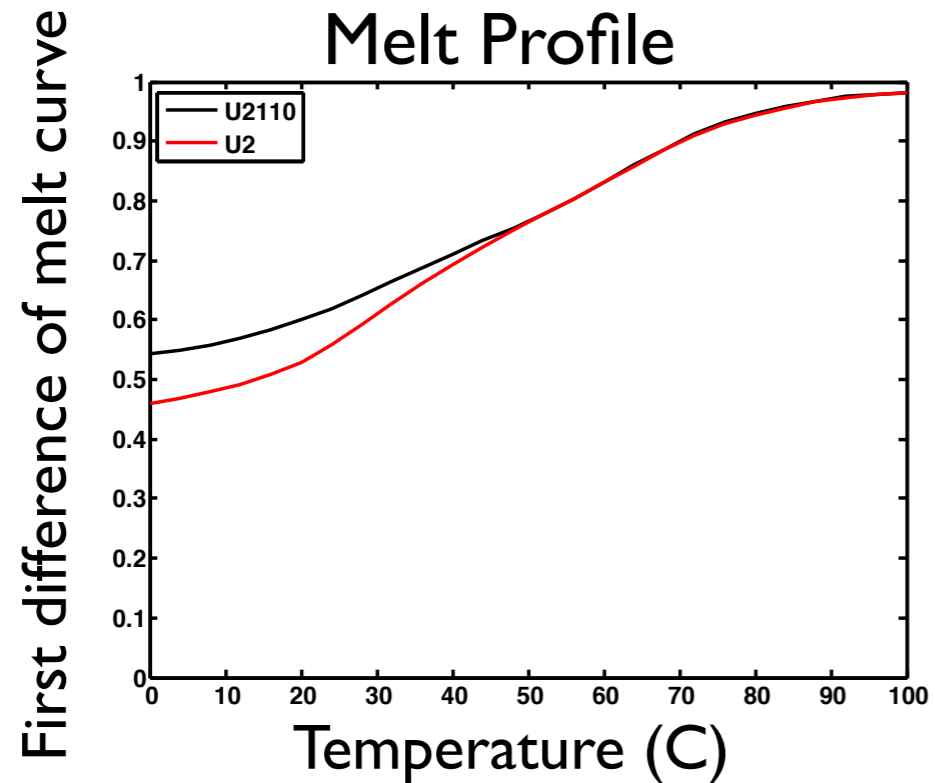
U2110

Different - linear

MFE structure at 0.0 C



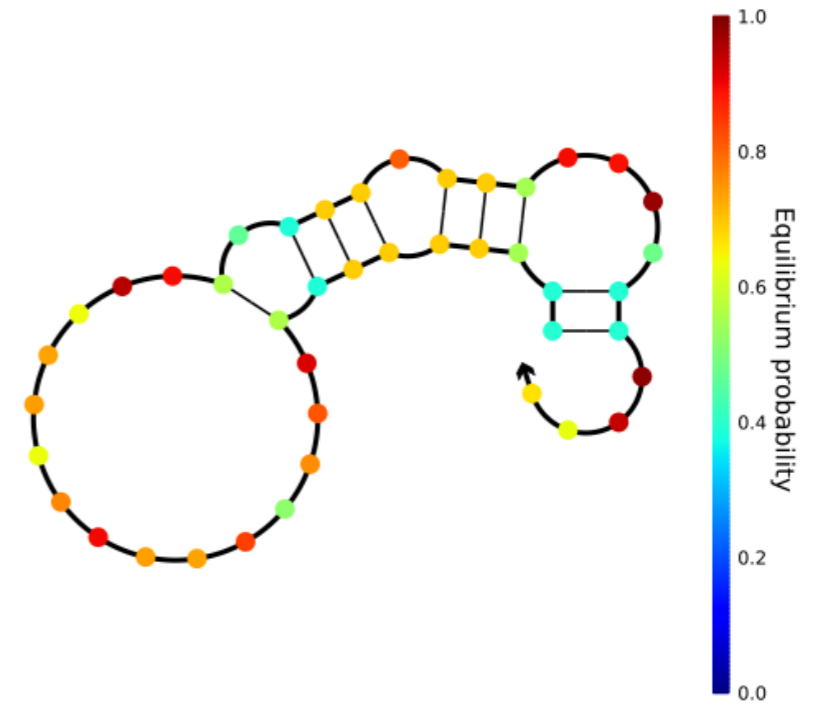
Free energy of secondary structure: -12.64 kcal/mol



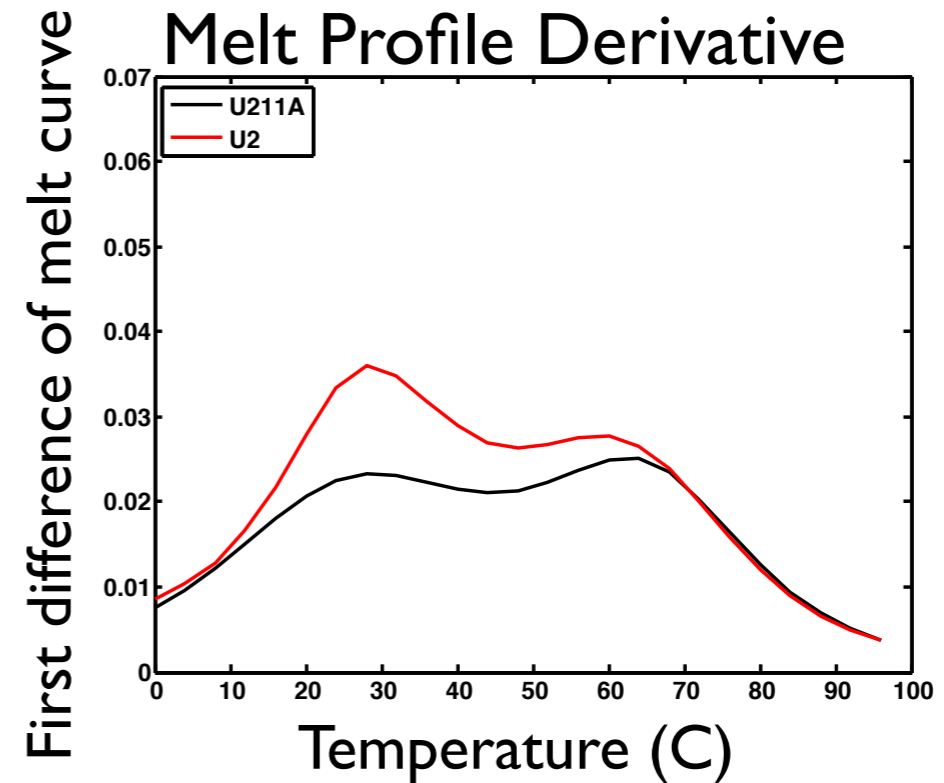
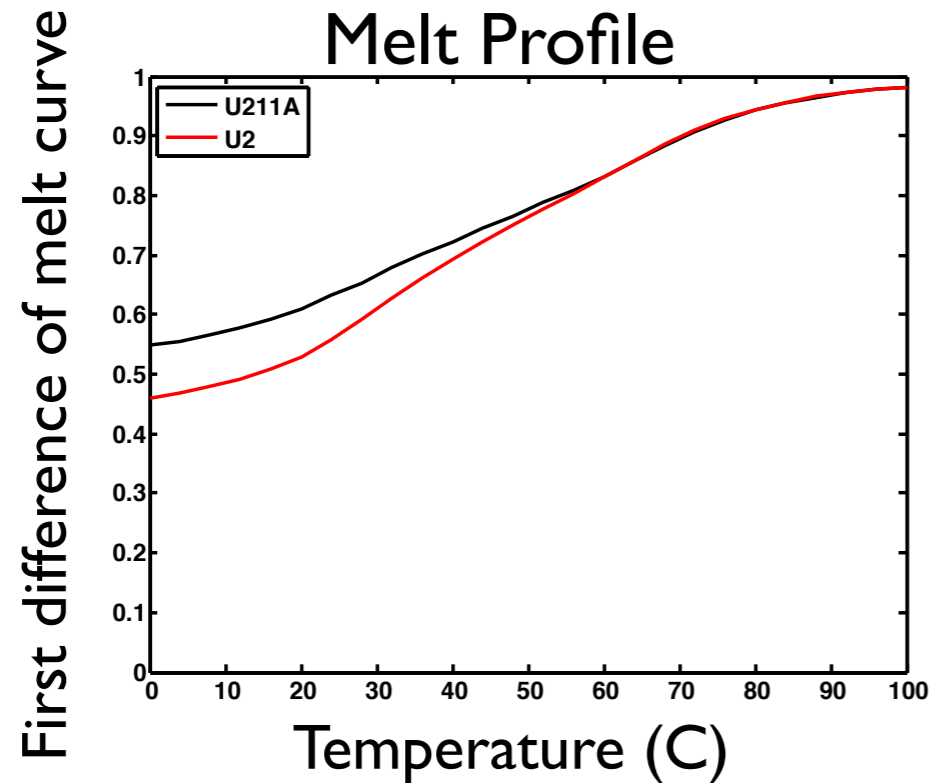
U211A

Different - Linear

MFE structure at 0.0 C



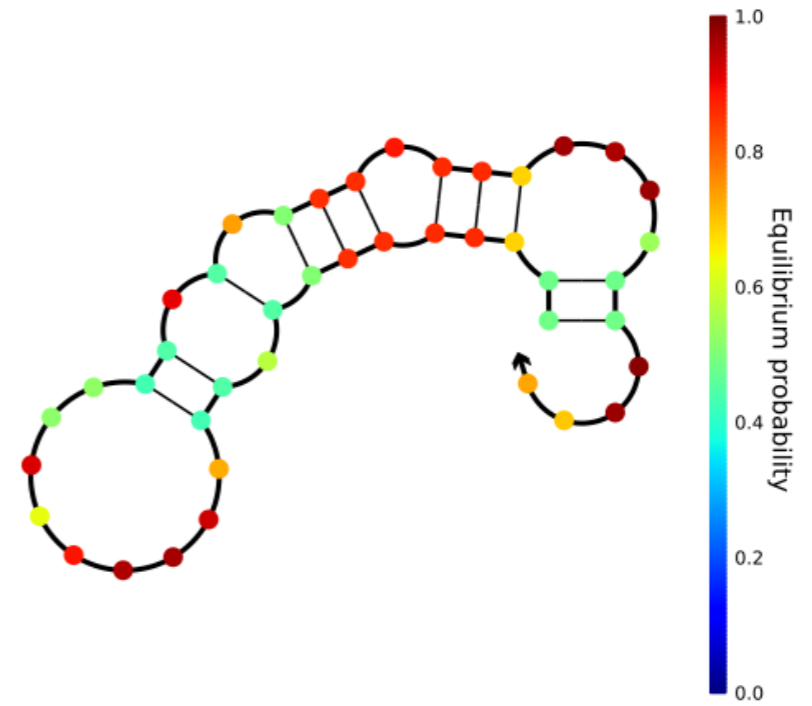
Free energy of secondary structure: -12.49 kcal/mol



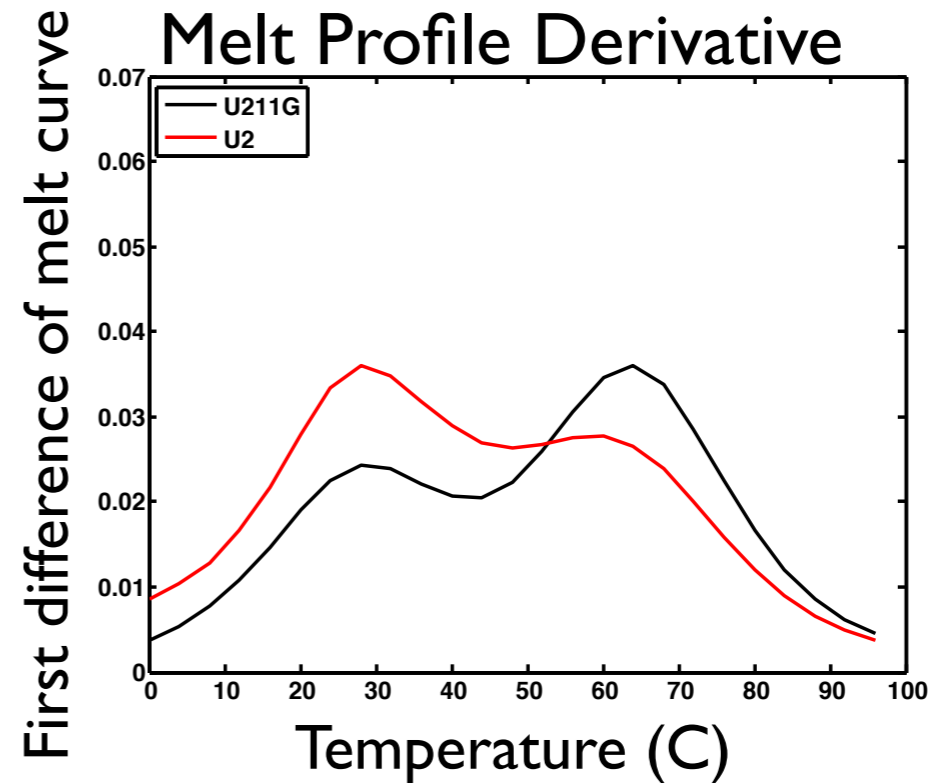
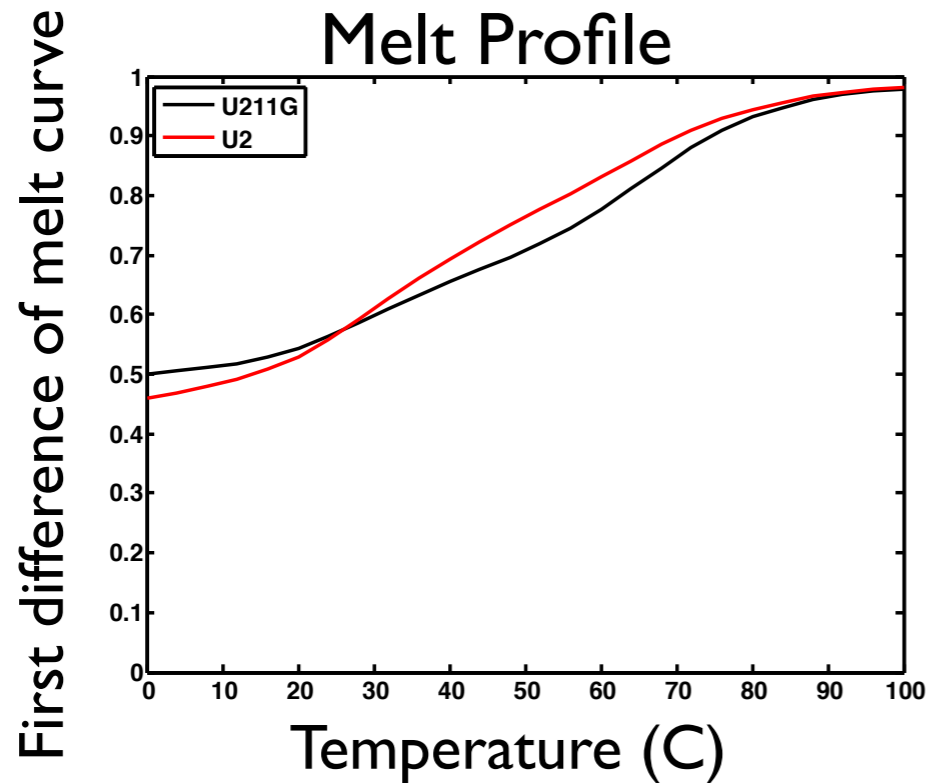
U211G

Different - shifted down

MFE structure at 0.0 C



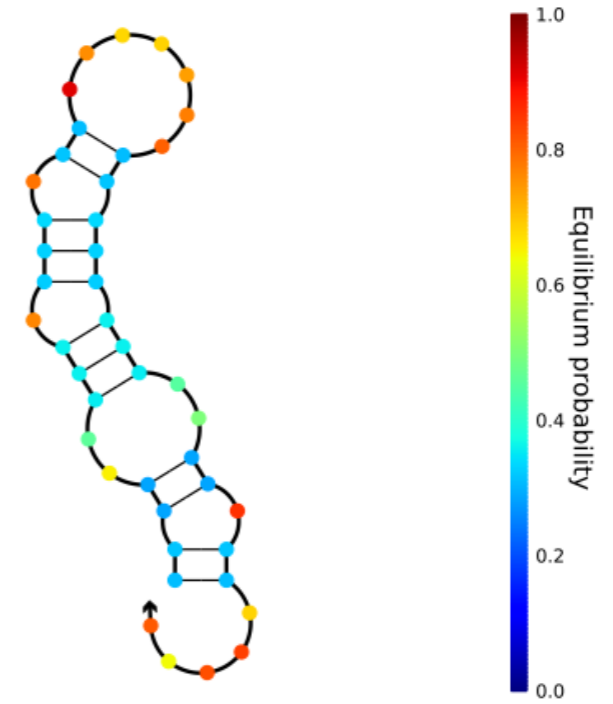
Free energy of secondary structure: -14.08 kcal/mol



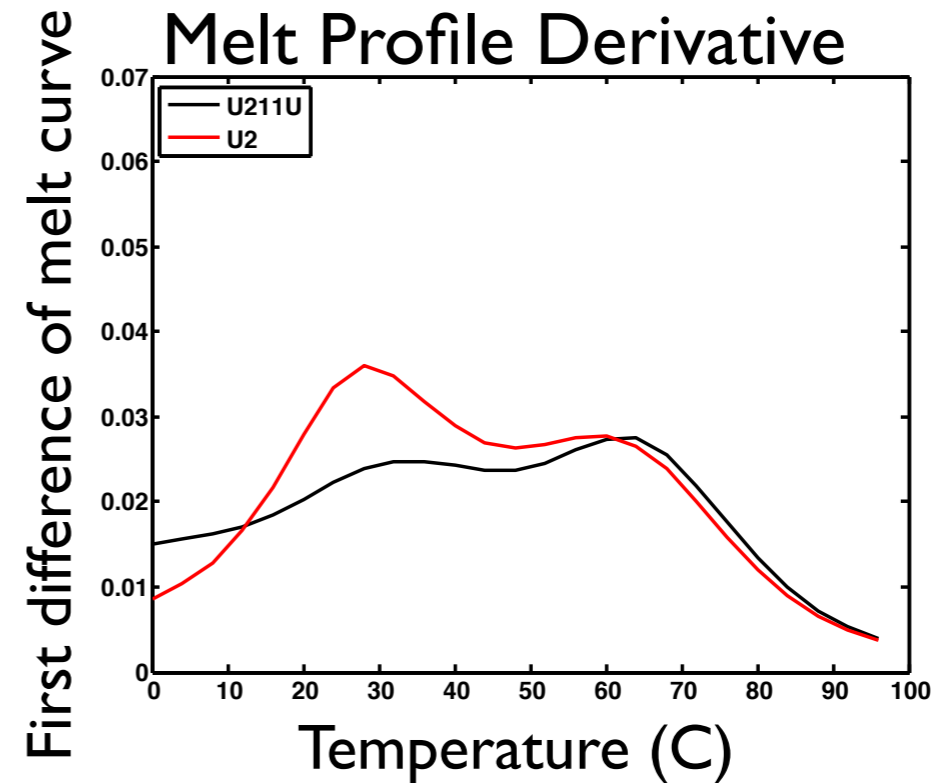
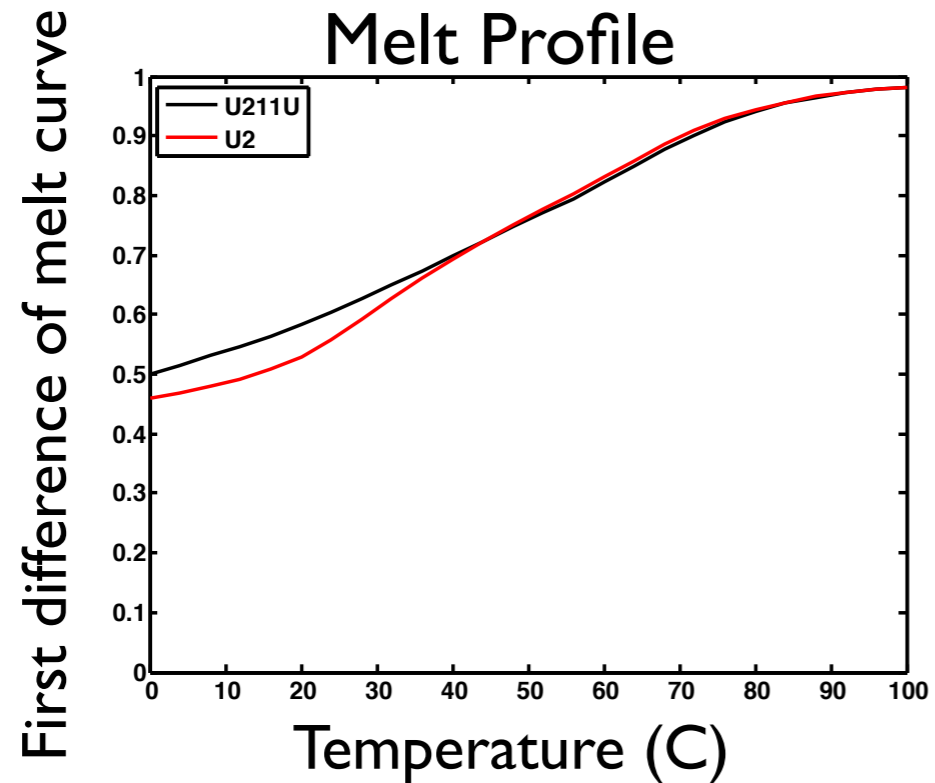
U211U

Different - Linear

MFE structure at 0.0 C



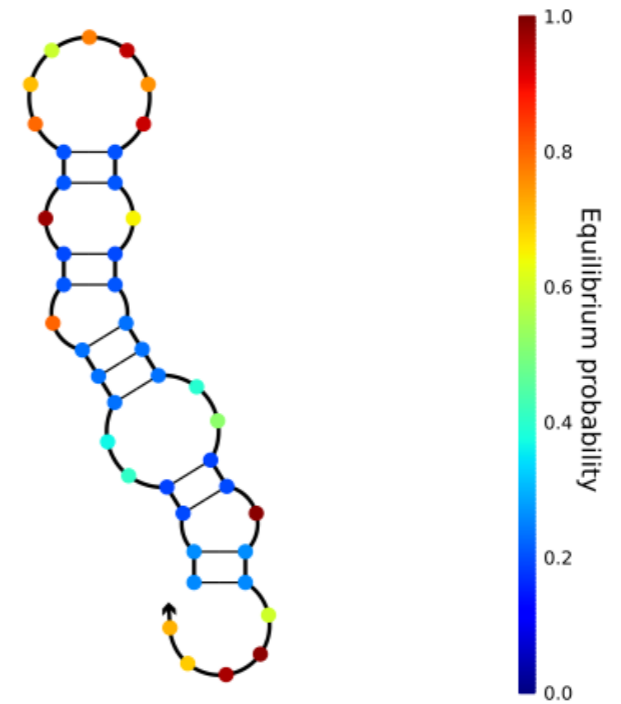
Free energy of secondary structure: -13.86 kcal/mol



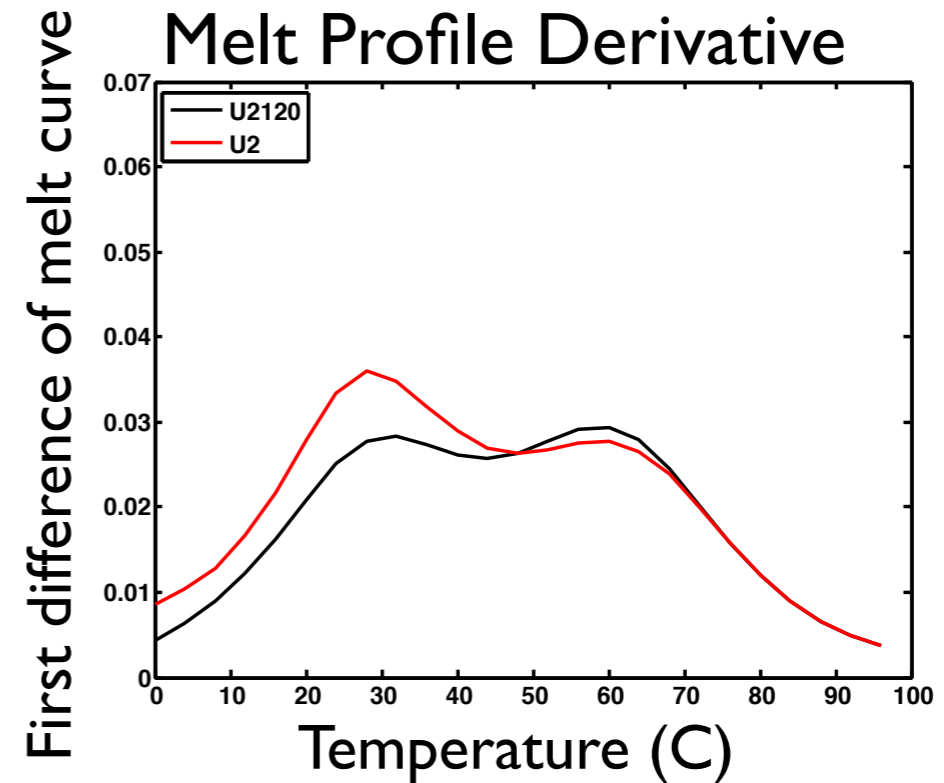
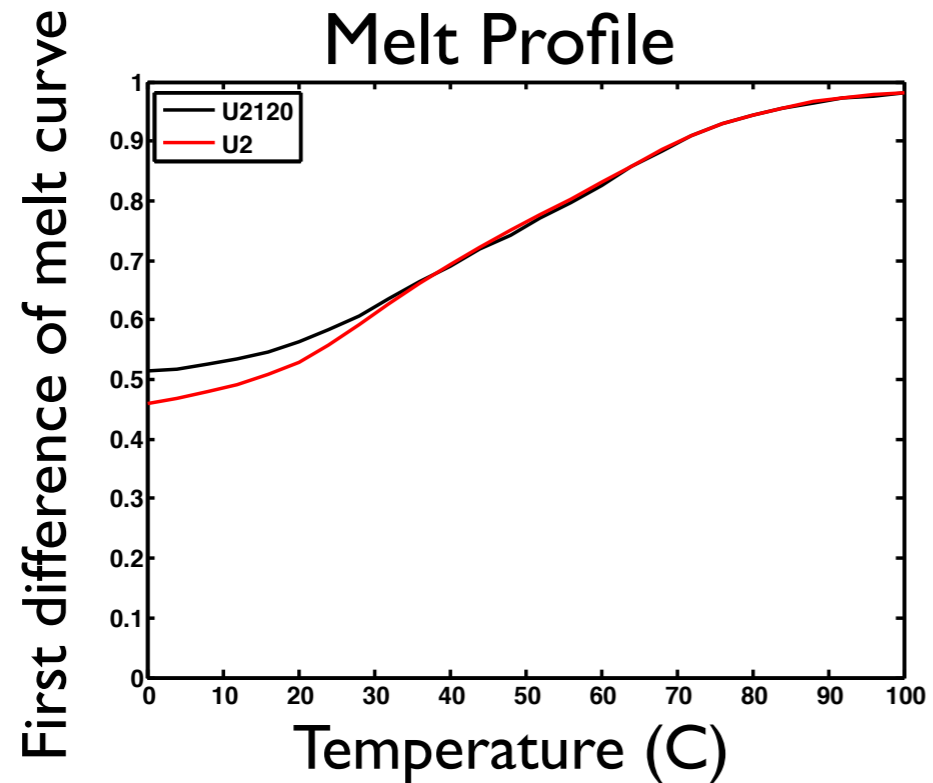
U2120

Different - shifted

MFE structure at 0.0 C

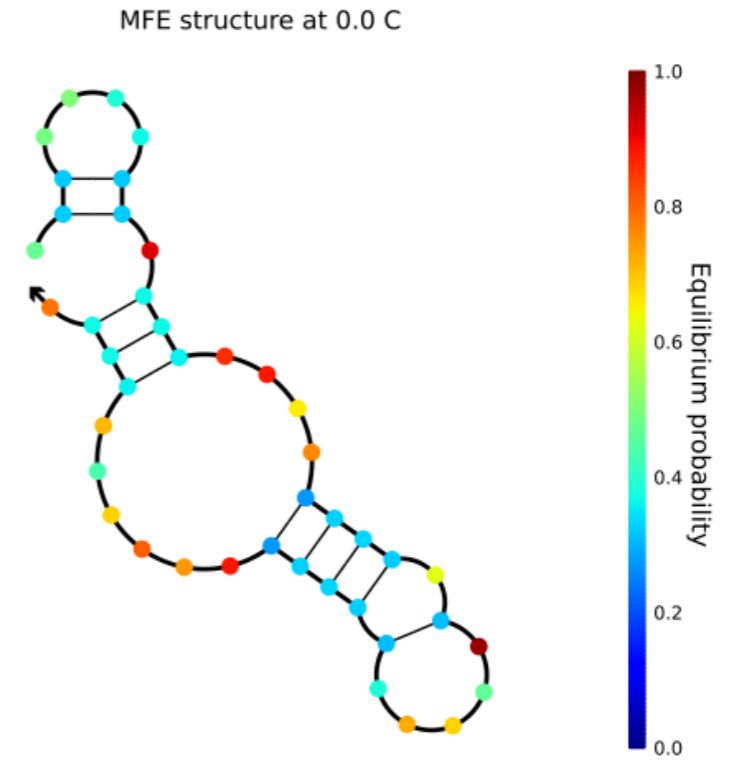


Free energy of secondary structure: -13.75 kcal/mol

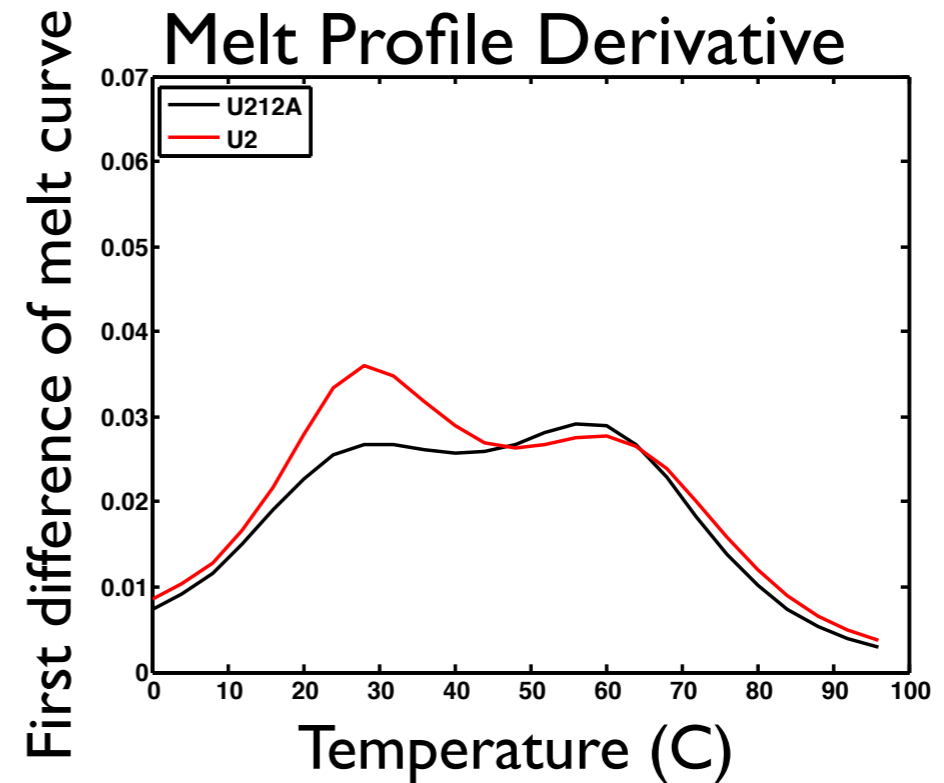
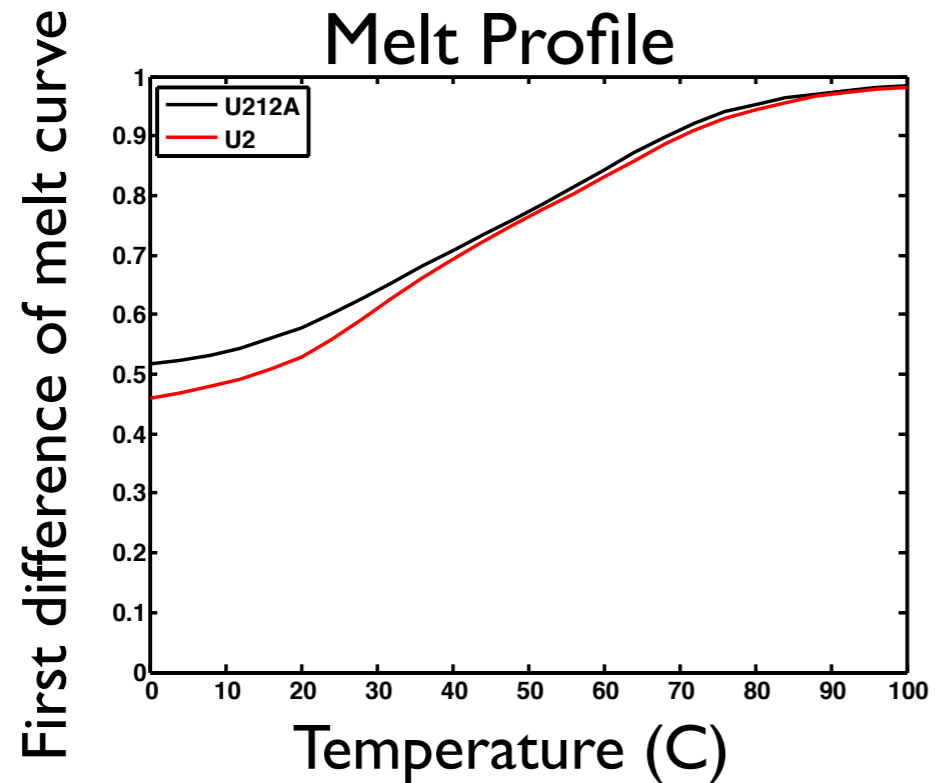


U212A

Same

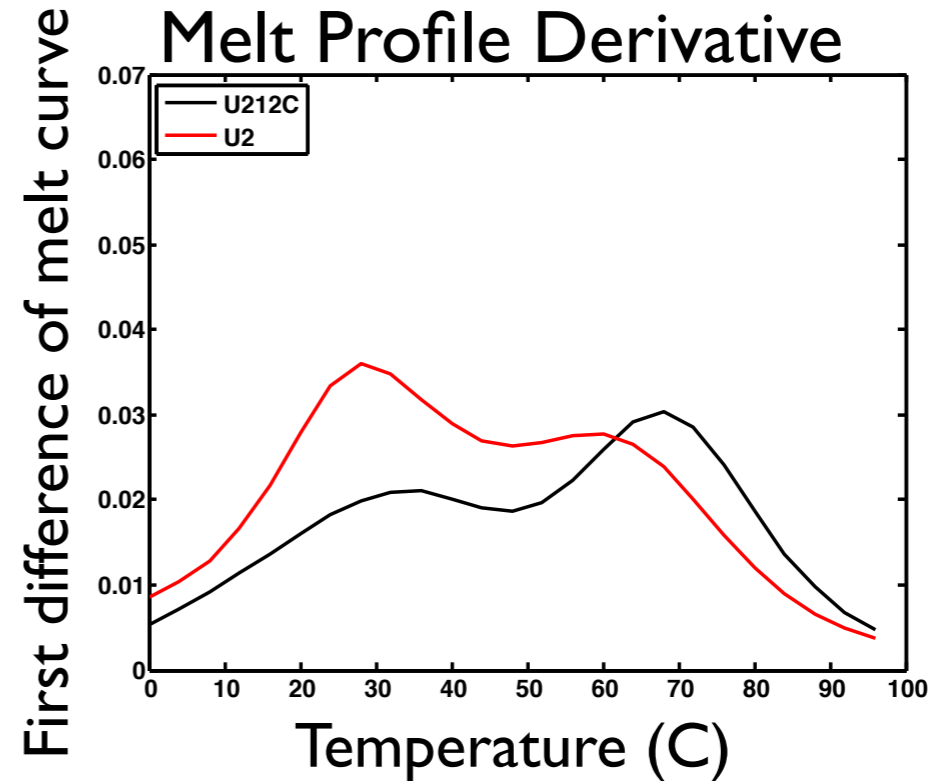
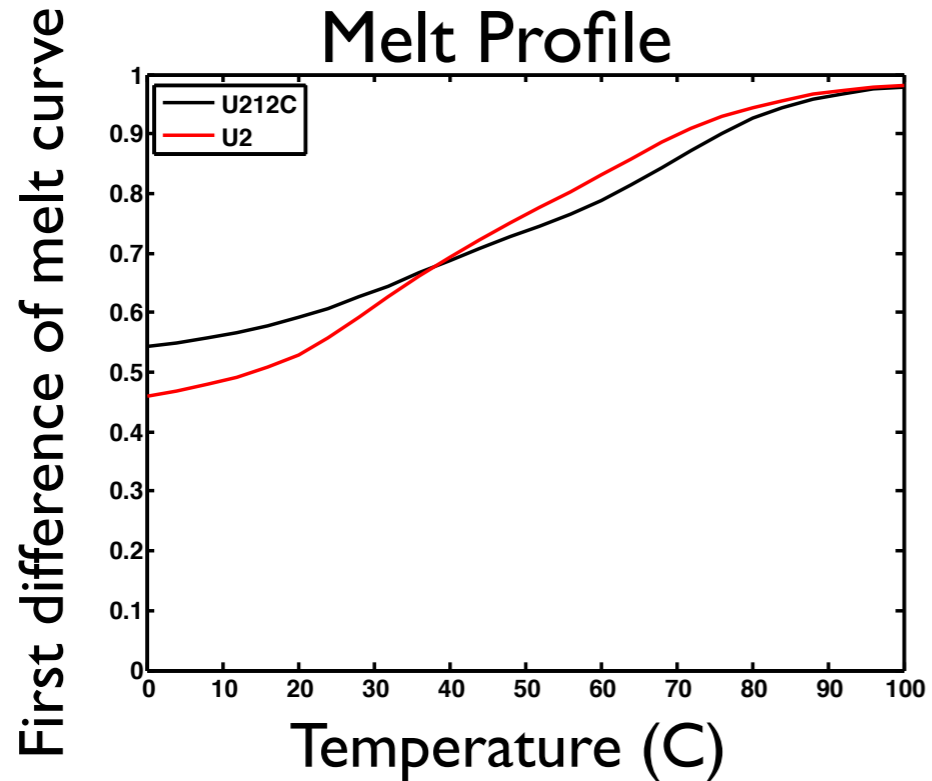
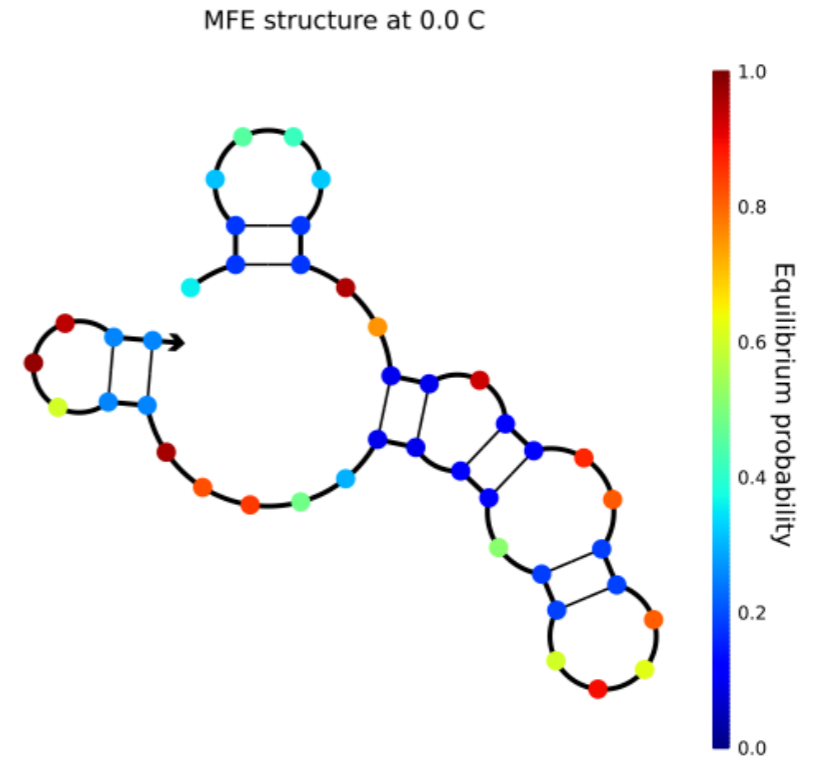


Free energy of secondary structure: -13.78 kcal/mol



U212C

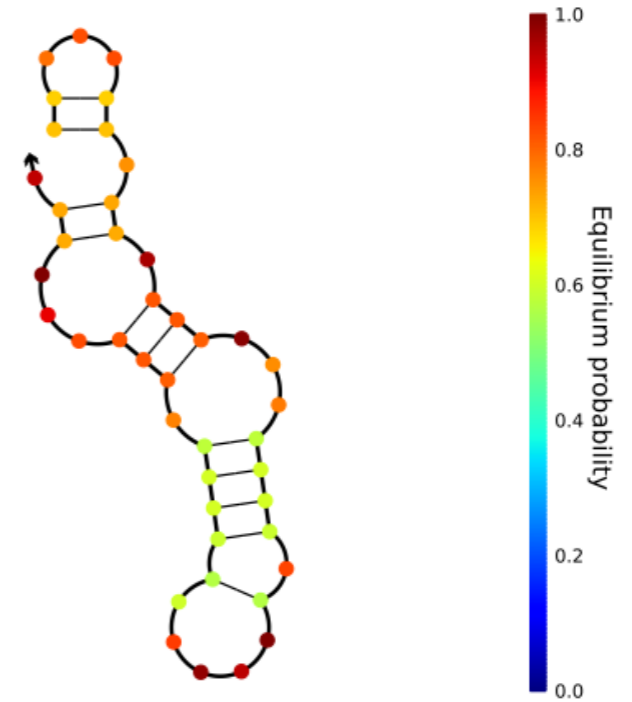
Different - Linear
Note Temperature Range



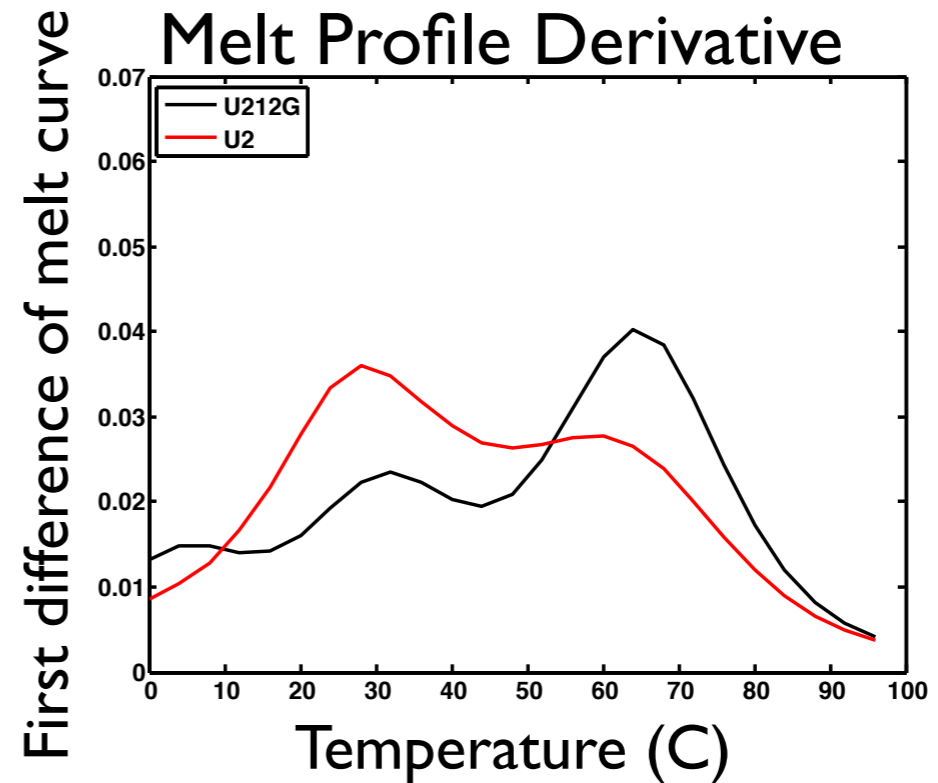
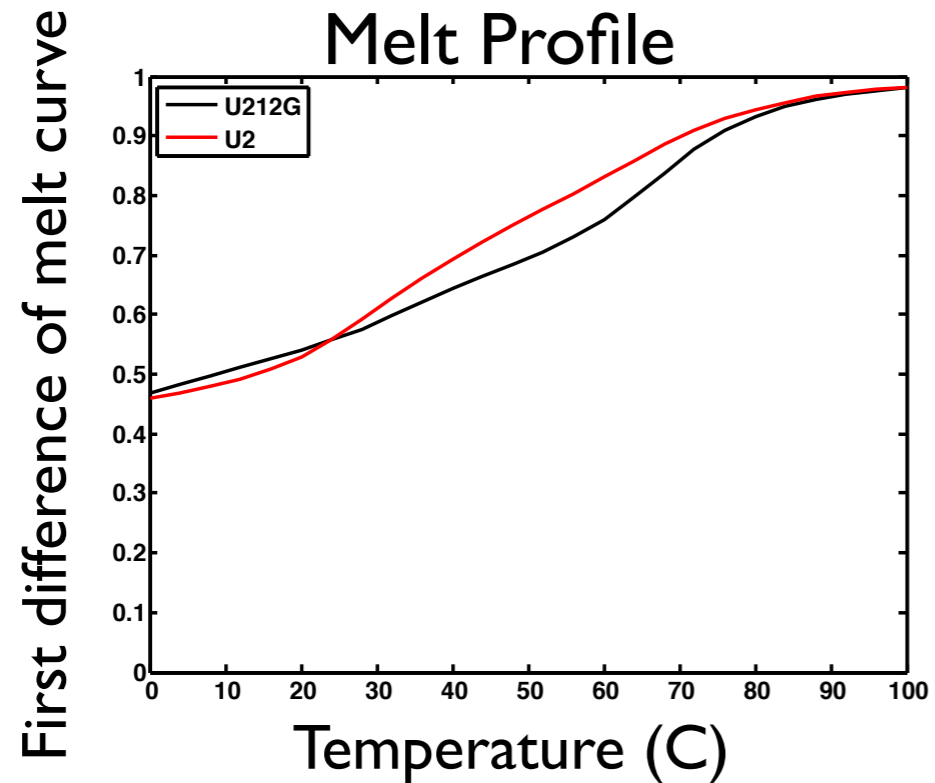
U212G

Different - Linear

MFE structure at 0.0 C



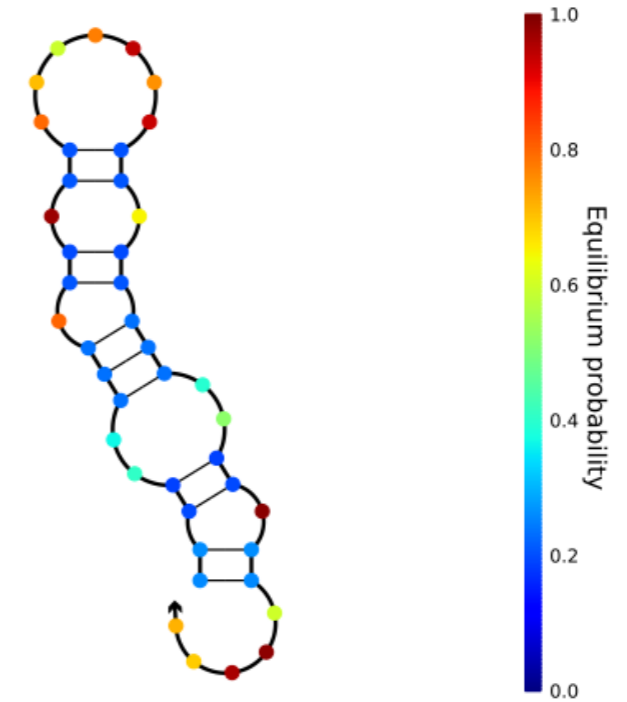
Free energy of secondary structure: -16.24 kcal/mol



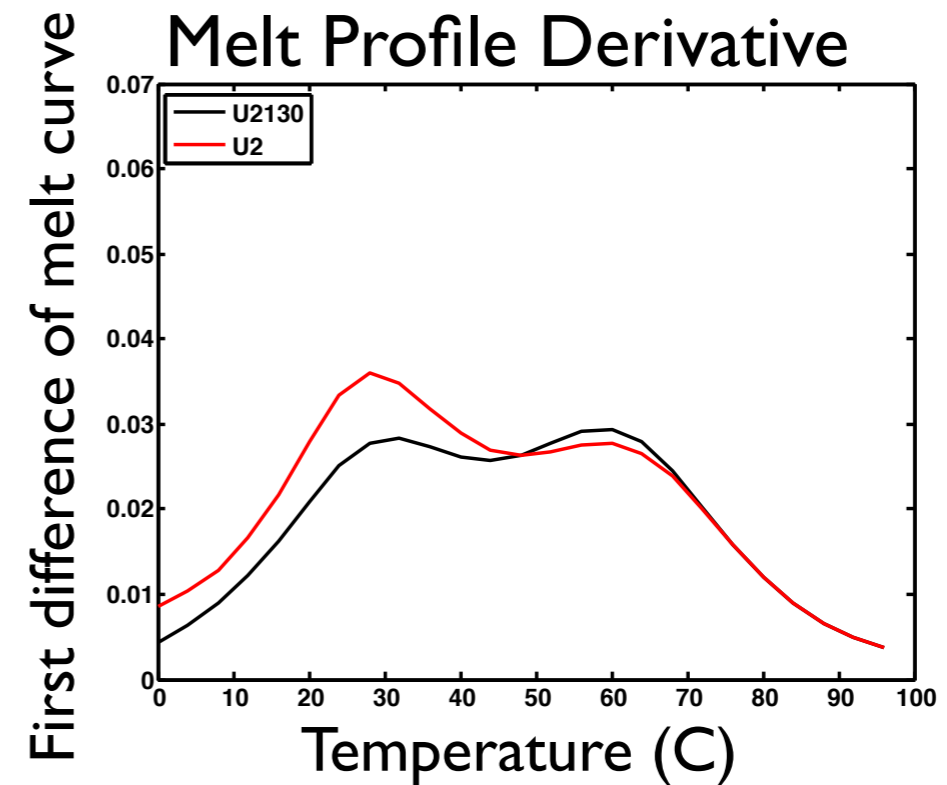
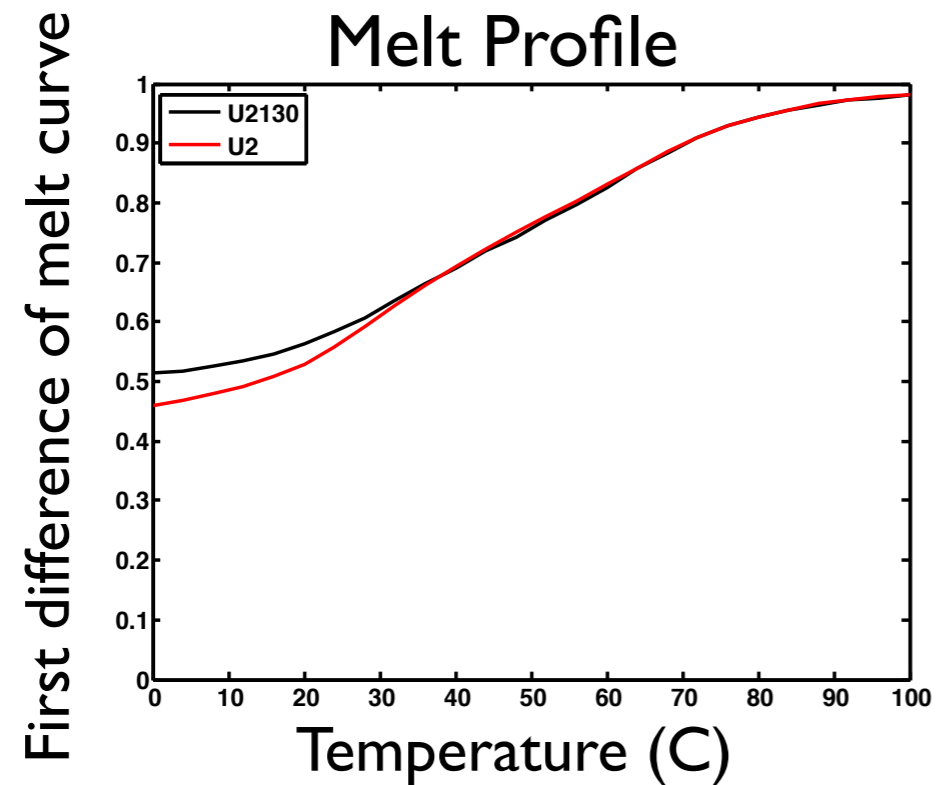
U2130

Same

MFE structure at 0.0 C

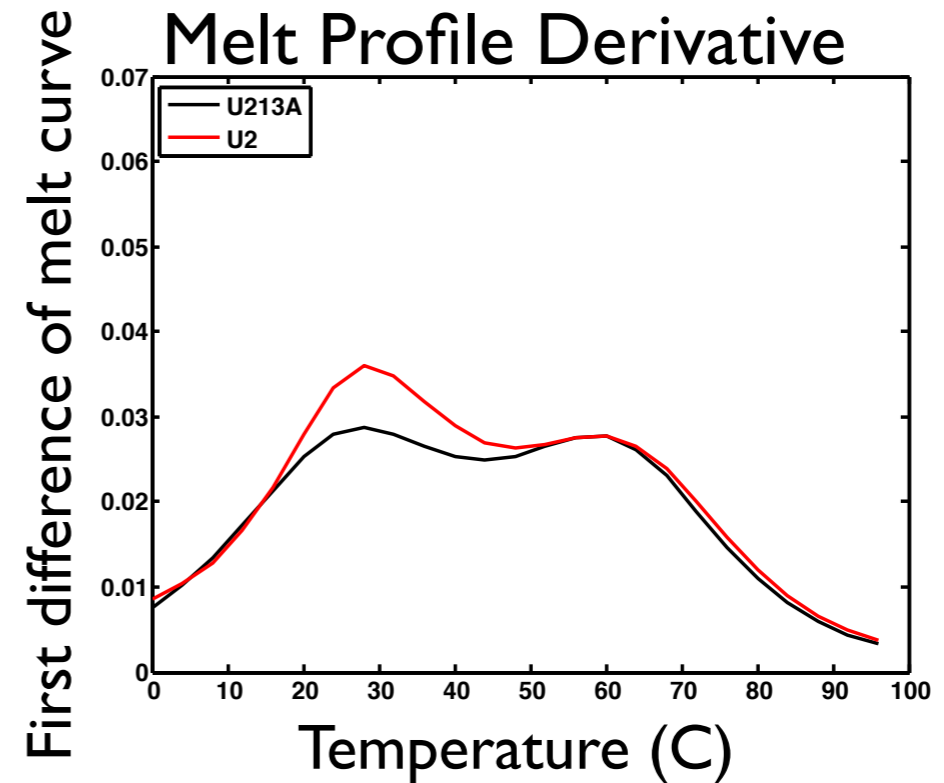
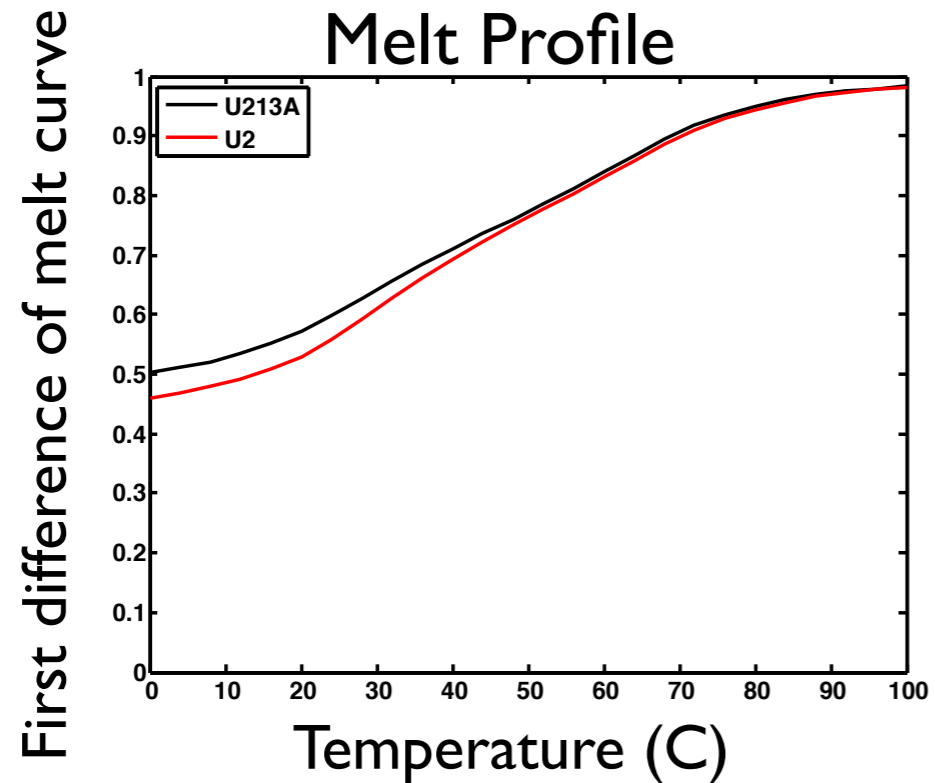
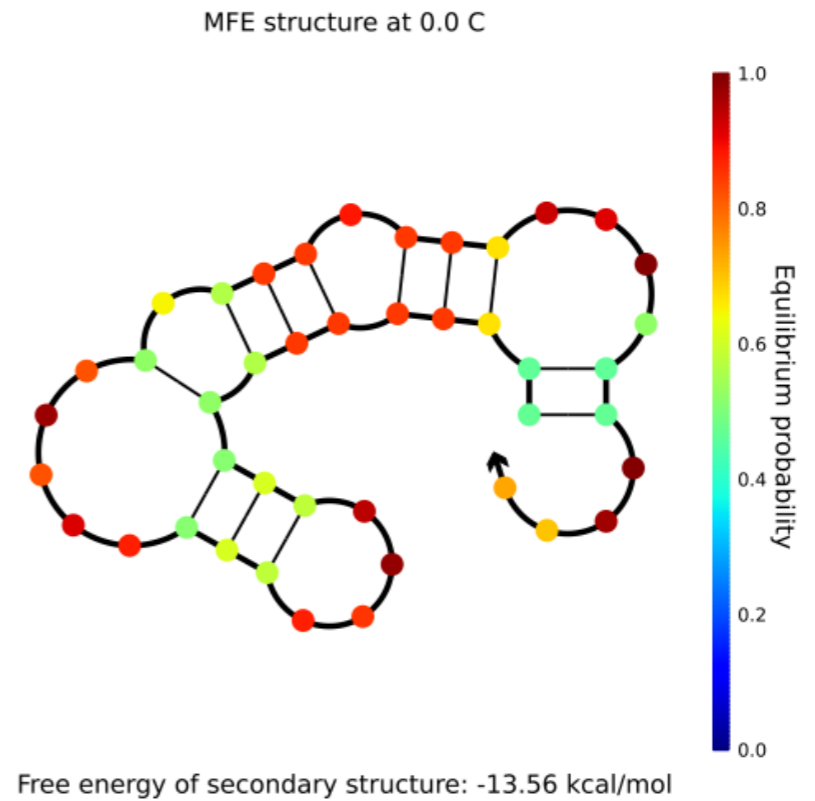


Free energy of secondary structure: -13.75 kcal/mol



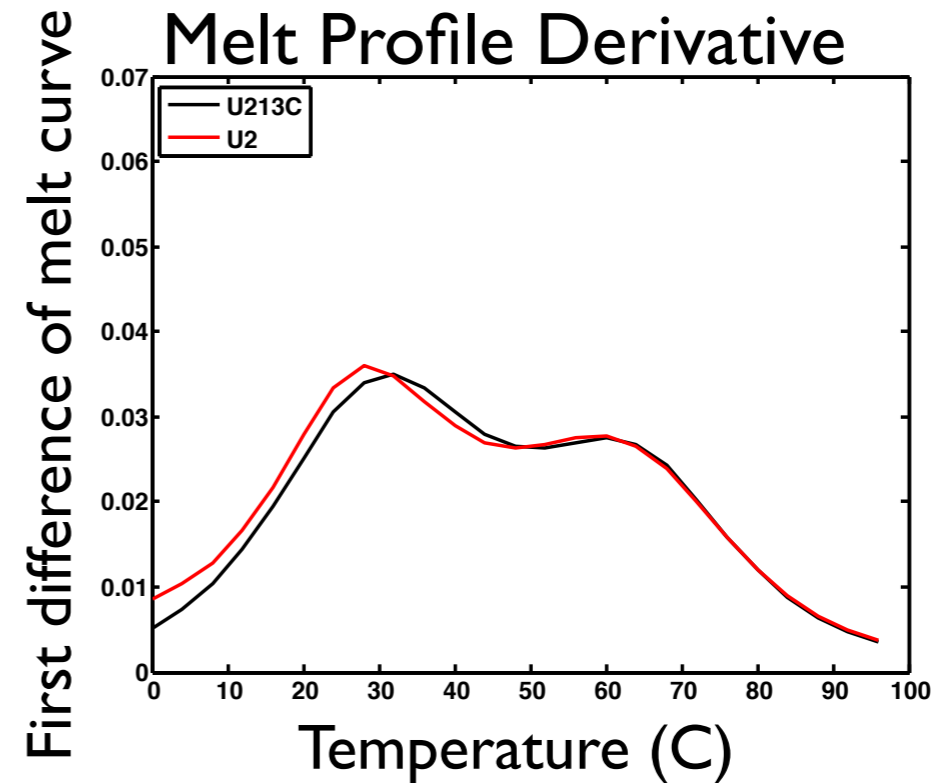
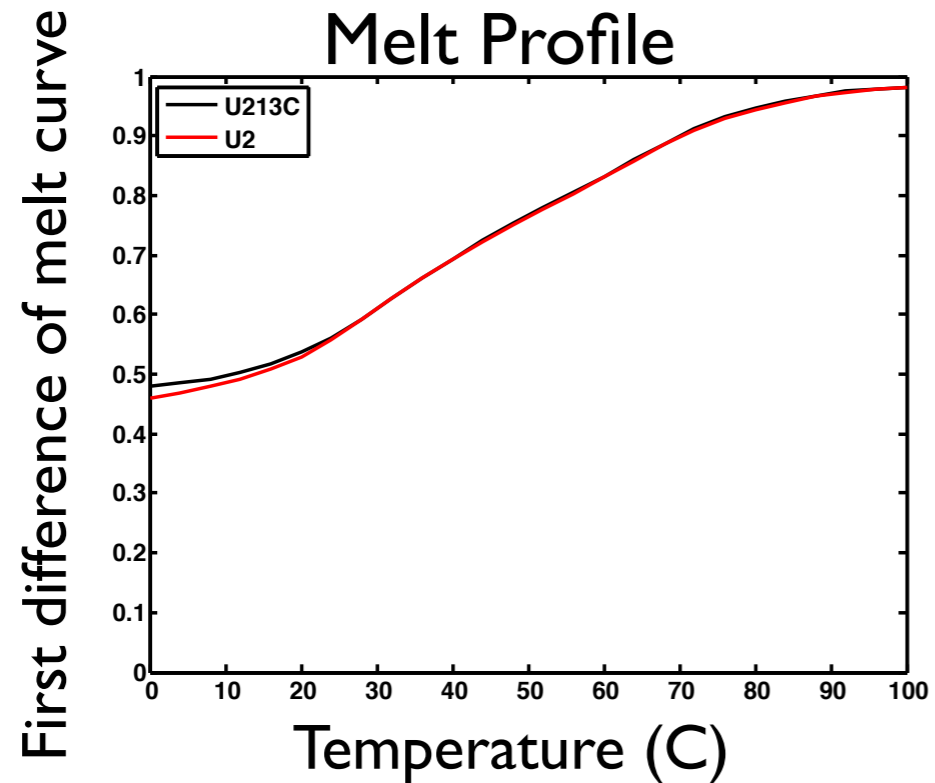
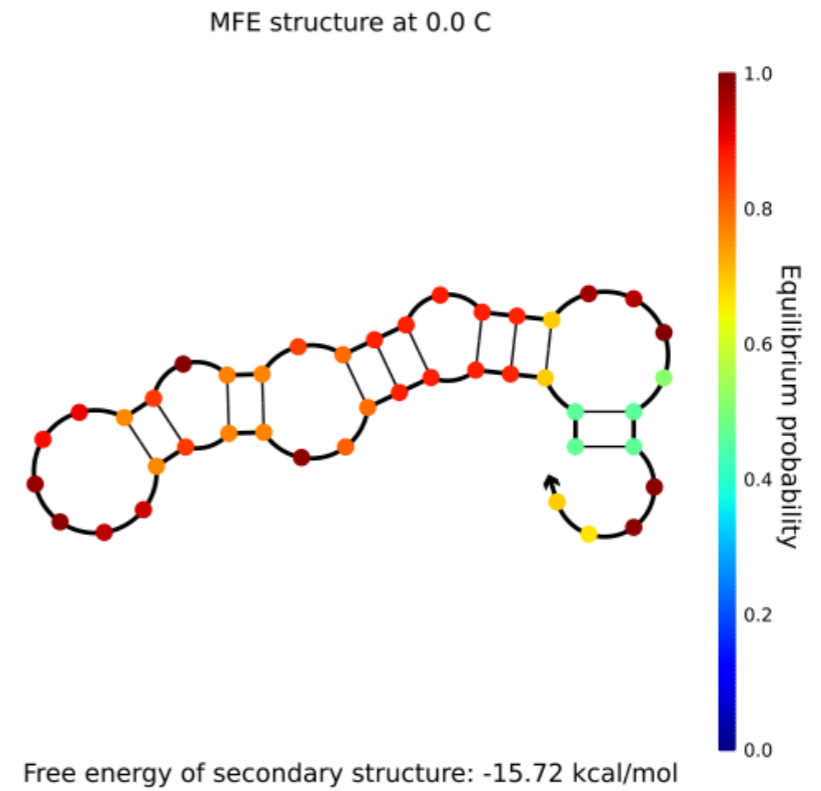
U213A

Same



U213C

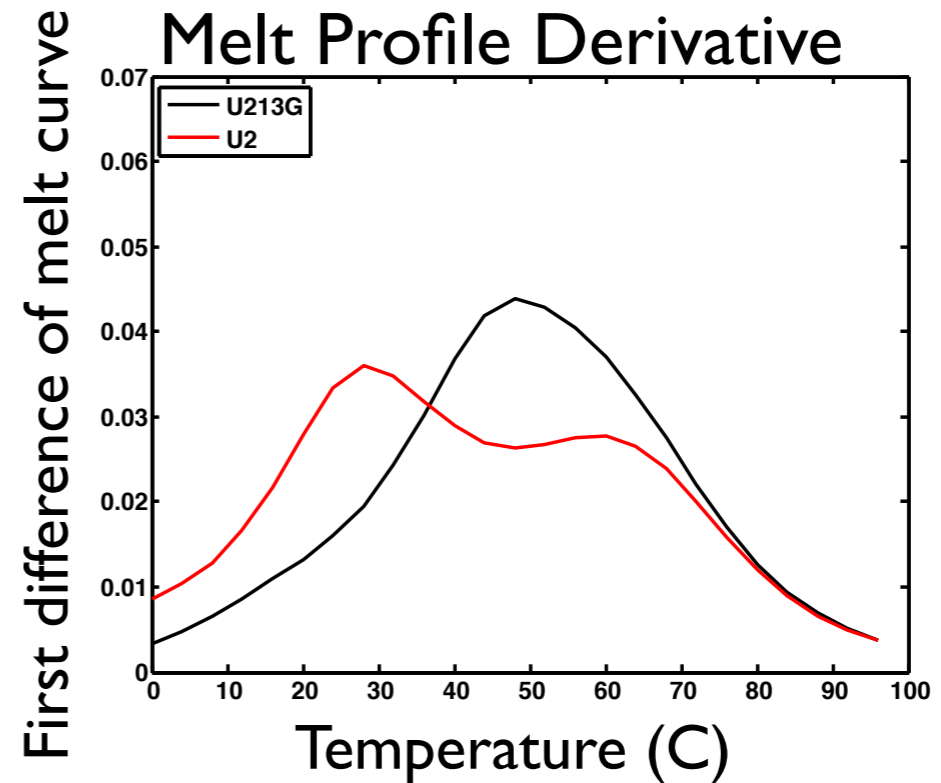
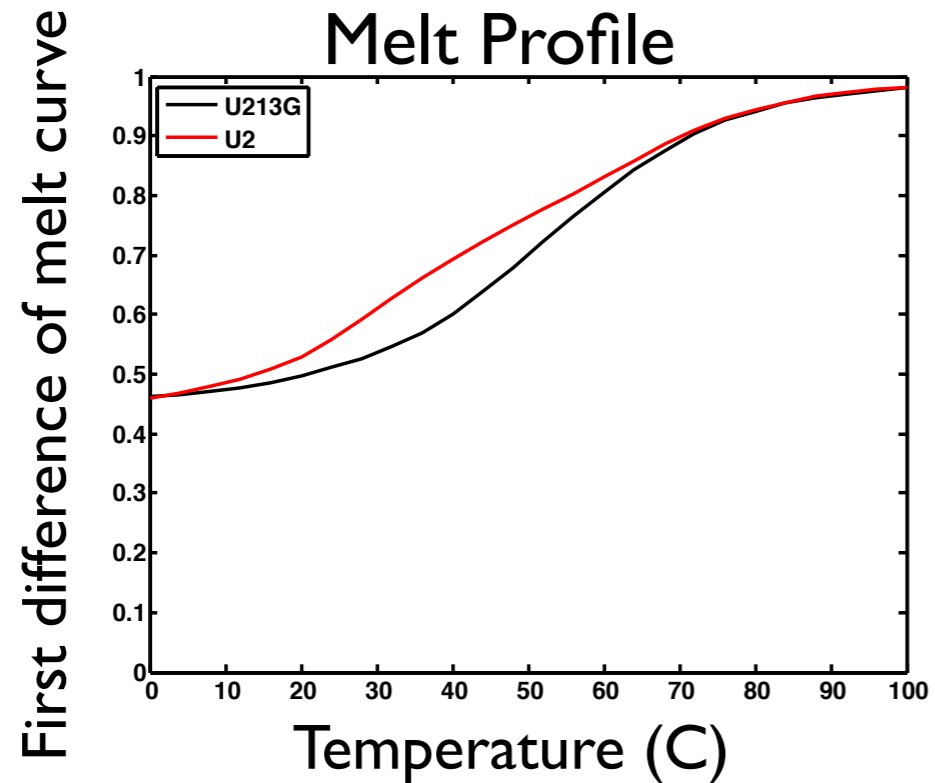
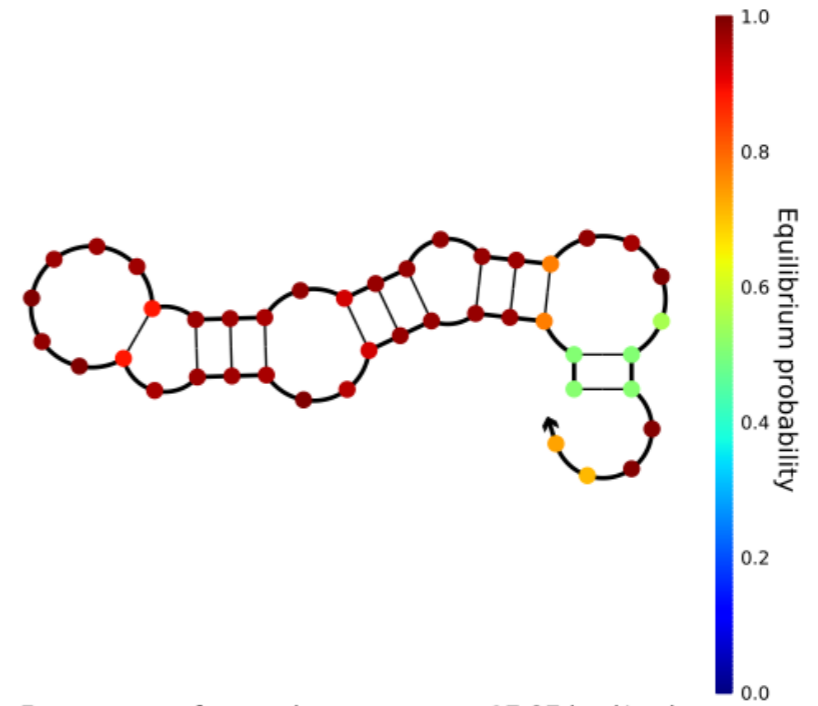
Same



U213G

Different - Threshold, shifted

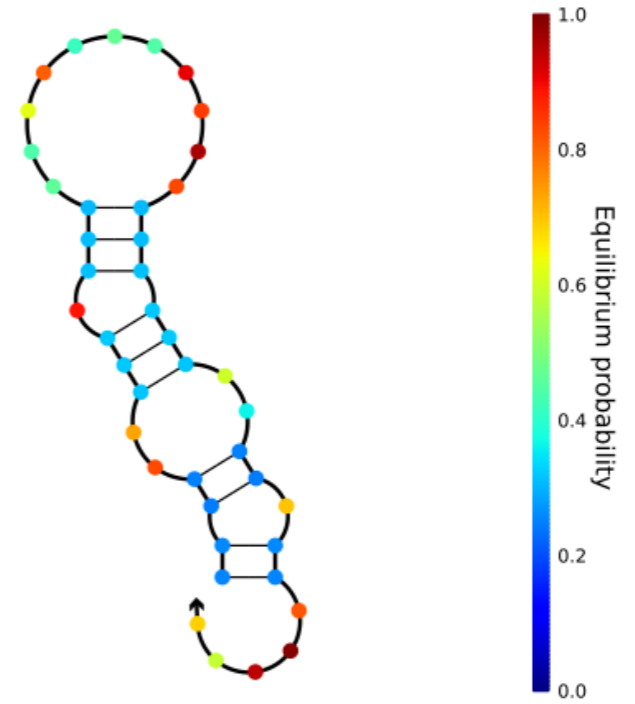
MFE structure at 0.0 C



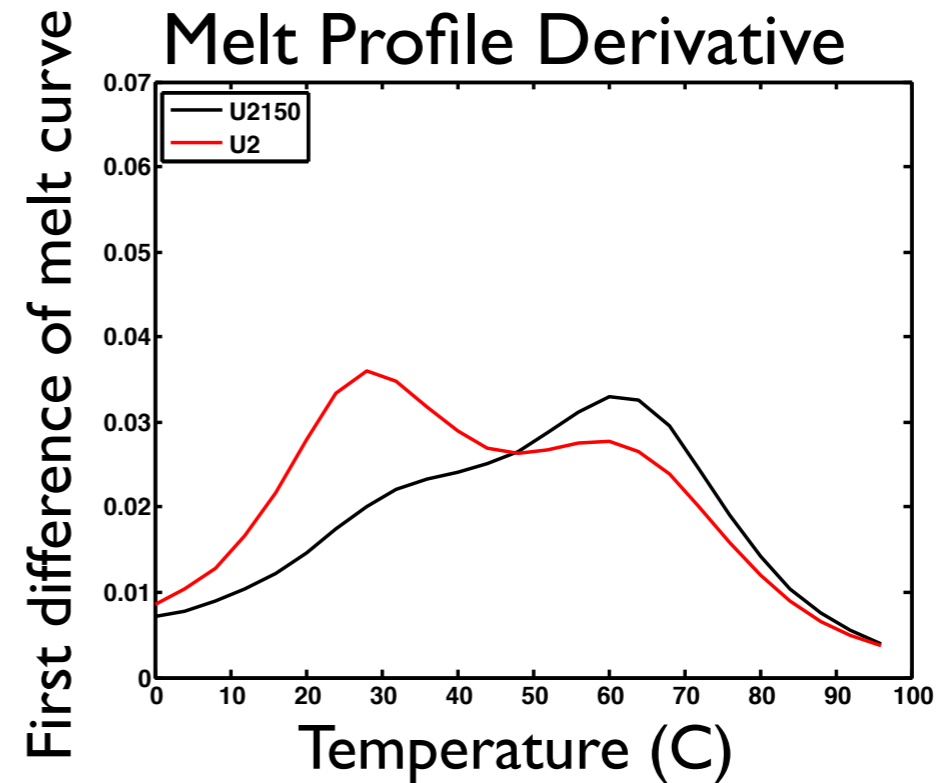
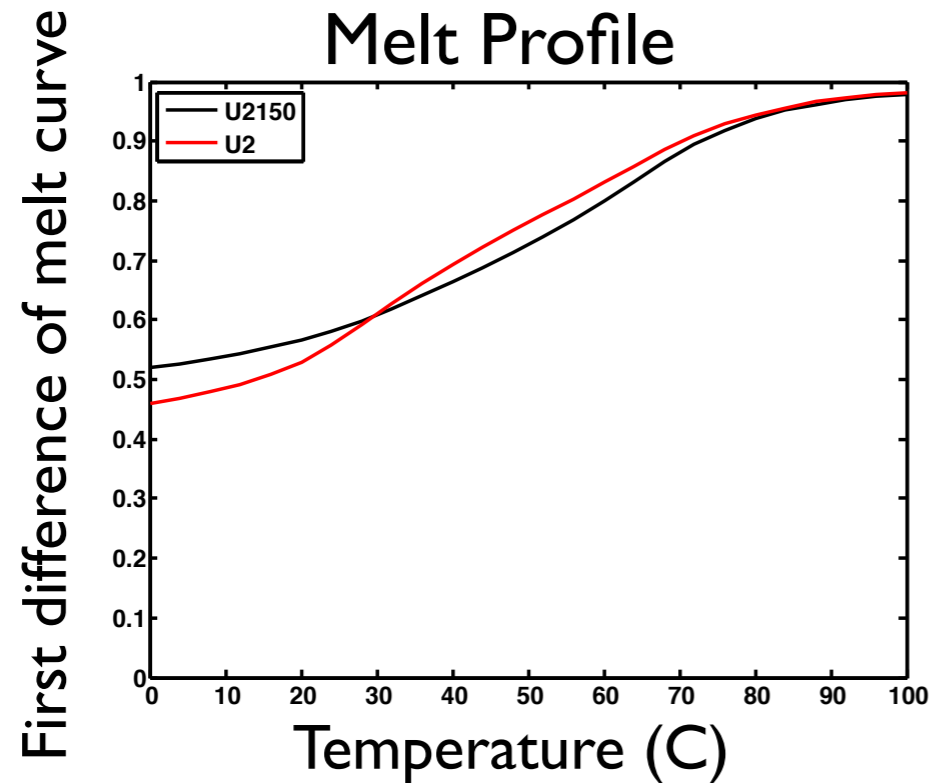
U2150

Different - shifted

MFE structure at 0.0 C



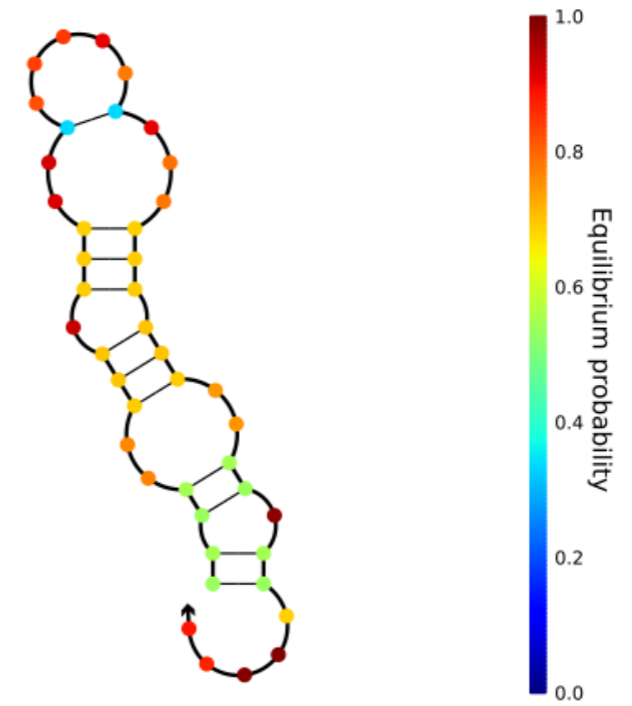
Free energy of secondary structure: -14.47 kcal/mol



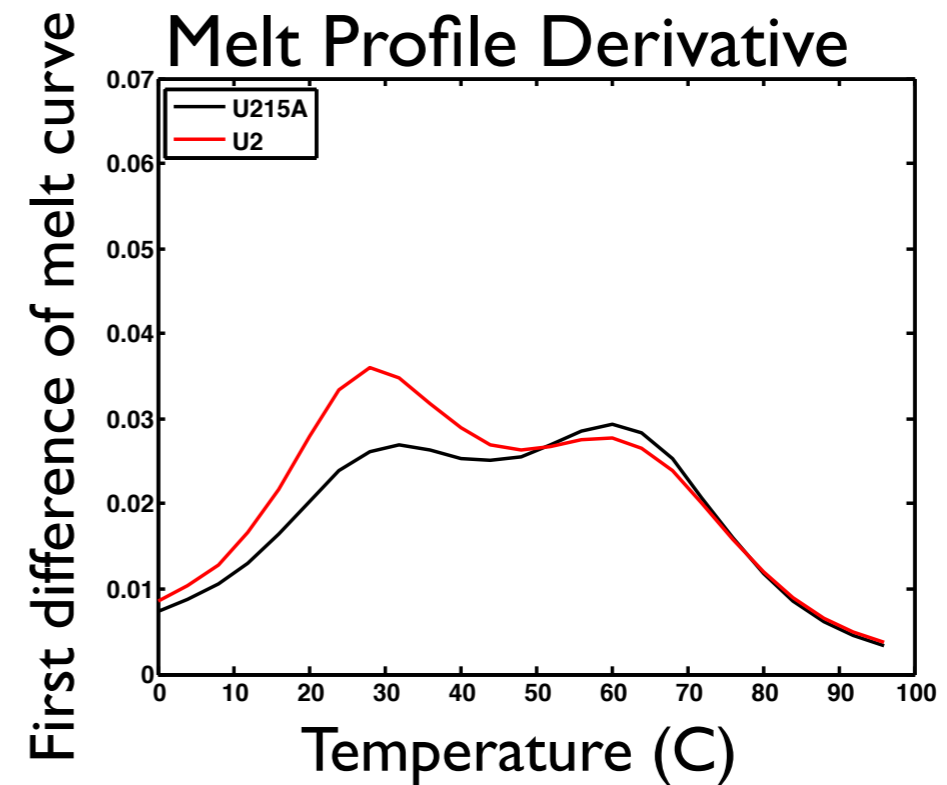
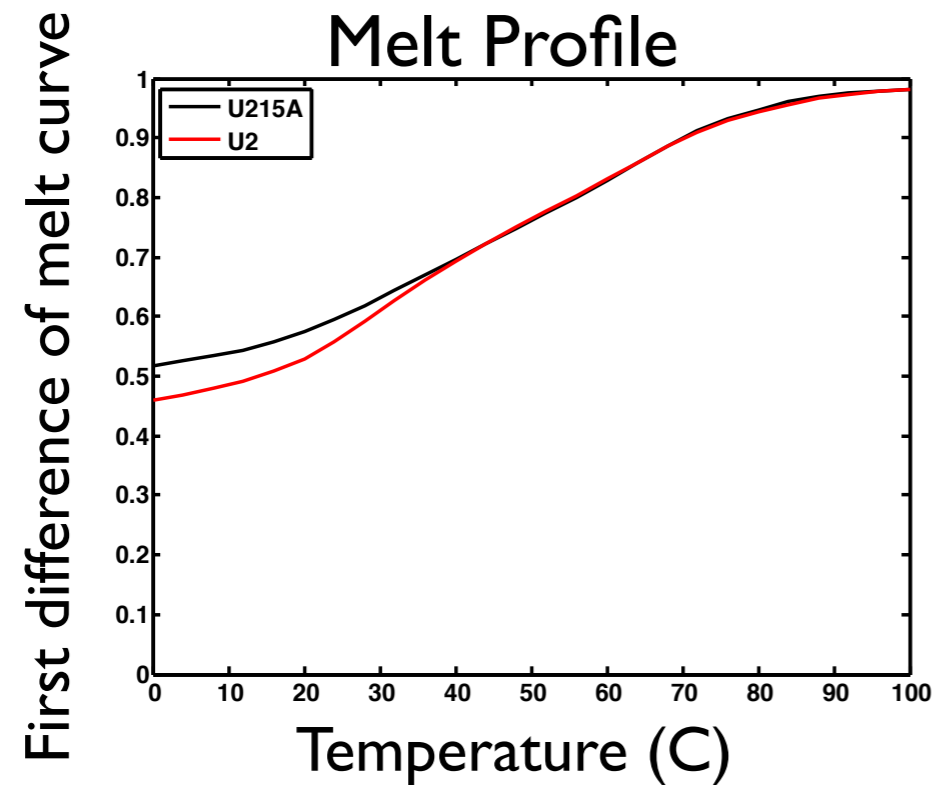
U215A

Same

MFE structure at 0.0 C



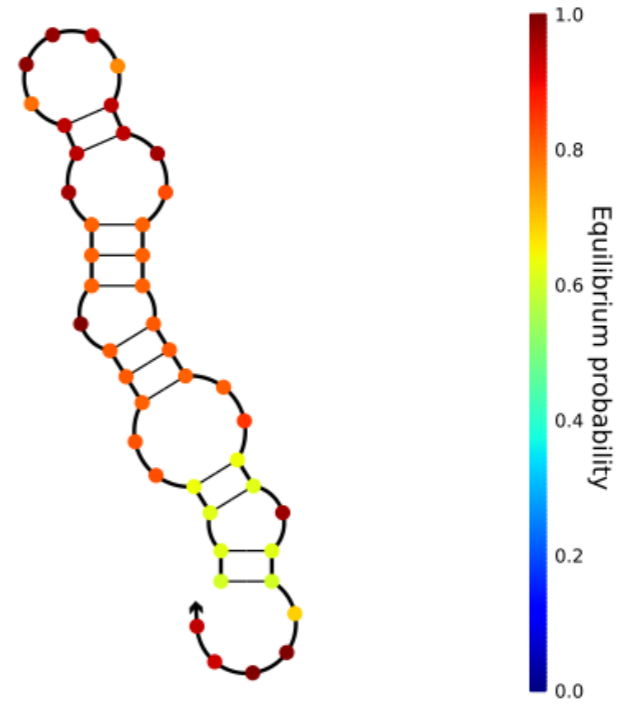
Free energy of secondary structure: -14.60 kcal/mol



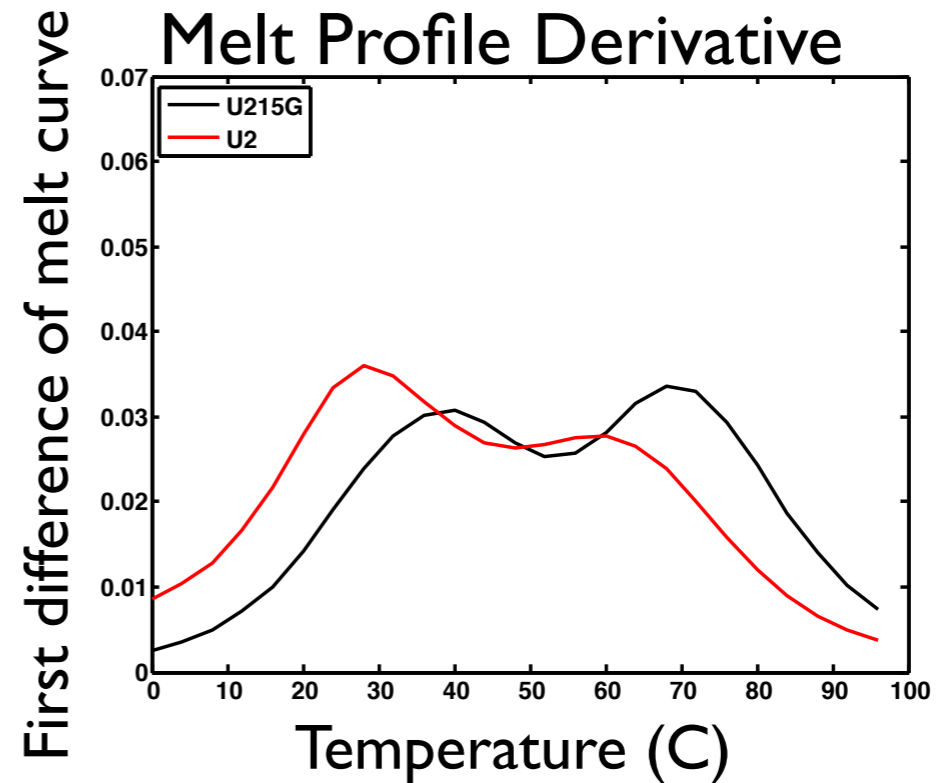
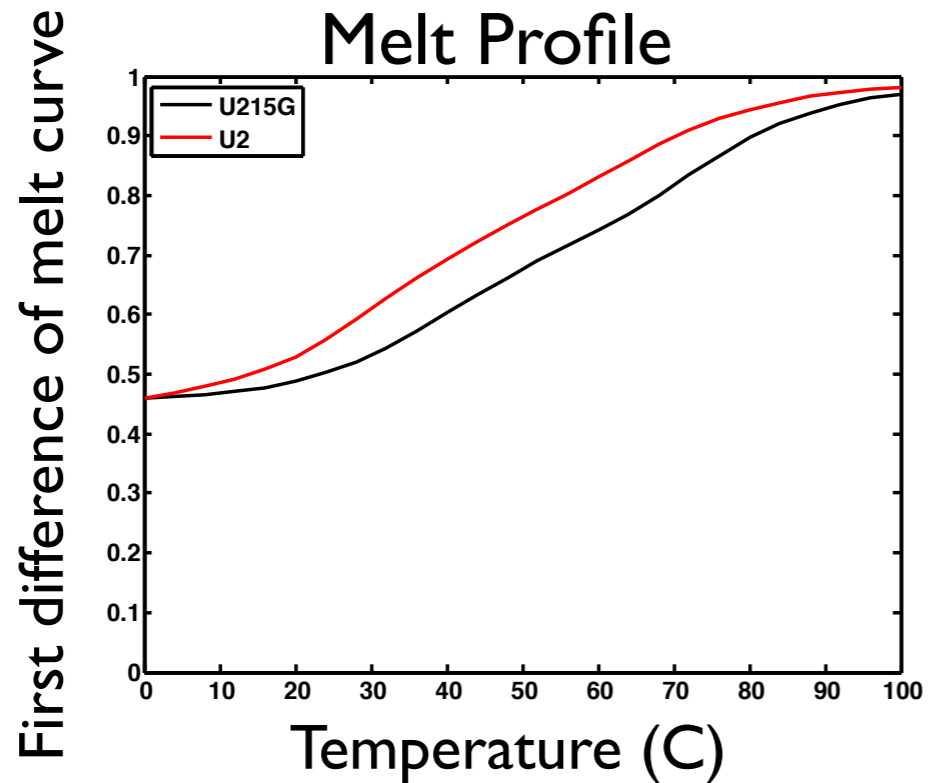
U215G

Different - shifted

MFE structure at 0.0 C



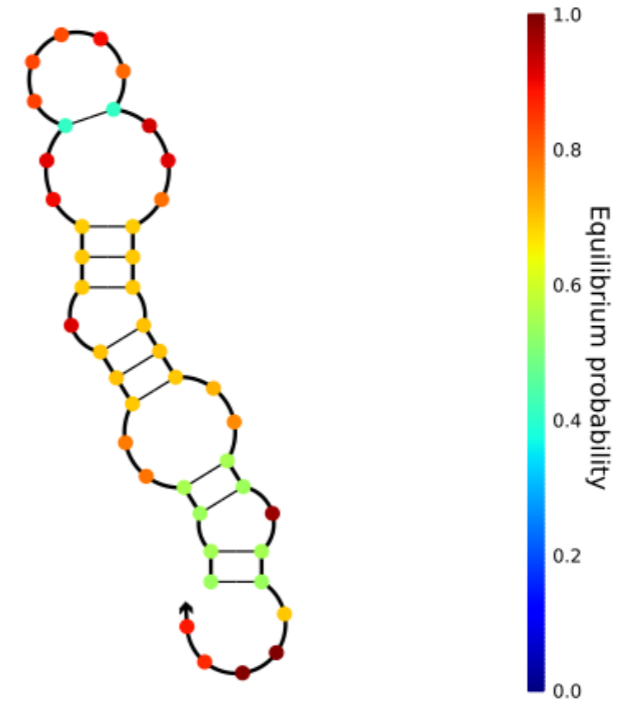
Free energy of secondary structure: -17.44 kcal/mol



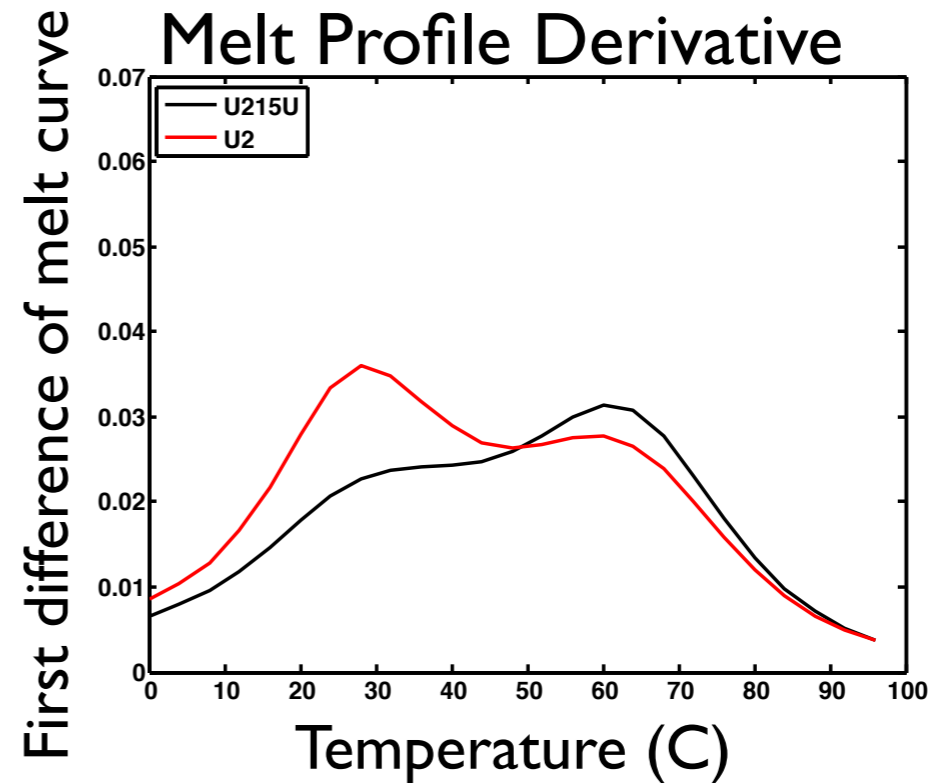
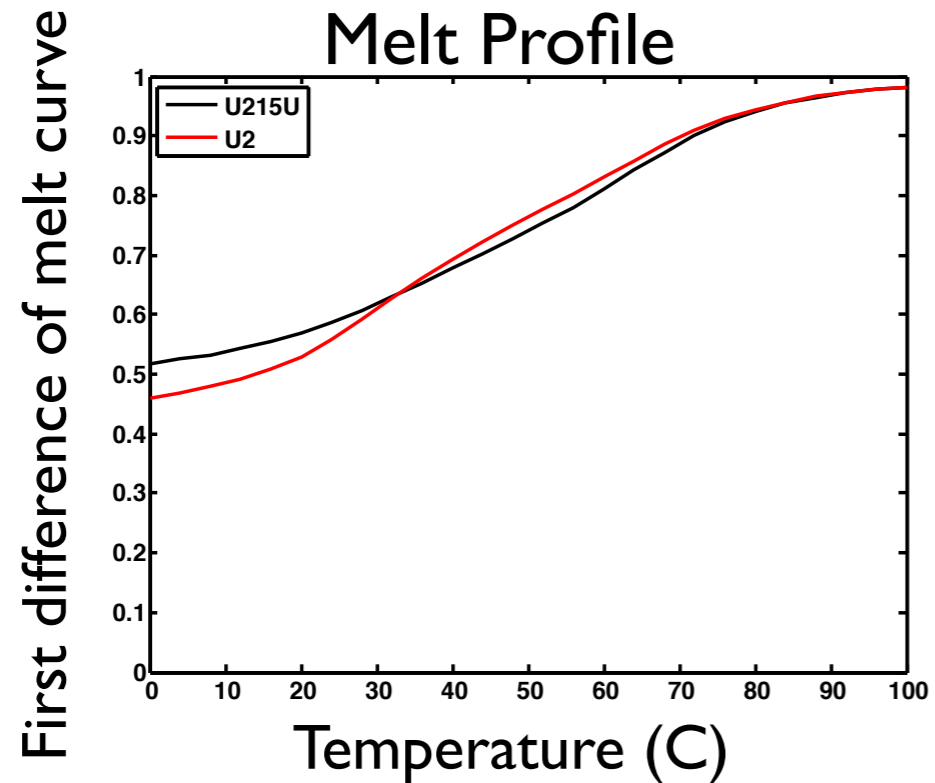
U215U

Different

MFE structure at 0.0 C



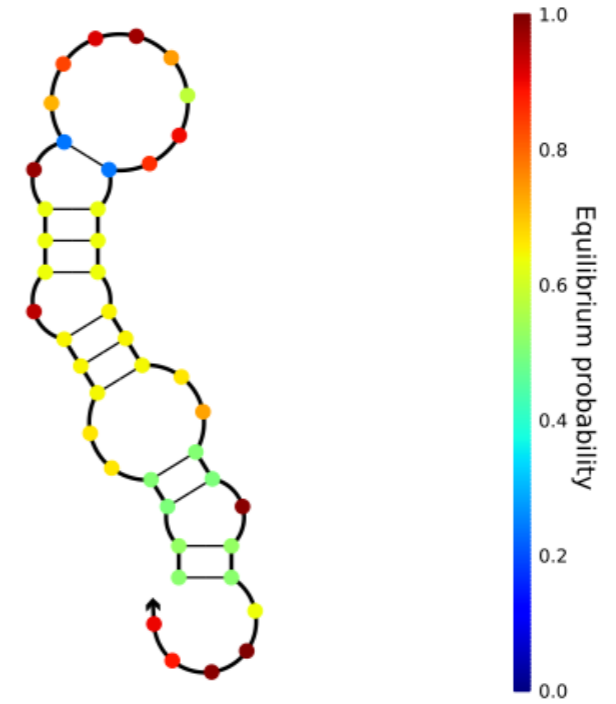
Free energy of secondary structure: -14.58 kcal/mol



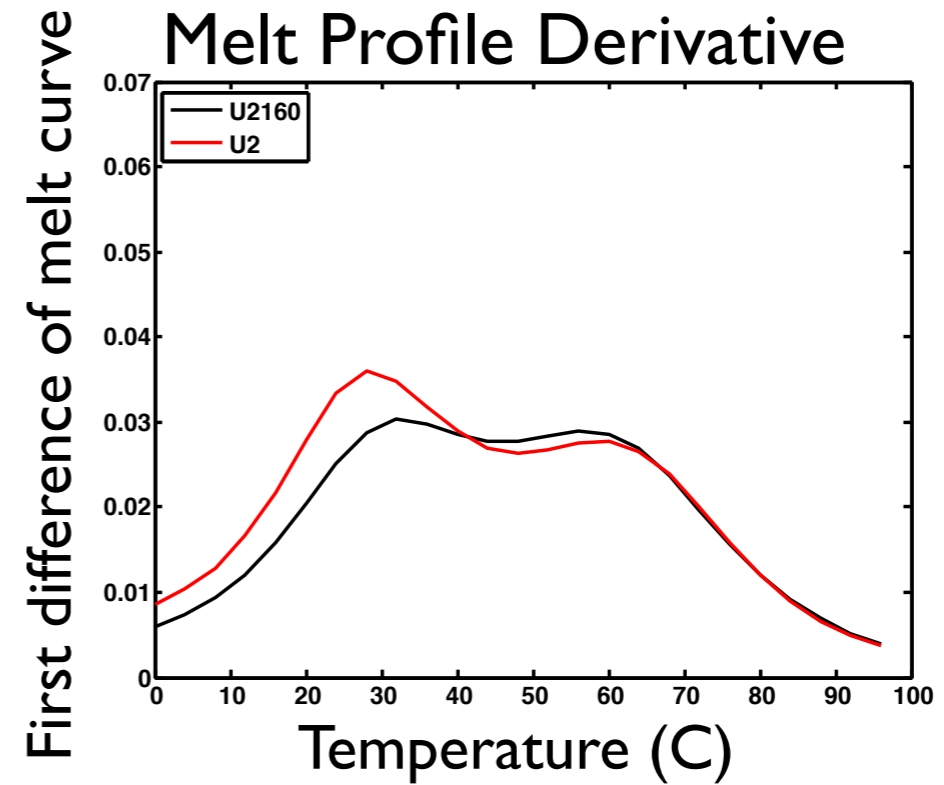
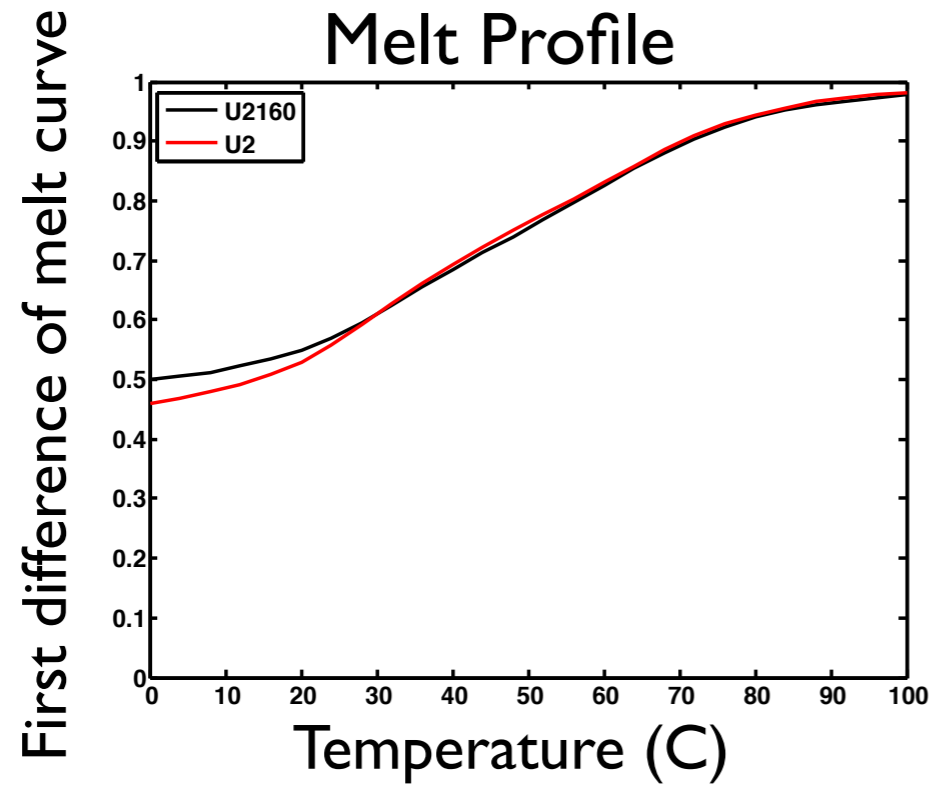
U2160

Same

MFE structure at 0.0 C



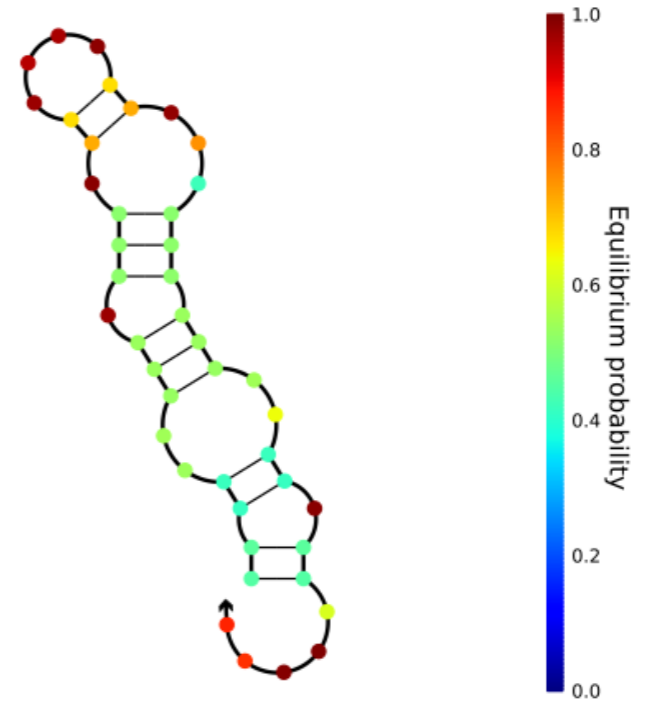
Free energy of secondary structure: -14.73 kcal/mol



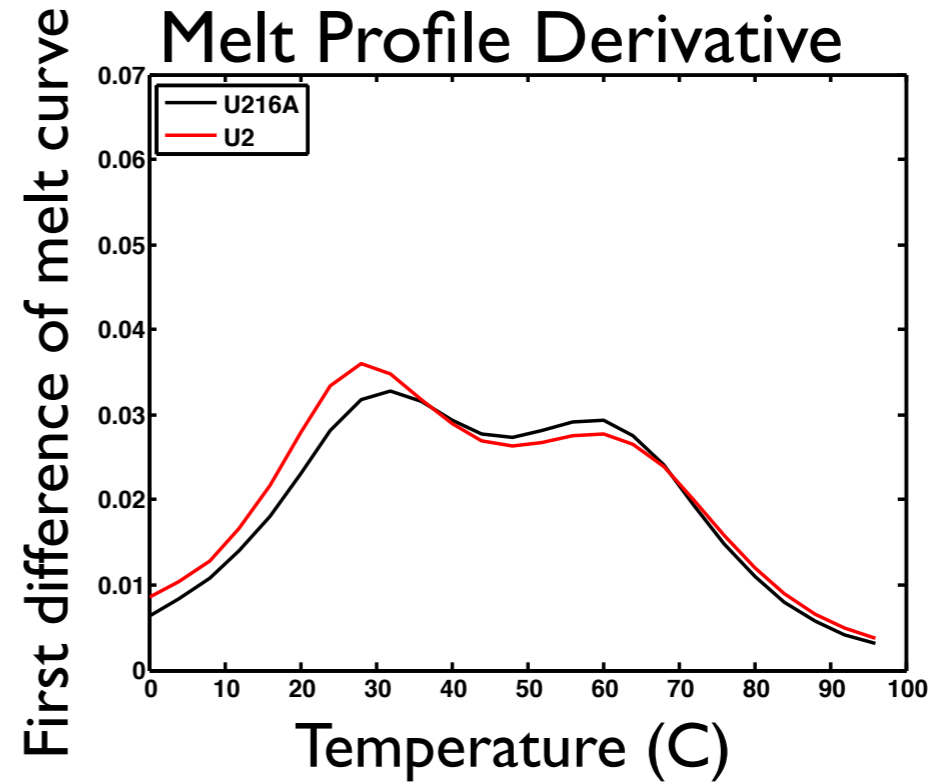
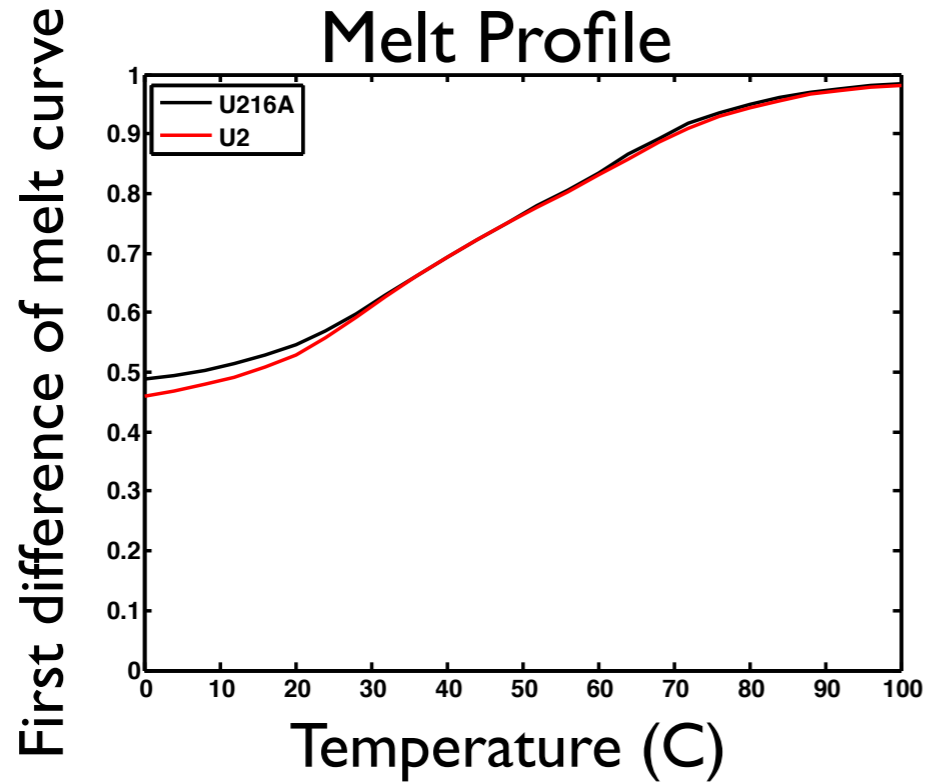
U216A

Same

MFE structure at 0.0 C



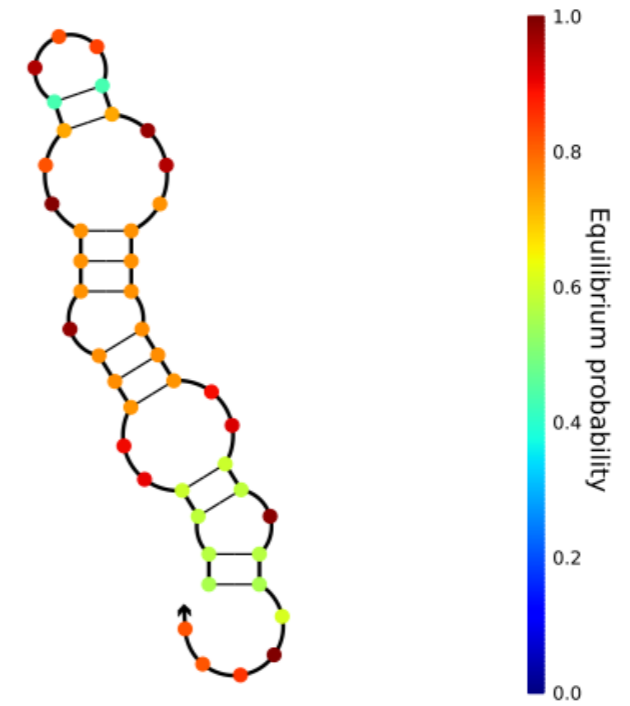
Free energy of secondary structure: -15.15 kcal/mol



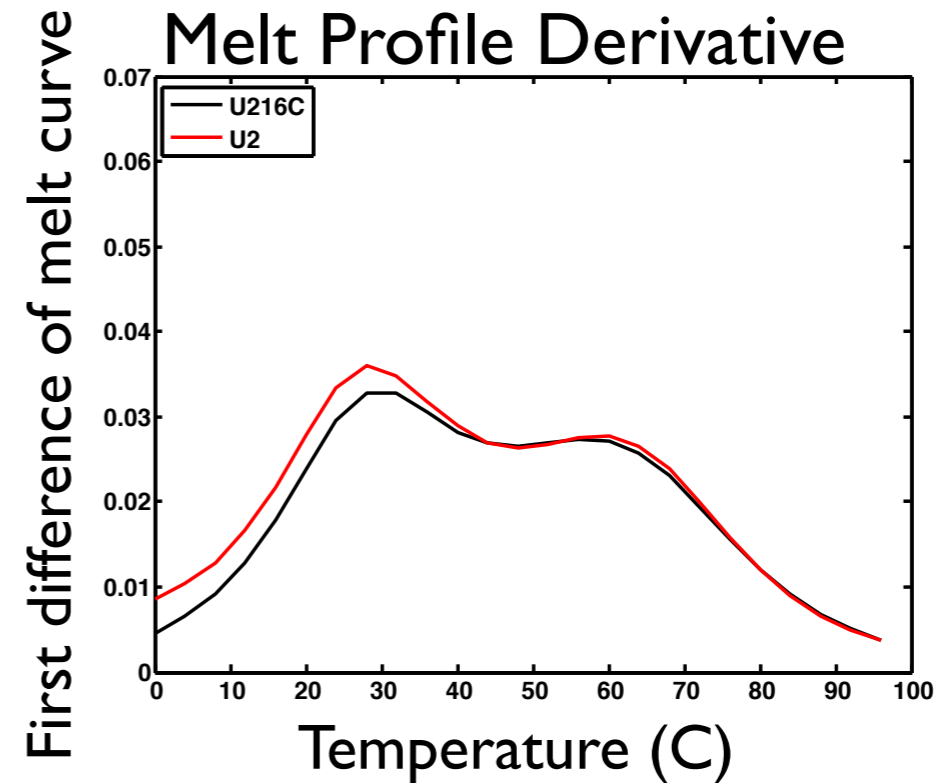
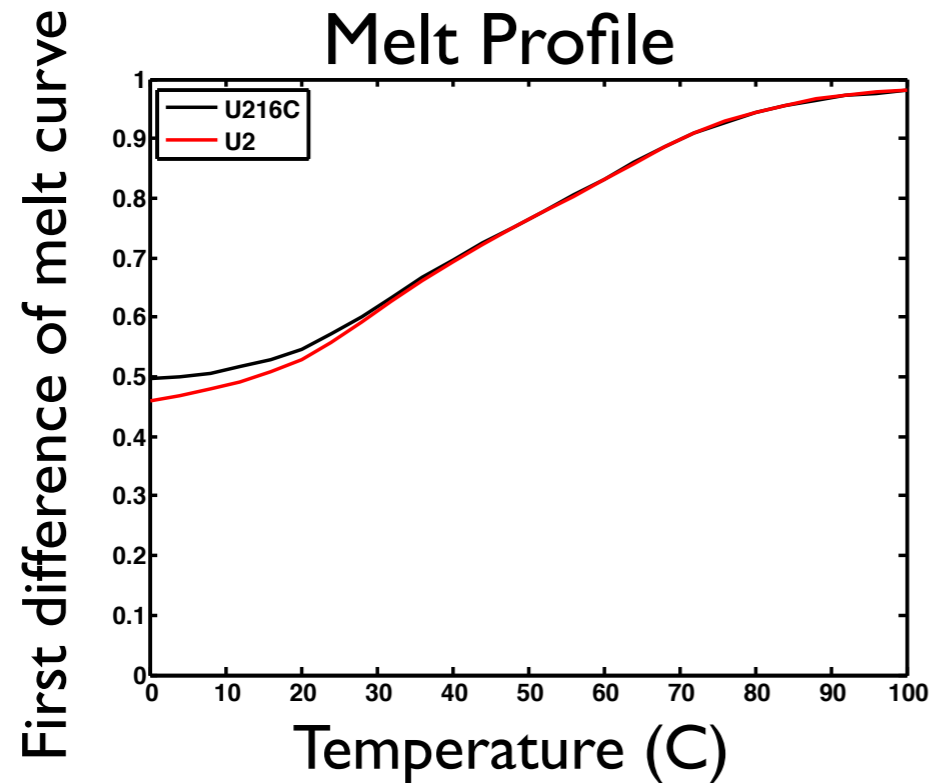
U216C

Same

MFE structure at 0.0 C



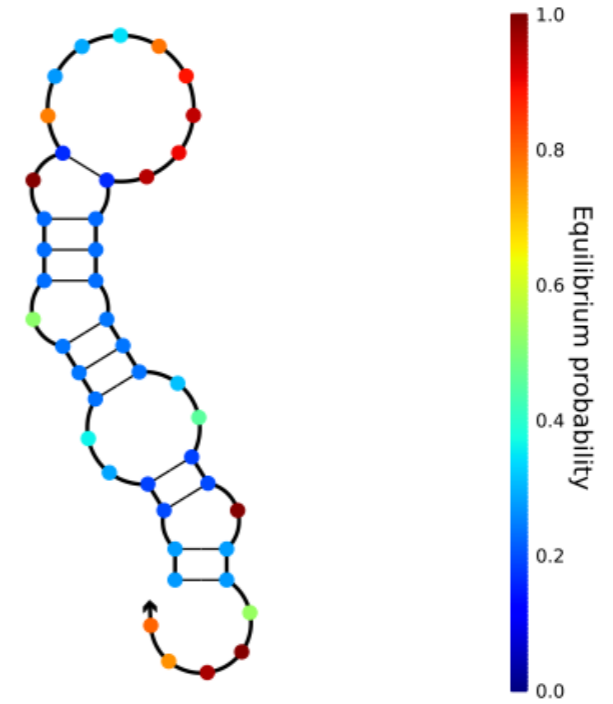
Free energy of secondary structure: -15.56 kcal/mol



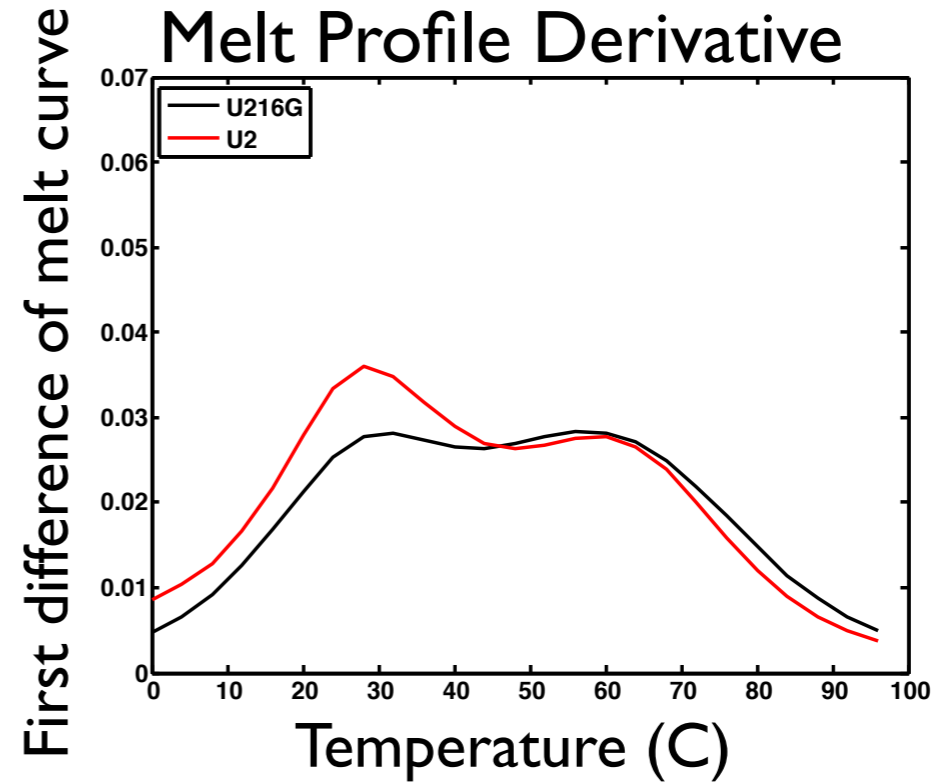
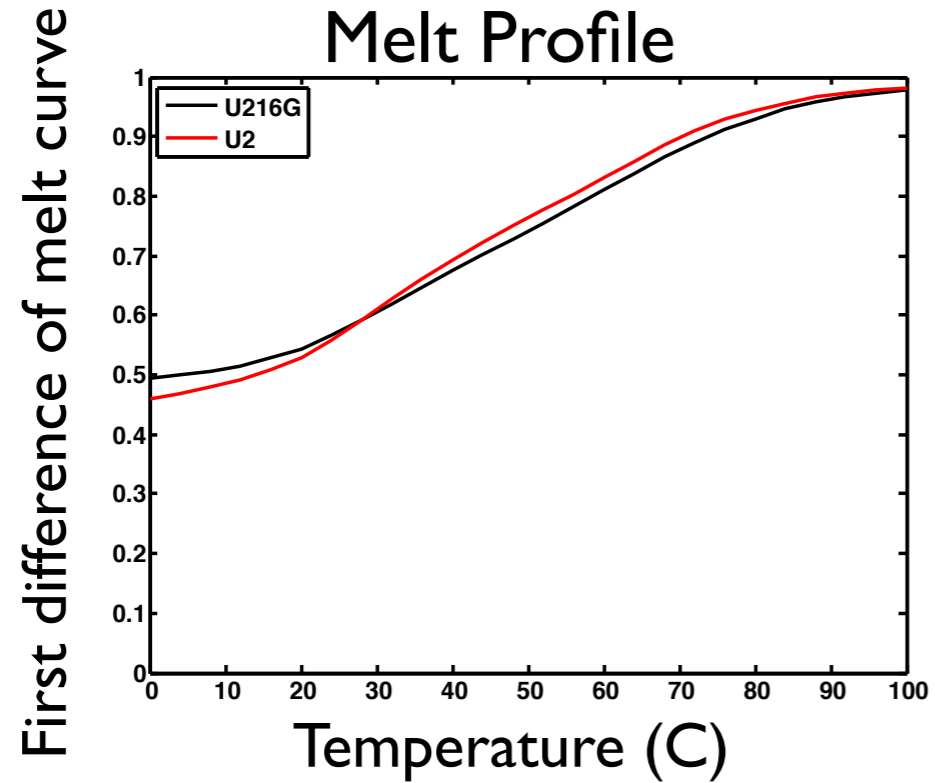
U216G

Same

MFE structure at 0.0 C



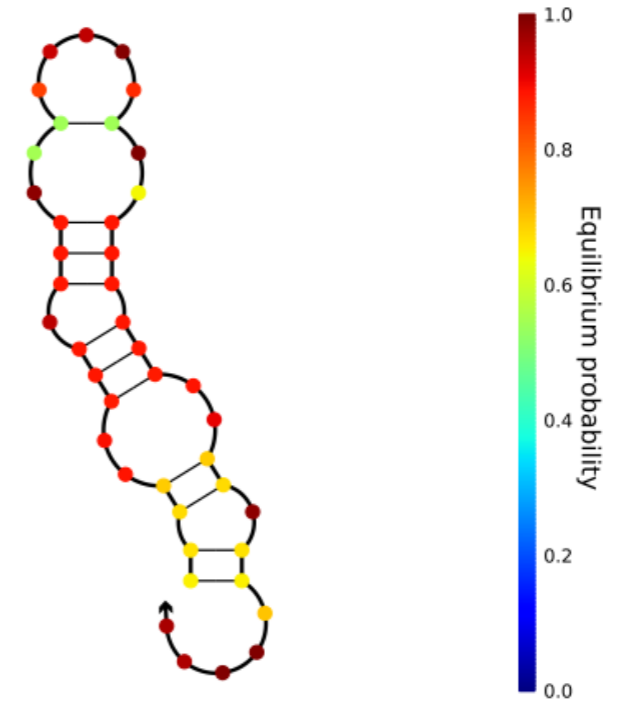
Free energy of secondary structure: -15.15 kcal/mol



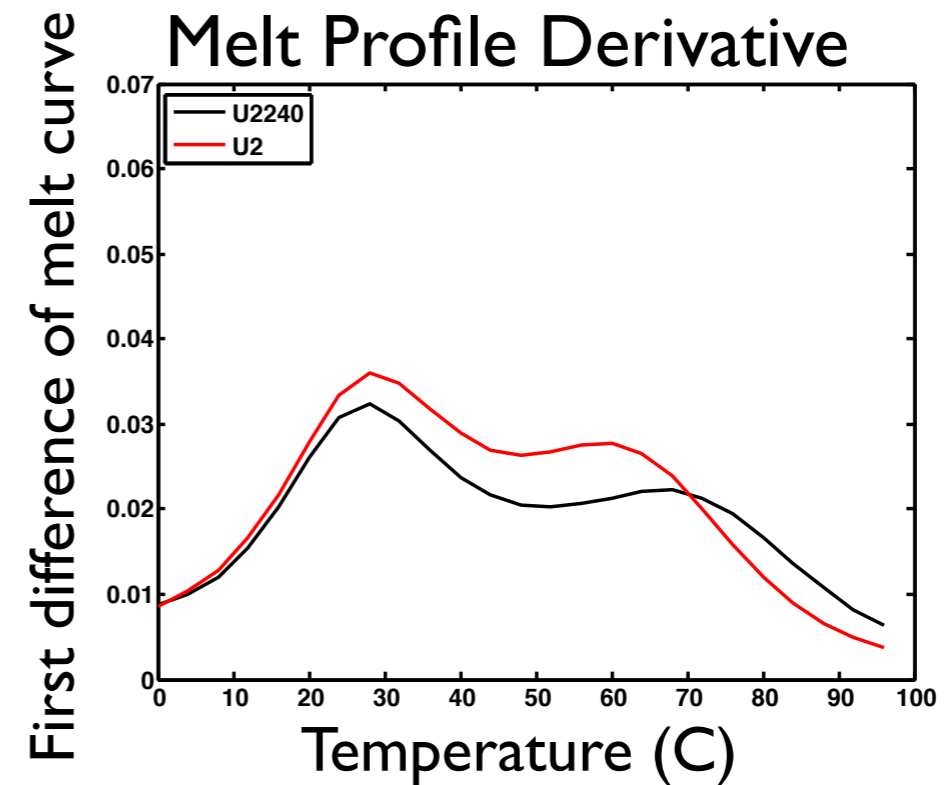
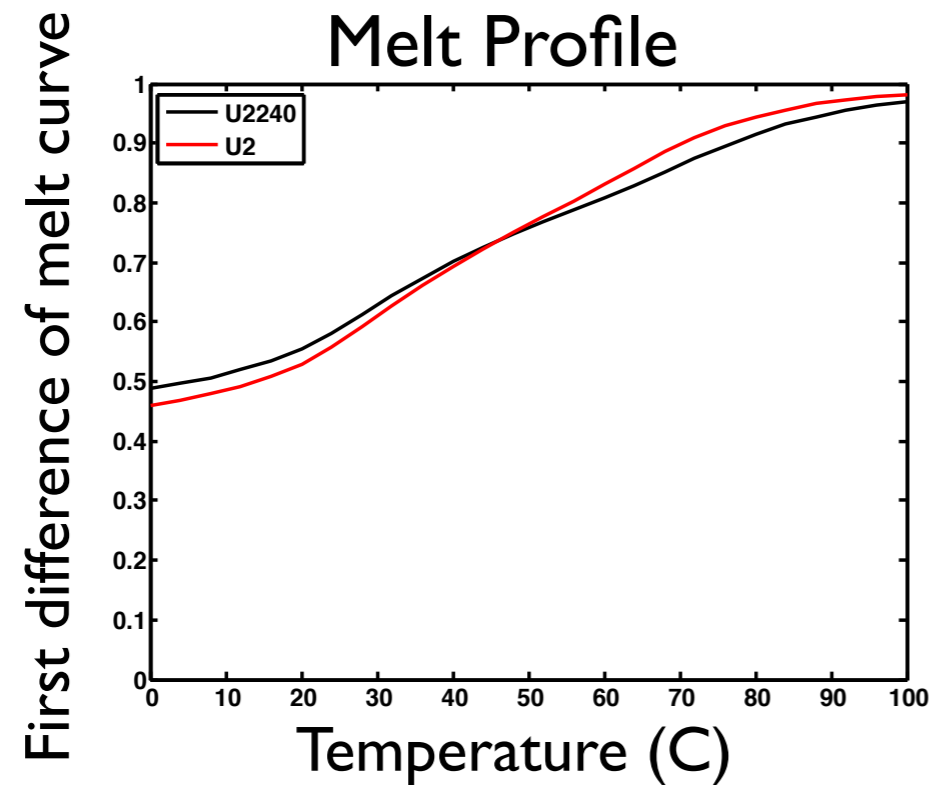
U2240

Same

MFE structure at 0.0 C



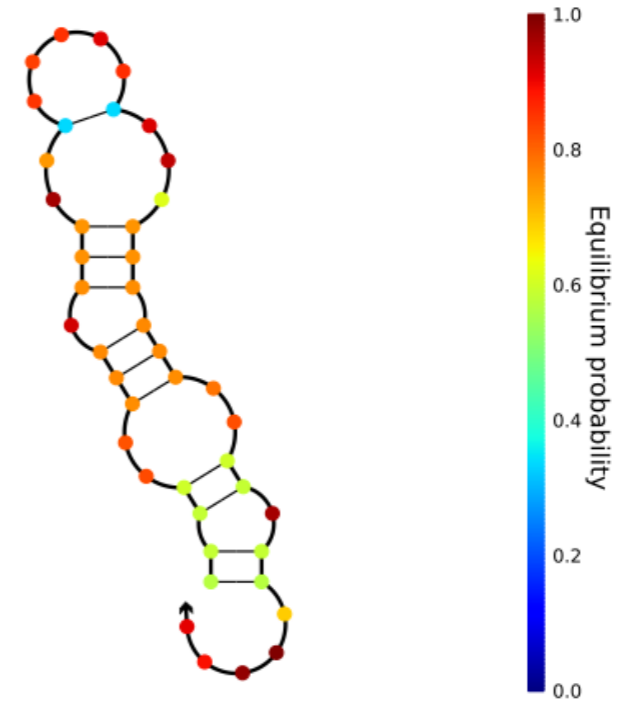
Free energy of secondary structure: -15.19 kcal/mol



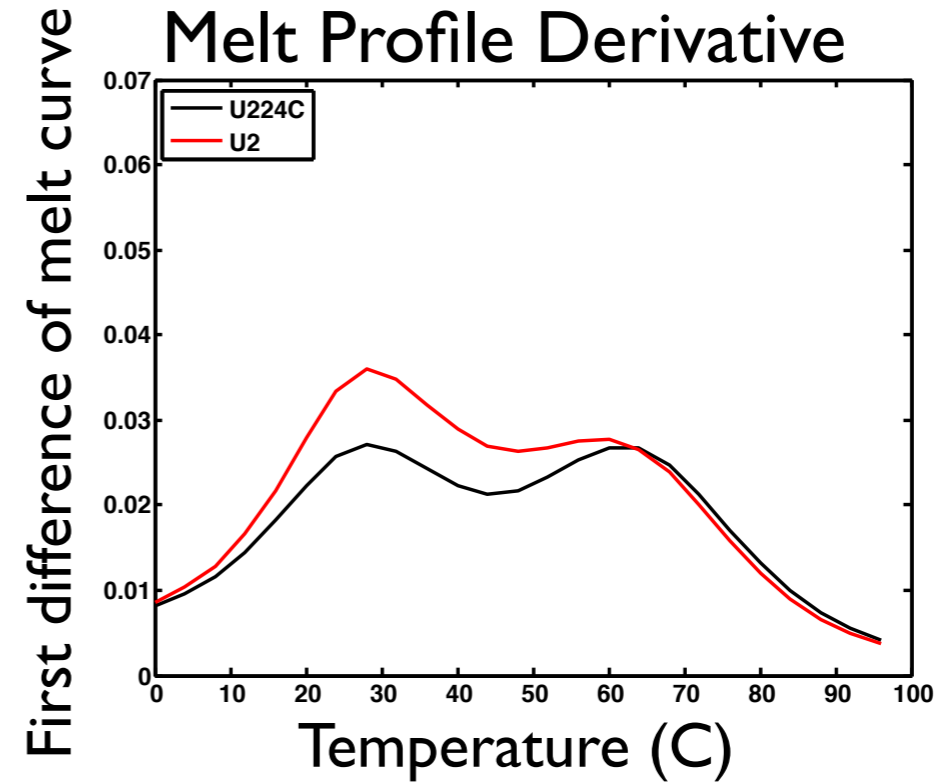
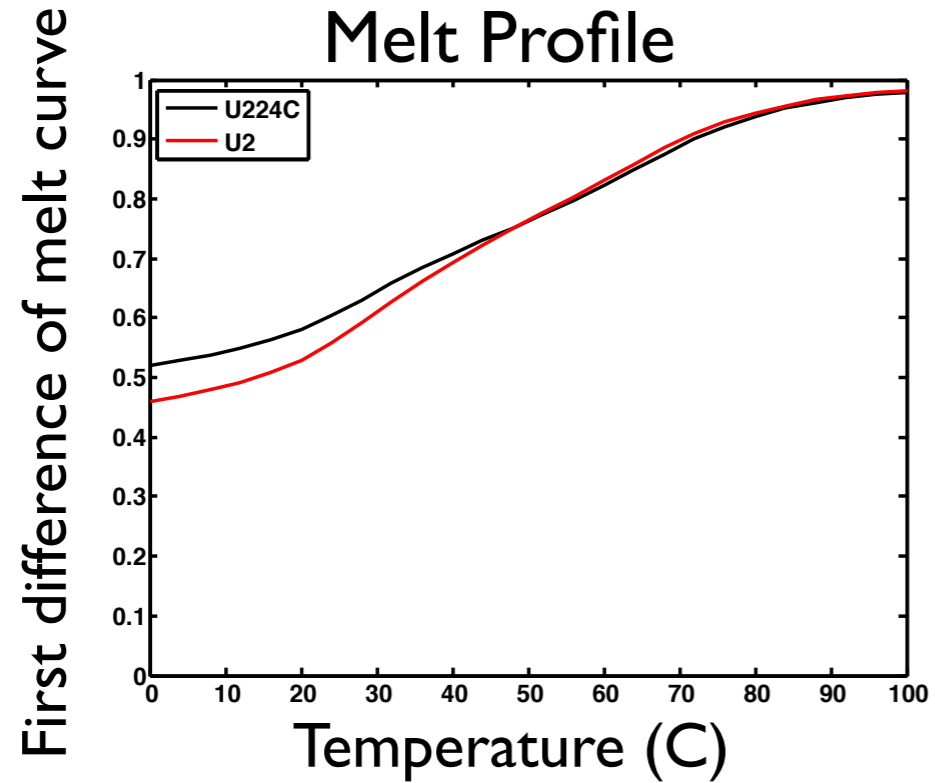
U224C

Same

MFE structure at 0.0 C



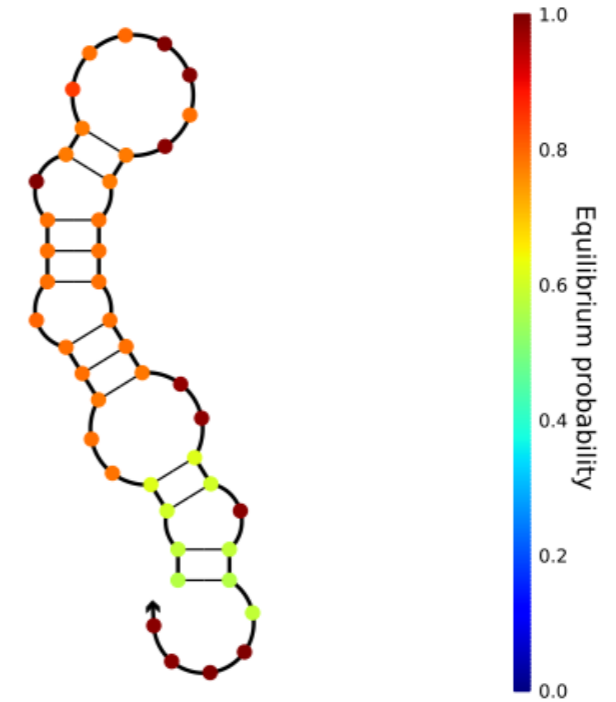
Free energy of secondary structure: -14.58 kcal/mol



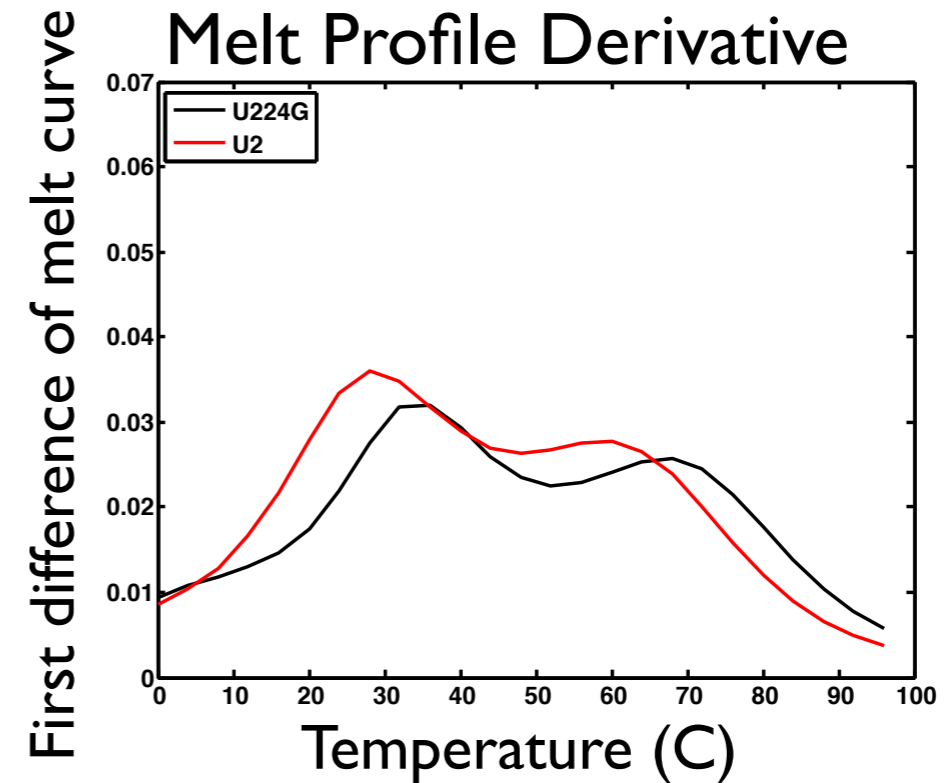
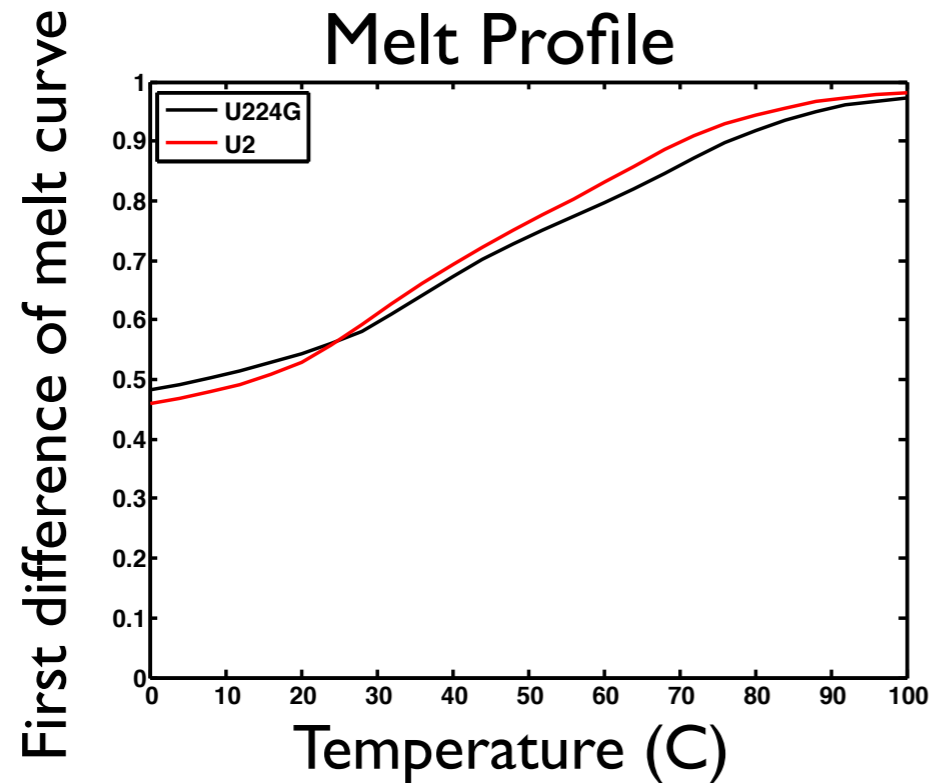
U224G

Different - shifted

MFE structure at 0.0 C



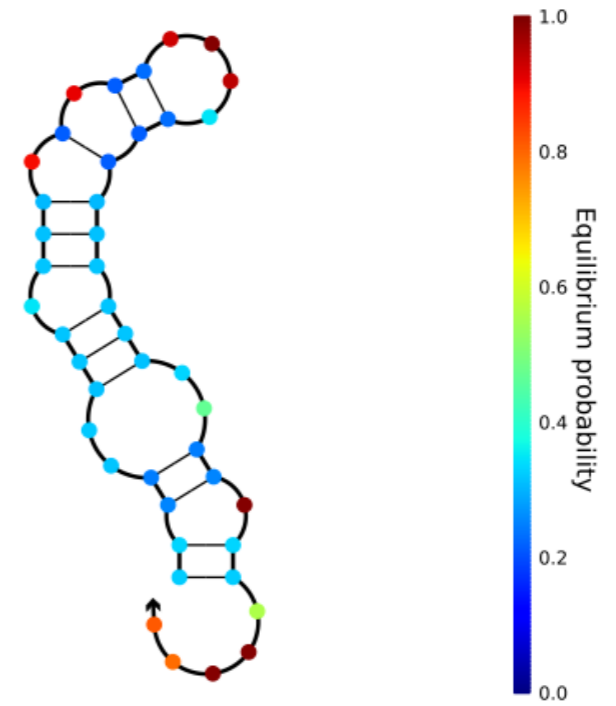
Free energy of secondary structure: -17.72 kcal/mol



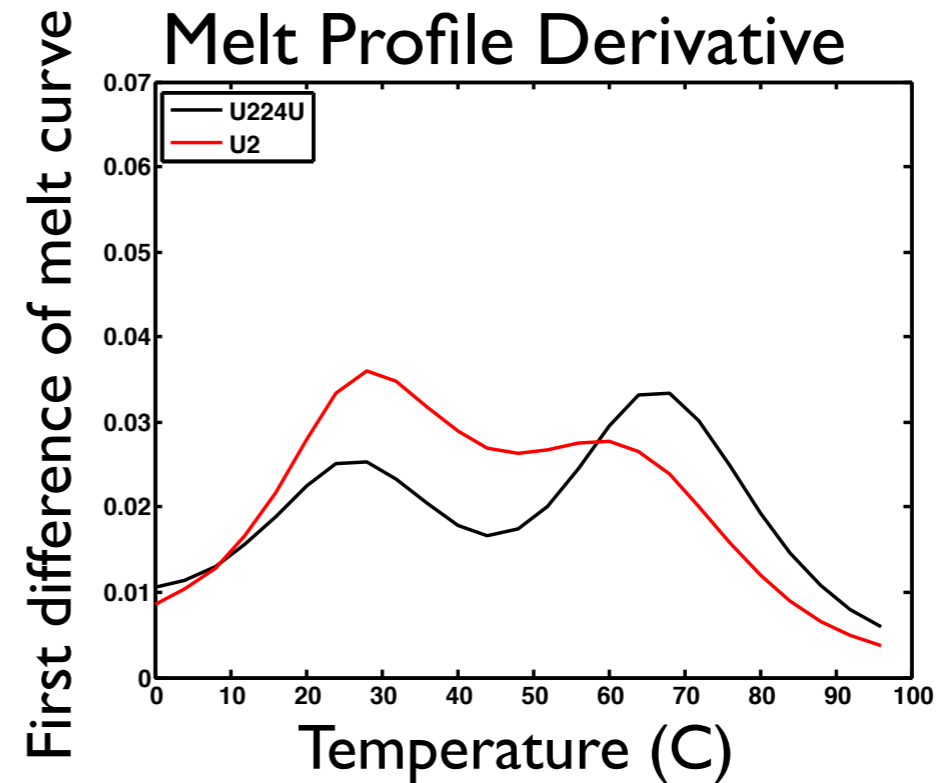
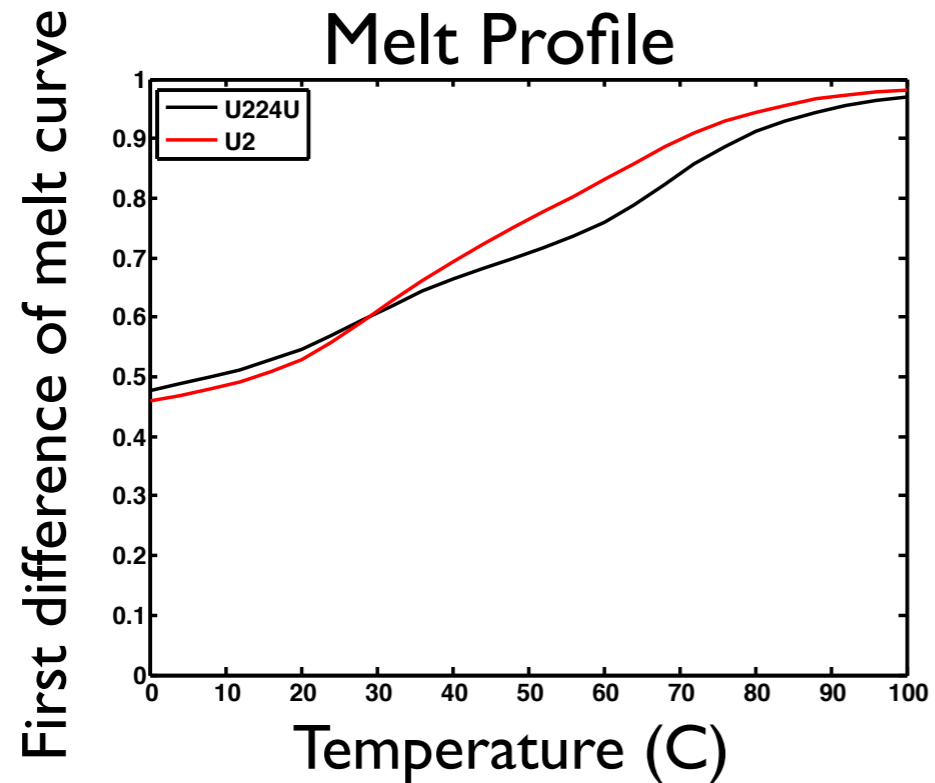
U224U

Different - Threshold

MFE structure at 0.0 C



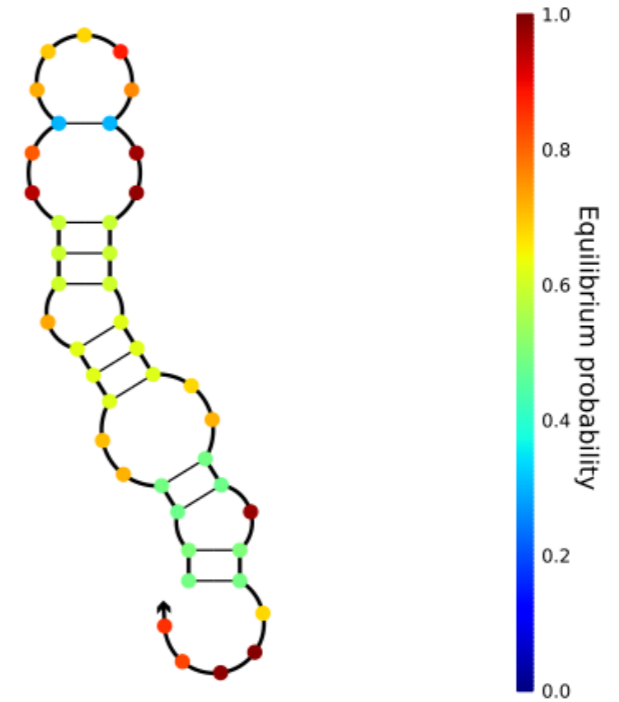
Free energy of secondary structure: -15.55 kcal/mol



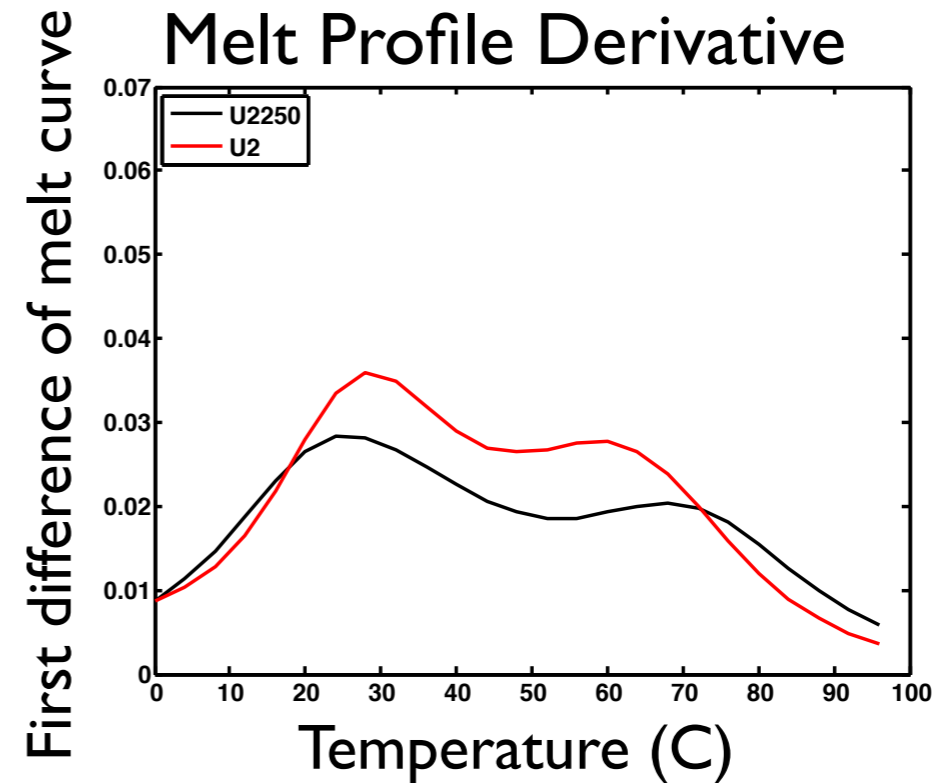
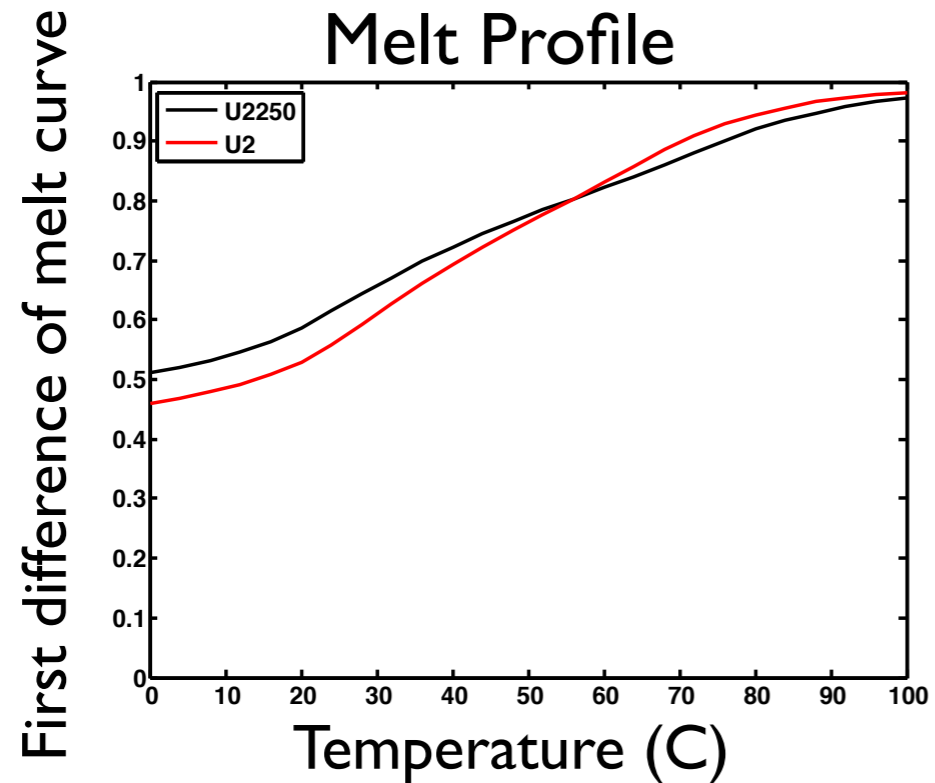
U2250

Different - Threshold

MFE structure at 0.0 C



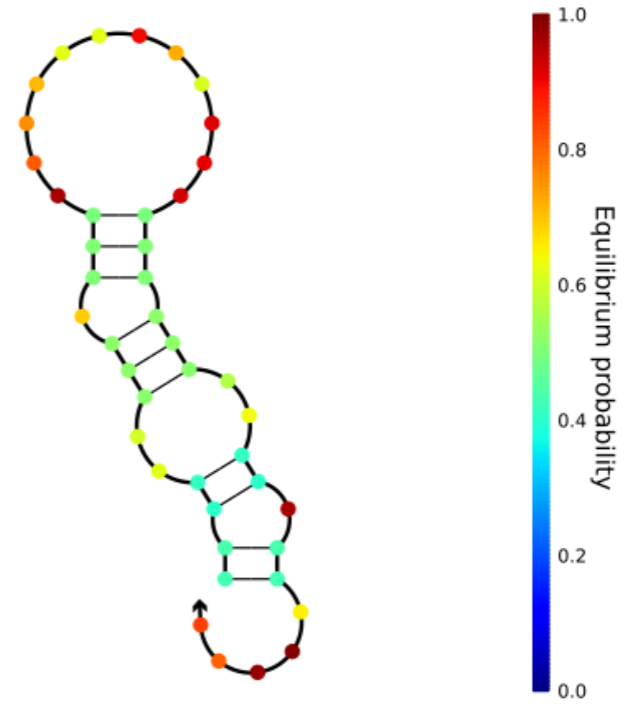
Free energy of secondary structure: -13.55 kcal/mol



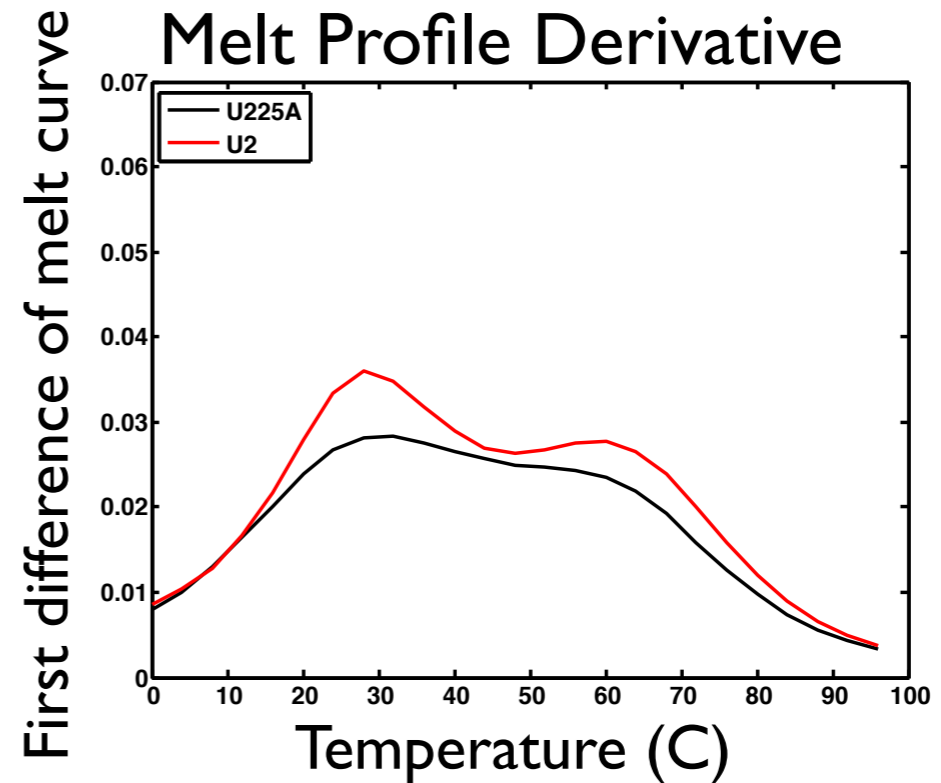
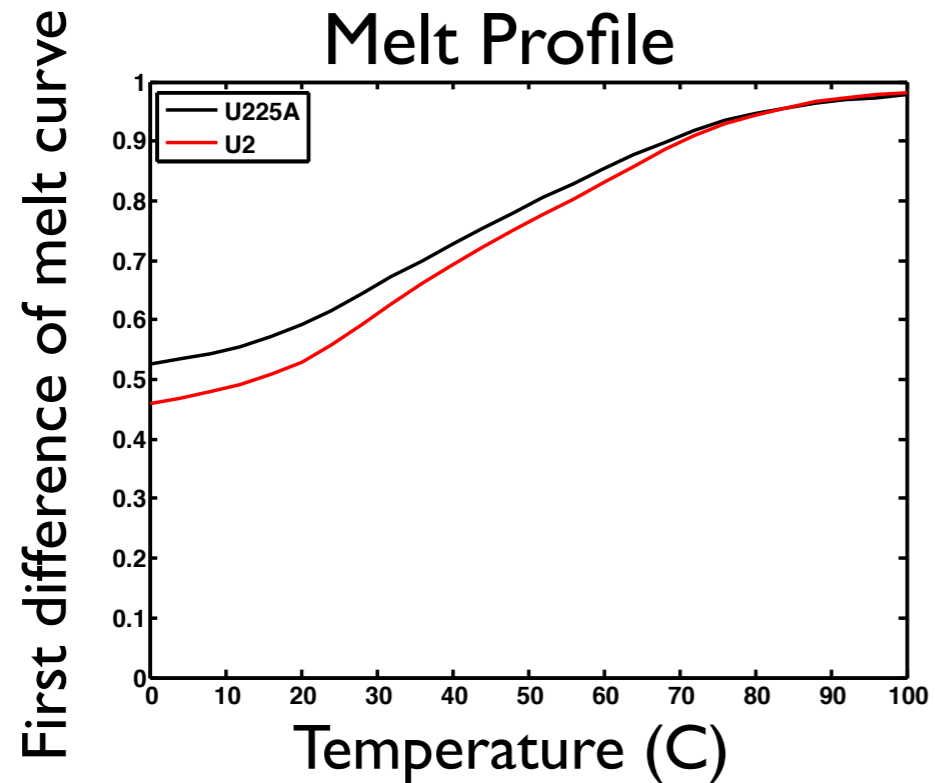
U225A

Same

MFE structure at 0.0 C



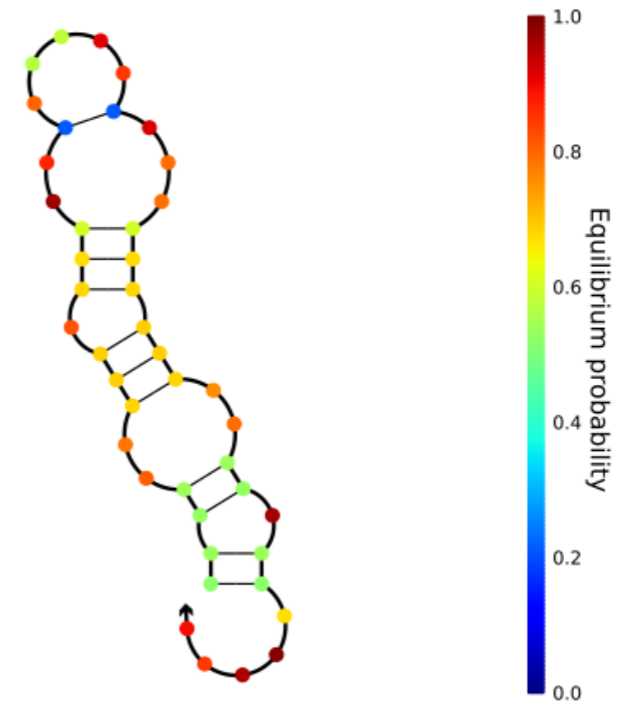
Free energy of secondary structure: -13.09 kcal/mol



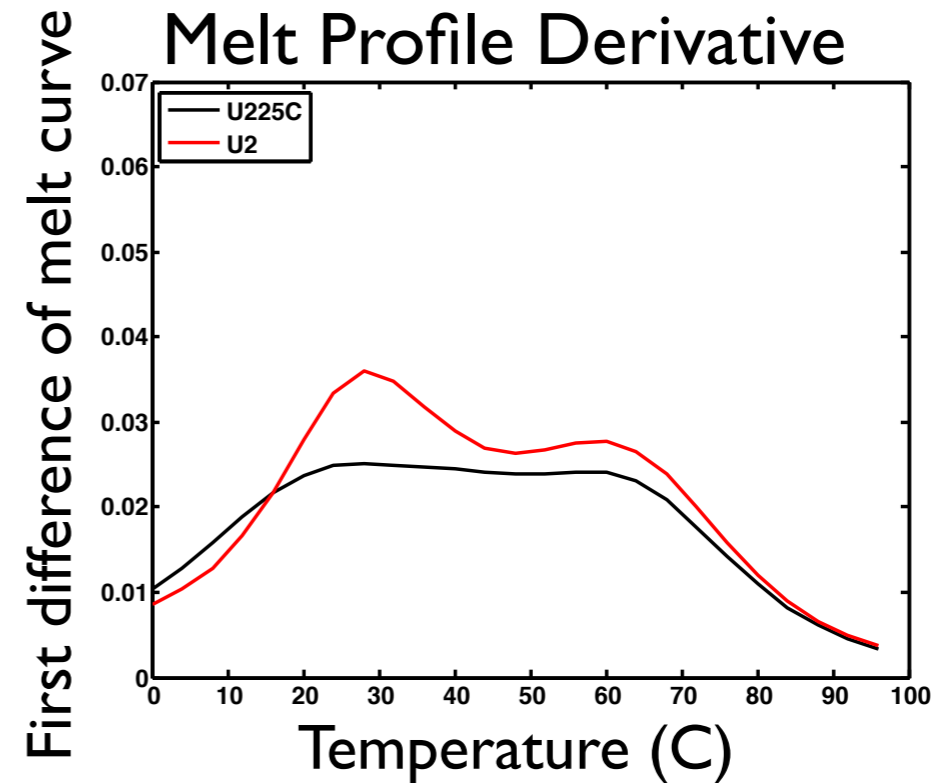
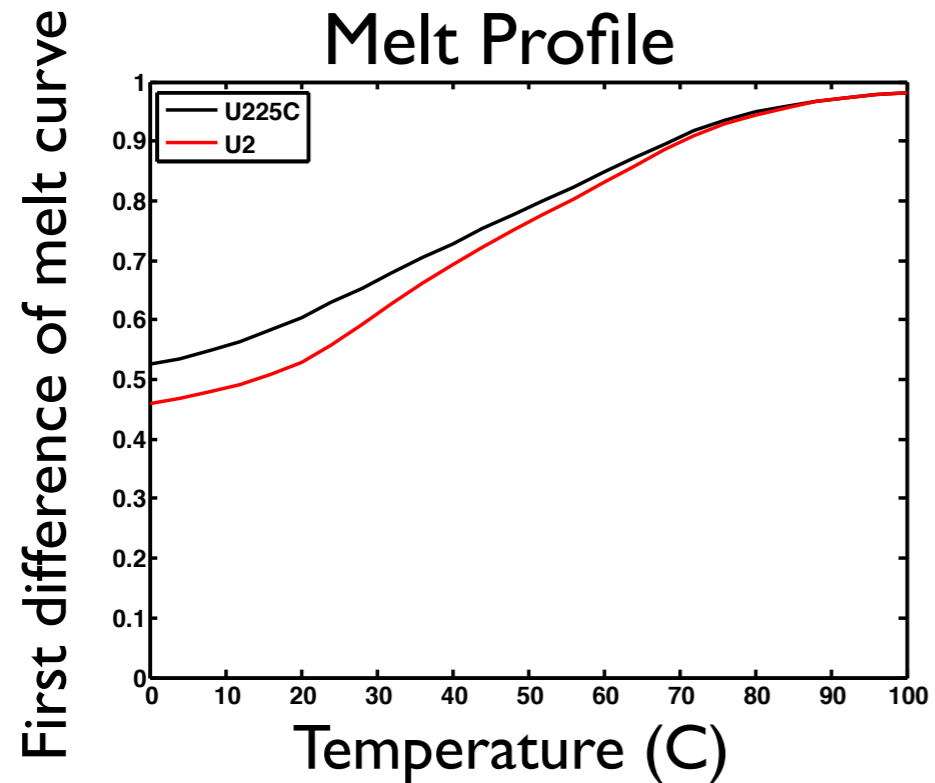
U225C

Different

MFE structure at 0.0 C



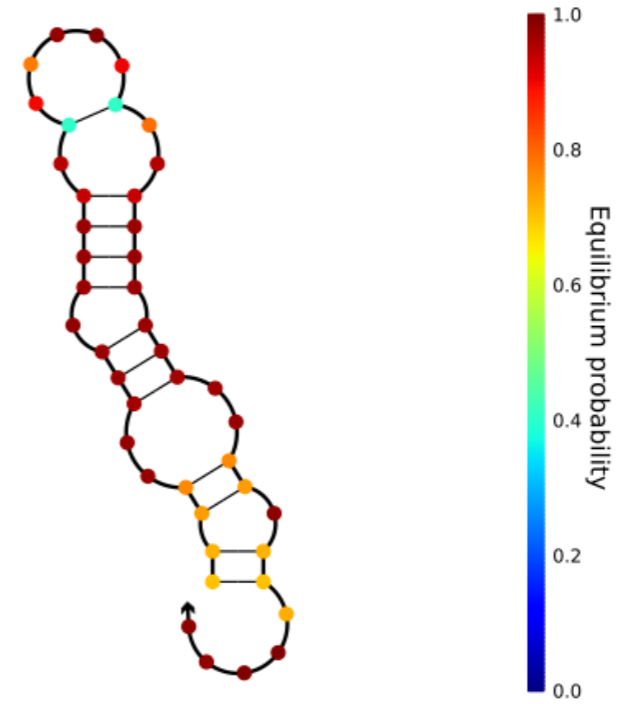
Free energy of secondary structure: -13.21 kcal/mol



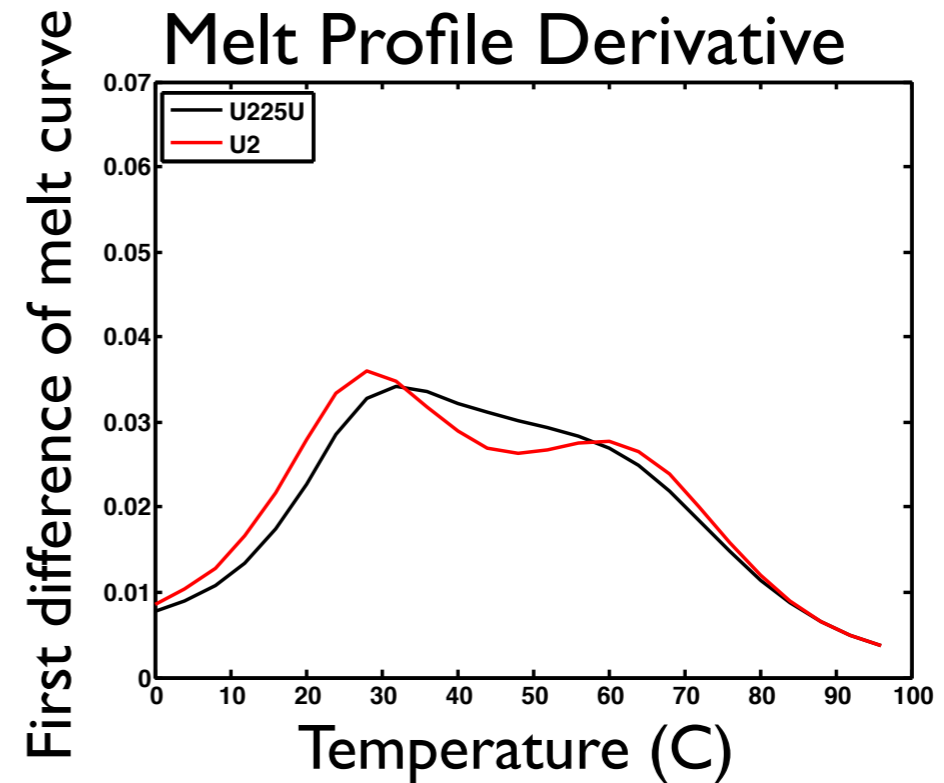
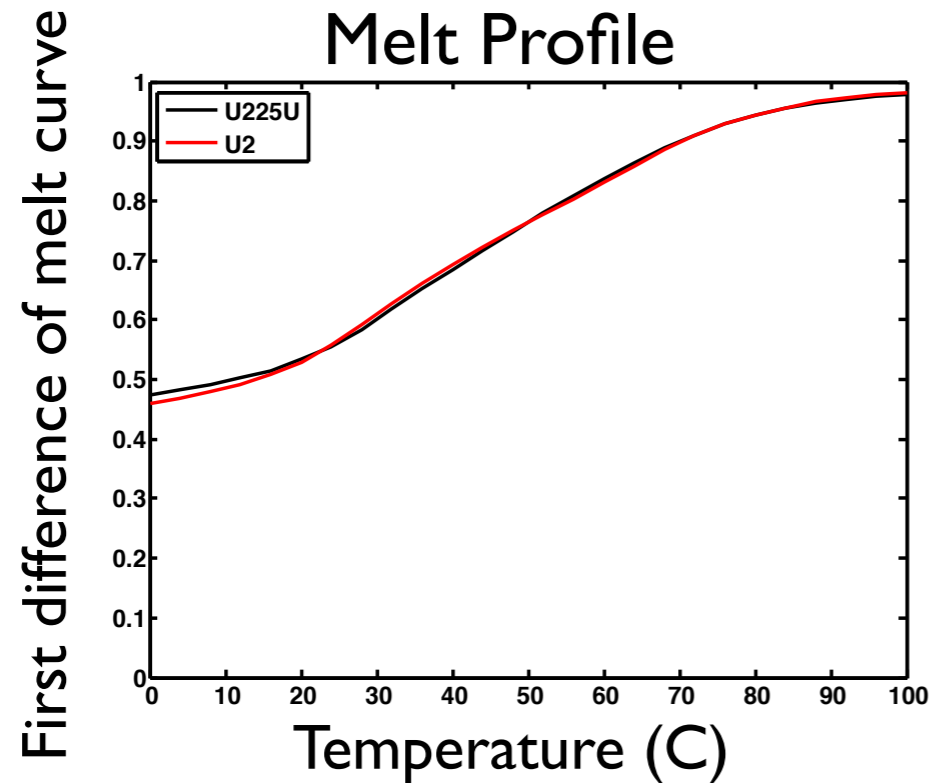
U225U

Same

MFE structure at 0.0 C



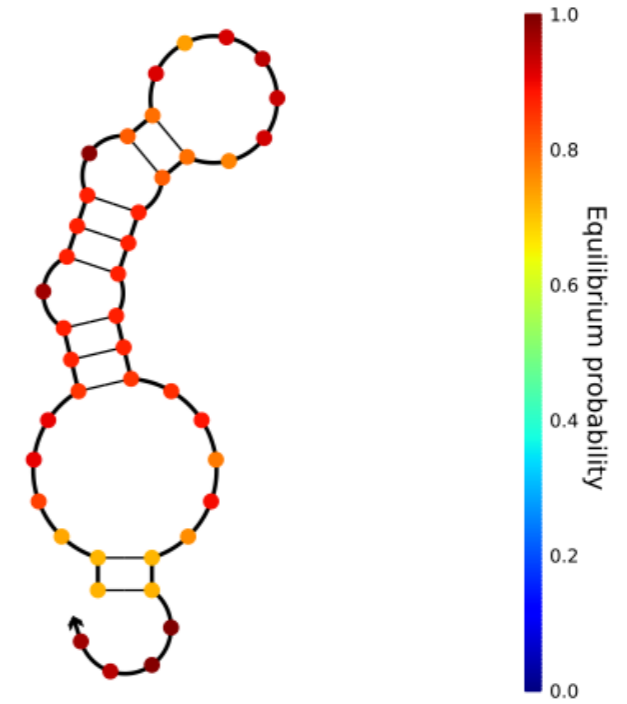
Free energy of secondary structure: -14.88 kcal/mol



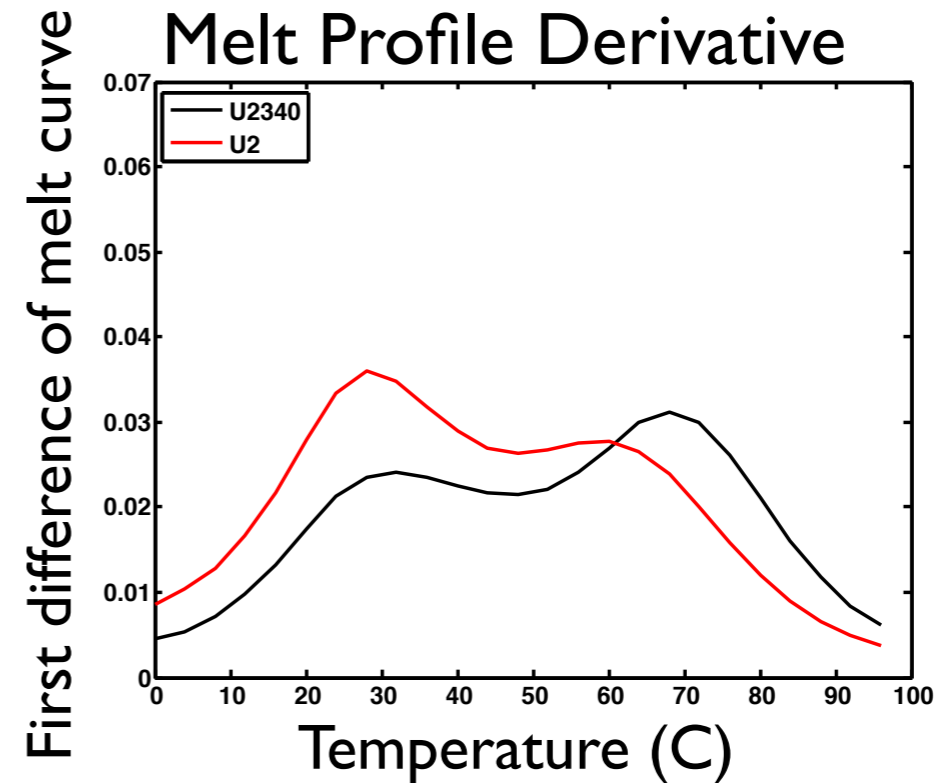
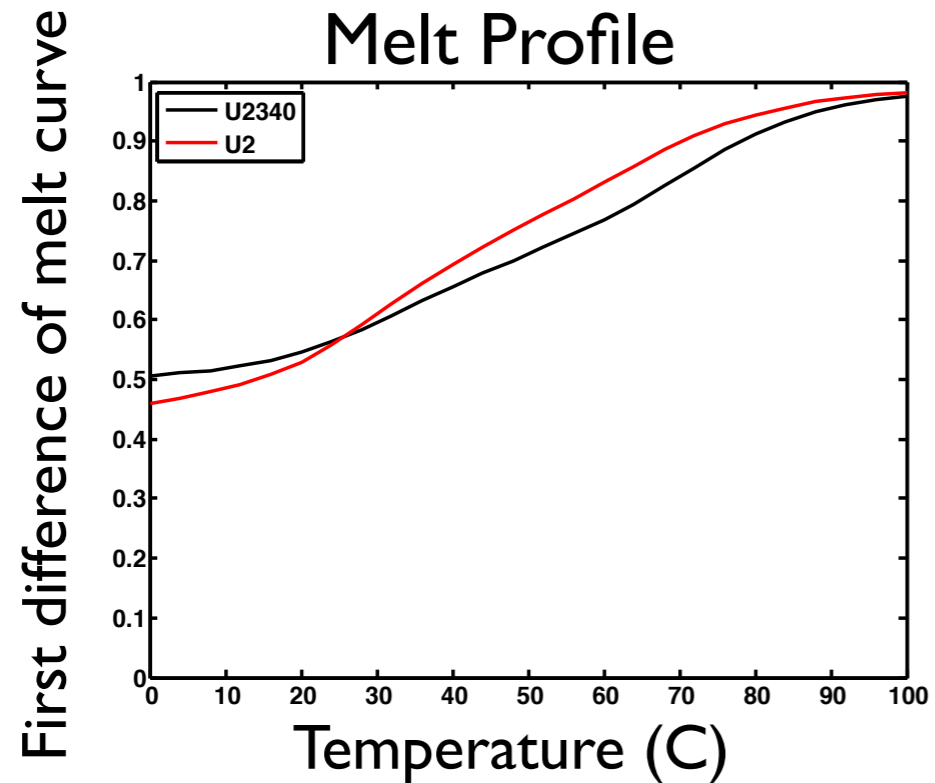
U2340

Different - shifted

MFE structure at 0.0 C

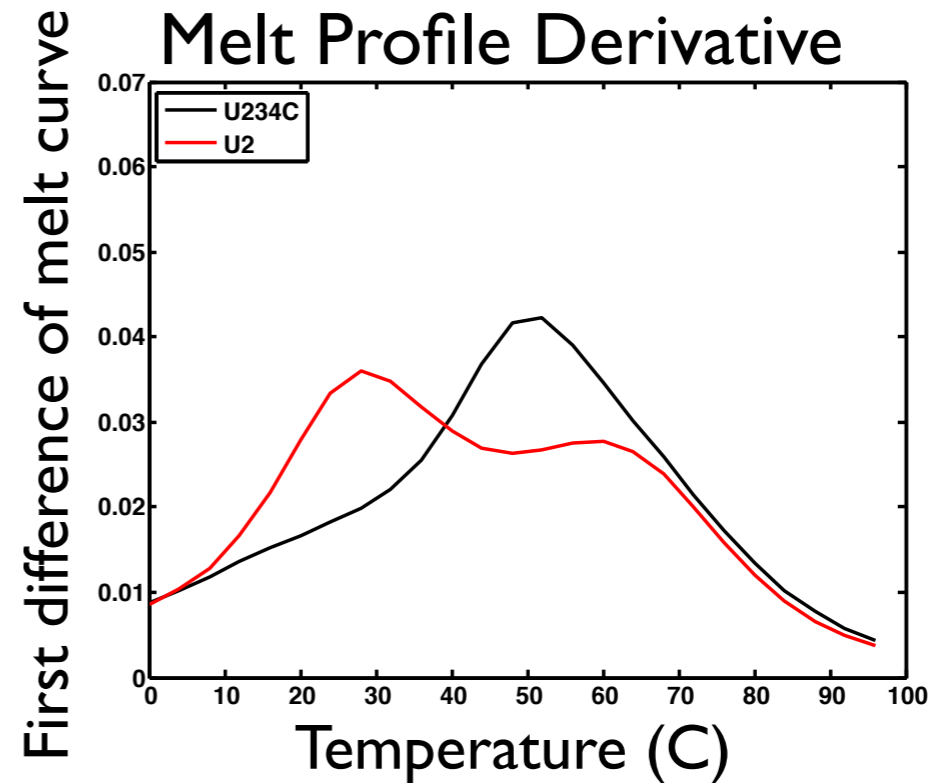
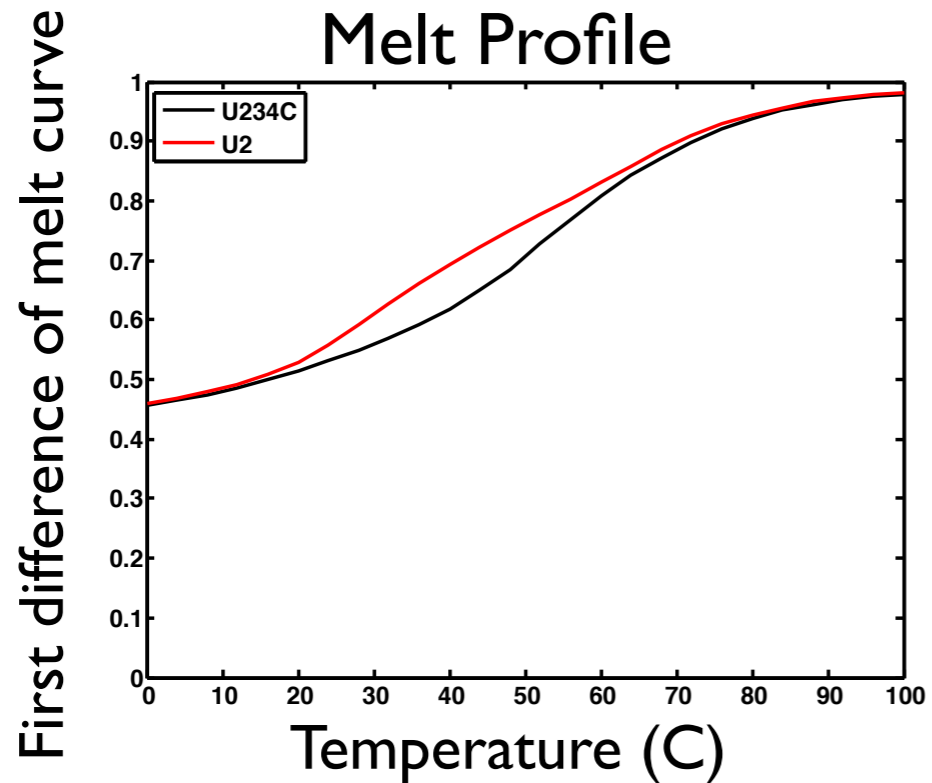
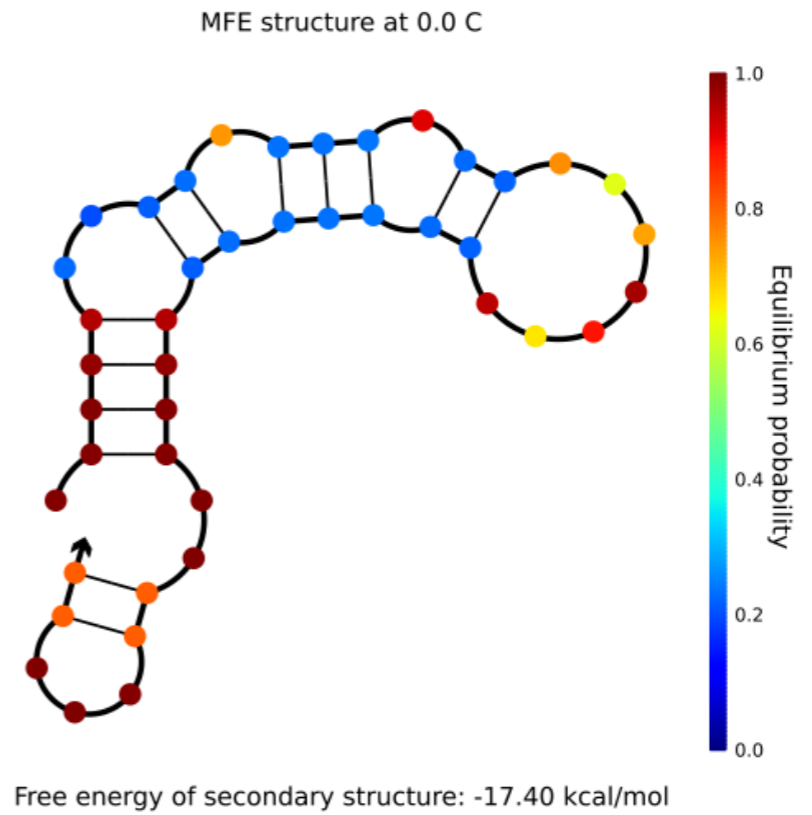


Free energy of secondary structure: -15.89 kcal/mol



U234C

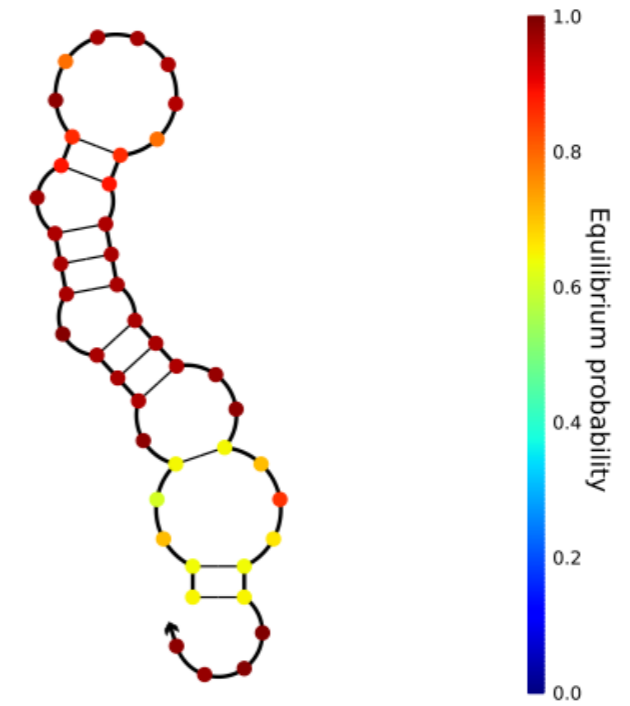
Different - Threshold, shifted



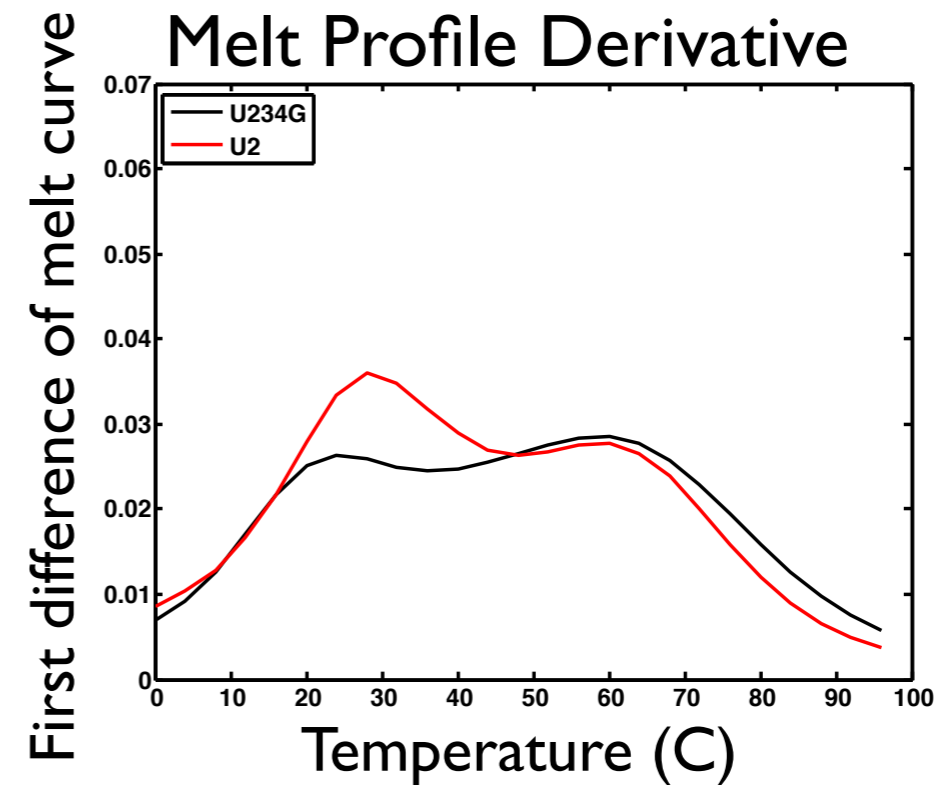
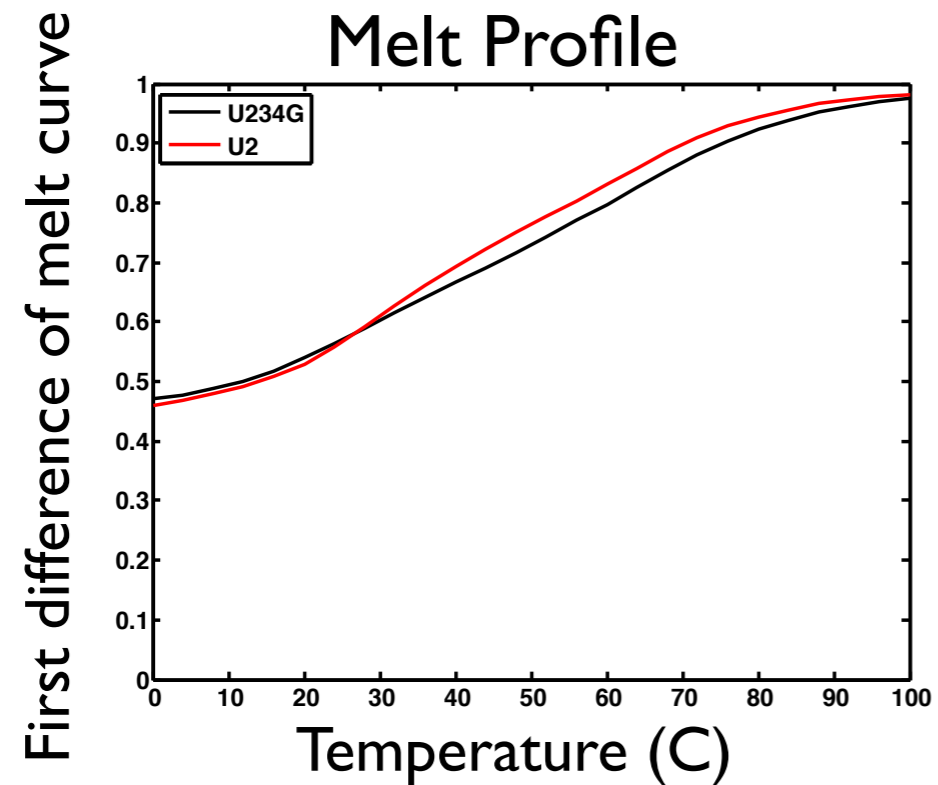
U234G

Same

MFE structure at 0.0 C



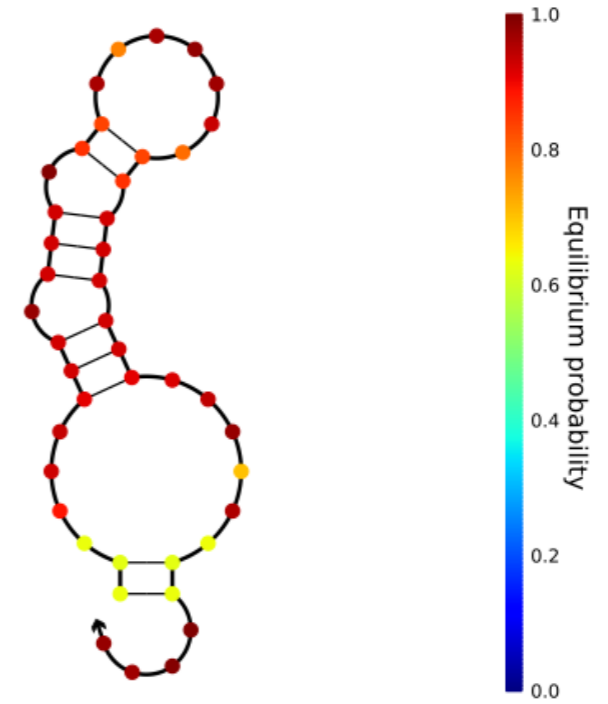
Free energy of secondary structure: -16.84 kcal/mol



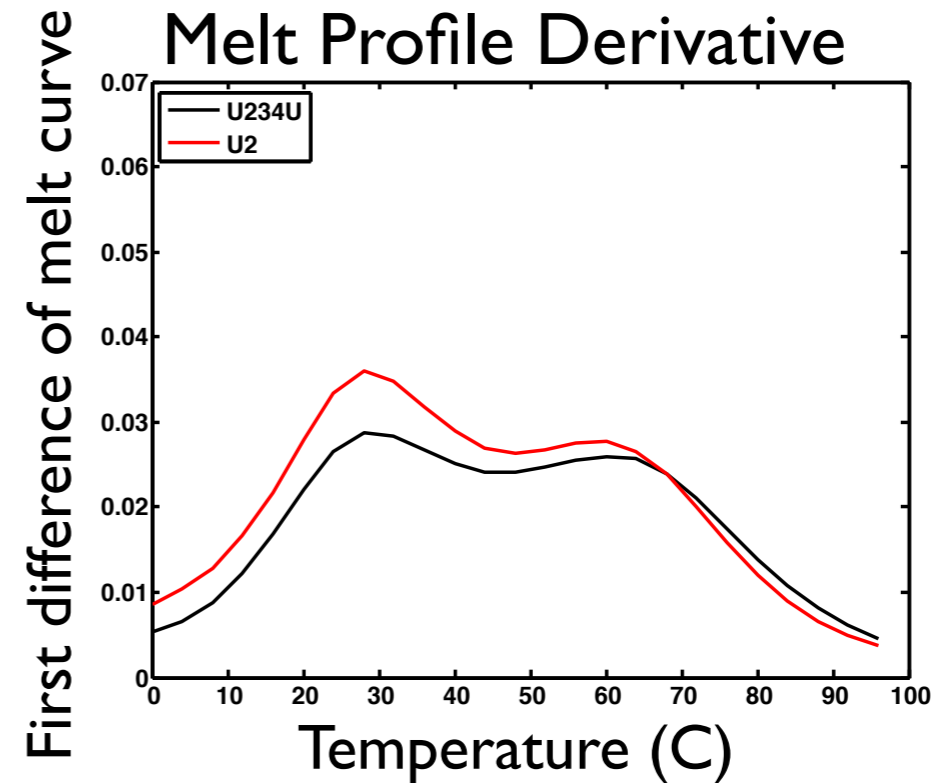
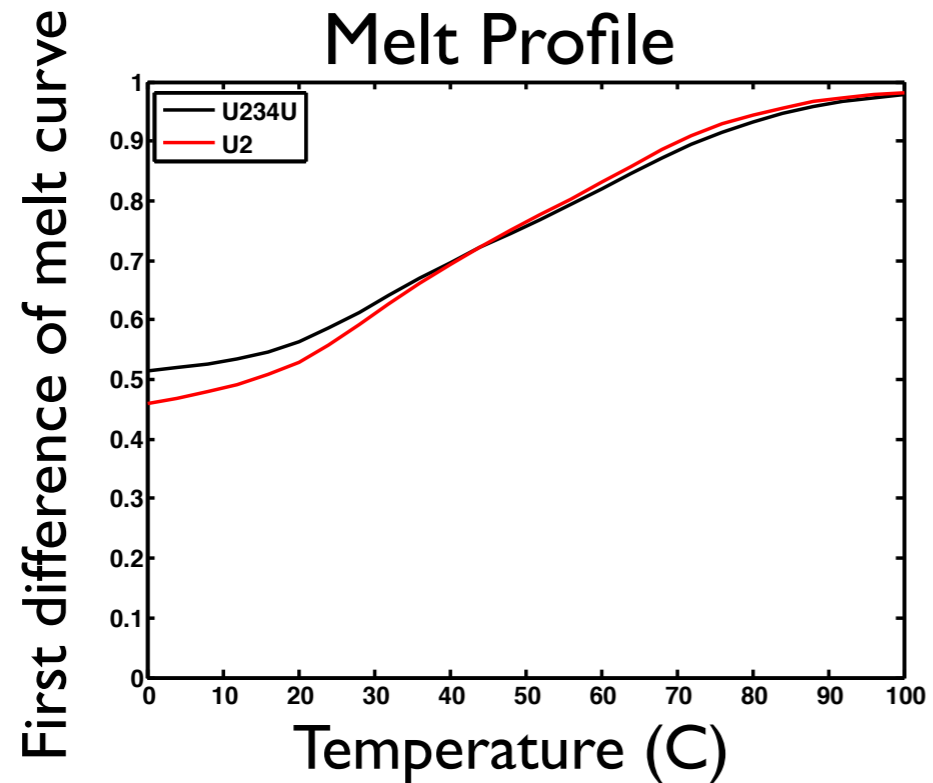
U234U

Same

MFE structure at 0.0 C



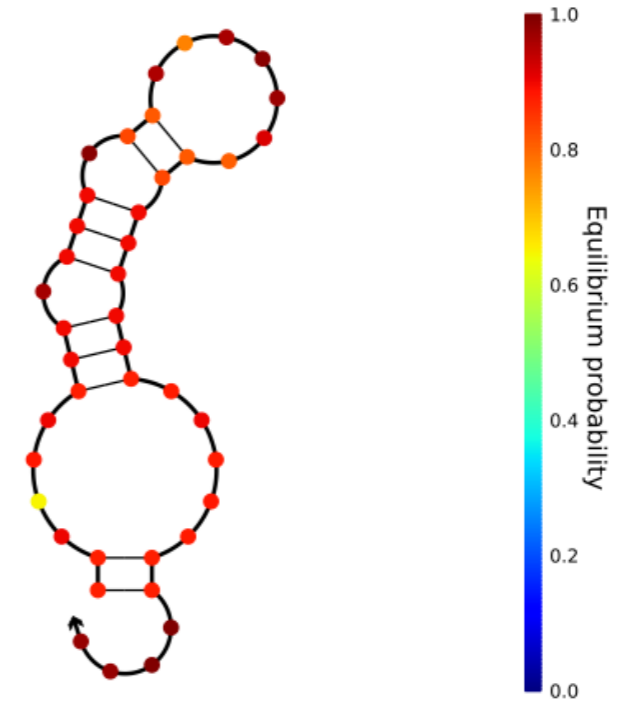
Free energy of secondary structure: -15.45 kcal/mol



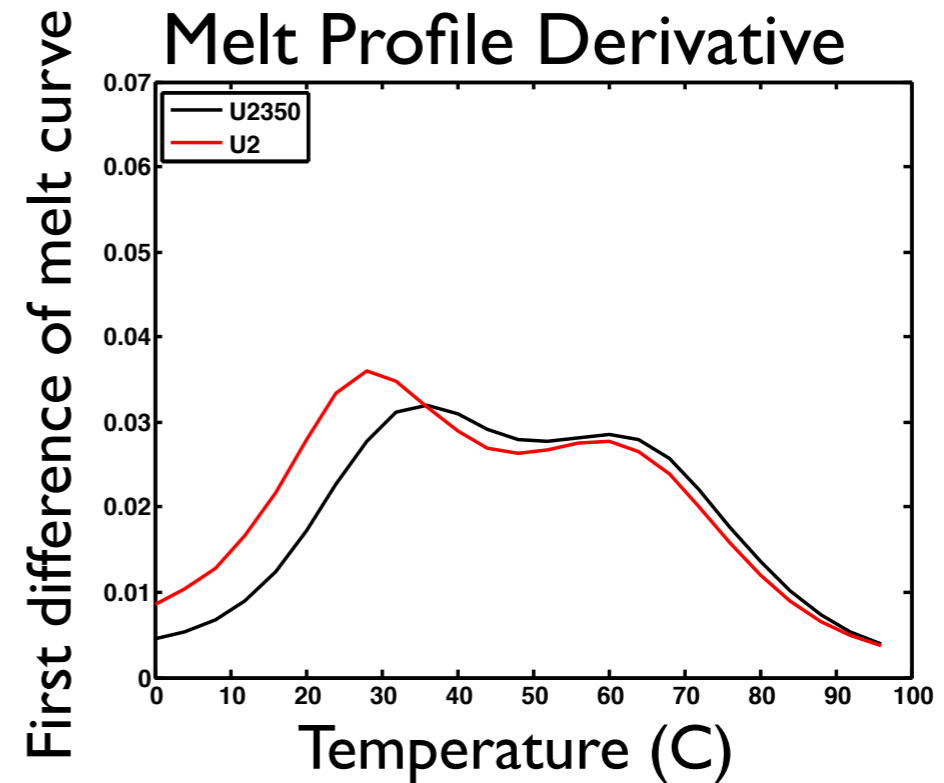
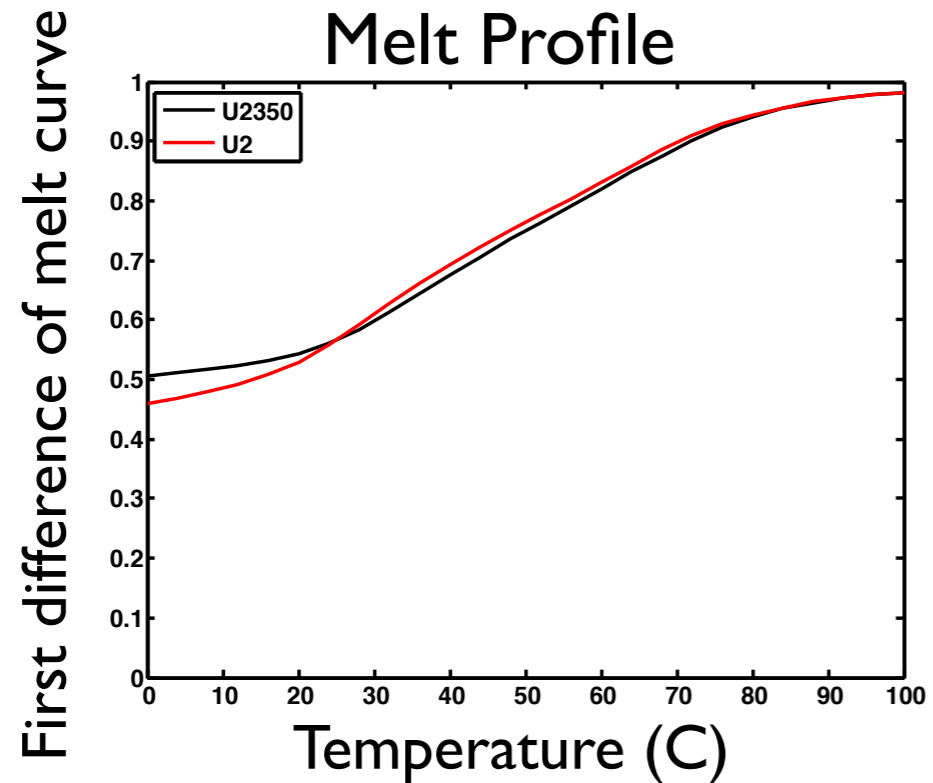
U2350

Different - shifted

MFE structure at 0.0 C



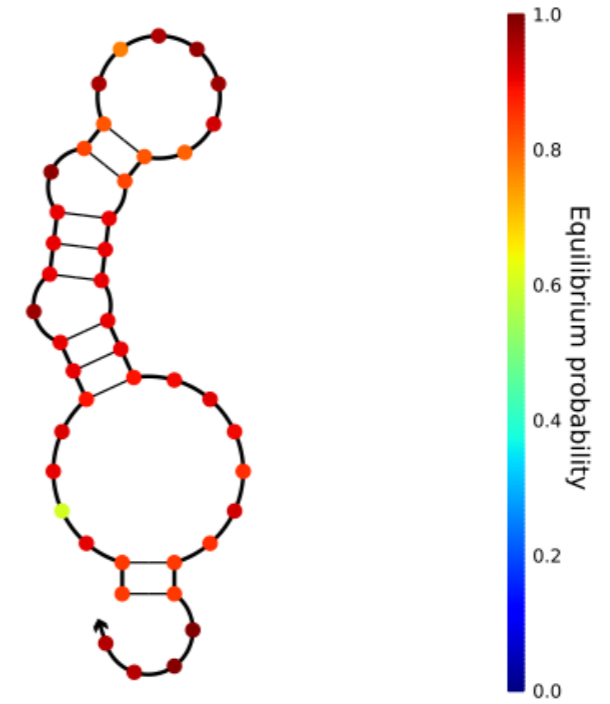
Free energy of secondary structure: -15.89 kcal/mol



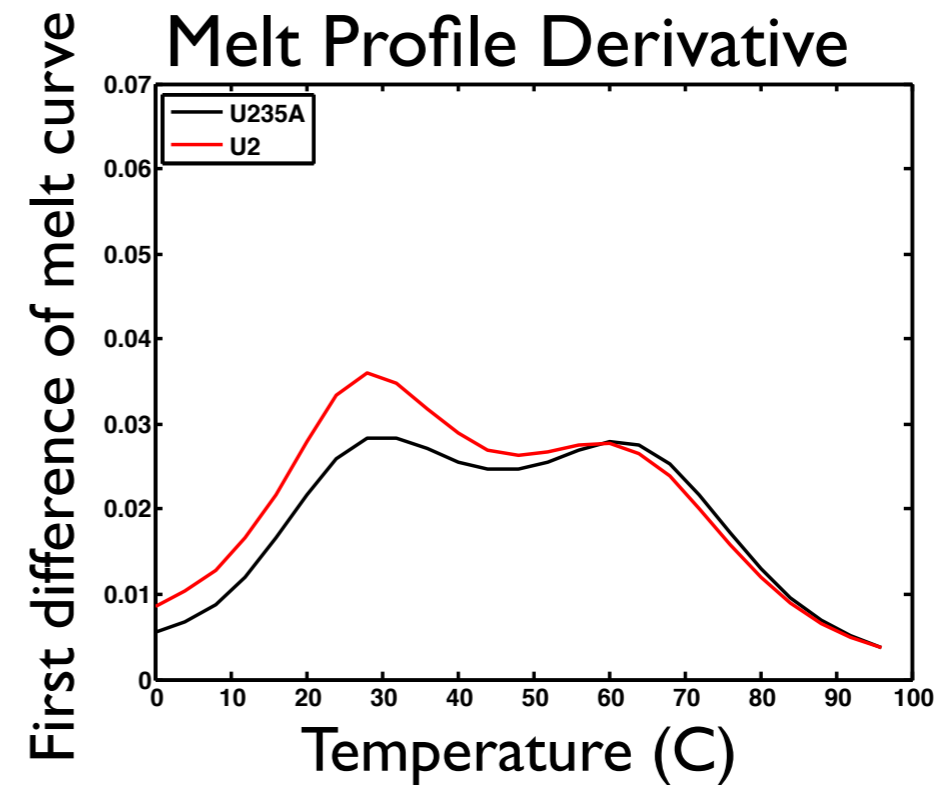
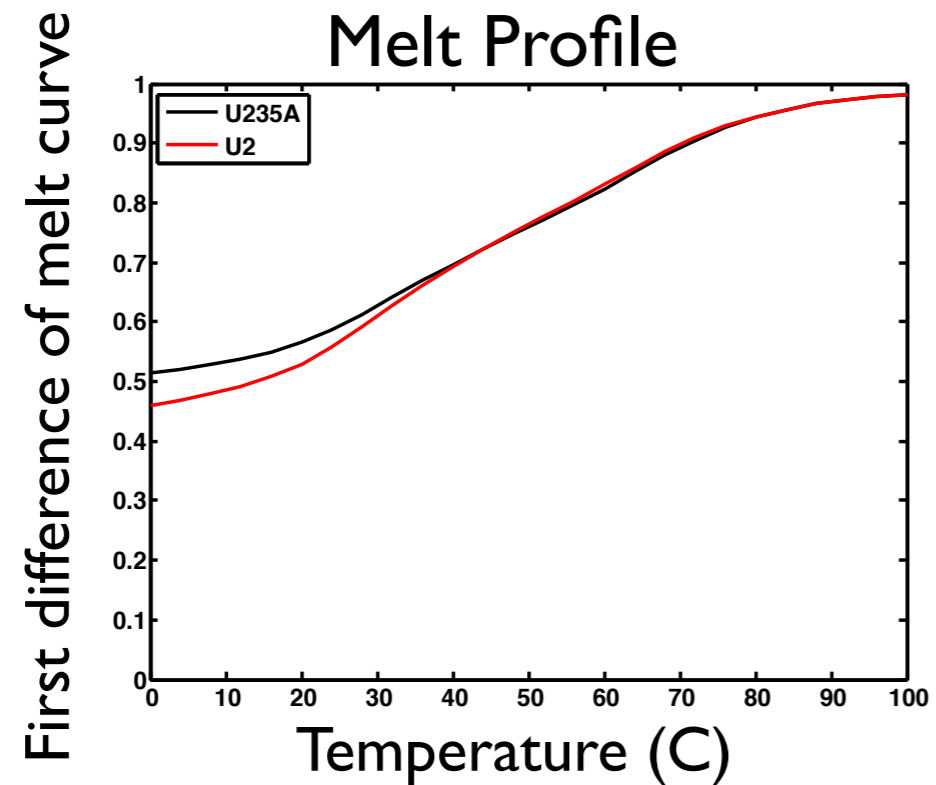
U235A

Same

MFE structure at 0.0 C



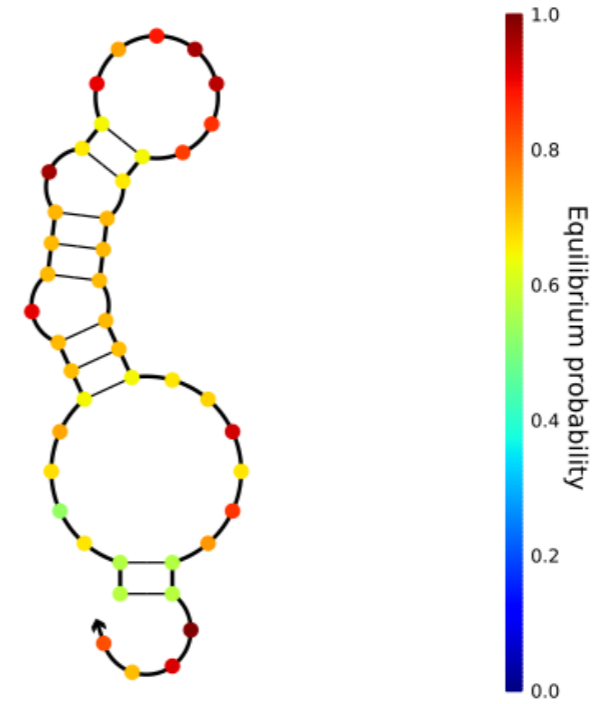
Free energy of secondary structure: -15.45 kcal/mol



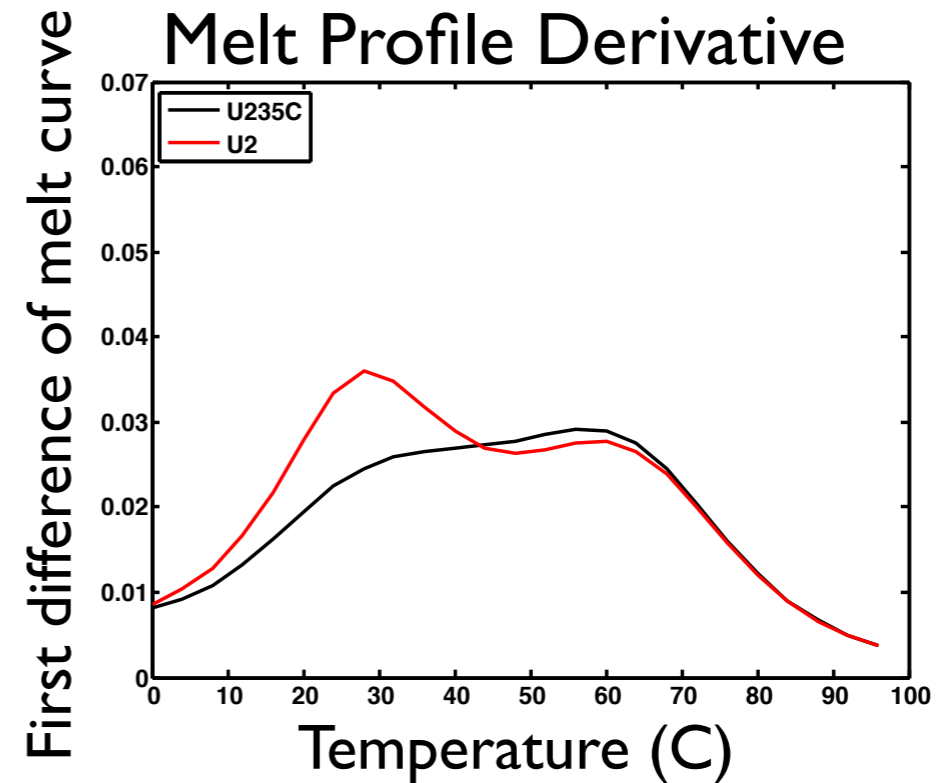
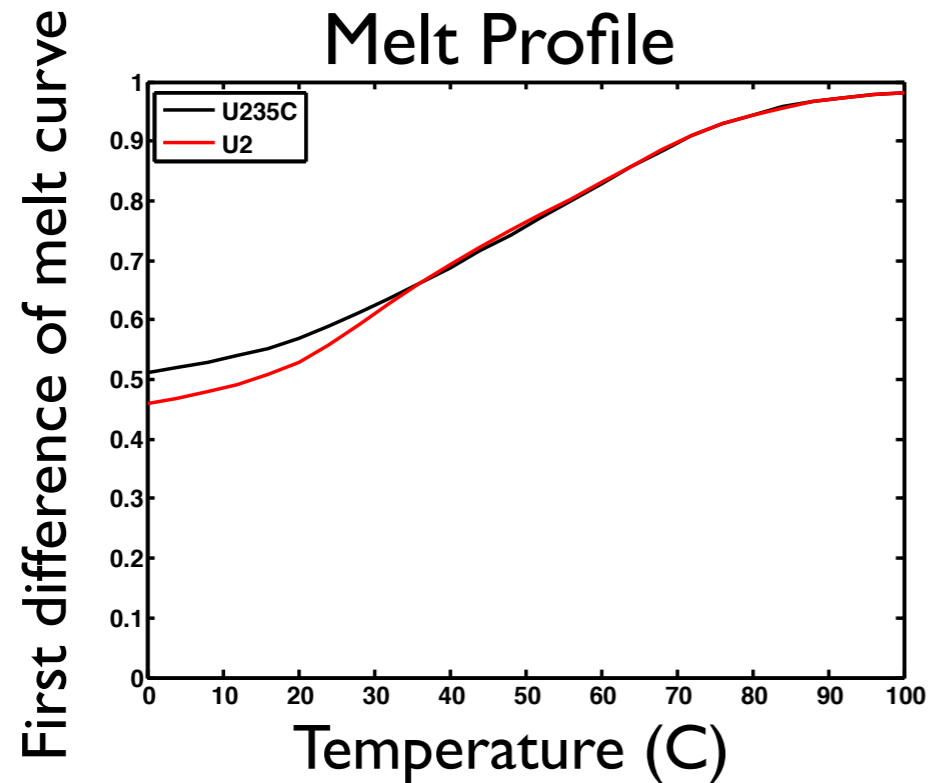
U235C

Different

MFE structure at 0.0 C



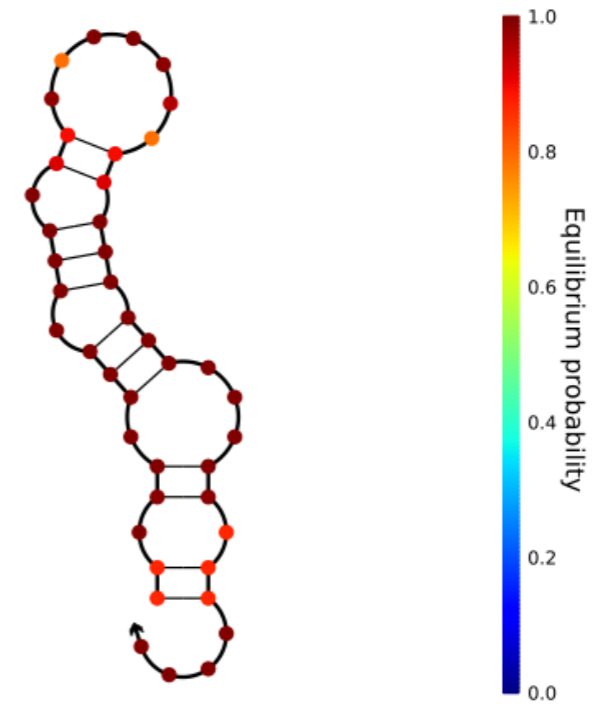
Free energy of secondary structure: -15.45 kcal/mol



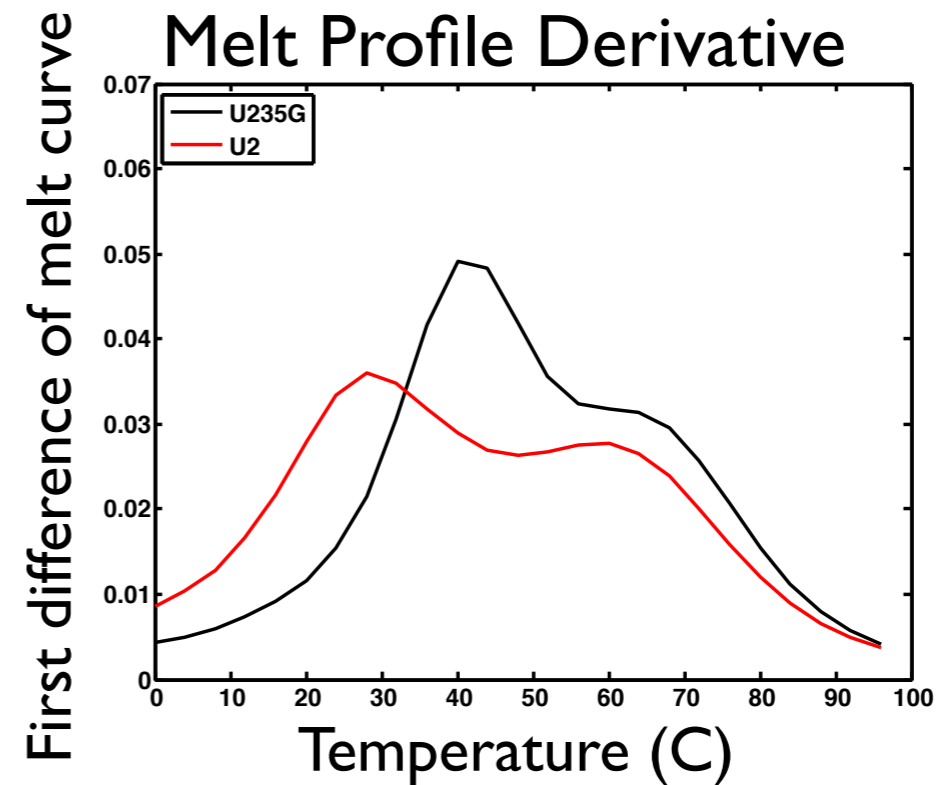
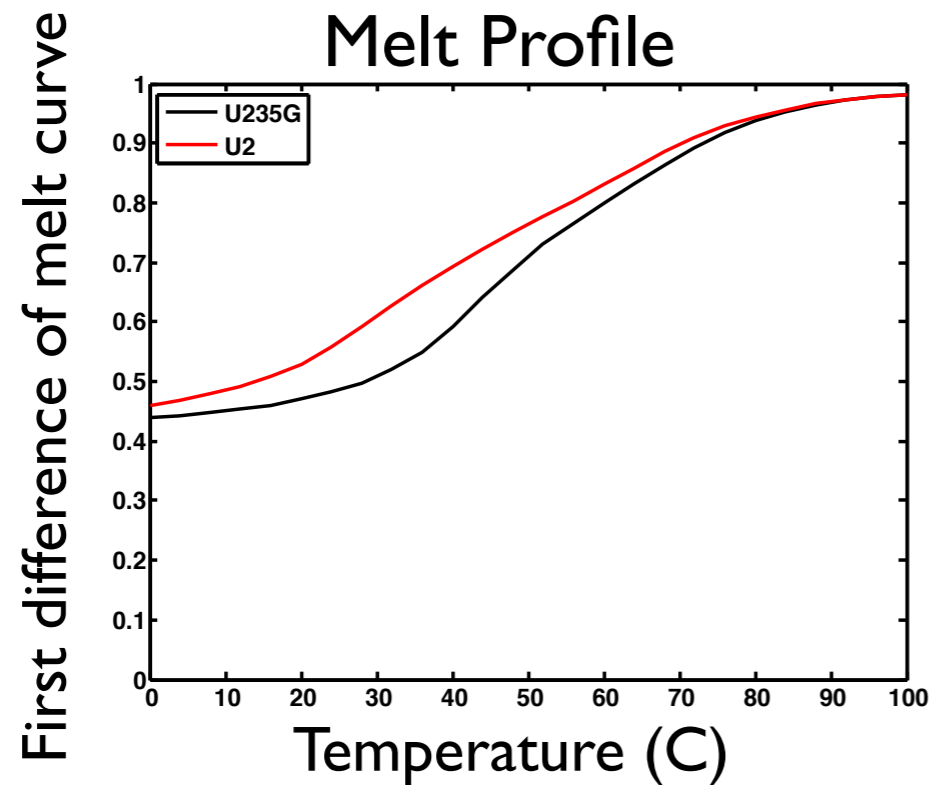
U235G

Different - Threshold, shifted

MFE structure at 0.0 C



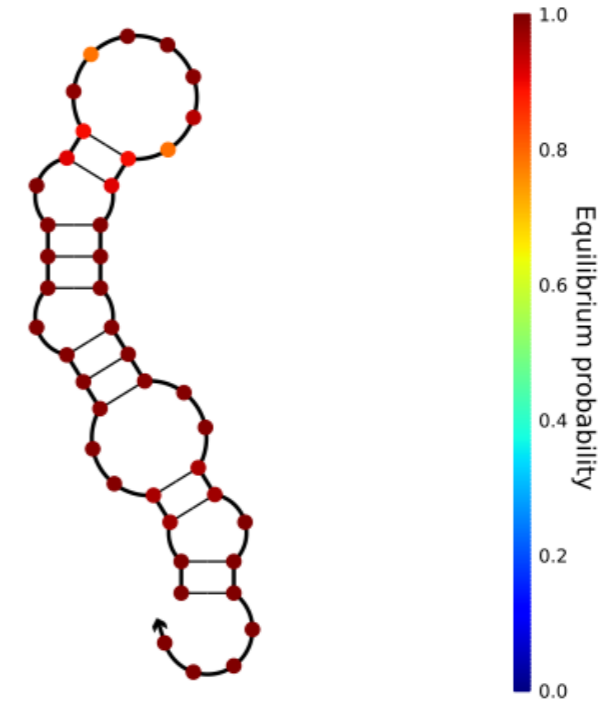
Free energy of secondary structure: -19.34 kcal/mol



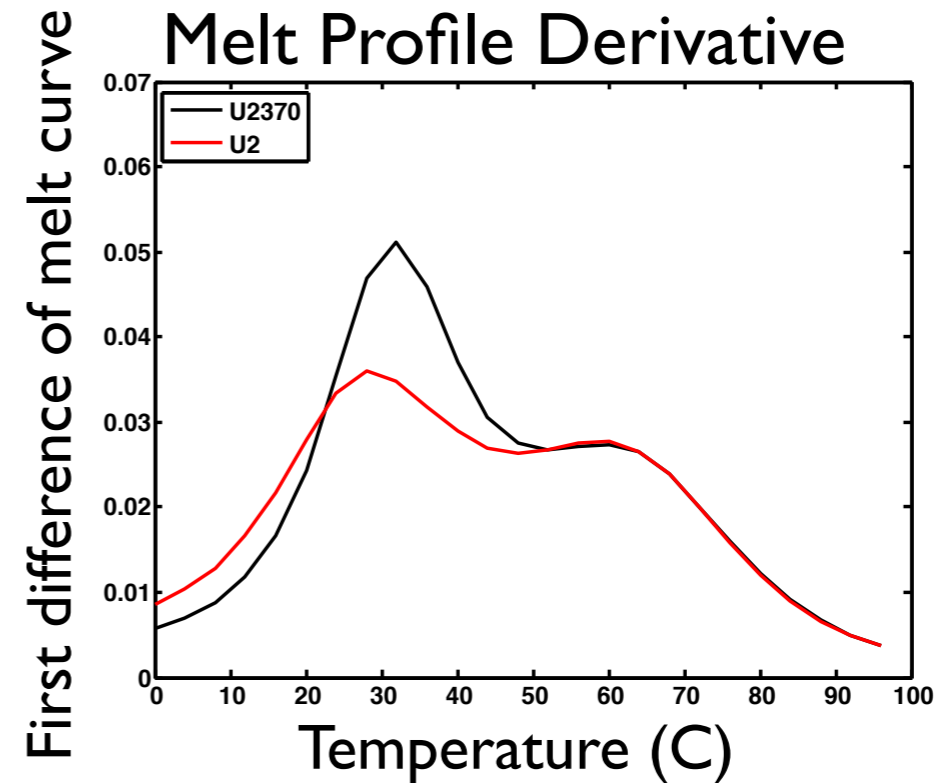
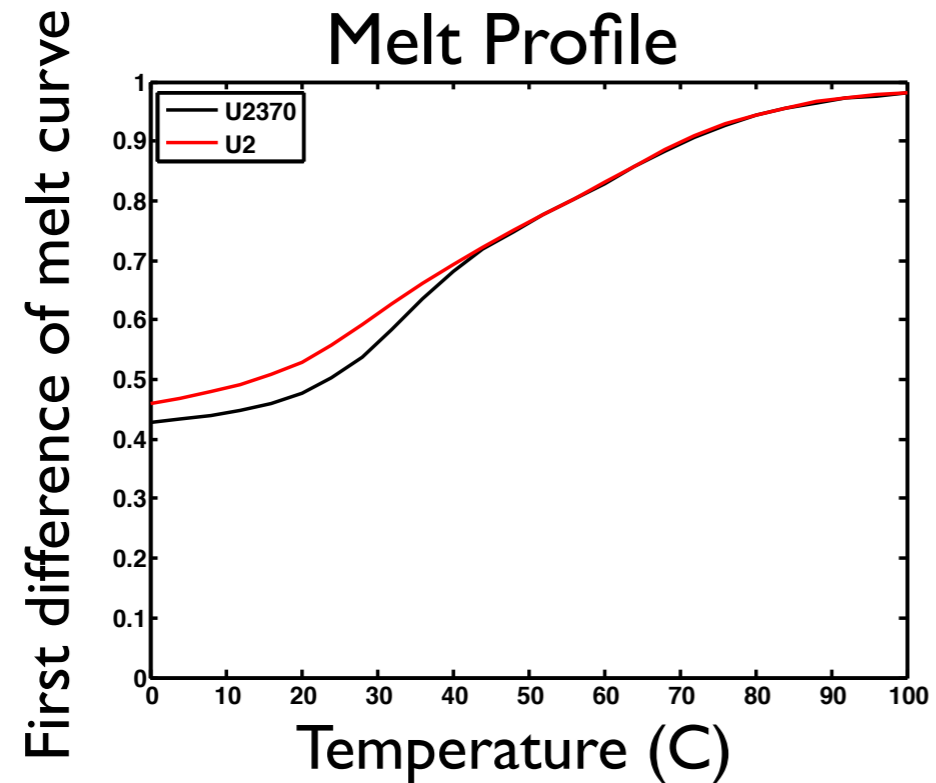
U2370

Different - Threshold

MFE structure at 0.0 C



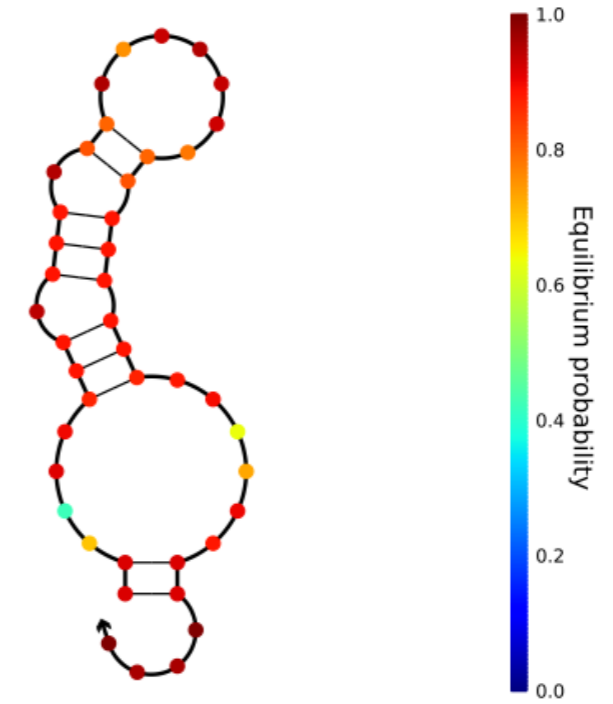
Free energy of secondary structure: -17.59 kcal/mol



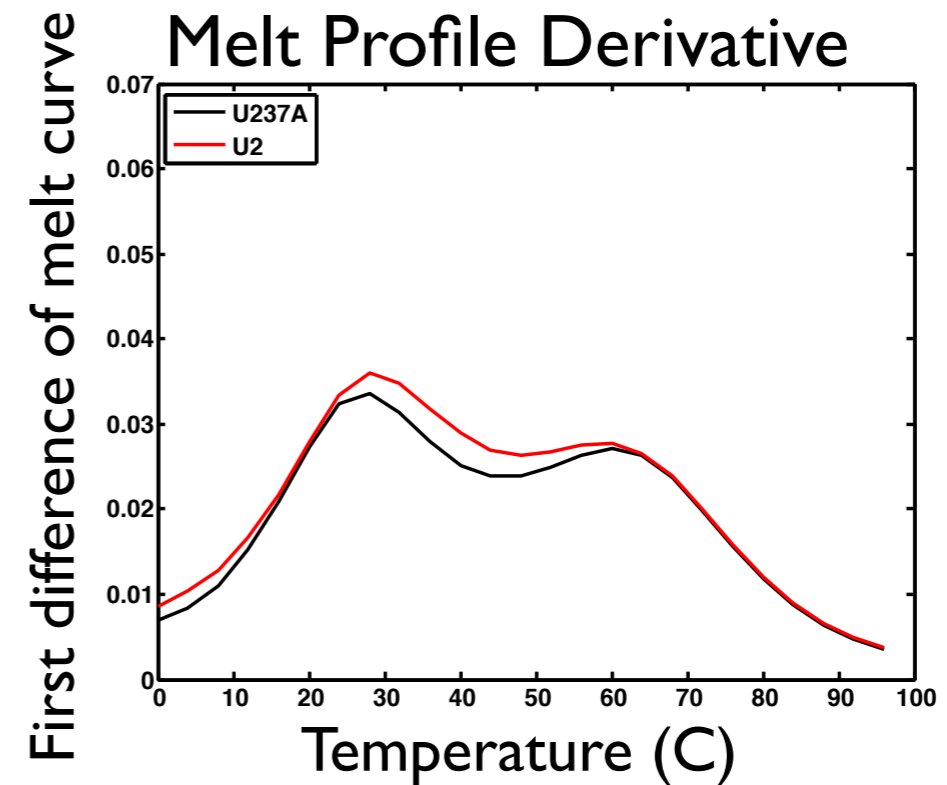
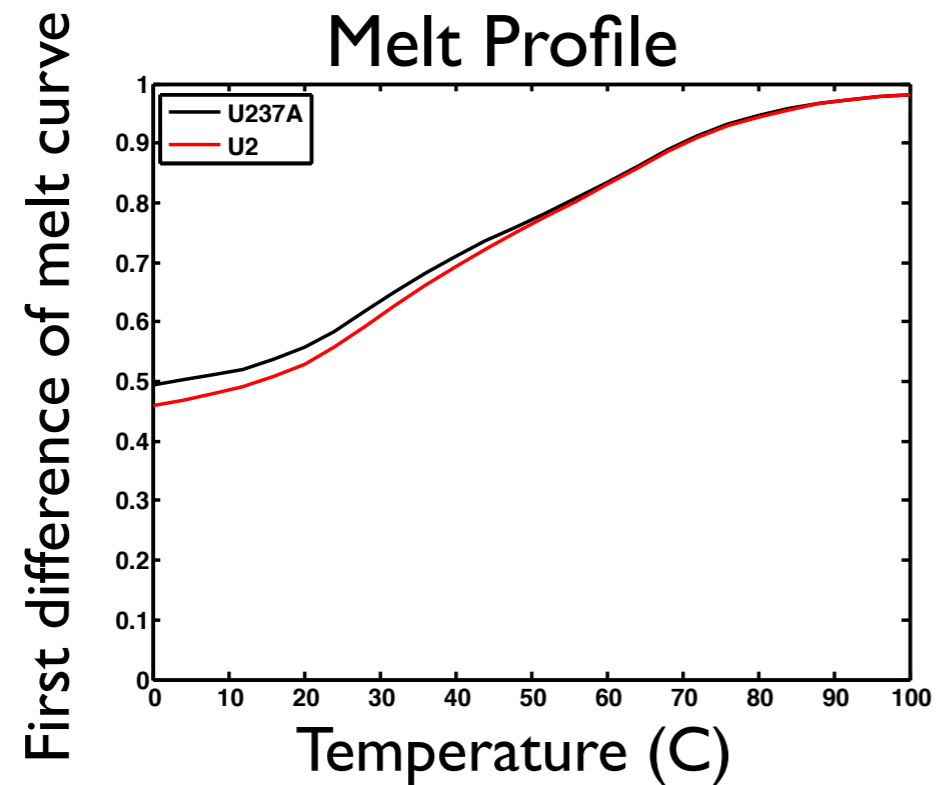
U237A

Same

MFE structure at 0.0 C



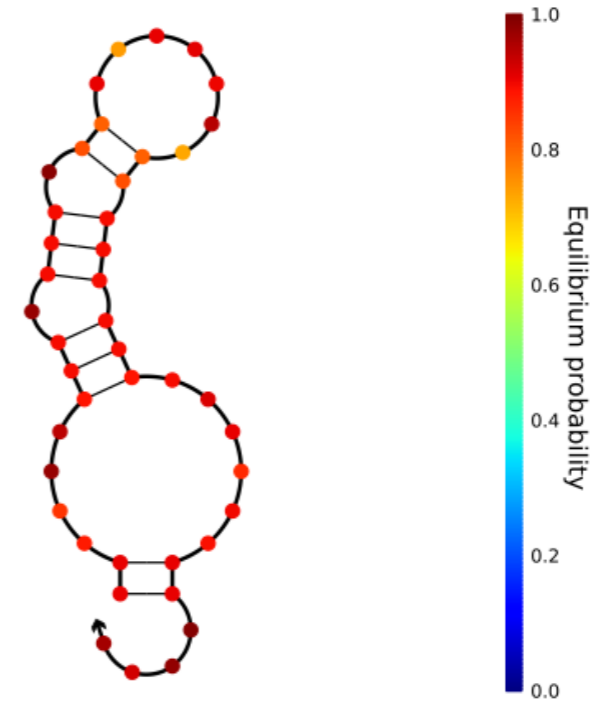
Free energy of secondary structure: -15.02 kcal/mol



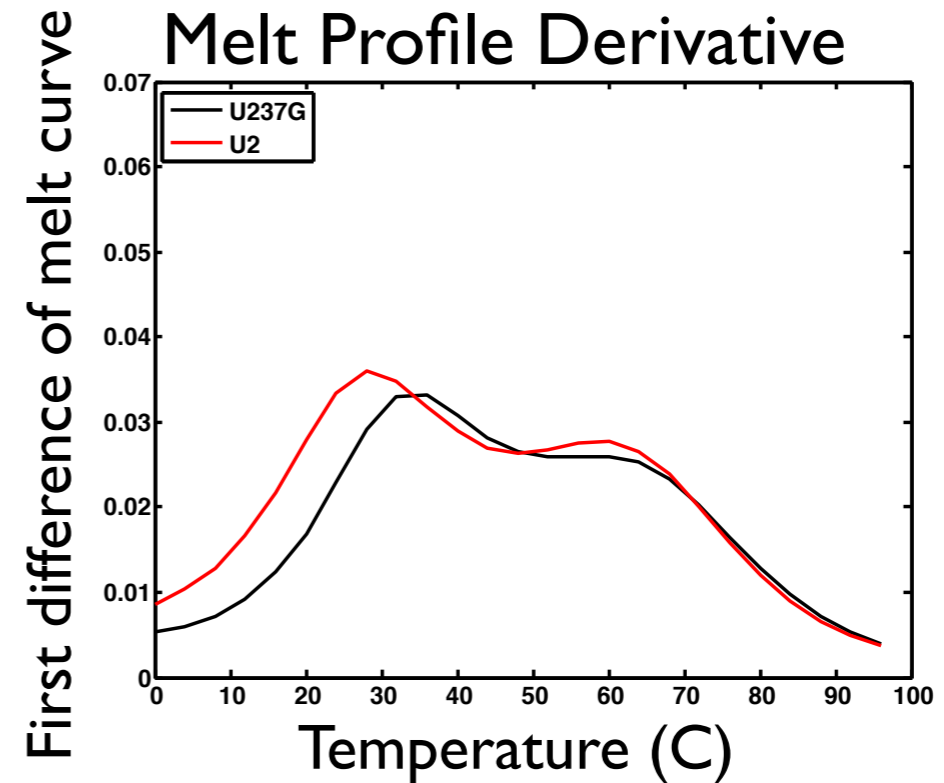
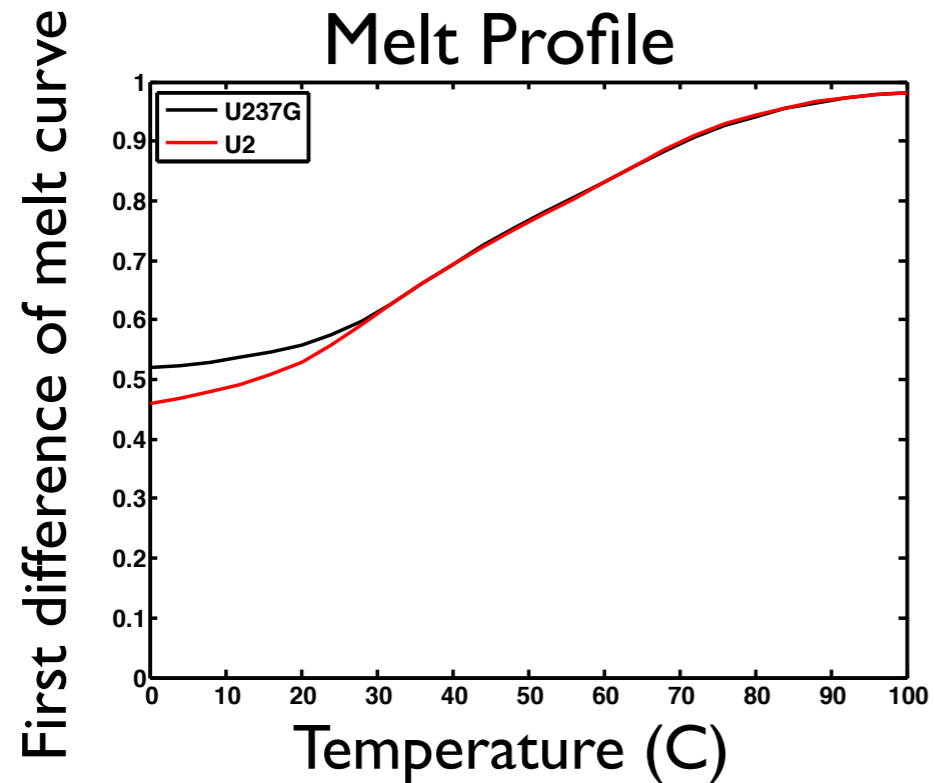
U237G

Different - shifted

MFE structure at 0.0 C



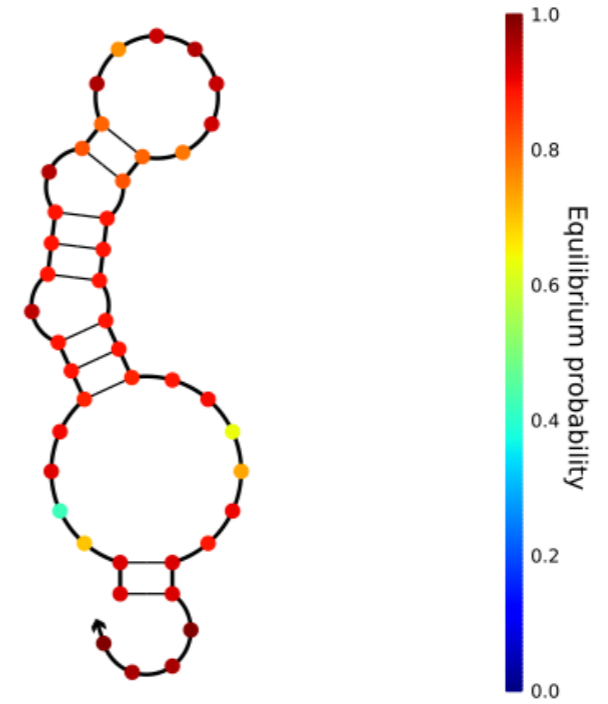
Free energy of secondary structure: -16.13 kcal/mol



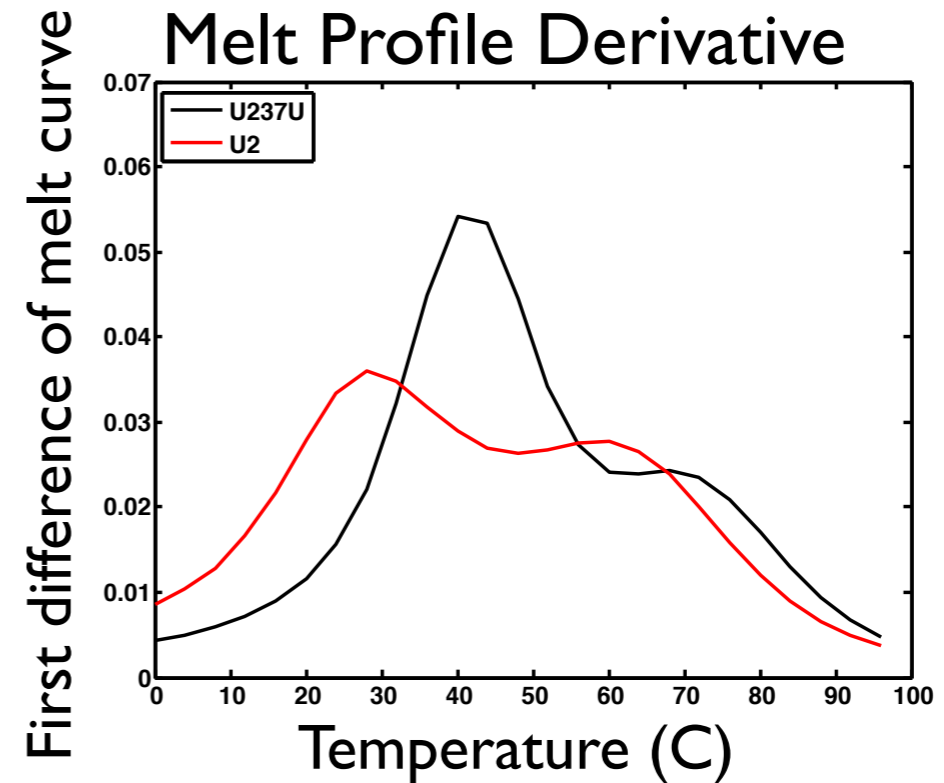
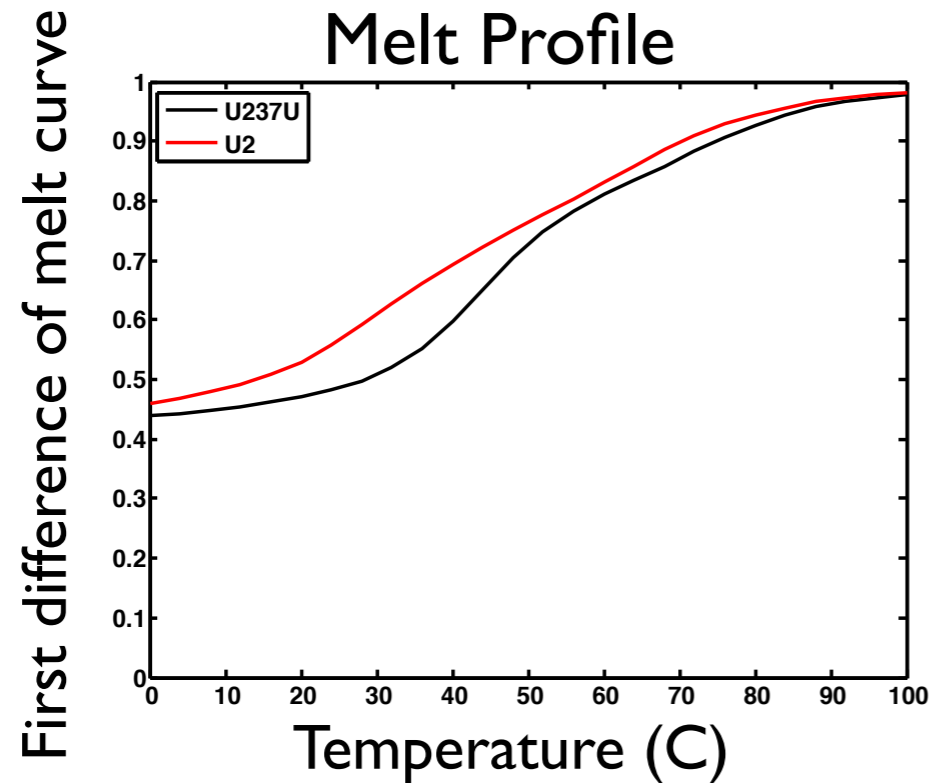
U237U

Different - threshold, shifted

MFE structure at 0.0 C



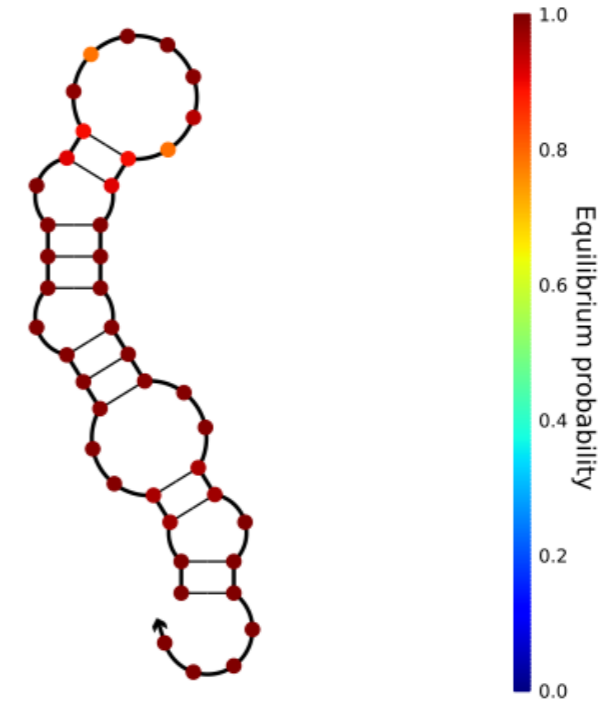
Free energy of secondary structure: -15.02 kcal/mol



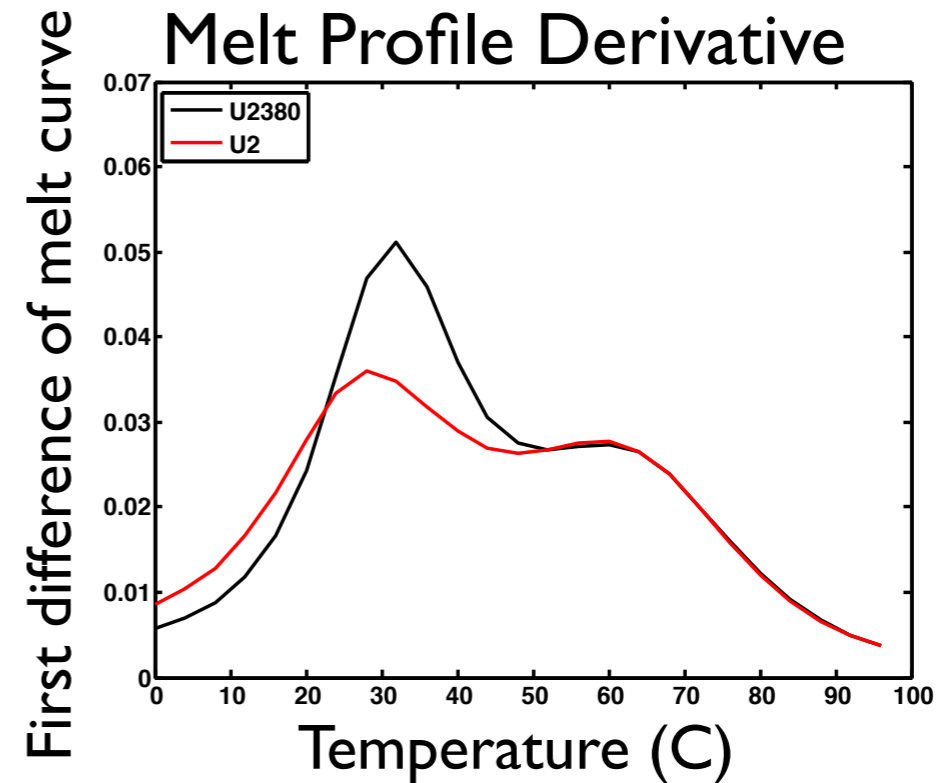
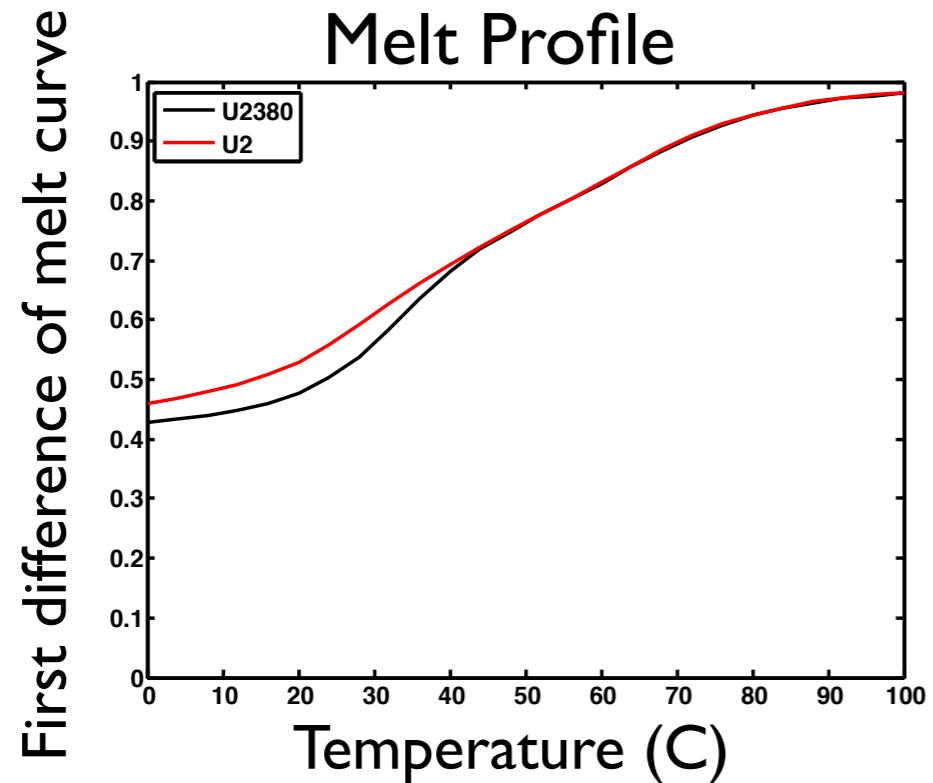
U2380

Different - Threshold

MFE structure at 0.0 C



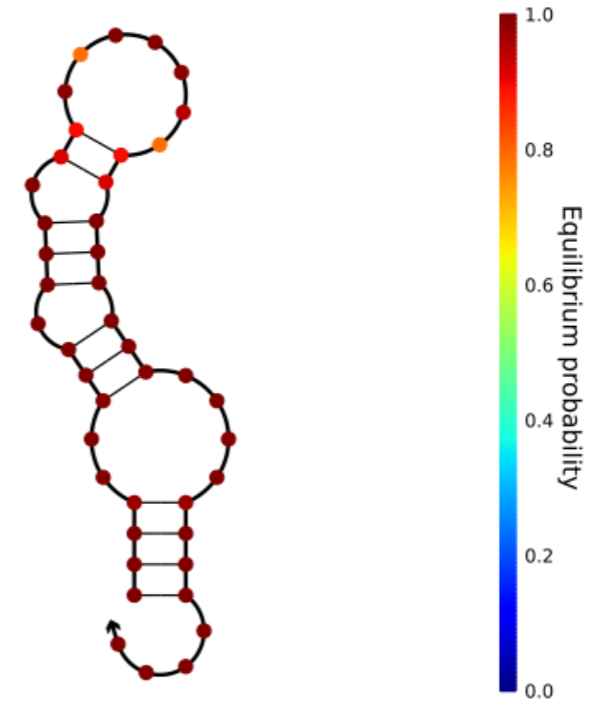
Free energy of secondary structure: -17.59 kcal/mol



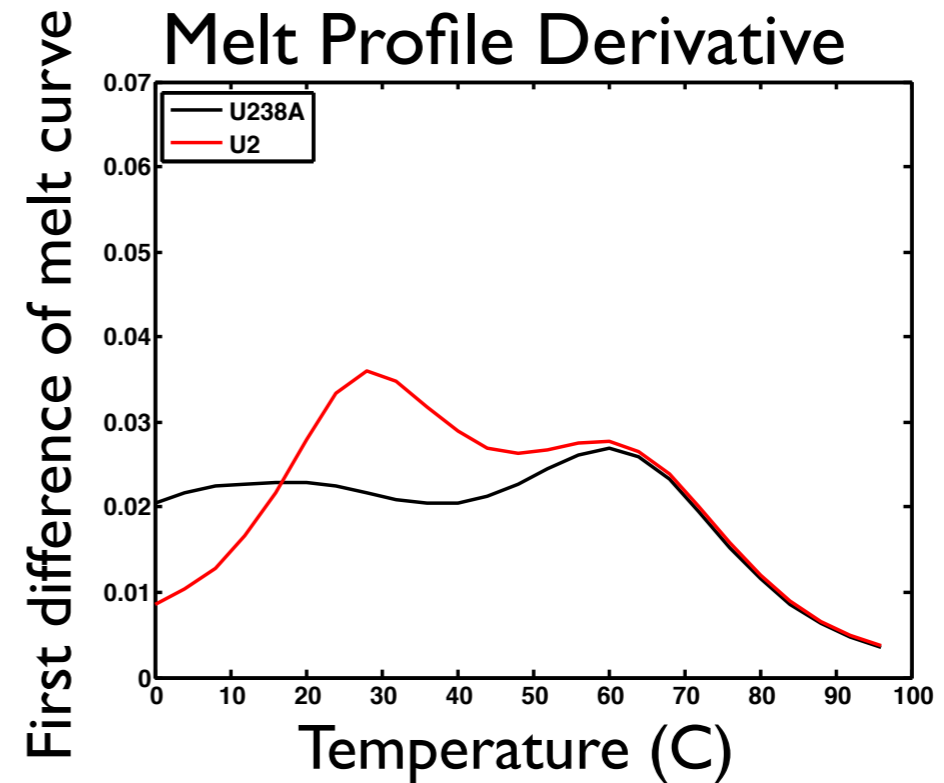
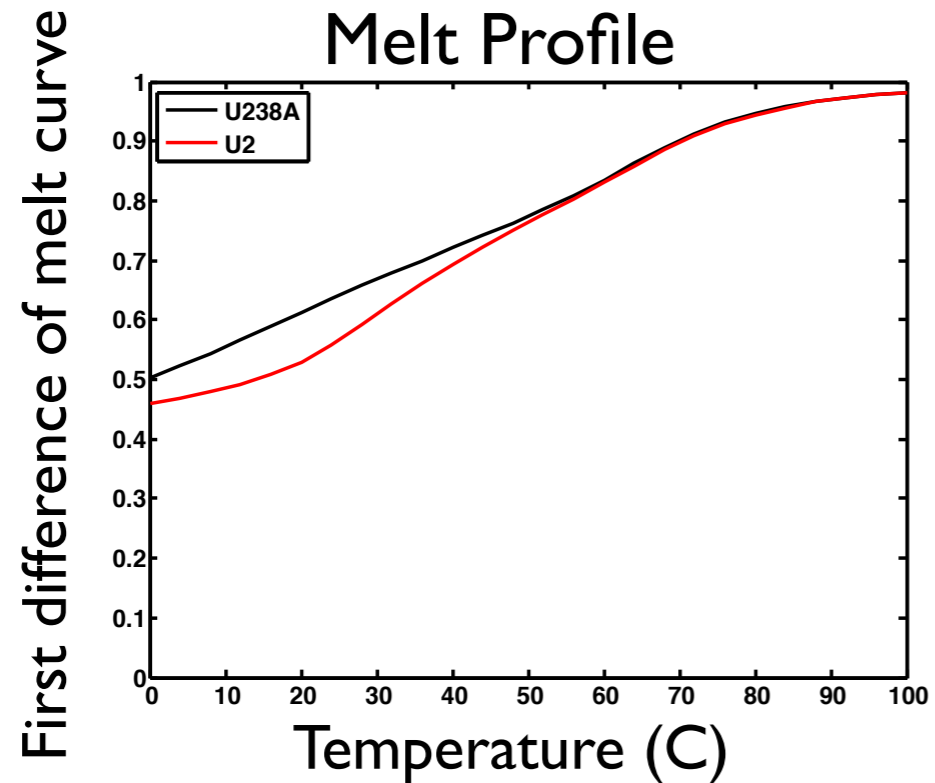
U238A

Different - Linear

MFE structure at 0.0 C

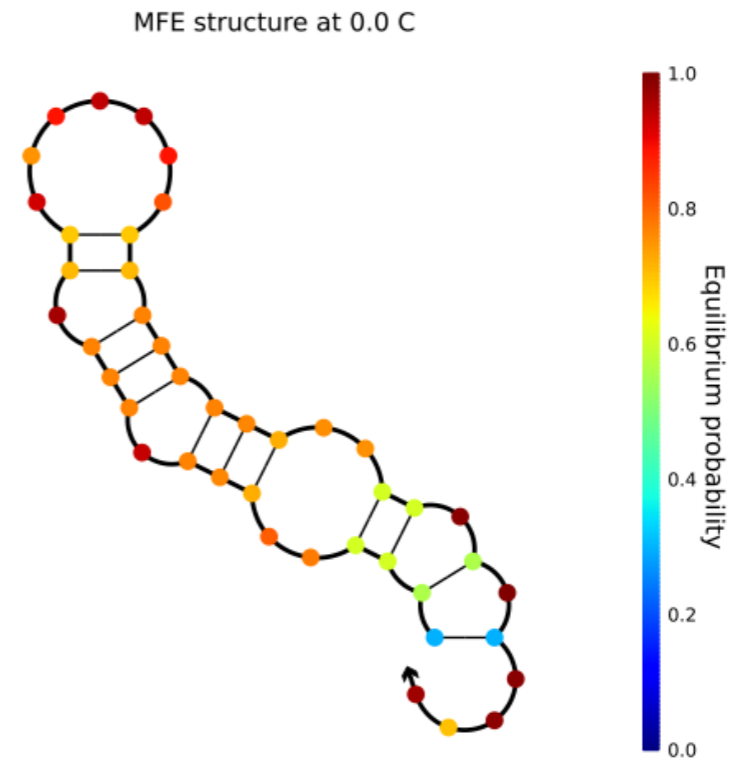


Free energy of secondary structure: -19.79 kcal/mol

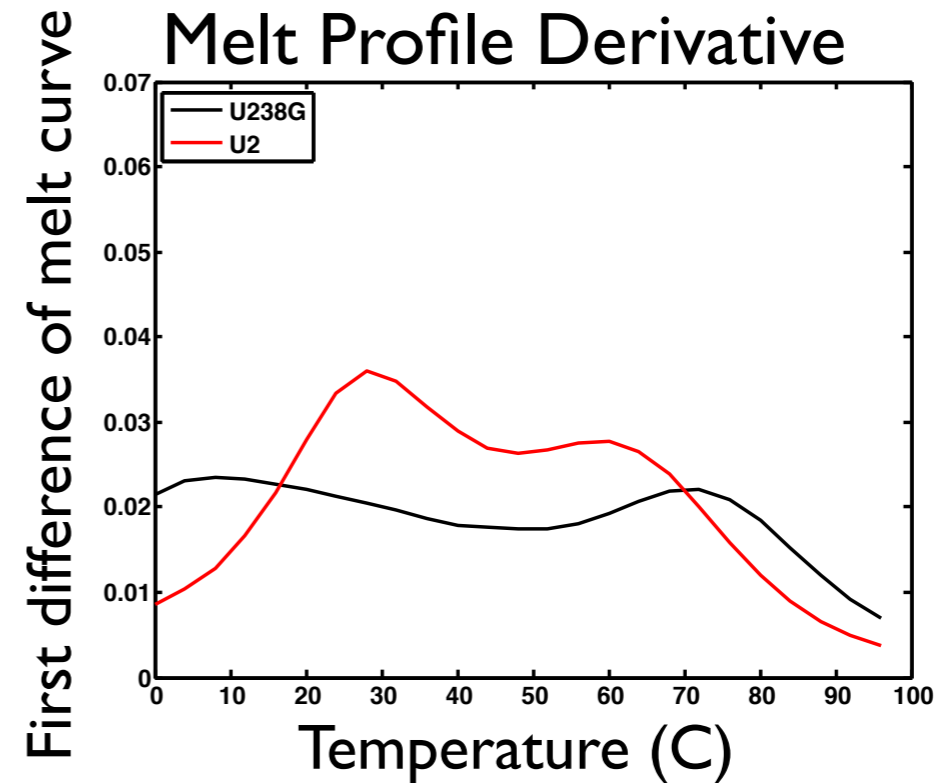
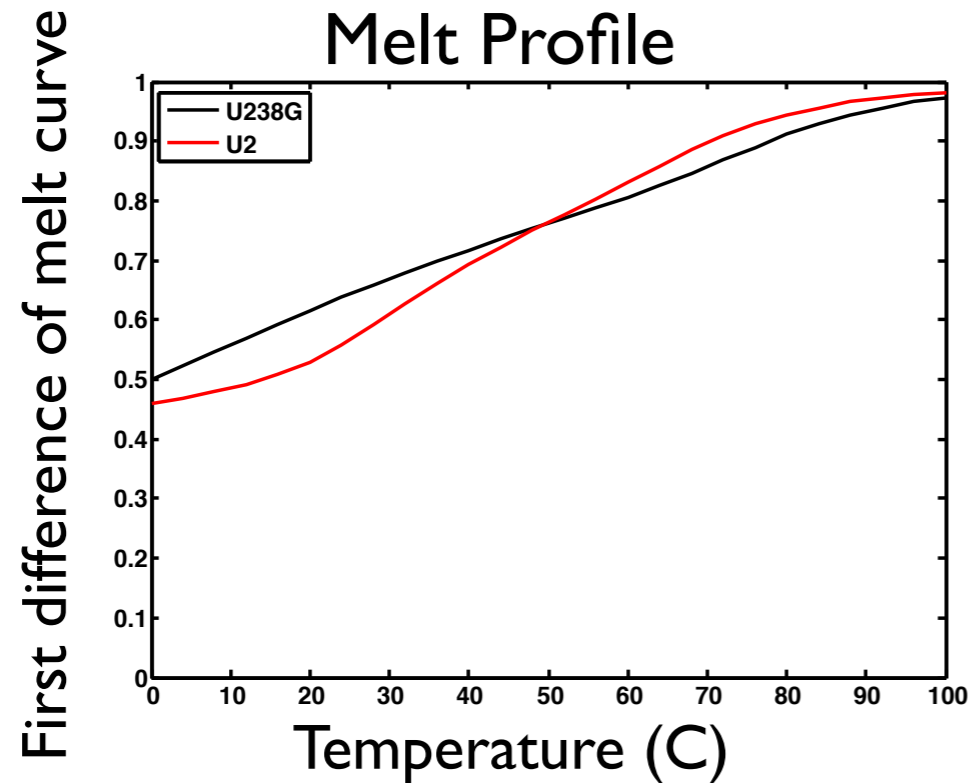


U238G

Different - Linear



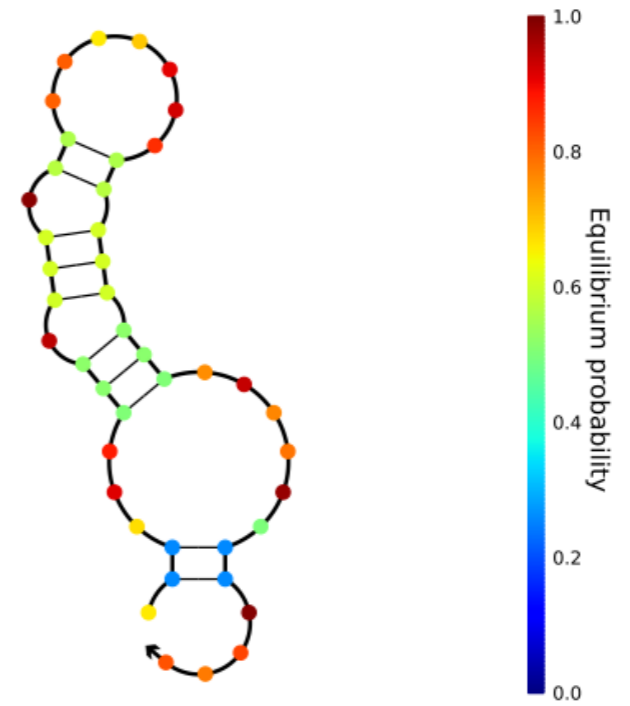
Free energy of secondary structure: -14.15 kcal/mol



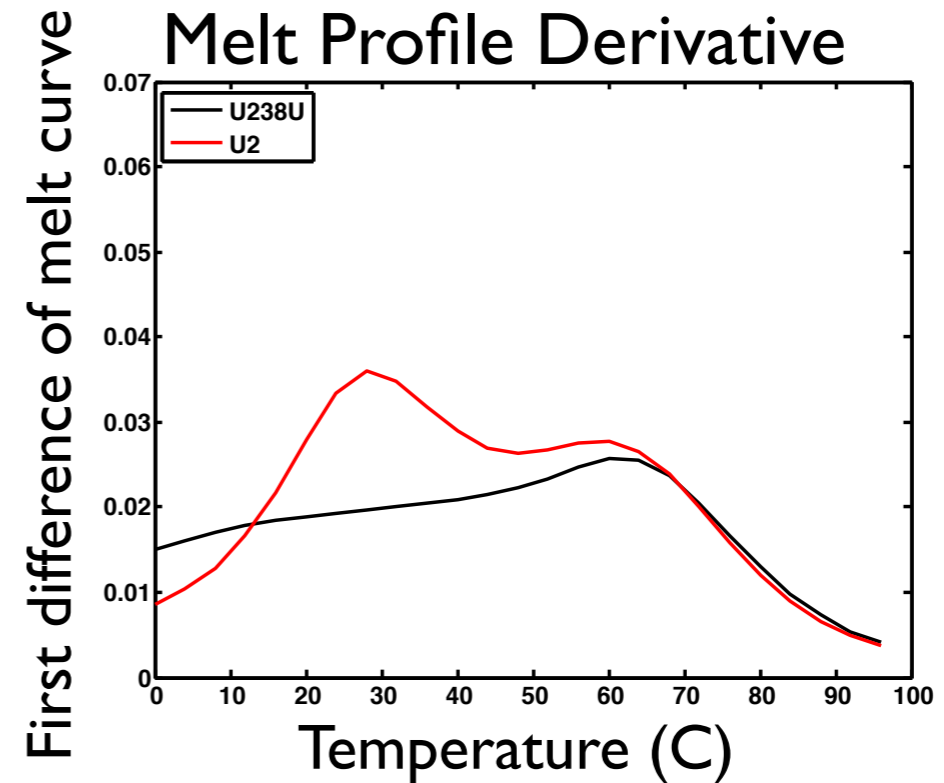
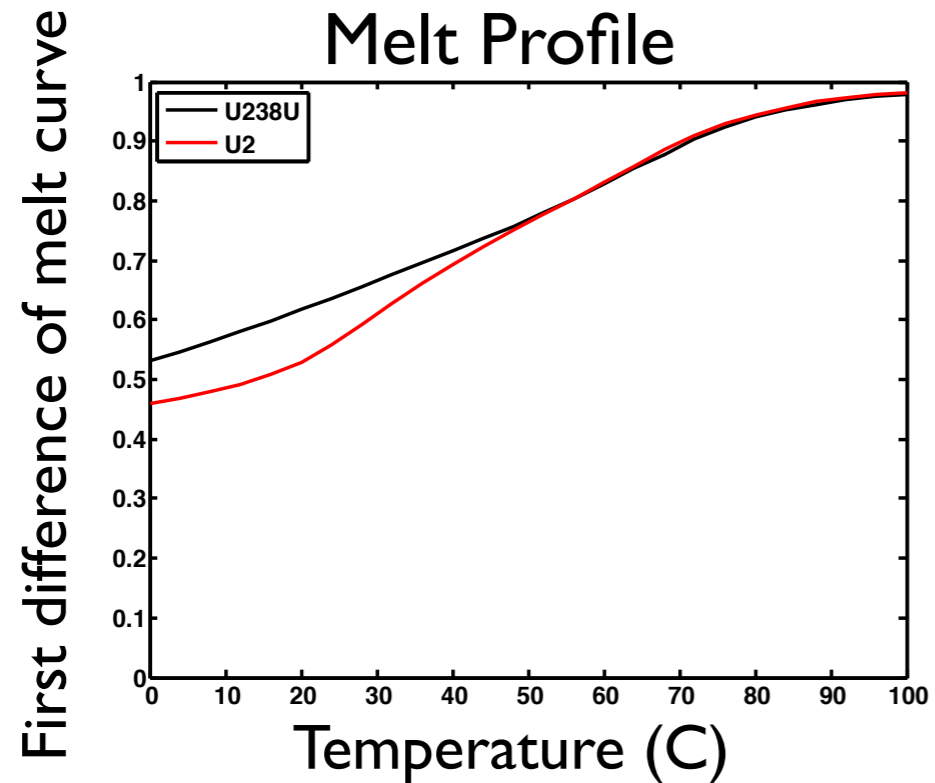
U238U

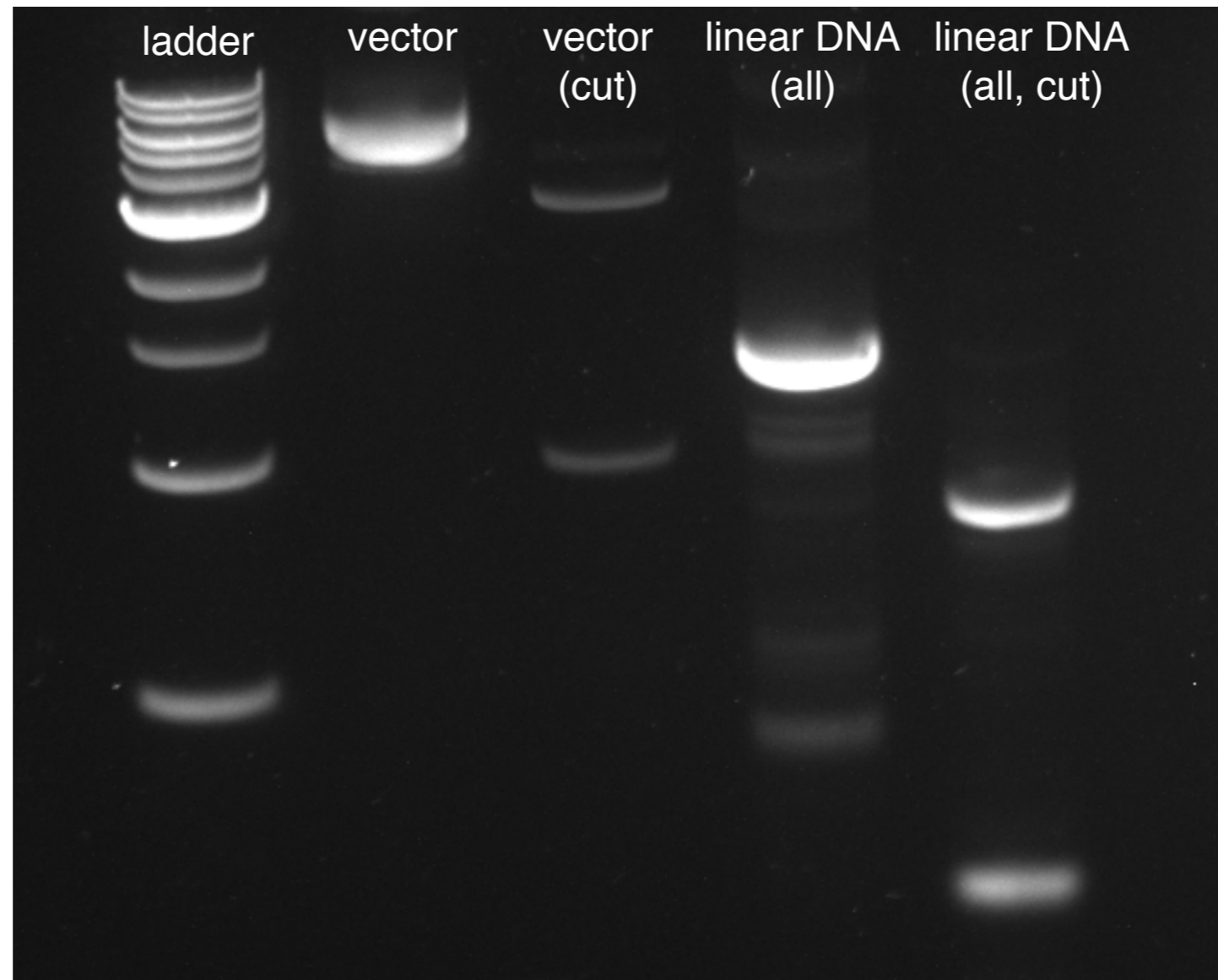
Different - Linear

MFE structure at 0.0 C



Free energy of secondary structure: -14.42 kcal/mol





Note:

1. Mixture of all linear DNA from the library has very strong band at expected size (column 4). Therefore, most linear DNA used in TXTL reaction synthesised as expected.

U210	<u>_</u> GAUCC <u>C</u> UCACU <u>U</u> <i>ACUAGUCUGCAG</i> <u>A</u> AGGAGAU	U210_F	GACGTGAGGGGGCAGGGATGGCTATATTTCTGGGA_GATCCCTCACTTACTAGTCTGCAG
		U210_R	GGGTATATCTCCTTCTGCAGACTAGTAAGTGAGGGATC_TCCCAGAAATATAGCCATCCC
U21A	<u>A</u> GAUCC <u>C</u> UCACU <u>U</u> <i>ACUAGUCUGCAG</i> <u>A</u> AGGAGAU	U21A_F	GACGTGAGGGGGCAGGGATGGCTATATTTCTGGGA <u>A</u> GATCCCTCACTTACTAGTCTGCAG
		U21A_R	GGGTATATCTCCTTCTGCAGACTAGTAAGTGAGGGATC <u>I</u> TCCCAGAAATATAGCCATCCC
U21C	<u>C</u> GAUCC <u>C</u> UCACU <u>U</u> <i>ACUAGUCUGCAG</i> <u>A</u> AGGAGAU	U21C_F	GACGTGAGGGGGCAGGGATGGCTATATTTCTGGGA <u>C</u> GATCCCTCACTTACTAGTCTGCAG
		U21C_R	GGGTATATCTCCTTCTGCAGACTAGTAAGTGAGGGATC <u>G</u> TCCCAGAAATATAGCCATCCC
U21U	<u>U</u> GAUCC <u>C</u> UCACU <u>U</u> <i>ACUAGUCUGCAG</i> <u>A</u> AGGAGAU	U21U_F	GACGTGAGGGGGCAGGGATGGCTATATTTCTGGGA <u>I</u> GATCCCTCACTTACTAGTCTGCAG
		U21U_R	GGGTATATCTCCTTCTGCAGACTAGTAAGTGAGGGATC <u>A</u> TCCCAGAAATATAGCCATCCC
U220	<u>G</u> AUCC <u>C</u> UCACU <u>U</u> <i>ACUAGUCUGCAG</i> <u>A</u> AGGAGAU	U220_F	GACGTGAGGGGGCAGGGATGGCTATATTTCTGGGAG_ATCCCTCACTTACTAGTCTGCAG
		U220_R	GGGTATATCTCCTTCTGCAGACTAGTAAGTGAGGGAT_CTCCCAGAAATATAGCCATCC
U22A	<u>A</u> AUCC <u>C</u> UCACU <u>U</u> <i>ACUAGUCUGCAG</i> <u>A</u> AGGAGAU	U22A_F	GACGTGAGGGGGCAGGGATGGCTATATTTCTGGGAG <u>A</u> ATCCCTCACTTACTAGTCTGCAG
		U22A_R	GGGTATATCTCCTTCTGCAGACTAGTAAGTGAGGGAT <u>I</u> CTCCCAGAAATATAGCCATCC
U22C	<u>C</u> AUCC <u>C</u> UCACU <u>U</u> <i>ACUAGUCUGCAG</i> <u>A</u> AGGAGAU	U22C_F	GACGTGAGGGGGCAGGGATGGCTATATTTCTGGGAG <u>C</u> ATCCCTCACTTACTAGTCTGCAG
		U22C_R	GGGTATATCTCCTTCTGCAGACTAGTAAGTGAGGGAT <u>G</u> CTCCCAGAAATATAGCCATCC
U22U	<u>U</u> AUCC <u>C</u> UCACU <u>U</u> <i>ACUAGUCUGCAG</i> <u>A</u> AGGAGAU	U22U_F	GACGTGAGGGGGCAGGGATGGCTATATTTCTGGGAG <u>I</u> ATCCCTCACTTACTAGTCTGCAG
		U22U_R	GGGTATATCTCCTTCTGCAGACTAGTAAGTGAGGGAT <u>A</u> CTCCCAGAAATATAGCCATCC
U230	<u>G</u> G_UCC <u>C</u> UCACU <u>U</u> <i>ACUAGUCUGCAG</i> <u>A</u> AGGAGAU	U230_F	GACGTGAGGGGGCAGGGATGGCTATATTTCTGGGAGG_TCCCTCACTTACTAGTCTGCAG
		U230_R	GGGTATATCTCCTTCTGCAGACTAGTAAGTGAGGGA_CCTCCCAGAAATATAGCCATCC
U23C	<u>C</u> GUCC <u>C</u> UCACU <u>U</u> ACUAGUCUGCAGAAGGAGAU	U23C_F	GACGTGAGGGGGCAGGGATGGCTATATTTCTGGGAGG <u>C</u> TCCCTCACTTACTAGTCTGCAG
		U23C_R	GGGTATATCTCCTTCTGCAGACTAGTAAGTGAGGGA <u>G</u> CCTCCCAGAAATATAGCCATCC
U23G	<u>G</u> GUCC <u>C</u> UCACU <u>U</u> ACUAGUCUGCAGAAGGAGAU	U23G_F	GACGTGAGGGGGCAGGGATGGCTATATTTCTGGGAGG <u>G</u> TCCCTCACTTACTAGTCTGCAG
		U23G_R	GGGTATATCTCCTTCTGCAGACTAGTAAGTGAGGGA <u>C</u> CCTCCCAGAAATATAGCCATCC
U23U	<u>U</u> GUCC <u>C</u> UCACU <u>U</u> ACUAGUCUGCAGAAGGAGAU	U23U_F	GACGTGAGGGGGCAGGGATGGCTATATTTCTGGGAGG <u>I</u> TCCCTCACTTACTAGTCTGCAG
		U23U_R	GGGTATATCTCCTTCTGCAGACTAGTAAGTGAGGGA <u>A</u> CCTCCCAGAAATATAGCCATCC
U240	<u>G</u> GA_C <u>C</u> UCACU <u>U</u> <i>ACUAGUCUGCAG</i> <u>A</u> AGGAGAU	U240_F	GACGTGAGGGGGCAGGGATGGCTATATTTCTGGGAGGA_CCCTCACTTACTAGTCTGCAG
		U240_R	GGGTATATCTCCTTCTGCAGACTAGTAAGTGAGGG_TCCCTCCCAGAAATATAGCCATCC
U24A	<u>A</u> GGA <u>C</u> CC <u>C</u> UCACU <u>U</u> ACUAGUCUGCAGAAGGAGAU	U24A_F	GACGTGAGGGGGCAGGGATGGCTATATTTCTGGGAGGA <u>A</u> CCCTCACTTACTAGTCTGCAG
		U24A_R	GGGTATATCTCCTTCTGCAGACTAGTAAGTGAGGG <u>I</u> TCCCTCCCAGAAATATAGCCATCC
U24C	<u>C</u> GGA <u>C</u> CC <u>C</u> UCACU <u>U</u> ACUAGUCUGCAGAAGGAGAU	U24C_F	GACGTGAGGGGGCAGGGATGGCTATATTTCTGGGAGGA <u>C</u> CCCTCACTTACTAGTCTGCAG
		U24C_R	GGGTATATCTCCTTCTGCAGACTAGTAAGTGAGGG <u>G</u> TCCCTCCCAGAAATATAGCCATCC
U24G	<u>G</u> GAG <u>C</u> CC <u>C</u> UCACU <u>U</u> ACUAGUCUGCAGAAGGAGAU	U24G_F	GACGTGAGGGGGCAGGGATGGCTATATTTCTGGGAGGA <u>G</u> CCCTCACTTACTAGTCTGCAG
		U24G_R	GGGTATATCTCCTTCTGCAGACTAGTAAGTGAGGG <u>C</u> TCCCTCCCAGAAATATAGCCATCC
U270	<u>G</u> GAUCC_ <u>U</u> CACU <u>U</u> <i>ACUAGUCUGCAG</i> <u>A</u> AGGAGAU	U270_F	GGGGGCAGGGATGGCTATATTTCTGGGAGGATCC_TCACTTACTAGTCTGCAGAAGGAG
		U270_R	CCATGGGTATATCTCCTTCTGCAGACTAGTAAGTGA_GGATCCTCCCAGAAATATAGCC
U27A	<u>A</u> GGAUCC <u>U</u> CACU <u>U</u> ACUAGUCUGCAGAAGGAGAU	U27A_F	GGGGGCAGGGATGGCTATATTTCTGGGAGGATCC <u>A</u> TCACTTACTAGTCTGCAGAAGGAG
		U27A_R	CCATGGGTATATCTCCTTCTGCAGACTAGTAAGTGA <u>I</u> GGATCCTCCCAGAAATATAGCC

45	U27G	GGAUCC G UCACUUACUAGUCUGCAGAAGGAGAU	U27G_F	GGGGGCAGGGATGGCTATATTTCTGGGAGGATCC G TCACTTACTAGTCTGCAGAAGGAG
46			U27G_R	CCATGGGTATATCTCCTTCTGCAGACTAGTAAGTGA C GGATCCTCCCAGAAATATAGCC
47	U27U	GGAUCC U UCACUUACUAGUCUGCAGAAGGAGAU	U27U_F	GGGGGCAGGGATGGCTATATTTCTGGGAGGATCC I TCACTTACTAGTCTGCAGAAGGAG
48			U27U_R	CCATGGGTATATCTCCTTCTGCAGACTAGTAAGTGA A GGATCCTCCCAGAAATATAGCC
49				
50	U280	GGAUCCC_CACU U ACUAGUCUGCAG A AGGAGAU	U280_F	GGGGGCAGGGATGGCTATATTTCTGGGAGGATCCC_CACTTACTAGTCTGCAGAAGGAGA
51			U280_R	CTCCATGGGTATATCTCCTTCTGCAGACTAGTAAGTGGGGATCCTCCCAGAAATATAGC
52	U28A	GGAUCCC A CACUACUAGUCUGCAGAAGGAGAU	U28A_F	GGGGGCAGGGATGGCTATATTTCTGGGAGGATCCC A CACTTACTAGTCTGCAGAAGGAGA
53			U28A_R	CTCCATGGGTATATCTCCTTCTGCAGACTAGTAAGTGGGGATCCTCCCAGAAATATAGC
54	U28C	GGAUCCC C CACUACUAGUCUGCAGAAGGAGAU	U28C_F	GGGGGCAGGGATGGCTATATTTCTGGGAGGATCCC C CACTTACTAGTCTGCAGAAGGAGA
55			U28C_R	CTCCATGGGTATATCTCCTTCTGCAGACTAGTAAGTGGGGATCCTCCCAGAAATATAGC
56	U28G	GGAUCCC G CACUACUAGUCUGCAGAAGGAGAU	U28G_F	GGGGGCAGGGATGGCTATATTTCTGGGAGGATCCC G CACTTACTAGTCTGCAGAAGGAGA
57			U28G_R	CTCCATGGGTATATCTCCTTCTGCAGACTAGTAAGTGGGGATCCTCCCAGAAATATAGC
58				
59	U290	GGAUCCCU_ACU U ACUAGUCUGCAG A AGGAGAU	U290_F	GGGGCAGGGATGGCTATATTTCTGGGAGGATCCCT_ACTTACTAGTCTGCAGAAGGAGAT
60			U290_R	CTCCATGGGTATATCTCCTTCTGCAGACTAGTAAGT_AGGGATCCTCCCAGAAATATAGC
61	U29A	GGAUCCCU A ACUACUAGUCUGCAGAAGGAGAU	U29A_F	GGGGCAGGGATGGCTATATTTCTGGGAGGATCCCT A ACTTACTAGTCTGCAGAAGGAGAT
62			U29A_R	CTCCATGGGTATATCTCCTTCTGCAGACTAGTAAGT I AGGGATCCTCCCAGAAATATAGC
63	U29G	GGAUCCCU G ACUACUAGUCUGCAGAAGGAGAU	U29G_F	GGGGCAGGGATGGCTATATTTCTGGGAGGATCCCT G ACTTACTAGTCTGCAGAAGGAGAT
64			U29G_R	CTCCATGGGTATATCTCCTTCTGCAGACTAGTAAGT C AGGGATCCTCCCAGAAATATAGC
65	U29U	GGAUCCCU U ACUACUAGUCUGCAGAAGGAGAU	U29U_F	GGGGCAGGGATGGCTATATTTCTGGGAGGATCCCT I ACTTACTAGTCTGCAGAAGGAGAT
66			U29U_R	CTCCATGGGTATATCTCCTTCTGCAGACTAGTAAGT A AGGGATCCTCCCAGAAATATAGC
67				
68	U2110	GGAUCCCUCA_UU U ACUAGUCUGCAG A AGGAGAU	U2110_F	GATGGCTATATTTCTGGGAGGATCCCTCA_TTACTAGTCTGCAGAAGGAGATATACC
69			U2110_R	CATGGGTATATCTCCTTCTGCAGACTAGTAA_TGAGGGATCCTCCCAGAAATATAG
70	U211A	GGAUCCCUCA A UUACUAGUCUGCAGAAGGAGAU	U211A_F	GATGGCTATATTTCTGGGAGGATCCCTCA A TTACTAGTCTGCAGAAGGAGATATACC
71			U211A_R	CATGGGTATATCTCCTTCTGCAGACTAGTAA U TGAGGGATCCTCCCAGAAATATAG
72	U211G	GGAUCCCUCA G UUACUAGUCUGCAGAAGGAGAU	U211G_F	GATGGCTATATTTCTGGGAGGATCCCTCA G TTACTAGTCTGCAGAAGGAGATATACC
73			U211G_R	CATGGGTATATCTCCTTCTGCAGACTAGTAA C TGAGGGATCCTCCCAGAAATATAG
74	U211U	GGAUCCCUCA U UUACUAGUCUGCAGAAGGAGAU	U211U_F	GATGGCTATATTTCTGGGAGGATCCCTCA I TTACTAGTCTGCAGAAGGAGATATACC
75			U211U_R	CATGGGTATATCTCCTTCTGCAGACTAGTAA A TGAGGGATCCTCCCAGAAATATAG
76				
77	U2120	GGAUCCCUCAC_U U ACUAGUCUGCAG A AGGAGAU	U2120_F	GATGGCTATATTTCTGGGAGGATCCCTCAC_TACTAGTCTGCAGAAGGAGATATACC
78			U2120_R	CATGGGTATATCTCCTTCTGCAGACTAGTA_GTGAGGGATCCTCCCAGAAATATAG
79	U212A	GGAUCCCUCAC A UUACUAGUCUGCAGAAGGAGAU	U212A_F	GATGGCTATATTTCTGGGAGGATCCCTCAC A TACTAGTCTGCAGAAGGAGATATACC
80			U212A_R	CATGGGTATATCTCCTTCTGCAGACTAGTA I GTGAGGGATCCTCCCAGAAATATAG
81	U212C	GGAUCCCUCAC C UUACUAGUCUGCAGAAGGAGAU	U212C_F	GATGGCTATATTTCTGGGAGGATCCCTCAC C TACTAGTCTGCAGAAGGAGATATACC
82			U212C_R	CATGGGTATATCTCCTTCTGCAGACTAGTA G GTGAGGGATCCTCCCAGAAATATAG
83	U212G	GGAUCCCUCAC G UUACUAGUCUGCAGAAGGAGAU	U212G_F	GATGGCTATATTTCTGGGAGGATCCCTCAC G TACTAGTCTGCAGAAGGAGATATACC
84			U212G_R	CATGGGTATATCTCCTTCTGCAGACTAGTA C GTGAGGGATCCTCCCAGAAATATAG
85				
86	U2130	GGAUCCCUCACU_ U ACUAGUCUGCAG A AGGAGAU	U2130_F	GATGGCTATATTTCTGGGAGGATCCCTCACT_ACTAGTCTGCAGAAGGAGATATACC
87			U2130_R	GTGAAAAGCTCCATGGGTATATCTCCTTCTGCAGACTAGT_AGTGAGGGATCCTCCCAG

86	U2130	GGAUCCCUCACU_ <i>ACUAGUCUGCAG</i> A AGGAGAU	U2130_F	GATGGCTATATTTCTGGGAGGATCCCTCACT_ ACTAGTCTGCAGAAGGAGATATACC
87			U2130_R	GTGAAAAGCTCCATGGGTATATCTCCTTCTGCAGACTAGT_ AGTGAGGGATCCTCCCAG
88	U213A	GGAUCCCUCACU A ACUAGUCUGCAGAAGGAGAU	U213A_F	GATGGCTATATTTCTGGGAGGATCCCTCACT A ACTAGTCTGCAGAAGGAGATATACC
89			U213A_R	GTGAAAAGCTCCATGGGTATATCTCCTTCTGCAGACTAGT I AGTGAGGGATCCTCCCAG
90	U213C	GGAUCCCUCACU C ACUAGUCUGCAGAAGGAGAU	U213C_F	GATGGCTATATTTCTGGGAGGATCCCTCACT C ACTAGTCTGCAGAAGGAGATATACC
91			U213C_R	GTGAAAAGCTCCATGGGTATATCTCCTTCTGCAGACTAGT G AGTGAGGGATCCTCCCAG
92	U213G	GGAUCCCUCACU G ACUAGUCUGCAGAAGGAGAU	U213G_F	GATGGCTATATTTCTGGGAGGATCCCTCACT G ACTAGTCTGCAGAAGGAGATATACC
93			U213G_R	GTGAAAAGCTCCATGGGTATATCTCCTTCTGCAGACTAGT C AGTGAGGGATCCTCCCAG
94				
95	U2150	GGAUCCCUCACUU <i>A</i> <i>UAGUCUGCAG</i> A AGGAGAU	U2150_F	GGGATGGCTATATTTCTGGGAGGATCCCTCACTTA_ TAGTCTGCAGAAGGAGATATACCC
96			U2150_R	GTGAAAAGCTCCATGGGTATATCTCCTTCTGCAGACTA_ TAAGTGAGGGATCCTCCCAG
97	U215A	GGAUCCCUCACUUA A UAGUCUGCAGAAGGAGAU	U215A_F	GGGATGGCTATATTTCTGGGAGGATCCCTCACTTA A TAGTCTGCAGAAGGAGATATACCC
98			U215A_R	GTGAAAAGCTCCATGGGTATATCTCCTTCTGCAGACTA I TAAGTGAGGGATCCTCCCAG
99	U215G	GGAUCCCUCACUUA G UAGUCUGCAGAAGGAGAU	U215G_F	GGGATGGCTATATTTCTGGGAGGATCCCTCACTTA G TAGTCTGCAGAAGGAGATATACCC
00			U215G_R	GTGAAAAGCTCCATGGGTATATCTCCTTCTGCAGACTA C TAAGTGAGGGATCCTCCCAG
01	U215U	GGAUCCCUCACUUA U UAGUCUGCAGAAGGAGAU	U215U_F	GGGATGGCTATATTTCTGGGAGGATCCCTCACTTA I TAGTCTGCAGAAGGAGATATACCC
02			U215U_R	GTGAAAAGCTCCATGGGTATATCTCCTTCTGCAGACTA A TAAGTGAGGGATCCTCCCAG
03				
04	U2160	GGAUCCCUCACUU <i>AC</i> <i>AGUCUGCAG</i> A AGGAGAU	U2160_F	GGGATGCCTATATTTCTGGGAGGATCCCTCACTTAC_ AGTCTGCAGAAGGAGATATACCC
05			U2160_R	CAGTGAAAAGCTCCATGGGTATATCTCCTTCTGCAGACT_ GTAAGTGAGGGATCCTCCC
06	U216A	GGAUCCCUCACUUAC A AGUCUGCAGAAGGAGAU	U216A_F	GGGATGCCTATATTTCTGGGAGGATCCCTCACTTAC A AGTCTGCAGAAGGAGATATACCC
07			U216A_R	CAGTGAAAAGCTCCATGGGTATATCTCCTTCTGCAGACT I GTAAGTGAGGGATCCTCCC
08	U216C	GGAUCCCUCACUUAC C AGUCUGCAGAAGGAGAU	U216C_F	GGGATGCCTATATTTCTGGGAGGATCCCTCACTTAC C AGTCTGCAGAAGGAGATATACCC
09			U216C_R	CAGTGAAAAGCTCCATGGGTATATCTCCTTCTGCAGACT G GTAAGTGAGGGATCCTCCC
10	U216G	GGAUCCCUCACUUAC G AGUCUGCAGAAGGAGAU	U216G_F	GGGATGCCTATATTTCTGGGAGGATCCCTCACTTAC G AGTCTGCAGAAGGAGATATACCC
11			U216G_R	CAGTGAAAAGCTCCATGGGTATATCTCCTTCTGCAGACT C GTAAGTGAGGGATCCTCCC
12				
13	U2240	GGAUCCCUCACUUACUAGUCUGC_ GA AGGAGAU	U2240_F	CTATATTTCTGGGAGGATCCCTCACTTACTAGTCTGC_ GAAGGAGATATACCCATGGAGC
14			U2240_R	CGCCAGTGAAAAGCTCCATGGGTATATCTCCTT_ GCAGACTAGTAAGTGAGGGATC
15	U224C	GGAUCCCUCACUUACUAGUCUGC C GAAGGAGAU	U224C_F	CTATATTTCTGGGAGGATCCCTCACTTACTAGTCTGC C GAAGGAGATATACCCATGGAGC
16			U224C_R	CGCCAGTGAAAAGCTCCATGGGTATATCTCCTT C GCAGACTAGTAAGTGAGGGATC
17	U224G	GGAUCCCUCACUUACUAGUCUGC G GAAGGAGAU	U224G_F	CTATATTTCTGGGAGGATCCCTCACTTACTAGTCTGC G GAAGGAGATATACCCATGGAGC
18			U224G_R	CGCCAGTGAAAAGCTCCATGGGTATATCTCCTT C GCAGACTAGTAAGTGAGGGATC
19	U224U	GGAUCCCUCACUUACUAGUCUGC U GAAGGAGAU	U224U_F	CTATATTTCTGGGAGGATCCCTCACTTACTAGTCTGC I GAAGGAGATATACCCATGGAGC
20			U224U_R	CGCCAGTGAAAAGCTCCATGGGTATATCTCCTT C GCAGACTAGTAAGTGAGGGATC
21				
22	U2250	GGAUCCCUCACUUACUAGUCUGCA_ A AGGA GAU	U2250_F	TATATTTCTGGGAGGATCCCTCACTTACTAGTCTGCA_ AAGGAGATATACCCATGGAGCT
23			U2250_R	CAACGCCAGTGAAAAGCTCCATGGGTATATCTCCTT_ TGCAGACTAGTAAGTGAGGGATC
24	U225A	GGAUCCCUCACUUACUAGUCUGCA A AAGGA GAU	U225A_F	TATATTTCTGGGAGGATCCCTCACTTACTAGTCTGCA A AAGGAGATATACCCATGGAGCT
25			U225A_R	CAACGCCAGTGAAAAGCTCCATGGGTATATCTCCTT I TGCAGACTAGTAAGTGAGGGATC
26	U225C	GGAUCCCUCACUUACUAGUCUGCA C AAGGA GAU	U225C_F	TATATTTCTGGGAGGATCCCTCACTTACTAGTCTGCA C AAGGAGATATACCCATGGAGCT
27			U225C_R	CAACGCCAGTGAAAAGCTCCATGGGTATATCTCCTT G TGCAGACTAGTAAGTGAGGGATC
28	U225U	GGAUCCCUCACUUACUAGUCUGCA U AAGGA GAU	U225U_F	TATATTTCTGGGAGGATCCCTCACTTACTAGTCTGCA U AAGGAGATATACCCATGGAGCT
29			U225U_R	CAACGCCAGTGAAAAGCTCCATGGGTATATCTCCTT A TGCAGACTAGTAAGTGAGGGATC

122	U2250	GGAUCCCUCA CUUACUAGUC UGCA_AAGGA GAU	U2250_F	TATATTTCTGGGAGGATCCCTCACTTACTAGTCTGCA_AAGGAGATATACCCATGGAGCT
123			U2250_R	CAACGCCAGTGAAAAGCTCCATGGGTATATCTCCTT_TGCAGACTAGTAAGTGAGGGATC
124	U225A	GGAUCCCUCA CUUACUAGUC UGCA_AAGGA GAU	U225A_F	TATATTTCTGGGAGGATCCCTCACTTACTAGTCTGCA_AAGGAGATATACCCATGGAGCT
125			U225A_R	CAACGCCAGTGAAAAGCTCCATGGGTATATCTCCTT_I TGCAGACTAGTAAGTGAGGGATC
126	U225C	GGAUCCCUCA CUUACUAGUC UGCA_C AAGGA GAU	U225C_F	TATATTTCTGGGAGGATCCCTCACTTACTAGTCTGCA_C AAGGAGATATACCCATGGAGCT
127			U225C_R	CAACGCCAGTGAAAAGCTCCATGGGTATATCTCCTT_G TGCAGACTAGTAAGTGAGGGATC
128	U225U	GGAUCCCUCA CUUACUAGUC UGCA_U AAGGA GAU	U225U_F	TATATTTCTGGGAGGATCCCTCACTTACTAGTCTGCA_U AAGGAGATATACCCATGGAGCT
129			U225U_R	CAACGCCAGTGAAAAGCTCCATGGGTATATCTCCTT_Δ TGCAGACTAGTAAGTGAGGGATC
130				
131	U2340	GGAUCCCUCA CUUACUAGUC UGCAGAAGGA GAL	U2340_F	GAGGATCCCTCACTTACTAGTCTGCAGAAGGAGAT_TACCCATGGAGCTTTTCACTG
132			U2340_R	GGGAACAACGCCAGTGAAAAGCTCCATGGGTATATCTCCTTCTGCAGACTAGTAAGTG
133	U234C	GGAUCCCUCA CUUACUAGUC UGCAGAAGGA GAL	U234C_F	GAGGATCCCTCACTTACTAGTCTGCAGAAGGAGAT_C TACCCATGGAGCTTTTCACTG
134			U234C_R	GGGAACAACGCCAGTGAAAAGCTCCATGGGTAG_ATCTCCTTCTGCAGACTAGTAAGTG
135	U234G	GGAUCCCUCA CUUACUAGUC UGCAGAAGGA GAL	U234G_F	GAGGATCCCTCACTTACTAGTCTGCAGAAGGAGAT_G TACCCATGGAGCTTTTCACTG
136			U234G_R	GGGAACAACGCCAGTGAAAAGCTCCATGGGTAC_ATCTCCTTCTGCAGACTAGTAAGTG
137	U234U	GGAUCCCUCA CUUACUAGUC UGCAGAAGGA GAL	U234U_F	GAGGATCCCTCACTTACTAGTCTGCAGAAGGAGAT_U TACCCATGGAGCTTTTCACTG
138			U234U_R	GGGAACAACGCCAGTGAAAAGCTCCATGGGTAA_Δ ATCTCCTTCTGCAGACTAGTAAGTG
139				
140	U2350	GGAUCCCUCA CUUACUAGUC UGCAGAAGGA GAL	U2350_F	GATCCCTCACTTACTAGTCTGCAGAAGGAGATA_ACCCATGGAGCTTTTCACTG
141			U2350_R	GGGAACAACGCCAGTGAAAAGCTCCATGGGT_TATCTCCTTCTGCAGACTAGTAAGTG
142	U235A	GGAUCCCUCA CUUACUAGUC UGCAGAAGGA GAL	U235A_F	GATCCCTCACTTACTAGTCTGCAGAAGGAGATA_Δ ACCCATGGAGCTTTTCACTG
143			U235A_R	GGGAACAACGCCAGTGAAAAGCTCCATGGGT_I TATCTCCTTCTGCAGACTAGTAAGTG
144	U235C	GGAUCCCUCA CUUACUAGUC UGCAGAAGGA GAL	U235C_F	GATCCCTCACTTACTAGTCTGCAGAAGGAGATA_C ACCCATGGAGCTTTTCACTG
145			U235C_R	GGGAACAACGCCAGTGAAAAGCTCCATGGGT_G TATCTCCTTCTGCAGACTAGTAAGTG
146	U235G	GGAUCCCUCA CUUACUAGUC UGCAGAAGGA GAL	U235G_F	GATCCCTCACTTACTAGTCTGCAGAAGGAGATA_G ACCCATGGAGCTTTTCACTG
147			U235G_R	GGGAACAACGCCAGTGAAAAGCTCCATGGGT_C TATCTCCTTCTGCAGACTAGTAAGTG
148				
149	U2370	GGAUCCCUCA CUUACUAGUC UGCAGAAGGA GAL	U2370_F	GATCCCTCACTTACTAGTCTGCAGAAGGAGATATA_CCATGGAGCTTTTCACTGGC
150			U2370_R	GGGAACAACGCCAGTGAAAAGCTCCATGG_TATATCTCCTTCTGCAGACTAGTAAGTG
151	U237A	GGAUCCCUCA CUUACUAGUC UGCAGAAGGA GAL	U237A_F	GATCCCTCACTTACTAGTCTGCAGAAGGAGATATA_Δ CCATGGAGCTTTTCACTGGC
152			U237A_R	GGGAACAACGCCAGTGAAAAGCTCCATGG_I TATATCTCCTTCTGCAGACTAGTAAGTG
153	U237G	GGAUCCCUCA CUUACUAGUC UGCAGAAGGA GAL	U237G_F	GATCCCTCACTTACTAGTCTGCAGAAGGAGATATA_G CCATGGAGCTTTTCACTGGC
154			U237G_R	GGGAACAACGCCAGTGAAAAGCTCCATGG_C TATATCTCCTTCTGCAGACTAGTAAGTG
155	U237U	GGAUCCCUCA CUUACUAGUC UGCAGAAGGA GAL	U237U_F	GATCCCTCACTTACTAGTCTGCAGAAGGAGATATA_I CCATGGAGCTTTTCACTGGC
156			U237U_R	GGGAACAACGCCAGTGAAAAGCTCCATGG_Δ TATATCTCCTTCTGCAGACTAGTAAGTG
157				
158	U2380	GGAUCCCUCA CUUACUAGUC UGCAGAAGGA GAL	U2380_F	GATCCCTCACTTACTAGTCTGCAGAAGGAGATATAC_CATGGAGCTTTTCACTGGCG
159			U2380_R	ATGGGAACAACGCCAGTGAAAAGCTCCATG_GTATATCTCCTTCTGCAGACTAGTAAG
160	U238A	GGAUCCCUCA CUUACUAGUC UGCAGAAGGA GAL	U238A_F	GATCCCTCACTTACTAGTCTGCAGAAGGAGATATAC_Δ CATGGAGCTTTTCACTGGCG
161			U238A_R	ATGGGAACAACGCCAGTGAAAAGCTCCATG_I GTATATCTCCTTCTGCAGACTAGTAAG
162	U238G	GGAUCCCUCA CUUACUAGUC UGCAGAAGGA GAL	U238C_F	GATCCCTCACTTACTAGTCTGCAGAAGGAGATATAC_G CATGGAGCTTTTCACTGGCG
163			U238C_R	ATGGGAACAACGCCAGTGAAAAGCTCCATG_C GTATATCTCCTTCTGCAGACTAGTAAG
164	U238U	GGAUCCCUCA CUUACUAGUC UGCAGAAGGA GAL	U238G_F	GATCCCTCACTTACTAGTCTGCAGAAGGAGATATAC_I CATGGAGCTTTTCACTGGCG
165			U238G_R	ATGGGAACAACGCCAGTGAAAAGCTCCATG_Δ GTATATCTCCTTCTGCAGACTAGTAAG

167	U2100 (U9)	GGAUCCUC_CUU ACUAGUCUGCAG AAGGAGAU	U2100_F	CAGGGATGGI TATATTTCTGGGAGGATCCCTC_CTTACTAGTCTGCAGAAGGAGATATAC
168			U2100_R	CTCCATGGGTATATCTCCTTCTGCAGACTAGTAAG_GAGGGATCCTCCCAGAAATATAGC
169	U210C	GGAUCCUC_CCUU ACUAGUCUGCAG AAGGAGAU	U210C_F	CAGGGATGGCTATATTTCTGGGAGGATCCCTC_CTTACTAGTCTGCAGAAGGAGATATAC
170			U210C_R	CTCCATGGGTATATCTCCTTCTGCAGACTAGTAAG_GAGGGATCCTCCCAGAAATATAGC
171	U210G	GGAUCCUC_GCUU ACUAGUCUGCAG AAGGAGAU	U210G_F	CAGGGATGGCTATATTTCTGGGAGGATCCCTC_GTTACTAGTCTGCAGAAGGAGATATAC
172			U210G_R	CTCCATGGGTATATCTCCTTCTGCAGACTAGTAAG_GAGGGATCCTCCCAGAAATATAGC
173	U210U	GGAUCCUC_UCUU ACUAGUCUGCAG AAGGAGAU	U210U_F	CAGGGATGGCTATATTTCTGGGAGGATCCCTC_I CTTACTAGTCTGCAGAAGGAGATATAC
174			U210U_R	CTCCATGGGTATATCTCCTTCTGCAGACTAGTAAG_A GAGGGATCCTCCCAGAAATATAGC