FIG. 1

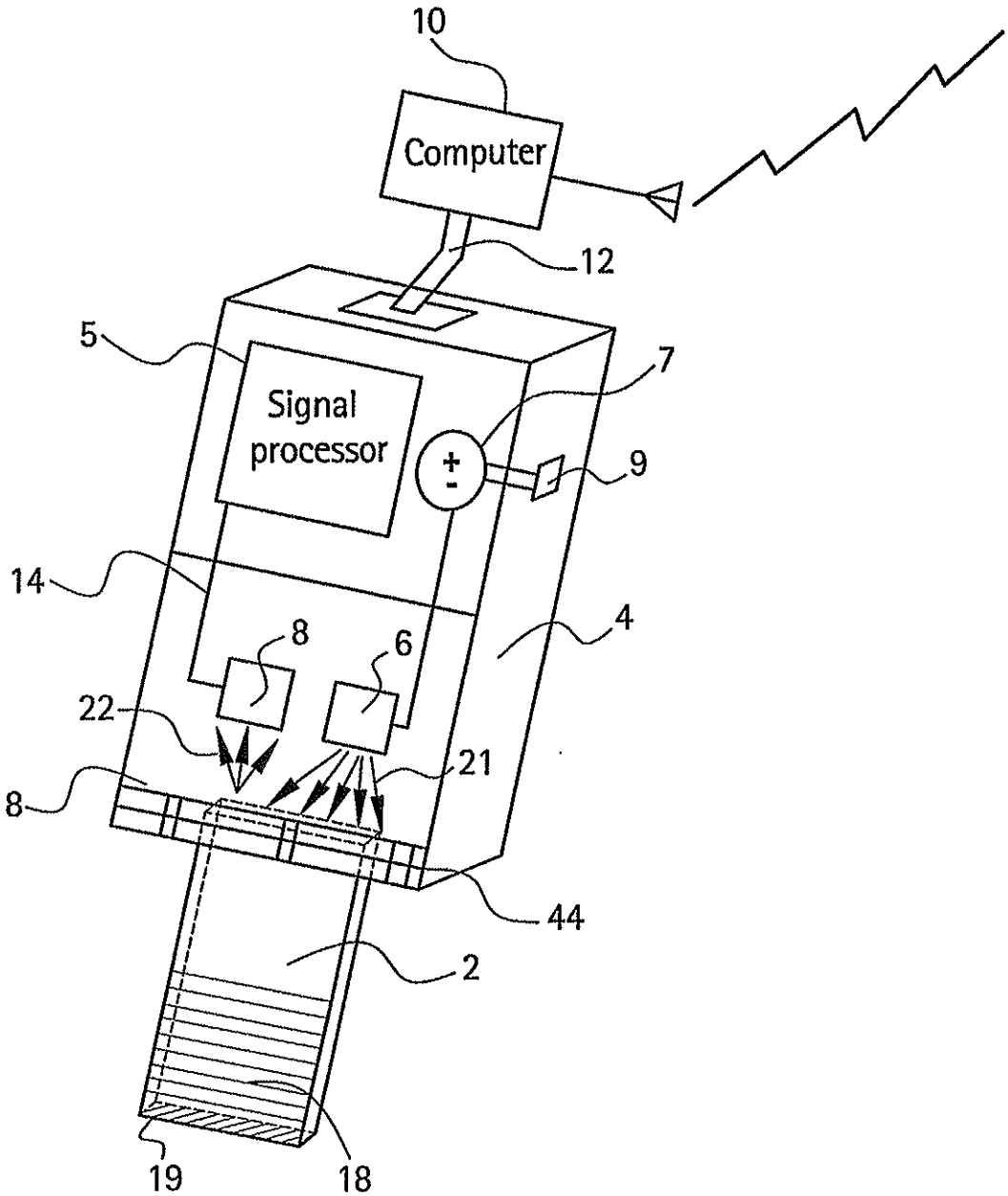


FIG. 2

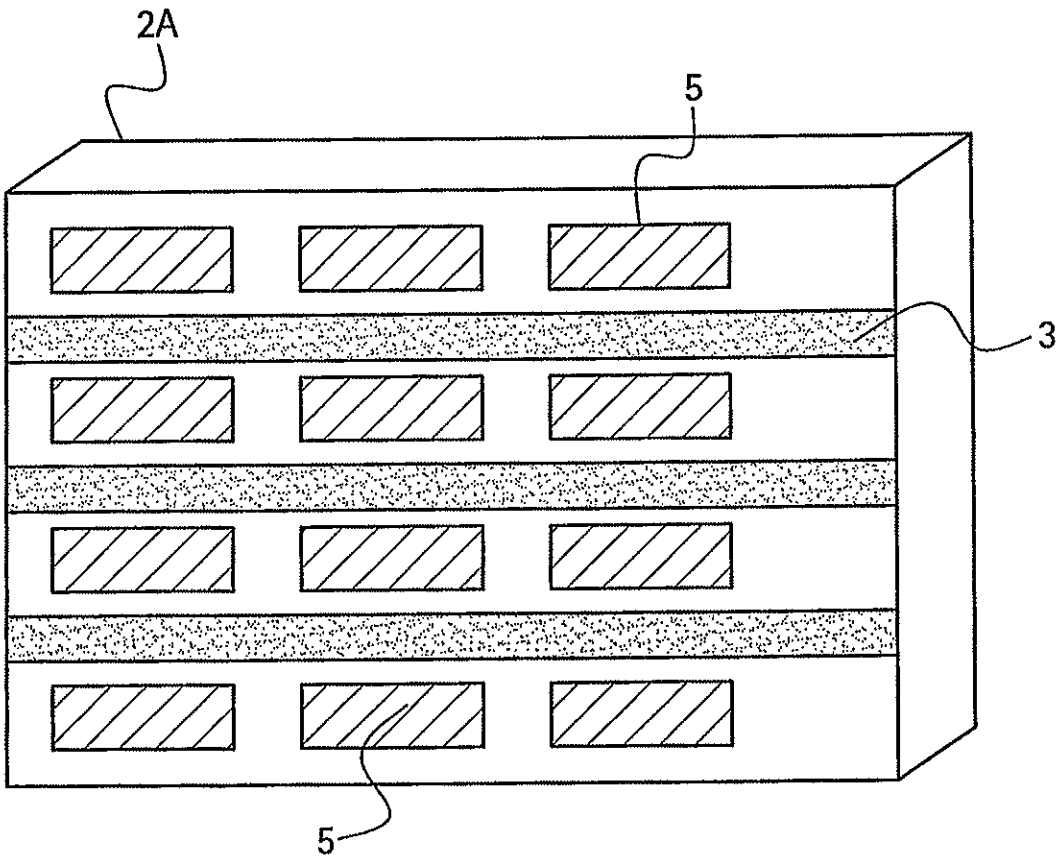


FIG. 3

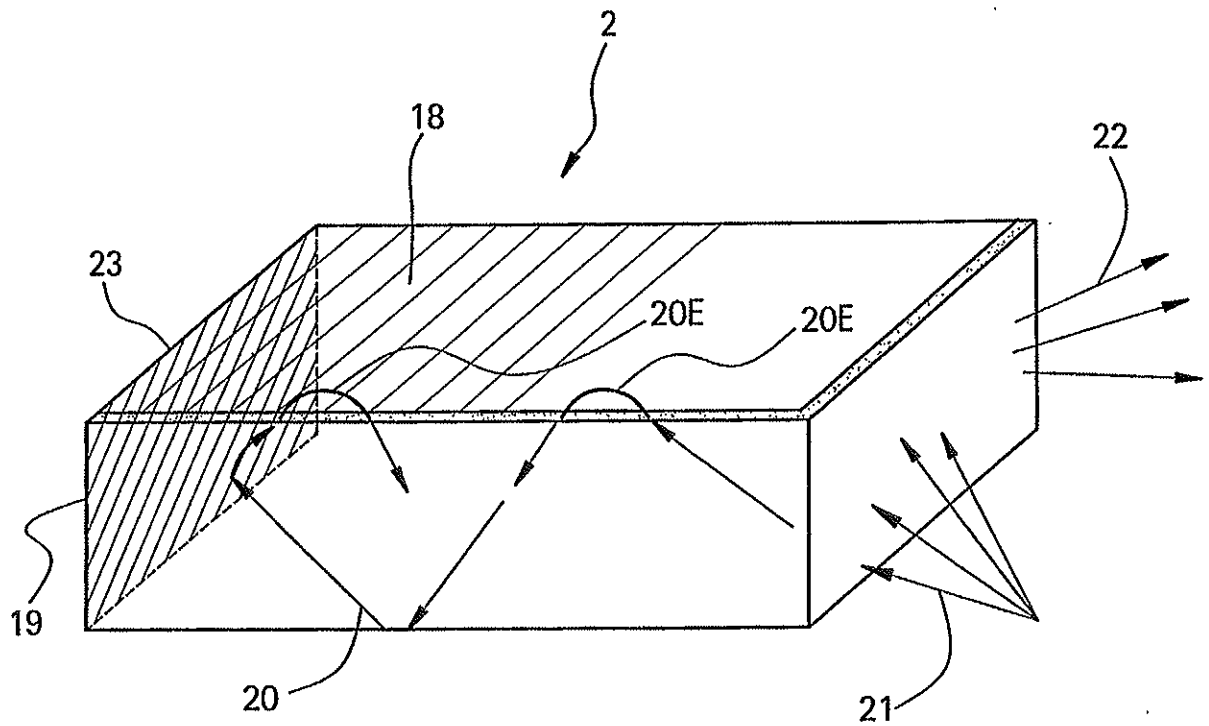


FIG. 4

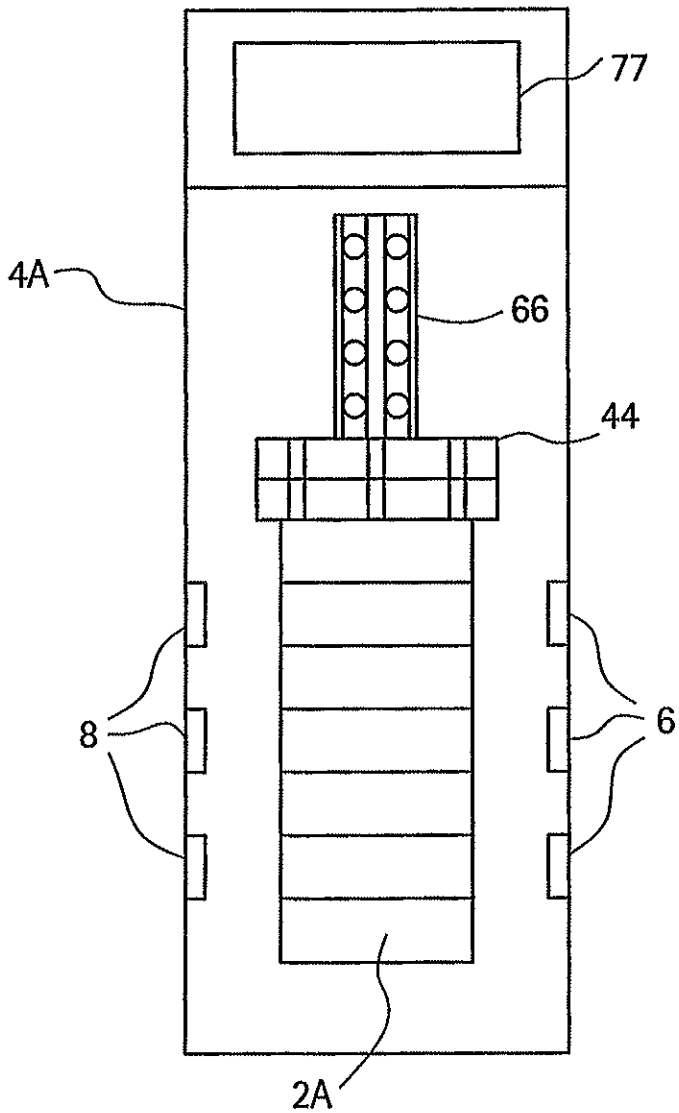


FIG. 5

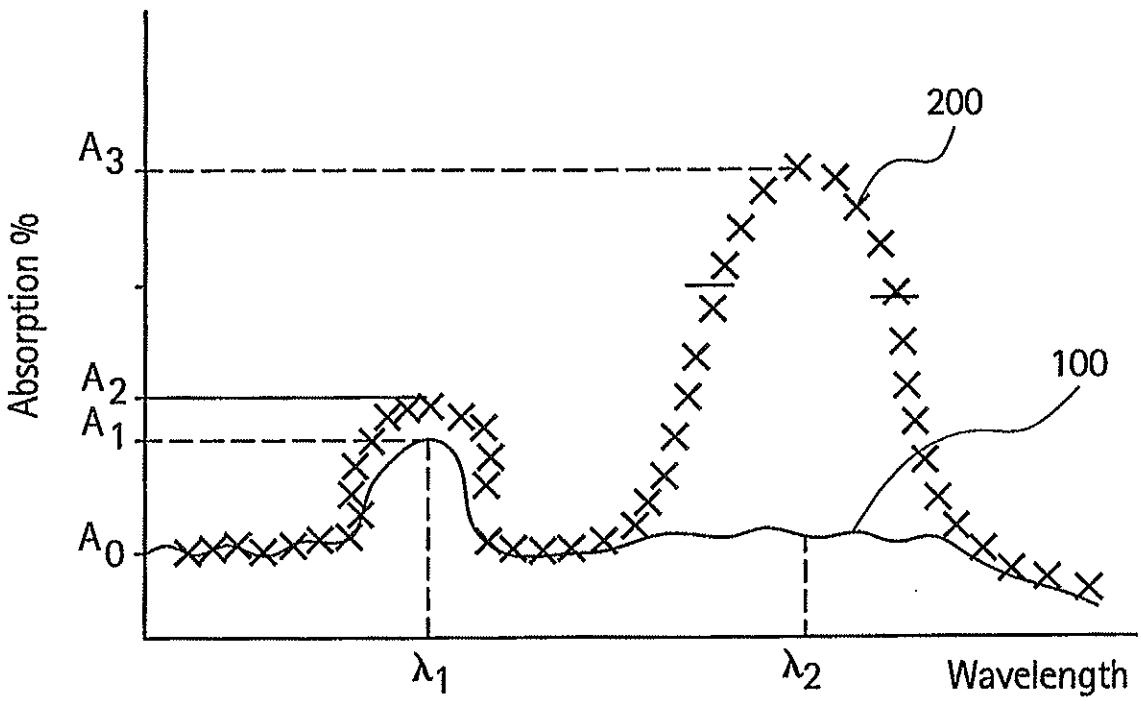


FIG. 6

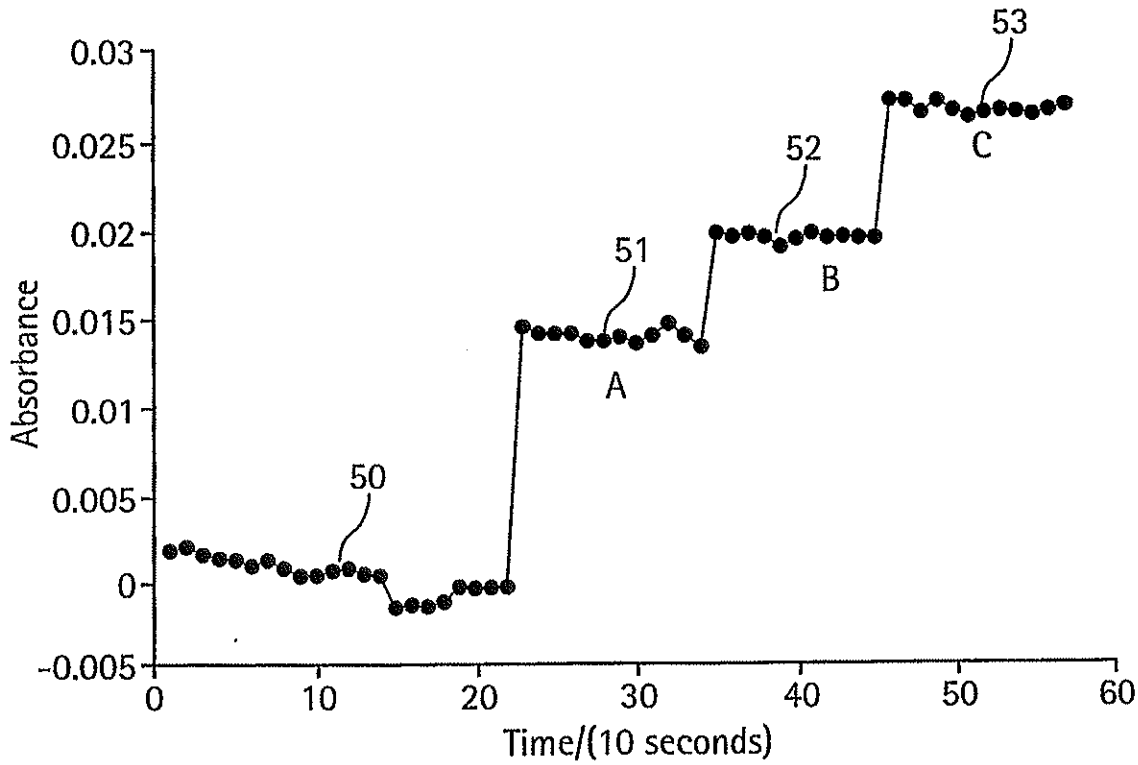

0.03
0.025
0.02
0.015
0.01
0.005
0
-0.005
Absorbance
0
10
20
30
40
50
60
Time/(10 seconds)
50
51
52
53
A
B
C

FIG. 7

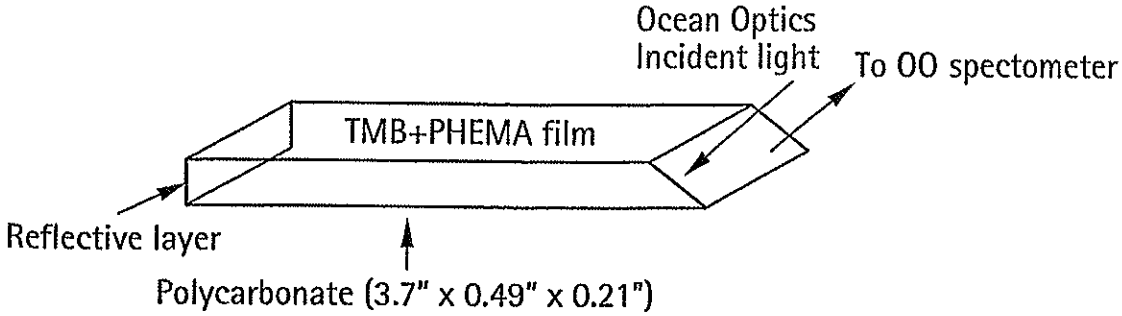

Ocean Optics
Incident light
To 00 spectometer
TMB+PHEMA film
Reflective layer
Polycarbonate (3.7" x 0.49" x 0.21")

FIG. 8

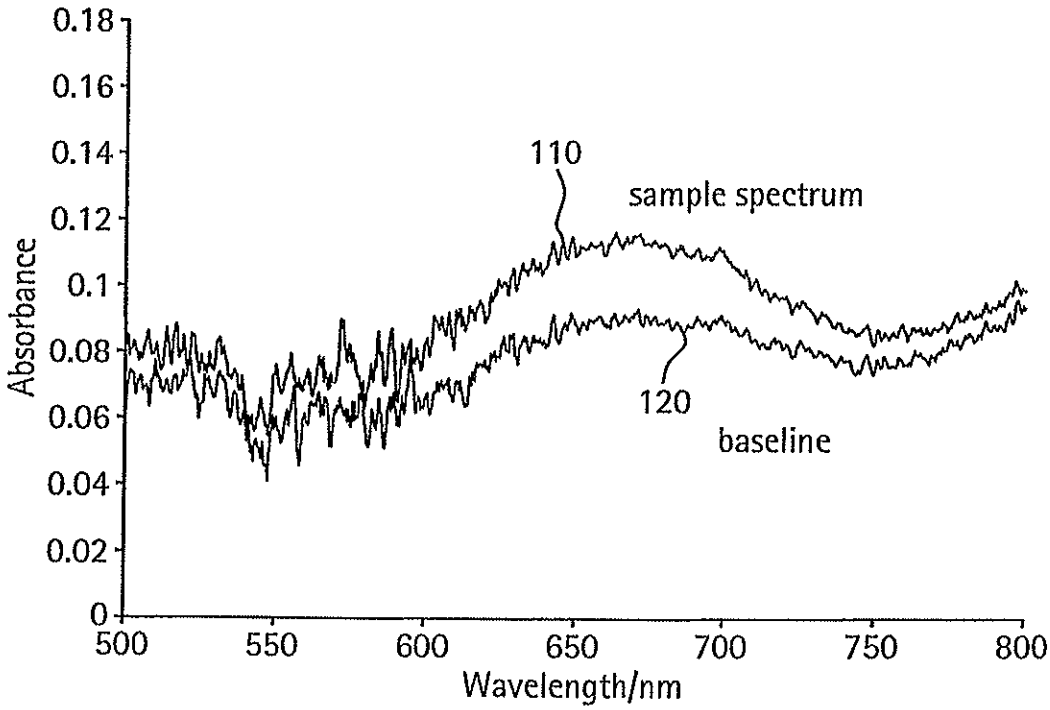

0.18
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
Absorbance
110
sample spectrum
120
baseline
500
550
600
650
700
750
800
Wavelength/nm

FIG. 9

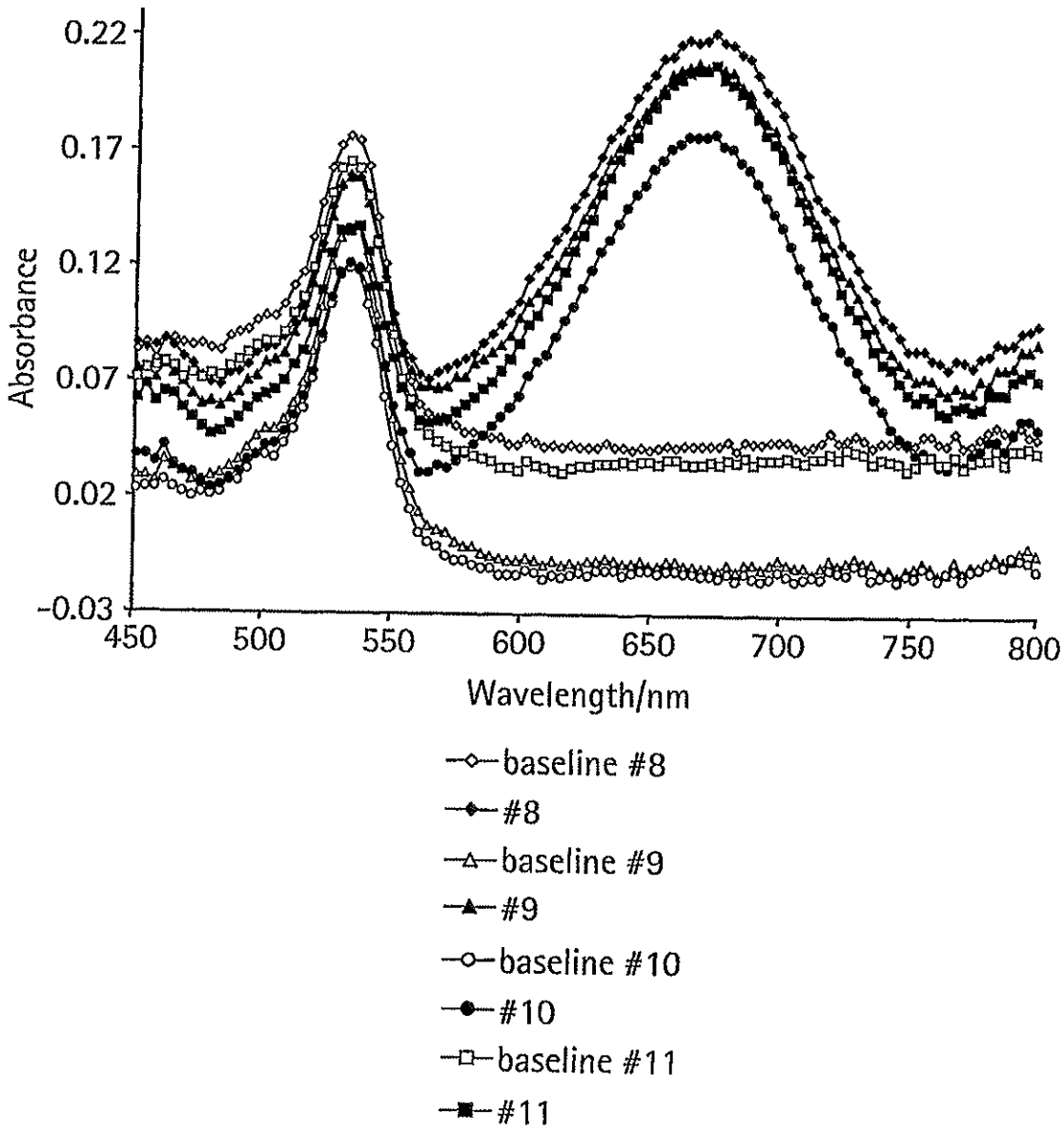

0.22
0.17
0.12
0.07
0.02
-0.03
Absorbance
450
500
550
600
650
700
750
800
Wavelength/nm
baseline #8
#8
baseline #9
#9
baseline #10
#10
baseline #11
#11

FIG. 10

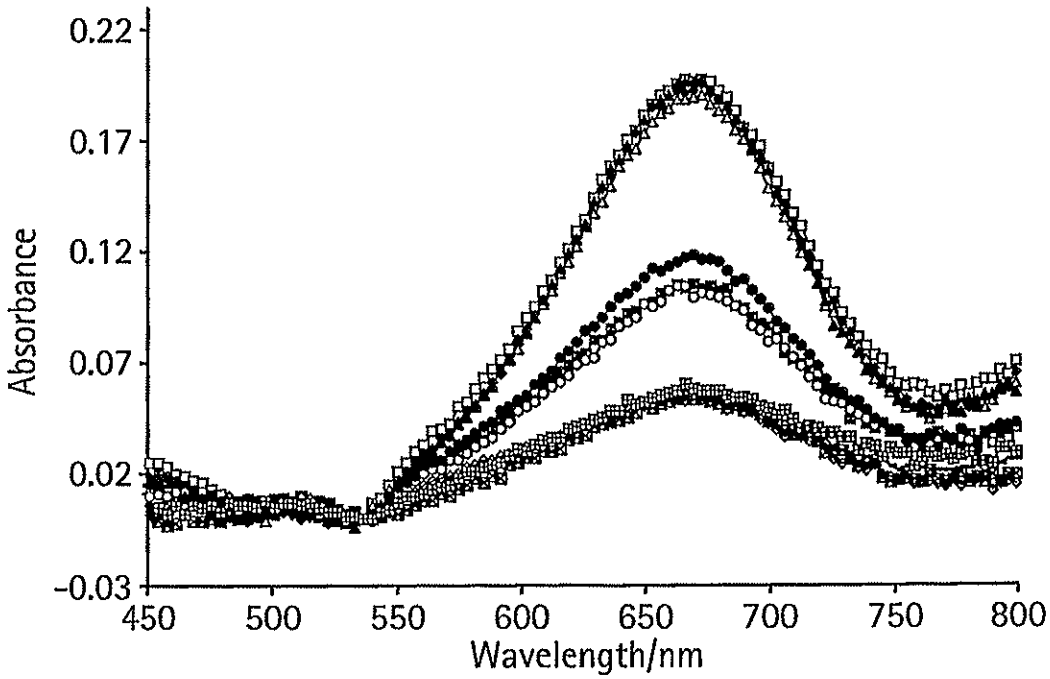

0.22
0.17
0.12
0.07
0.02
-0.03
Absorbance
450
500
550
600
650
700
750
800
Wavelength/nm
0.5 ppm NaOCl, #8
0.5 ppm NaOCl, #9
0.5 ppm NaOCl, #10
0.5 ppm NaOCl, #11
0.25 ppm NaOCl, #5
0.25 ppm NaOCl, #6
0.25 ppm NaOCl, #7
0.1 ppm NaOCl, #1
0.1 ppm NaOCl, #2
0.1 ppm NaOCl, #3
0.1 ppm NaOCl, #4

FIG. 11

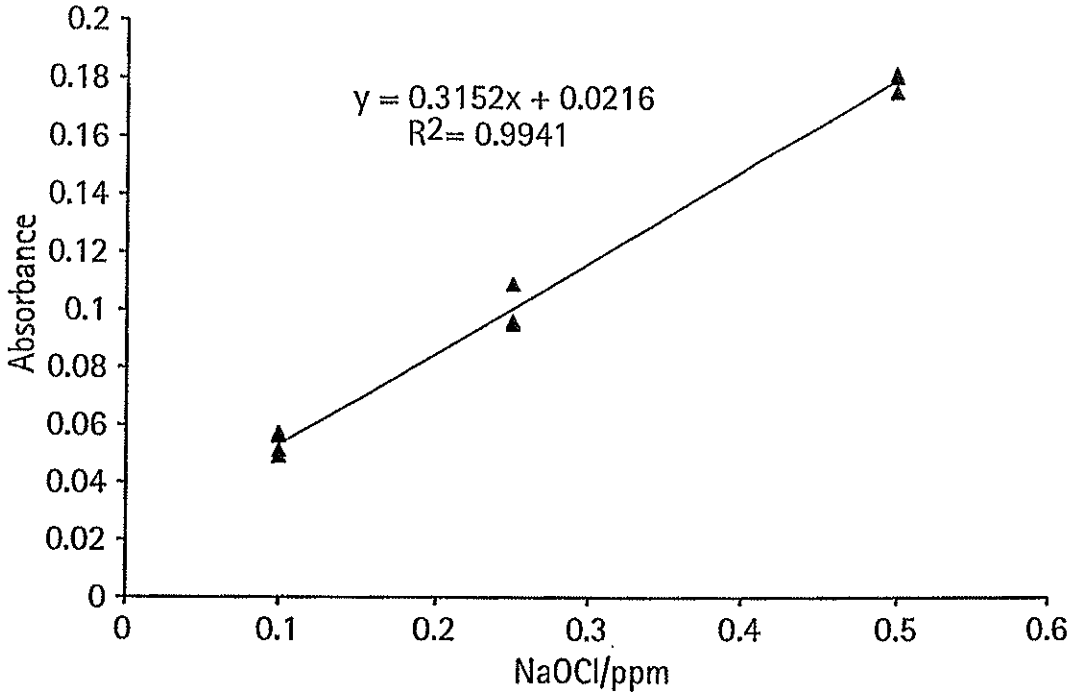

y = 0.3152x + 0.0216
R2= 0.9941
Absorbance
NaOCl/ppm
0.2
0.18
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
0
0.1
0.2
0.3
0.4
0.5
0.6

FIG. 12

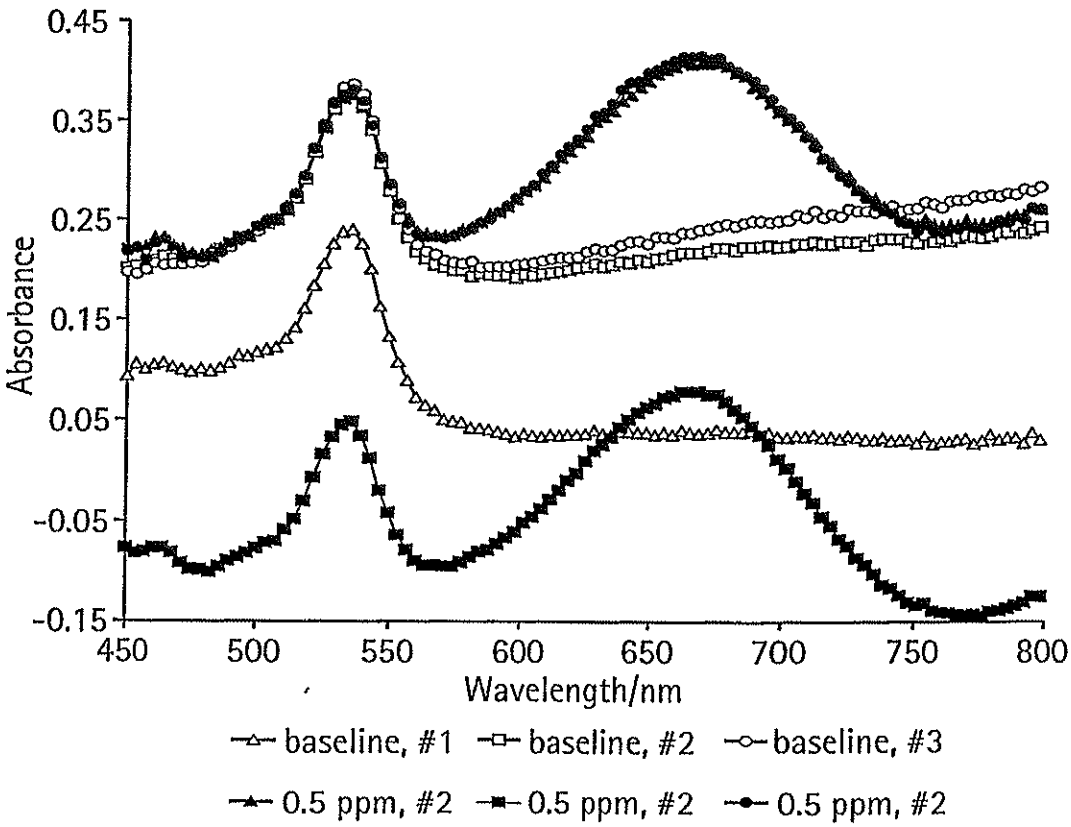

Absorbance
Wavelength/nm
0.45
0.35
0.25
0.15
0.05
-0.05
-0.15
450
500
550
600
650
700
750
800
baseline, #1
baseline, #2
baseline, #3
0.5 ppm, #2
0.5 ppm, #2
0.5 ppm, #2

FIG. 13

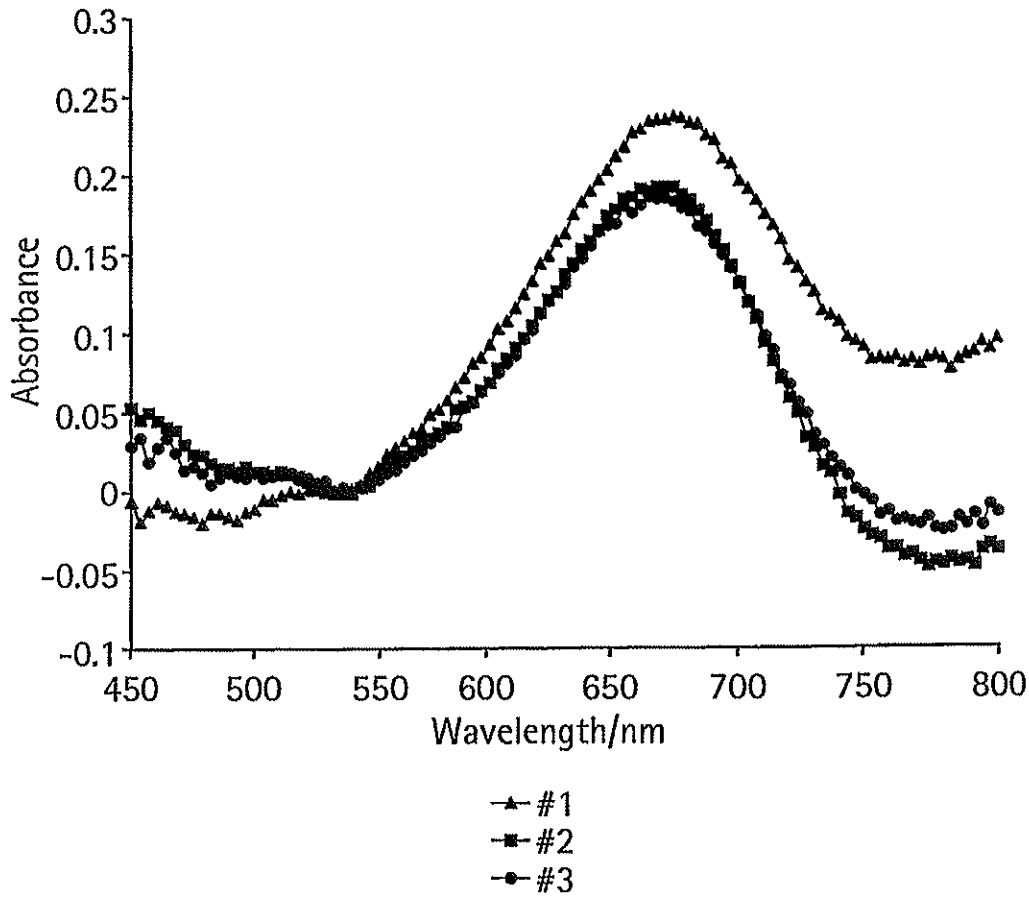

0.3
0.25
0.2
0.15
0.1
0.05
0
-0.05
-0.1
Absorbance
450
500
550
600
650
700
750
800
Wavelength/nm
#1
#2
#3

FIG. 14

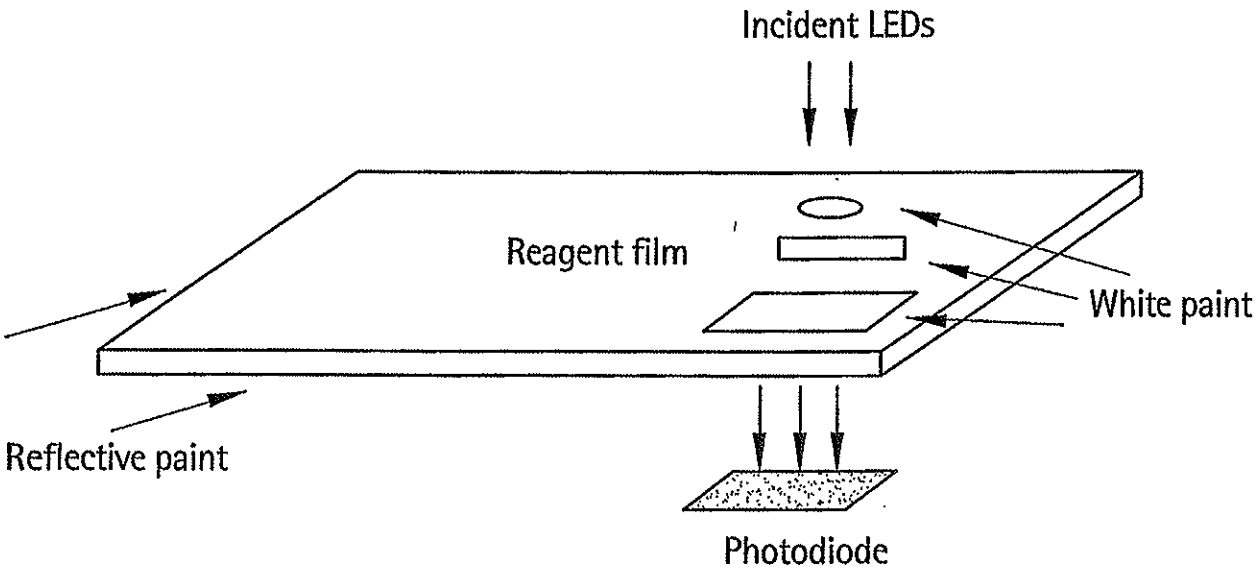

Incident LEDs
Reagent film
White paint
Reflective paint
Photodiode

FIG. 15

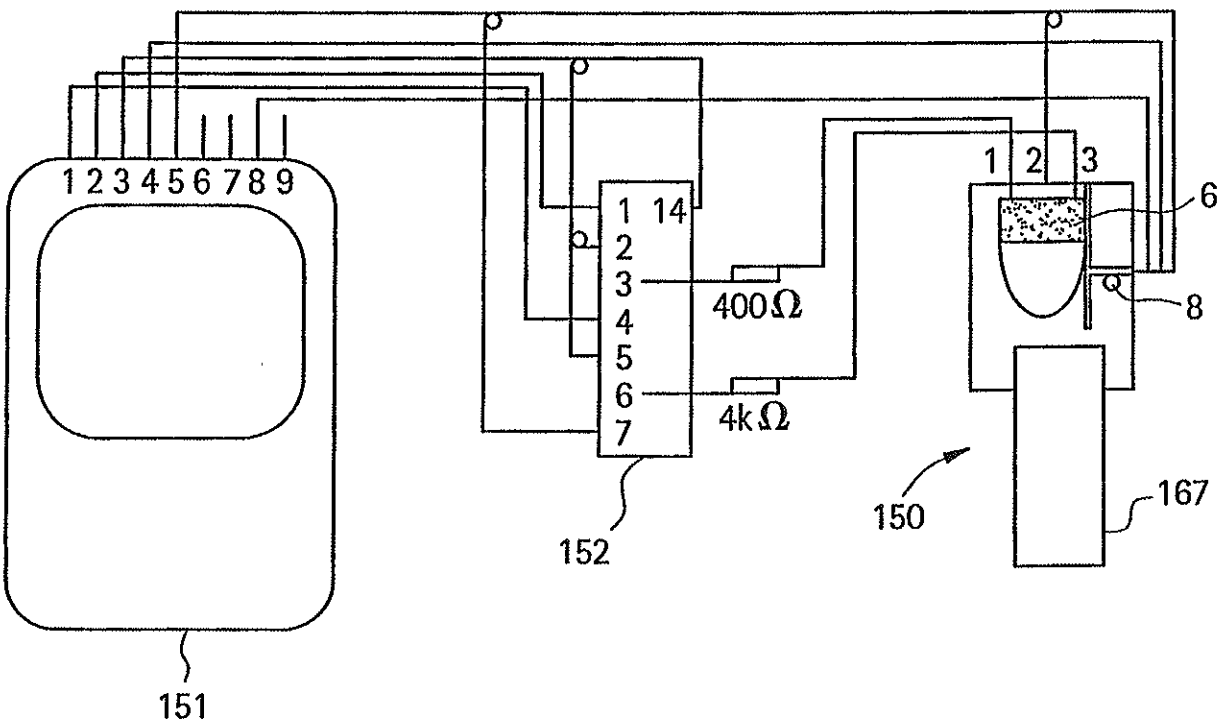


FIG. 16

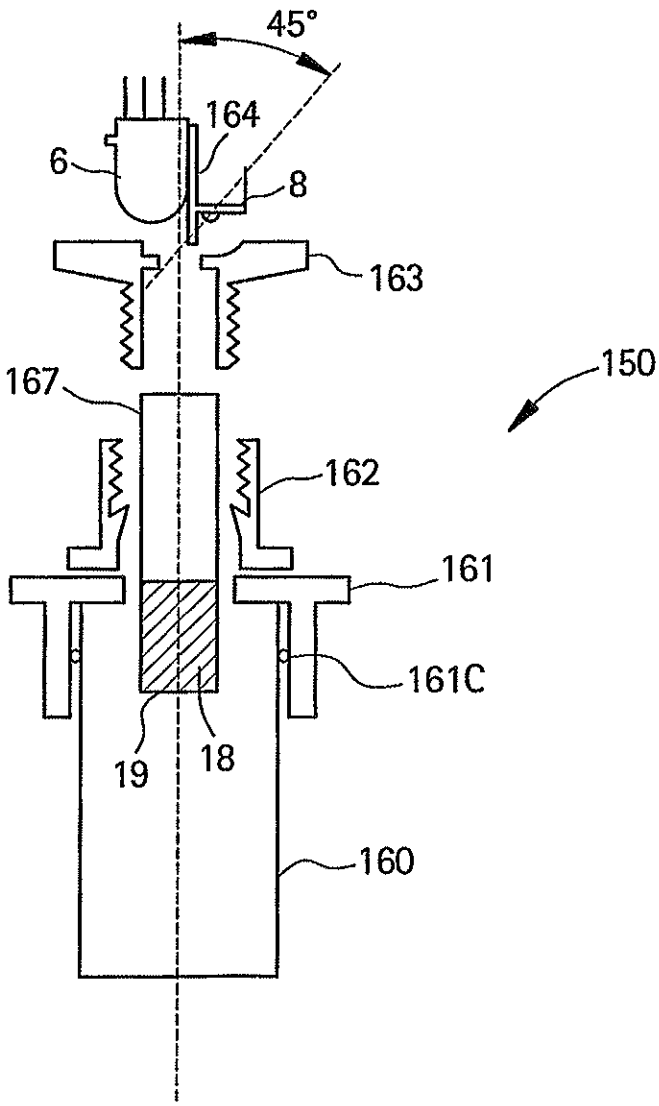
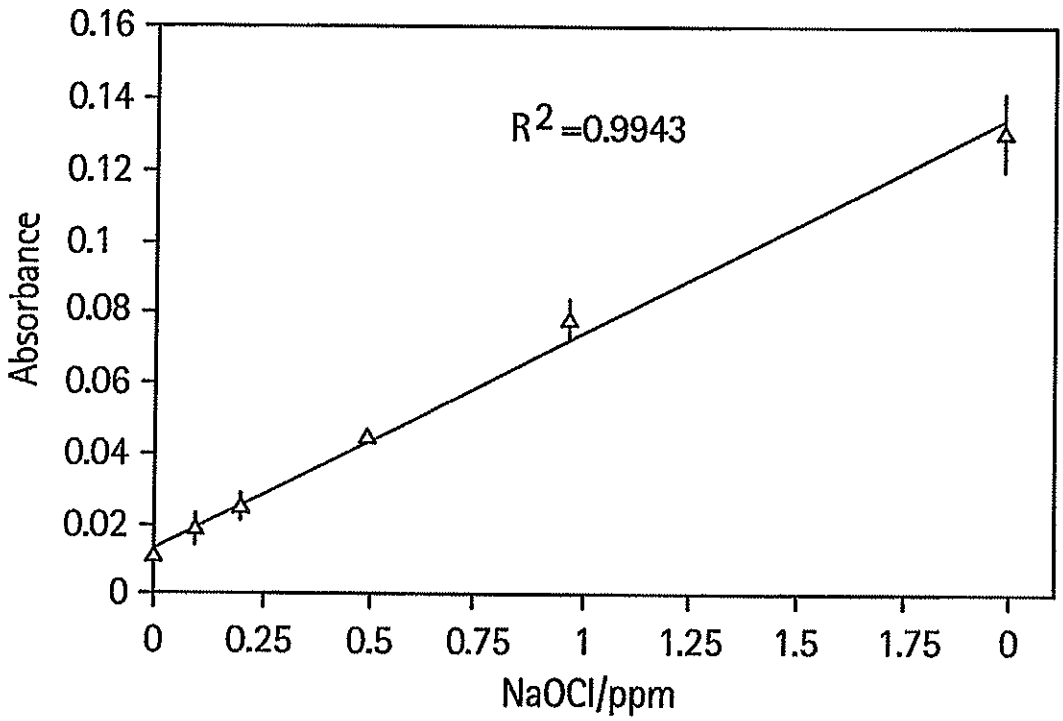


FIG. 17


0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
Absorbance
R2=0.9943
0
0.25
0.5
0.75
1
1.25
1.5
1.75
0
NaOCl/ppm