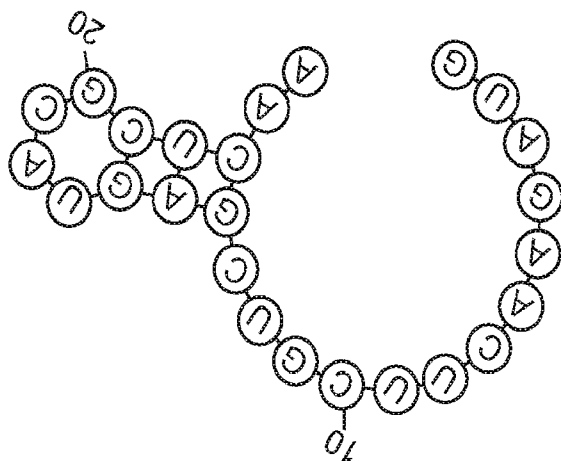
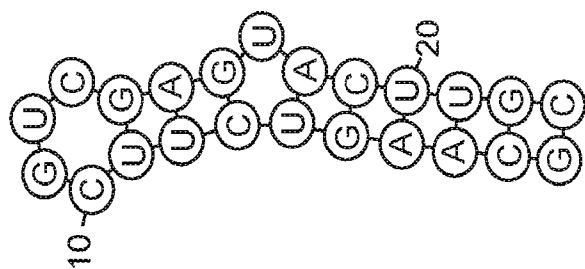
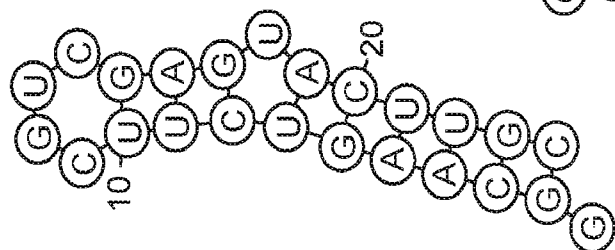
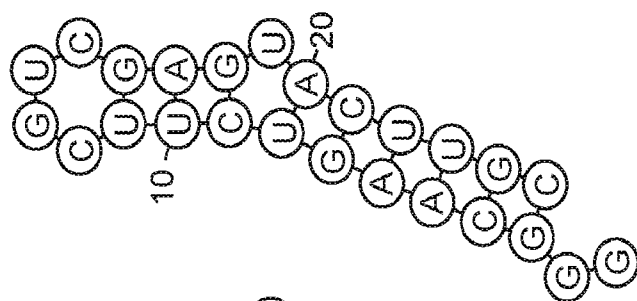




substrate	RNA1	RNA2	RNA3	RNA4
number of nucleotide	25	23	24	25
MFE (kcal/mol) at 37°C	-1.5	-7.2	-7.2	-7.2
MFE (kcal/mol) at 45°C	-0.73	-5.4	-5.4	-5.4

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G
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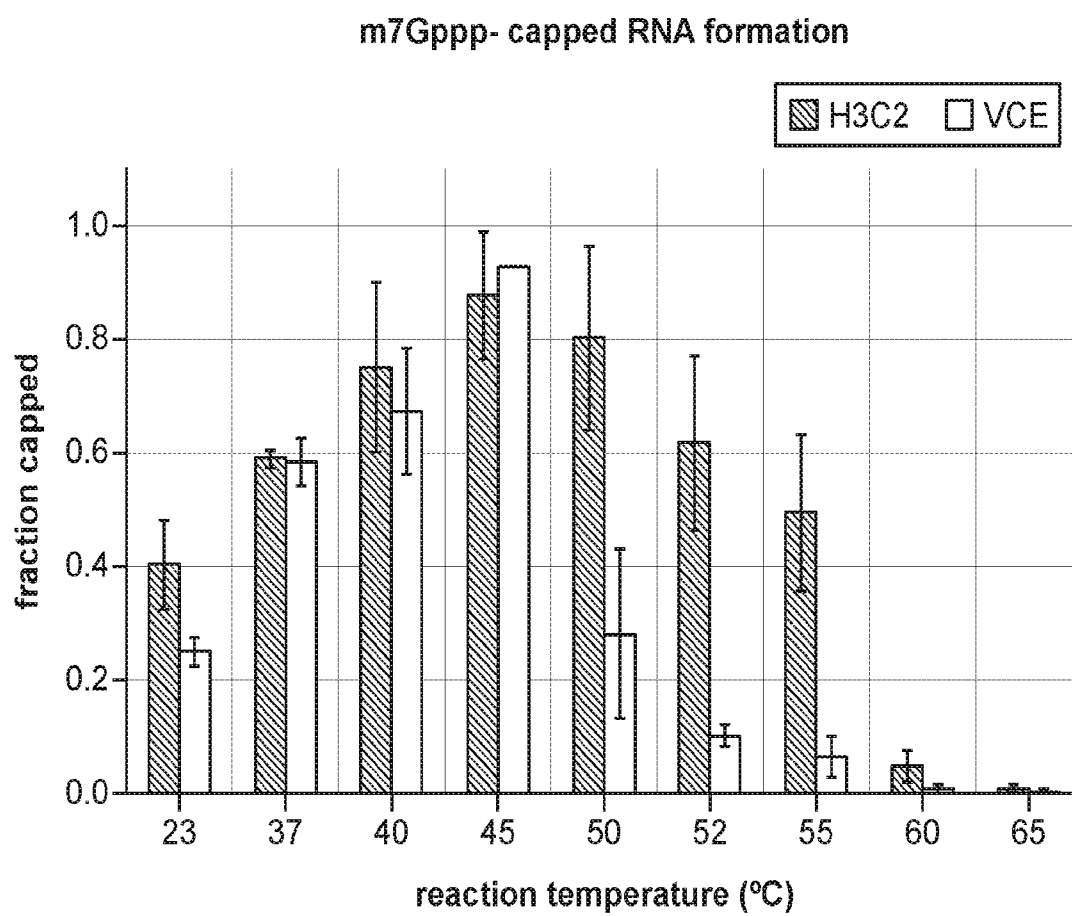


FIG. 2

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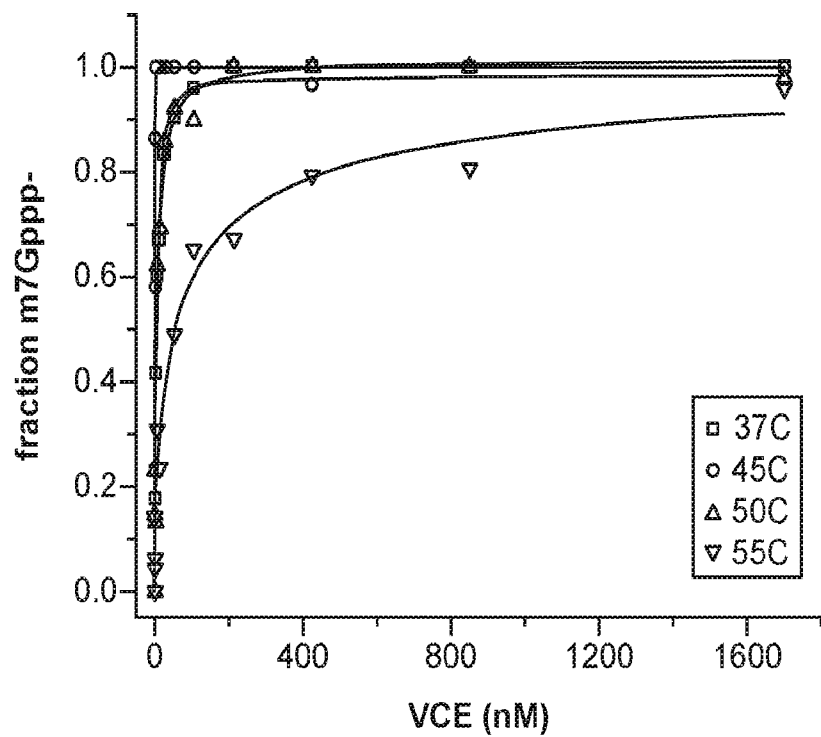


FIG. 3A

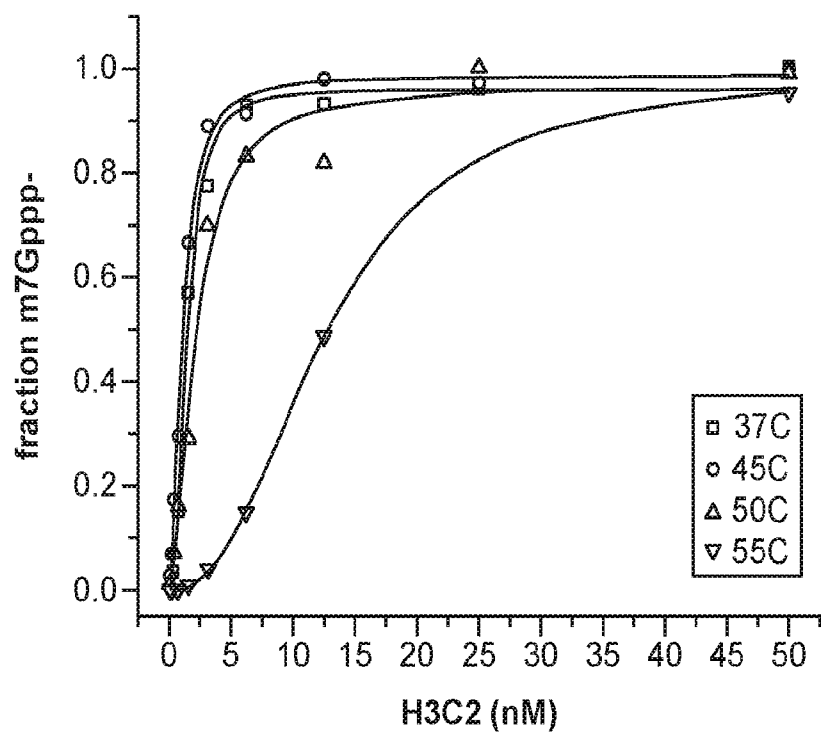


FIG. 3B

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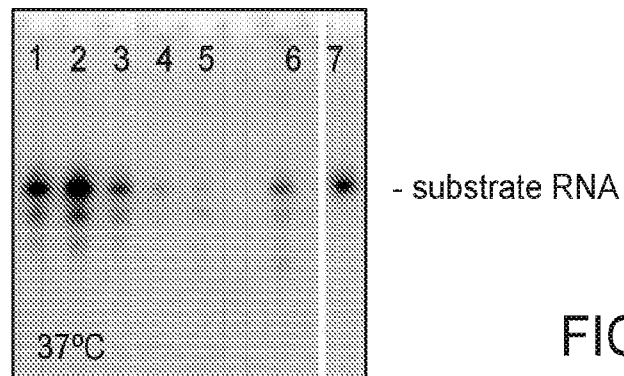


FIG. 4A

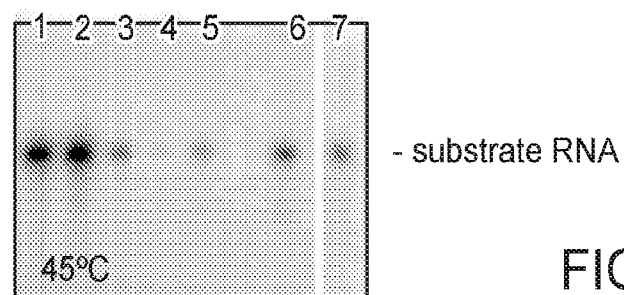


FIG. 4B

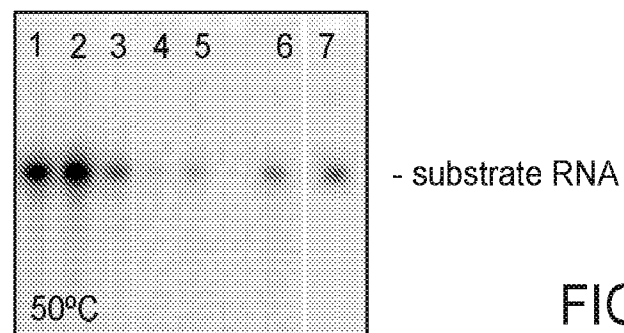


FIG. 4C

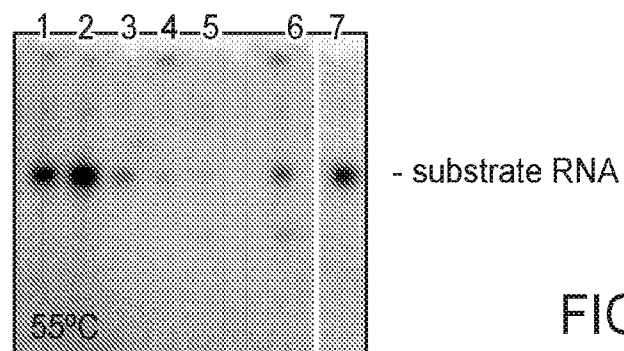


FIG. 4D

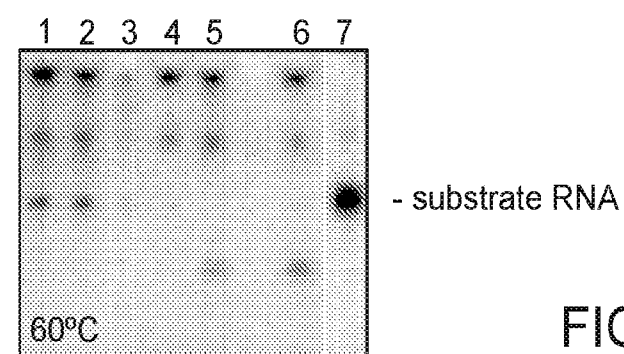


FIG. 4E

	10	20	30	40	50	60	70
AMN83561	1	MAKRLQRCQDVNQVCEIYNSKGGIGELELRFDKLQNLFAGVFDKLPDGEIQ	TTMR				
AIB52055	1	MRRVENSARKQQRCDQSVQVCEFYNAQNKTNELRFDKLNRELFVVFDFDKLPDGEI	TTMR				
SME65026	1	MRRVNSAKKQQRCDQSVQVCEFYNAQNKTNELRFDKLNRELFVVFDFDKLPDGEI	TTMR				
SMH63629	1	LEYQYKYILVNIIMSRRLQRCRDVDQVCEYNAKGAIGELELRFDKLTPDLFAHVF	FDKLPDGEI				
Fausto_CR_01	1		TTMR				

	80	90	100	110	120	130	140
AMN83561	58	VSNRDCGMAREITTFGGGVKTNEIFVKKQNICVFDVVDLIFSYKVAVSTEE	TVVEKPTMETTAGVRFKIRLSV				
AIB52055	64	VSNADGMAREITTFGGGVKTGEMFVKKQNICVFDVVDLIFSYKVAVSS	SEDEIKDKPKMDTNASVRFKIRLSC				
SME65026	64	VSNADGMAREITTFGGGVKTGEMFVKKQNICVFDVVDLIFSYKVAVSS	SEDEIKDKPKMDTNASVRFKIRLSC				
SMH63629	71	VSNSDGMAREITTFGGGVKTGEMFVKKQNICVFDVVDLIFSYKVAVST	EEETLVDPAMEKDNASVRFKIRMSV				
Fausto_CR_01	16	VSNADGMAREITTFGGGVKTGEMFVKKQNICVFDVVDLIFSYKVAVS					

	150	160	170	180	190	200	210
AMN83561	128	EDVVKDWRIDLTAVKTAELGKIAQHTASIVQRTFPDNLKLTGAEVAKIAADS	YEELEYTGKSPATNEK				
AIB52055	134	DTLIPDWRIDLTAVKVADLGKIAQHTSTVVLQTFPENLLRMKGAEVAALAT	NSYELELEYIGKSAASKEK				
SME65026	134	DTLIPDWRIDLTAVKVADLGKIAQHTSTVVLQTFPENLLRMKGAEVAALAT	NSYELELEYIGKSTAGKEK				
SMH63629	141	EGAVPNWRIDLTAVKTAELGKIAQHTASIVLQTFPENLLKMGAEVAKLAN	NSYELELEYIGKTPATKER				

FIG. 5

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		500	510	520	530	540	550	560	
									
AMN83561	468	ILETDINMFGSRVPIQFQPAINPLAYVCYLPEDVN-----VNDGDIVEMRAVDGYDTIPKWELVRSRND							
AIB52055	484	LLETDVNLFNGNKIPIQFMPAINPLAYICYLPSSGT-----VNDGDIVEMRAVDGFDGIPTWELVTRPD							
SME65026	484	LLETDVNLFNGNKIPIQFMPAINPLAYICYLPSSGT-----VNDGDIVEMRAVDGFDGIPTWELVTRPD							
SMH63629	484	MLETDINLFNGSRVPIQFMPAINPLAYICYLPEAATCANGDAINDGDIVEMRAVDGFDVTPKWEPIRVRS							
		570	580	590	600	610	620	630	
									
AMN83561	532	RKNEPGFYGNNGYKIASDIYLNIDVHEFEDILWKYNPGYFEKNKSDIYVAPNKYRRMLIKSLEFGRYLRDAK							
AIB52055	548	RKDERGFYGNNGYKIASDIYLNIDVFNEDDILWKYNPGYFEKNKSDIYHAPNKYRRMLIKSLEFGRYLRDAK							
SME65026	548	RKDERGFYGNNGYKIASDIYLNIDVFNEDDILWKYNPGYFEKNKSDIYHAPNKYRRMLIKSLEFGRYLRDAK							
SMH63629	554	RKDERGFYGNNGYKIASDIYLNIDVFNEDDILWKYNPGYFEKNKSDIYHAPNKYRRMLIKSLEFGRYLRDAK							
Fausto_CR_03	1	-----GFYGNNGYKIASDIYLNIDVFNEDDILWKYNPGYFEKNKSDIYHAPNKYRRMLIKSLEFGRYLRDAK							
		640	650	660	670	680	690	700	
									
AMN83561	602	WVIDAAAGRGADLHLYKAECVEHLLAIDIDPTAISSELVRRNEITGYNKSHRGGR--NMHSHRGQSH---							
AIB52055	618	WVIDAAAGRGADLHLYKQECVENLLAIDIDPTAISSELHRRNEITGWQQRGGG---NTRHNARHN---							
SME65026	618	WVIDAAAGRGADLHLYKQECVENLLAIDIDPTAISSELHRRNEITGWQQRGGGMMHNSRHNTRHN---							
SMH63629	624	WVIDAAAGRGADLHLYKAECVENLLAIDIDPTAISSELVRRNEITGYNRCHRGHGGSMRAHMGASHHGA							
Fausto_CR_03	66	WVIDAAAGRGADLHLYKAECVENLLAIDIDPTAISSELHRRNEITG							

FIG. 5 (Cont. 2)

	710	720	730	740	750	760	770
AMN83561							
AIB52055	--CAKSTSLHALVADLR	ENPDVLI	PKIIQSRPHERCYDA	IVINFAIHYLC	DTDEHIRDELITV	SRLLAPN	
SME65026	THCASSTSLHALVADLR	TEPNMLI	PKIIQSRPPER	GYDAIVINFAIHYLC	ETDDYIRNFLITV	SRLLAPD	
SMH63629	THCASSTSLHALVADLR	TEPNMLI	PKIIQSRPPER	GYDALVINFAIHYLC	ETDDYIRNFLITV	SRLLAHD	
	QNC	AKSTTLHALVADLR	DPDVL	PKIIQSRPPER	GYDAIVINFAIHYLC	DTDEHIRDELITV	SRLLAPN
	780	790	800	810	820	830	840
AMN83561							
AIB52055	GVFI	FTTMDGESIVKLLADHKVR	PGEA	WTIHTGD	-VNSPDSTVP	KYSIRRLYDS	DKLTKTGQ
SME65026	GVFI	FTTMDGEAIVNLLAEHKVAP	GSWVHTDGNANATDANV				
SMH63629	GVFI	FTTMDGEAIVNLLTEHKVAP	GSWVHTDGNATDANV				
Fausto CR 05_1	GIF	FTTMDGESIVKLLETHKVKSGESWTVHTG	--ADDPEAGVI				
	850	860	870	880	890	900	910
AMN83561							
AIB52055	SGEM	KAEPLCN	IKNI	HS	MARKMGLDLVESANF	SVLYEAYARDYPDI	YARMT
SME65026	SGEM	REEPLCN	IKNI	VS	MARKMGLDLVESANF	SVLYGAYAKDYPEI	YAKLT
SMH63629	SGEM	REEPLCN	IKNI	VS	MARKMGLDLVESANF	SVLYGAYAKDYPEI	YAKLT
Fausto CR 05_27	SGEM	KTEPLCN	IKNI	HS	MARKMGLDLVESANF	SVMYDAFARAYPEI	SARLT
	SGEM	KEEPLCN	IKNI	HS	MARKMGLDLVESANF	SV	

FIG. 5 (Cont. 3)

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AAV50651 YP_007354410	----- GTase -----									
	360	370	380	390	400	410	420			
350	DVIFAEGTDYRYDNTYSLPKRIII	INNIIDKCFGNLIPFNDYTDKHN	LELDSIKTYKSEL	SNYWKNEFK						
345	DVYHNGIDYRYDNTYTLTHRIII	INDIIDKAFNNLIPFTDYTDKYN	NLELDKIKEFYSNEIKTYWKNEFS							
AAV50651 YP_007354410	----- GTase -----									
	430	440	450	460	470	480	490			
420	NRLNKSTDLFITRKLVLVPYIGIDSS	EIFMYADMIWKLYVYNELTPYQ	LDGIITPINSPYLIRGGIDAYD							
415	KKLKNYSGLFISRKLYFVPYIGIDSS	EVFMYADLVWKLVCYDQLTPYK	LDGIITPPIASPYMIKTSANELD							
AAV50651 YP_007354410	-----									
	500	510	520	530	540	550	560			
490	TIPMEYKWKPPSONSIDFYIRFKKDV	SGADAVYDNSVERAEGPKYKICLL	YVGLNKQGQEIPIQFKVNG							
485	SVPMYKWKPPSONSIDFYVVKFDK	ARGNEAIYYDNAVVRGEGRPYKVC	GLFVGLNKGGEKPIAFKVAG							
AAV50651 YP_007354410 moumou_CR_03	-----									
	570	580	590	600	610	620	630			
560	VEQTANIYTKDGEATDINGNA	INDNTVVEFFEDTLKIDMD	DDSYKWIPIRTRDYDKTESVQ	KYHKHYGNNLQ						
555	VEQKAFIYLTNDEALDLSGNV	INDNTVVEFFEDNFKIDMD	DDPYKWIPIRTRDYDKTESVQ	KYRKHYGNNLH						
1	INDNTVVEFFEDNEKIDMD	DDPYKWIPIRTRDYDKTESVQ	KYHKHYGNNLH							
AAV50651 YP_007354410 moumou_CR_03 moumou_CR_04	----- MTase -----									
	640	650	660	670	680	690	700			
630	IANRIWITITNPTEBII	ISSLGDPPTTFNKEITLLSD	FRDTKYNKOALTYIQKNT	SNAGMRAFN	NNMIKSN					
625	IATRIMWITITNPVTEBII	AALGNASTFEKEMSKLVKNES	-YNKQSF	SYIQKNT	SNAGMRAFN	NNMIKSN				
50	IANRIWITITNPTEBII									
1										

FIG. 6 (Cont. 1)

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AAV50651 YP_007354410 motuou_CR_04_23	700 694 23	MTase	710	720	730	740	750	760	770
			MITTYQSGSKVLDIGCGRGDDLKFIHAGVEHYVGDIDNNGLYVINDSANNRYKNLKKTKTINHPPEMYE						
			MITTYQSGSKVLDIGCGRGDDLKFIHAGVEHYVGDIDNNGLYVINDSANNRYKNLKKTKTINHPPEMYE						
			MITTYQSGSKVLDIGCGRGDDLKFIHAGVEHYVGDIDNNGLYVINDSANNRYKNLKKTKTINHPPEMYE						
AAV50651 YP_007354410 motuou_CR_04_93	770 764 93	MTase	780	790	800	810	820	830	840
			INADARGLETEAEQEKILPGMPDENKSLINKYLVCN-KYDTINCOFTIHYYSDELSSWNNECKNINNOIK						
			INADARGLETEAEQEKILPGMPDENKSLINKYLVCN-KYDTINCOFTIHYYSDELSSWNNECKNINNOIK						
			INADARGLETEAEQEKILPGMPDENKSLINKYLVCN-KYDTINCOFTIHYYSDELSSWNNECKNINNOIK						
AAV50651 YP_007354410	839 834	MTase	850	860	870	880	890	900	910
			DNGYLLITCFDGNLIHNKLGKQKLSSTYTDNRGNKNIFFEINKIYSDTDKVGIGMAIDLYNSLISNPCT						
			DNGYLLITCFDGNLIHNKLGKQKLSSTYTDNRGNKNIFFEINKIYSDTDKVGIGMAIDLYNSLISNPCT						
			DNGYLLITCFDGNLIHNKLGKQKLSSTYTDNRGNKNIFFEINKIYSDTDKVGIGMAIDLYNSLISNPCT						
AAV50651 YP_007354410	909 904	MTase	920	930	940	950	960	970	980
			YIREYLVFPEFLEKSLKQCGLELVEEDLFYNIENFYKNTYNEYGMTDVSSKKHSEIRFEYLSLEG						
			YIREYLVFPEFLEKSLKQCGLELVEEDLFYNIENFYKNTYNEYGMTDVSSKKHSEIRFEYLSLEG						
			YIREYLVFPEFLEKSLKQCGLELVEEDLFYNIENFYKNTYNEYGMTDVSSKKHSEIRFEYLSLEG						
AAV50651 YP_007354410	979 974	MTase	990	1000	1010	1020	1030	1040	1050
			NANNDIEIDARASEFKLAMLNRYYVFRKTSITINITEPSRIVNELNNRIDLGKFIMPYERTNNMFIDLDNV						
			NANNDIEIDARASEFKLAMLNRYYVFRKTSITINITEPSRIVNELNNRIDLGKFIMPYERTNNMFIDLDNV						
			NANNDIEIDARASEFKLAMLNRYYVFRKTSITINITEPSRIVNELNNRIDLGKFIMPYERTNNMFIDLDNV						
AAV50651 YP_007354410	1049 1044	MTase	1060	1070	1080	1090	1100	1110	1120
			DTDINRVYRNIRNKYRTTRPHVYLIKHNINENRLEDIYLSNNKLDDESKIKNGSDPKVLLIYKSPDKQFYF						
			DTDINRVYRNIRNKYRTTRPHVYLIKHNINENRLEDIYLSNNKLDDESKIKNGSDPKVLLIYKSPDKQFYF						
			DTDINRVYRNIRNKYRTTRPHVYLIKHNINENRLEDIYLSNNKLDDESKIKNGSDPKVLLIYKSPDKQFYF						
AAV50651 YP_007354410	1119 1114	MTase	1130	1140	1150	1160	1170		
			LYYQNYQSMPEFDLD---QIYIPDKKKYLLDSRIINDINILINLITEKIKNIPQLS						
			LYYQNYQSMPEFDLD---QIYIPDKKKYLLDSRIINDINILINLITEKIKNIPQLS						
			LYYQNYQSMPEFDLD---QIYIPDKKKYLLDSRIINDINILINLITEKIKNIPQLS						

FIG. 6 (Cont. 2)

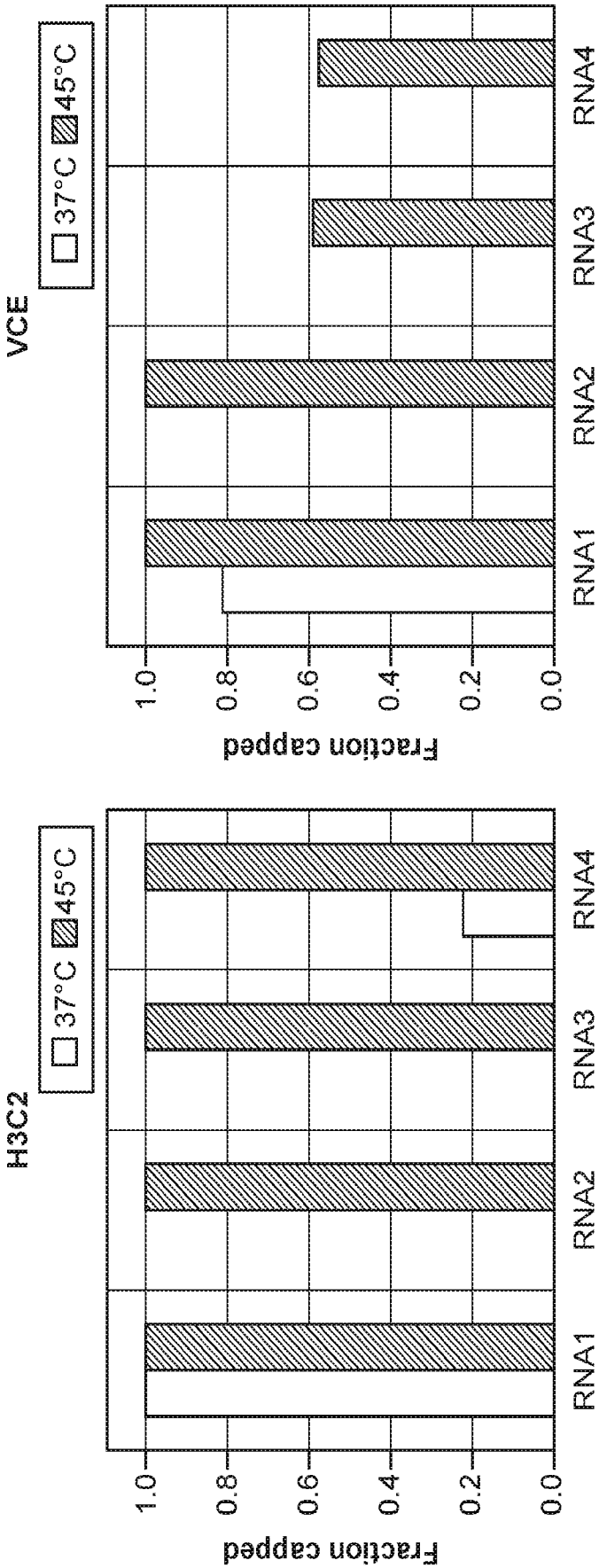


FIG. 7

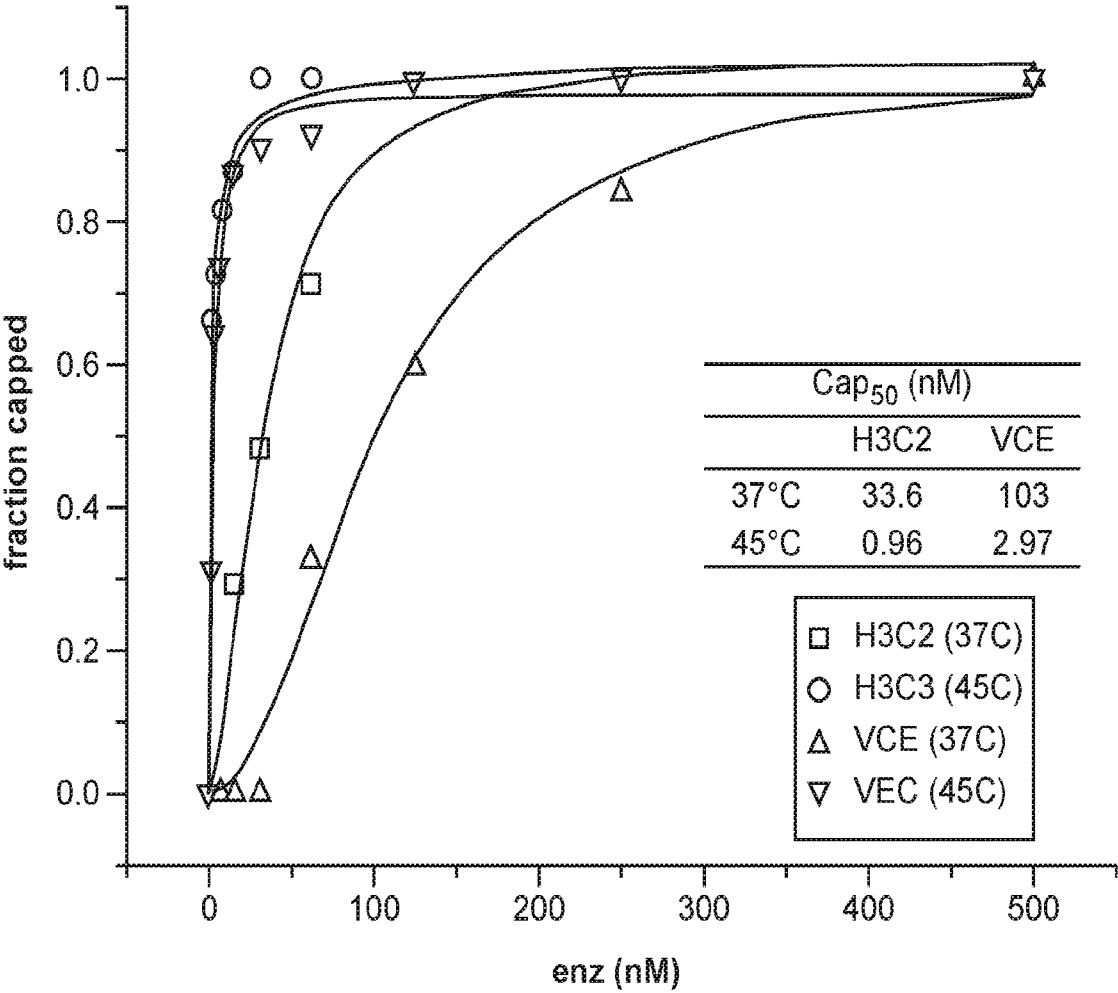


FIG. 8

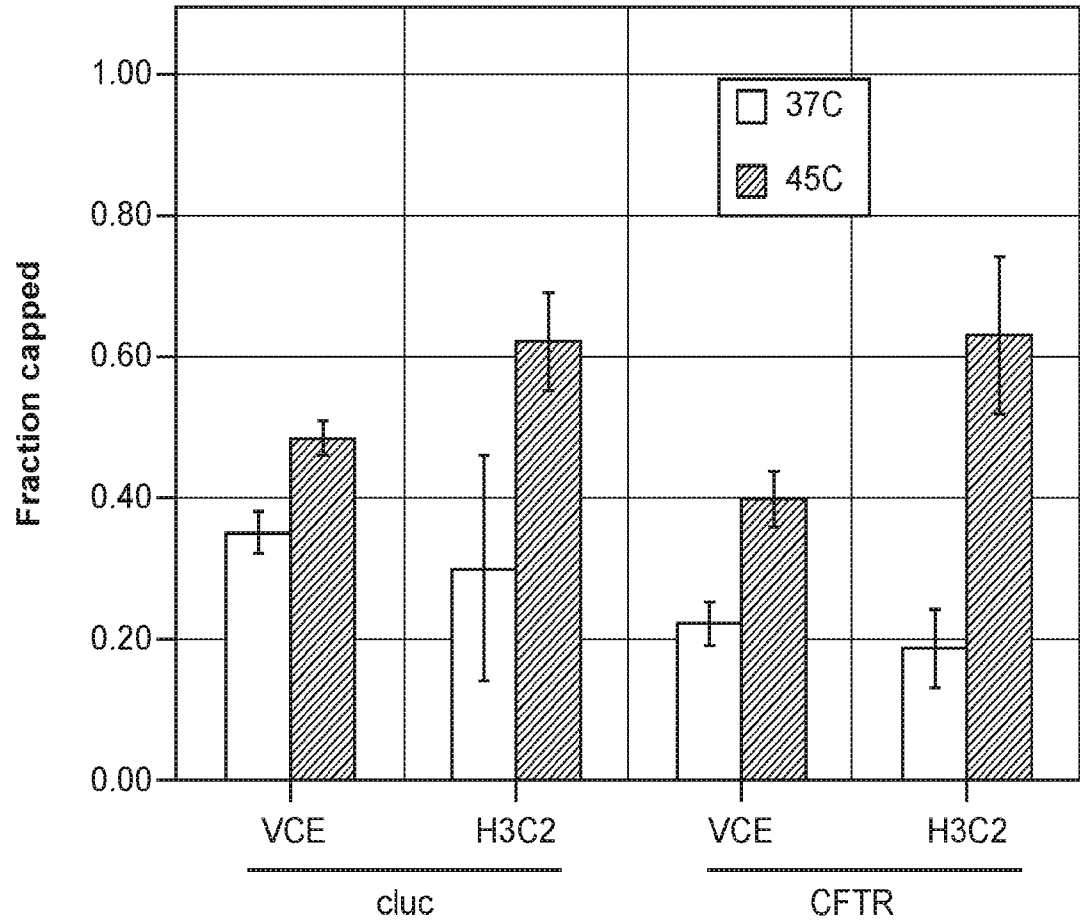


FIG. 9

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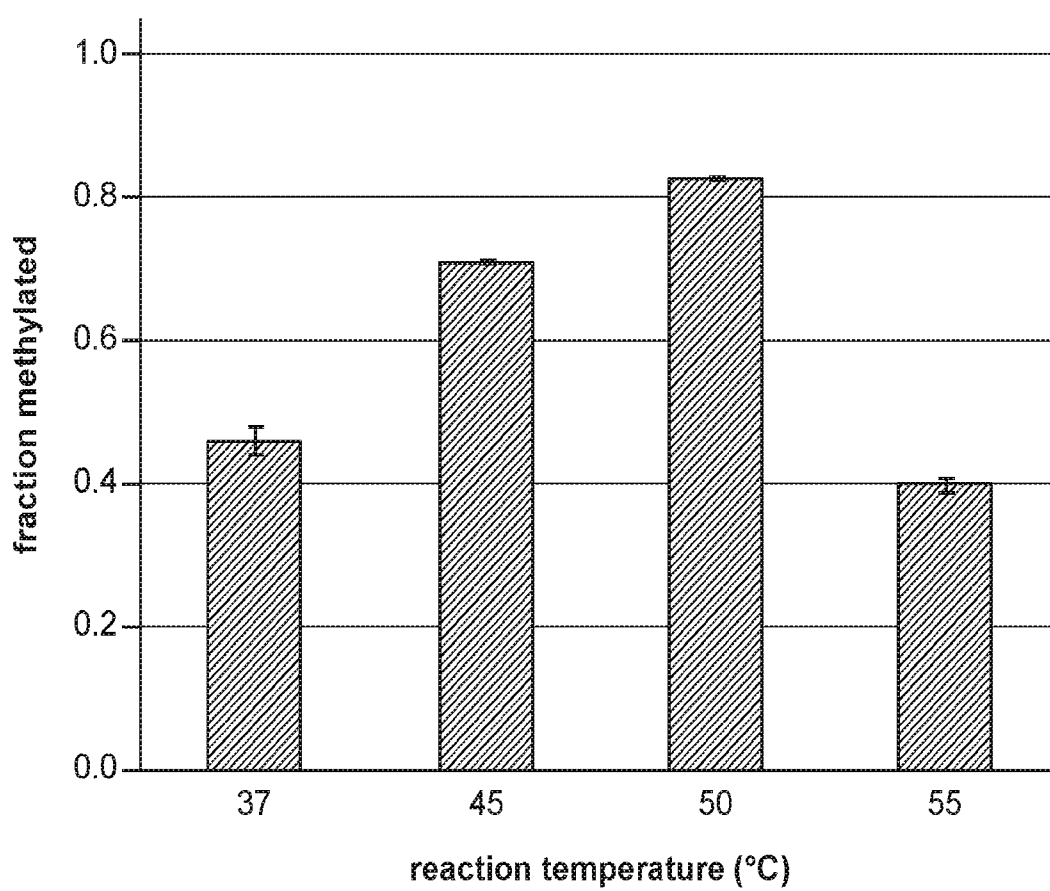


FIG. 10

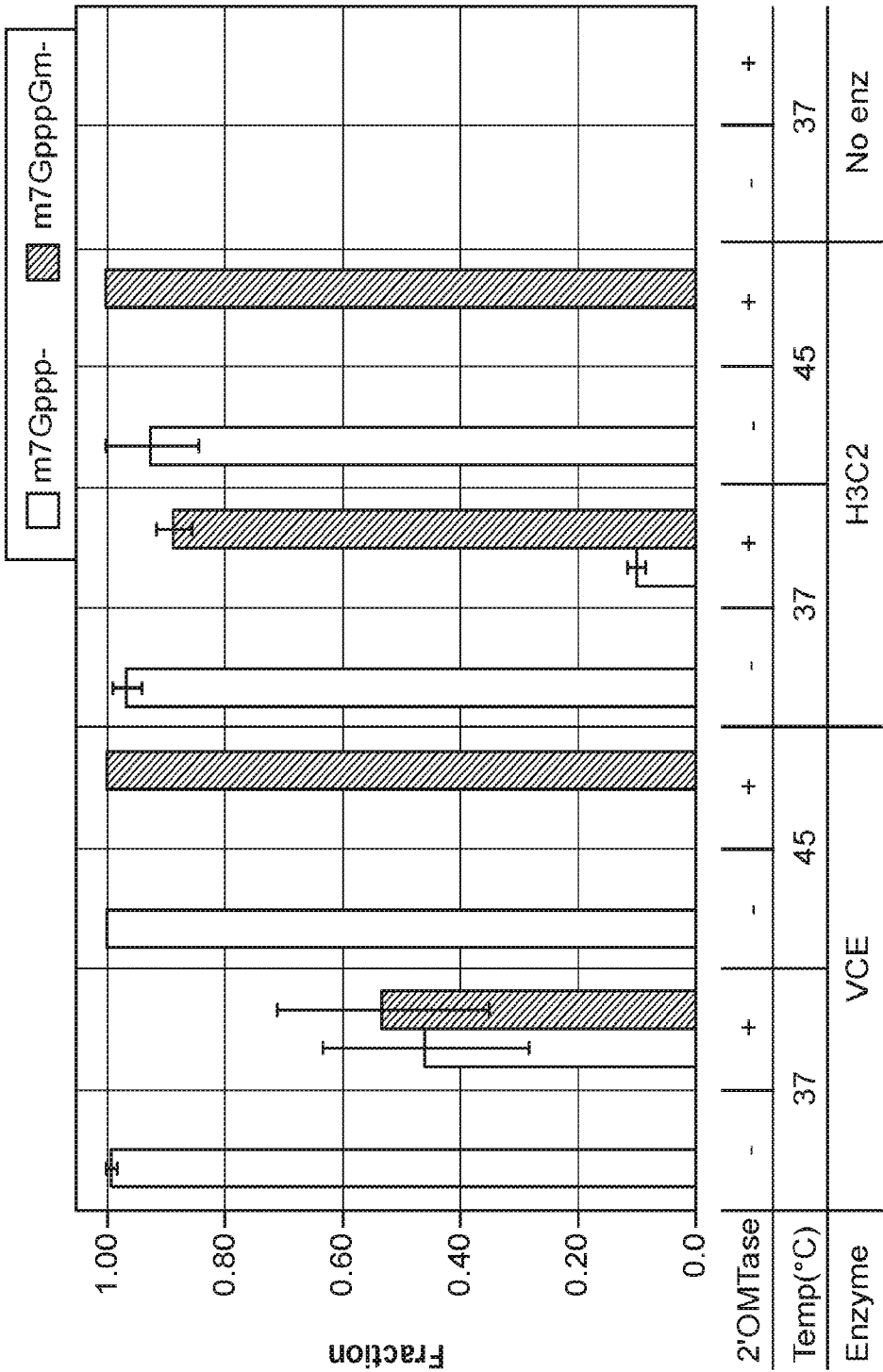
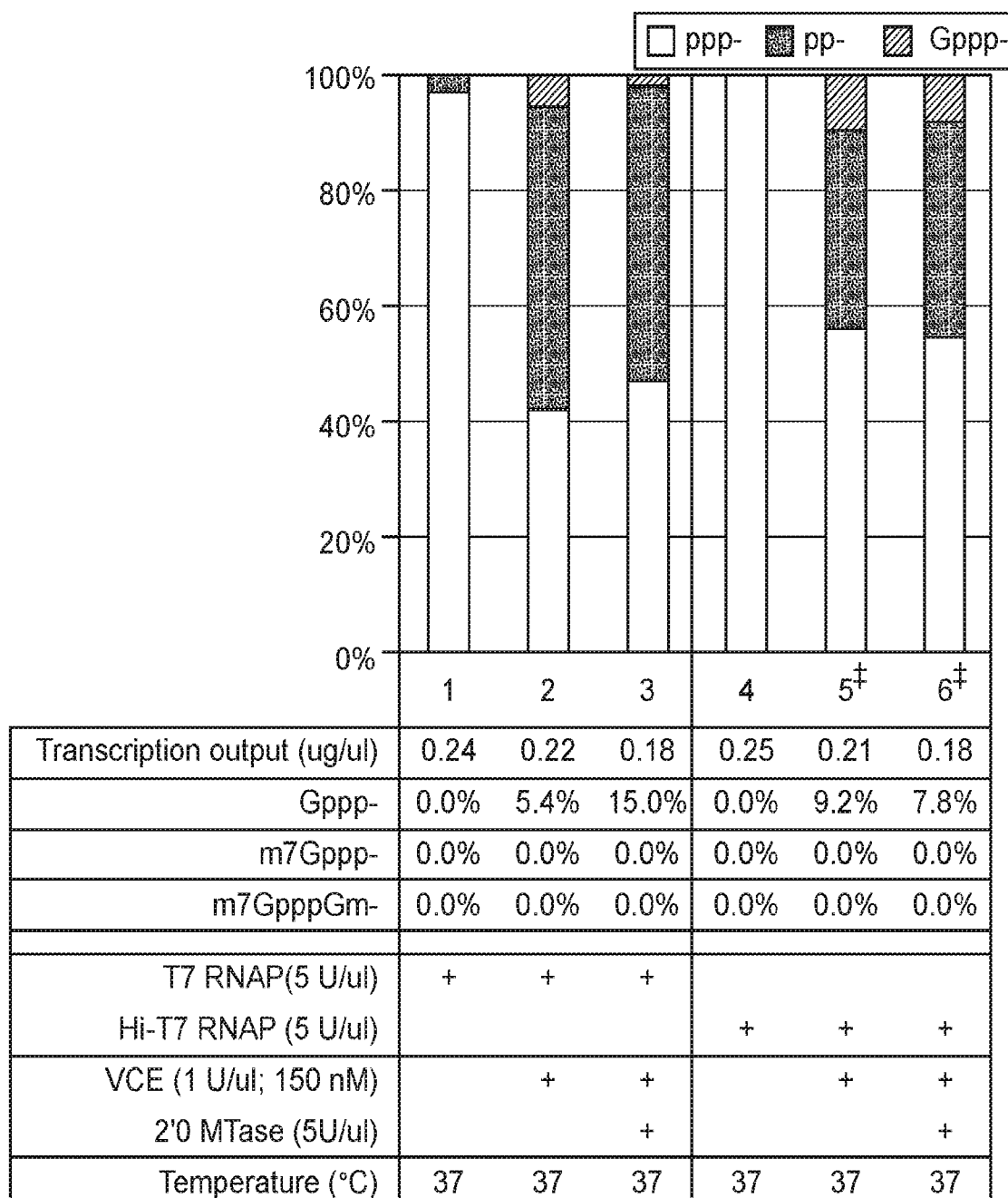


FIG. 11

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n = 3 unless stated otherwise

[‡]n = 2

FIG. 12

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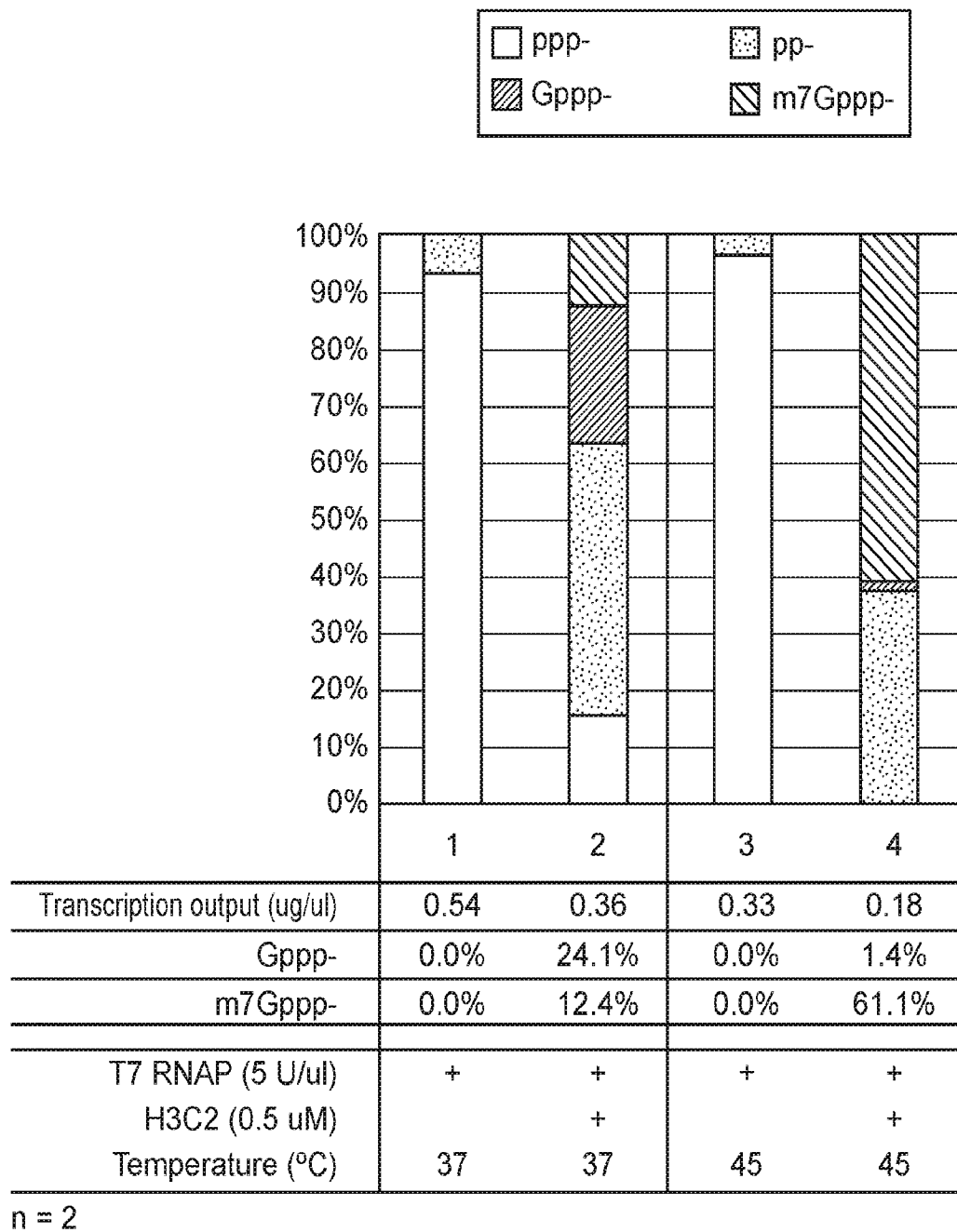


FIG. 13

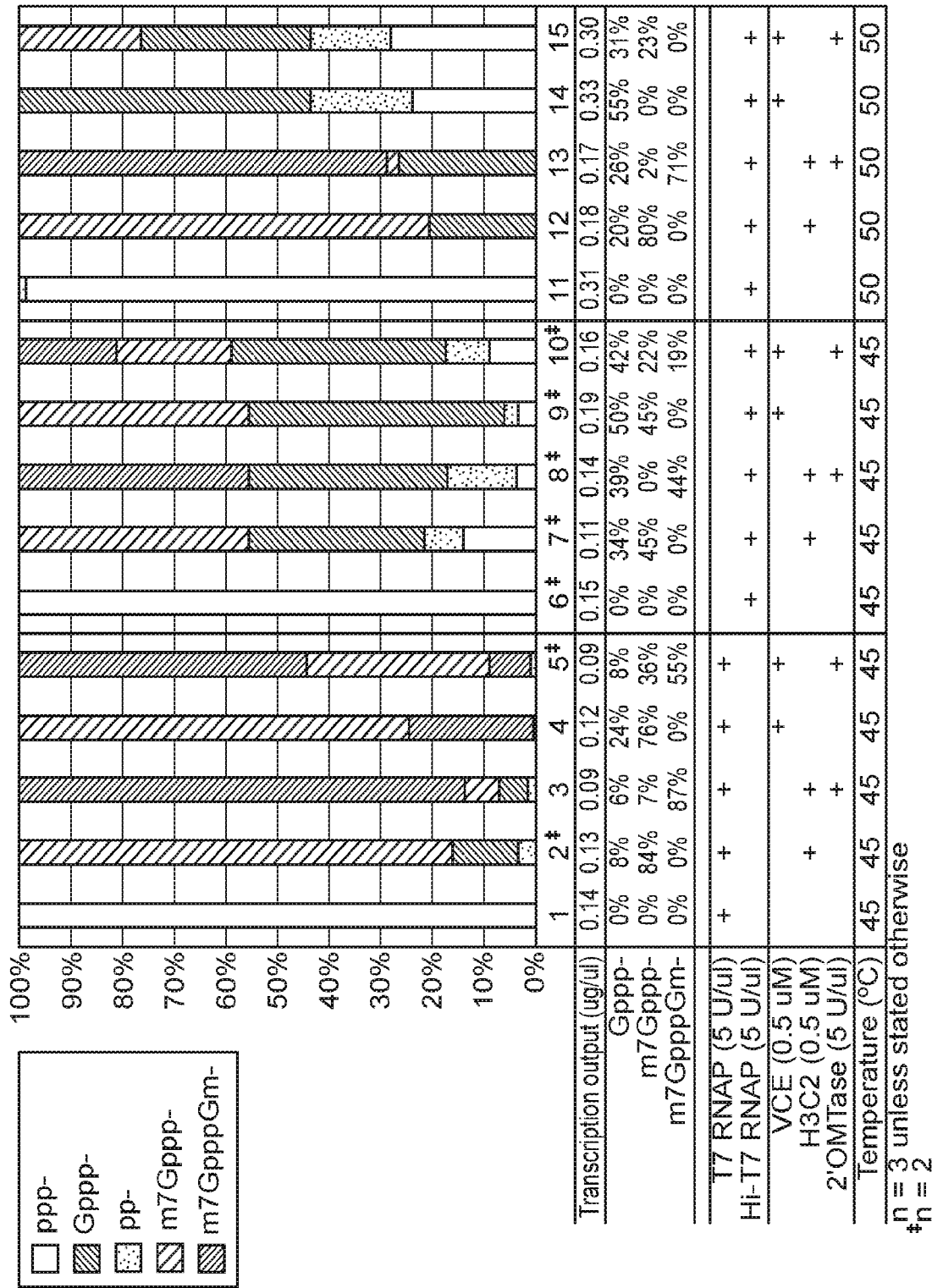
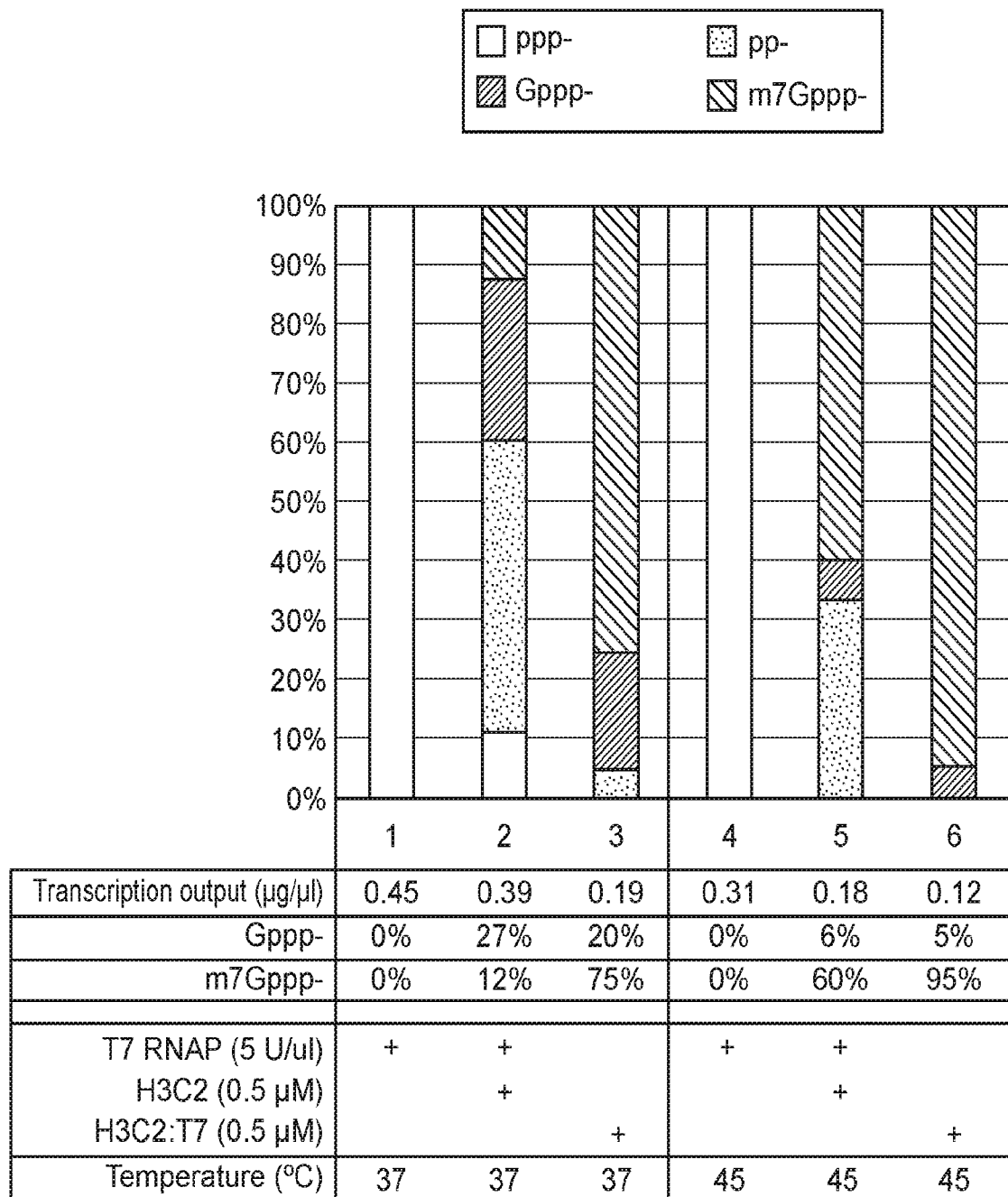


FIG. 14

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n = 2

FIG. 15

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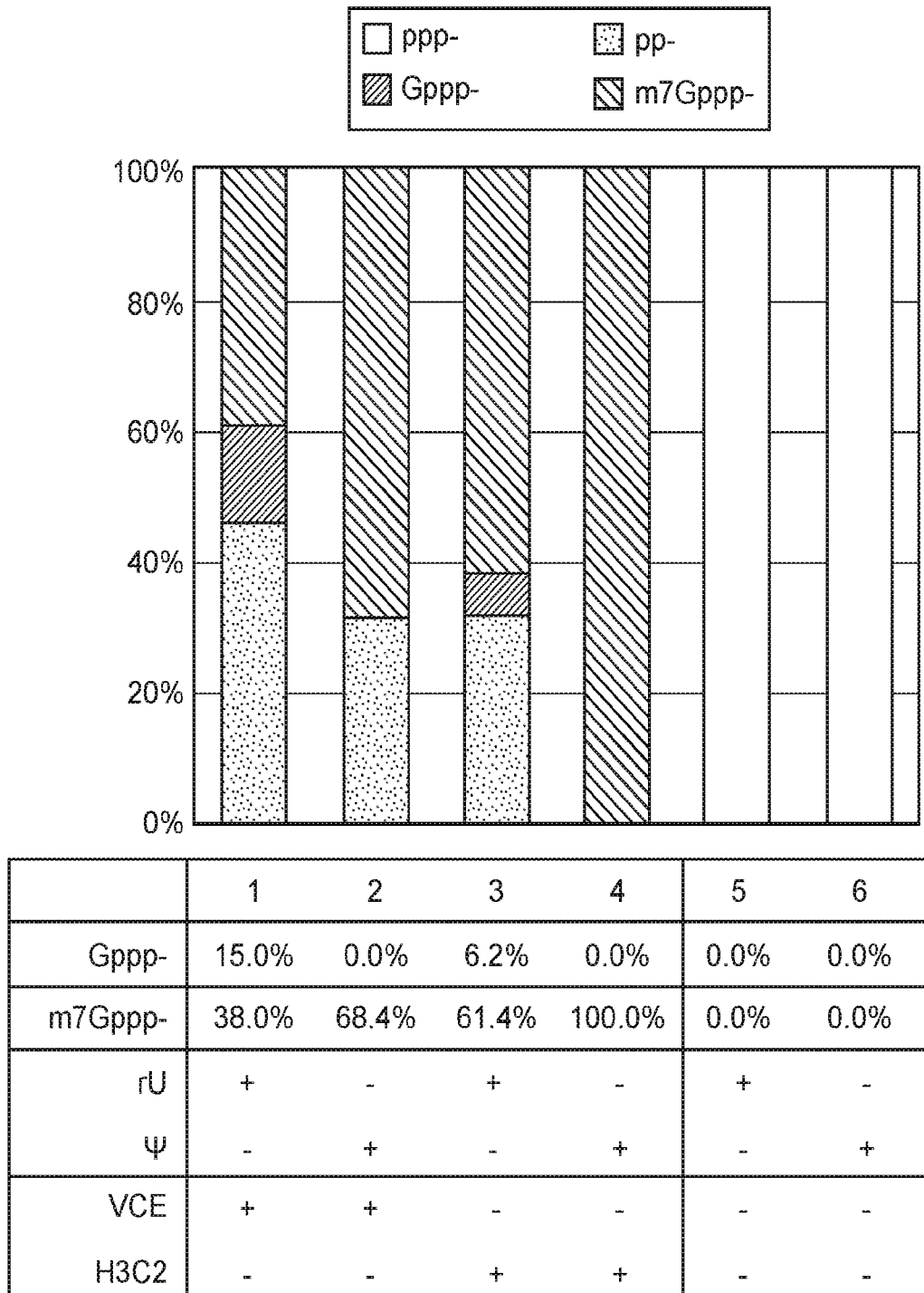


FIG. 16

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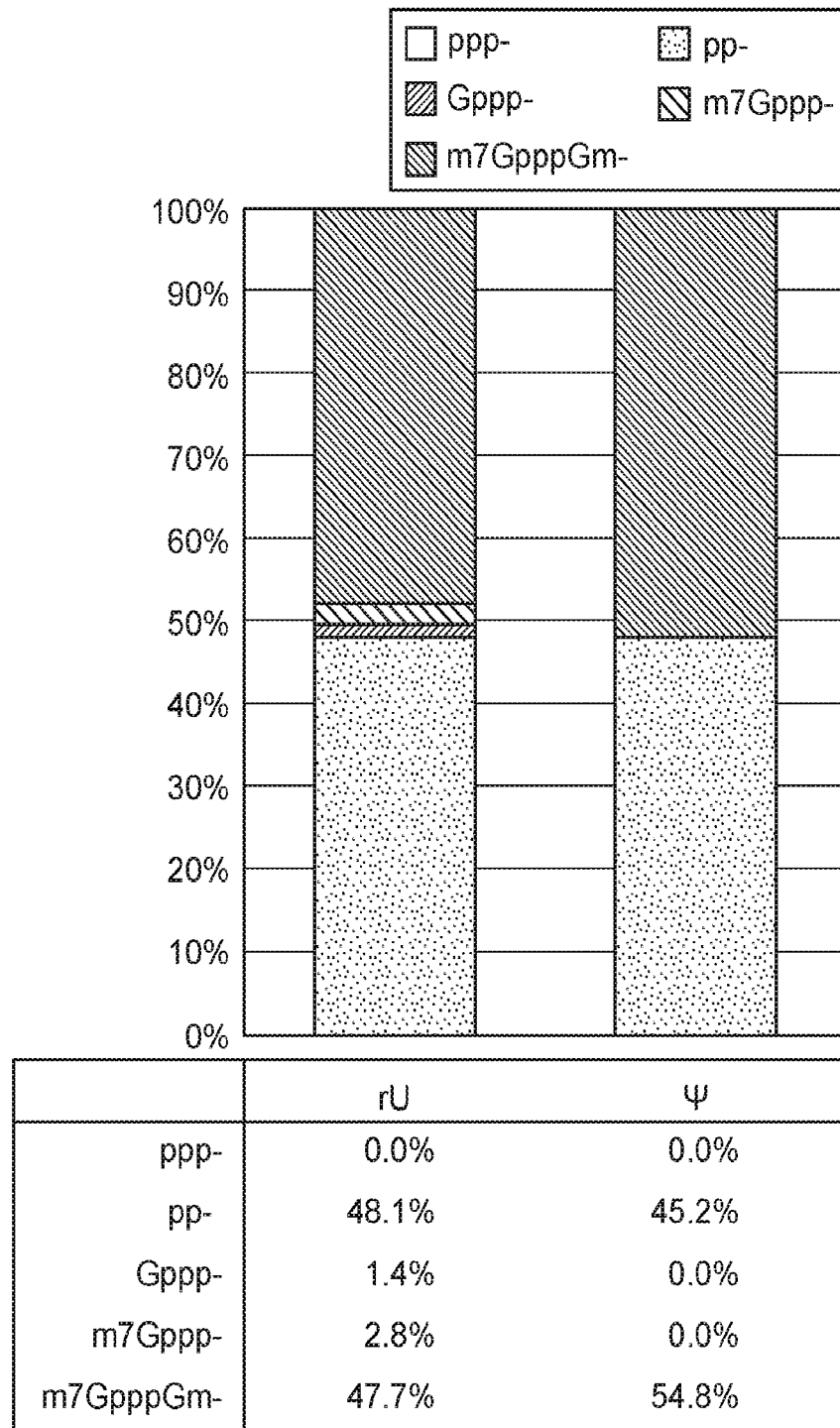


FIG. 17

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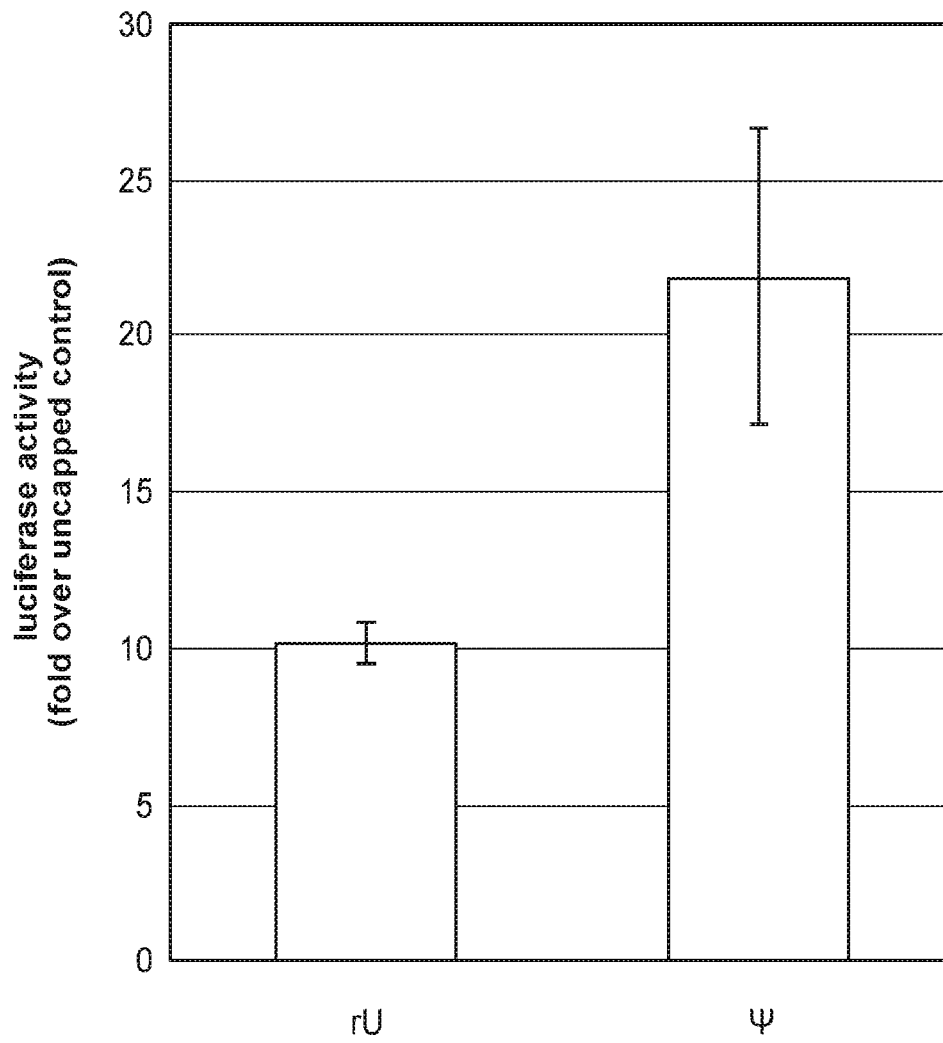


FIG. 18

