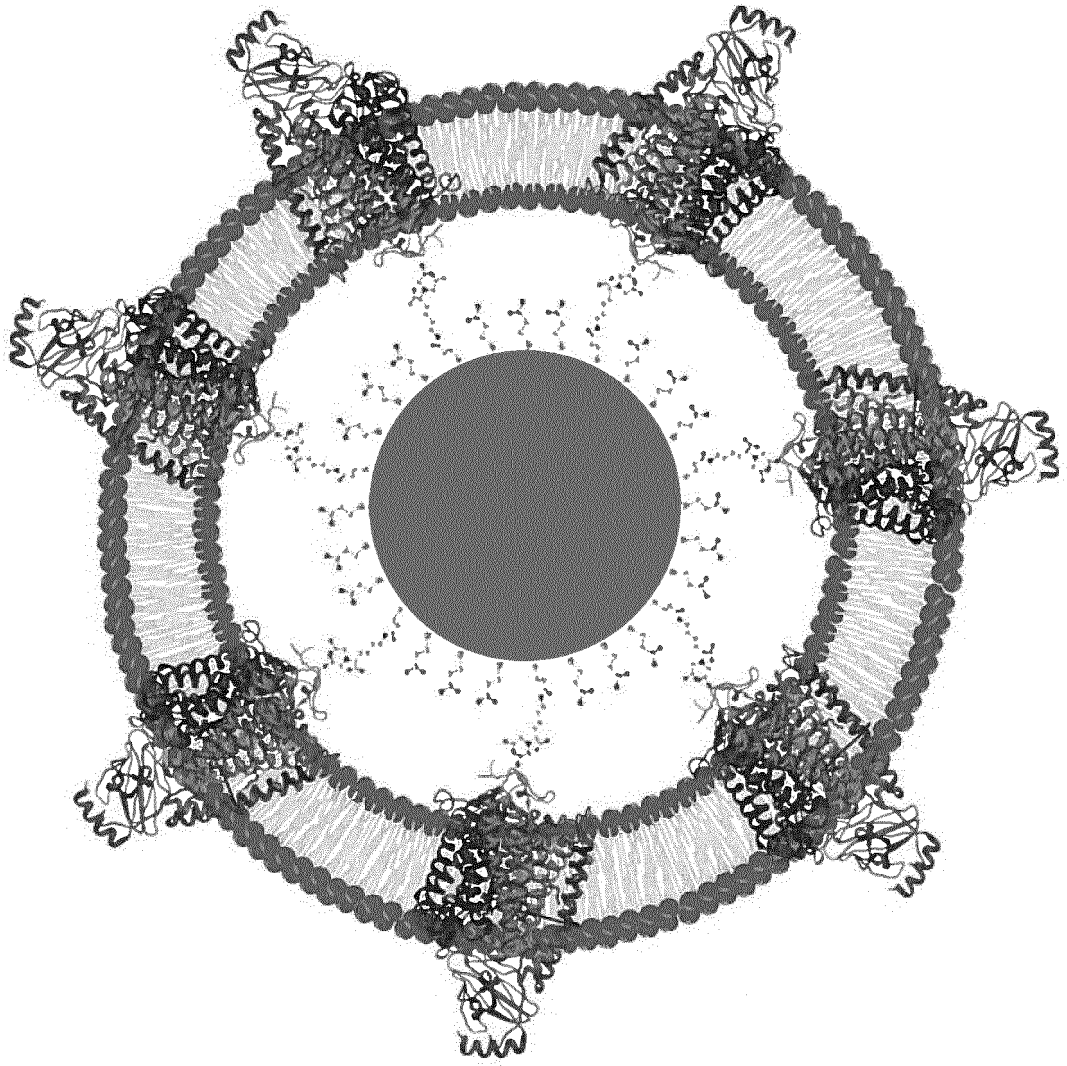
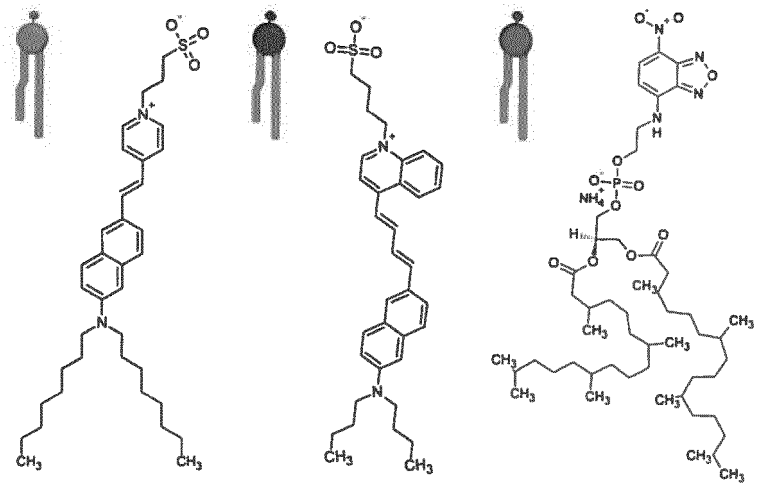
Fig. 1





a di-8-ANEPPS b di-4-ANBDQBS c NBD-PE

Fig. 2

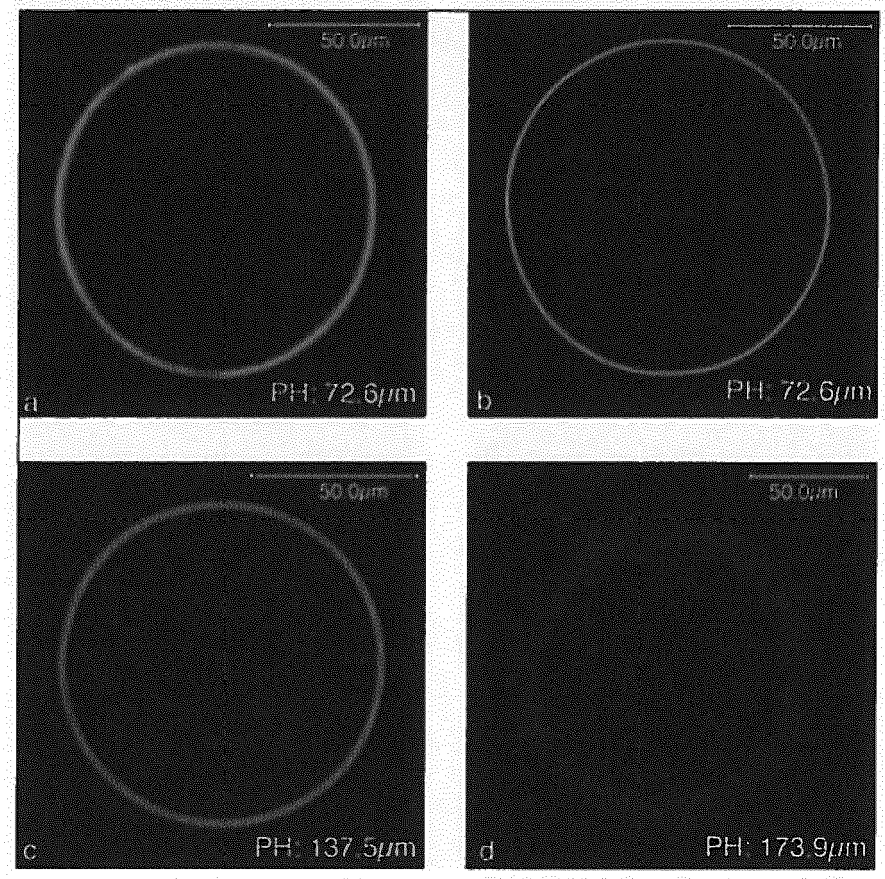

50.0µm
a
PH: 72.6µm
50.0µm
b
PH: 72.6µm
50.0µm
c
PH: 137.5µm
50.0µm
d
PH: 173.9µm

Fig. 3

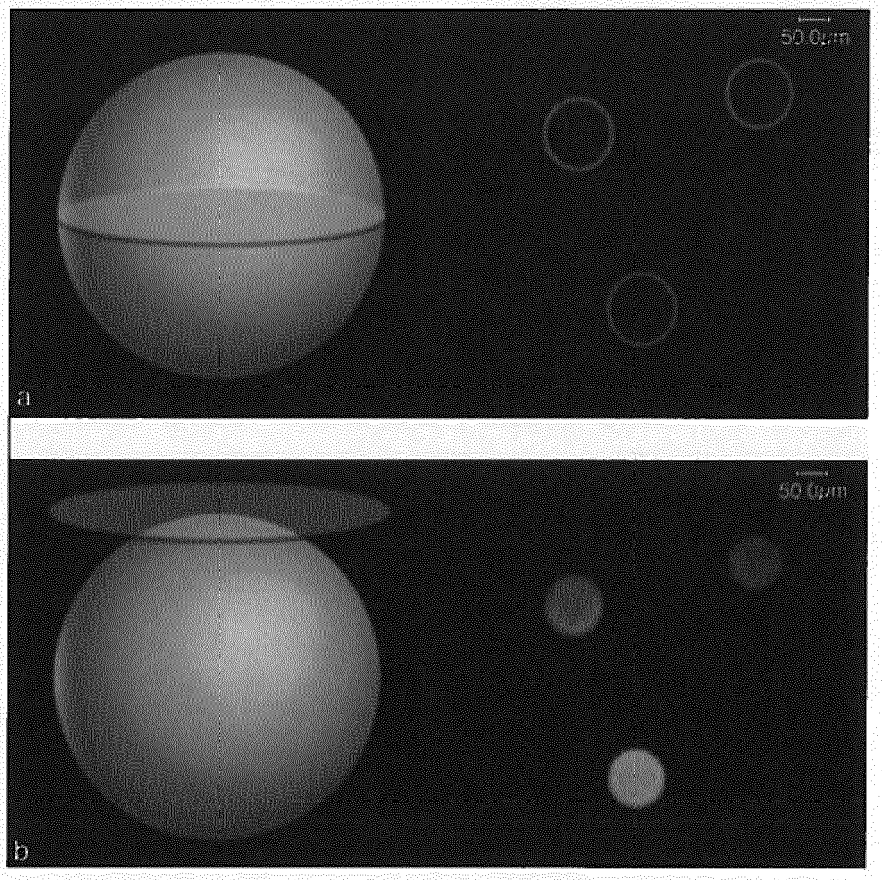

50.0µm
a
50.0µm
b

Fig. 4

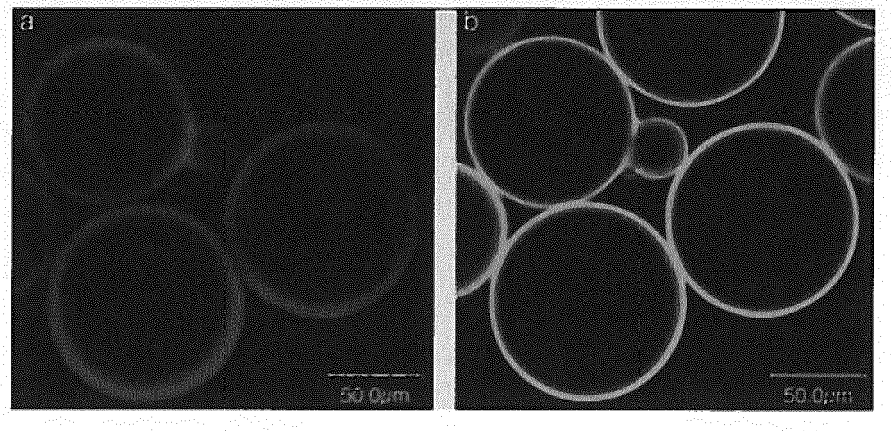


Fig. 5A

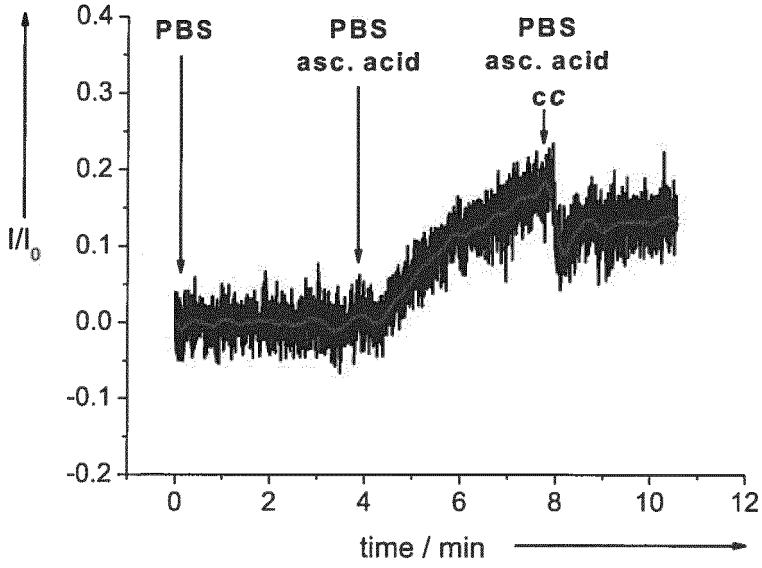


Fig. 5B

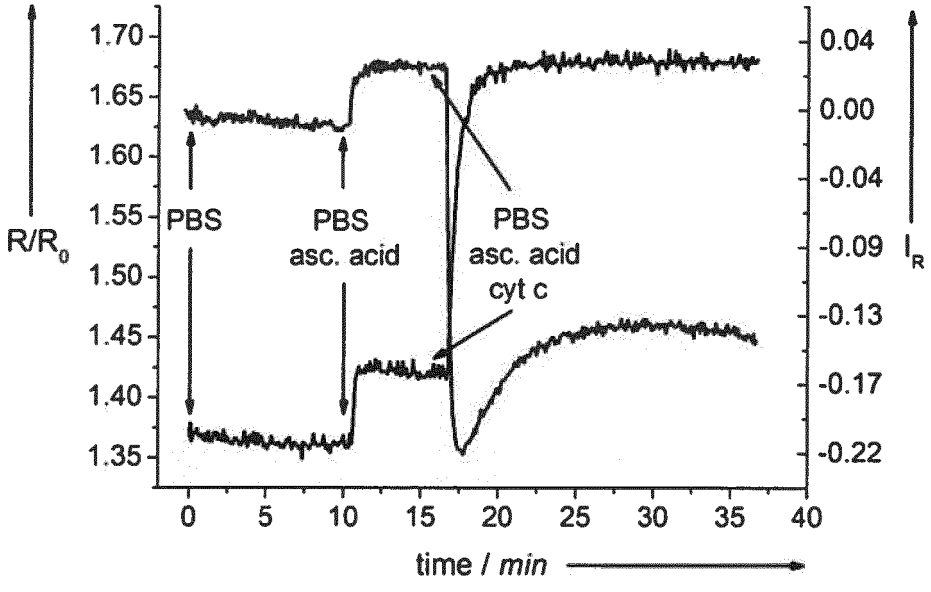


Fig. 6

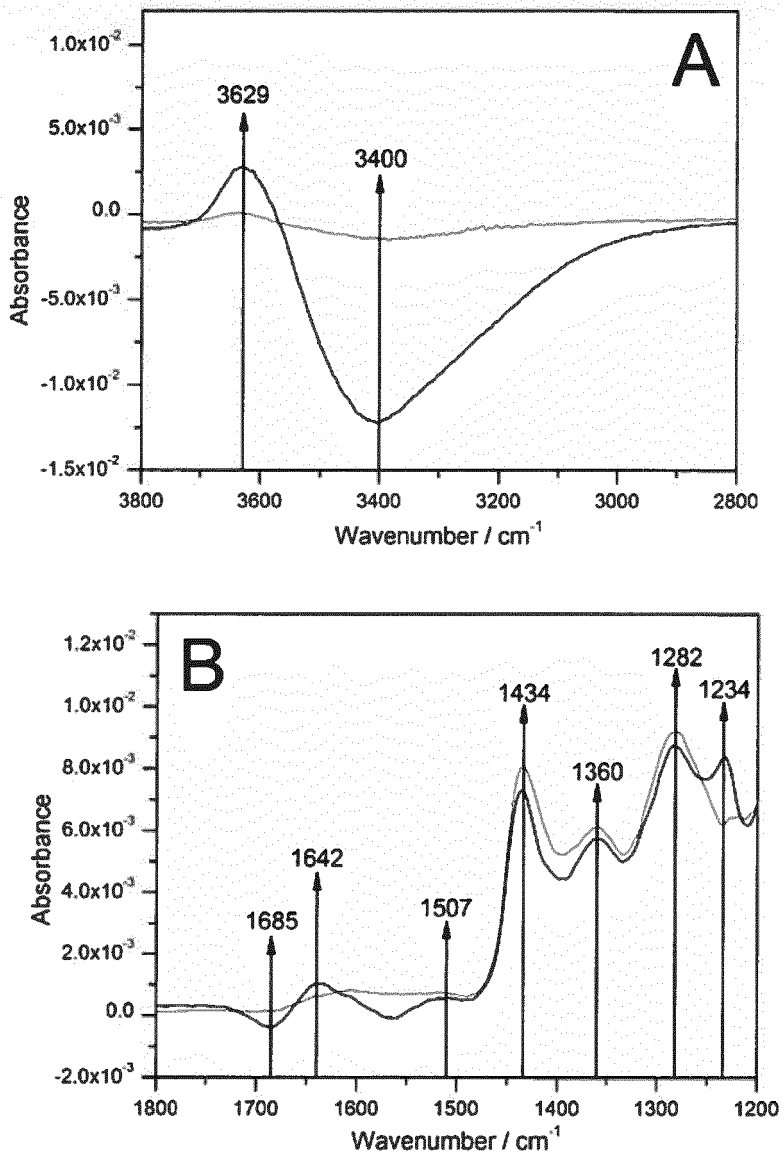

A
3629
3400
Absorbance
Wavenumber / cm-1
B
1434
1282
1234
1360
1642
1685
1507
Absorbance
Wavenumber / cm-1

Fig. 7

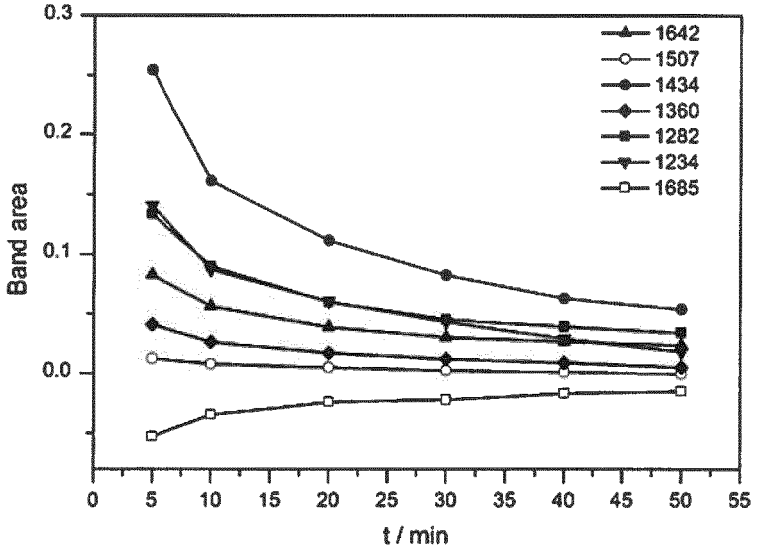
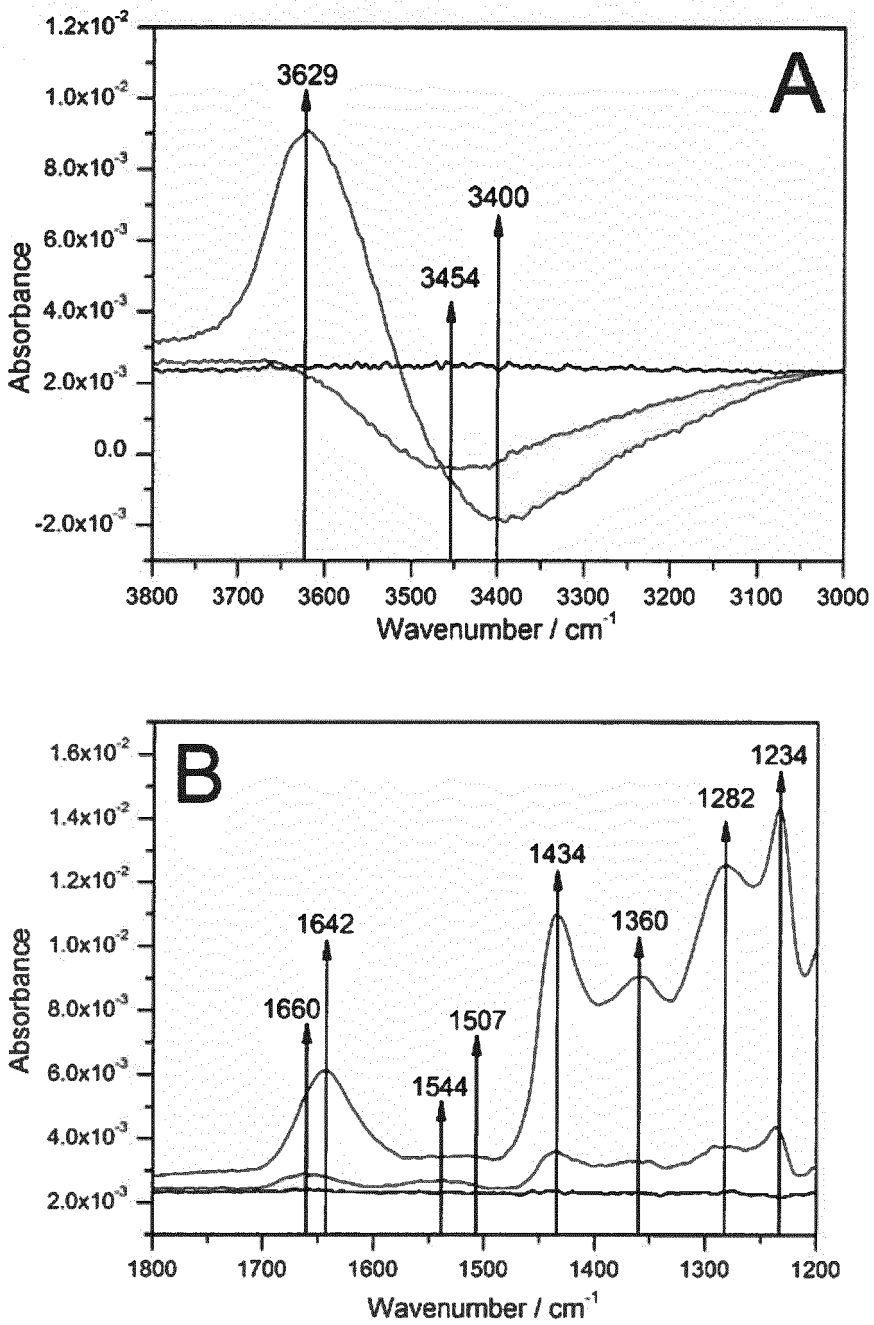

1642
1507
1434
1360
1282
1234
1685
Band area
t / min

Fig. 8


A
3629
3400
3454
Absorbance
1.2x10-2
1.0x10-2
8.0x10-3
6.0x10-3
4.0x10-3
2.0x10-3
0.0
-2.0x10-3
3800 3700 3600 3500 3400 3300 3200 3100 3000
Wavenumber / cm-1
B
1234
1282
1434
1642
1360
1660
1507
1544
Absorbance
1.6x10-2
1.4x10-2
1.2x10-2
1.0x10-2
8.0x10-3
6.0x10-3
4.0x10-3
2.0x10-3
1800 1700 1600 1500 1400 1300 1200
Wavenumber / cm-1

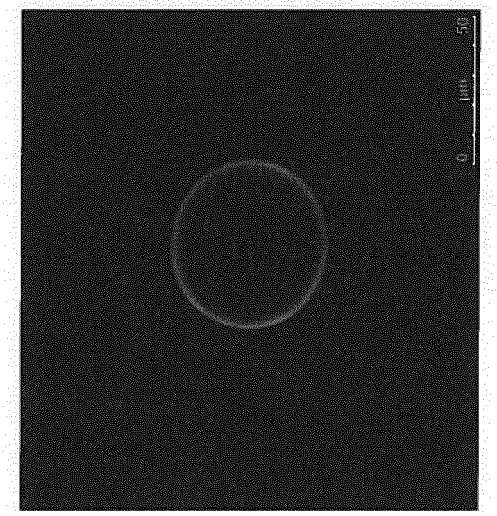


Fig.9b

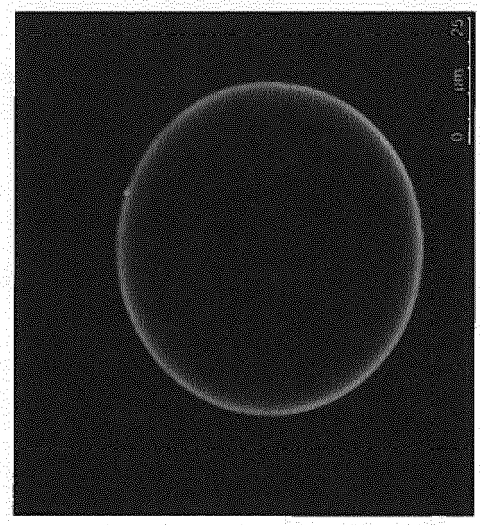


Fig.9a

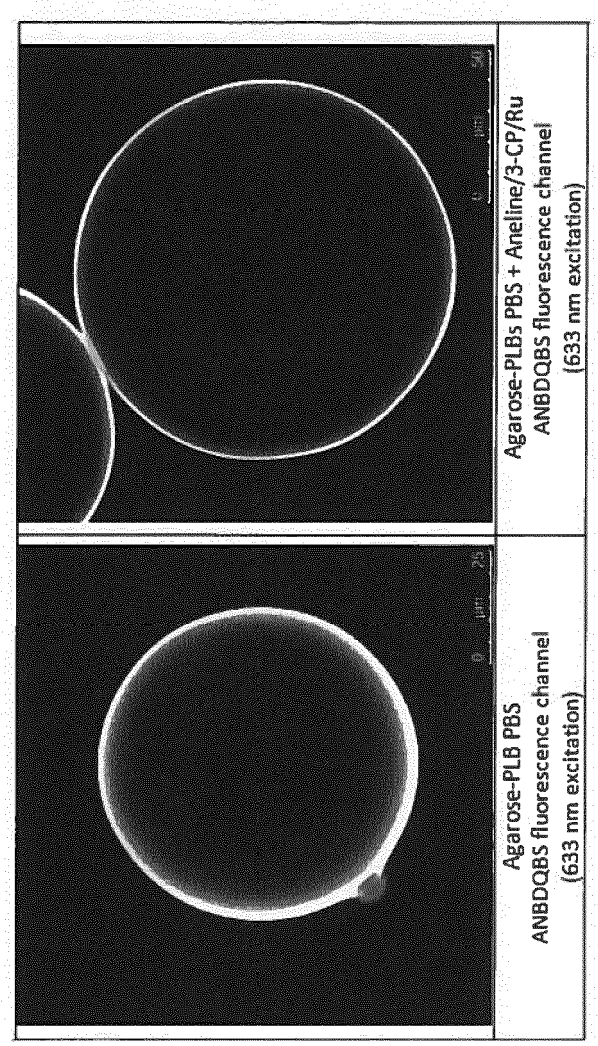


Fig.10

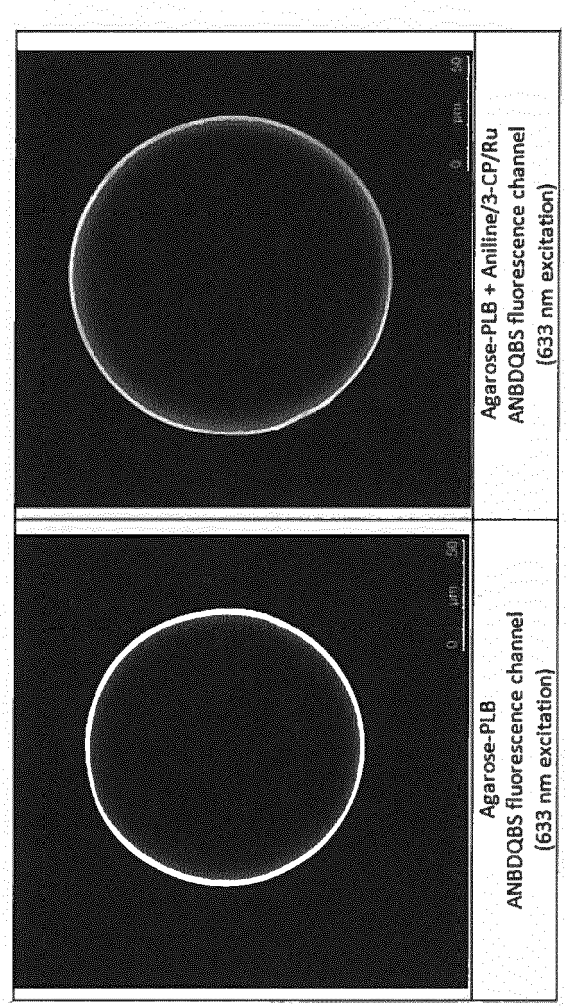

Agarose-PLB
ANBDQBS fluorescence channel
(633 nm excitation)
Agarose-PLB + Aniline/3-CP/Ru
ANBDQBS fluorescence channel
(633 nm excitation)

Fig.11

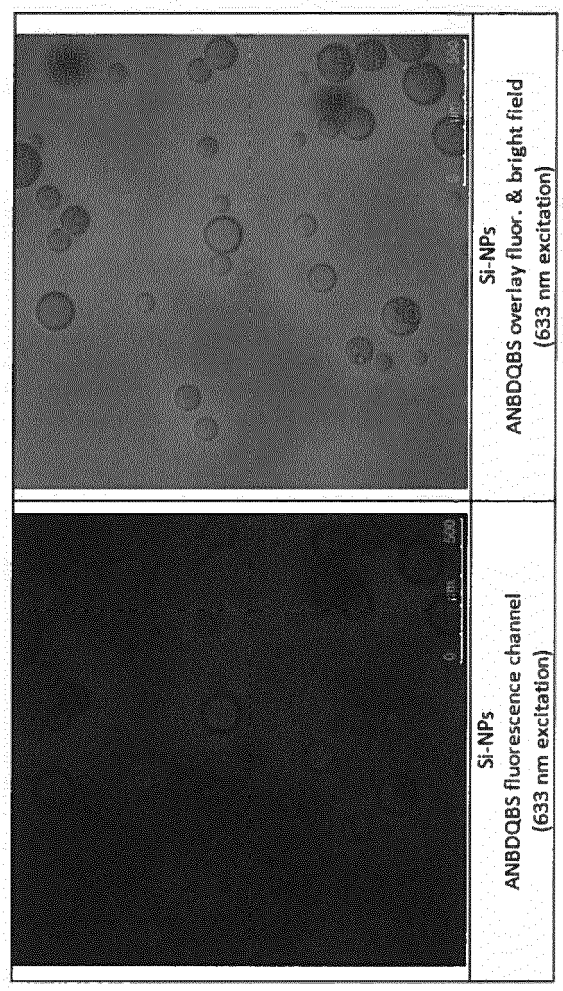

Si-NPs
ANBDQBS fluorescence channel
(633 nm excitation)
Si-NPs
ANBDQBS overlay fluor. & bright field
(633 nm excitation)

Fig.12

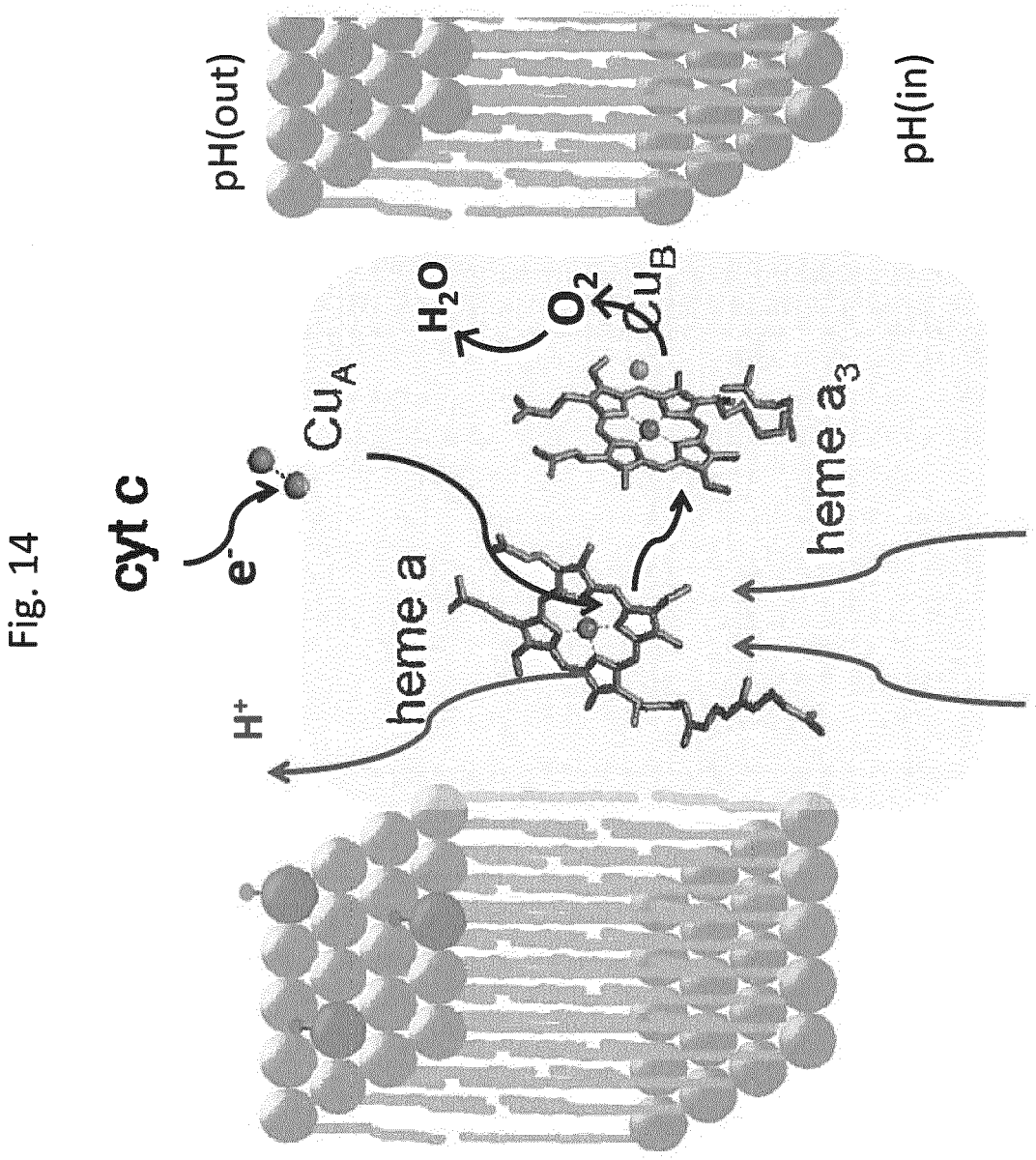


Fig.13b



Fig.13a

Fig. 14



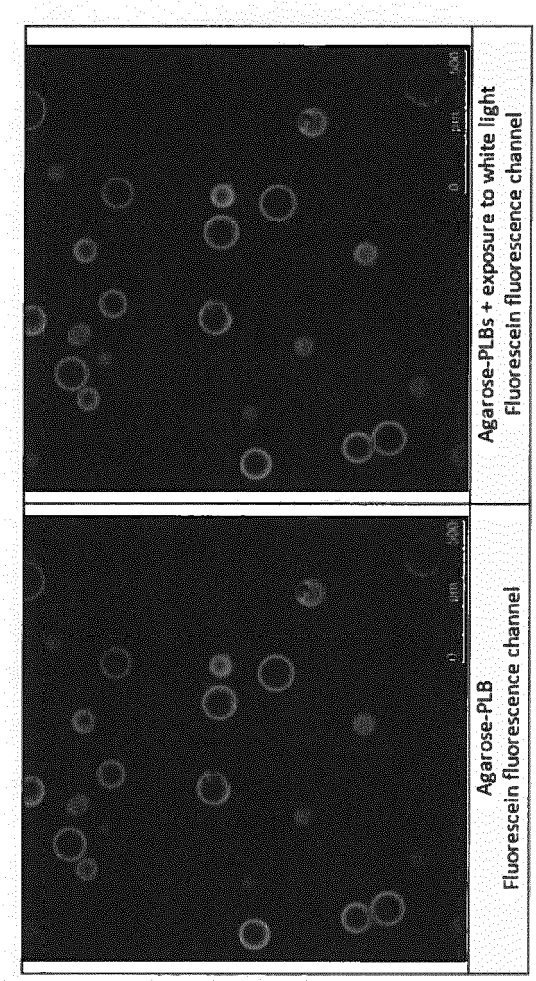

Agarose-PLB
Fluorescein fluorescence channel
Agarose-PLBs + exposure to white light
Fluorescein fluorescence channel

Fig.15

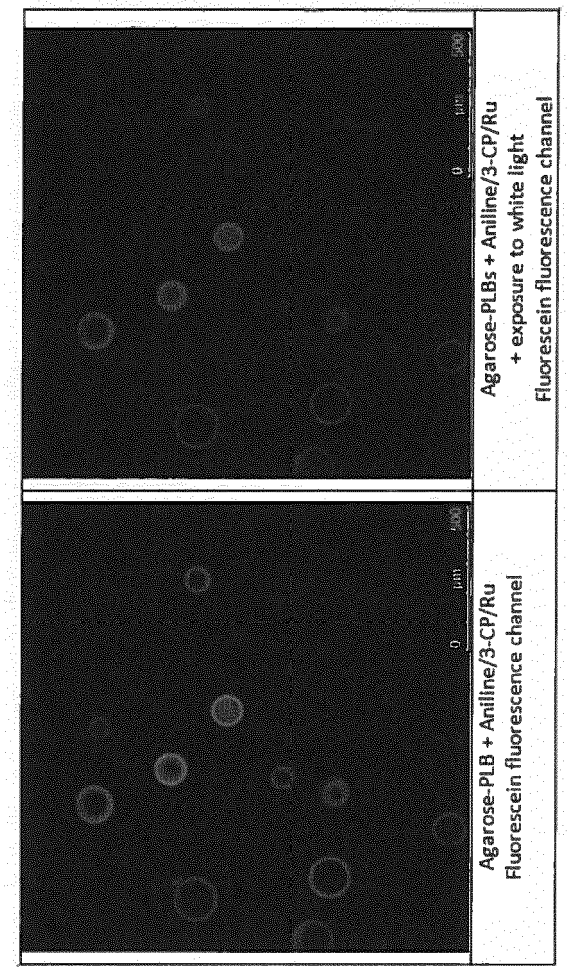

Agarose-PLB + Aniline/3-CP/Ru
Fluorescein fluorescence channel
Agarose-PLBs + Aniline/3-CP/Ru
+ exposure to white light
Fluorescein fluorescence channel

Fig.16

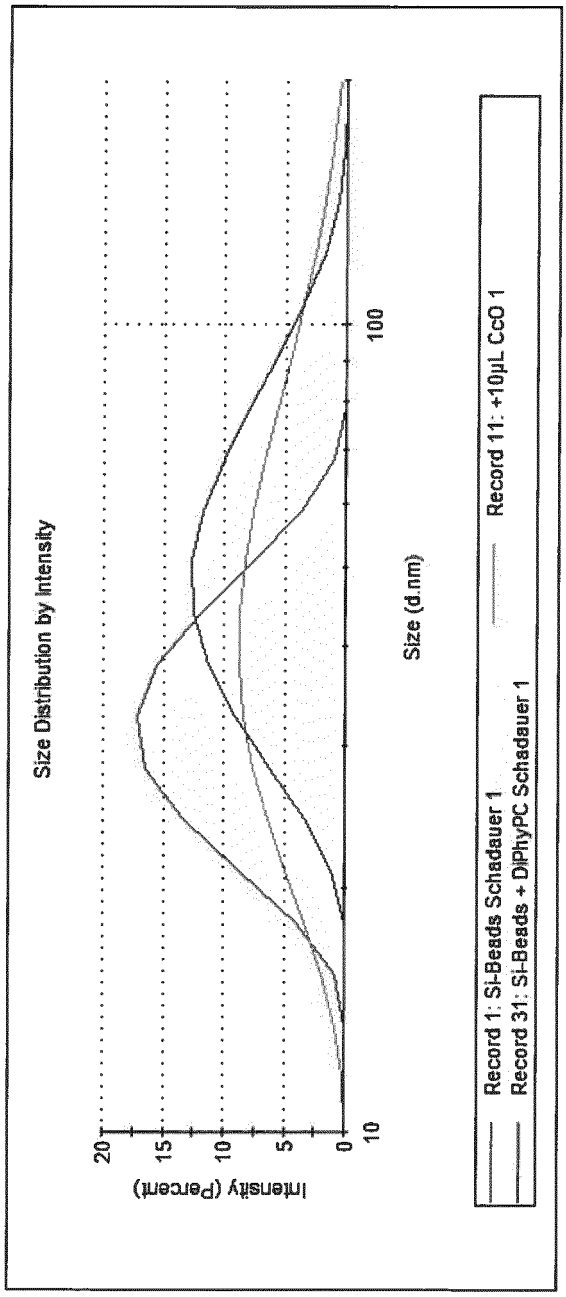

Size Distribution by Intensity
Intensity (Percent)
20
15
10
5
0
10
100
Size (d.nm)
Record 1: Si-Beads Schadauer 1
Record 31: Si-Beads + DiPhyPC Schadauer 1
Record 11: +10µL CcO 1

Fig.17

Fig.18

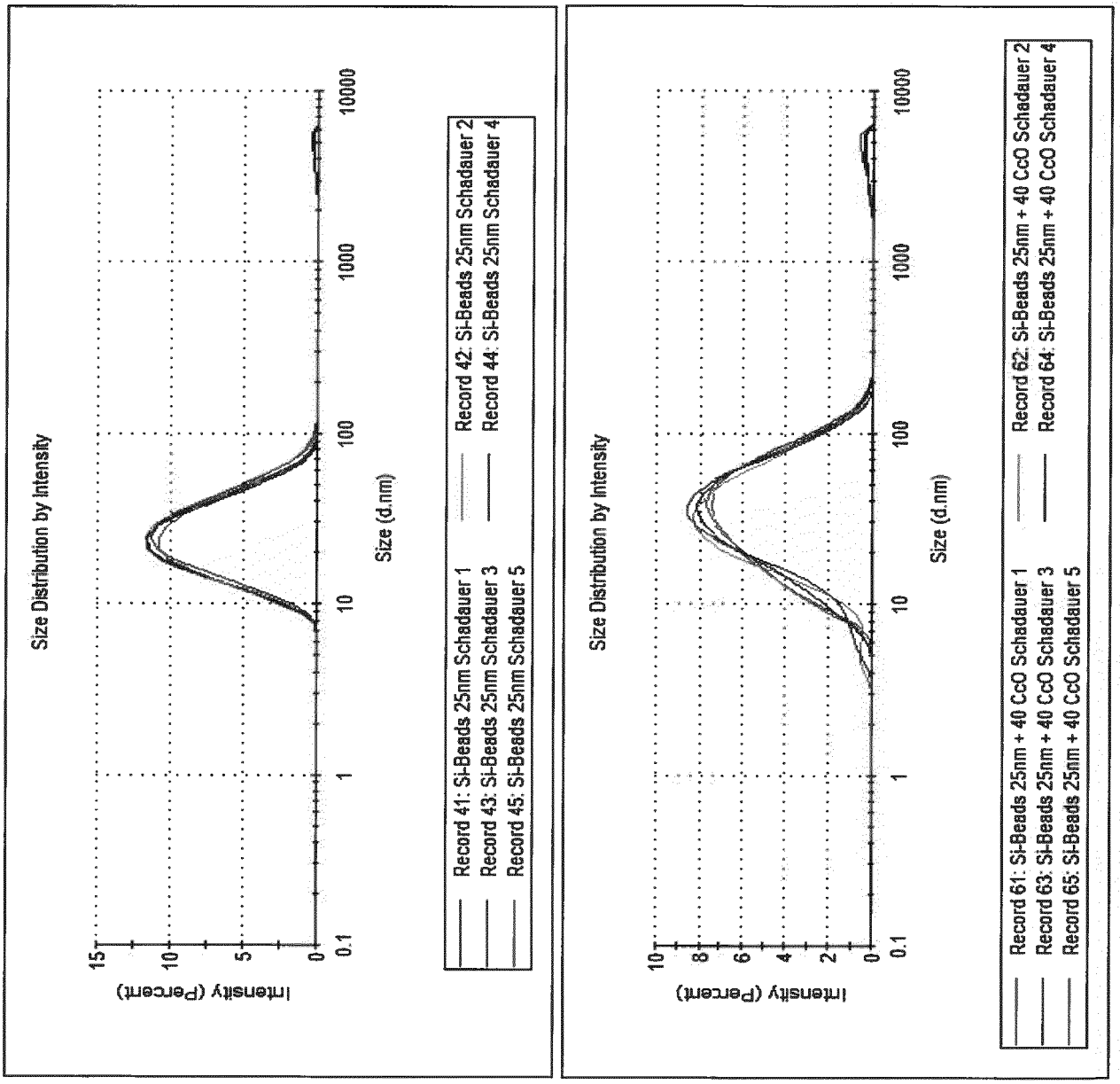

Si-NP : CcO
40µl : 0µl
Size Distribution by Intensity
Intensity (Percent)
Size (d.nm)
Record 41: Si-Beads 25nm Schadauer 1
Record 42: Si-Beads 25nm Schadauer 2
Record 43: Si-Beads 25nm Schadauer 3
Record 44: Si-Beads 25nm Schadauer 4
Record 45: Si-Beads 25nm Schadauer 5
Si-NP : CcO
40µl : 40µl
Size Distribution by Intensity
Intensity (Percent)
Size (d.nm)
Record 61: Si-Beads 25nm + 40 CcO Schadauer 1
Record 62: Si-Beads 25nm + 40 CcO Schadauer 2
Record 63: Si-Beads 25nm + 40 CcO Schadauer 3
Record 64: Si-Beads 25nm + 40 CcO Schadauer 4
Record 65: Si-Beads 25nm + 40 CcO Schadauer 5

Fig.18

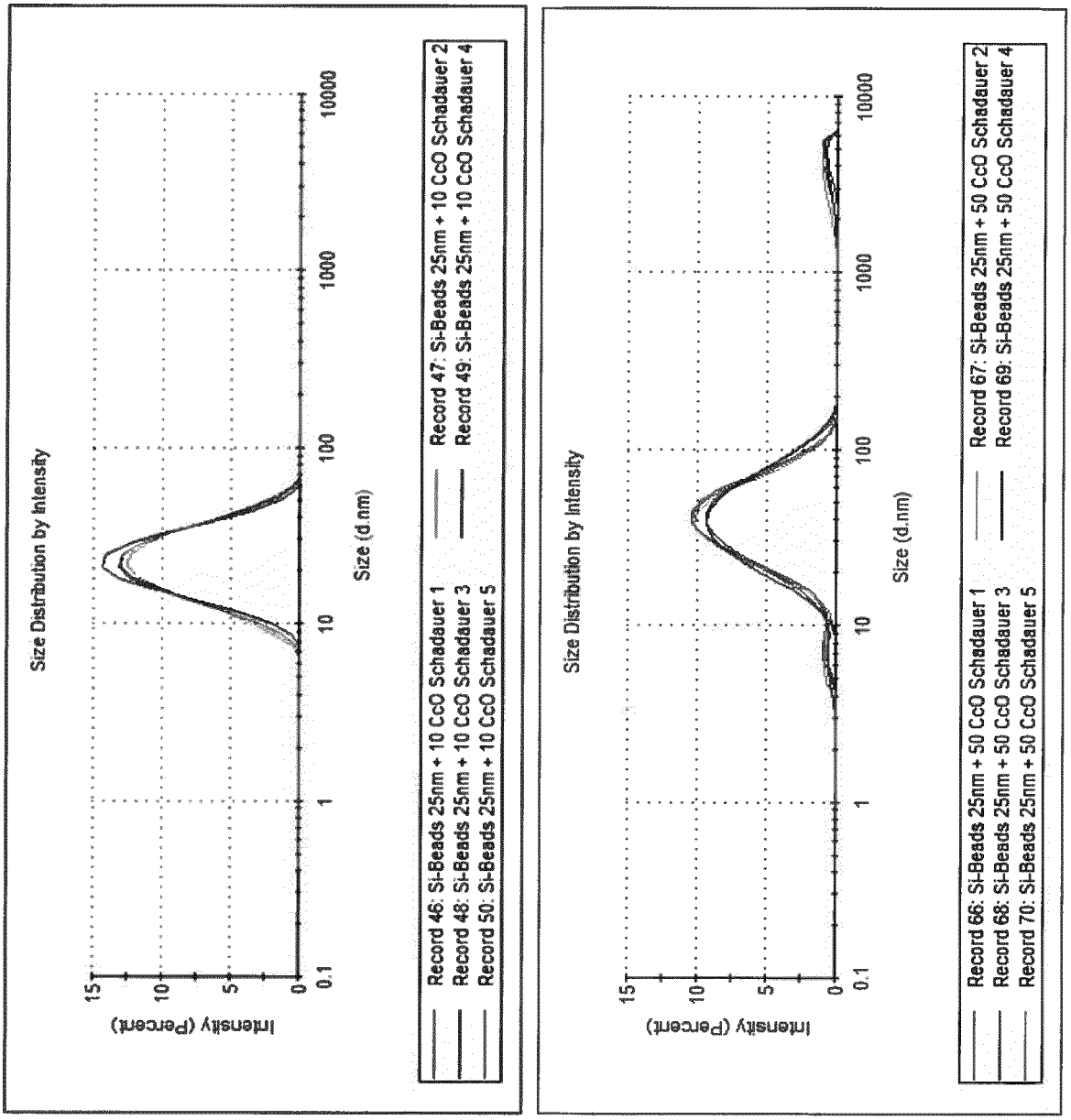

Si-NP : CcO
40µl : 10µl
Size Distribution by Intensity
Intensity (Percent)
Size (d.nm)
Record 46: Si-Beads 25nm + 10 CcO Schadauer 1
Record 47: Si-Beads 25nm + 10 CcO Schadauer 2
Record 48: Si-Beads 25nm + 10 CcO Schadauer 3
Record 49: Si-Beads 25nm + 10 CcO Schadauer 4
Record 50: Si-Beads 25nm + 10 CcO Schadauer 5
Si-NP : CcO
40µl : 50µl
Size Distribution by Intensity
Intensity (Percent)
Size (d.nm)
Record 66: Si-Beads 25nm + 50 CcO Schadauer 1
Record 67: Si-Beads 25nm + 50 CcO Schadauer 2
Record 68: Si-Beads 25nm + 50 CcO Schadauer 3
Record 69: Si-Beads 25nm + 50 CcO Schadauer 4
Record 70: Si-Beads 25nm + 50 CcO Schadauer 5

Fig.18

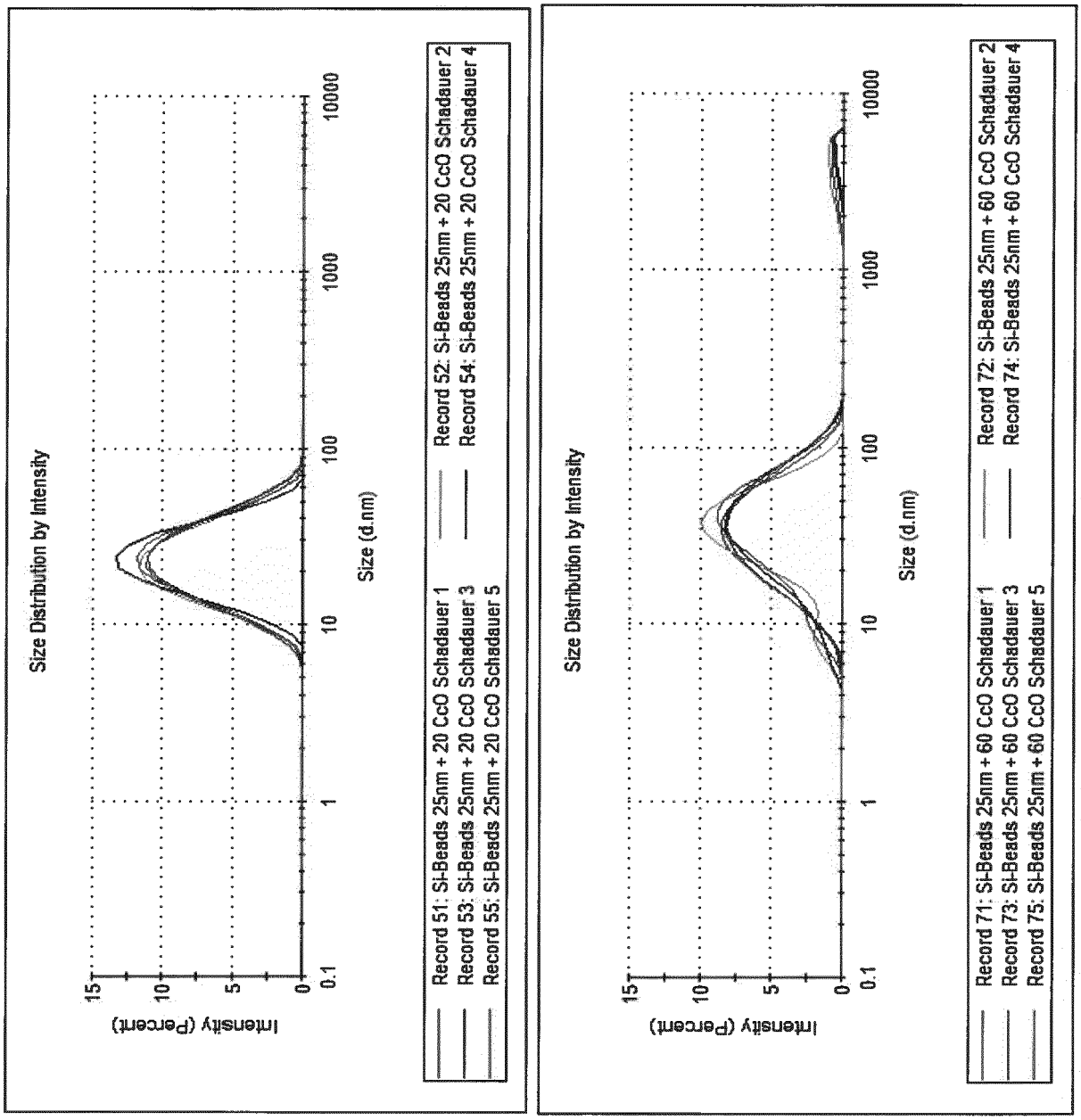
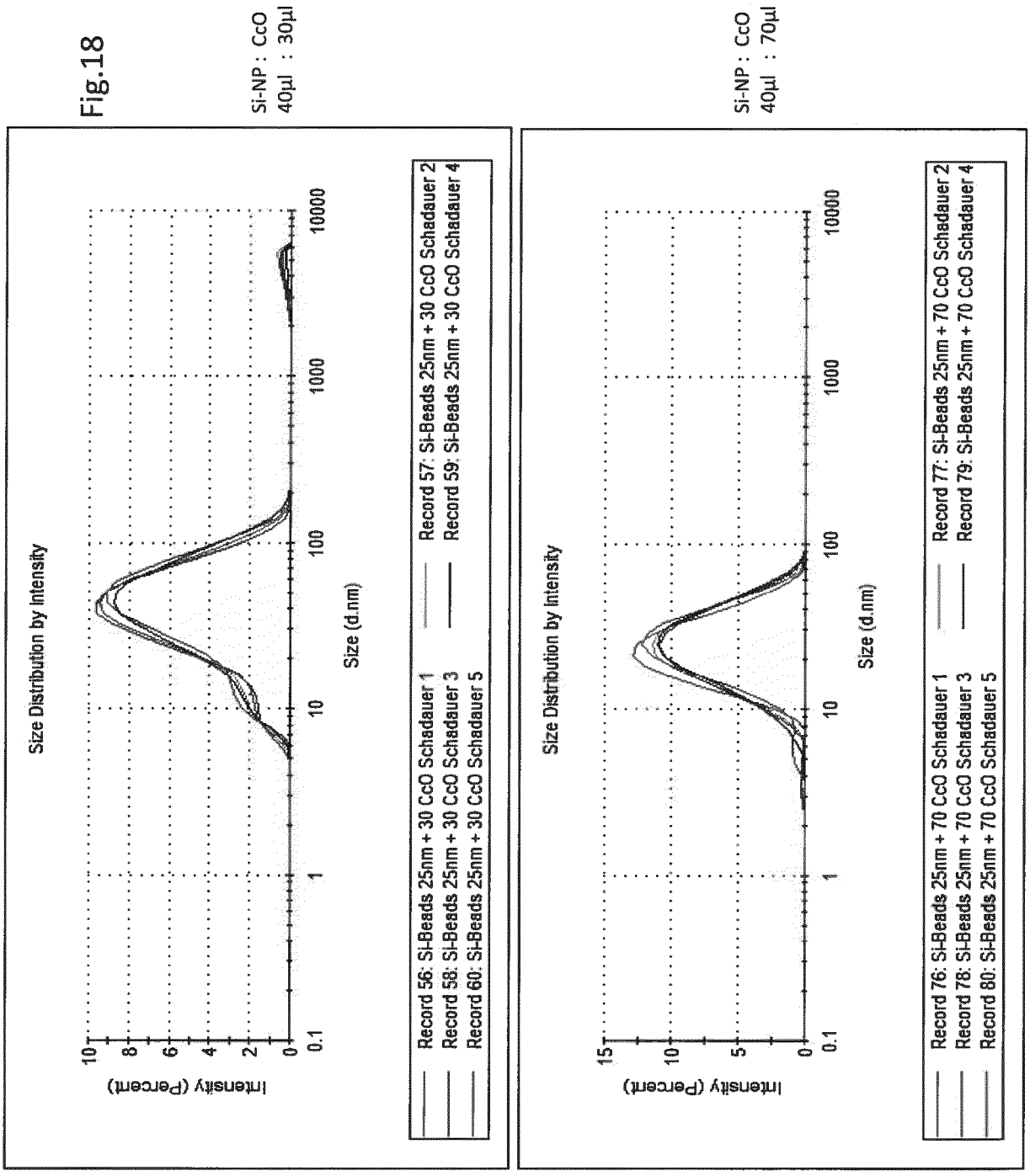

Si-NP : CcO
40µl : 20µl
Size Distribution by Intensity
Intensity (Percent)
Size (d.nm)
Record 51: Si-Beads 25nm + 20 CcO Schadauer 1
Record 52: Si-Beads 25nm + 20 CcO Schadauer 2
Record 53: Si-Beads 25nm + 20 CcO Schadauer 3
Record 54: Si-Beads 25nm + 20 CcO Schadauer 4
Record 55: Si-Beads 25nm + 20 CcO Schadauer 5
Si-NP : CcO
40µl : 60µl
Size Distribution by Intensity
Intensity (Percent)
Size (d.nm)
Record 71: Si-Beads 25nm + 60 CcO Schadauer 1
Record 72: Si-Beads 25nm + 60 CcO Schadauer 2
Record 73: Si-Beads 25nm + 60 CcO Schadauer 3
Record 74: Si-Beads 25nm + 60 CcO Schadauer 4
Record 75: Si-Beads 25nm + 60 CcO Schadauer 5

Fig.18


Si-NP : CcO
40µl : 30µl
Size Distribution by Intensity
Intensity (Percent)
Size (d.nm)
Record 56: Si-Beads 25nm + 30 CcO Schadauer 1
Record 57: Si-Beads 25nm + 30 CcO Schadauer 2
Record 58: Si-Beads 25nm + 30 CcO Schadauer 3
Record 59: Si-Beads 25nm + 30 CcO Schadauer 4
Record 60: Si-Beads 25nm + 30 CcO Schadauer 5
Si-NP : CcO
40µl : 70µl
Size Distribution by Intensity
Intensity (Percent)
Size (d.nm)
Record 76: Si-Beads 25nm + 70 CcO Schadauer 1
Record 77: Si-Beads 25nm + 70 CcO Schadauer 2
Record 78: Si-Beads 25nm + 70 CcO Schadauer 3
Record 79: Si-Beads 25nm + 70 CcO Schadauer 4
Record 80: Si-Beads 25nm + 70 CcO Schadauer 5

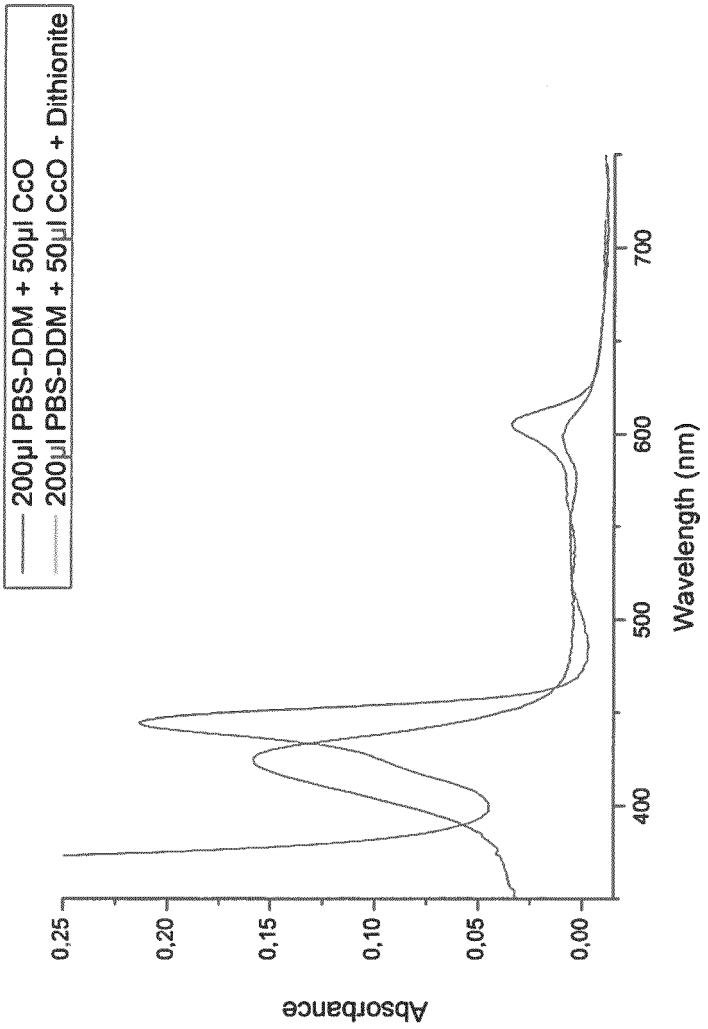

200µl PBS-DDM + 50µl CcO
200µl PBS-DDM + 50µl CcO + Dithionite
Absorbance
0,25
0,20
0,15
0,10
0,05
0,00
400
500
600
700
Wavelength (nm)

Fig.19

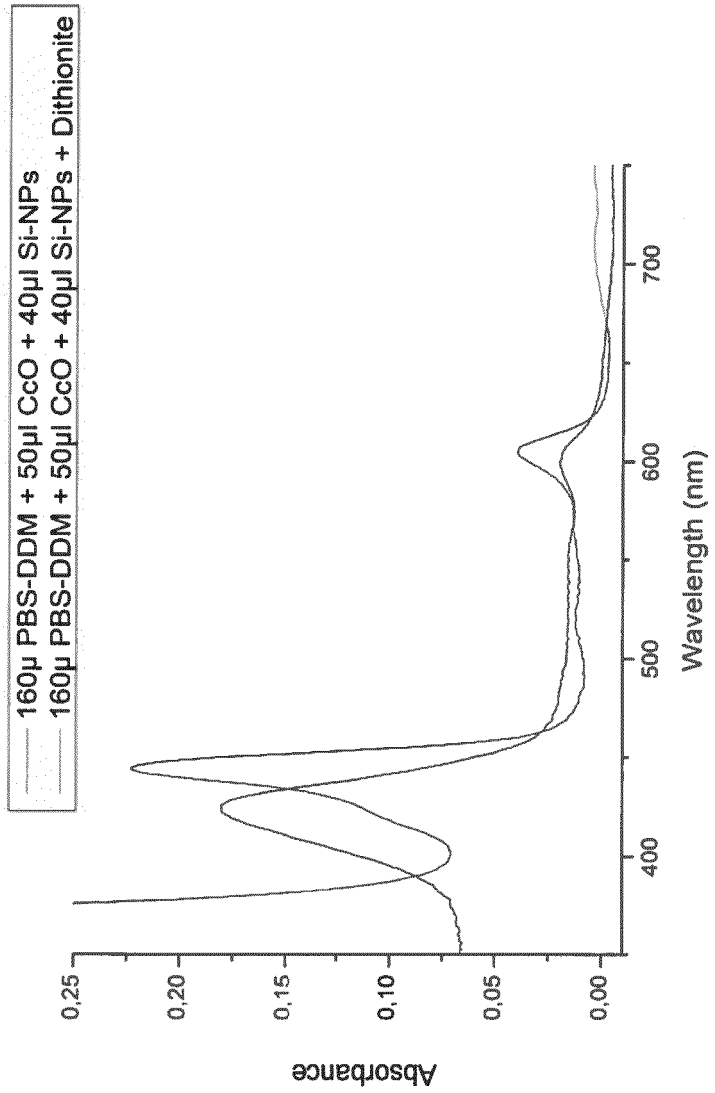

160µ PBS-DDM + 50µl CcO + 40µl Si-NPs
160µ PBS-DDM + 50µl CcO + 40µl Si-NPs + Dithionite
Absorbance
0,25
0,20
0,15
0,10
0,05
0,00
400
500
600
700
Wavelength (nm)

Fig.19

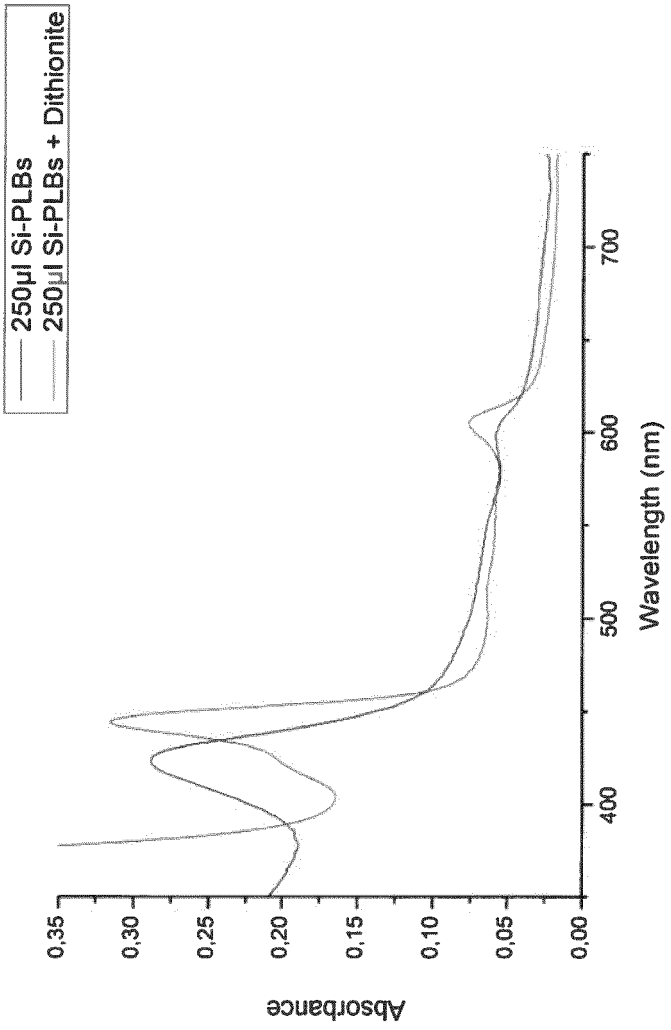

250µl Si-PLBs
250µl Si-PLBs + Dithionite
Absorbance
0,35
0,30
0,25
0,20
0,15
0,10
0,05
0,00
400
500
600
700
Wavelength (nm)

Fig.19

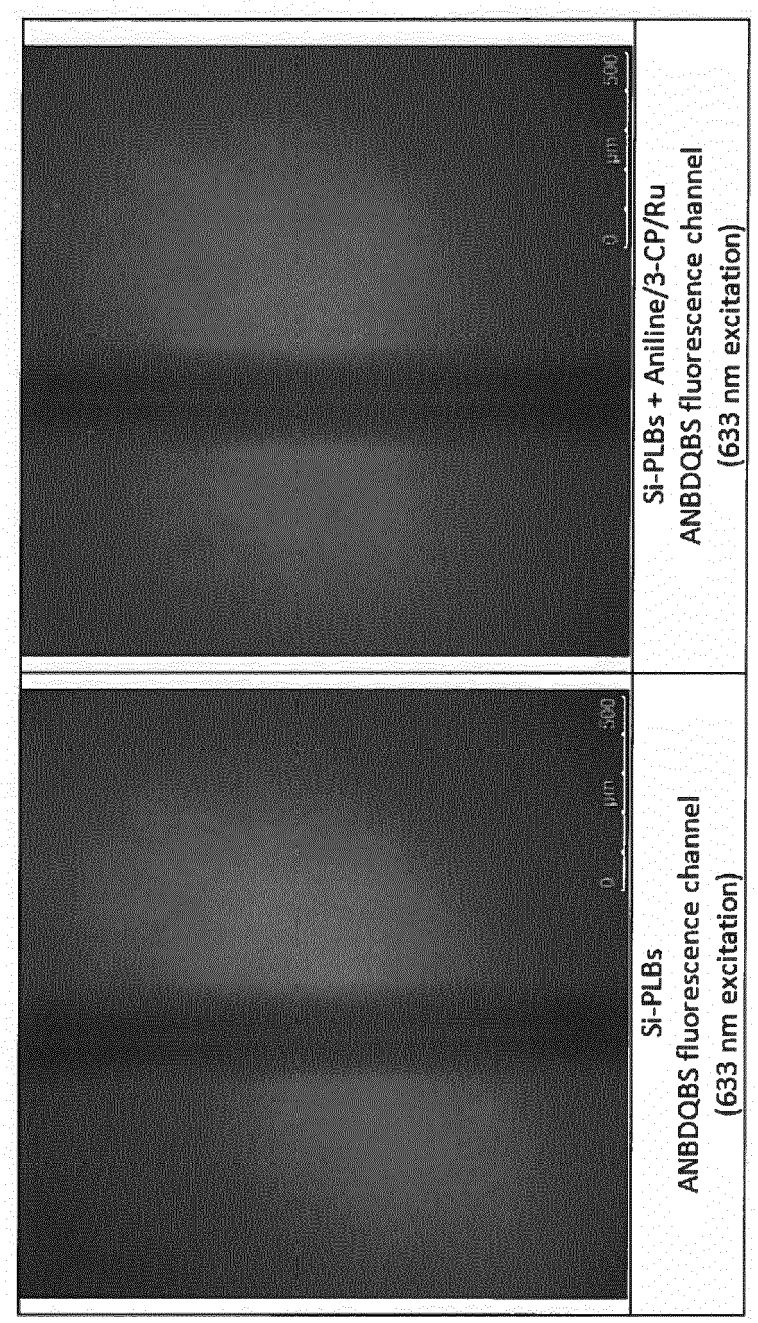
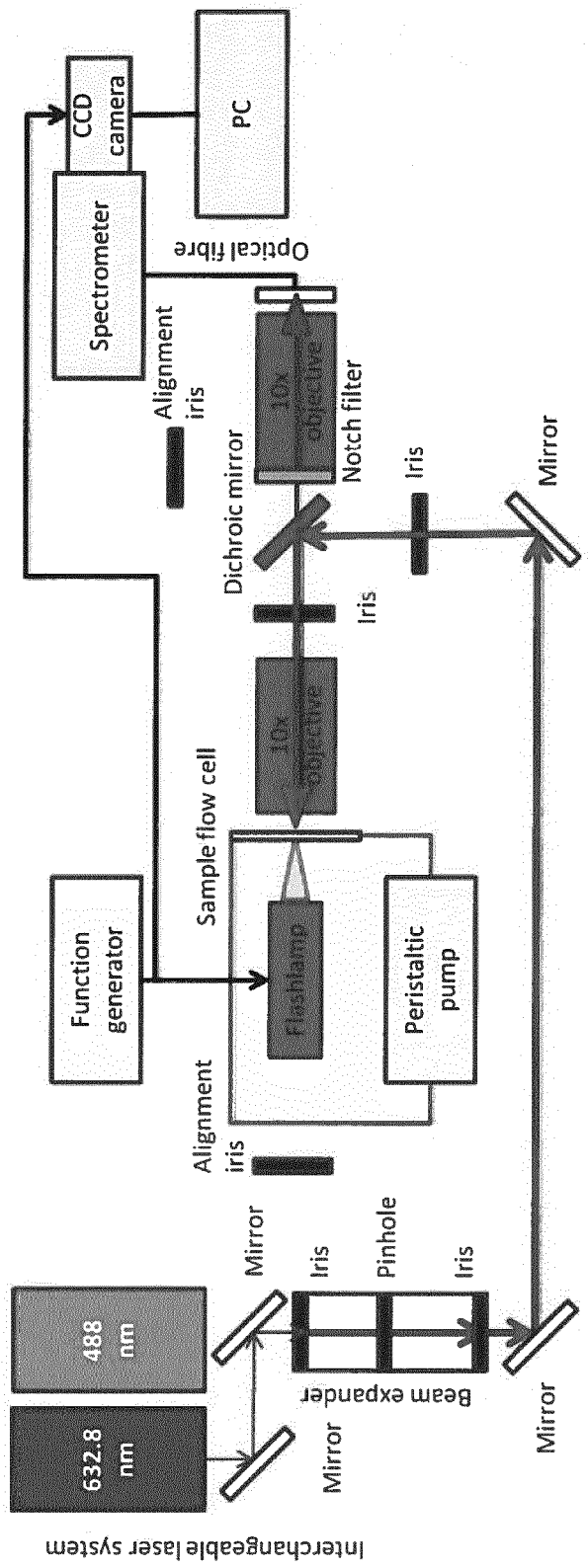

Si-PLBs
ANBDQBS fluorescence channel
(633 nm excitation)
Si-PLBs + Aniline/3-CP/Ru
ANBDQBS fluorescence channel
(633 nm excitation)

Fig.20

Fig. 21


Interchangeable laser system
632.8 nm
488 nm
Mirror
Mirror
Iris
Pinhole
Iris
Beam expander
Mirror
Alignment iris
Sample flow cell
Function generator
Flashlamp
Peristaltic pump
10x objective
Iris
Dichroic mirror
Notch filter
10x objective
Alignment iris
Optical fibre
Spectrometer
CCD camera
PC
Iris
Mirror