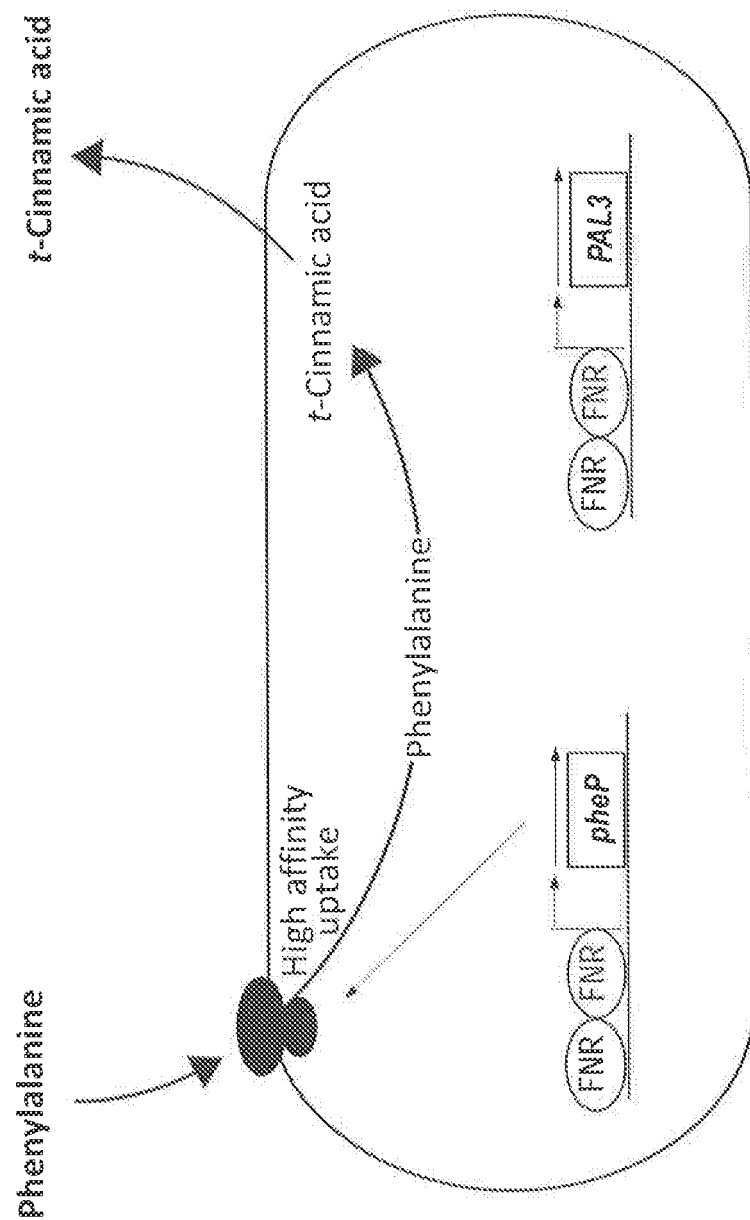




PAL = Phenylalanine Ammonia Lyase
PheP = High Affinity Phenylalanine Transporter

Fig. 1

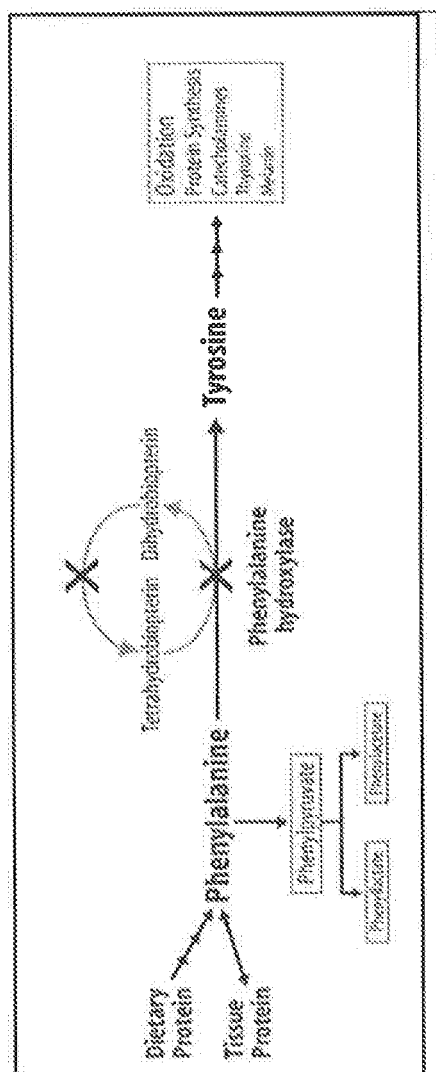


Fig. 2A

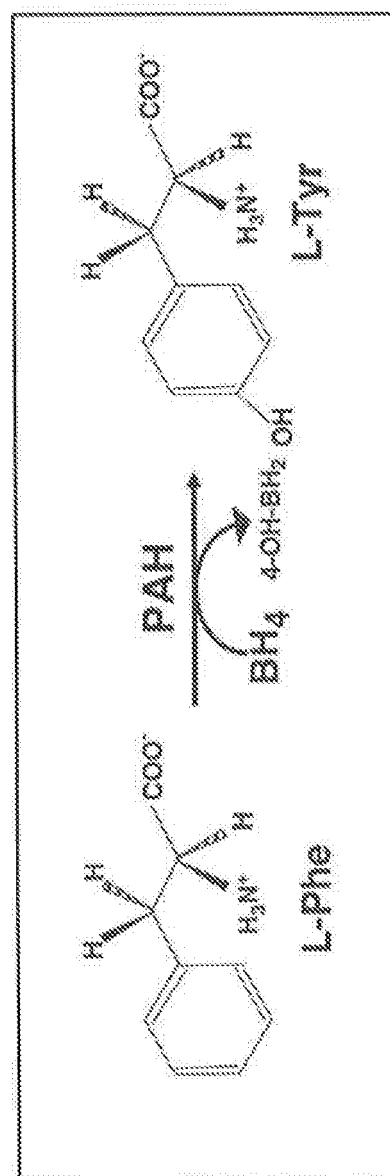


Fig. 2B

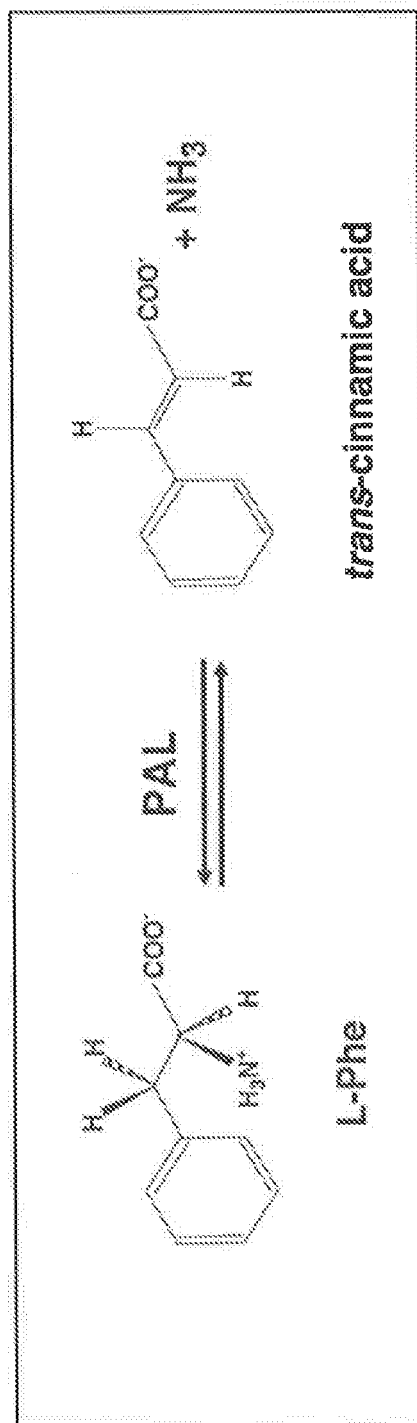


Fig. 2C

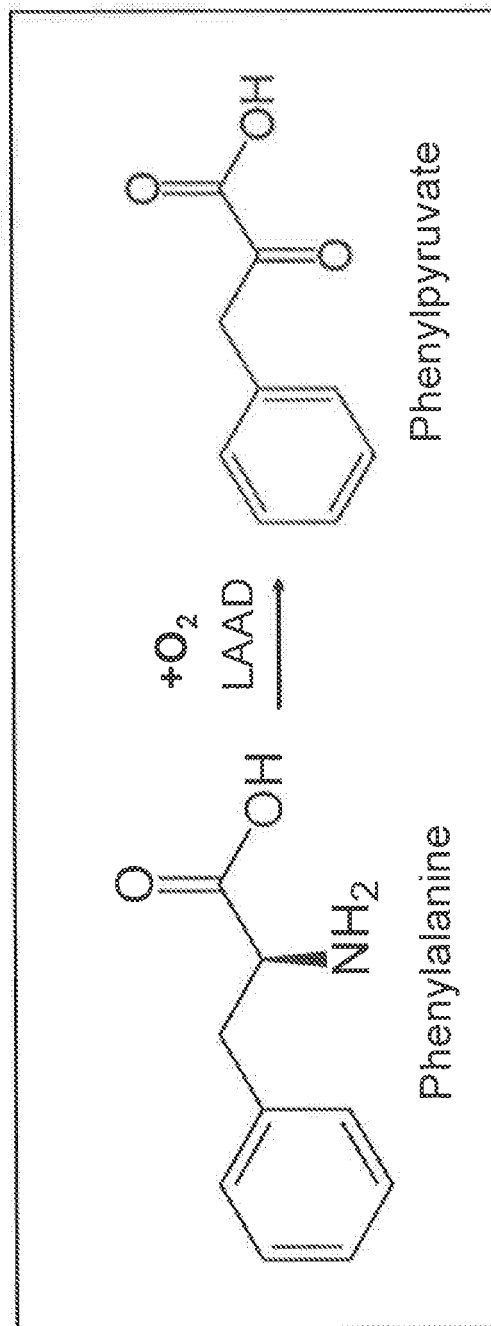
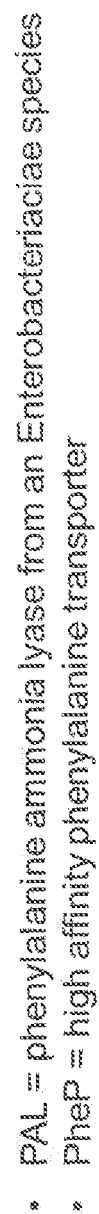


Fig. 2D



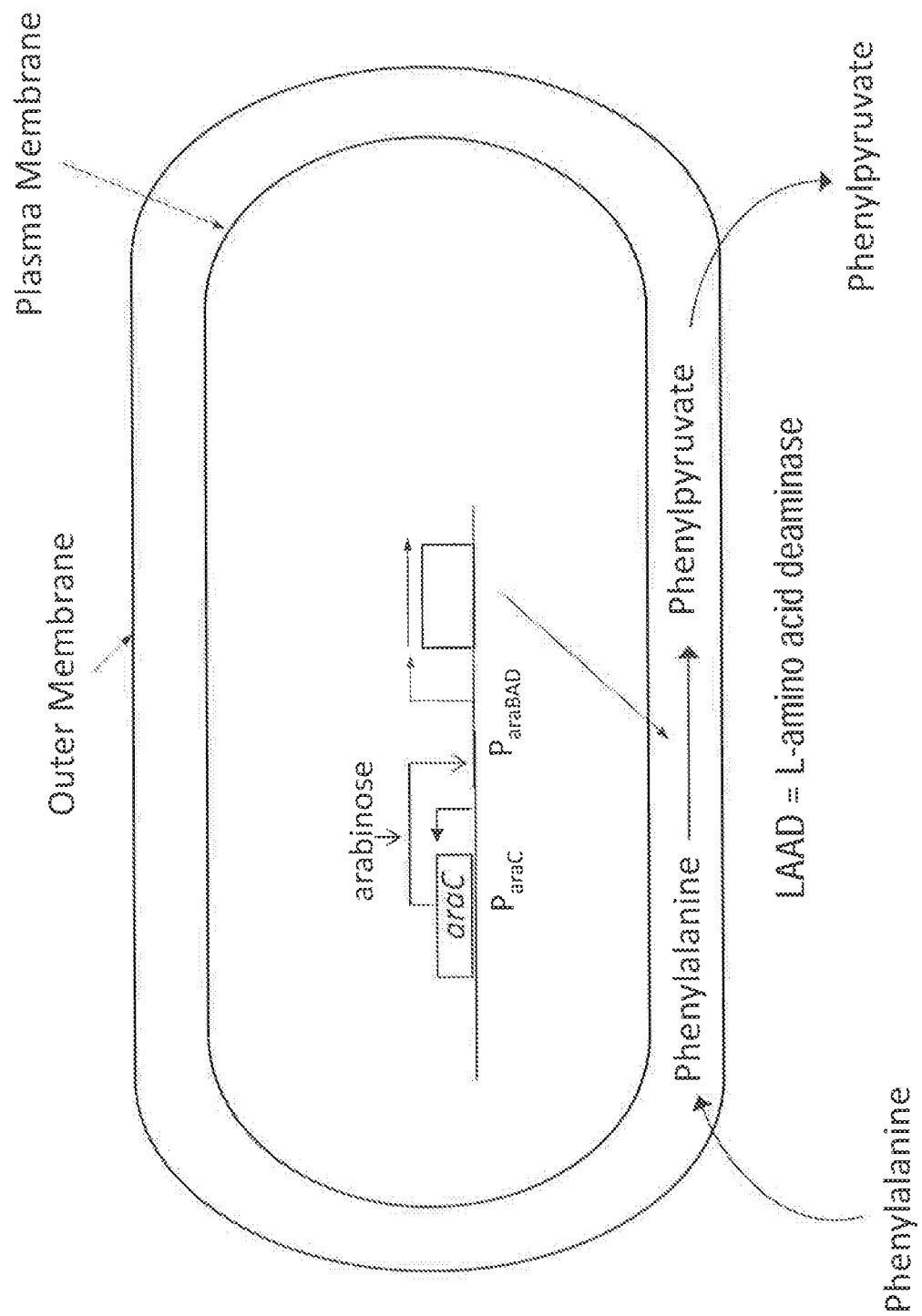


Fig. 4

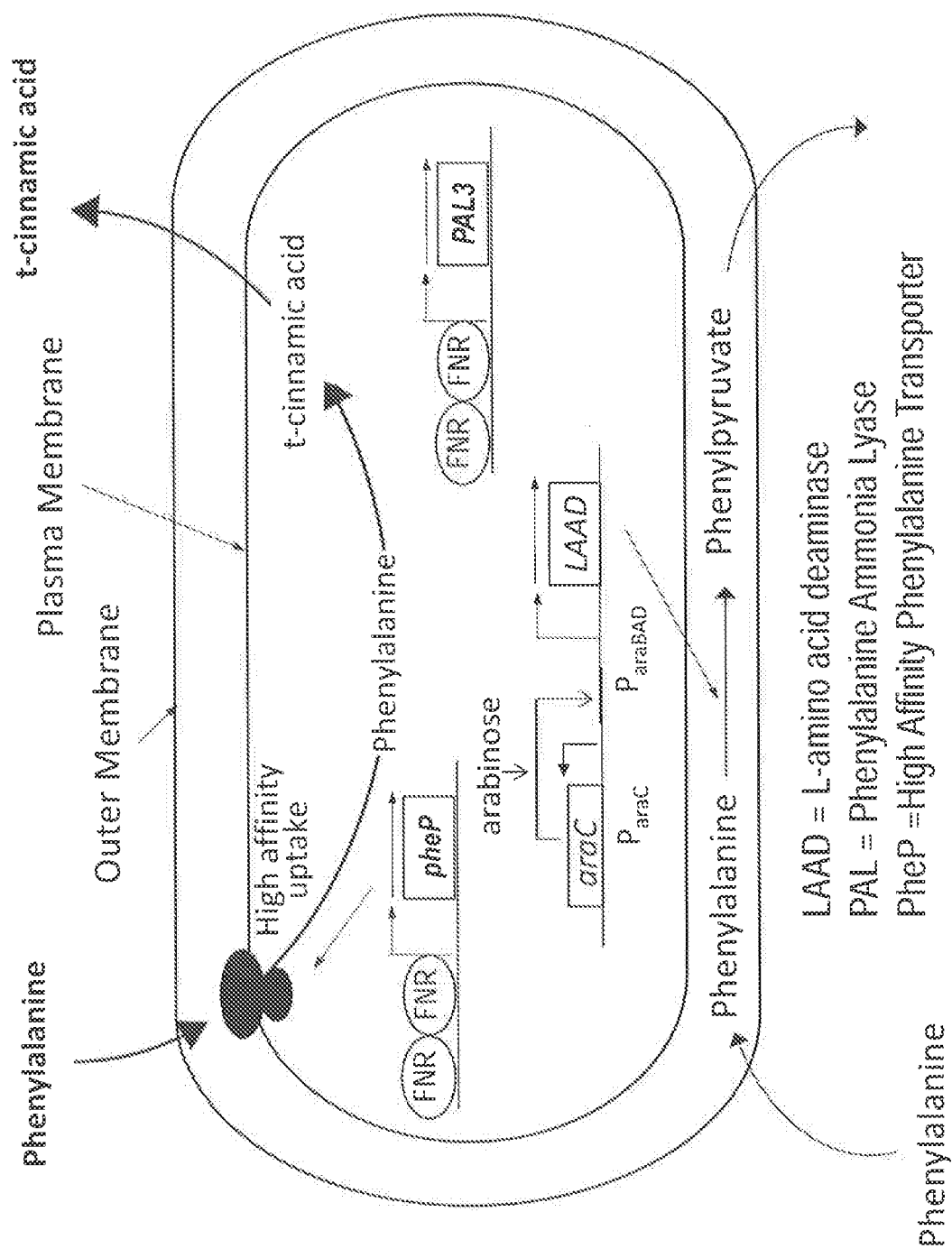
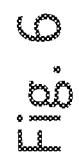


Fig. 5



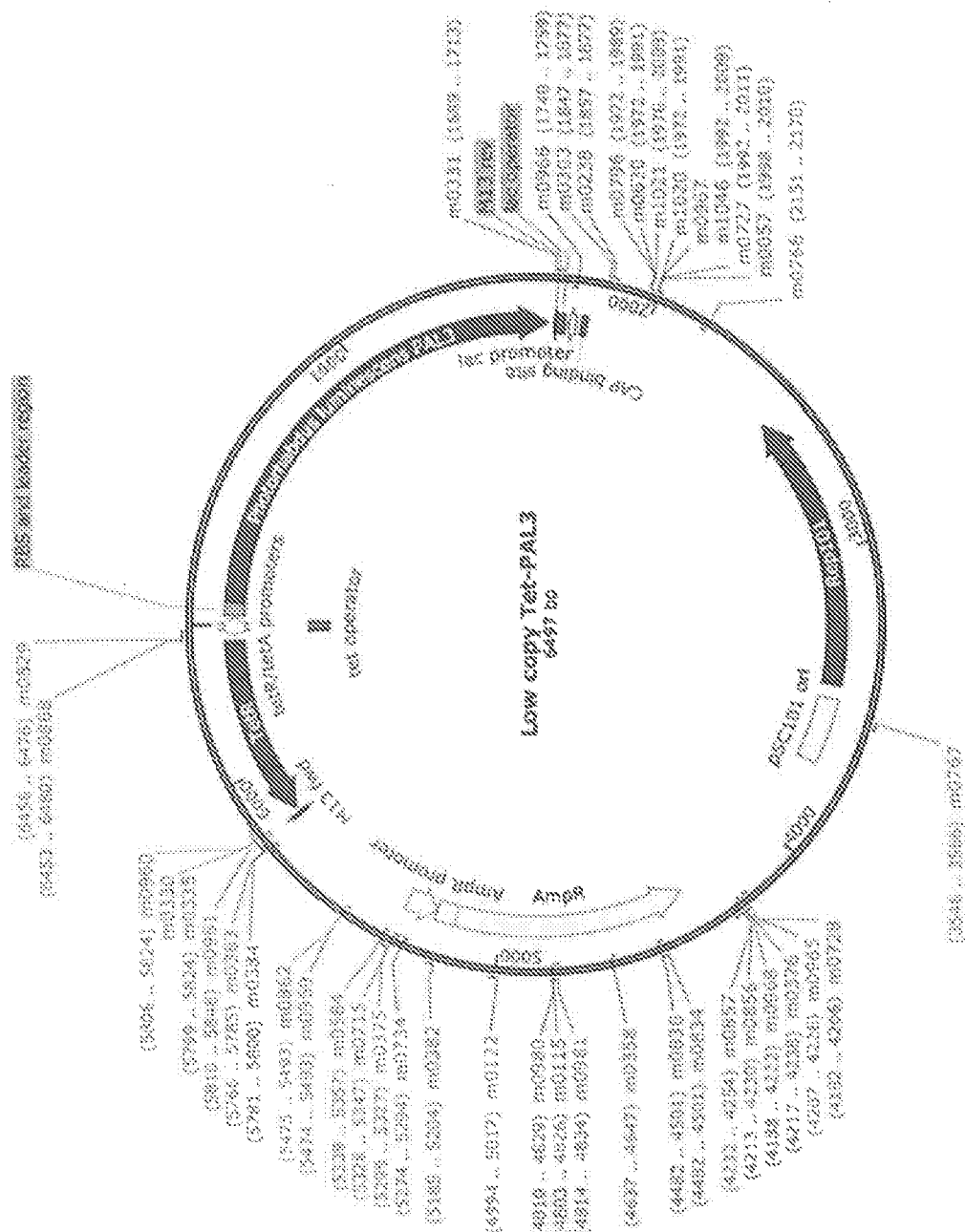


Fig. 8

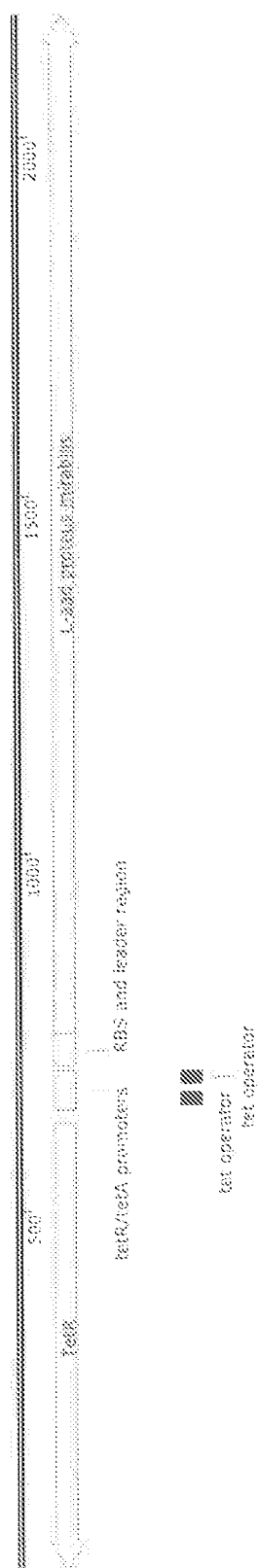


Fig. 9

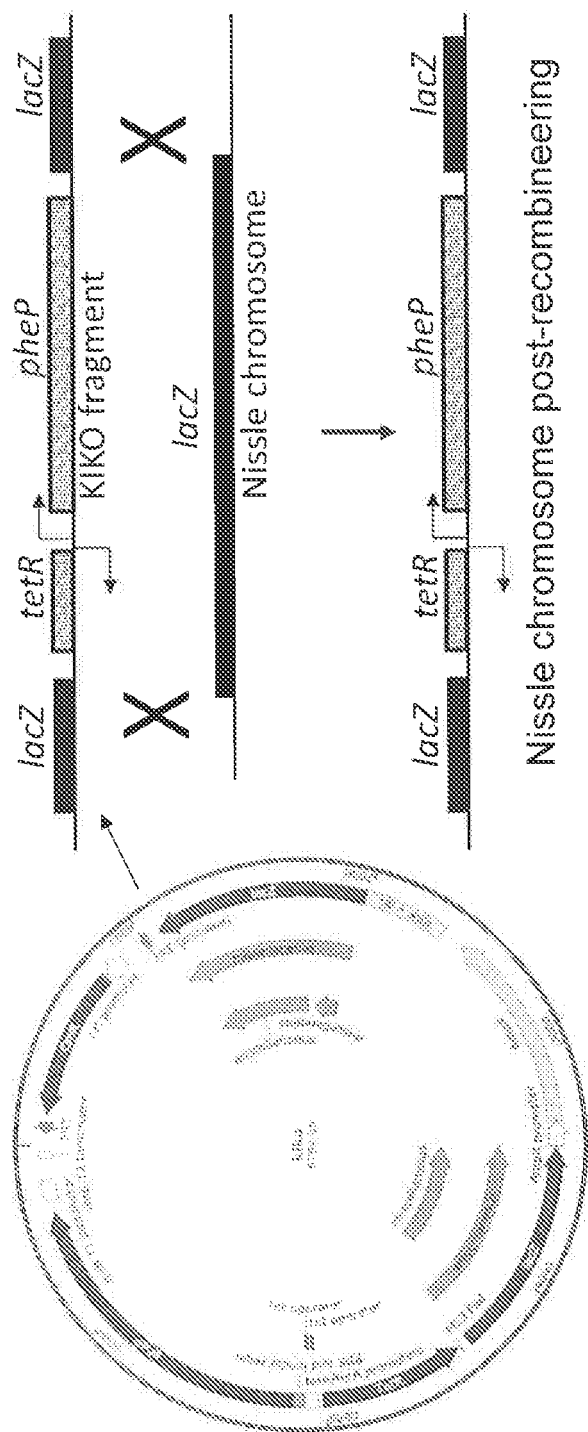
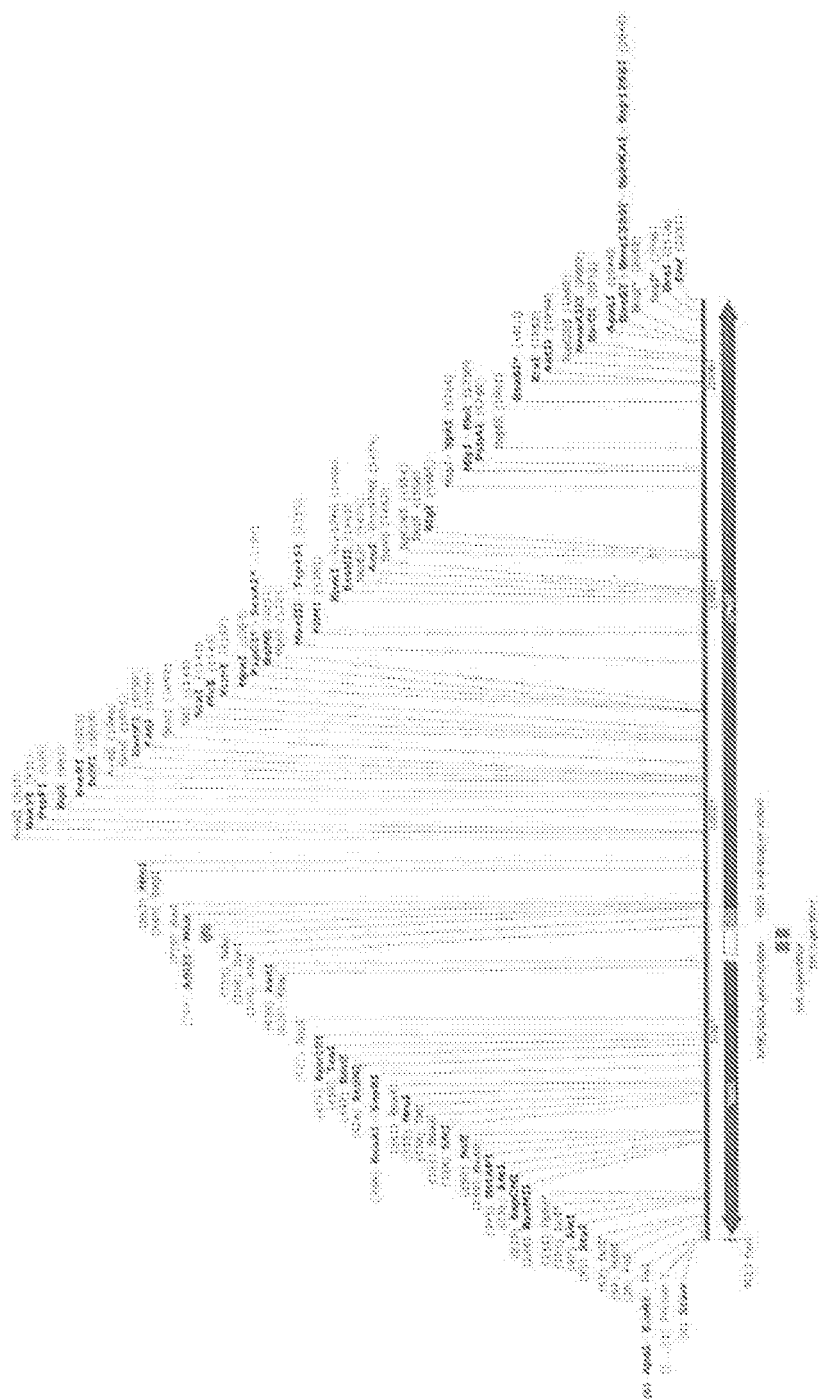


Fig. 10



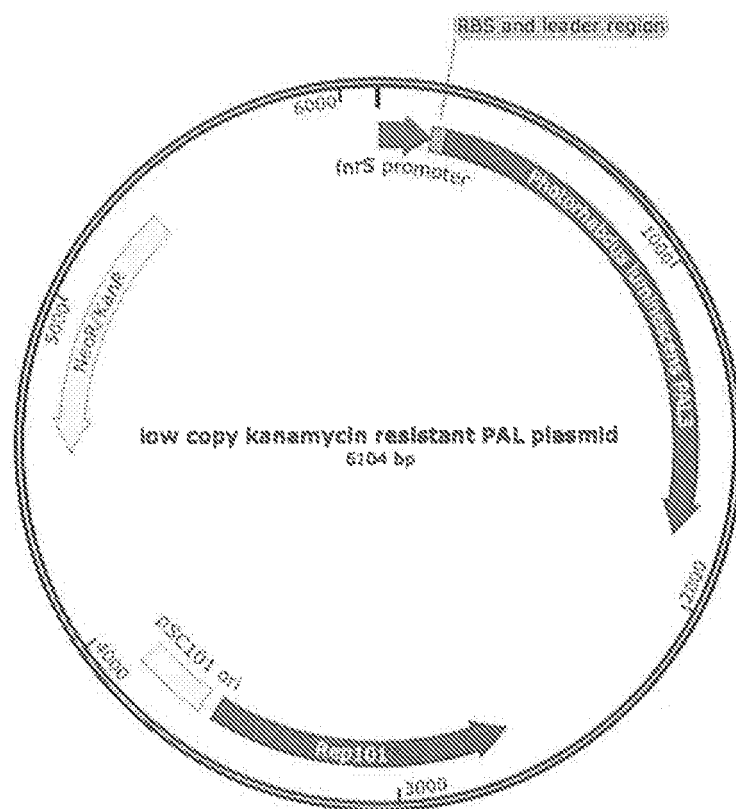


Fig. 12A

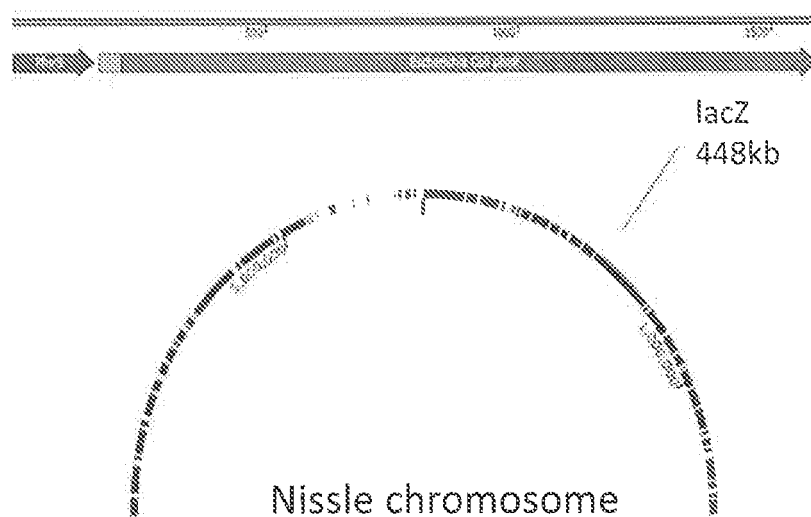


Fig. 12B

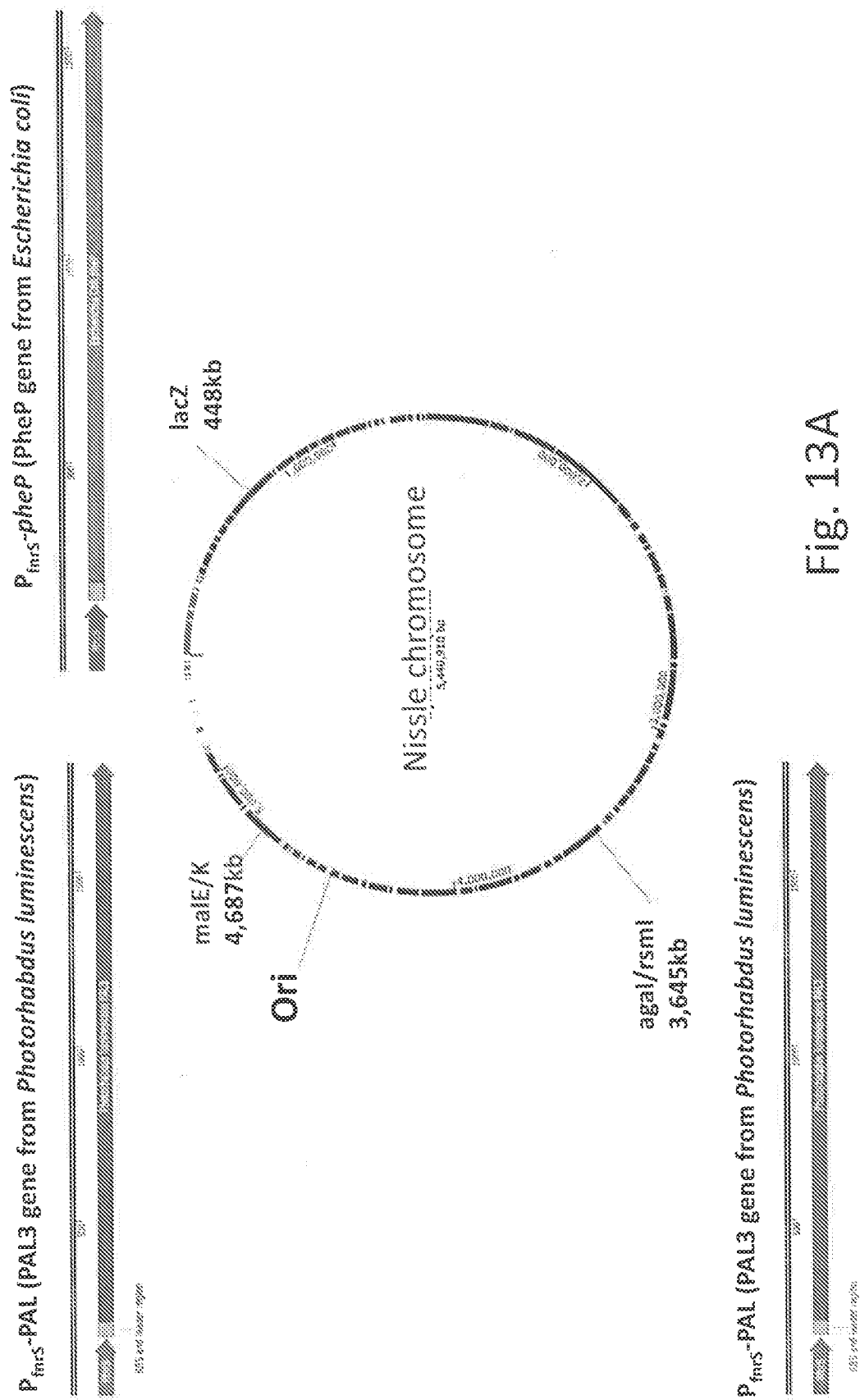


Fig. 13A

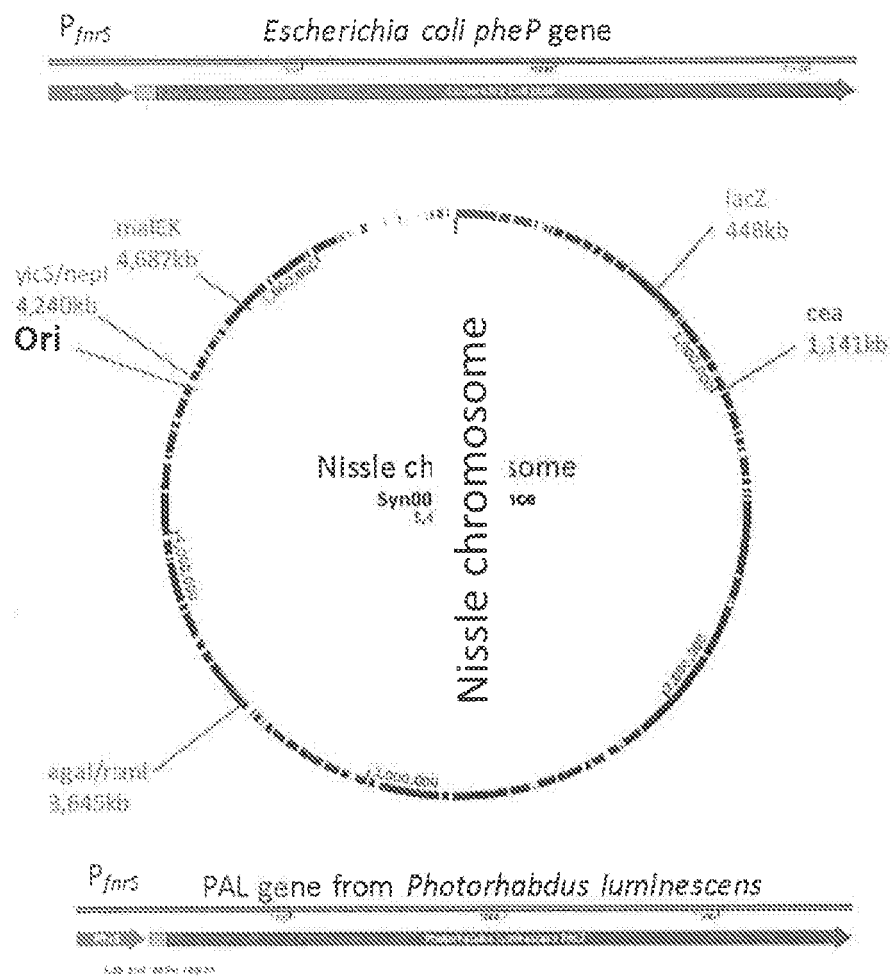


Fig. 13B

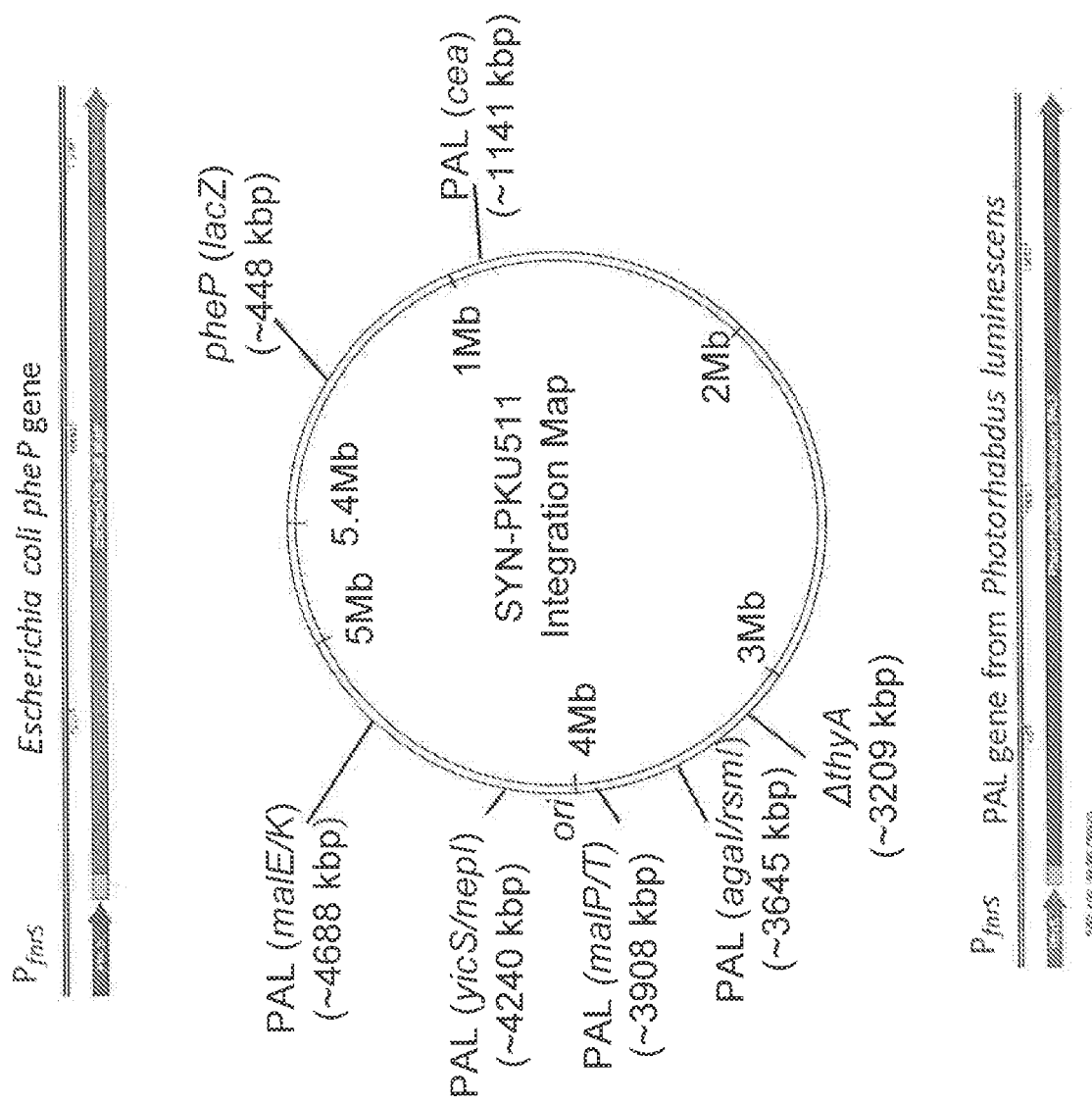


Fig. 13C

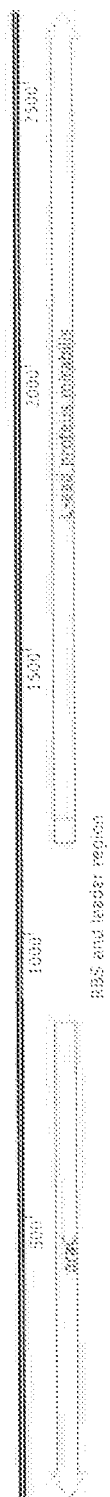


Fig. 14

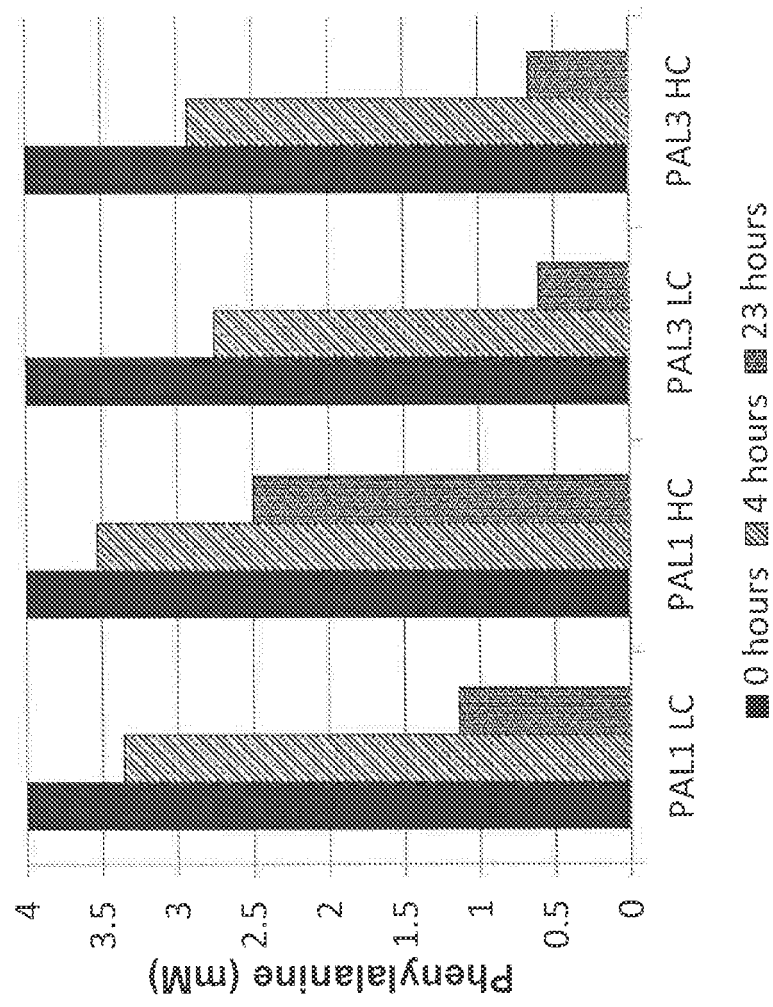


Fig. 15A

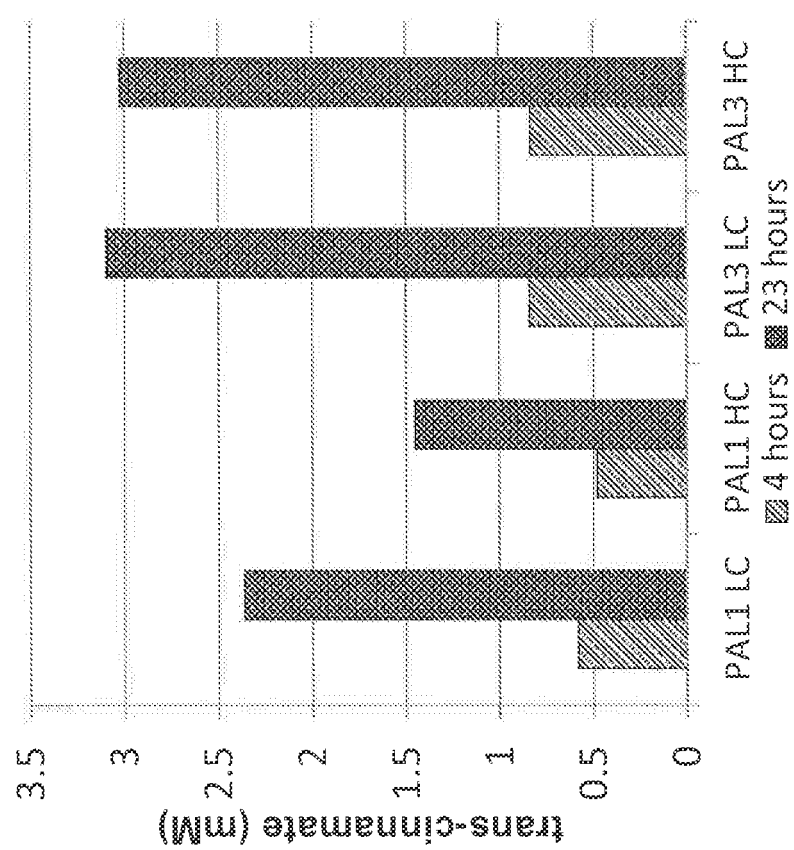


Fig. 15B

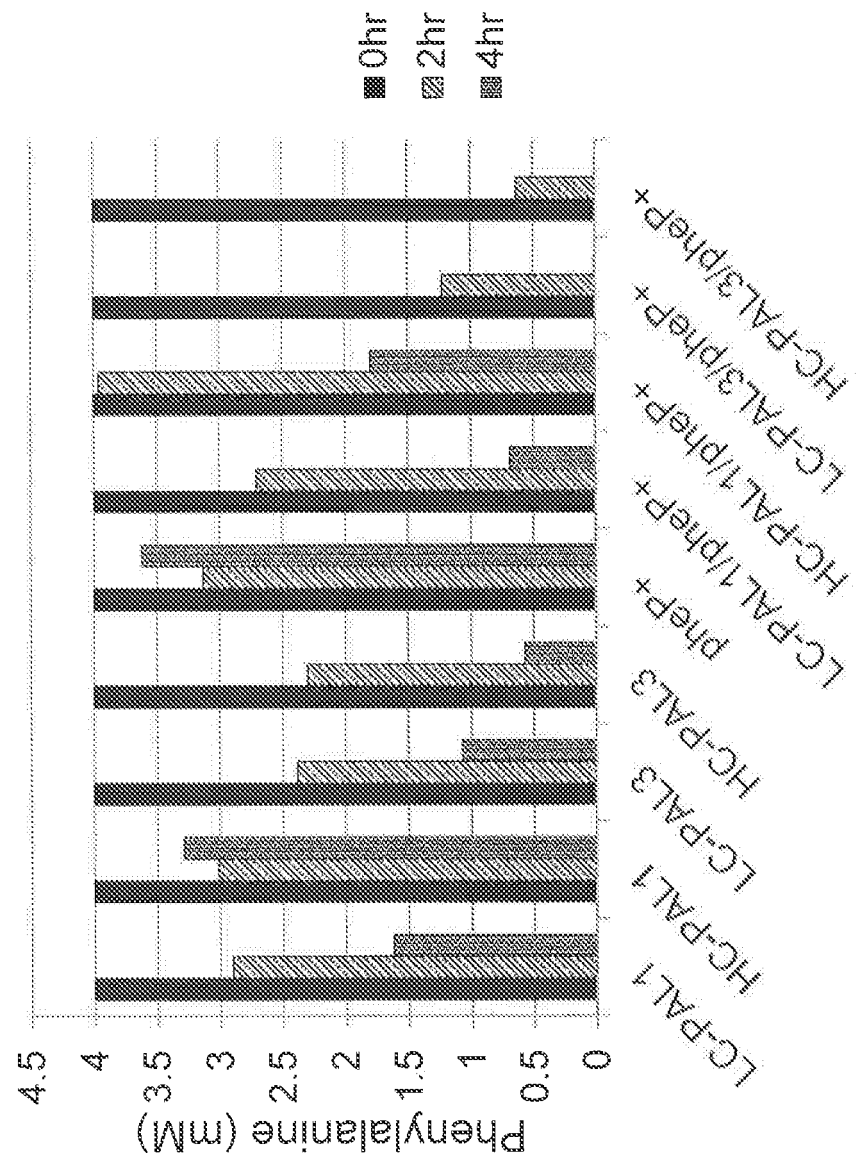


Fig. 16A

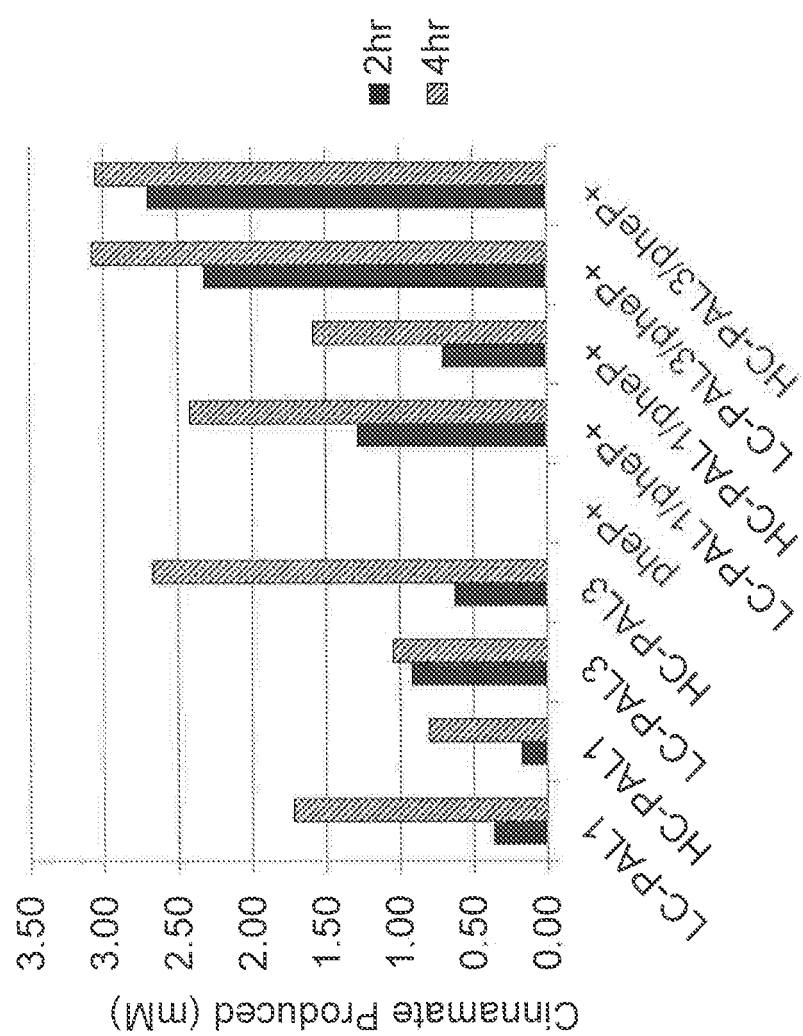


Fig. 16B

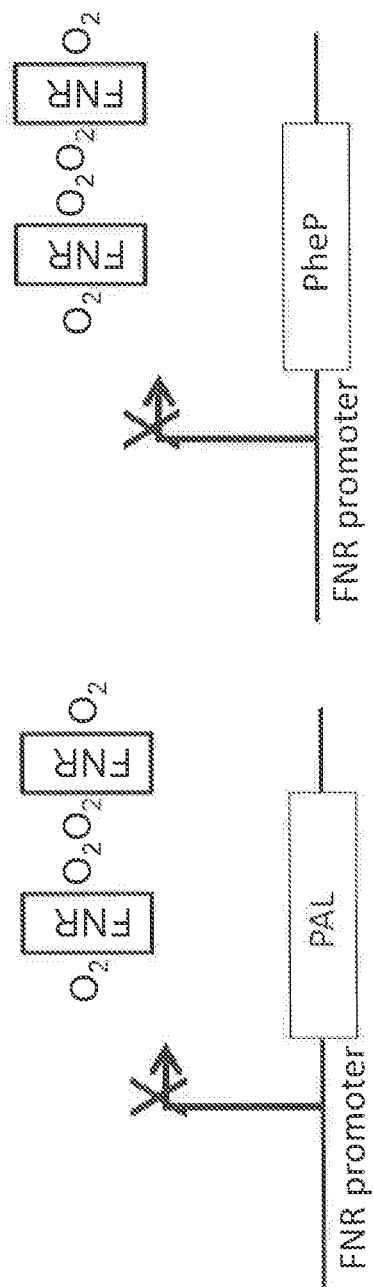


Fig. 17A

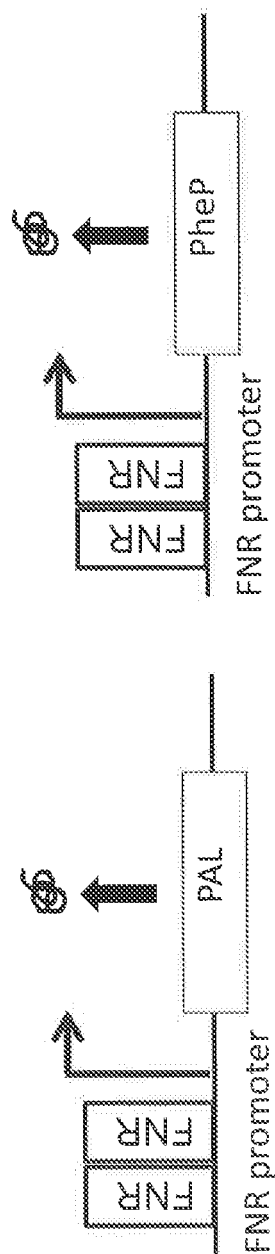


Fig. 17B

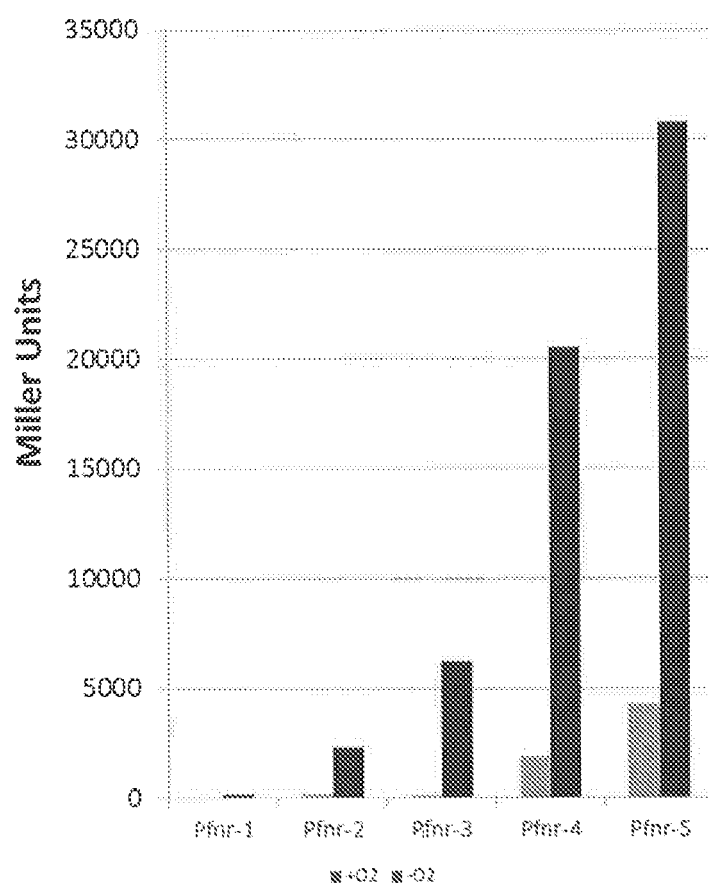


Fig. 18

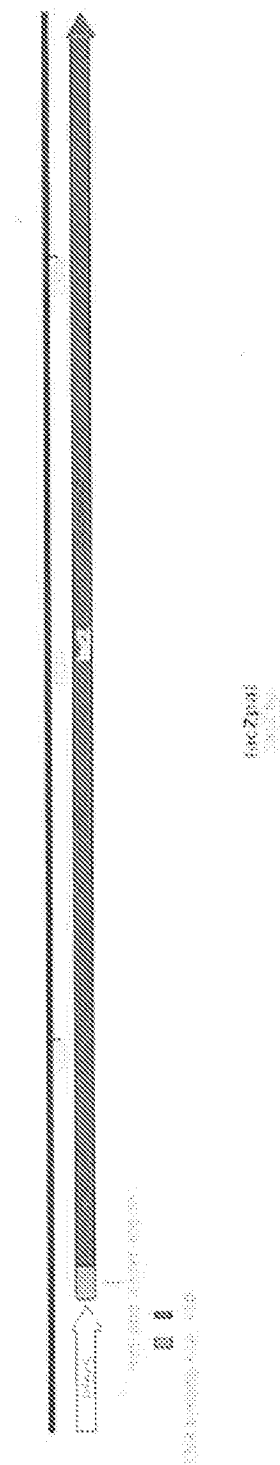


Fig. 19A

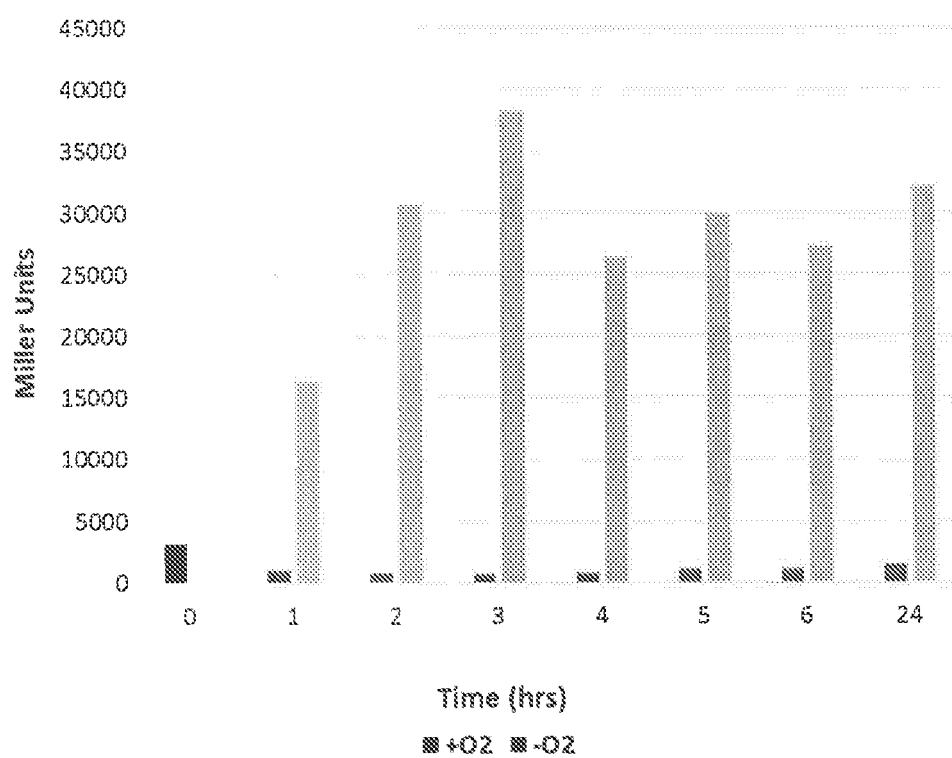


Fig. 19B

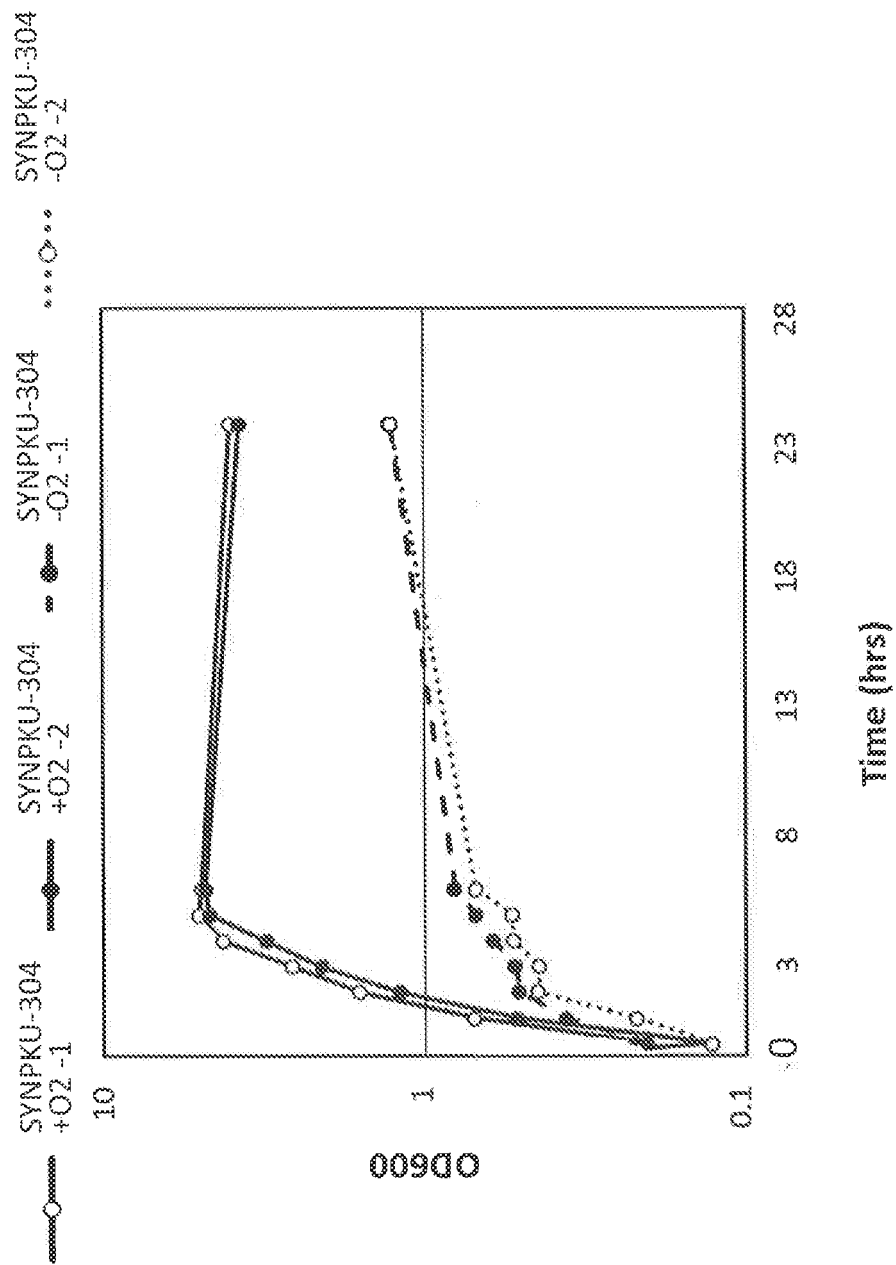


Fig. 19C

Aerobic

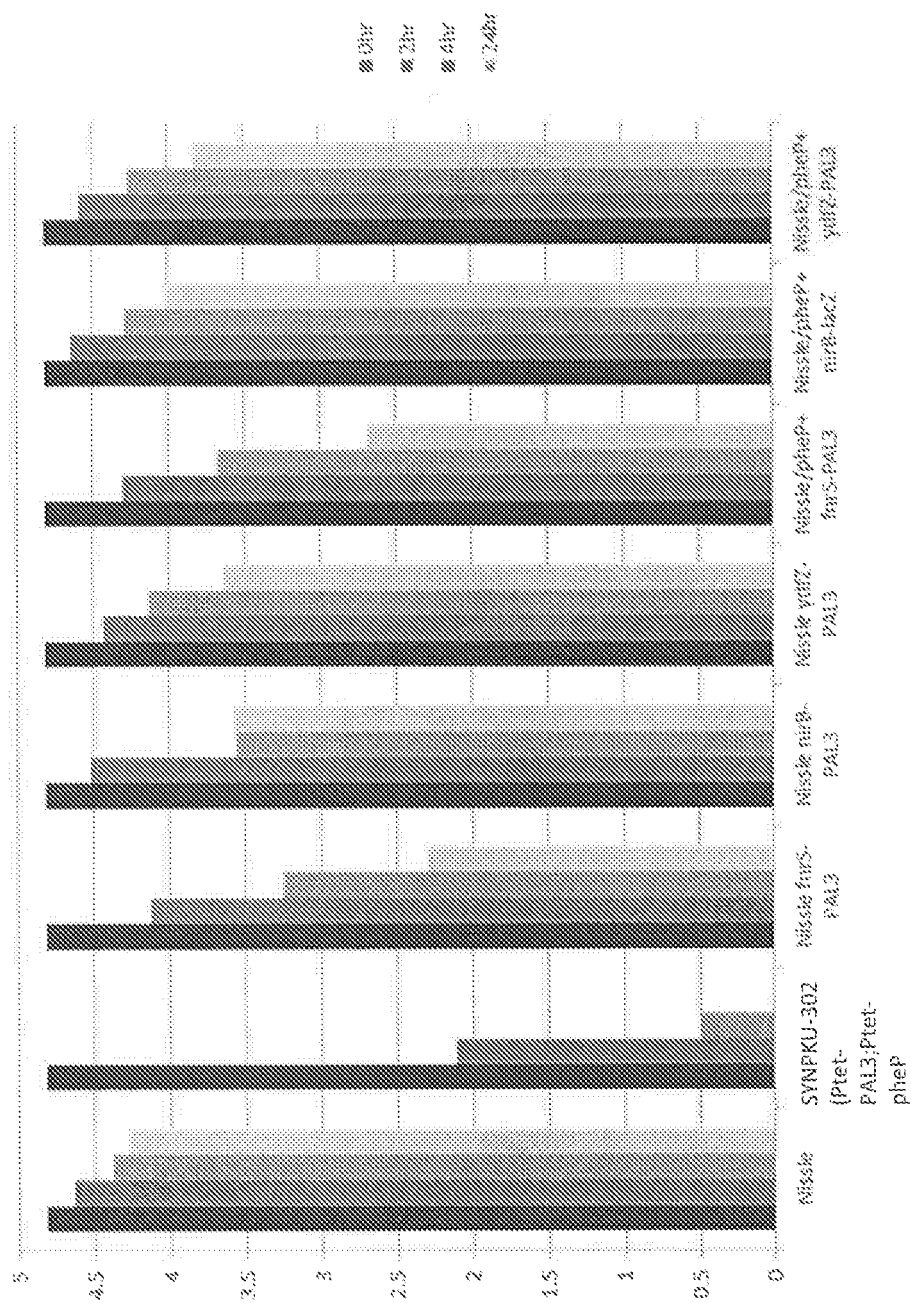


Fig. 20A

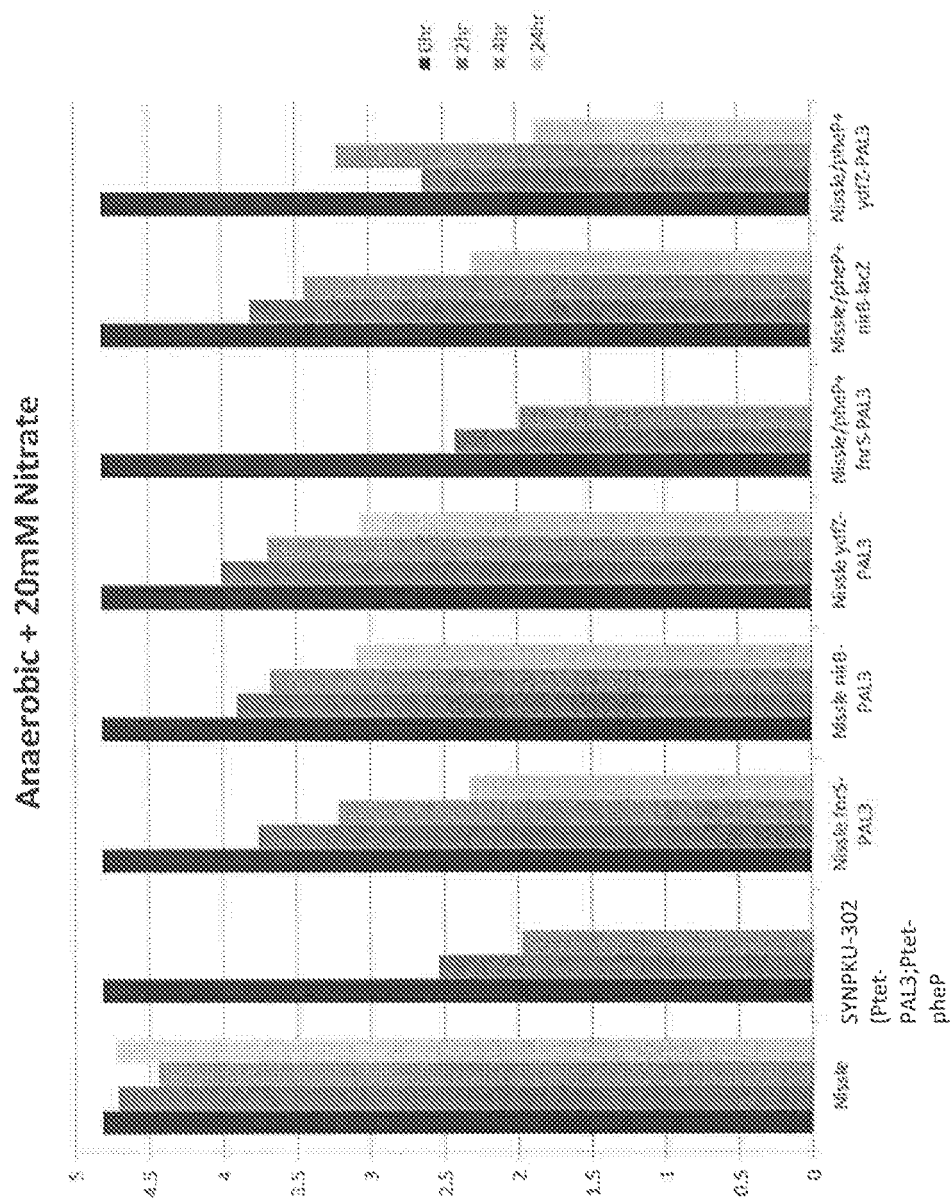


Fig. 20B

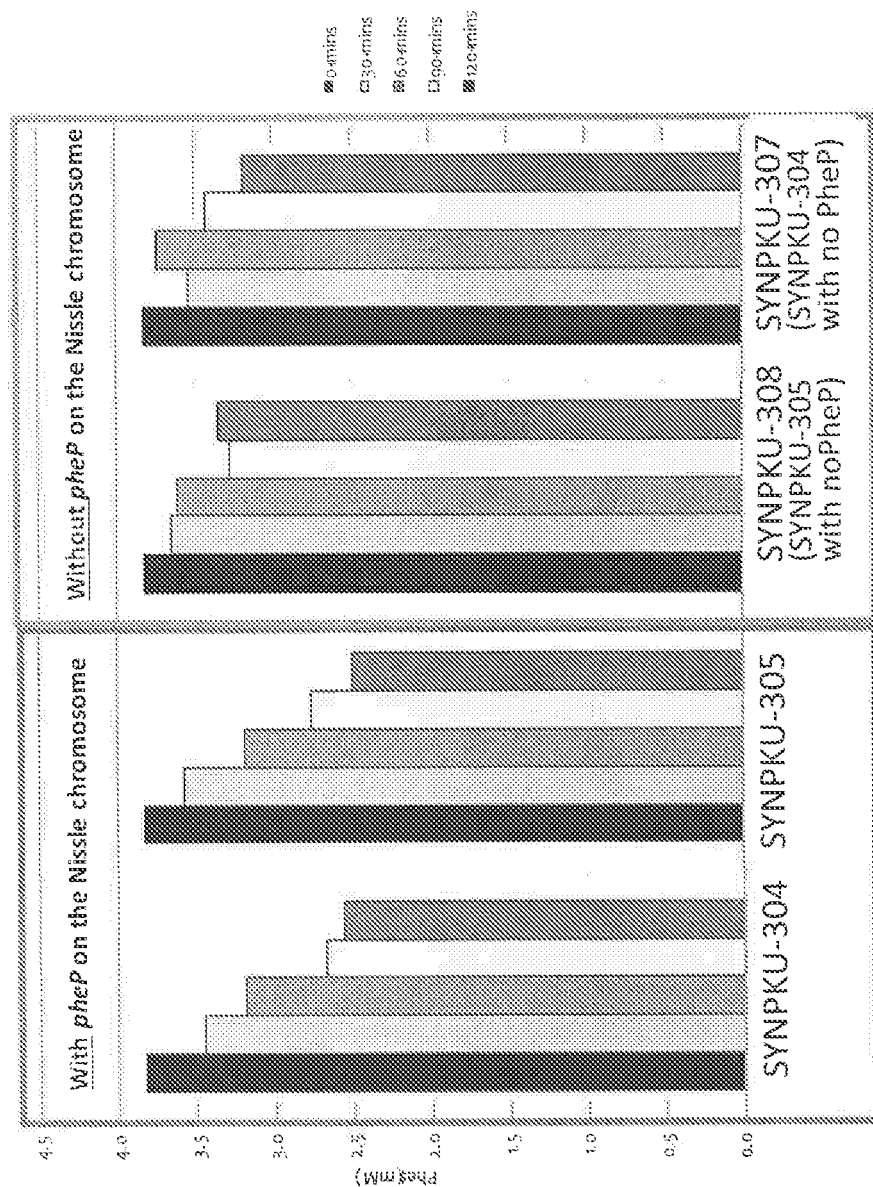


Fig. 21

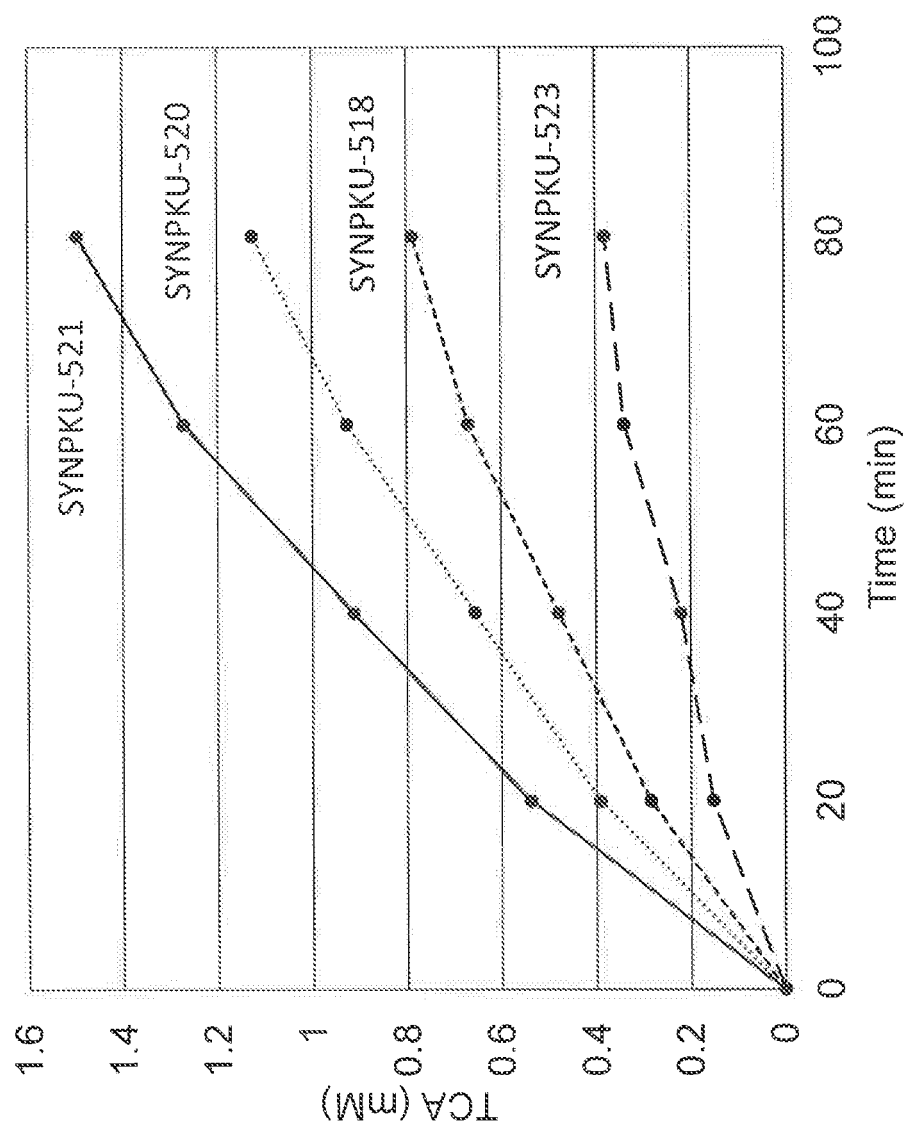


Fig. 22

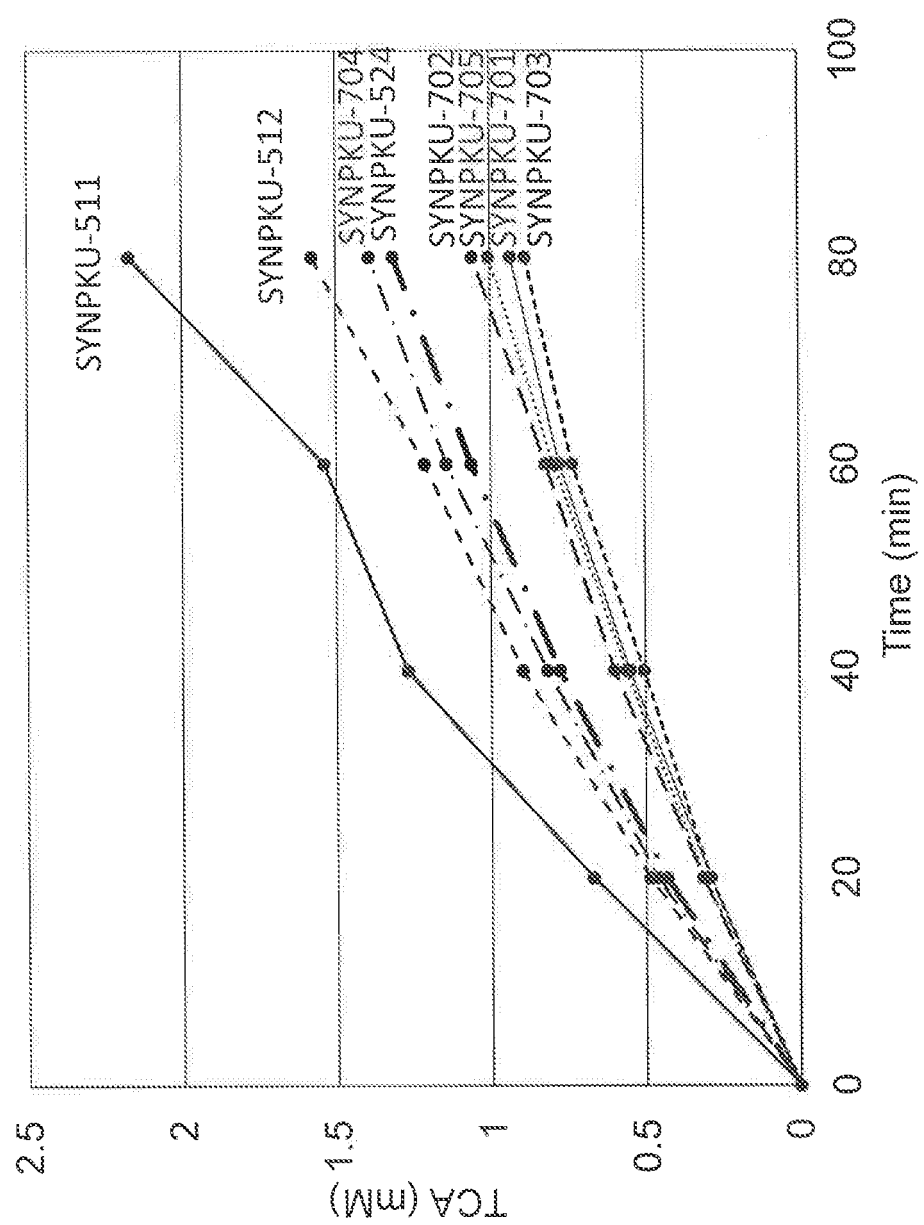


Fig. 23

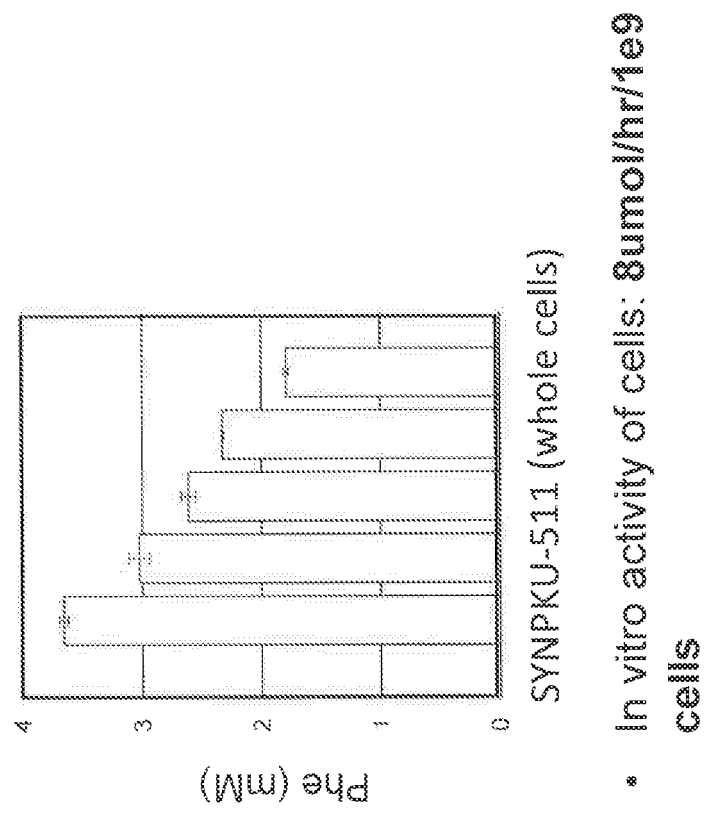


Fig. 24

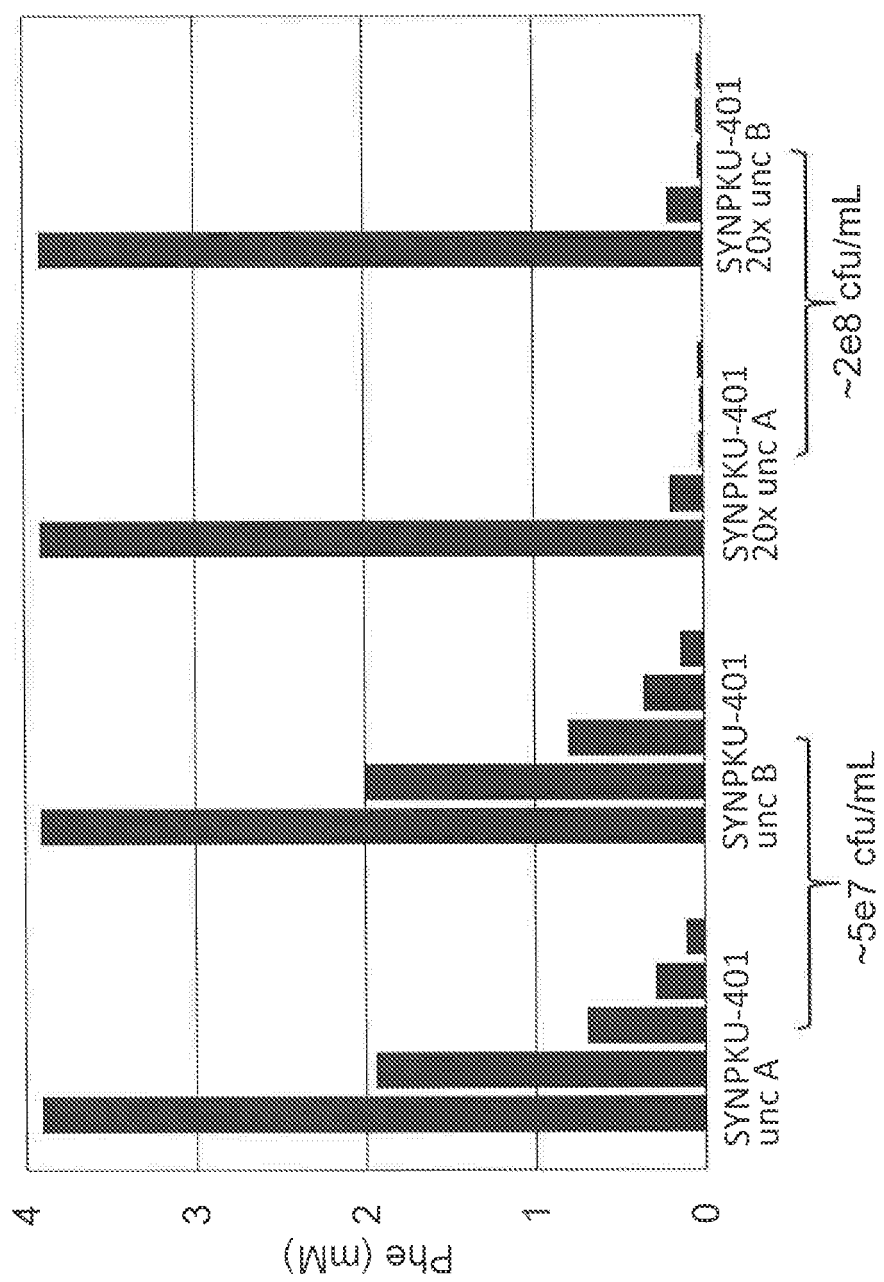


Fig. 25A

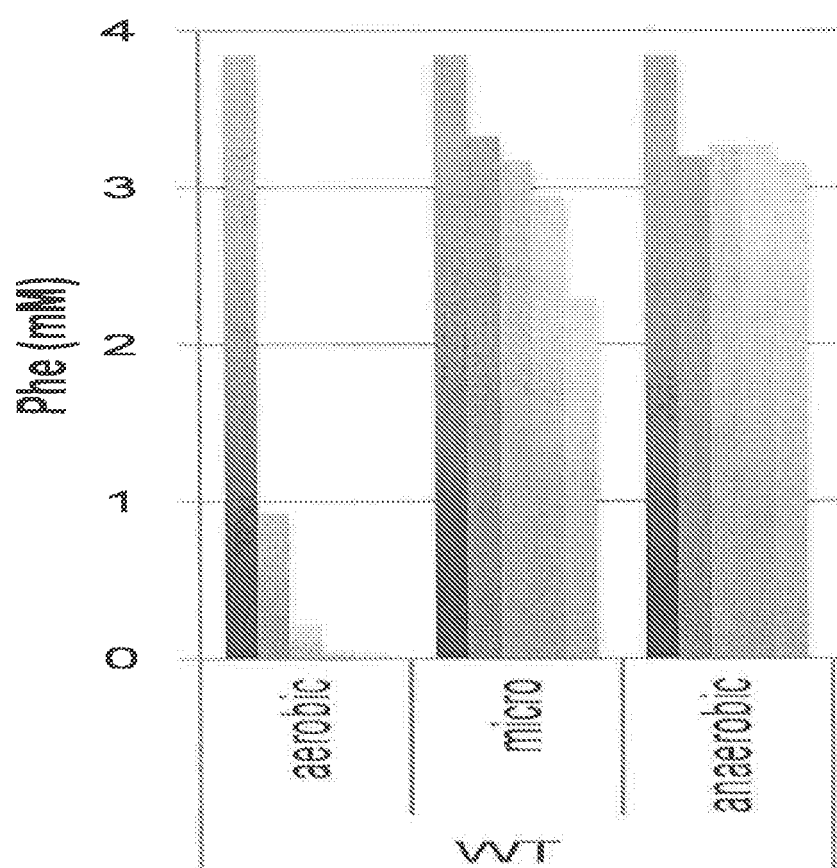


Fig. 25B

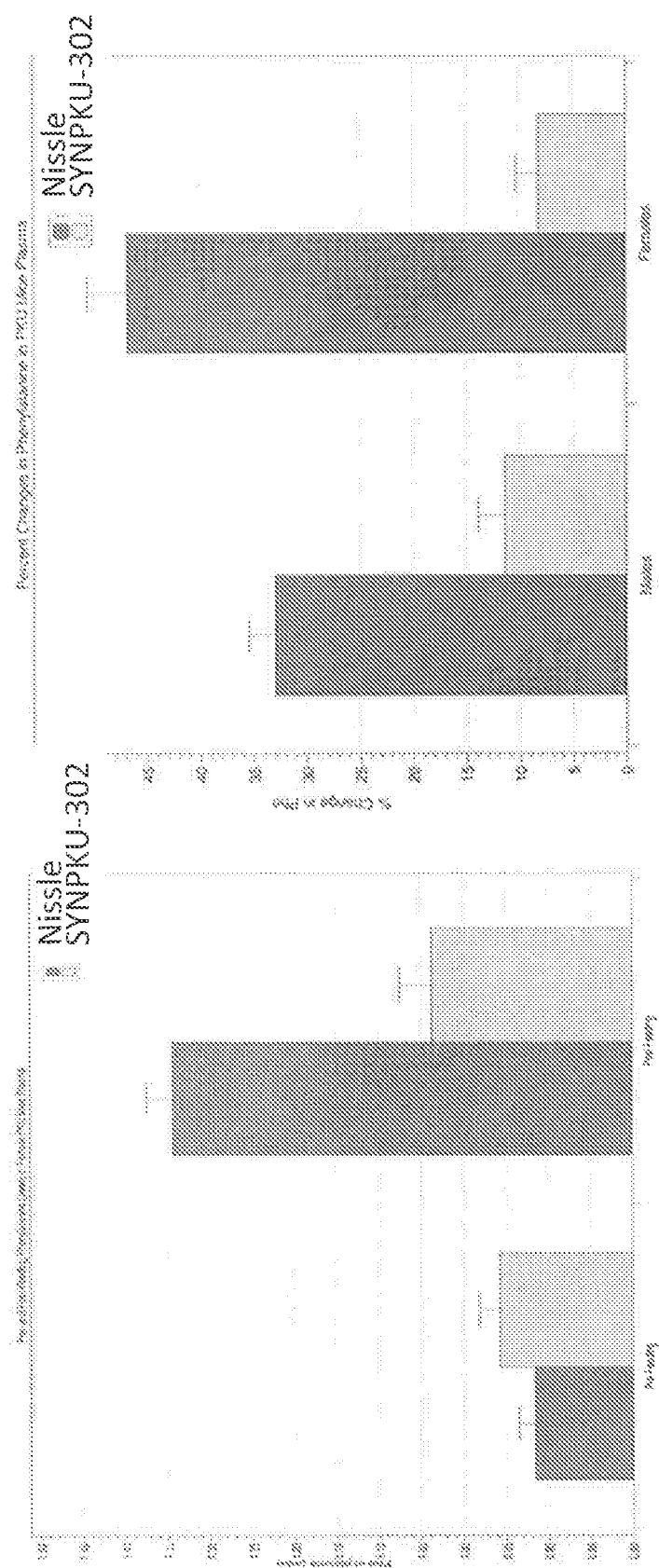


Fig. 26A

Fig. 26B

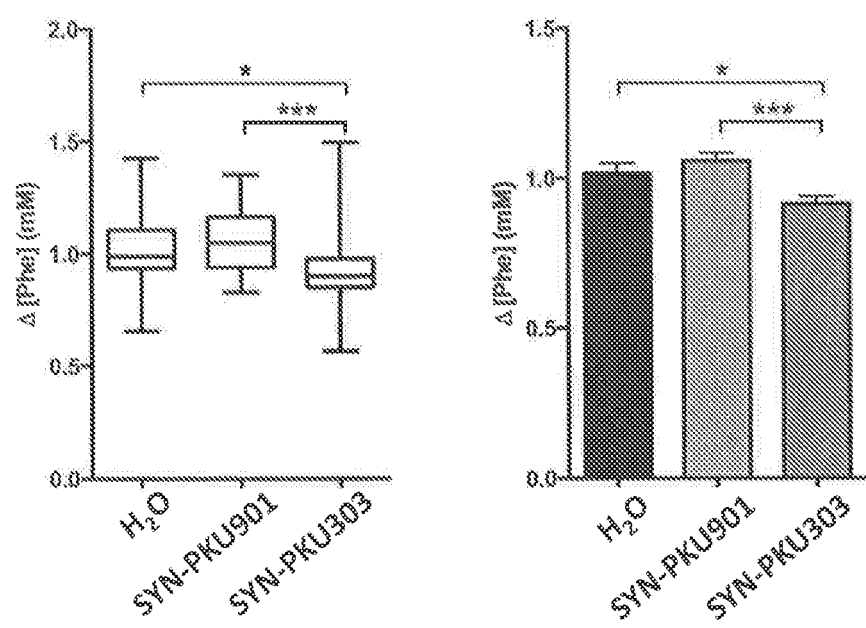


Fig. 27A

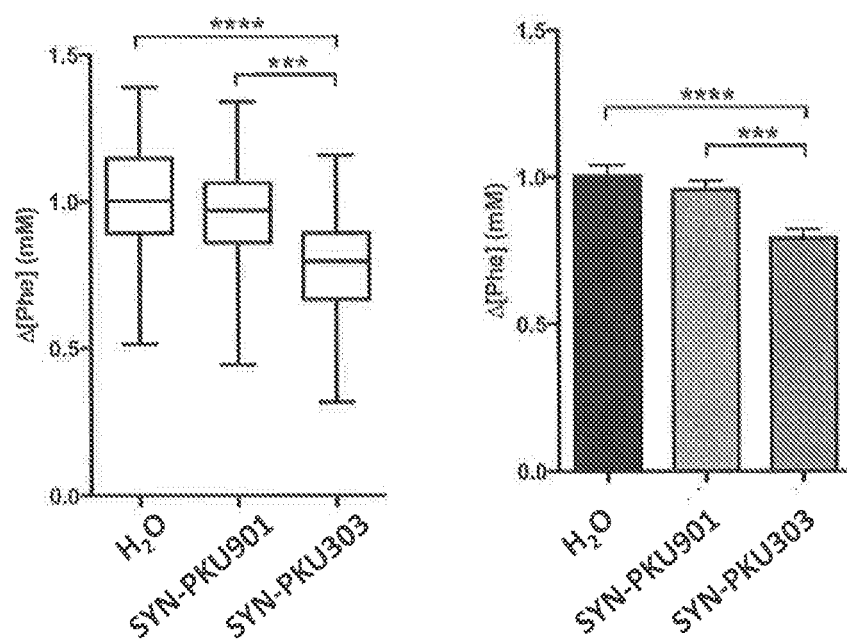


Fig. 27B

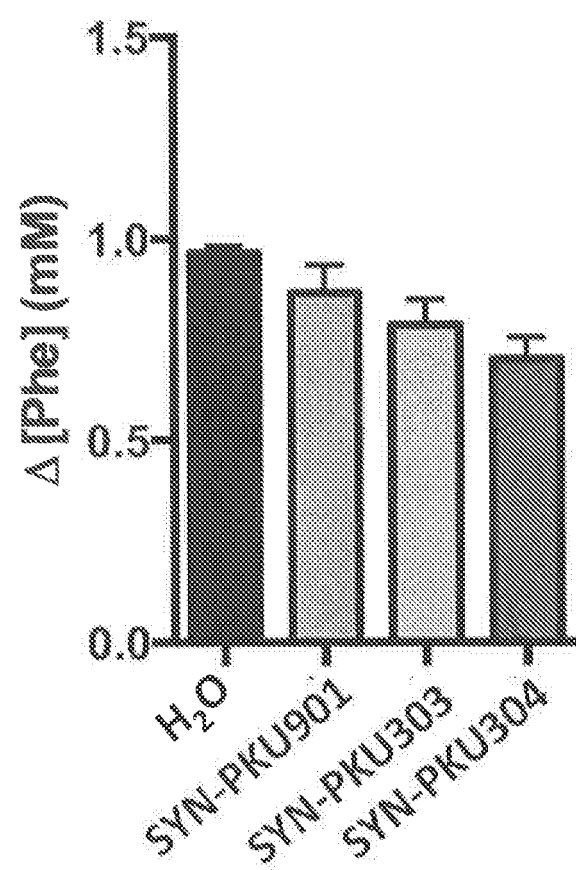


Fig. 28

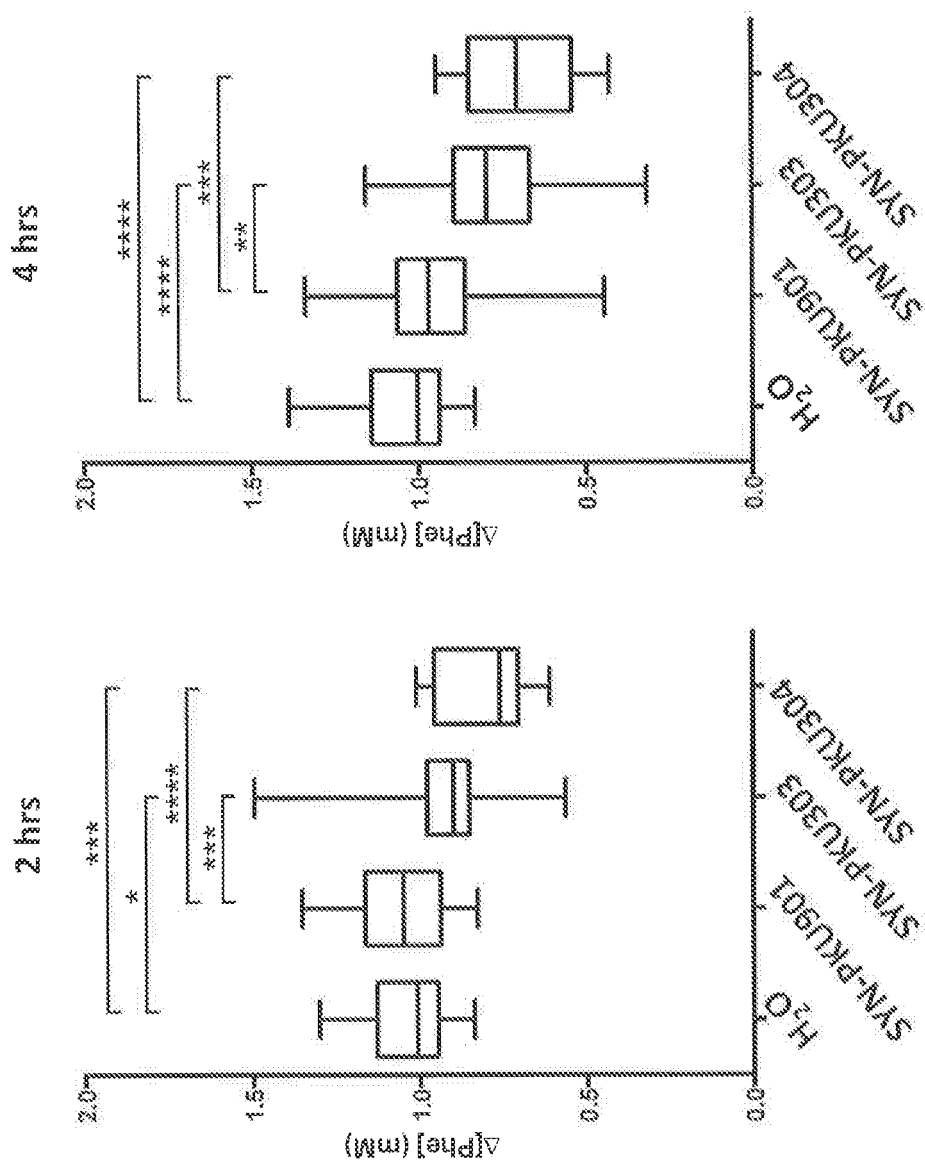
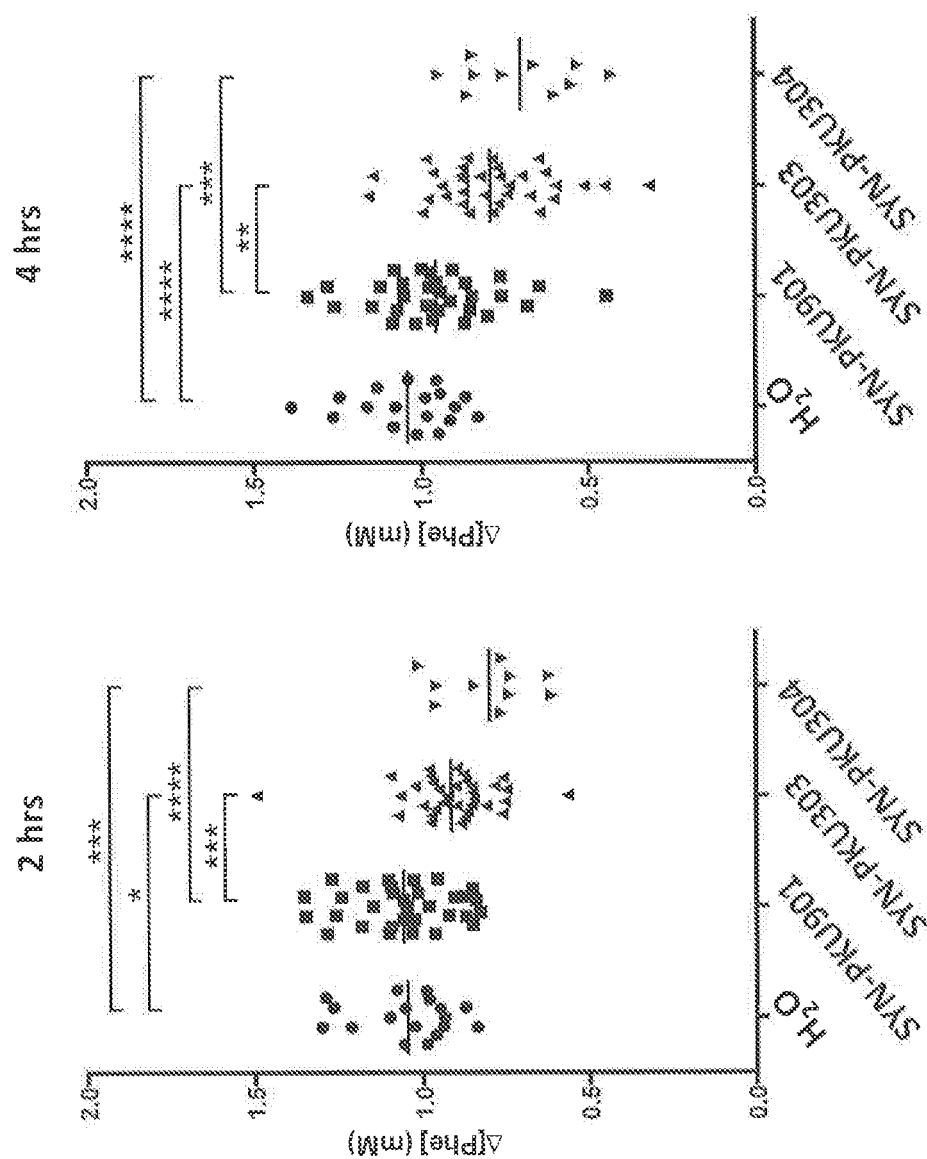
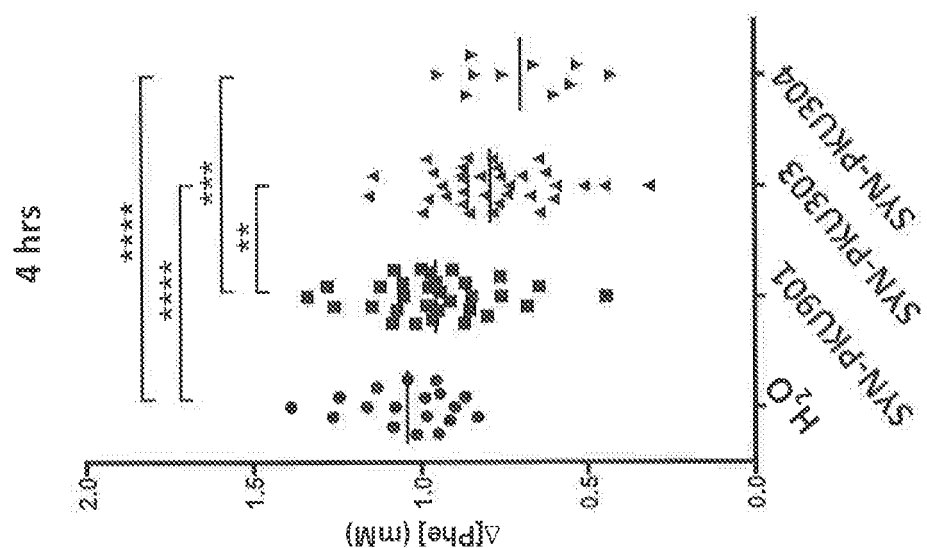


Fig. 29A

Fig. 29B

P-values: ANOVA with Tukey pairwise comparison
 * p<0.05, ** p<0.01, *** p<0.001, **** p<0.0001



290

29.6

p-values: ANOVA with Tukey pairwise comparison
* p<0.05, ** p<0.01, *** p<0.001, **** p<0.0001

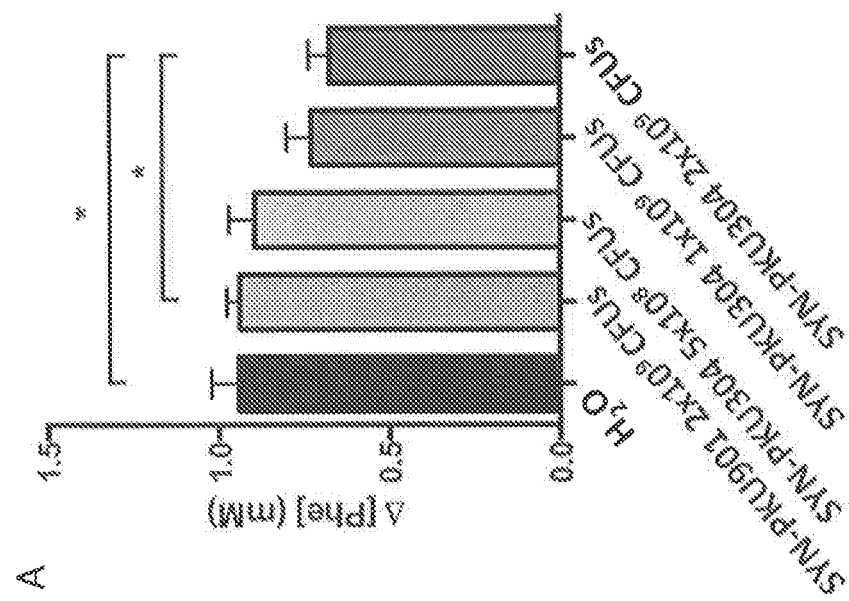


Fig. 30A

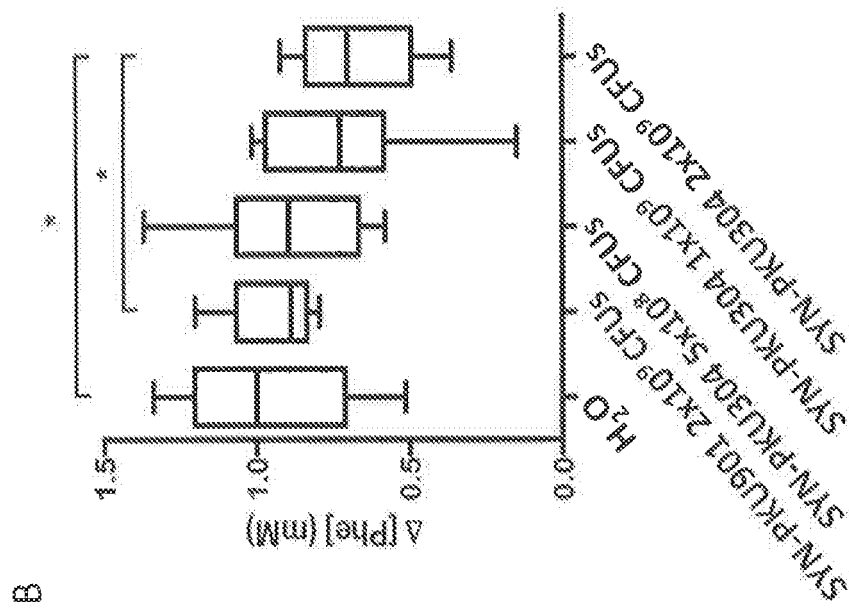
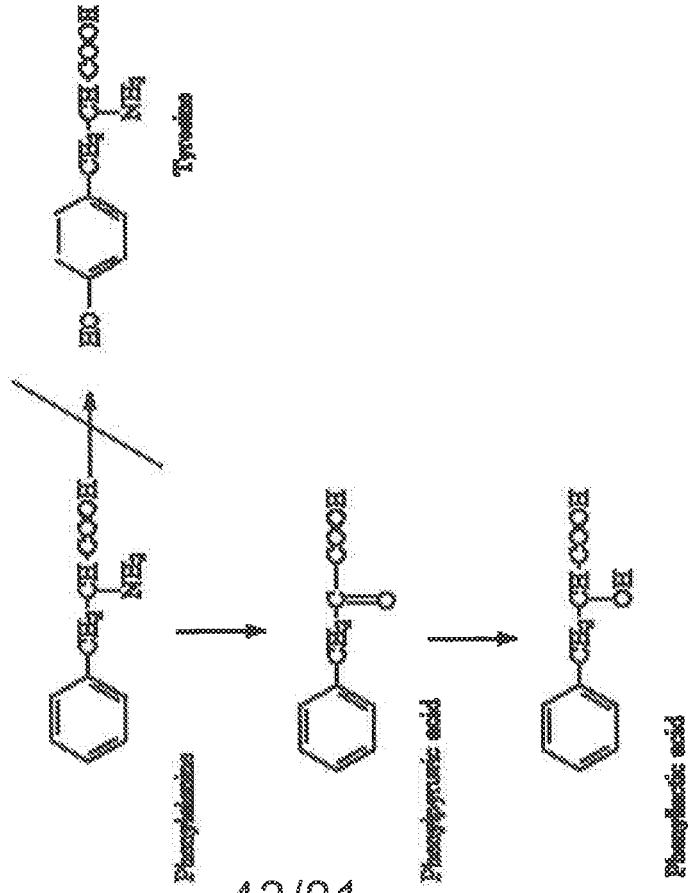


Fig. 30B

PKU specific:

Lacking
in PKU



PAL specific:

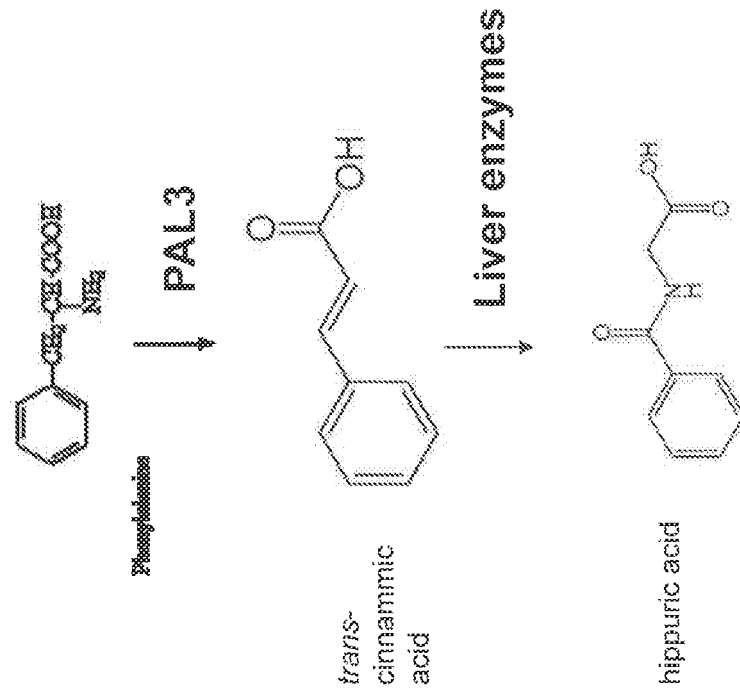


Fig. 31A

Fig. 31B

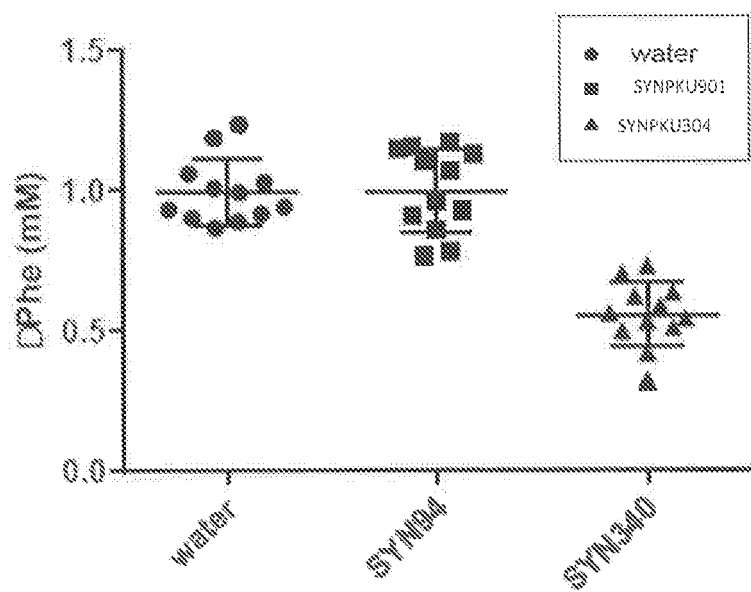


Fig. 32A

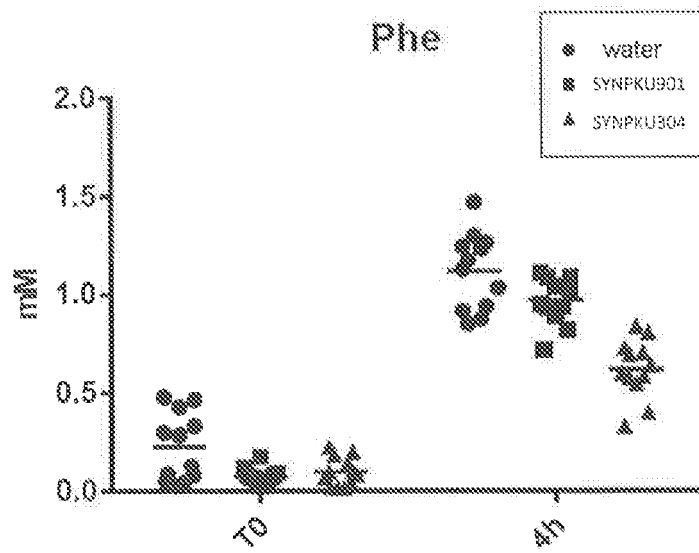


Fig. 32B

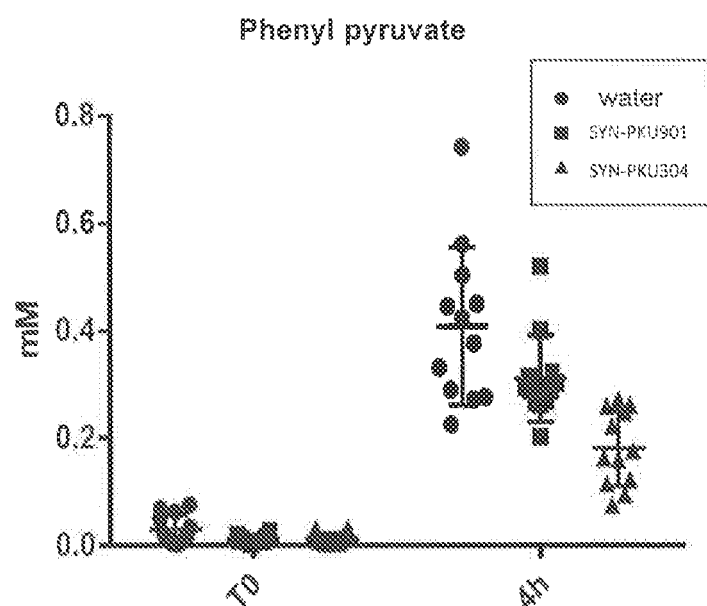


Fig.32C

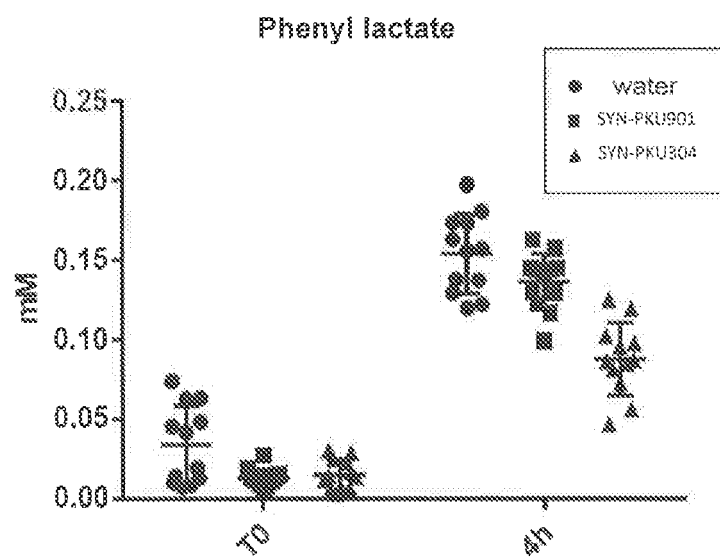


Fig. 32D

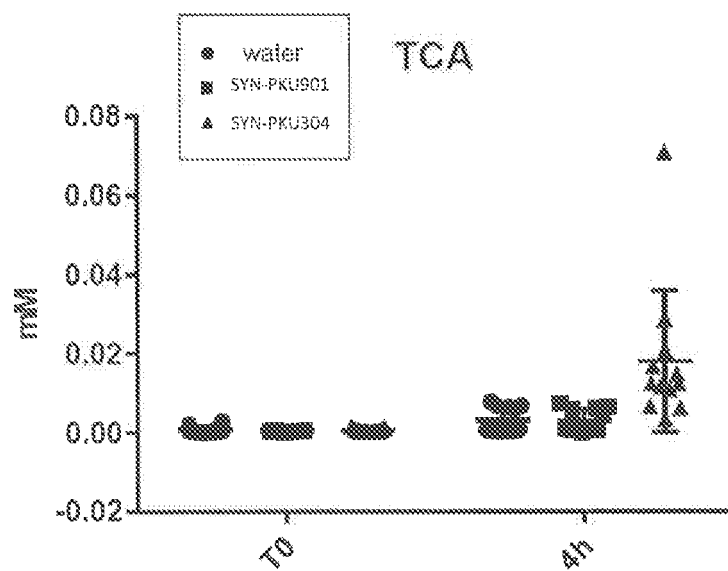


Fig. 32E

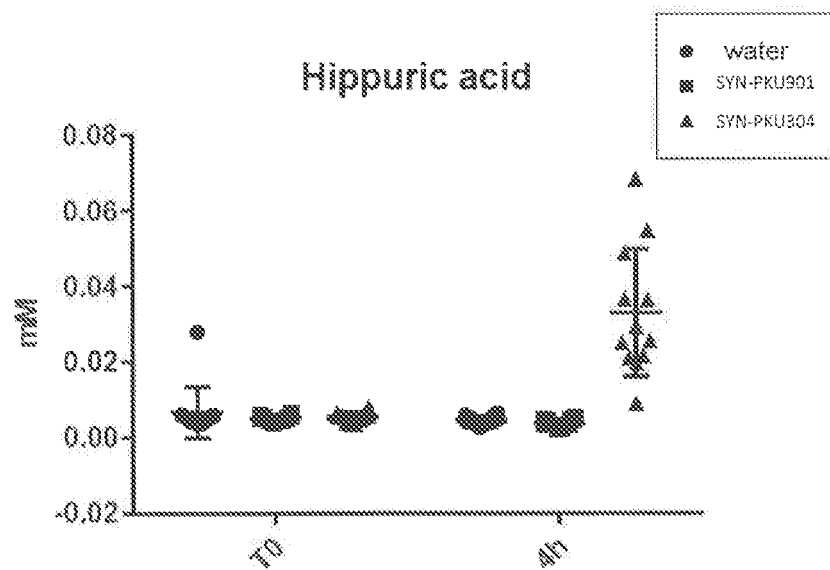


Fig. 32F

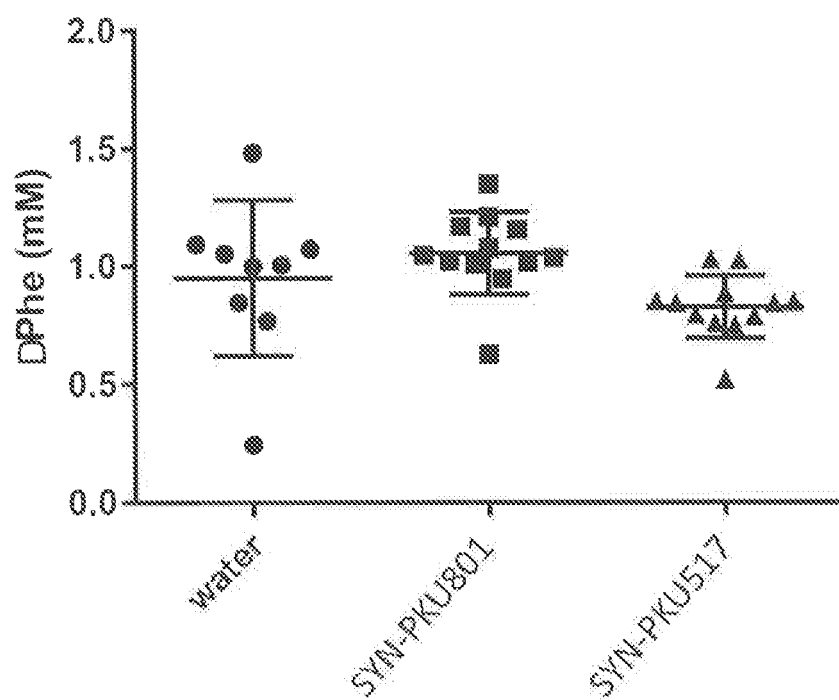


Fig. 33A

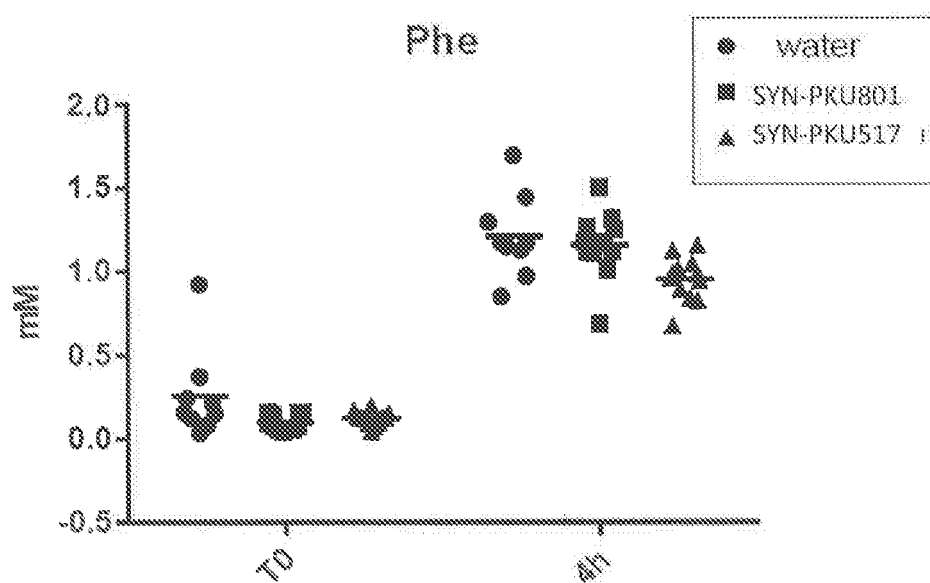


Fig. 33B

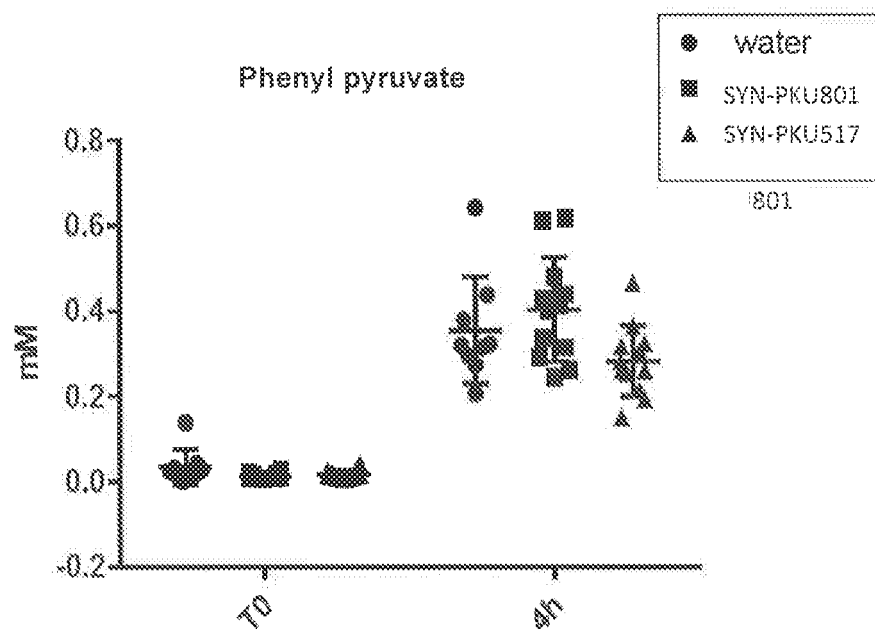


Fig. 33C

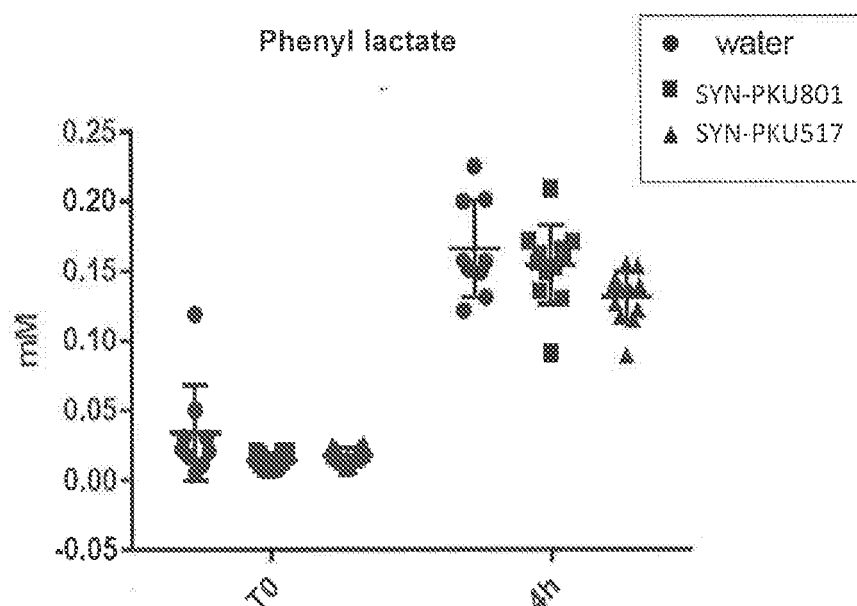


Fig. 33D

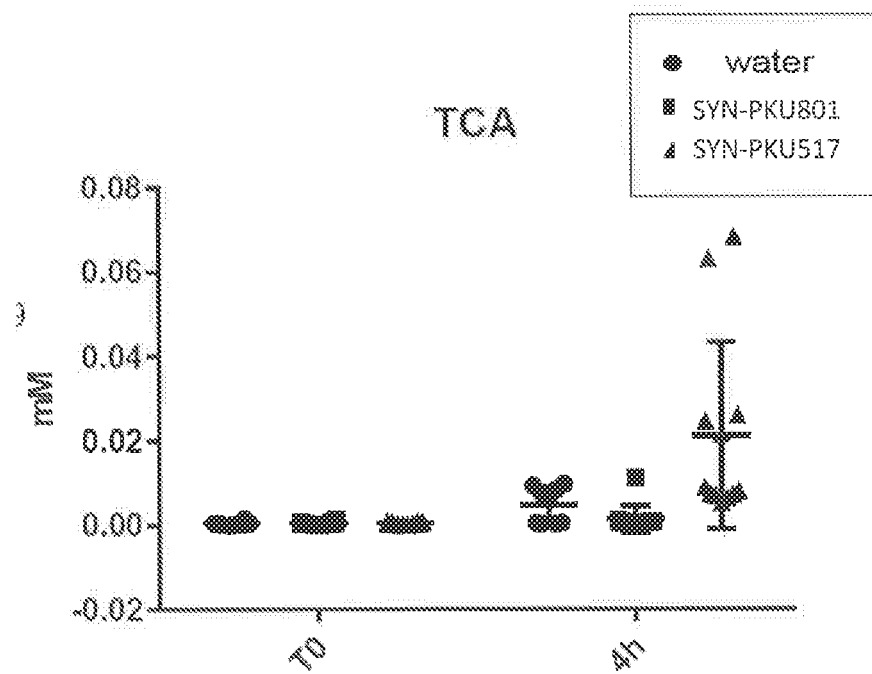


Fig. 33E

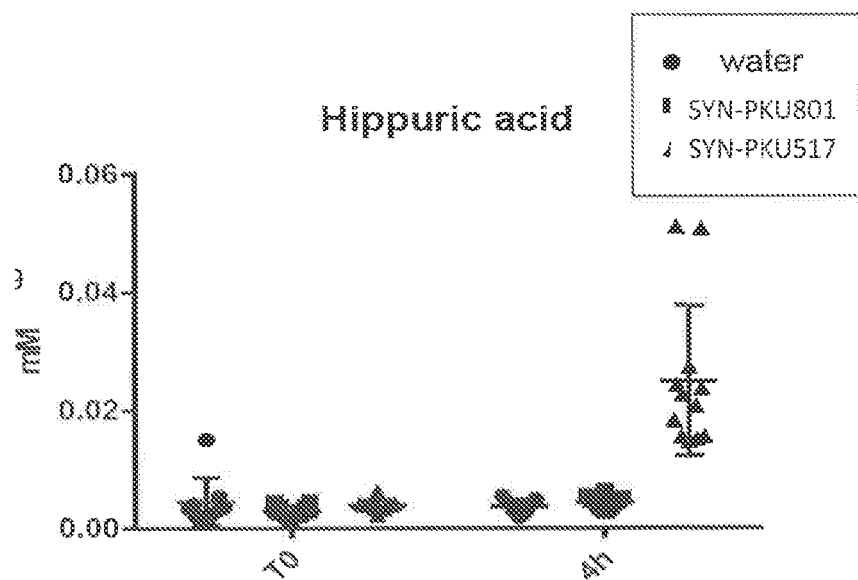


Fig. 33F

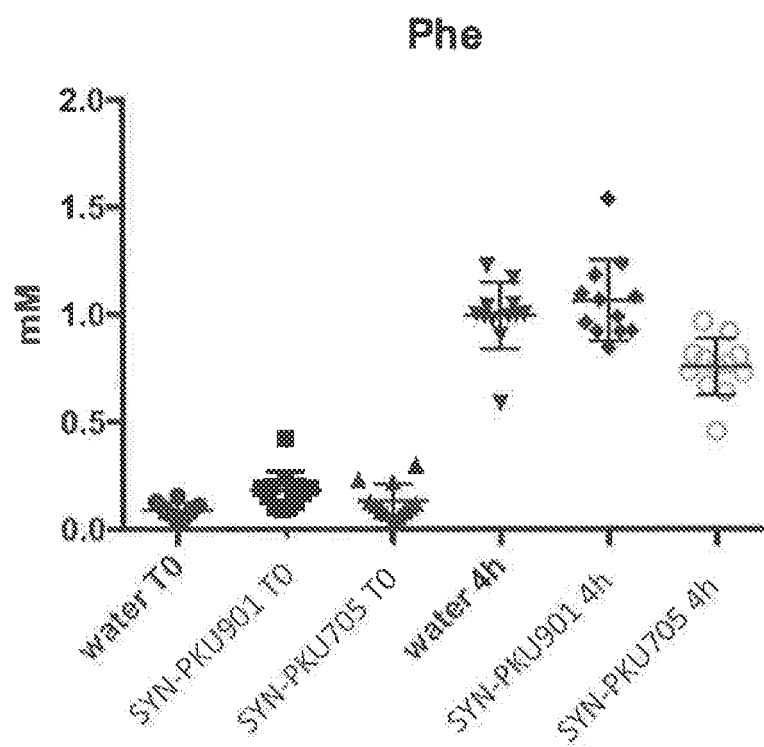


Fig. 34A

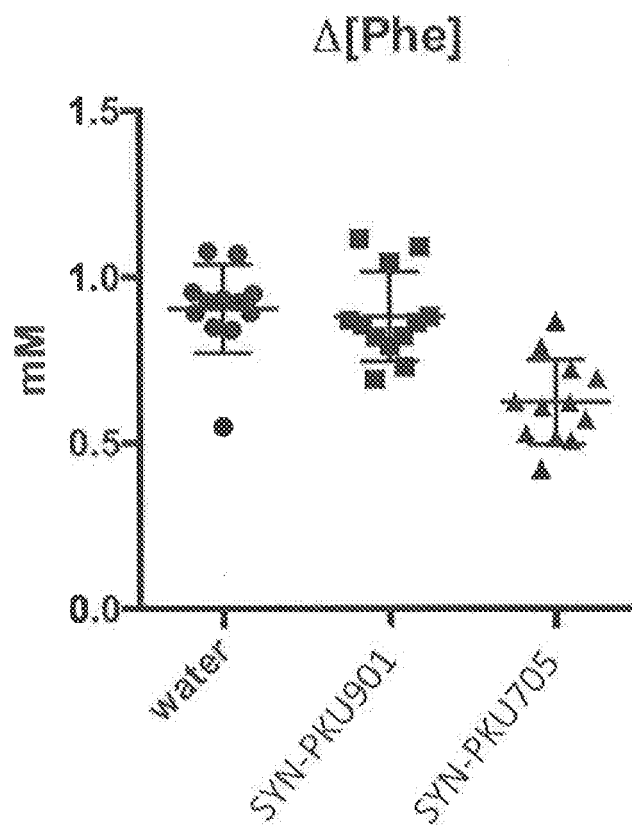


Fig. 34B

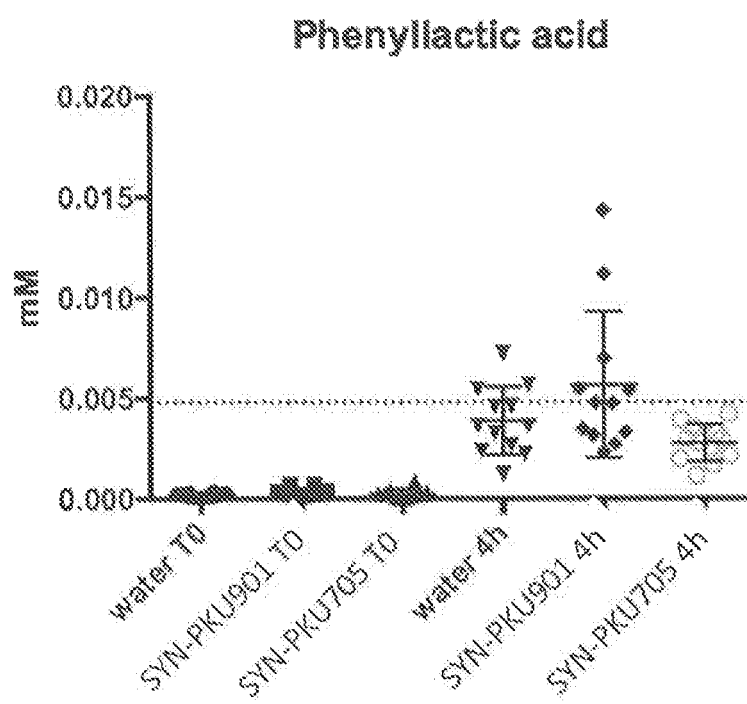


Fig. 34C

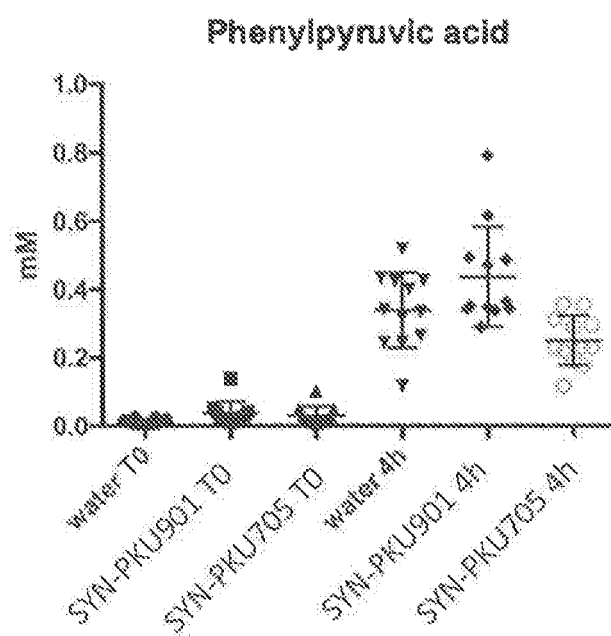


Fig. 34D

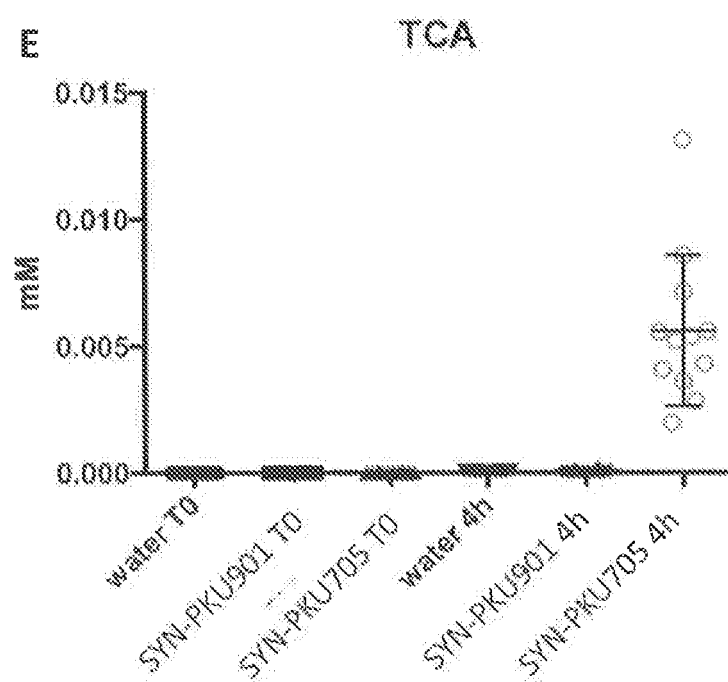


Fig. 34E

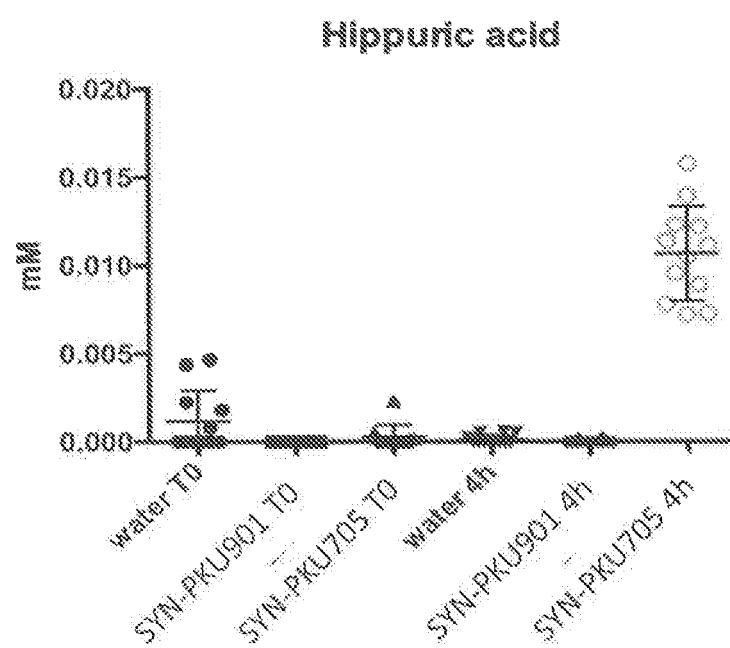
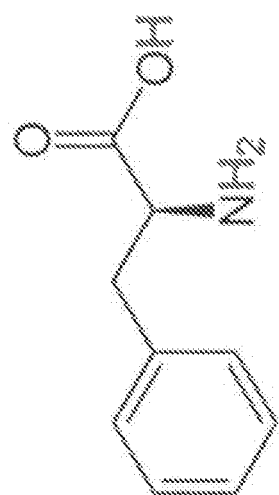
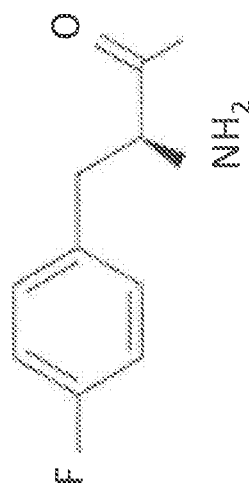


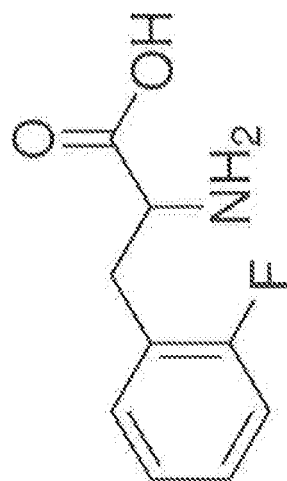
Fig. 34F



phenylalanine



p-fluoro-DL-phenylalanine



o-fluoro-DL-phenylalanine

Fig. 35

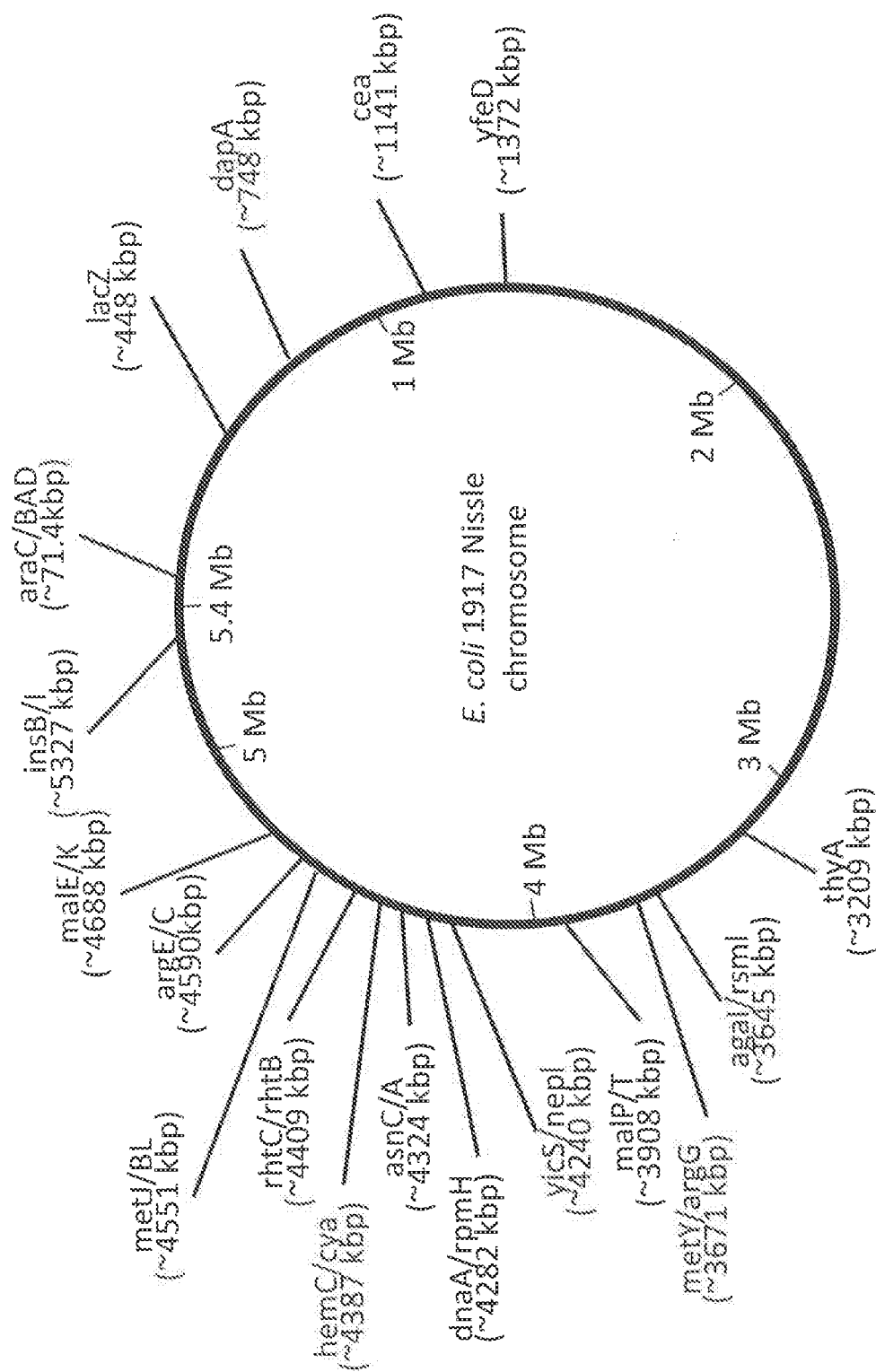


Fig. 36

Brightness of constitutive RFP integrated
in three locations:

1. AraB/C
2. MalE/K
3. MetY/ArgG
4. Nissle (non-fluorescent)

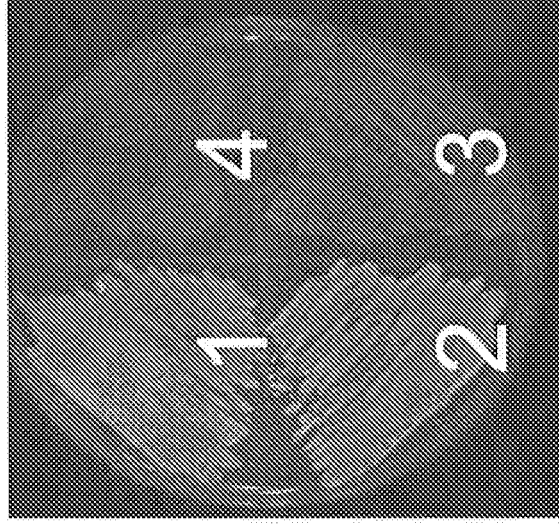


Fig. 37

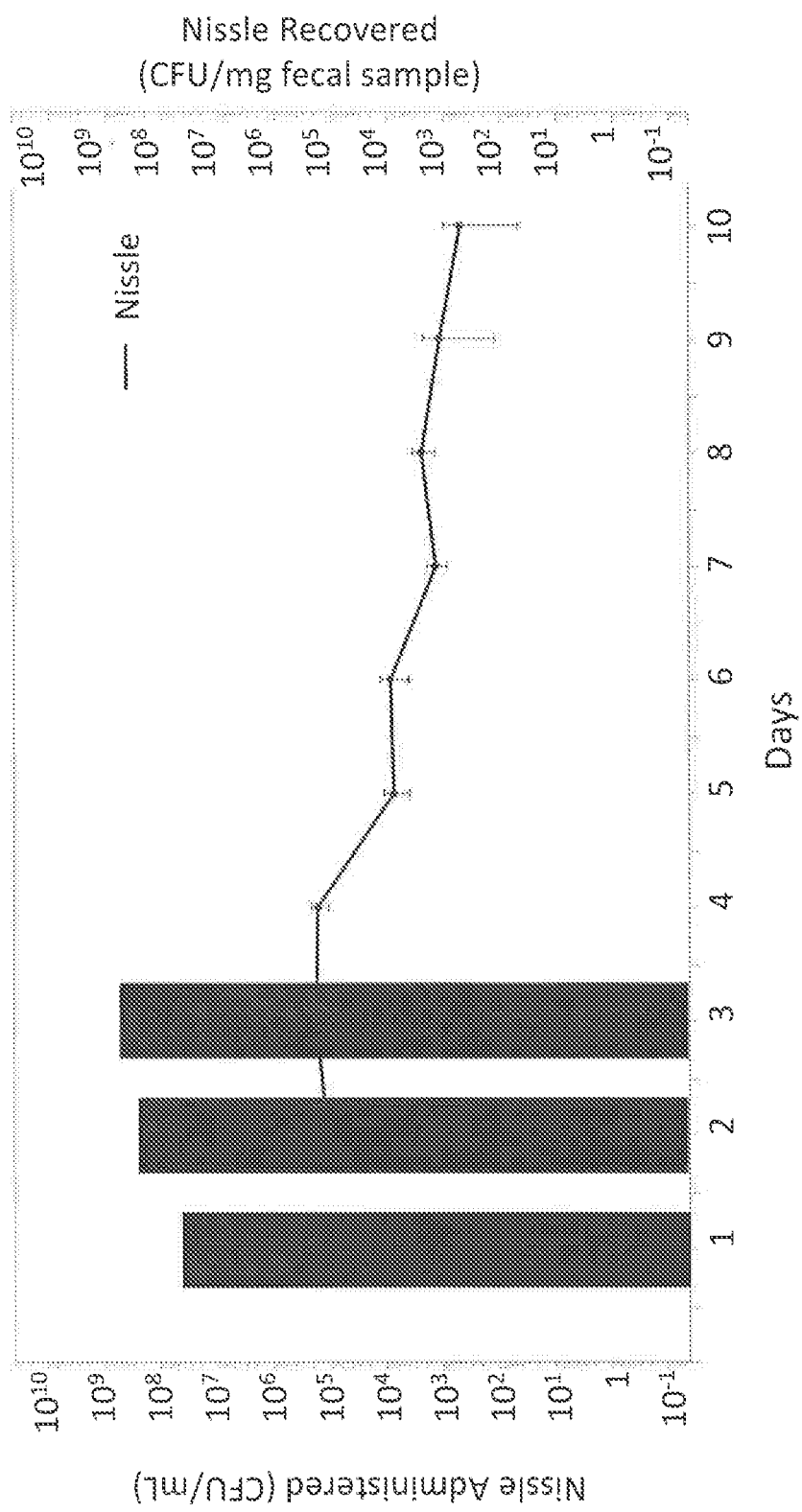


Fig. 38

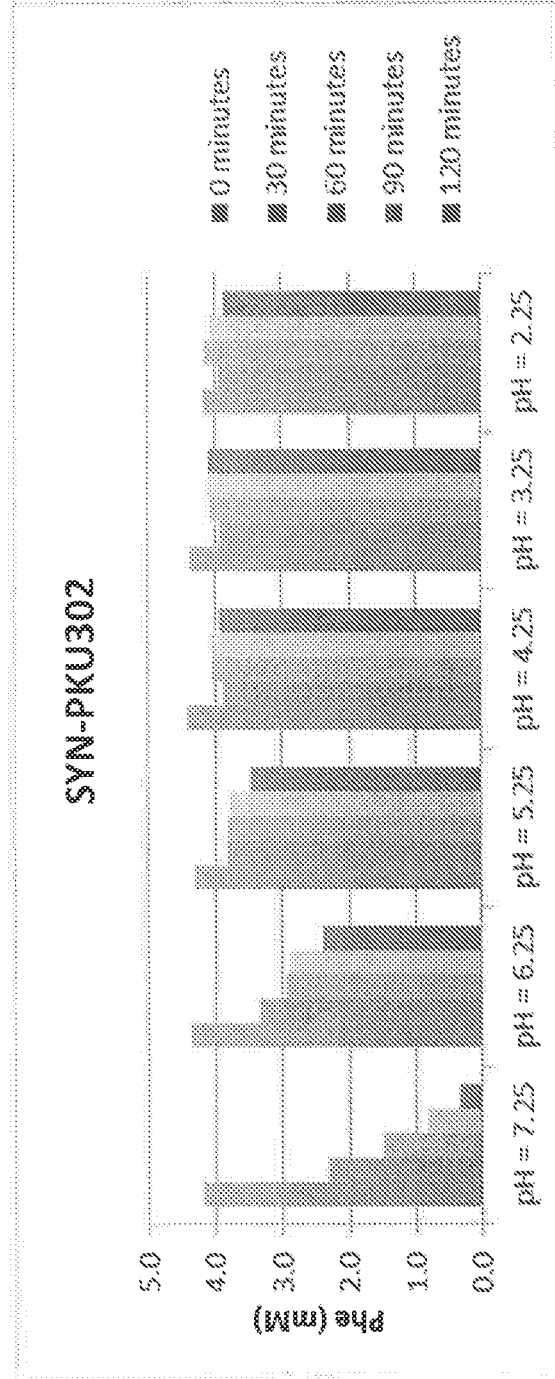


Fig. 39A

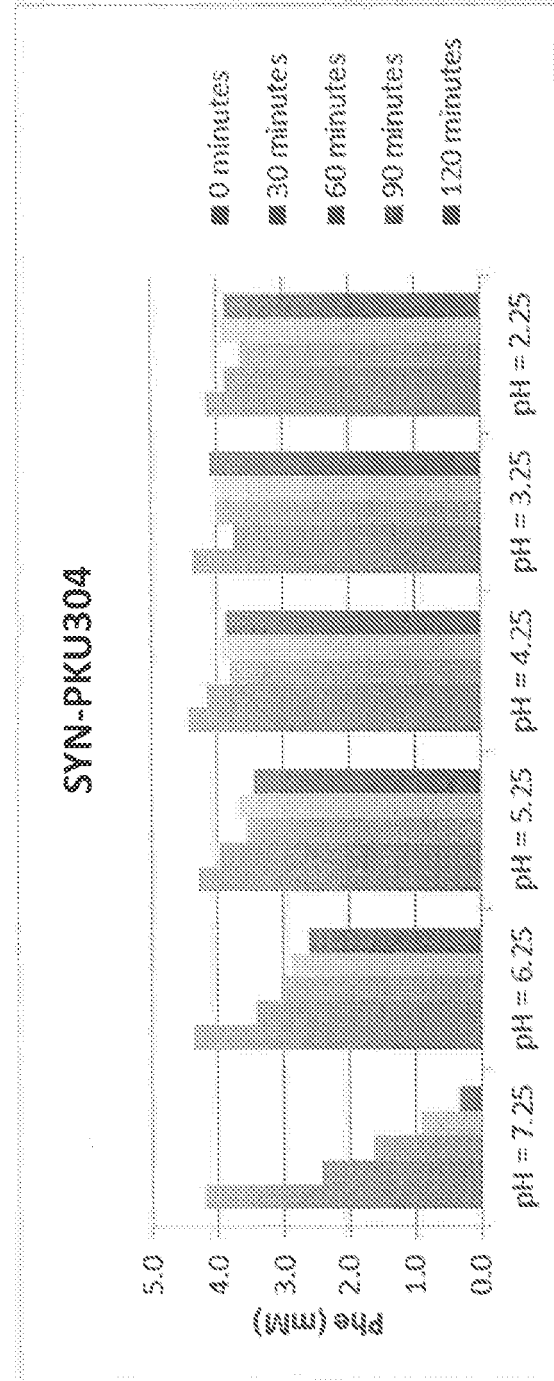


Fig. 39B

Synthetic Biotics: Single Product; Multiple MoAs

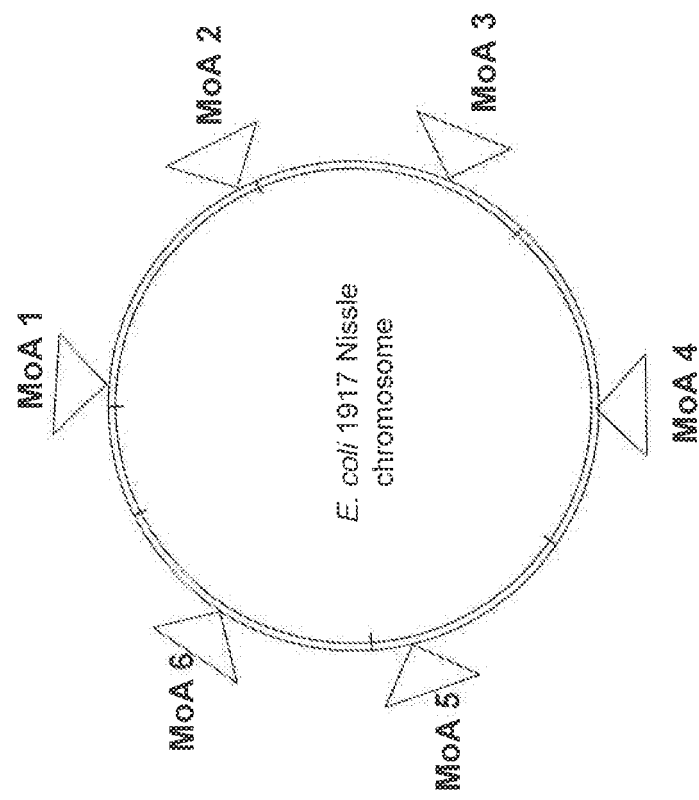


Fig. 40

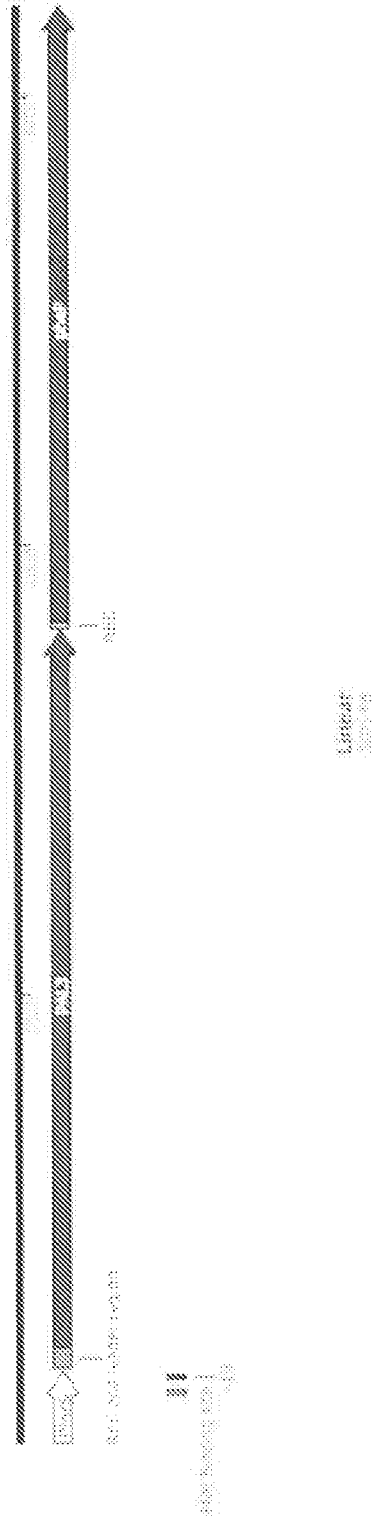


Fig. 41

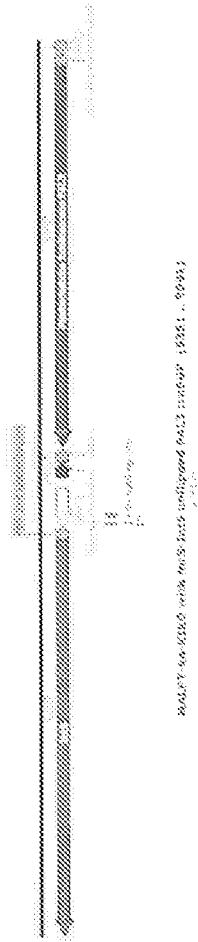


Fig. 42A

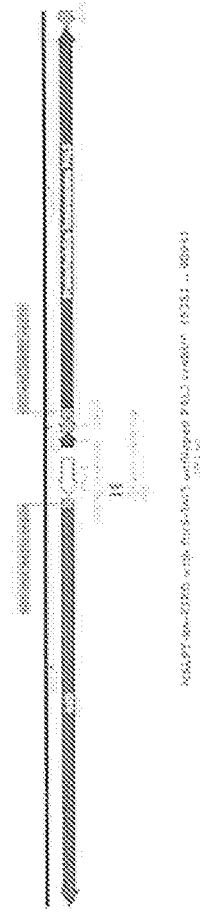


Fig. 42B

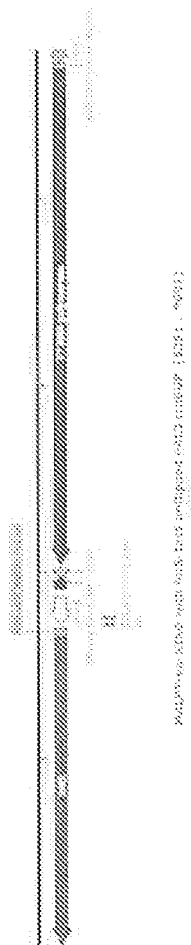


Fig. 43A

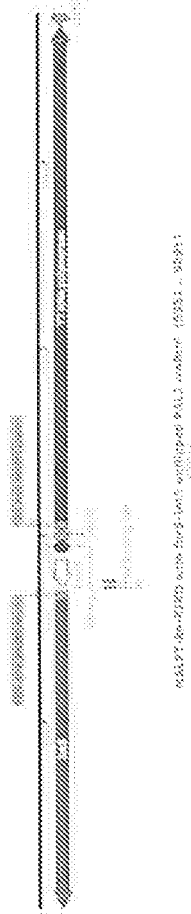


Fig. 43B

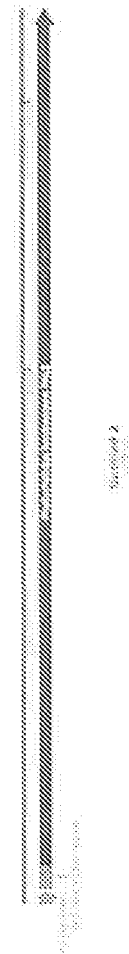


Fig. 43C

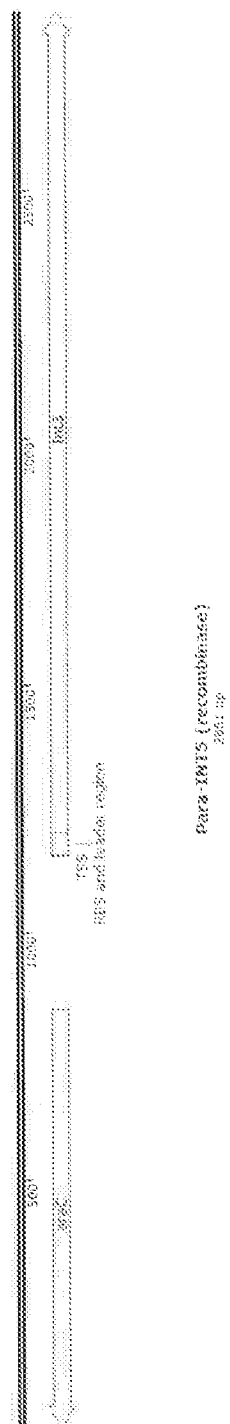
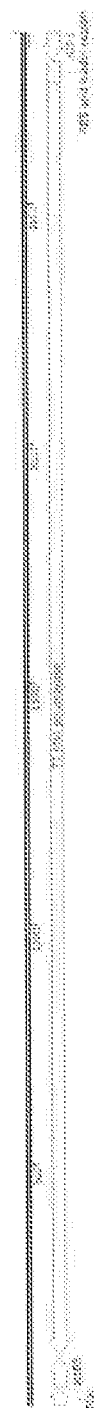


Fig. 44A



msd1-transcriptase-17 polymerase (unfused)
2000

Fig. 44B

Fig. 44C

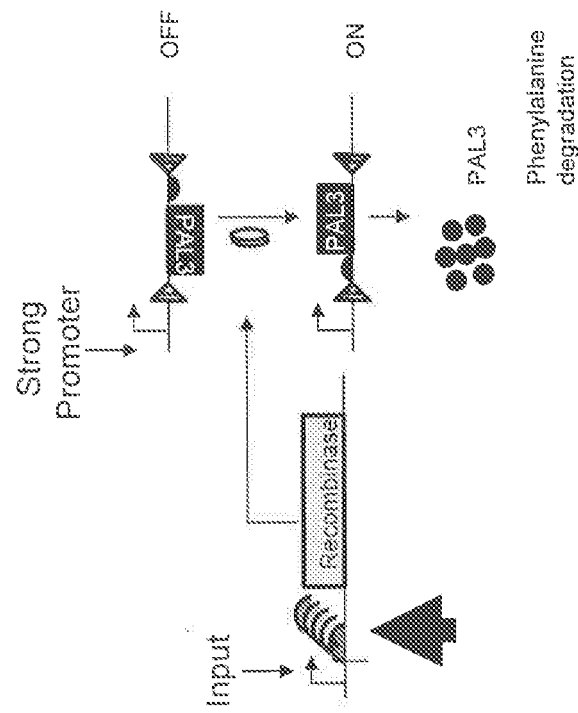


Fig. 45A

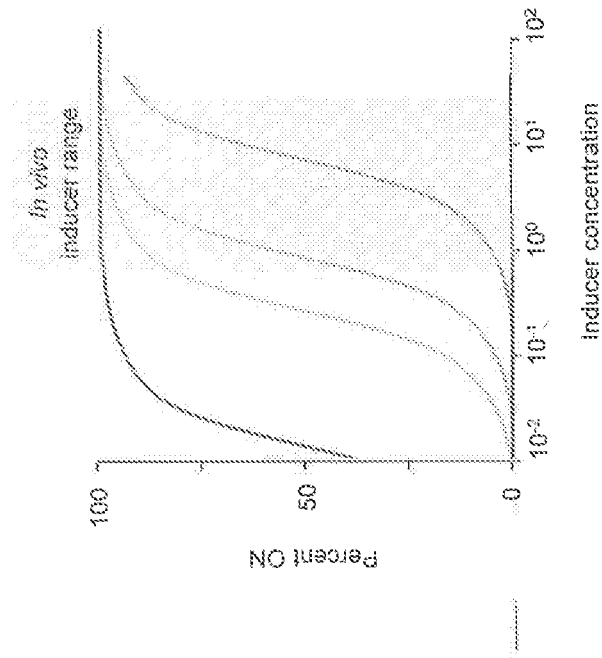
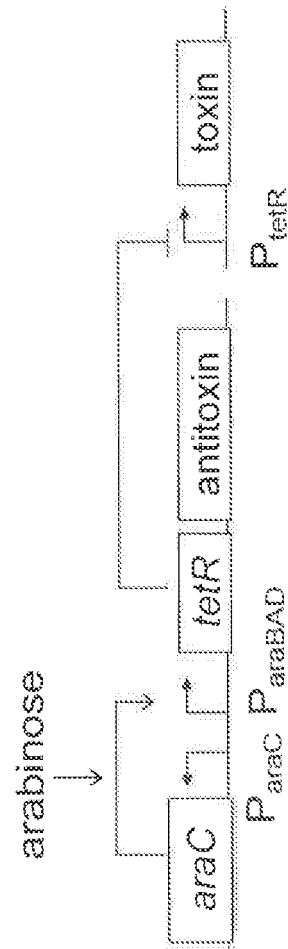


Fig. 45B

Toxin-based



Essential gene-based

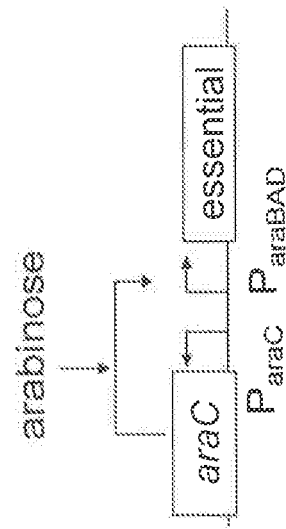
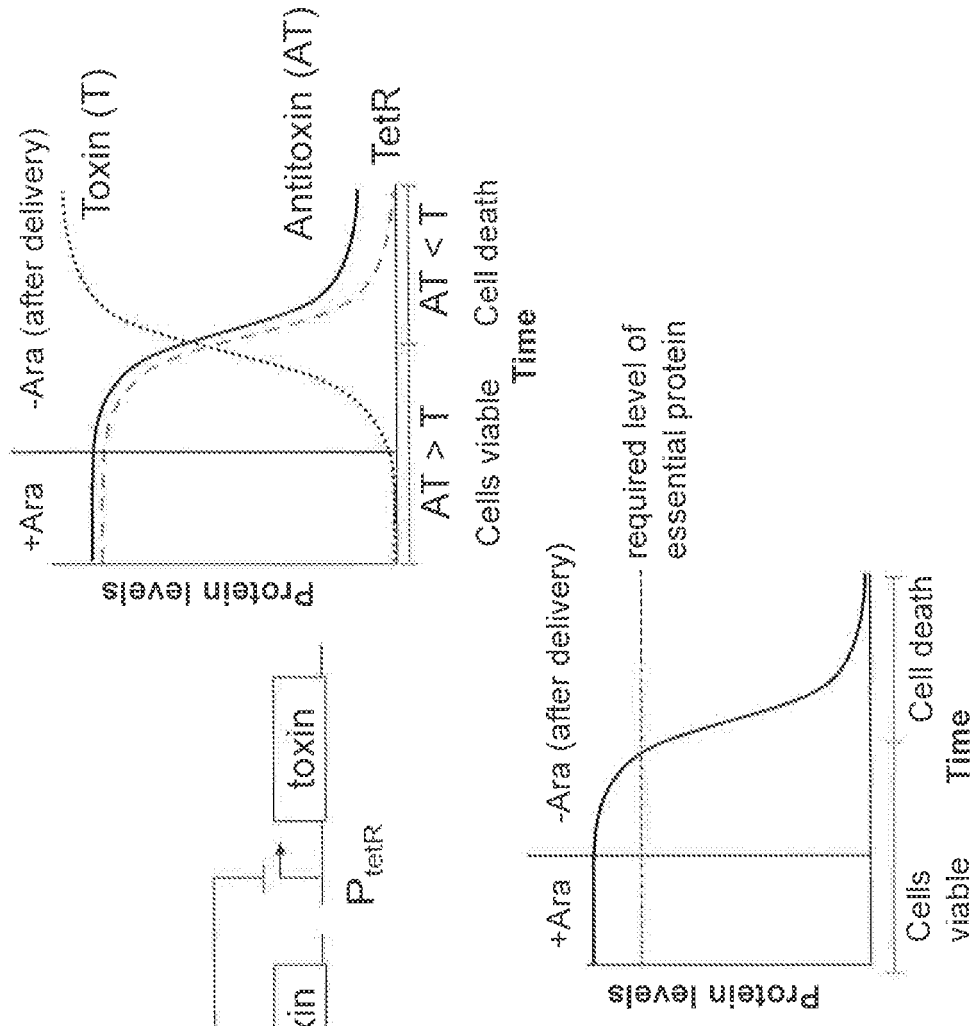


Fig. 46A

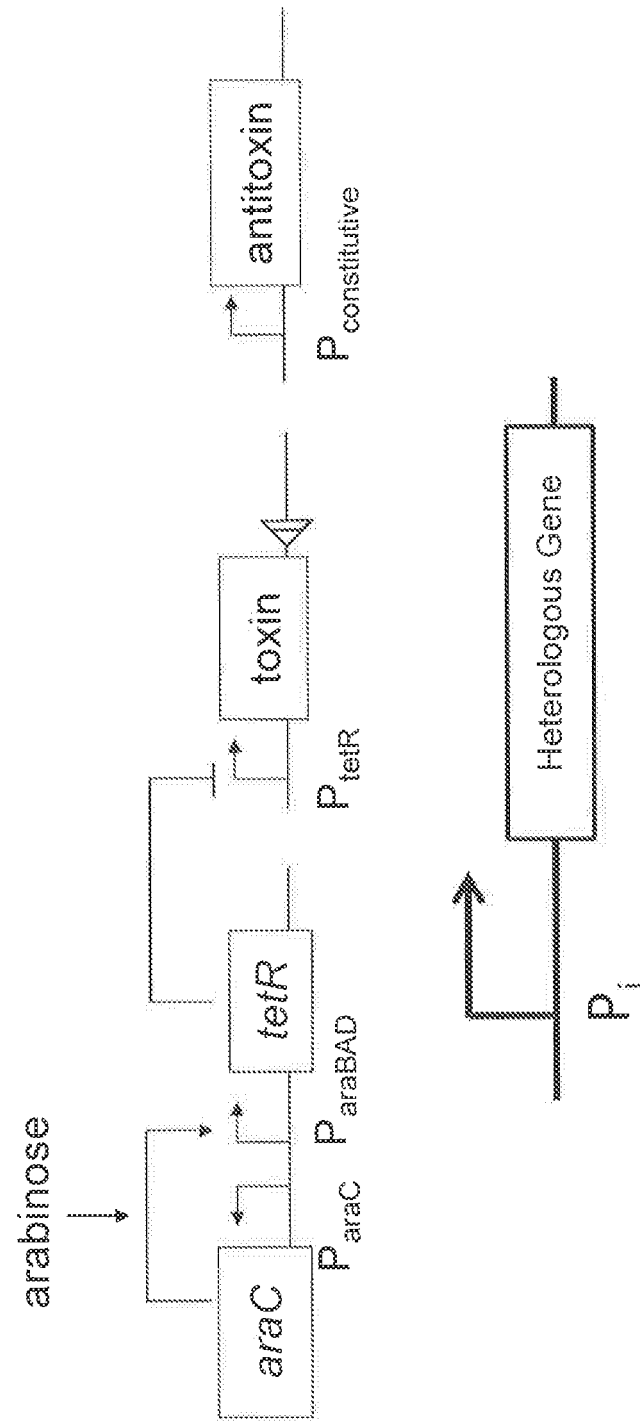


Fig. 46B

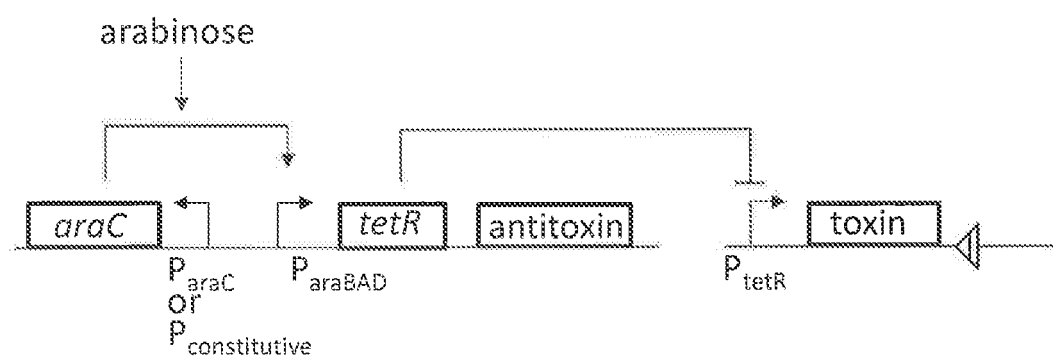


Fig. 46C

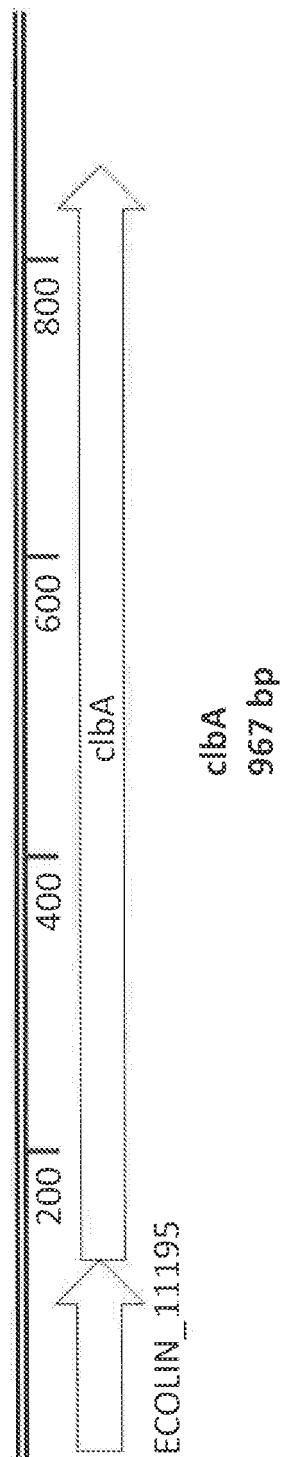


Fig. 48A

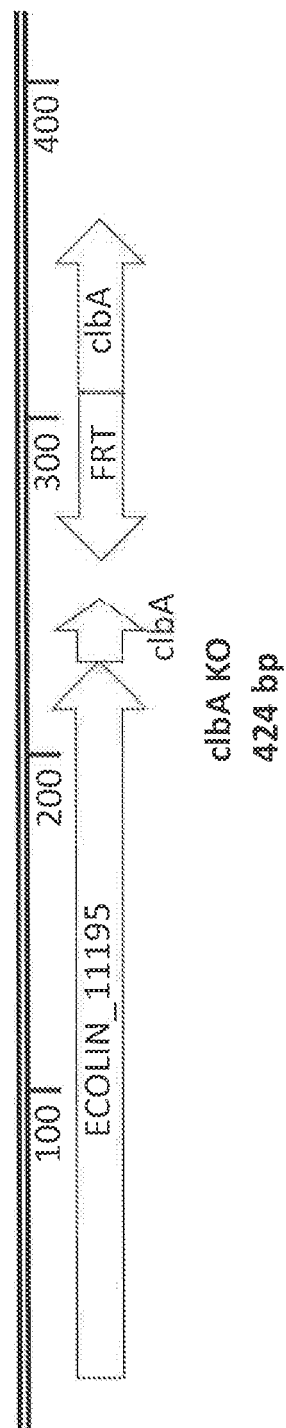


Fig. 48B

Wild-type clbA (SEQ ID NO: 64)	clbA knockout (SEQ ID NO: 65)
caaataatcaactaattcttaacatatatcaataaacaacacagtaaaagtctcatgtgaaaaaacatcaaaaca taanaatacaagctcgyaataacgaatcacgctatatcacacattcctaacaacaggaatgagattatctctaaa ttaagcaatttatataattatggacatactagttttttttcatcaaacacagtagaagataaacttccctt cactatcctcaatdaggaaagaaataaaacgctatgatcagtttcatttttctgagdgataaaagaaact ctatatttttaagtcgtatcctctcctcaaaacagcactaaaaagatatcaaacctgatgtctcattac aatcatggcaatttagtcgctgcaaatatggcaaaacatttatagtttttccctcaytttggcaaaa aagatttttttaaccccttcccatactatagatatcagtagcccttgcctattagtttctcactcga gcttggtctcgtatattgaacaaatcaagagatttagacaacacttatcgaacatatcaatcaycatt ttcttactccacayaaacchactaaactaatgttctacttccctcgttatgaaggtcaattacttttt tgaanaatttgagcgtcacaagaagcttacatcaaatatcgaggtaaaagccratcttttaggaact ggaattcctattgaatttcatttaacaaataaaaacaaacttcacaaatatagagdottcacccctgttt atttctcctcaatggaaaaatatgttaactcatttctgcattagccctccactcactcacccctaaa ataactattgagctattttcctatgagctcccaacttttatcaccacacacacacacacacacacac gtcacaaatgggcacaaattgaatcgccacagataatctagacaccttctttagccgtcgataattga ttttcaataattcccttgcgtgtgttaagratccgcacataatcgtgcccattcacattttag	ggatgyyyggaaaaacatggataagttcaaaagaaaaaaaccccgttatctctgcgtgaaaaagacaagta ttgcgcattgttgcacaaagtgtgatgagtagtctcctcaaatatcacataaattttaacatatcaataaa cacagtaaaagtctcatgtgaaaaaacatcaaacataaaaatacaagctcgggaatcgaatcacgcta tacaacattgctcaacaggaatgagatttatcacaattgaggaattgaattgctgtaggcttgcgaccttccg aacttccataactttttagacaaatagcaacttccaaataggaacttccgaatagcaacttaggag catattcattatgctcgtcctcaaatgggcagaattgaatcgccacaggaatcgtgacacacttctgaqcc gtcyaaataattgatttttcataattccgctcgggtg

Fig. 49

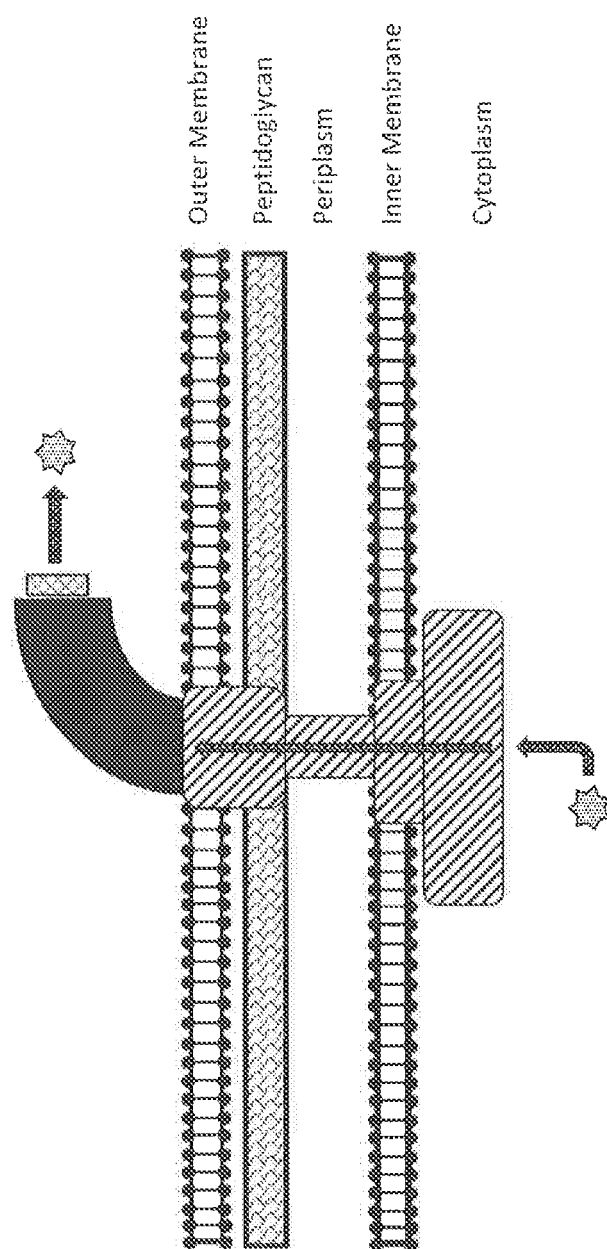


Fig. 50

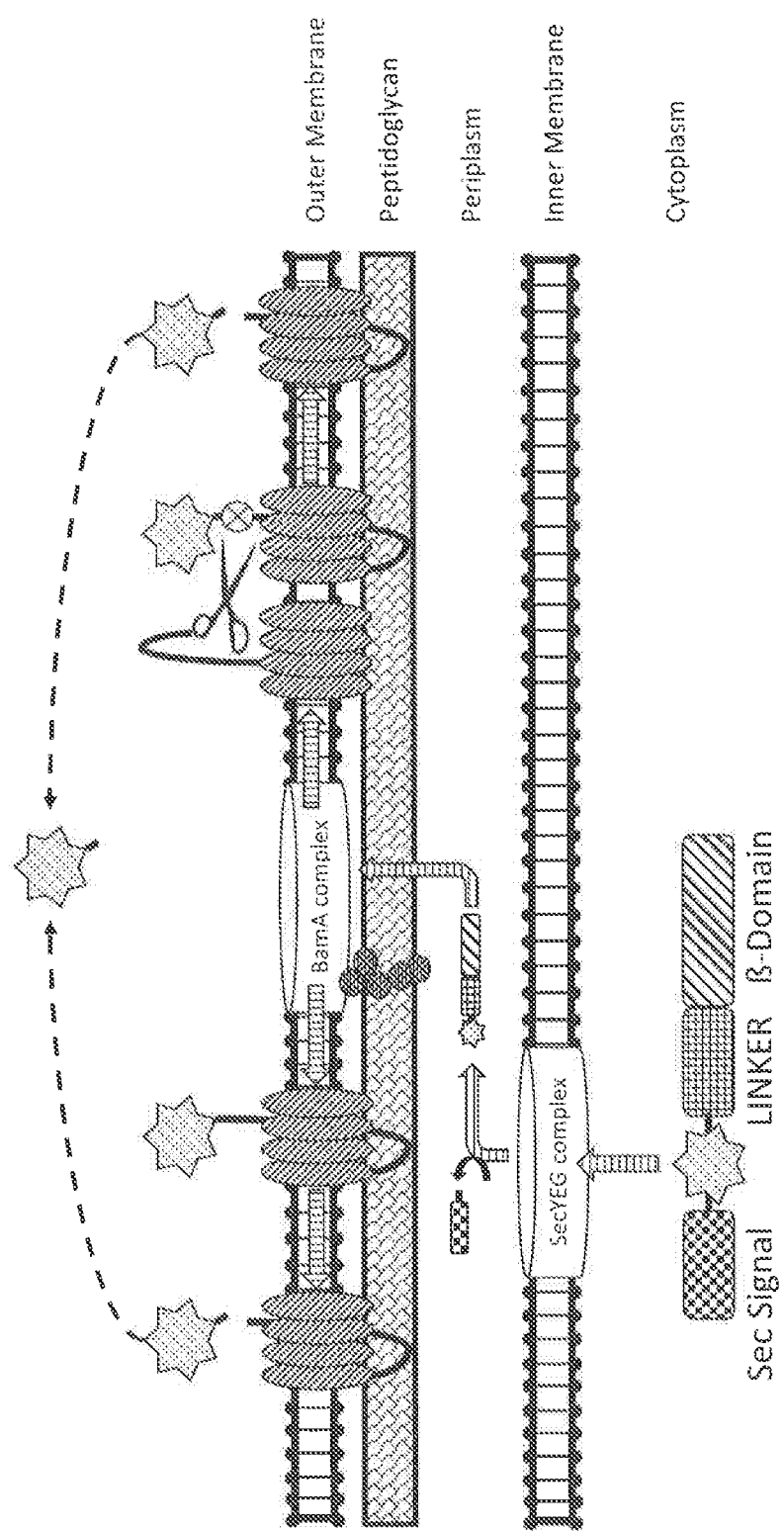
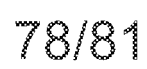


Fig. 51



2500

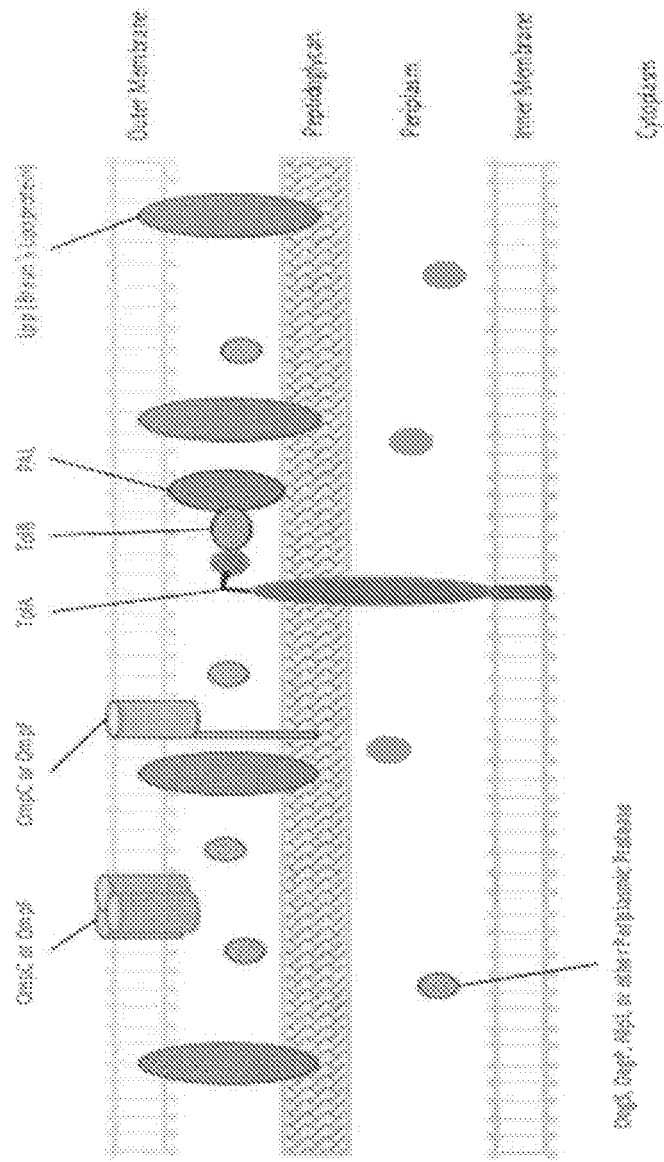


Fig. 53

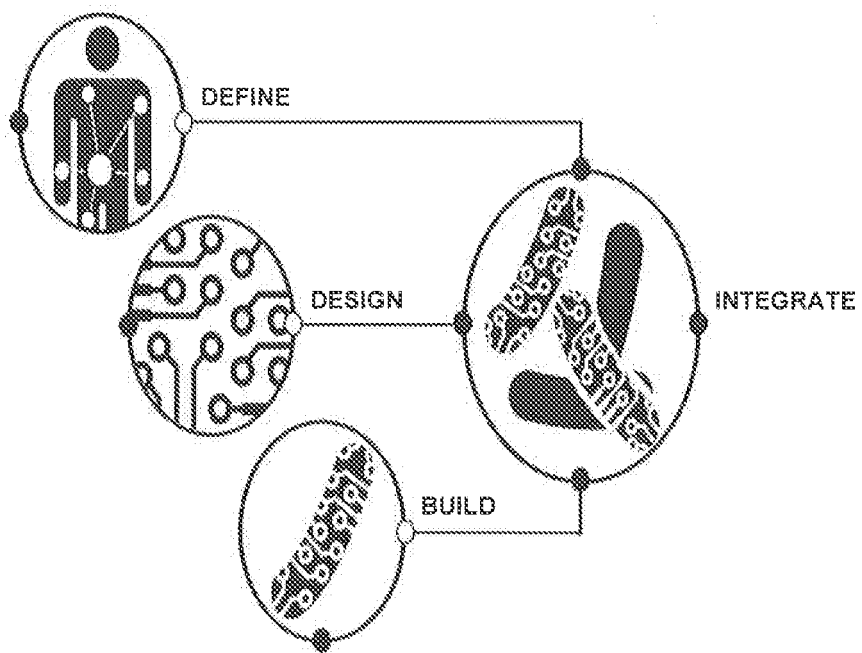


Fig. 54

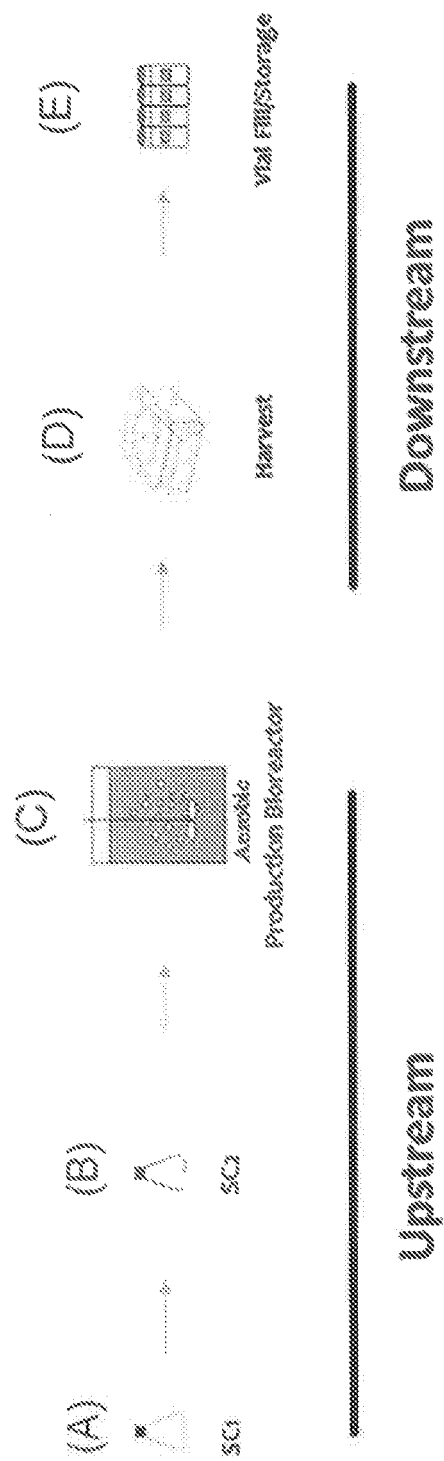


Fig. 55