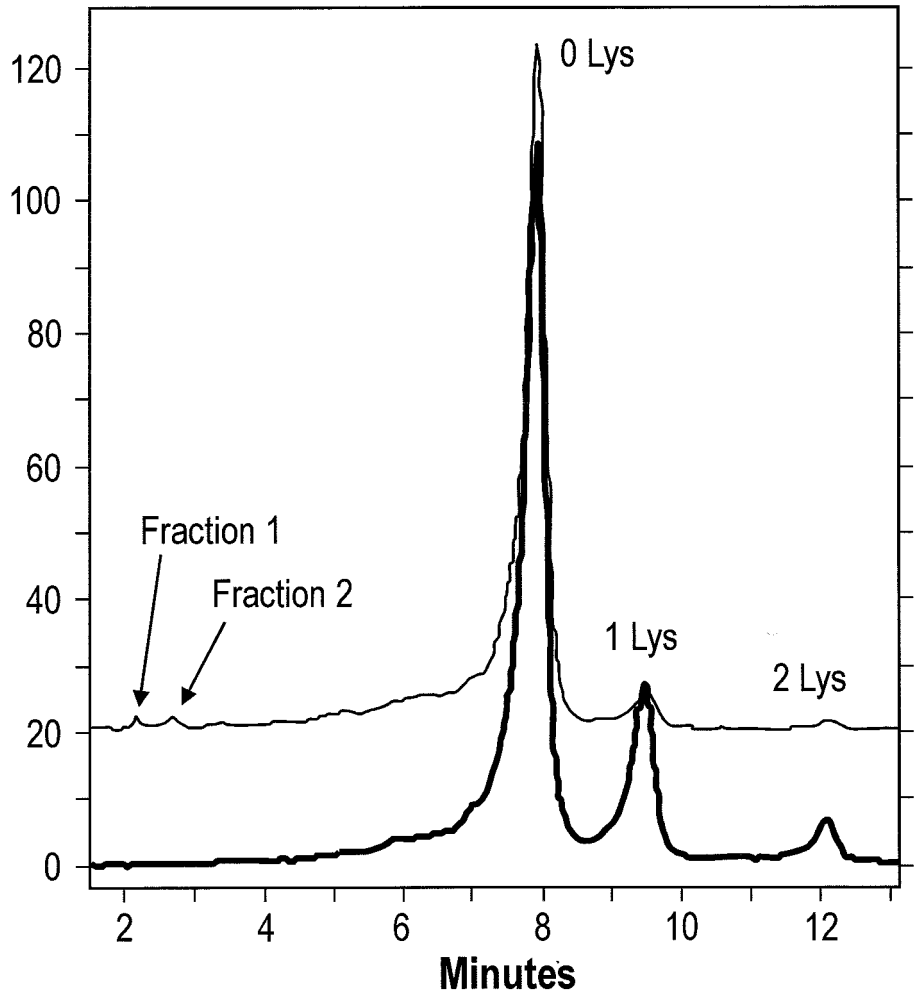

120
100
80
60
40
20
0
0 Lys
Fraction 1
Fraction 2
1 Lys
2 Lys
2
4
6
8
10
12
Minutes

Fig. 1

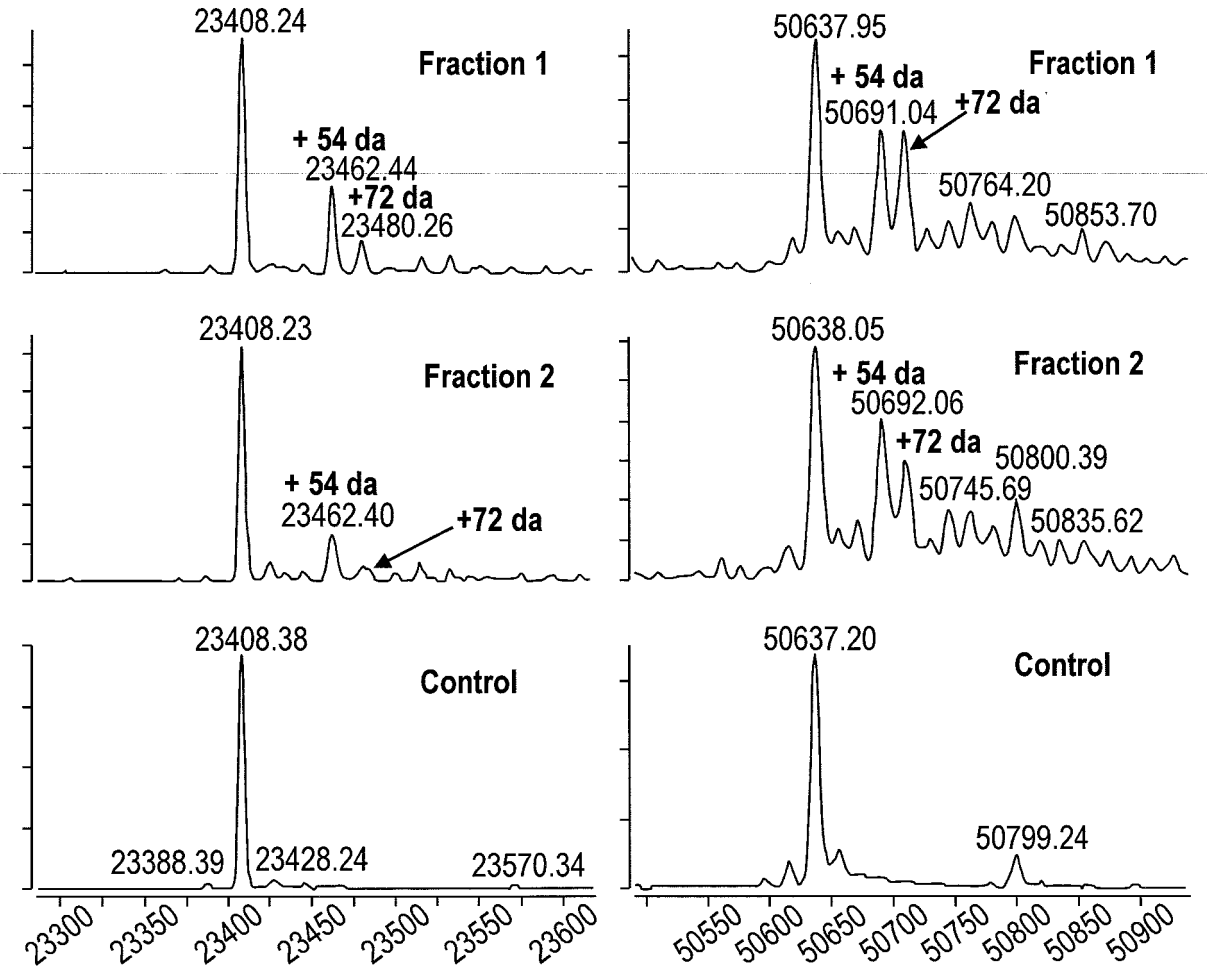

23408.24
Fraction 1
+ 54 da
23462.44
+72 da
23480.26
50637.95
+ 54 da
Fraction 1
50691.04
+72 da
50764.20
50853.70
23408.23
Fraction 2
+ 54 da
23462.40
+72 da
50638.05
+ 54 da
Fraction 2
50692.06
+72 da
50800.39
50745.69
50835.62
23408.38
Control
23388.39
23428.24
23570.34
50637.20
Control
50799.24
23300
23350
23400
23450
23500
23550
23600
50550
50600
50650
50700
50750
50800
50850
50900

Fig. 2

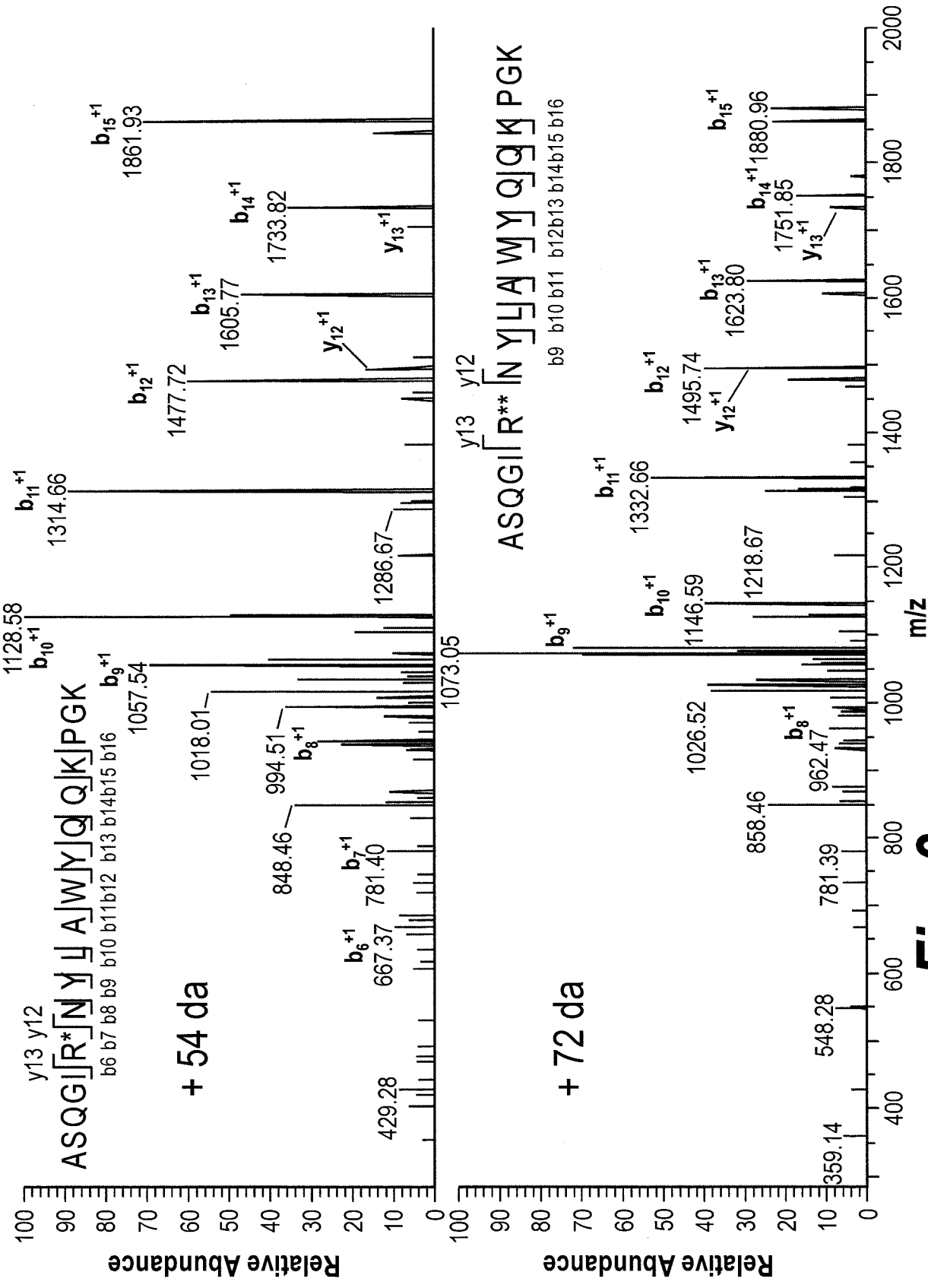

+ 54 da
+ 72 da
Relative Abundance
m/z
ASQGIR*NYLAWYQQKPGK
ASQGIR**NYLAWYQQKPGK
y13 y12
b6 b7 b8 b9 b10 b11 b12 b13 b14 b15 b16
b9 b10 b11 b12 b13 b14 b15 b16
1128.58
1314.66
1477.72
1605.77
1733.82
1861.93
1057.54
1018.01
994.51
848.46
667.37
781.40
429.28
1286.67
1073.05
1332.66
1495.74
1623.80
1751.85
1880.96
1146.59
1218.67
1026.52
858.46
962.47
781.39
548.28
359.14

Fig. 3

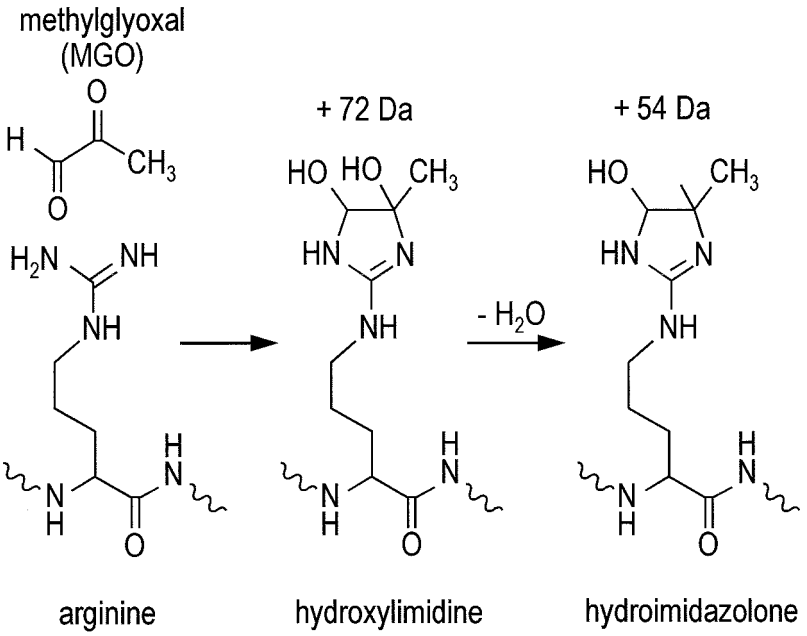

methylglyoxal
(MGO)
+ 72 Da
+ 54 Da
- H_2O
arginine
hydroxylimidine
hydroimidazolone

Fig. 4

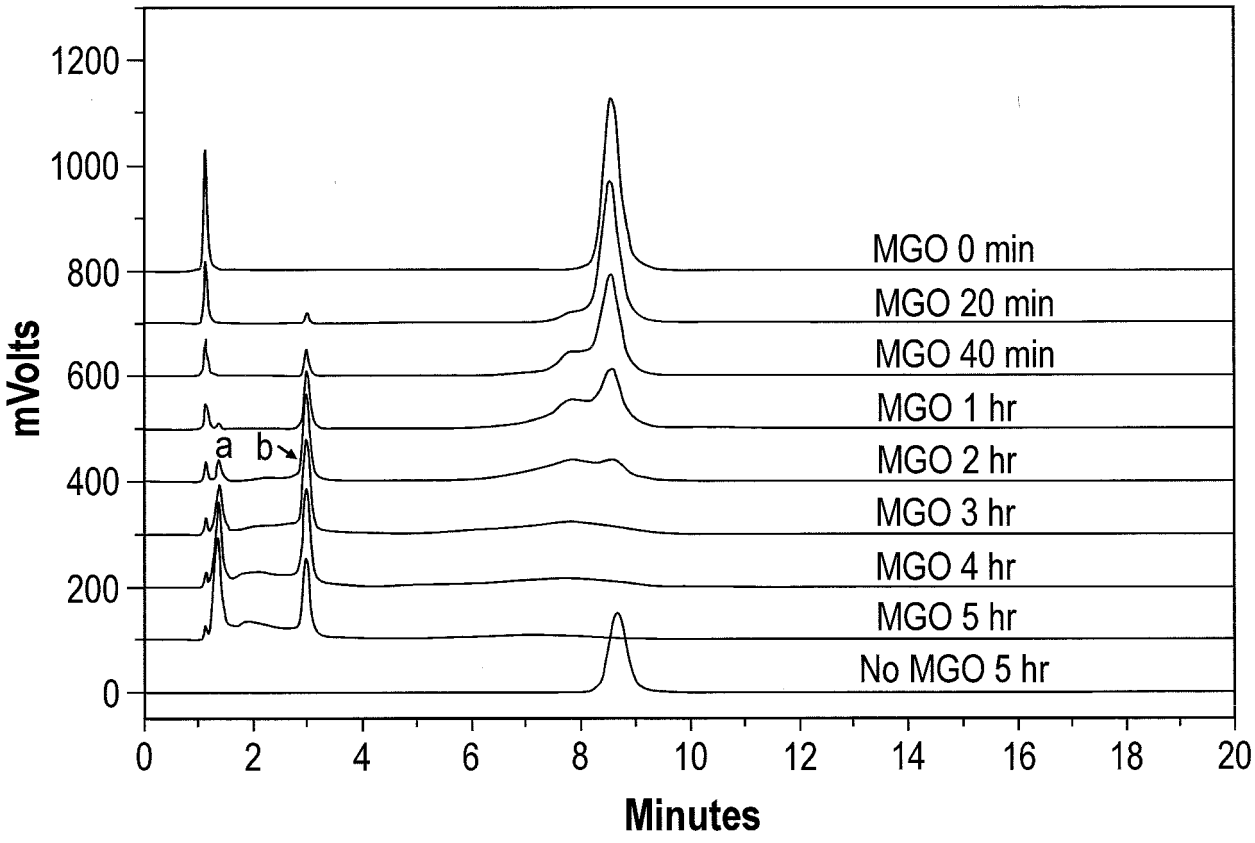

1200
1000
800
600
400
200
0
mVolts
a
b
MGO 0 min
MGO 20 min
MGO 40 min
MGO 1 hr
MGO 2 hr
MGO 3 hr
MGO 4 hr
MGO 5 hr
No MGO 5 hr
0
2
4
6
8
10
12
14
16
18
20
Minutes

Fig. 5

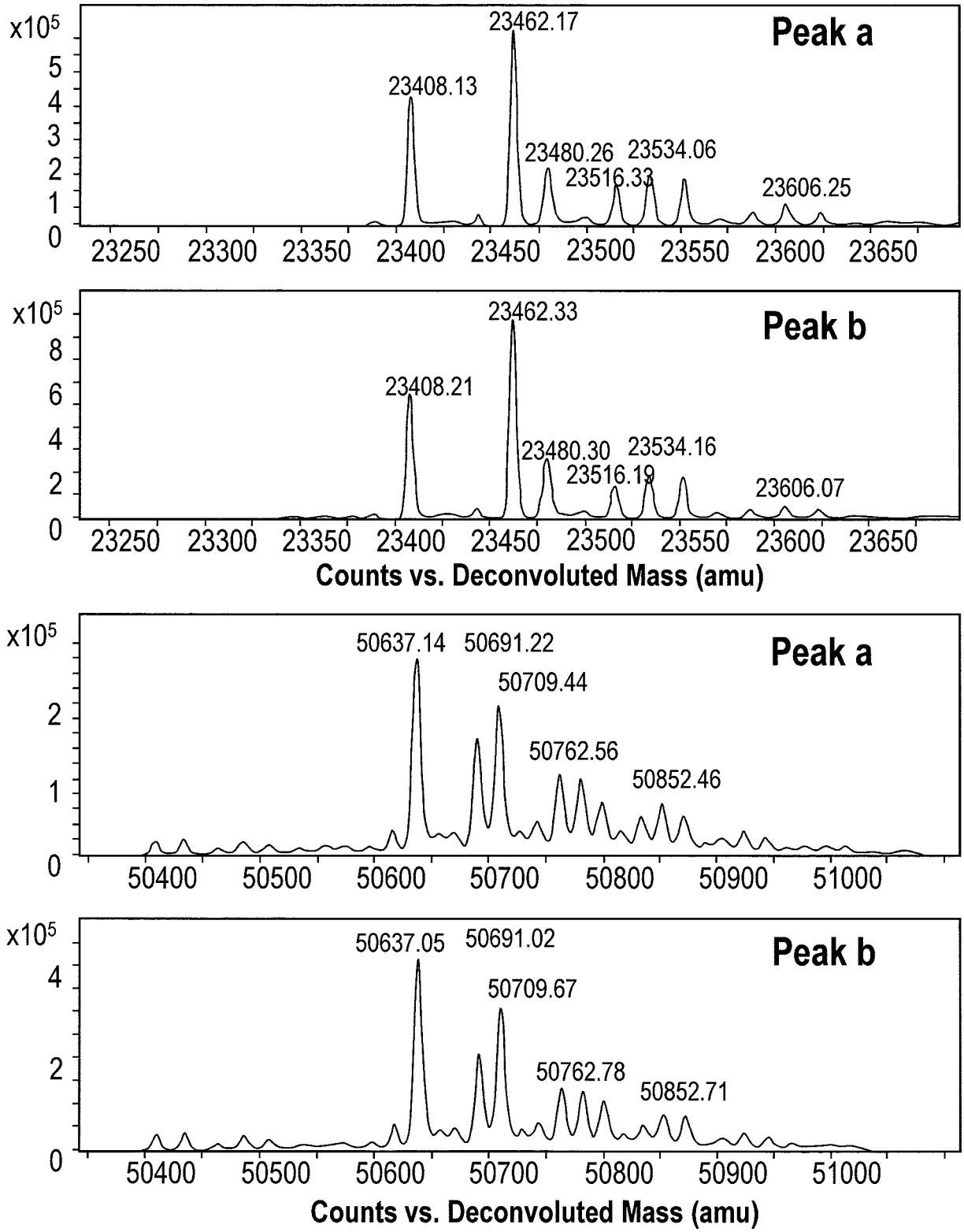

x10^5
Peak a
23462.17
23408.13
23480.26
23534.06
23516.33
23606.25
23250 23300 23350 23400 23450 23500 23550 23600 23650
x10^5
Peak b
23462.33
23408.21
23480.30
23534.16
23516.19
23606.07
23250 23300 23350 23400 23450 23500 23550 23600 23650
Counts vs. Deconvoluted Mass (amu)
x10^5
Peak a
50637.14
50691.22
50709.44
50762.56
50852.46
50400 50500 50600 50700 50800 50900 51000
x10^5
Peak b
50637.05
50691.02
50709.67
50762.78
50852.71
50400 50500 50600 50700 50800 50900 51000
Counts vs. Deconvoluted Mass (amu)

Fig. 6

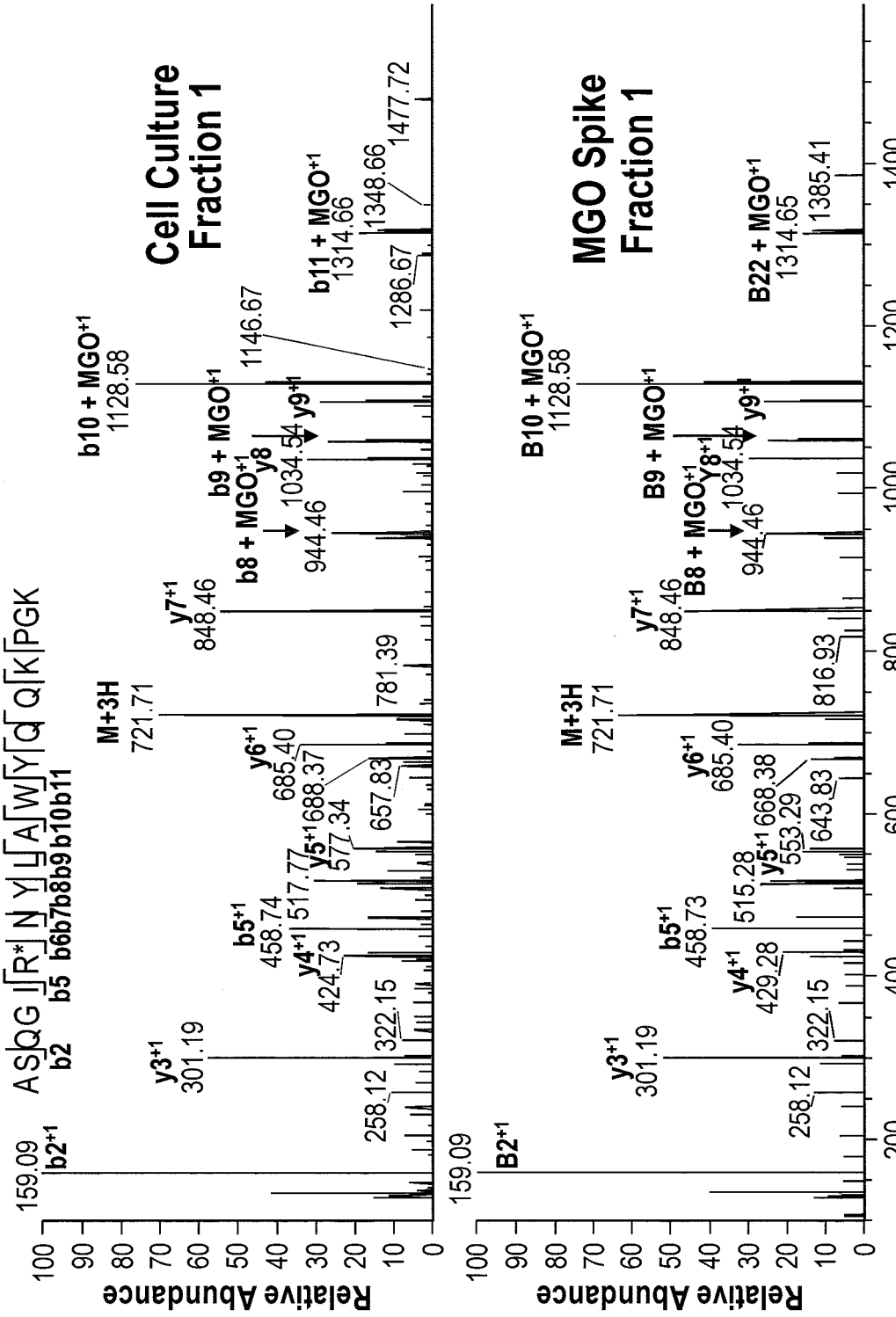

Cell Culture
Fraction 1
MGO Spike
Fraction 1
Relative Abundance
m/z
y9 y8 y7y6y5 y4y3
b2 b5 b6b7b8b9 b10b11
M+3H
721.71
b10 + MGO+1
1128.58
b9 + MGO+1
b8 + MGO+1
b11 + MGO+1
1314.66
B22 + MGO+1
1314.65
y7+1
848.46
y6+1
685.40
y5+1
668.38
y4+1
429.28
b5+1
458.73
y3+1
301.19
b2+1
159.09
258.12
322.15
553.29
643.83
816.93
944.46
1034.54
1146.67
1286.67
1348.66
1385.41
1477.72

Fig. 7

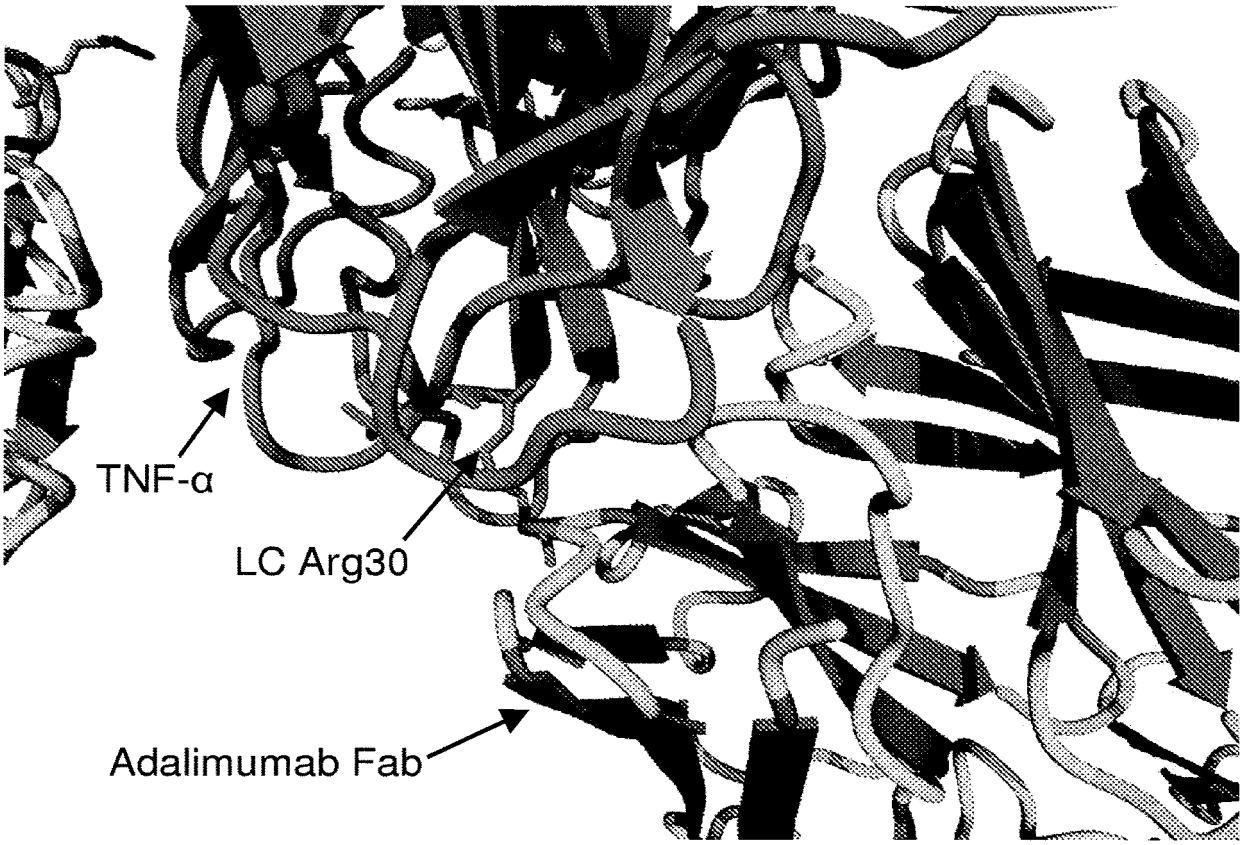


Fig. 8

	ka (1/Ms)	kd (1/s)	KD (M)
0Lys Run1	1.85E+06	1.13E-04	6.10E-11
0Lys Run2	1.90E+06	1.04E-04	5.49E-11
0Lys Run3	1.75E+06	1.04E-04	5.96E-11
Average	1.83E+06	1.07E-04	5.85E-11
Peak 1 Run1	1.46E+06	2.67E-04	1.83E-10
Peak 1 Run2	1.56E+06	2.52E-04	1.61E-10
Peak 1 Run3	1.53E+06	2.53E-04	1.66E-10
Average	1.52E+06	2.57E-04	1.70E-10

Fig. 9

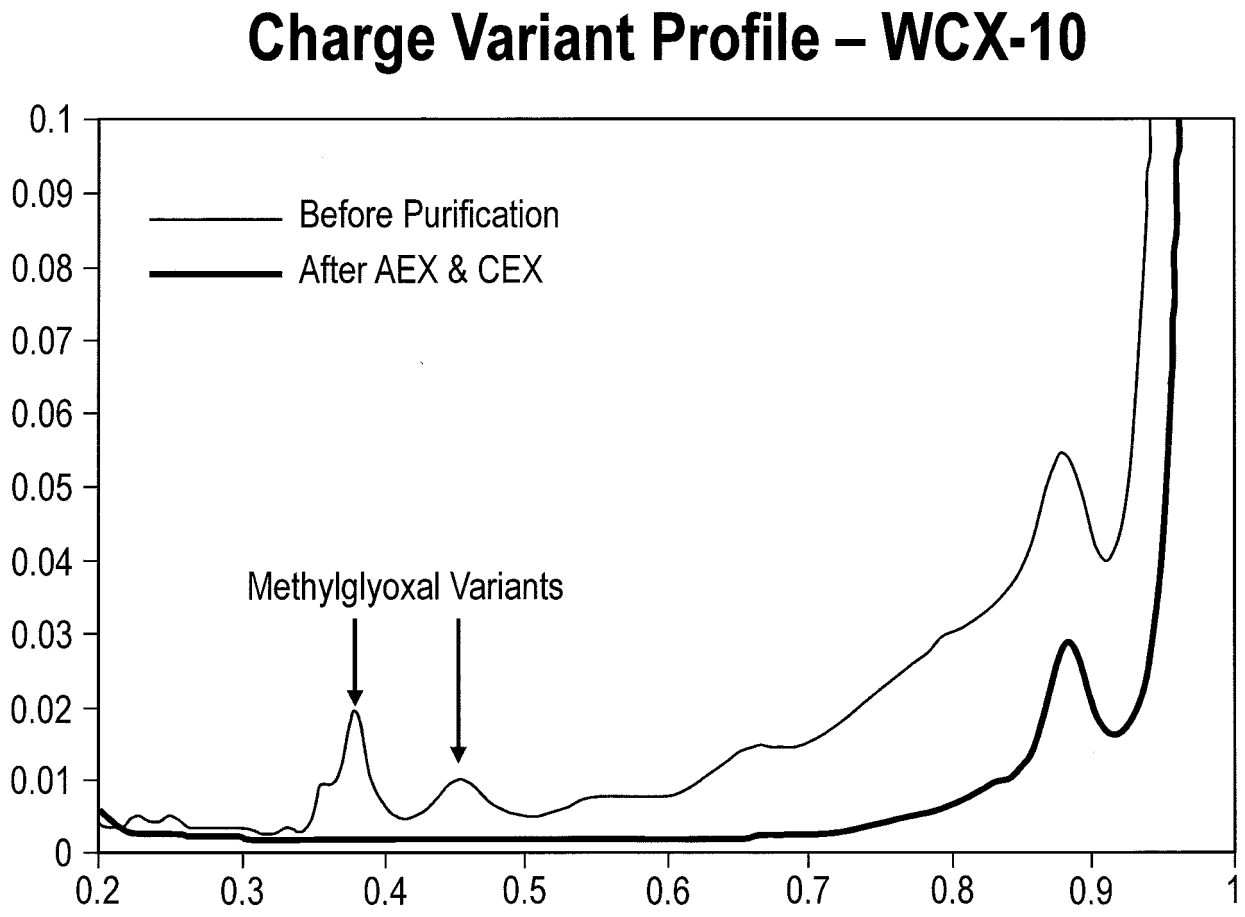

Charge Variant Profile – WCX-10
0.1
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1
Before Purification
After AEX & CEX
Methylglyoxal Variants

Fig. 10

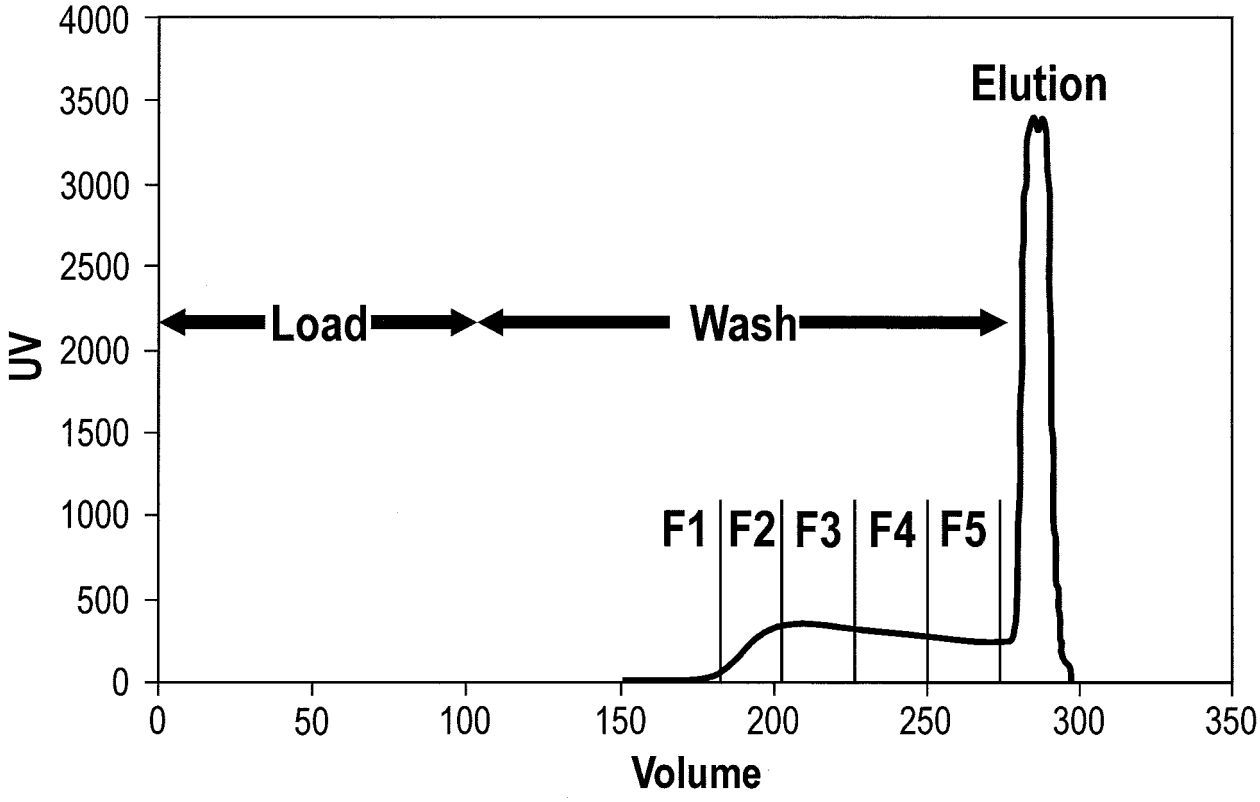

4000
3500
3000
2500
2000
1500
1000
500
0
UV
Elution
Load
Wash
F1
F2
F3
F4
F5
0
50
100
150
200
250
300
350
Volume

Fig. 11

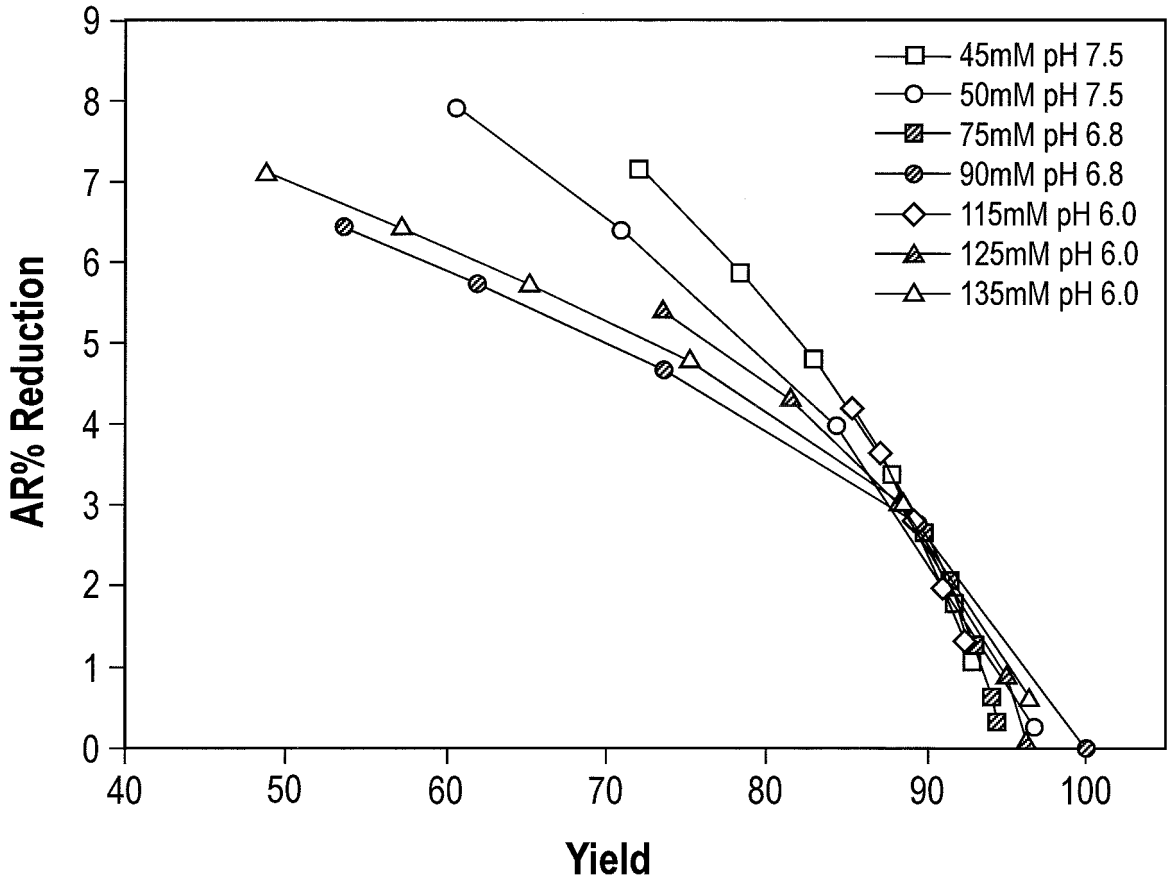

AR% Reduction
Yield
45mM pH 7.5
50mM pH 7.5
75mM pH 6.8
90mM pH 6.8
115mM pH 6.0
125mM pH 6.0
135mM pH 6.0
0
1
2
3
4
5
6
7
8
9
40
50
60
70
80
90
100

Fig. 12