

Figure 1

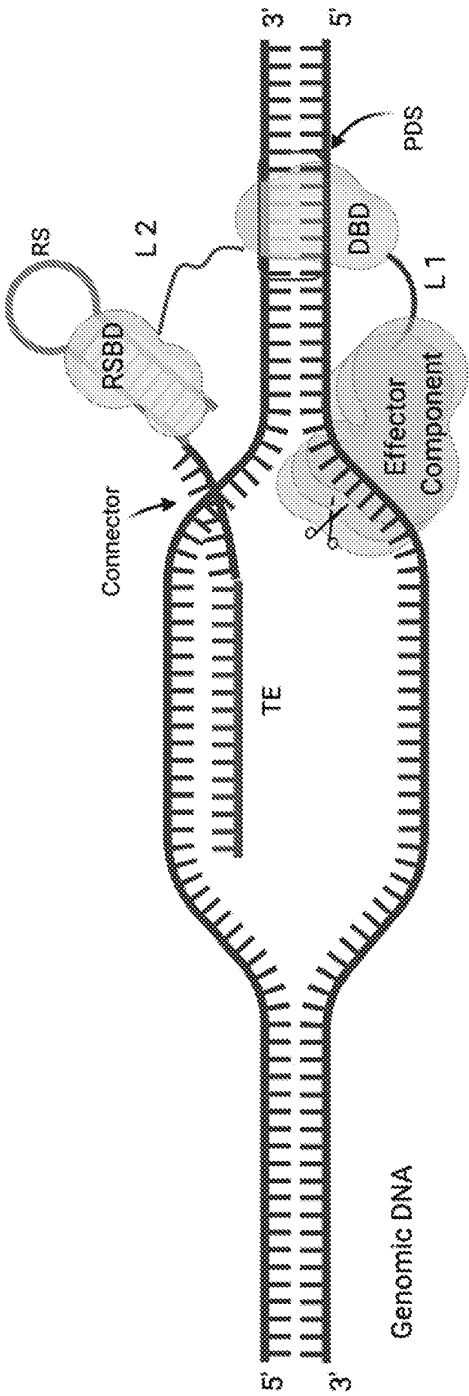


Figure 2

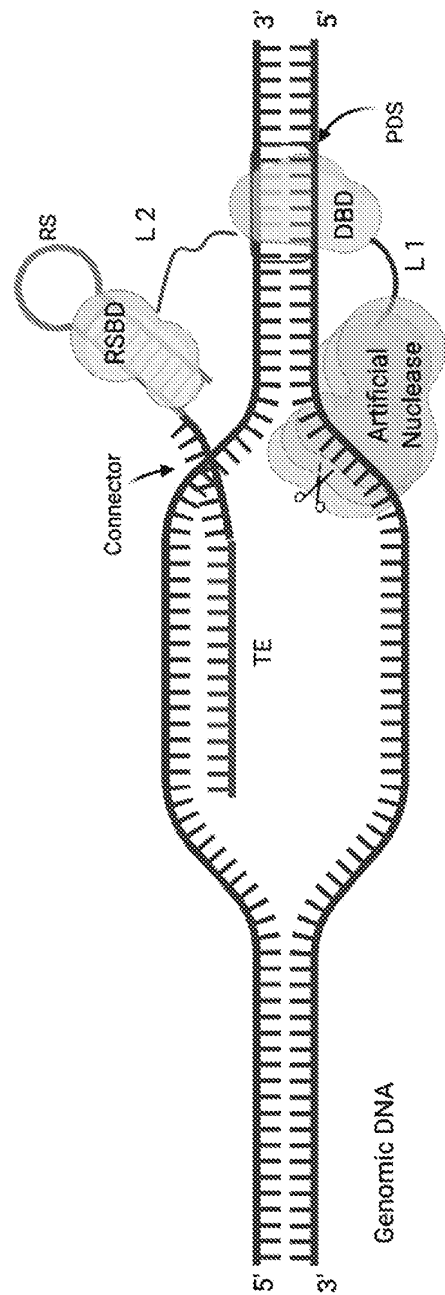


Figure 3a

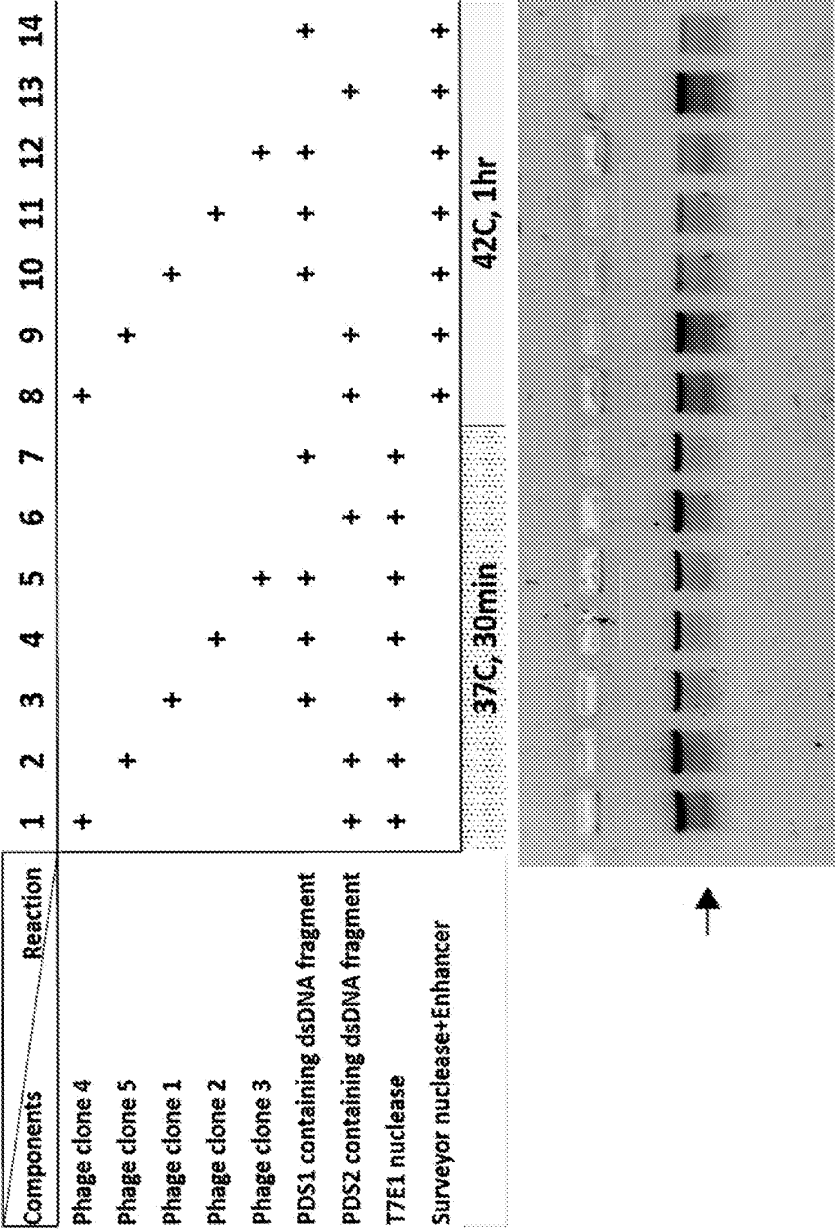


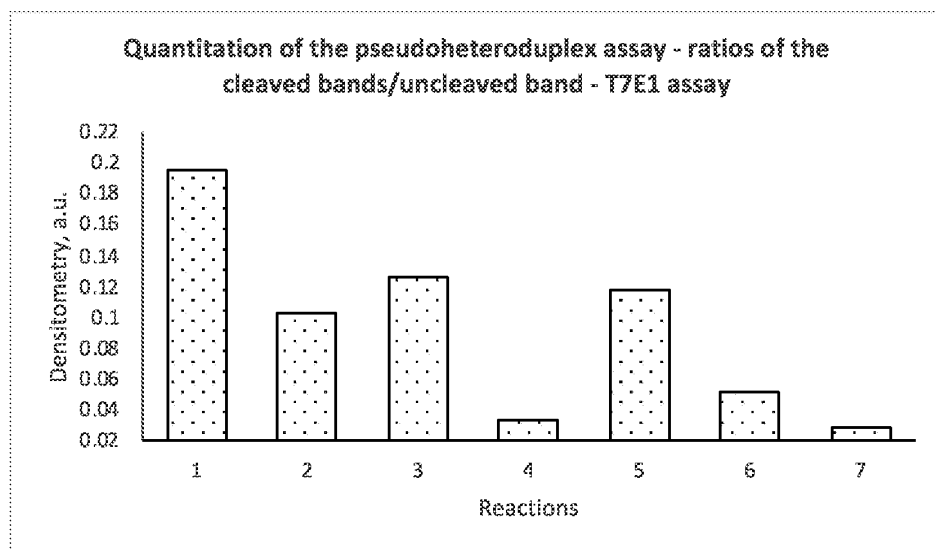
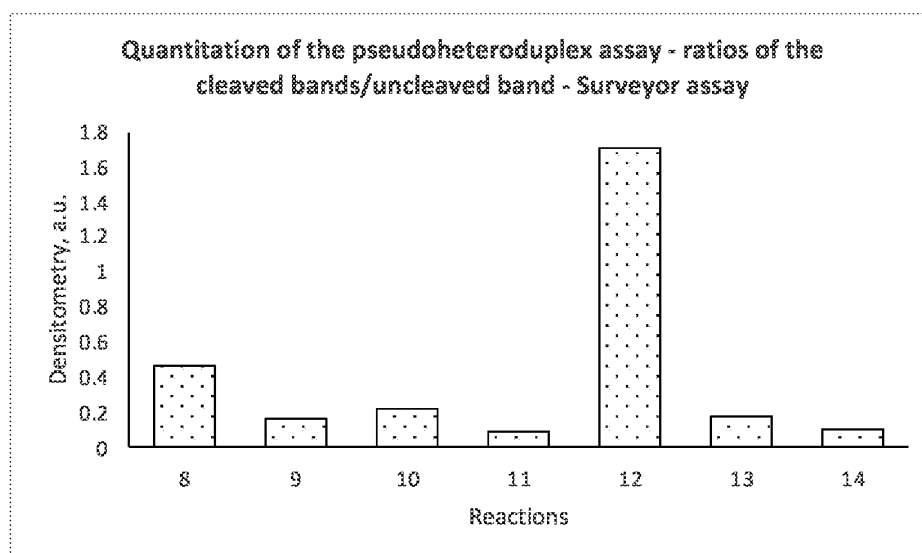
Figure 3b**Figure 3c**

Figure 4

Components	Reaction													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Peptide 1			+	+	+									
Peptide 2						+	+	+						
Peptide 3									+	+				
Peptide 4											+	+	+	+
PDS1 containing dsDNA fragment	+		+	+		+	+			+				+
PDS2 containing dsDNA fragment		+			+			+	+	+	+	+	+	
T7E1 nuclease	+	+		+	+		+	+		+	+		+	+

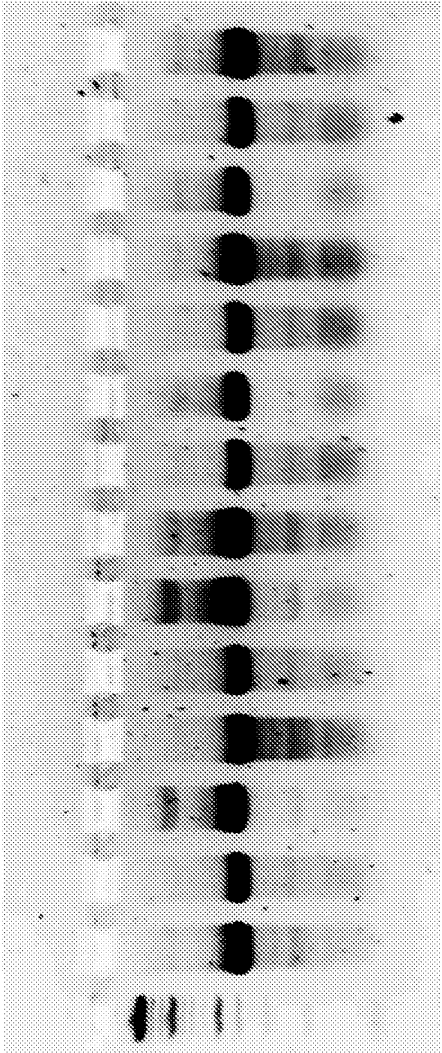


Figure 5

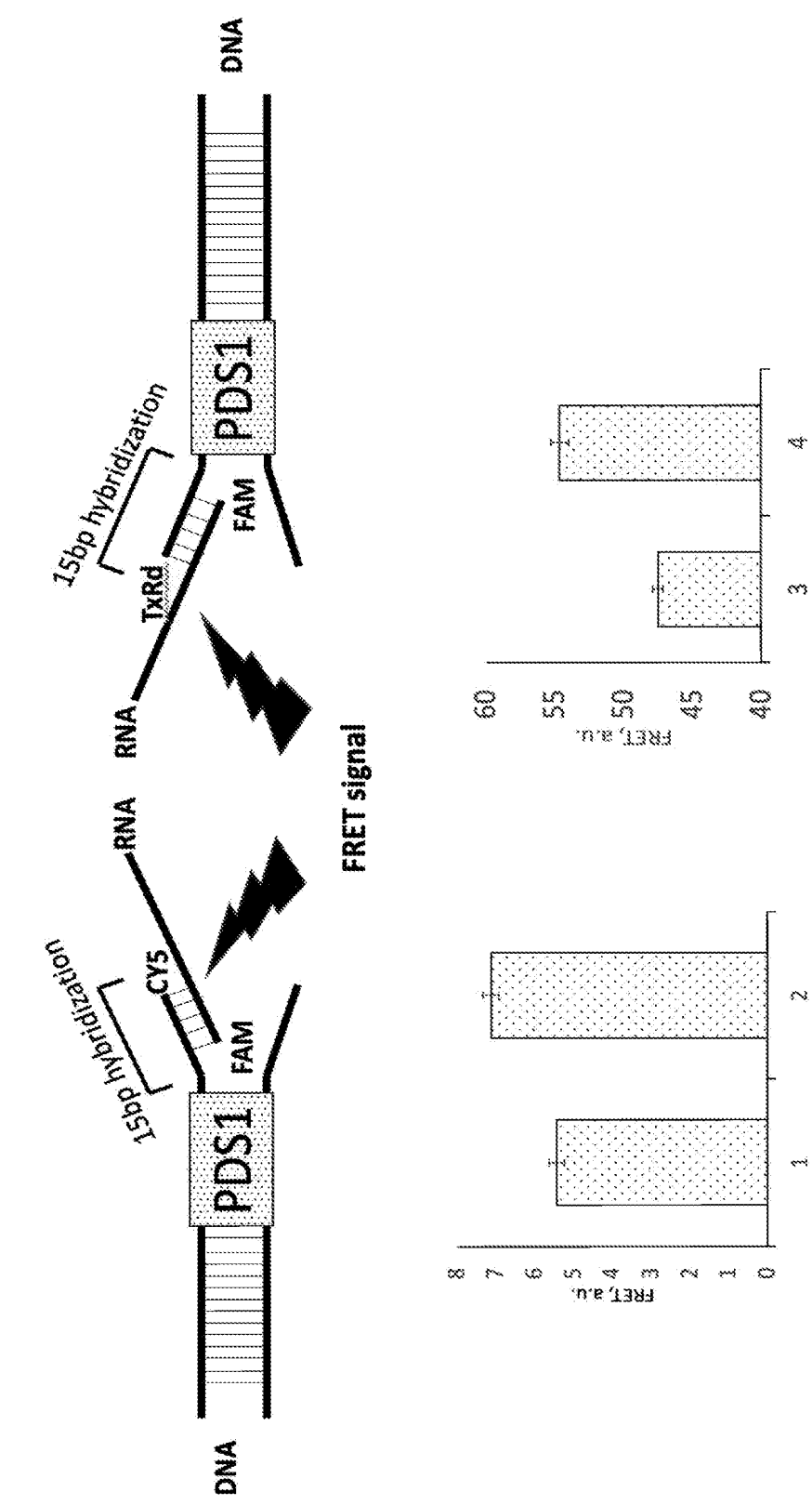


Figure 6

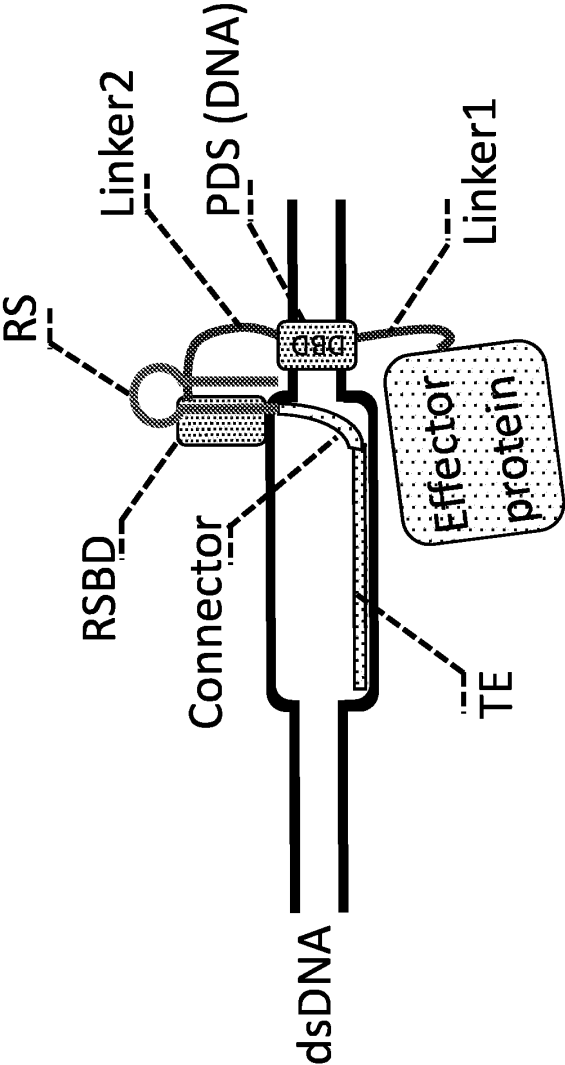


Figure 7

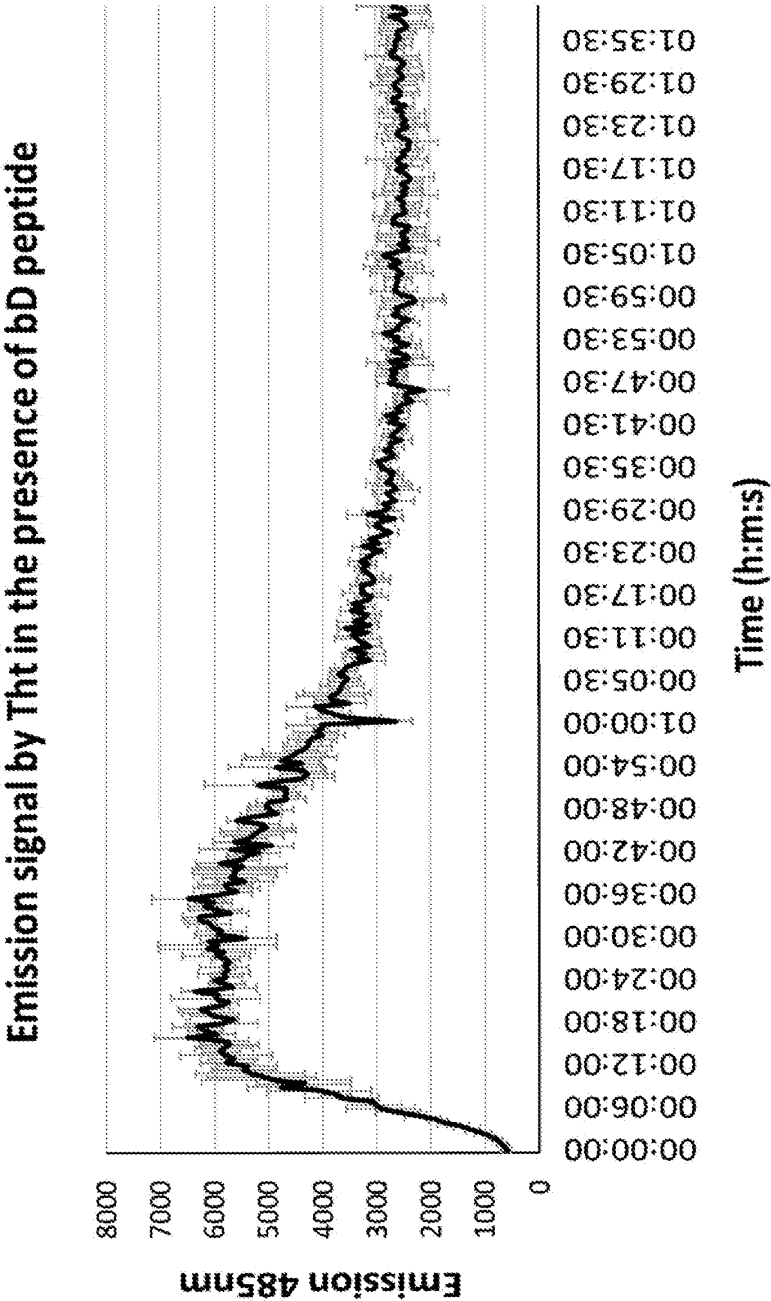
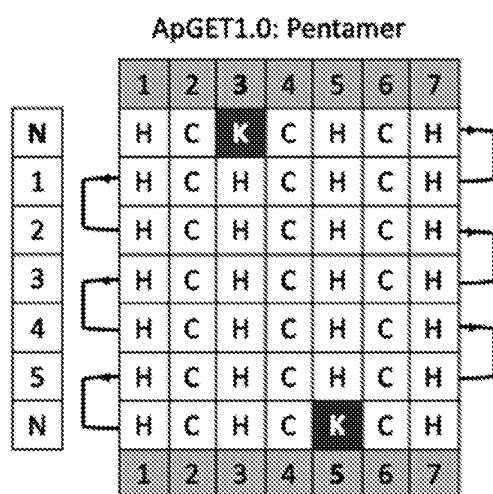
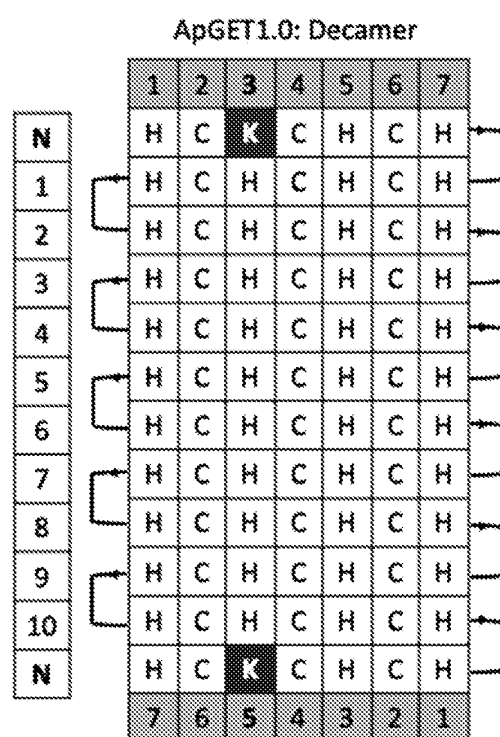


Figure 8

a



b



H: Hydrophobic residue

C: Catalytic residue

N: Negative design peptide unit

K: Lysine

Figure 9

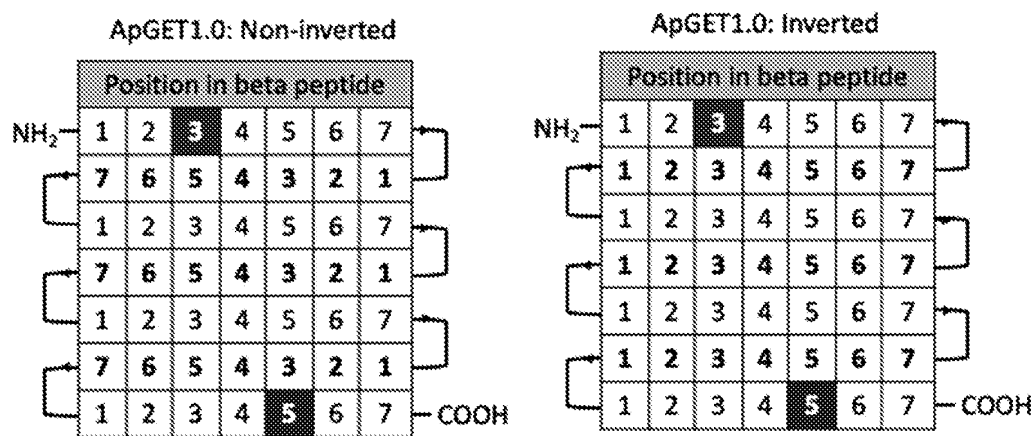


Figure 10

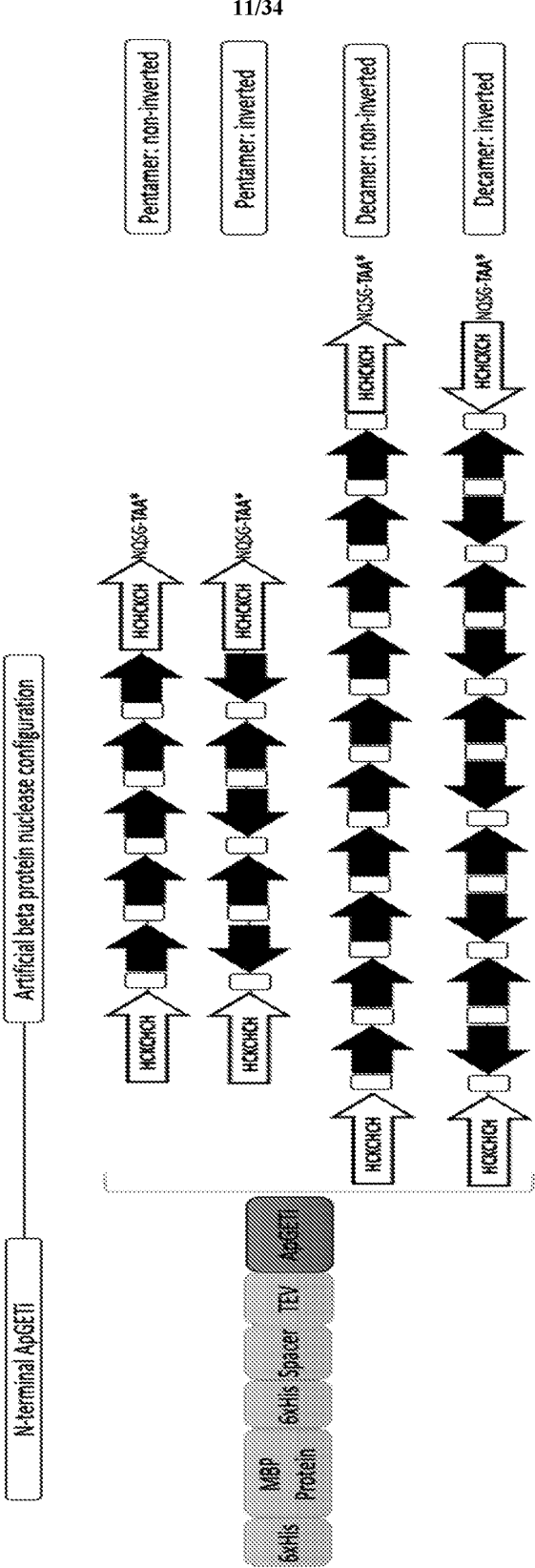
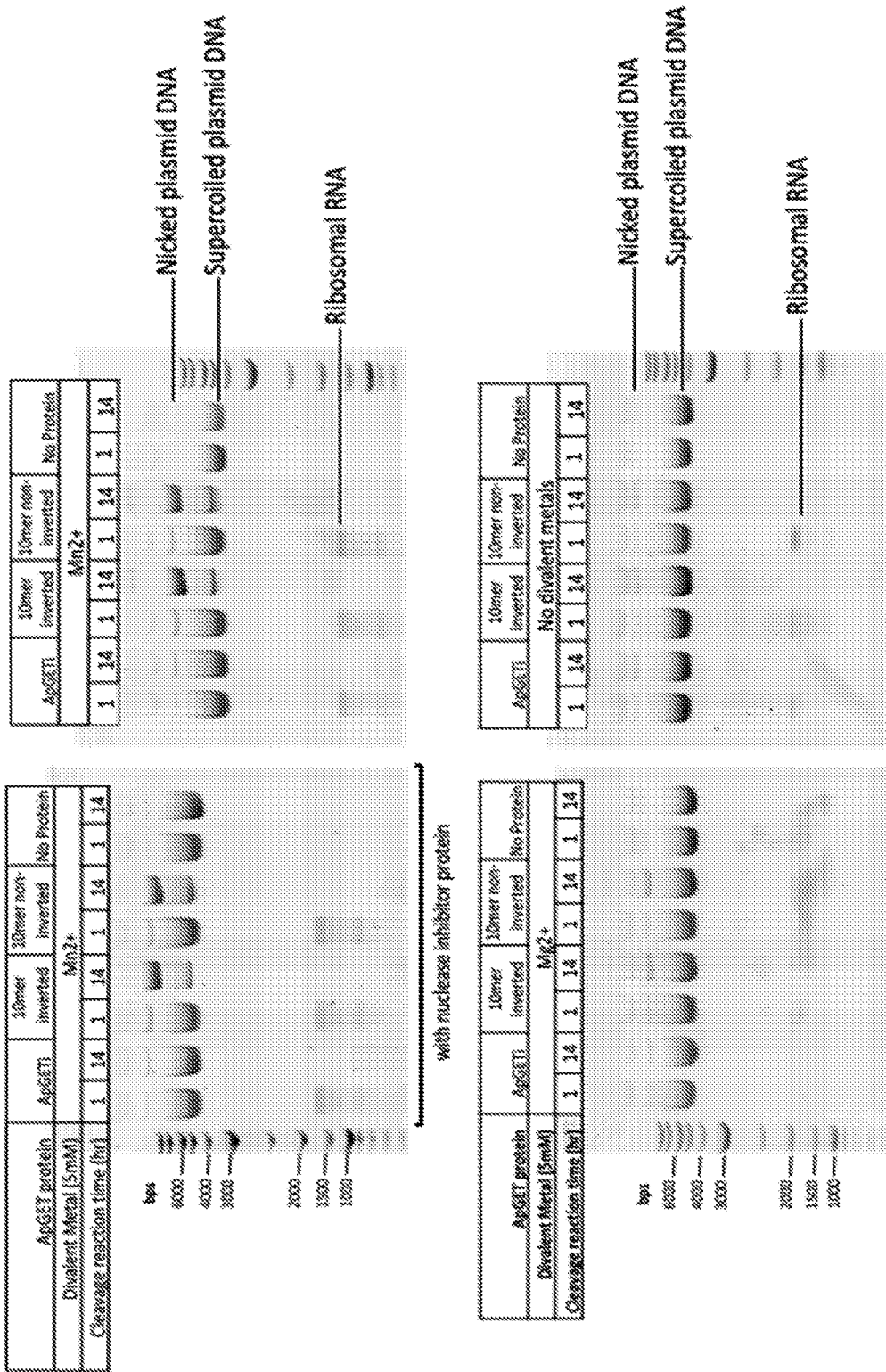
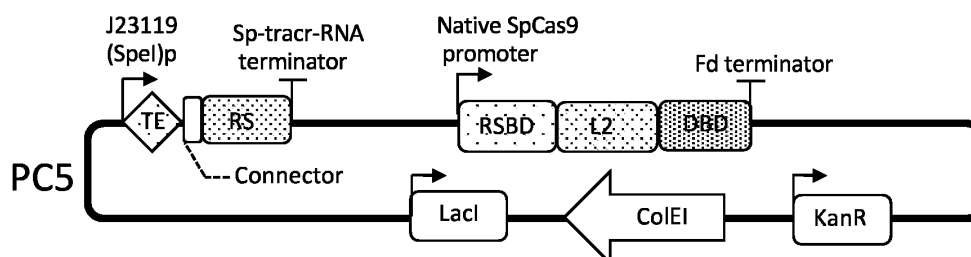


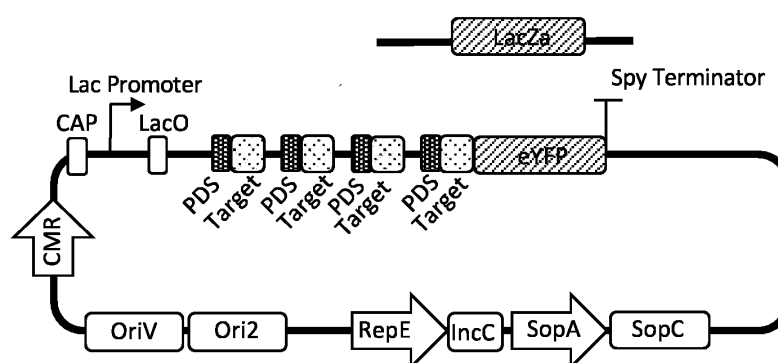
Figure 11



Editor:



PC2



GAAC TTTCAGTTTAGCGGTCT

Target sequence in PC1 and PC2 in 5'-3' direction (sequences in grey boxes are PDS and sequences in white boxes are targets, separated by other sequences in between):

GAACTTTCAGTTTAGCGGTC1  CCATAGCTGTTTCCTGTGTGATATCATGCAGCGGAGTG
CGAACTTTCAGTTTAGCGGTC1  CCATAGCTGTTTCCTGTGTGAATTCGCGCAACGCAT
AAGAACTTTCAGTTTAGCGGTC1  CCATAGCTGTTTCCTGTGTGATGCGCCACATCCACA
TCGGAACTTTCAGTTTAGCGGTC1  CCATAGCTGTTTCCTGTGTGA

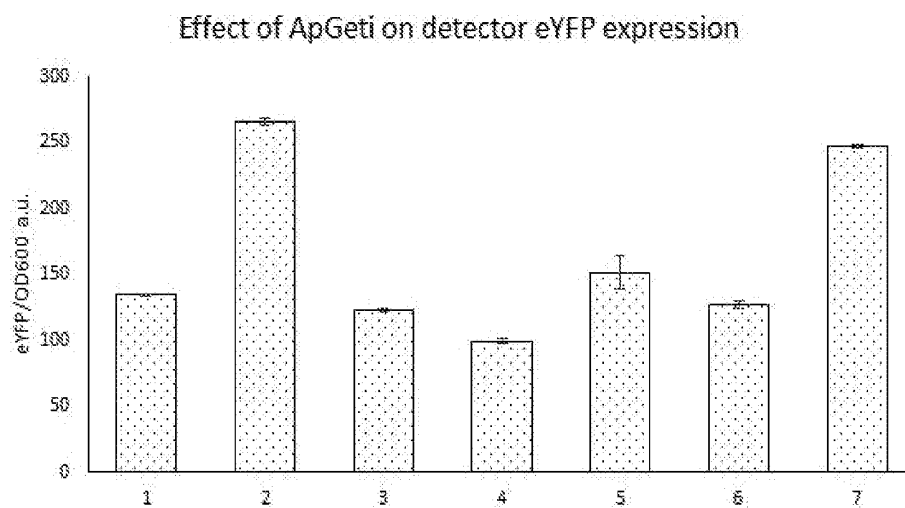
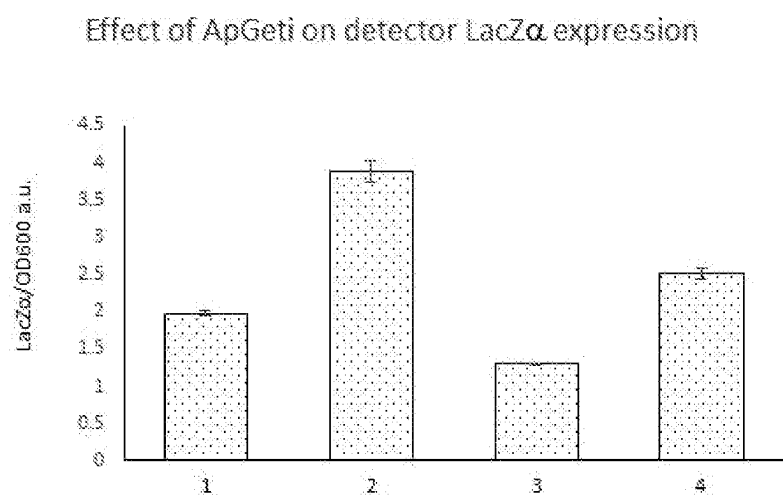
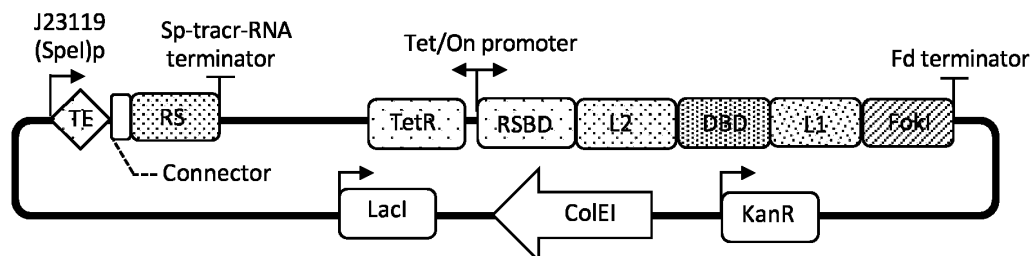
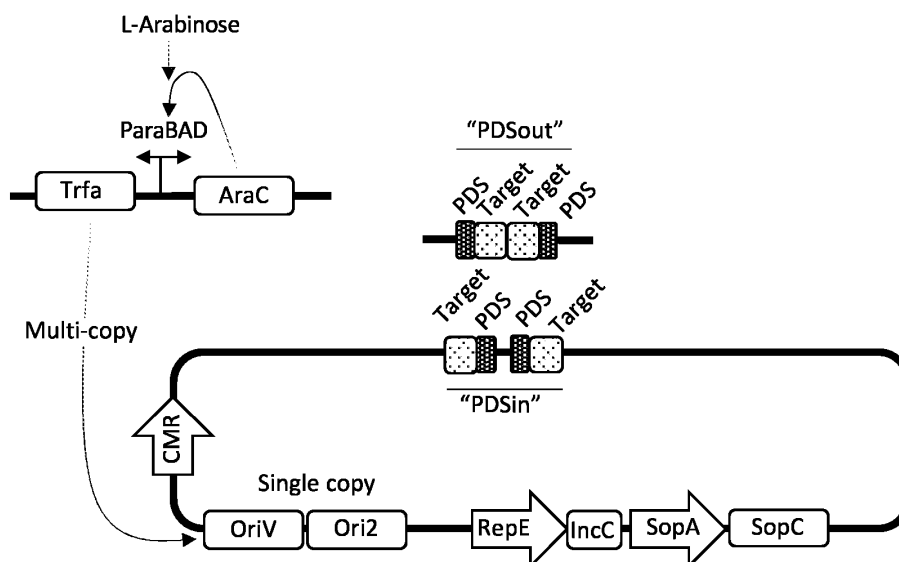
Figure 13**a.****b.**

Figure 14

Editor:



Detector:

Bacterial genome**Target Element sequence:** CACACAGGAAACAGTATTCAT**Target Sequences (grey boxes indicate PDS, white boxes indicate target sequences):****"PDSout" configuration:**

5' GACCTCATGAATACTGTTTCCTGTGTG CACACAGGAAACAGTATTCAT 5'
 3' TACTTATGACAAAGGACACAG GTGTGTCCTTTGTCATAAGTACTCCAG 3'

"PDSin" configuration with 5 nt spacer:

5' CACACAGGAAACAGTATTCAT AATTGGACCTCATGAATACTGTTTCCTGTGTG 3'
 3' GTGTGTCCTTTGTCATAAGTACTCCAGTTAAC TACTTATGACAAAGGACACAG 5'

"PDSin" configuration with 8 nt spacer:

5' CACACAGGAAACAGTATTCAT AATTGGTCGACCTCATGAATACTGTTTCCTGTGTG 3'
 3' GTGTGTCCTTTGTCATAAGTACTCCAGTTAACCACT TACTTATGACAAAGGACACAG 5'

"PDSin" configuration with 14 nt spacer:

5' CACACAGGAAACAGTATTCAT GTTTAAACGTCGACGACCTCATGAATACTGTTTCCTGTGTG 3'
 3' GTGTGTCCTTTGTCATAAGTACTCCAGCAAAATTTGCAGCTG TACTTATGACAAAGGACACAG 5'

Figure 15

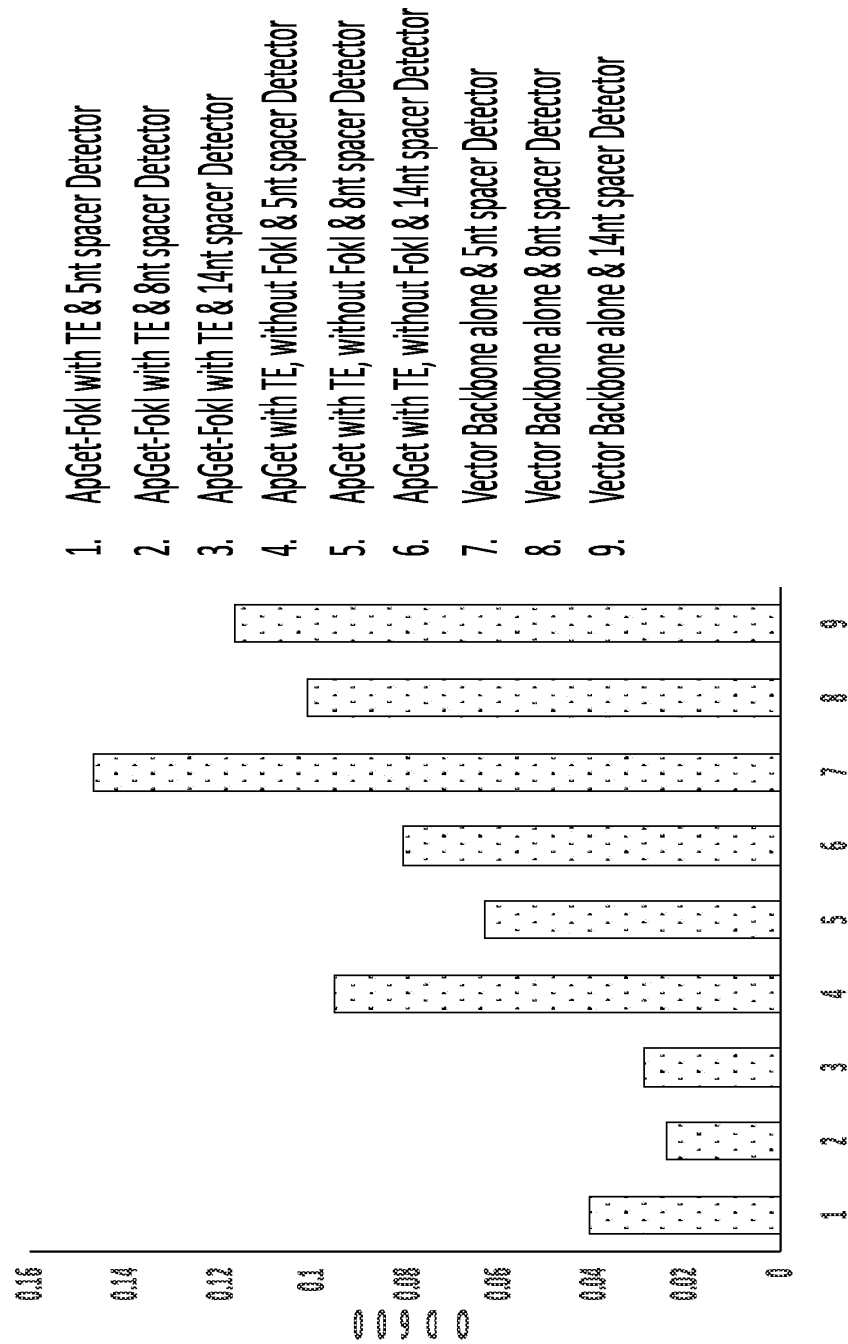


Figure 16

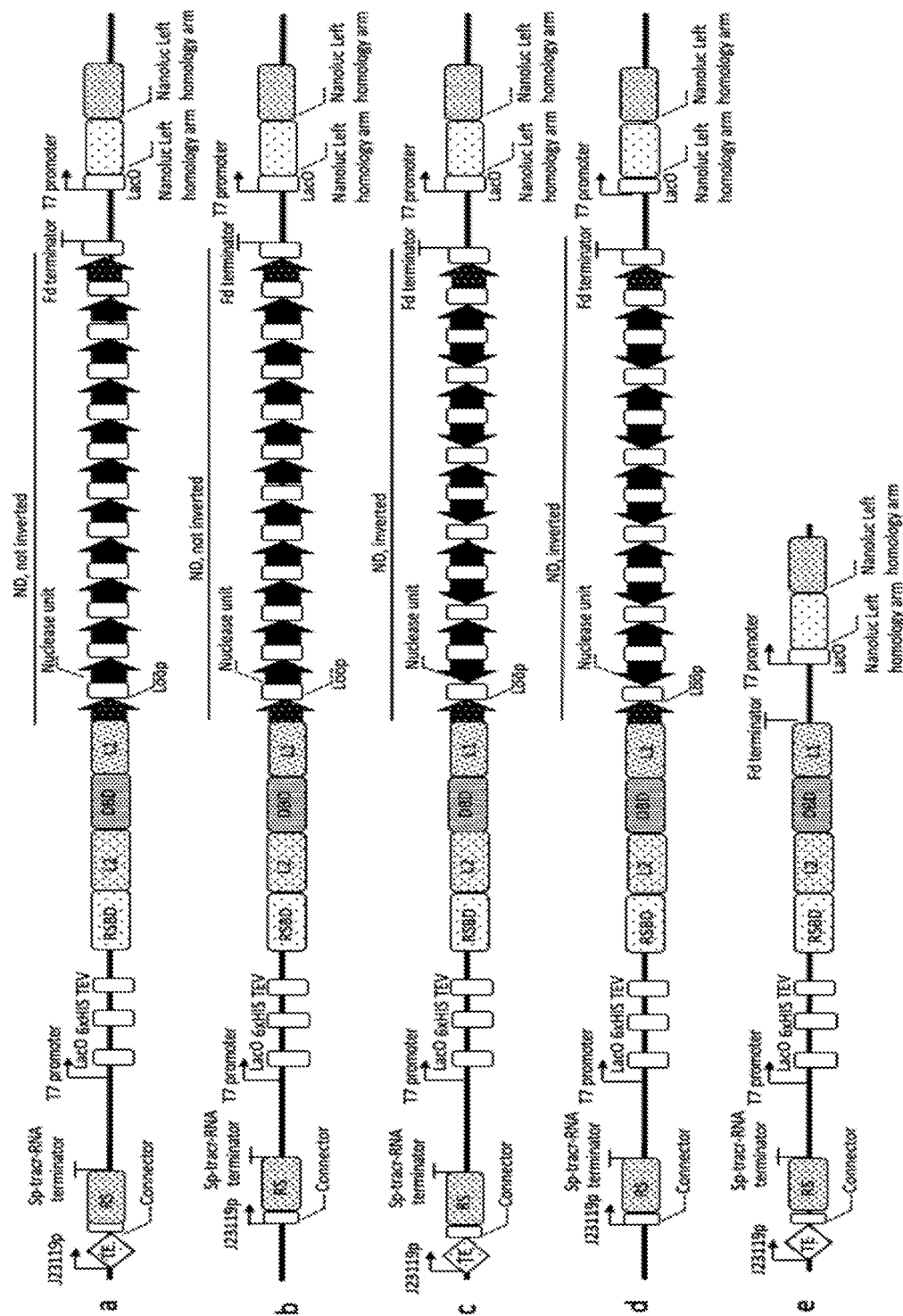


Figure 17

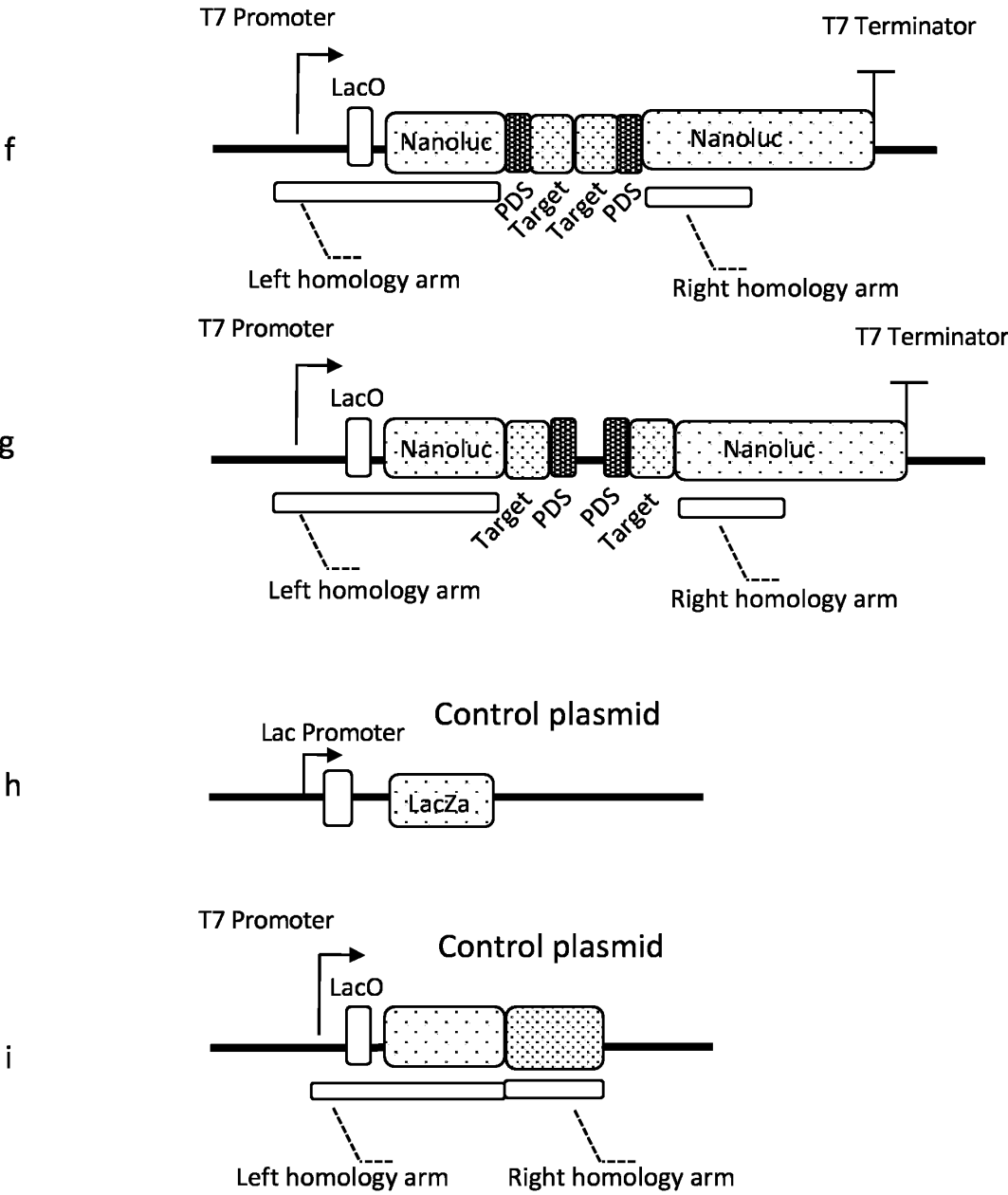


Figure 18

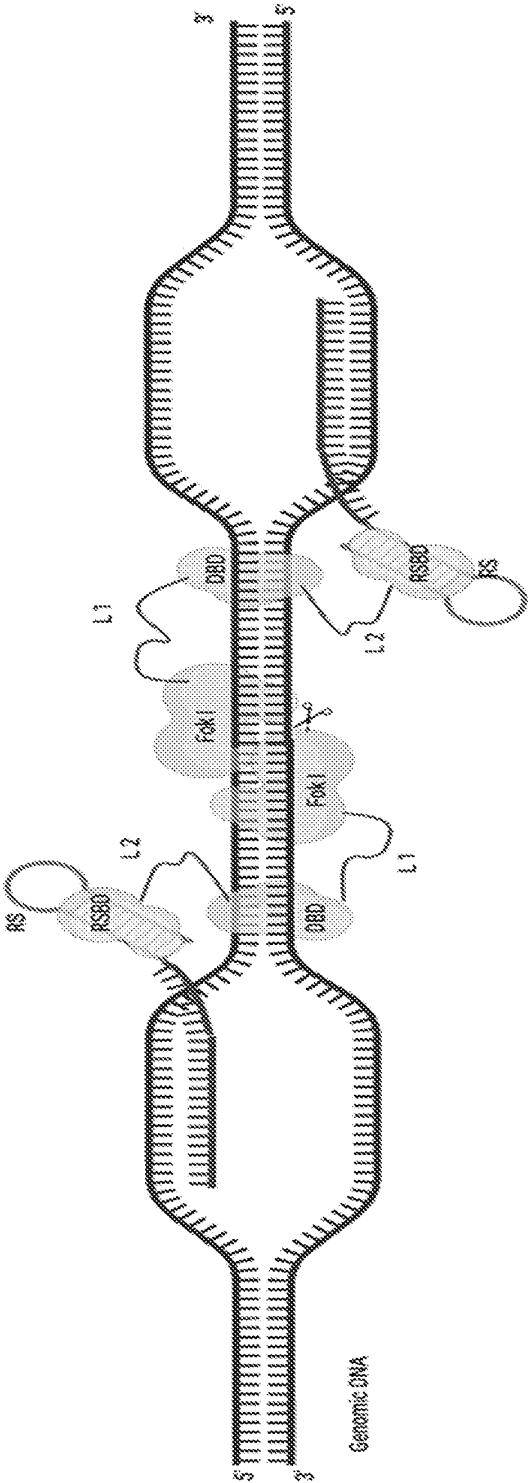


Figure 19

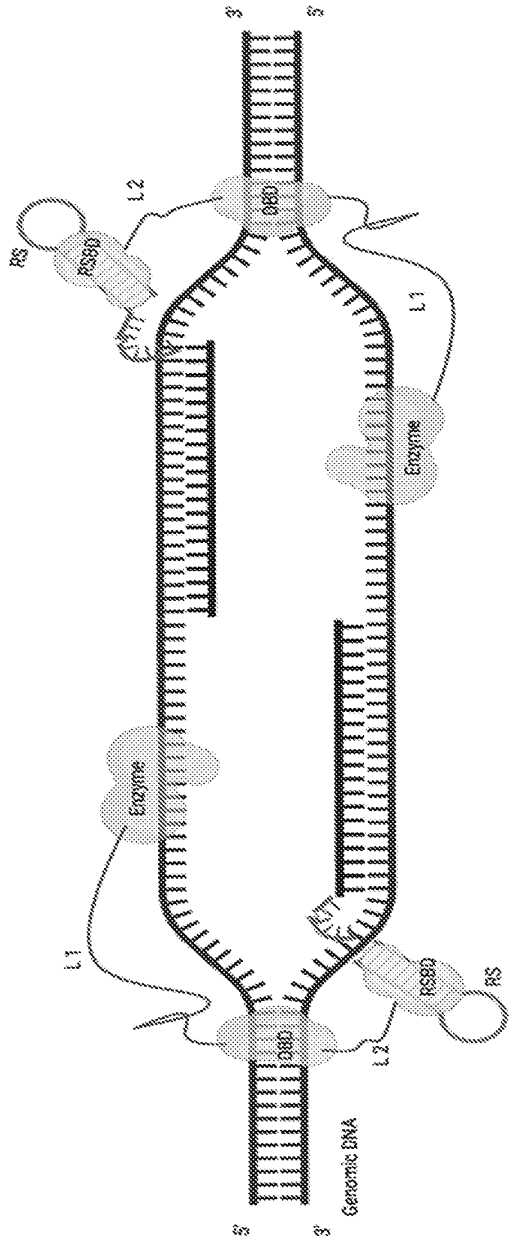
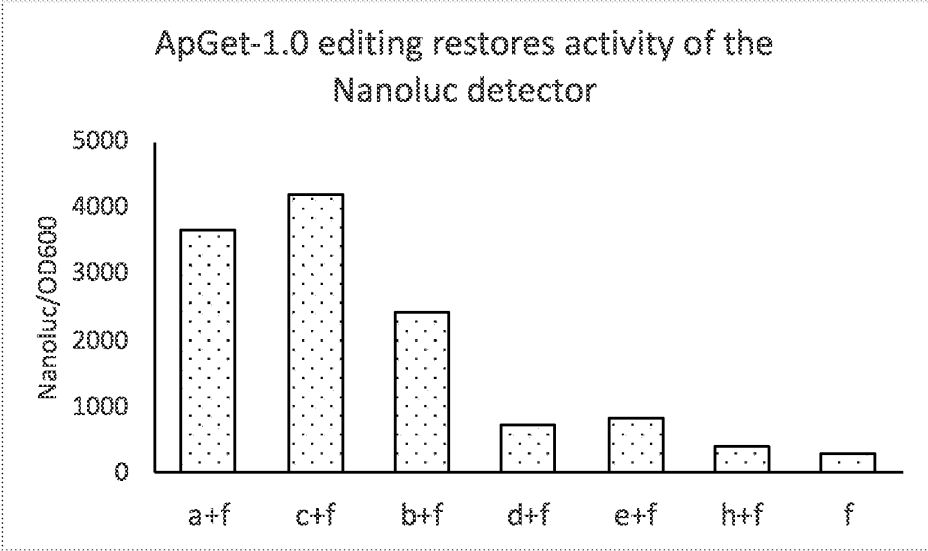


Figure 20

a.



b.

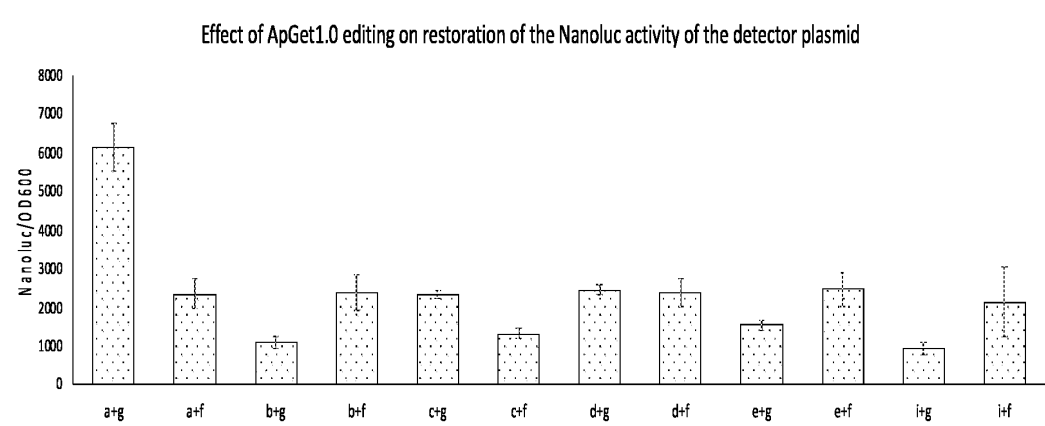
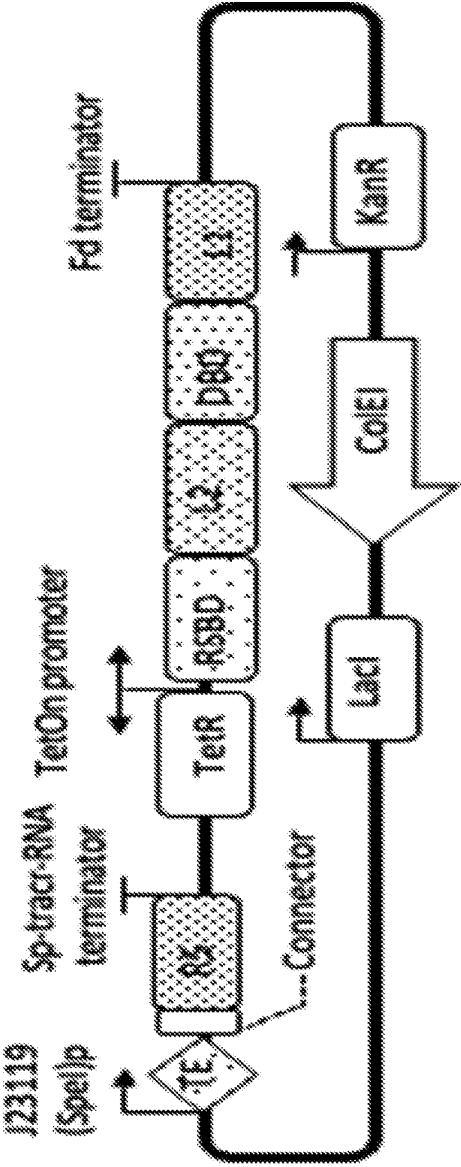


Figure 21

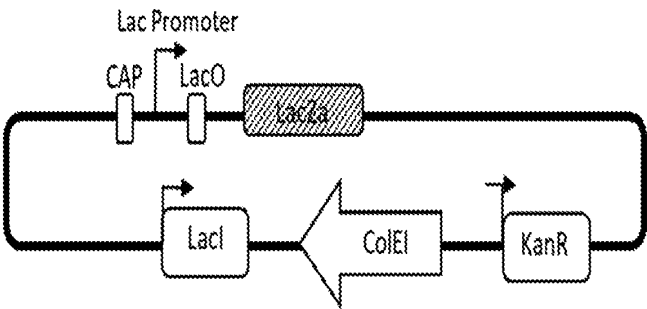


Editor

Figure 23

a.

Control Plasmid



b.

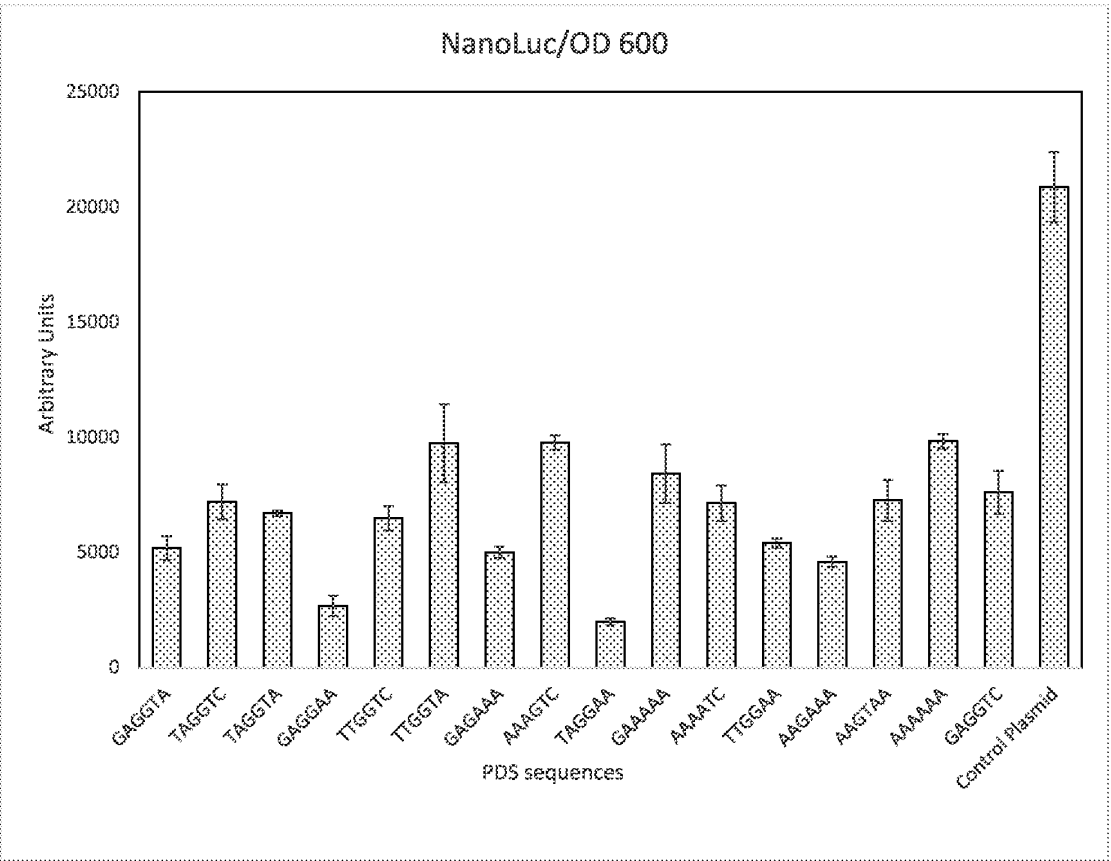


Figure 24

General representation of the editor expressing plasmid:

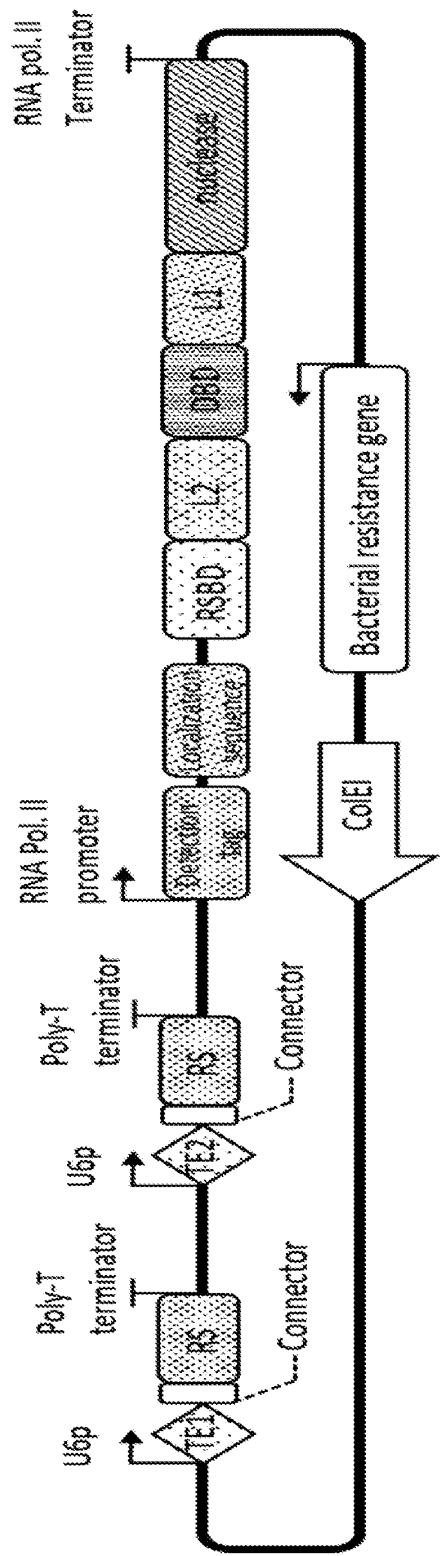


Figure 25

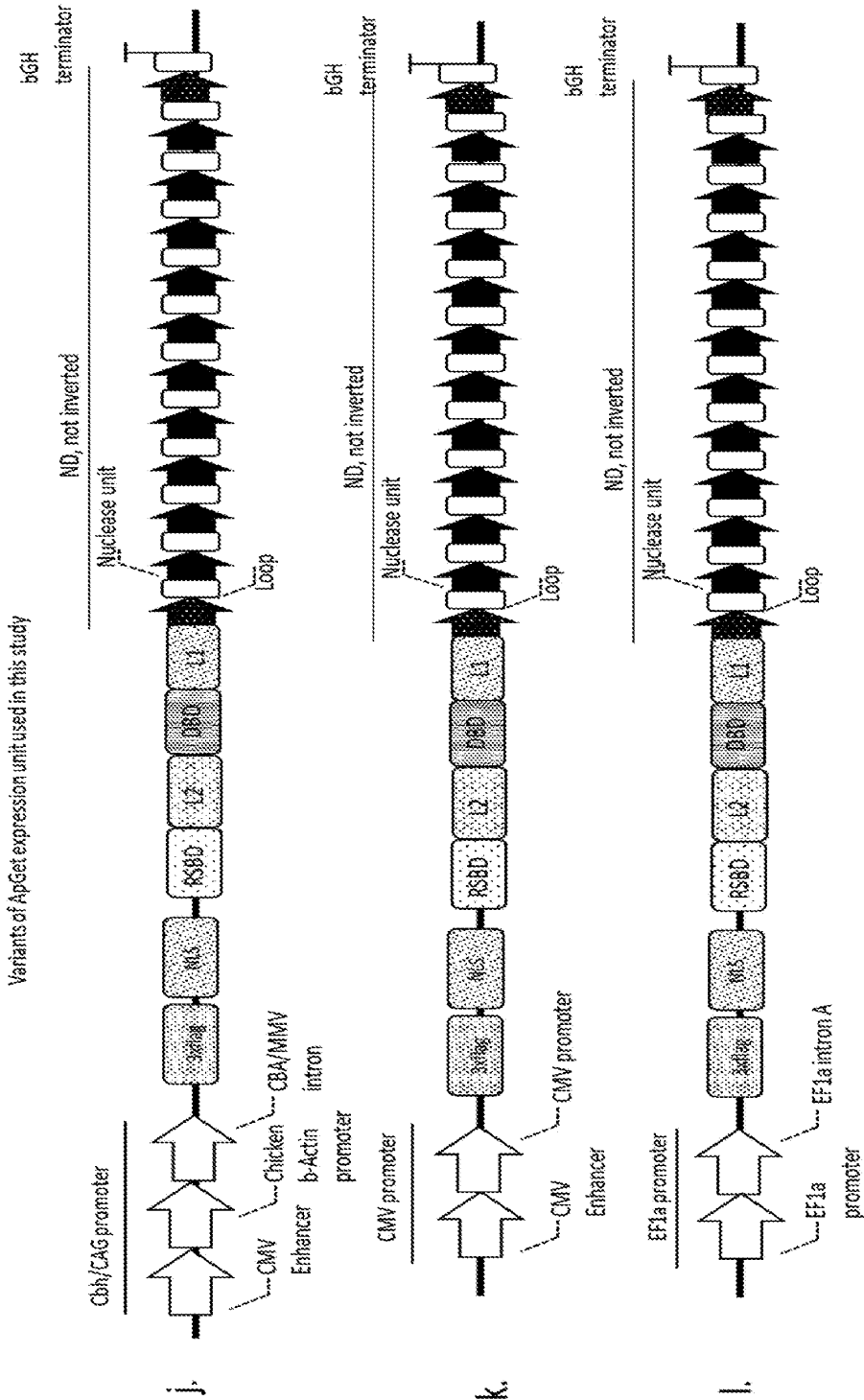




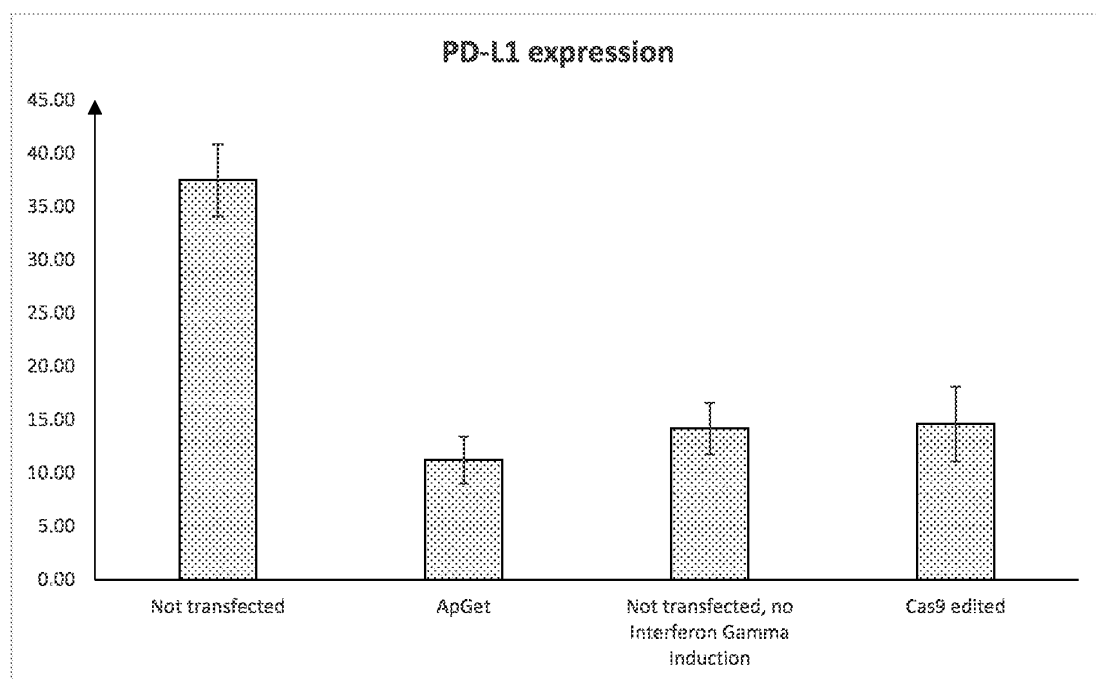
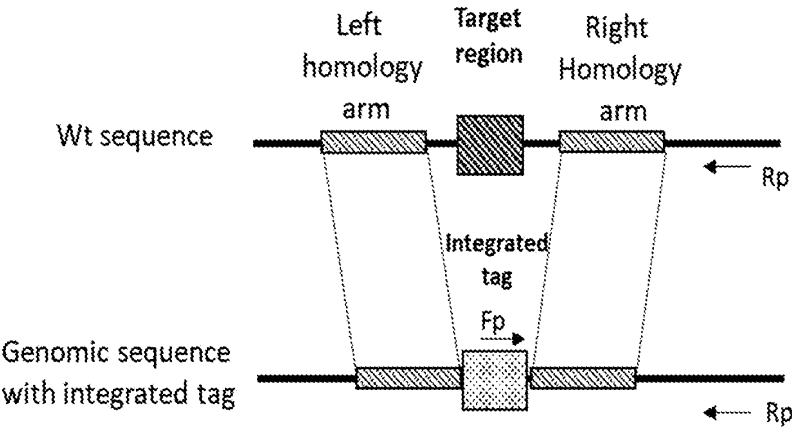
Figure 27

Figure 28

a.



b.

Sample no./components	1	2	3
ApGet10mer	✓	✓	-
NAC	✓	-	-
HDR for T2	✓	✓	-

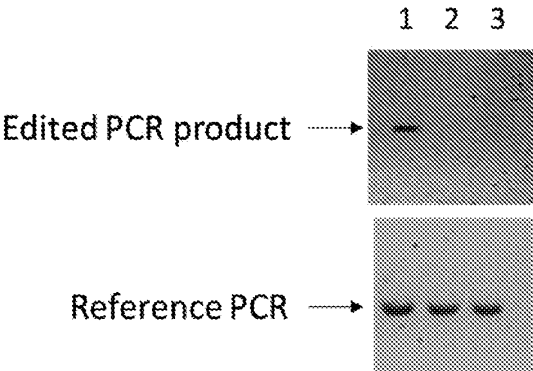


Figure 29

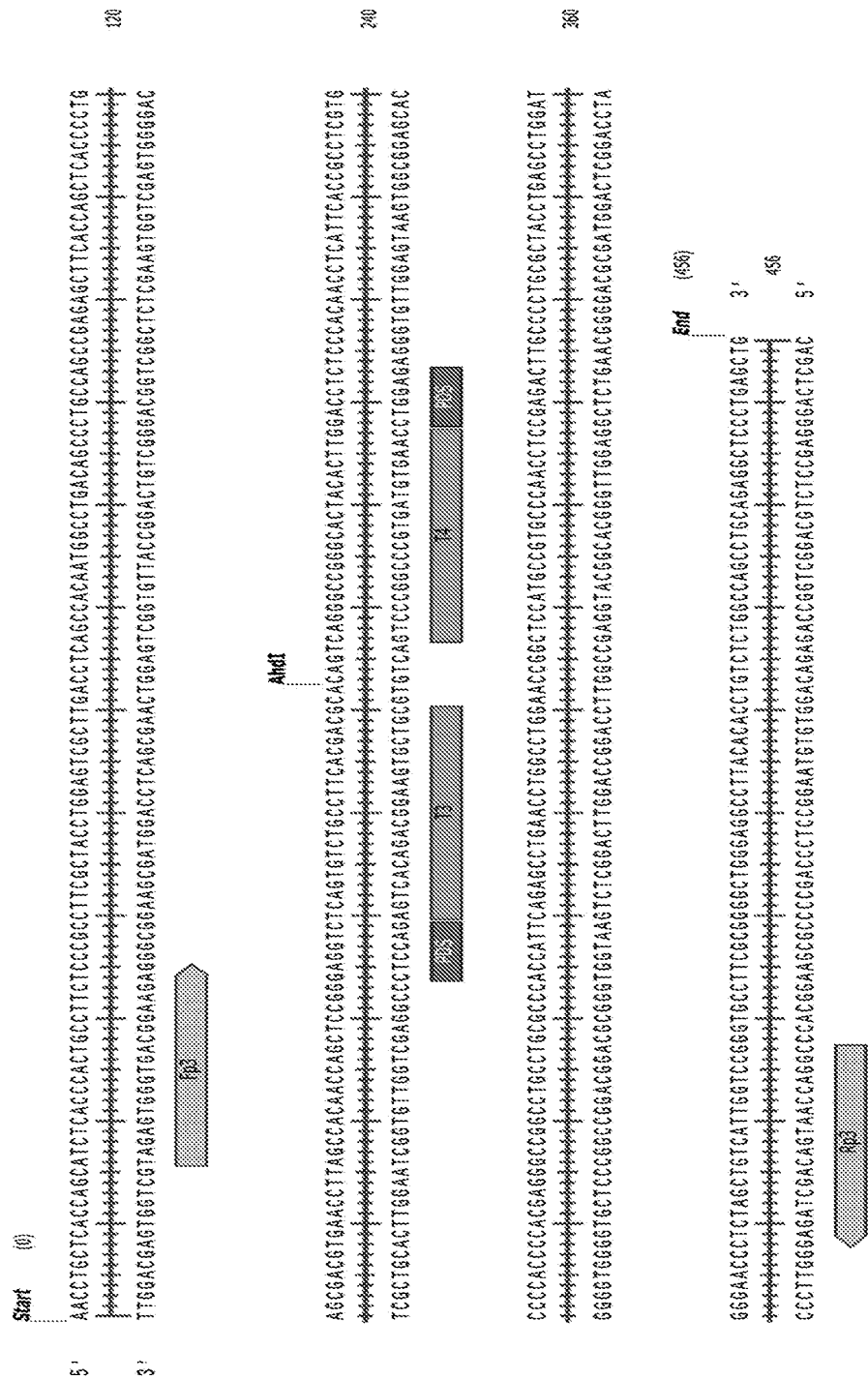


Figure 30

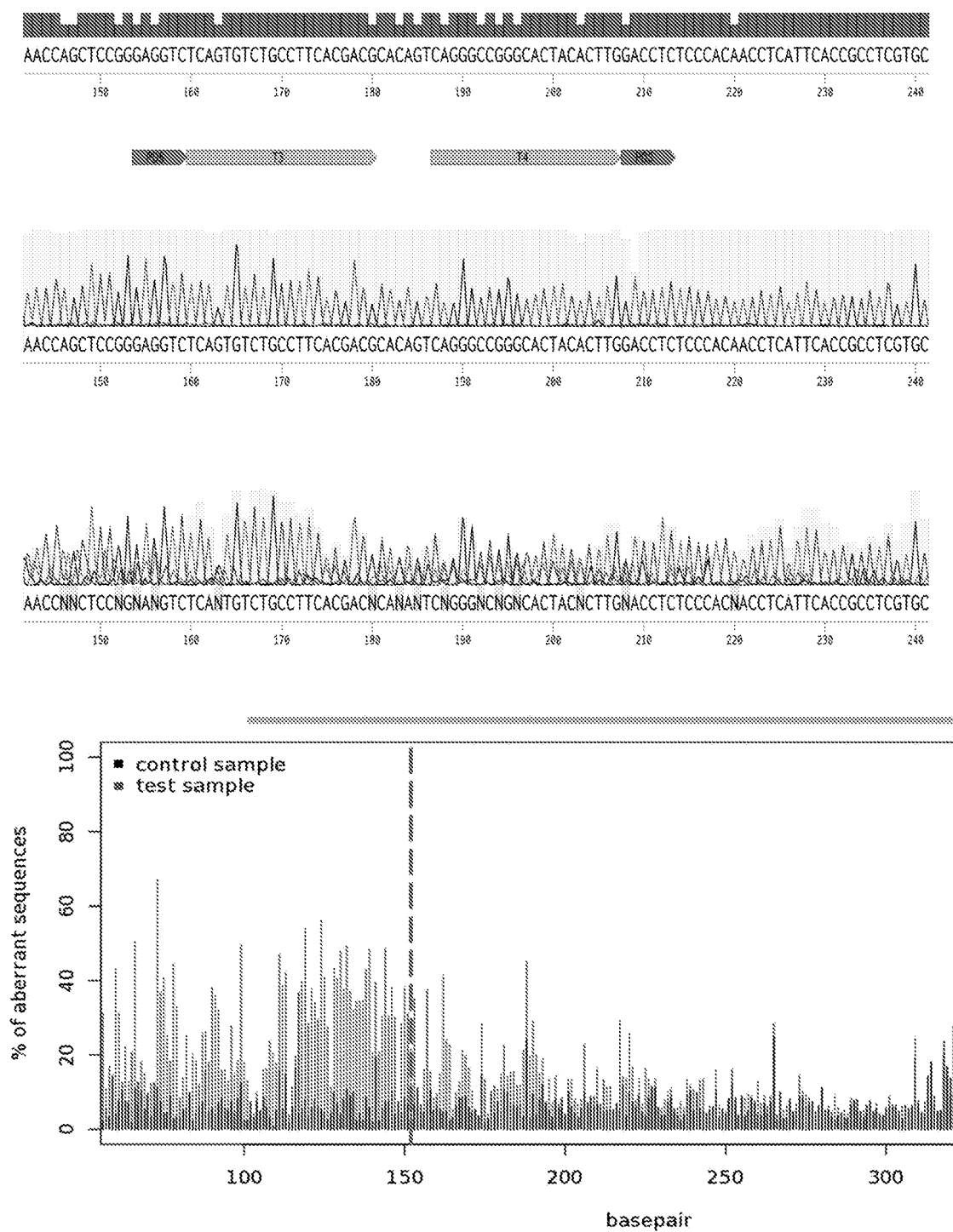


Figure 31

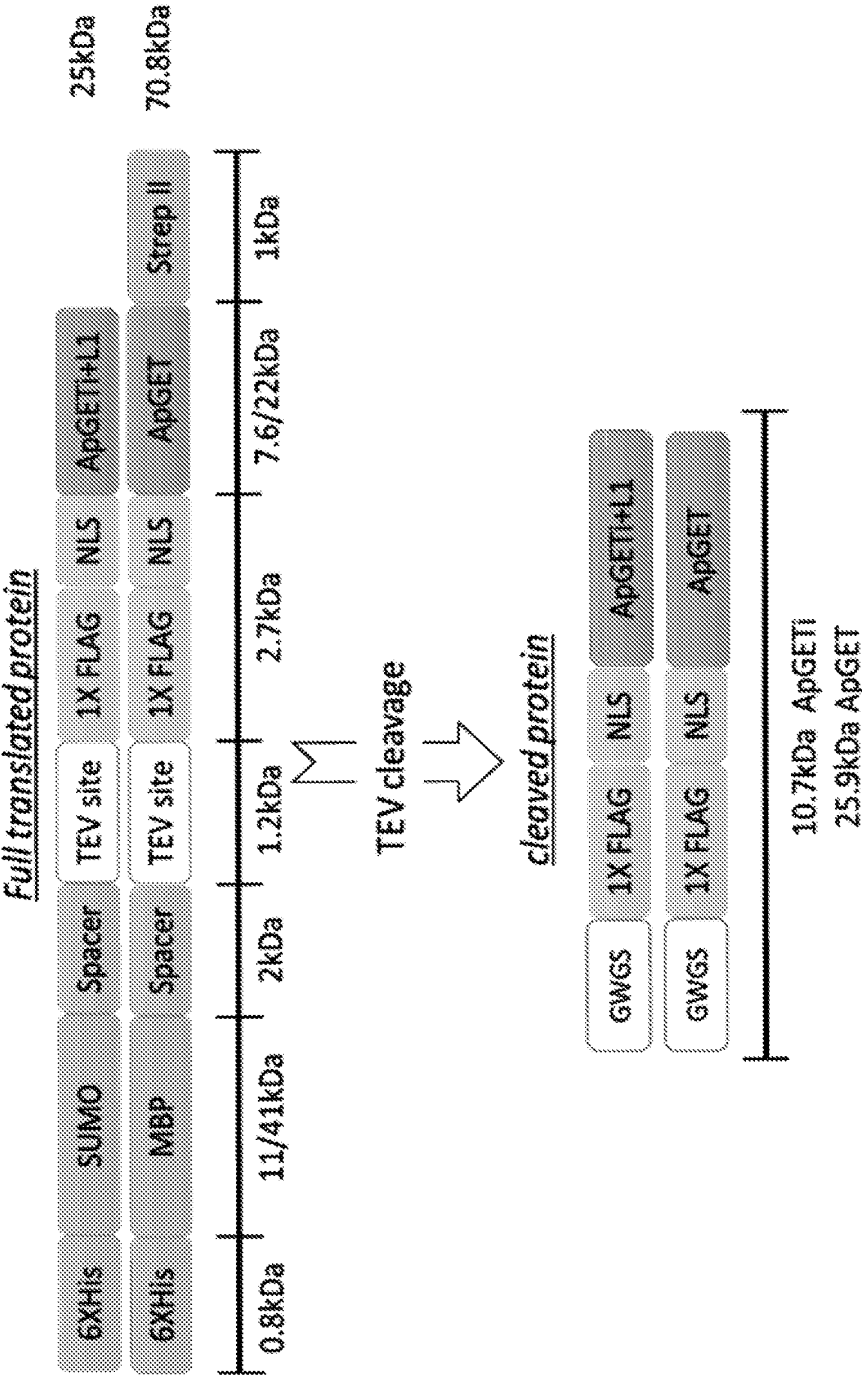


Figure 32

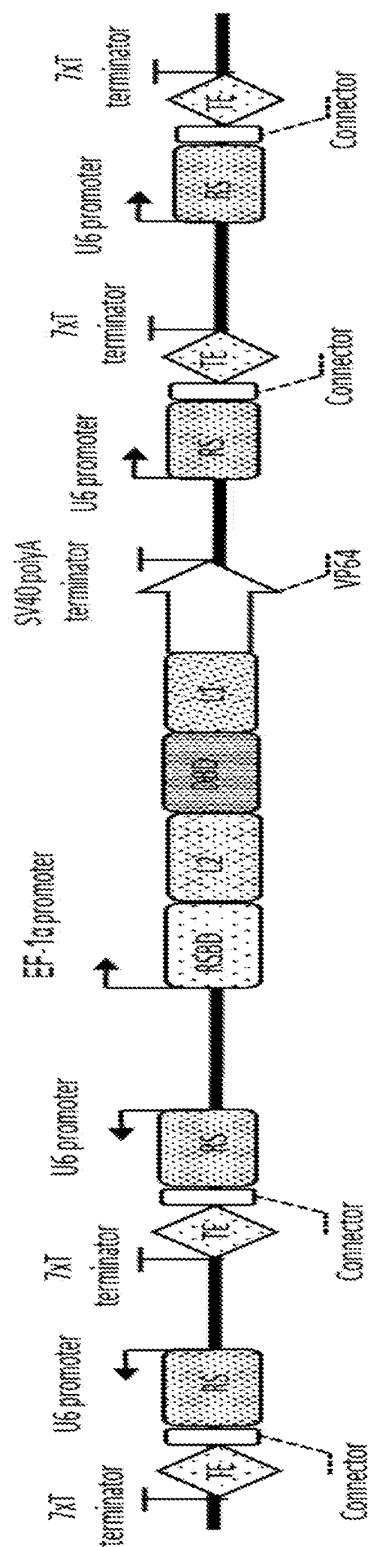


Figure 33

