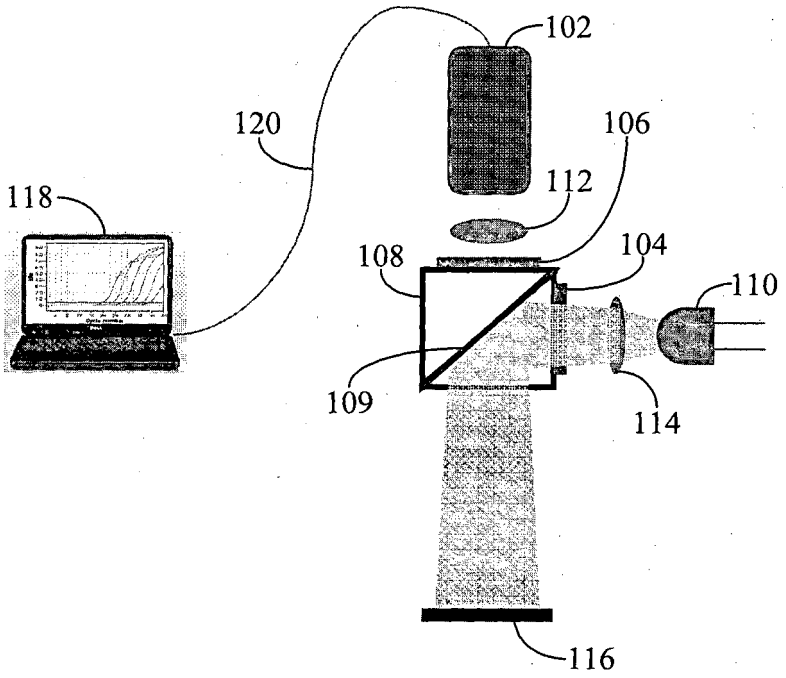
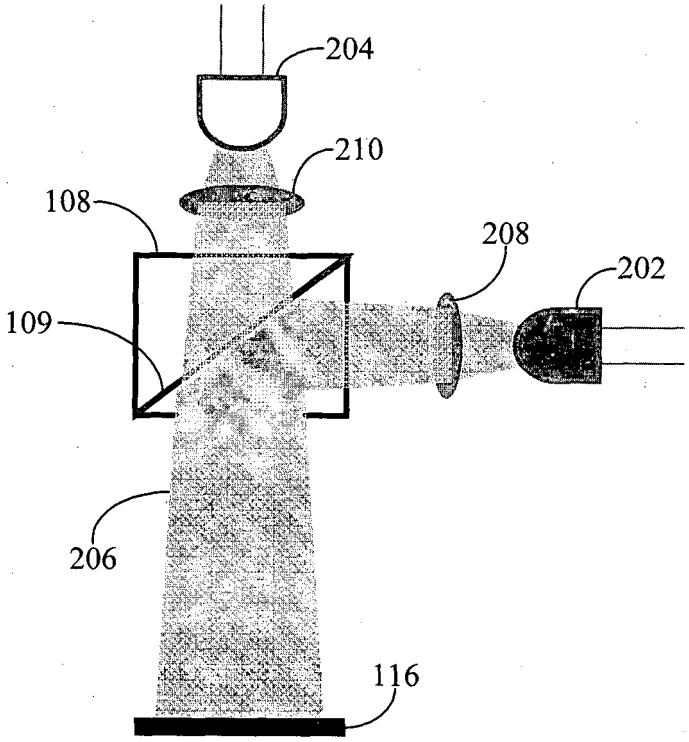


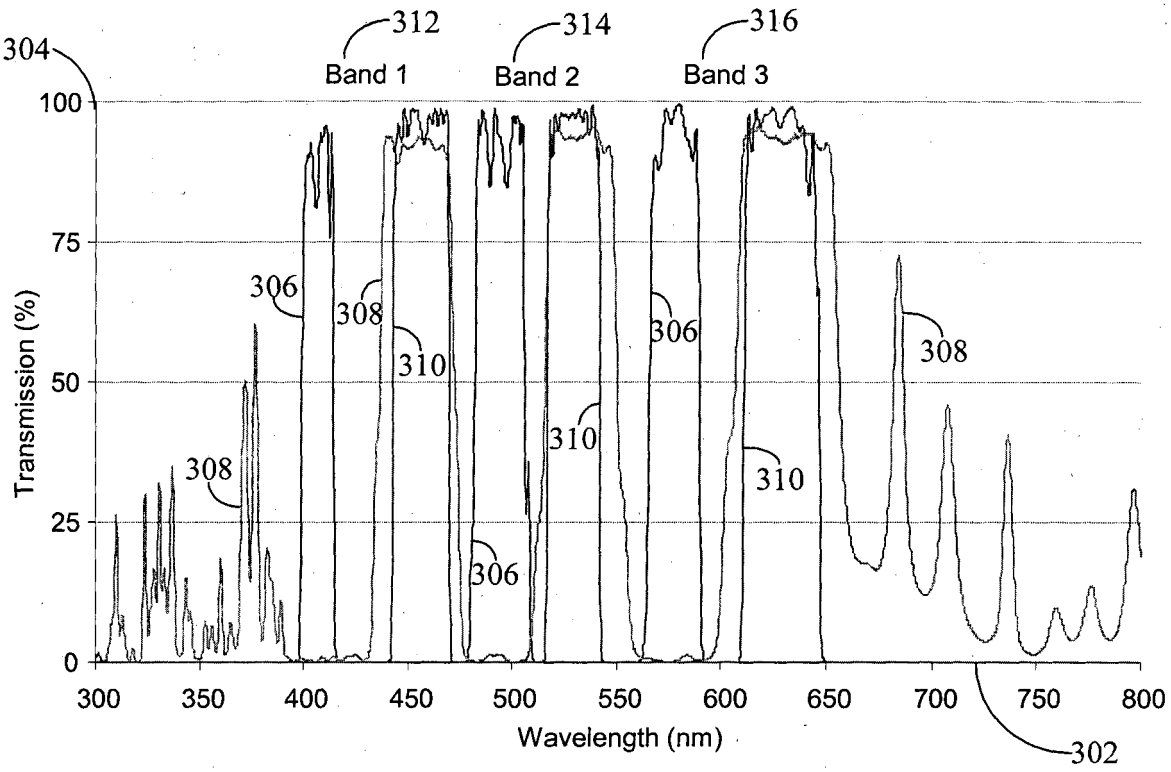
100

FIG. 1



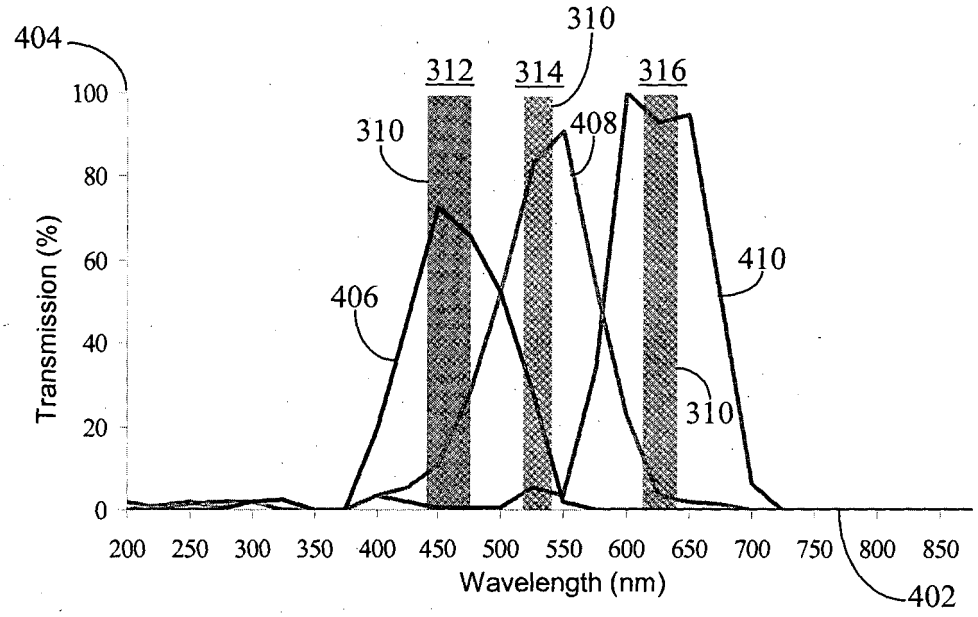
200

FIG. 2


304
312
314
316
Band 1
Band 2
Band 3
100
75
50
25
0
Transmission (%)
306
308
310
308
310
306
306
310
308
300
350
400
450
500
550
600
650
700
750
800
Wavelength (nm)
302

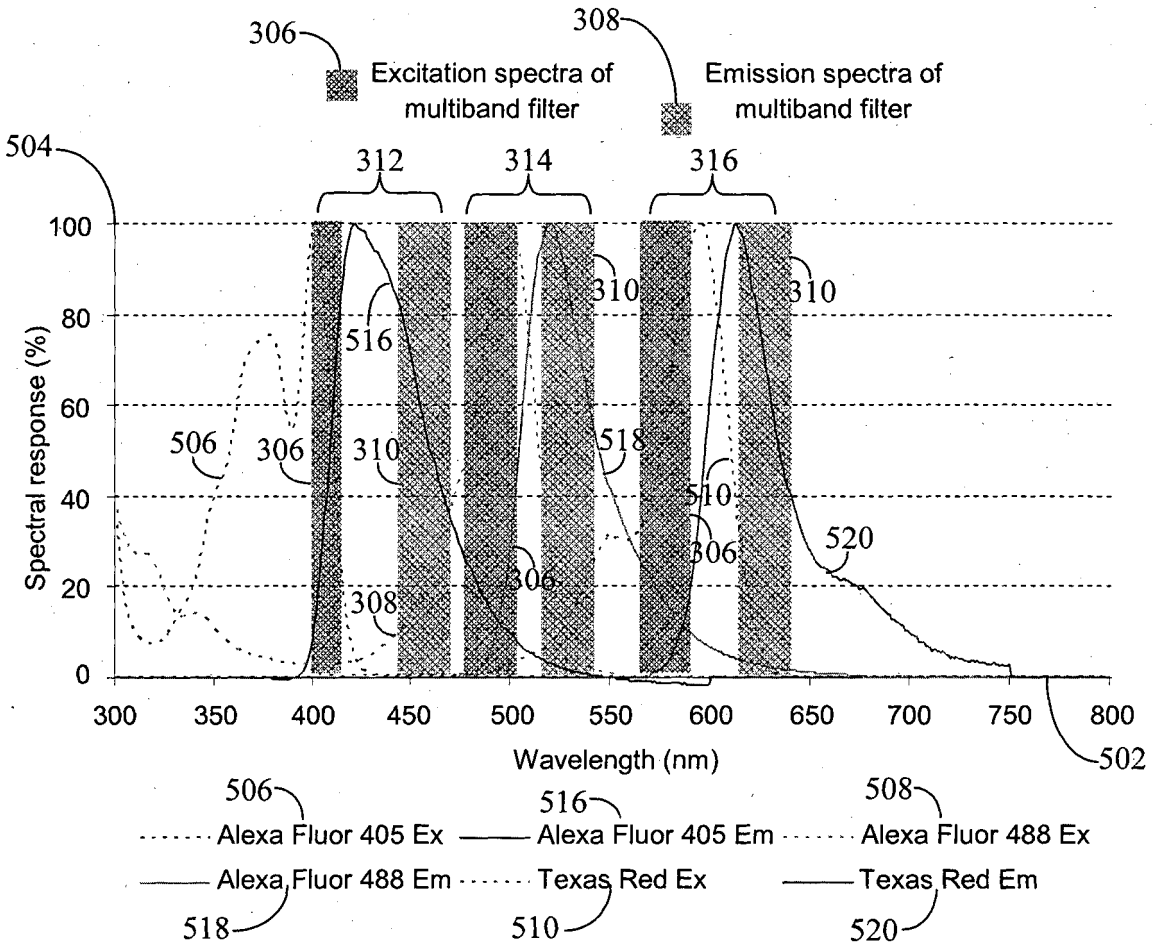
300

FIG. 3


404
100
80
60
40
20
0
Transmission (%)
200 250 300 350 400 450 500 550 600 650 700 750 800 850
Wavelength (nm)
402
312
314
316
310
310
310
408
406
410

400

FIG. 4


306
Excitation spectra of multiband filter
308
Emission spectra of multiband filter
504
312
314
316
100
80
60
40
20
0
Spectral response (%)
310
310
516
506
306
310
518
510
306
306
520
308
300
350
400
450
500
550
600
650
700
750
800
Wavelength (nm)
502
506
Alexa Fluor 405 Ex
516
Alexa Fluor 405 Em
508
Alexa Fluor 488 Ex
Alexa Fluor 488 Em
Texas Red Ex
Texas Red Em
518
510
520

500

FIG. 5

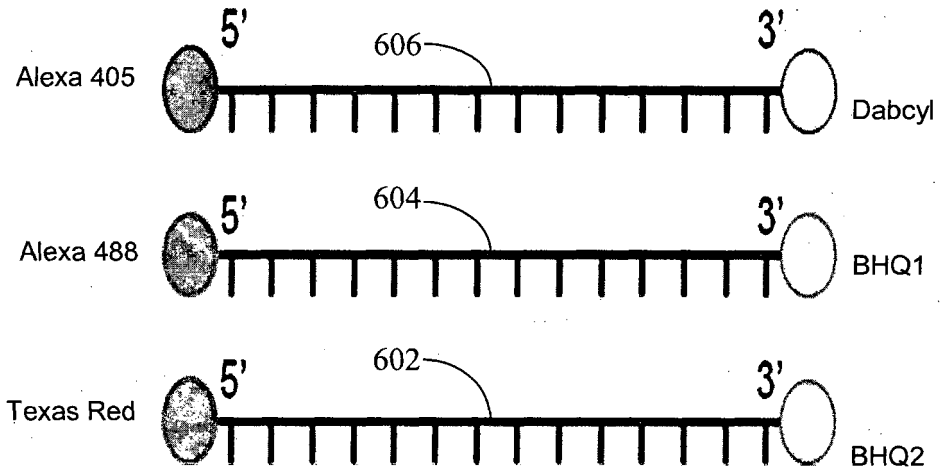

5'
606
3'
Alexa 405
Dabcyl
5'
604
3'
Alexa 488
BHQ1
5'
602
3'
Texas Red
BHQ2

FIG. 6A

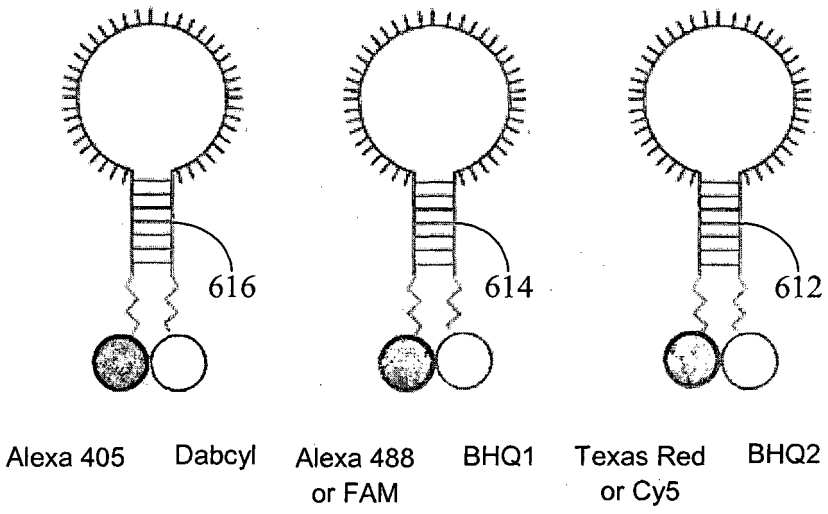
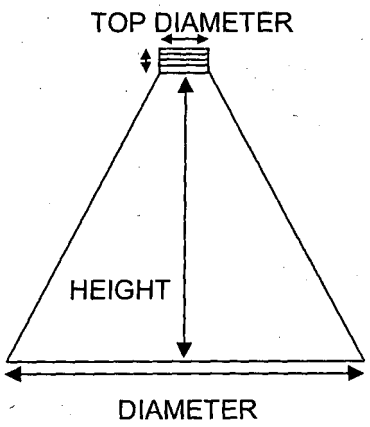
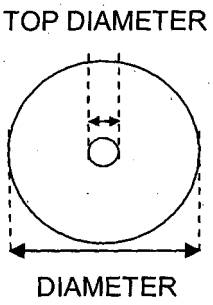

616
614
612
Alexa 405
Dabcyl
Alexa 488
or FAM
BHQ1
Texas Red
or Cy5
BHQ2

FIG. 6B



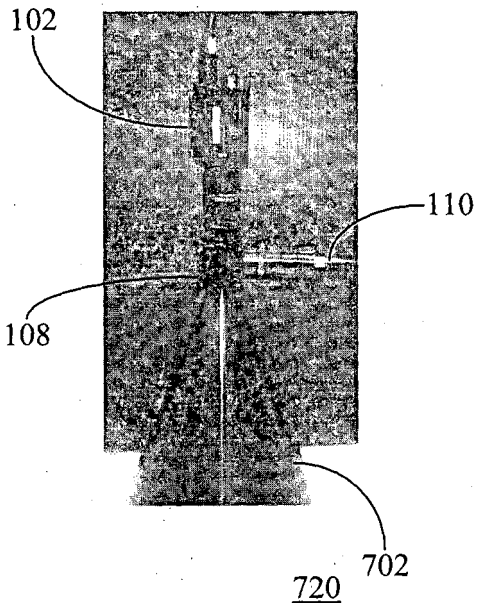
700

FIG. 7A



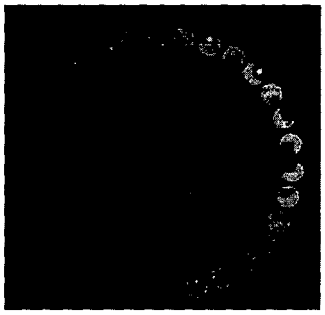
710

FIG. 7B



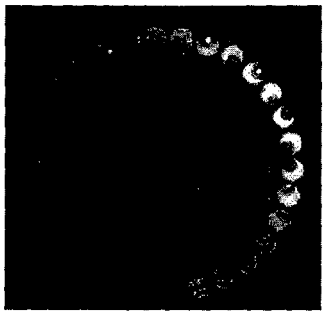
720

FIG. 7C



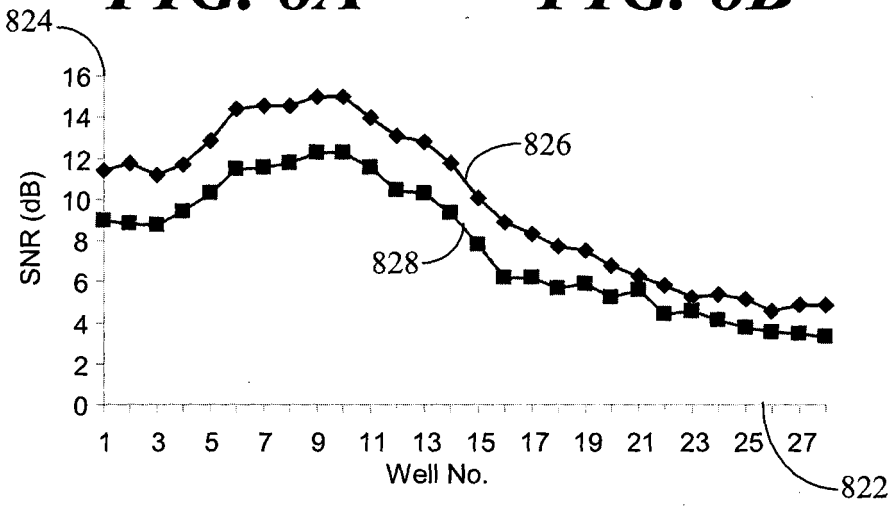
800

FIG. 8A



810

FIG. 8B



820

FIG. 8C

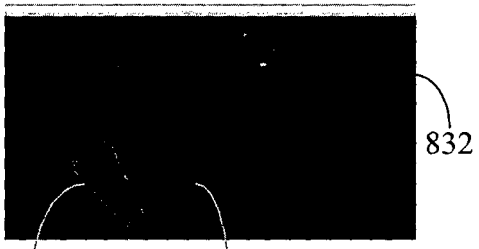
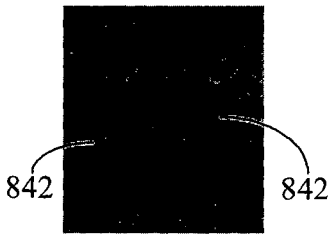
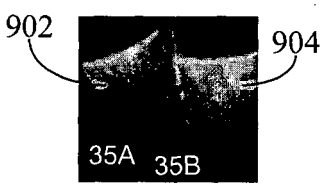


FIG. 8D



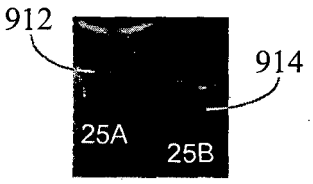
840

FIG. 8E



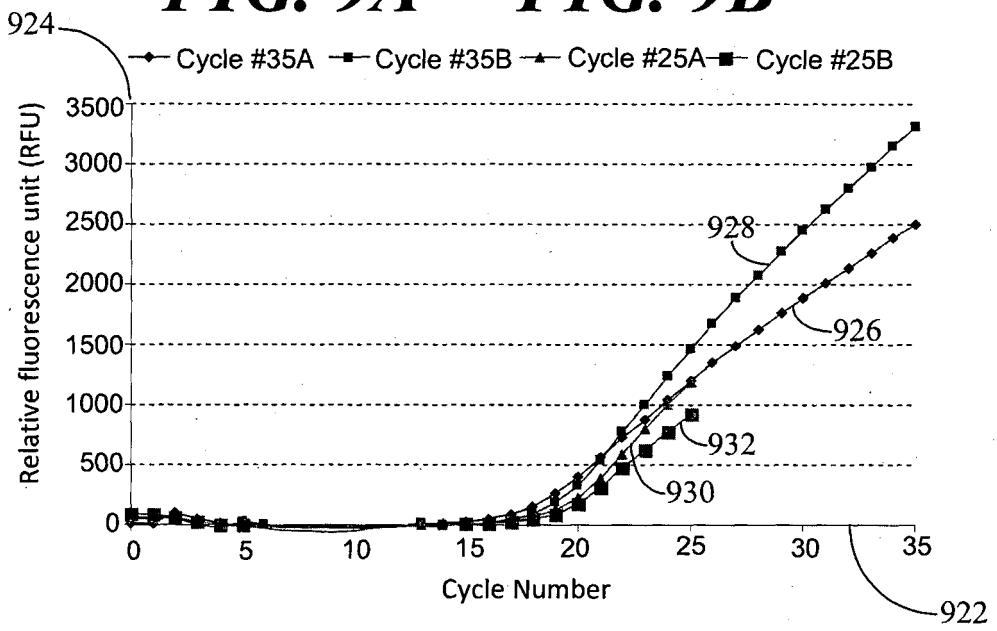
900

FIG. 9A



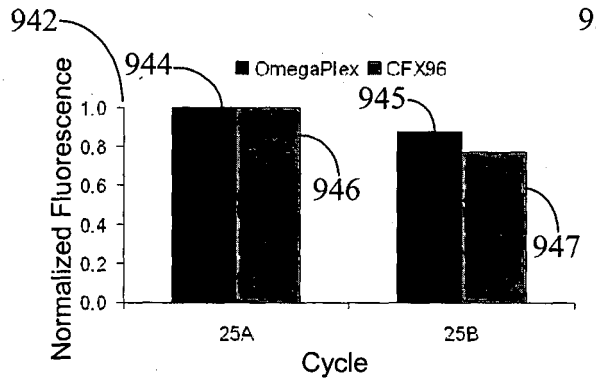
910

FIG. 9B



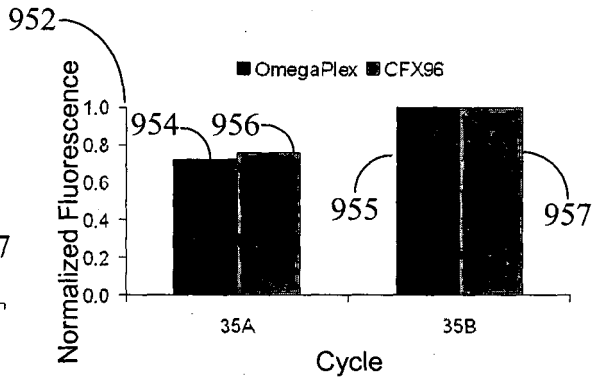
920

FIG. 9C



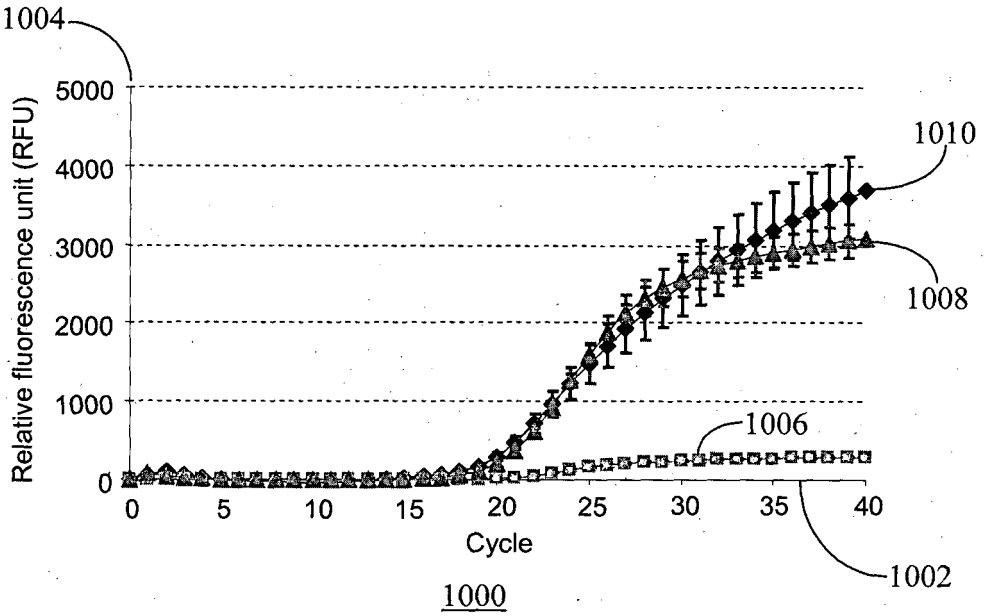
940

FIG. 9D



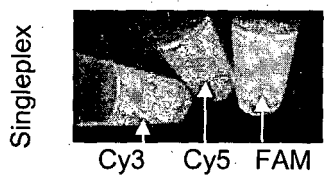
950

FIG. 9E


1004
5000
4000
3000
2000
1000
0
Relative fluorescence unit (RFU)
0
5
10
15
20
25
30
35
40
Cycle
1010
1008
1006
1002

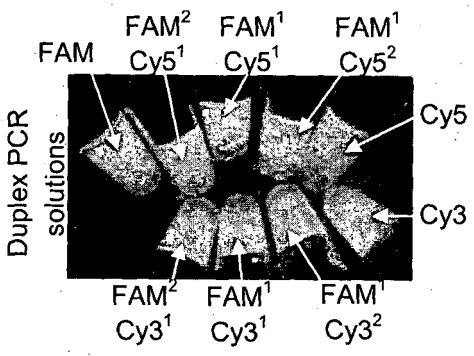
1000

FIG. 10A



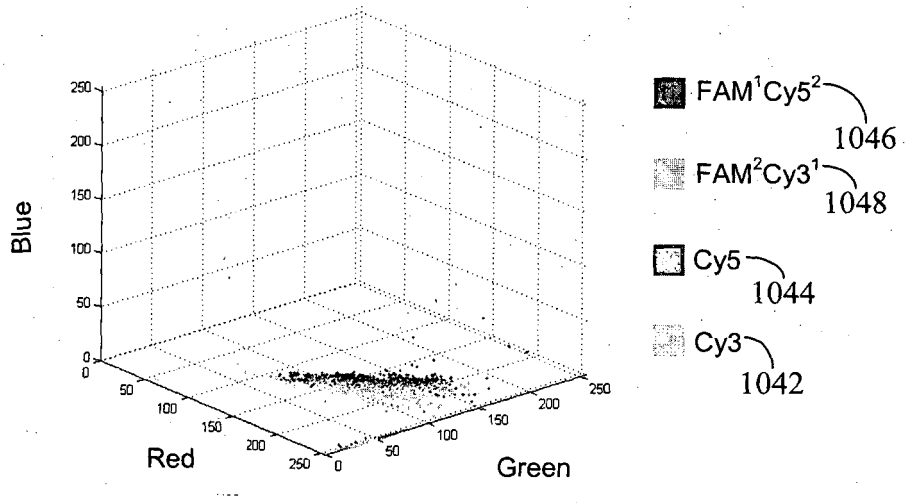
1020

FIG. 10B



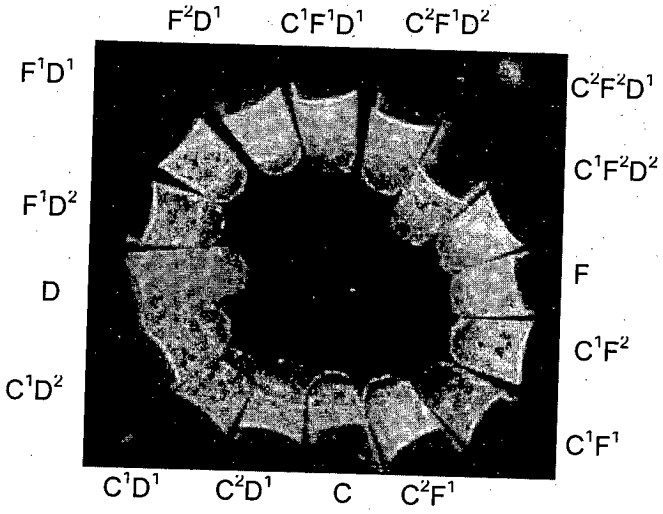
1030

FIG. 10C



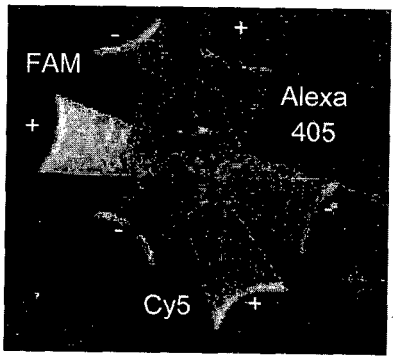
1040

FIG. 10D


F^2D^1
$C^1F^1D^1$
$C^2F^1D^2$
F^1D^1
$C^2F^2D^1$
$C^1F^2D^2$
F^1D^2
F
D
C^1F^2
C^1D^2
C^1F^1
C^1D^1
C^2D^1
C
C^2F^1

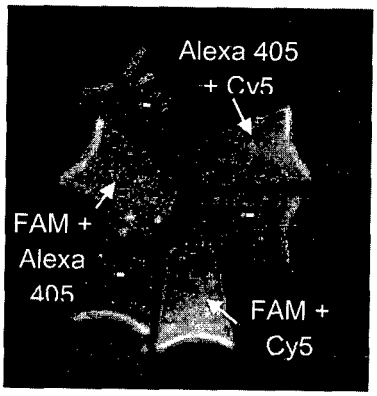
1100

FIG. 11



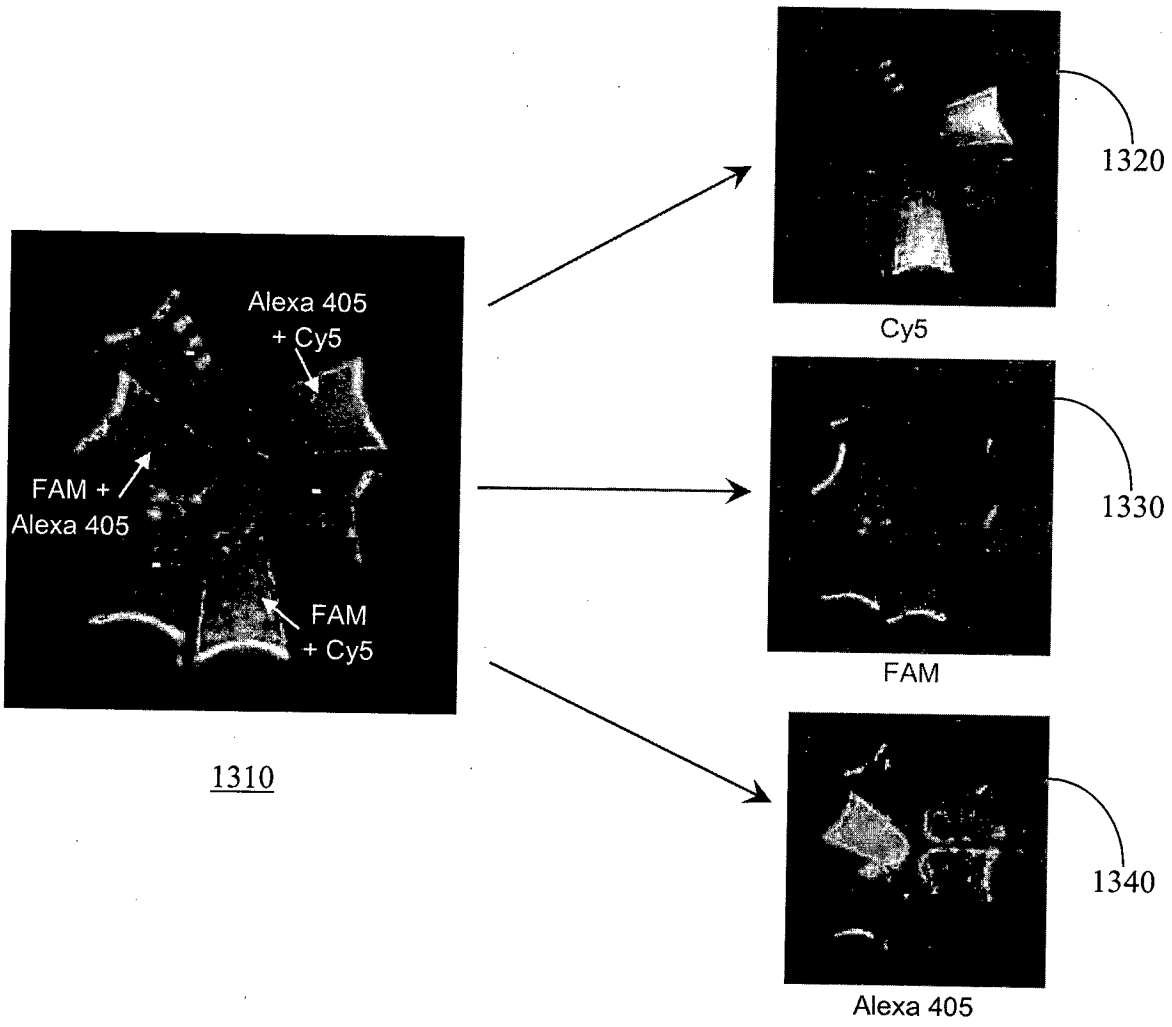
1200

FIG. 12A



1220

FIG. 12B


Alexa 405
+ Cy5
FAM +
Alexa 405
FAM
+ Cy5
1310
1320
Cy5
1330
FAM
1340
Alexa 405

1300

FIG. 13