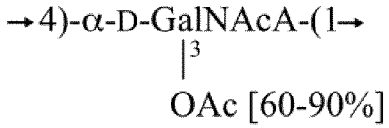
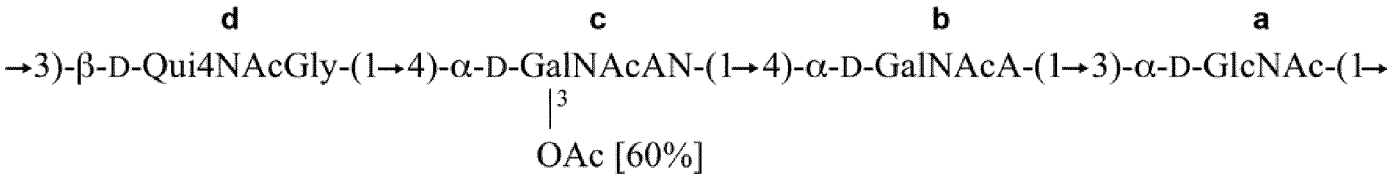
***S.* Typhi Vi:**




***E. coli* O121:**




***E. coli* O121 *wbqG* mutant:**

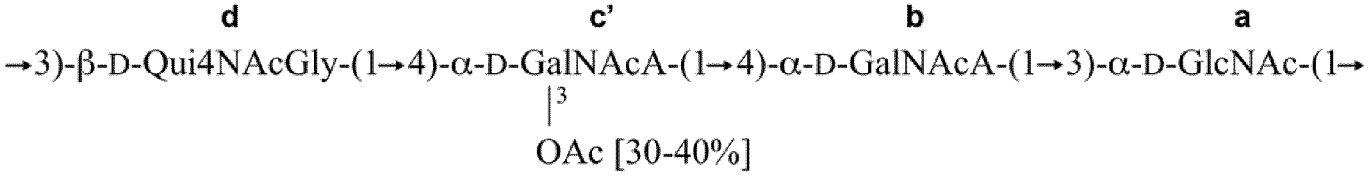



**FIG. 1**

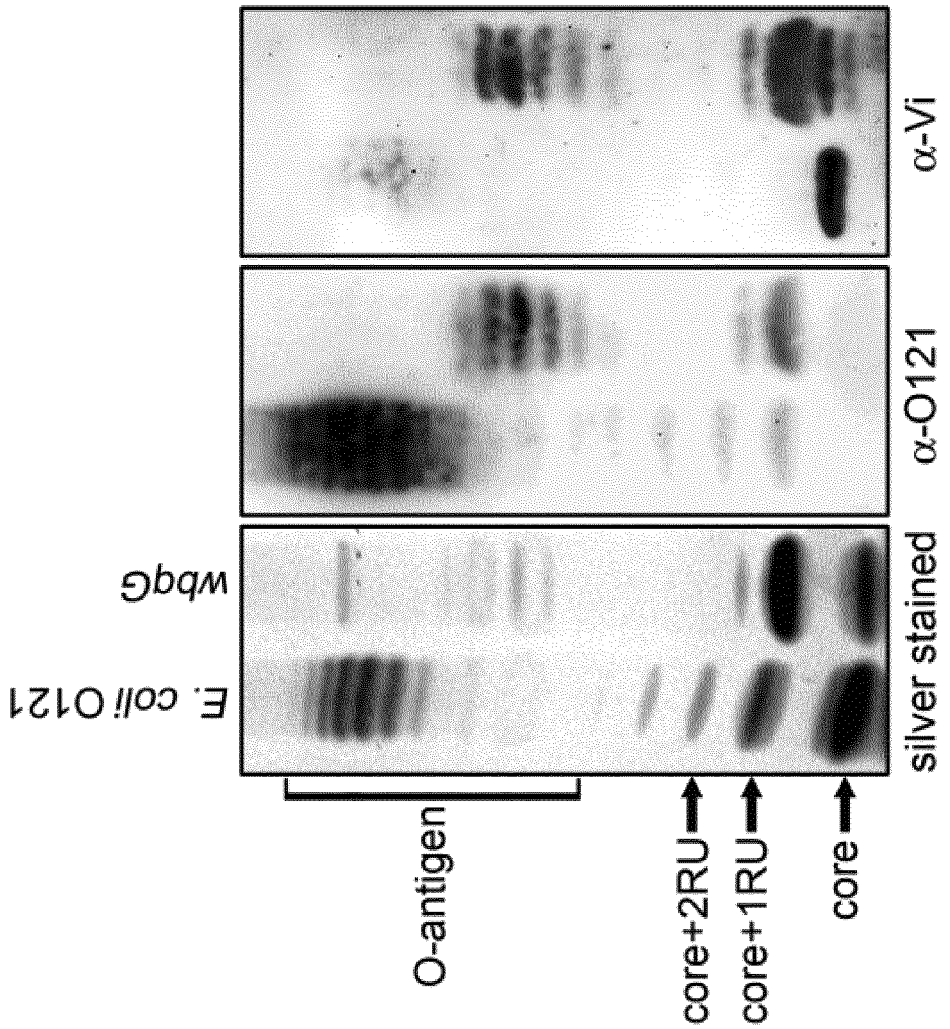

E. coli O121
wbqG
silver stained
α-O121
α-Vi
O-antigen
core+2RU
core+1RU
core

FIG. 2A

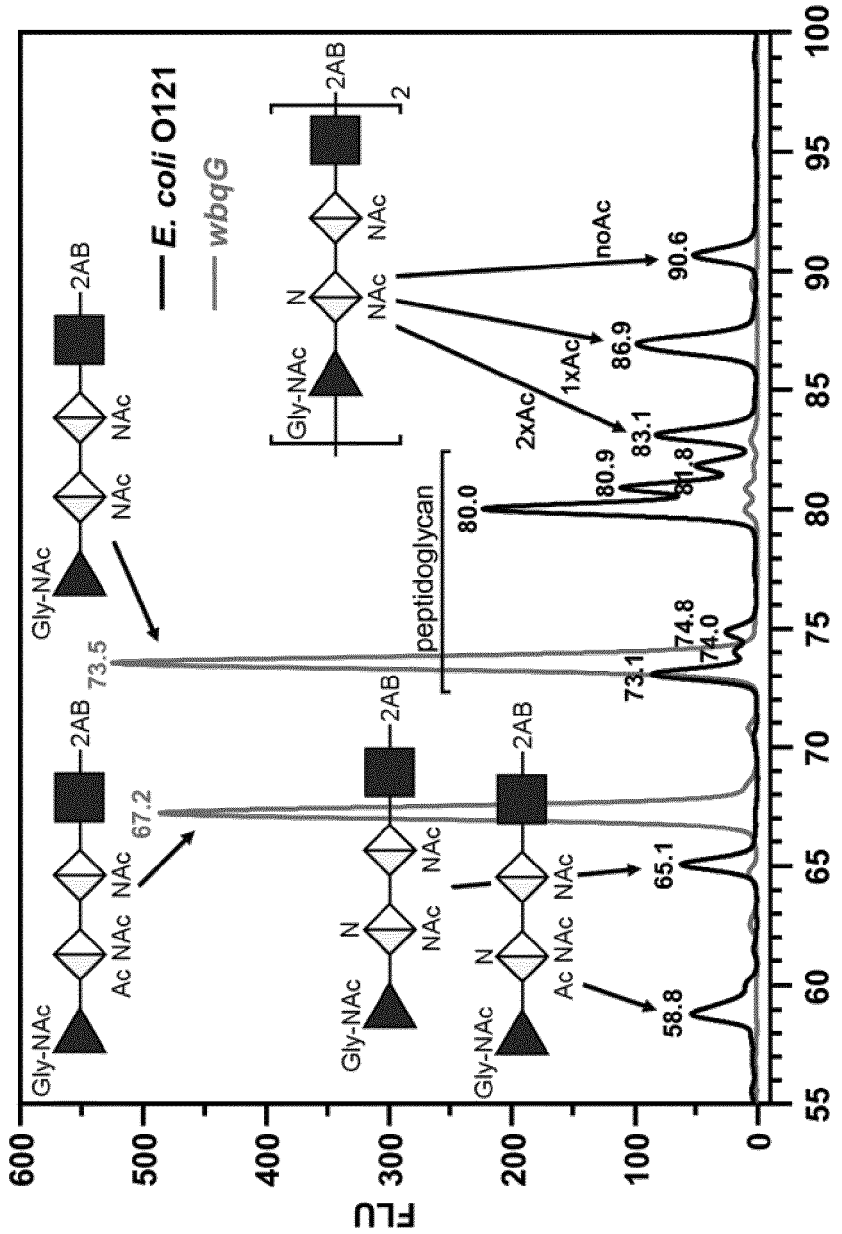

E. coli O121
wbqG
FLU
Minutes
peptidoglycan
Gly-NAc
2AB
NAc
Ac
N
2
noAc
1xAc
2xAc
58.8
65.1
67.2
73.1
73.5
74.0
74.8
80.0
80.9
81.8
83.1
86.9
90.6

FIG. 2B

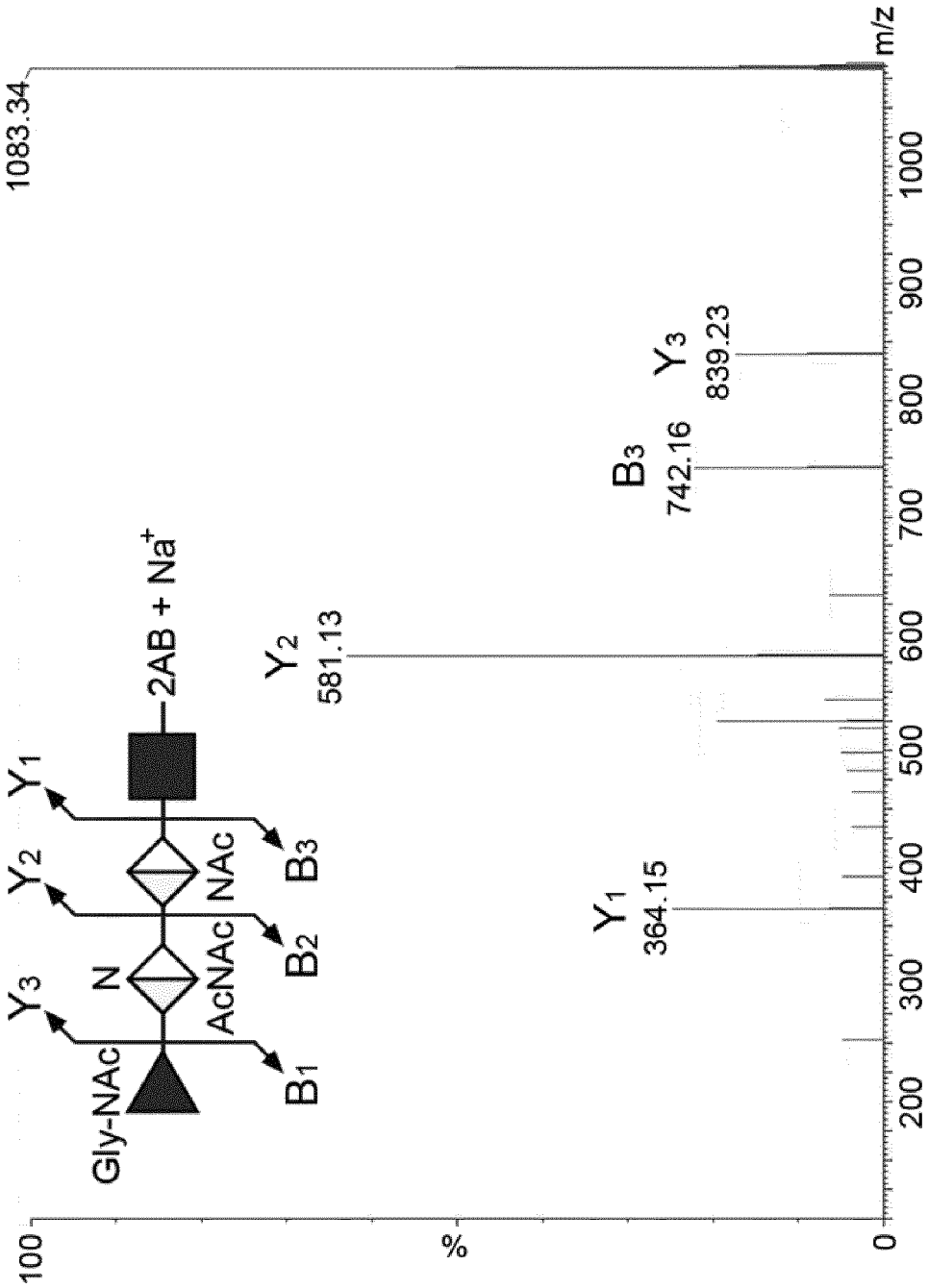

1083.34
m/z
1000
900
800
700
600
500
400
300
200
0
%
100
Y2
581.13
Y1
364.15
B3
742.16
Y3
839.23
2AB + Na+
Y1
Y2
Y3
B3
B2
B1
NAc
N
AcNAc
Gly-NAc

FIG. 3A

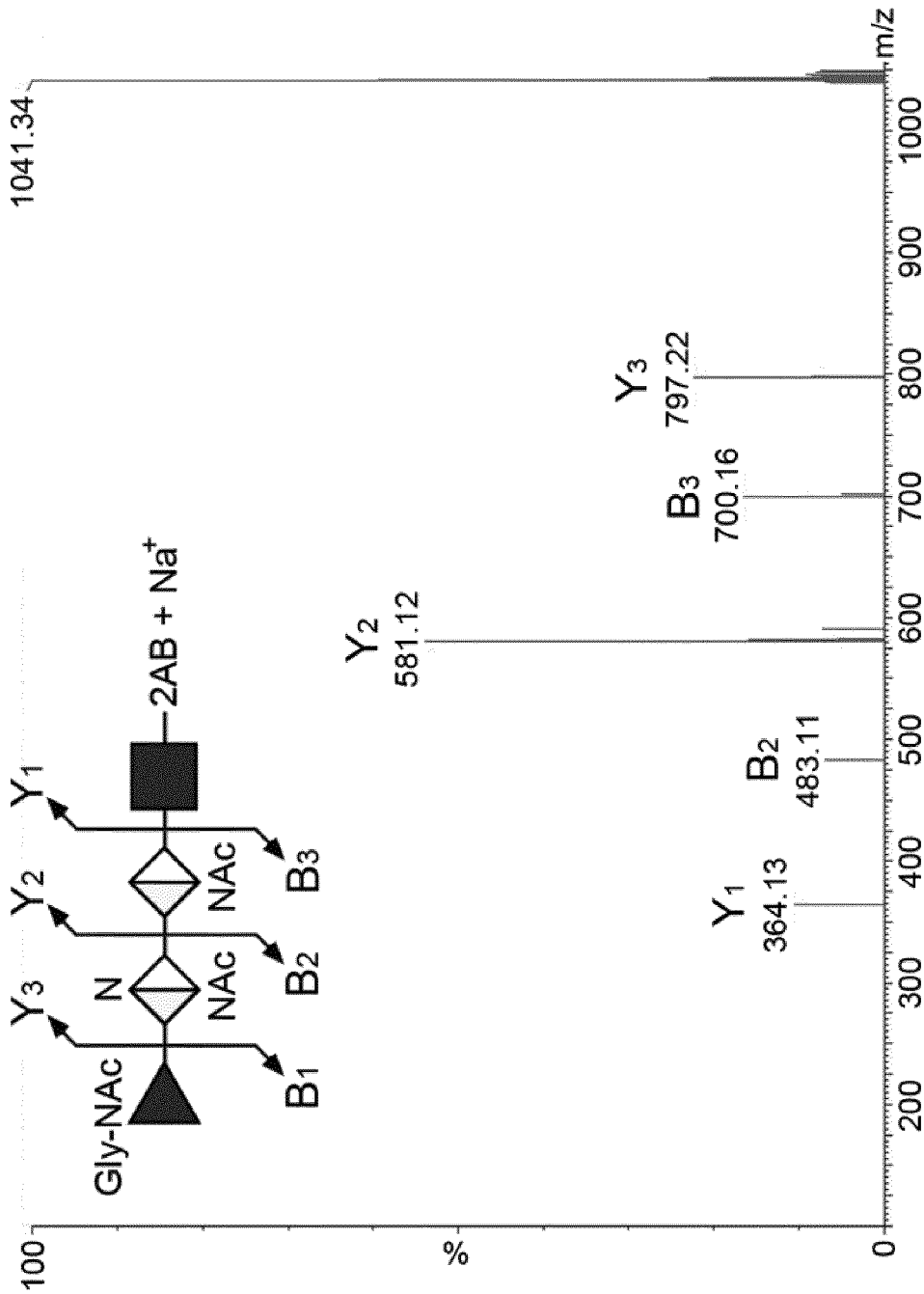

1041.34
m/z
2AB + Na+
Y1
Y2
Y3
B1
B2
B3
Gly-NAc
N
NAc
NAc
Y2
581.12
Y3
797.22
B3
700.16
B2
483.11
Y1
364.13
100
%
0
200
300
400
500
600
700
800
900
1000

FIG. 3B

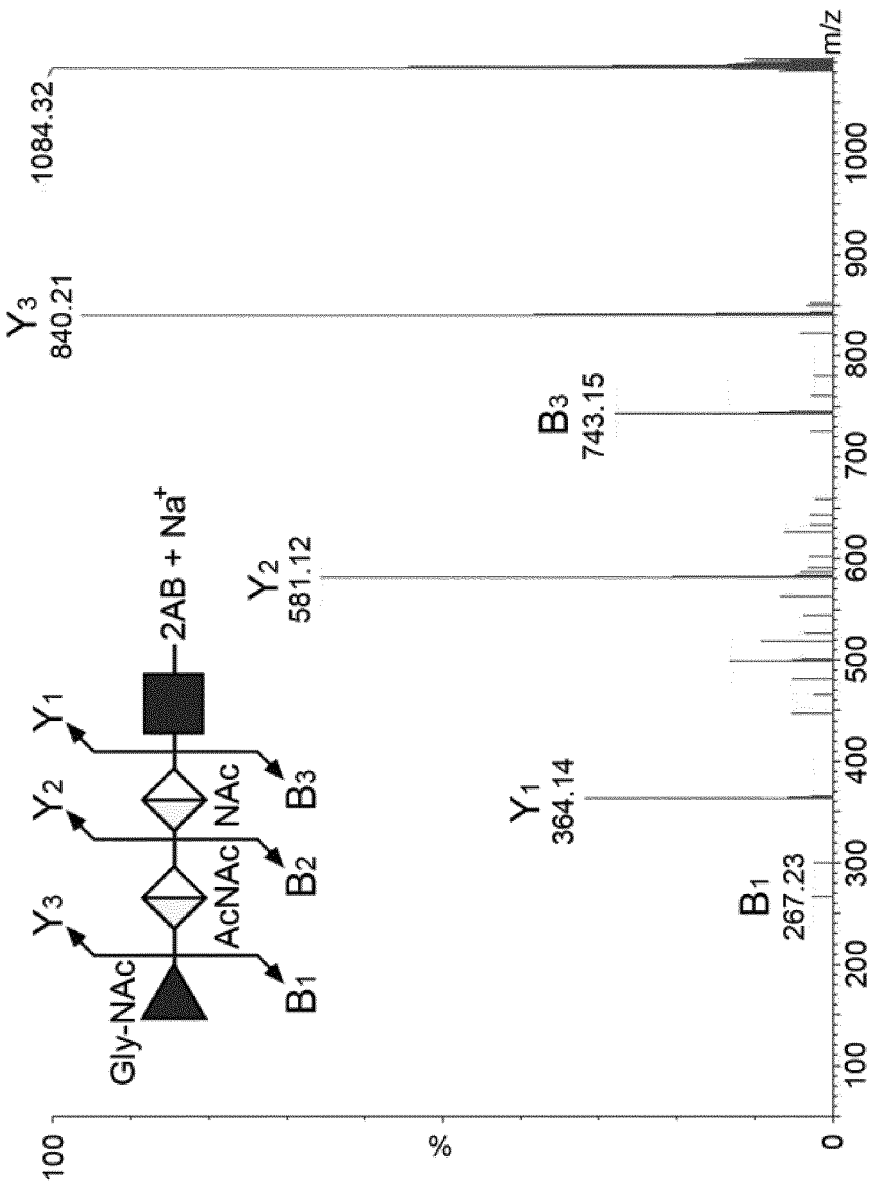

100
%
0
m/z
100
200
300
400
500
600
700
800
900
1000
1084.32
Y3
840.21
B3
743.15
Y2
581.12
Y1
364.14
B1
267.23
2AB + Na+
Y1
Y2
Y3
B3
B2
B1
NAc
AcNAc
Gly-NAc

FIG. 3C

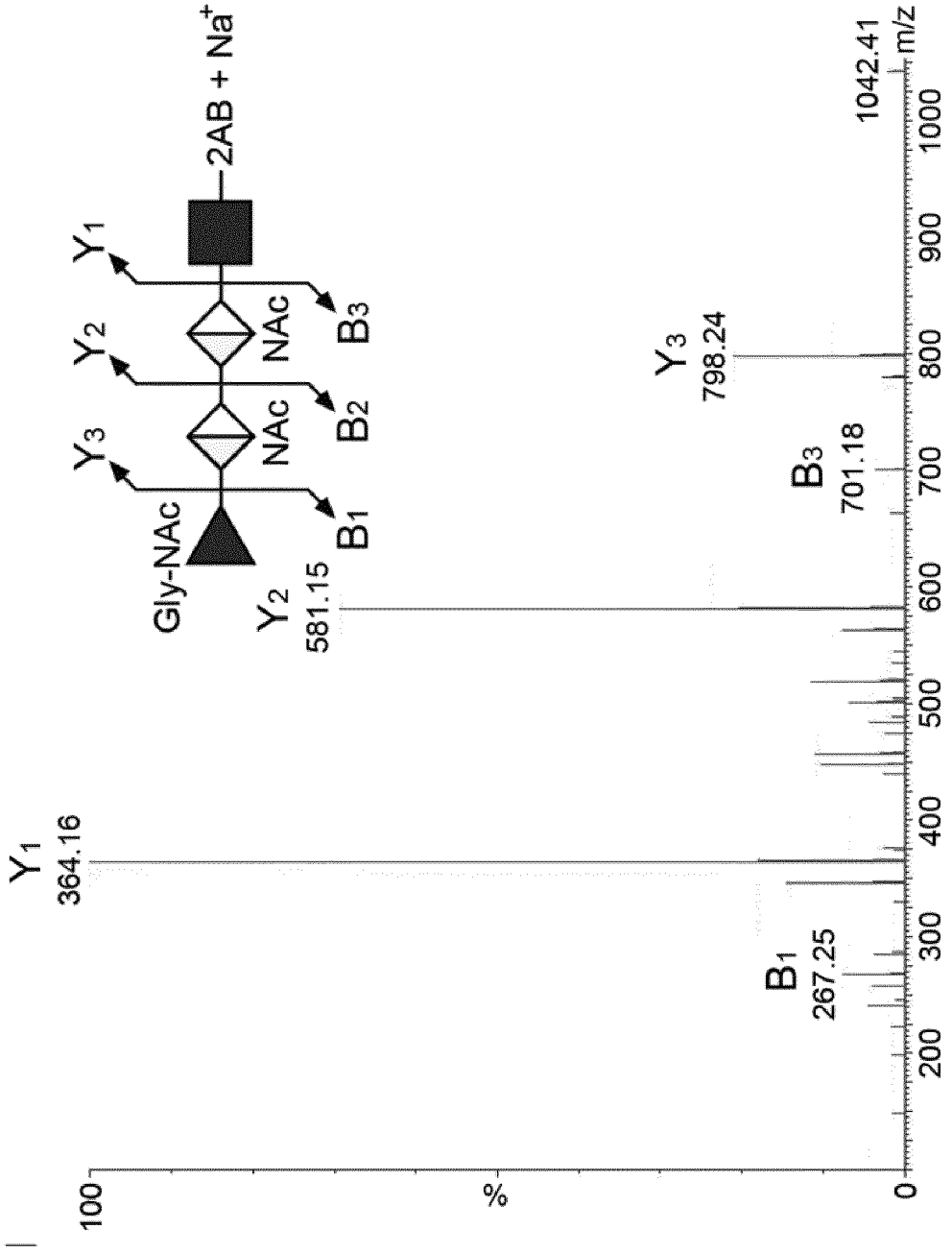

2AB + Na+
Y1
Y2
Y3
B3
B2
B1
NAc
NAc
Gly-NAc
Y1
364.16
B1
267.25
Y2
581.15
Y3
798.24
B3
701.18
1042.41
m/z
100
%
0
200
300
400
500
600
700
800
900
1000

FIG. 3D

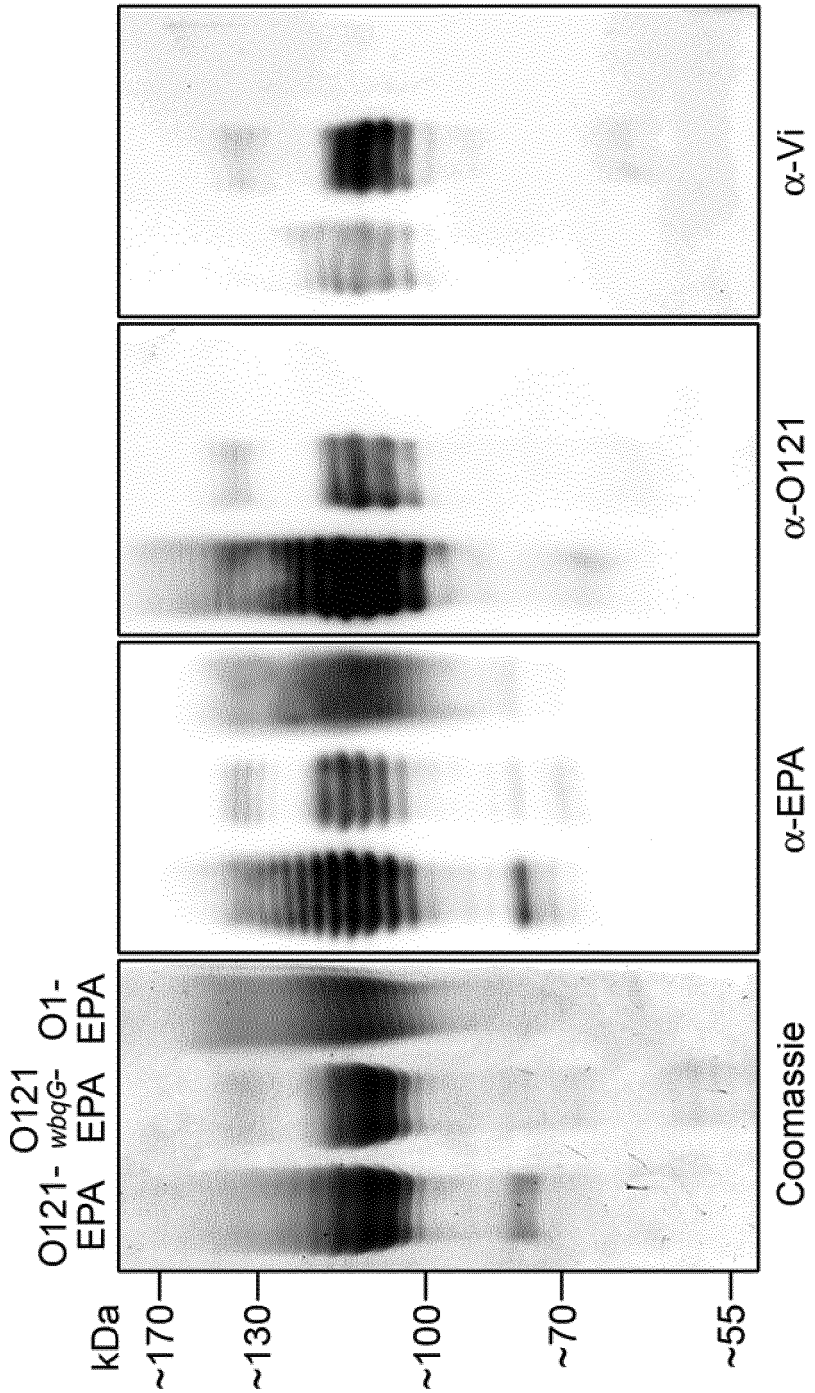

kDa
~170
~130
~100
~70
~55
O121-EPA
O121 wbqG-EPA
O1-EPA
Coomassie
α-EPA
α-O121
α-Vi

FIG. 4

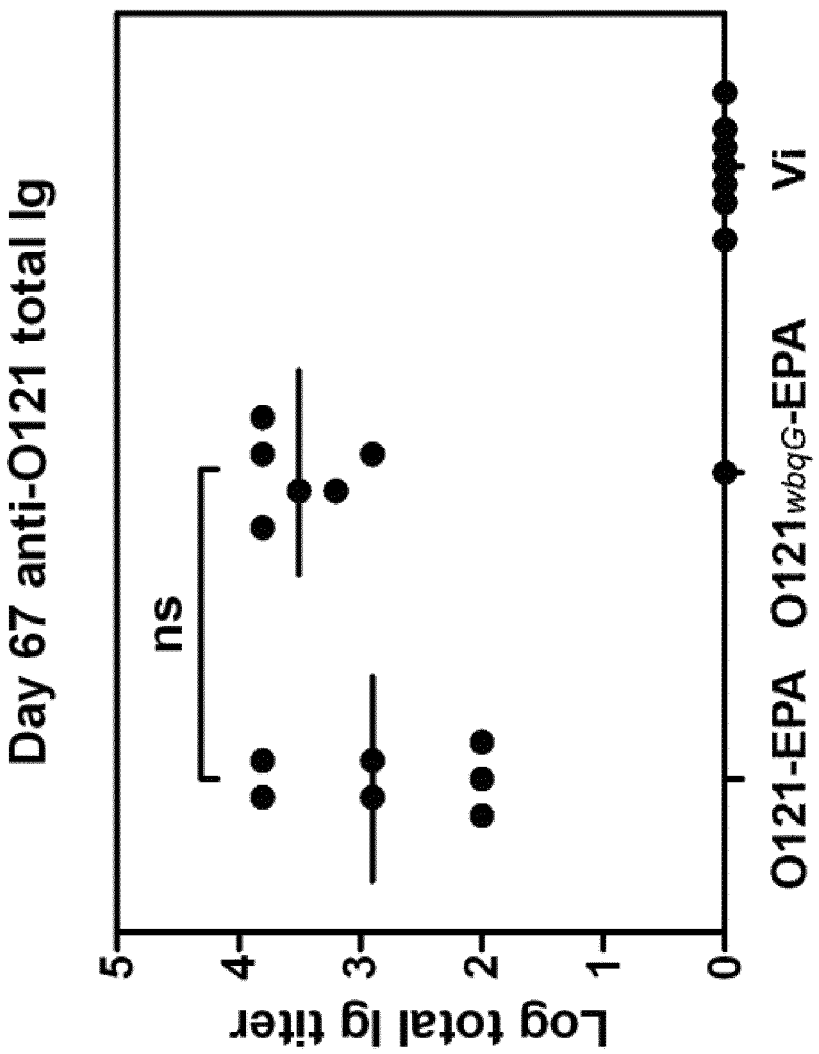

Day 67 anti-O121 total Ig
Log total Ig titer
5
4
3
2
1
0
ns
O121-EPA +Alum
O121wbqG-EPA +Alum
Vi

FIG. 5A

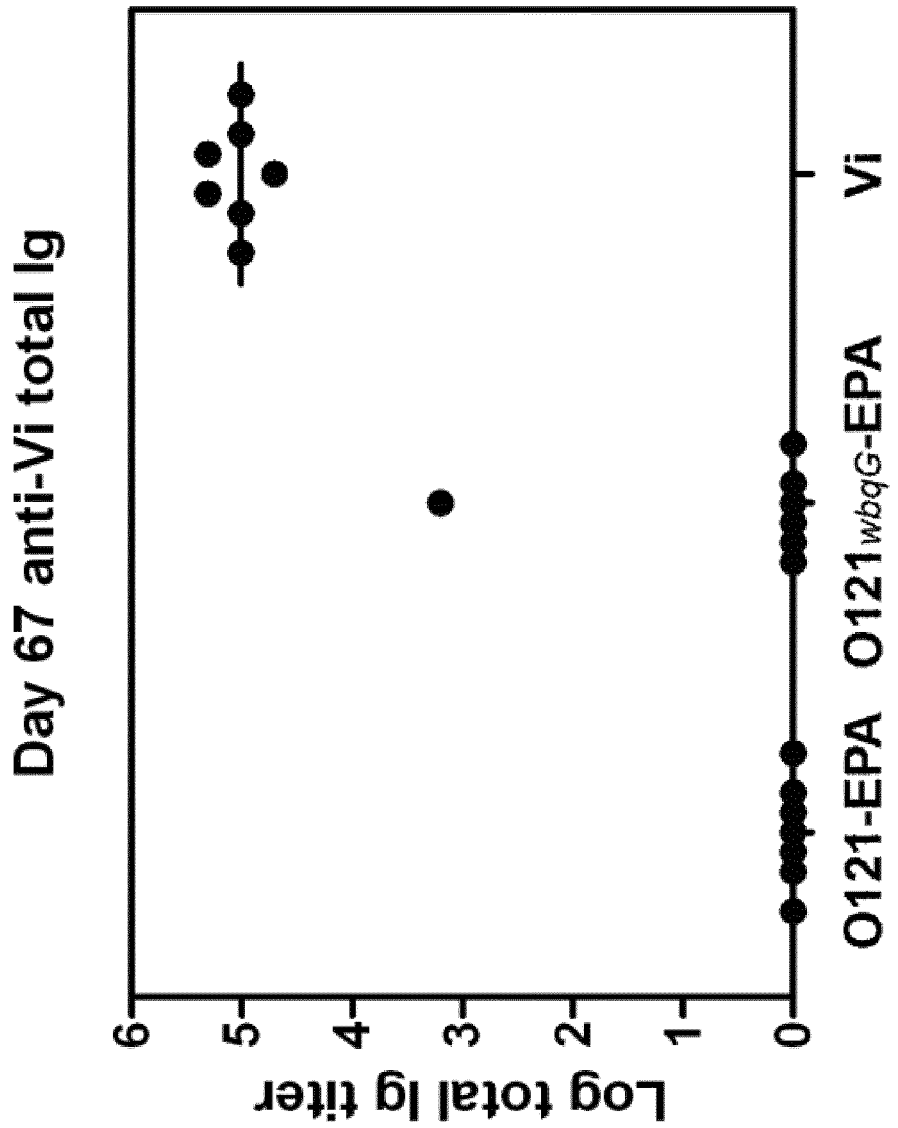

Day 67 anti-Vi total Ig
Log total Ig titer
0
1
2
3
4
5
6
O121-EPA +Alum
O121wbqG-EPA +Alum
Vi

FIG. 5B