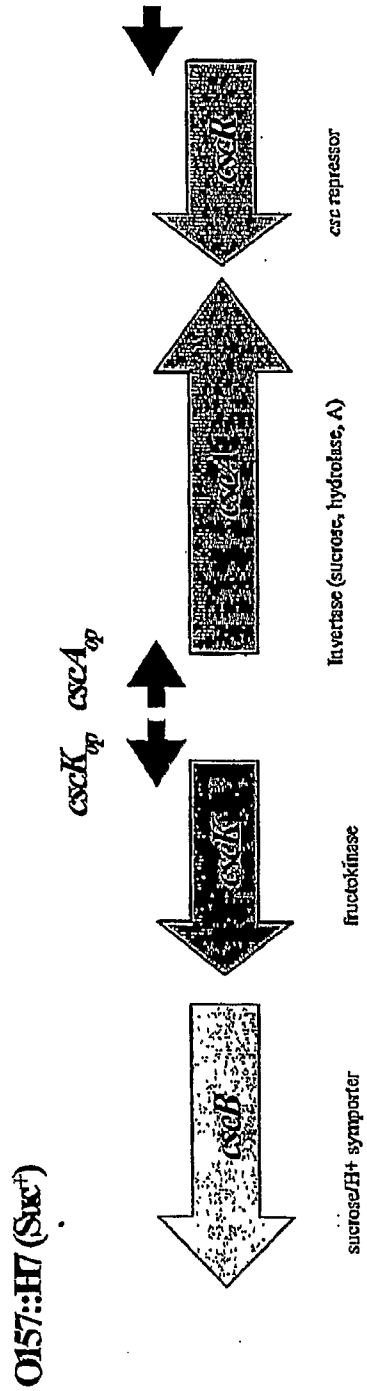
Figure 1


O157::H7 (Suc+)
cscB
sucrose/H+ symporter
cscK
fructokinase
cscA
cscY
cscZ
invertase (sucrose, hydrolase, A)
cscR
csc repressor




WT K12 Superoxide dismutase

Figure 2

Figure 3

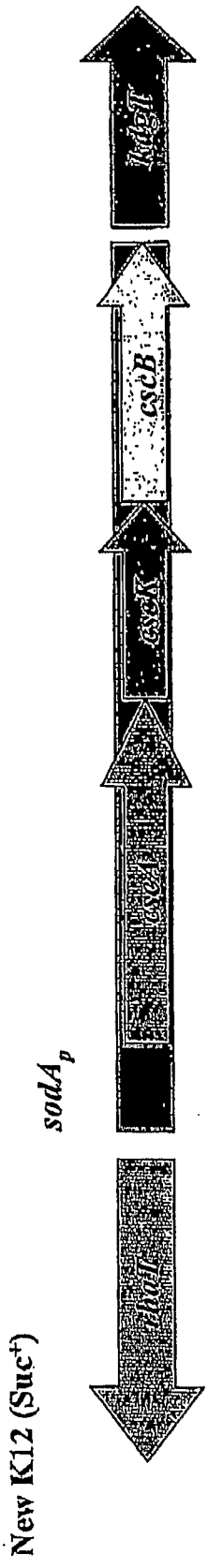


Figure 4

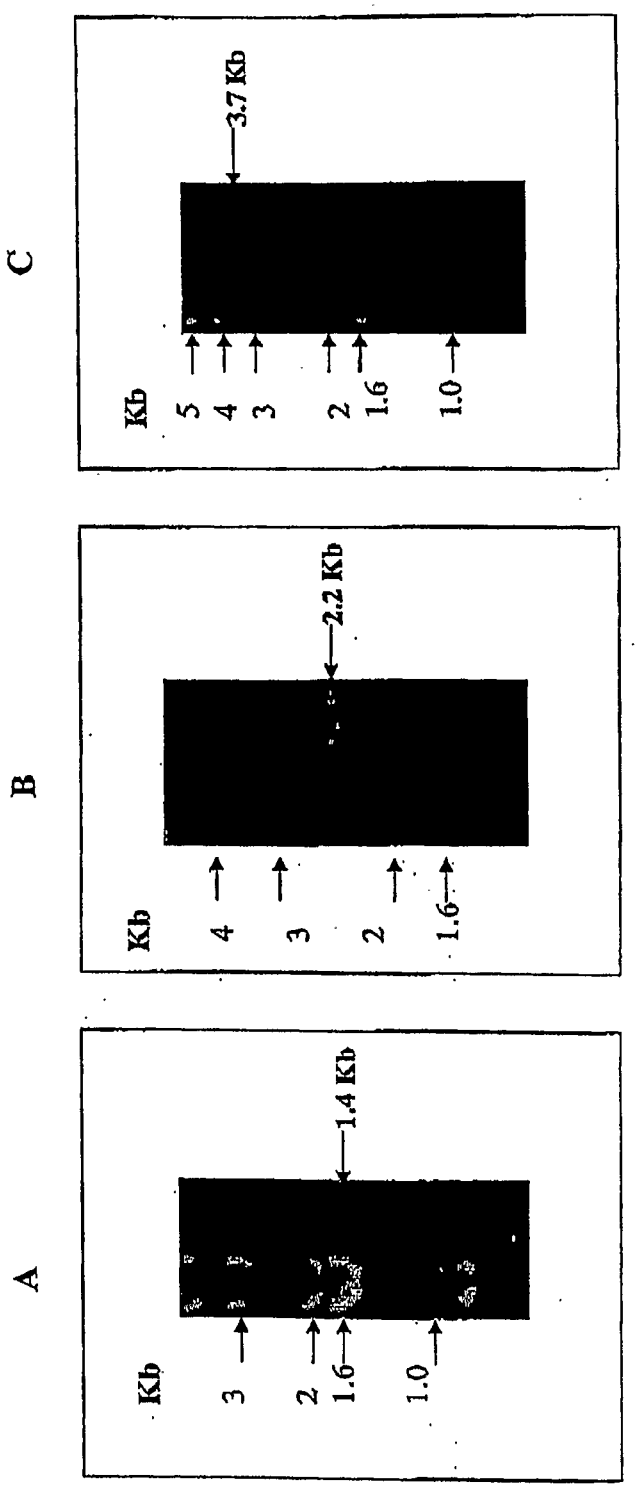


Figure 5

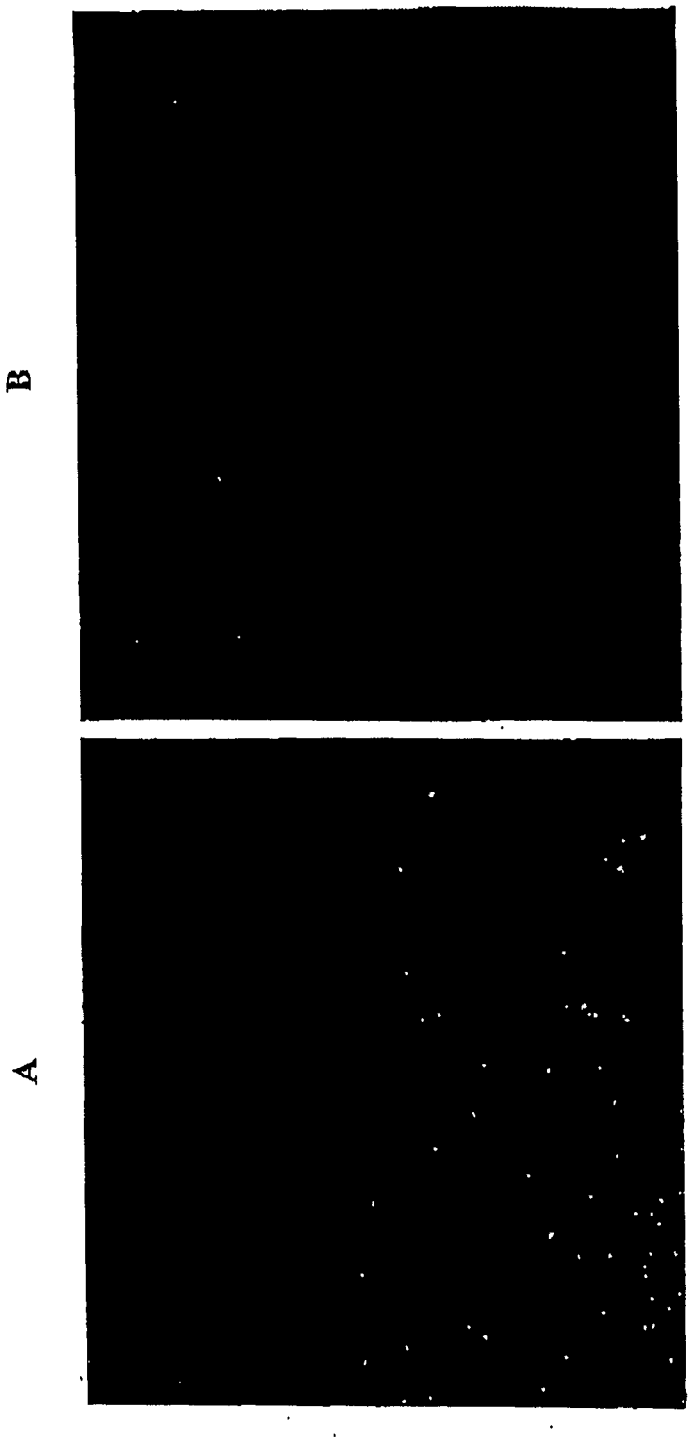


Figure 6

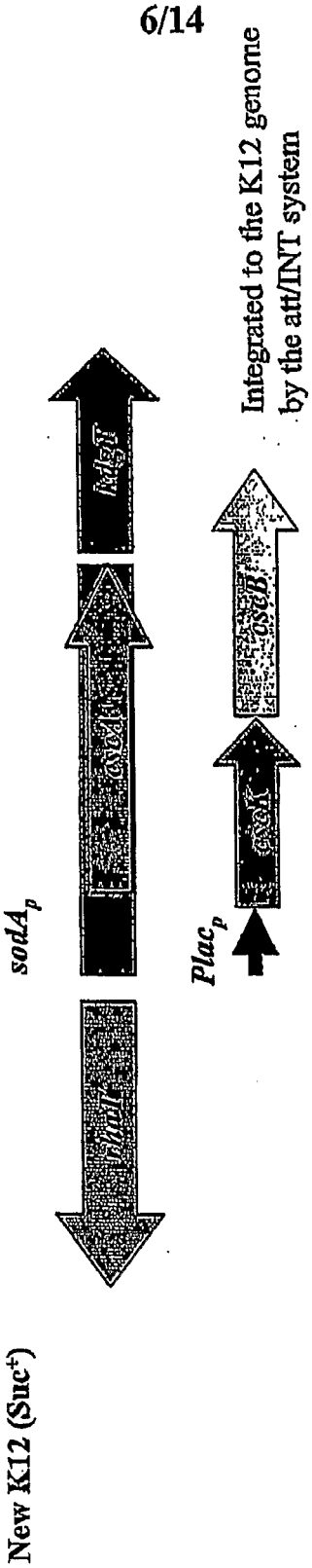

Integrated to the K12 genome
by the att/INT system
New K12 (Suc+)
sodAp
Placp

Figure 7

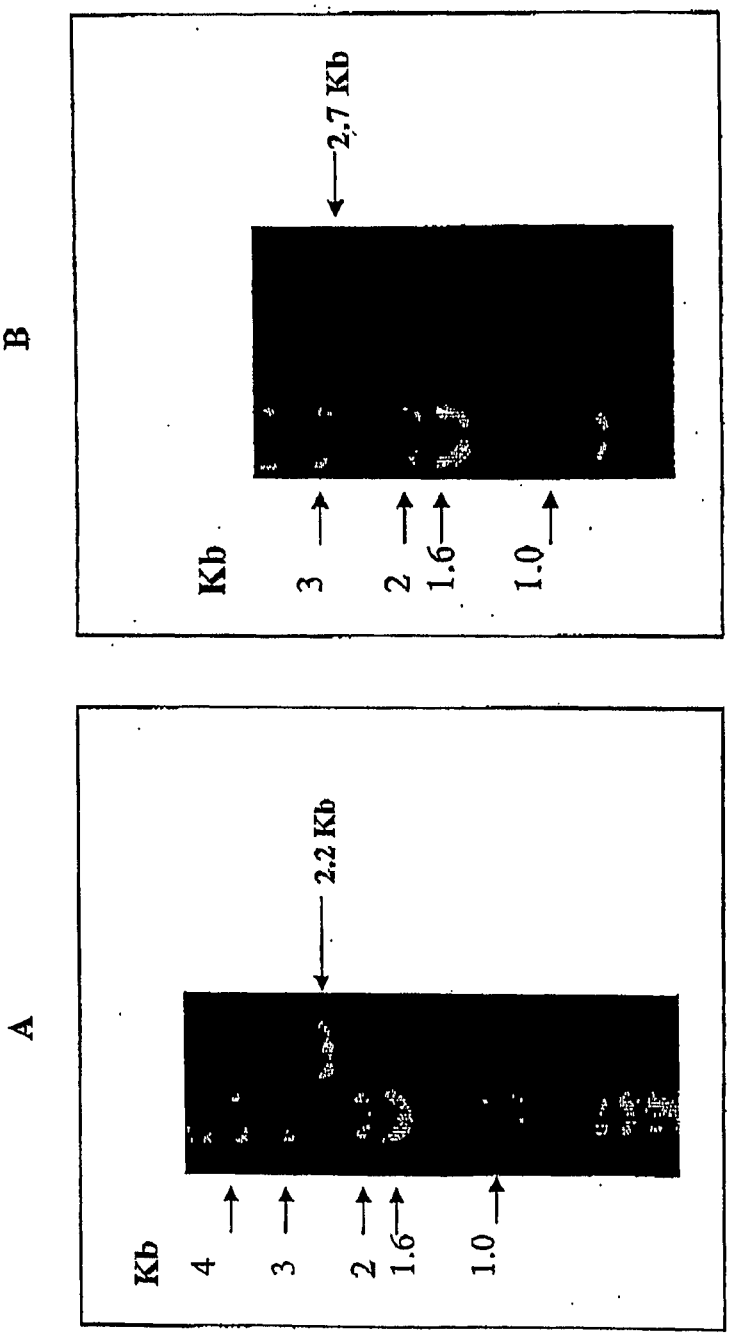
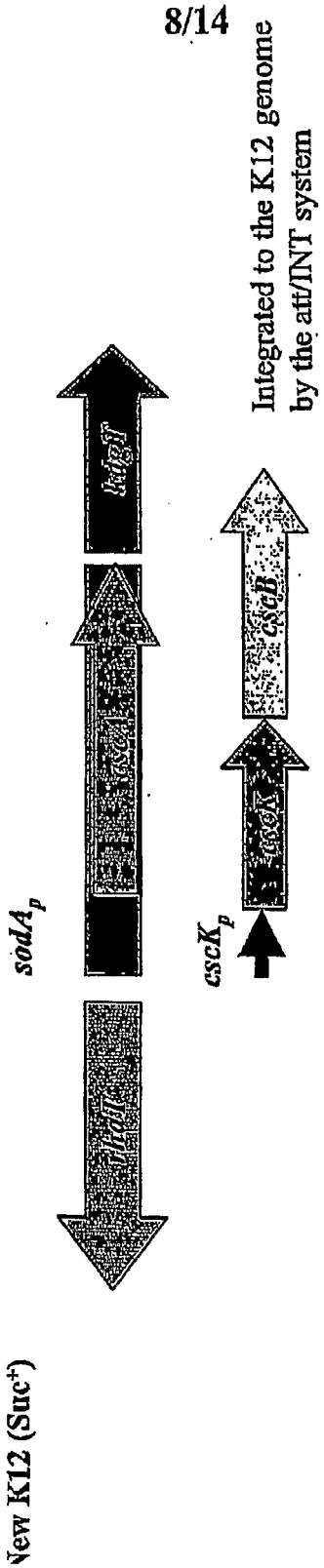


Figure 8


Integrated to the K12 genome
by the attI/INT system
sodA$_p$
cscK$_p$
New K12 (Suc$^+$)

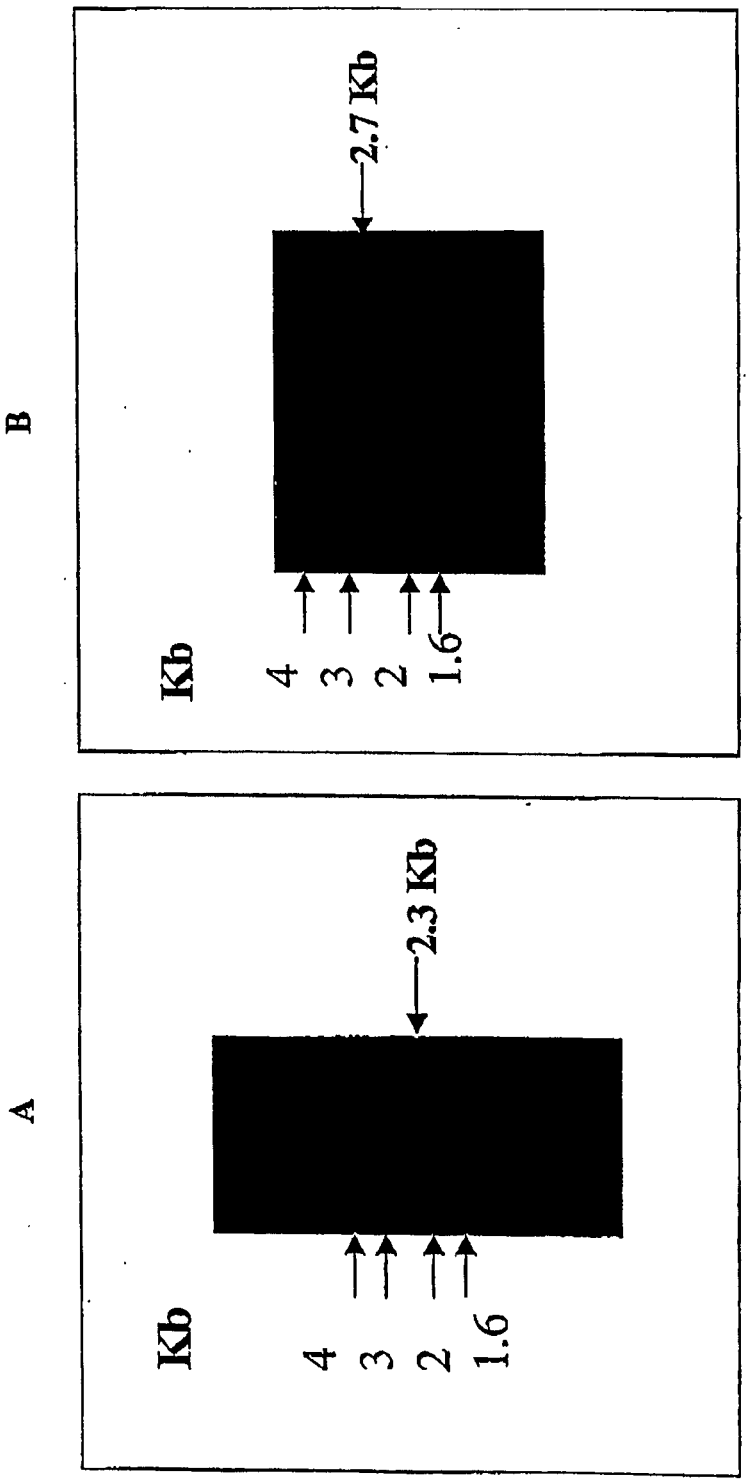



Figure 9

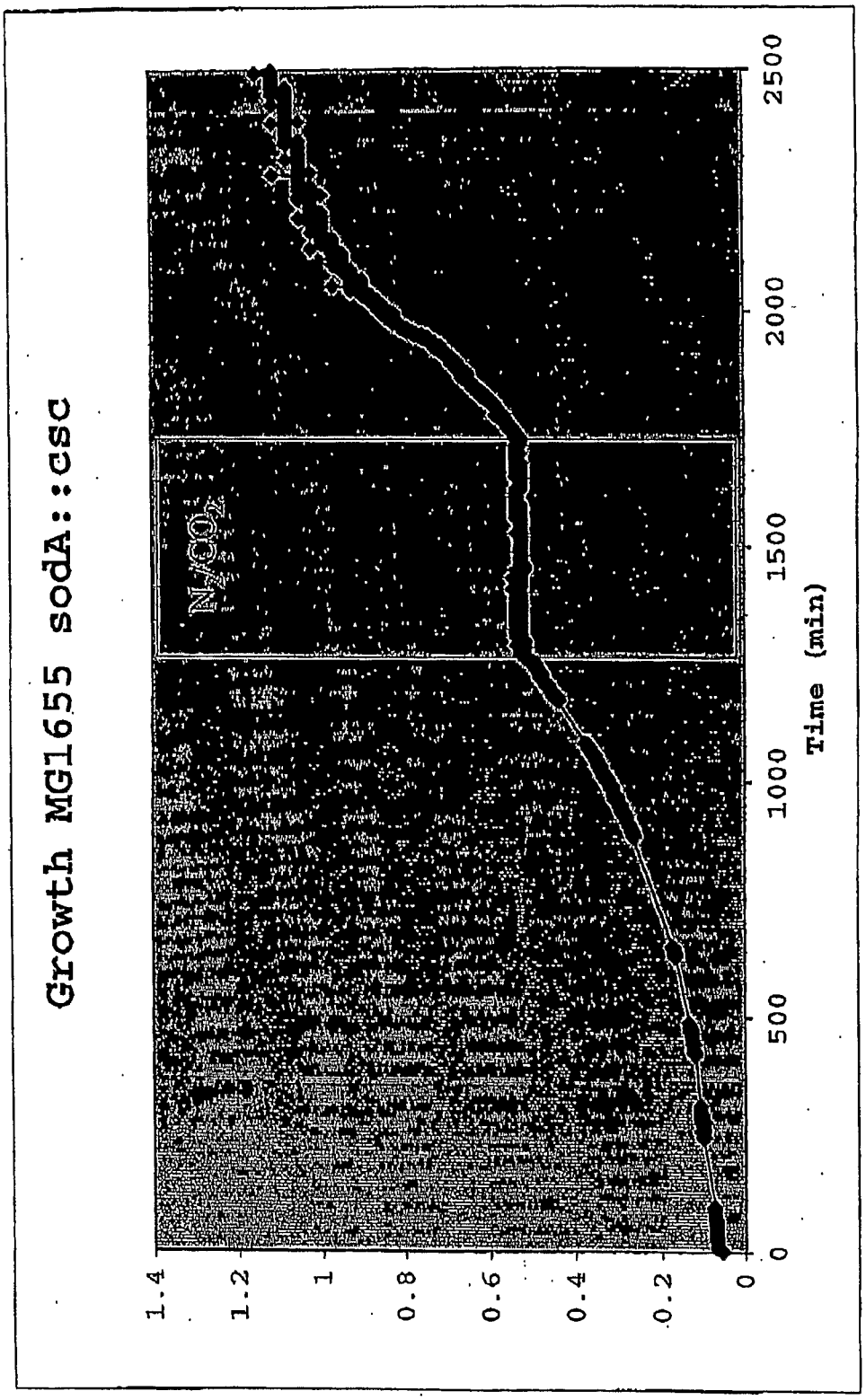

Growth MG1655 sodA::csc
N/OD
Time (min)
0
500
1000
1500
2000
2500
0
0.2
0.4
0.6
0.8
1
1.2
1.4

Figure 10

Figure 11

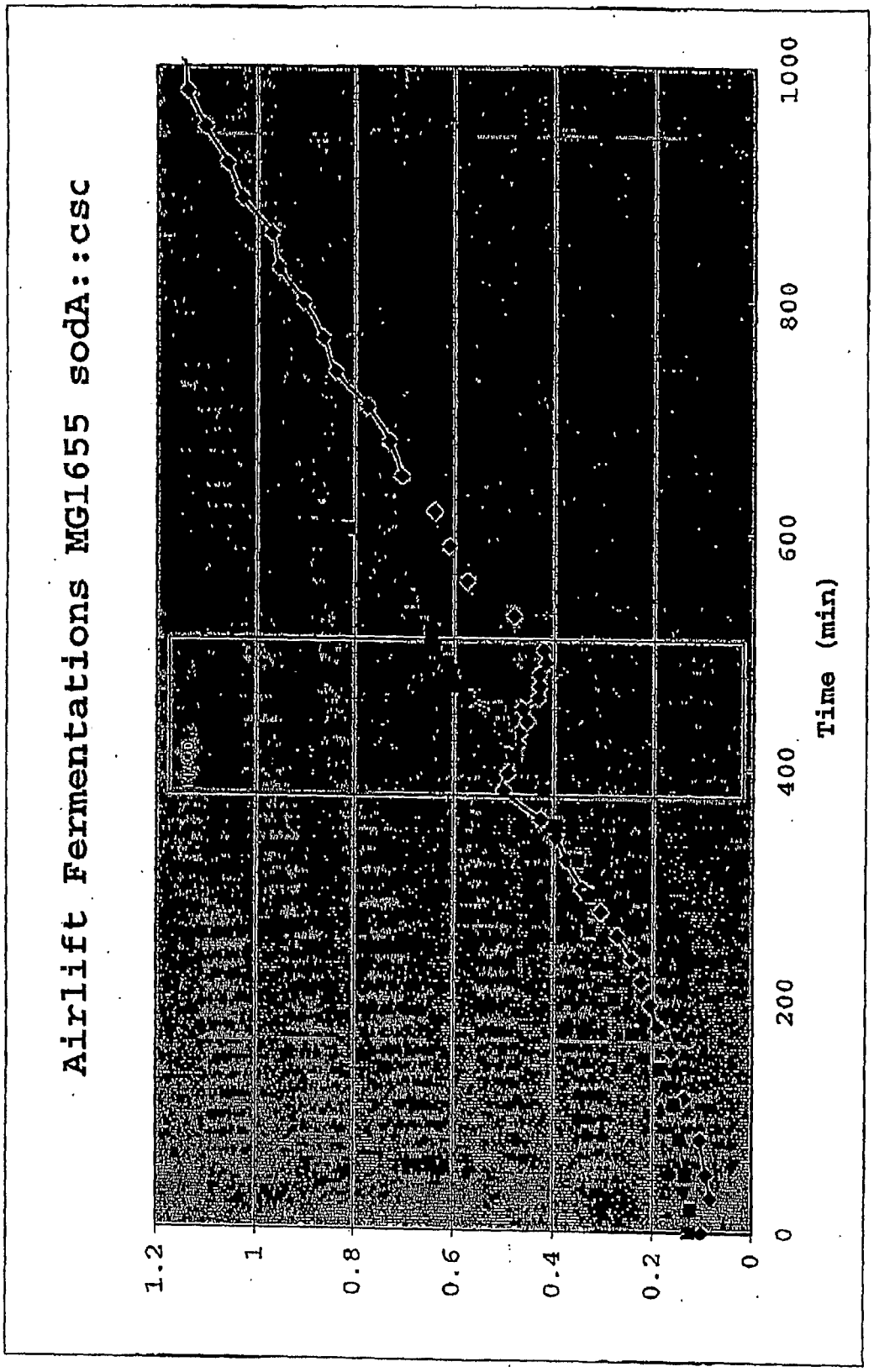
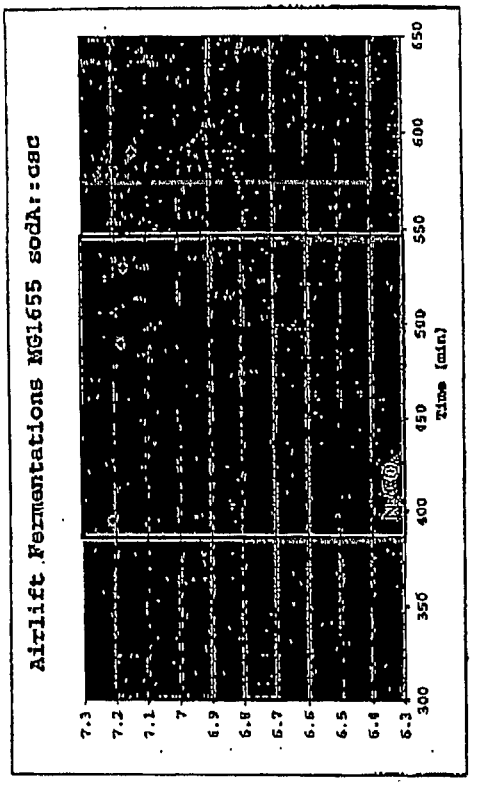

Airlift Fermentations MG1655 sodA::csc
1.2
1
0.8
0.6
0.4
0.2
0
0
200
400
600
800
1000
Time (min)

Figure 12


B
Airlift Fermentations MG1655 sodA::csc
Time (min)

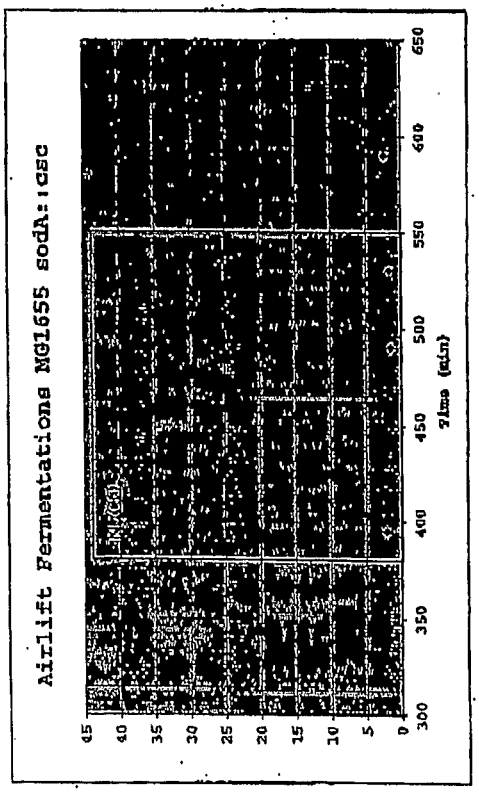

A
Airlift Fermentations MG1655 sodA::csc
Time (min)

Figure 13

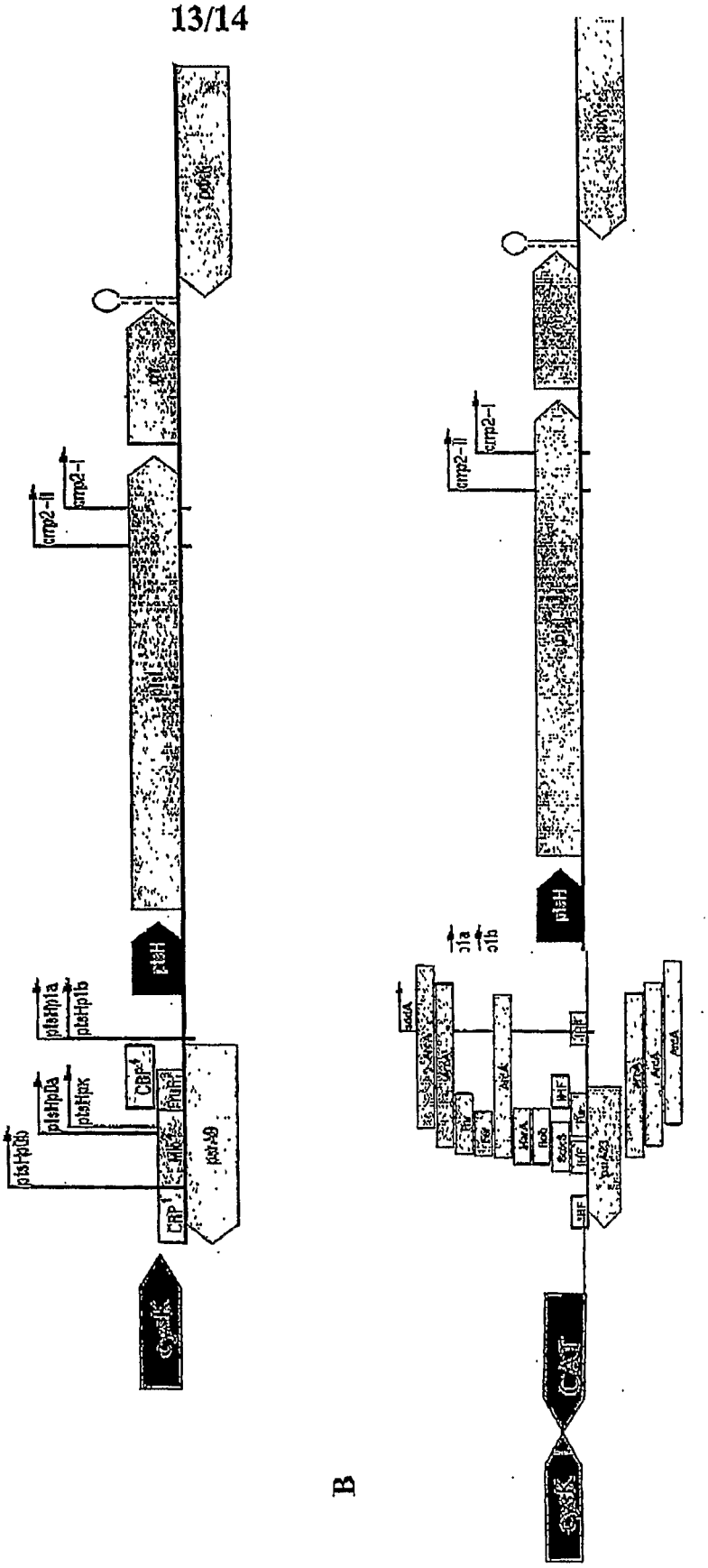
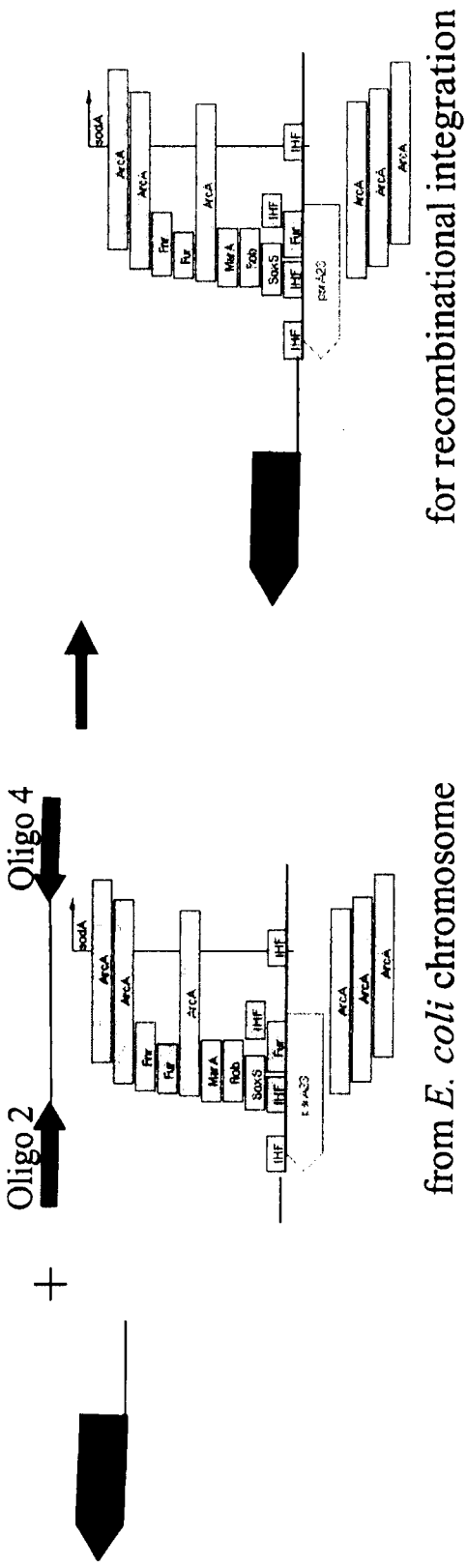

A
B
crp2-II
crp2-I
ptsH
ptsHp1a
ptsHp1b
ptsHp2a
ptsHp2x
ptsHp3b
CRP
CBP
cysK
CAT

Figure 14


Oligo 4
Oligo 2
+
from *E. coli* chromosome
for recombinational integration