

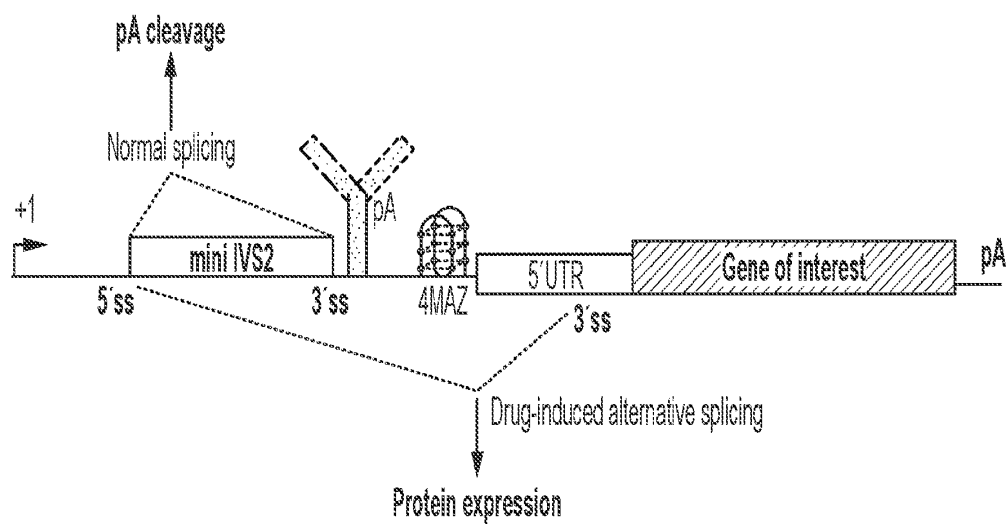


Figure 1A

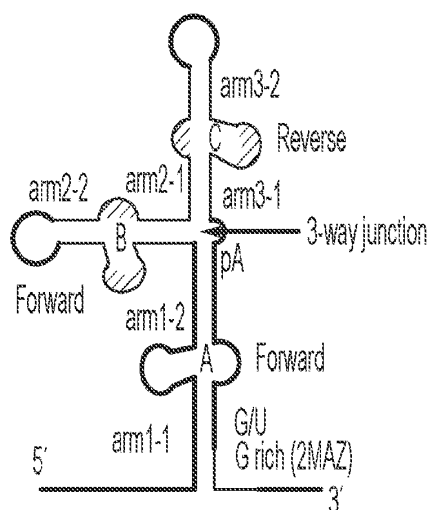


Figure 1B

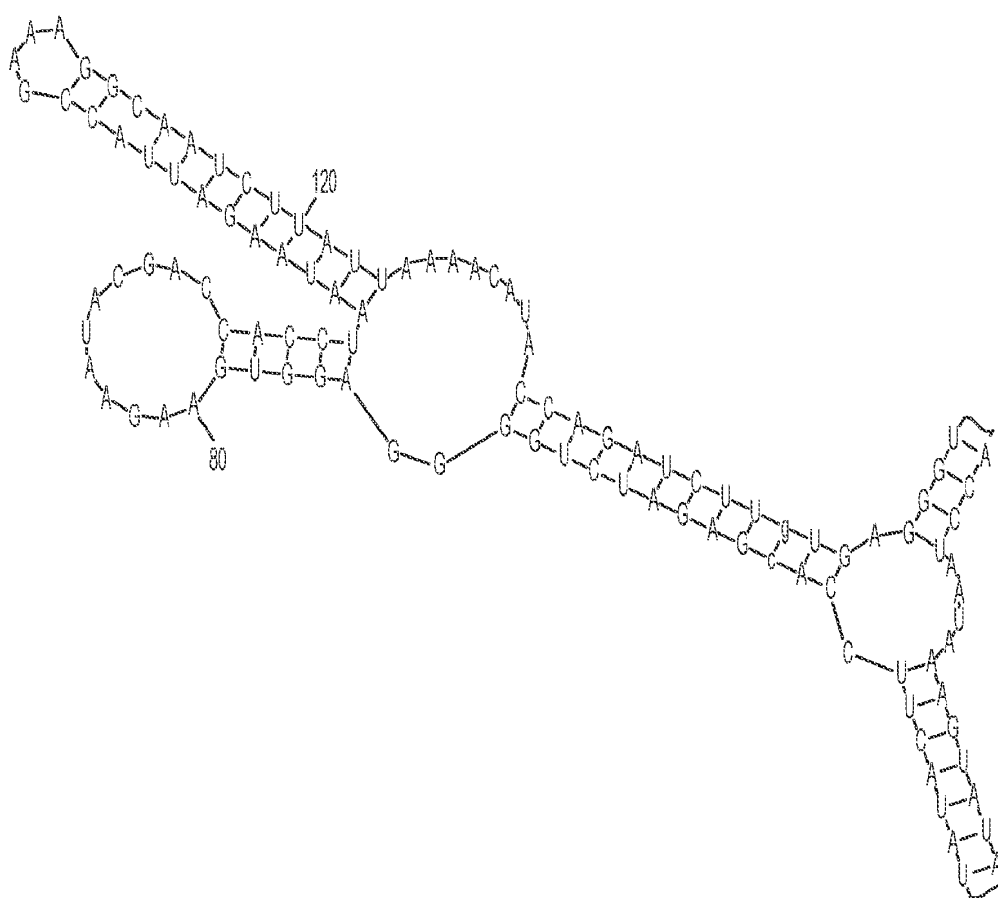


Figure 1C

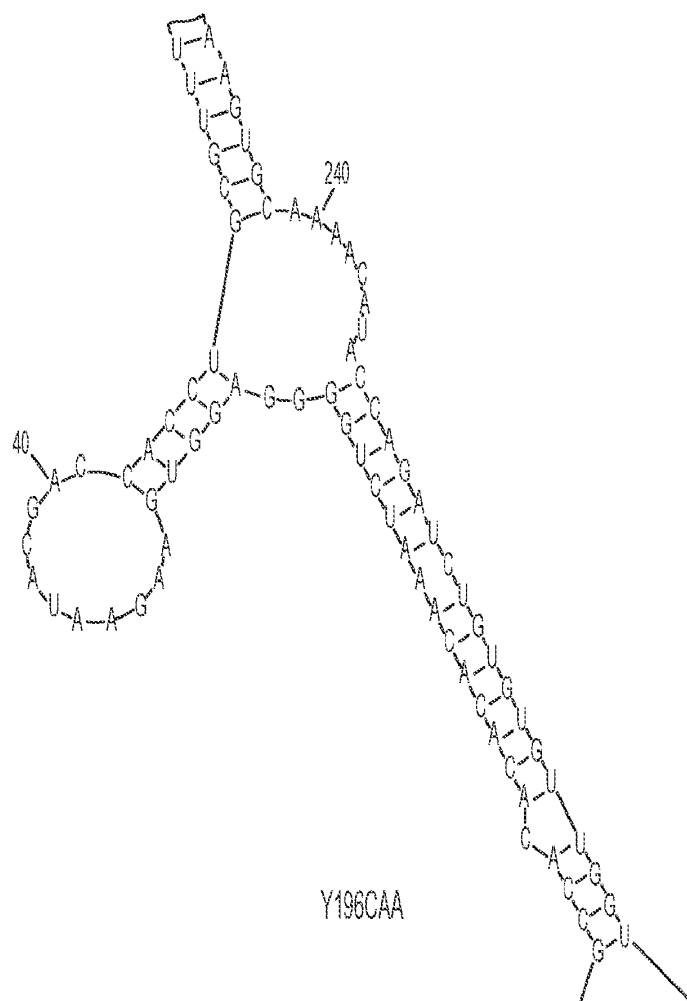


Figure 1C
CONTINUED

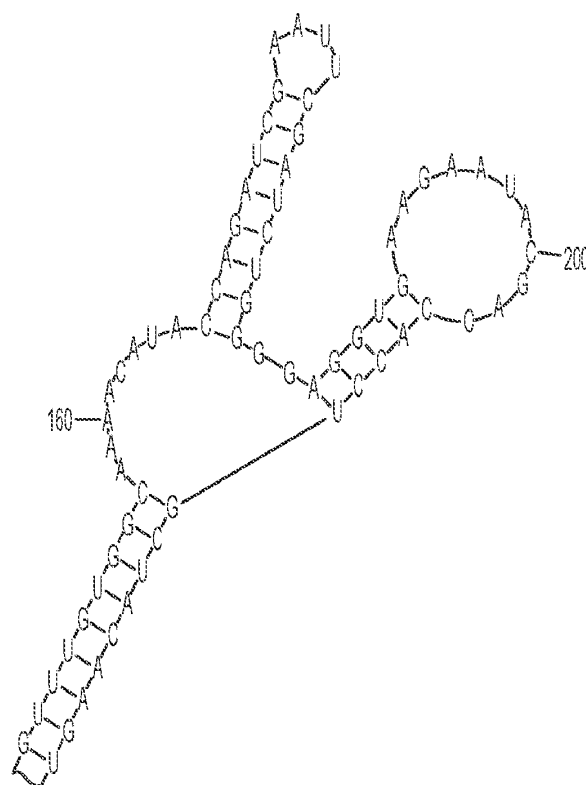


Figure 1C
CONTINUED

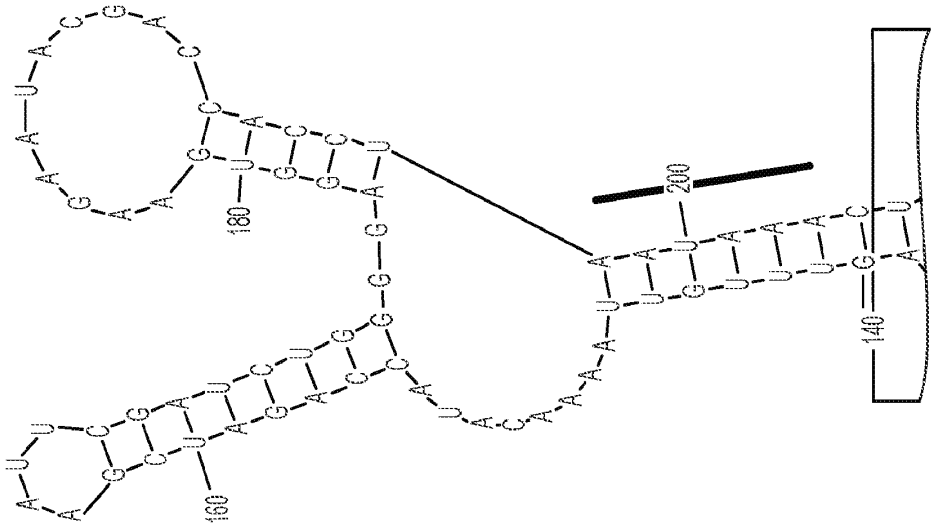
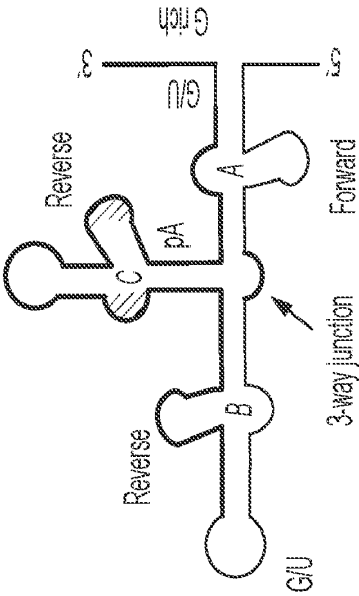


Figure 2A



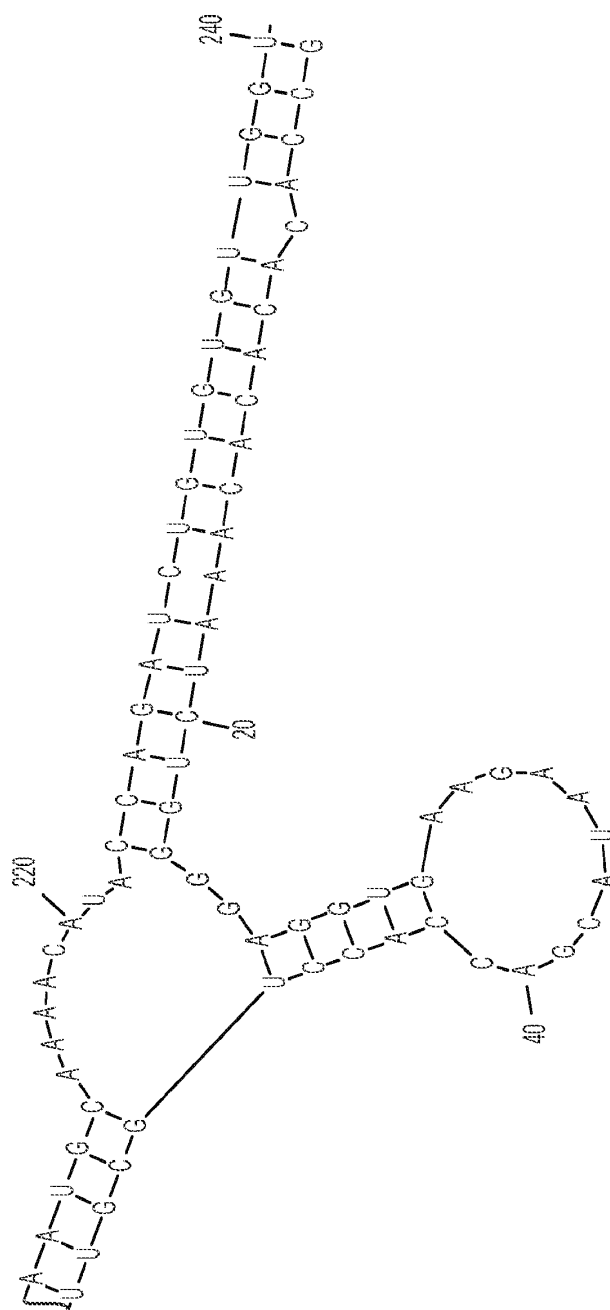


Figure 2A
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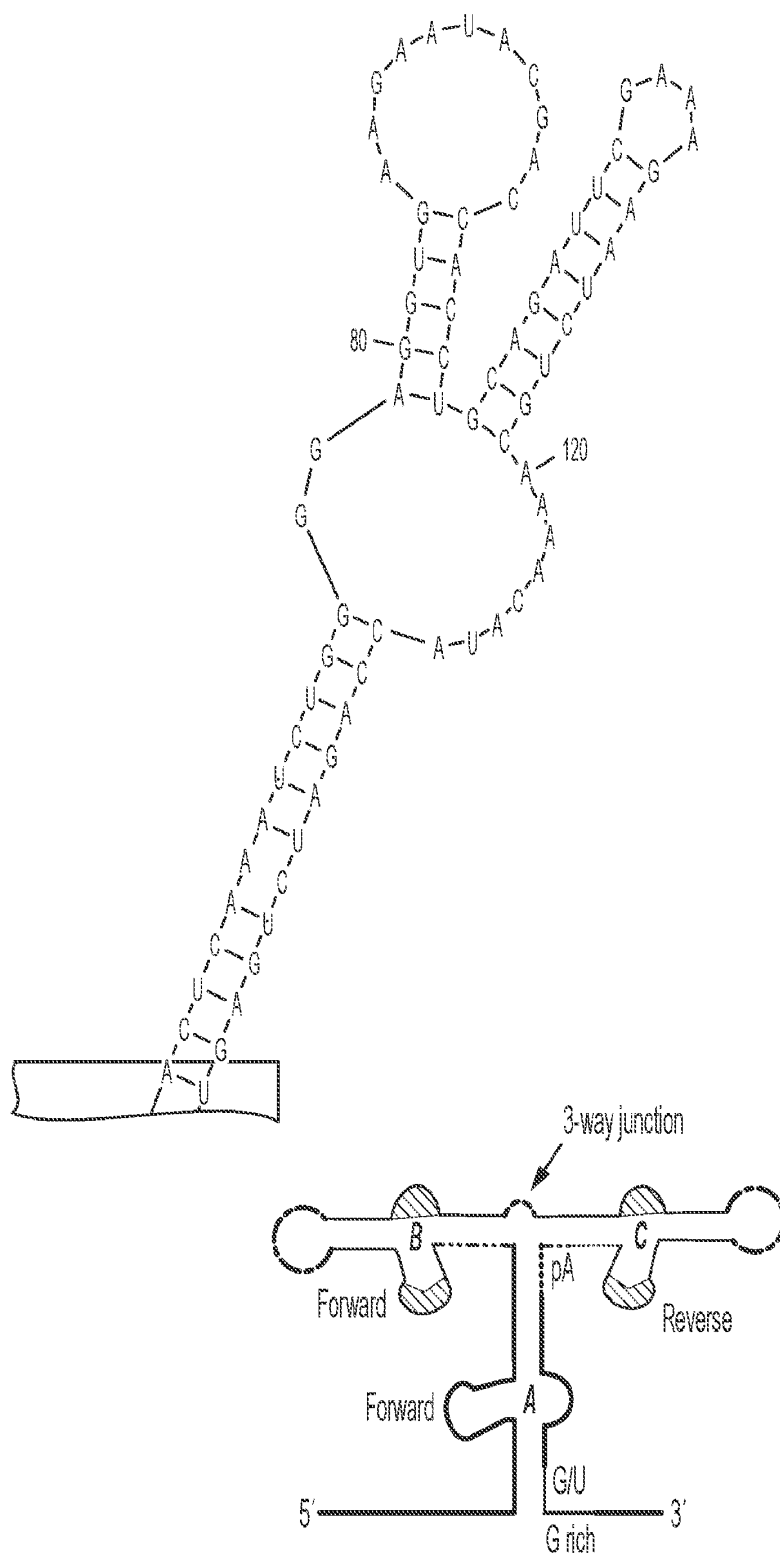


Figure 2B

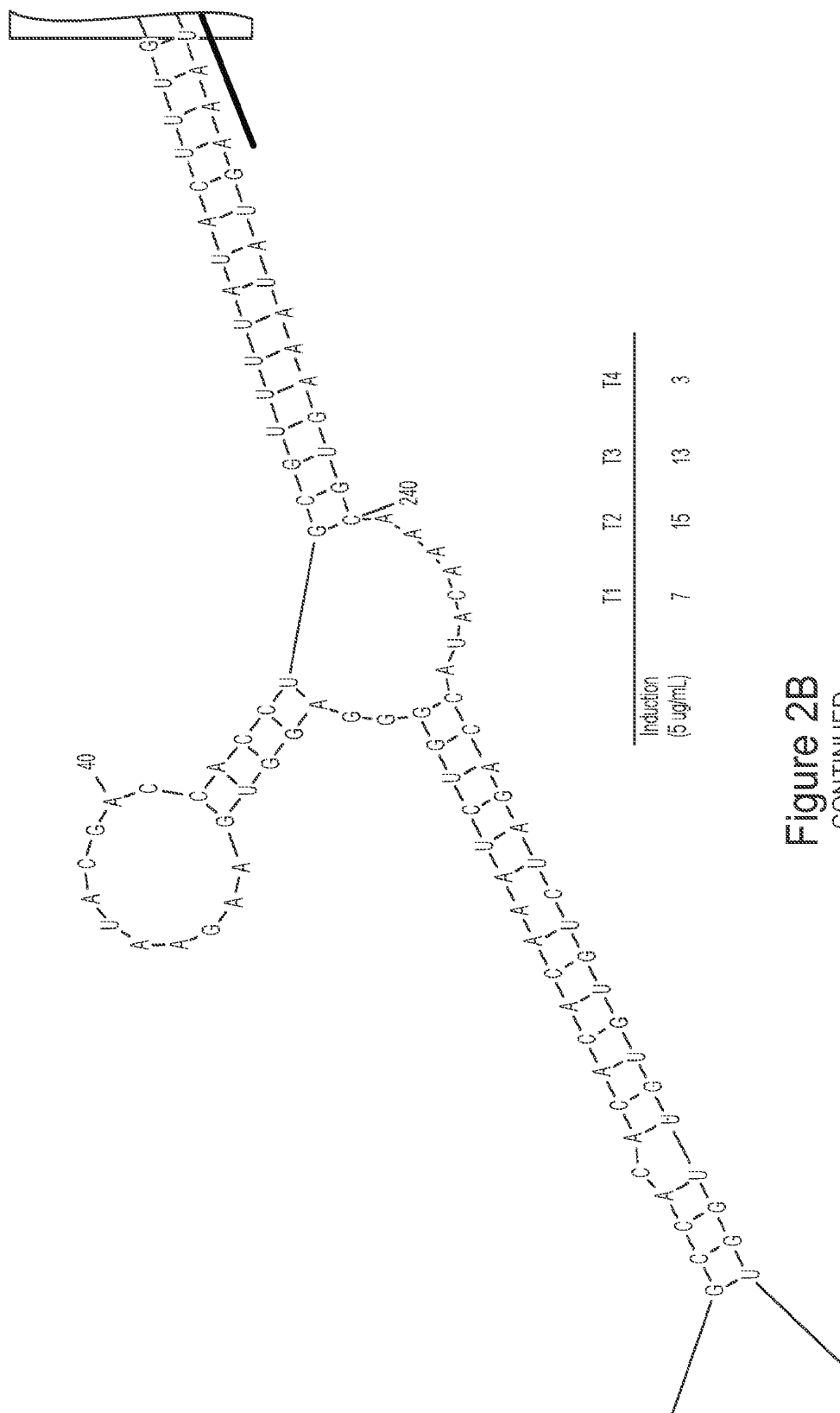


Figure 2B
CONTINUED

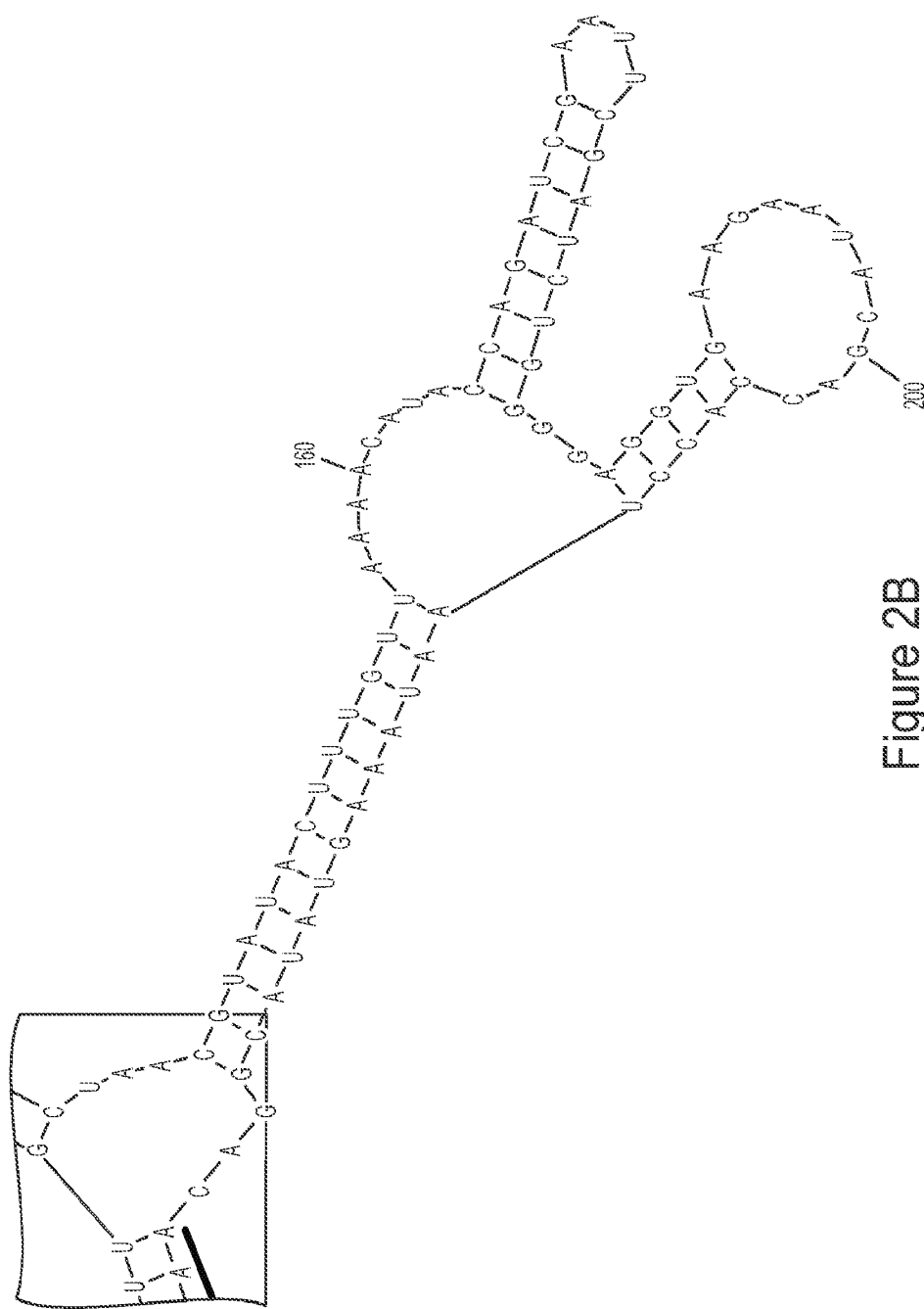


Figure 2B
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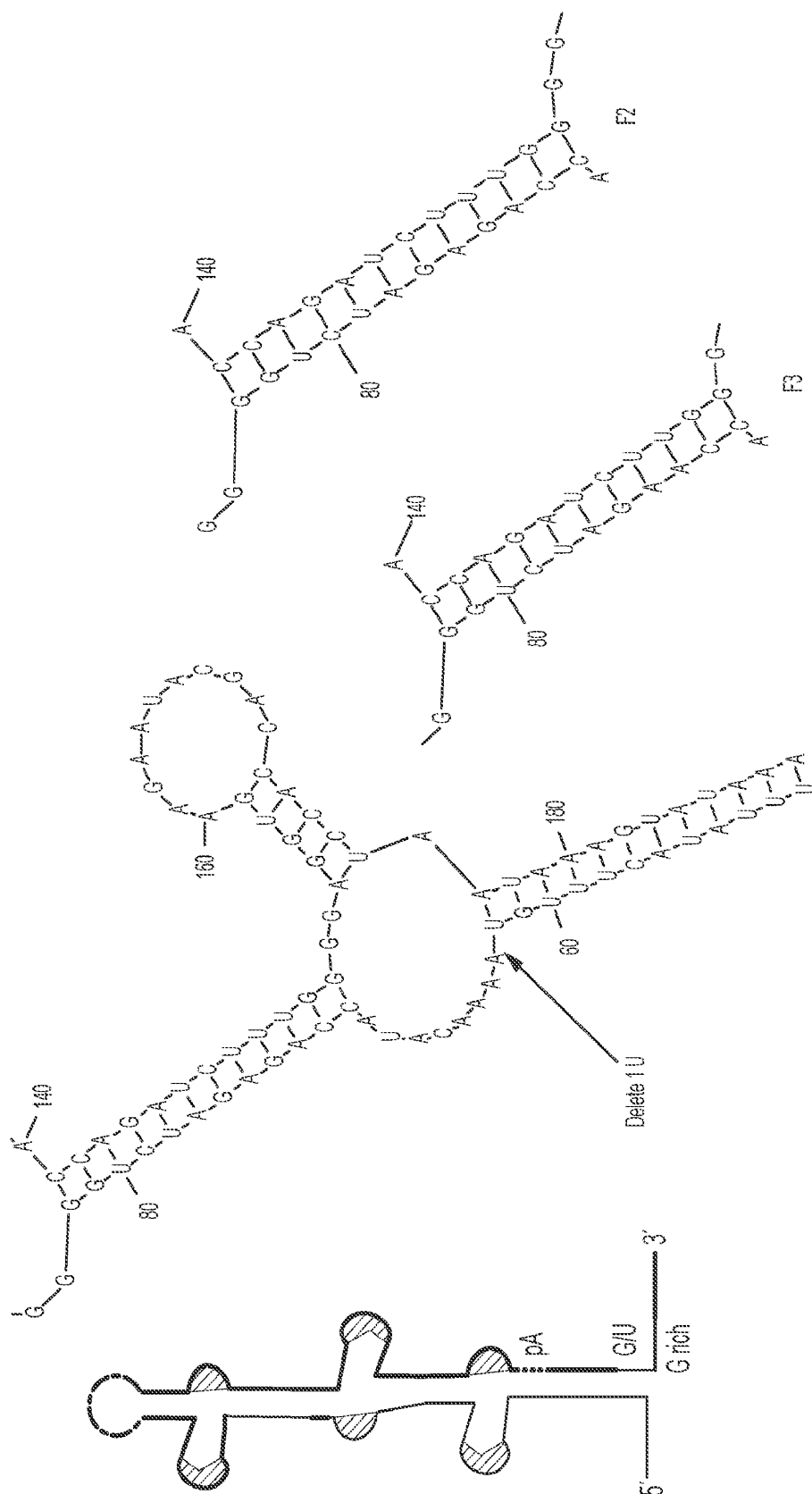


Figure 2C

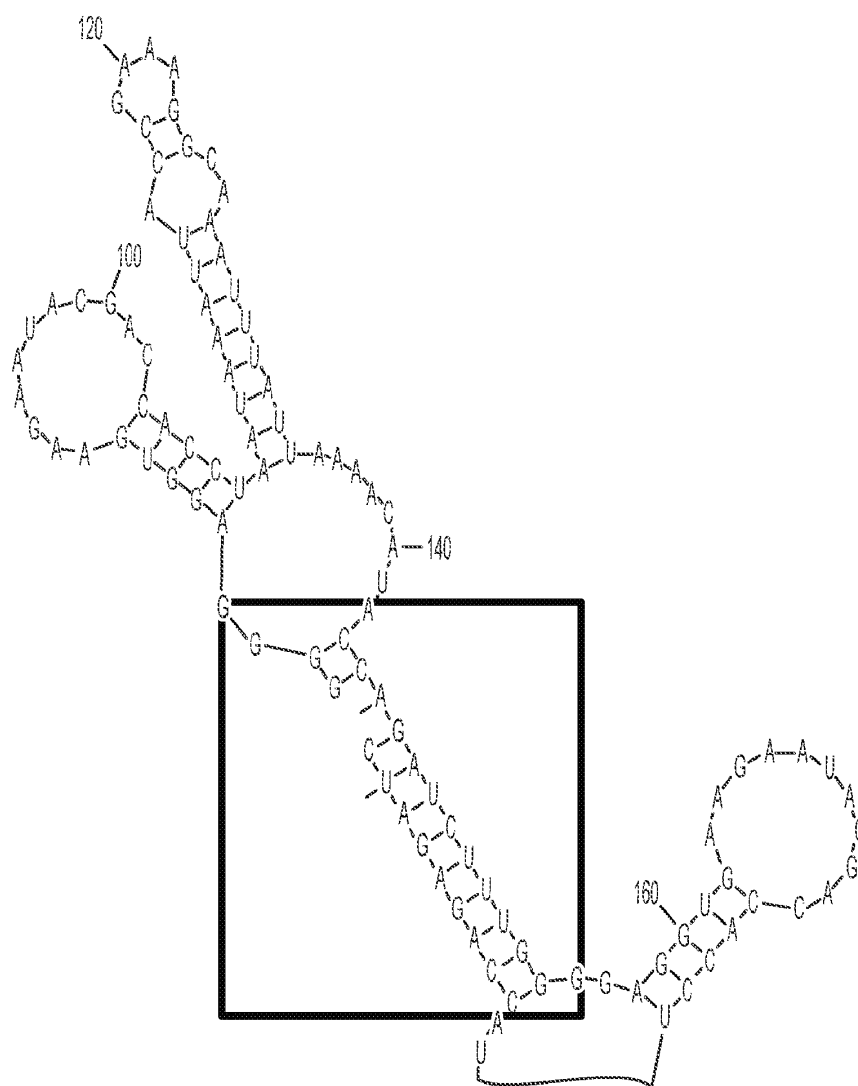


Figure 2C
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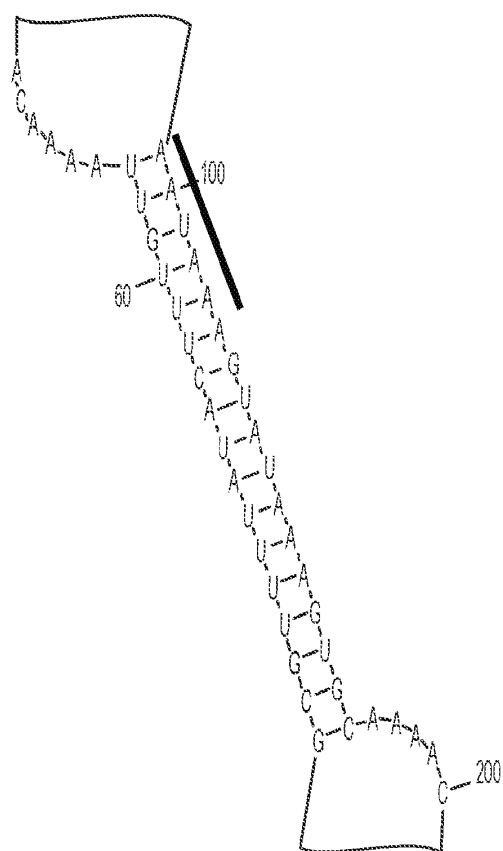
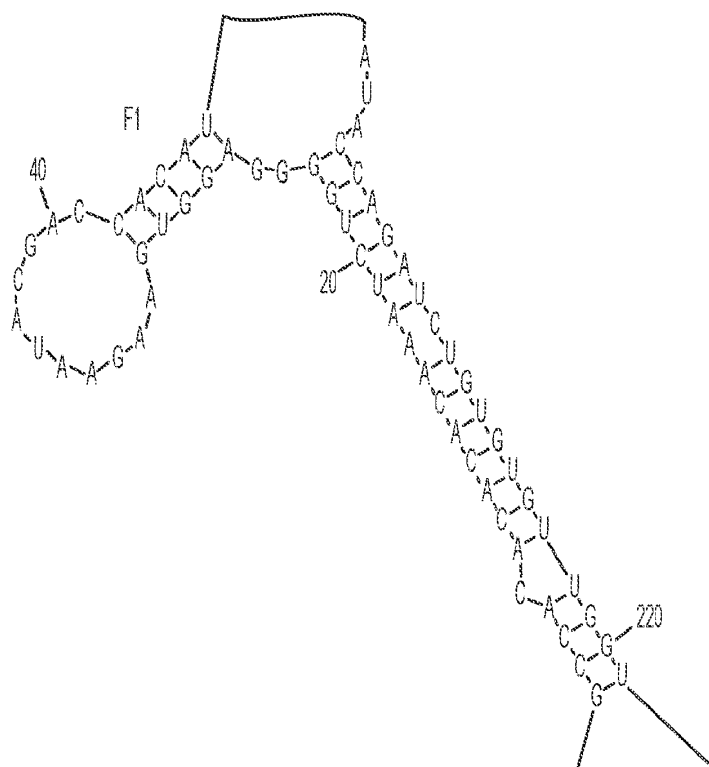
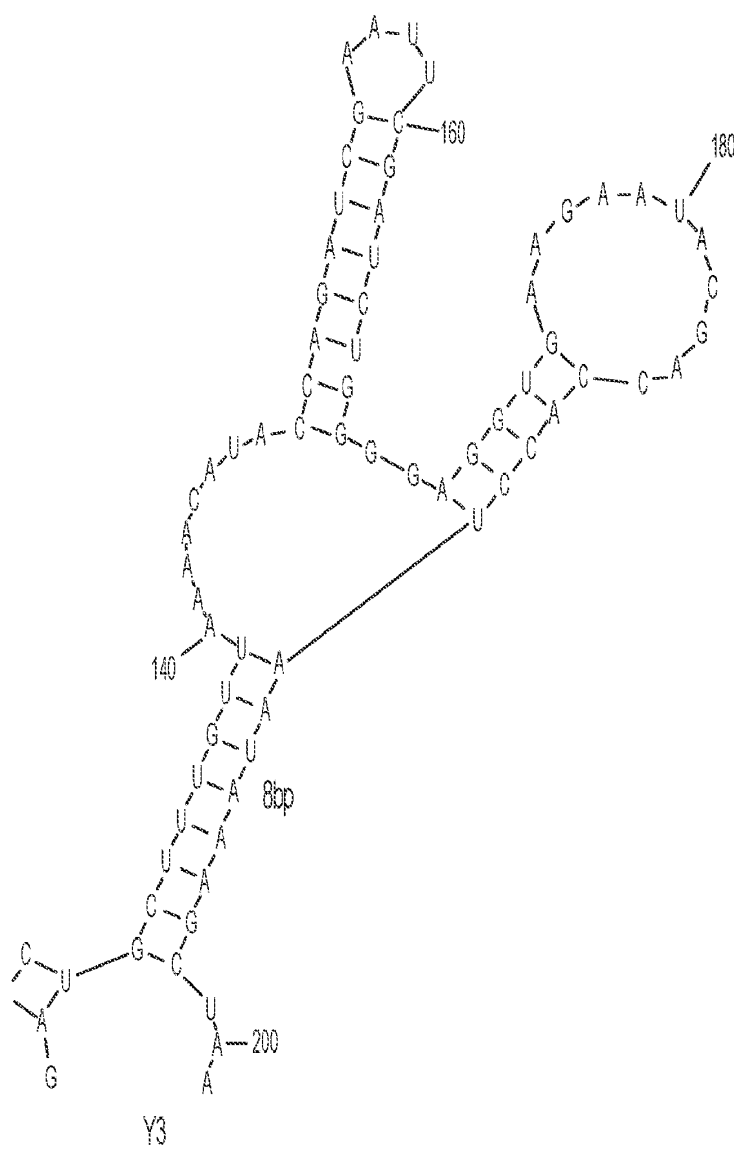


Figure 2C
CONTINUED



	F2	F3	F4	F5
Induction (5 ug/mL)	2	3	1	1

Figure 2C
CONTINUED



	Y1	Y2	Y3
Induction (5 ug/mL)	12	5	7

Figure 3A

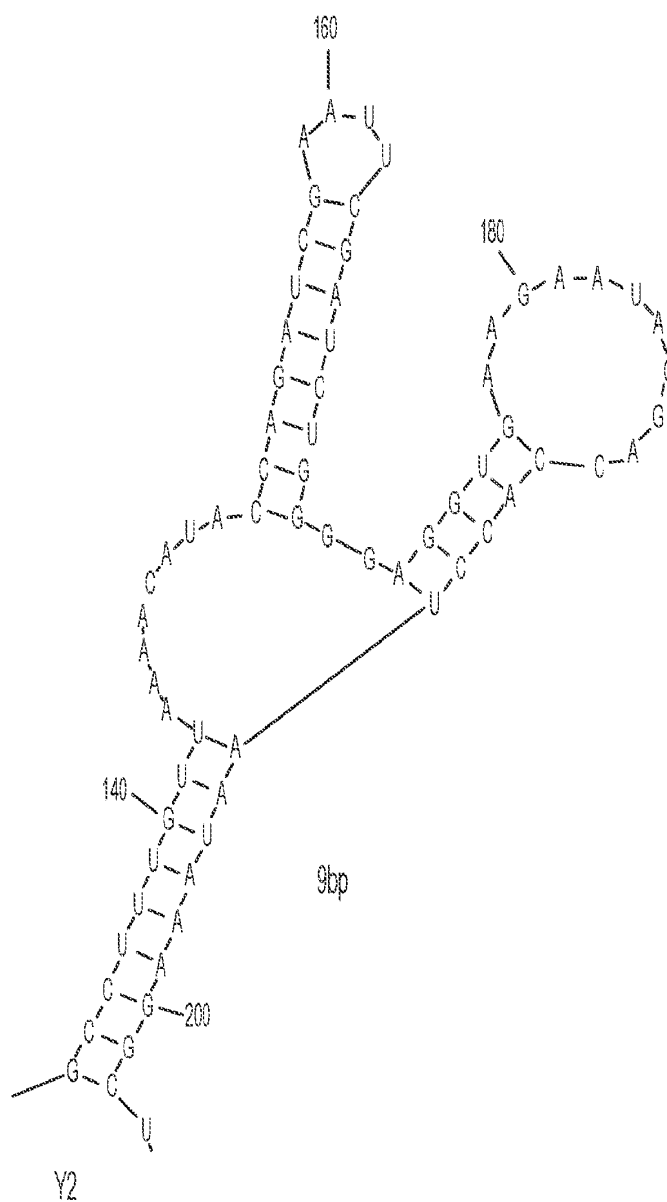


Figure 3A
CONTINUED

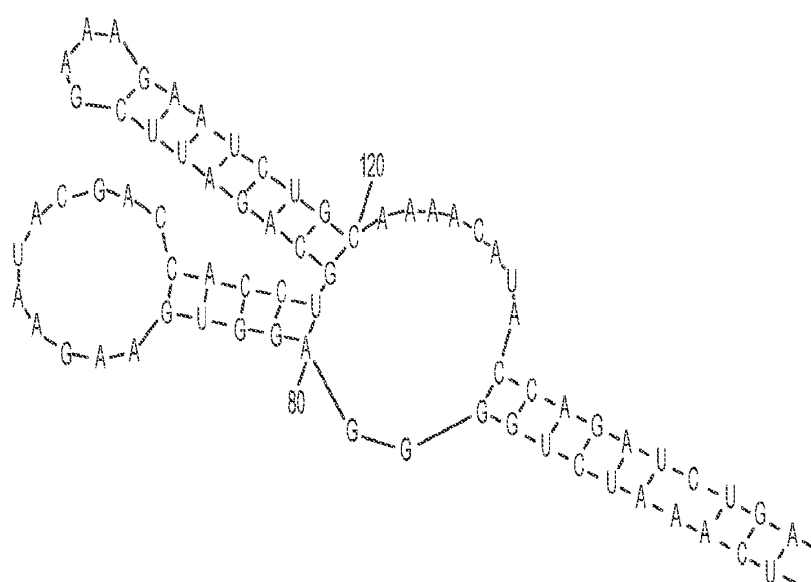


Figure 3A
CONTINUED

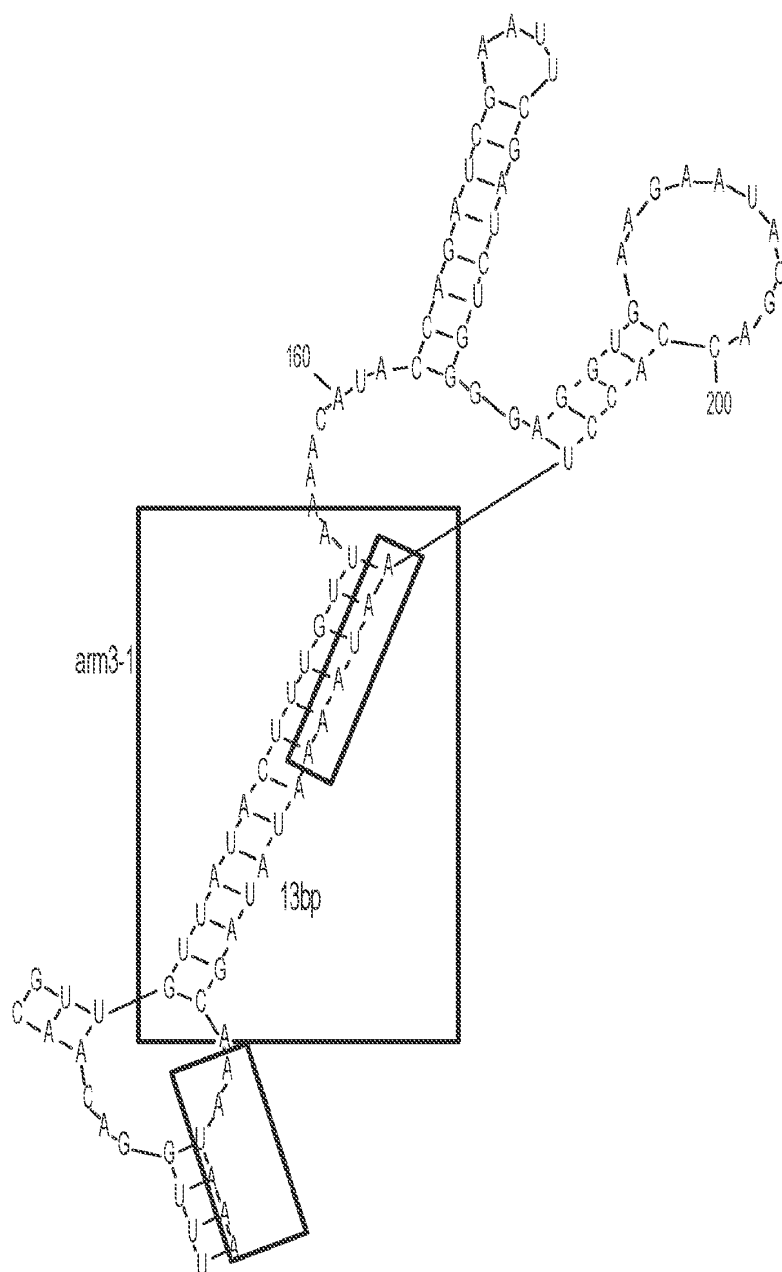


Figure 3A
CONTINUED

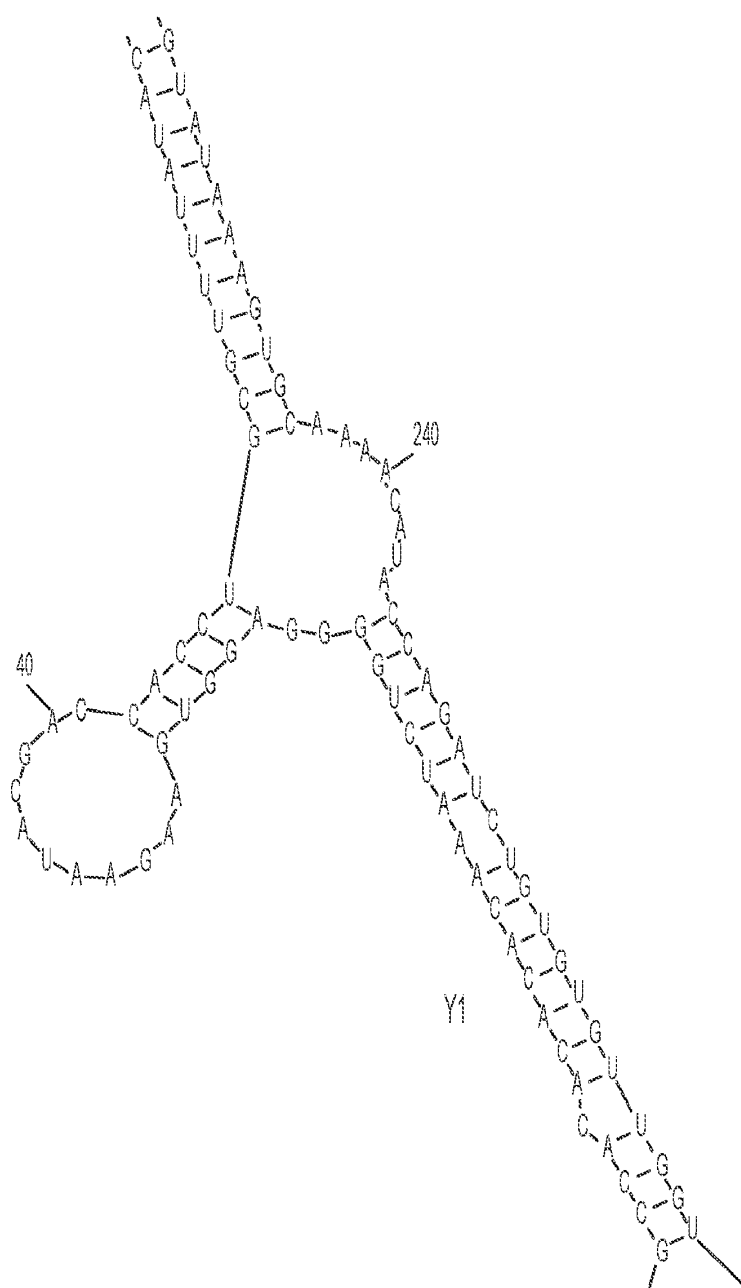


Figure 3A
CONTINUED

	Y5	Y6	Y7	Y8	Y9
Induction (5 ug/mL)	12	20	27	26	12
The length of arm 3-1	12bp	11bp	10bp	9bp	8bp
The length of arm 2-1	12bp	11bp	10bp	9bp	8bp

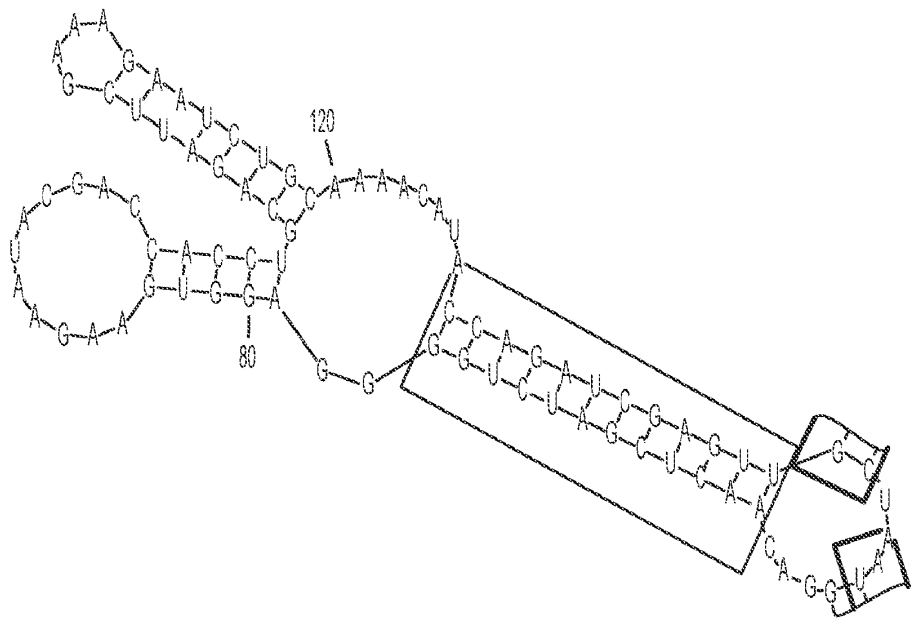


Figure 3B

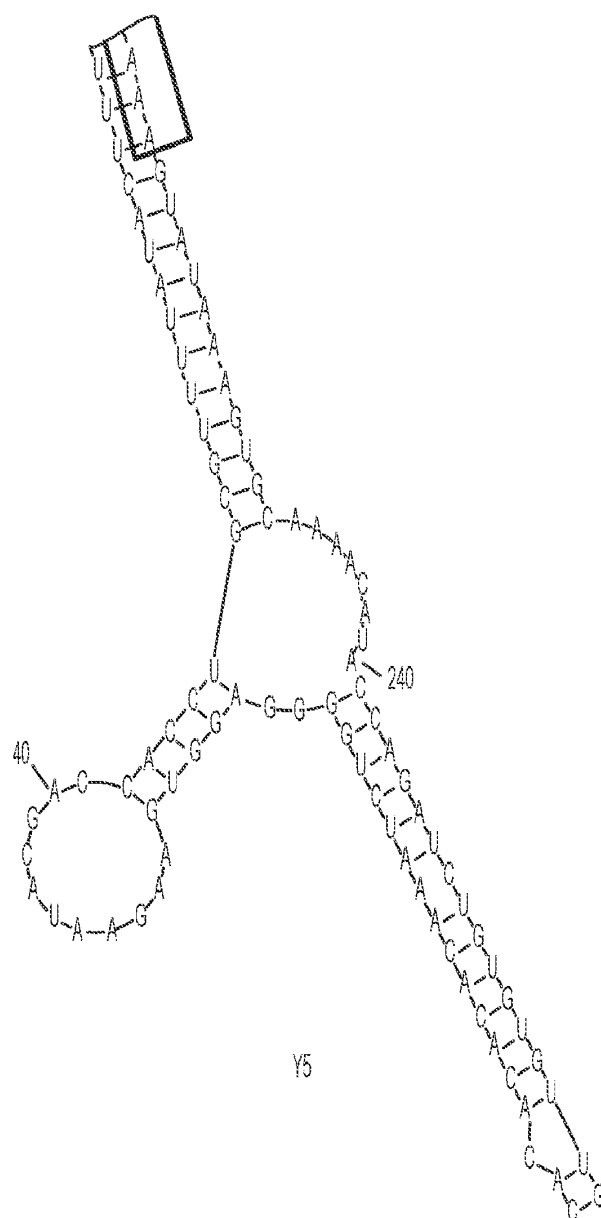


Figure 3B
CONTINUED

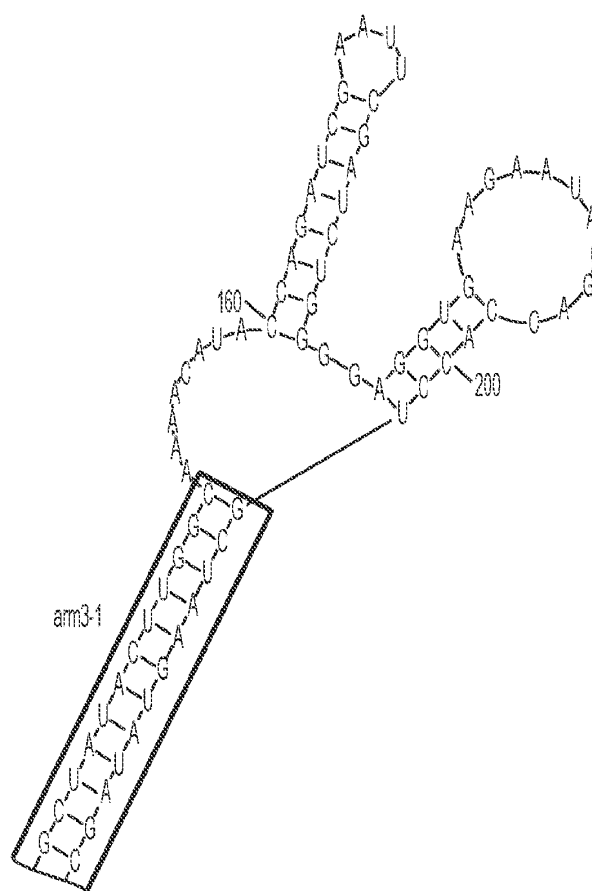


Figure 3B
CONTINUED

	Y6	Y6mut
Induction (5 ug/mL)	24	15

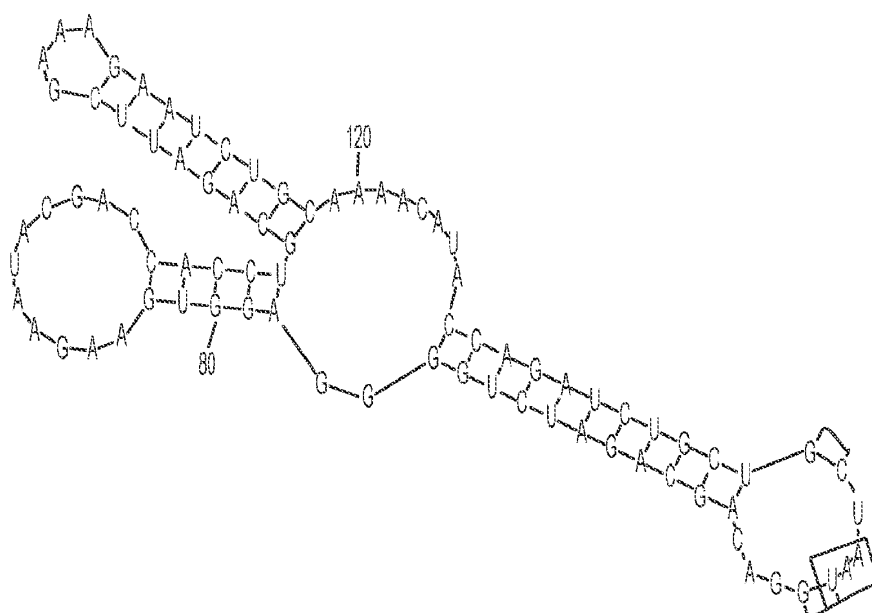


Figure 3C

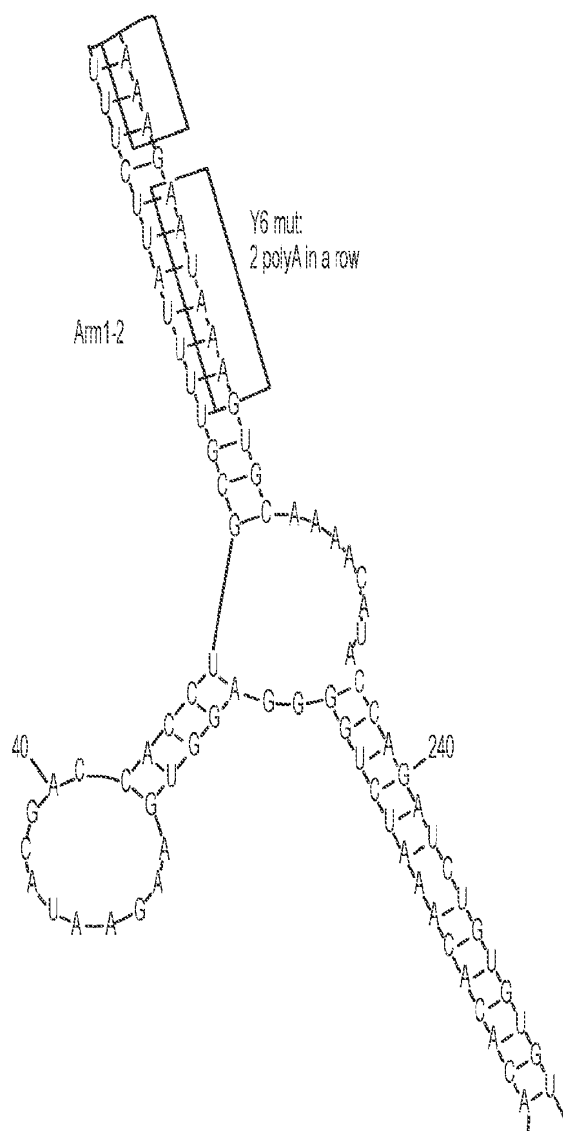


Figure 3C
CONTINUED

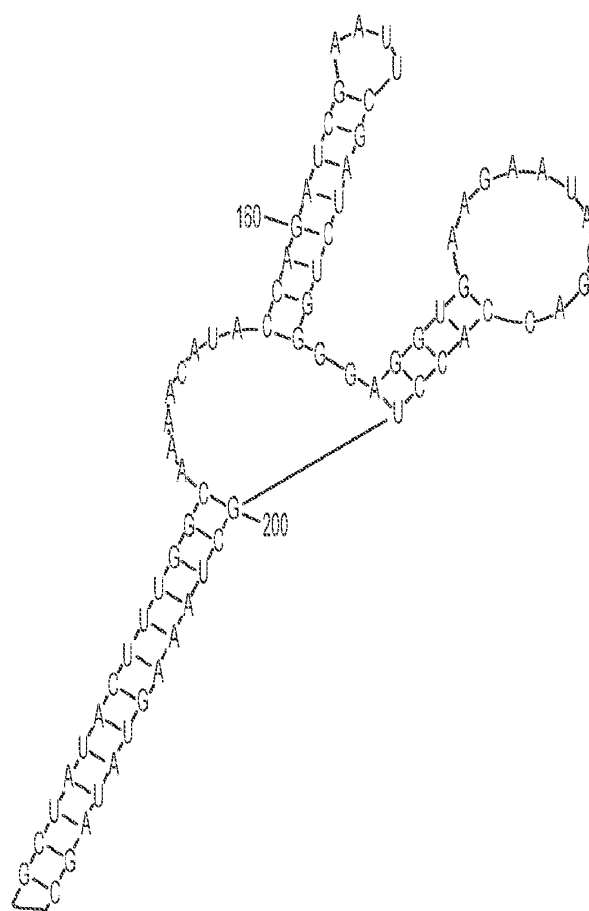
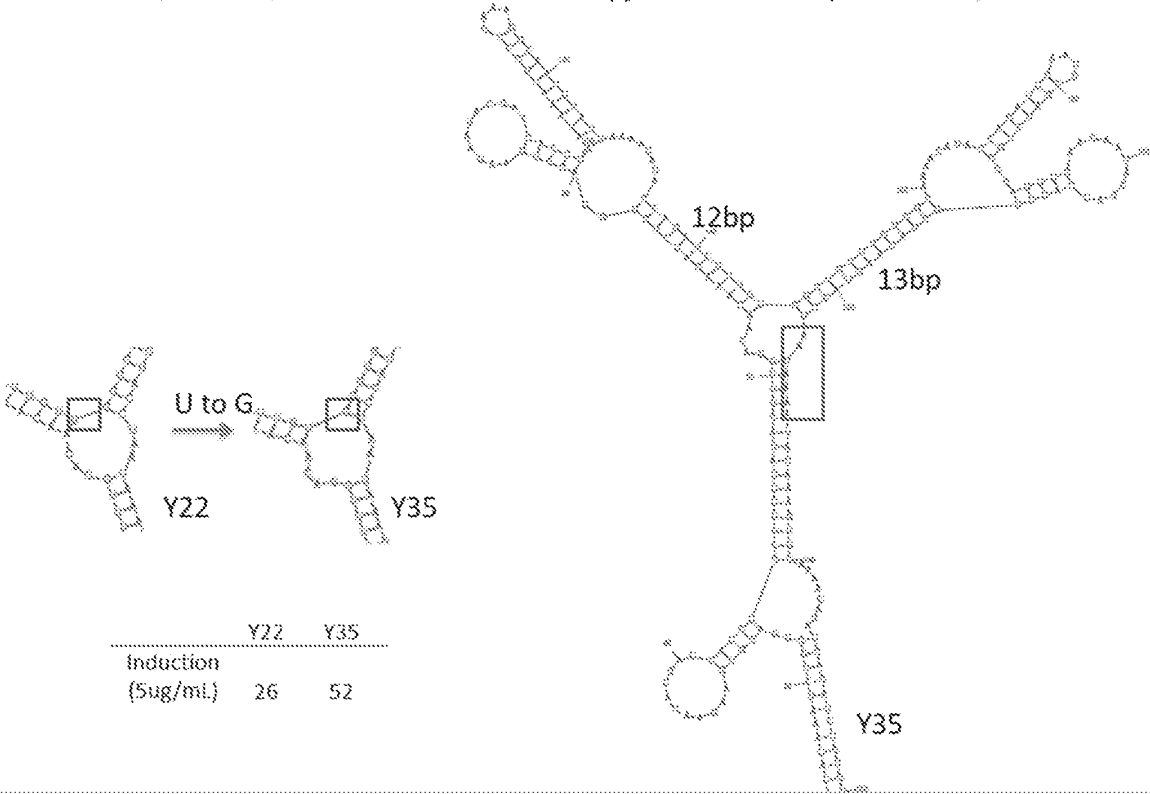


Figure 3C
CONTINUED

Figure 4A



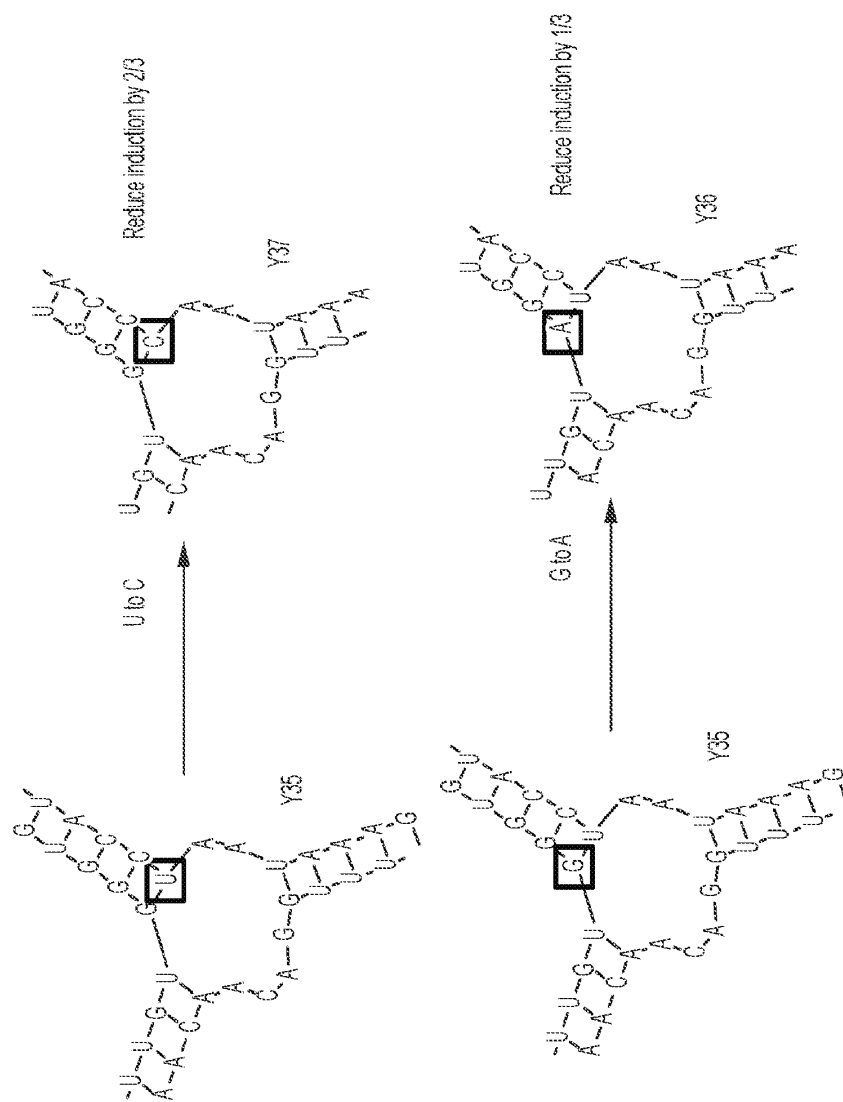
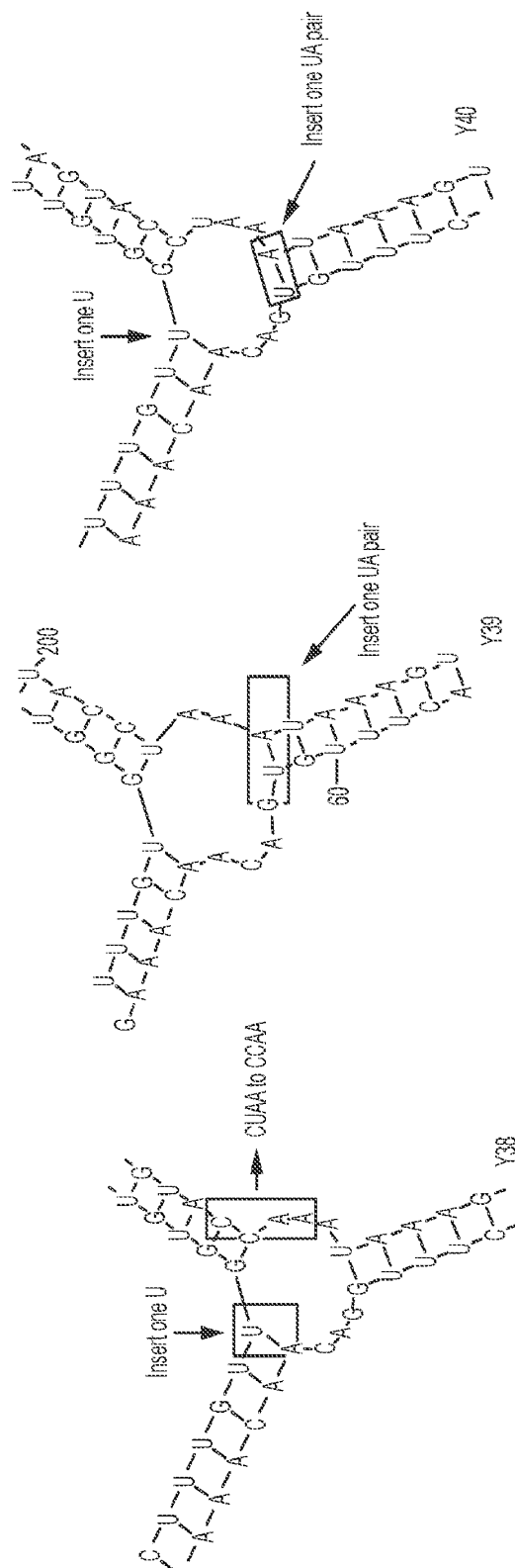
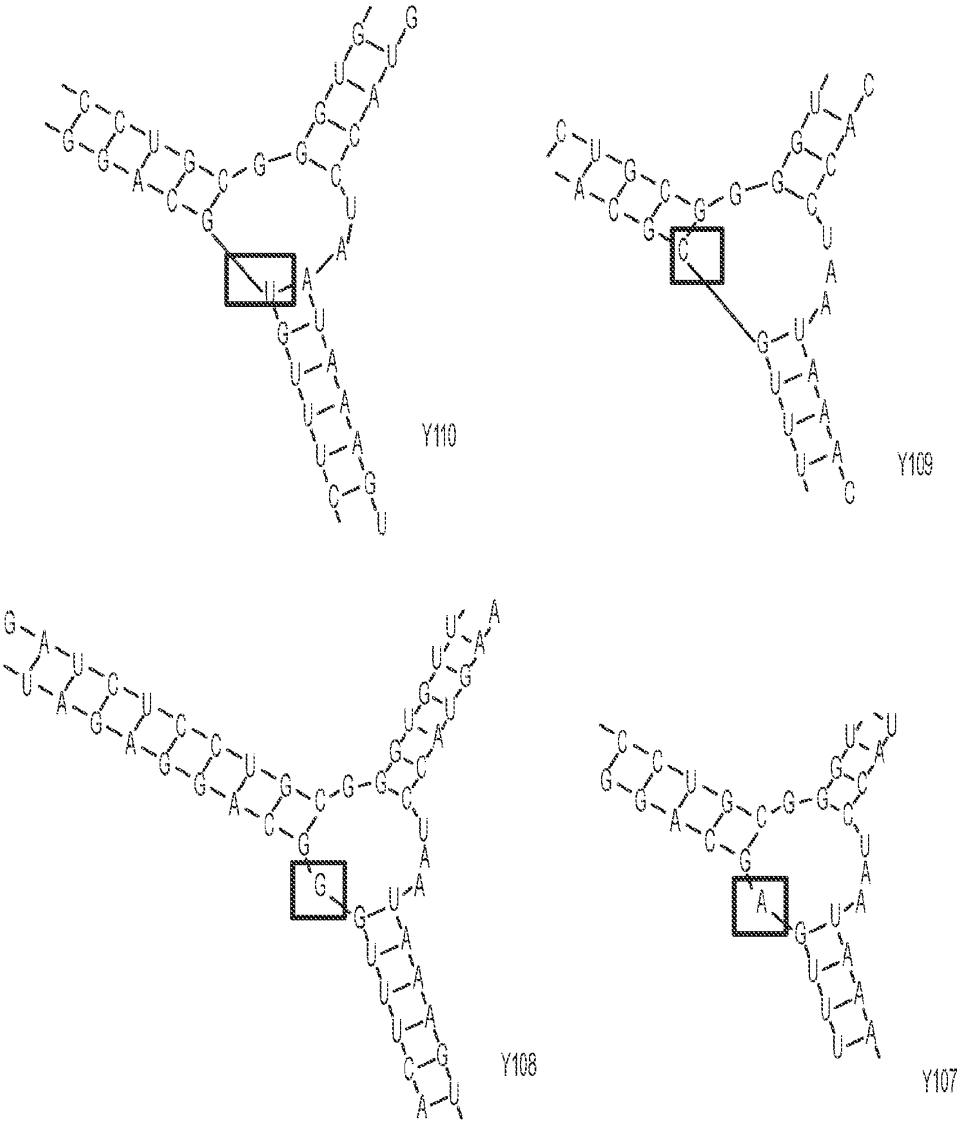


Figure 4B



Induction (5 ug/mL)	Y22	Y35	Y36	Y37	Y38	Y39	Y40
	26	52	35	17	14	36	18

Figure 4B
CONTINUED



	Y79	Y107	Y108	Y109	Y110
Induction (5ug/mL)	56	52	24	36	40

Figure 4C

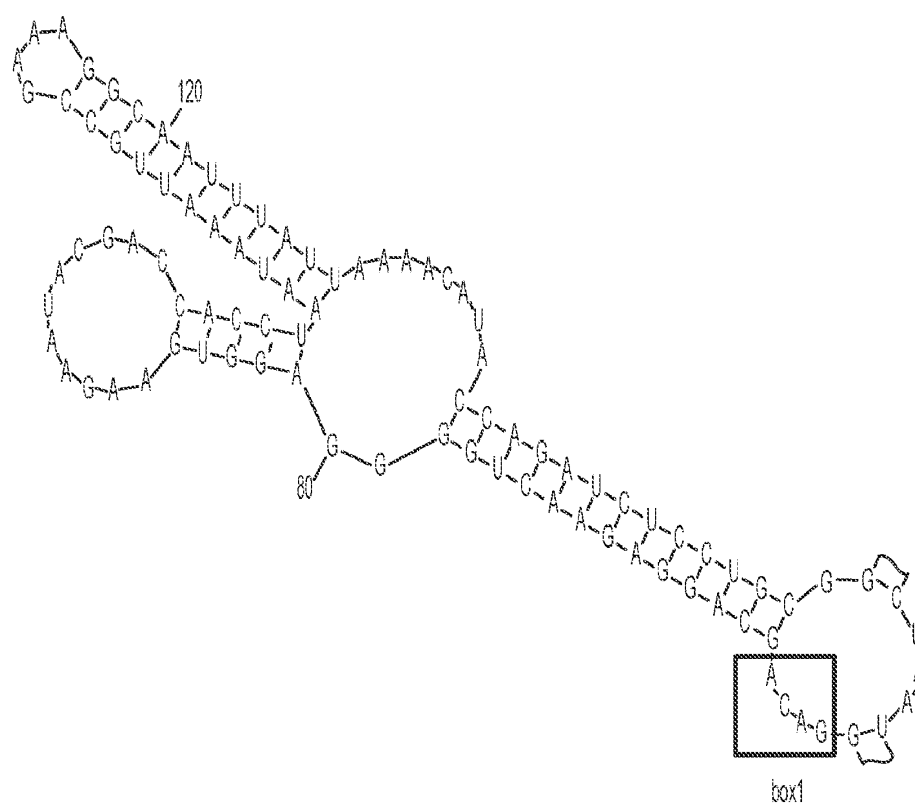


Figure 4C
CONTINUED

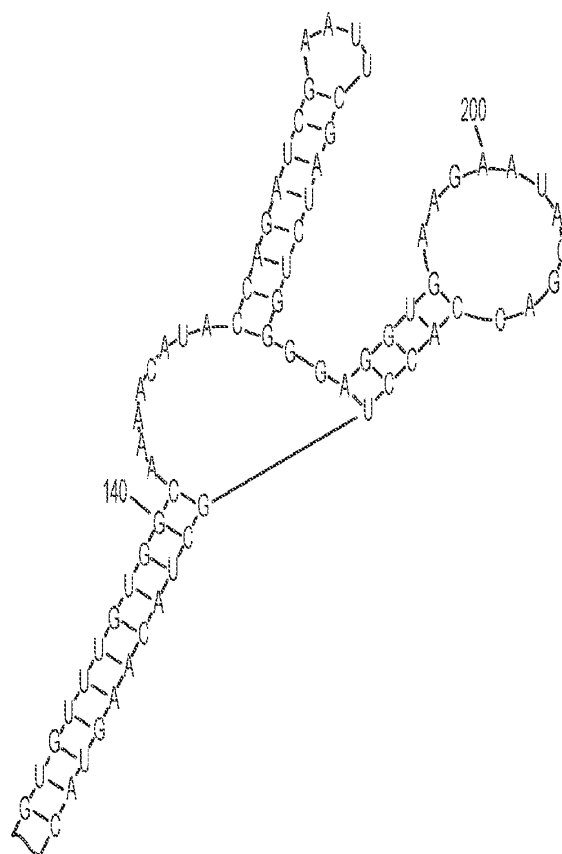


Figure 4C
CONTINUED

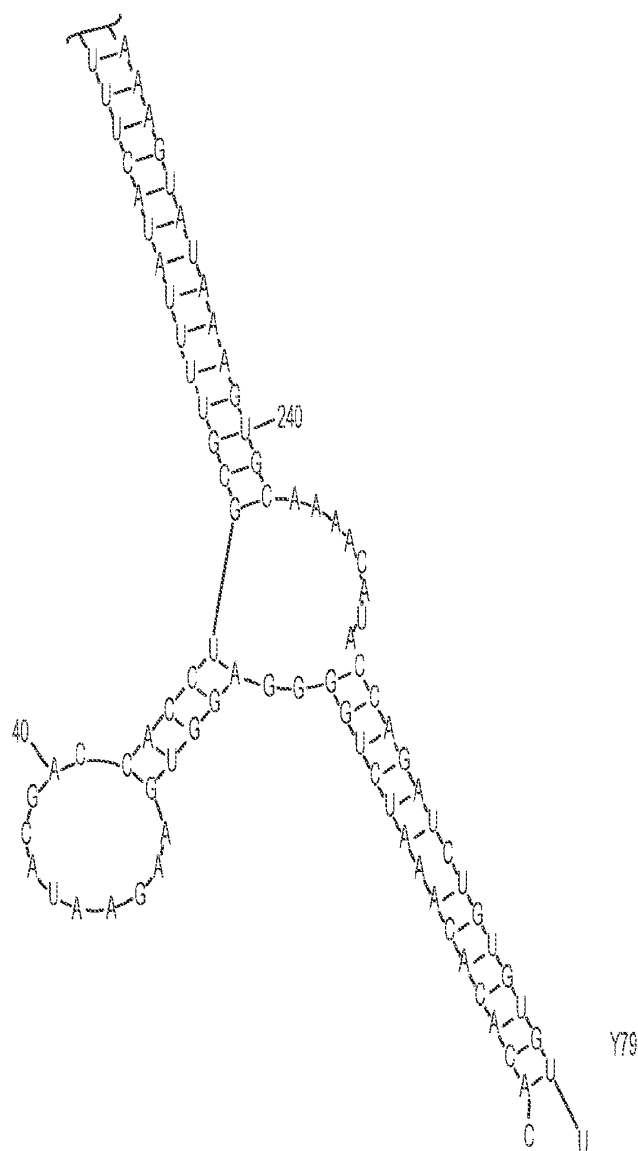
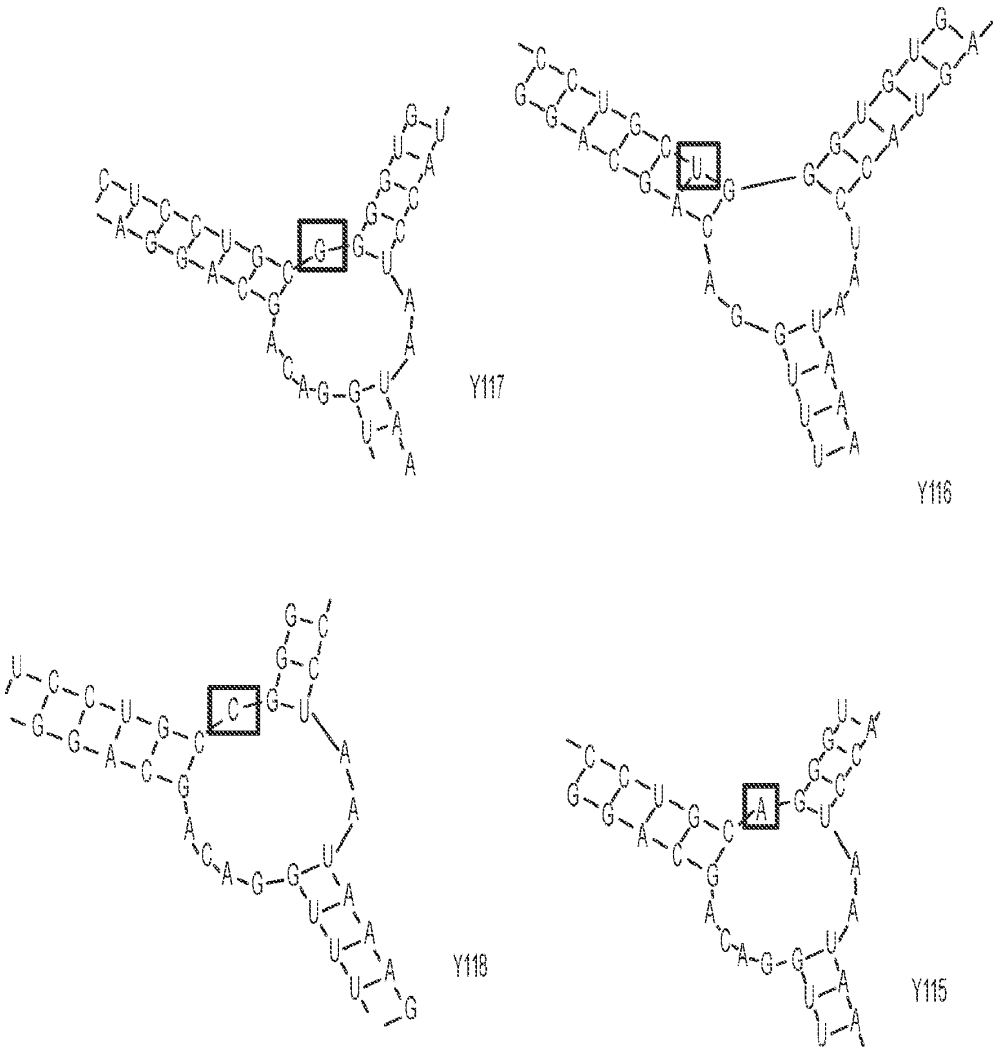


Figure 4C
CONTINUED



	Y79	Y115	Y116	Y117	Y118
Induction (5ug/mL)	37	29	25	47	36

Figure 4D

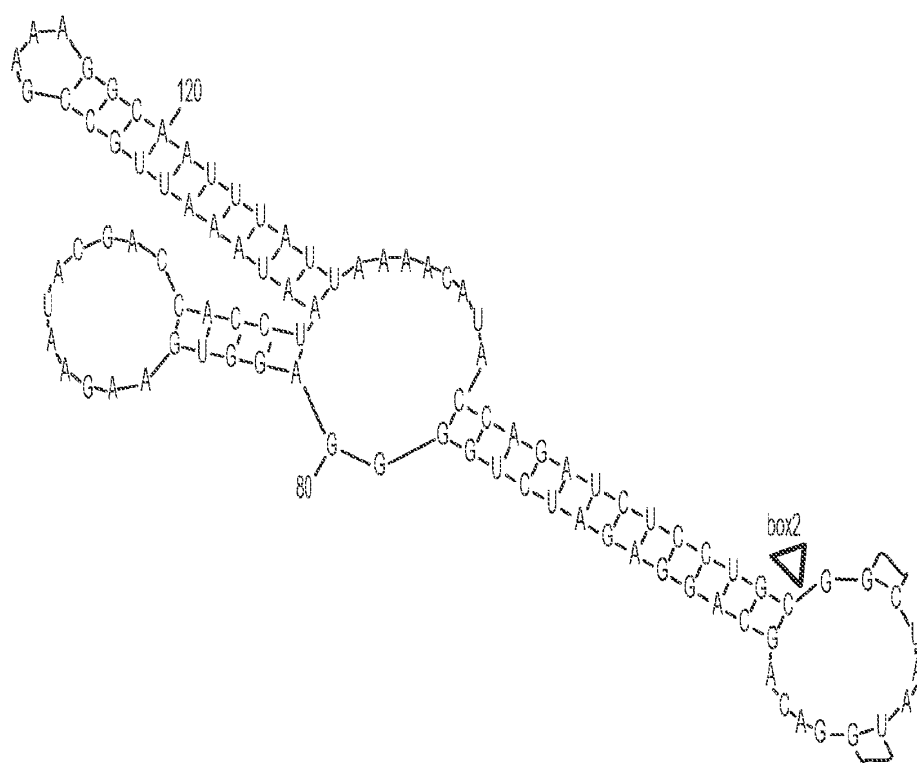


Figure 4D
CONTINUED

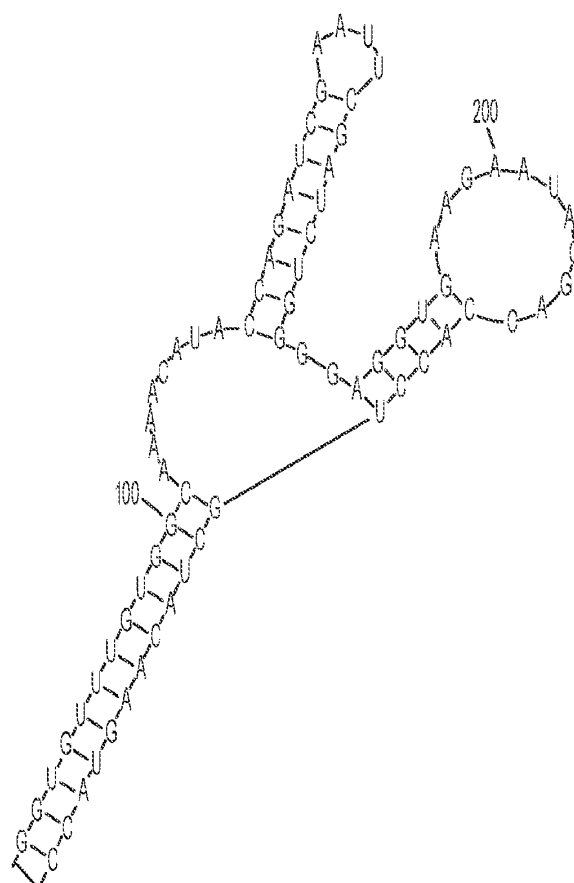


Figure 4D
CONTINUED

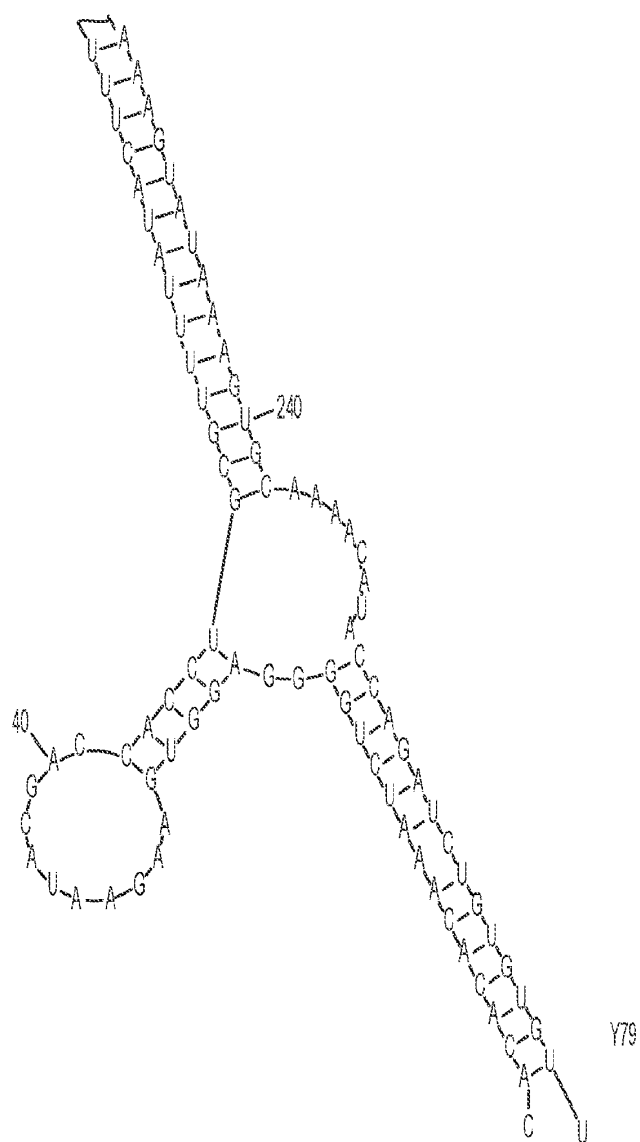
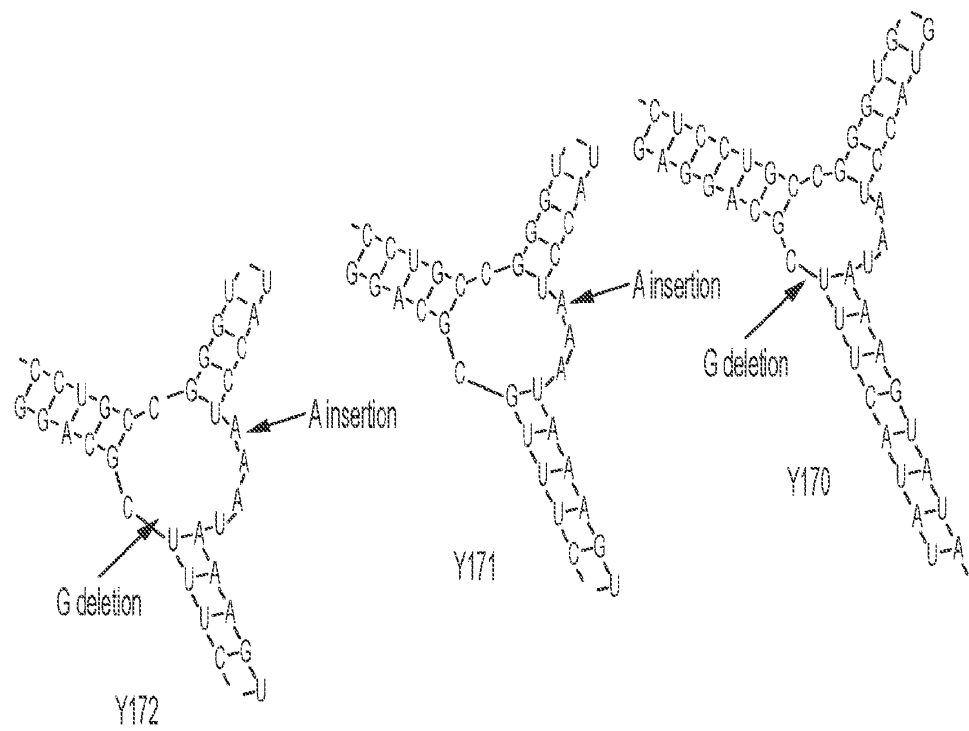


Figure 4D
CONTINUED



	Y130	Y170	Y171	Y172
Induction (1ug/mL)	17	17	18	13

Figure 4F

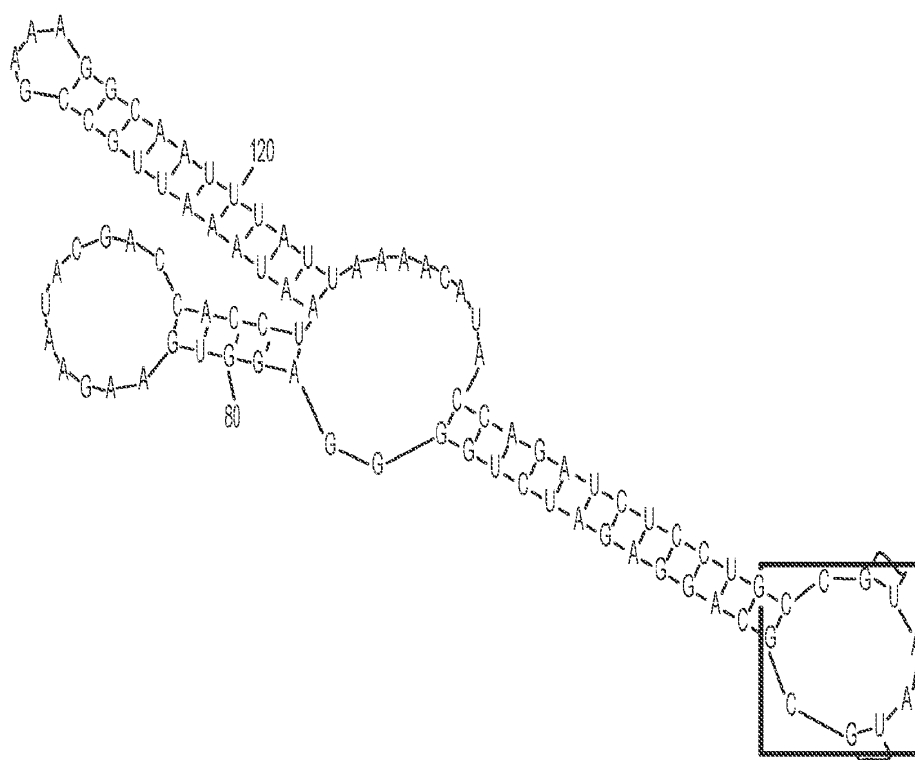


Figure 4F
CONTINUED

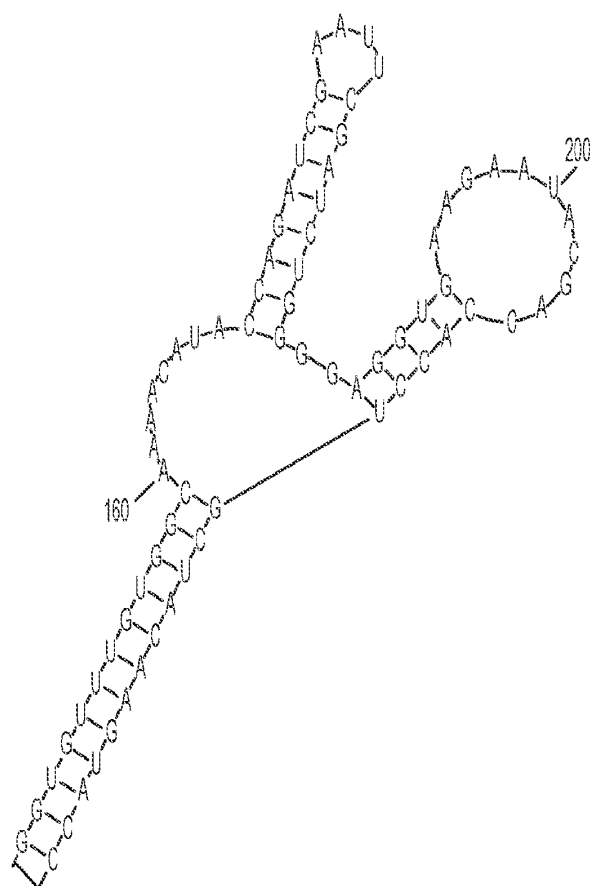


Figure 4F
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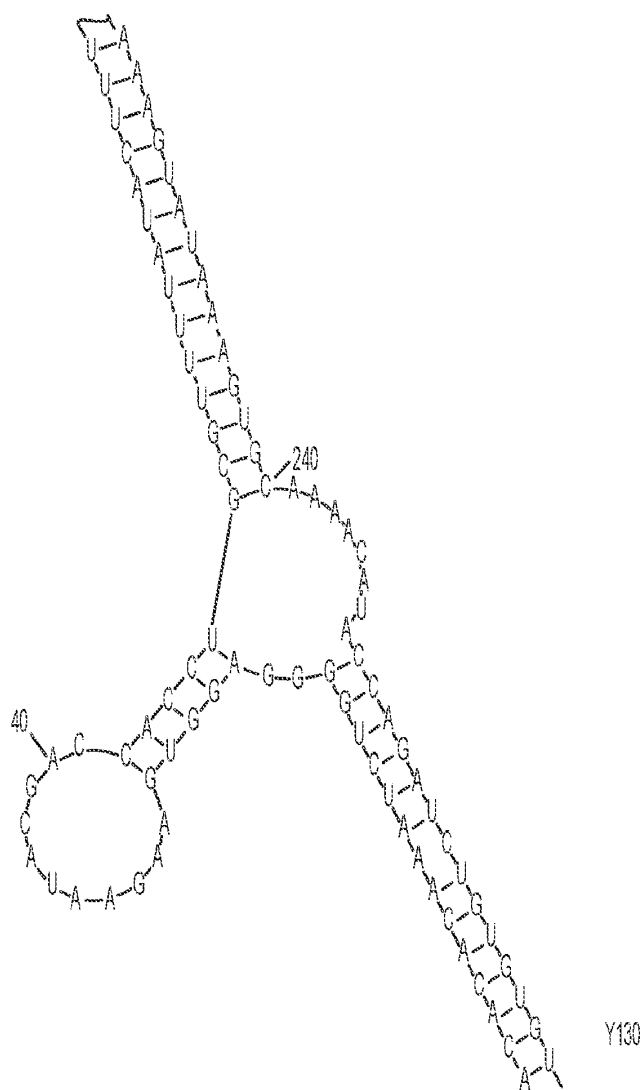


Figure 4F
CONTINUED

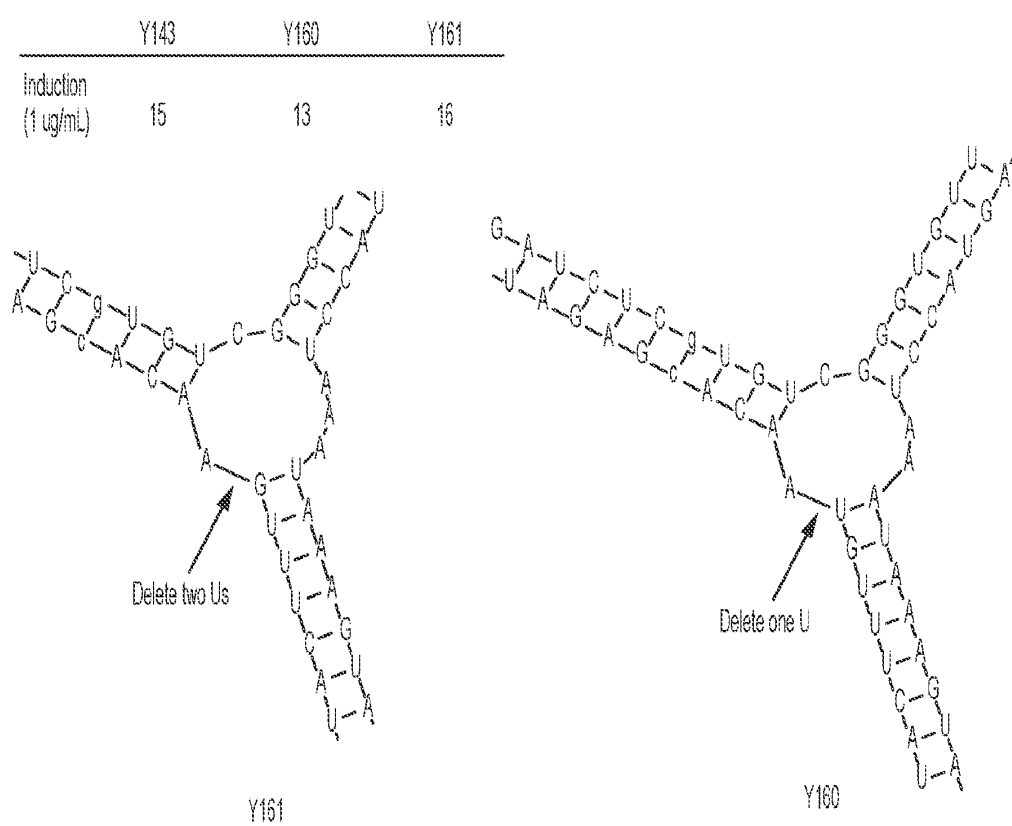


Figure 4G

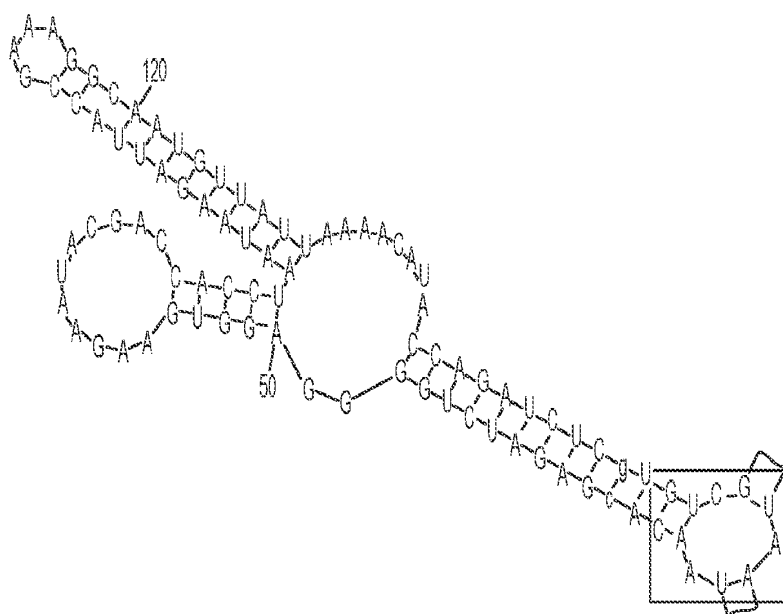


Figure 4G
CONTINUED

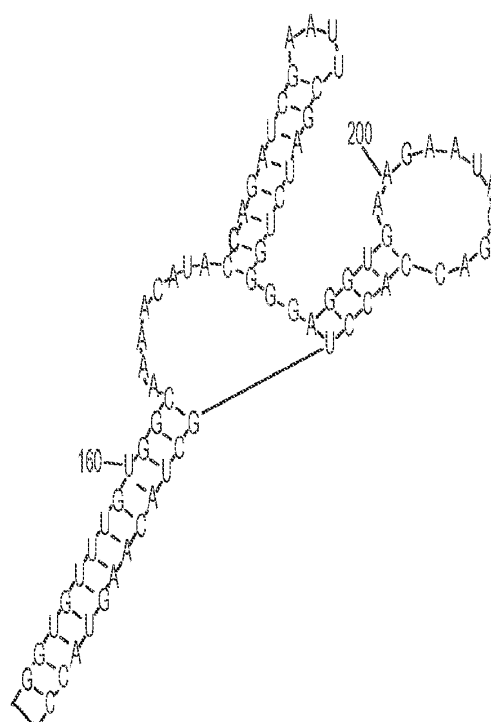


Figure 4G
CONTINUED

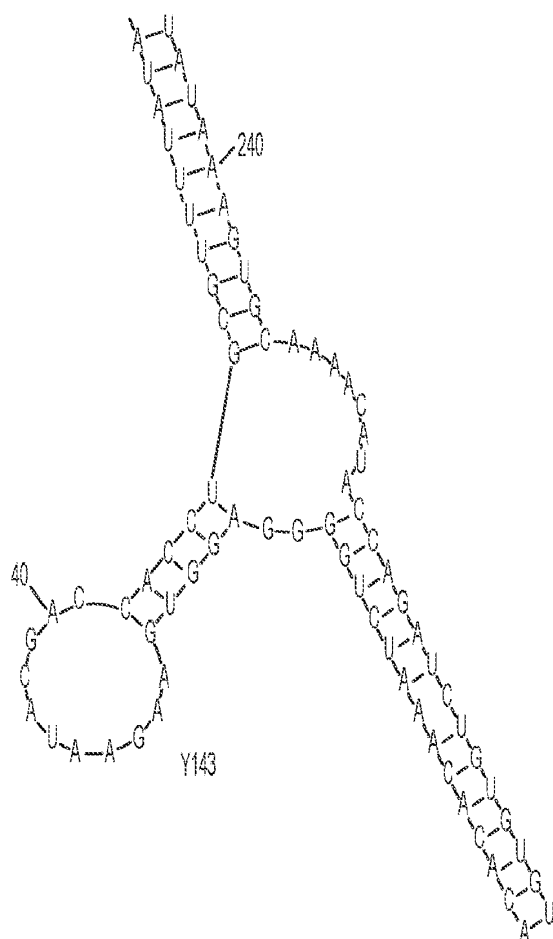
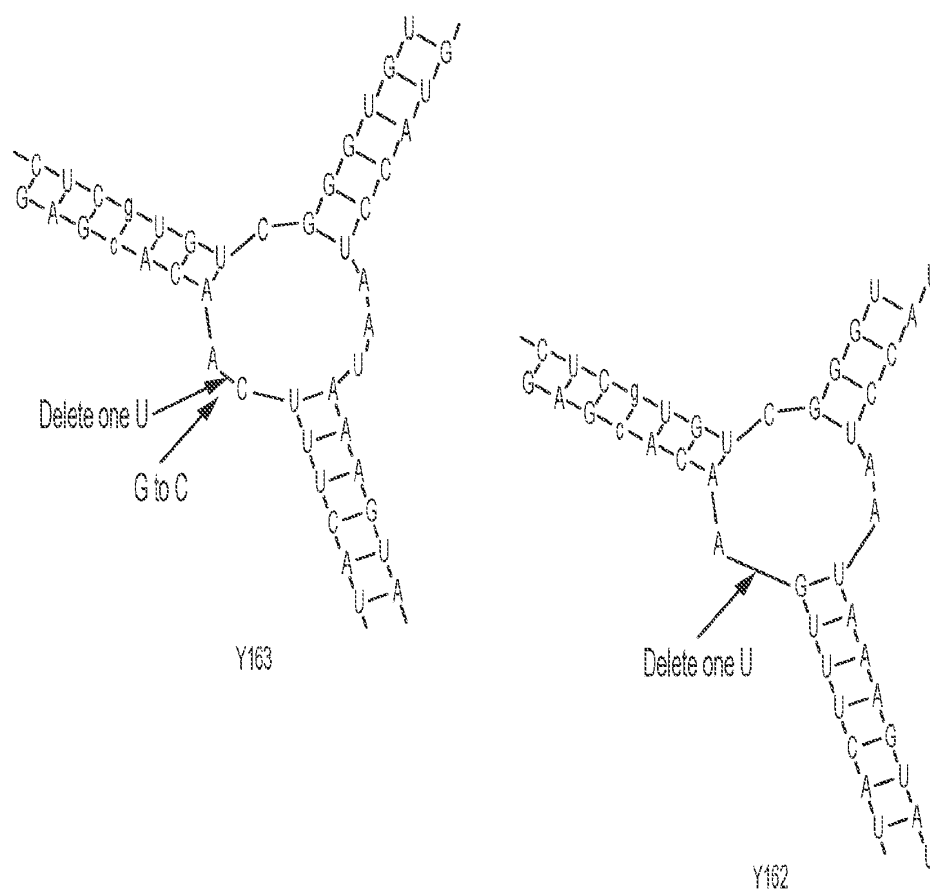


Figure 4G
CONTINUED



	Y147	Y162	Y163
induction (1 ug/mL)	18	15	20

Figure 4H

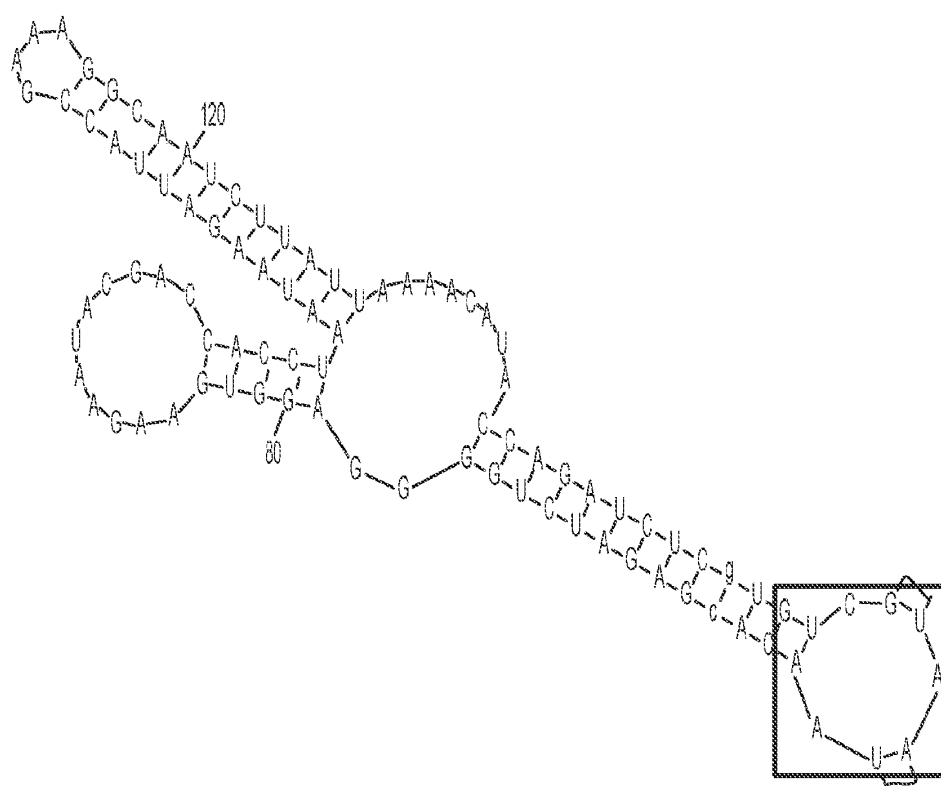


Figure 4H
CONTINUED

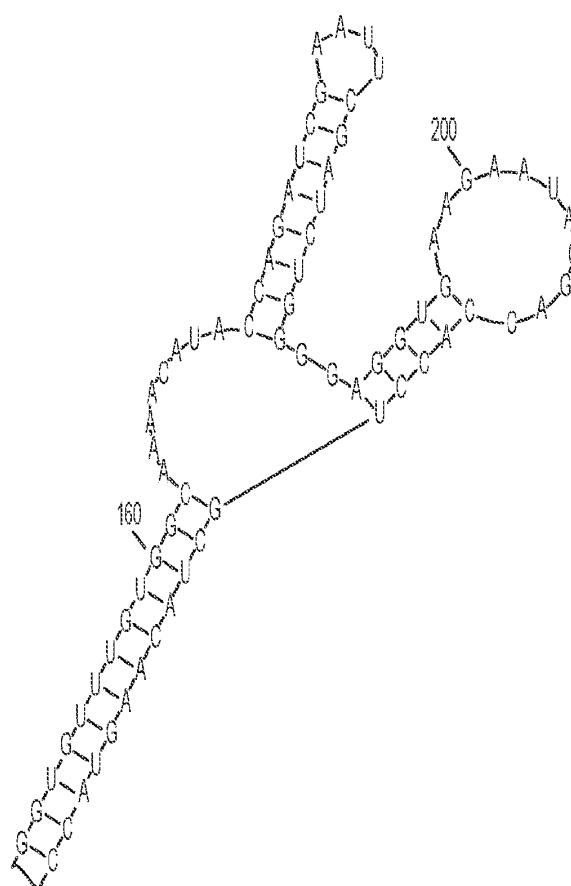


Figure 4H
CONTINUED

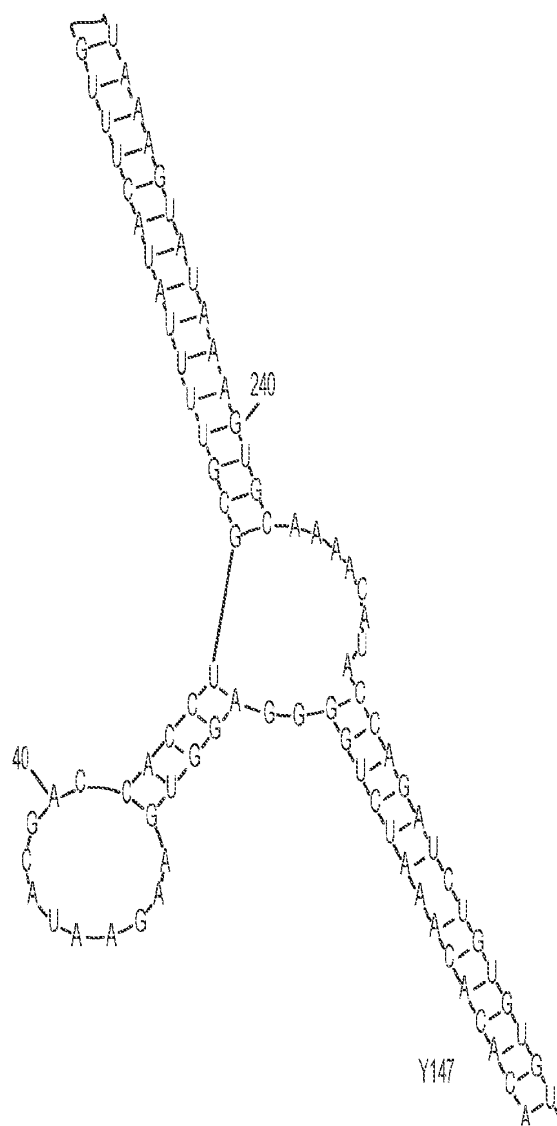


Figure 4H
CONTINUED

	Y163	Y177	Y178
Induction ($\mu\text{g/mL}$)	16	23	10

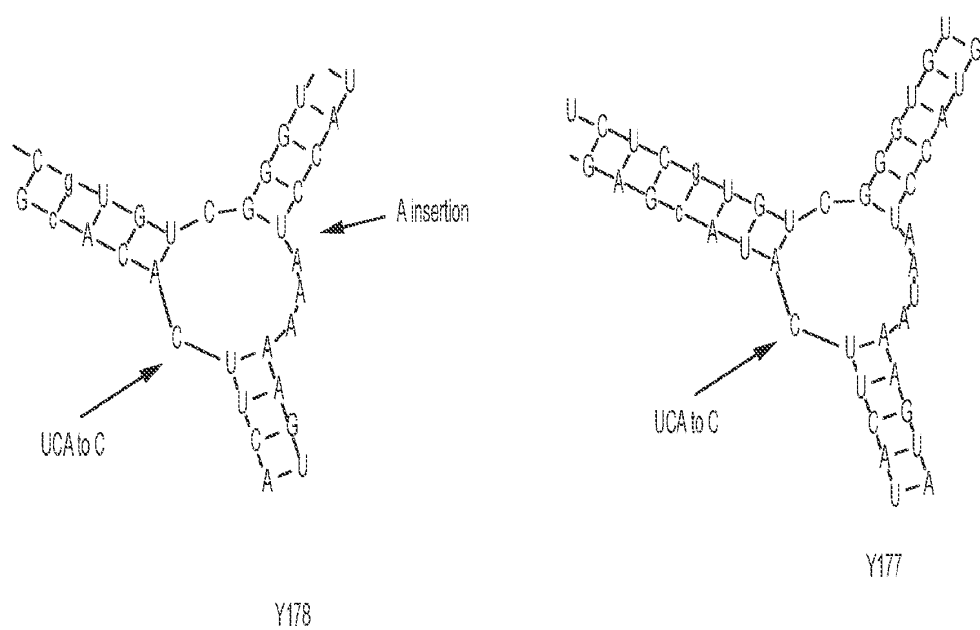


Figure 4I

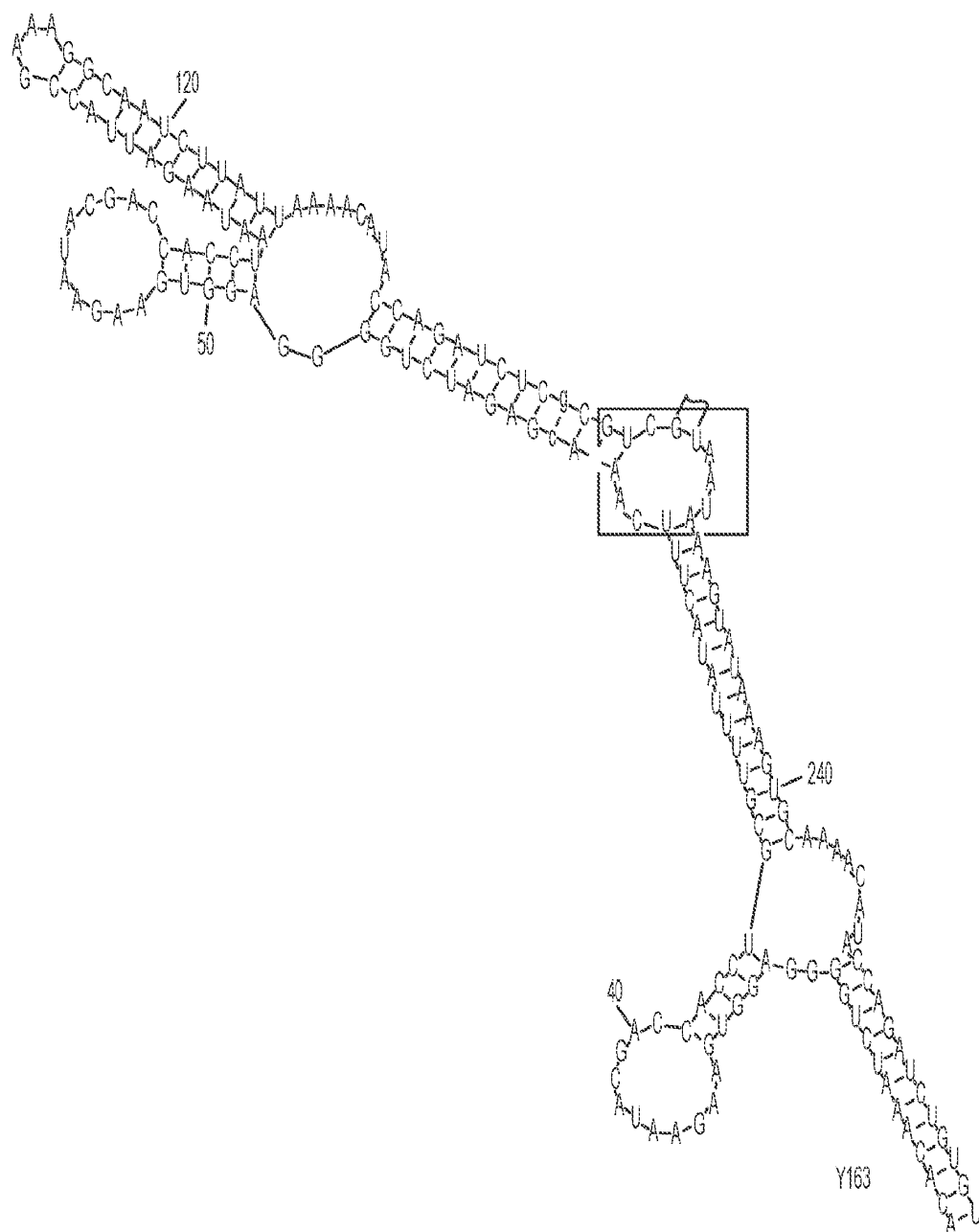


Figure 4I
CONTINUED

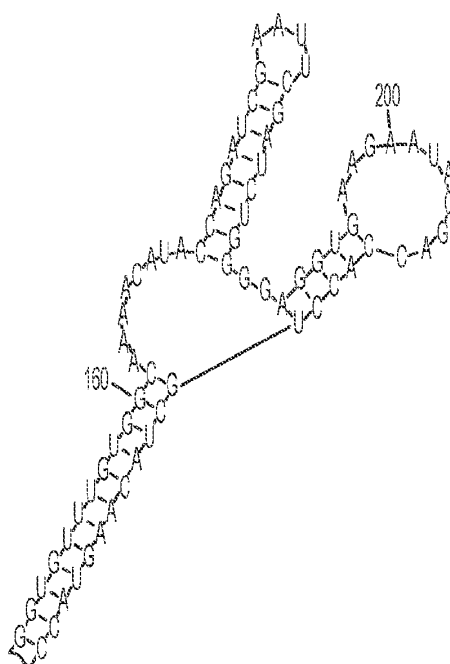


Figure 4I
CONTINUED

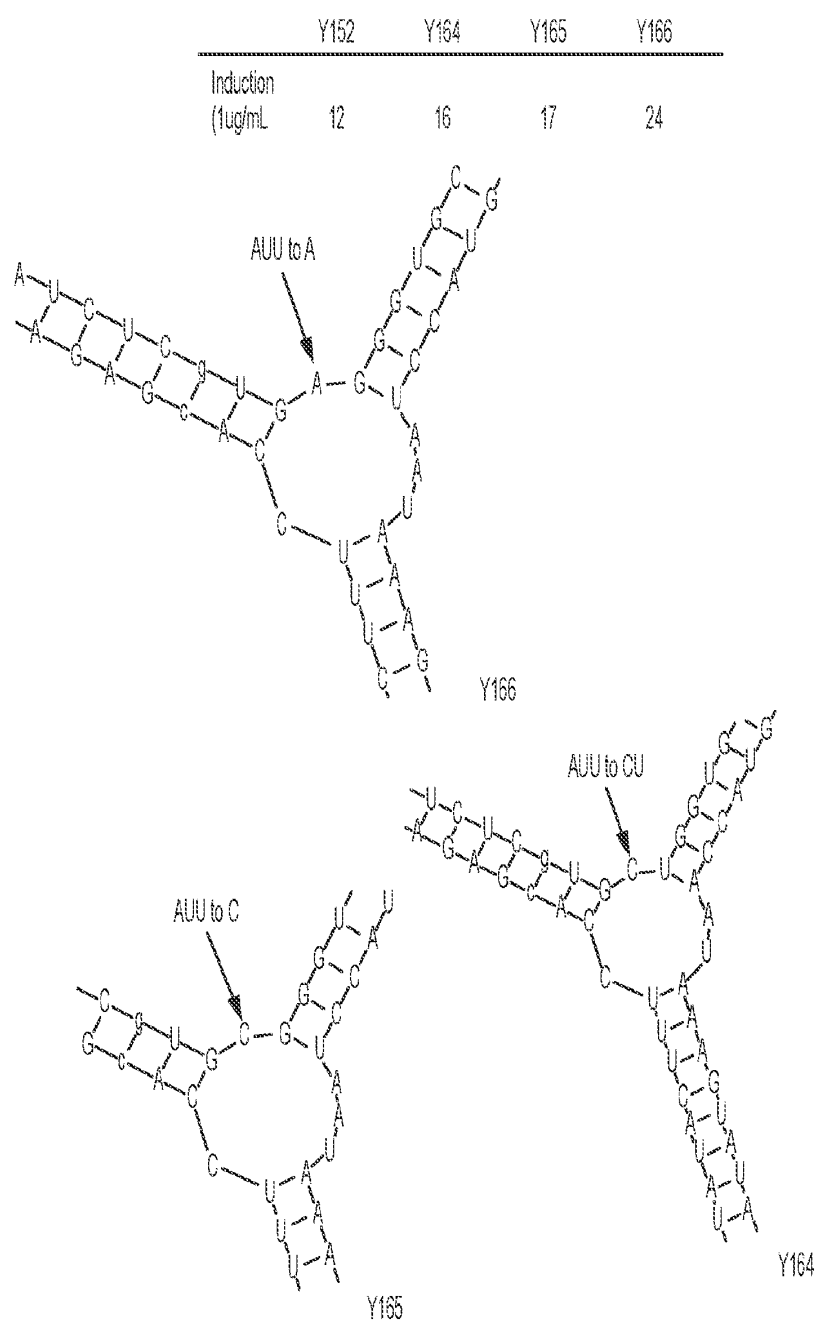


Figure 4J

SUBSTITUTE SHEET (RULE 26)

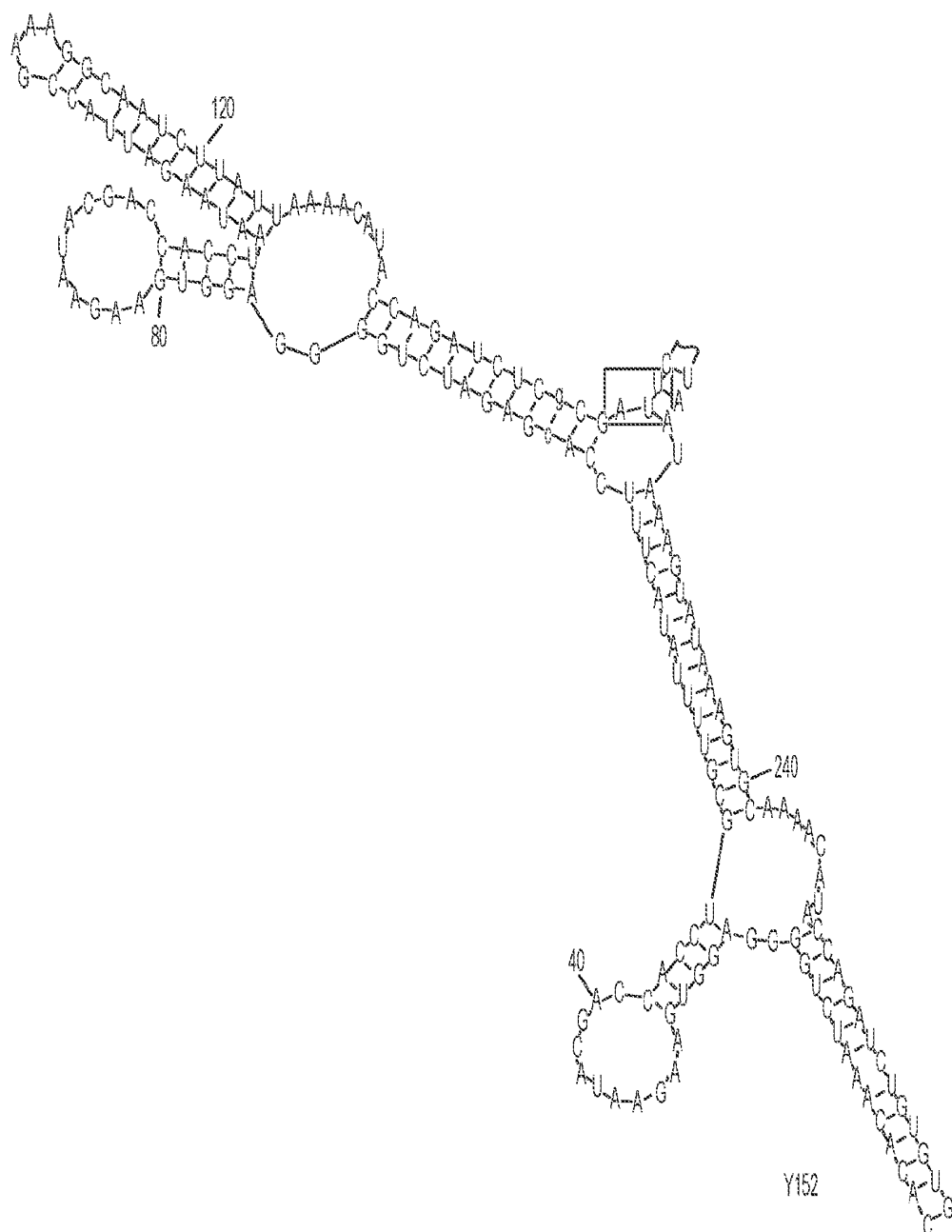


Figure 4J
CONTINUED

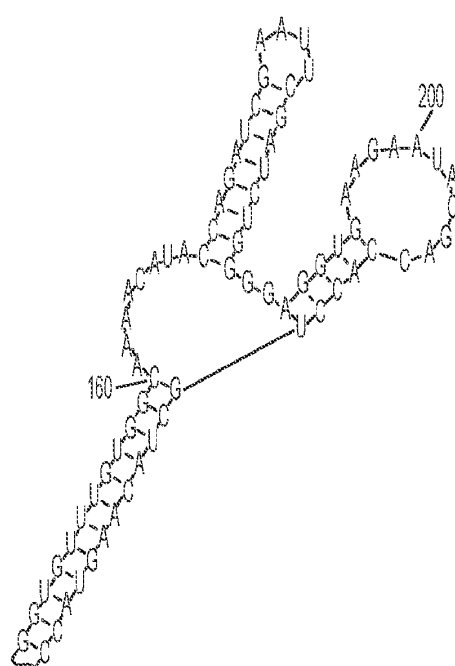


Figure 4J
CONTINUED

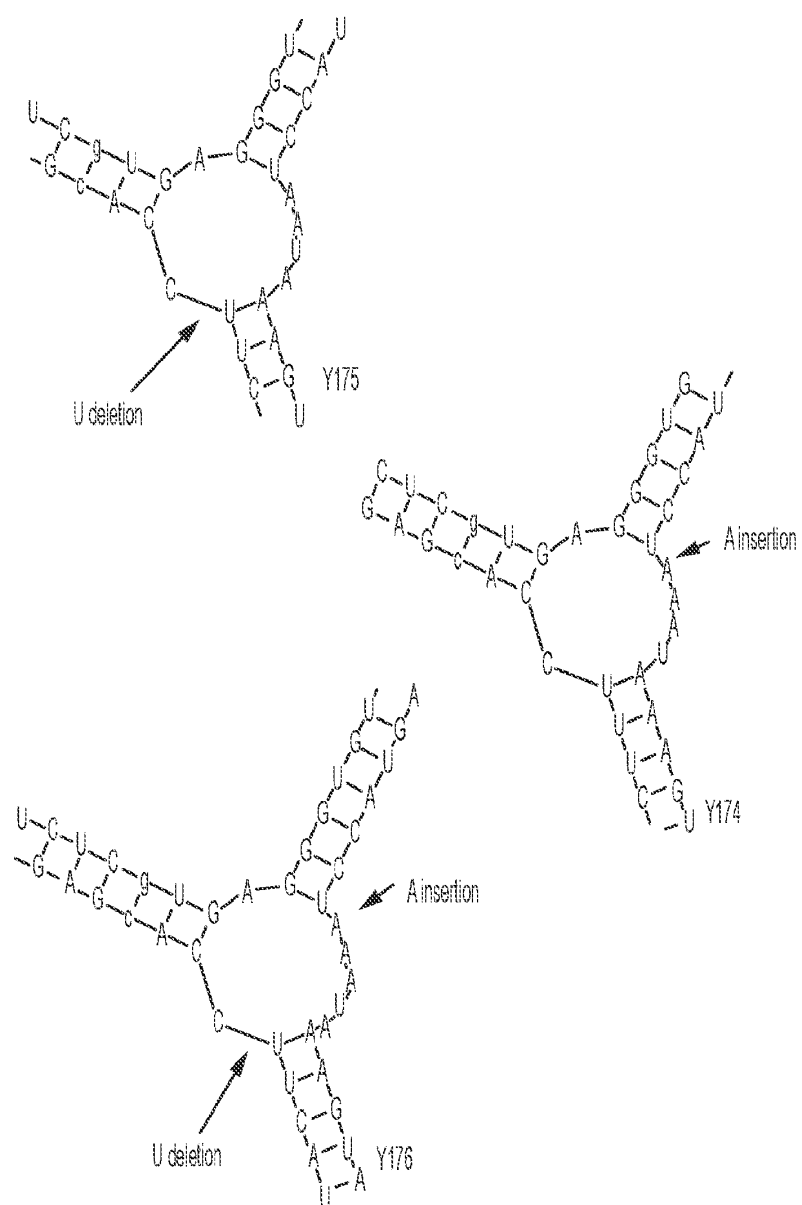
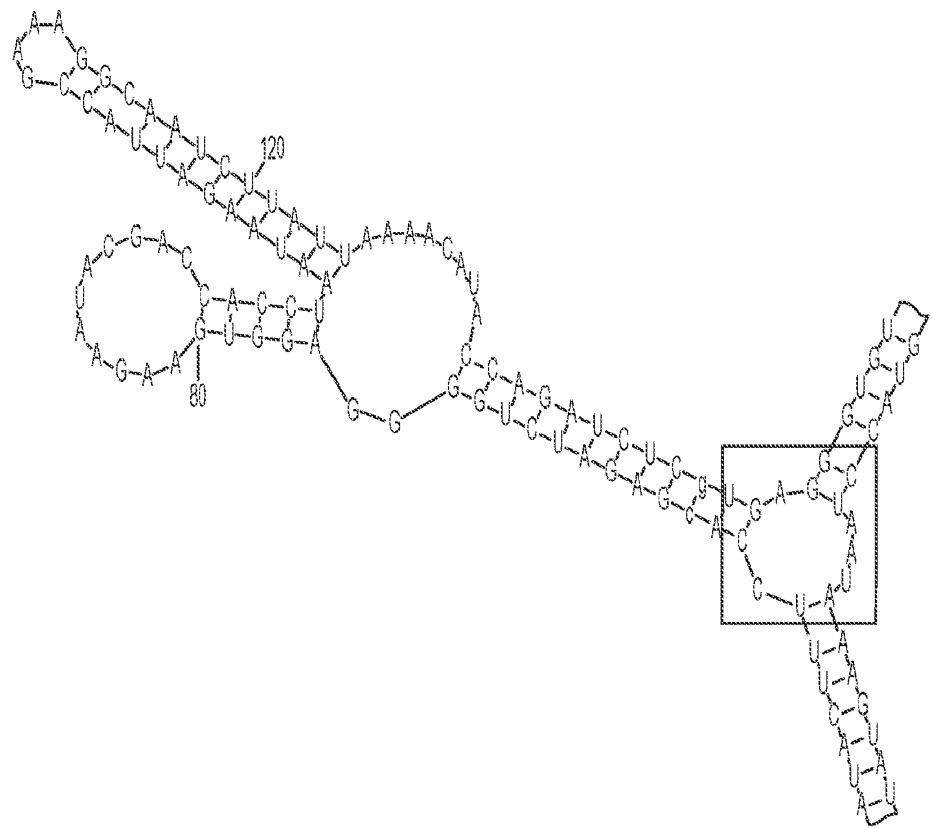


Figure 4K



	Y166	Y174	Y175	Y176
Introduction (1µg/mL)	23	35	38	35

Figure 4K
CONTINUED

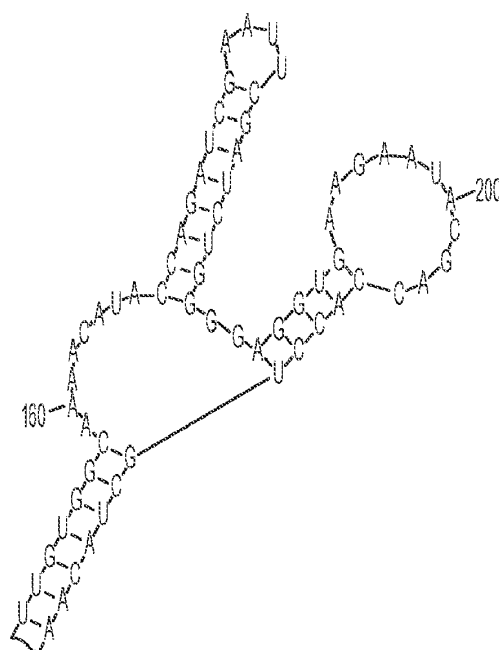
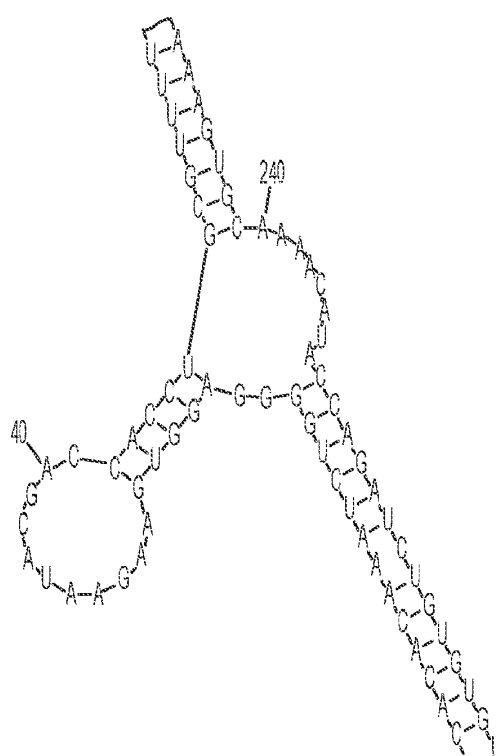


Figure 4K
CONTINUED



Y166

Figure 4K
CONTINUED

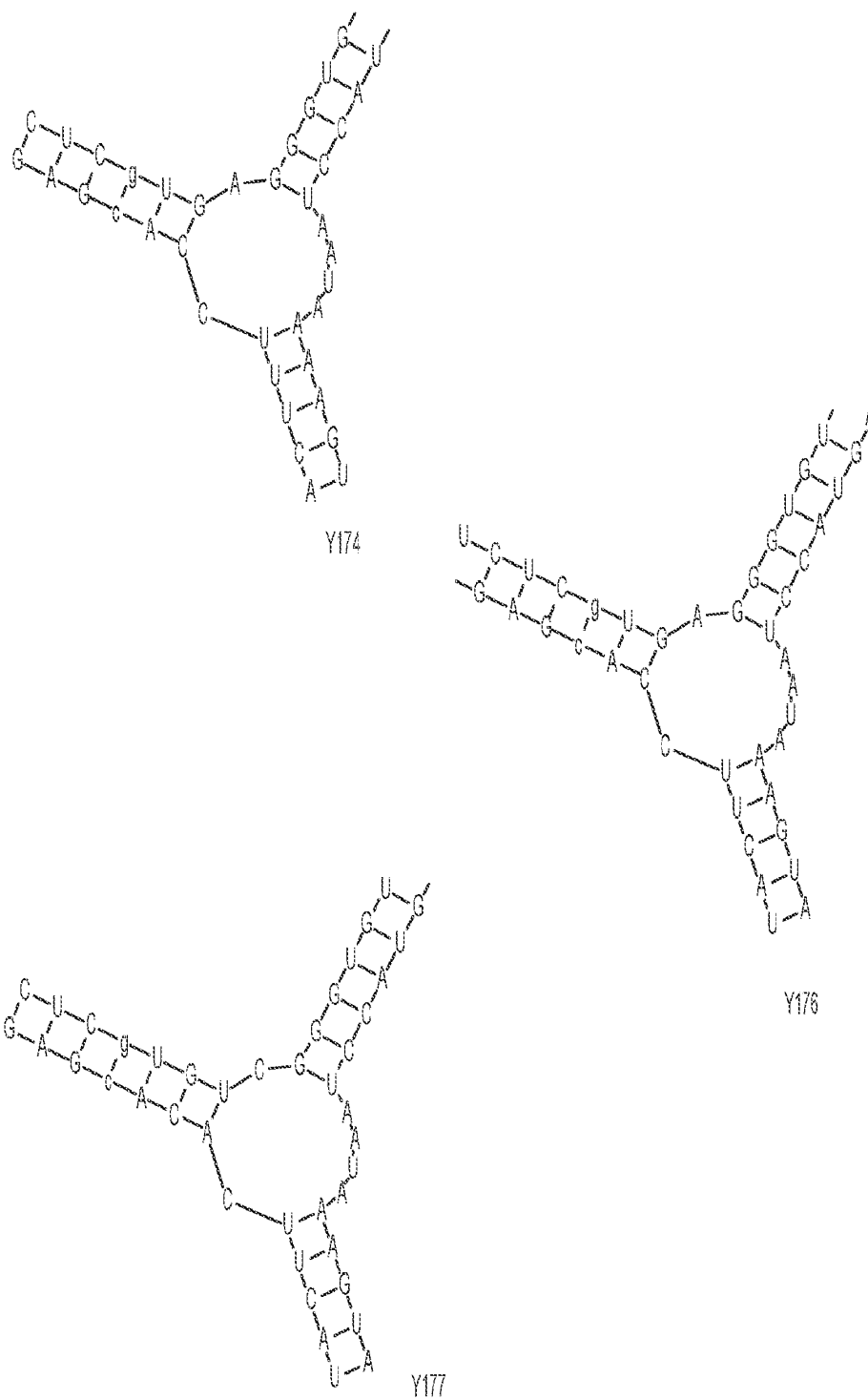


Figure 4L

SUBSTITUTE SHEET (RULE 26)

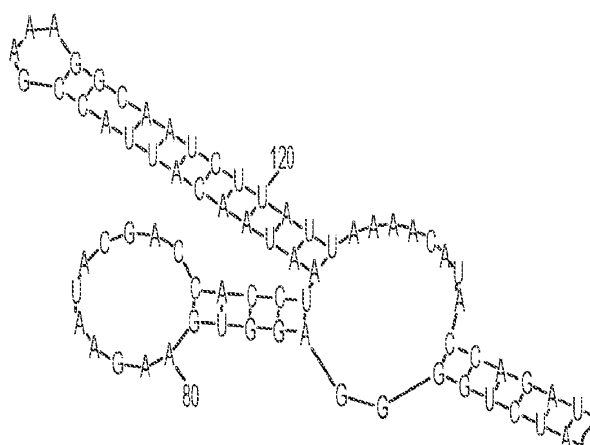


Figure 4L
CONTINUED

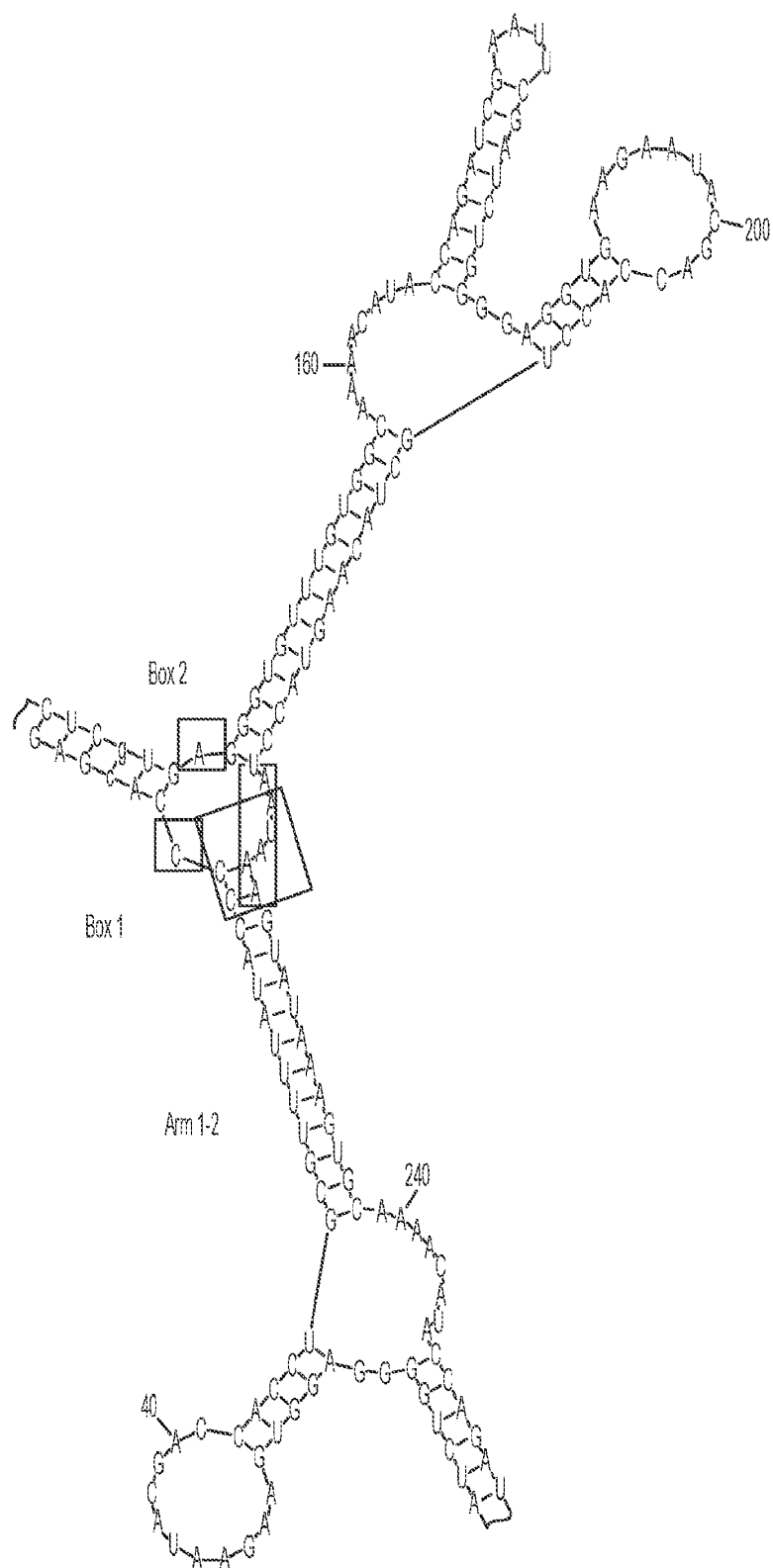


Figure 4L
CONTINUED

SUBSTITUTE SHEET (RULE 26)

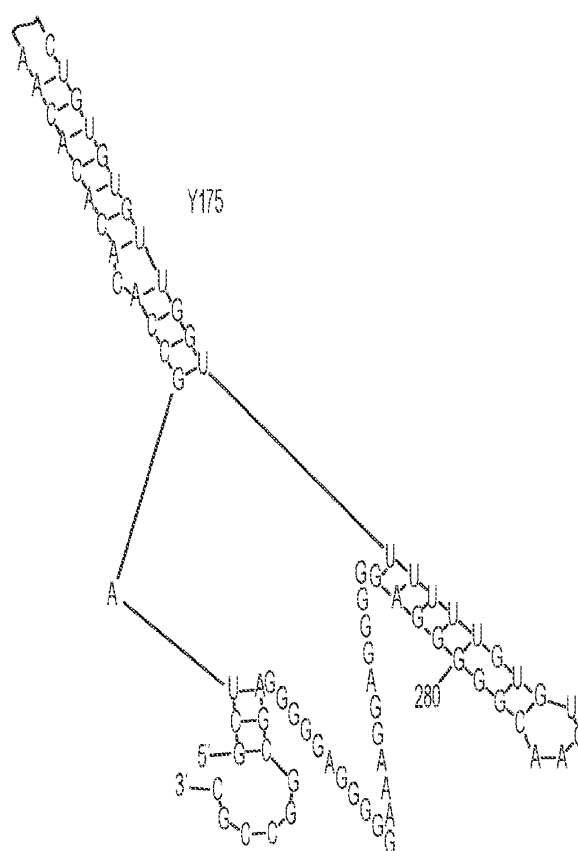


Figure 4L
CONTINUED

Figure 5

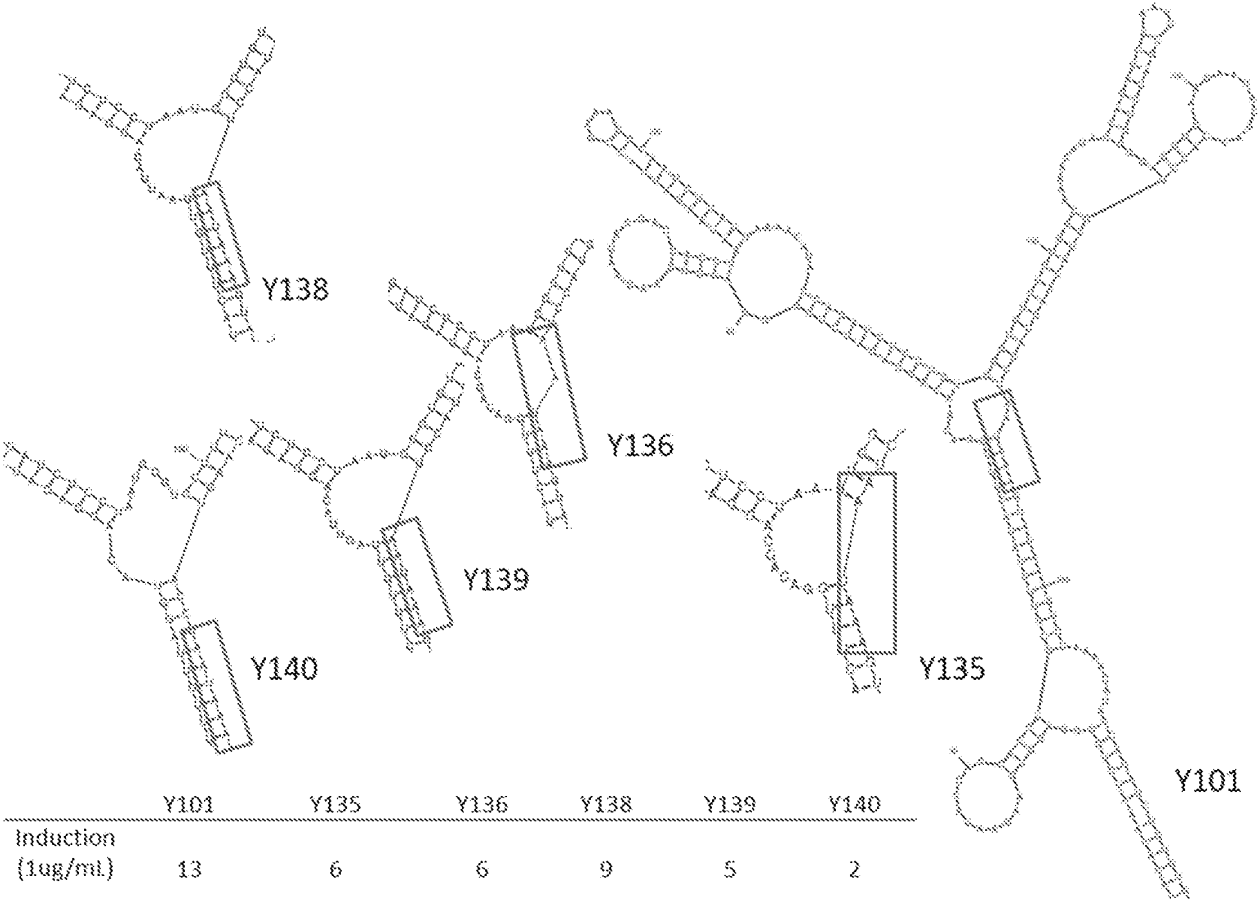


Figure 5 (continued)

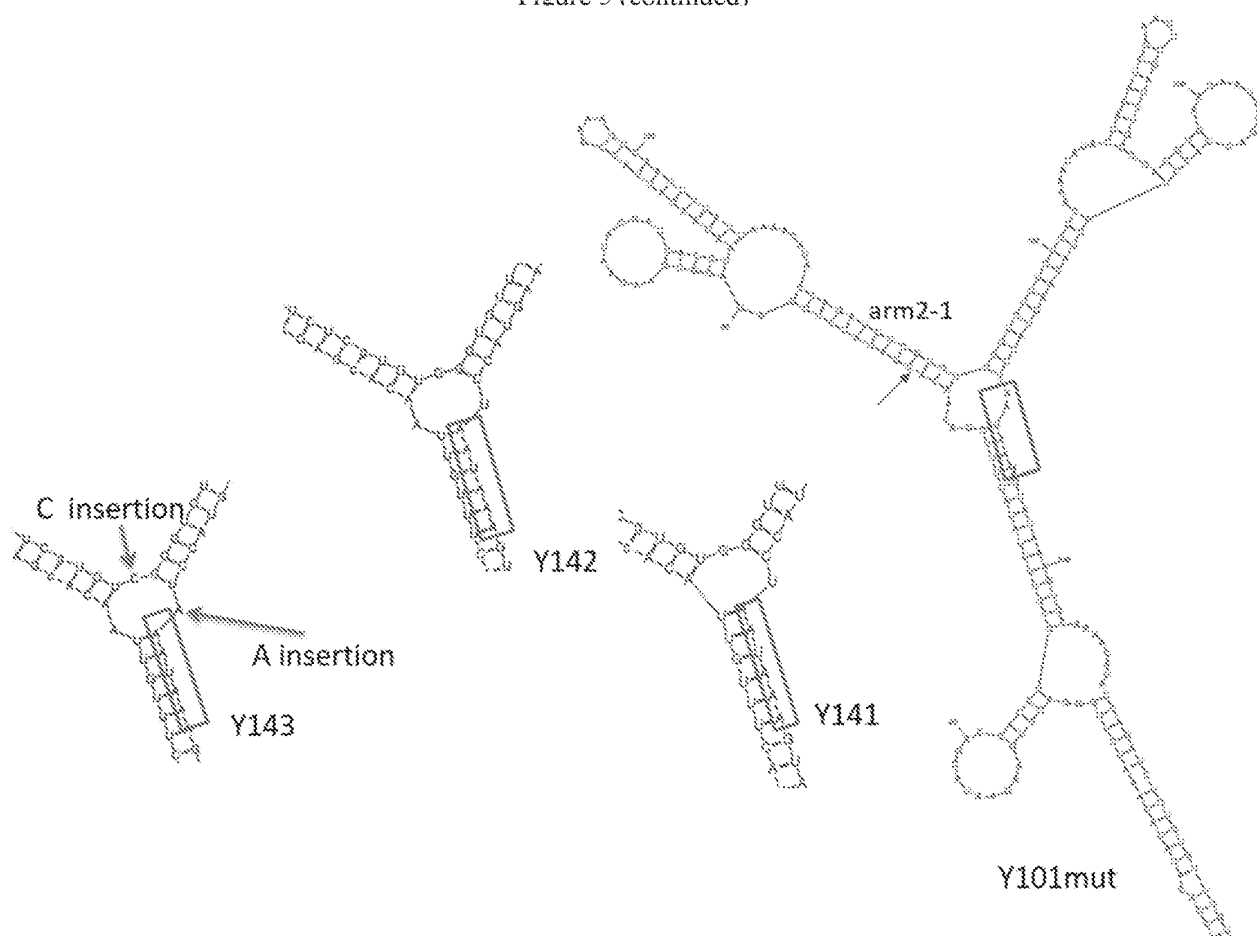
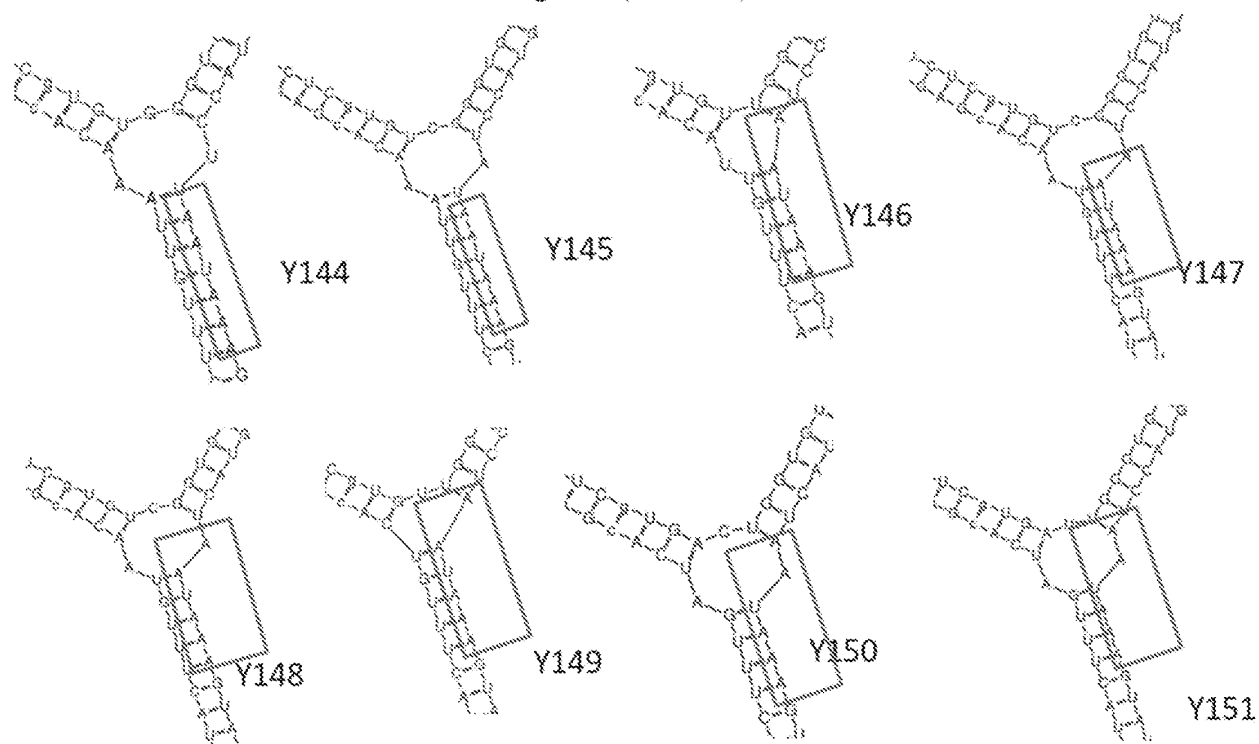


Figure 5 (continued)



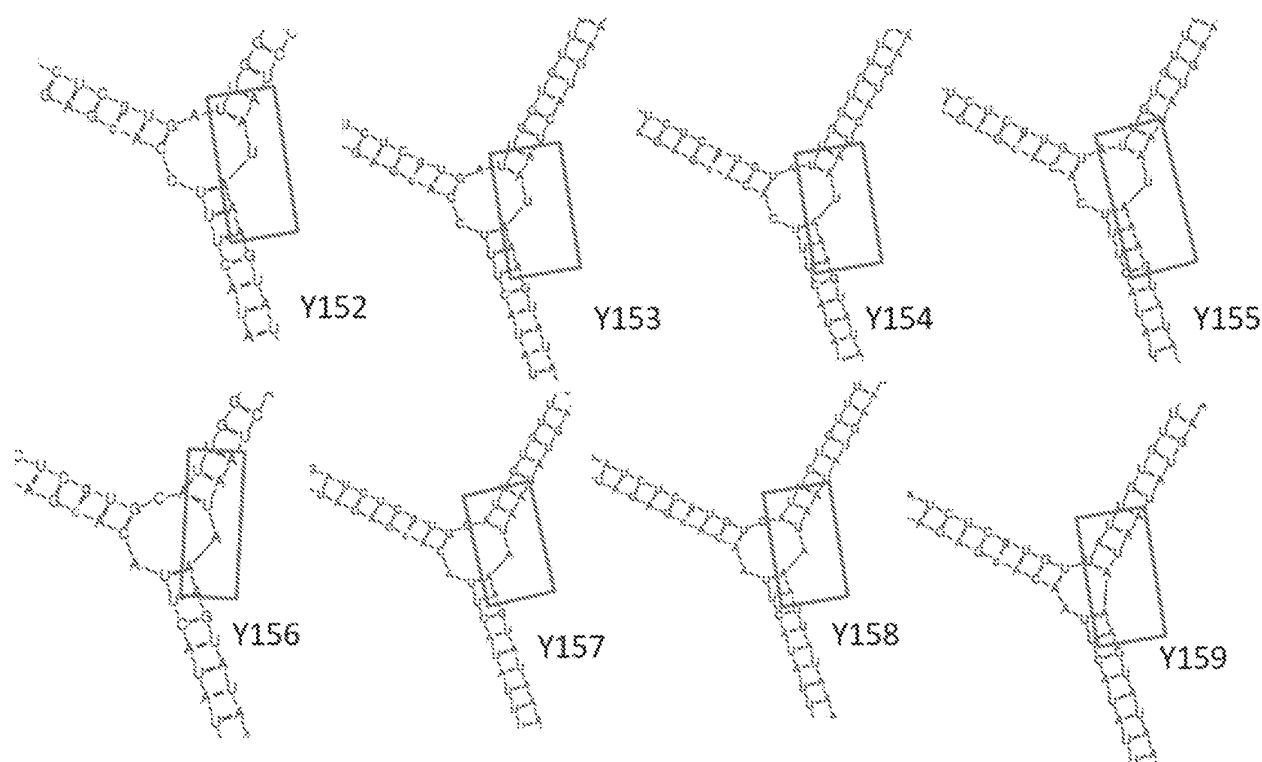


Figure 5 (continued)

	Y101mut	Y141	Y142	Y143	Y144	
Induction (1 ug/mL)	14	10	10	17	6	
	Y101mut	Y145	Y145	Y146	Y147	Y148
Induction (1 ug/mL)	14	10	8	12	19	6
	Y101mut	Y149	Y150	Y151	Y152	
Induction (1 ug/mL)	14	13	7	8	12	
	Y101mut	Y153	Y153	Y154	Y156	
Induction (1 ug/mL)	14	8	10	14	10	
	Y101mut	Y157	Y158	Y159		
Induction (1 ug/mL)	14	2	2	2		

Figure 6A

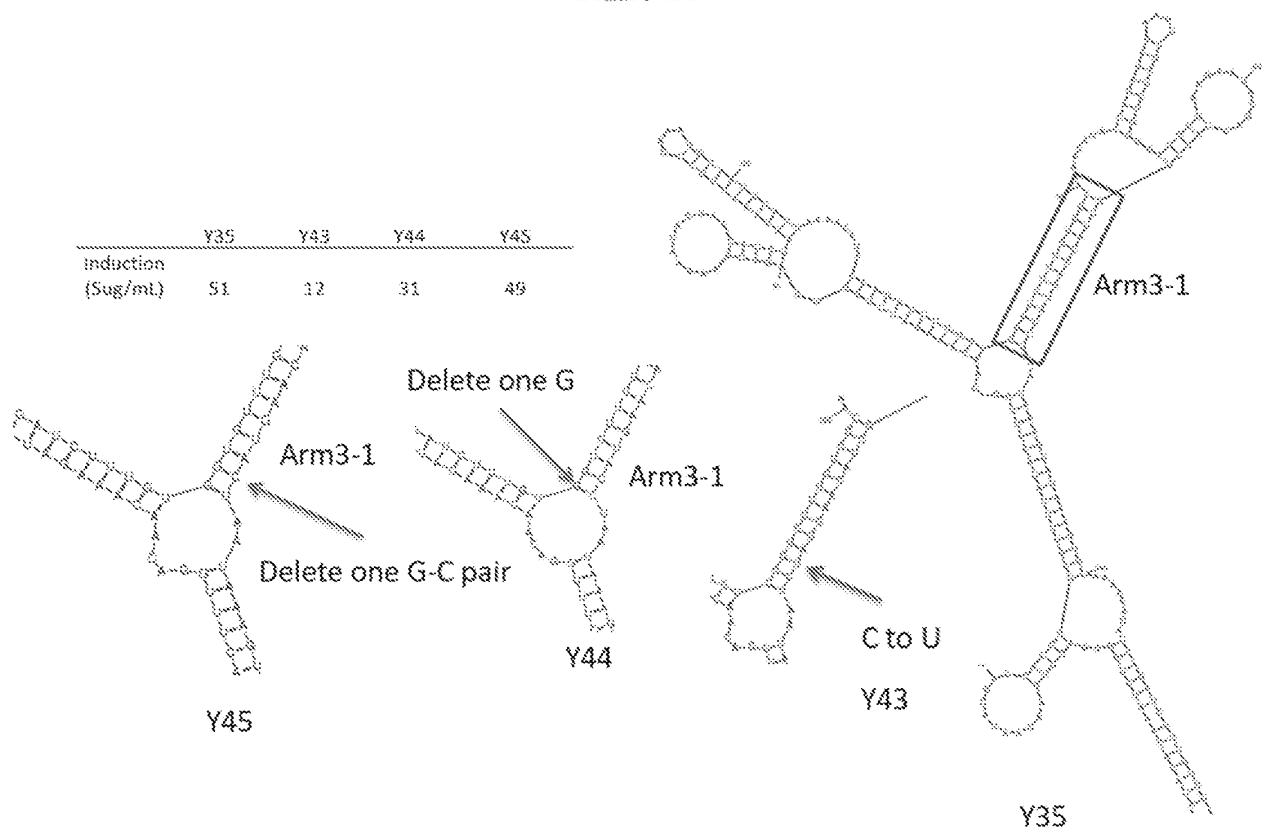
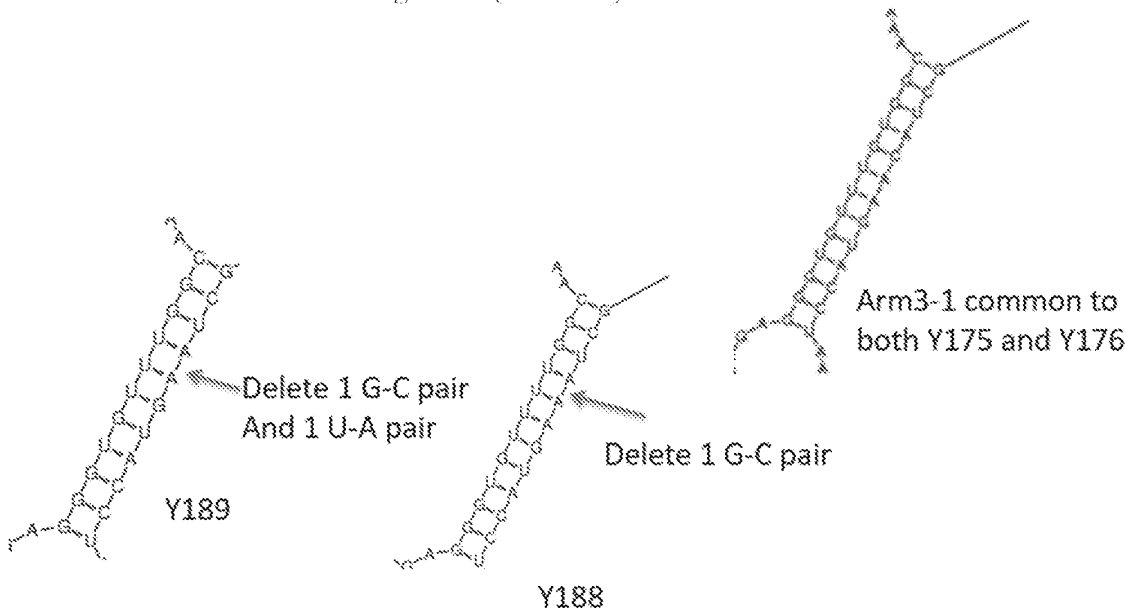


Figure 6A (continued)



	Y175	Y188C	Y189C	Y176	Y188D	Y189D
Induction (1 ug/ml)	29	5	3	36	9	2

Figure 6A (continued)

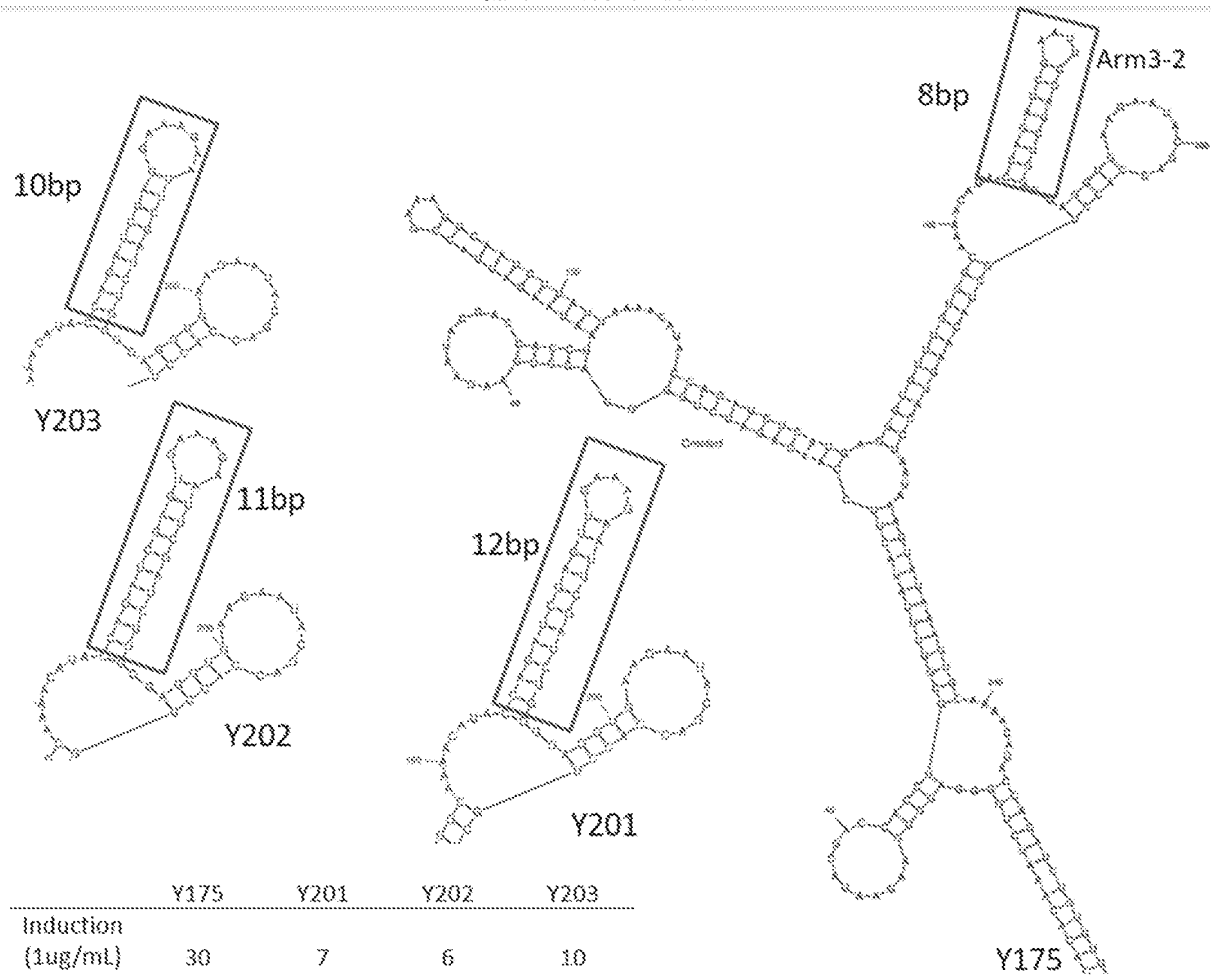
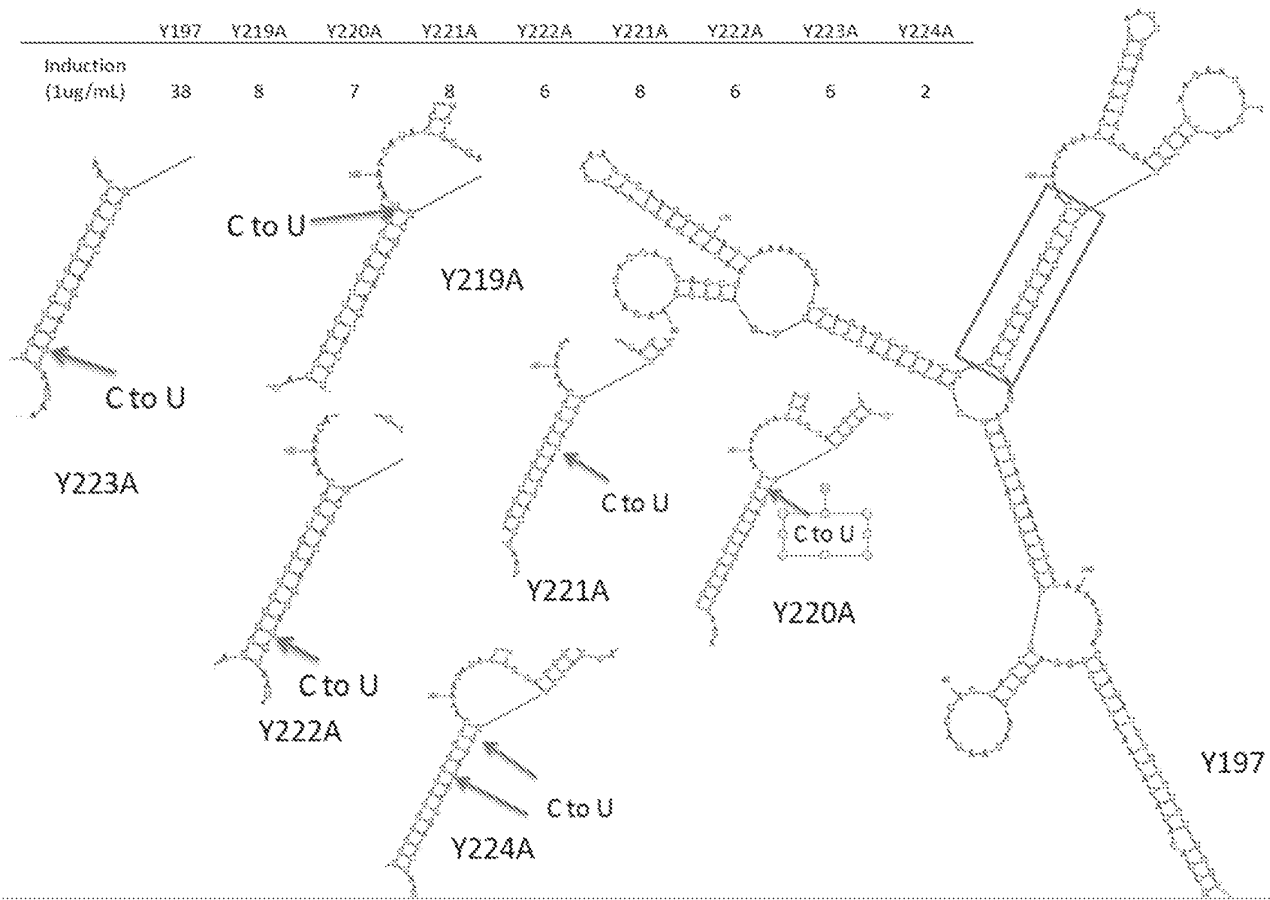
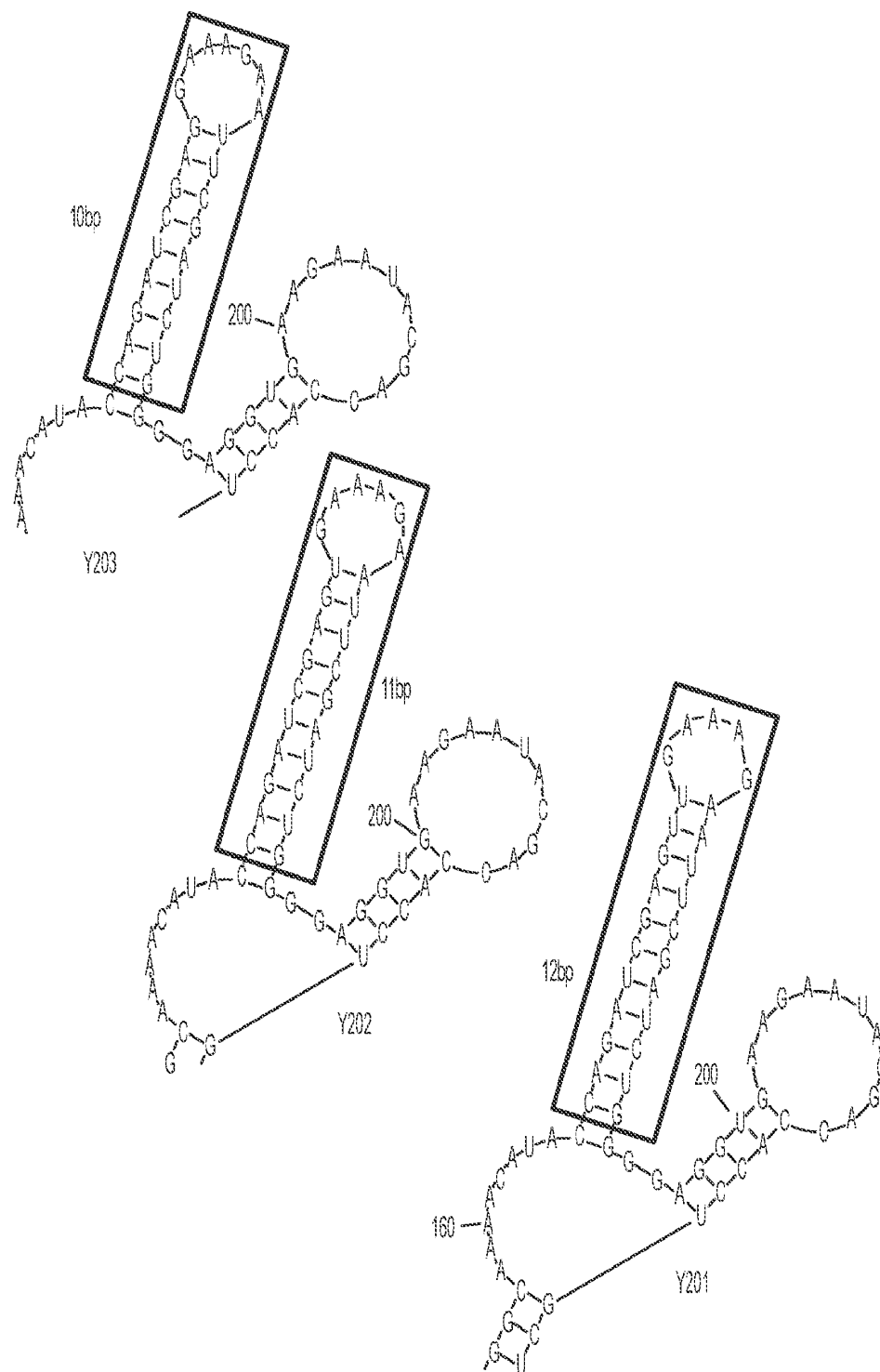


Figure 6A (continued)





	Y175	Y201	Y202	Y203
Induction (1ug/mL)	30	7	6	10

Figure 6B

SUBSTITUTE SHEET (RULE 26)

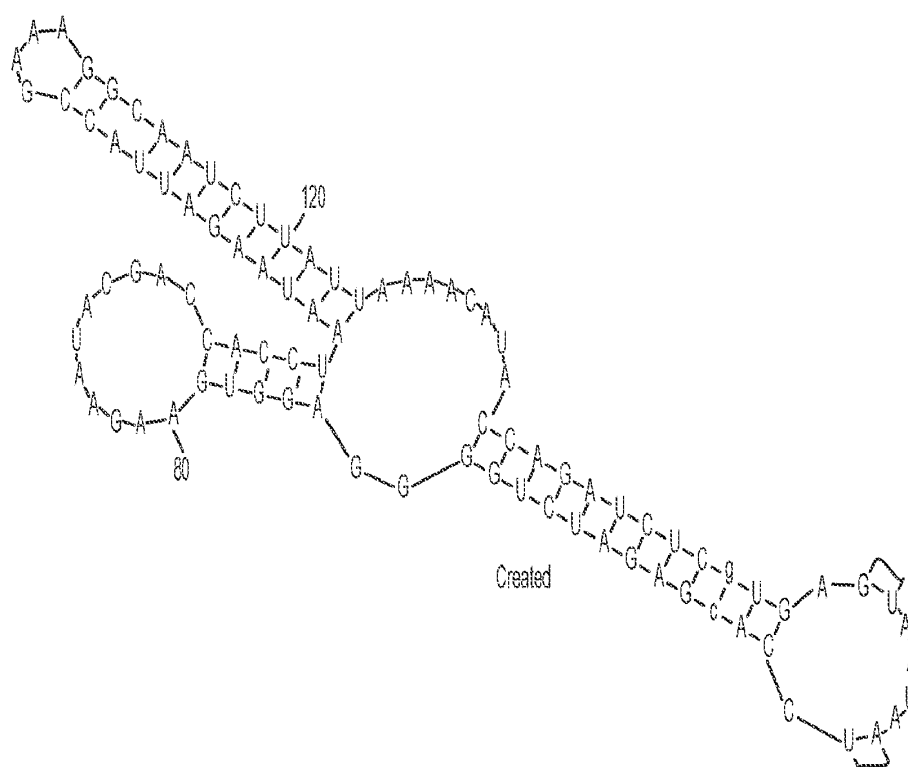


Figure 6B
CONTINUED

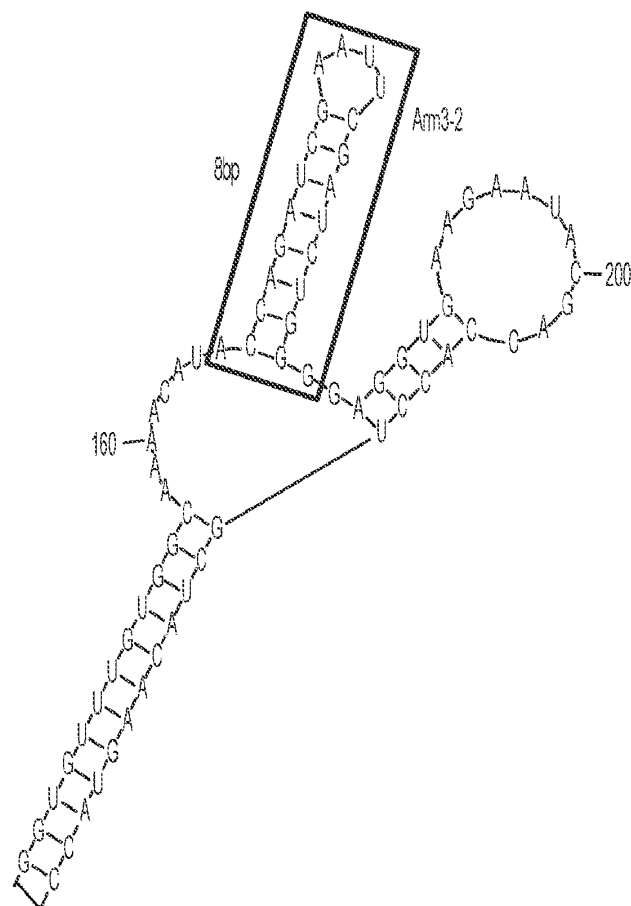


Figure 6B
CONTINUED

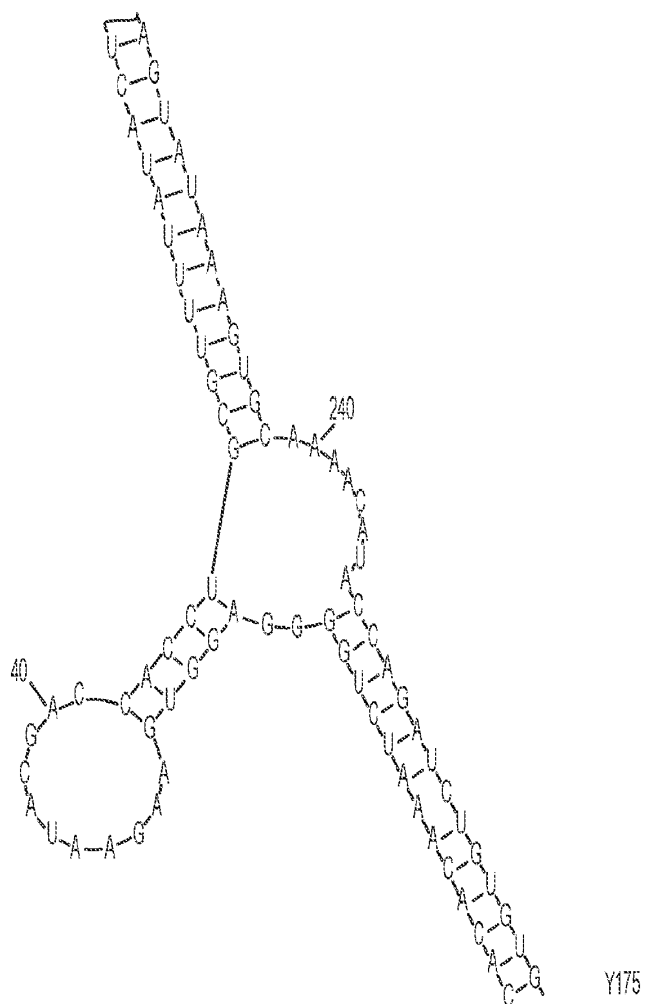
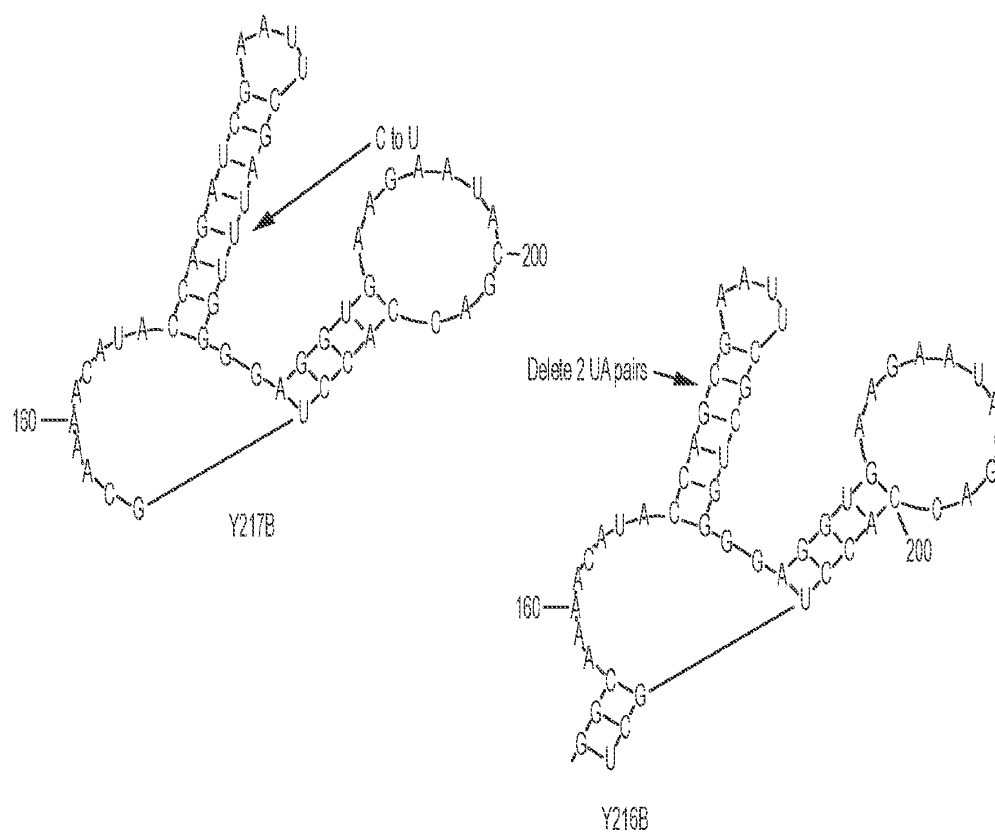


Figure 6B
CONTINUED



	Y208	Y216B	Y217B
Introduction (1 μ g/mL)	51	13	18

Figure 6B
CONTINUED

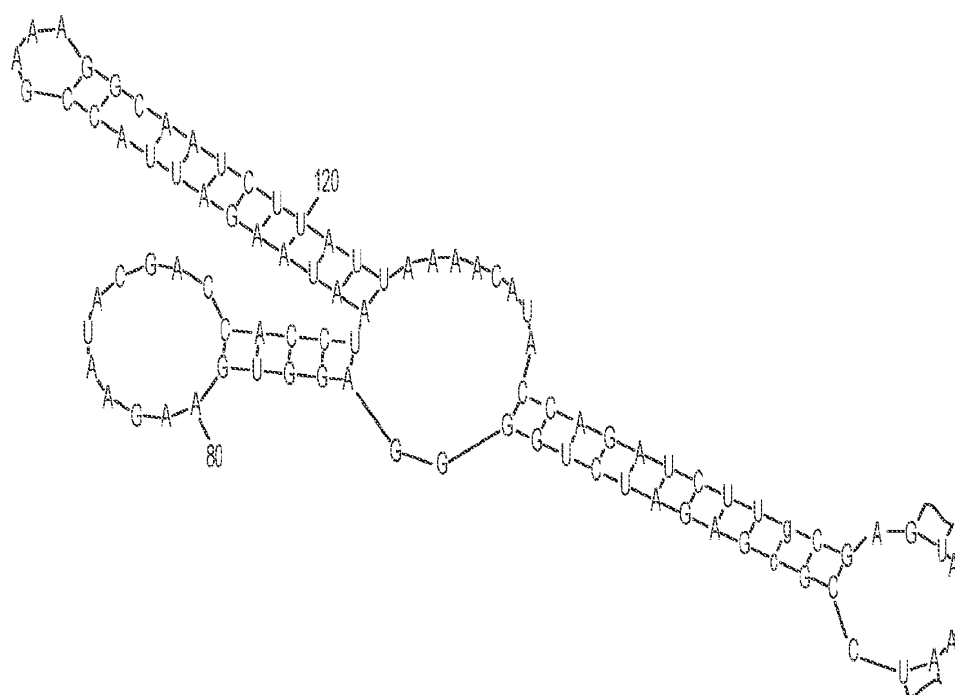


Figure 6B
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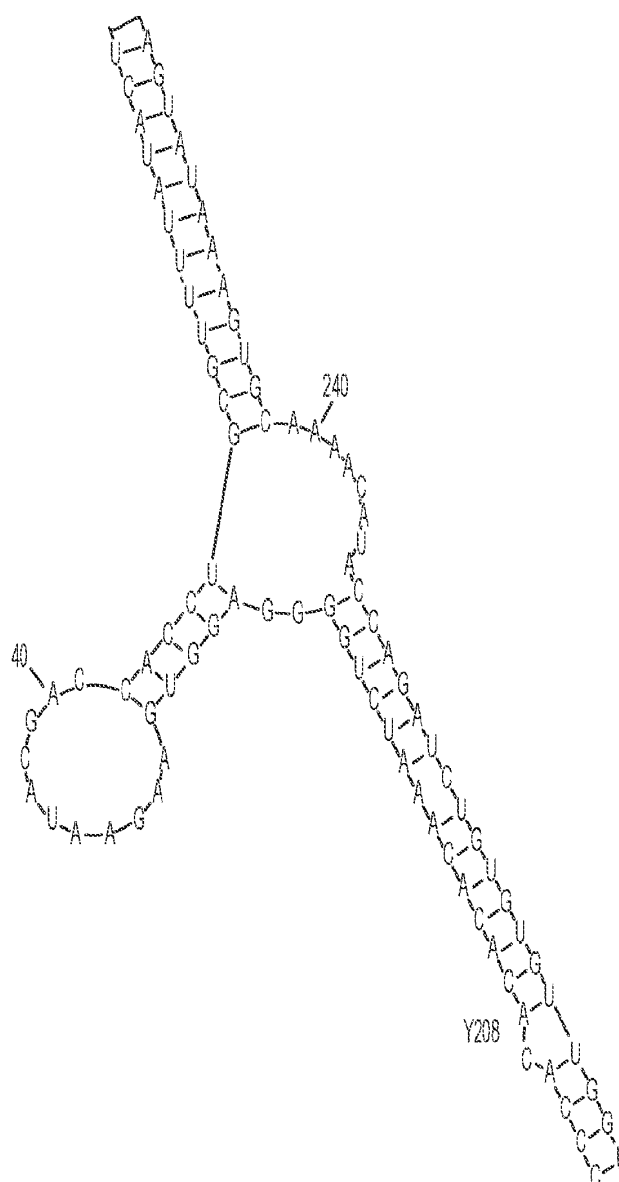


Figure 6B
CONTINUED

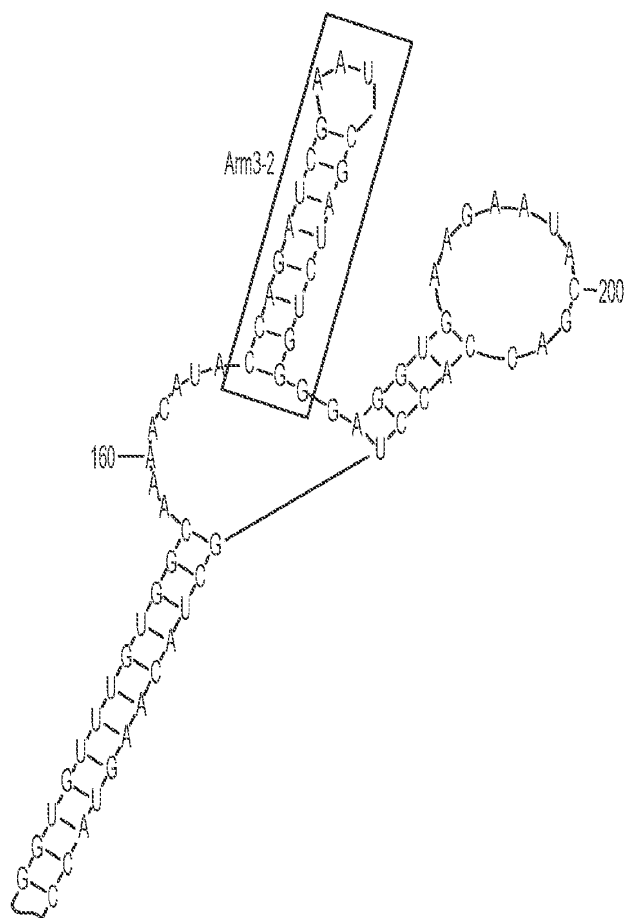


Figure 6B
CONTINUED

Figure 7A

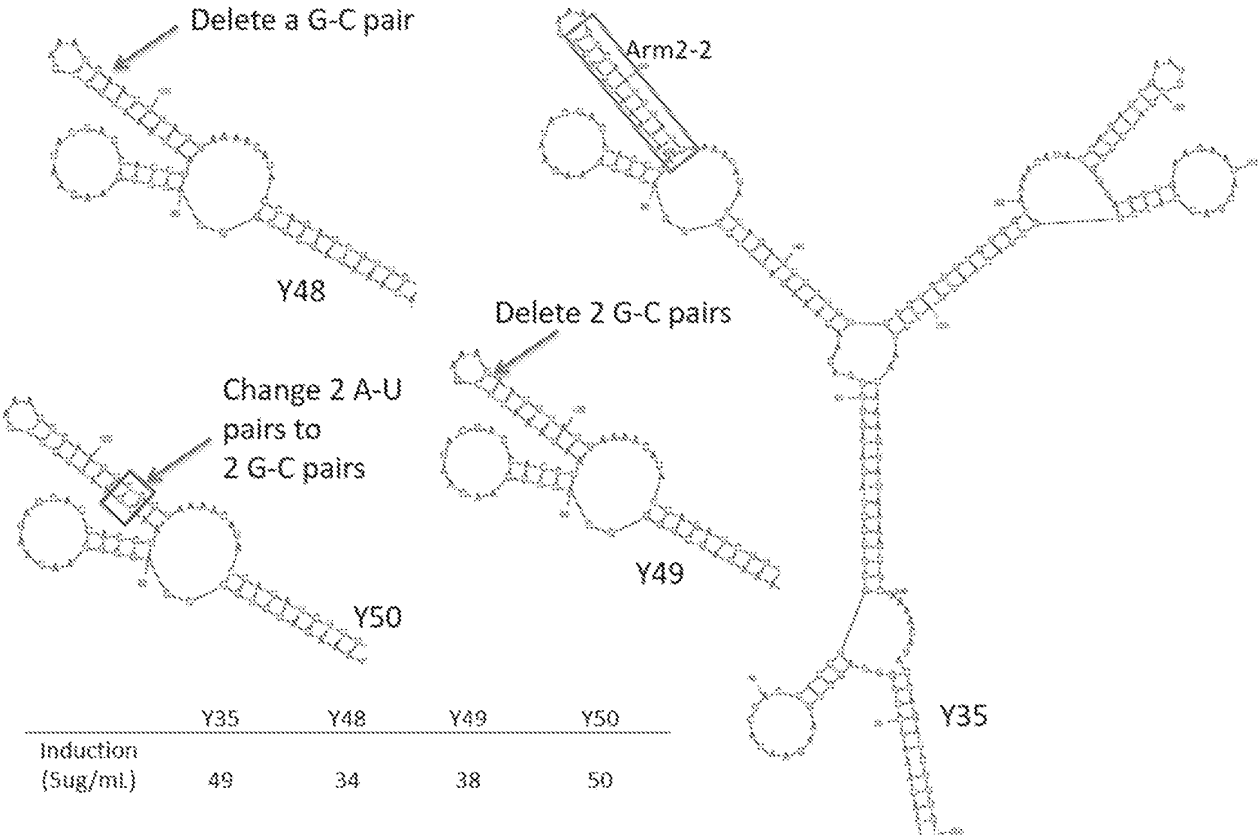


Figure 7A (continued)

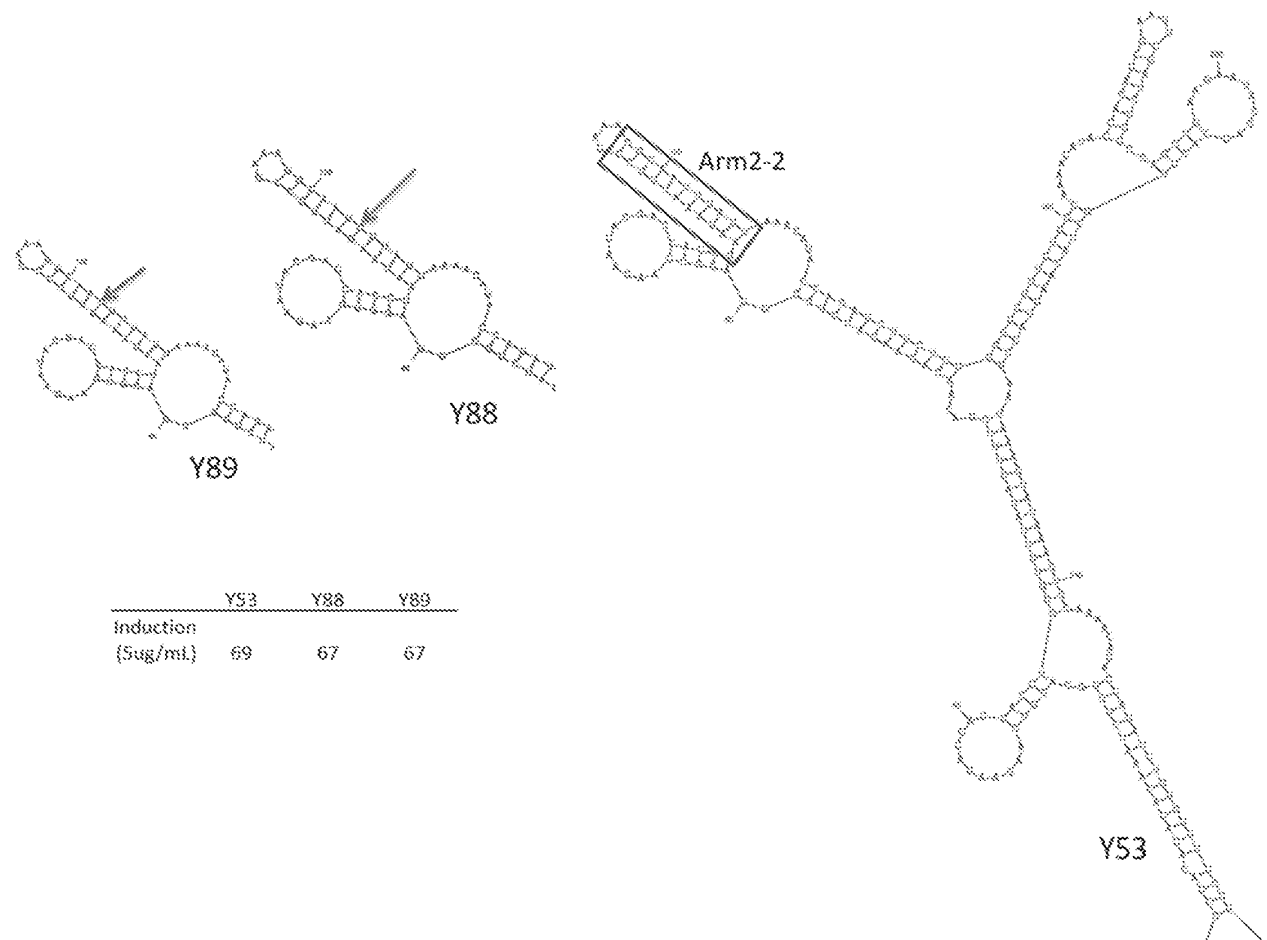


Figure 7A (continued)

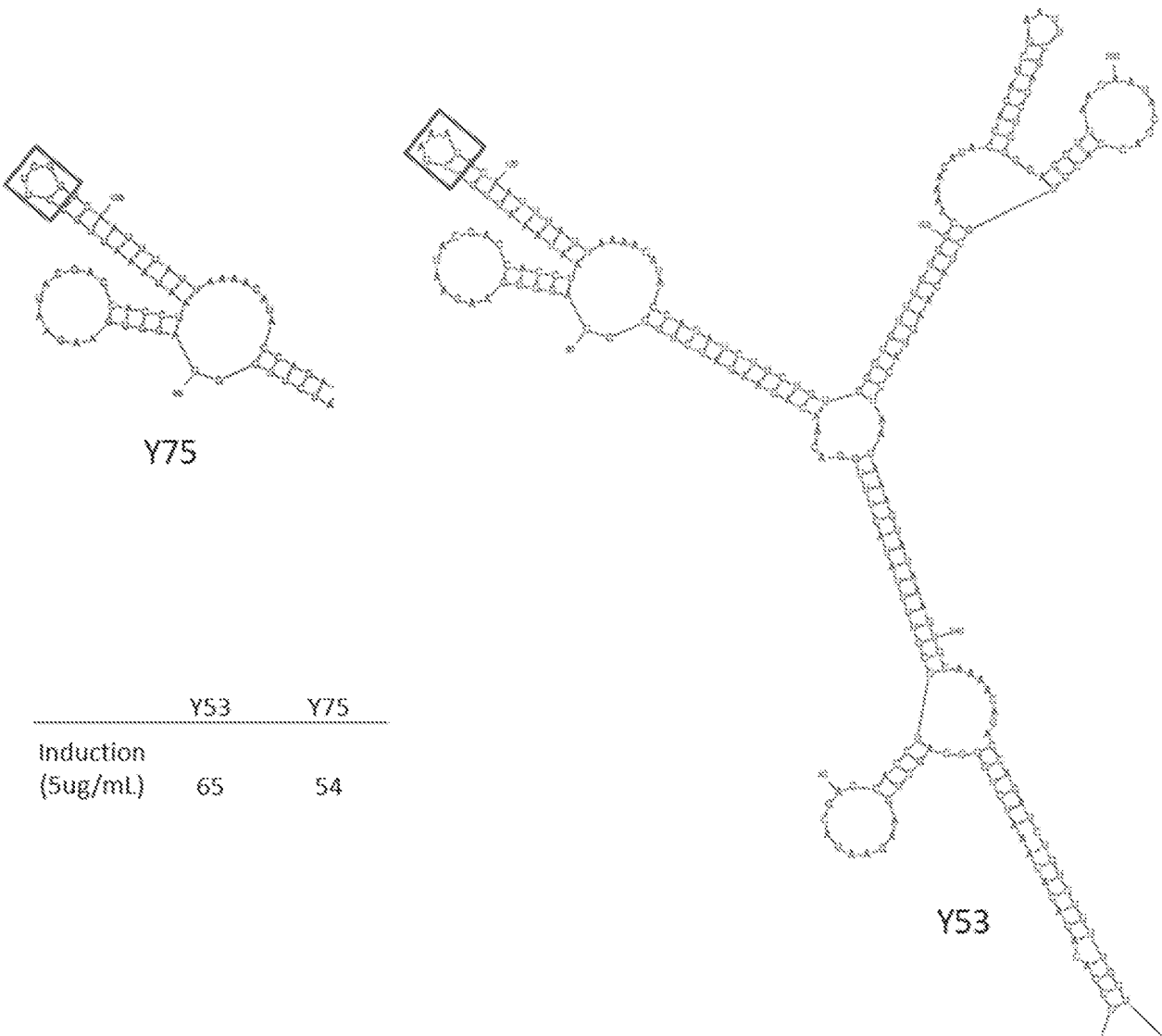
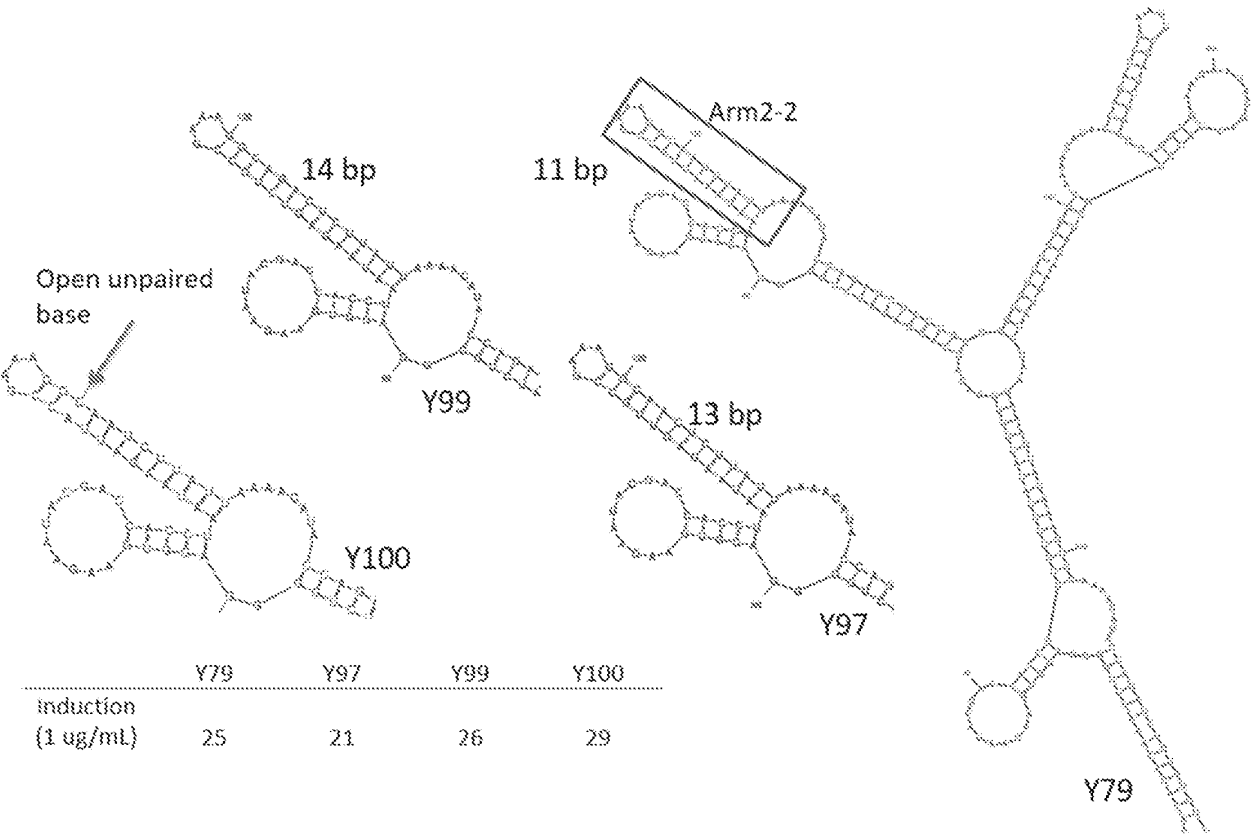


Figure 7A (continued)



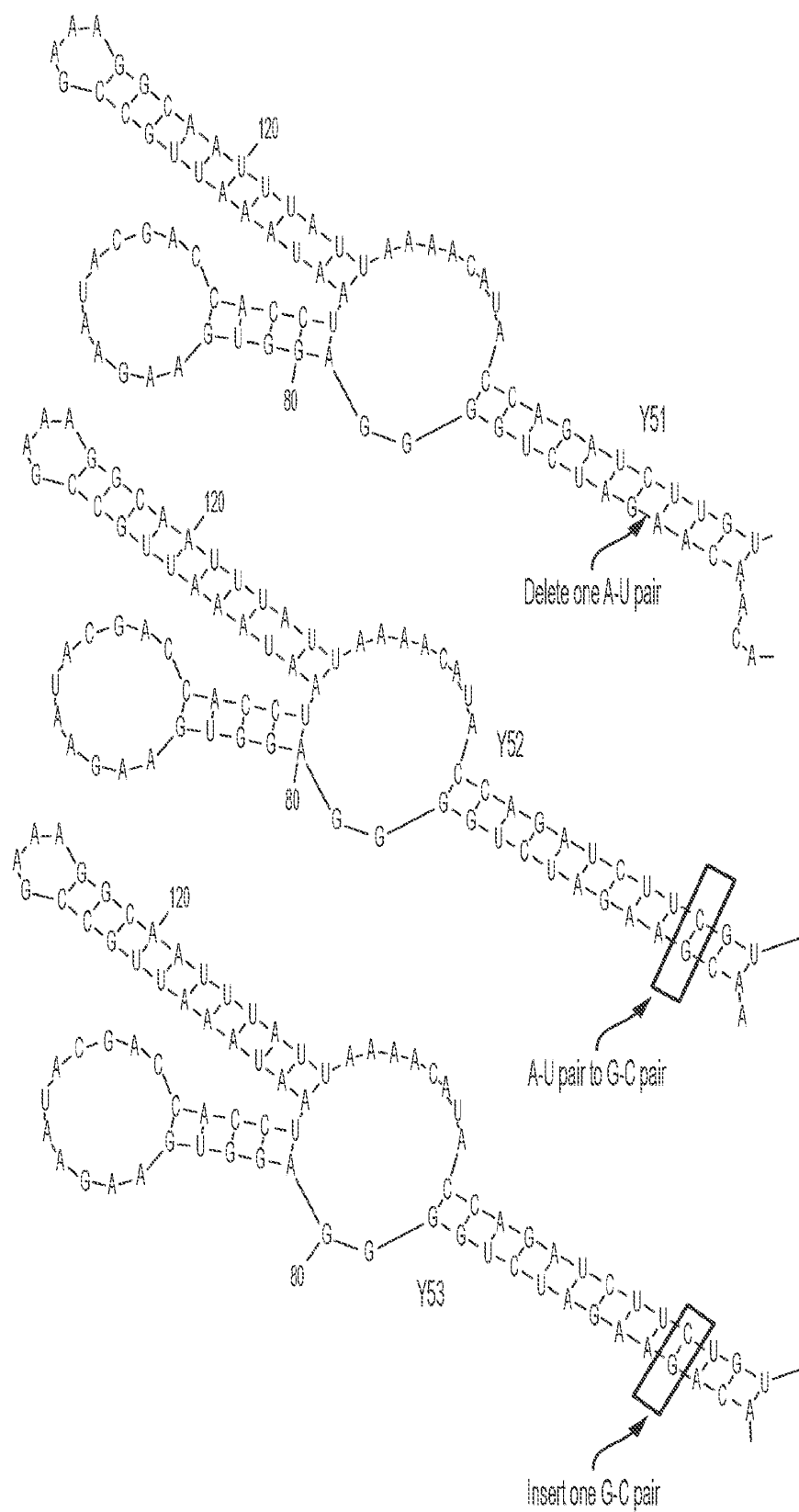


Figure 7B

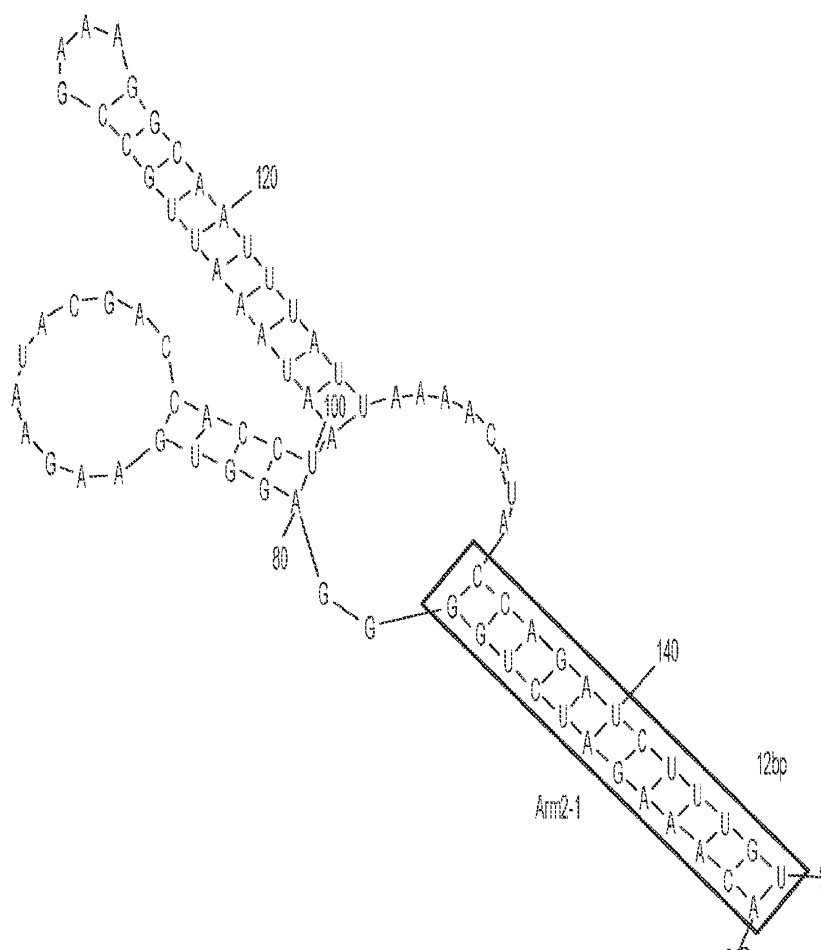


Figure 7B
CONTINUED

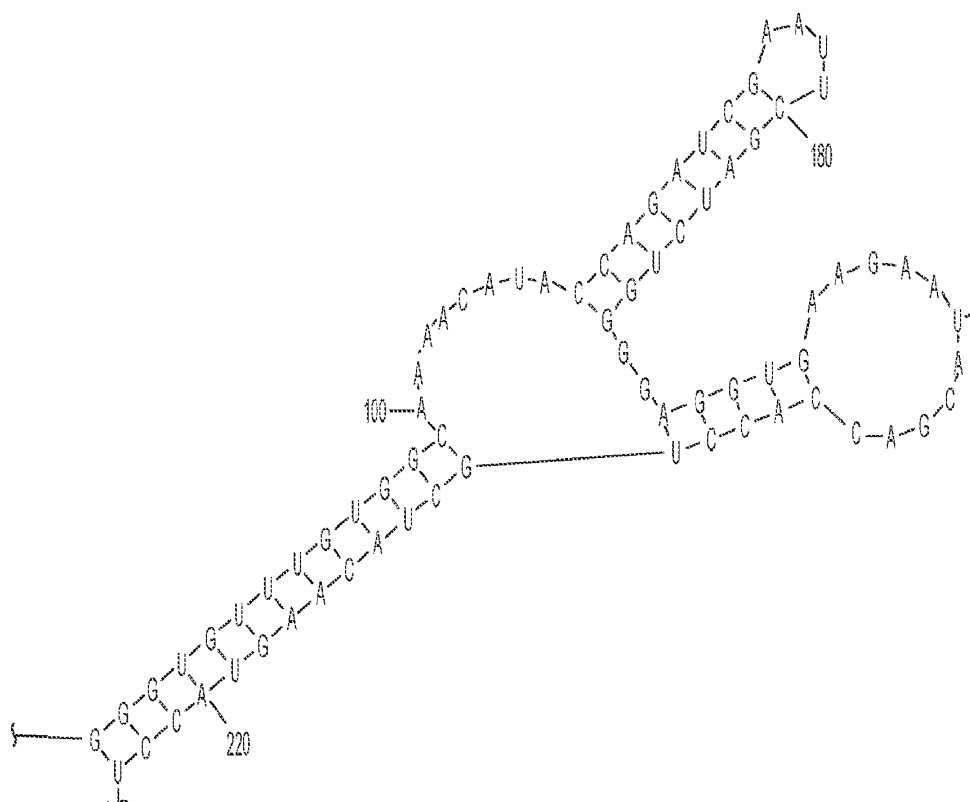
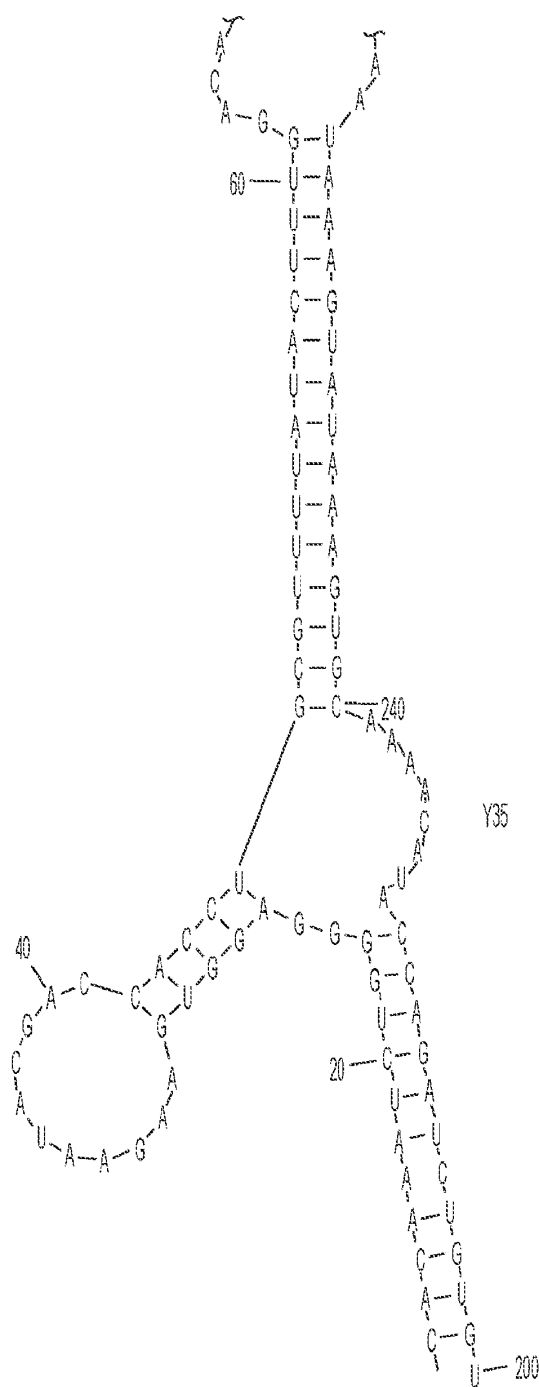


Figure 7B
CONTINUED



	Y35	Y51	Y52	Y53
Induction (5ug/mL)	49	45	64	51

Figure 7B
CONTINUED

SUBSTITUTE SHEET (RULE 26)

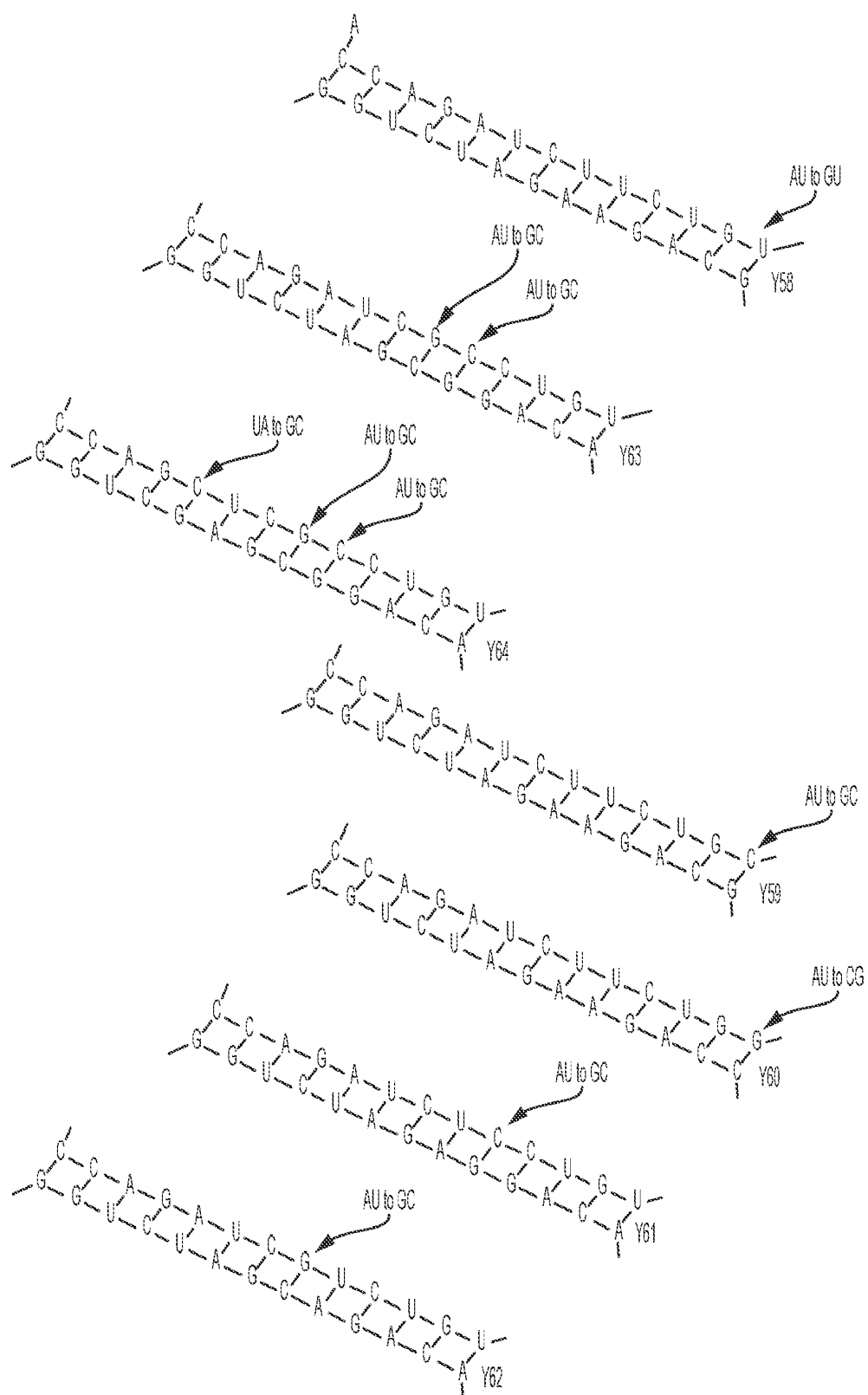


Figure 7B
CONTINUED

SUBSTITUTE SHEET (RULE 26)

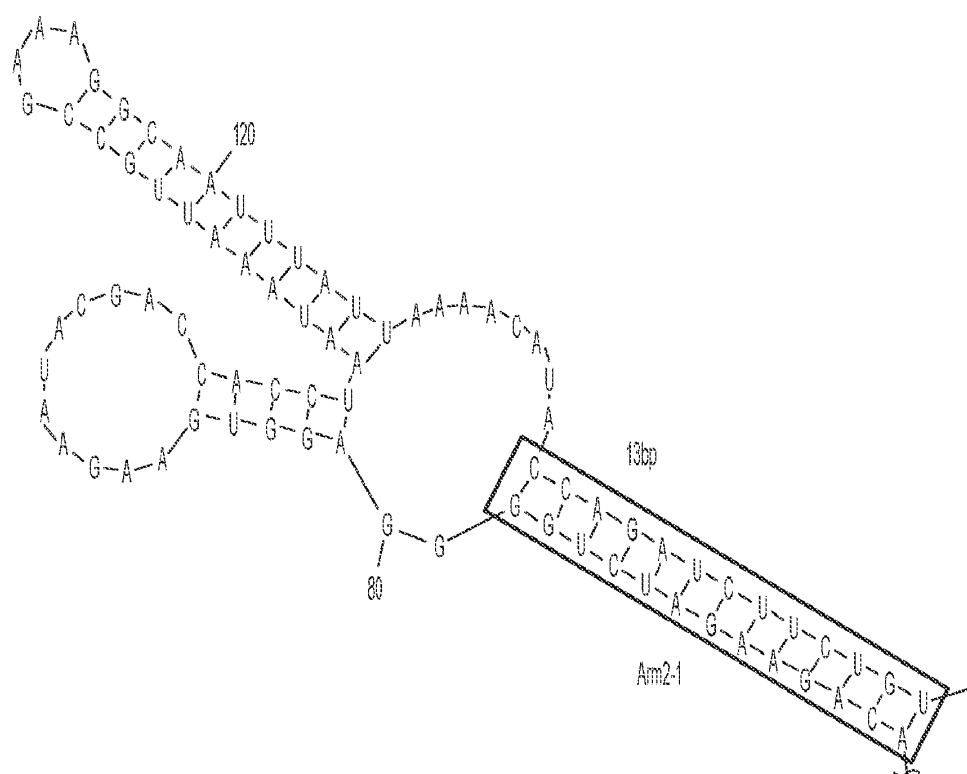


Figure 7B
CONTINUED

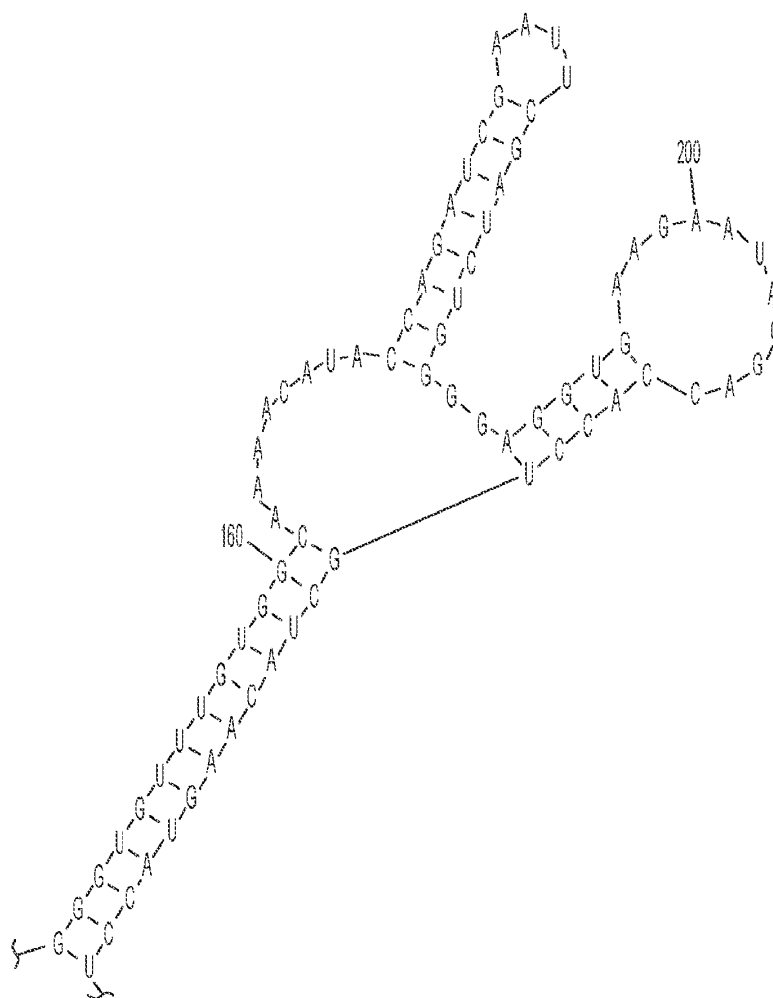


Figure 7B
CONTINUED

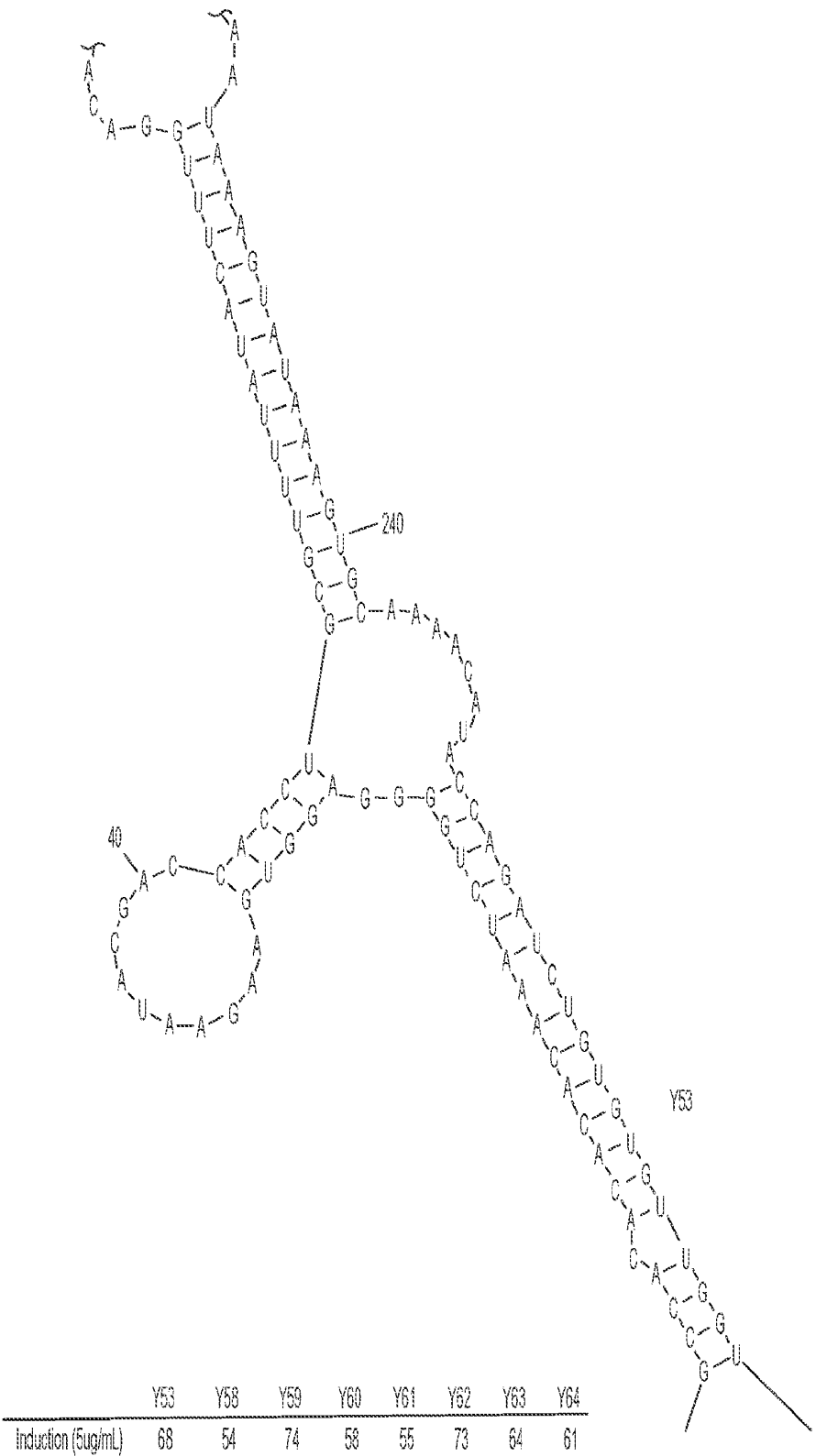
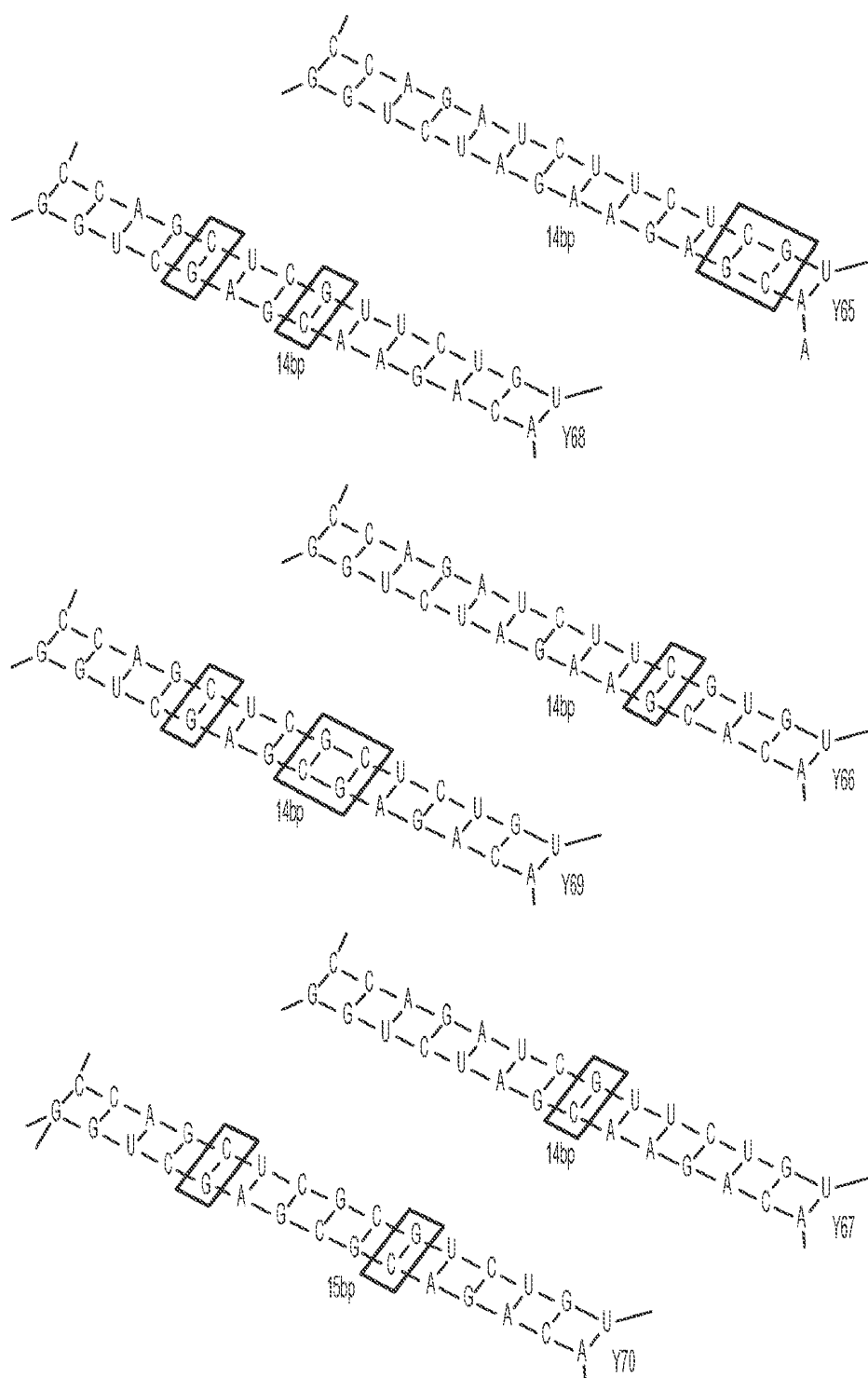


Figure 7B
CONTINUED



	Y53	Y65	Y66	Y67	Y68	Y69	Y70
Induction (5ug/mL)	66	76	75	24	43	54	32

Figure 7B
CONTINUED

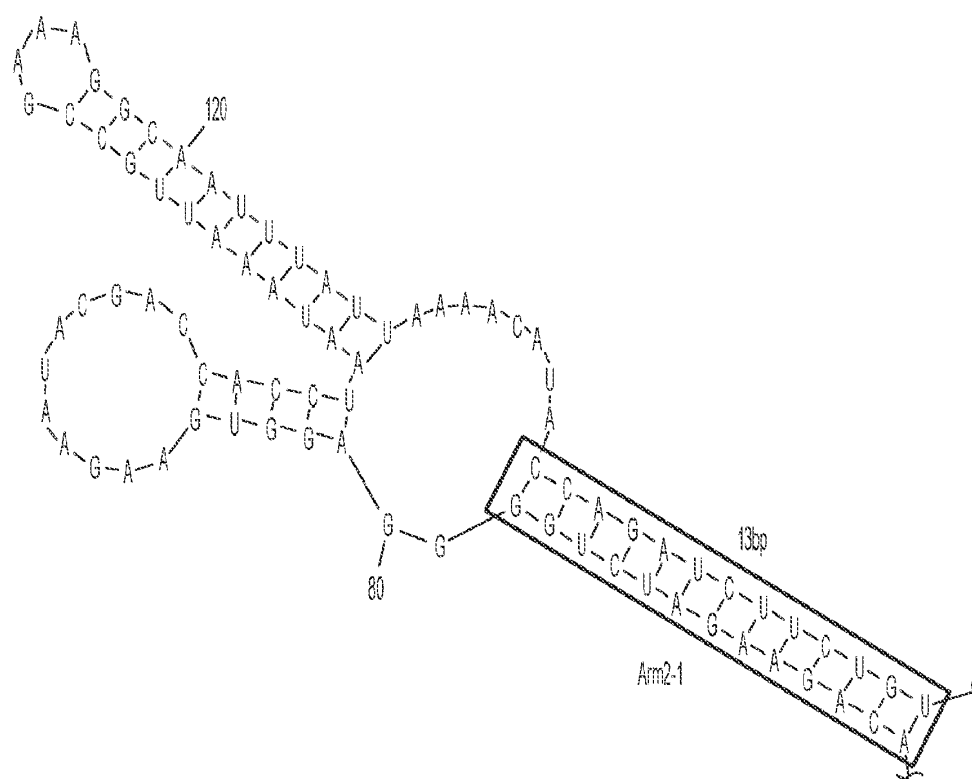


Figure 7B
CONTINUED

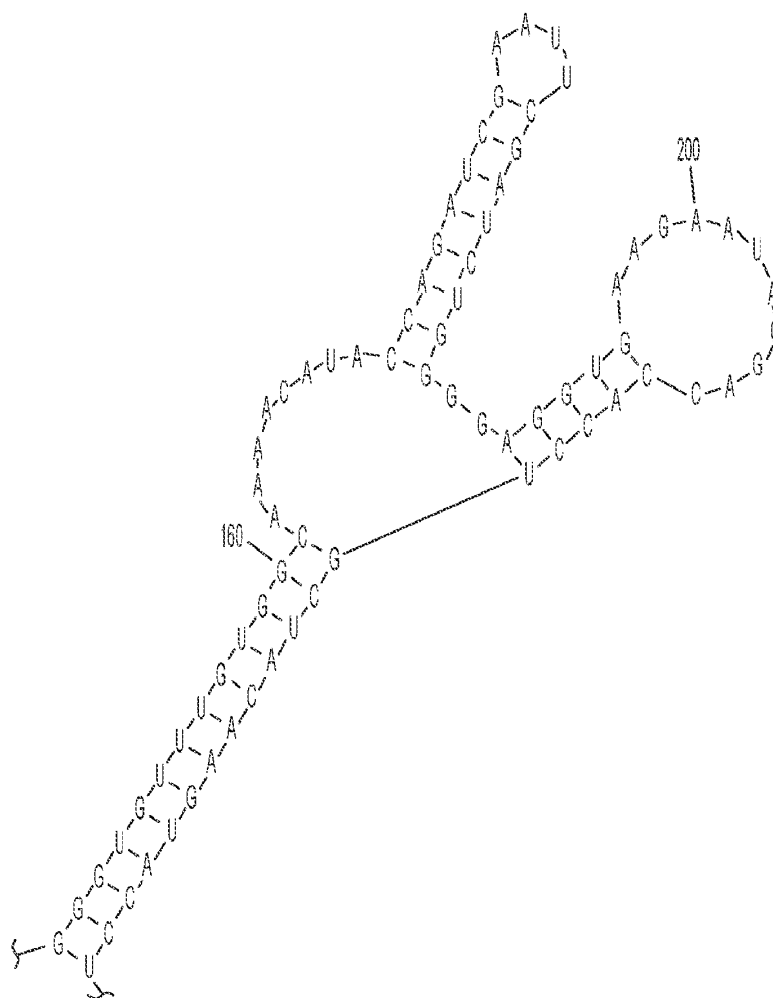


Figure 7B
CONTINUED

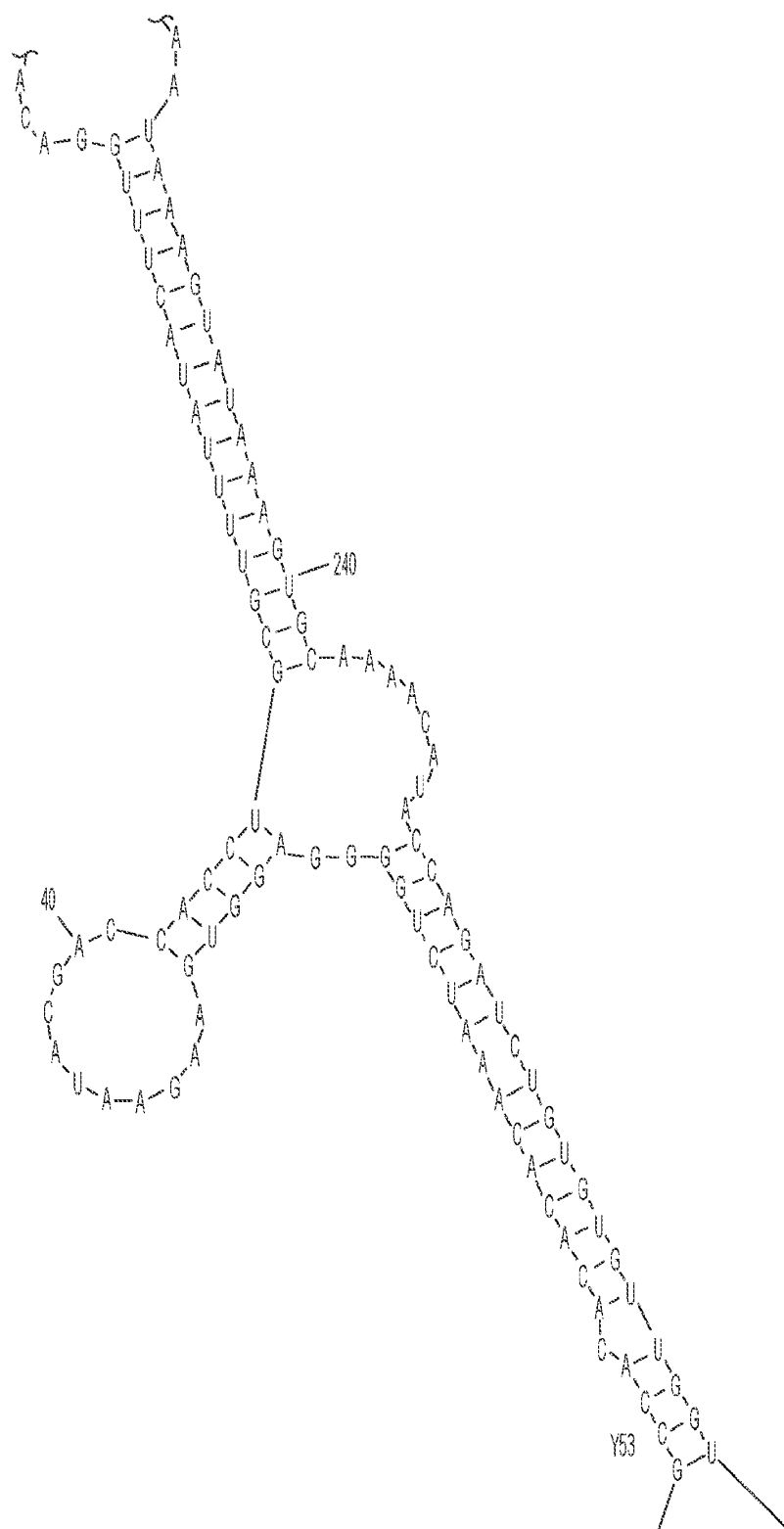


Figure 7B
CONTINUED

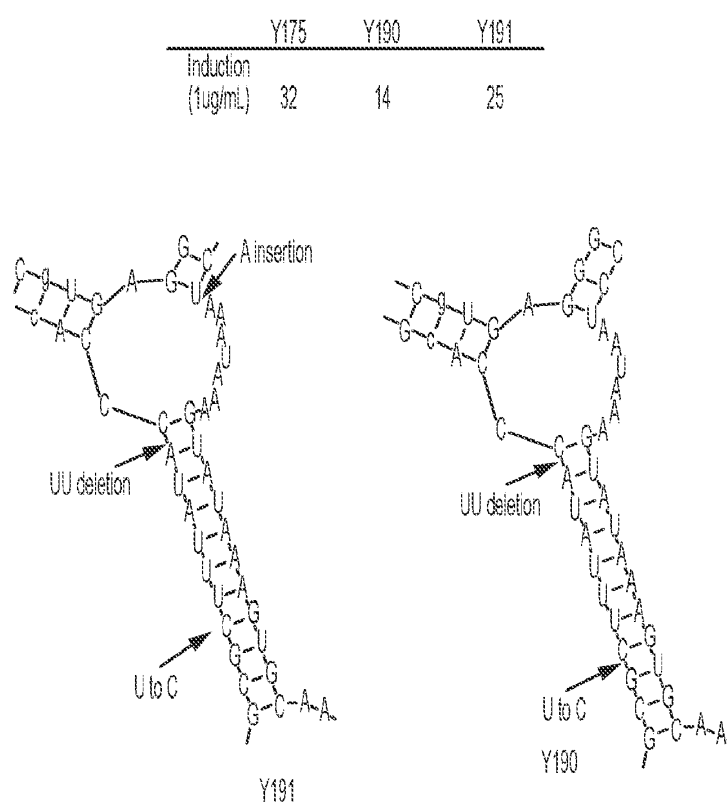


Figure 8

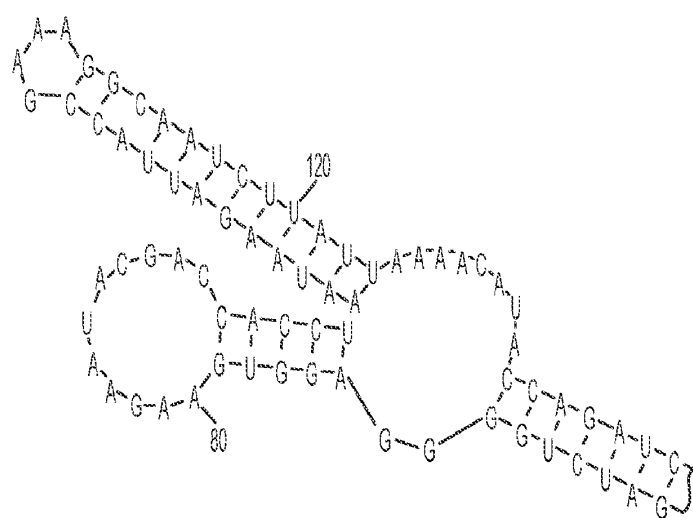


Figure 8
CONTINUED

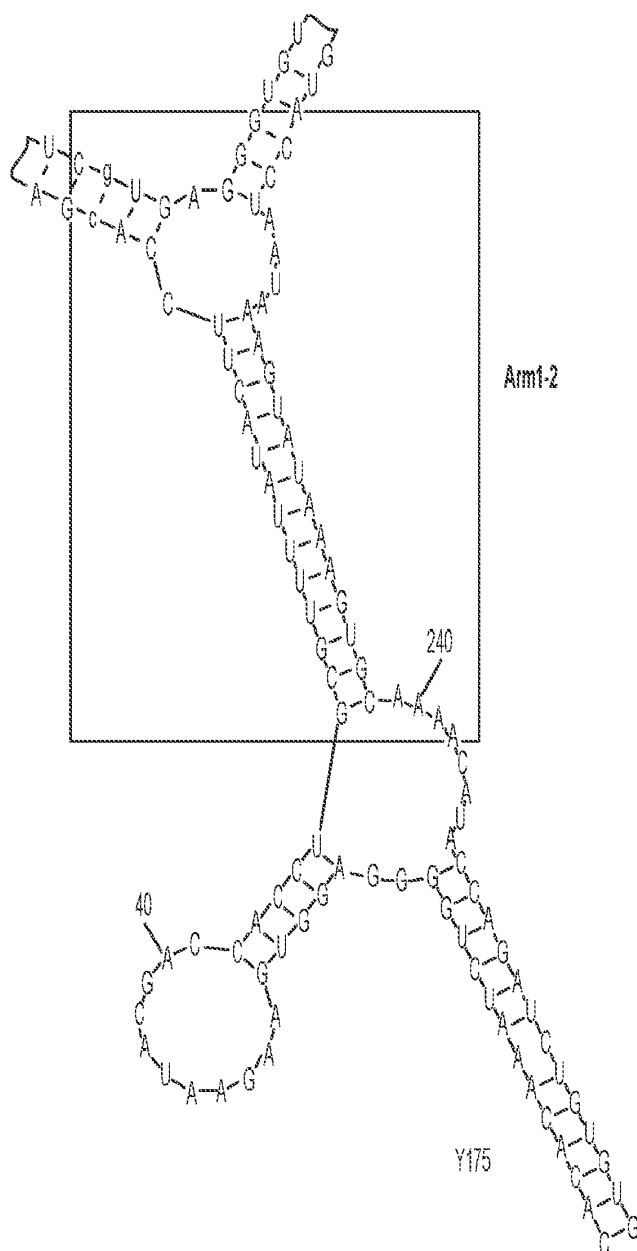


Figure 8
CONTINUED

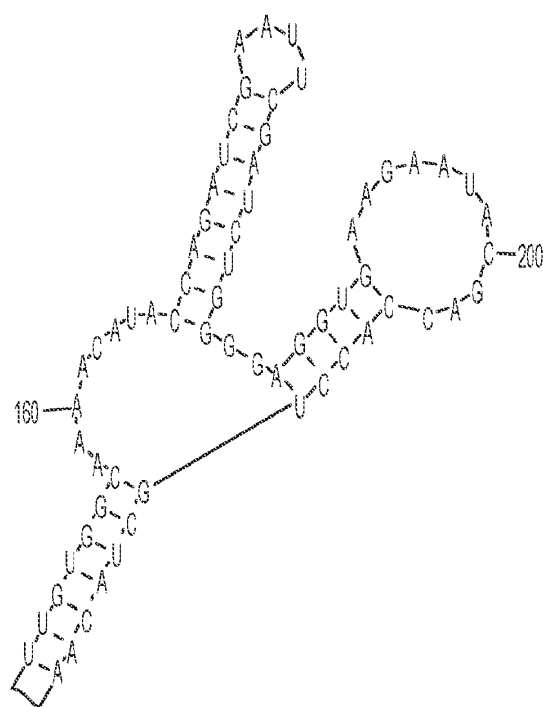


Figure 8
CONTINUED

	Y196CAA	Y234	Y235	Y236
1ug/mL	55	36	15	16
5ug/mL	204	206	92	109

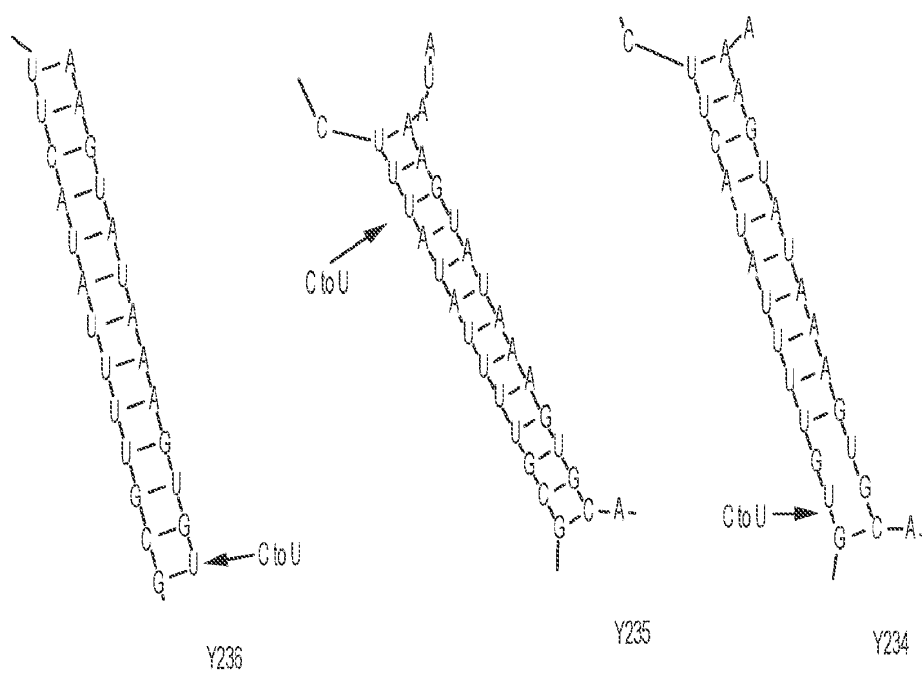


Figure 8
CONTINUED

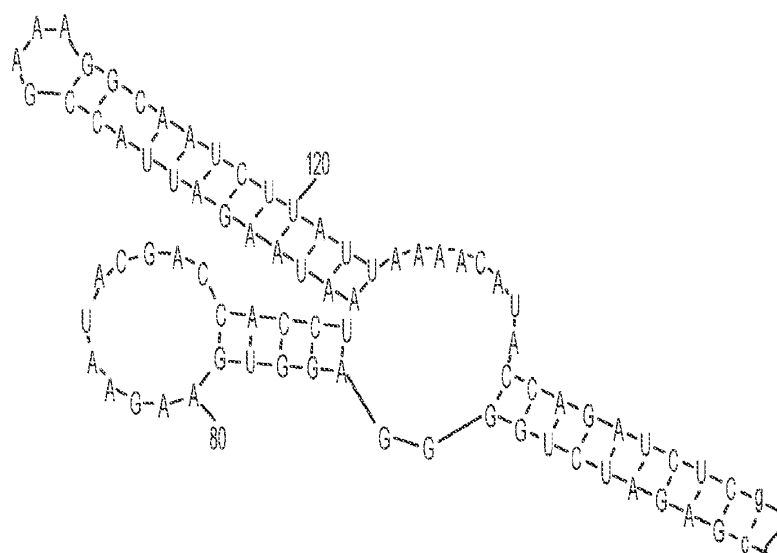


Figure 8
CONTINUED

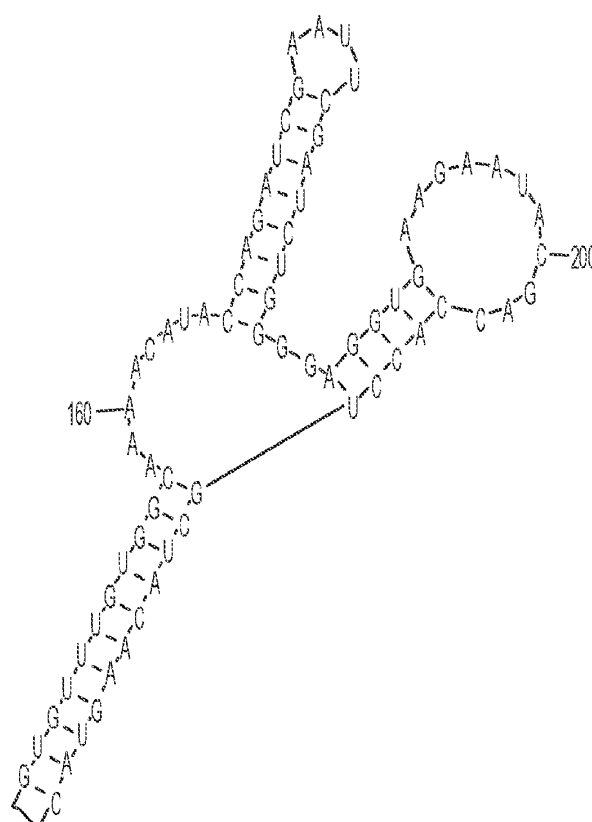


Figure 8
CONTINUED

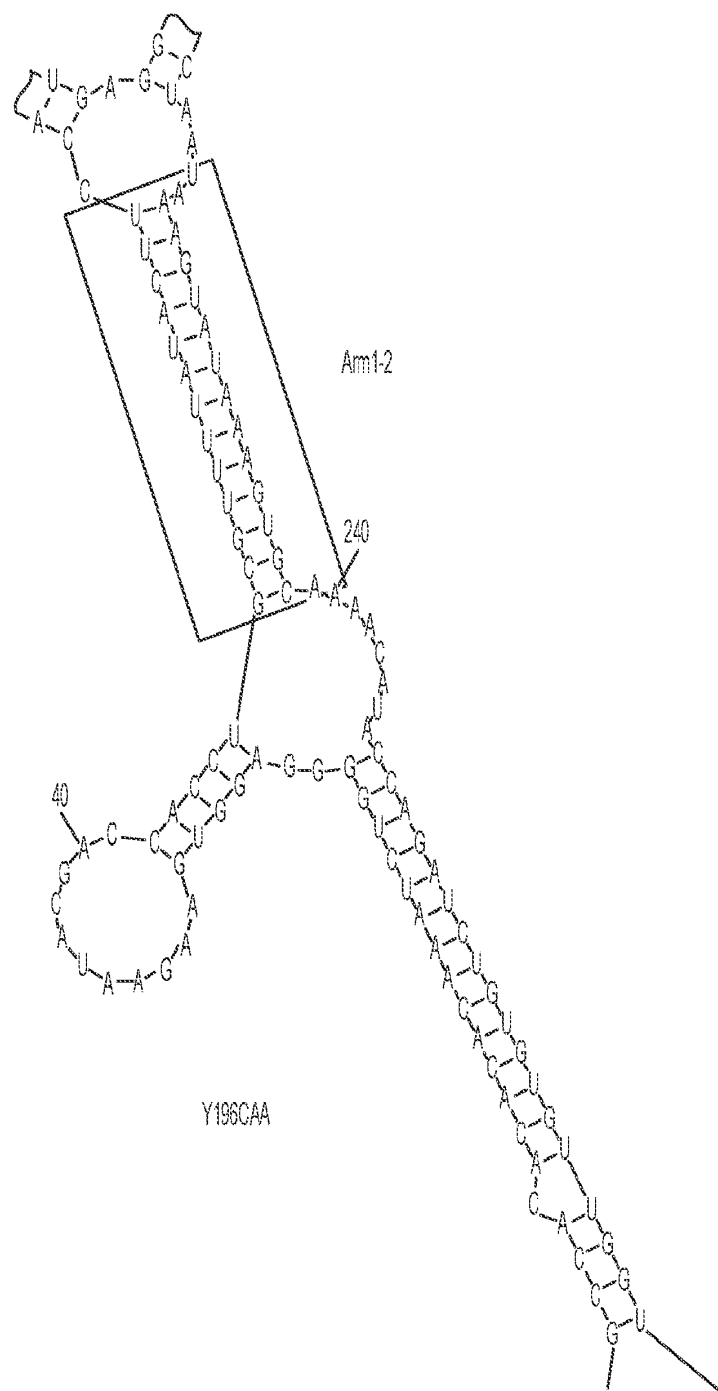


Figure 8
CONTINUED

	Y210	Y212C	Y213C	Y214C
Introduction (1ug/mL)	32	11	22	6

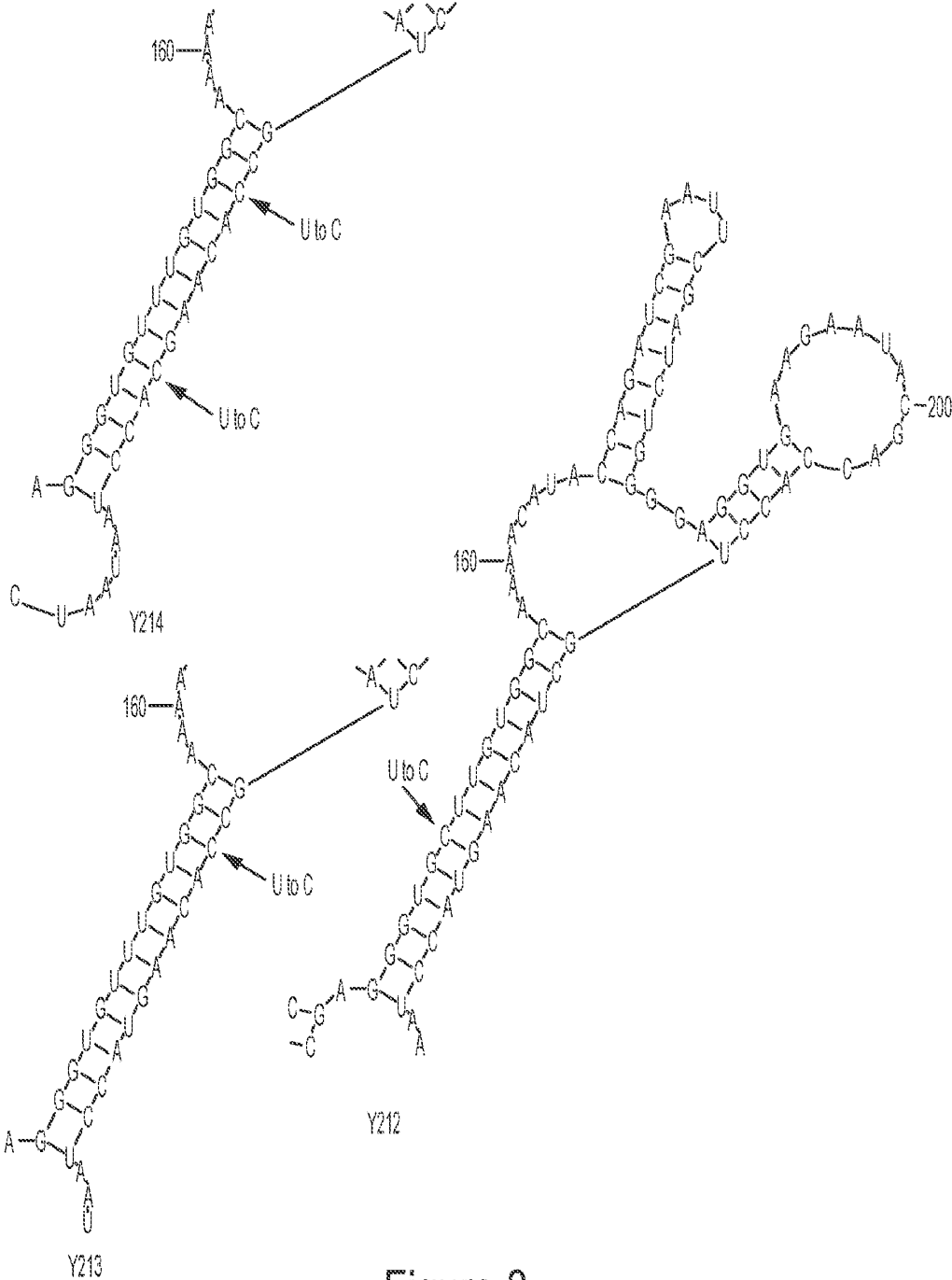


Figure 8
CONTINUED

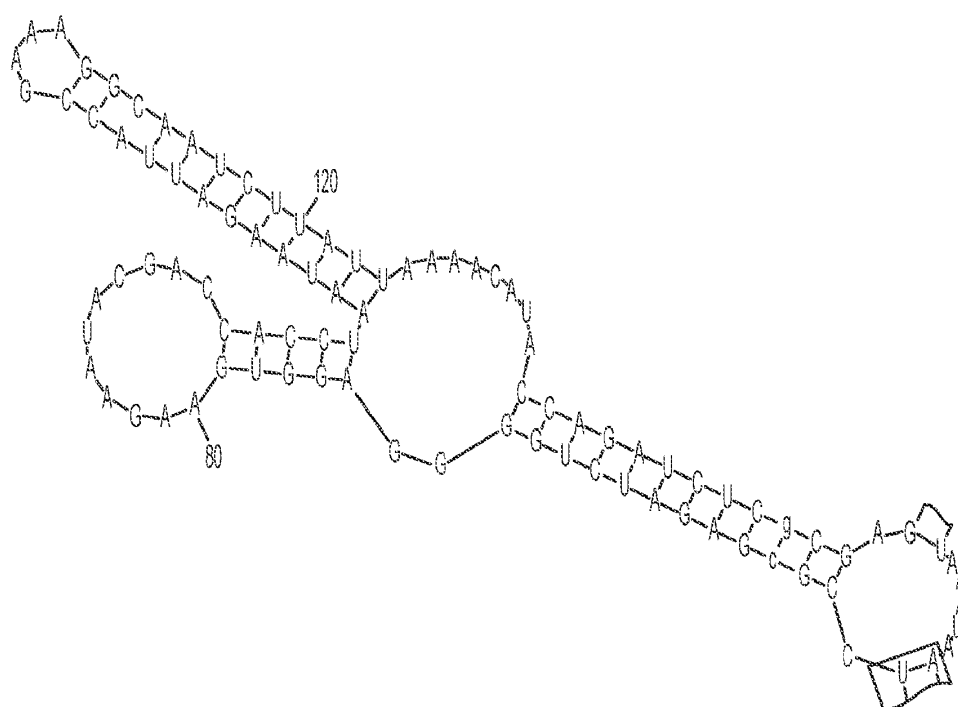


Figure 8
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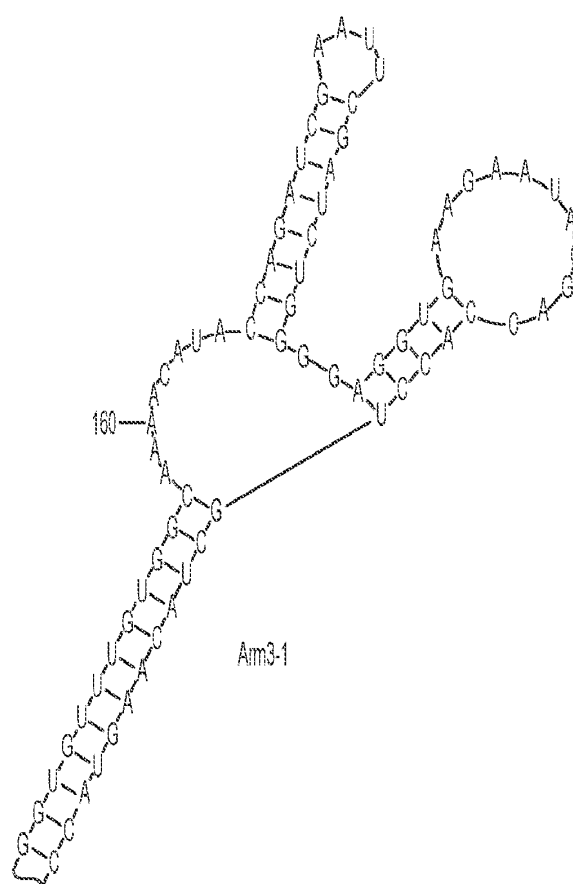


Figure 8
CONTINUED

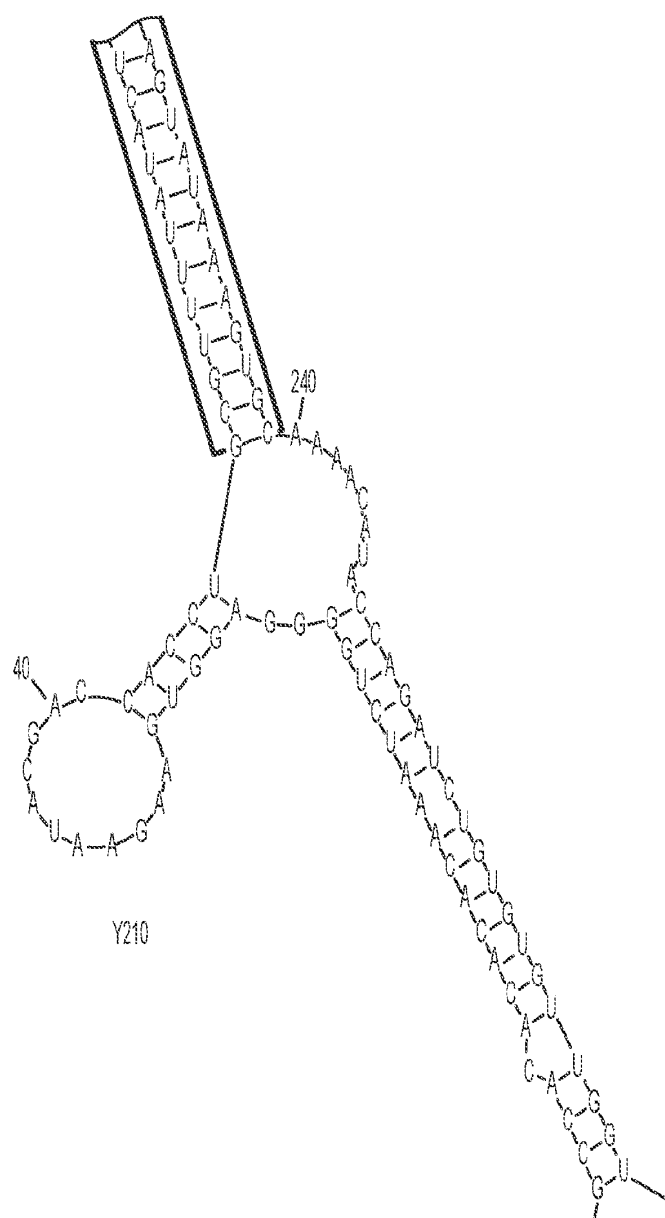
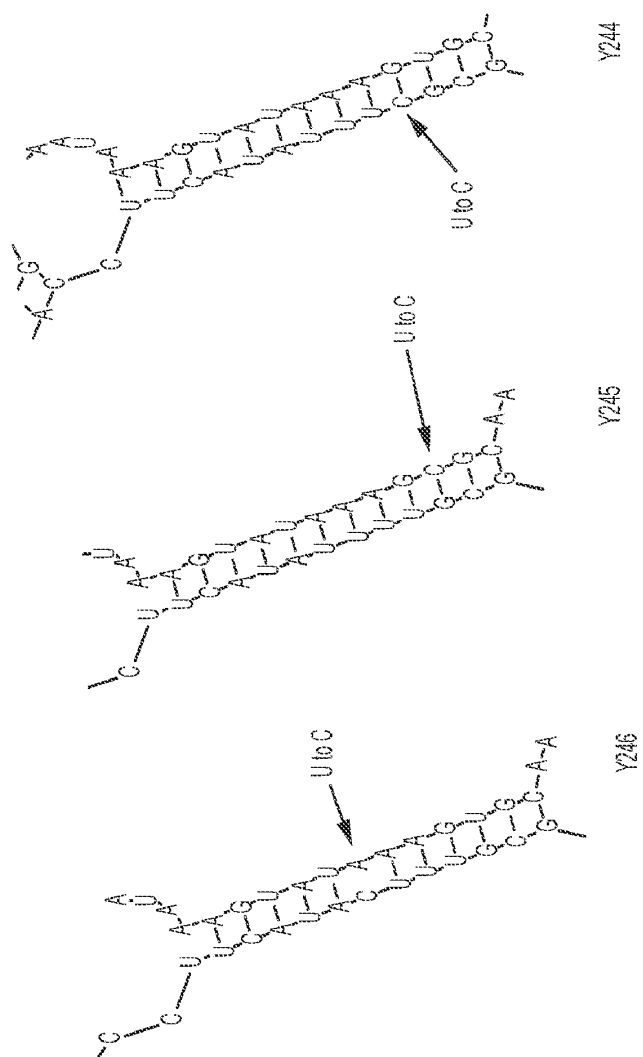


Figure 8
CONTINUED



	Y196CAA	Y244	Y245	Y246
Induction (5 μ g/mL)	250	172	95	127

Figure 8
CONTINUED

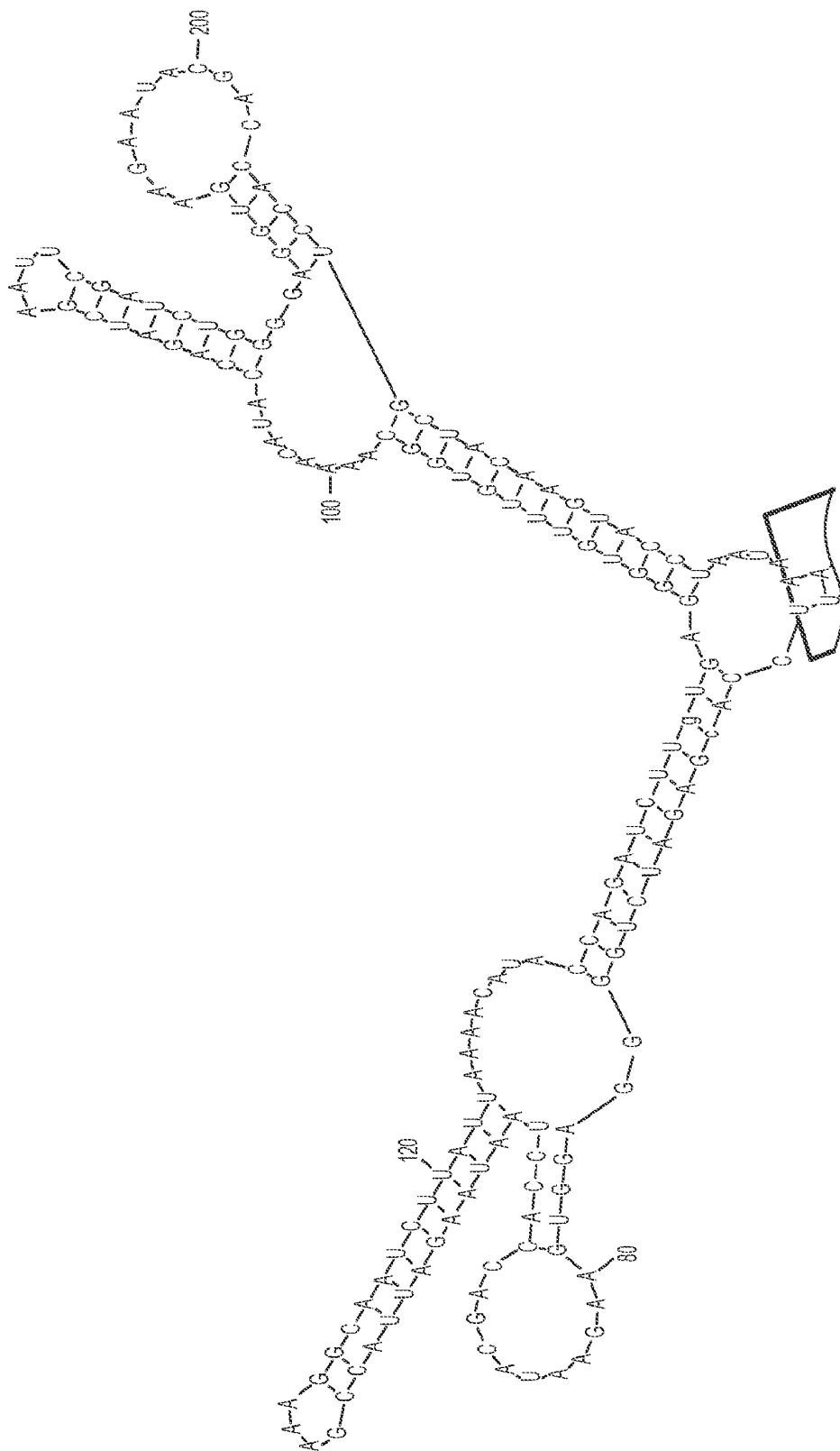


Figure 8
CONTINUED

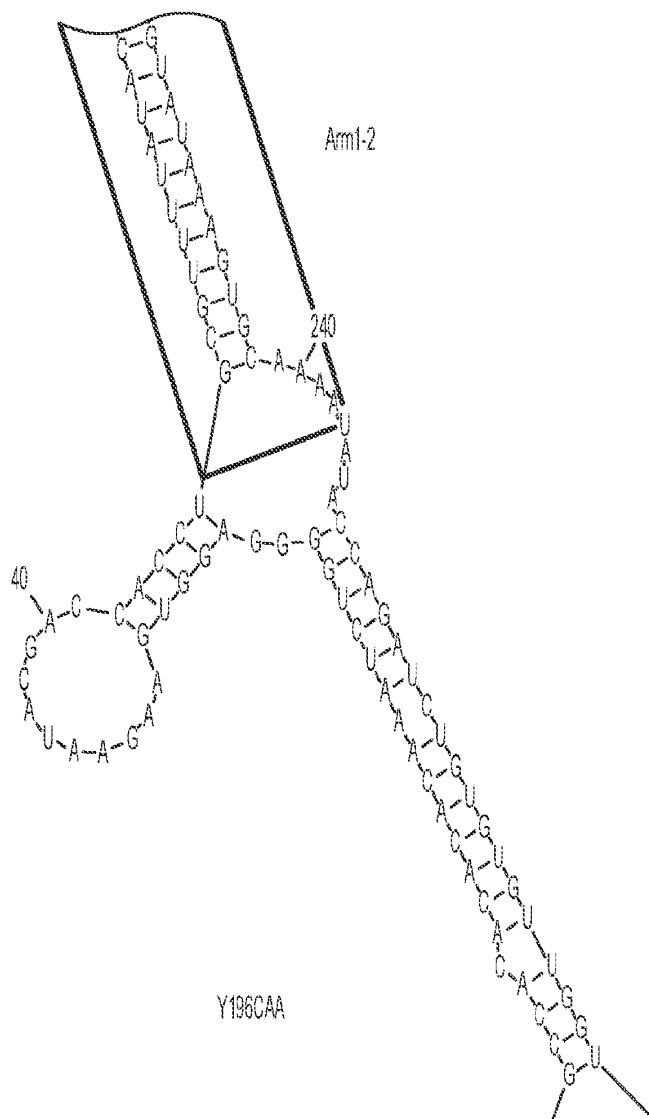
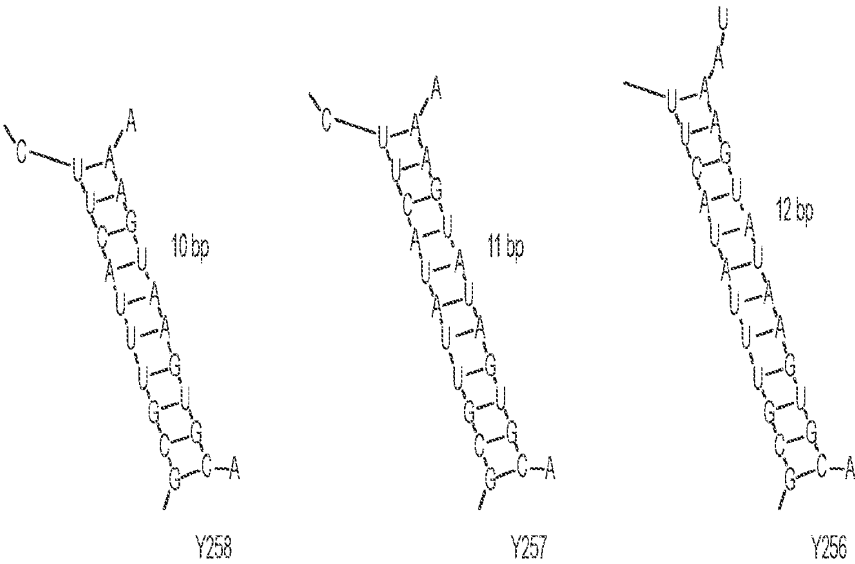


Figure 8
CONTINUED



	Y196CAA	Y256	Y257	Y258
Introduction (5ug/mL)	250	175	216	28

Figure 8
CONTINUED

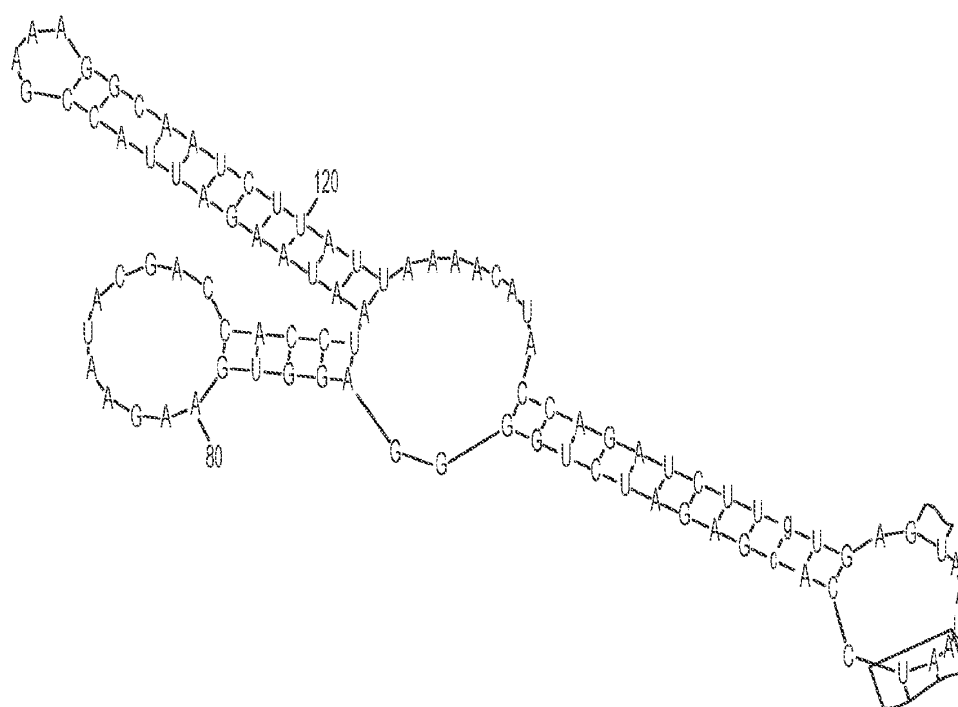


Figure 8
CONTINUED

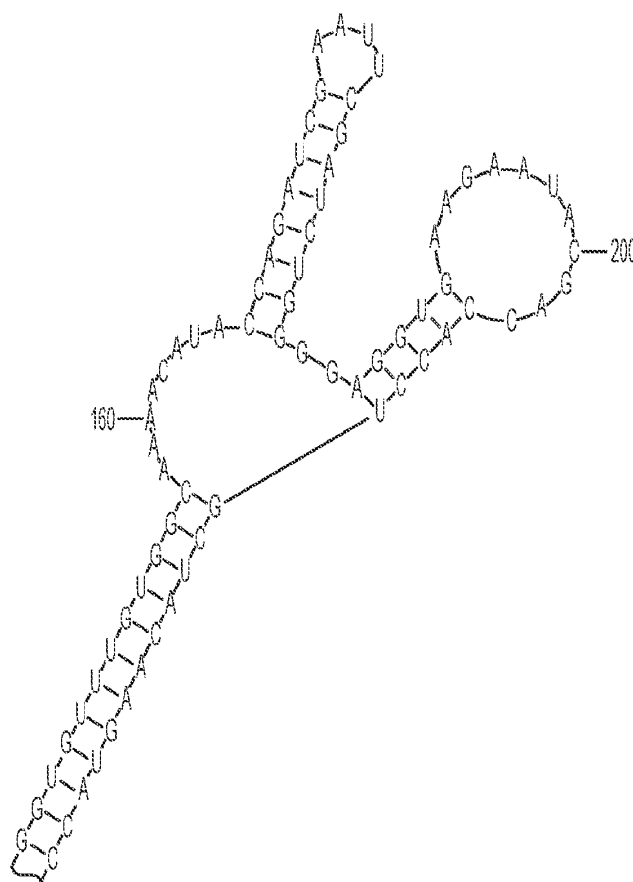


Figure 8
CONTINUED

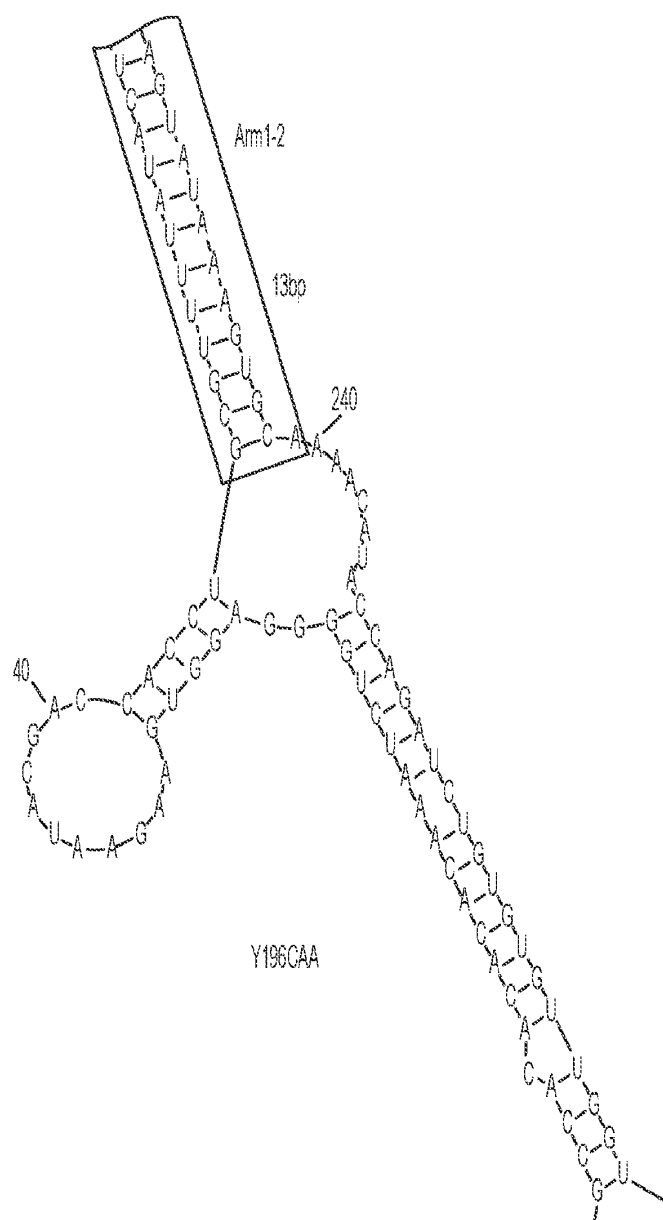


Figure 8
CONTINUED

Figure 9

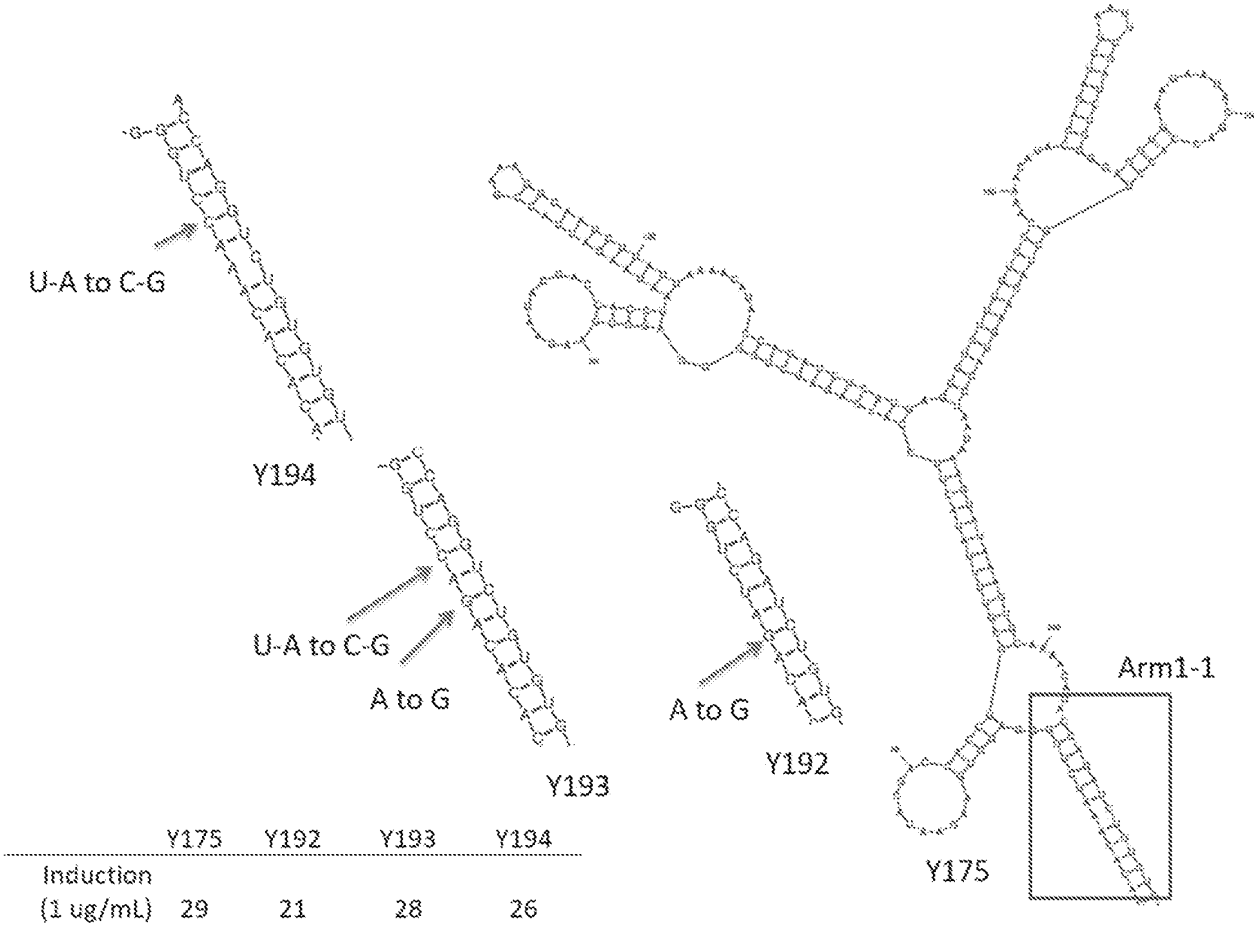


Figure 9 (continued)

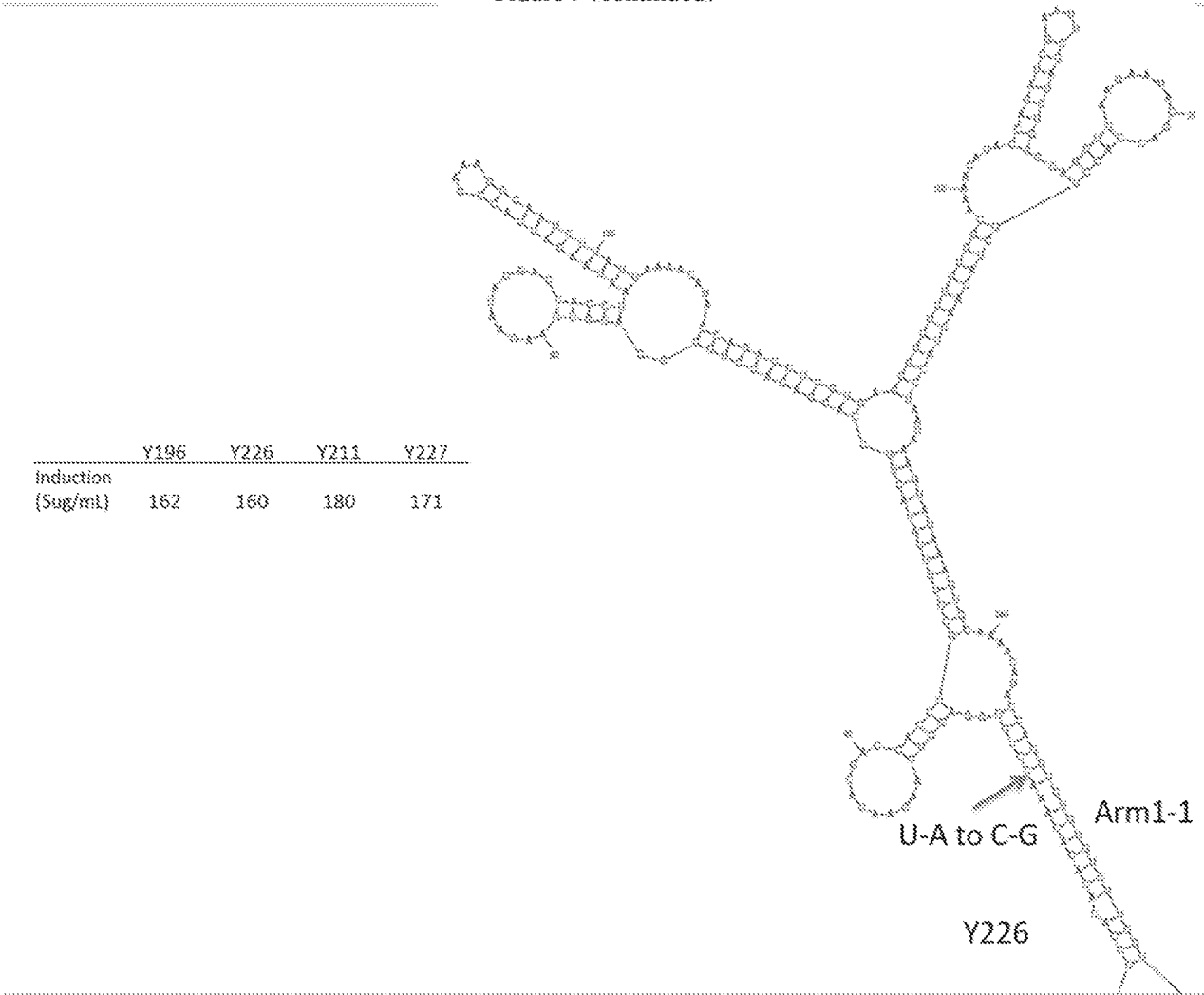
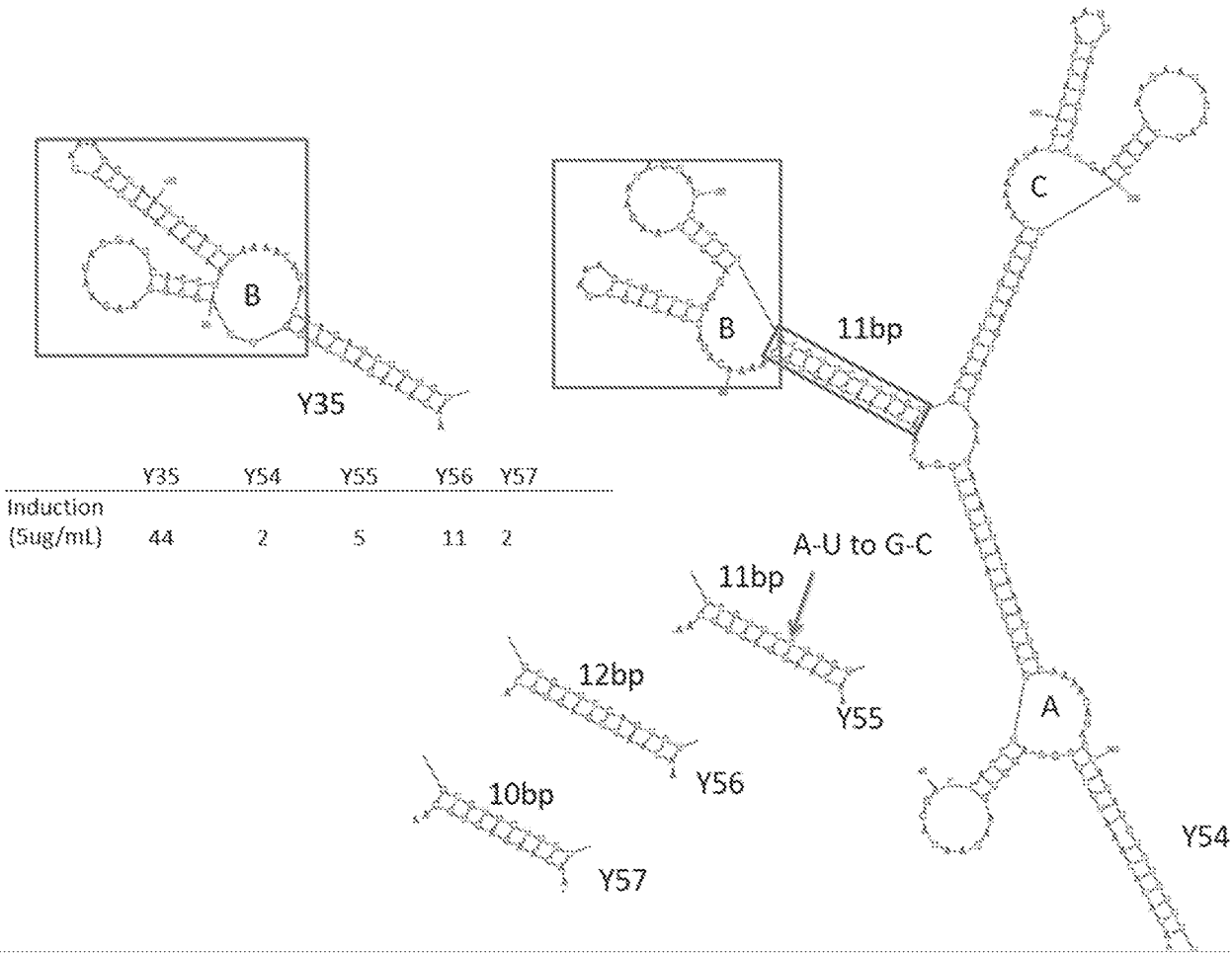


Figure 10A



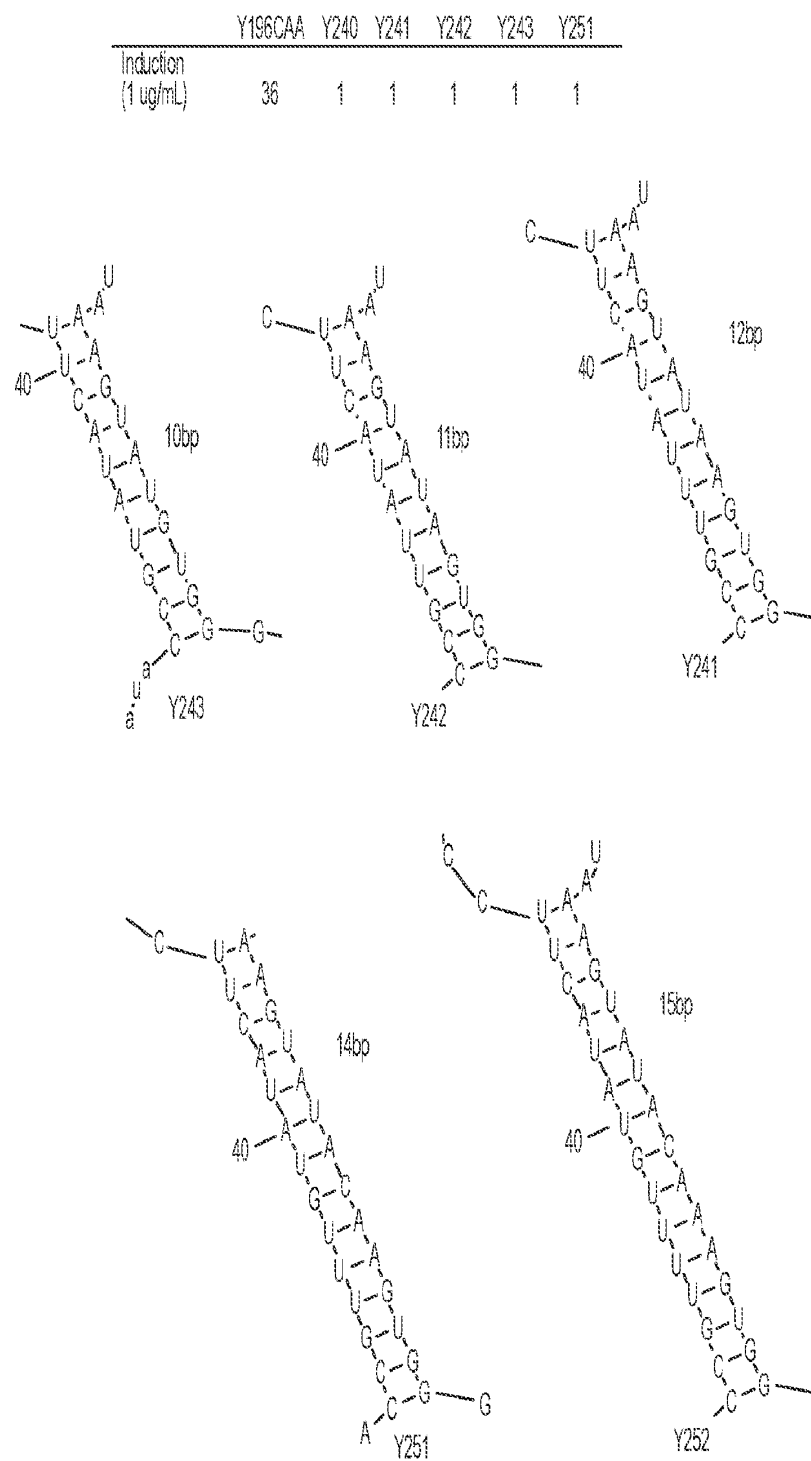


Figure 10B

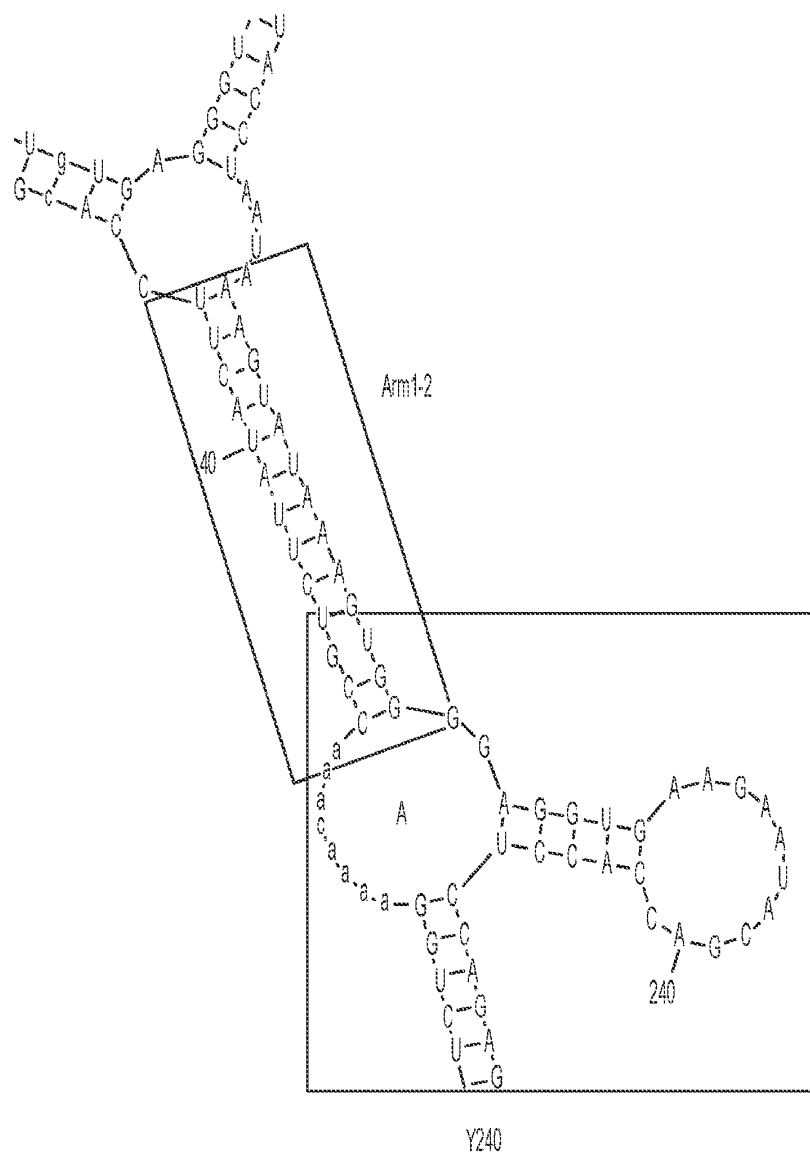
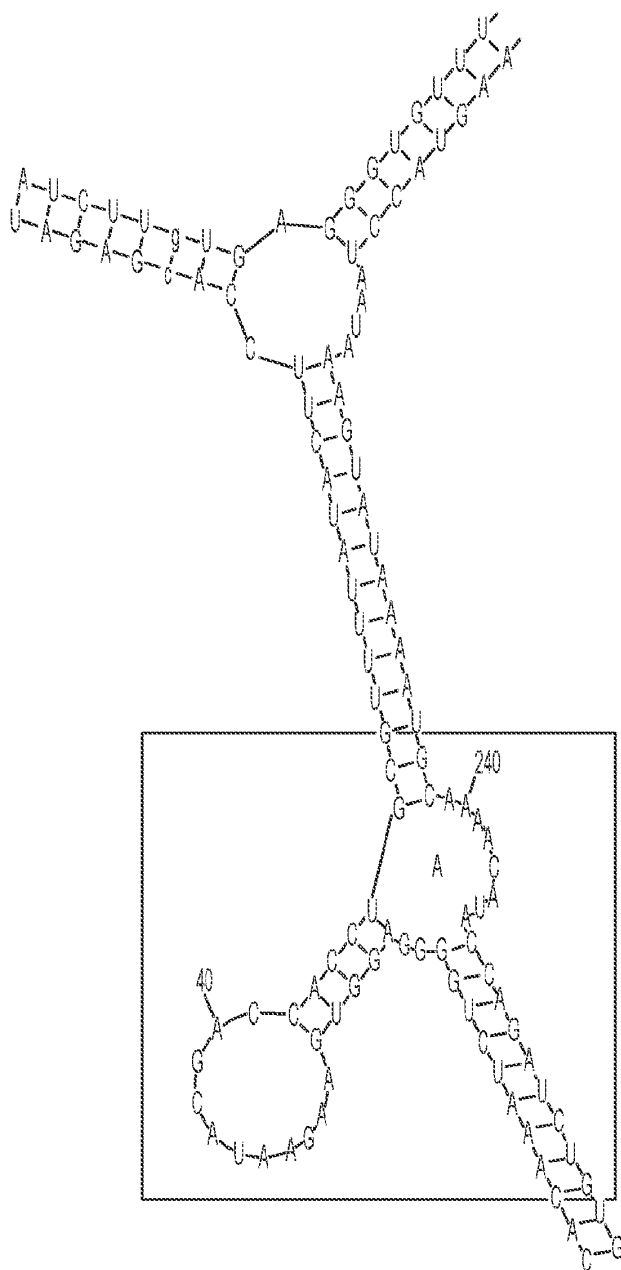


Figure 10B
CONTINUED



Y196CAA

Figure 10B
CONTINUED

	Y196CAA	NA	NB	NC	NAB	NBC	NAC
Induction (1 ug/mL)	35	37	9	8	8	4	5
	Y196CAA	NA	NB	NC	NAB	NBC	NAC
Induction (5ug/mL)	273	220	80	60	38	10	32

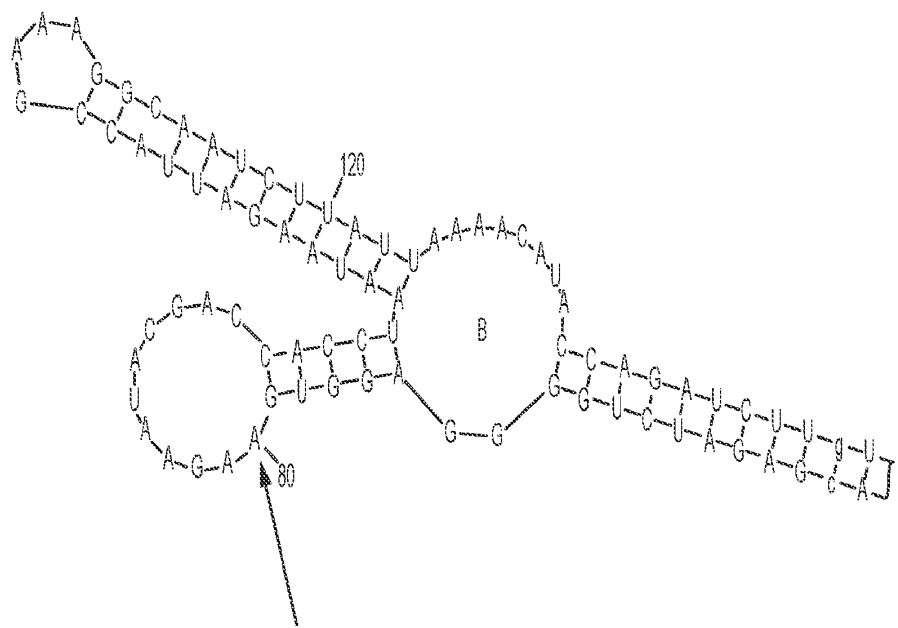


Figure 11A

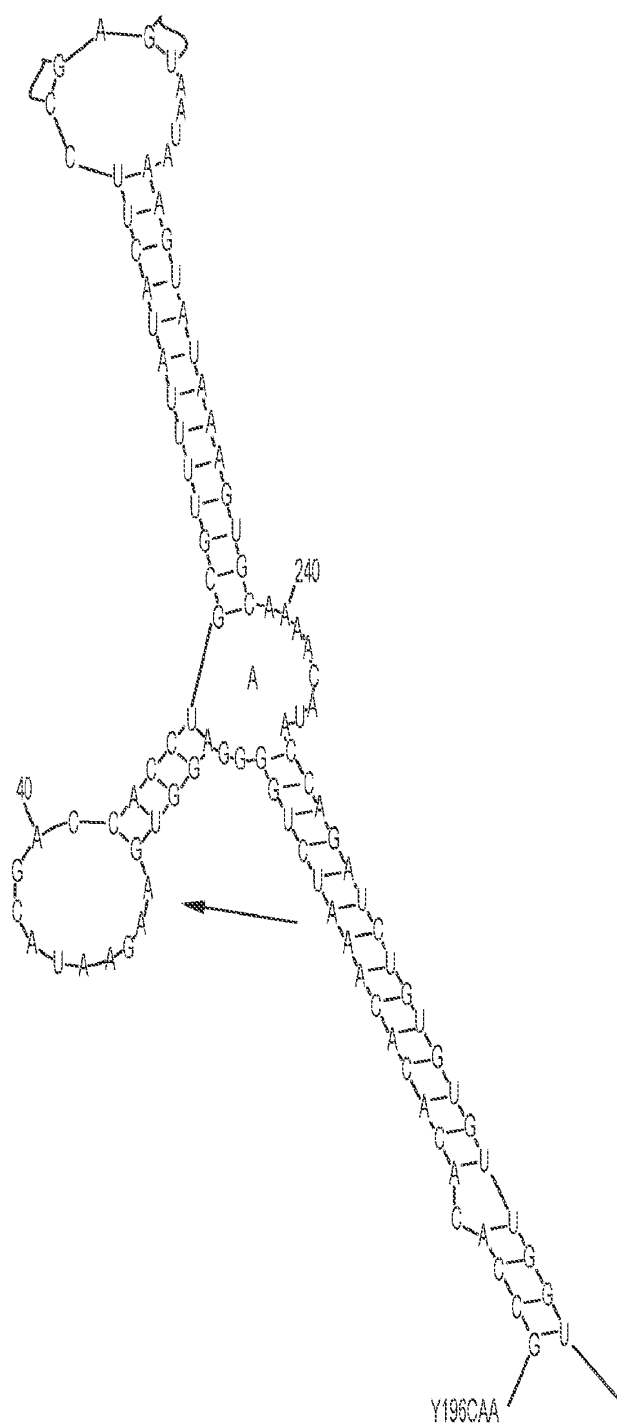


Figure 11A
CONTINUED

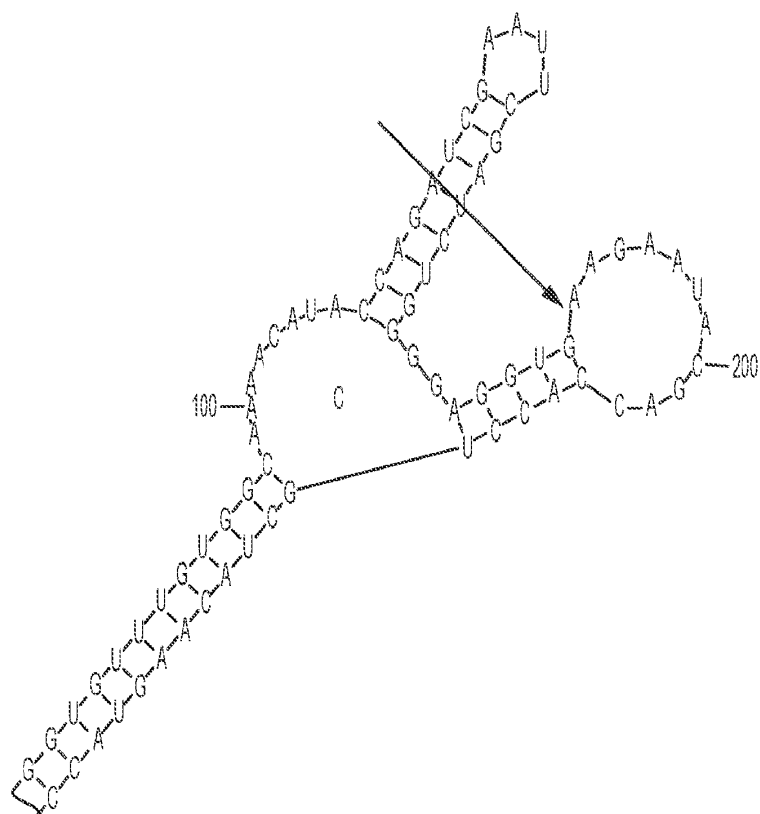


Figure 11A
CONTINUED

	Y196CAA	Y230	Y231
Induction (1 ug/mL)	39	25	23
	Y196CAA	Y230	Y231
Induction (5ug/mL)	279	100	151

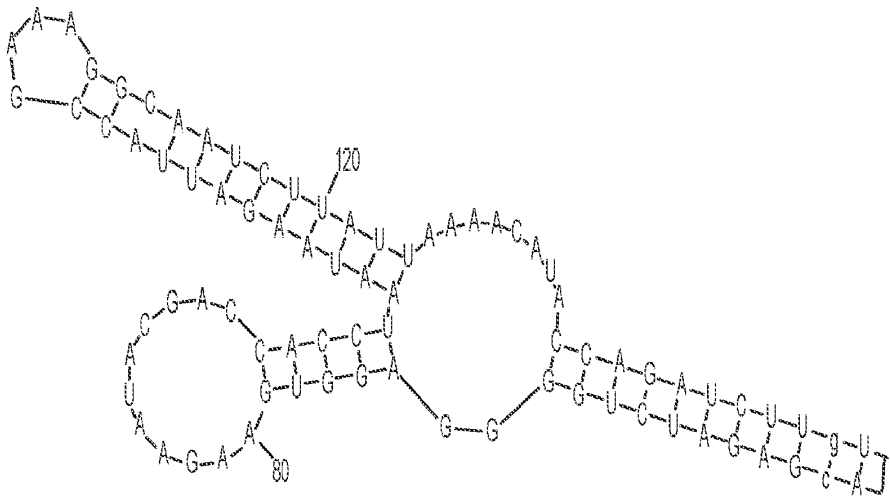


Figure 11B

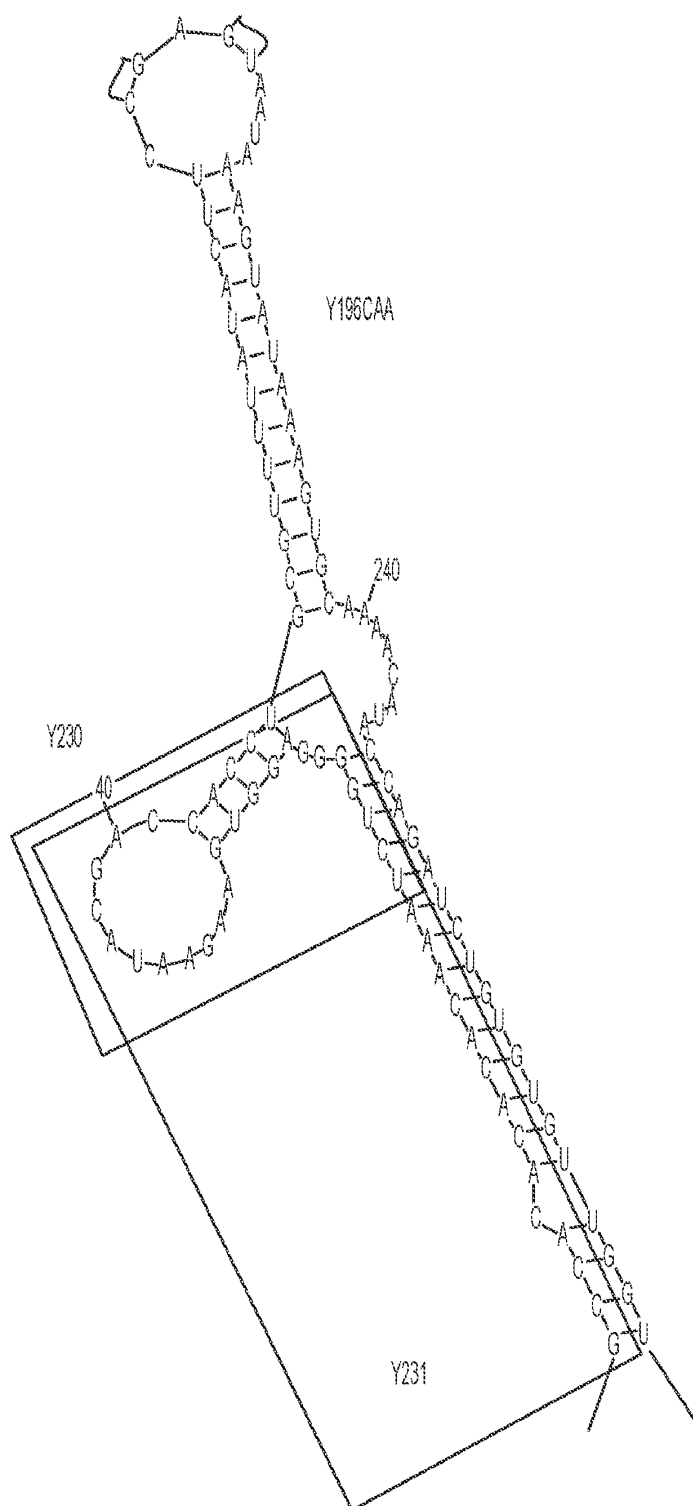


Figure 11B
CONTINUED

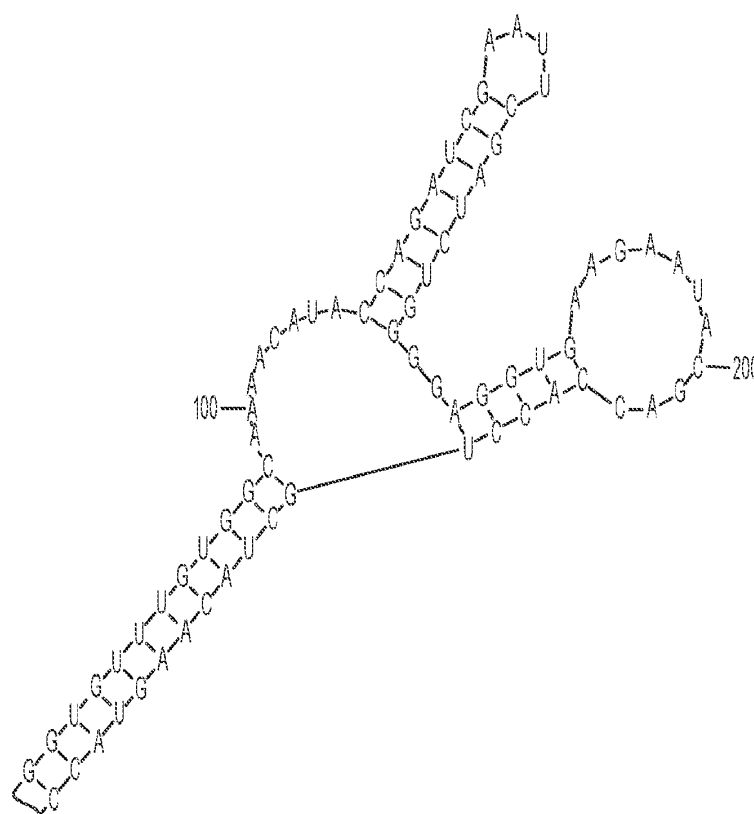


Figure 11B
CONTINUED

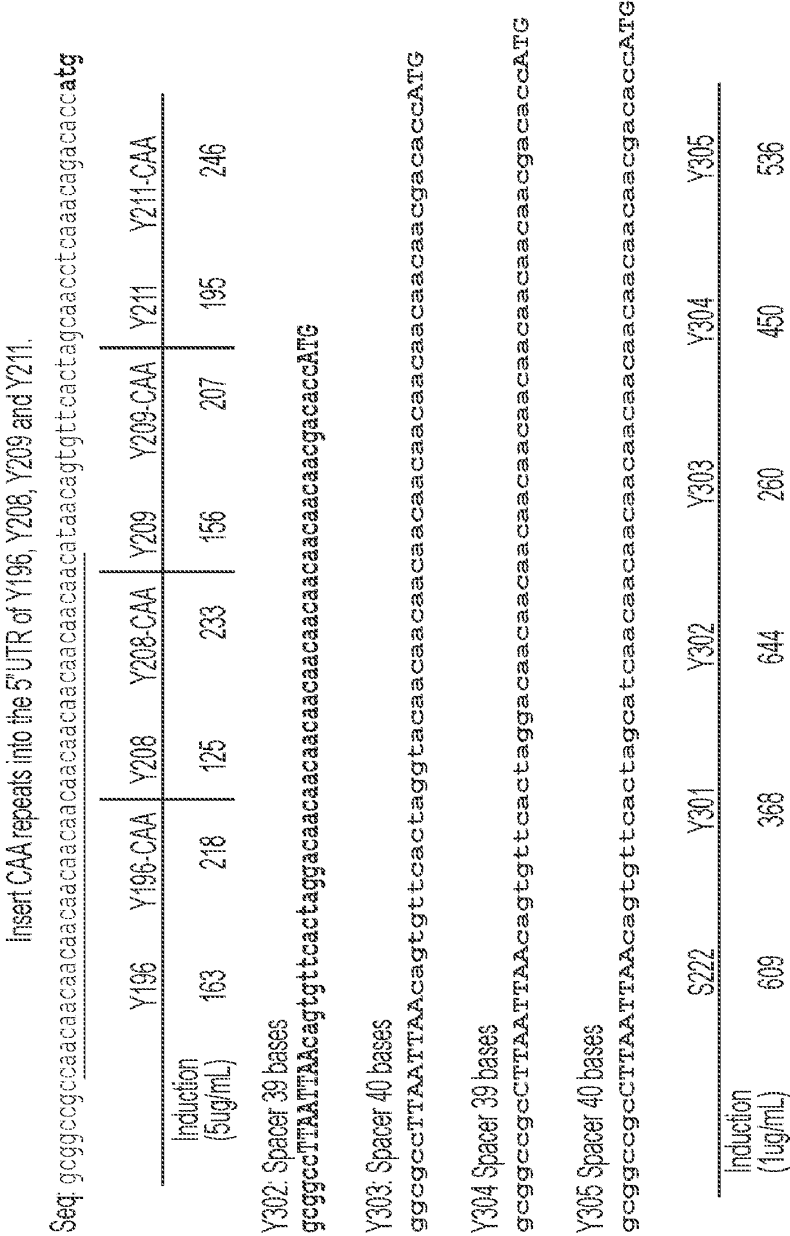


Figure 12A

Testing new 5'UTR sequence with strong 3ss. These are based on S56. A few examples are shown:

S70: GCGGGCCGCAACAACAACAATTCCTGCTCCTCTTCTGCCCAGGAACACAGCTTGCCCTTCCCCAAGGCTTCCAGAAAGCTCTGAGGCAGGAGGCCAACCAAGTTCTACCTC
ACGTTTGGAGGATCTTGCTAGCT**ATG**

S71: GCGGGCCGCAACAACAACAATTCCTGCTCCTCTTCTGCCCAGGAACACAGCTTGCCCTTCCCCAAGGCTTCCAGAAAGCTCTGAGGCAGGAGGCCAACCAAGTTCTACCTC
CACGTTTGGAGGATCTTGCTAGCT**ATG**

S74: GCGGGCCGCAACAACAACAATTCCTGCTCCTCTTCTGCCCAGGAACACAGCTTGCCCTTCCCCAAGGCTTCCAGAAAGCTCTGAGGCAGGAGGCCAACCAAGTTCTACCTC
ACGTTTGGAGGATCTTGCTAGCT**ATG**

S75: GCGGGCCGCAACAACAACAATTCCTGCTCCTCTTCTGCCCAGGAACACAGCTTGCCCTTCCCCAAGGCTTCCAGAAAGCTCTGAGGCAGGAGGCCAACCAAGTTCTACCTC
CACGTTTGGAGGATCTTGCTAGCT**ATG**

S78: GCGGGCCGCAACAACAACAACAACAACACGCTTGCCCTTCCCCAAGCTTCCAGAAAGCTTCAAAACAGACACCC**ATG**

S79: GCGGGCCGCTACTAACAACACGCTTGCCCTTCCCCAAGCTTCCAGAAAGCTTCAAAACAGACACCC**ATG**

S80: GCGGGCCGCTTCTGCTCCTCTTCTGCCCAGGAACACGCTTGCCCTTCCCCAAGCTTCCAGAAAGCTTCAAAACAGACACCC**ATG**

S81: GCGGGCCGCTTCTGCTCCTCTTCTGCCCAGGAACACGCTTGCCCTTCCCCAAGCTTCCAGAAAGCTTCAAAACAGACACCC**ATG**

S82: GCGGGCCGCTACTAAGCTCCTCTTCTGCCCAGGAACACGCTTGCCCTTCCCCAAGCTTCCAGAAAGCTTCAAAACAGACACCC**ATG**

	S56-e	S70-e	S71-e	S74-e	S75-e
Induction (5ug/mL)	188	3	76	95	55
	S56-e	S78-e	S80-e	S81-e	S82-e
Induction (5ug/mL)	188	25	183	121	21

Figure 12B

New unstructured 5'UTR modified from Y305

Y324: ttaattaacagtgttcactagcatcTAACCACTTACATACCATCTACCACCGACACCATG

Y325: ttaattaacagtgttcactagcatcTAACCACTTACATACCATCTACCACCGCCACCATG

Y326: ttaattaacagtgttcactagcatcTAACCACTTACATAttctgccgcctaccATG

New unstructured 5'UTR modified from Y300

Y328: gcggccgcCataacagtgttcactagcaTccCcaacagACCATCTACCACCGACACCATG

Y329: gcggccgcCataacagtgttcactagcaTccCccagACCATCTACCACCGACACCATG

Y330: gcggccgcCataacagtgttcactagcaTccCcTACCATCTACCACCGACACCATG

Y331: gcggccgcCataacagtgttcactagcaTccCcaacagACTTACATACCATTGACACCATG

Y332: gcggccgcCataacagtgttcactagcaTccCcACTTACATACCATTGACACCATG

	Y305	Y324	Y325	Y326	Y328	Y329	Y330	Y331	Y332
Induction (1ug/mL)	599	6	4	3	73	354	33	346	46

Figure 12C

Y322:

GCGGCCGCCTTAATTAACAACAACAACAACAACAACAACAACAACCAGTGTTCACTAGCATCGACAC
CATGATCCCCGGGG

Y323:

GCGGCCGCCCAACAACAACAACAACAACAACAACAACCTTAATTAACAGTGTTCACTAGCATCGACAC
CATGATCCCCGGGG

	Y305	Y322	Y323
Induction (1ug/mL)	599	67	12

Figure 12D

Parental: Y196CAA (which has 2MAZ (in red))

GTGTGTTGGTTTTTTGTGTGAACGGGGGAGGGGGAGGAAAGGGGGAGGGGGAGCGGCCGCC

Y232: identical to Y196CAA, with modified CD44 G-quad (in green) placed before 2MAZ

GTGTGTTGGTTTTTTGTGTGGTGGTGGATTGGTTAACGGGGGAGGGGGAGGAAAGGGGGAGGGGGAGCGGCCGCC

Y233: identical to Y196CAA, with modified CD44 G-quad (in green) placed after 2MAZ

GTGTGTTGGTTTTTTGTGTGAACGGGGGAGGGGGAGGAAAGGGGGAGGGGGAGTGGTGGTGGGATTGGTGCGGCCGCC

Y196CAA-3MAZ: identical to Y196CAA, with one additional MAZ

GTGTGTTGGTTTTTTGTGTGAACGGGGGAGGGGGAGGAAAGGGGGAGGGGGAGGAAAGGGGGAGGGGGAGCGGCCGCC

Y196CAA-4MAZ: identical to Y196CAA, with two additional MAZ

GTGTGTTGGTTTTTTGTGTGAACGGGGGAGGGGGAGGAAAGGGGGAGGGGGAGGAAAGGGGGAGGGGGAGGAAAGGGGGAGCGGCCGCC

	Y196CAA	Y232	Y233	Y196CAA3MAZ	Y196CAA4MAZ
Induction (5ug/mL)	258	261	238	275	569

Figure 13A

S177: based on S56, replacing 4MAZ with one CD44 G-quad: TGGTGGTGAATGGT

S178: based on S56, replacing 4MAZ with two CD44 G-quad:

TGGTGGTGAATGGTAAATGGTGGTGAATGGT

S179: based S56, replacing 4MAZ with four CD44 G-quad:

TGGTGGTGAATGGTAAATGGTGGTGAATGGT

AATGGTGGTGAATGGTAAATGGTGGTGAATGGT

	S56-e	S177-e	S178-e	S179-E
Induction (1ug/mL)	39	2	2	10
	S56-e	S177-e	S178-e	S179-E
Induction (5ug/mL)	139	2	2	46

Figure 13B

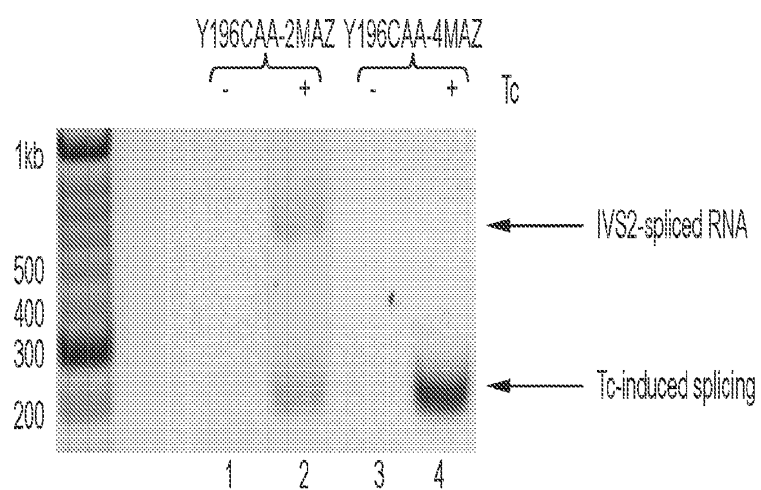
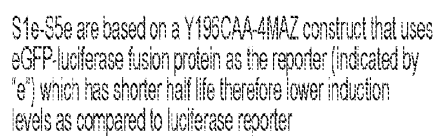


Figure 14



	luciferase	With 4MAZ and eGFP/luc					
	Y196CAA-4MAZ	Y196CAA-4MAZ-e	S1e	S2e	S3e	S4e	S5e
Induction (5ug/mL)	698	196	219	44	177	235	2

Figure 15A

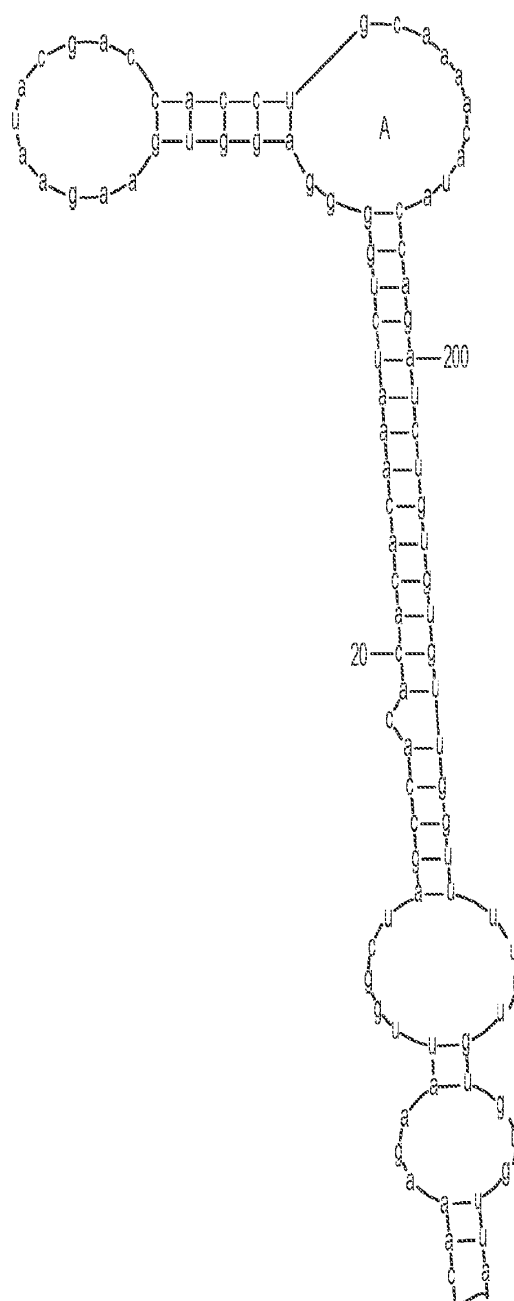


Figure 15A
CONTINUED

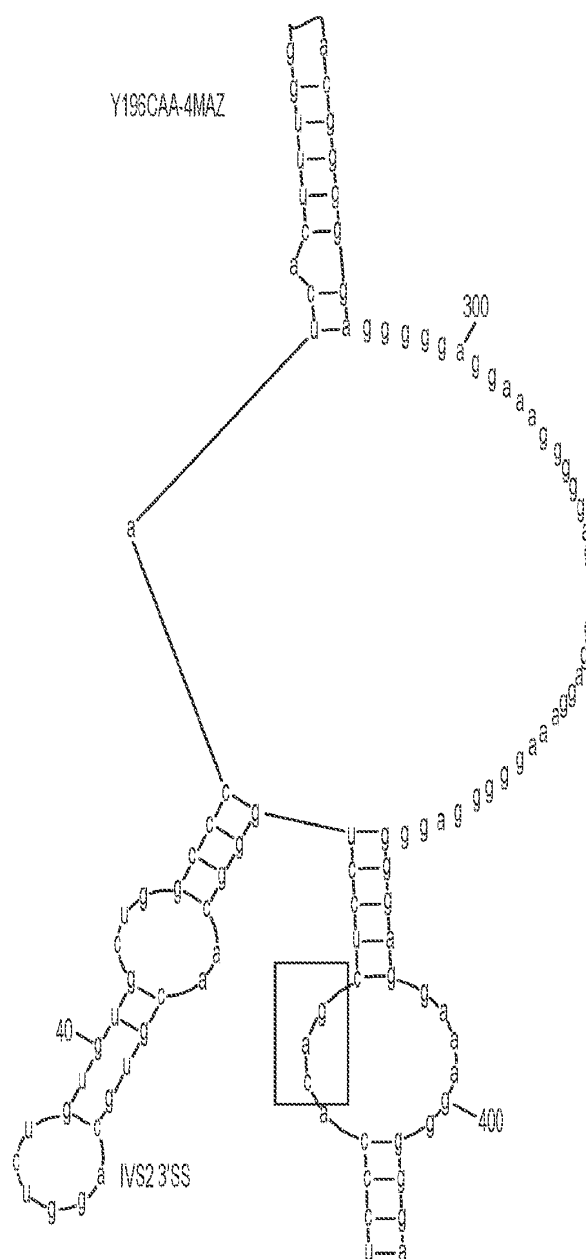


Figure 15A
CONTINUED

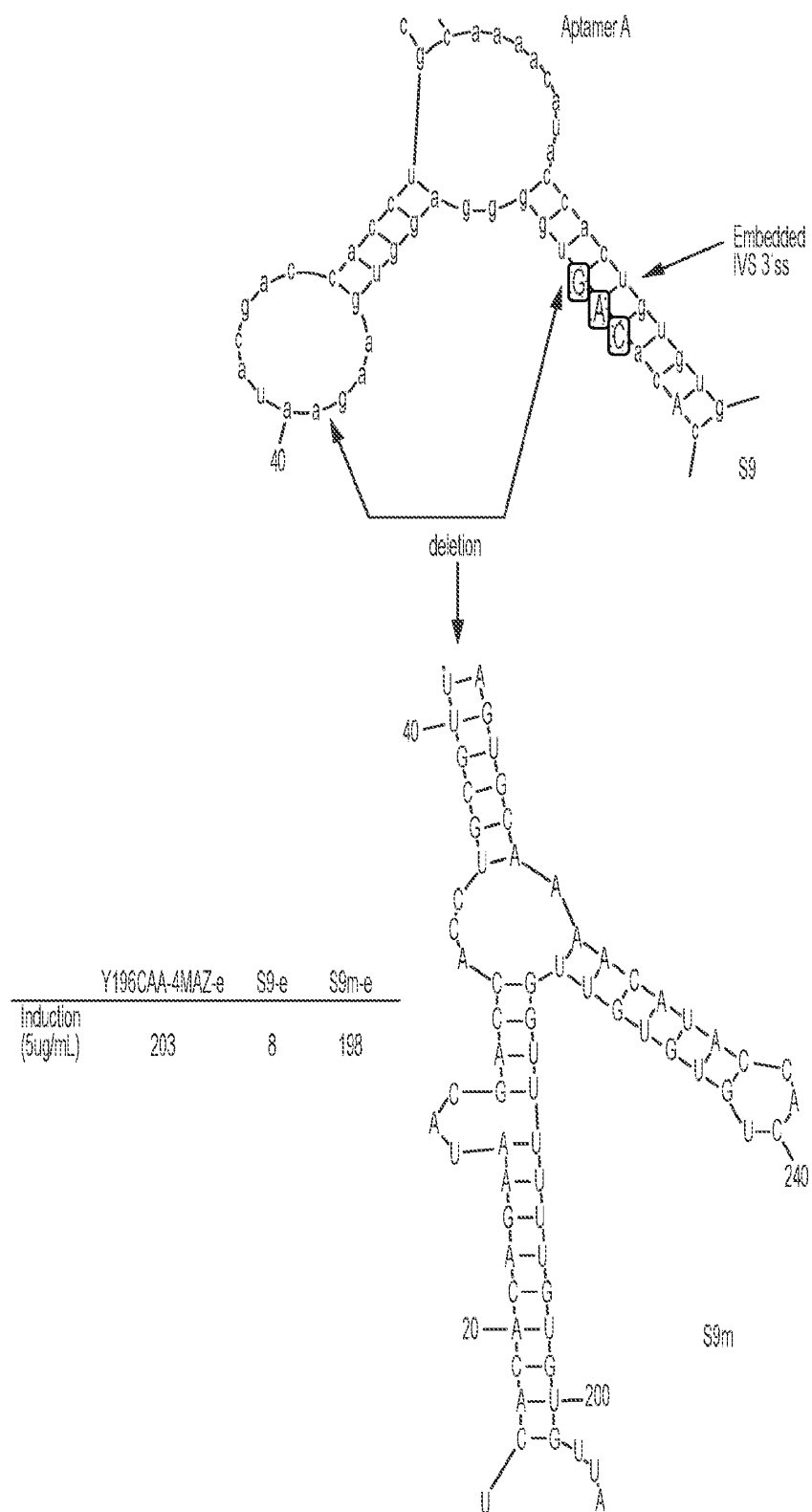


Figure 15B

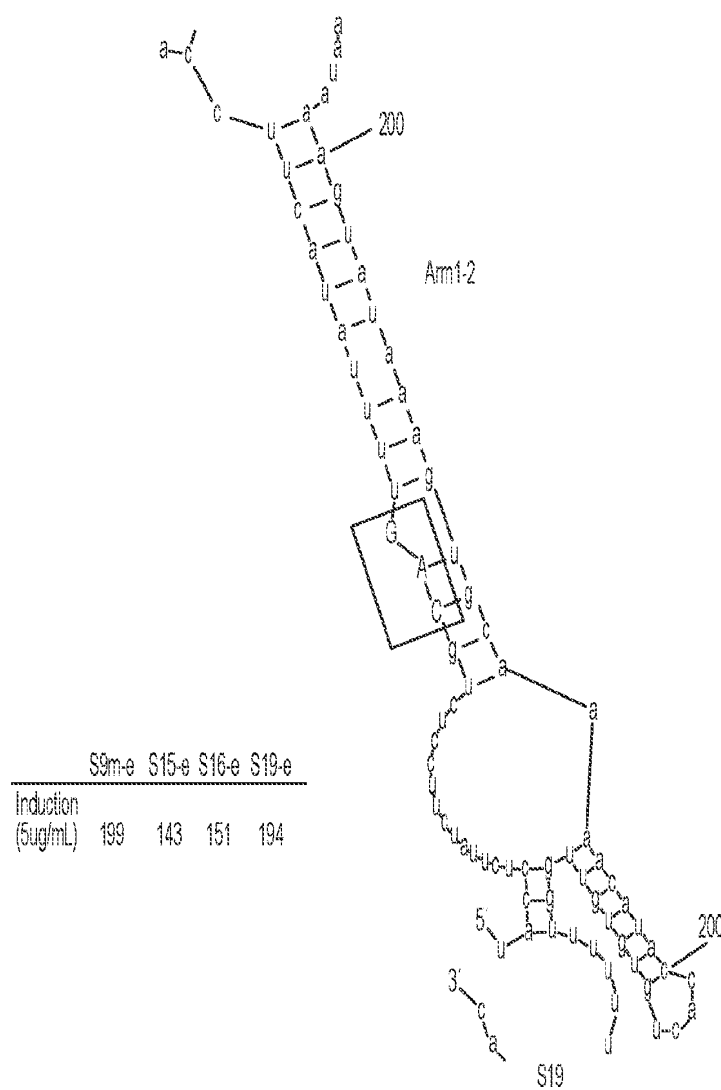


Figure 15C

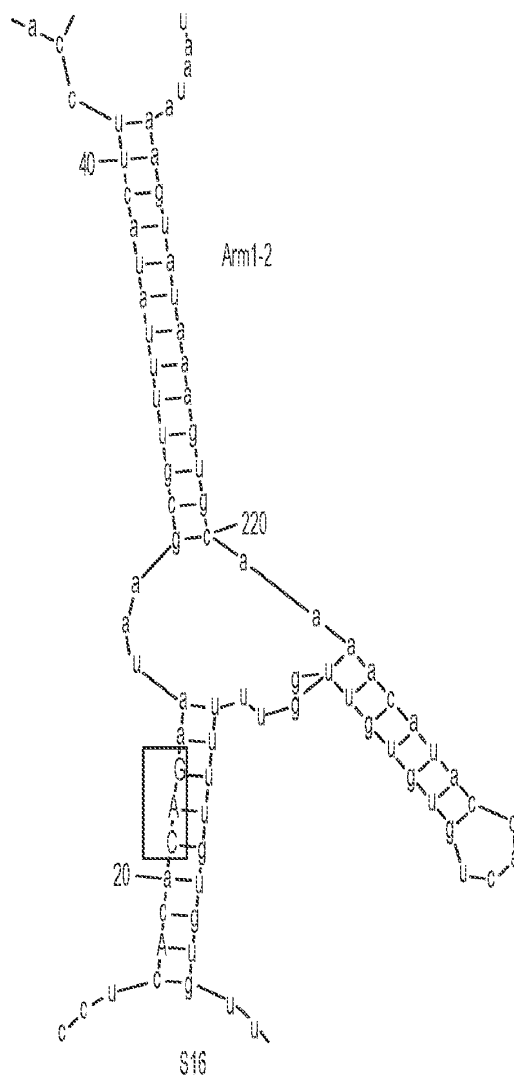


Figure 15C
CONTINUED

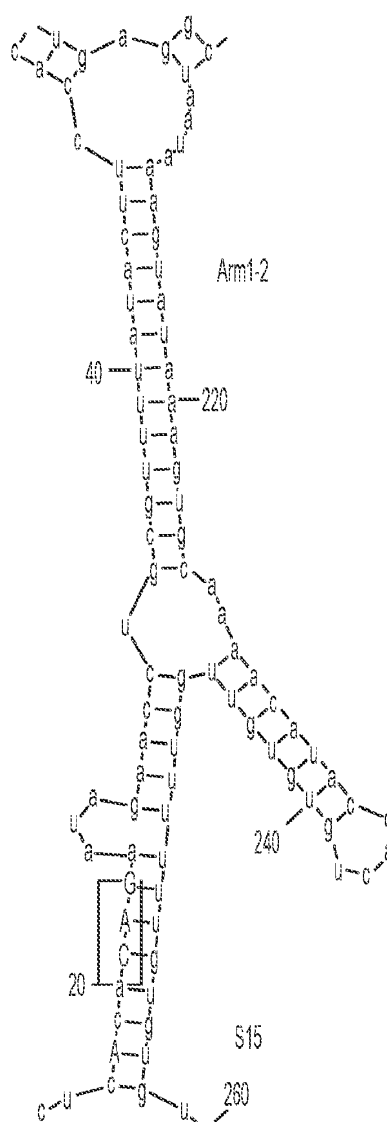


Figure 15C
CONTINUED

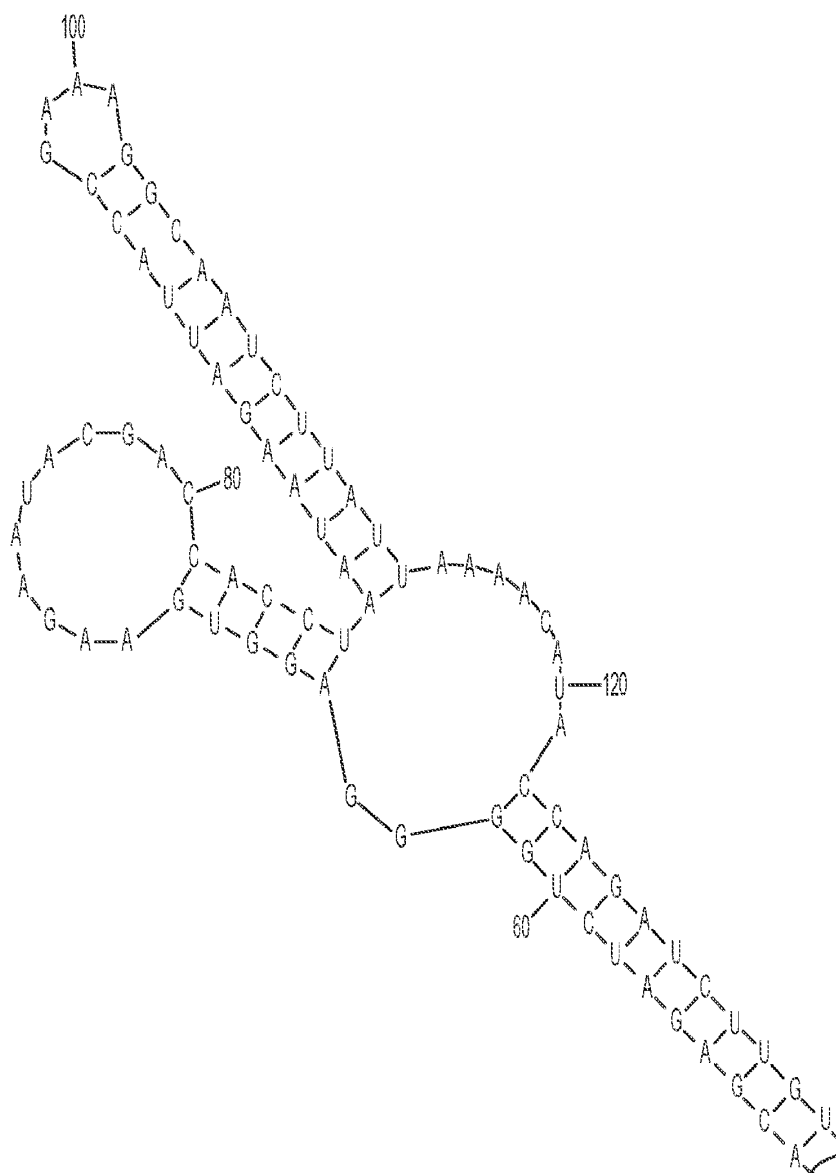


Figure 15C
CONTINUED

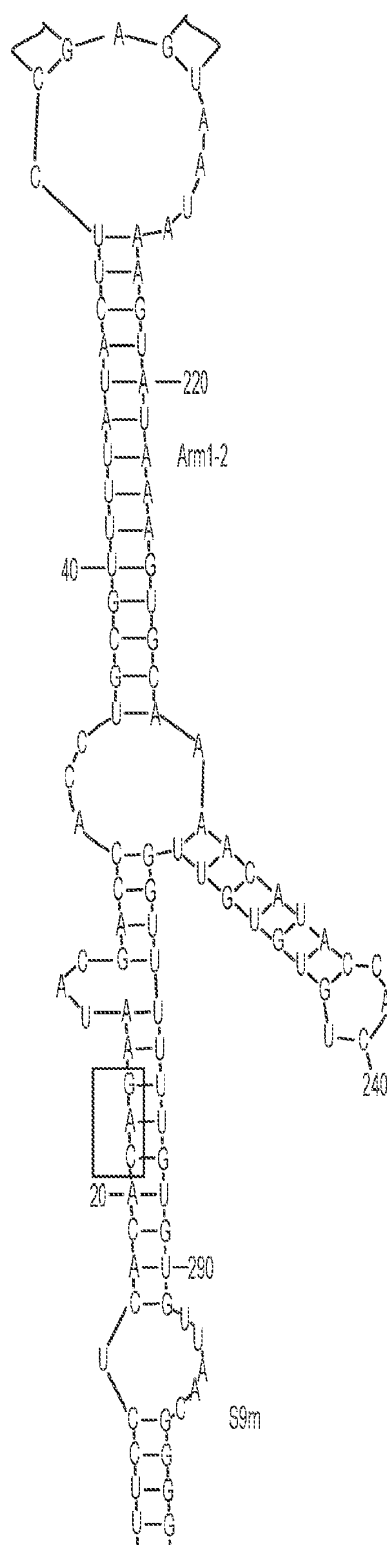


Figure 15C
CONTINUED

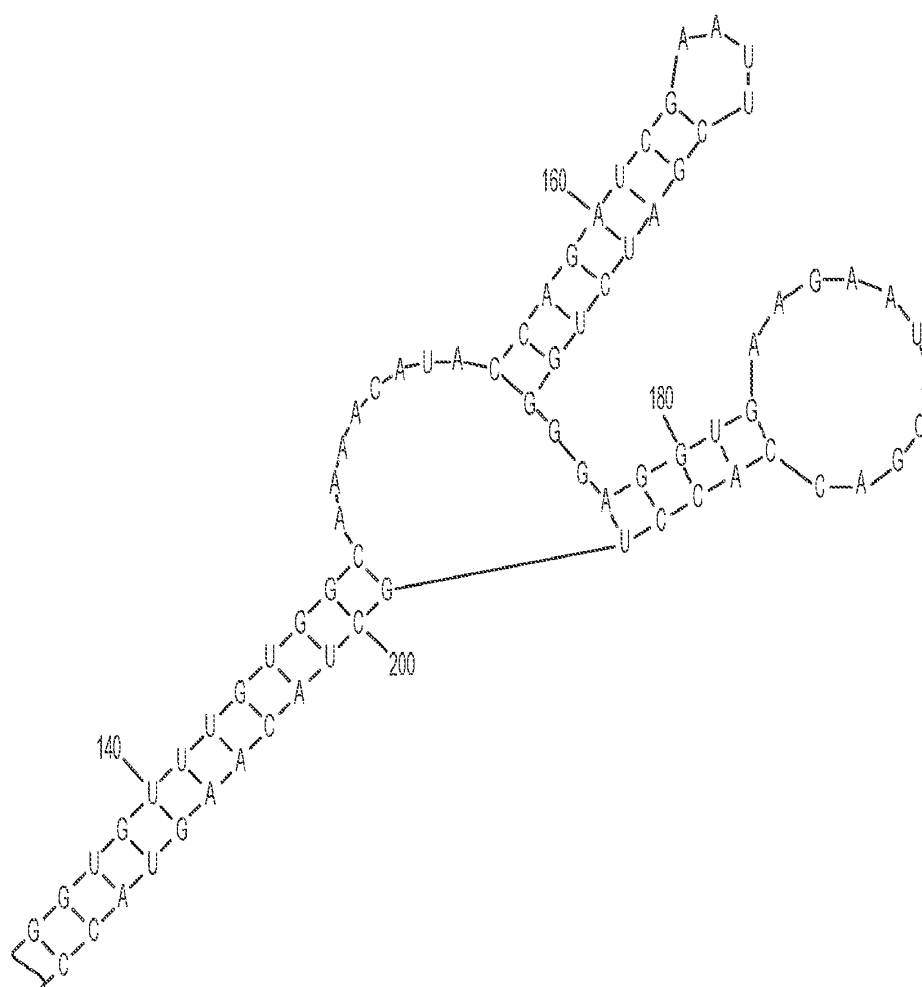


Figure 15C
CONTINUED

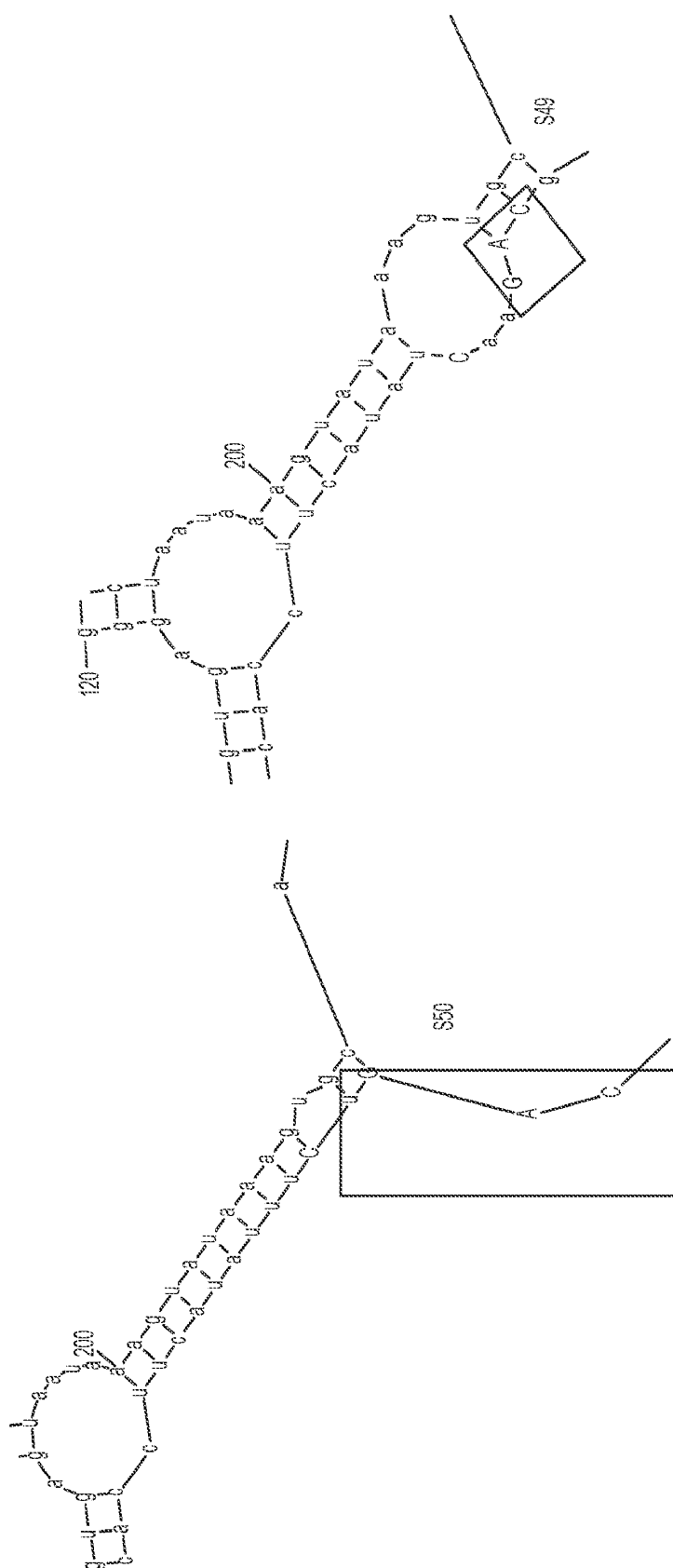


Figure 15D

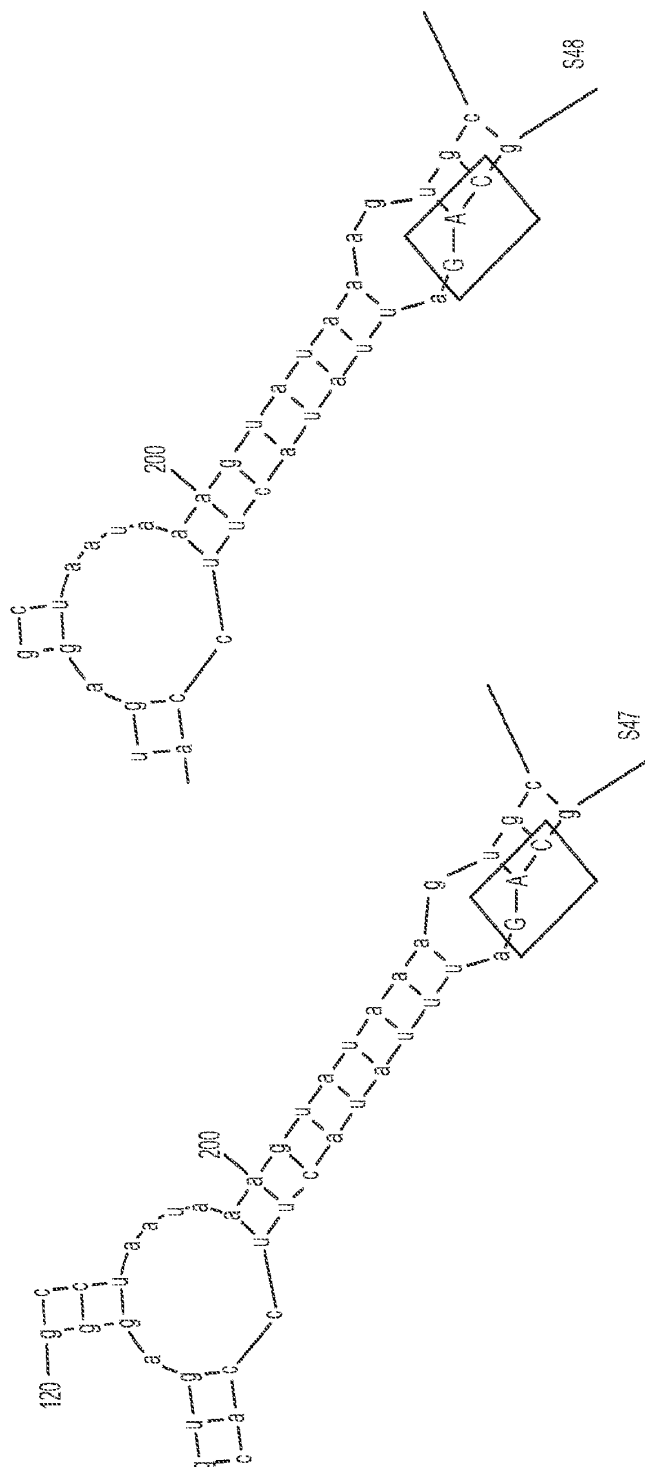


Figure 15D
CONTINUED

	S19	S47	S48	S49	S50
Induction (1 ug/mL)	65	15	29	22	36
Induction (5ug/mL)	112	172	164	134	41

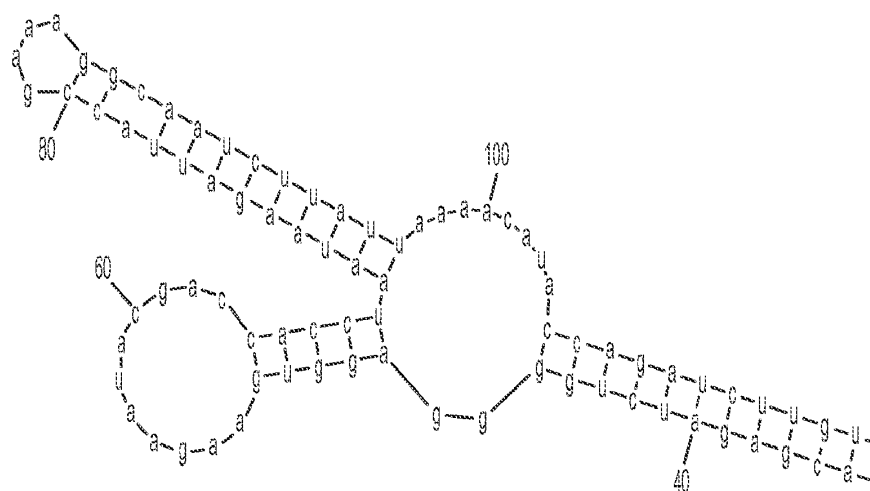


Figure 15D
CONTINUED

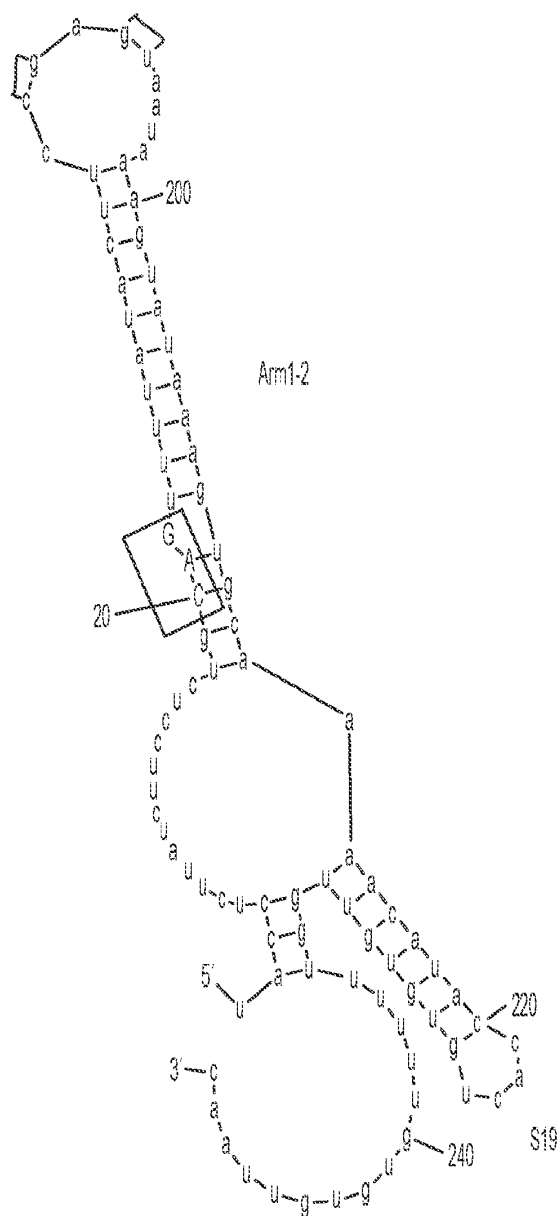


Figure 15D
CONTINUED

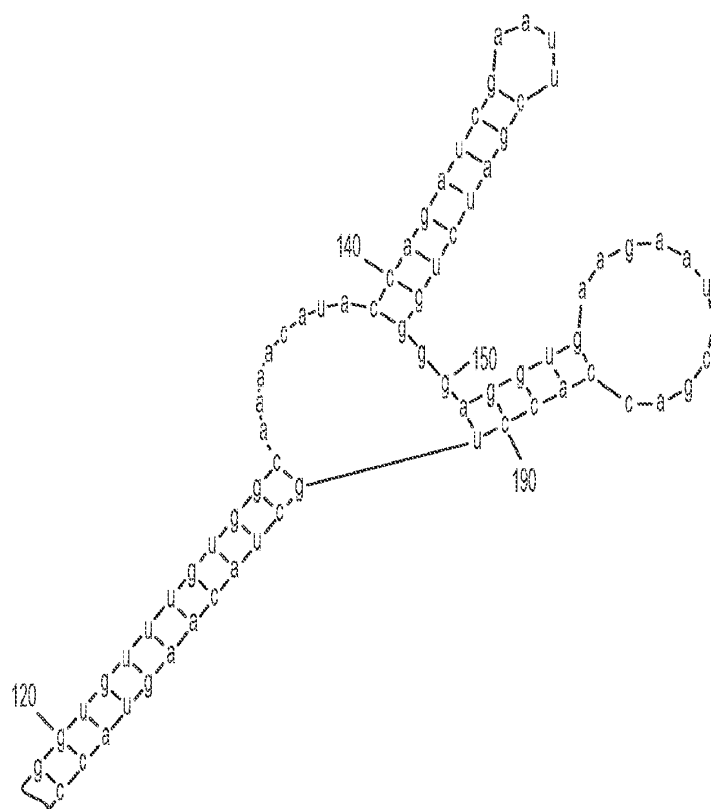
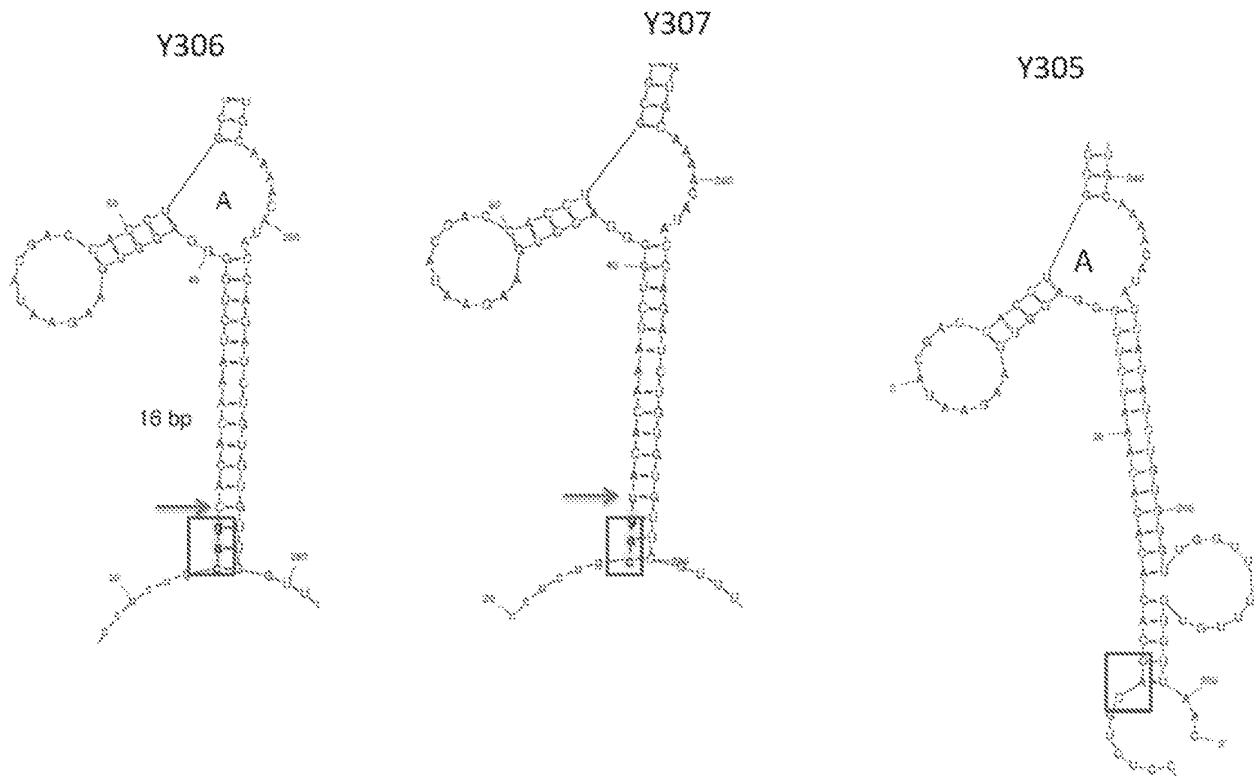


Figure 15D
CONTINUED

Figure 15F

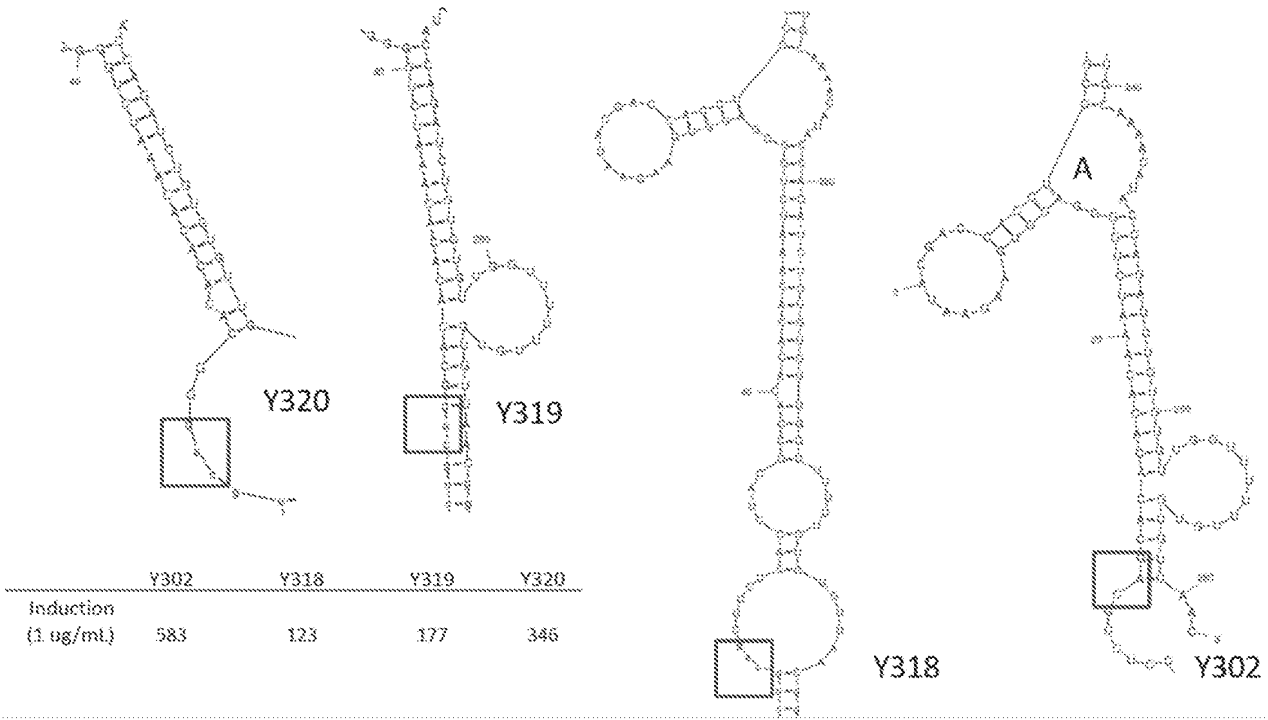
Y306: ctgcagCACACAAATCTGGGGA
Y307: ctgcagTACACAAATCTGGGGA



	Y305	Y306	Y307
Induction (1ug/ml)	492	235	139

Figure 15F (continued)

Y318: ctgcagCTCCTCACCTACGCCACACACACAAATCTGGGGA
Y319: ctgcagGCACACACACAAATCTGGGGA
Y320: ctgcagGGCACACACACAAATCTGGGGA



Min-IVS2 Intron 120 bases:
GtggagtctatgccagctaccattctgtcttttatttatggttgggataaggctggattattctgagtccaagctaggcccttttgctaatacatCttcatacctcttta
tcttctctctg**CAGNNN**aca

Best NNN sequences identified by testing:
Y344-based: Y359 (CAT), Y360 (TTT), Y361 (TGA), Y362 (TCT)
Y358-based: Y363 (CAT), Y366 (TAC), Y367 (TTT)

		Y344-based				Y358-based			
	Y344	Y359	Y360	Y361	Y362	Y358	Y363	Y366	Y367
Induction (0.5ug/mL)	200	171	186	156	204	144	172	233	140
	Y344	Y359	Y360	Y361	Y362	Y358	Y363	Y366	Y367
Induction (1ug/mL)	397	445	350	385	688	503	315	574	605

Figure 15G

S10: Insert a branch point: caacaac**TACTAAC**ataacagtgttcactagcaacctcaaacagacaccATG
S11: Insert a PPT: caacaac**TCCGTGTCCTT**ataacagtgttcactagcaacctcaaacagacaccATG
S12: Mutate CAG to CCC: caacaacataa**CCC**tgttcactagcaacctcaaacagacaccATG
S13: mutate CAG to AAG: caacaacataa**AAG**tgttcactagcaacctcaaacagacaccATG

	Y196CAA	S10	S11	S12	S13
Induction (5ug/mL)	620	277	73	157	161

Figure 16A

5'UTR sequence: gggcgcccttaattaacagtgttcactagNNNcaacaacaacaacaacaacaacaacaacaacaacgacacccATG

Best NNN sequences identified by testing:			Induction in fold, 1ug/mL									
R1-4	TAG	R10-3	TAG	Y305	R1-4	R2-4	R4-1	R5-2	R5-5	R6-1	R6-2	
R2-4	ACA	R10-4	ACC	293	311	158	432	242	230	187	329	
R4-1	AAC	R11-4	AGC	Y305	R6-3	R7-3	R10-4	R10-5	R11-5	R12-1	R12-5	
R5-2	TGC	R11-5	TGA	216	224	195	248	185	191	162	223	
R5-5	TTG	R12-5	TGC	Y305	R14-2	R14-4	R15-5					
R6-1	ACC	R13-3	TCC	250	215	173	239					
R6-2	CCC	R14-2	AGC	Y305R6-3 renamed as Y358								
R6-3	AGC	R14-4	TGC									
R7-3	ACG	R15-4	CCT									
		R15-5	TCT									

Example of NNN sequences that lead to much reduced induction:

GGC, GTG, GTC			GGC			GTG			GTC		
			Y305			NR7-1			NR8-1		
						NR8-2					
			Induction (1ug/mL)			433			49		
						58			64		

Figure 16B

inserting the best tagNNN in 5'UTR tested in Y305 into Y329

Parental sequence:

Y329 5'UTR: GcggccgcCataacagtgttcactagCATccCccagACCATCTACCACCGACACCATG

Best tagNNN tested in Y305 backbone: TAG, AAC, ACC, CCC, AGC, CCT, TCT

Y341 (identical to Y329 but with NNN= TAG)

gcggccgcCataacagtgttcactagTAGccCccagACCATCTACCACCGACACCATG

Y342 (identical to Y329 but with NNN= AAC)

gcggccgcCataacagtgttcactagAACccCccagACCATCTACCACCGACACCATG

Y343 (identical to Y329 but with NNN=ACC)

gcggccgcCataacagtgttcactagACCccCccagACCATCTACCACCGACACCATG

Y344 (identical to Y329 but with NNN=CCC)

gcggccgcCataacagtgttcactagCCCccCccagACCATCTACCACCGACACCATG

Y345 (identical to Y329 but with NNN= AGC)

gcggccgcCataacagtgttcactagAGCccCccagACCATCTACCACCGACACCATG

Y346 (identical to Y329 but with NNN=CCT)

gcggccgcCataacagtgttcactagCCTccCccagACCATCTACCACCGACACCATG

Y347 (identical to Y329 but with NNN= TCT)

gcggccgcCataacagtgttcactagTCTccCccagACCATCTACCACCGACACCATG

	Y305	Y341	Y342	Y343	Y344	Y345	Y346	Y347
Induction (1 ug/mL)	276	332	406	481	525	246	231	74

Figure 16C

S159 to S163. Shorten the IVS2 intron length of S56. S56 contains the original full-length IVS2 intron of 476 bases.

S159: Intron Size 120 bases
 GTgagtcctatgccagctaacattctgcgttttattttatggttggtggataaggctggattattctgagtcacaagctaggcccttttgctaatacatCttcatacctcttatcttccctctgCAG

S160: Intron Size 140 bases
 GTgagtcctatggttgctaataagcagctacaatccagctaccattctgcgttttattttatggttggtggataaaggctggattattctgagtcacaagctaggcccttttgcttaateatCttcatacctcttatcttccctctgCAG

S161: Intron Size 160 bases
 GTgagtcctatgctgatgtaagaggttttcatttctgtaataagagctacaatccagctaacattctgcgttttattttatggttggtggataaaggctggattattctgagtcacaagctaggcccttttgctaatacatCttcatacctcttatcttccctctgCAG

S162: Intron Size 180 bases
 GTgagtcctatggtttctgcataataaaattgtaactgatgtaagaggttttcatttctgtaataagcagctacaatccagctaccattctgcgttttattttatggttggtggataaaggctggattattctgagtcacaagctaggcccttttgctaatacatCttcatacctcttatcttccctctgCAG

S163: Intron Size 200 bases
 GTgagtcctatgaataatttctgcataataaaatttctgcataataaaattgtaactgatgtaagaggttttcatttctgtaataagcagctacaatccagctaccattctgcgttttattttatggttggtggataaaggctggattattctgagtcacaagctaggcccttttgctaatacatCttcatacctcttatcttccctctgCAG

S164 to S168, similar to S159-S163 but have a branch point TACTAAC inserted at the same location before IVS2 3'ss. The intron sequence of S164 is shown as an example:
 GTgagtcctatgccagctaacattctgcgttttattttatggttggtggataaggctggattattctgagtcacaagctaggcccttttgctaatacatCttcataTACTAACctcttatcttccctctgCAG

S169 to S173, similar to S159-S163 but have a branch point TACTAAC and one more 3'ss CAG inserted at the same location before IVS2 3'ss. The intron sequence of S169 is shown as an example.
 GTgagtcctatgccagctaacattctgcgttttattttatggttggtggataaggctggattattctgagtcacaagctTACTAACtttttccctgtgcttcttccagaccctcttattcttccctctgCAG

Figure 17A

Induction (5ug/mL)	S56- 315	S159	S160	S161	S162	S163
		181	150	122	114	119

Induction (5ug/mL)	S56 267	S164	S166	S168	S169	S170	S171	S172	S173
		69	45	25	26	12	14	10	11

Figure 17A
CONTINUED

Previously we have showed that CAA repeats may alter the splicing strength of the 3'ss in 5'UTR. Here the CAA repeats (in red) are to be removed from S159, S164, and S169.

Gcgggggc|caacaacaacaacaacaacaacaaca|cataacagtgttcattagcaacctcaaacacagacaccATG

	S56	S192	S193	S194
Induction (5ug/mL)	116	180	58	20
	S56	S192	S193	S194
Induction (5ug/mL)	298	279	86	30

Figure 17B

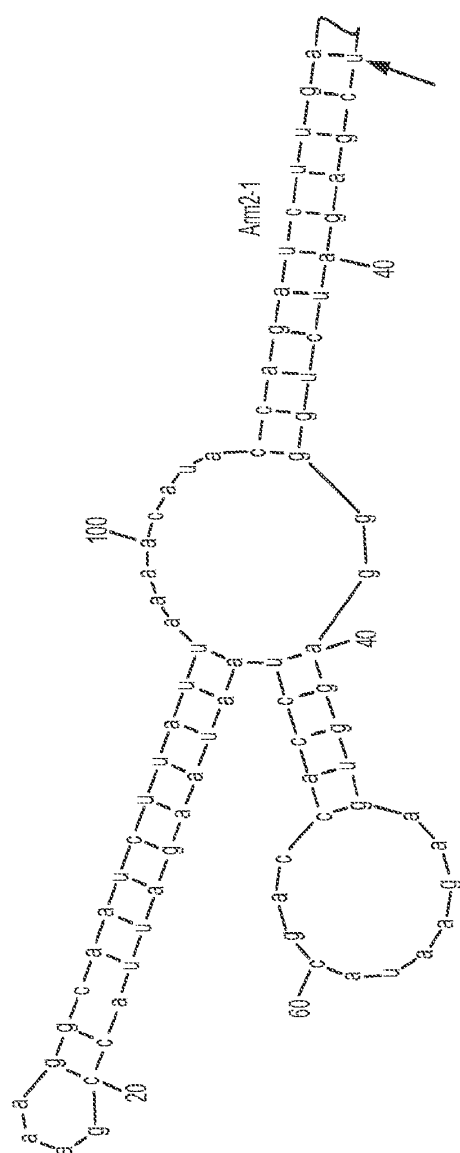
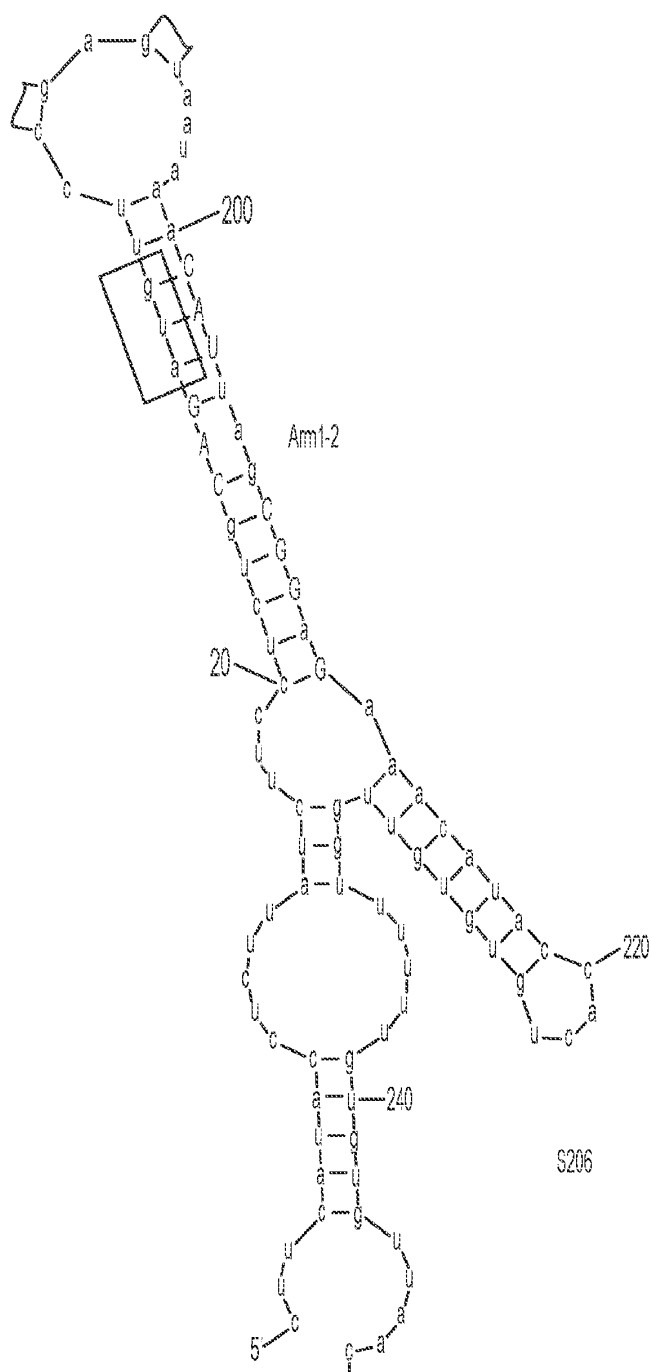


Figure 18A



	S56	S192	S206
Induction (5ug/mL)	211	319	779

Figure 18A
CONTINUED

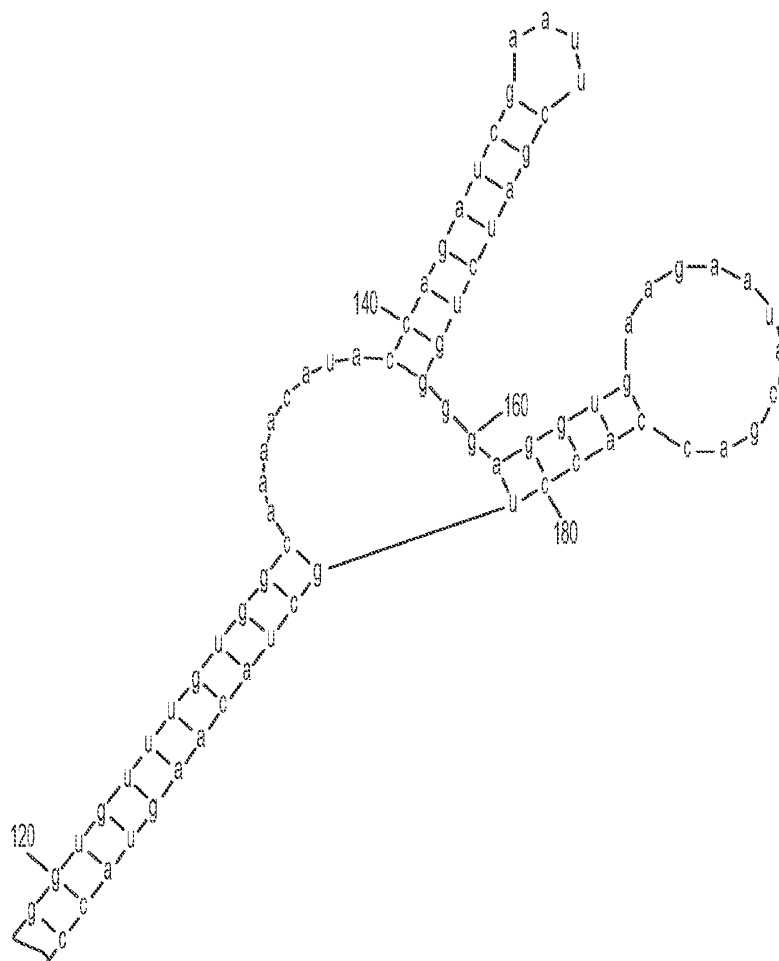


Figure 18A
CONTINUED

S206: gcggccgcccataacagtgttcacttagcaaccTcaaacagacaccATG
 S209: gcggccgcCACCATGataacagtgttcacttagcaaccTaaacagacaccATG
 S210: gcggccgcccataacagtgttcacttagcaaccCaaacagacaccATG
 S211: gcggccgcCACCataacagtgttcacttagcaaccCaaacagacaccATG
 S212: gagggccgcCACCATGataacagtgttcacttagcaaccCaaacagacaccATG
 S213: gcggccgcCACCACGataacagtgttcacttagcaaccCaaacagacaccATG
 S214: gcggccgcCACCataacagtgttcacttagcaTccCaaacagacaccATG
 S215: gcggccgcCACCataacagtgttcacCagcaTccCaaacagacaccATG
 S222: gcggccgccataacagtgttcacttagcaTccCaaacagacaccATG
 S223: gcggccgccataacagtgttcacCagcaTccCaaacagacaccATG

	S192	S209	S210	S211	S212	S213	S214	S215	S222	S223
Induction (1ug/mL)	231	144	290	304	352	279	313	190	402	390
	S192	S209	S210	S211	S212	S213	S214	S215	S222	S223
Induction (5ug/mL)	330	545	730	624	554	644	696	488	538	759

Figure 18B

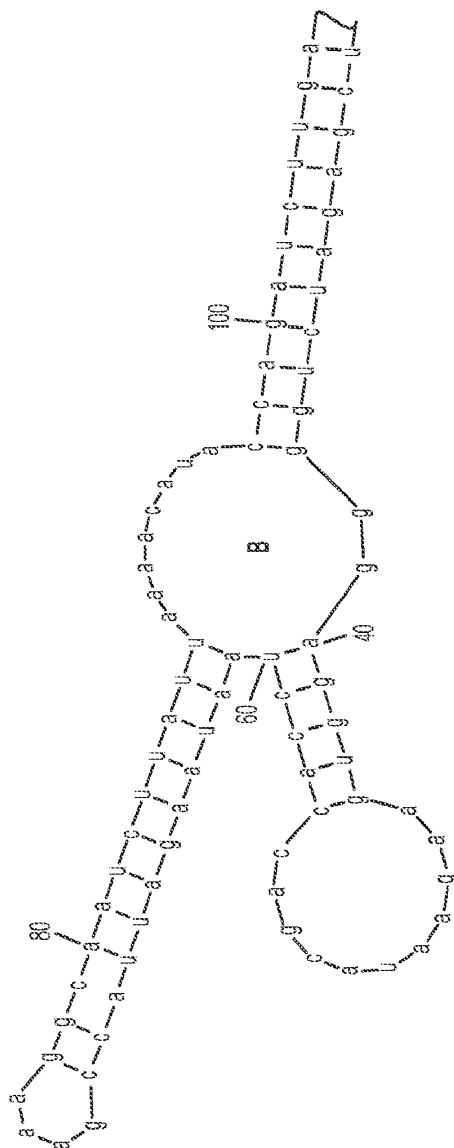


Figure 18C

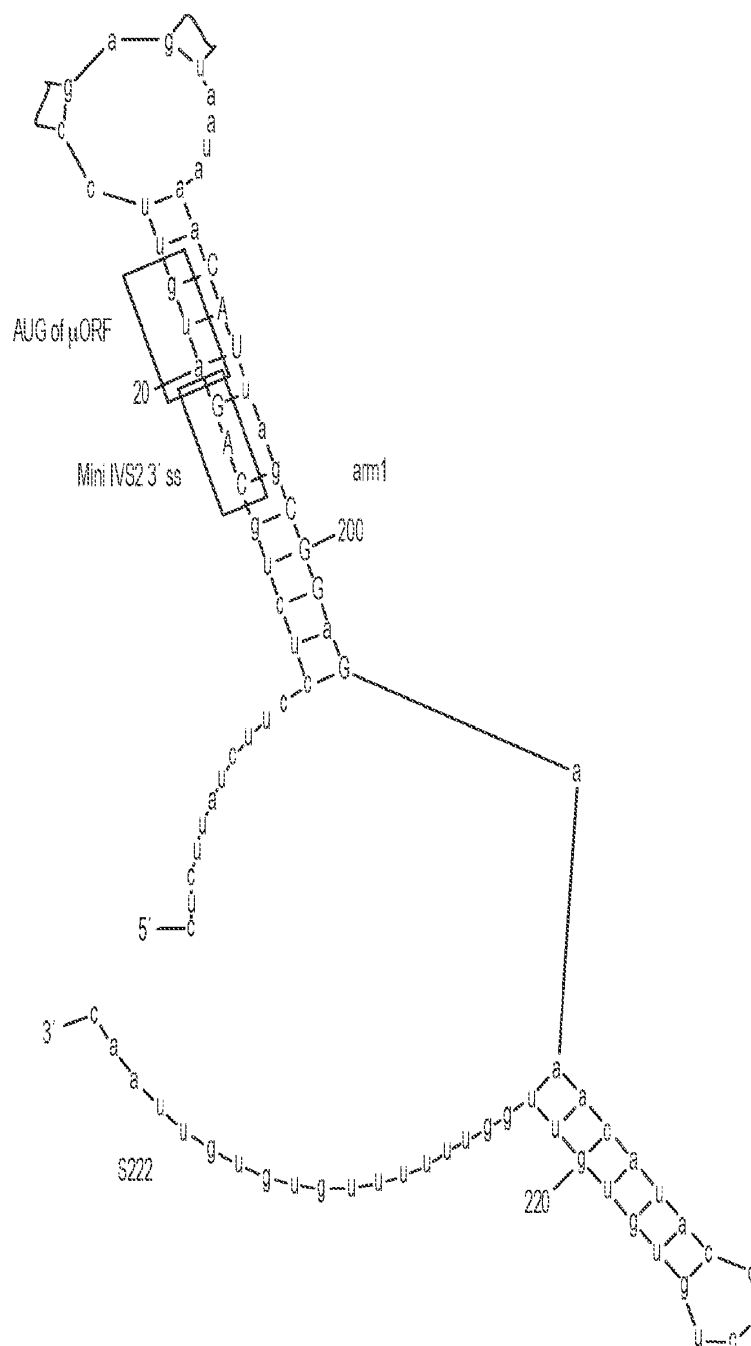


Figure 18C
CONTINUED

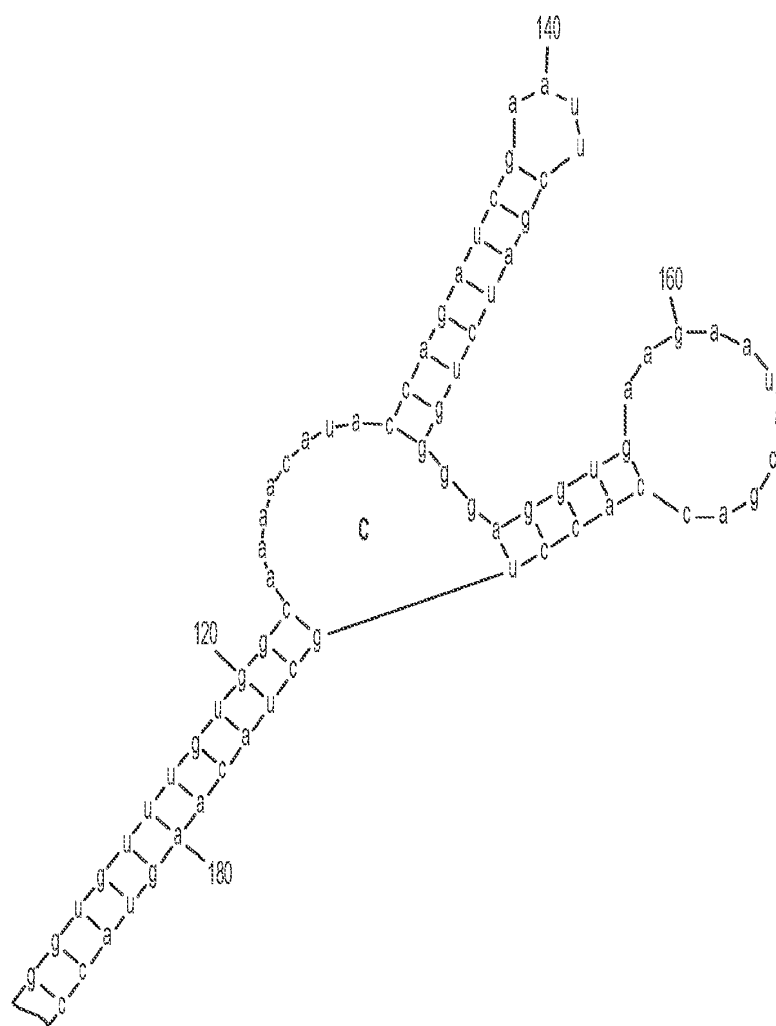


Figure 18C
CONTINUED

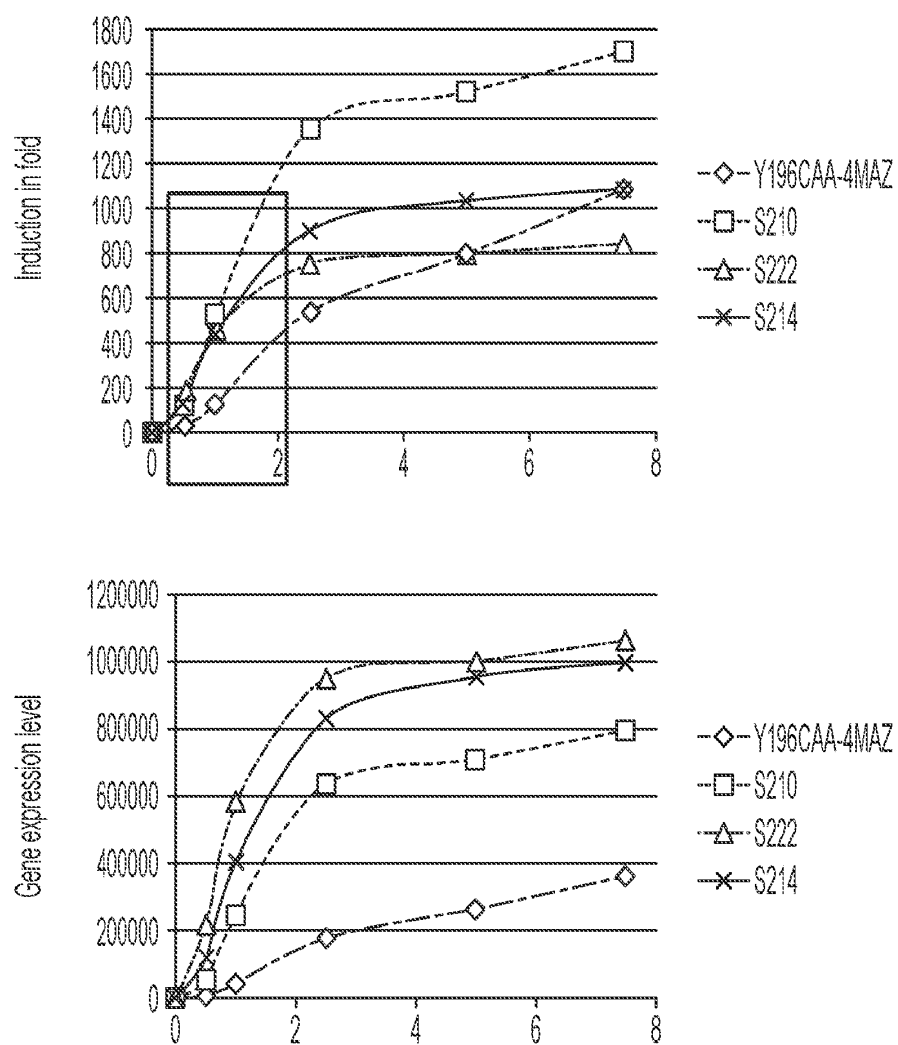


Figure 19A

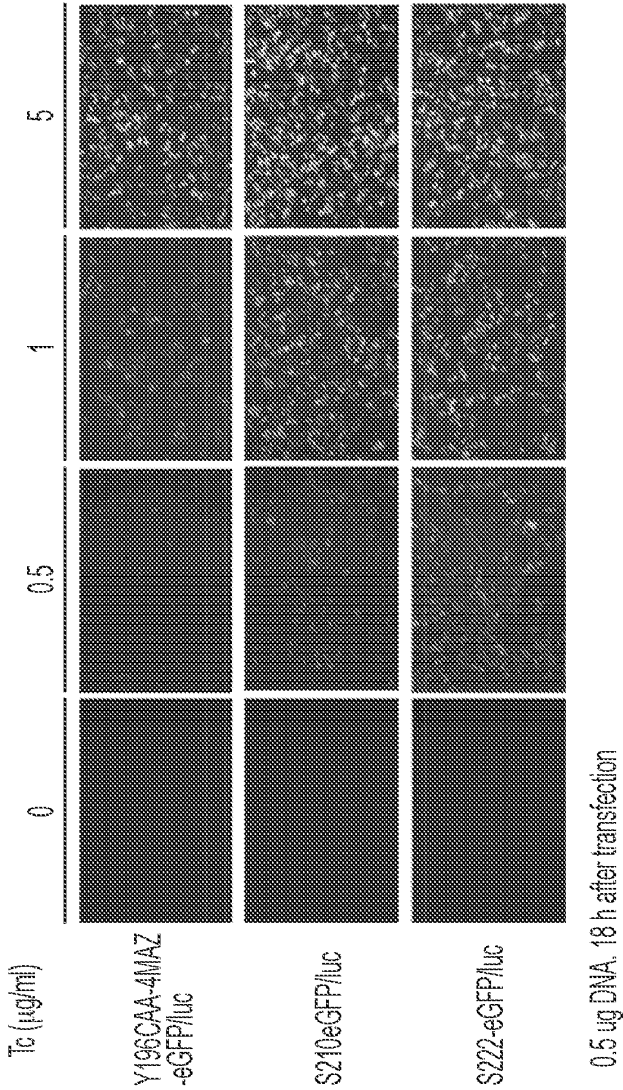


Figure 19B

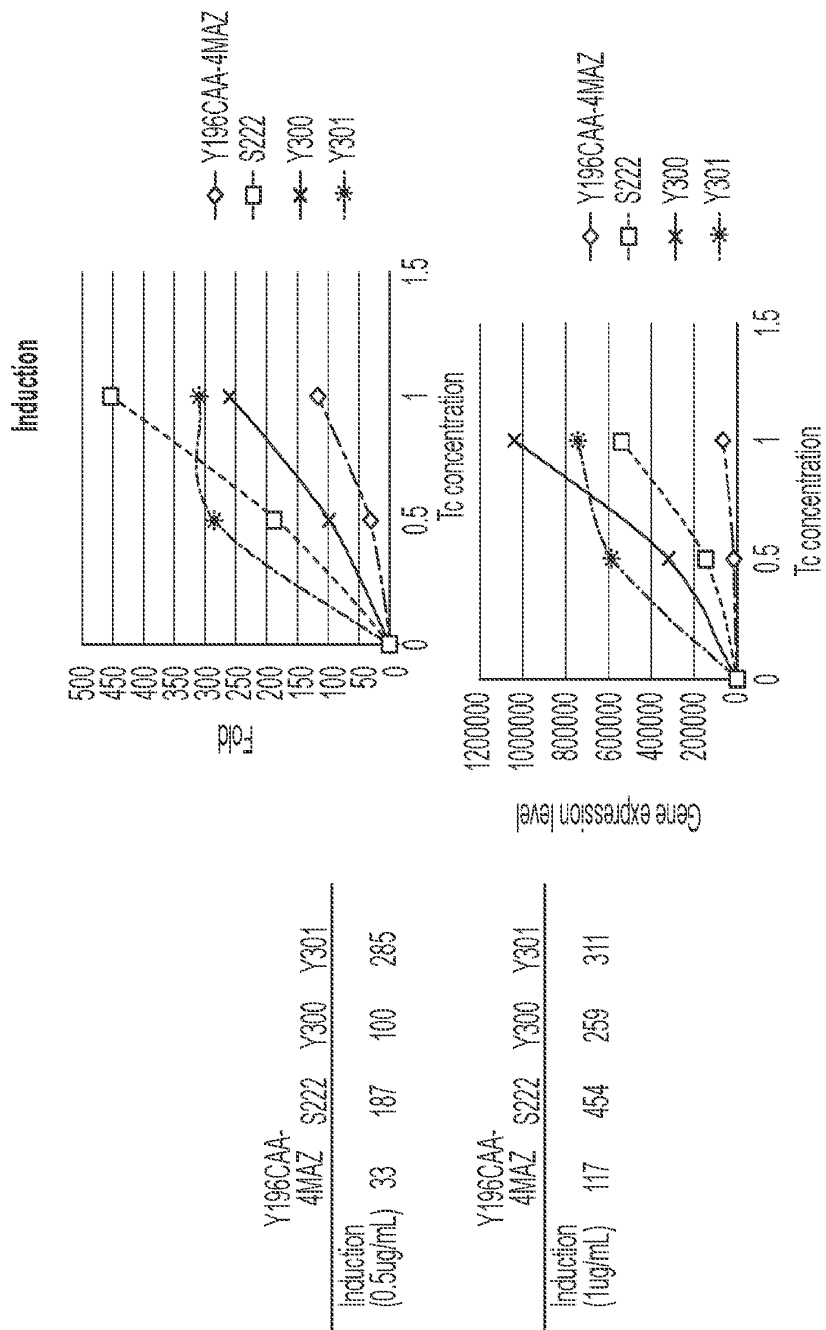
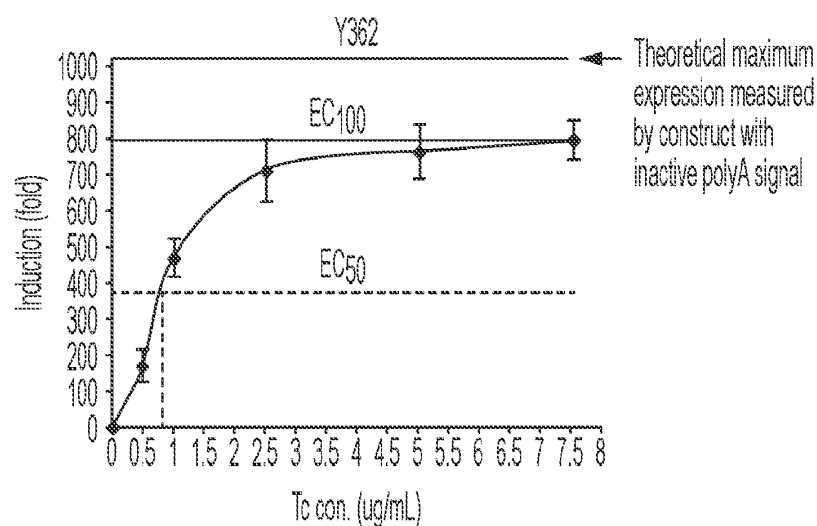


Figure 19C

	Tc con.	0	0.5	1	2.5	5	7.5
Y362	Mean induction	1	172	471	713	766	797
	std	0	44	54	86	77	54



	Tc con.	0	0.5	1	2.5	5	7.5
Y367	Mean induction	1	138	496	917	1071	1147
	std	0	36	96	161	153	147

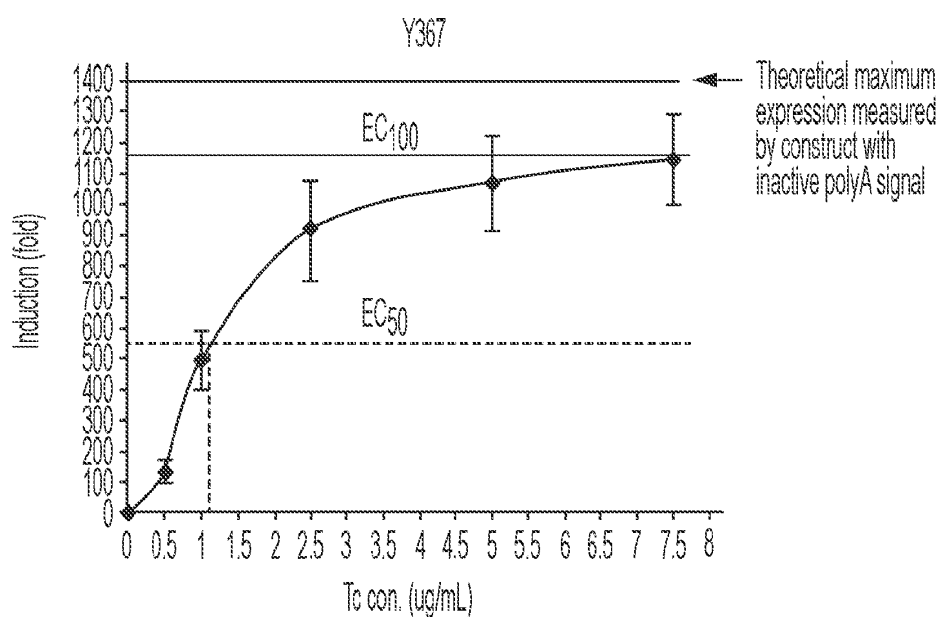


Figure 19D

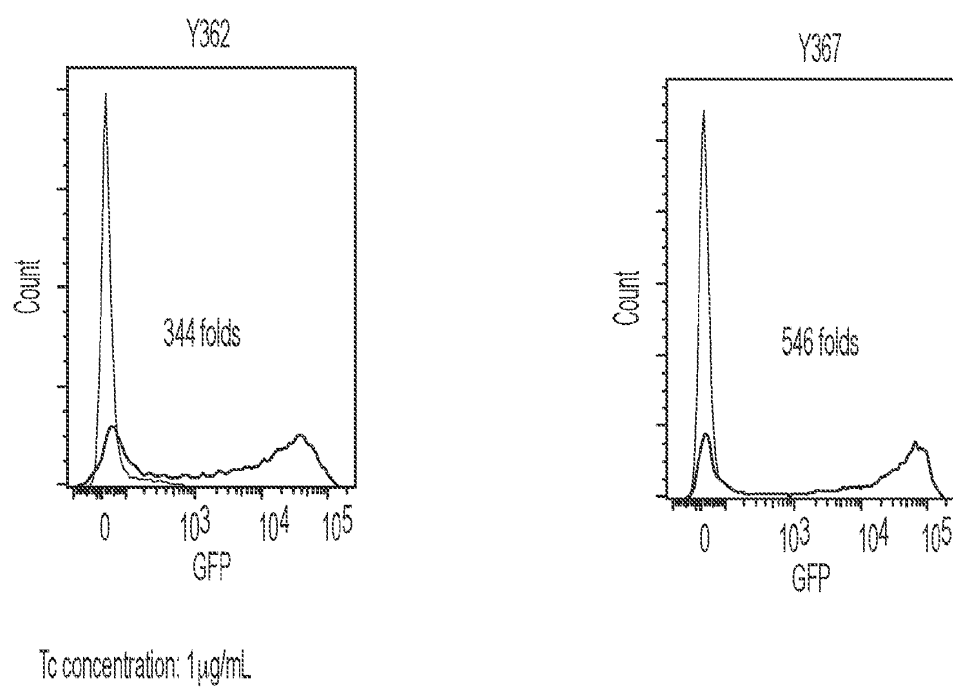


Figure 19E

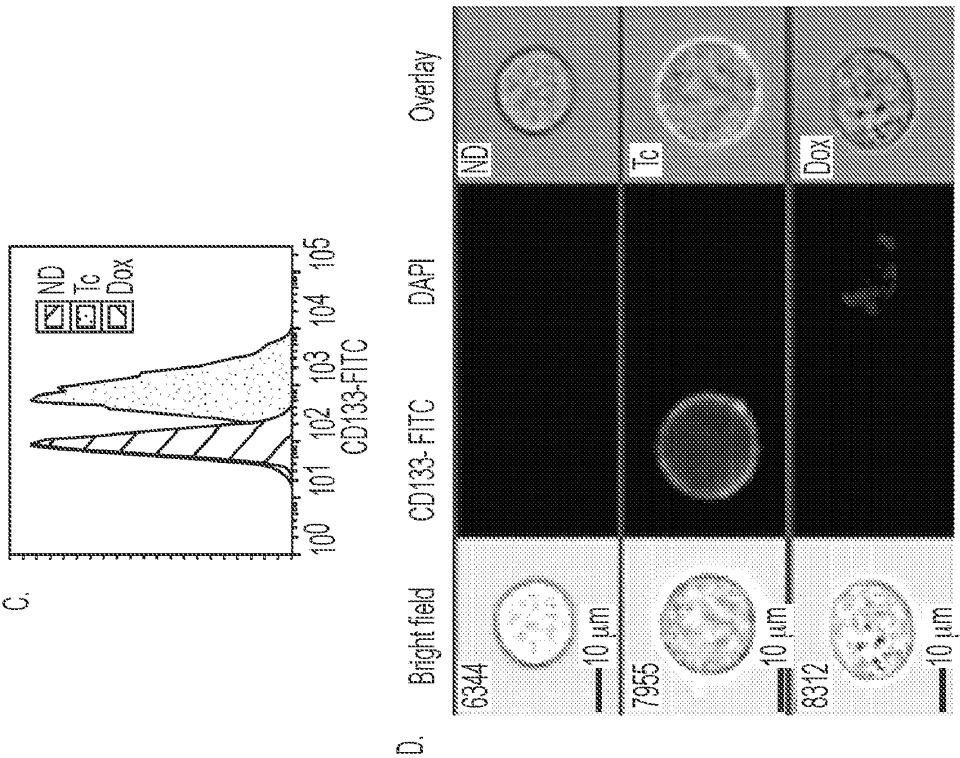


Figure 20

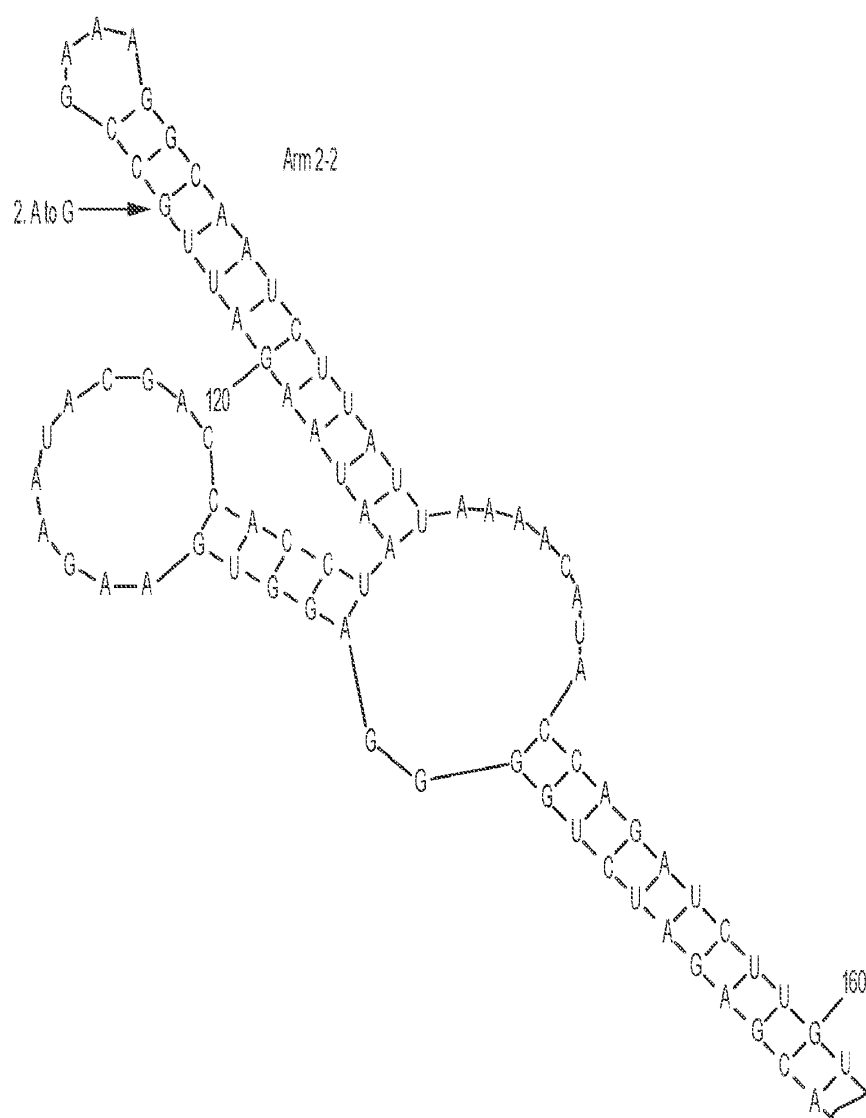


Figure 21

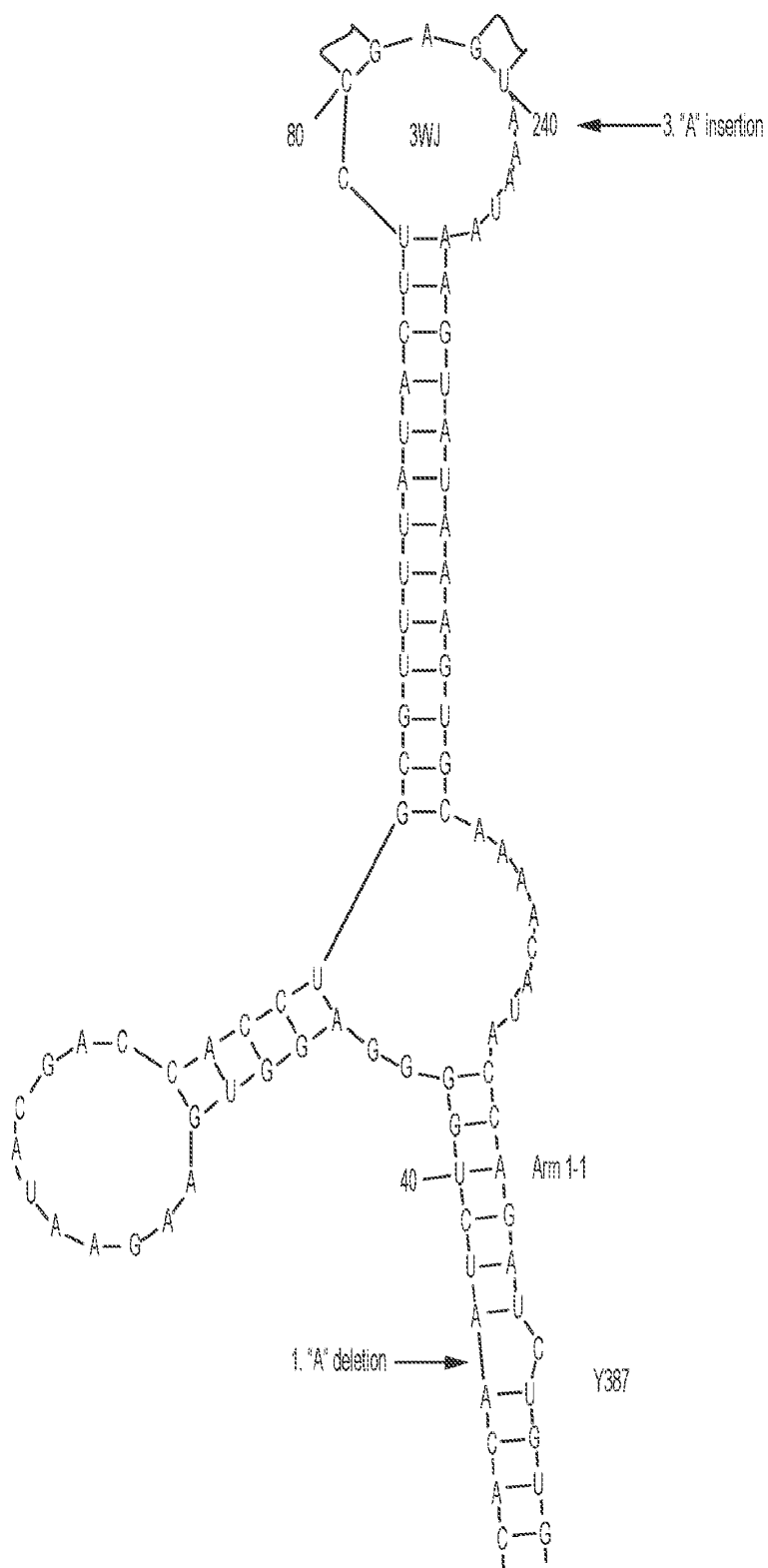


FIG. 21
CONTINUED

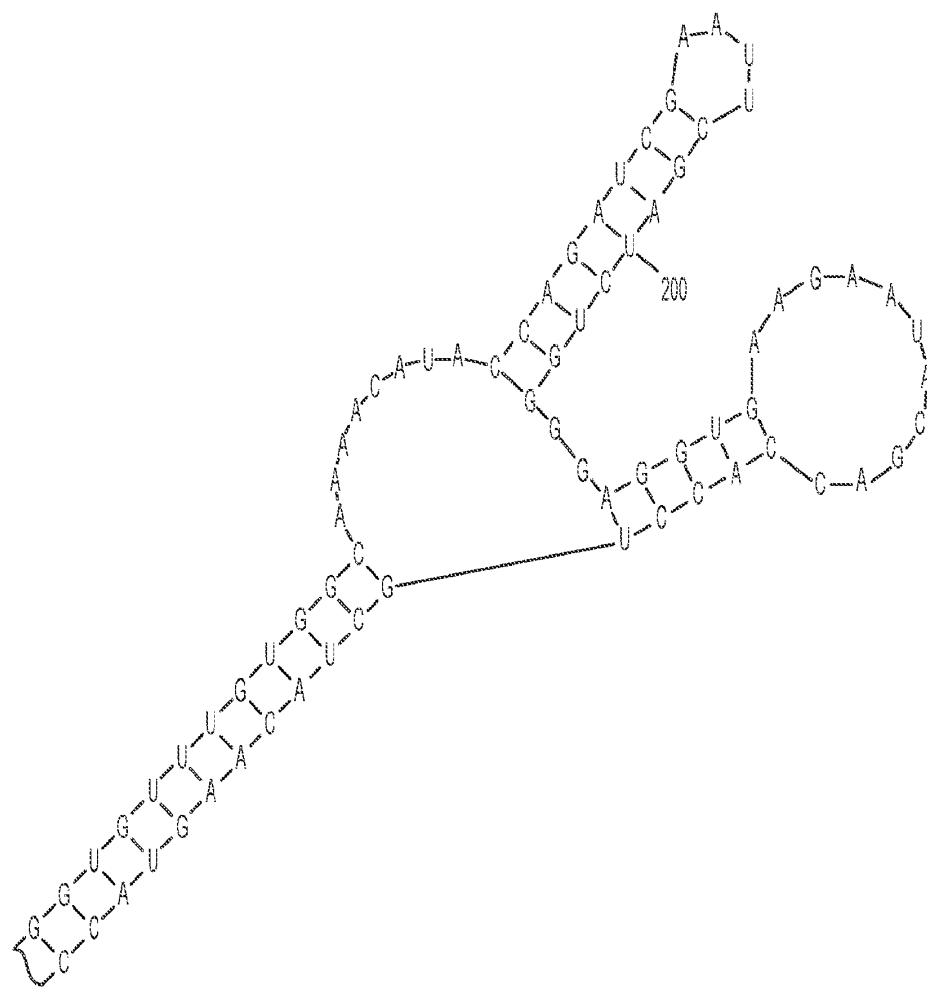


Figure 21
CONTINUED

	Y359	Y392	Y395	Y360	Y393	Y396	Y361	Y394	Y397	Y362C	Y362	Y387
Mean induction	472	631	925	407	555	775	424	483	922	260	627	735
std	55	64	88	45	45	48	63	53	57	20	19	84

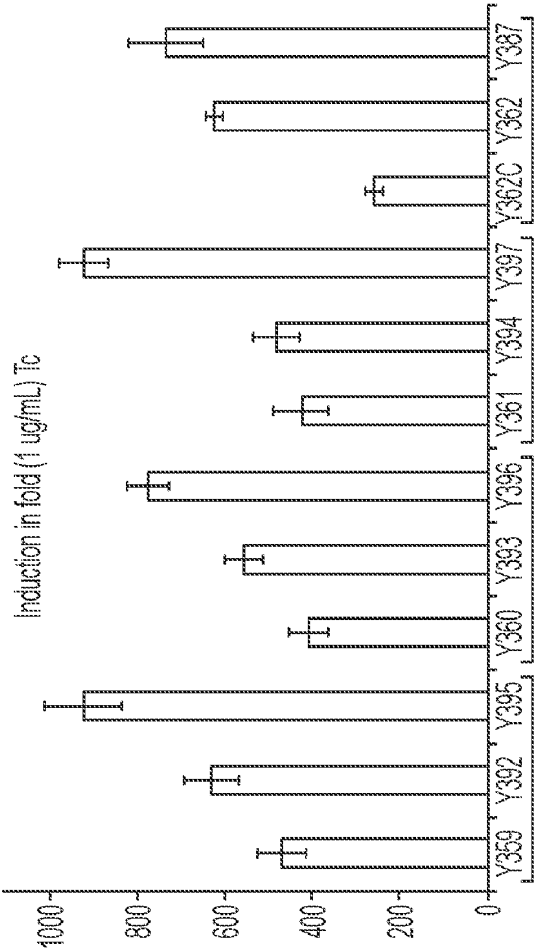


Figure 22

Tc [ug/ml]	0.0	0.5	1.0	2.5	5.0	7.5
Y362	1	332	654	918	896	891
Y387	1	464	710	854	835	798
std-Y362	0	45	73	139	173	158
std-Y387	0	27	38	74	108	90

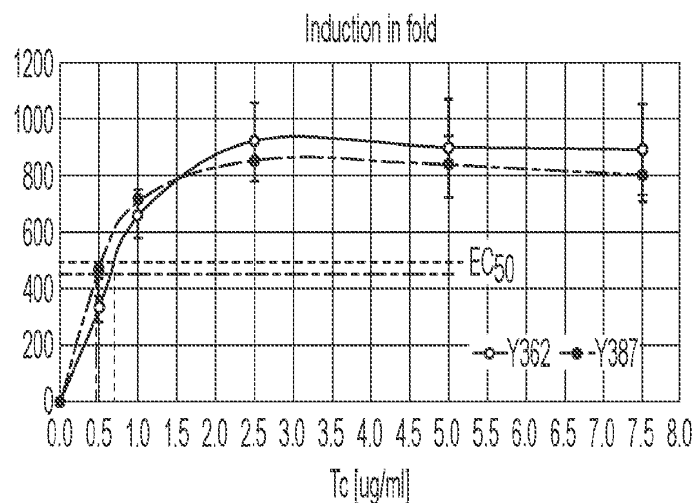


Figure 23A

Tc [ug/ml]	0.0	0.5	1.0	2.5	5.0	7.5
Y362	0.074%	23.3%	46.2%	65.1%	63.8%	65.5%
Y387	0.104%	47.5%	71.7%	87.0%	85.6%	83.3%
std-Y362	0.013%	3.8%	5.2%	6.1%	8.8%	8.9%
std-Y387	0.014%	7.5%	8.8%	10.8%	9.4%	8.5%

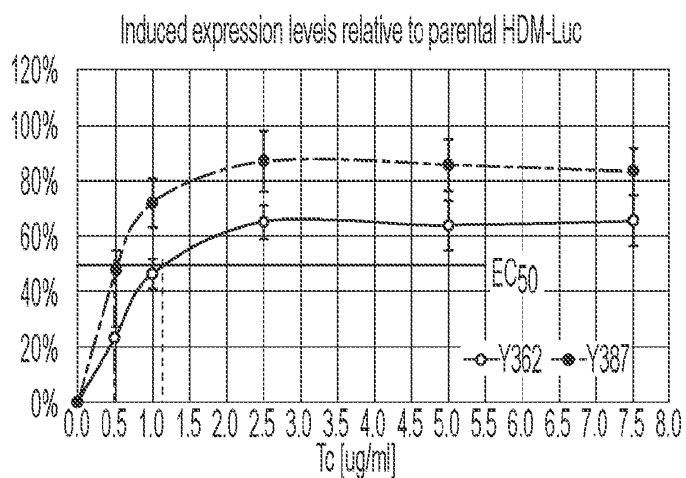


Figure 23B