

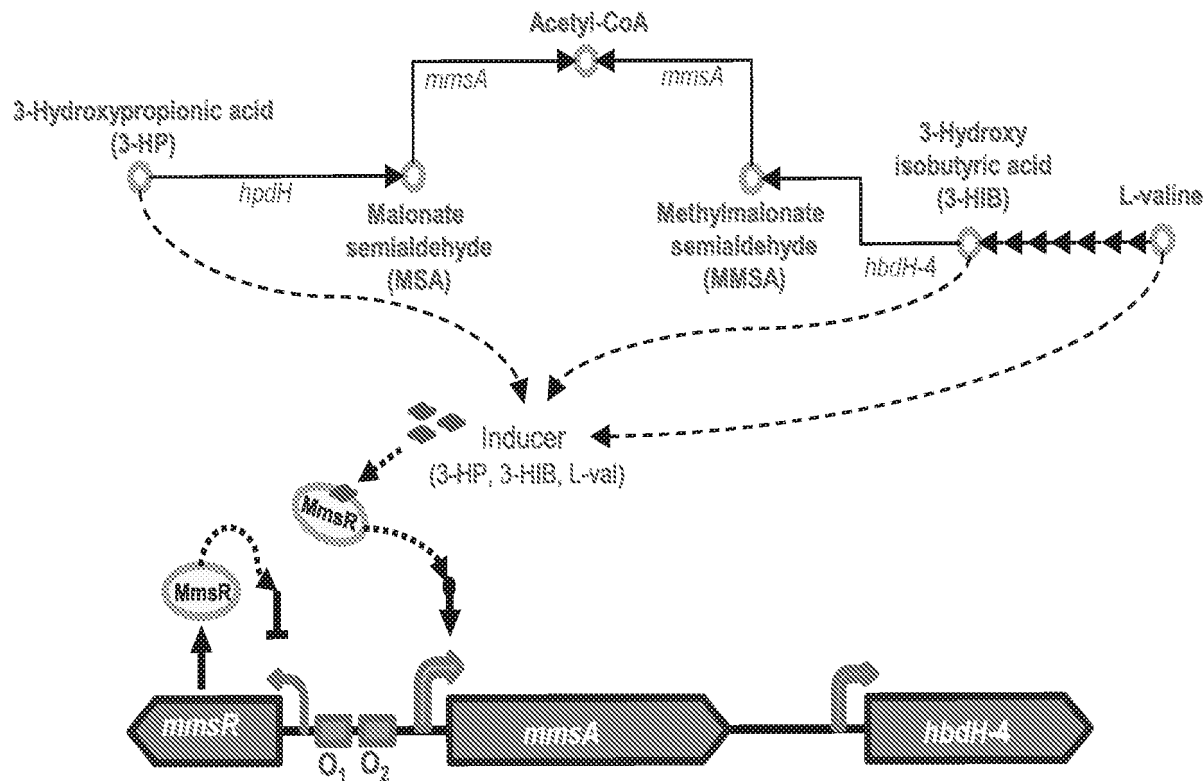


FIG. 1A

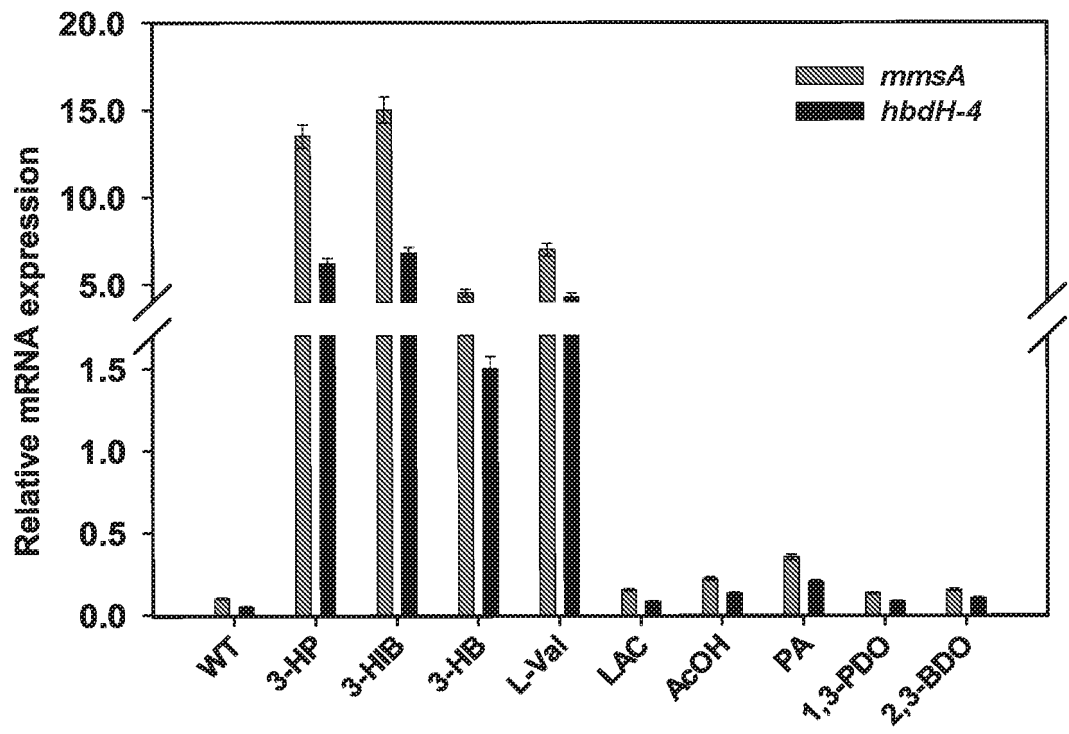


FIG. 1B

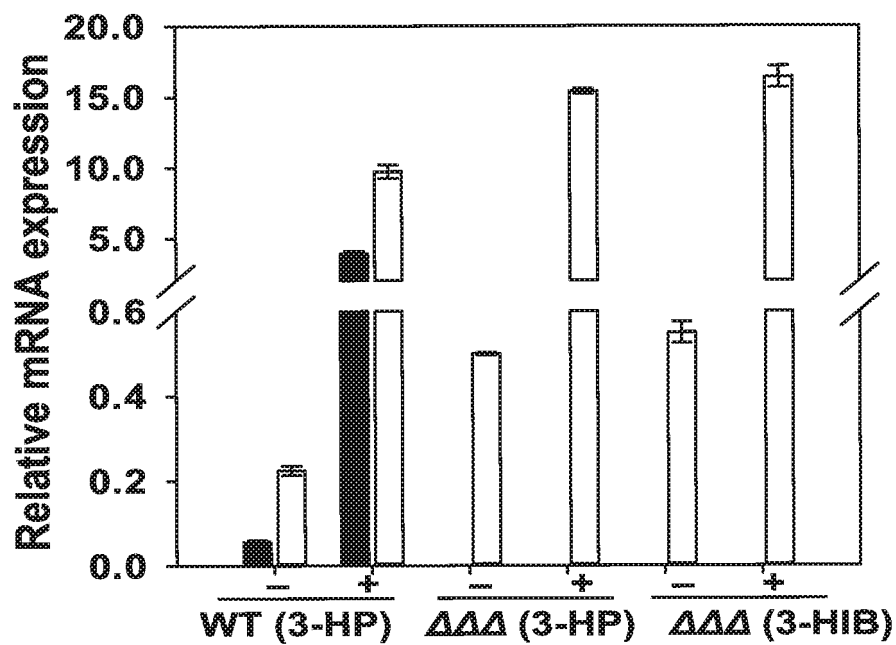
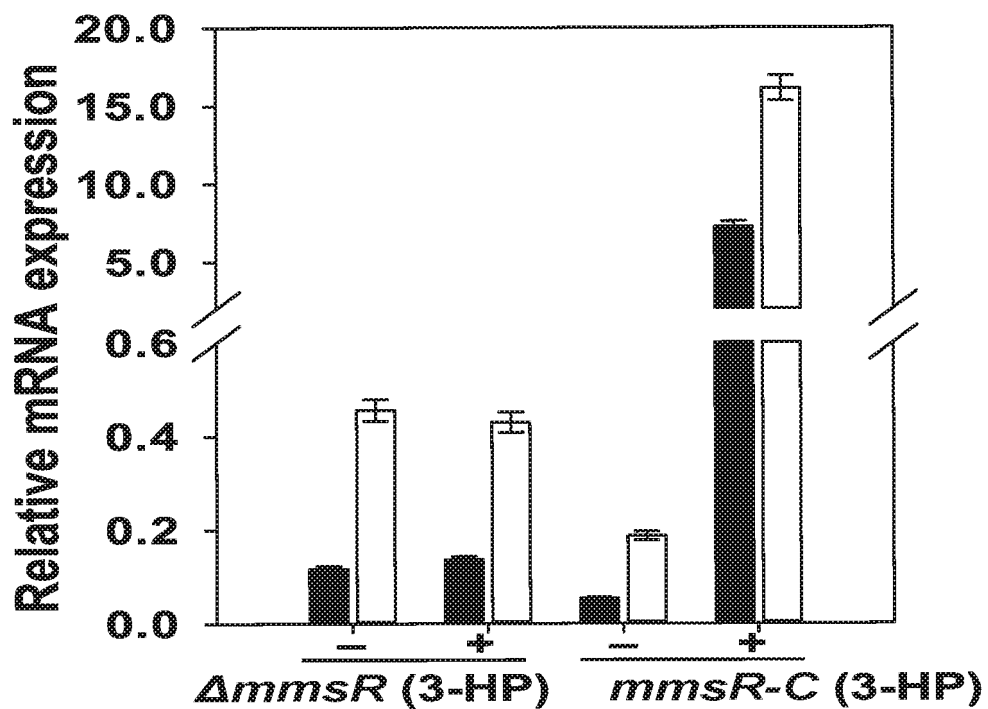
**FIG. 2A****FIG. 2B**

FIG. 3A

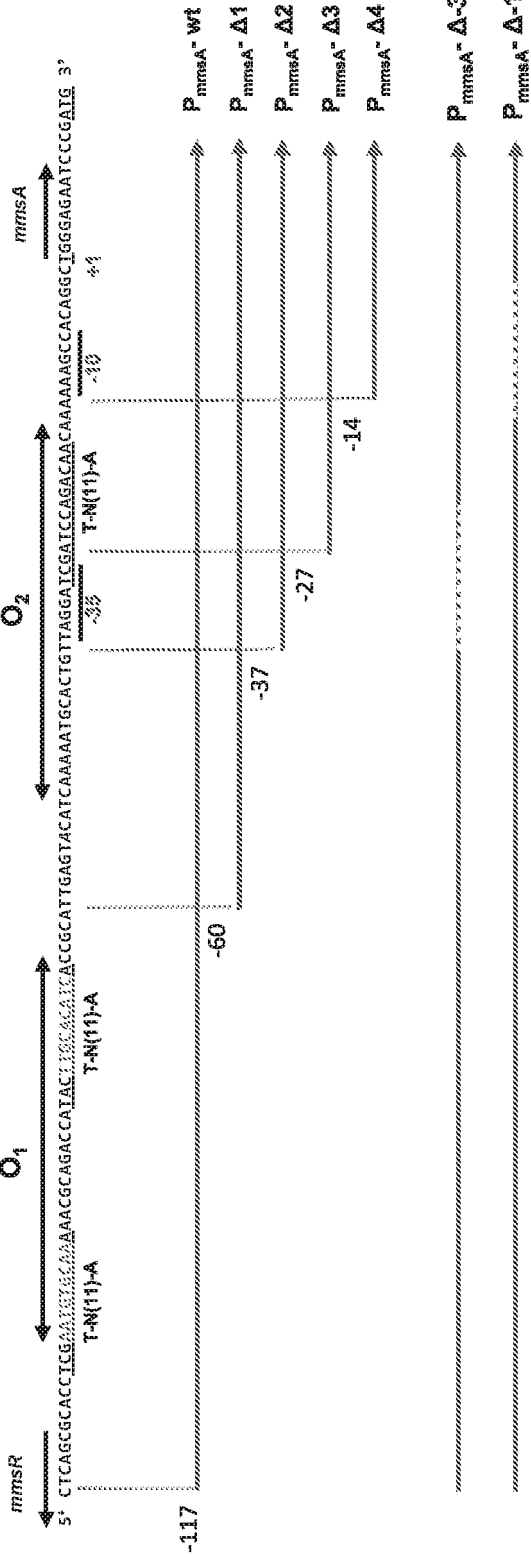
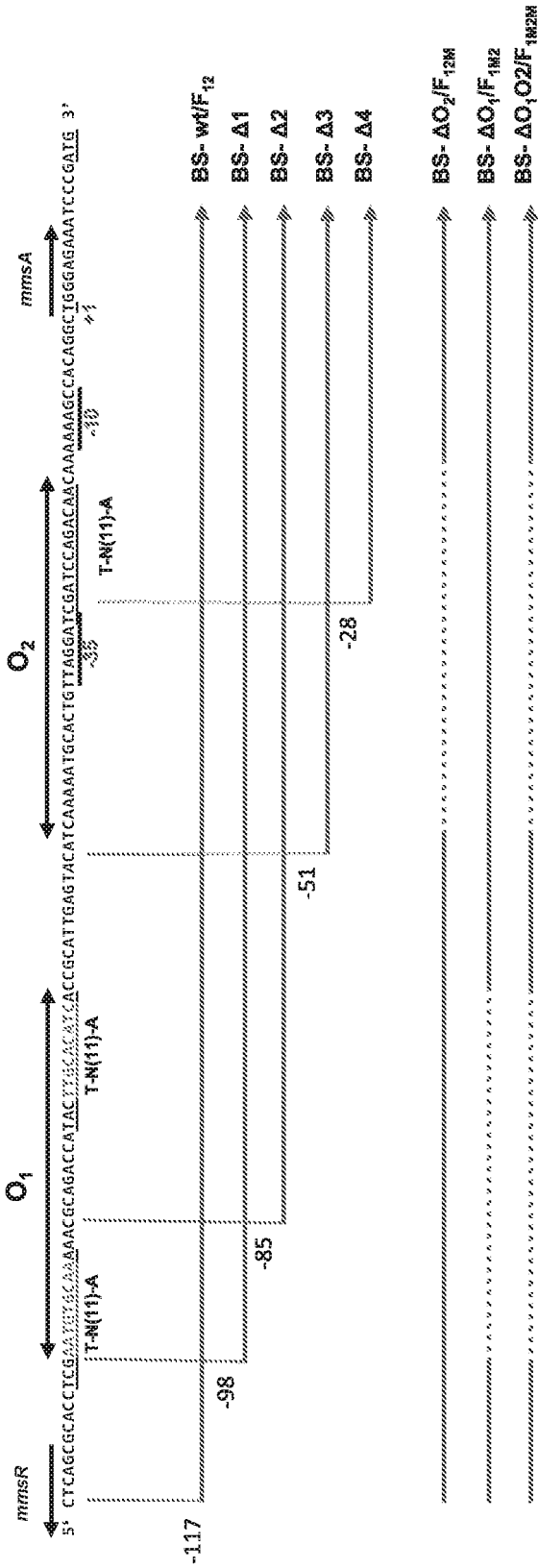


FIG. 3B



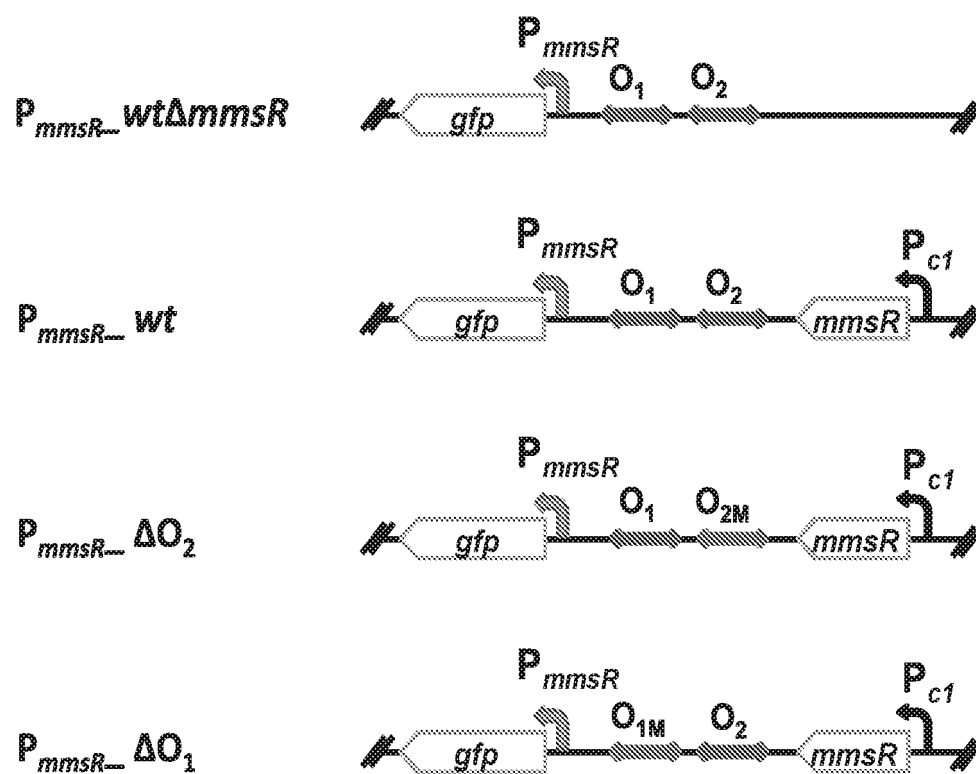


FIG. 4A

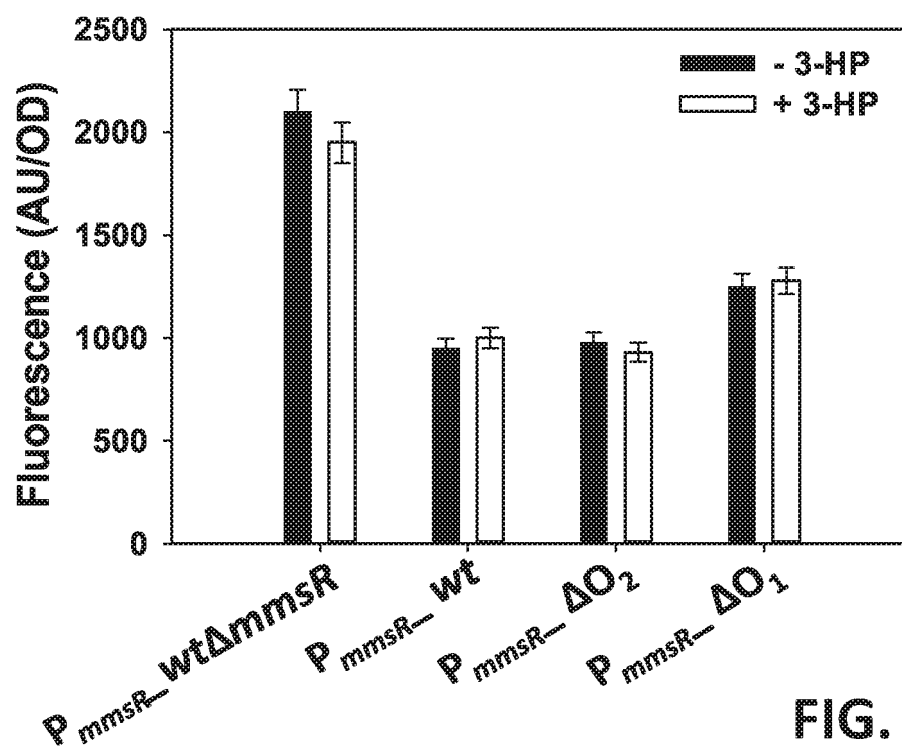


FIG. 4B

FIG. 5A

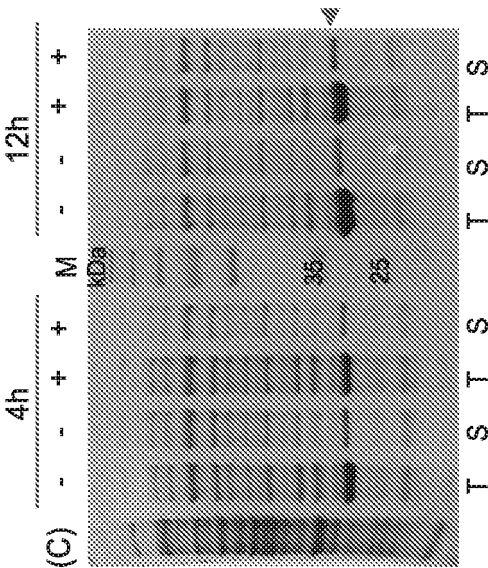


FIG. 5B

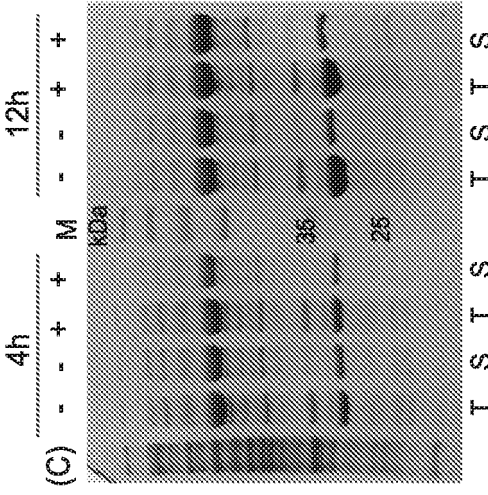


FIG. 5C

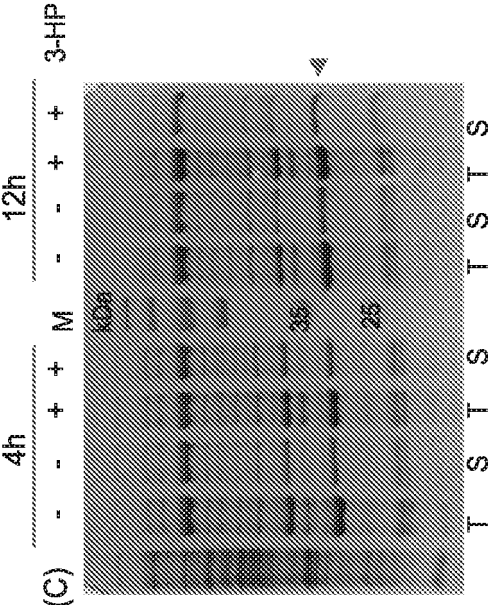


FIG. 5D

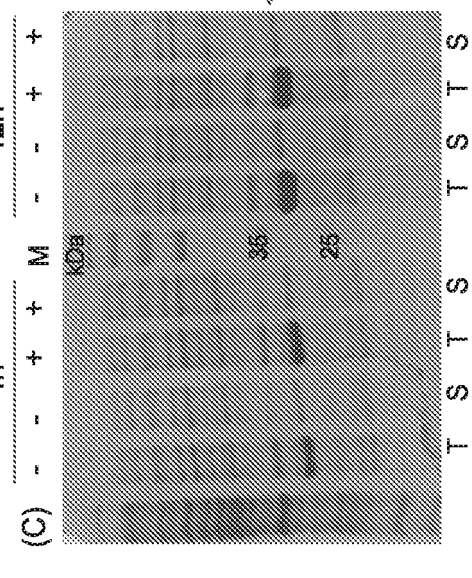
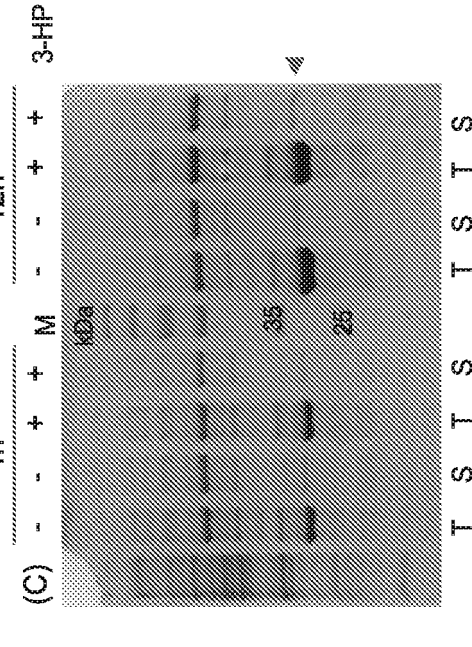
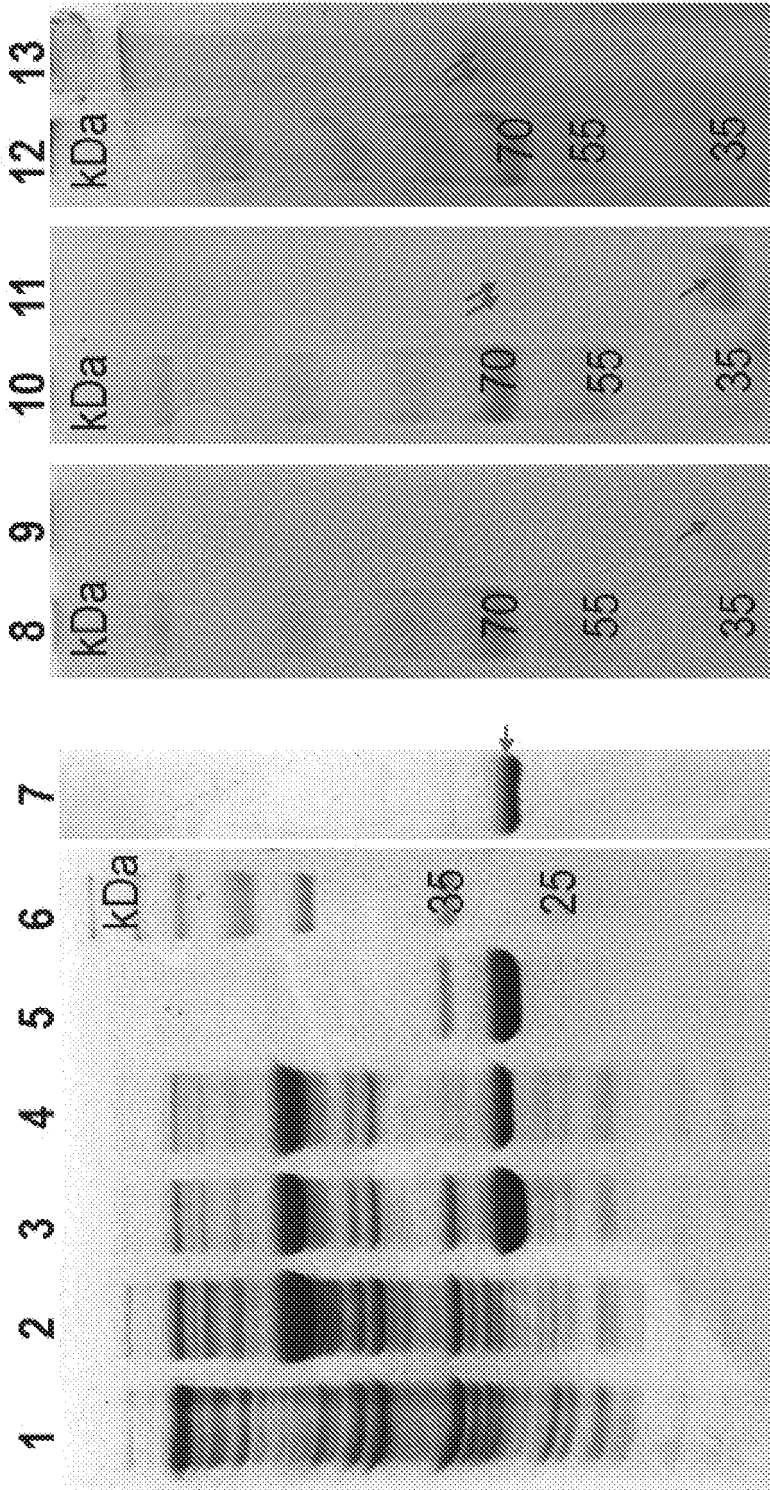


FIG. 5E





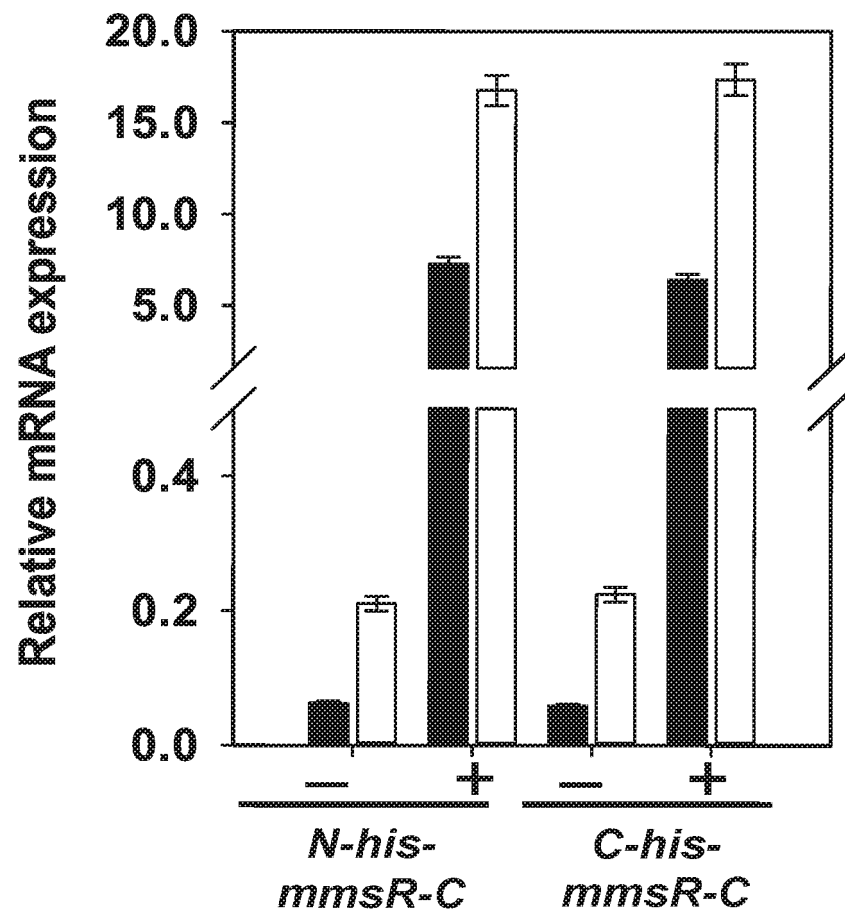


FIG. 6C

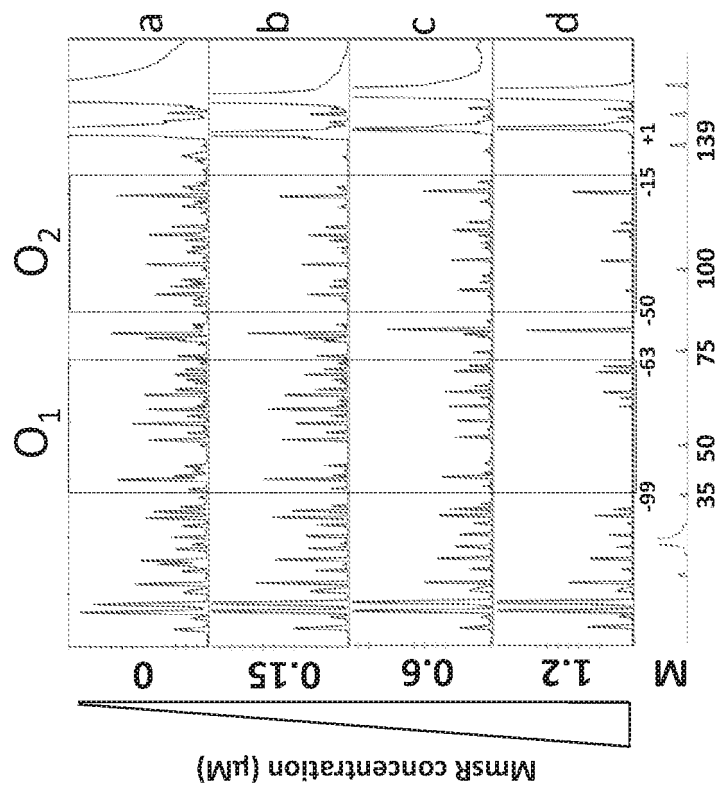


FIG. 7B

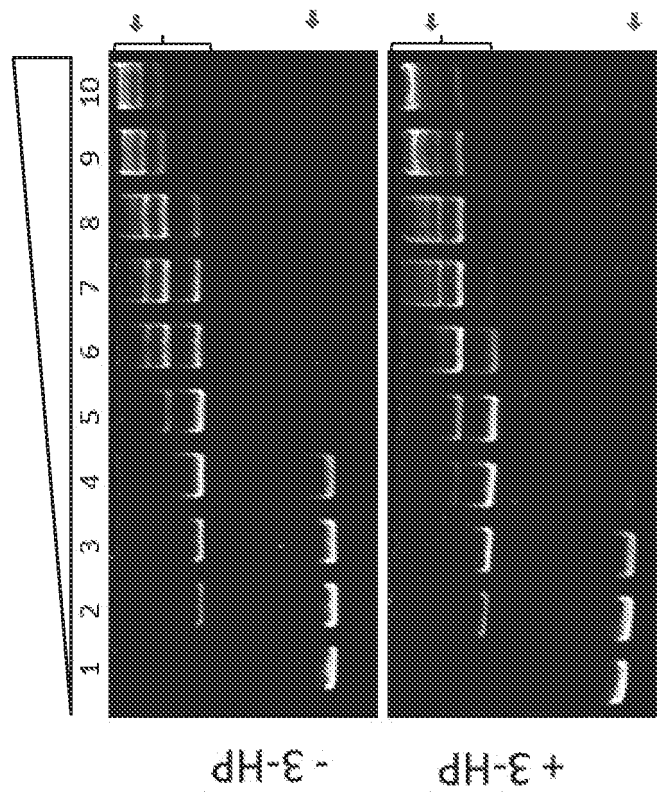


FIG. 7A

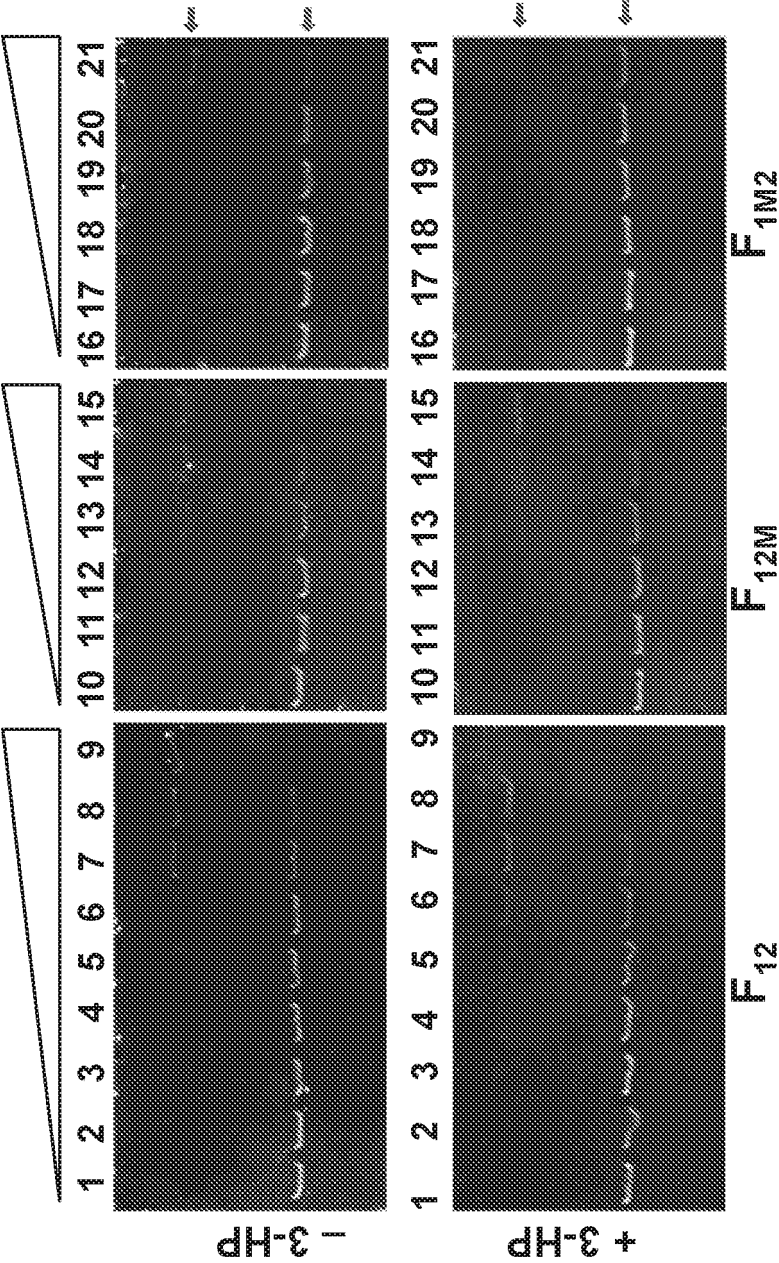


FIG. 8

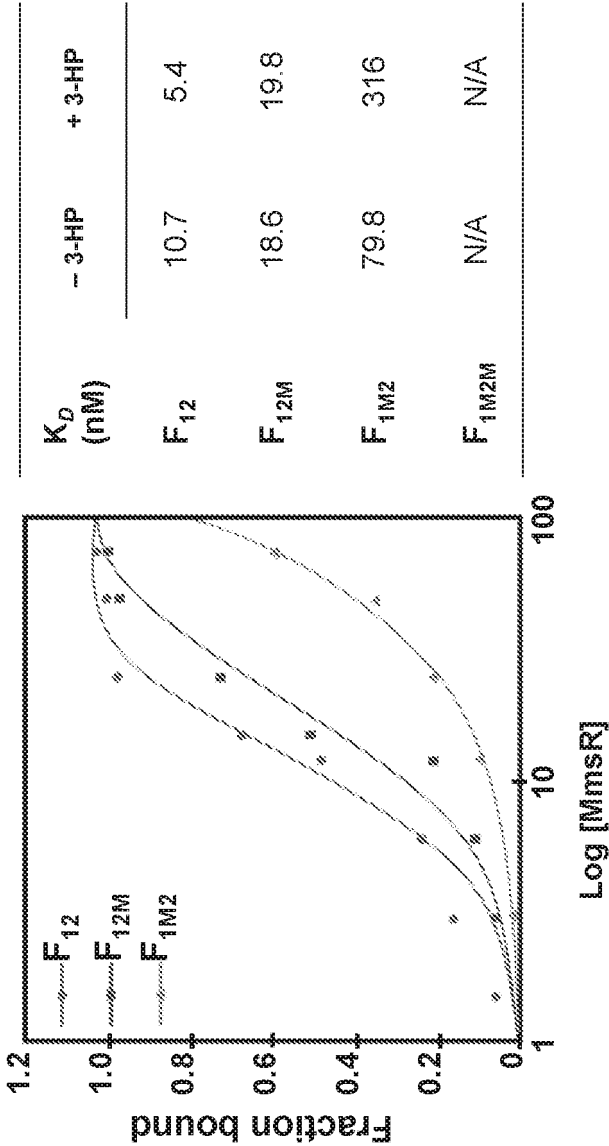


FIG. 9

$hpdR$ 5' GTACACCGGTGAGAGTACAATCTTTGGGTGTCGCACATGAAATTTGCAAGCATATAAAATAGCGTCTTCTGCTGATCCGAGGTAGCAGATATGCGTTTCTTGTTCTTGCTGCTCCCTGGAAGGTAC 3'
 RBS
 -10
 -35
 $hpdH$ 5' CATCGTGGCGGACTCTCATTTGTAGAAACGCAACACAGGTGACTTTTAACAGTTCCTATTTTATGCGAAACGAGCAGTACGGTGCATGGTCATCCCAAAGAACAAAGACGAGGAGGACATTTCCATG 3'
 RBS
 O1 O2 O2
 $hpdH$

O1	AAAACGCAC TAAAGTCAC	6/9
O2'	GTTCGTATT GTTCGTTCG	6/9
O2	CGAACGAAC CGATGGAGC	6/9
	NNAAGTAAC	Consensus

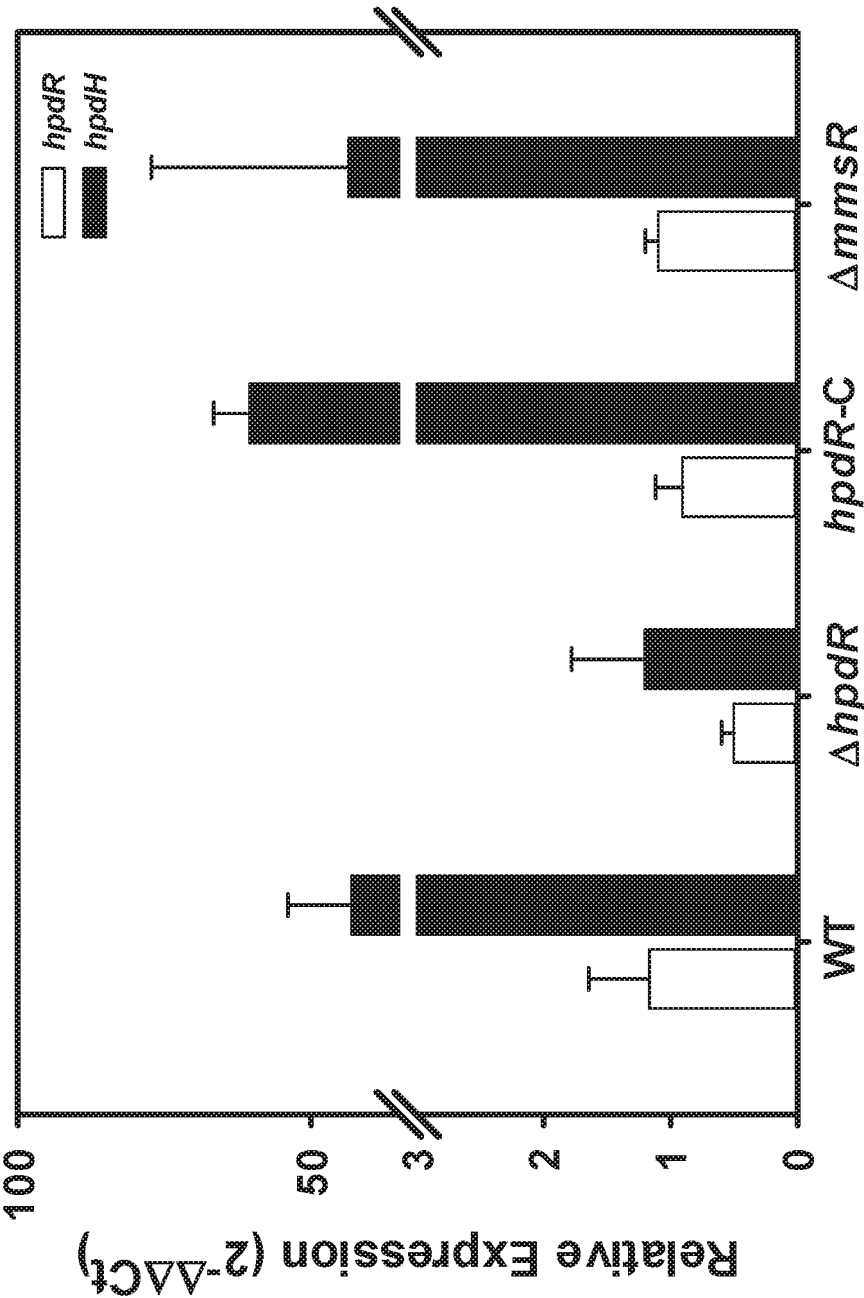


FIG. 11A

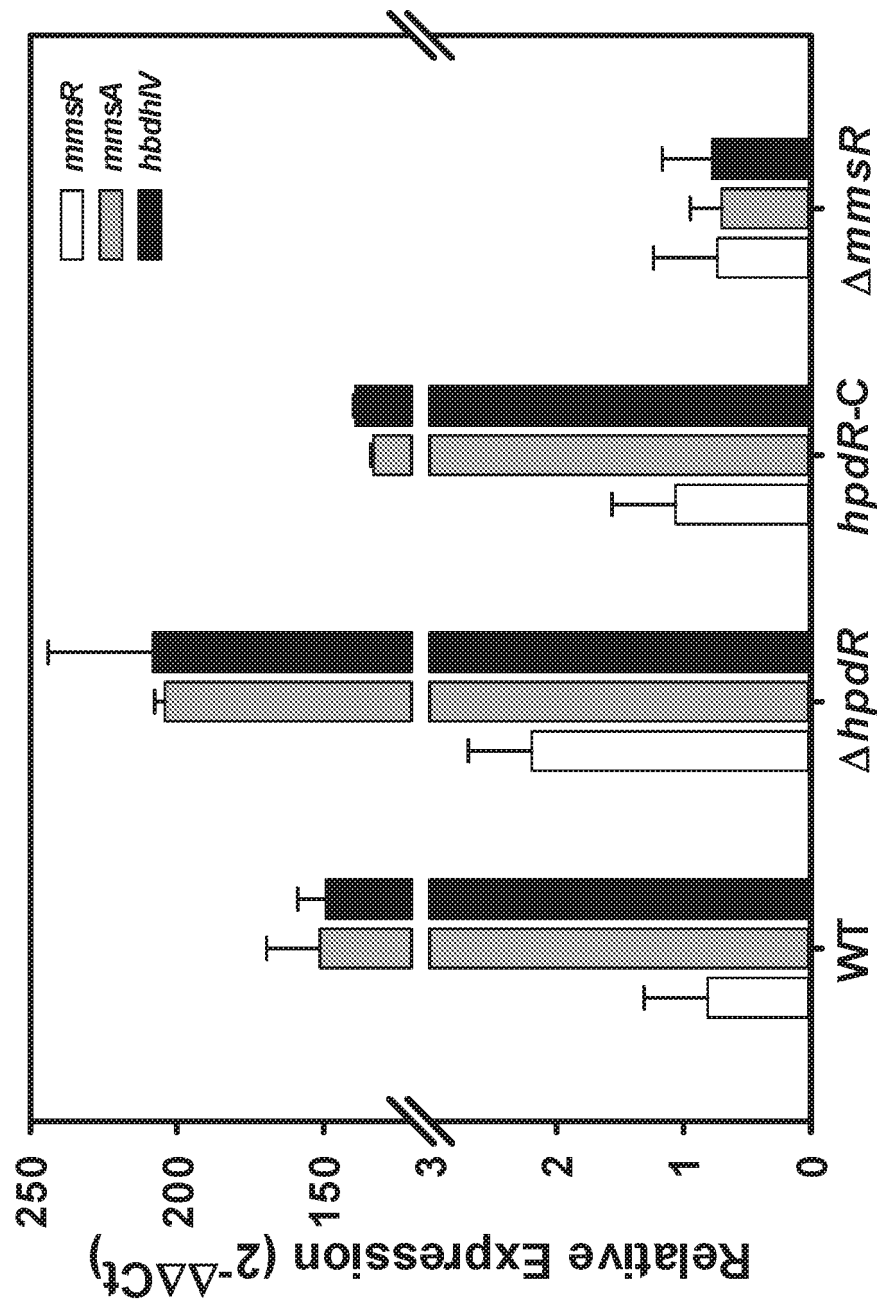
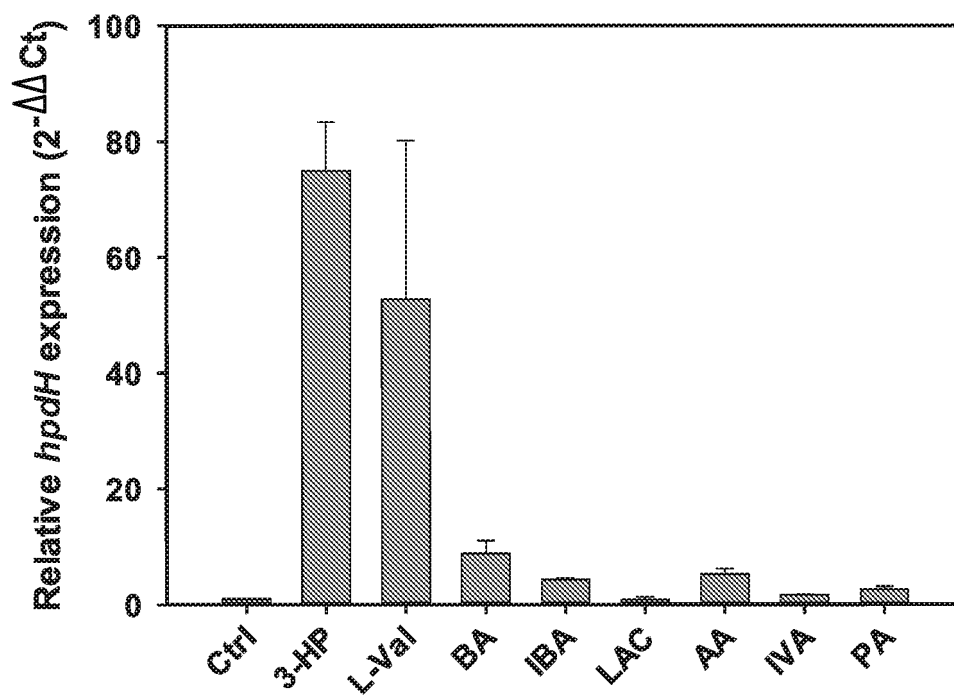
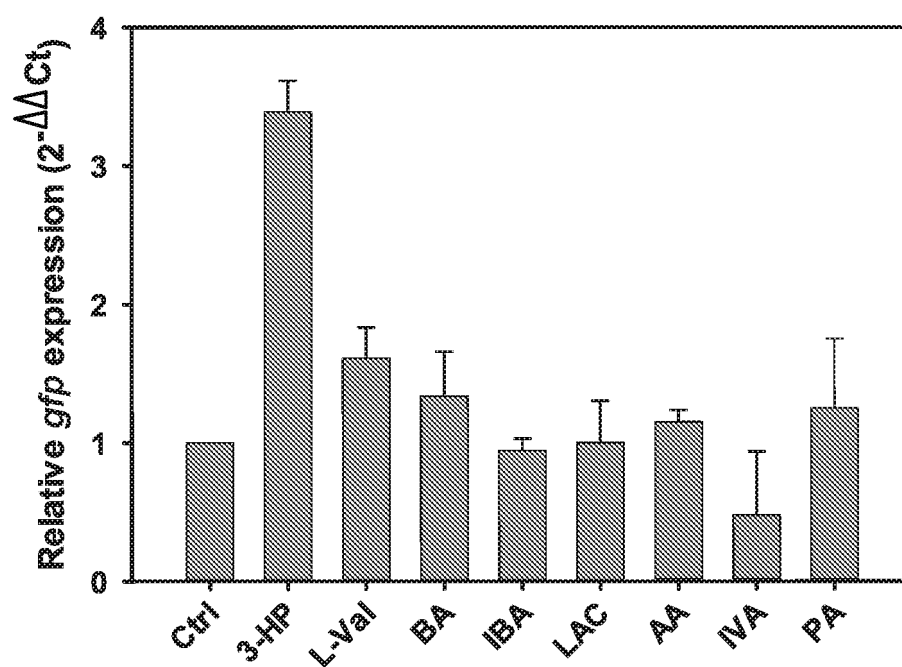
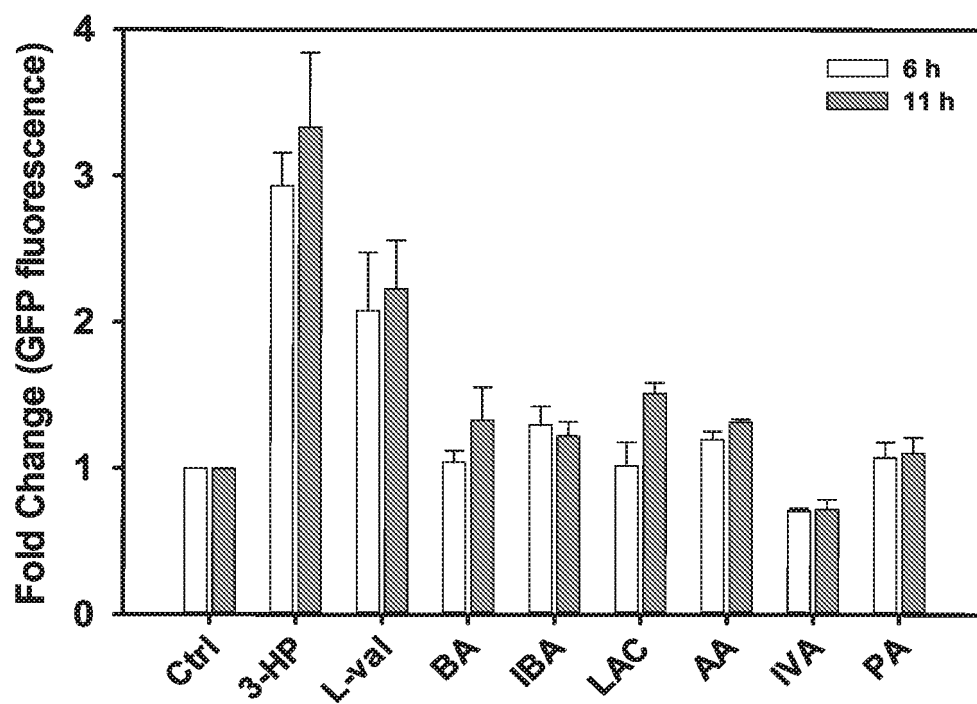
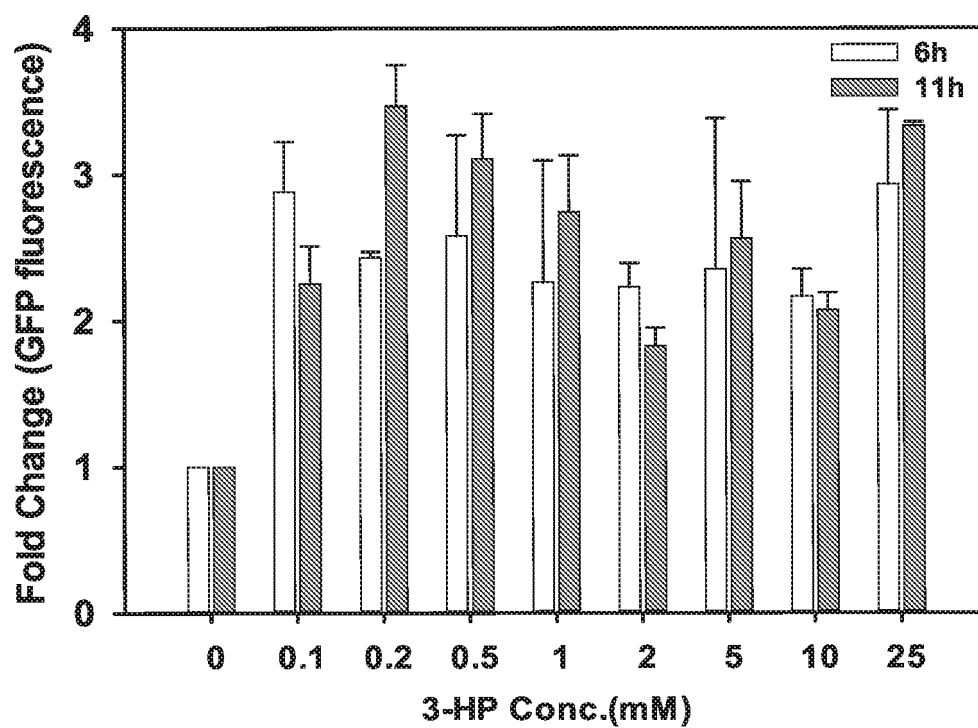


FIG. 11B

**FIG. 12A****FIG. 12B**

**FIG. 12C****FIG. 12D**

P_{hpdH(wt)} 5' CGTATTTTATCGCGAACGAACGACTAGGCTCCATCGTCATACCCAAAAGAACGAAGACGAGGGGACTTTTCC 3'

P_{hpdH(P1)} 5' CGTATTTTATCGCGAACGAACGACTAGGCTCCATCGTCATACCCAAAAGAACGAAGACGAGGGGACTTTTCC 3'

P_{hpdH(P2)} 5' CGTATTTTATCGCGAACGAACGACTAGGCTCCATCGTCATACCCAAAAGAACGAAGACGAGGGGACTTTTCC 3'

P_{hpdH(P3)} 5' CGTATTTTATCGCGAACGAACGACTAGGCTCCATCGTCATACCCAAAAGAACGAAGACGAGGGGACTTTTCC 3'

P_{hpdH(P4)} 5' CGTATTTTATCGCGAACGAACGACTAGGCTCCATCGTCATACCCAAAAGAACGAAGACGAGGGGACTTTTCC 3'

P_{hpdH(P5)} 5' CGTATTTTATCGCGAACGAACGACTAGGCTCCATCGTCATACCCAAAAGAACGAAGACGAGGGGACTTTTCC 3'

P_{hpdH(P6)} 5' CGTATTTTATCGCGAACGAACGACTAGGCTCCATCGTCATACCCAAAAGAACGAAGACGAGGGGACTTTTCC 3'

P_{hpdH(P7)} 5' CGTATTTTATCGCGAACGAACGACTAGGCTCCATCGTCATACCCAAAAGAACGAAGACGAGGGGACTTTTCC 3'

FIG. 13A

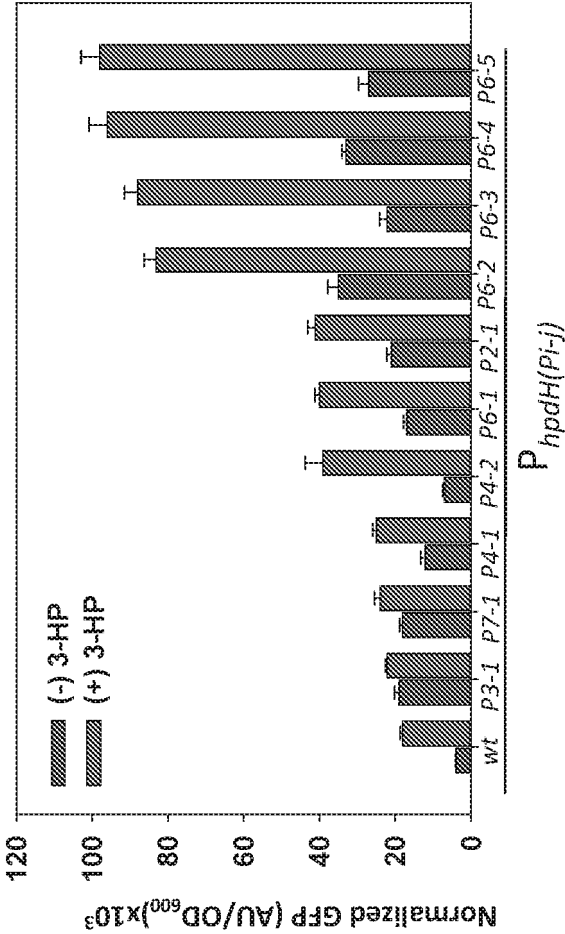


FIG. 13B

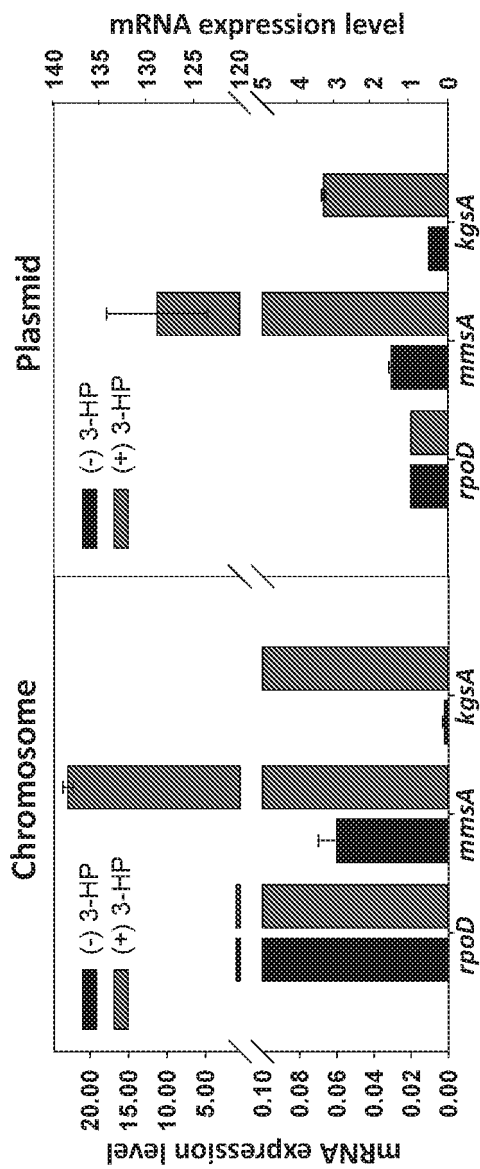


FIG. 14A

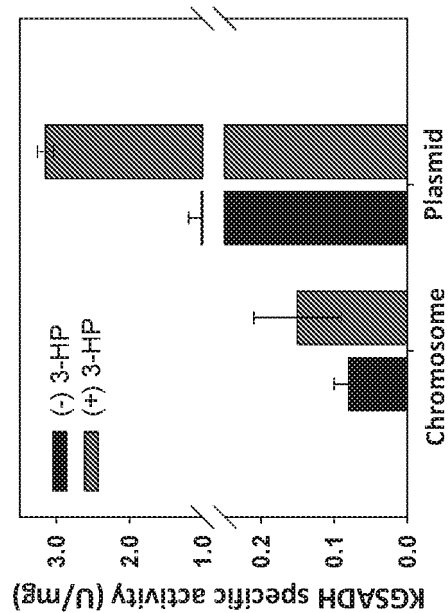


FIG. 14B

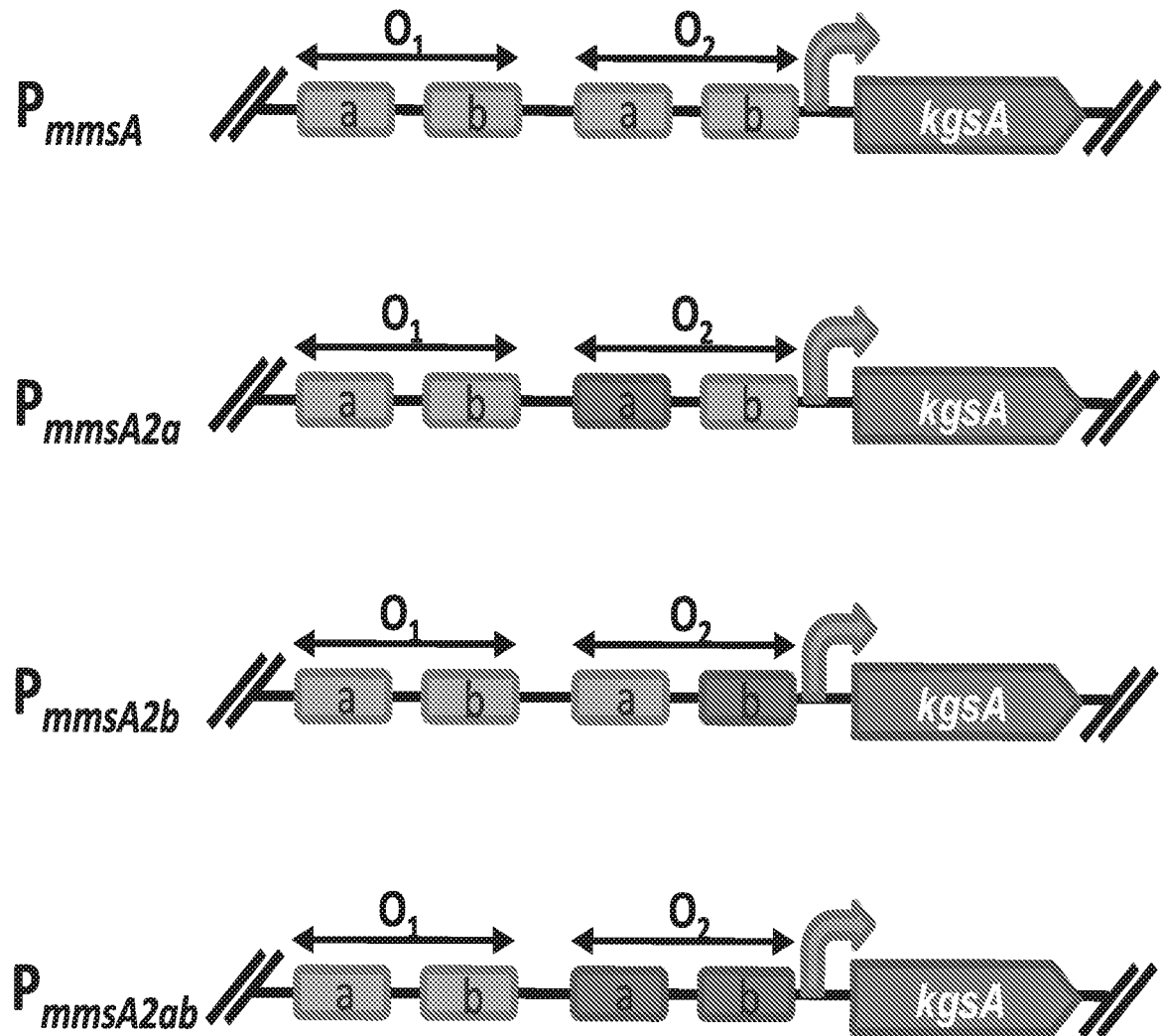


FIG. 15A

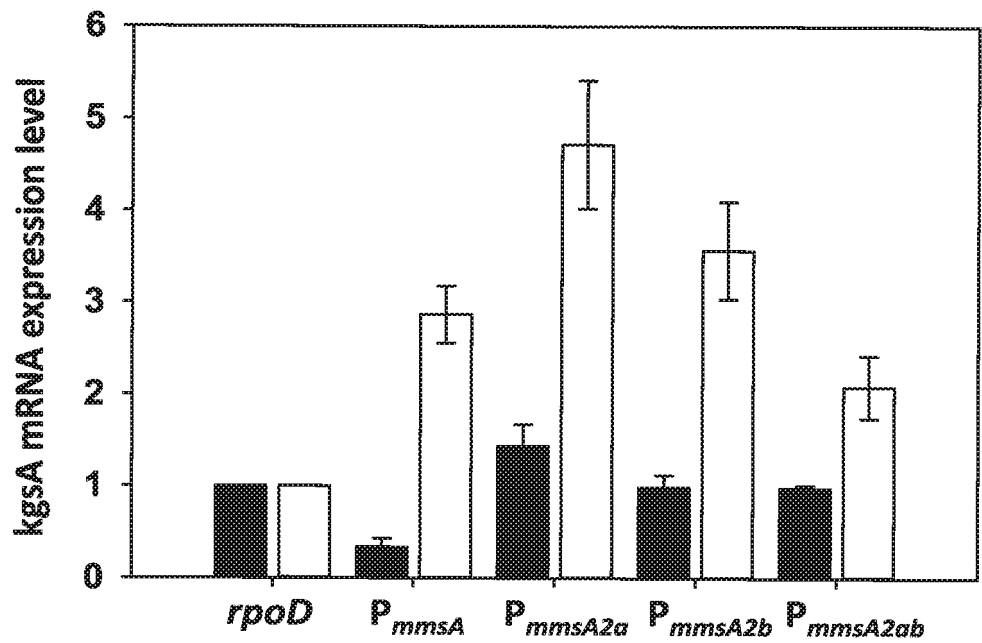


FIG. 15B

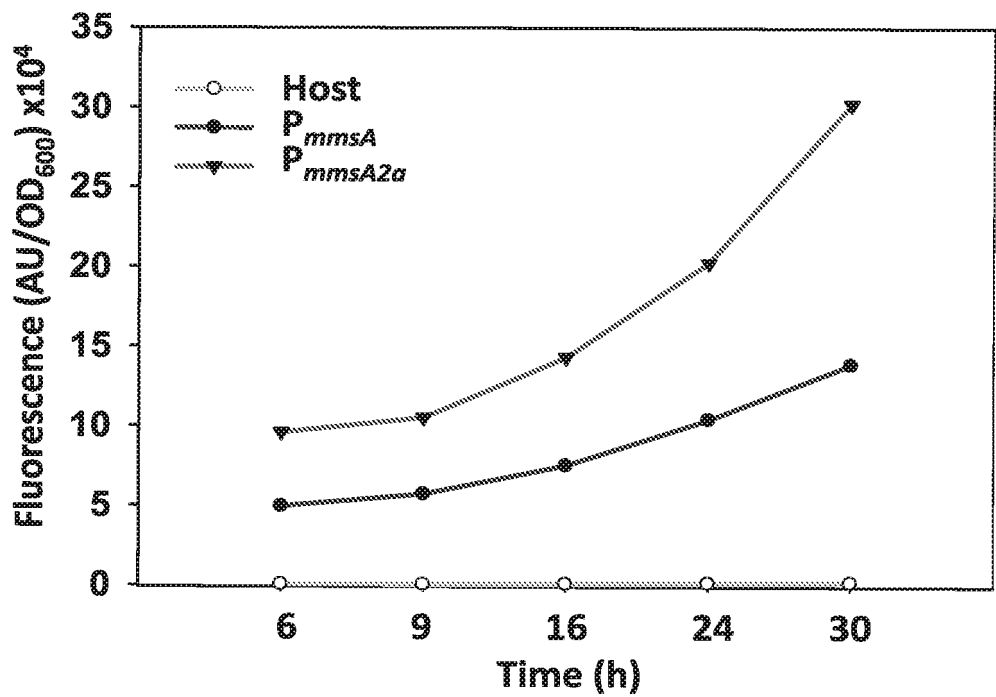


FIG. 15C

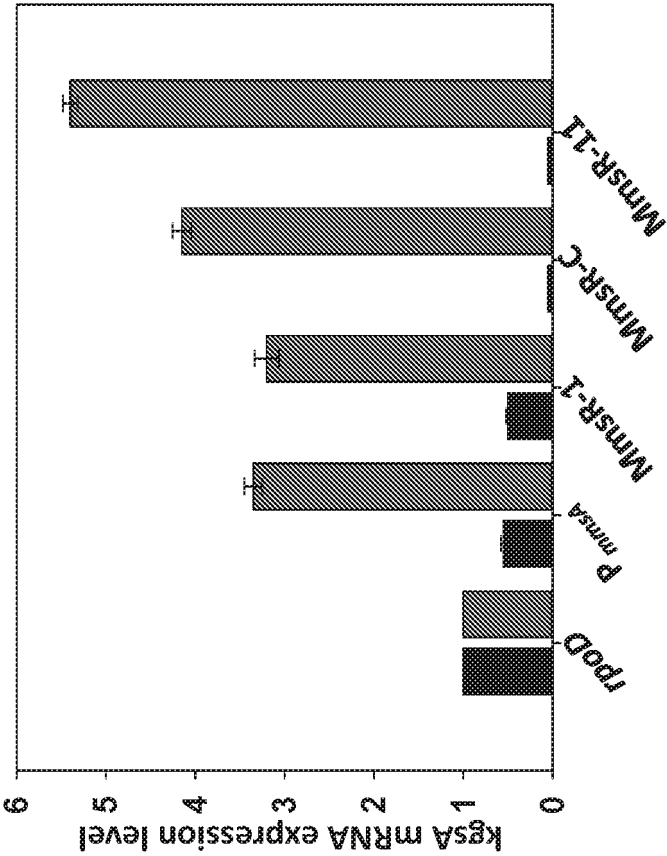


FIG. 16B

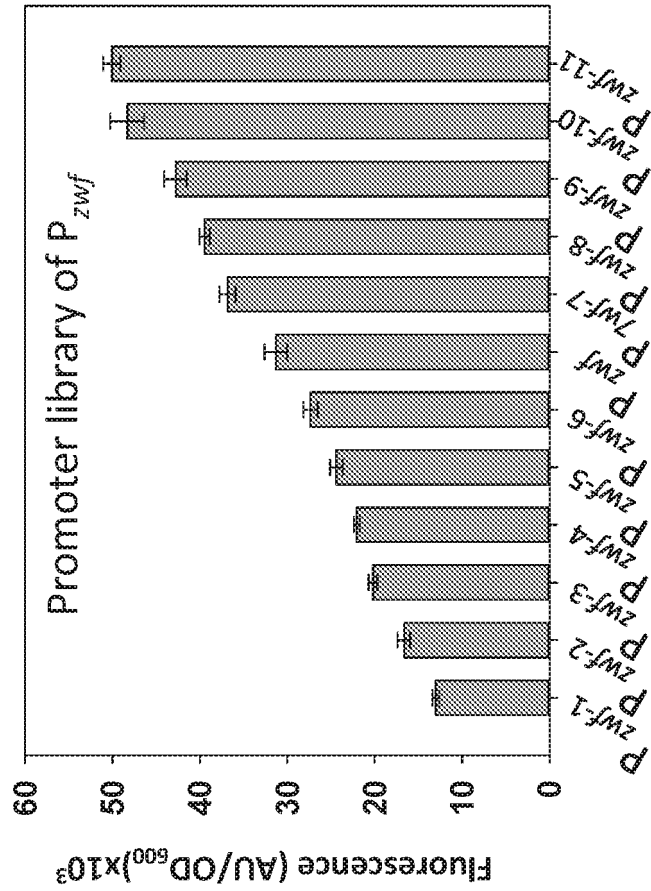


FIG. 16A

FIG. 17 A

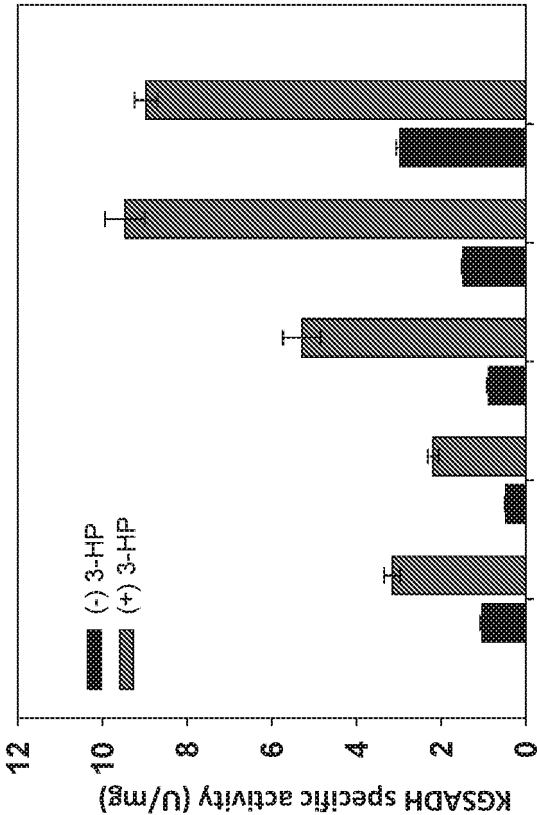


FIG. 17 B

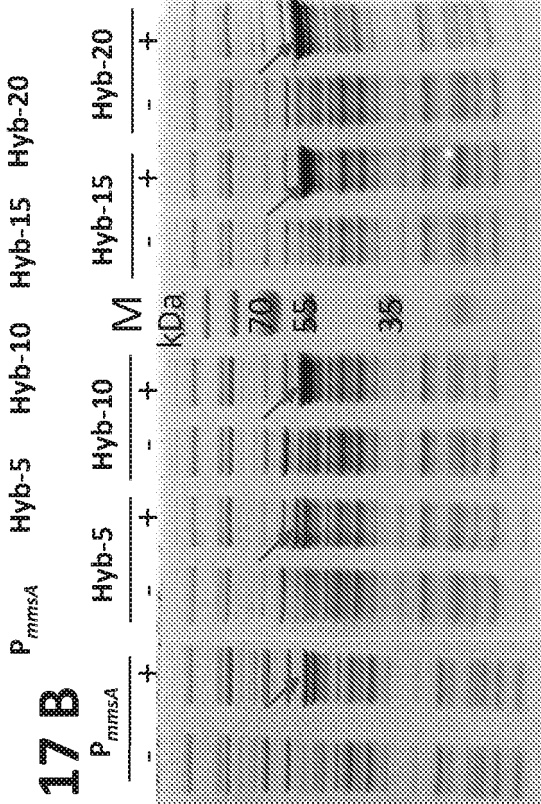


FIG. 17 C

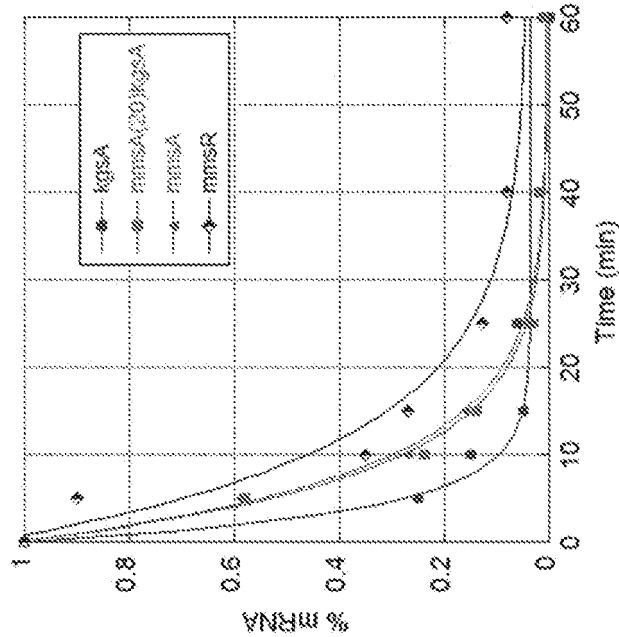


FIG. 17 D

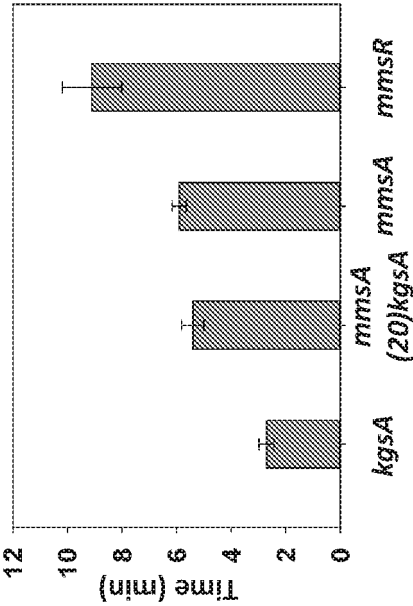


FIG. 18 A

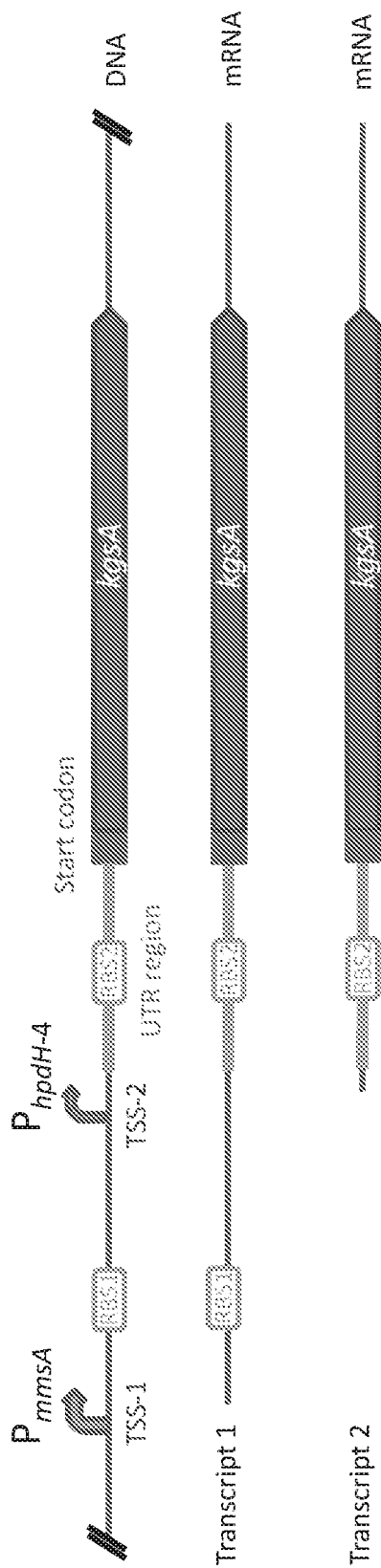


FIG. 18 B

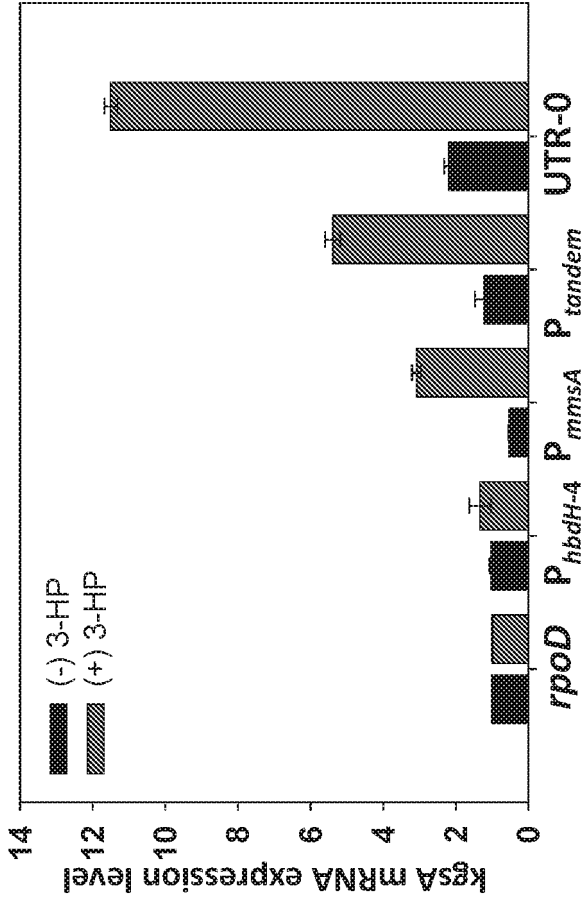


FIG. 18 C

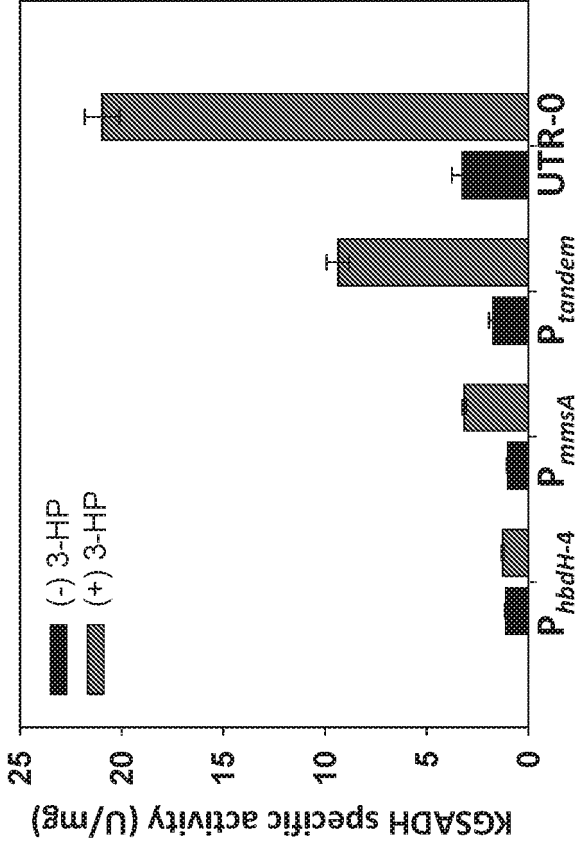


FIG. 19A

Strain	Prediction (a.u.)	Fold
P_{mmsA}	26884	0.09
UTR-0	302528	1.00
UTR-1	66824	0.22
UTR-2	319930	1.06
UTR-3	625945	2.07
UTR-4	1168900	3.90
UTR-5	2025947	6.70
UTR-6	3748169	12.39

FIG. 19B

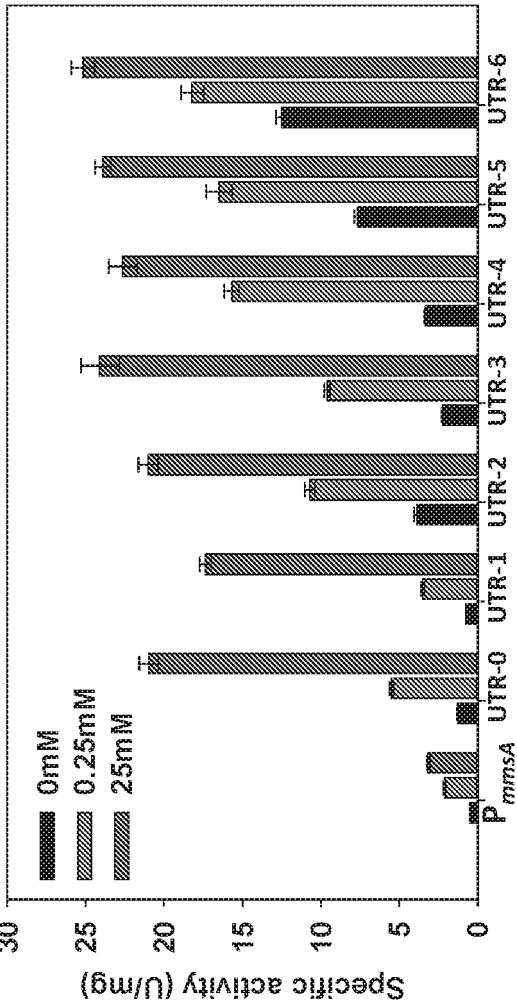
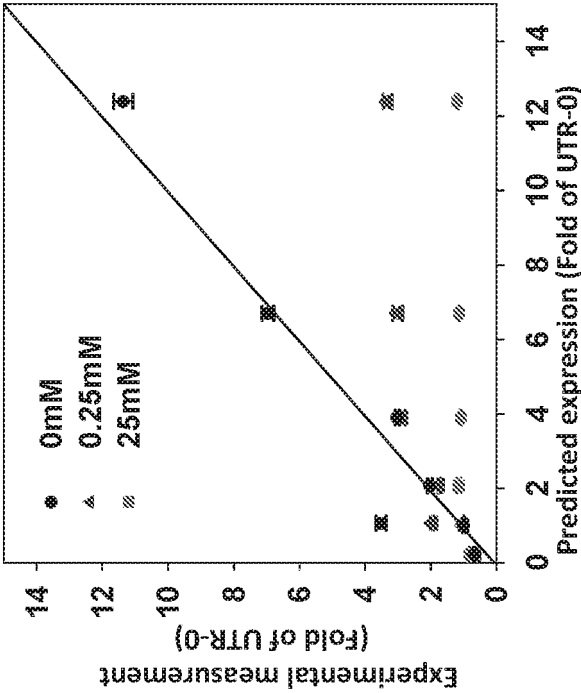
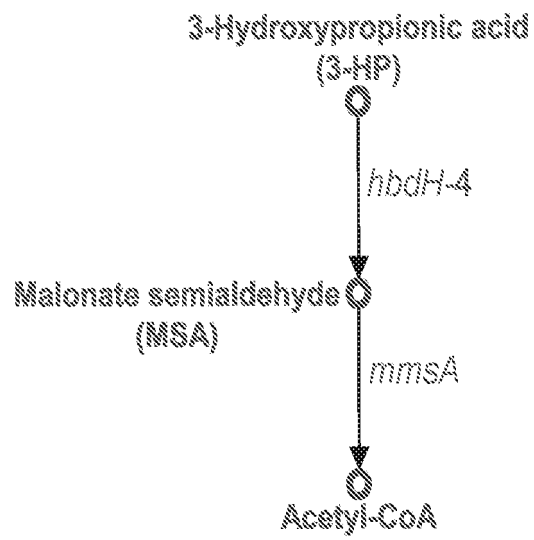
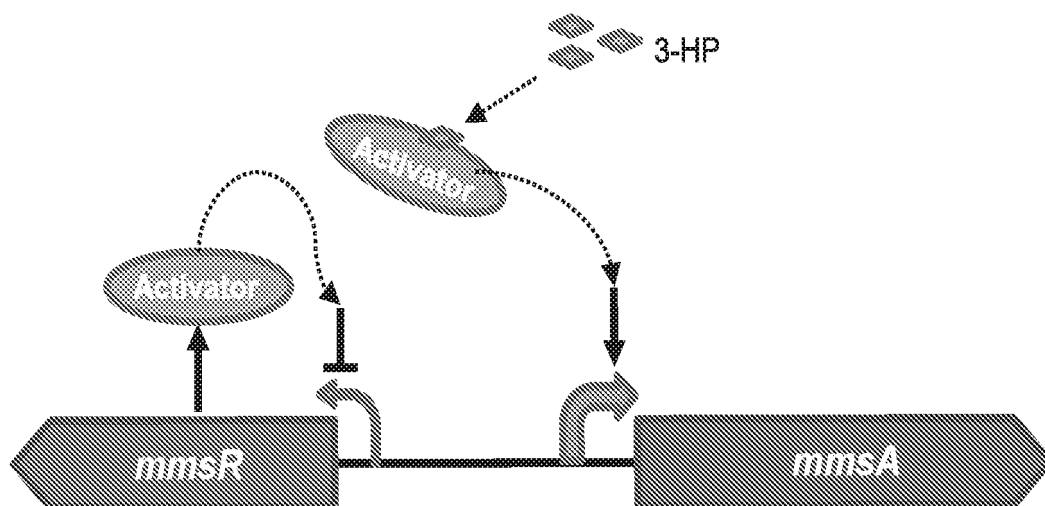


FIG. 19C



**FIG. 20 A****FIG. 20 B**

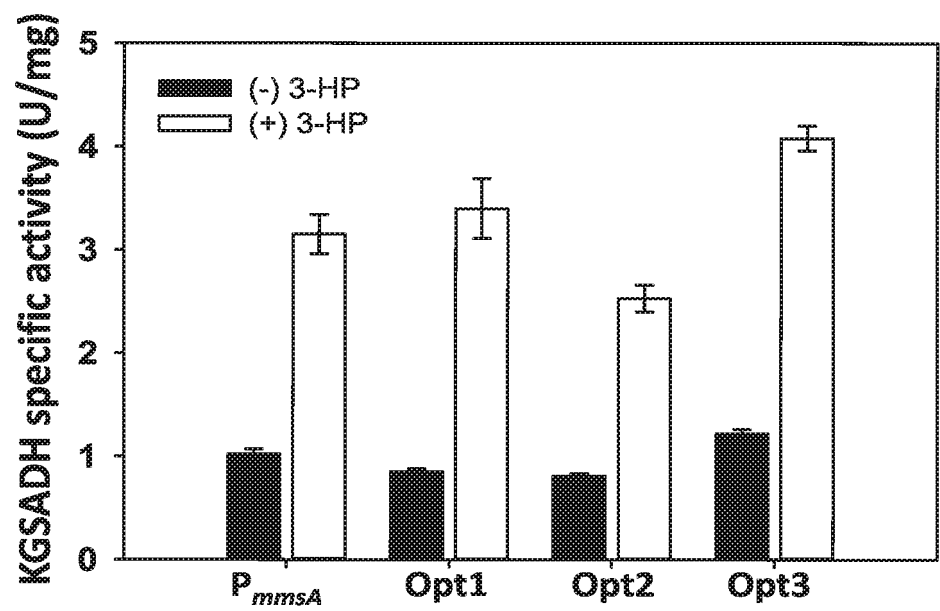


FIG. 21A

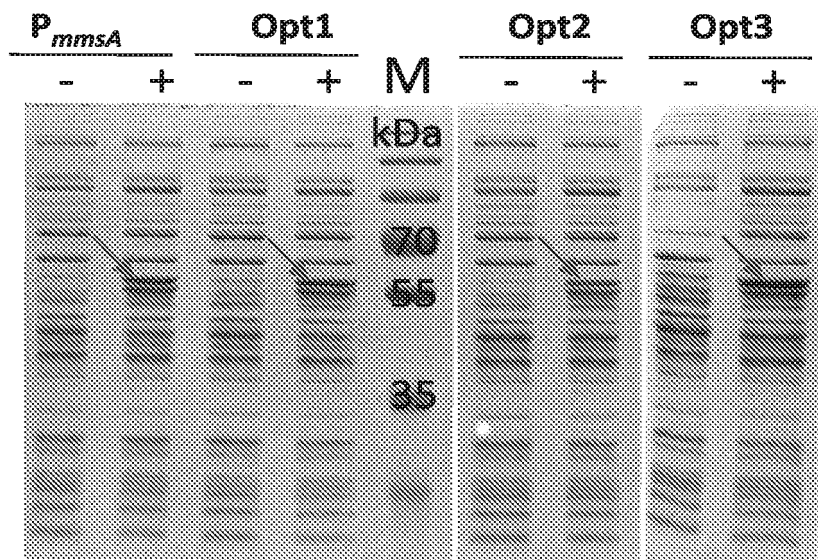


FIG. 21B

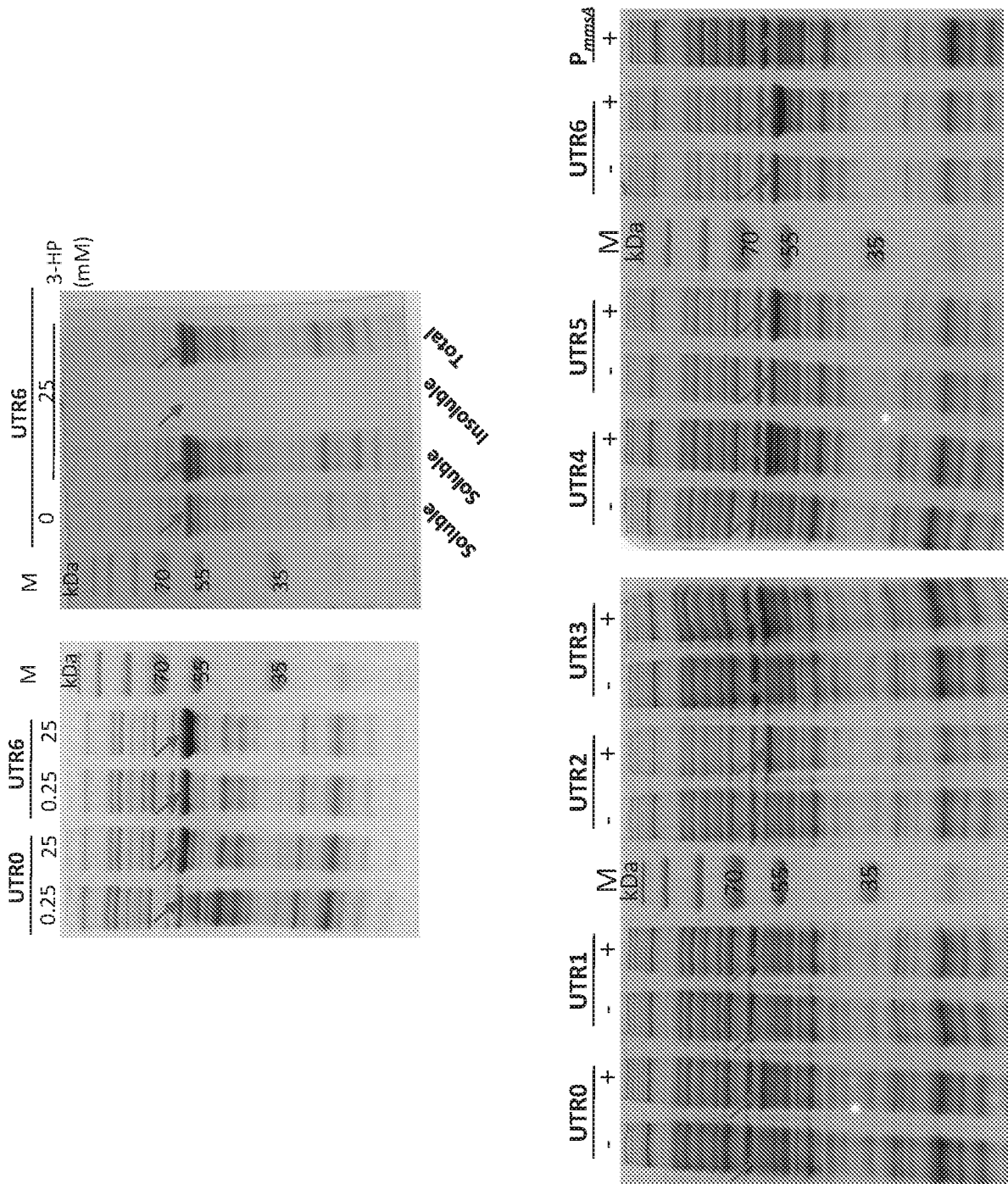
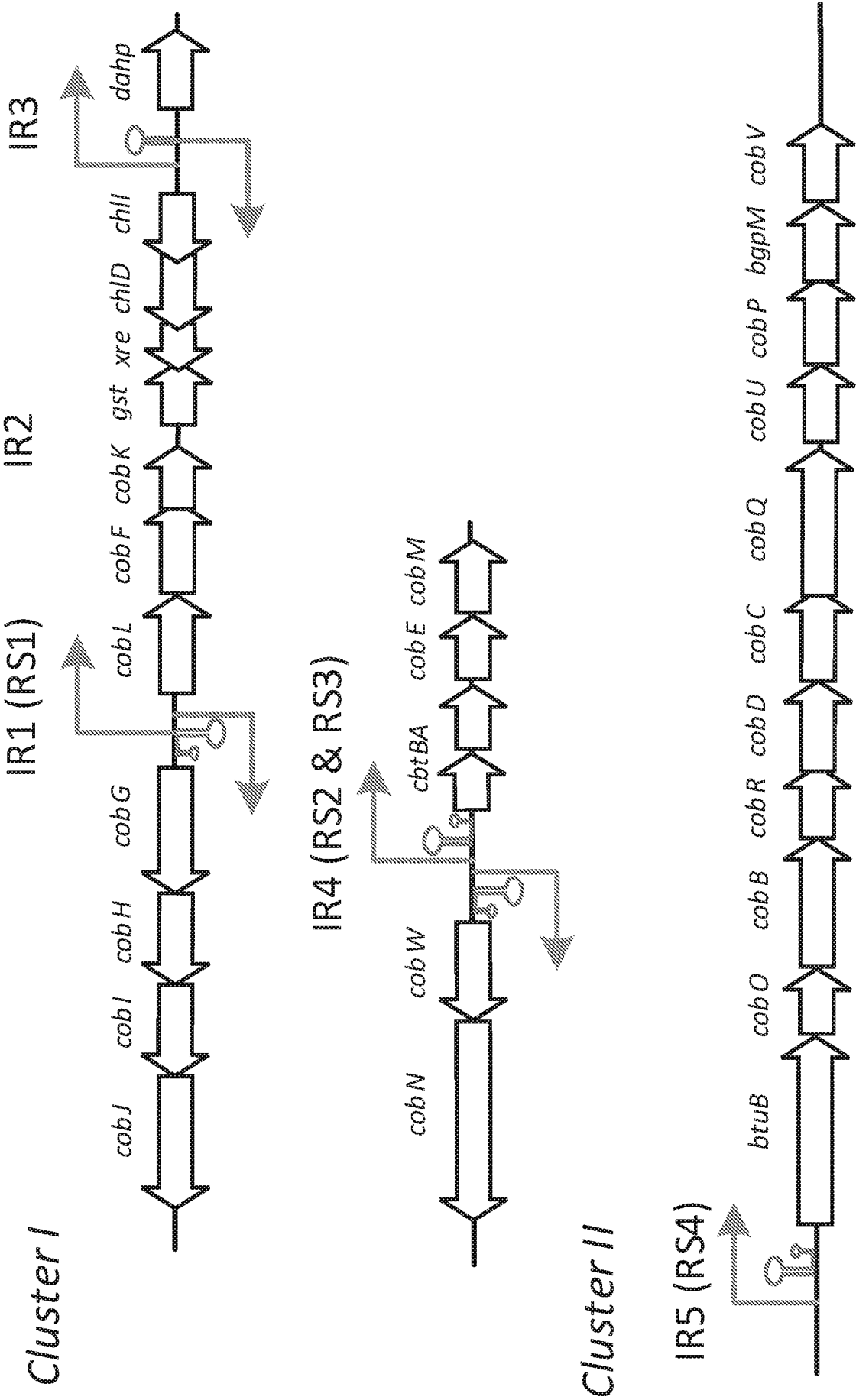
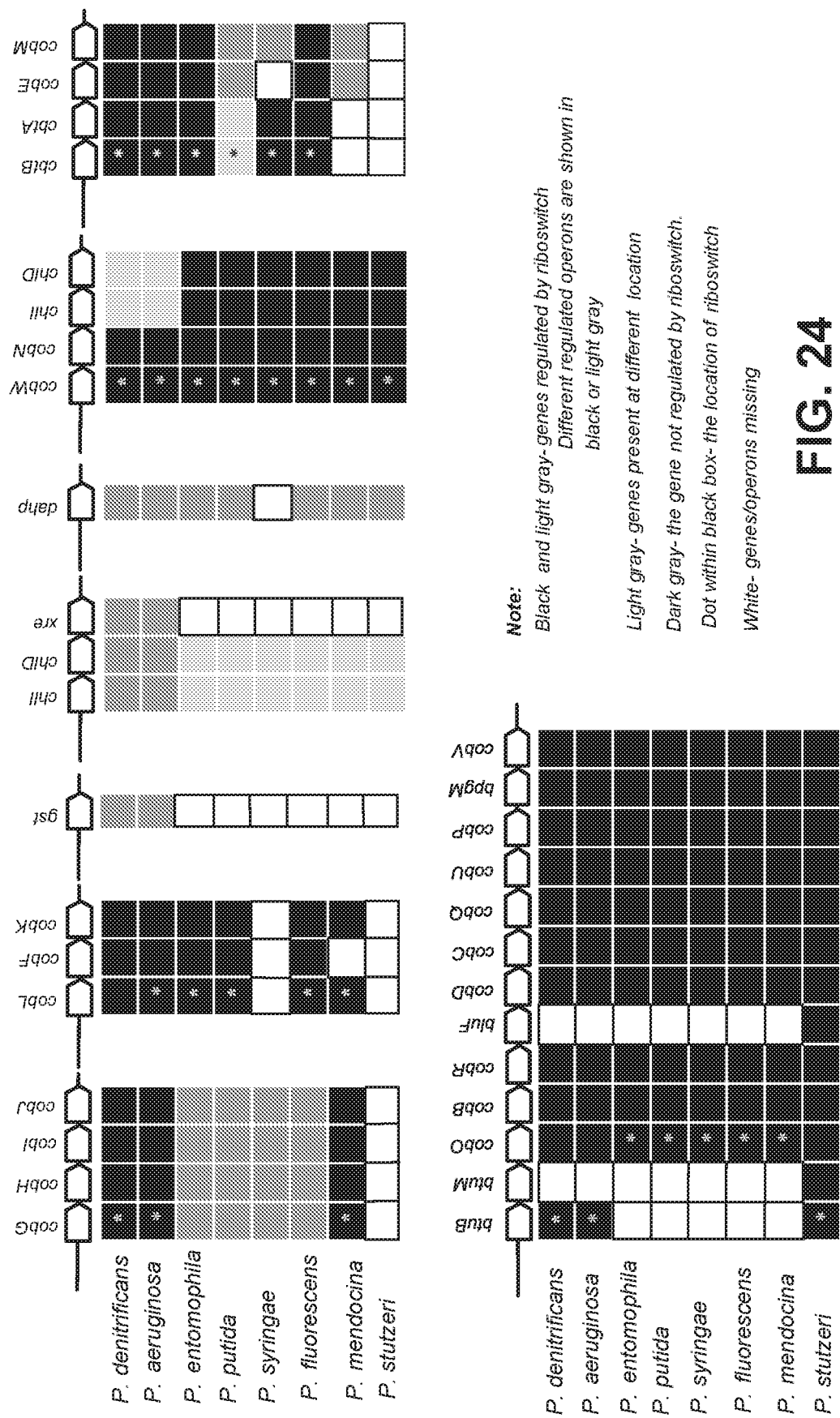


FIG. 22

FIG. 23





A. RS1 before cobG

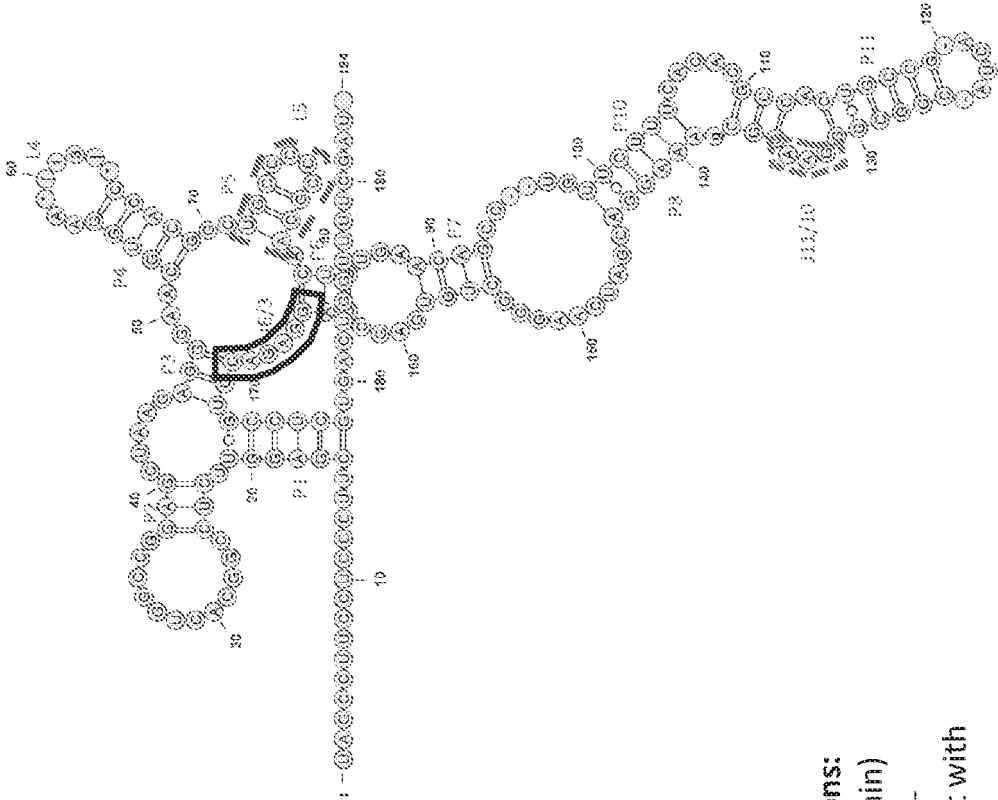


FIG. 25A

Highly conserved regions:
P5-L5 (regulatory domain)
J6/3 (receptor domain)-
GAA of J11/10 (interact with
regulatory domain)

B. RS2 in front of *cobW*



C. RS3 in front of cbtB

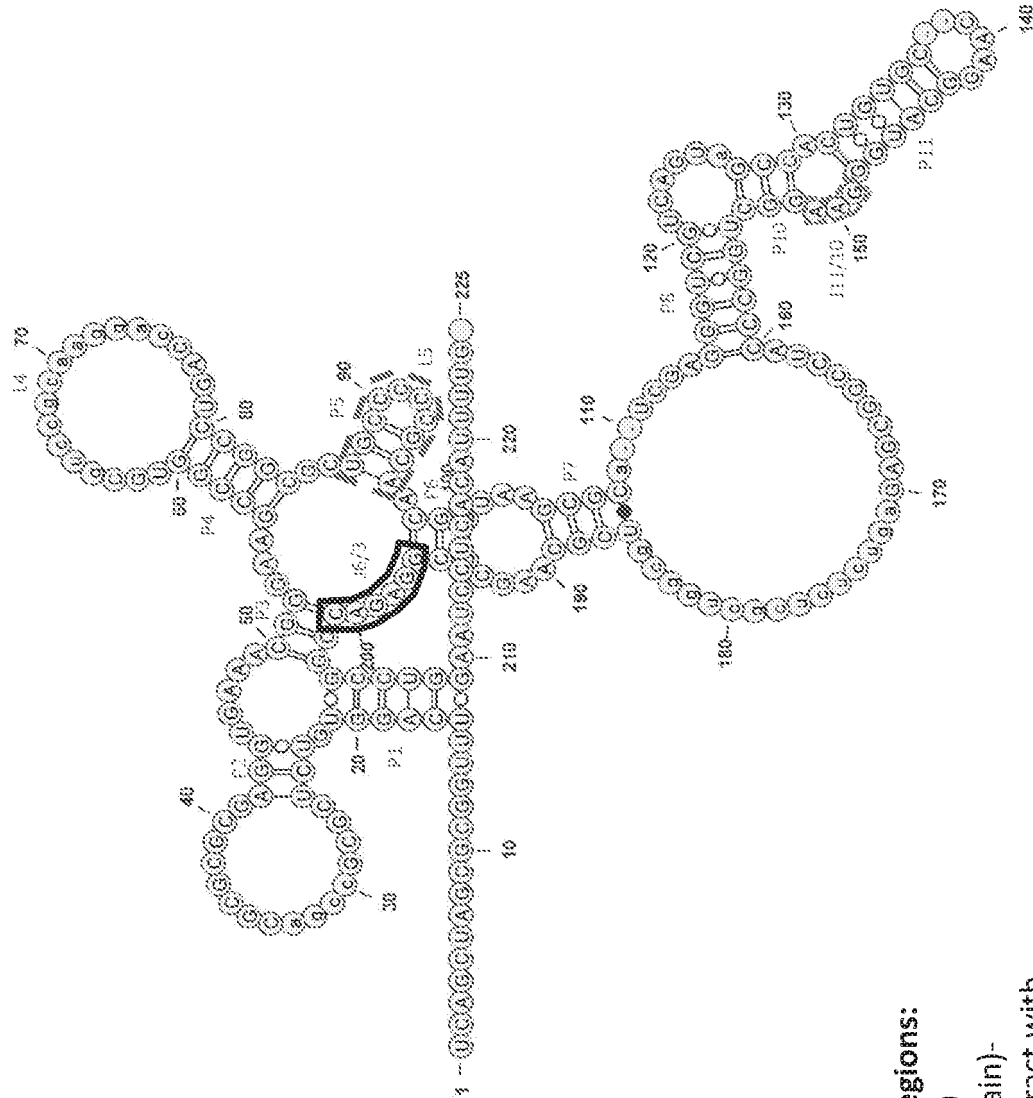
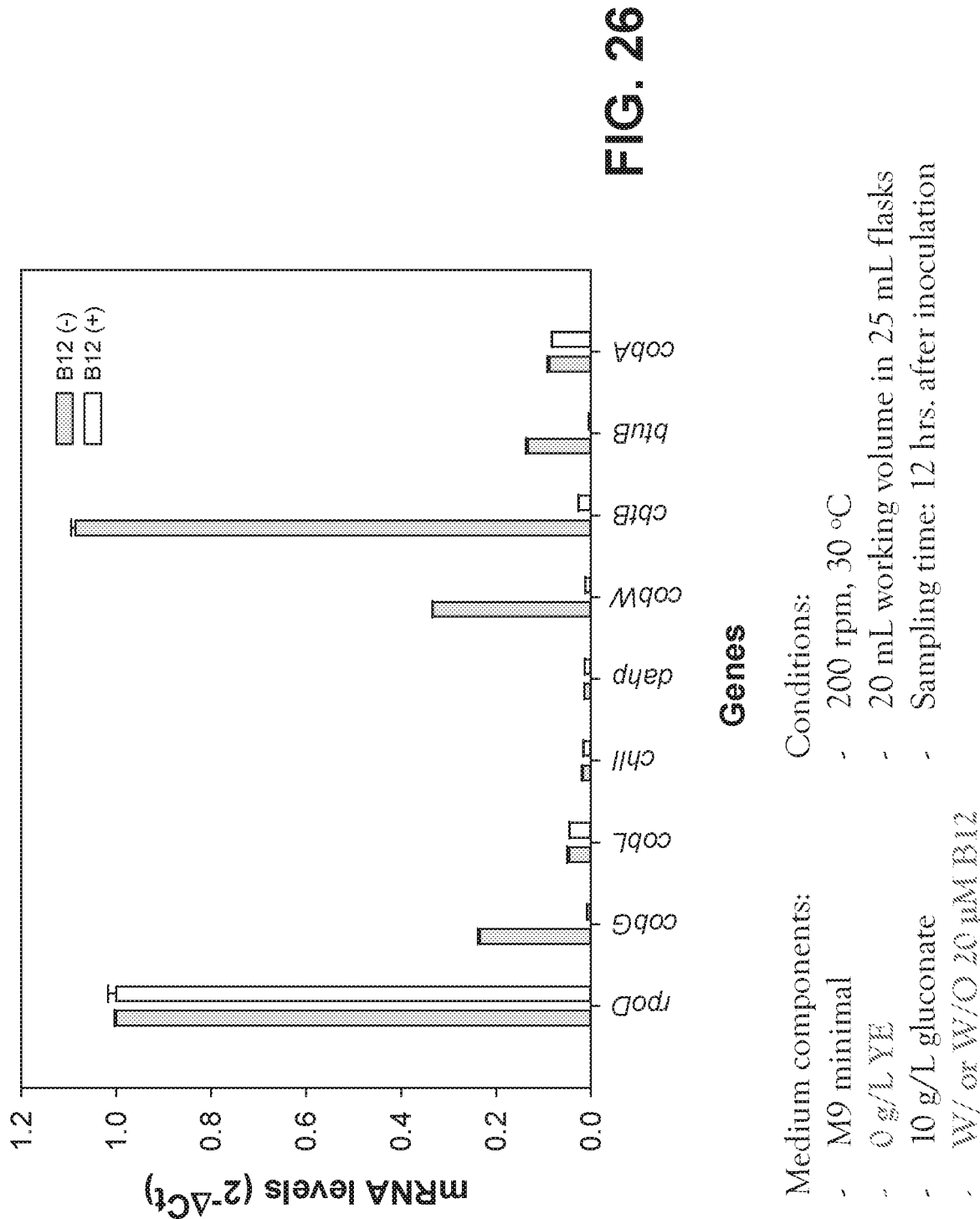


FIG. 25C

Highly conserved regions:
(regulatory domain)
J6/3 (receptor domain)-
GAA of 111/10 (interact with
regulatory domain)



Medium components:

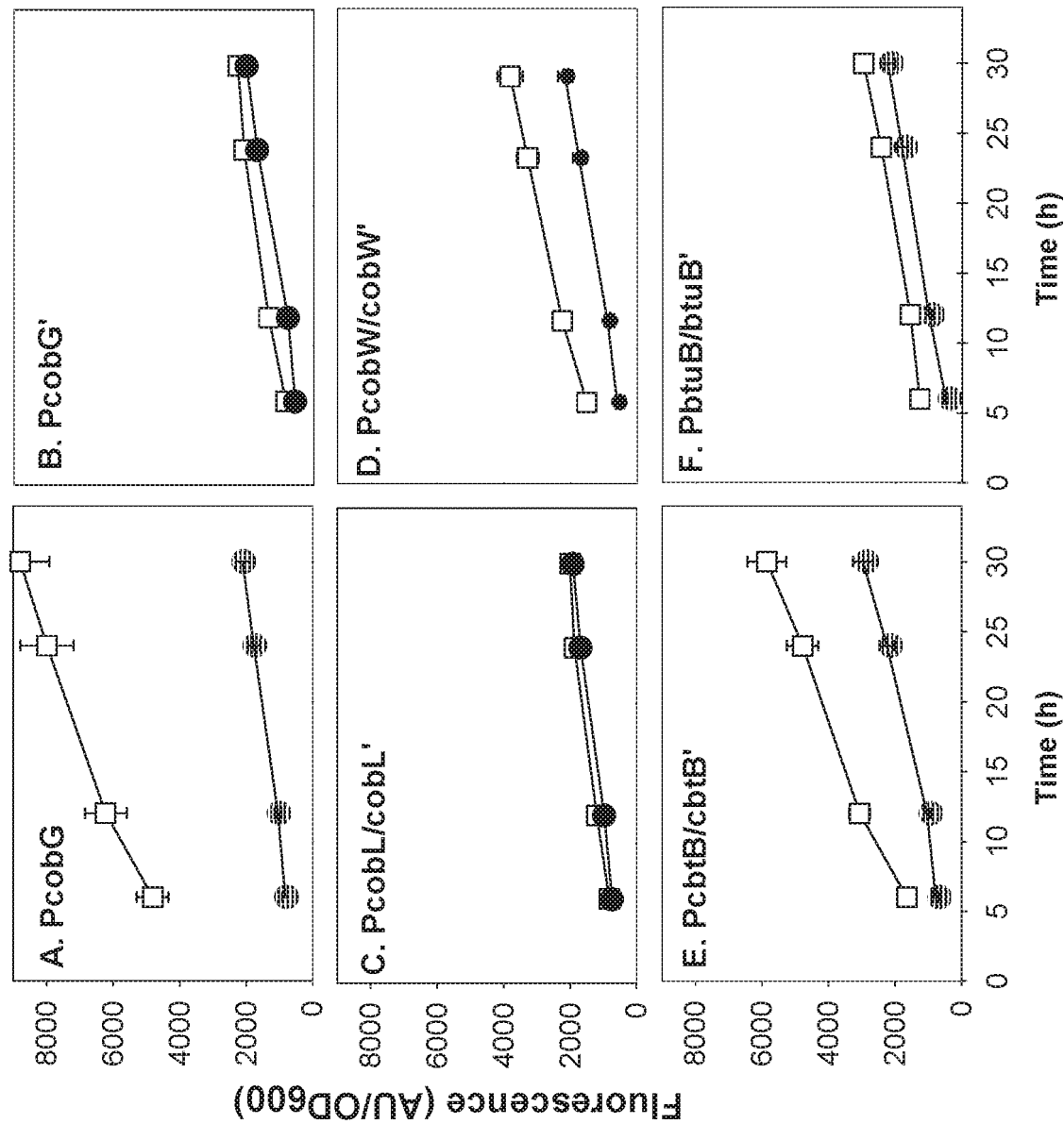
- M9 minimal
- 0 g/L YE
- 10 g/L gluconate
- ± 20 μ M CoB12

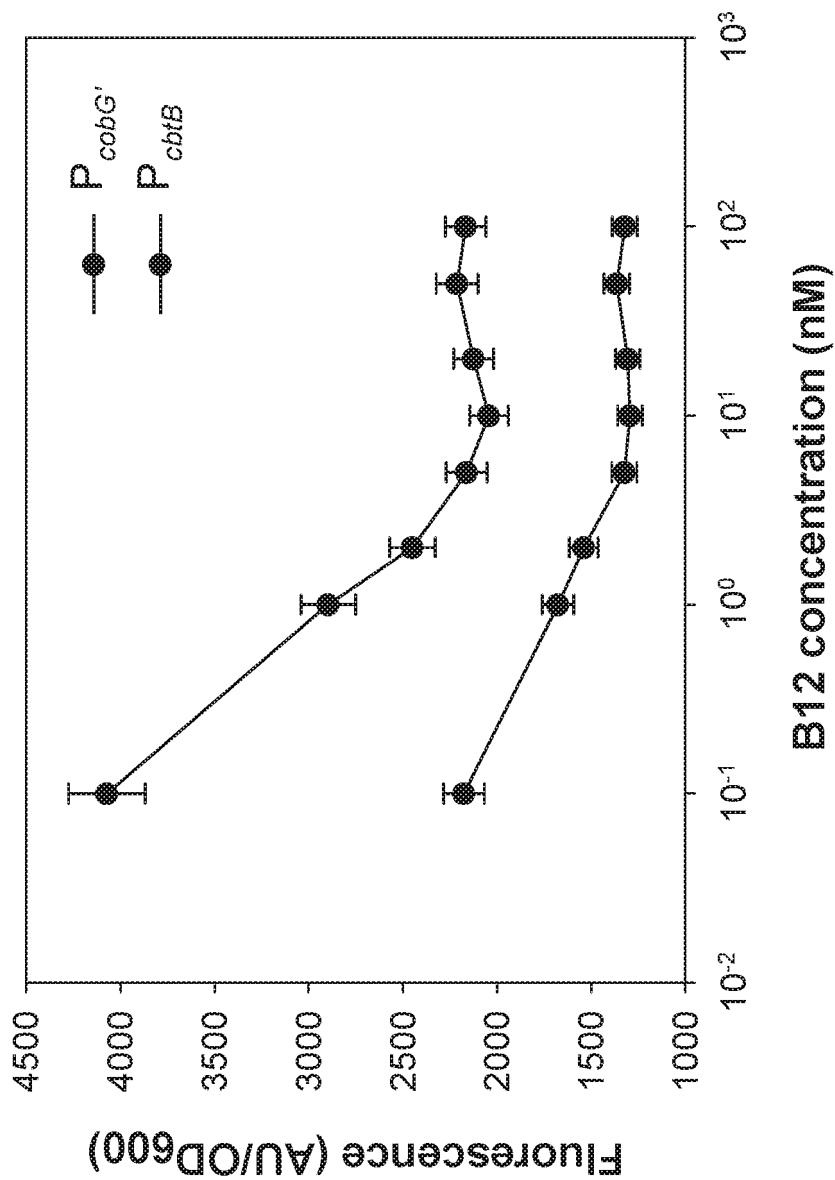
Conditions:

- 200 rpm, 30 °C
- 20 mL working volume in 250 mL Erlenmeyer flask

A: P_{cobG'} (IR1)
B: P_{cobW'} (IR3)
C: P_{cobB'} (IR3)
D: P_{btuB'} (IR4)
E: no plasmid containing

FIG. 27





Medium components: Conditions:

- M9 minimal - 200 rpm, 30 °C
- 0 g/L YE - 1.2 mL working volume in 2 mL well (using 96 wells block)
- 10 g/L gluconate
- 0.1 – 100 nM CoB12 - Sampling time: 12h after inoculation

FIG. 28

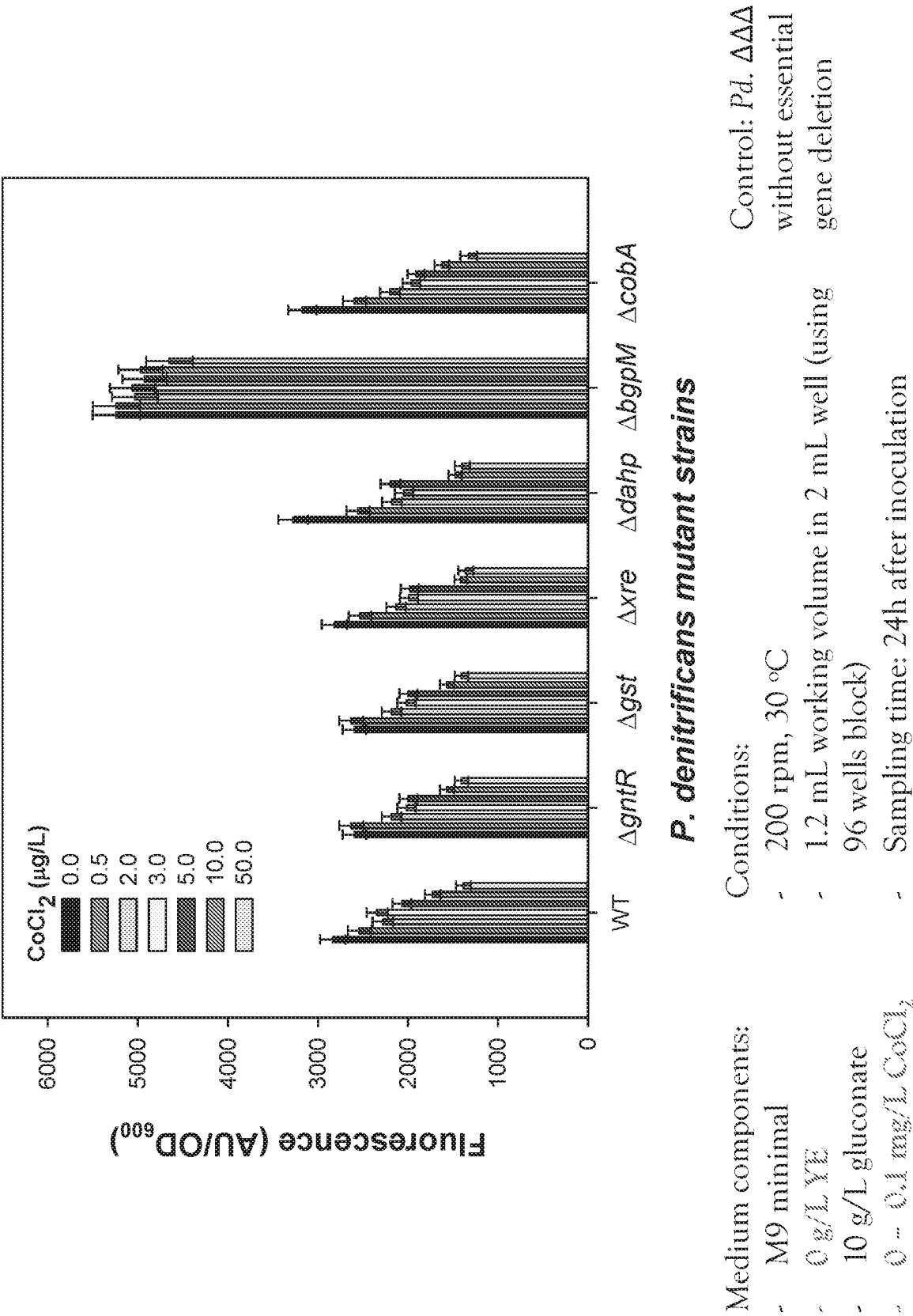


FIG. 29A

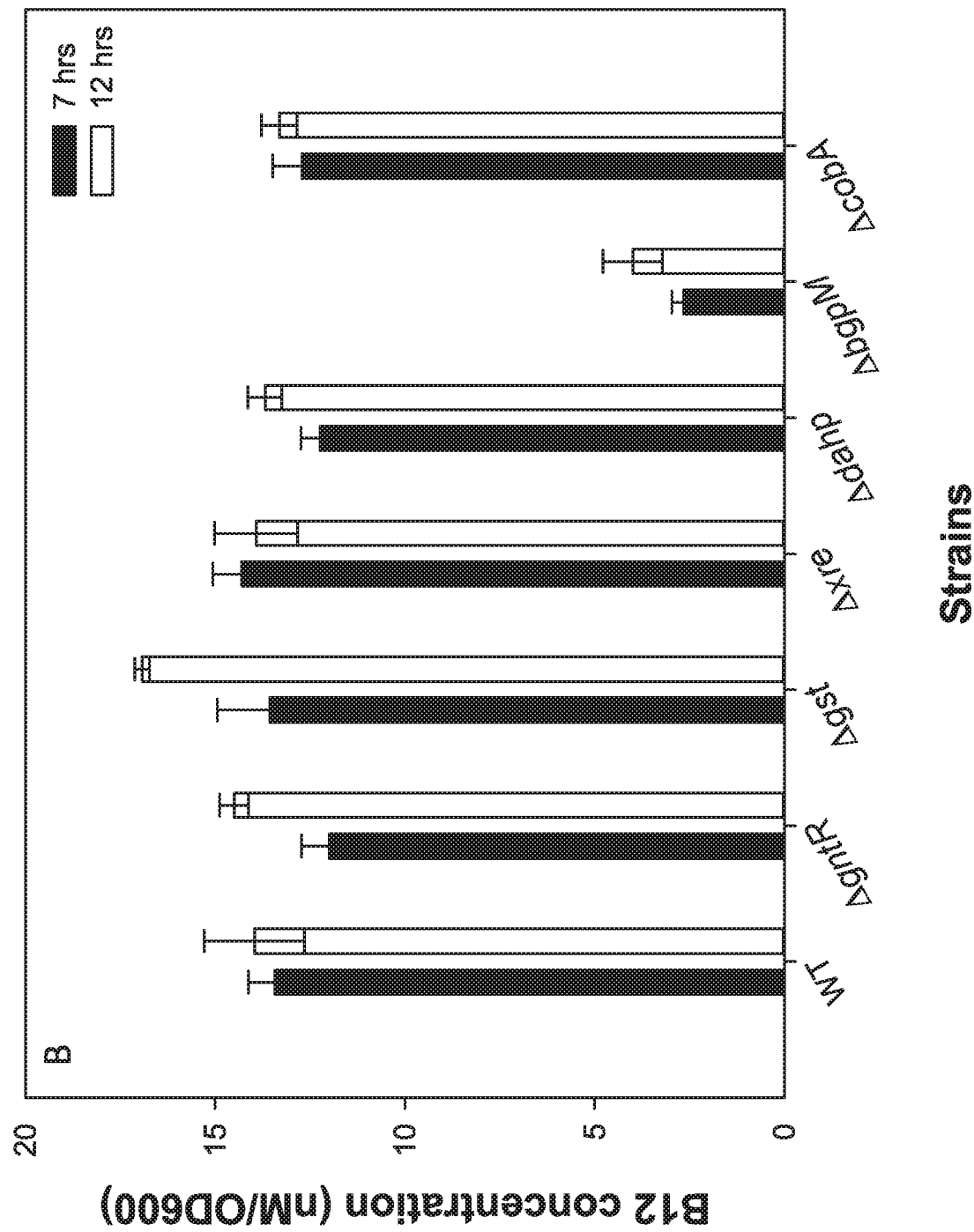


FIG. 29B

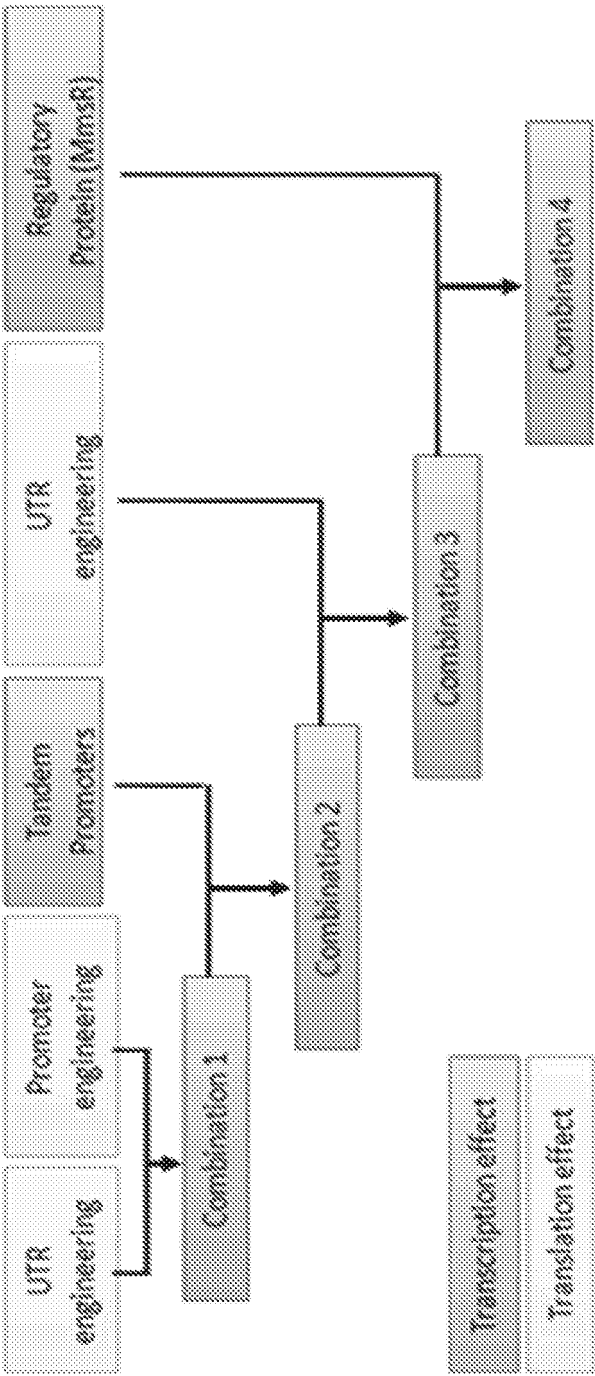


FIG. 30A

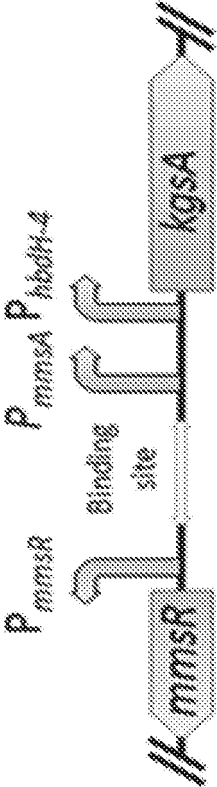


FIG. 30B

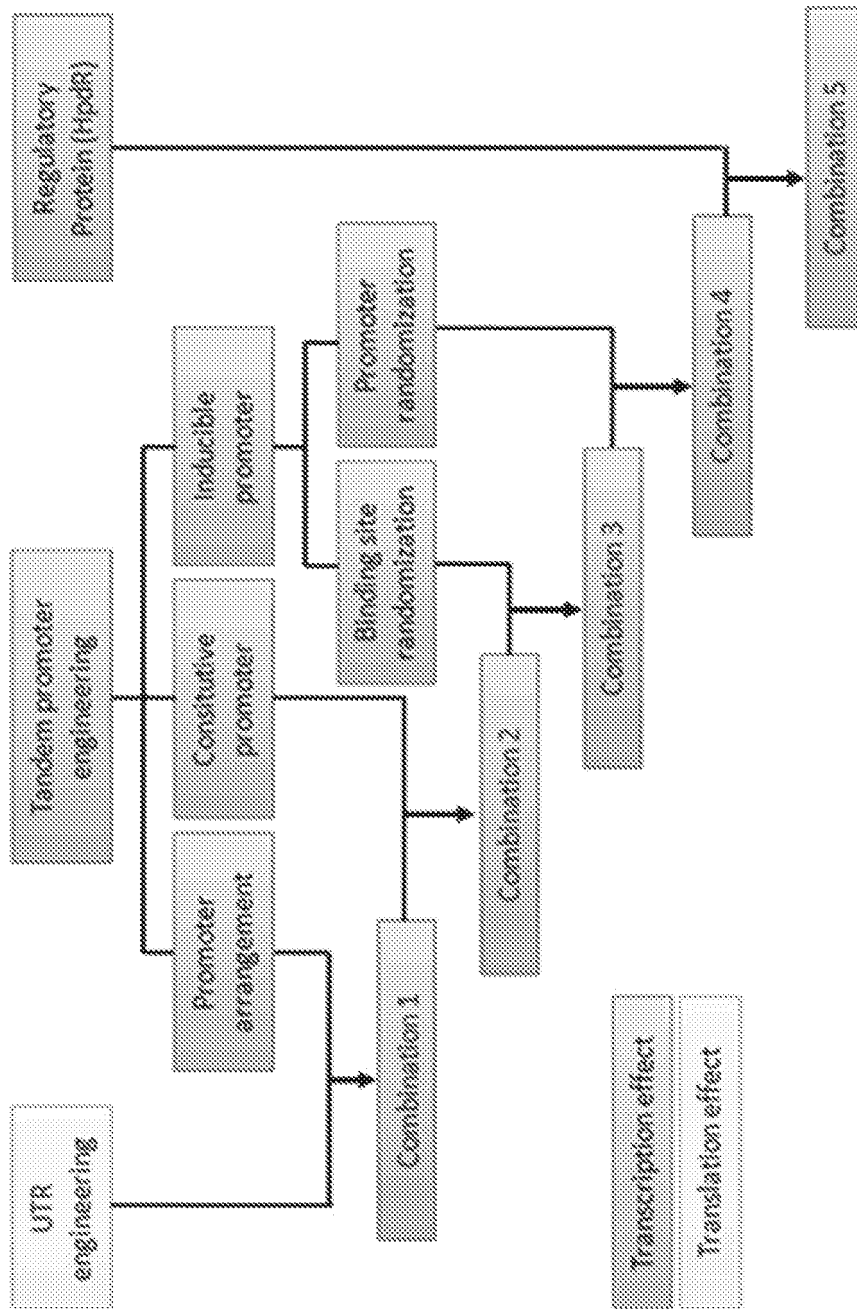
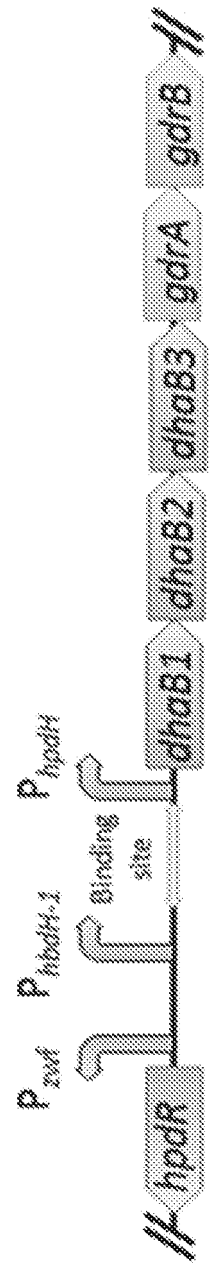


FIG. 31A



3136

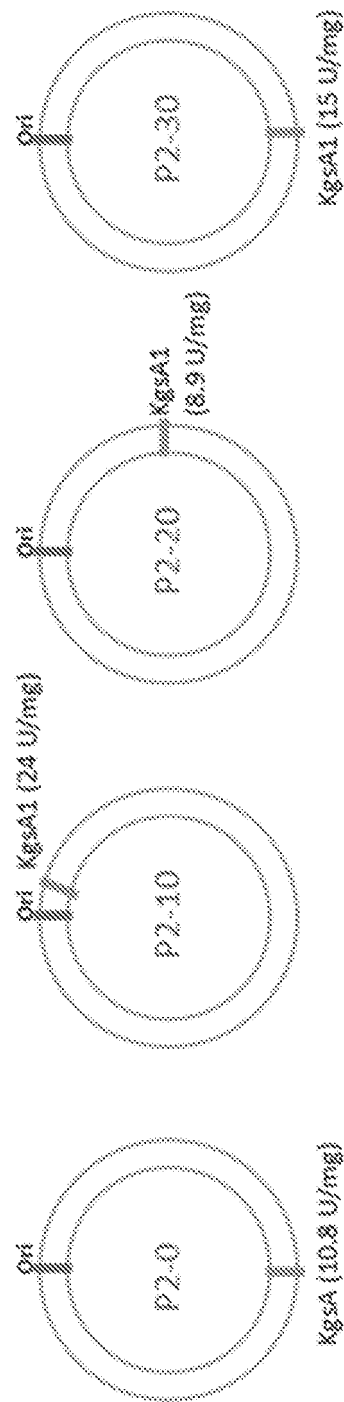


FIG. 32

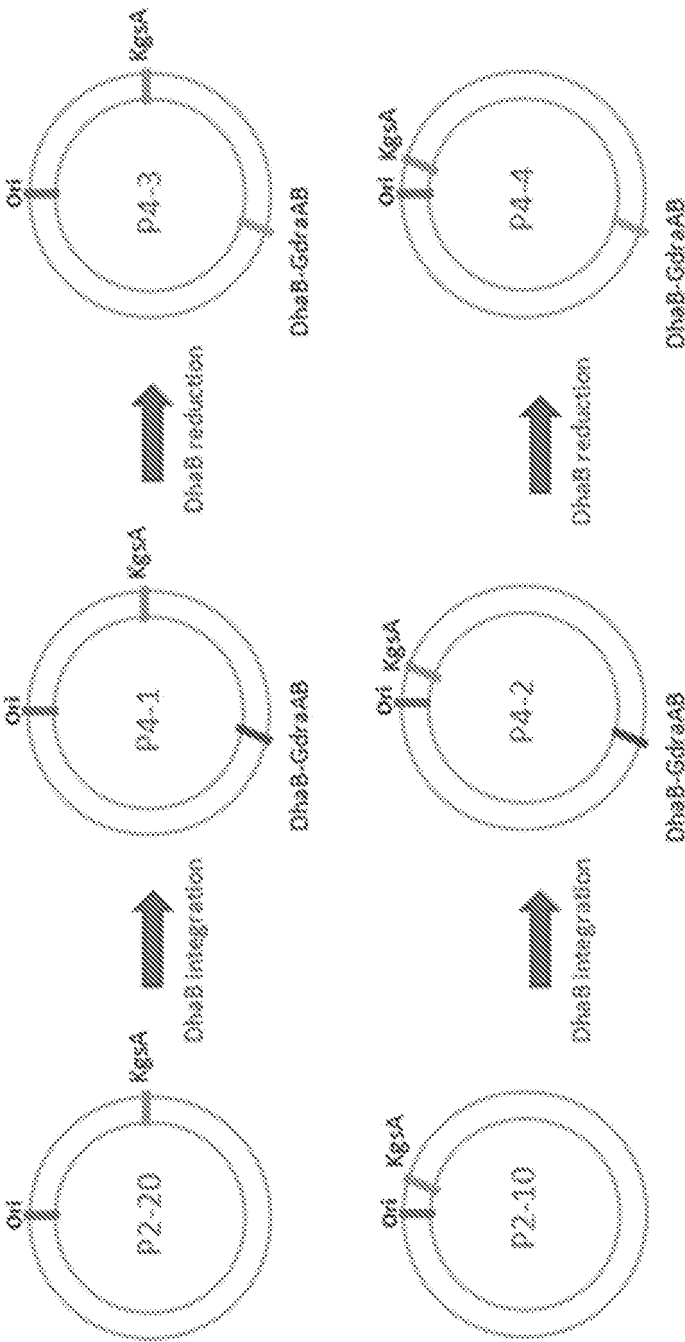


FIG. 33

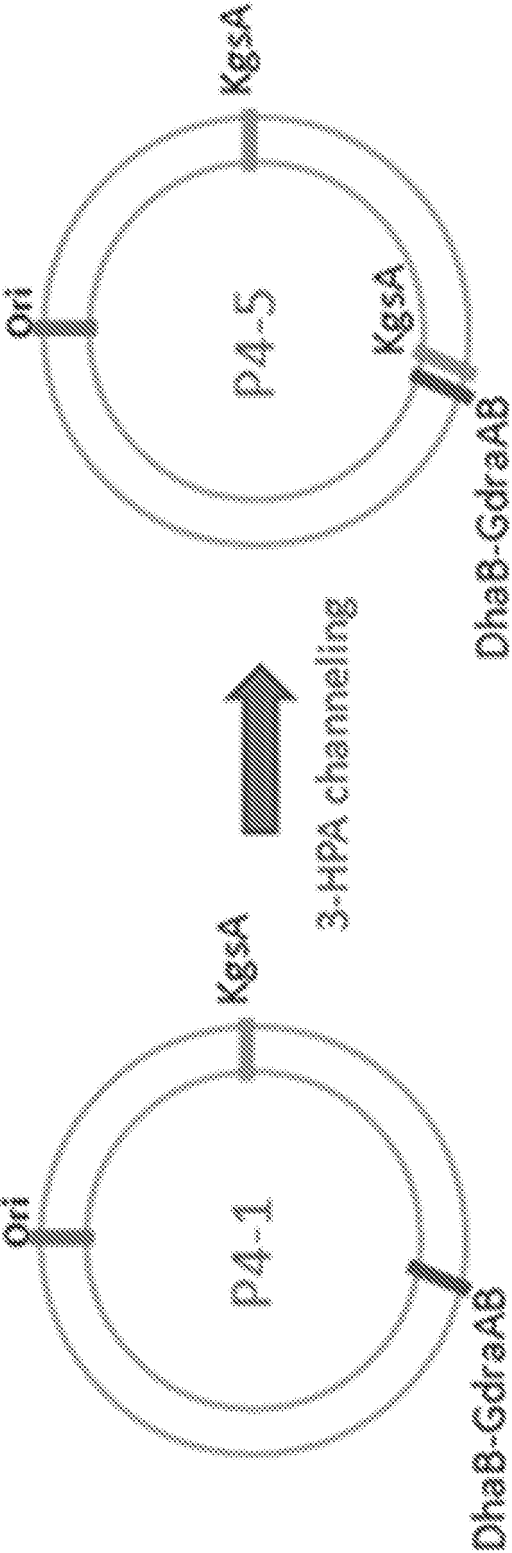


FIG. 34

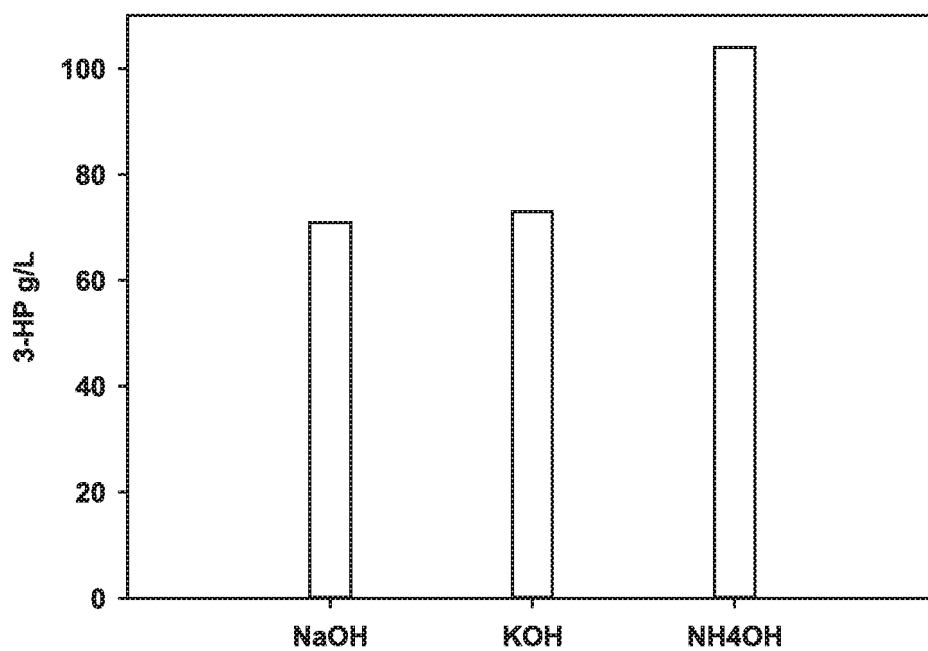


FIG. 35

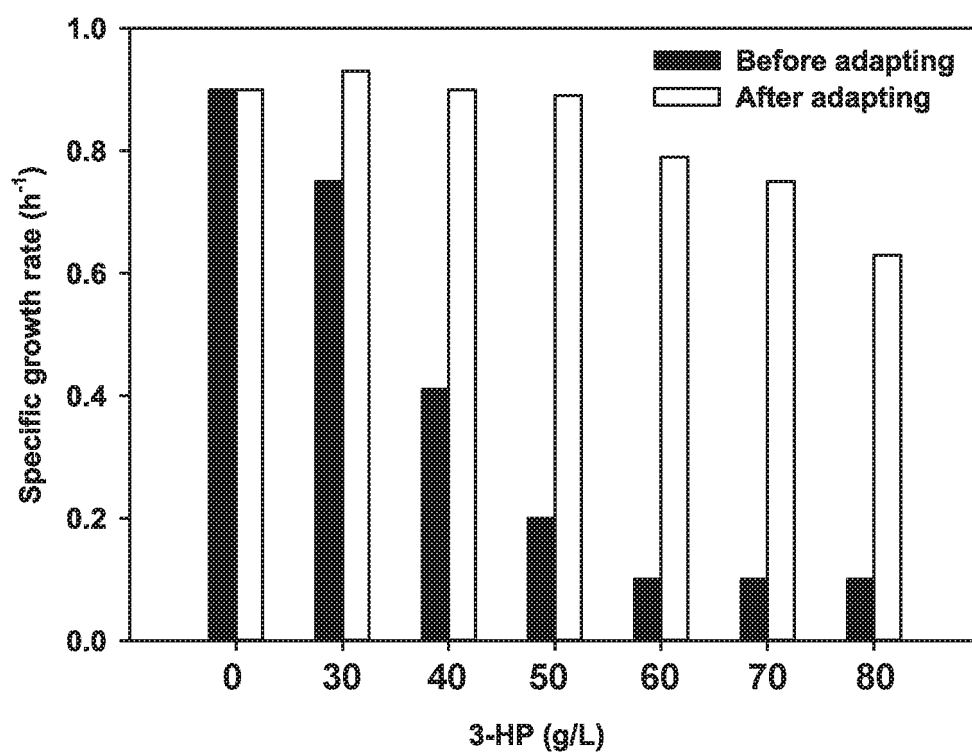
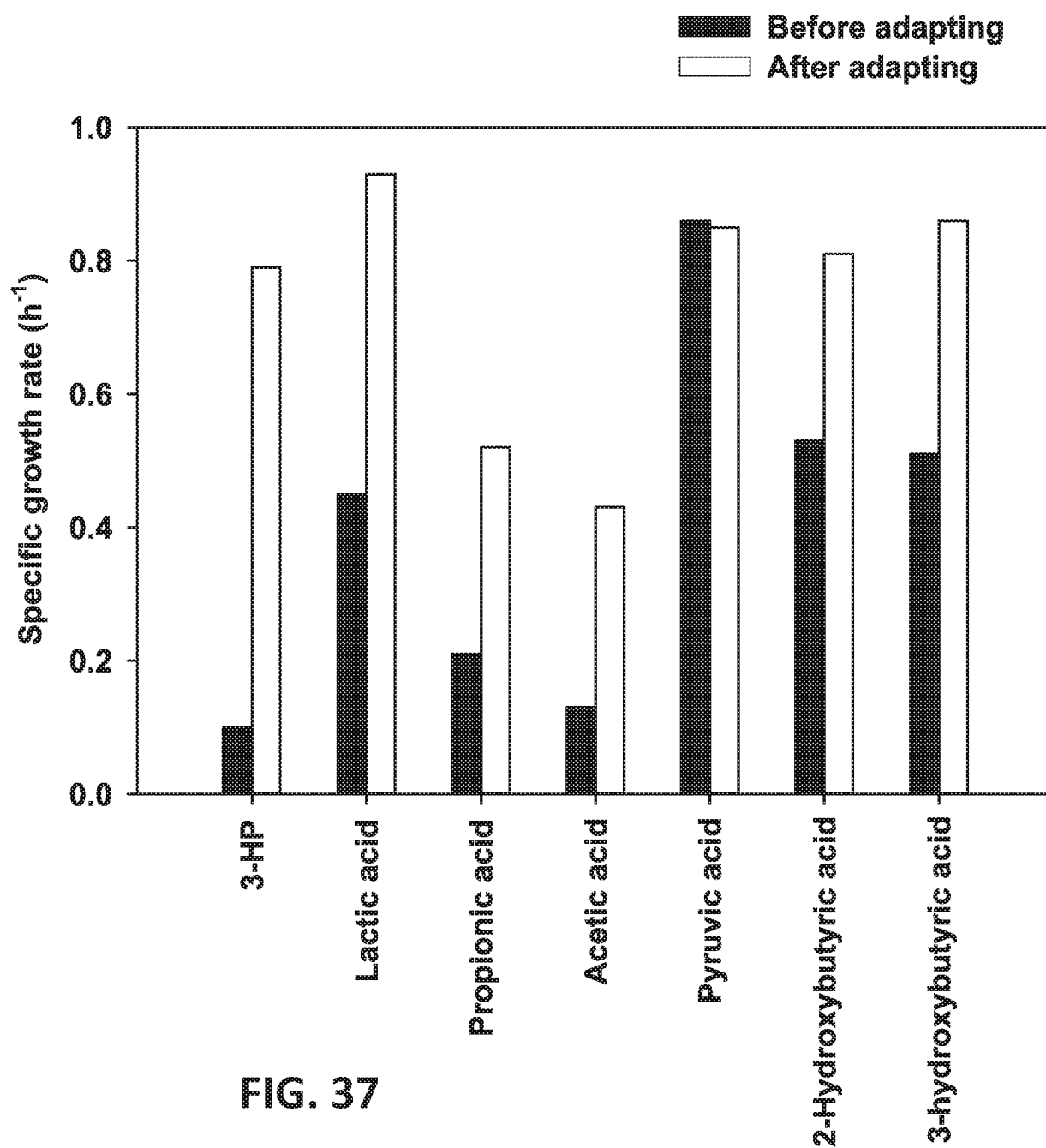


FIG. 36



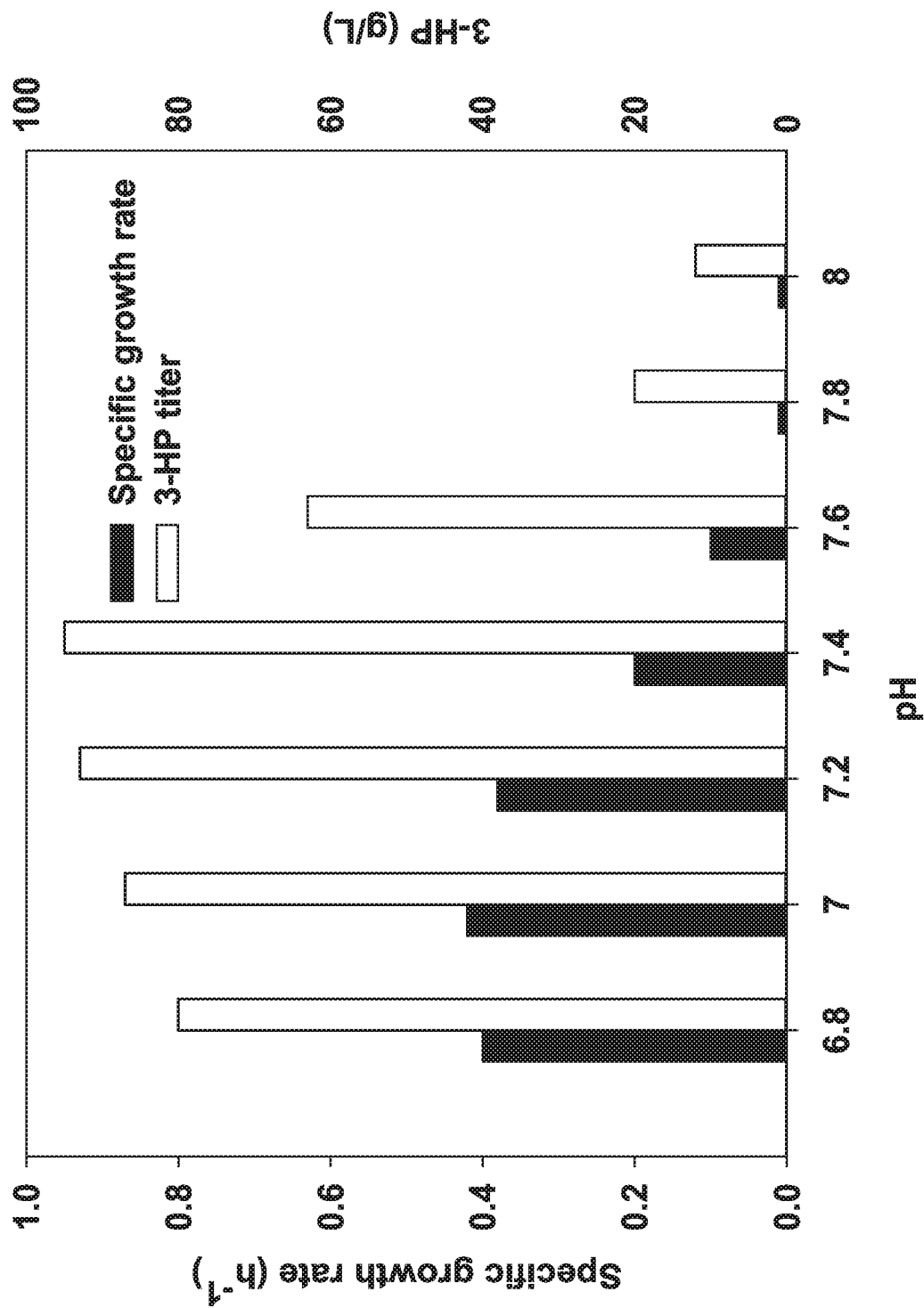


FIG. 38

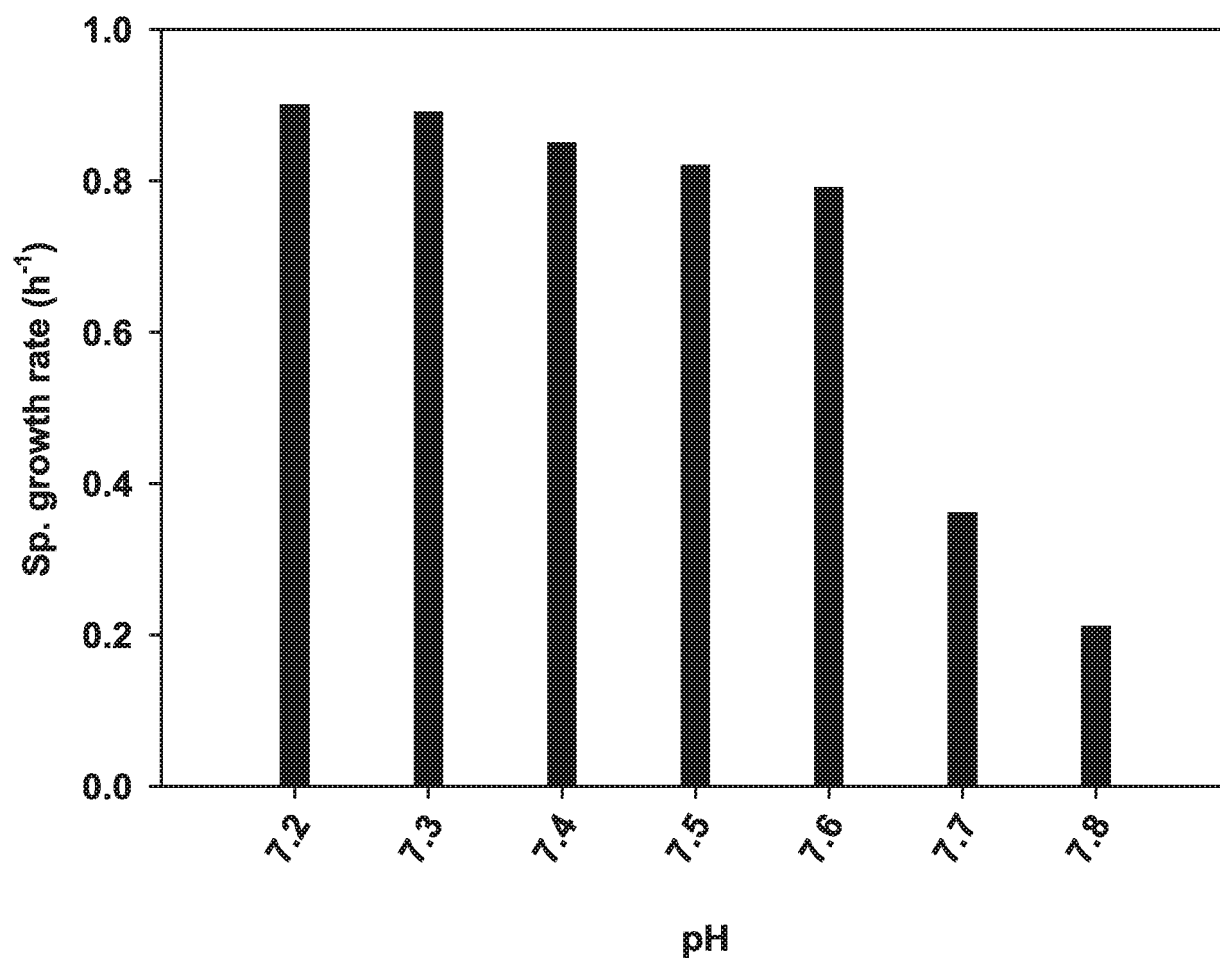


FIG. 39

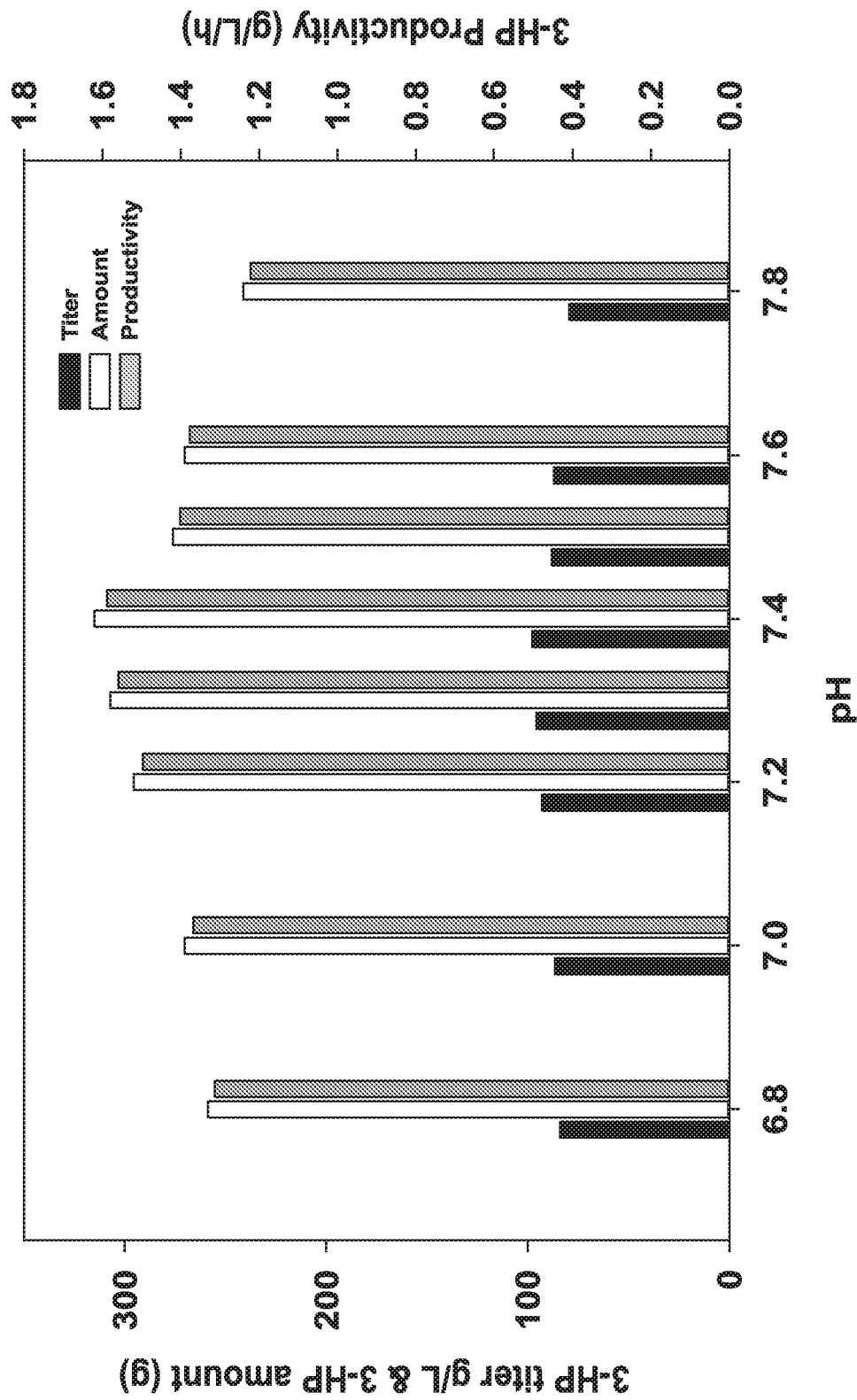


FIG. 40

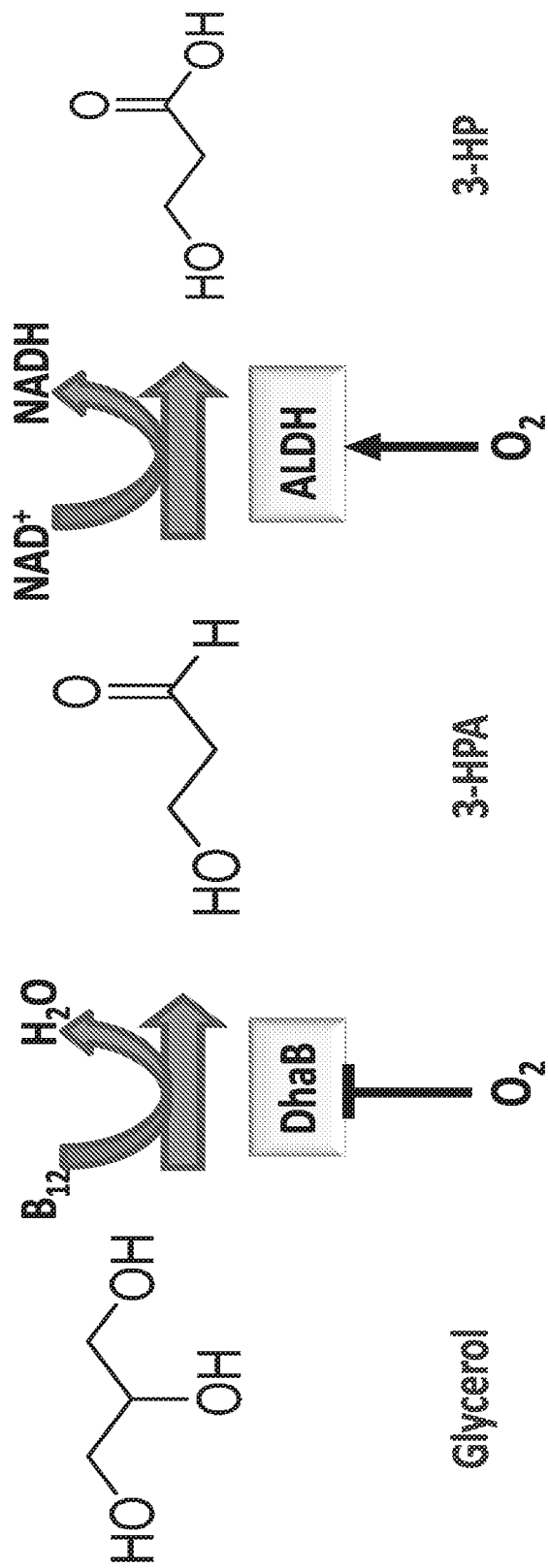
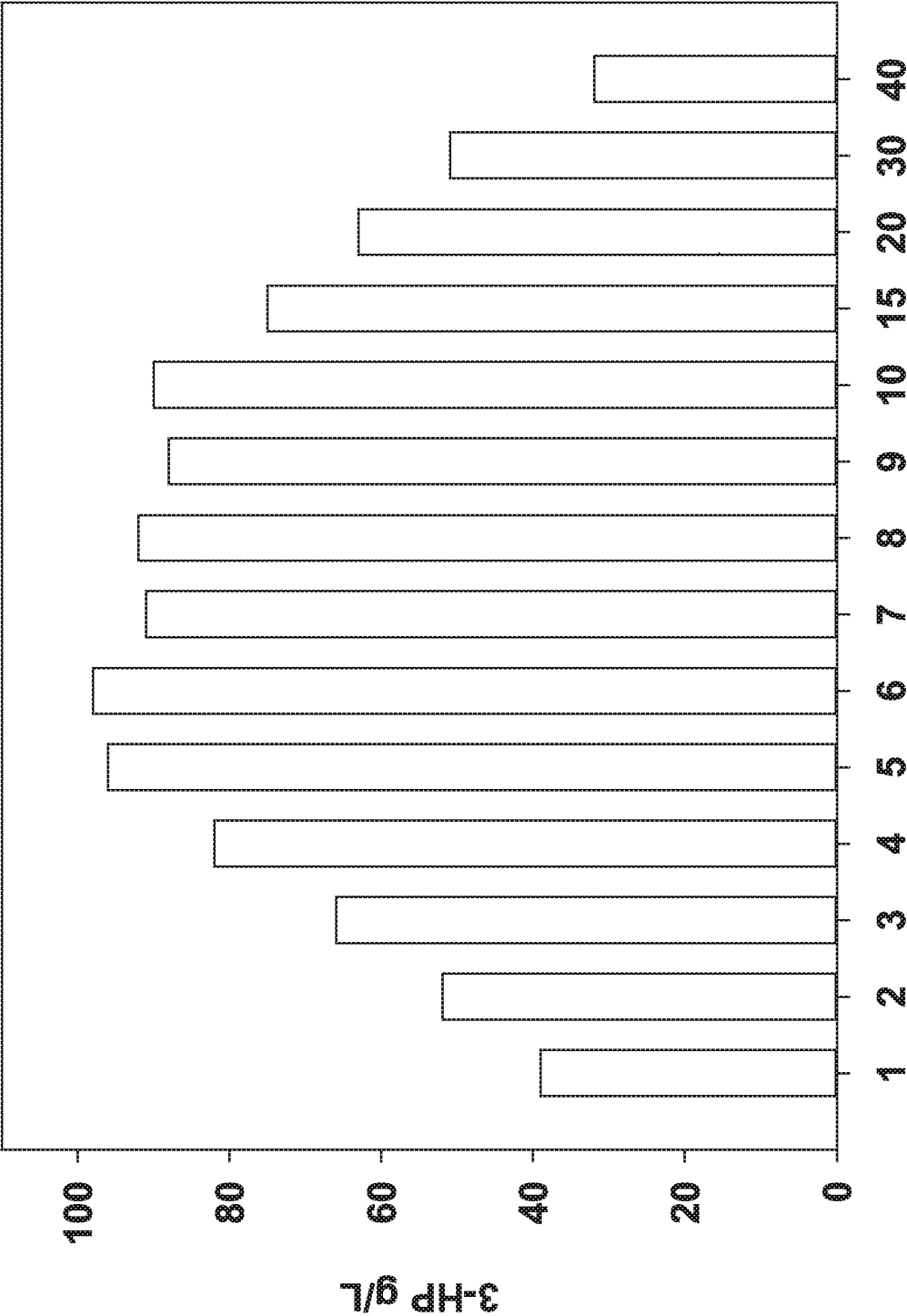


FIG. 41



DO %
FIG. 42

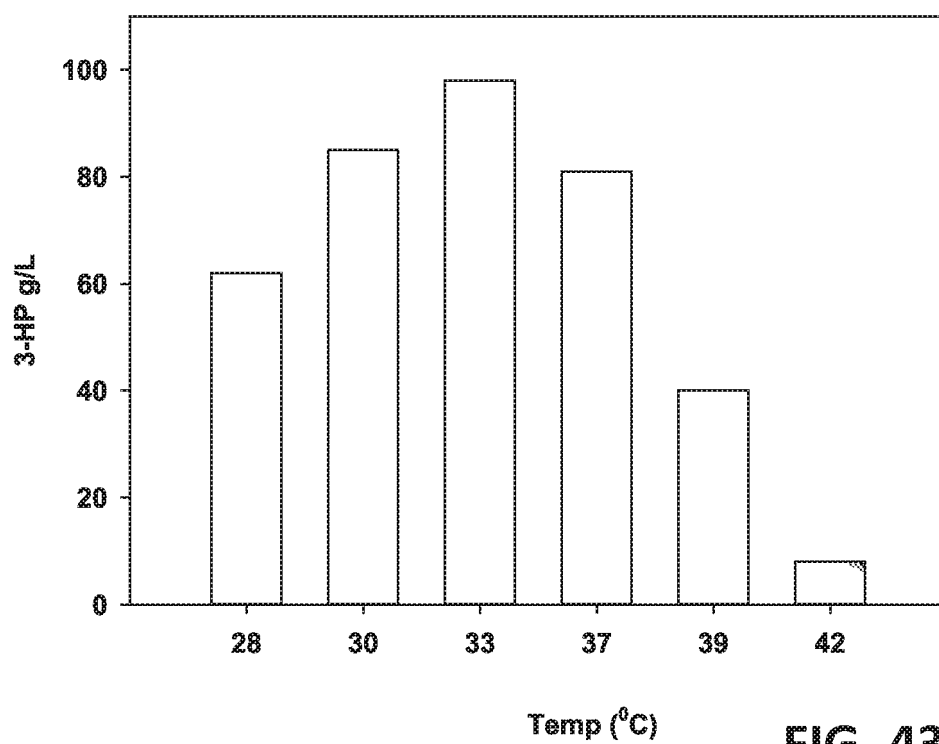


FIG. 43

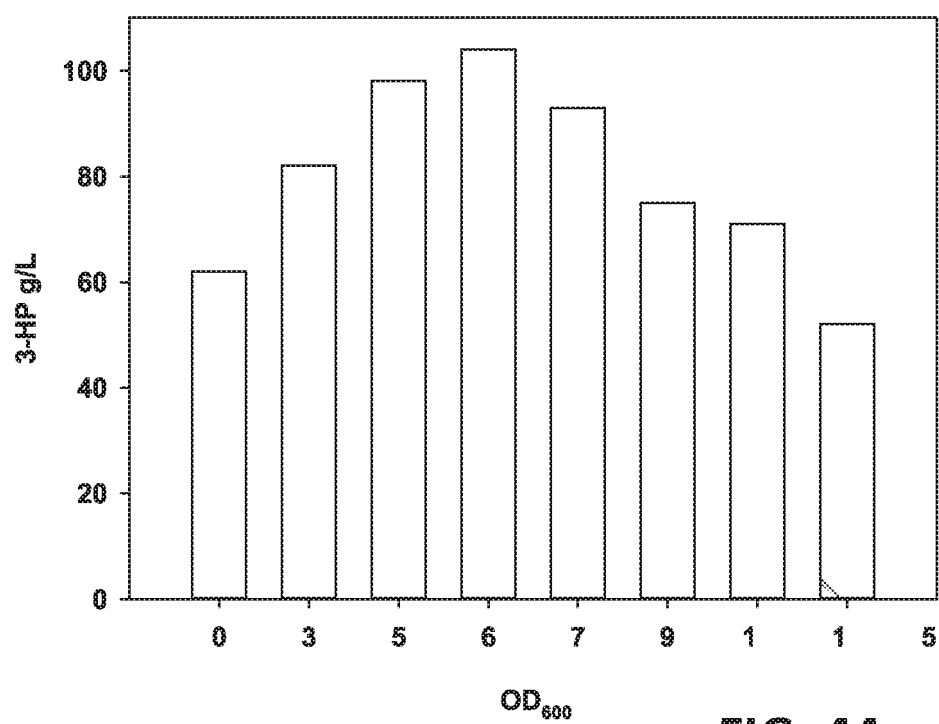


FIG. 44

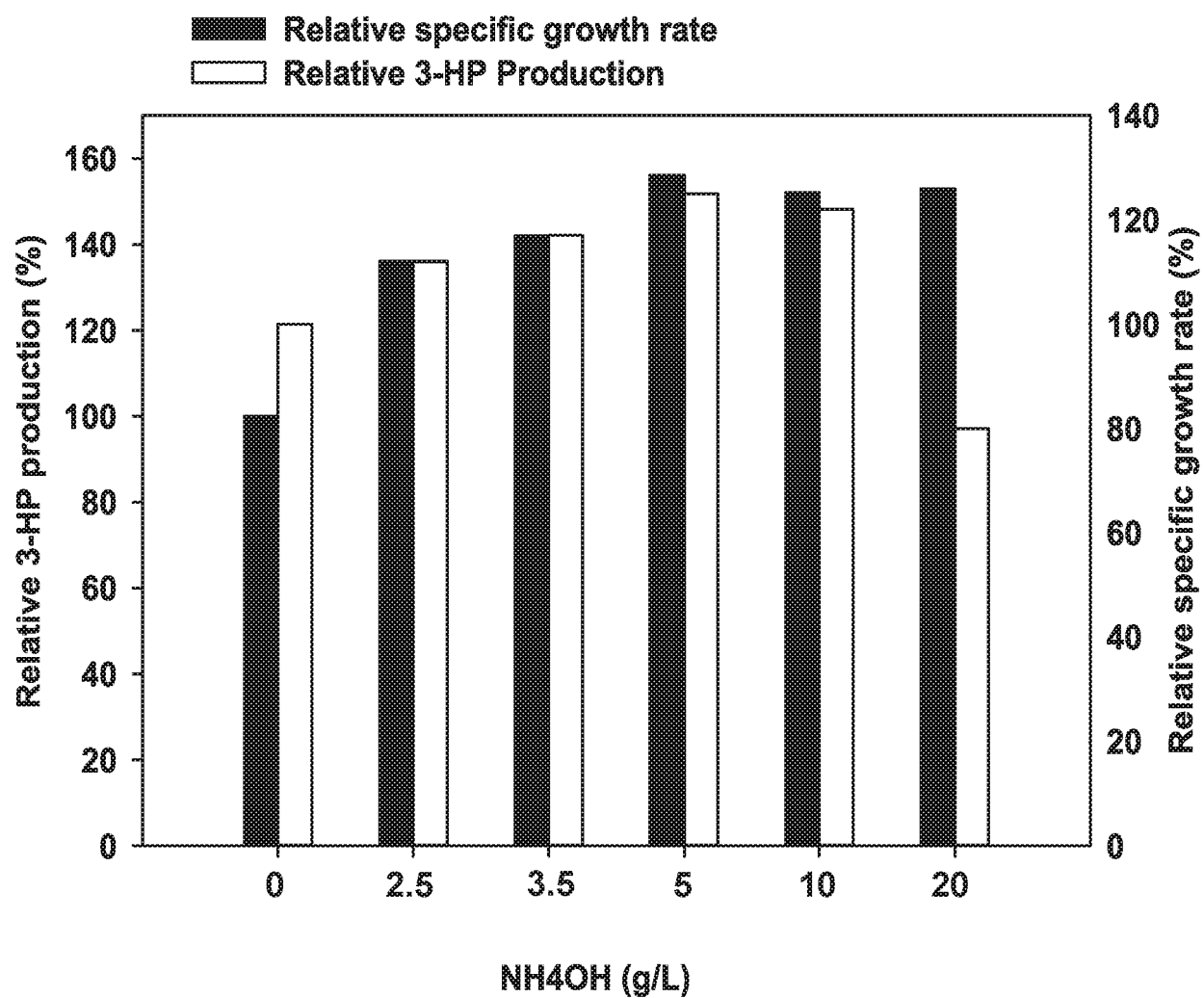


FIG. 45

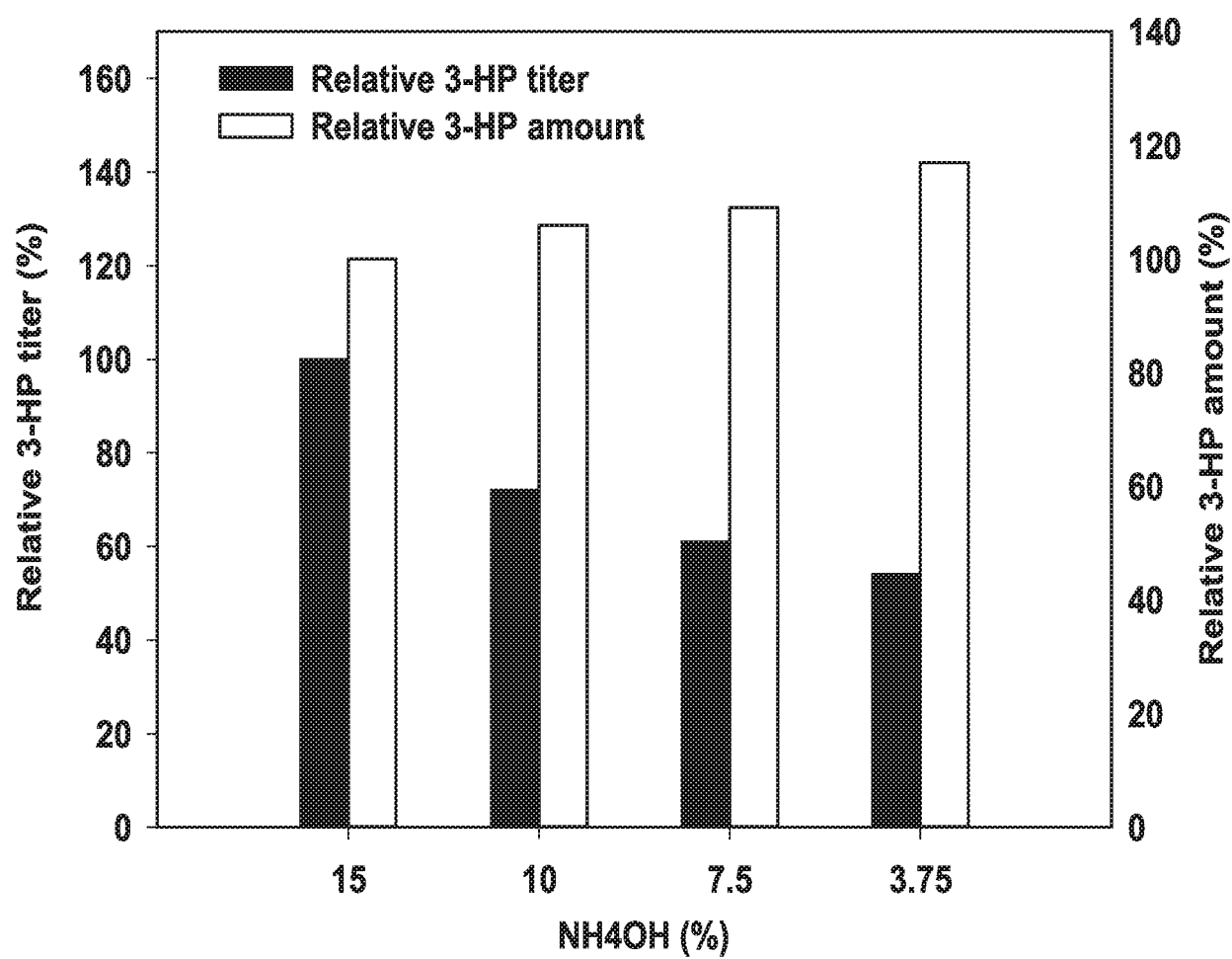


FIG. 46

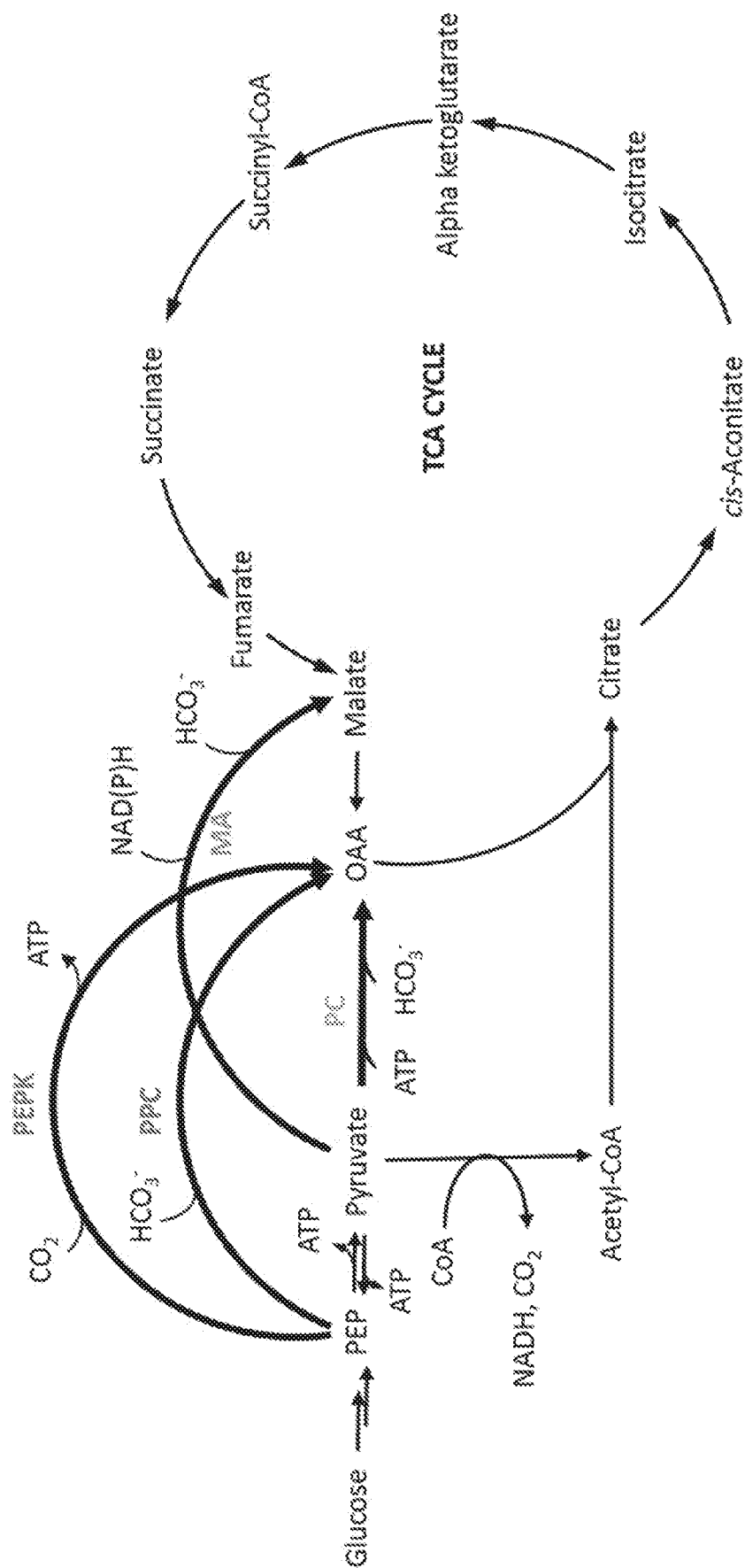


FIG. 47

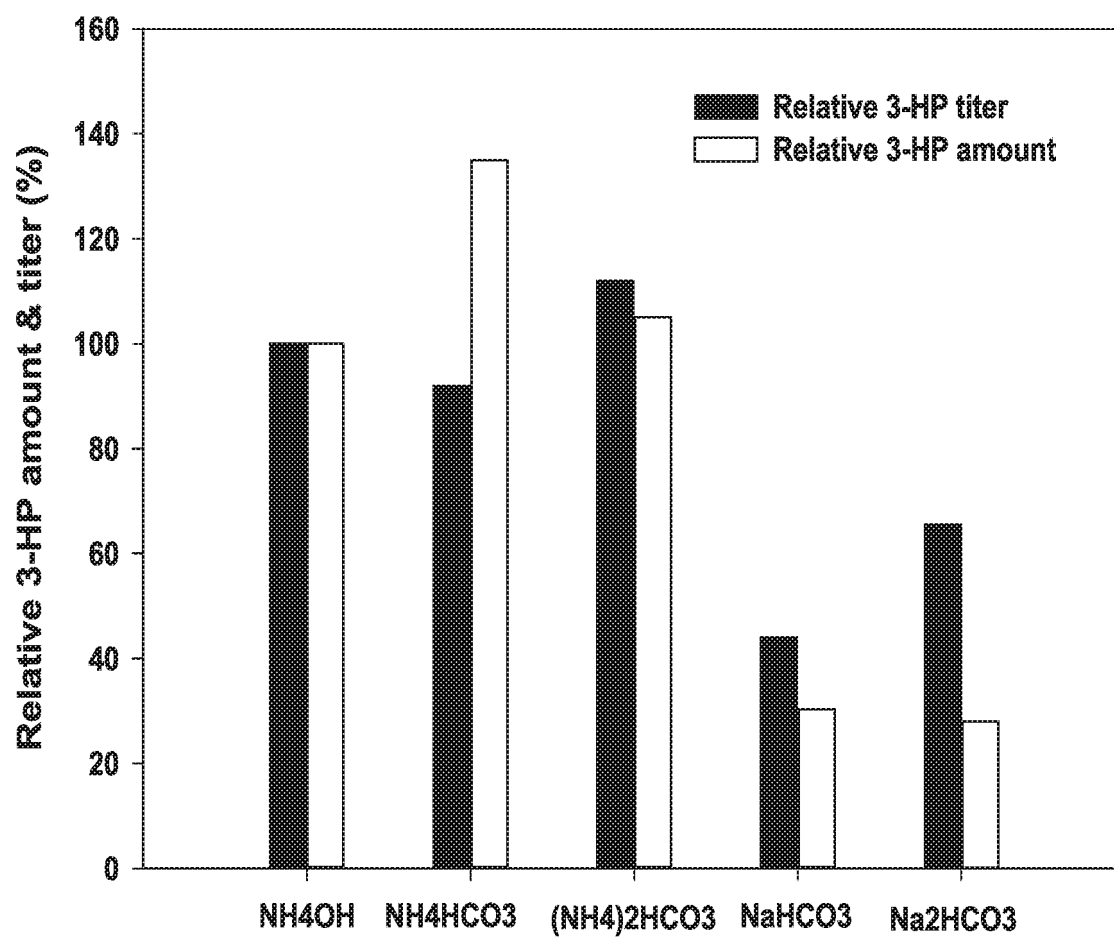


FIG. 48

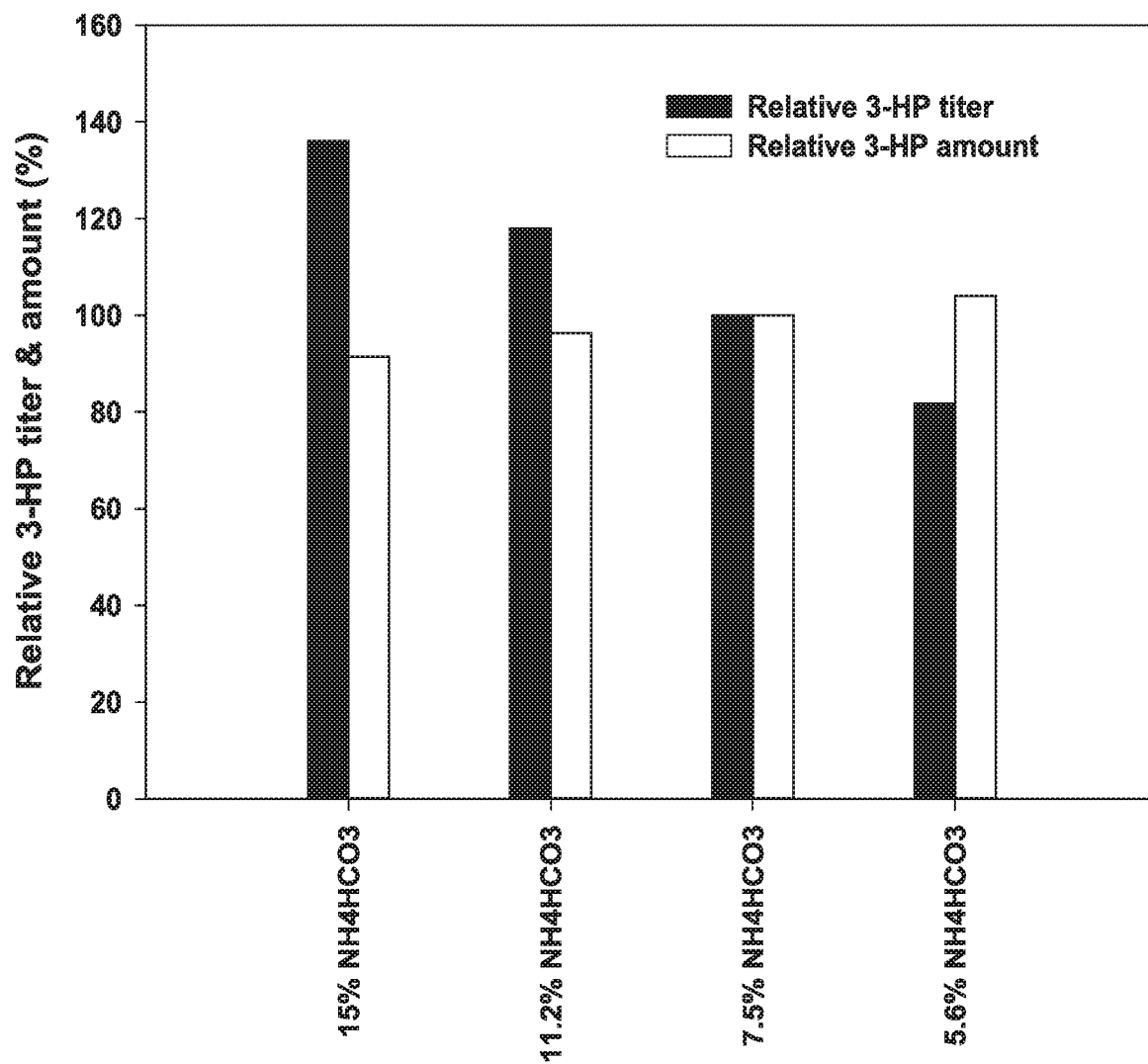


FIG. 49

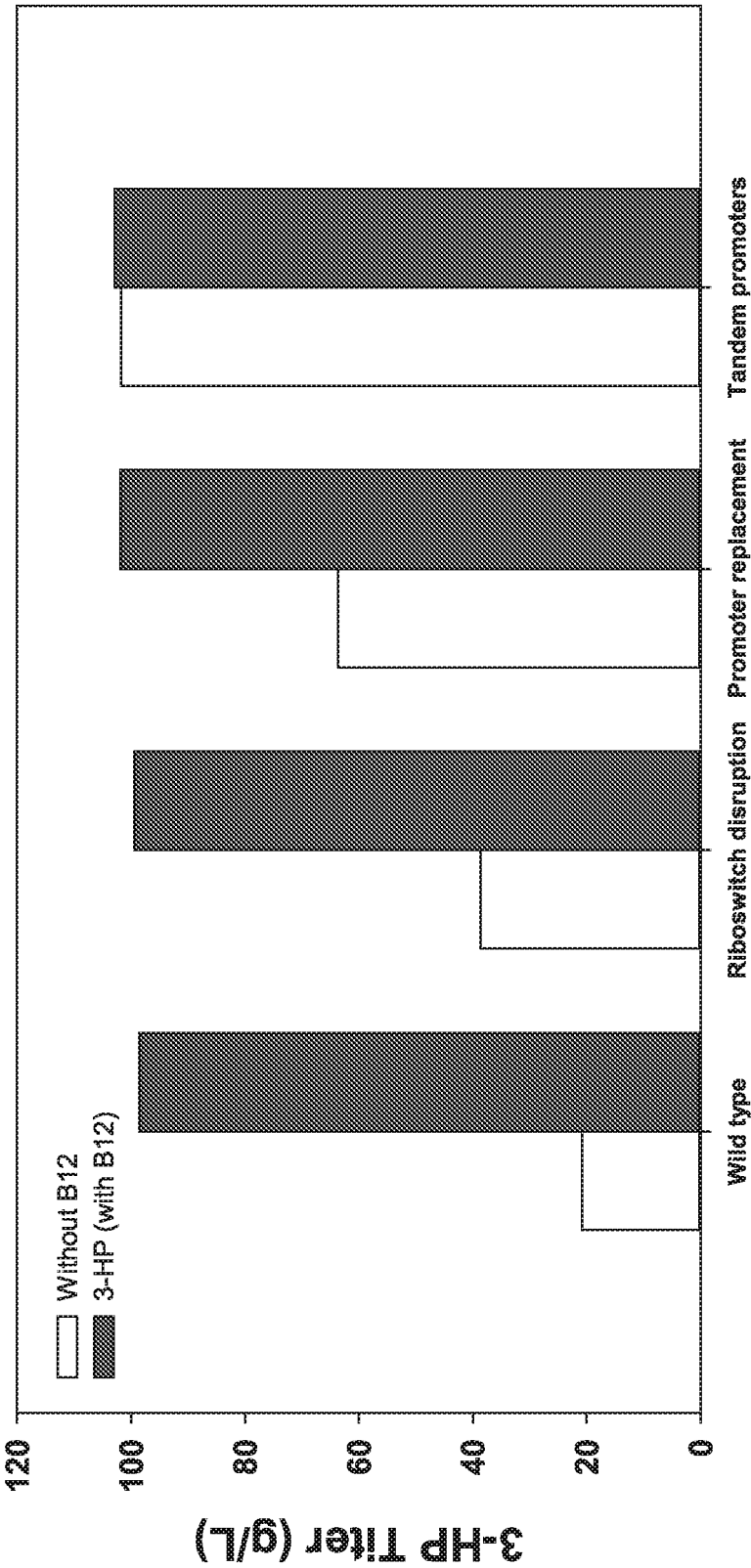


FIG. 50

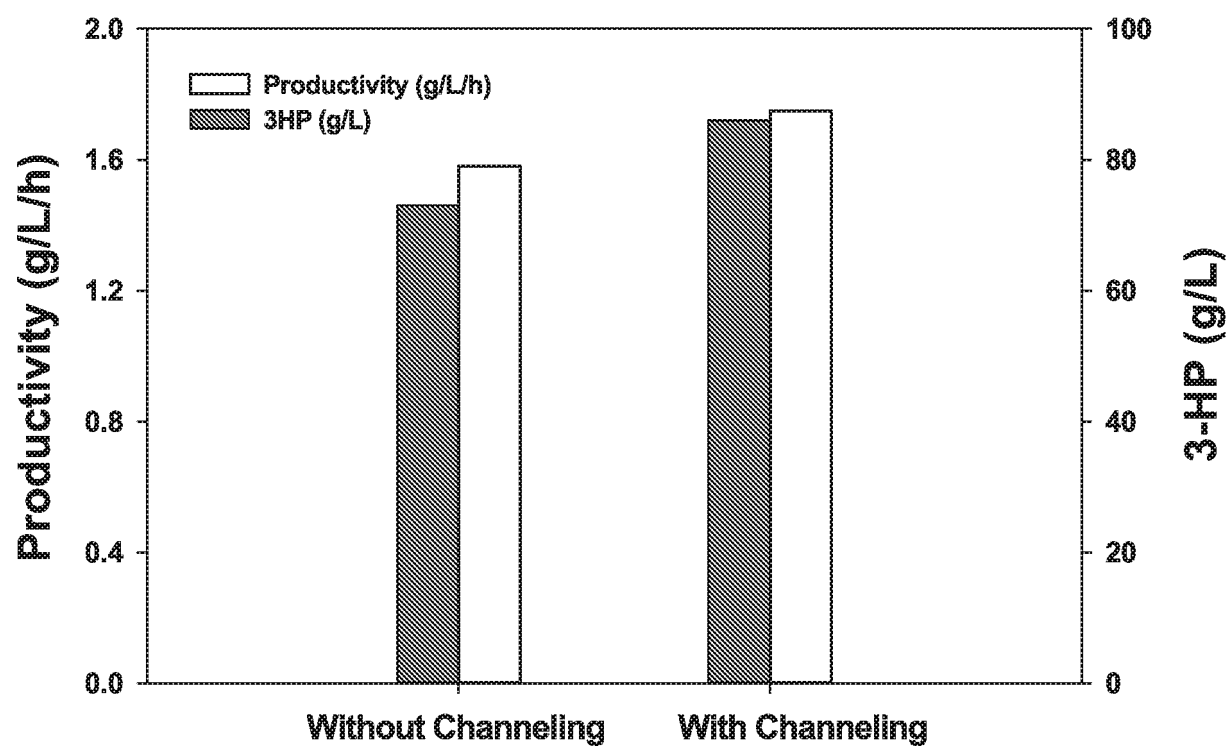


FIG. 51

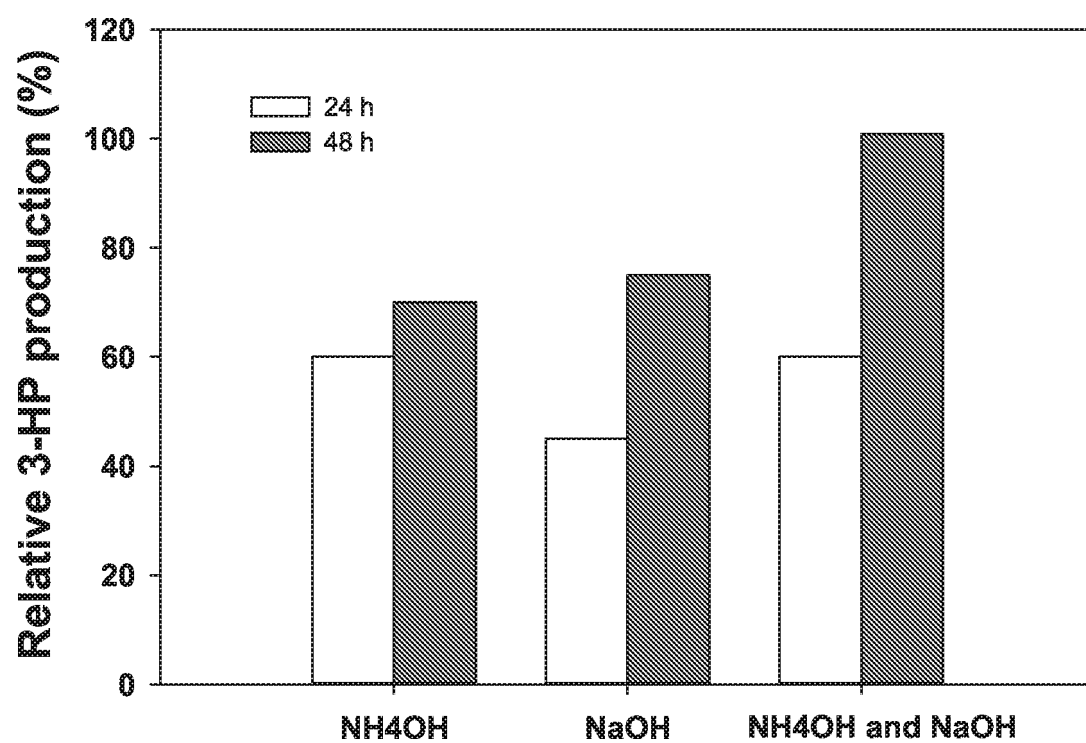
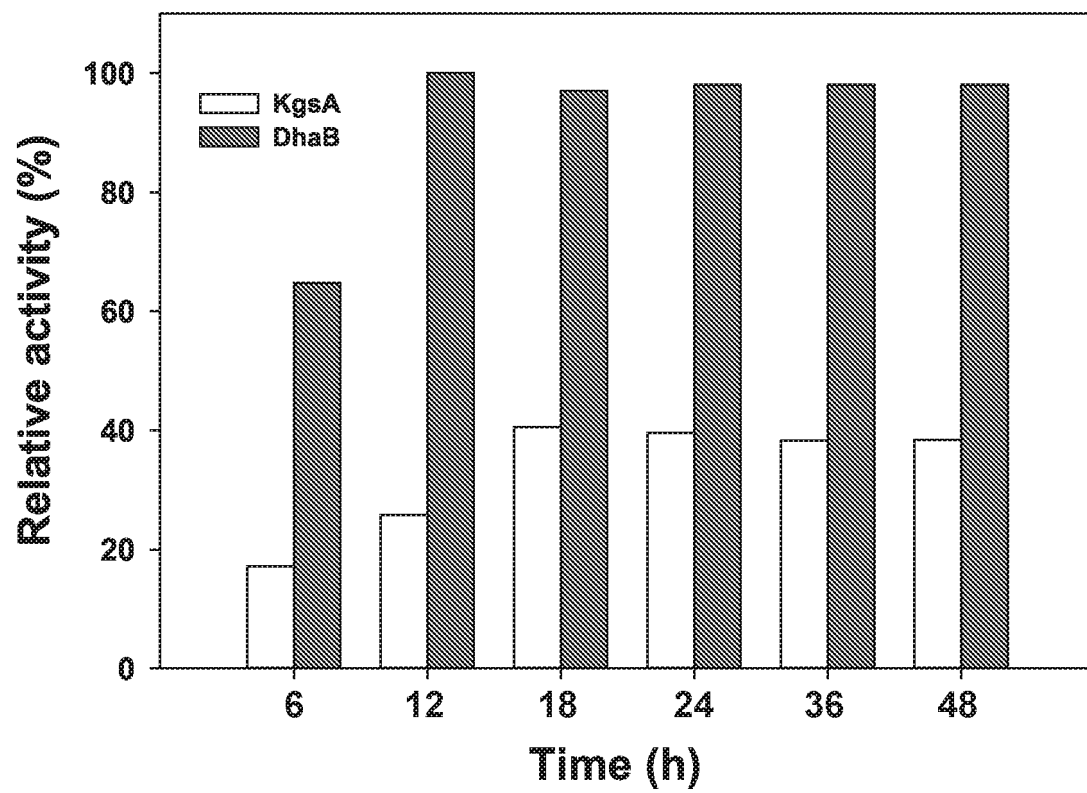


FIG. 52

**FIG. 53**

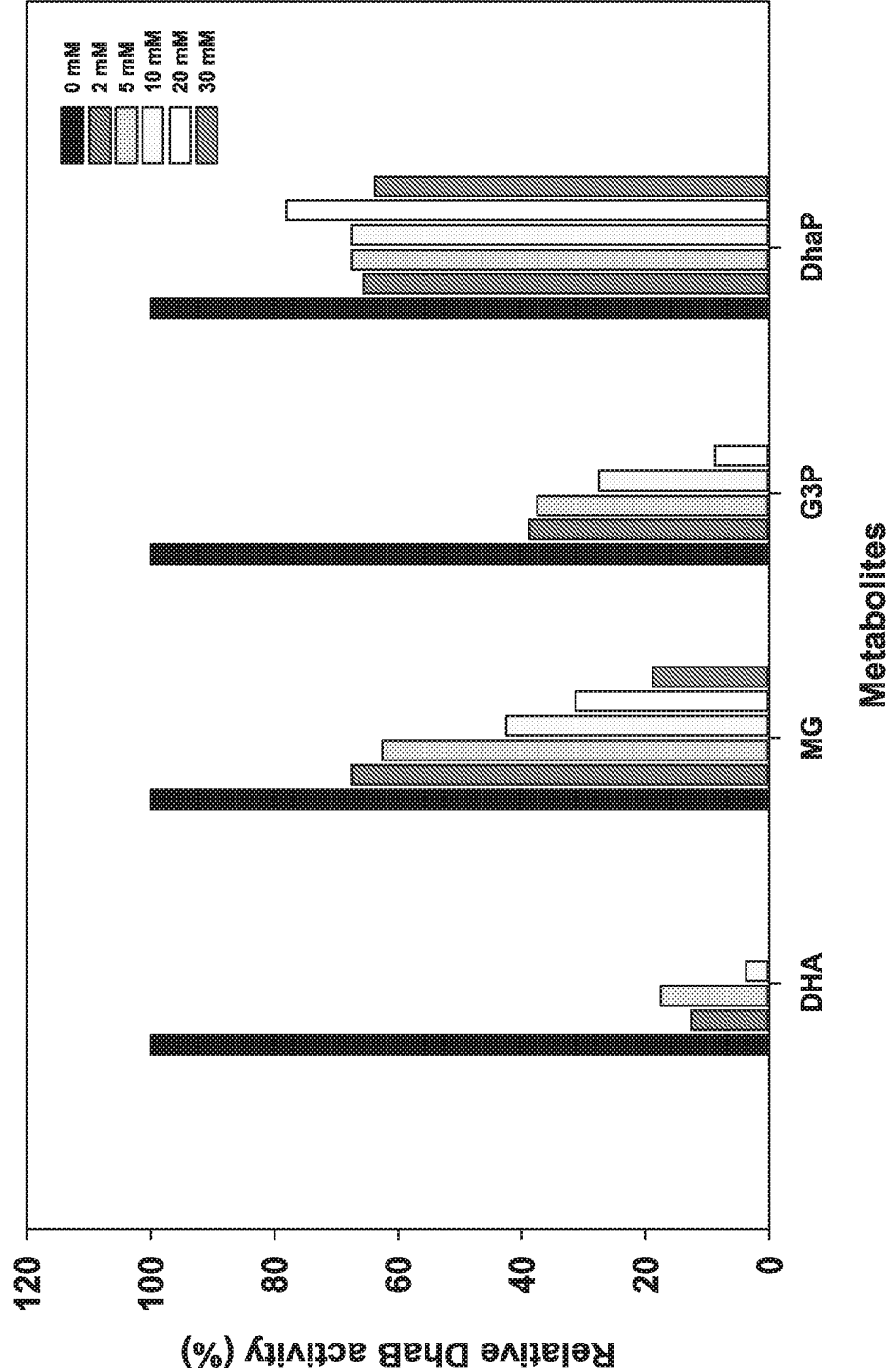


FIG. 54

FIG. 55A

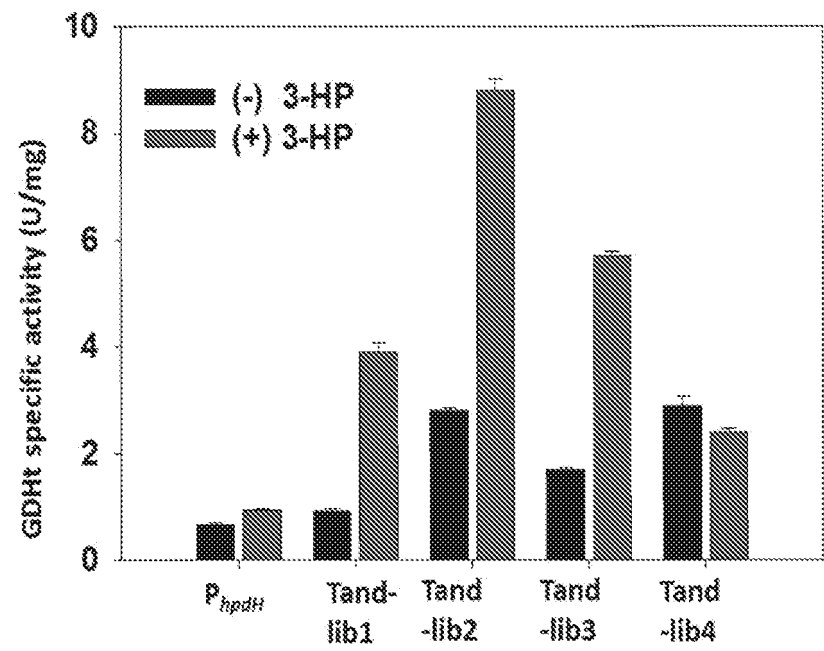
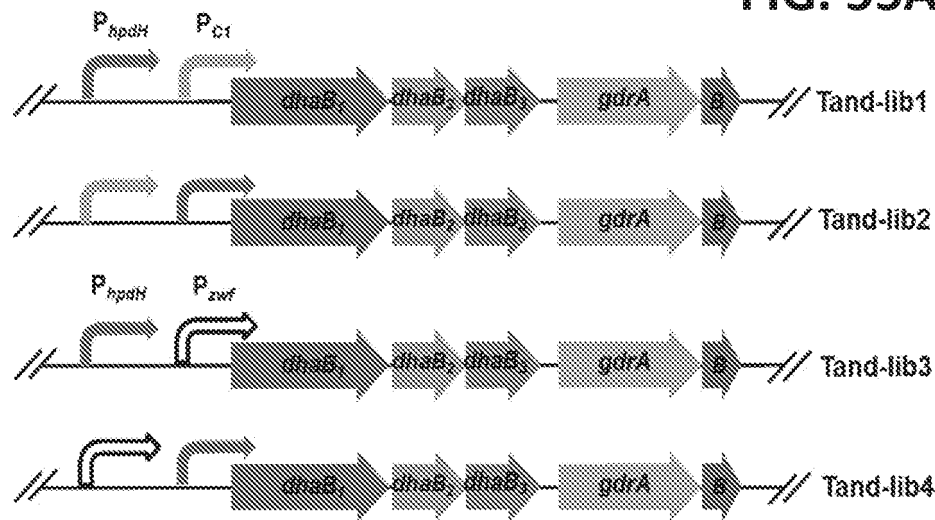
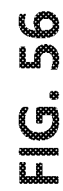


FIG. 55B



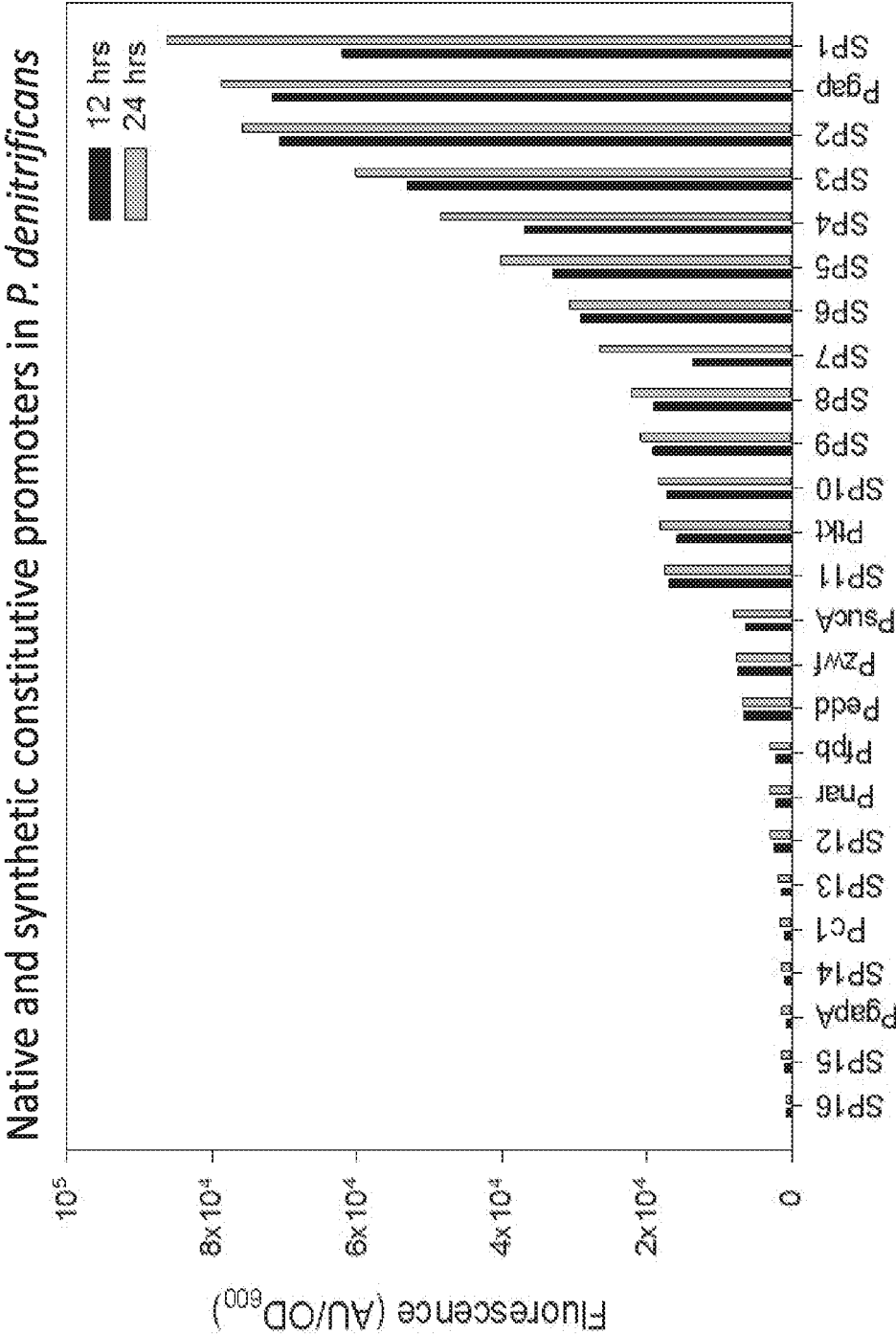


FIG. 57

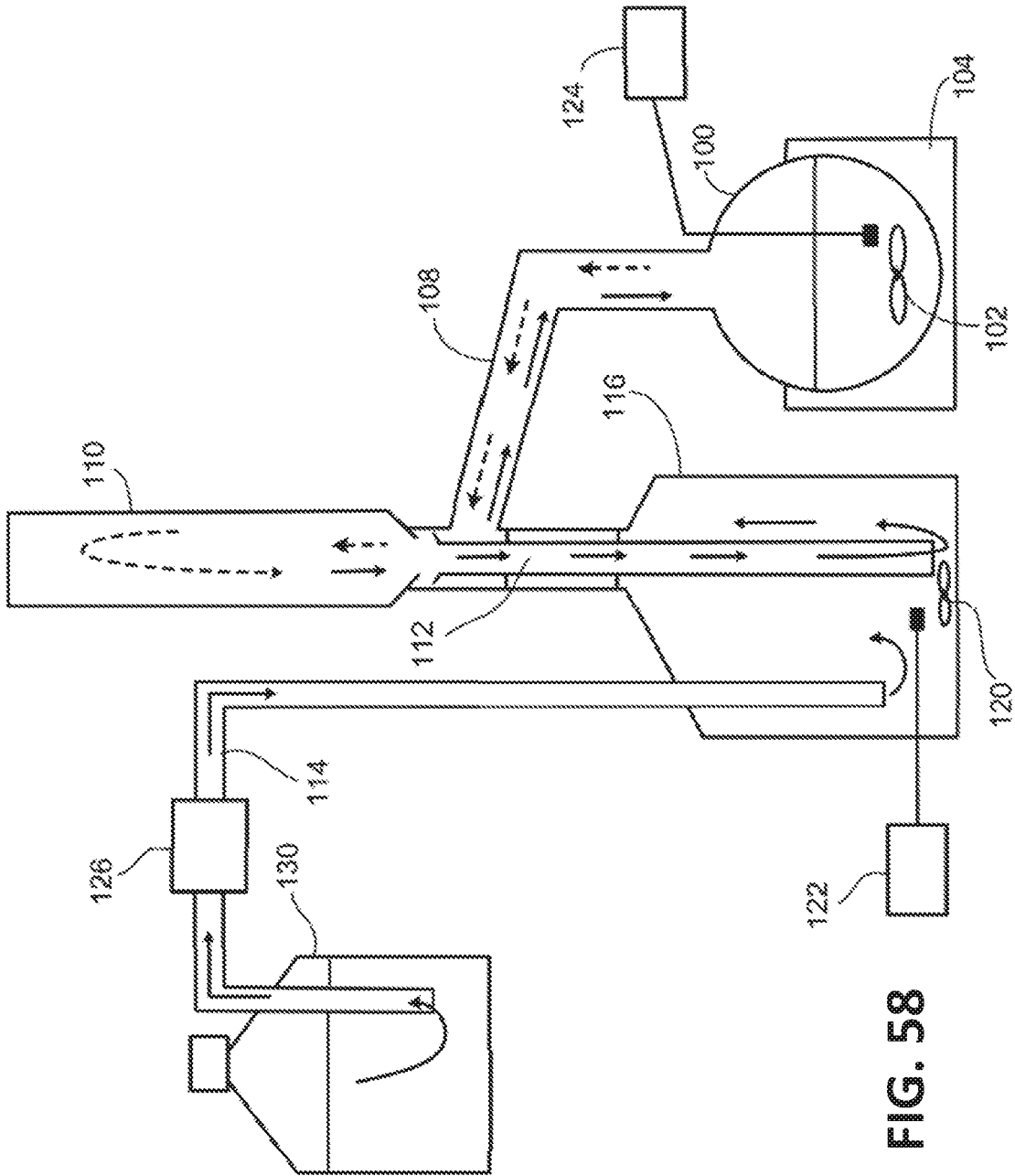


FIG. 58

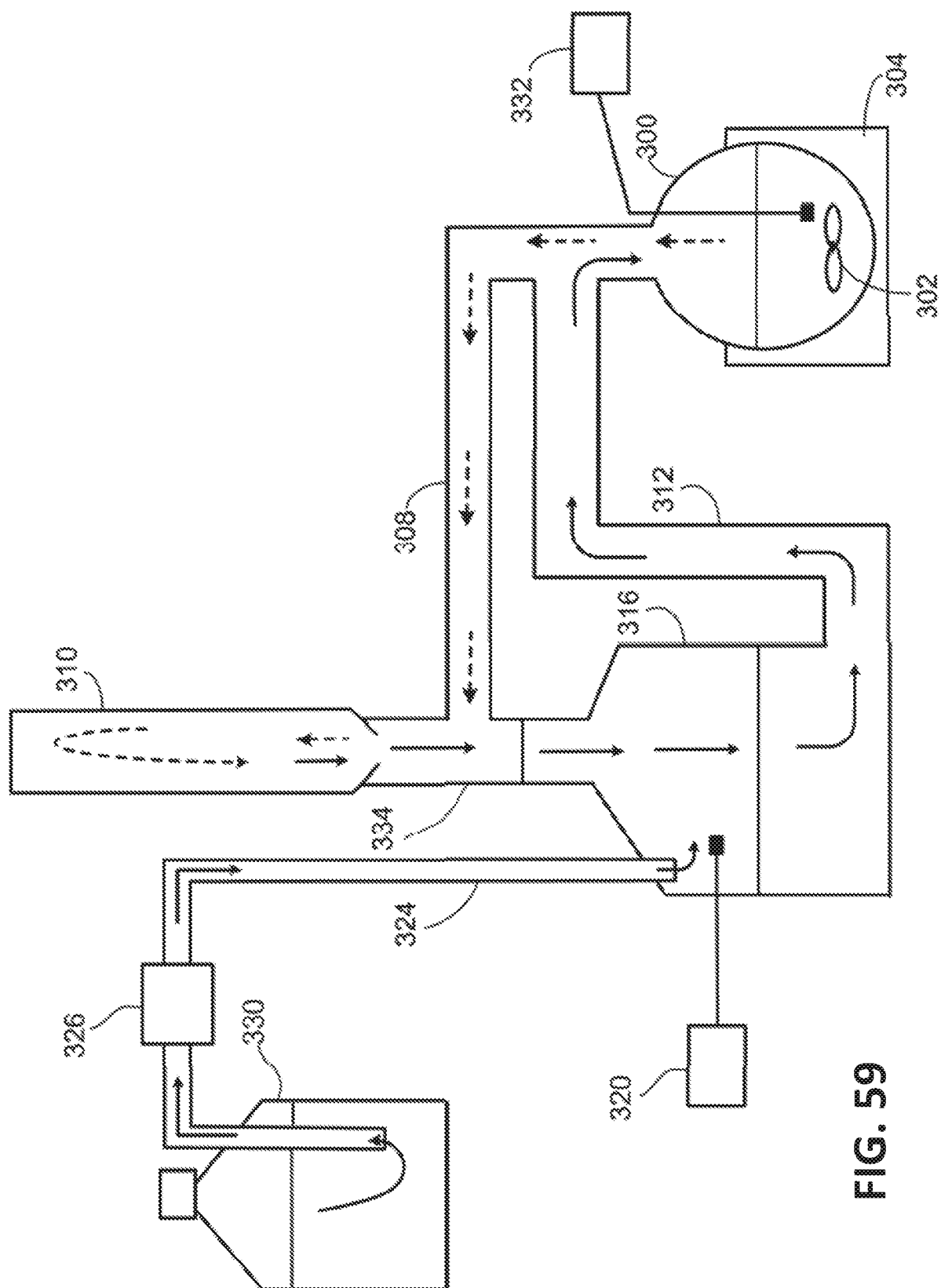


FIG. 59

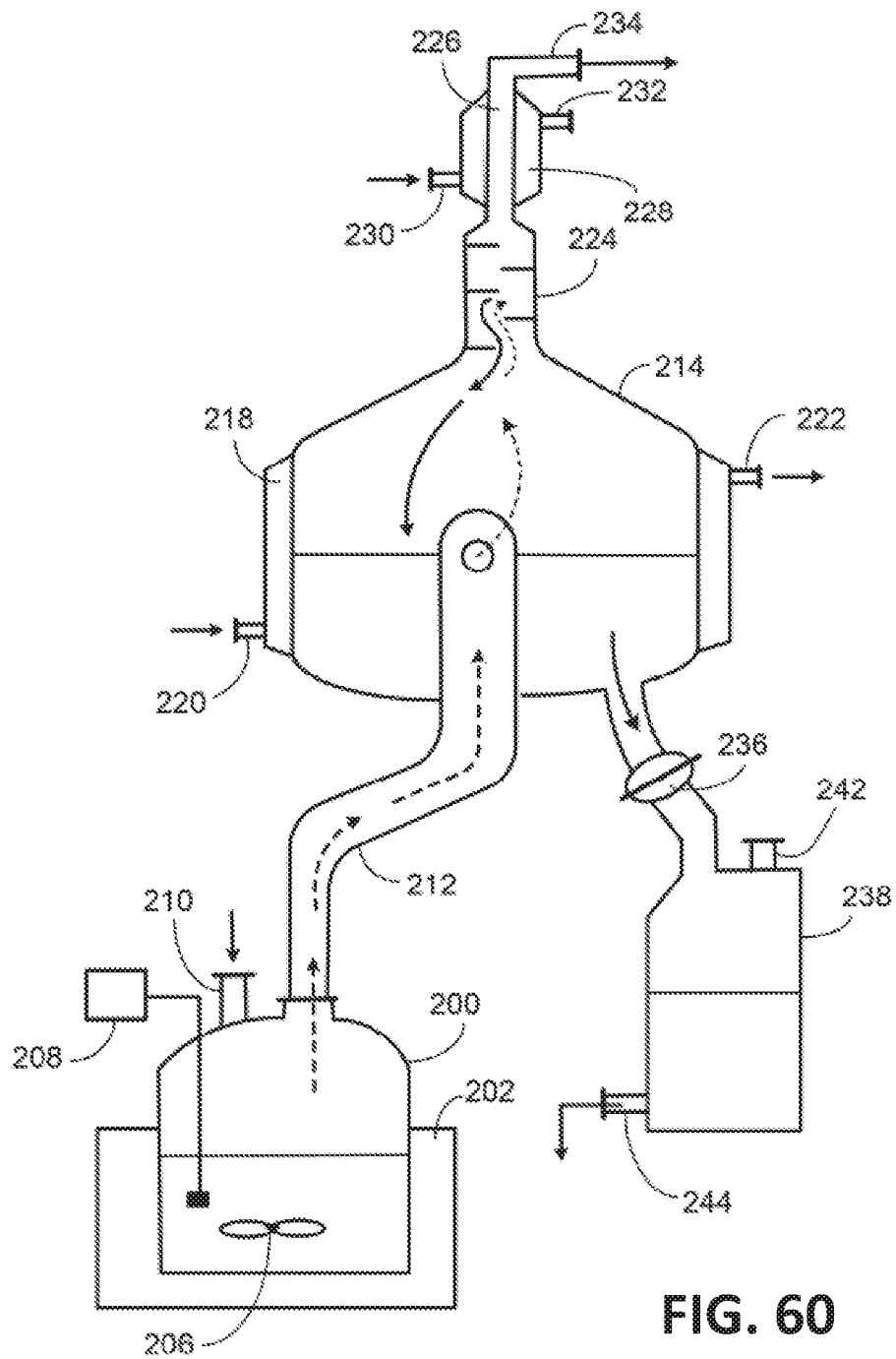


FIG. 60

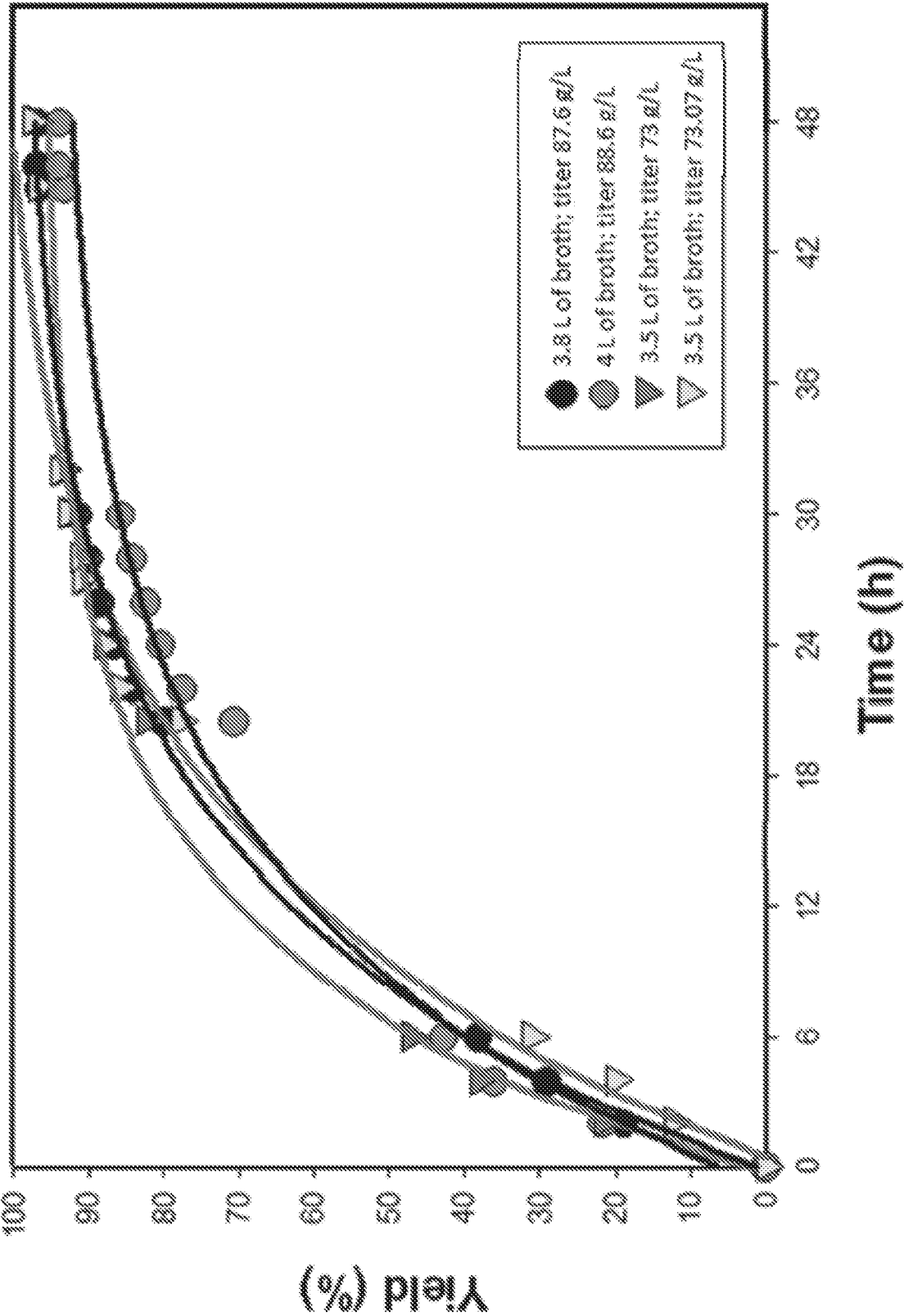


FIG. 61