

FIG. 1A

Tn#	Species	Tn size	Variant	Location
Tn7003	<i>Vibrio parahaemolyticus</i> FORC_071	83,700	-	<i>yclA</i>
Tn7008	<i>Aliivibrio</i> sp. 1S157	22,538	-	<i>fts</i>
Tn7016	<i>Pseudoalteromonas</i> sp. S983	31,037	-	<i>rsmJ</i>
Tn7017	<i>Endozoicomonas ascidicola</i> AVMART05	40,405	2x TniQ	<i>parE*</i>

FIG. 1B

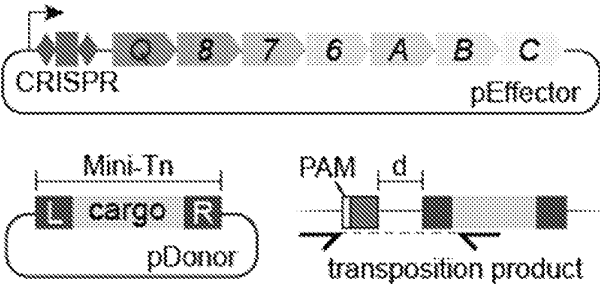


FIG. 1C

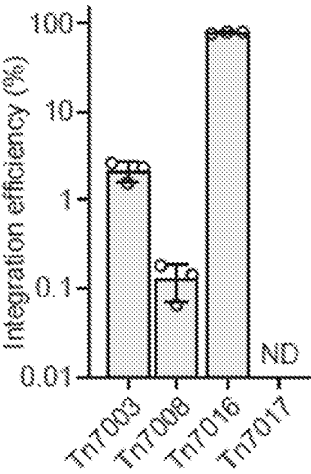


FIG. 1D

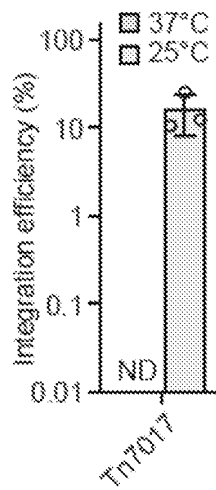


FIG. 1E

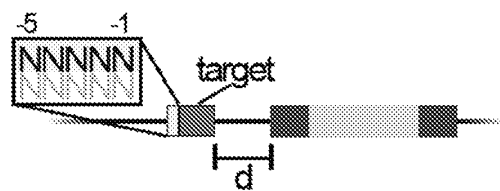


FIG. 2A

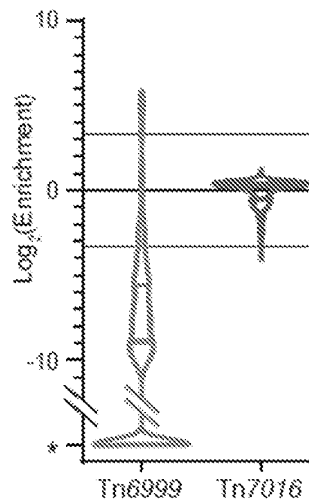


FIG. 2B

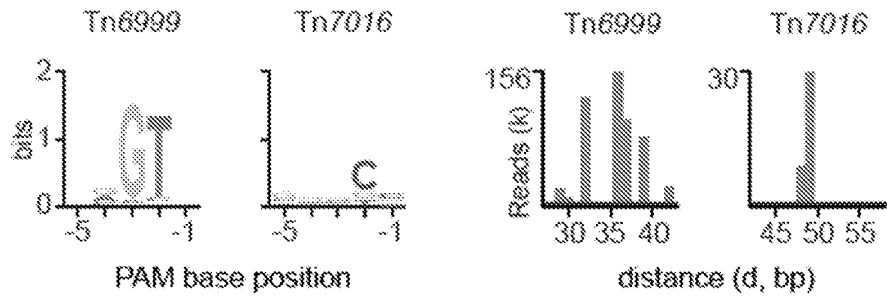


FIG. 2C

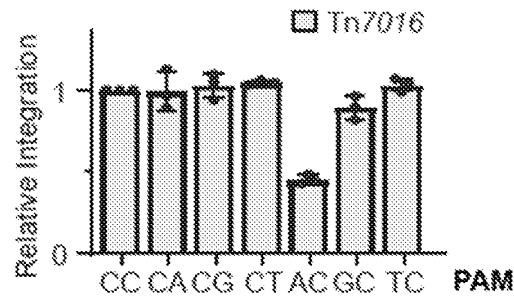


FIG. 2D

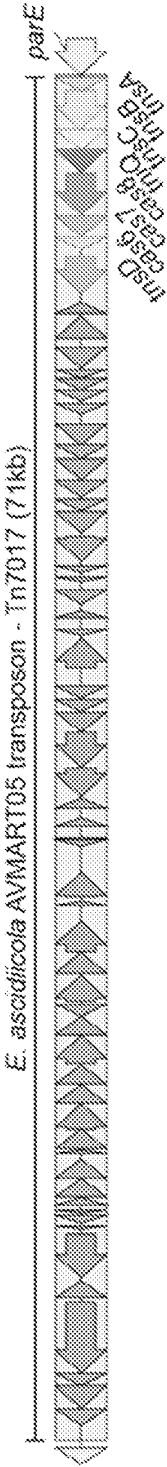


FIG. 3A

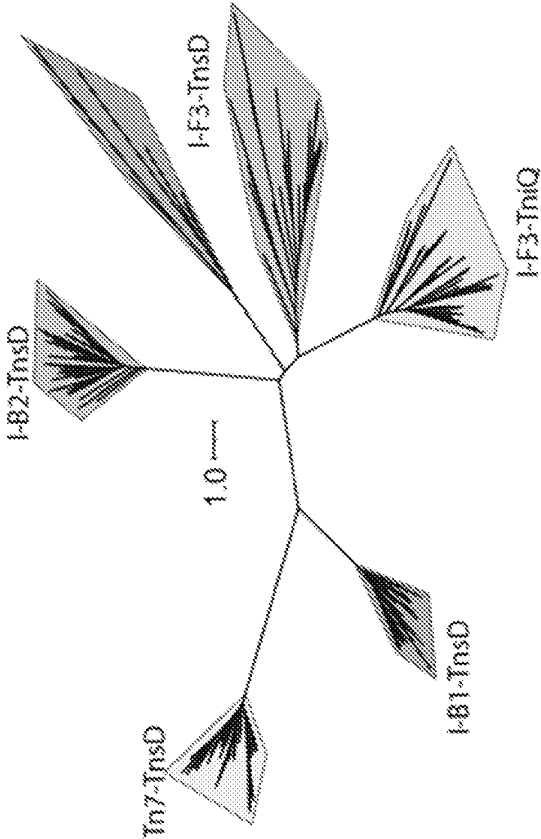


FIG. 3B

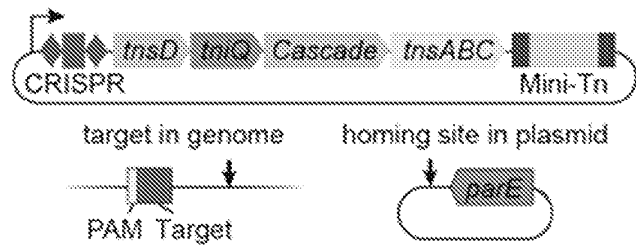


FIG. 3C

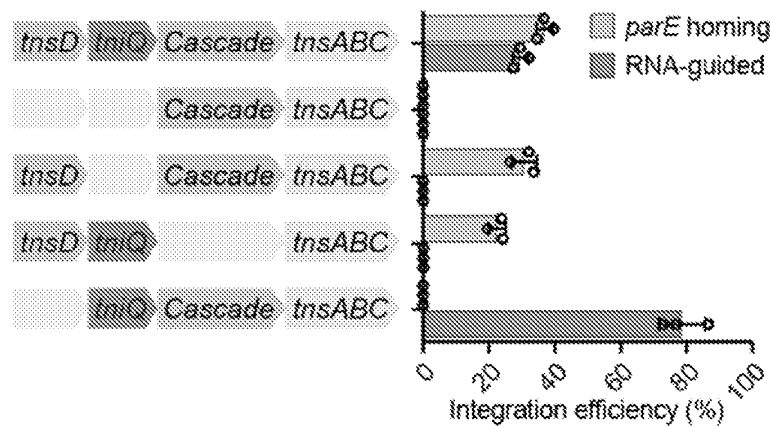


FIG. 3D

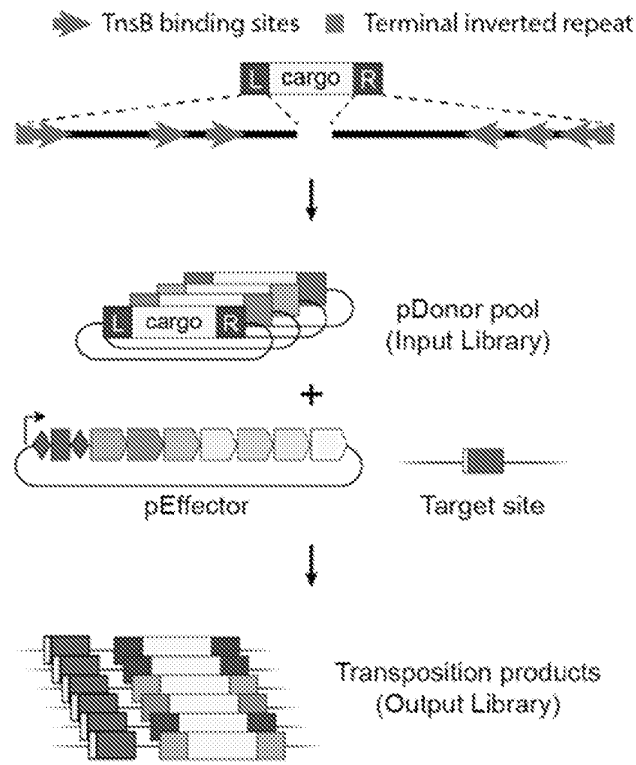


FIG. 4A

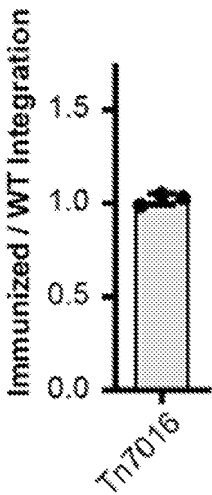
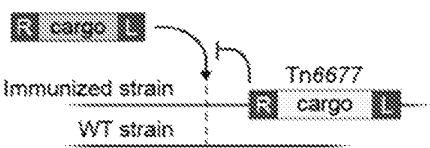


FIG. 4B

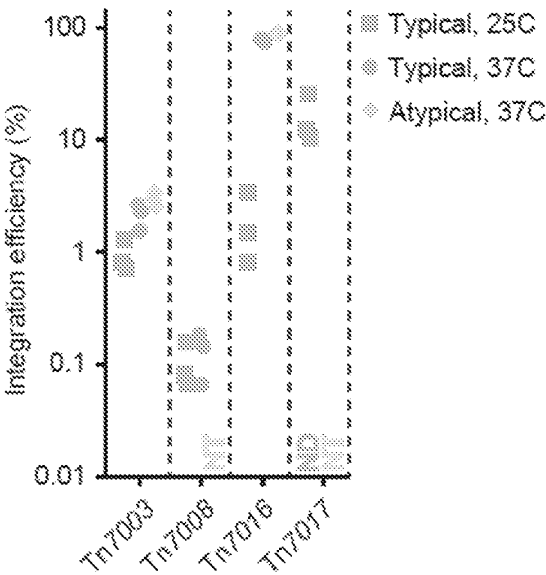


FIG. 5A

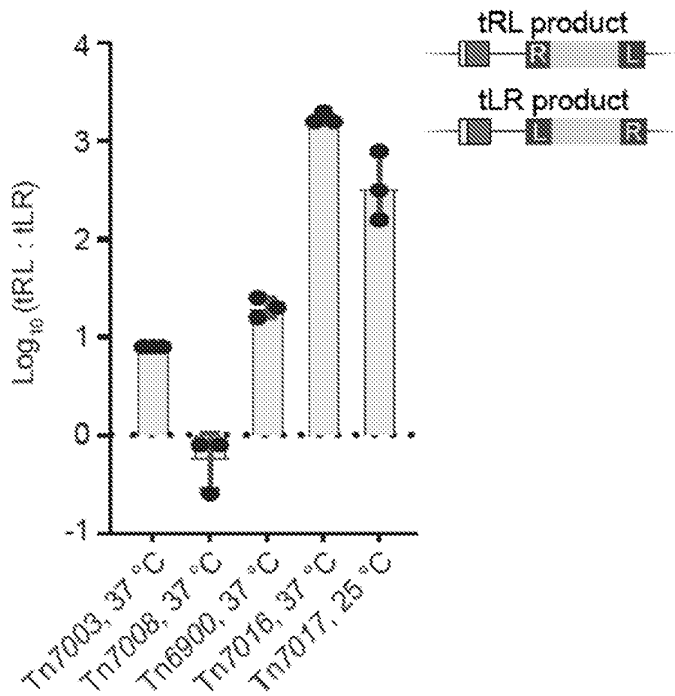


FIG. 5B

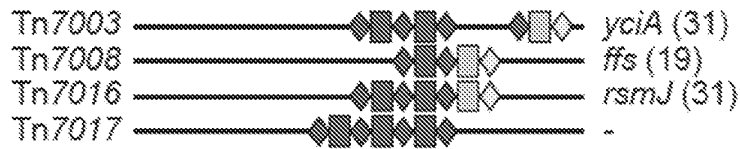


FIG. 5C

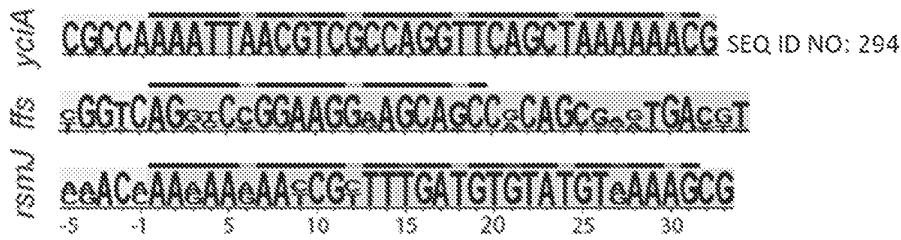


FIG. 5D

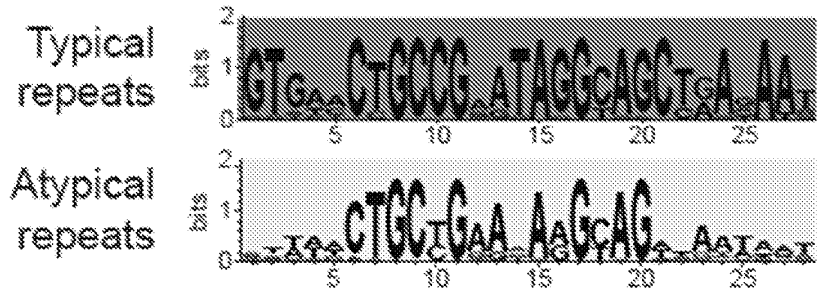


FIG. 5E

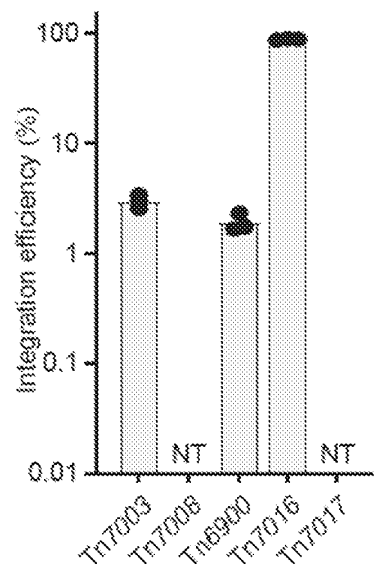


FIG. 5F

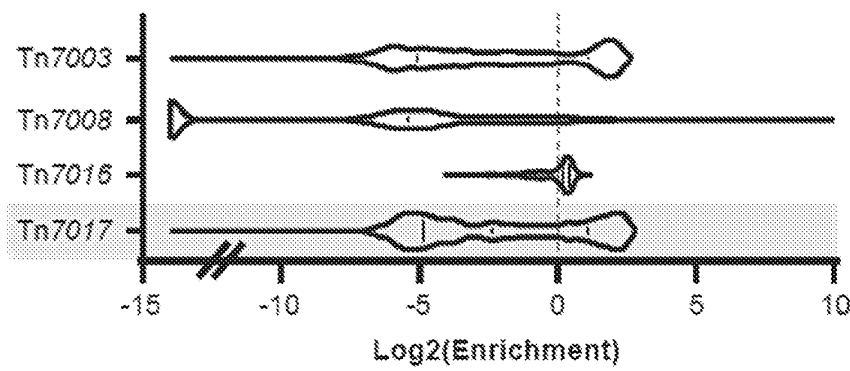


FIG. 6A

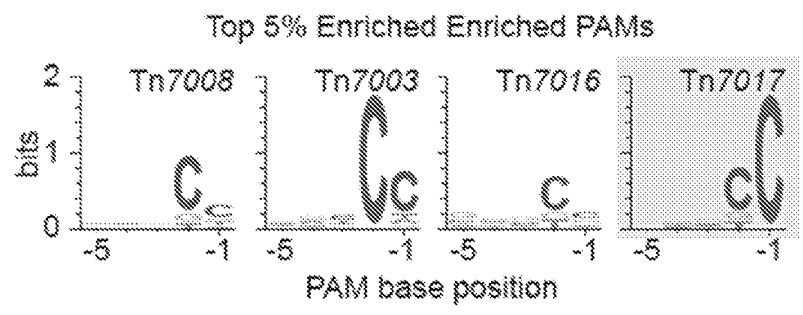


FIG. 6B

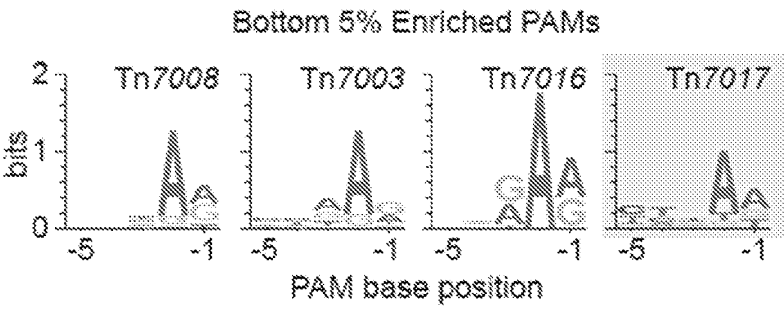


FIG. 6C

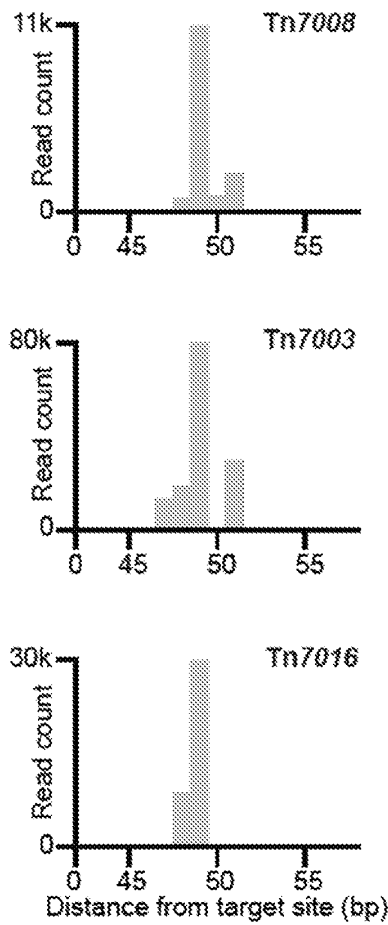


FIG. 6D



FIG. 7A

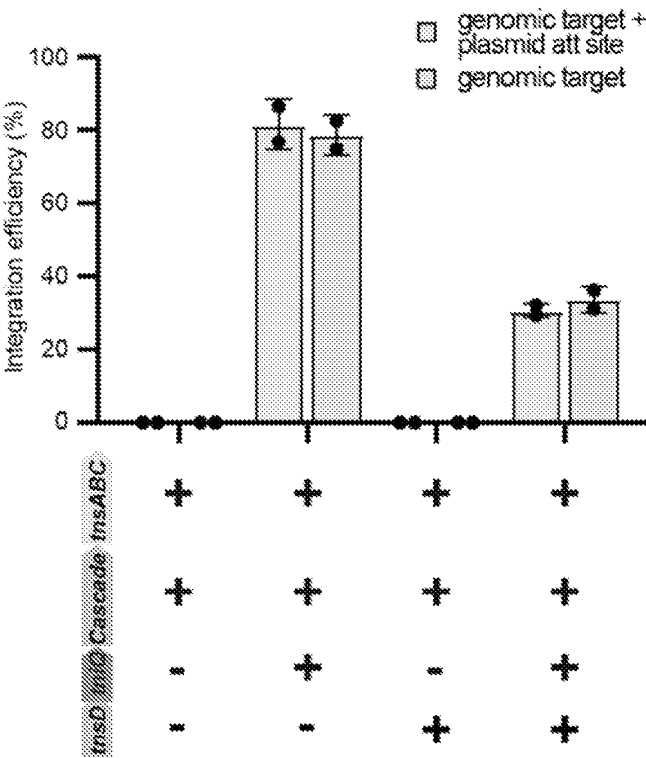


FIG. 7B

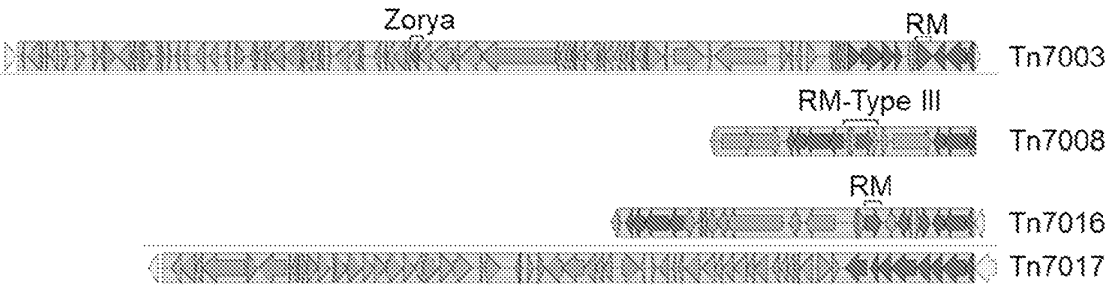


FIG. 8

Tn#	Homolog #	Organism	ID
Tn6677	N/A	<i>Vibrio cholerae</i> strain HE-45	Vch
Tn7000	1	<i>Vibrio cholerae</i> strain 4874	Vch4874
Tn7001	2	<i>Photobacterium iliopiscarium</i> strain NCIMB 13355	Pil
Tn7002	10	<i>Vibrio</i> sp. strain F12	VspF12
Tn7003	18	<i>Vibrio parahaemolyticus</i> strain FORC_071	Vpa
Tn7004	9	<i>Vibrio</i> sp. strain 16	Vsp16
Tn7005	12	<i>Vibrio cholerae</i> strain M1517	VchM1517
Tn7006	13	<i>Vibrio splendidus</i> strain UCD-SED10	VspUCD
Tn7007	14	<i>Allivibrio wodanis</i> strain 06/09/160	Awo
Tn7008	11	<i>Allivibrio</i> sp. strain 1S157	Asp
Tn7009	15	<i>Parashewanella spongiae</i> strain HJ039	PspHJ
Tn7010	5	<i>Photobacterium ganghwense</i> strain JCM 12487	Pga
Tn7011	3	<i>Pseudoalteromonas</i> sp. strain P1-25	PspP1
Tn7012	4	<i>Pseudoalteromonas ruthenica</i> strain S3245	Pru
Tn7013	8	<i>Vibrio cholerae</i> strain OYP7G04	VchOYP
Tn7014	7	<i>Vibrio diazotrophicus</i> strain 60.6F	Vdi
Tn7015	6	<i>Shewanella</i> sp. strain UCD-KL21	Ssp
Tn7016	17	<i>Pseudoalteromonas</i> sp. strain S983	PS983
Tn7017	19	<i>Endozoicomonas ascidicola</i> strain AVMART05	Eas

FIG. 9

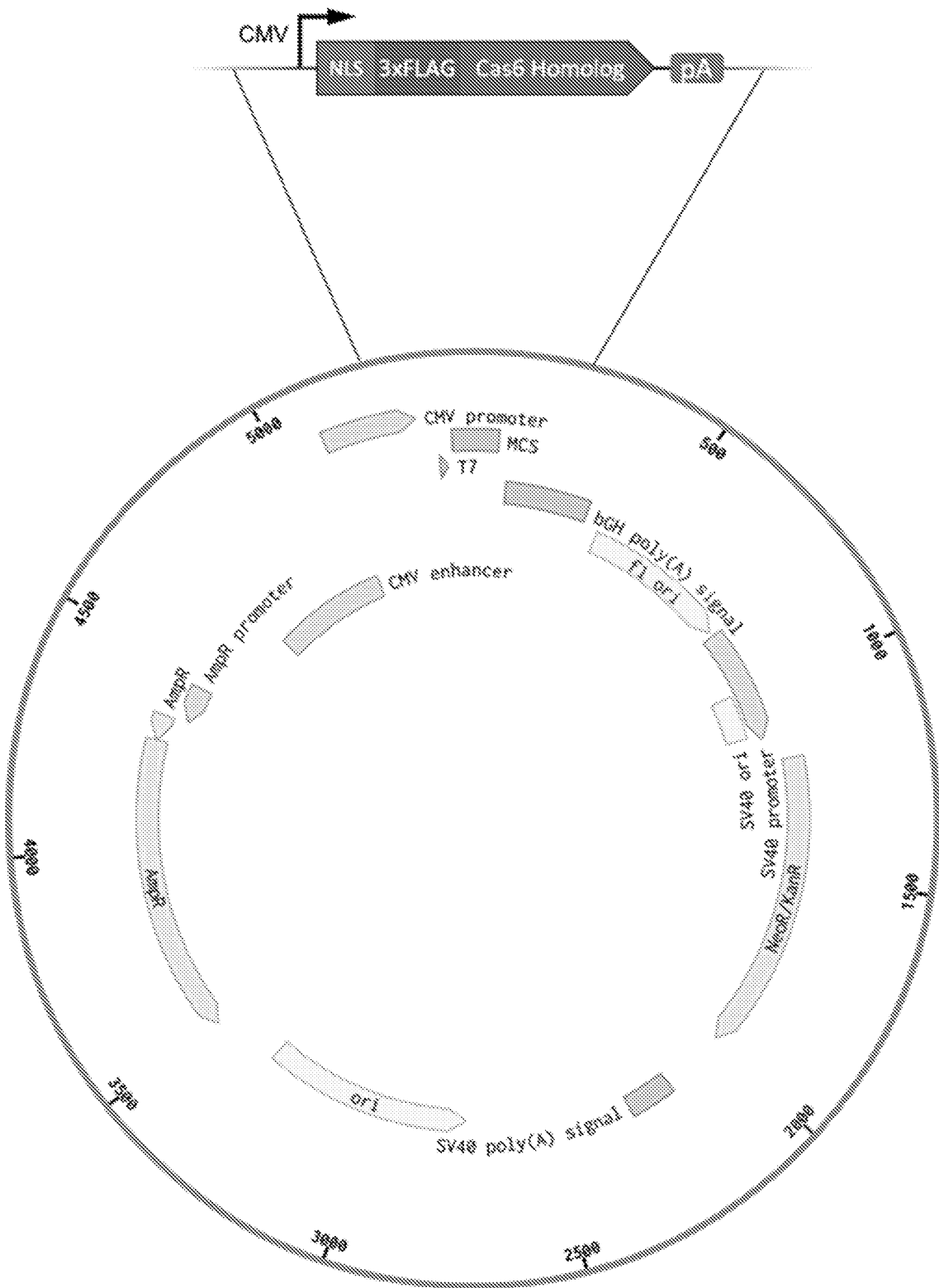


FIG. 10A

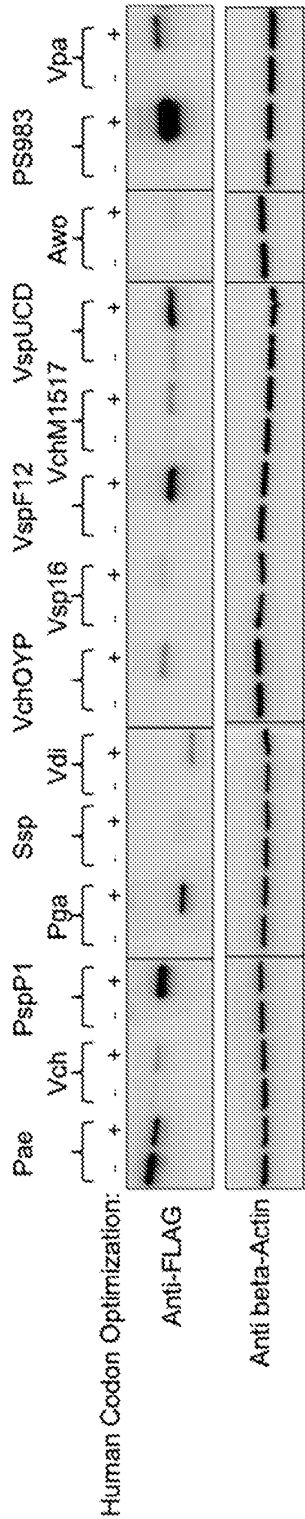


FIG. 10B

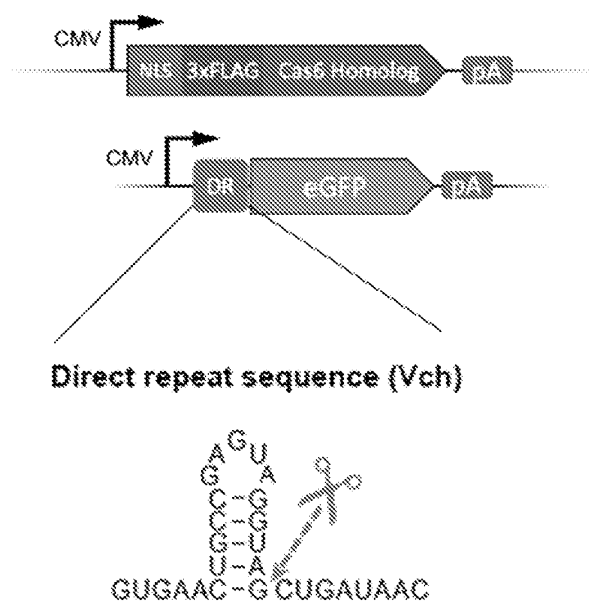


FIG. 11A

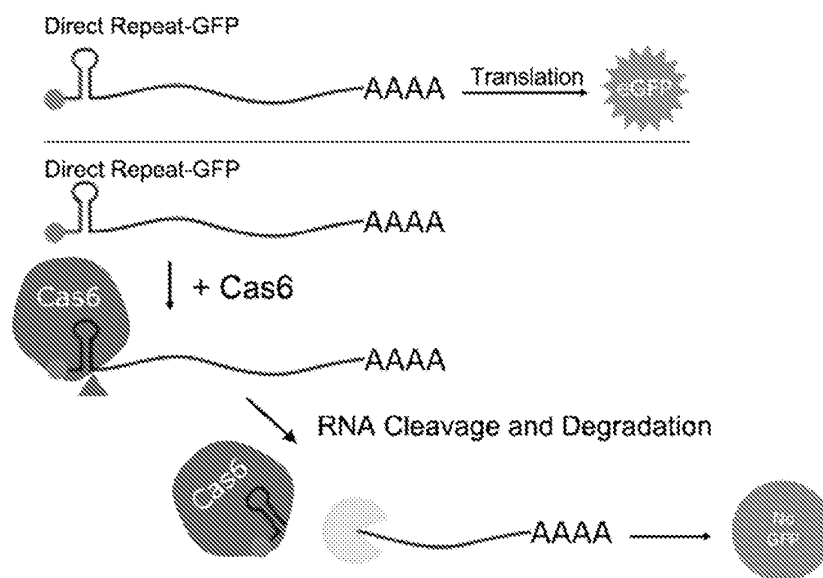


FIG. 11B

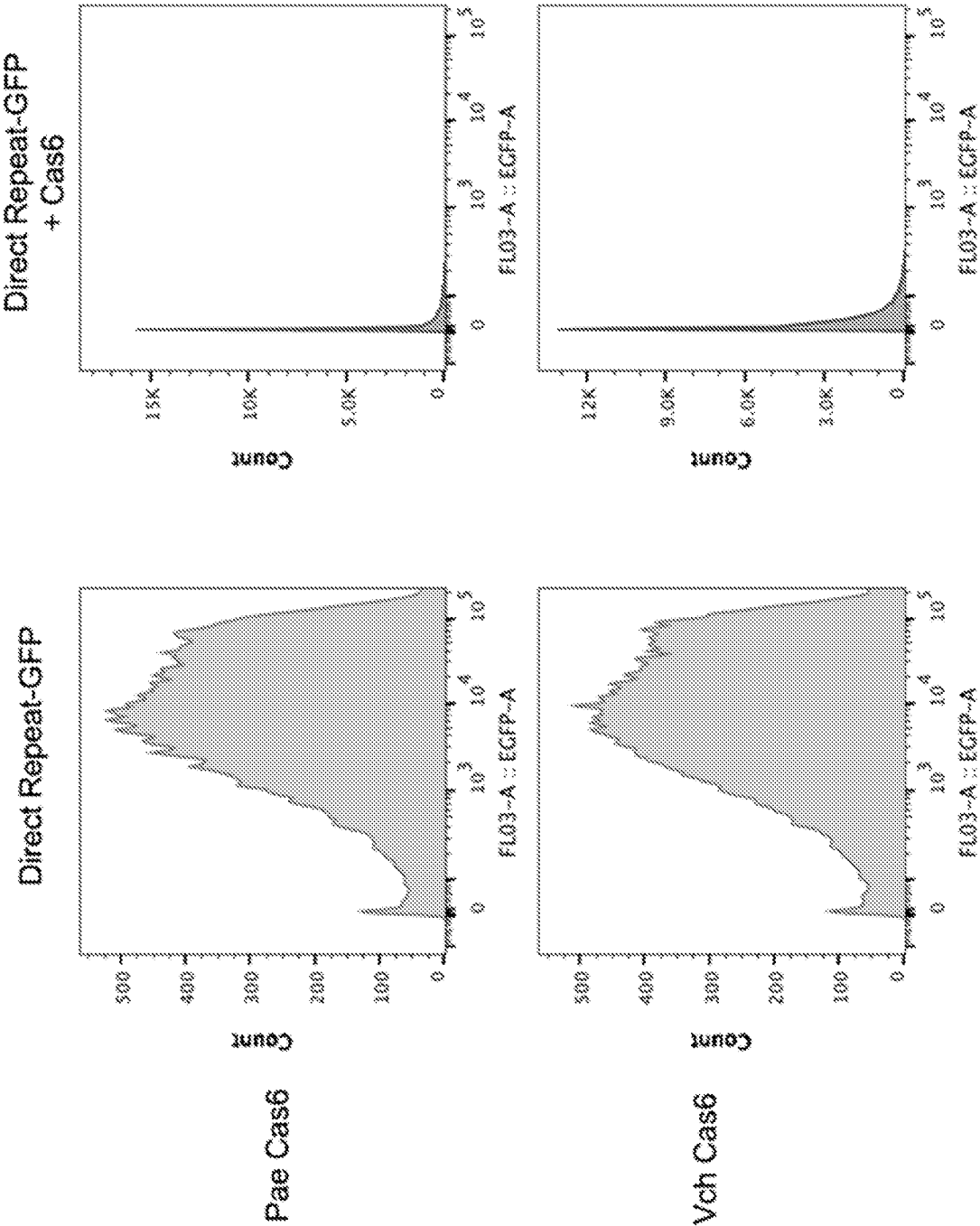


FIG. 11C

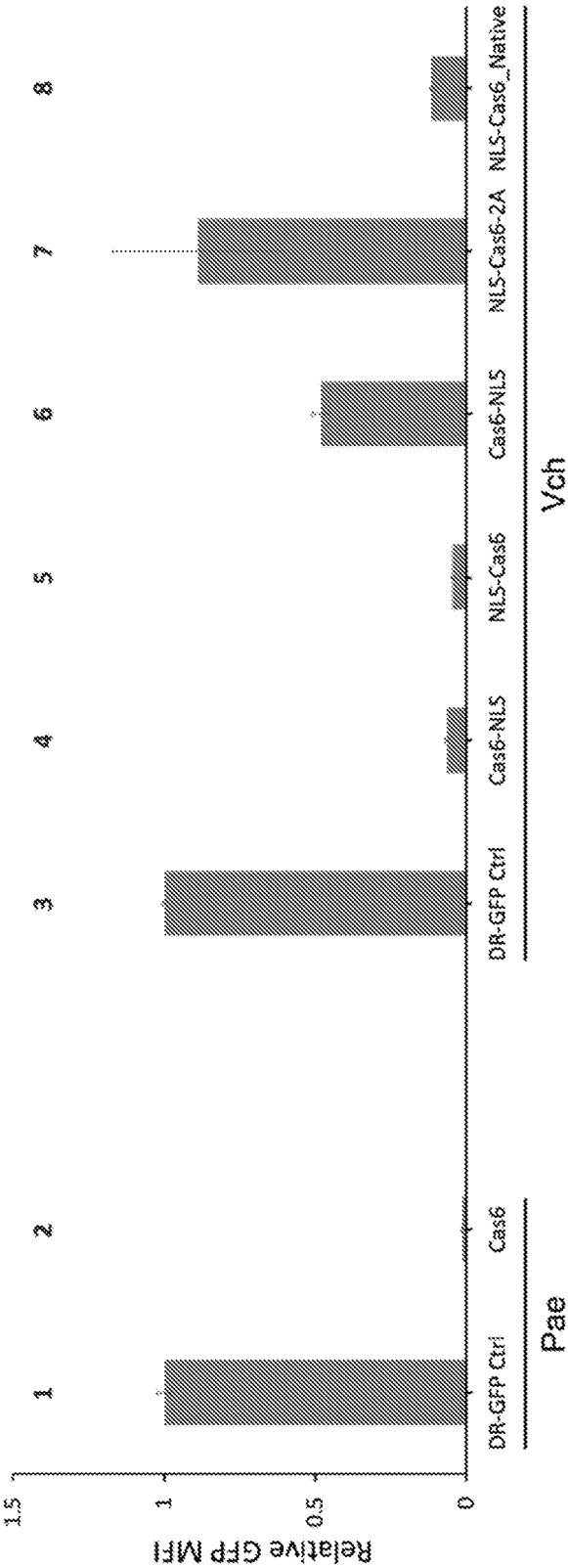
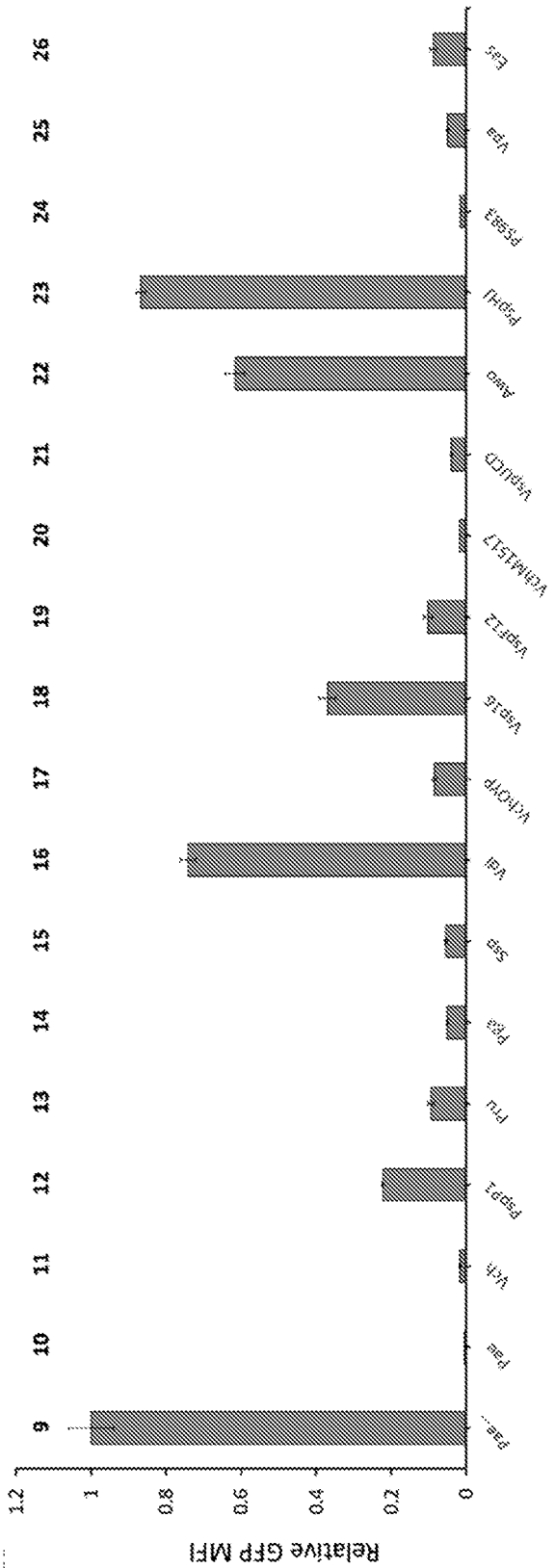


FIG. 11D



Cas6 Homolog ID

FIG. 11E

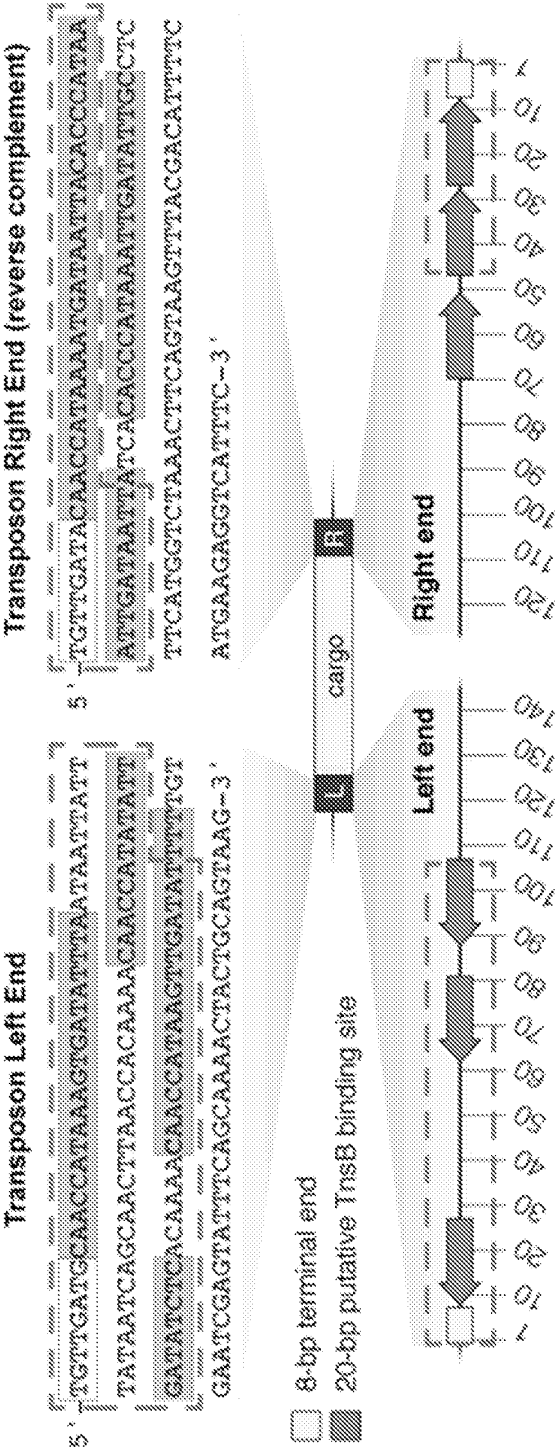
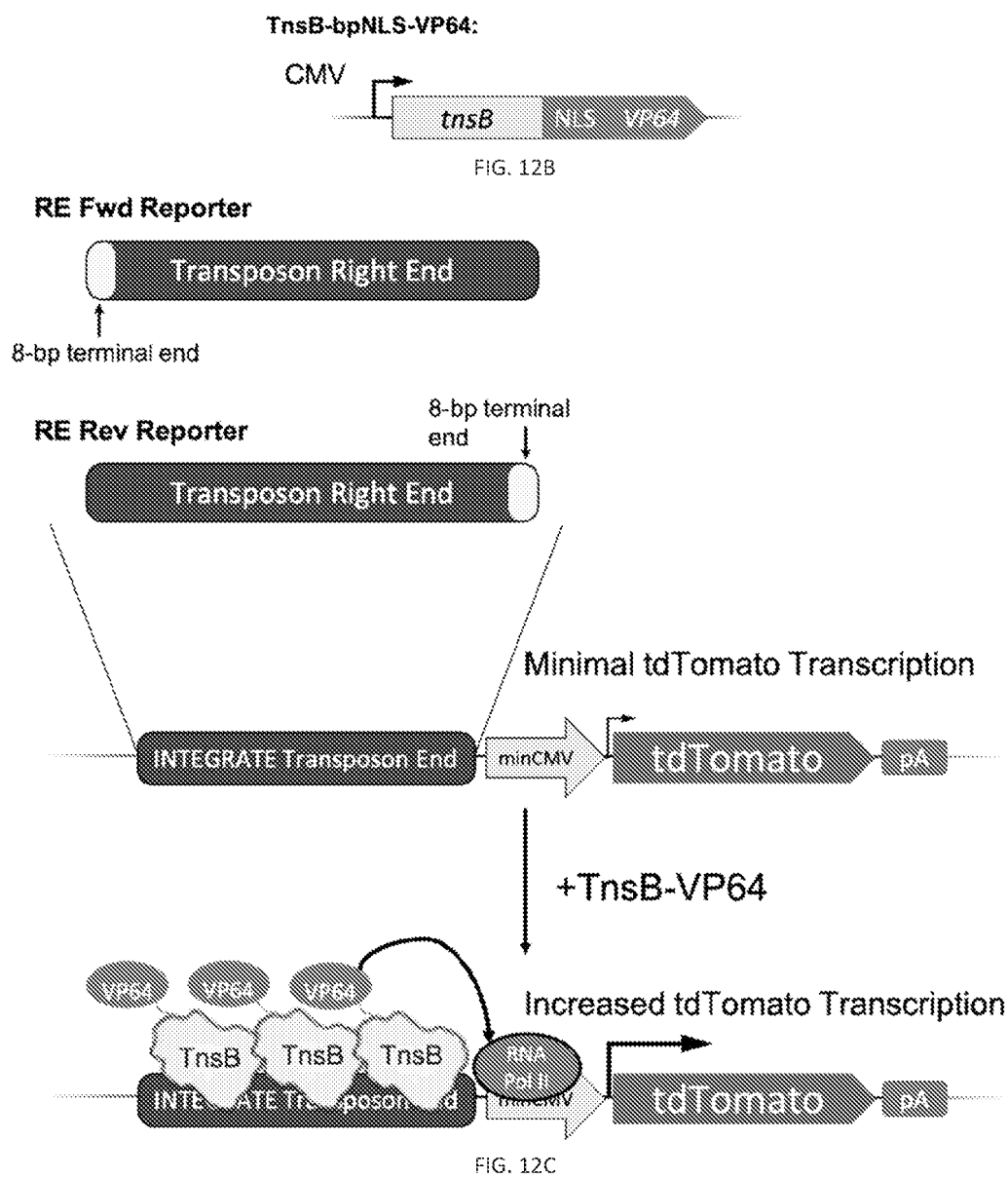


FIG. 12A

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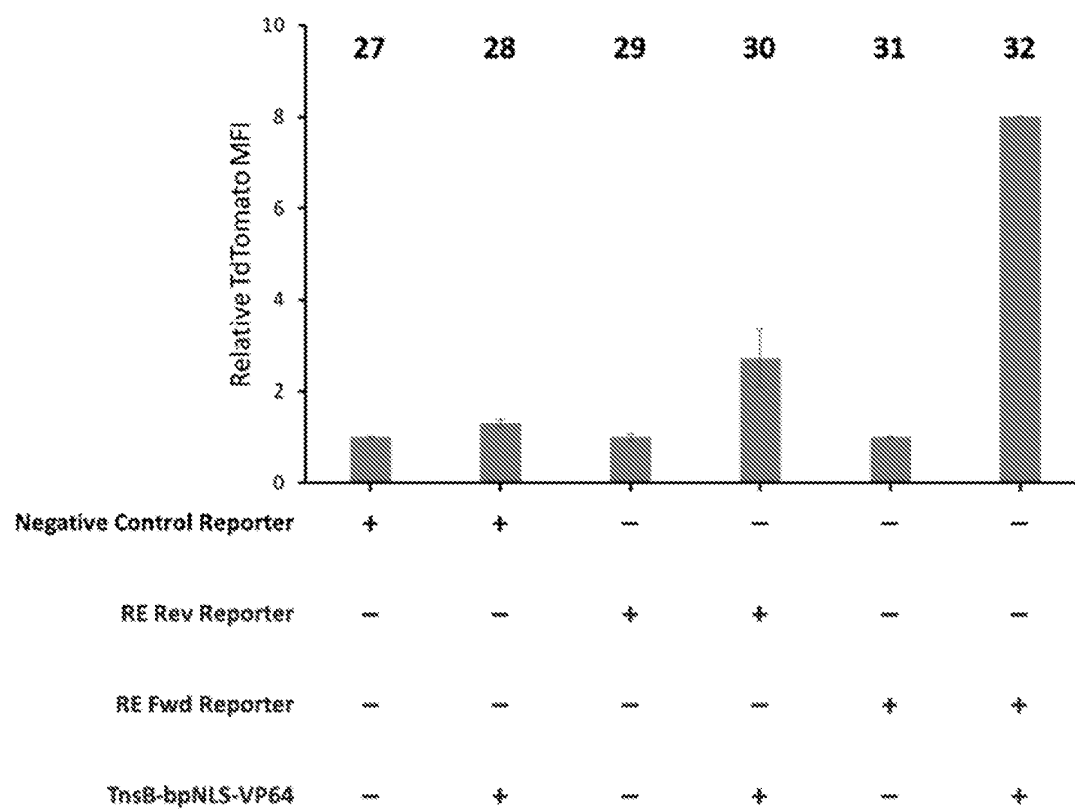


FIG. 12D

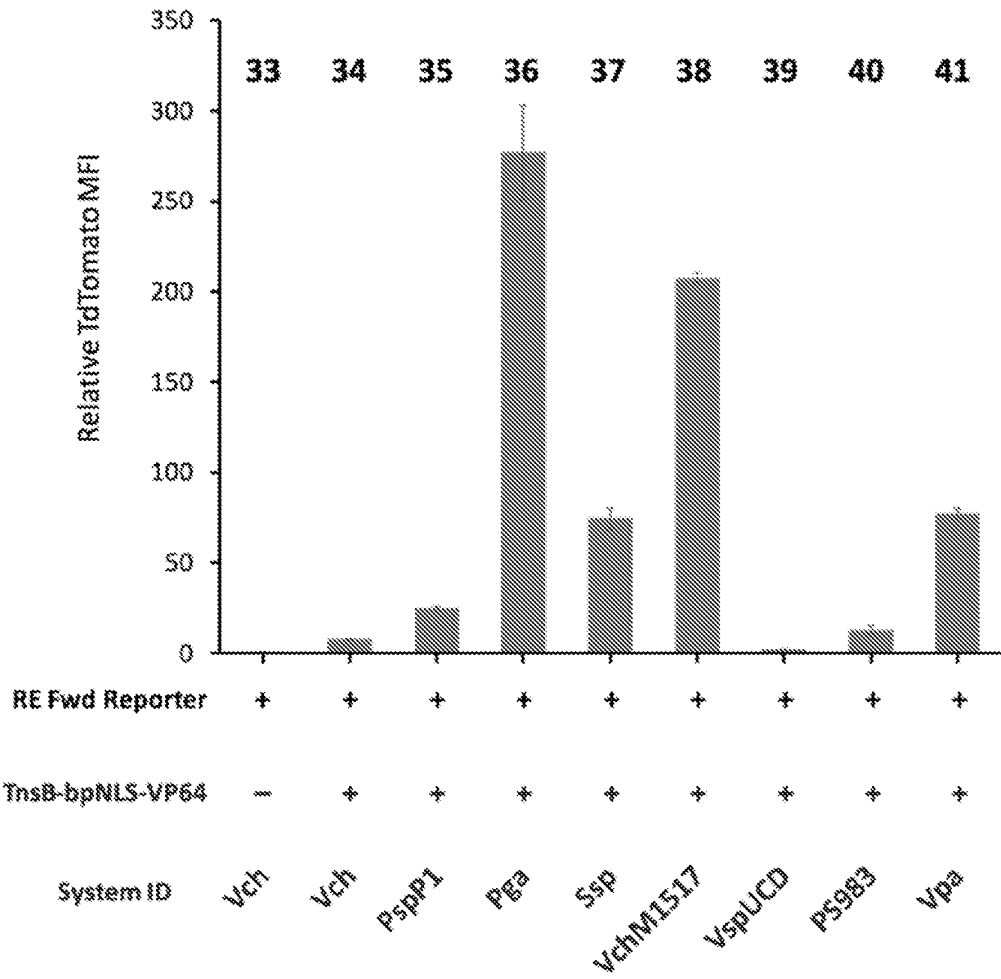


FIG. 12E

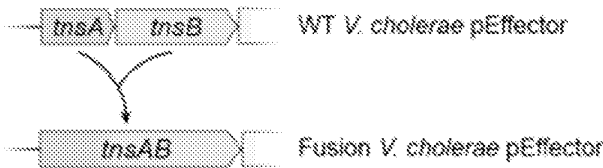


FIG. 13A

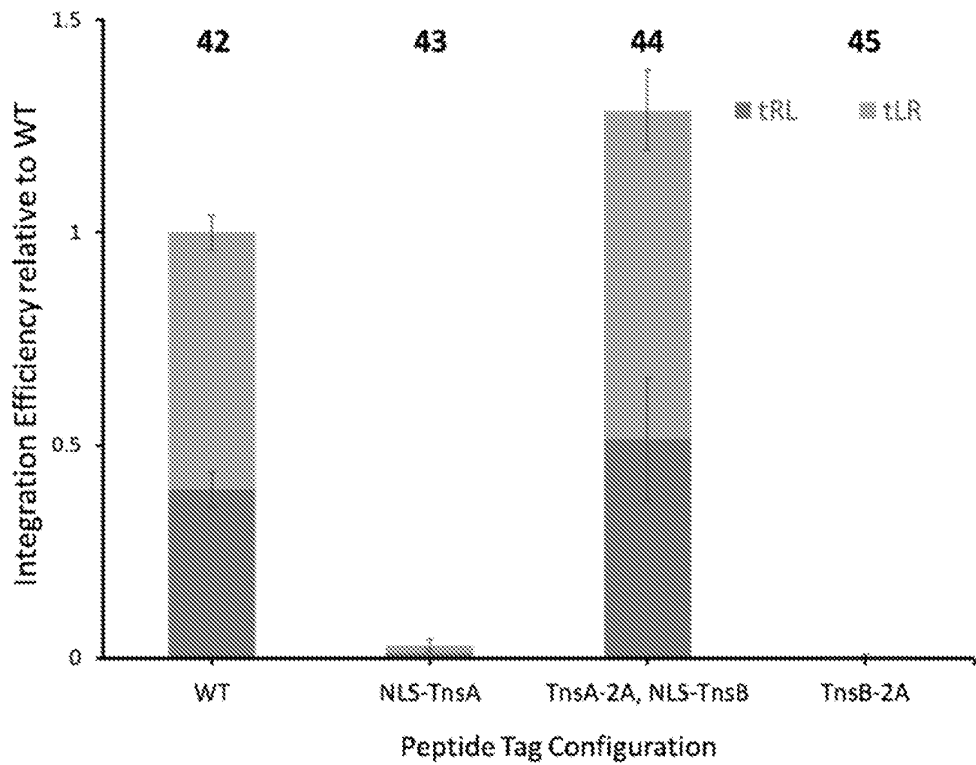


FIG. 13B

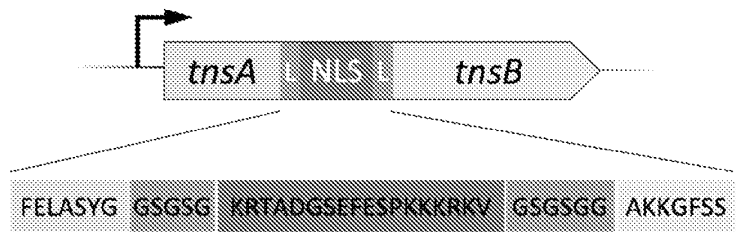


FIG. 13C

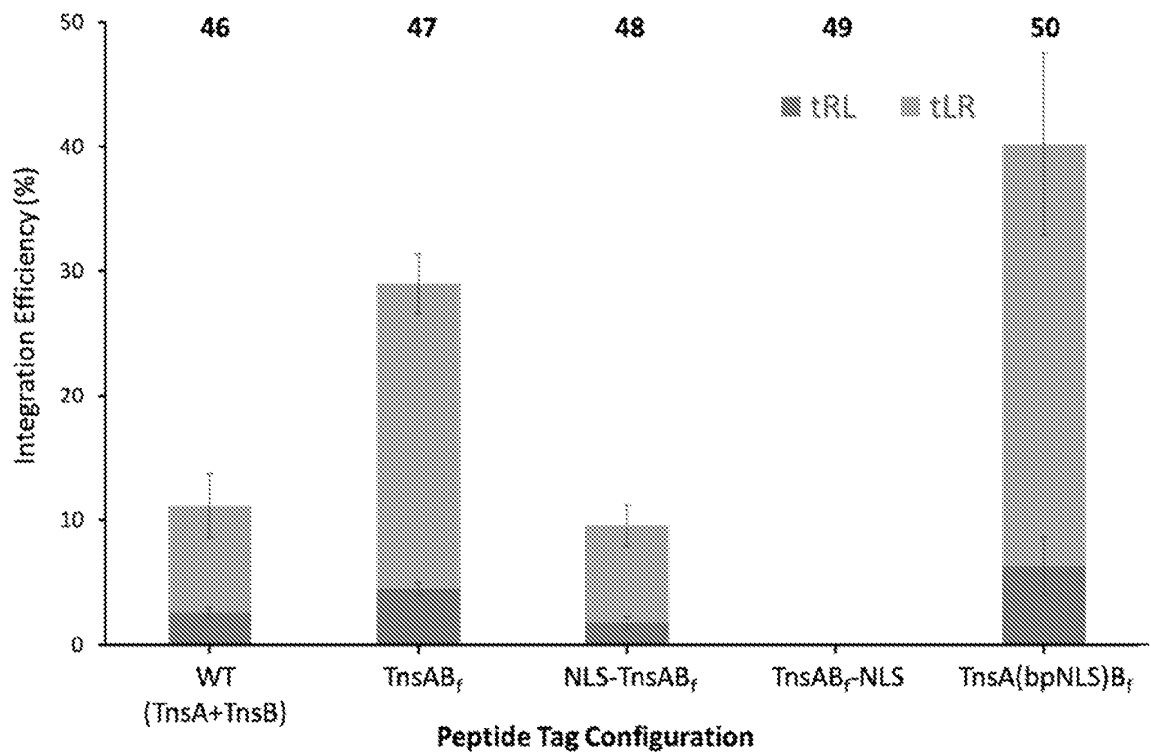


FIG. 13D

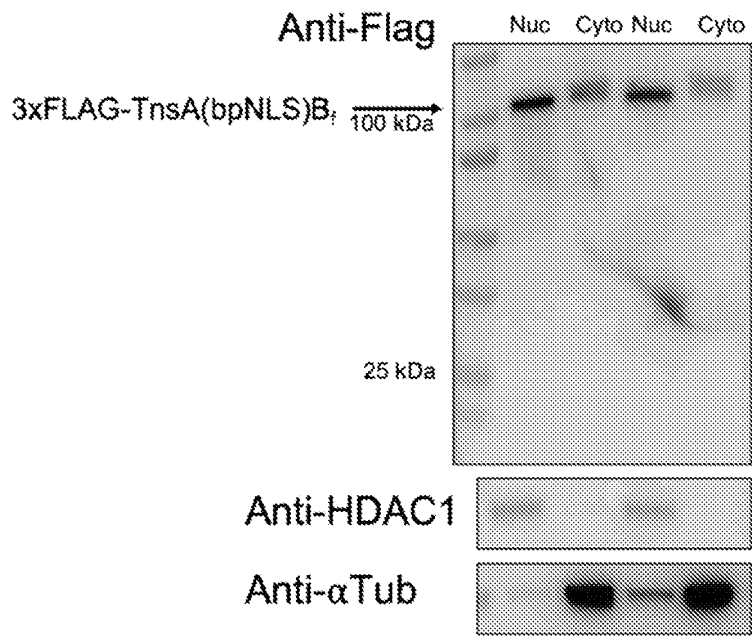


FIG. 13E

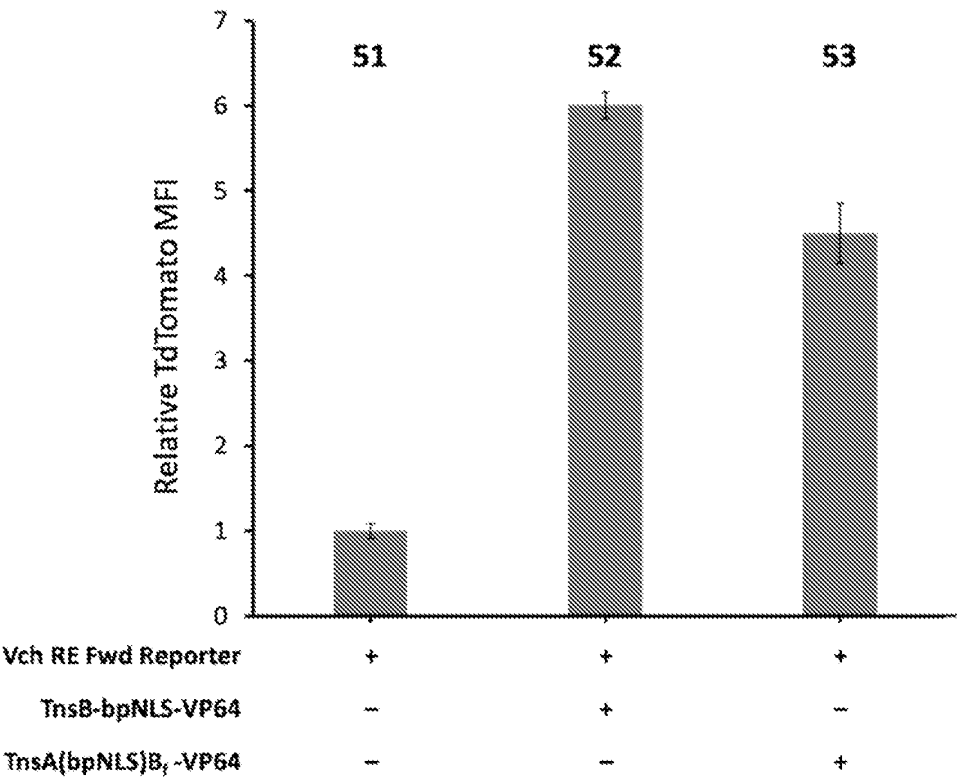


FIG. 13F

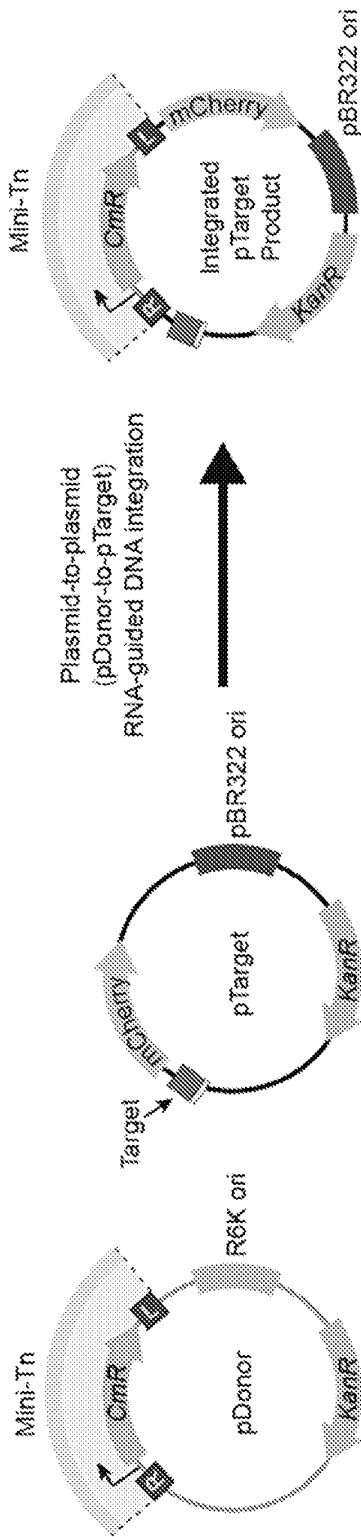


FIG. 14A

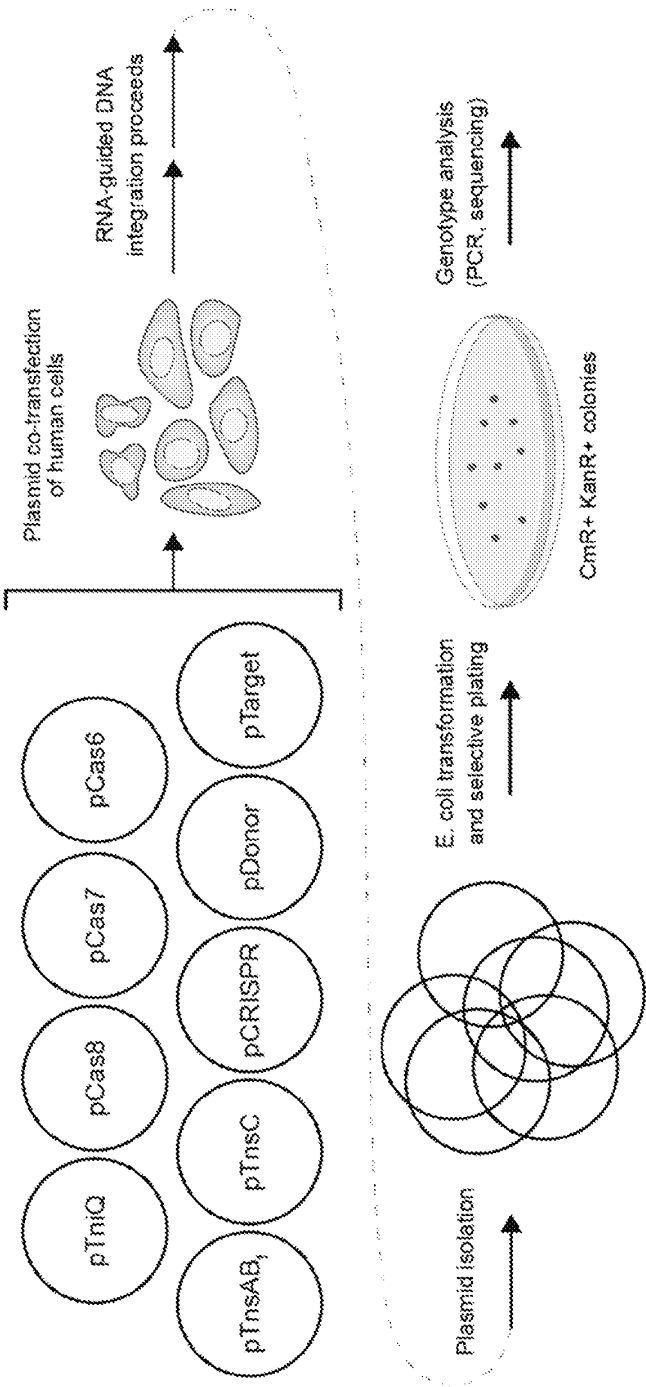


FIG. 14B

Simple name	Plasmid ID	Brief description
pTniQ	pSL2620	Encodes <i>V. cholerae</i> TniQ with N-term BP-NLS
pCas8	pSL2621	Encodes <i>V. cholerae</i> Cas8 with N-term BP-NLS
pCas7	pSL2622	Encodes <i>V. cholerae</i> Cas7 with N-term BP-NLS
pCas6	pSL2623	Encodes <i>V. cholerae</i> Cas6 with N-term BP-NLS
pTnsAB,	pSL2669	Encodes <i>V. cholerae</i> TnsAB fusion with internal BP-NLS
pTnsC	pSL2645	Encodes <i>V. cholerae</i> TnsC with N-term BP-NLS
pCRISPR	pSL2084	Encodes <i>V. cholerae</i> gRNA as a repeat-spacer-repeat array
pDonor	pSL2123	Encodes <i>CmrR</i> gene within the mini-transposon; R6K vector backbone
pTarget	pSL0341	Contains gRNA-matching target site upstream of mCherry

FIG. 14C

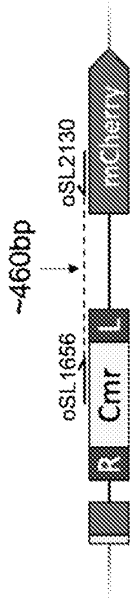


FIG. 15A

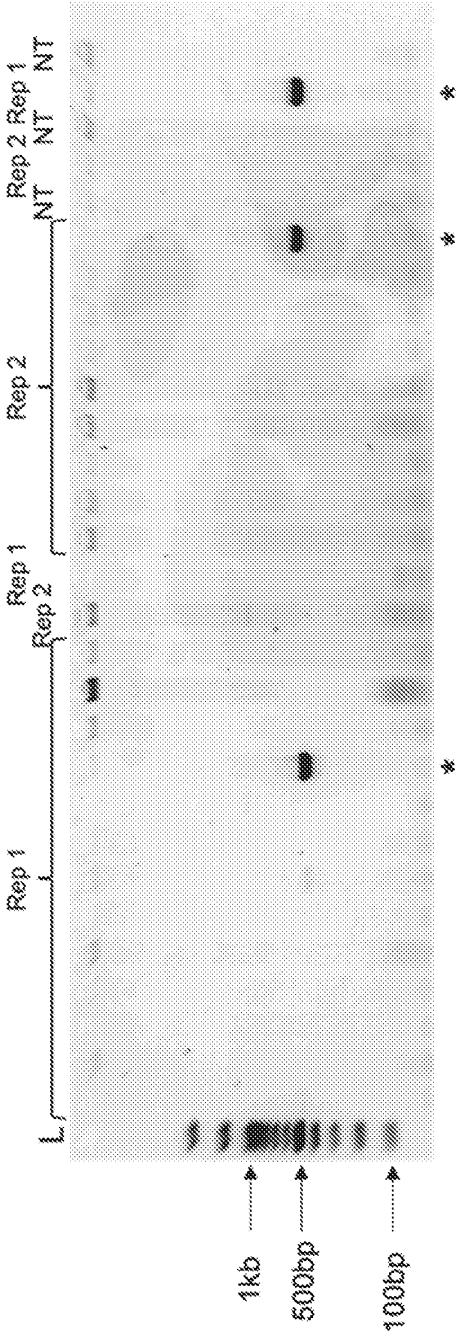


FIG. 15B

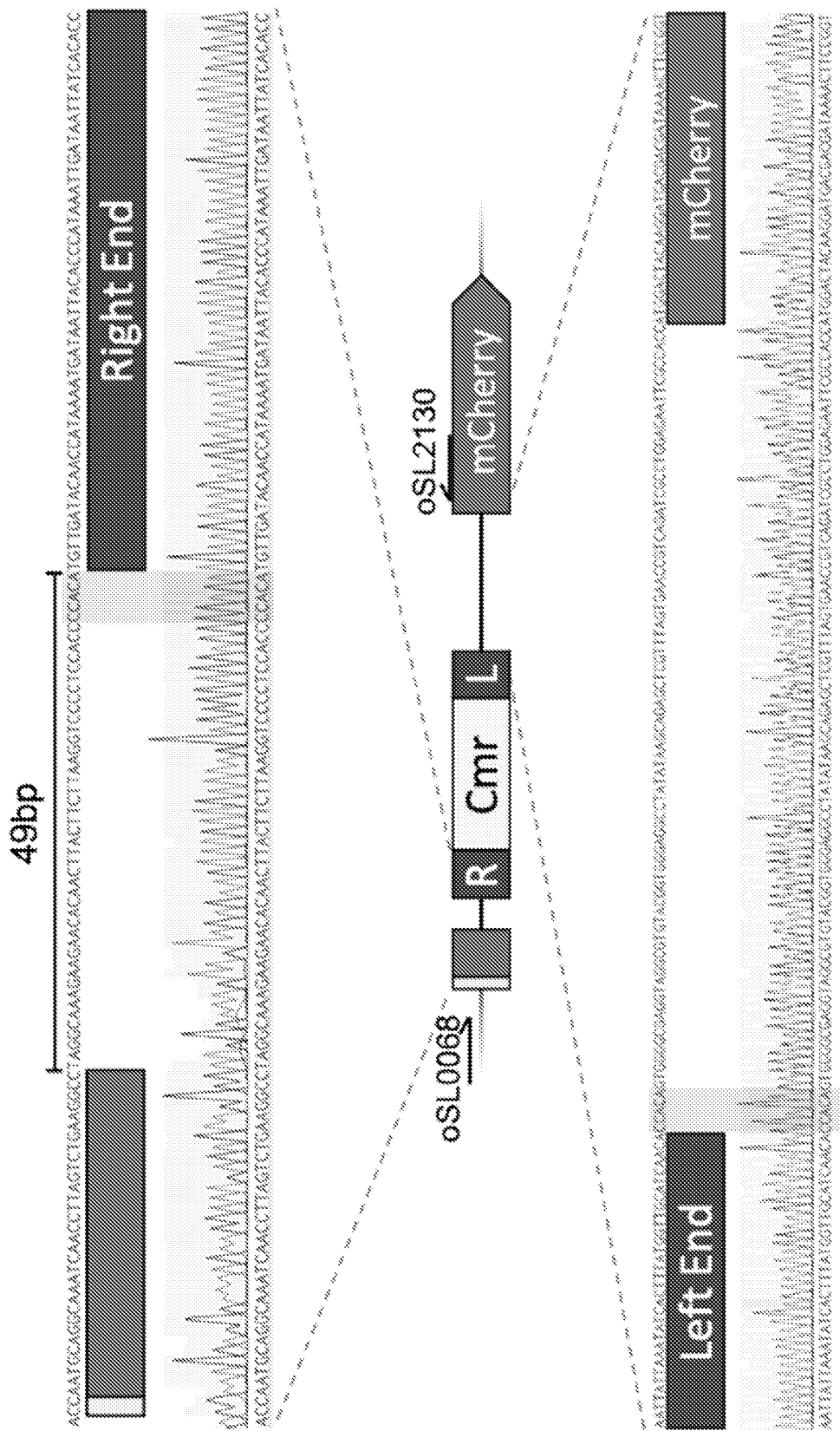
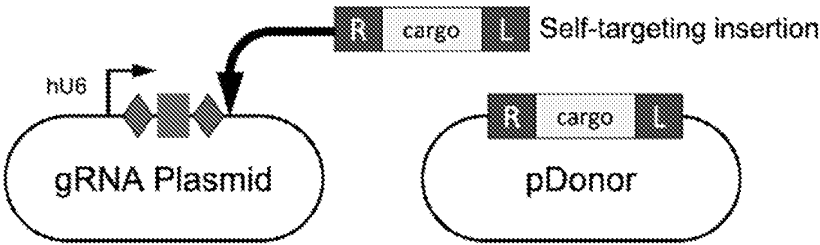


FIG. 15C

Initial gRNA expression strategy



Modified pDonor:

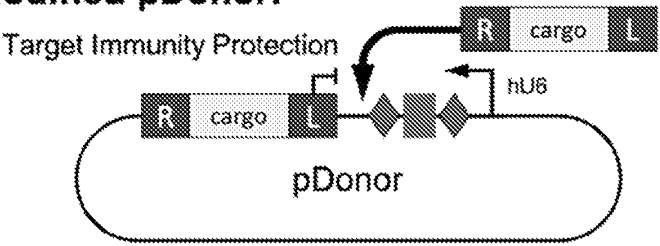


FIG. 16A

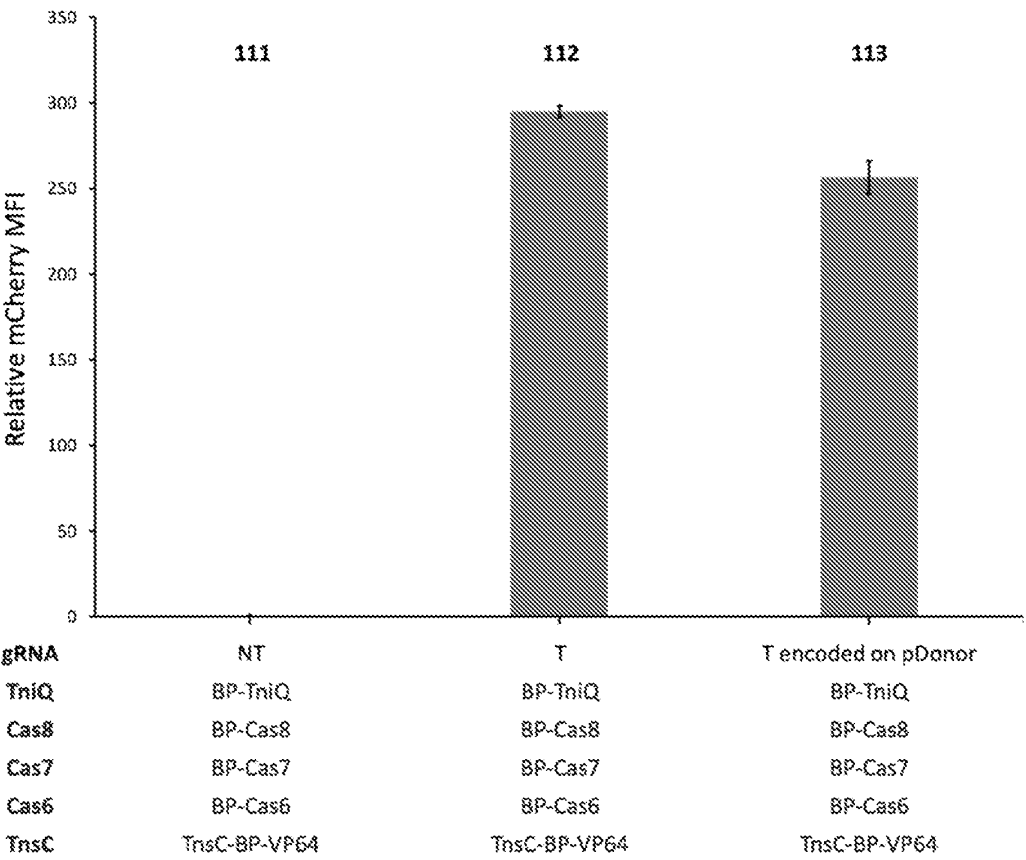


FIG. 16B

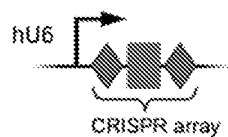
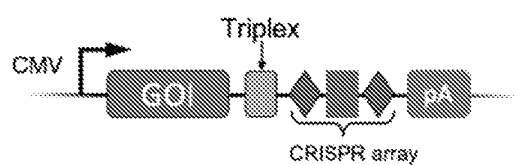
RNA Pol III Transcription:**RNA Pol II Transcription:**

FIG. 17A

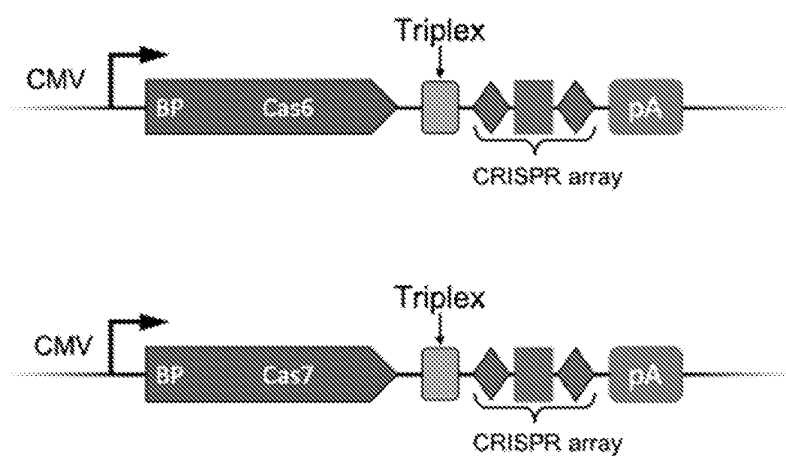


FIG. 17B

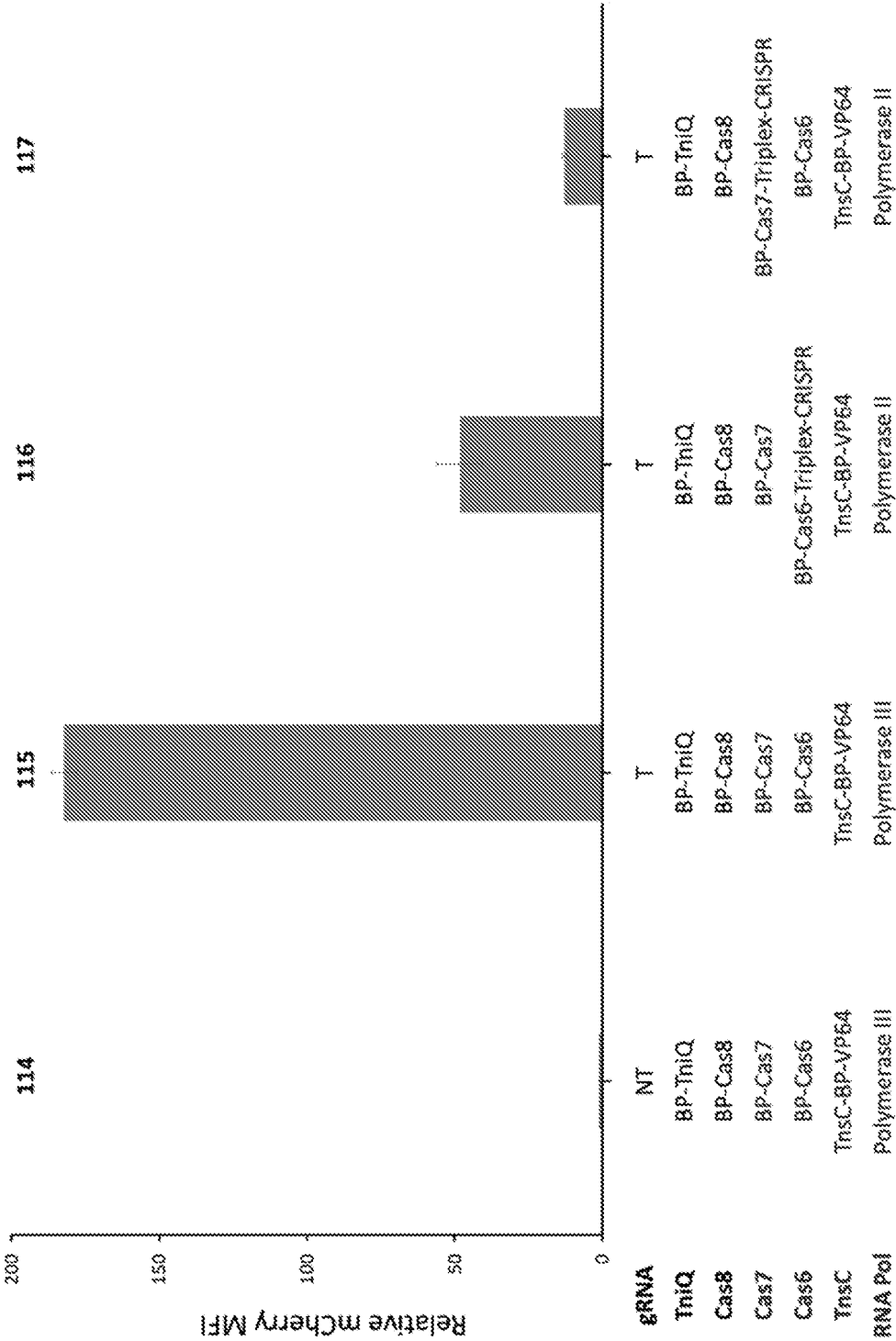


FIG. 17C

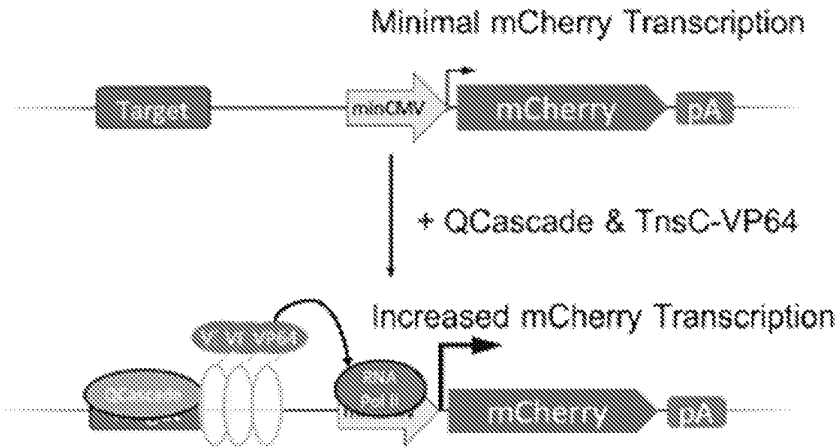


FIG. 18A

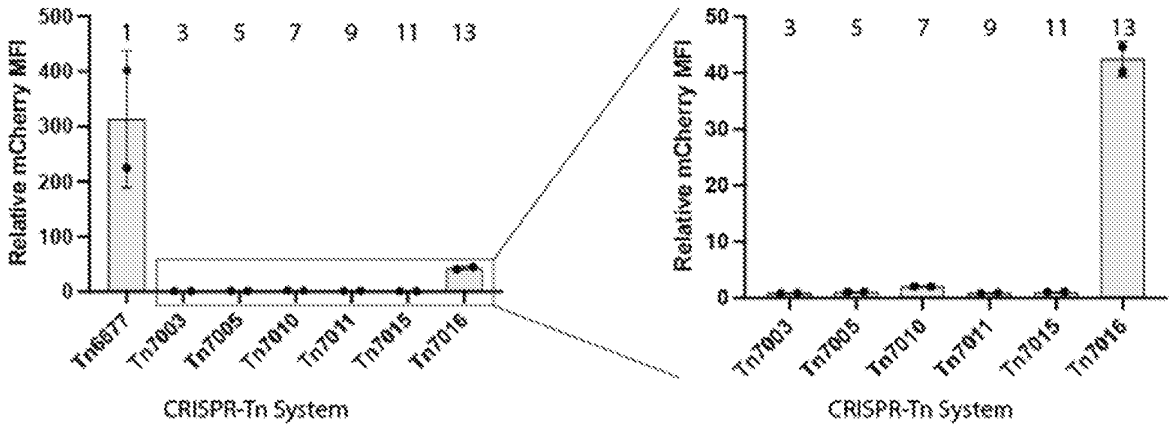


FIG. 18B

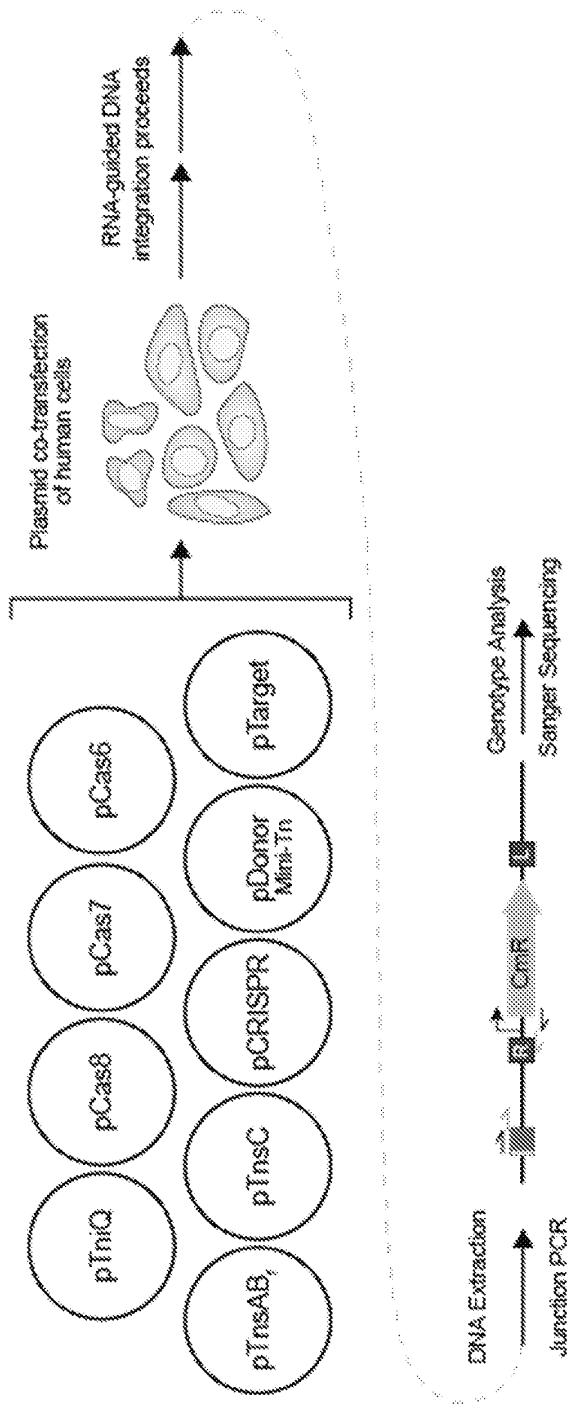


FIG. 19A

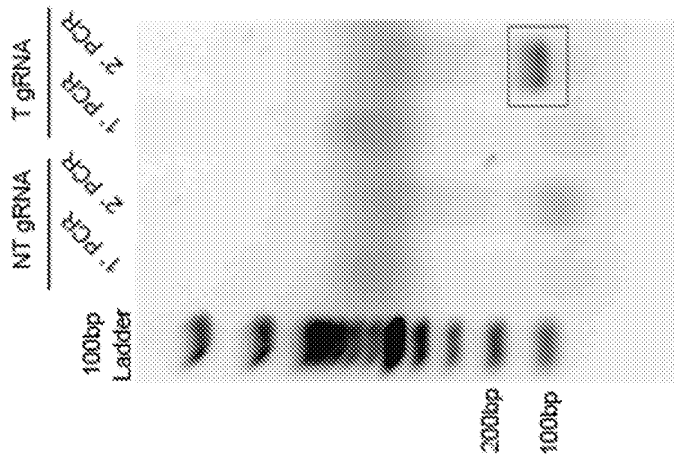
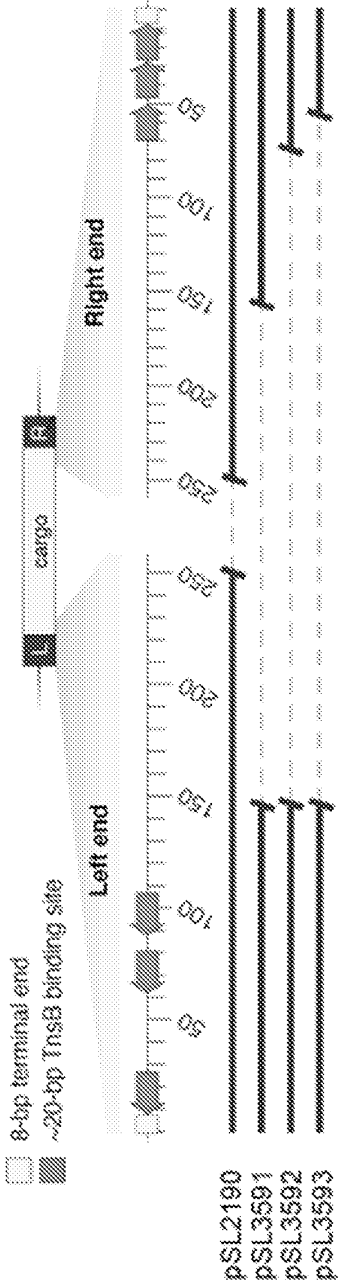
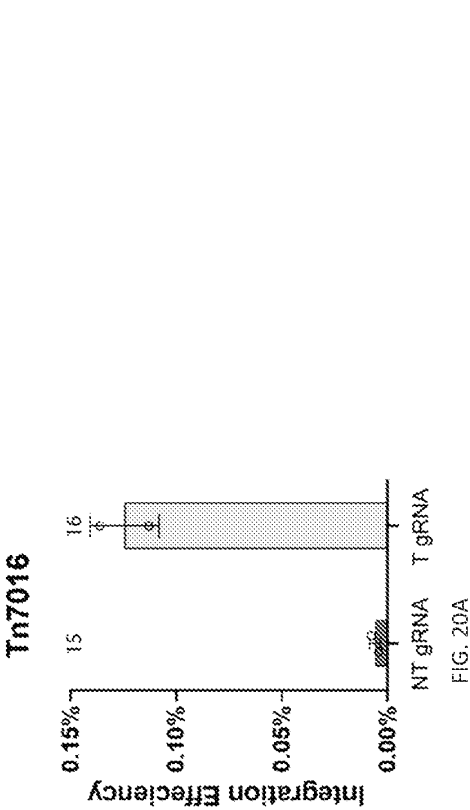


FIG. 19B



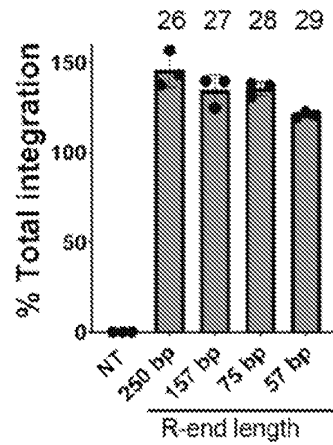


FIG. 20C

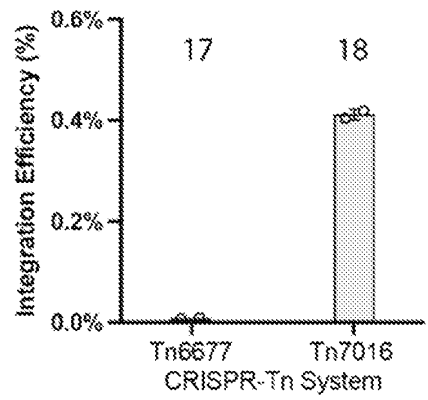


FIG. 20D

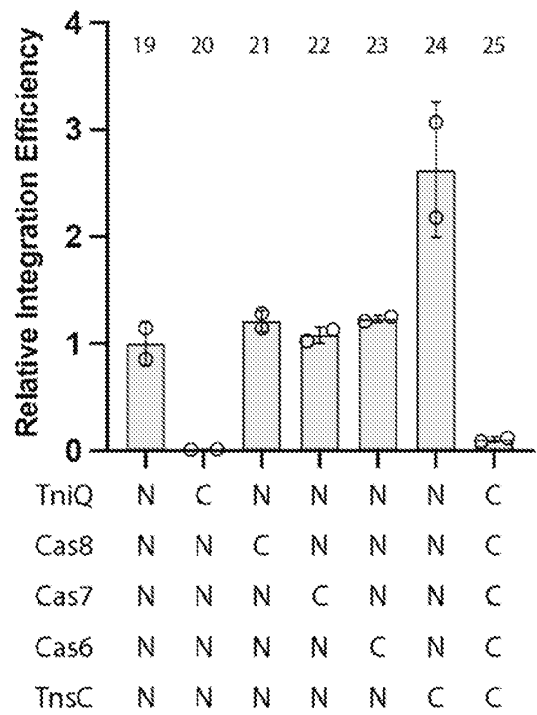


FIG. 21

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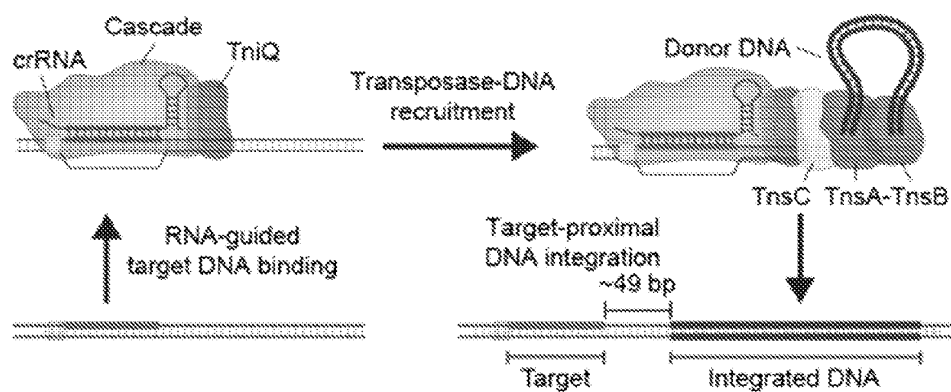


FIG. 22A

V. cholerae Tn6677 CRISPR-associated transposon (Type I-F)

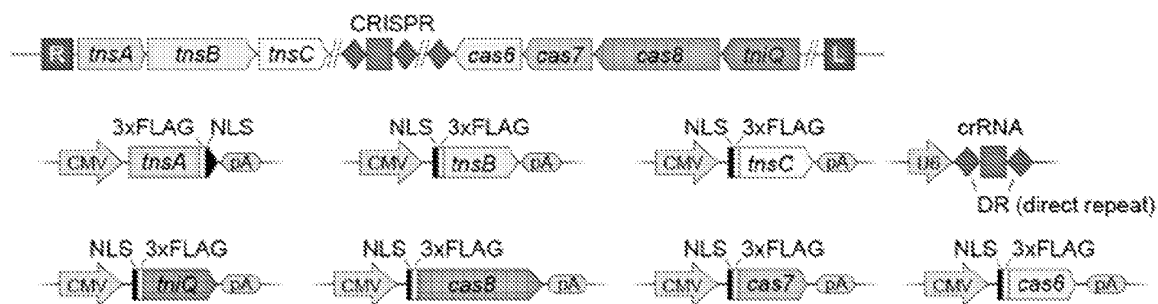


FIG. 22B

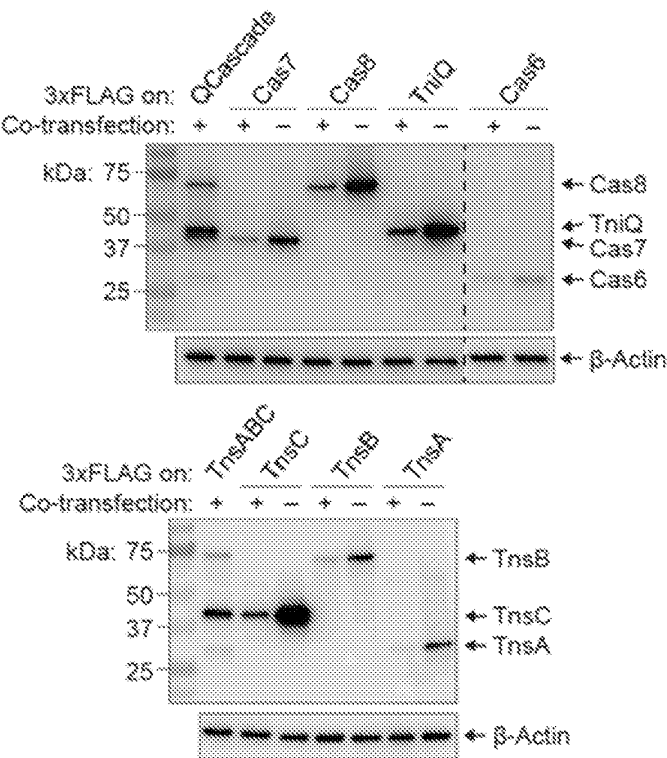


FIG. 22C

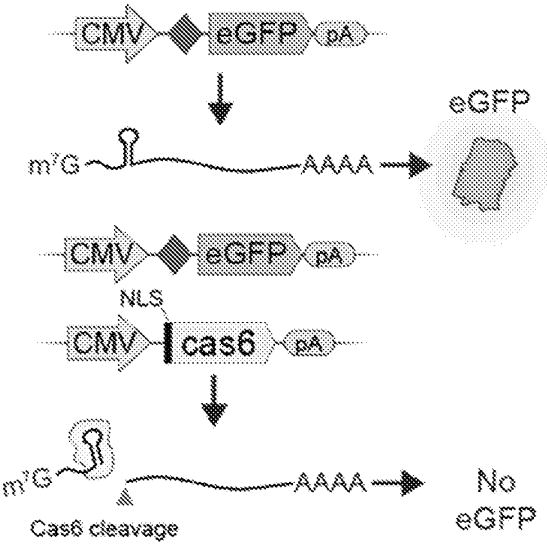


FIG. 22D

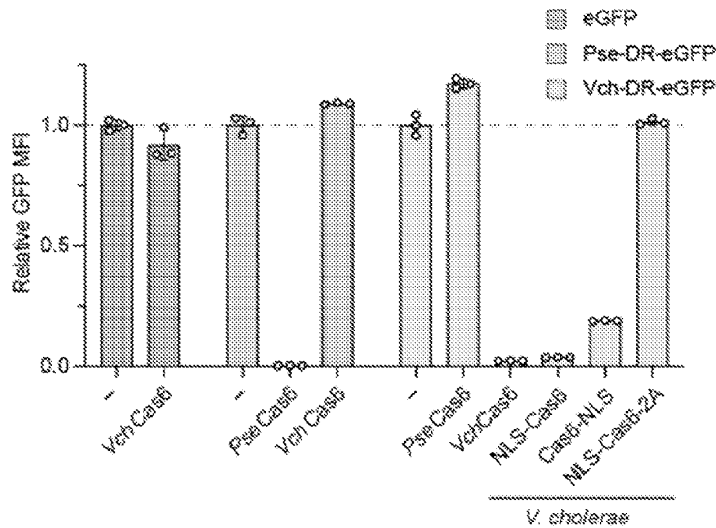


FIG. 22E

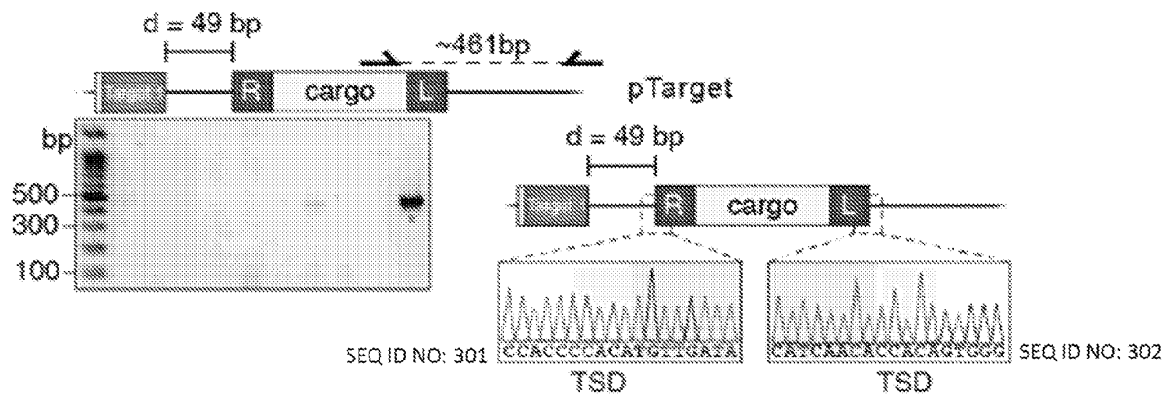


FIG. 23A

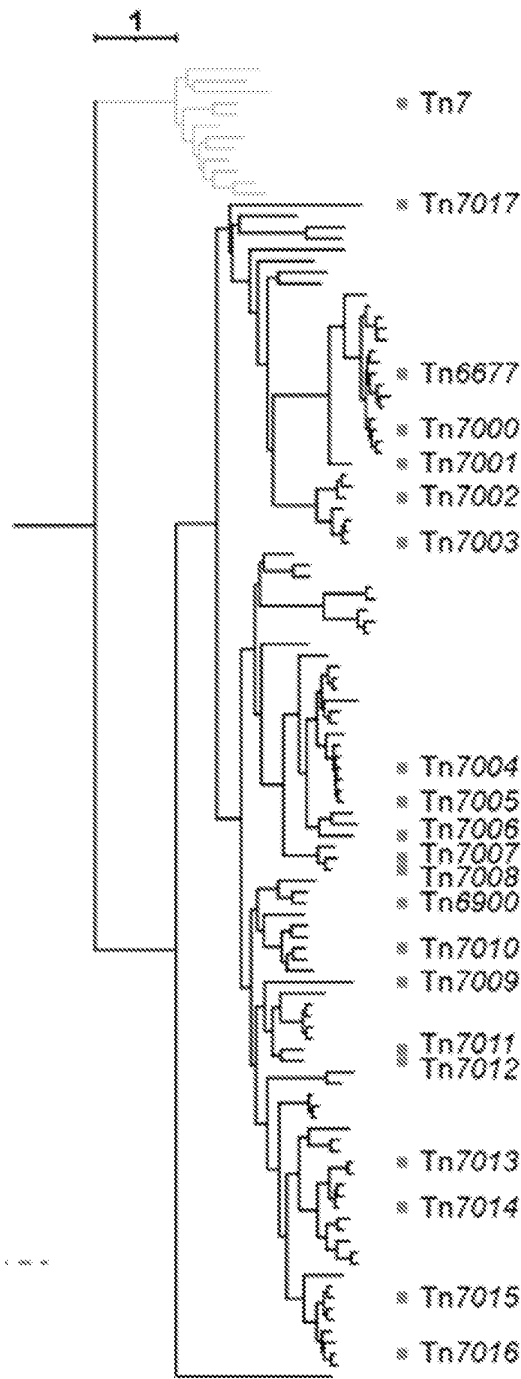


FIG. 23B

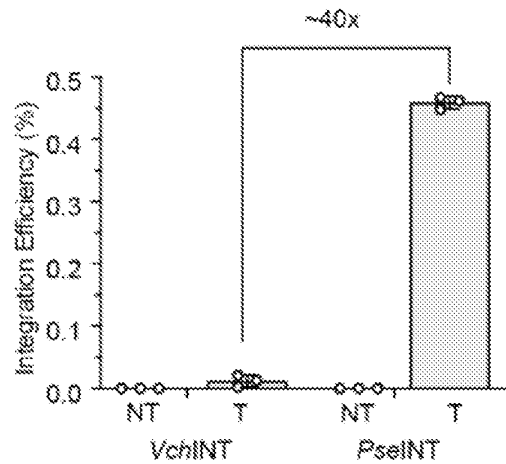


FIG. 23C

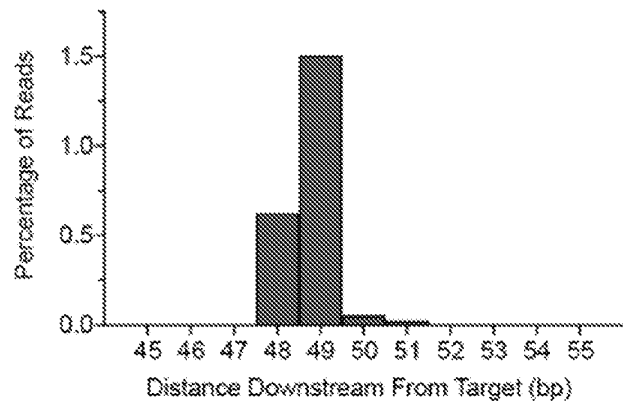


FIG. 23D

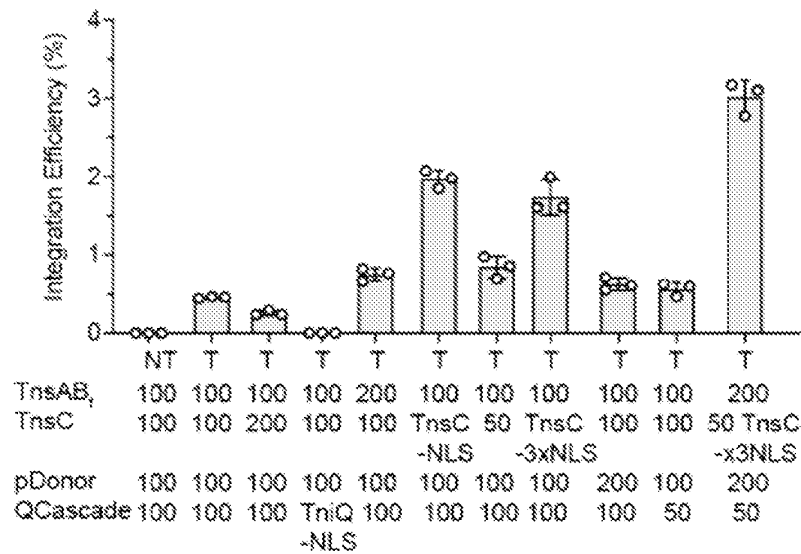


FIG. 23E

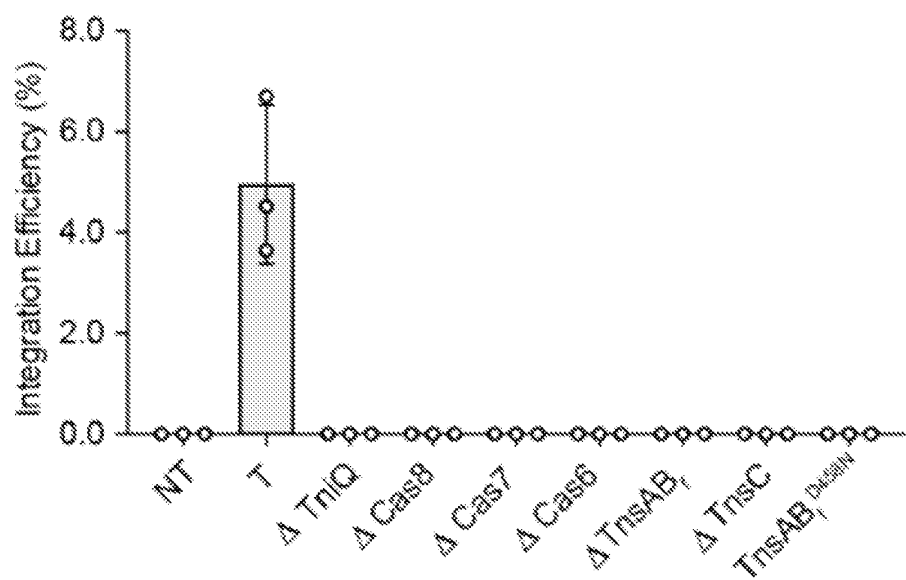


FIG. 23F

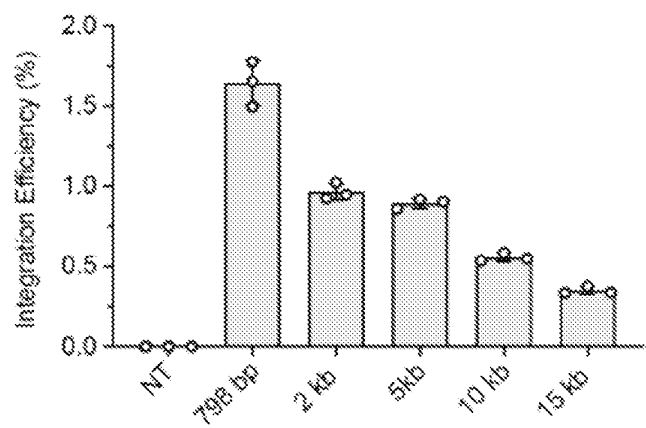


FIG. 23G

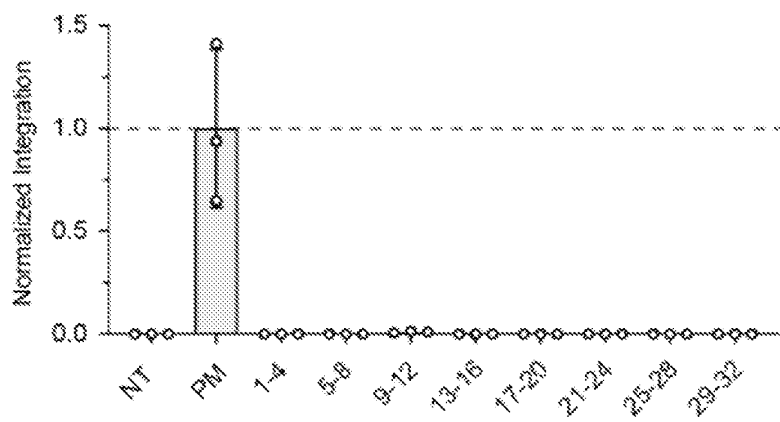


FIG. 23H

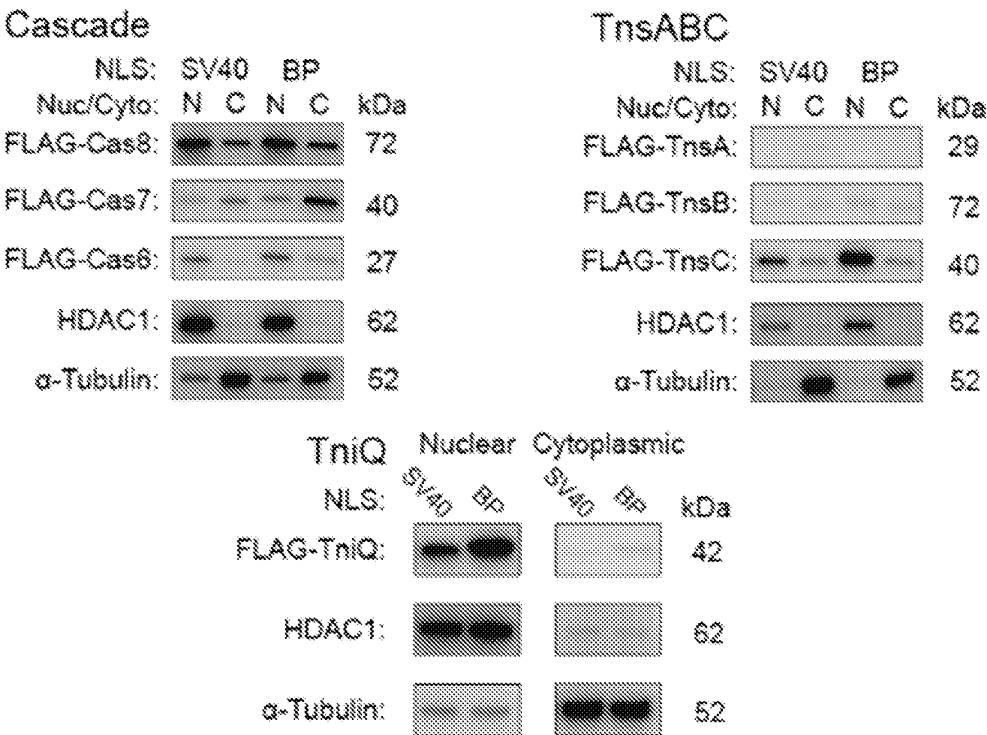


FIG. 24A

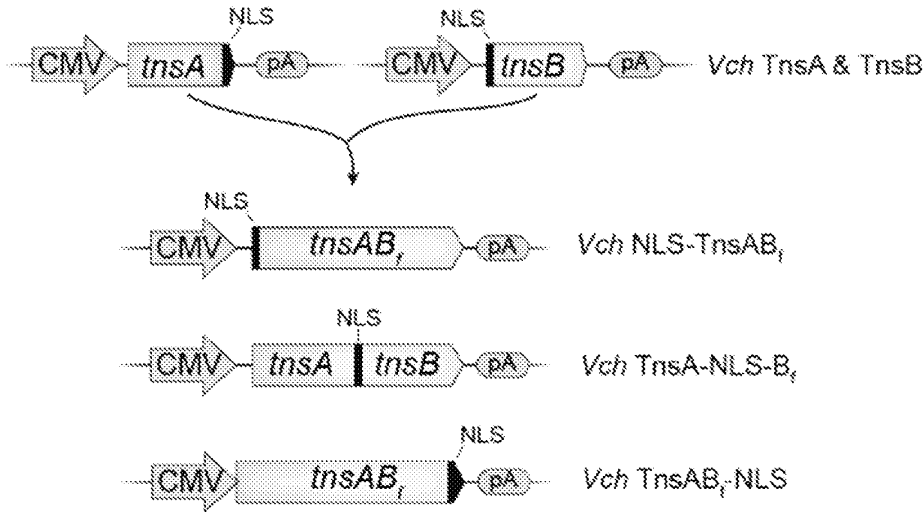


FIG. 24B

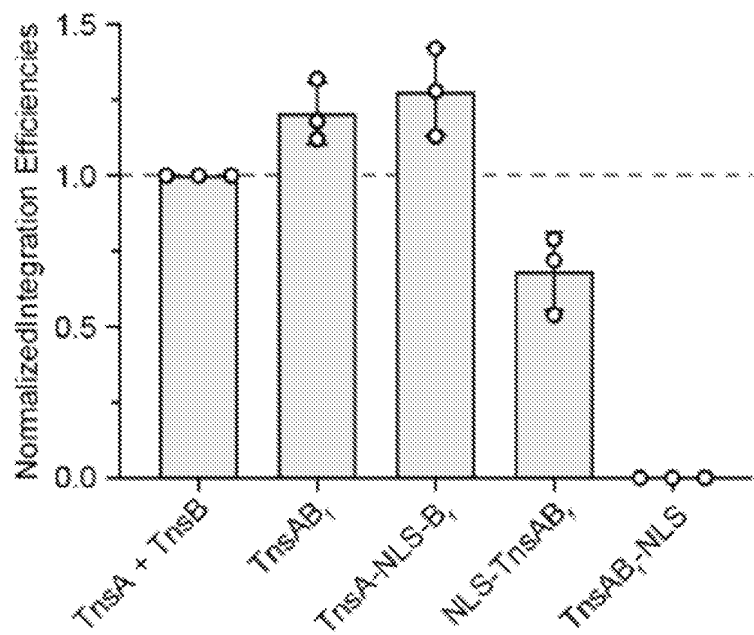


FIG. 24C

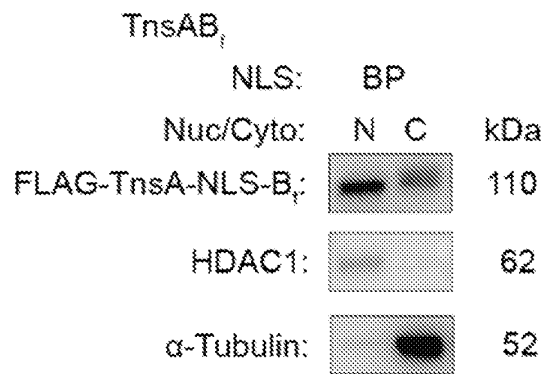
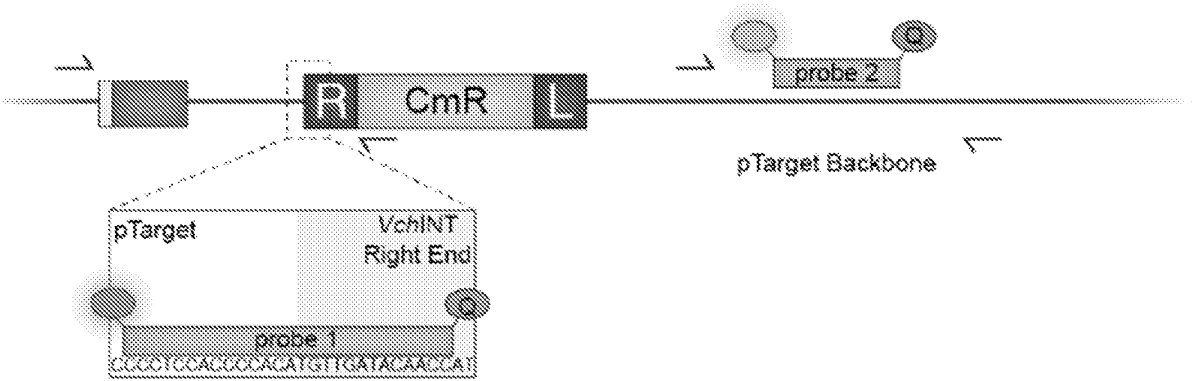
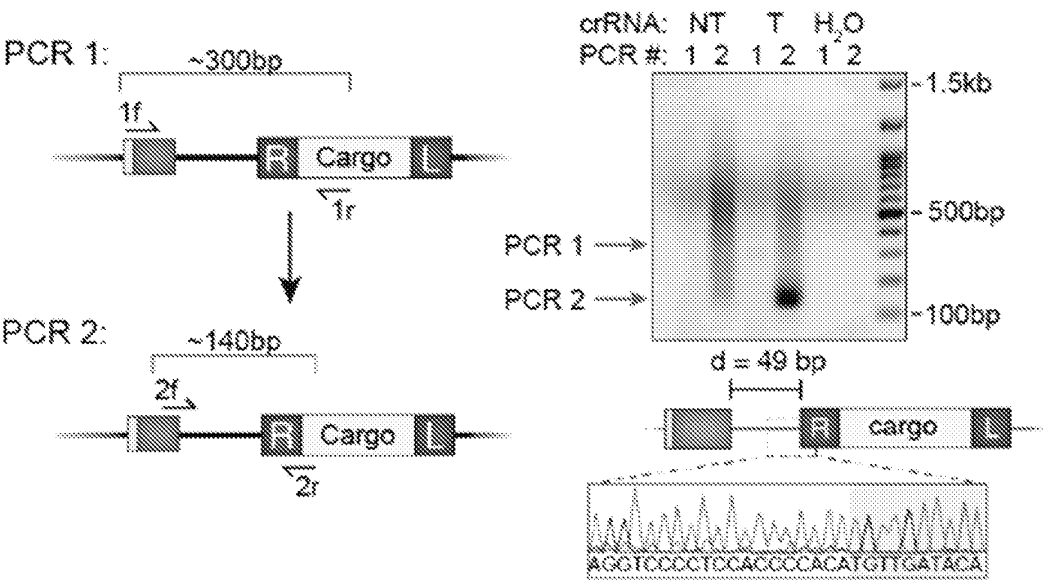


FIG. 24D



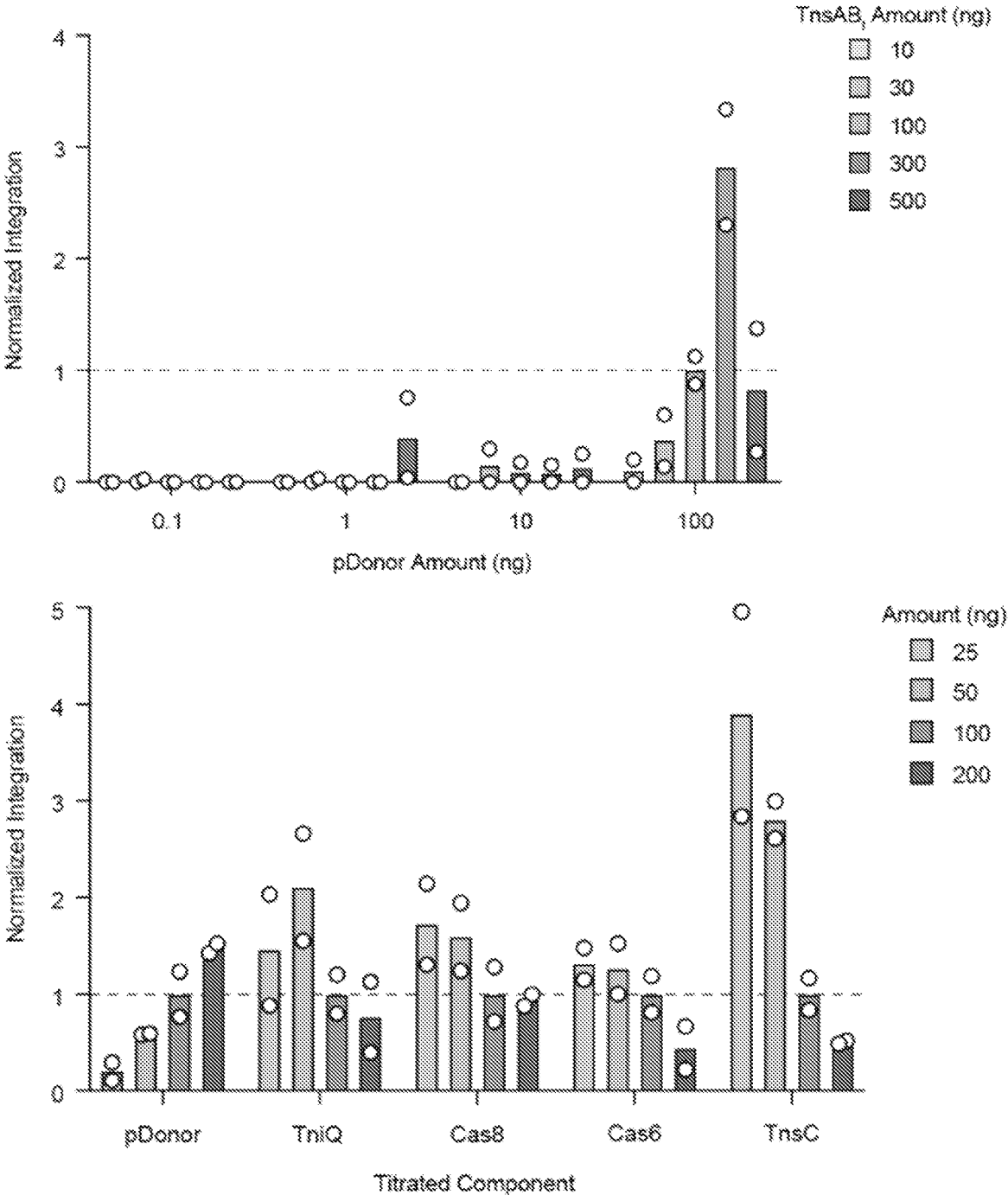
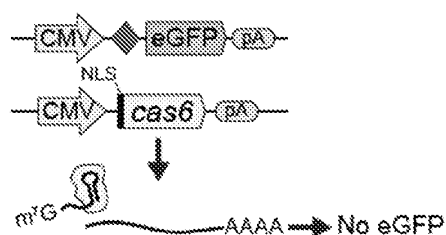


FIG. 25C

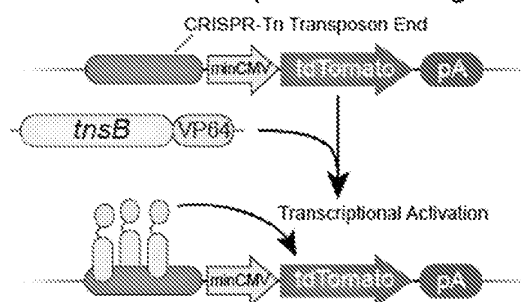
Hierarchical Homolog Screening Approach:

Protein expression

Cas6-GFP Knockdown



TnsB-Transposon Binding



TnsC-VP64 Activation

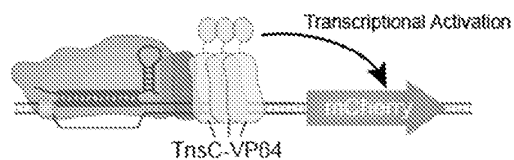
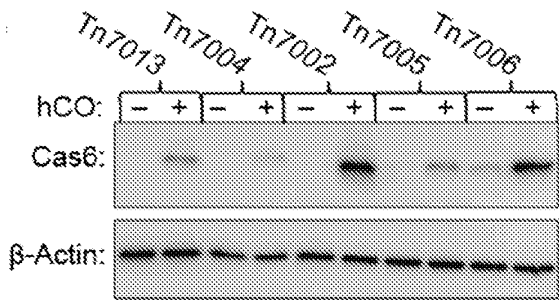


FIG. 26A



FIGS. 26B

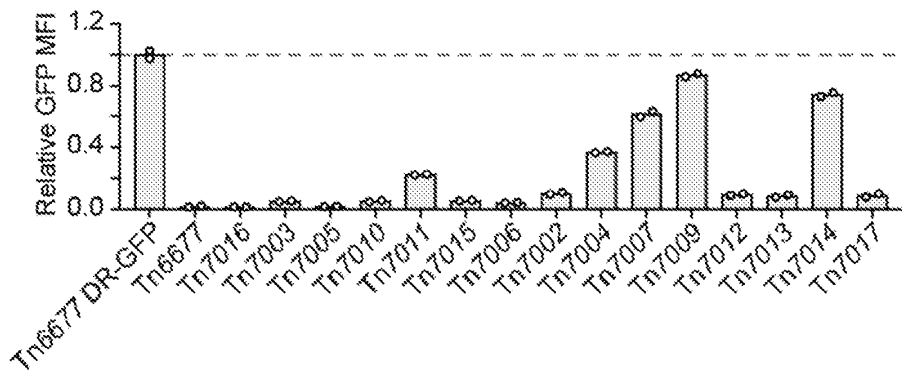


FIG. 26C

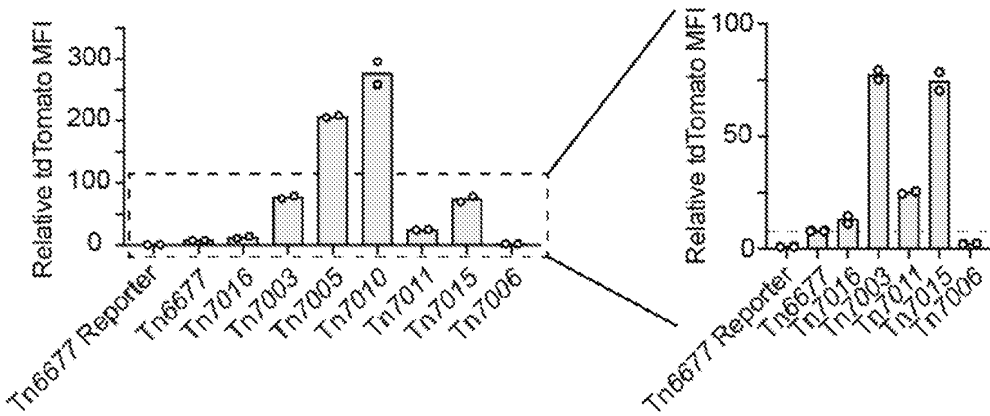


FIG. 26D

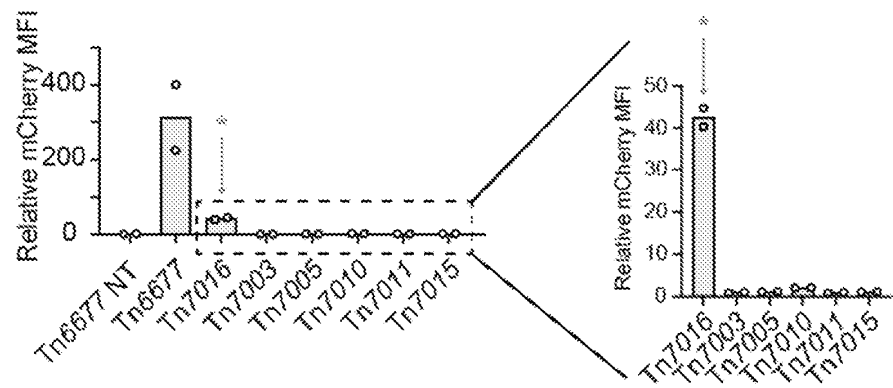


FIG. 26E

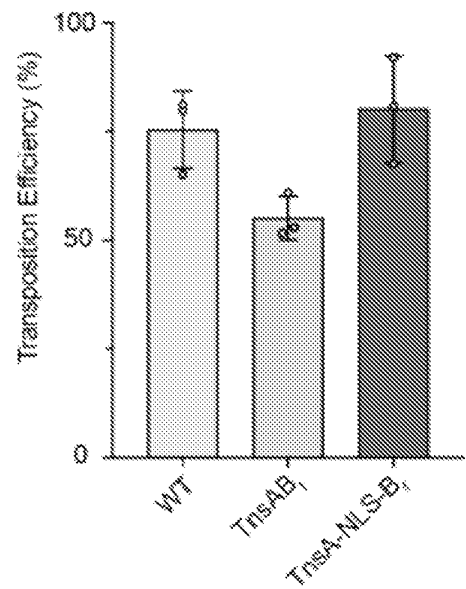


FIG. 27A

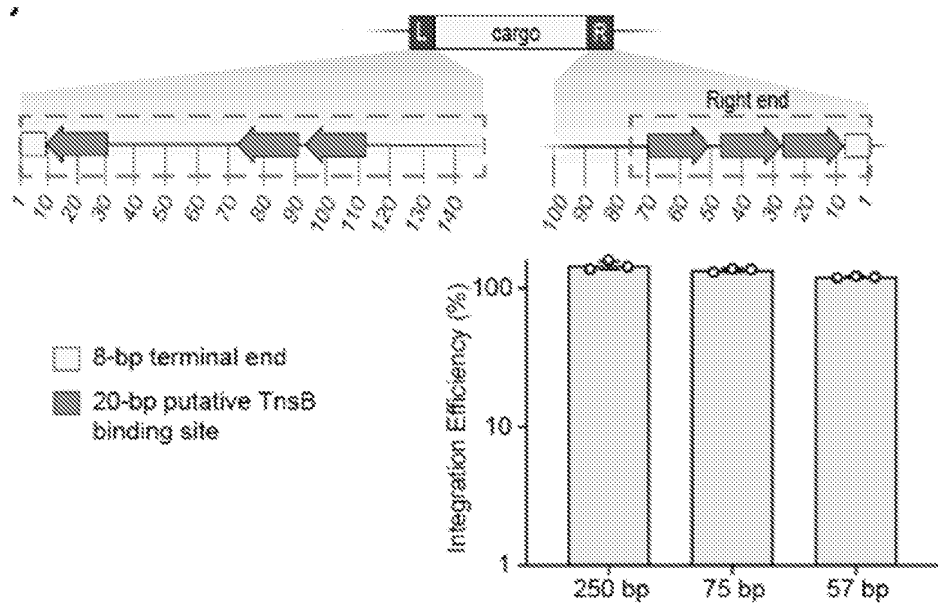


FIG. 27B

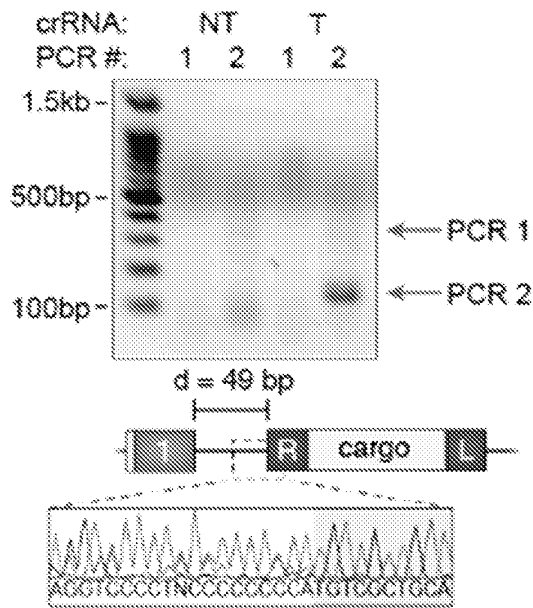


FIG. 27C

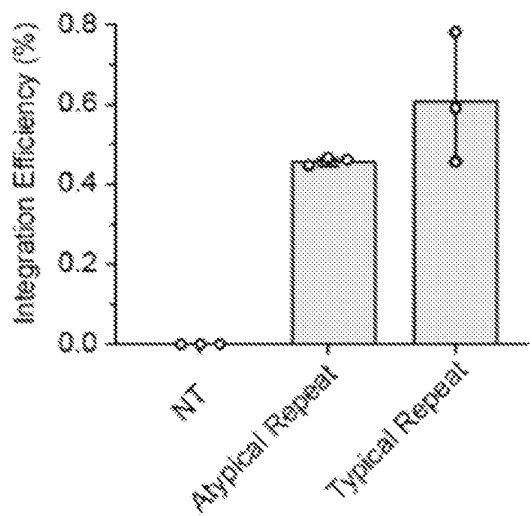


FIG. 27D

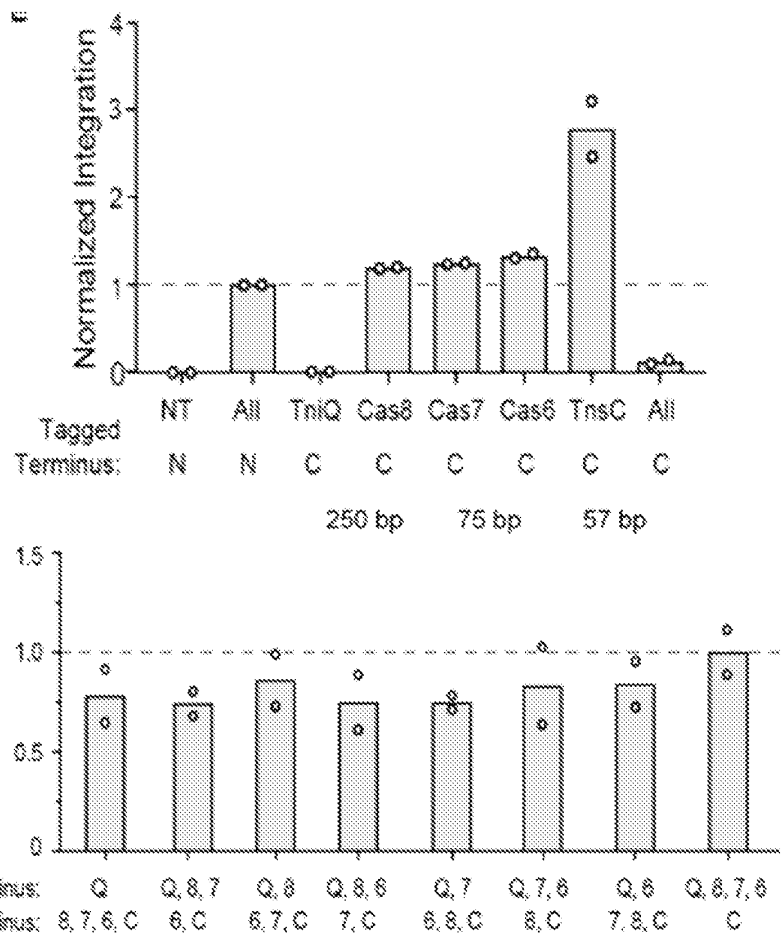


FIG. 27E

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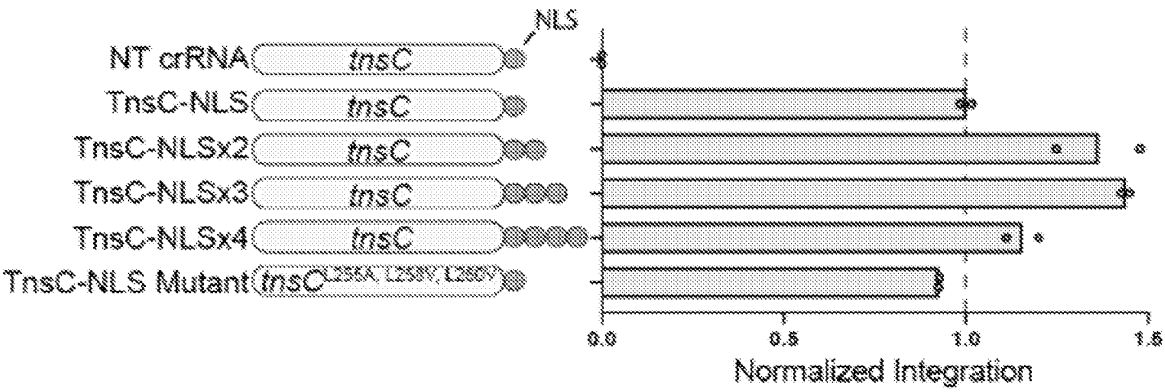


FIG. 27F

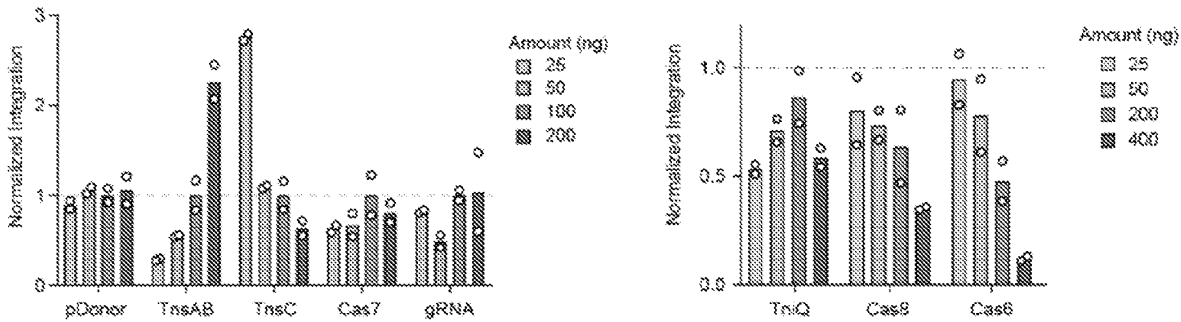


FIG. 27G

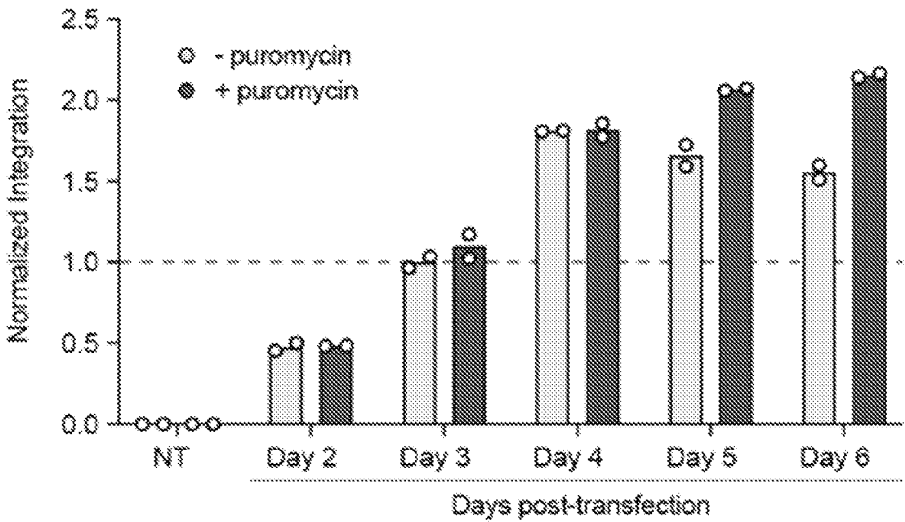


FIG. 28A

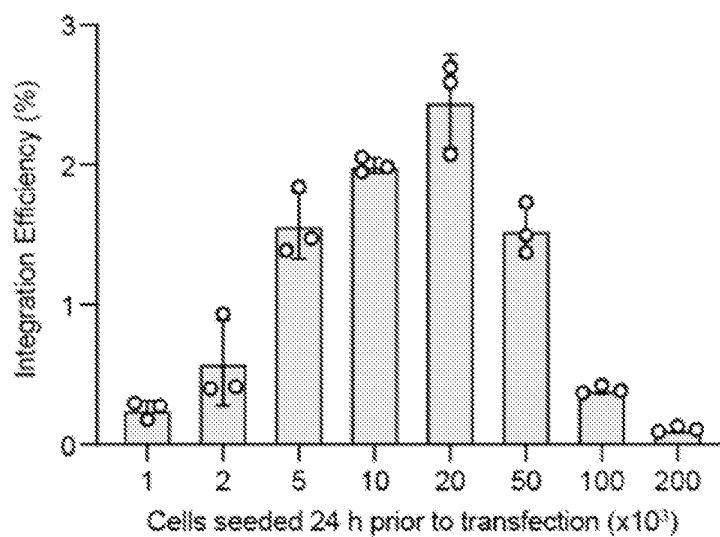


FIG. 28B

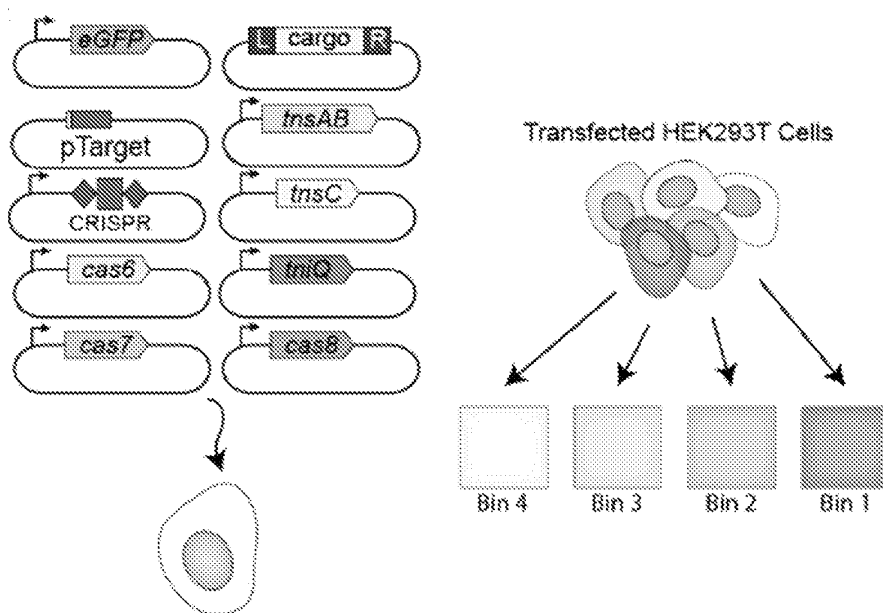


FIG. 28C

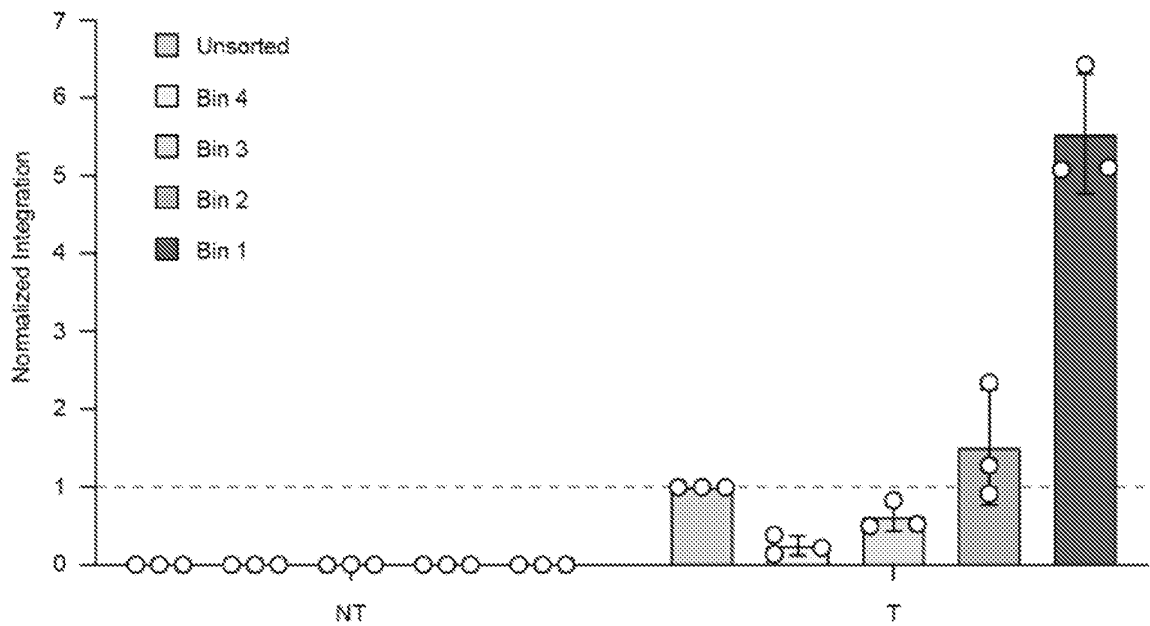


FIG. 28D

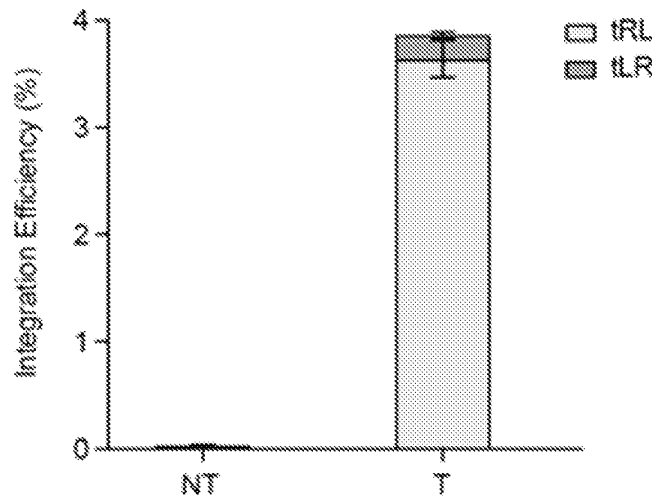


FIG. 29A

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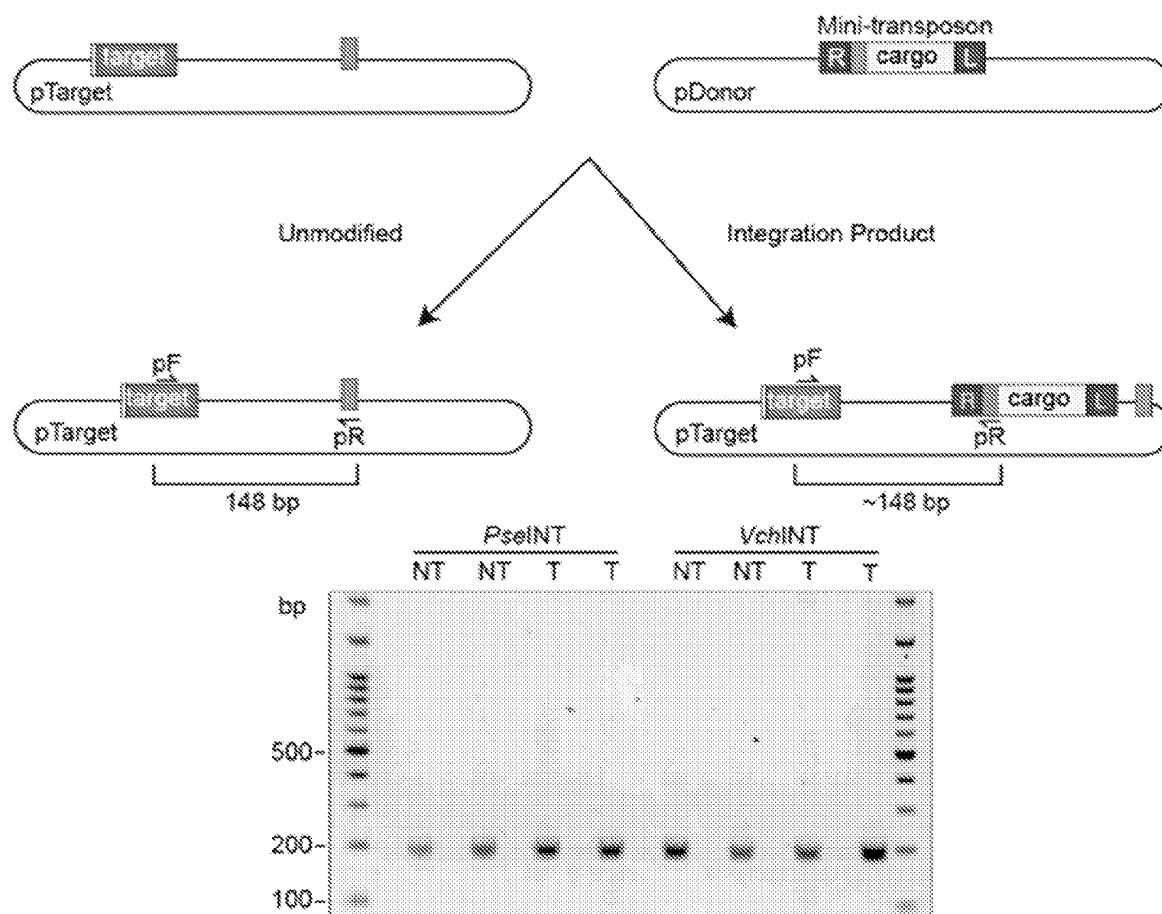


FIG. 29B

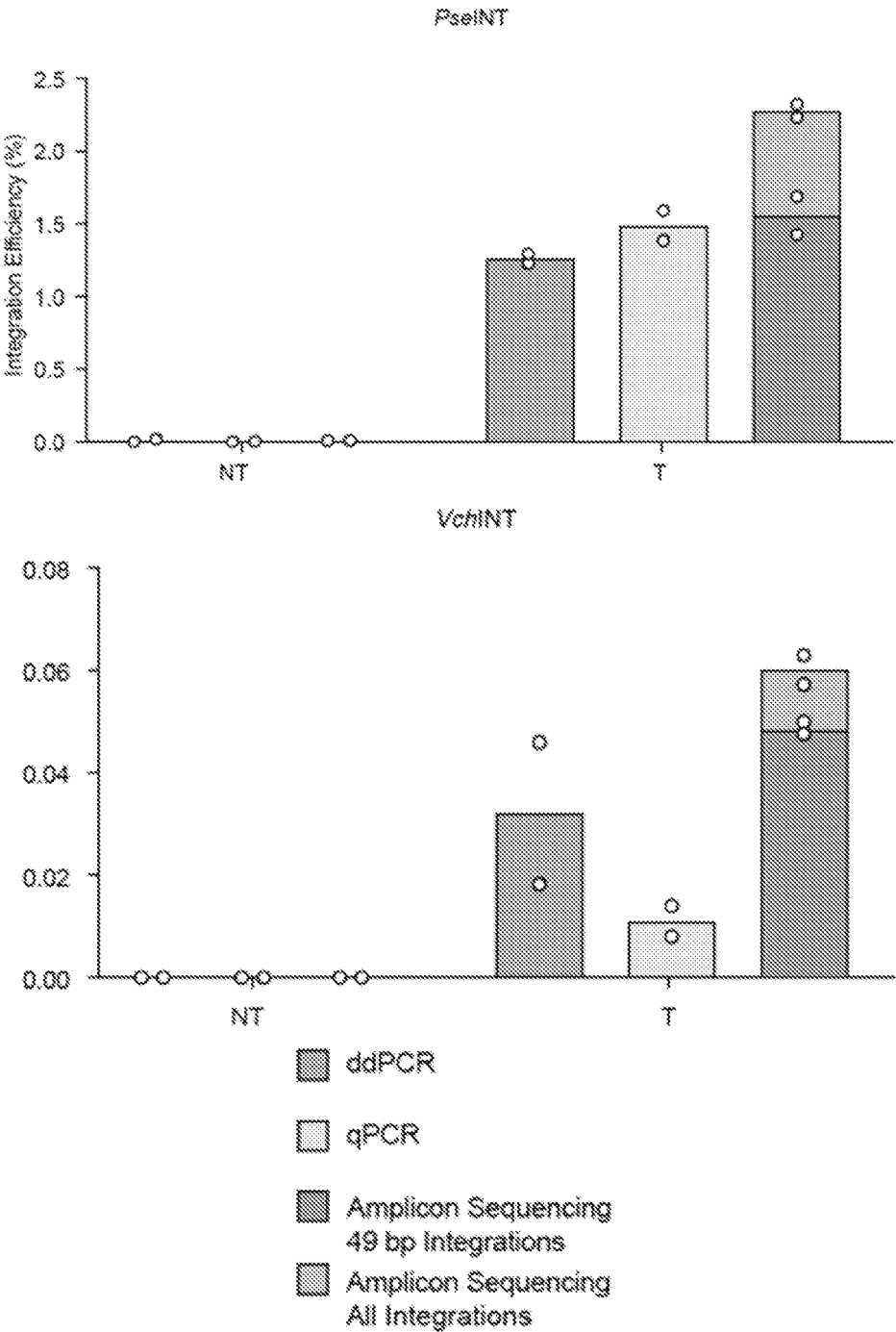


FIG. 29C

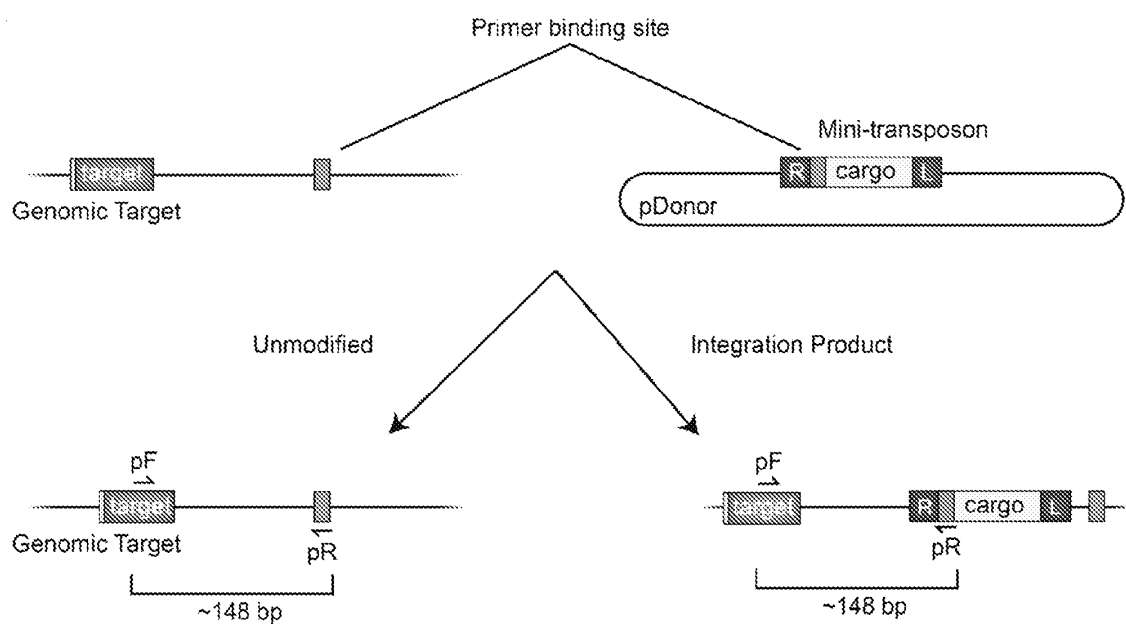


FIG. 30A

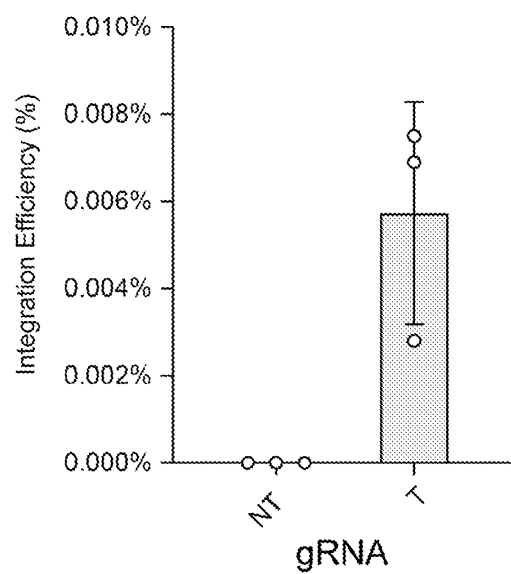


FIG. 30B

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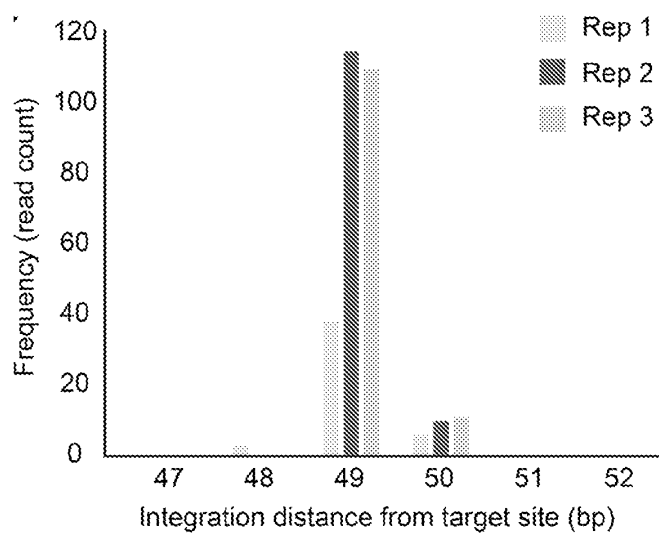


FIG. 30C

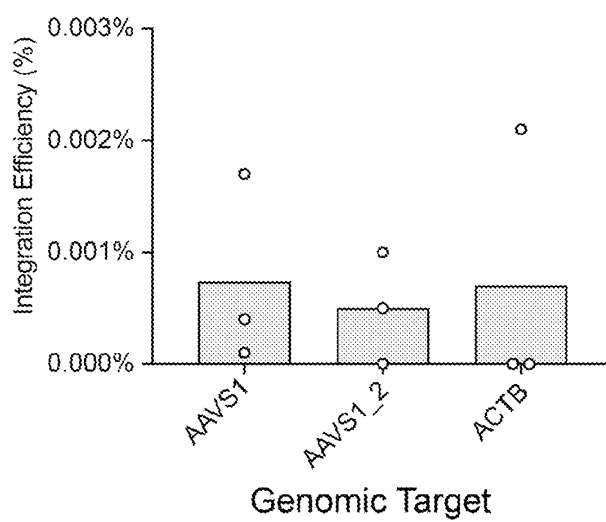


FIG. 30D

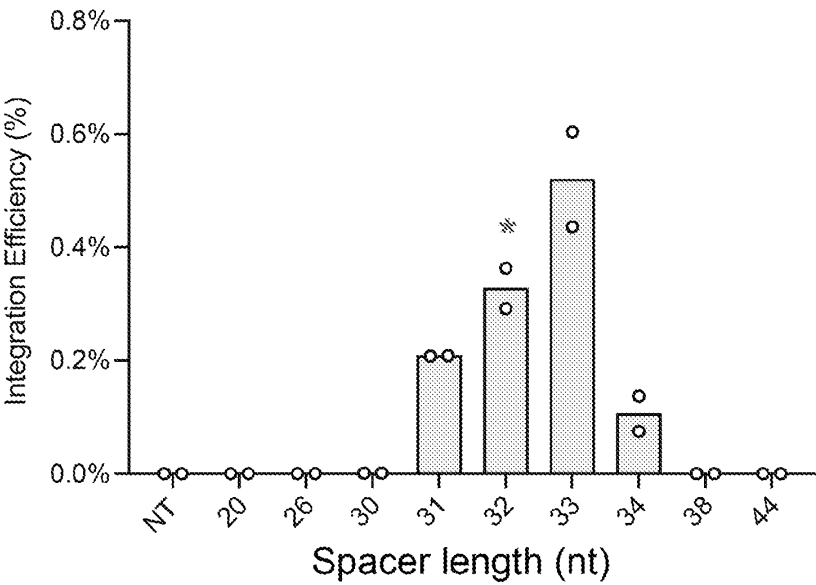


FIG. 31

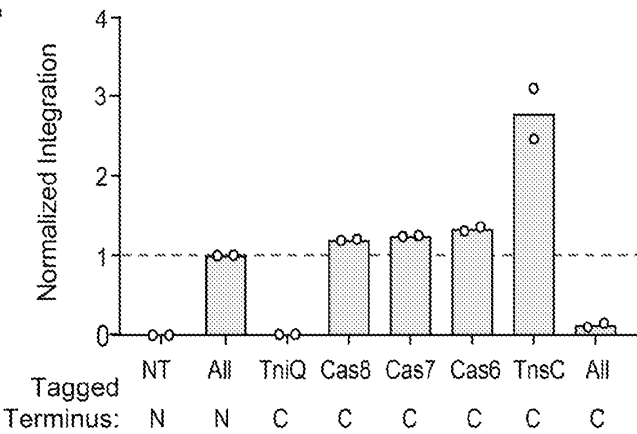


FIG. 32A

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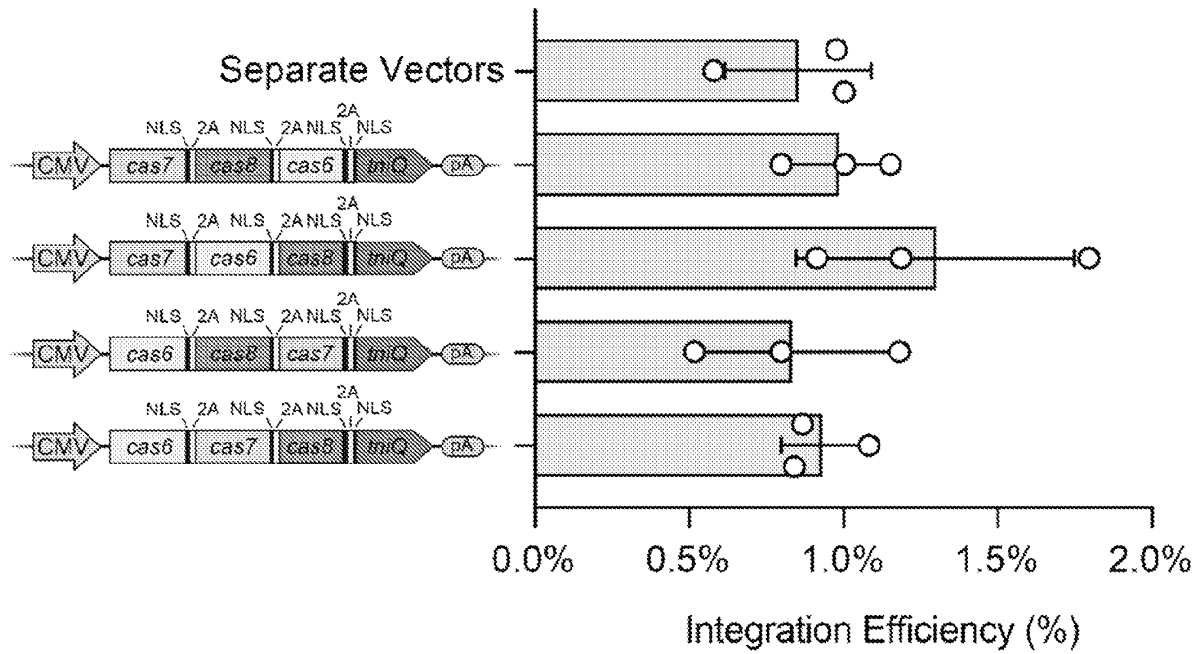


FIG. 32B

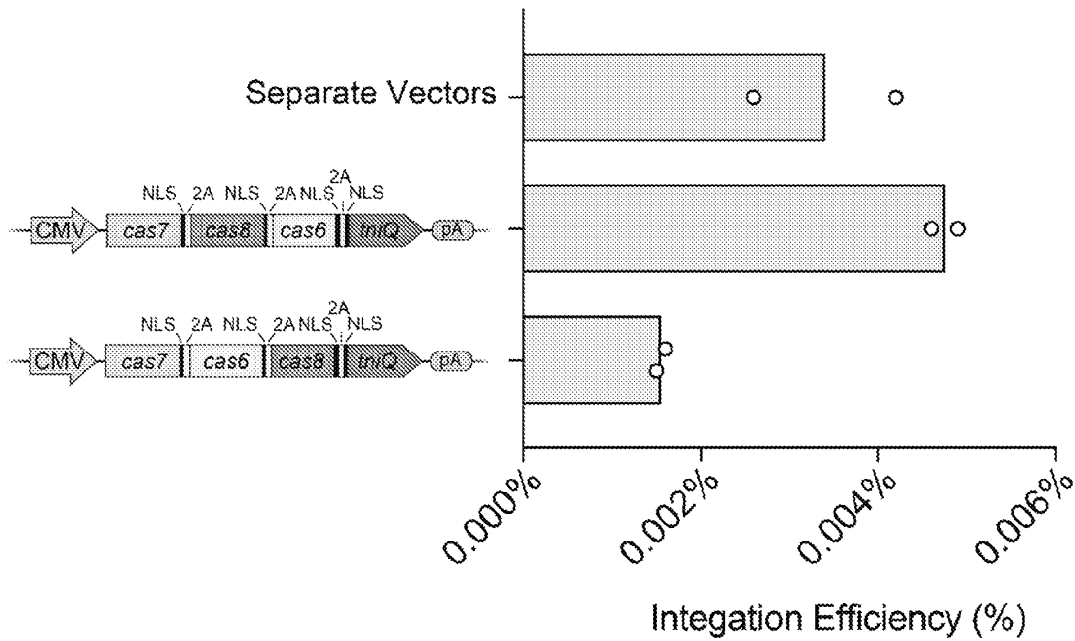


FIG. 32C

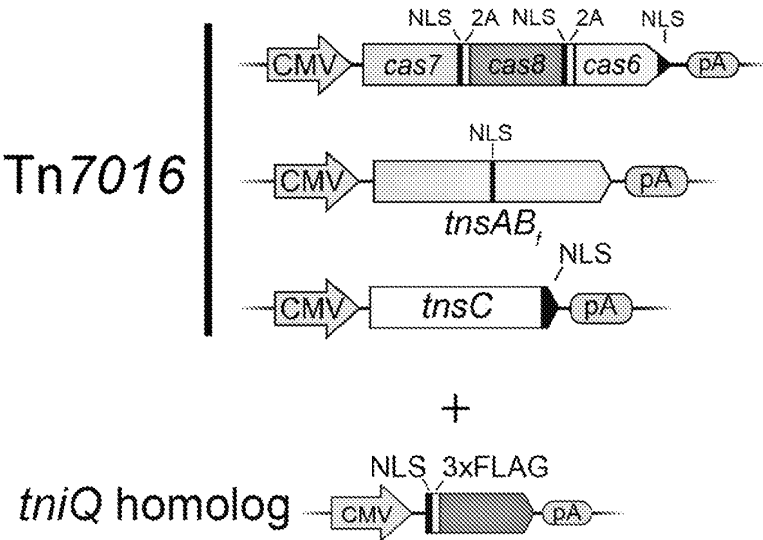


FIG. 33A

	Tn7016	Tn7018	Tn7019	Tn7020
Tn7016	100.00	95.84	92.67	85.57
Tn7018	95.84	100.00	91.69	85.33
Tn7019	92.67	91.69	100.00	86.80
Tn7020	85.57	85.33	86.80	100.00

FIG. 33B

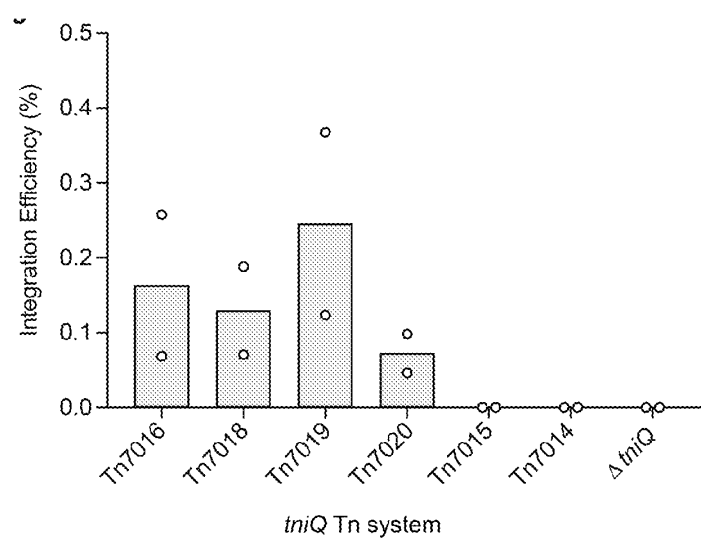


FIG. 33C