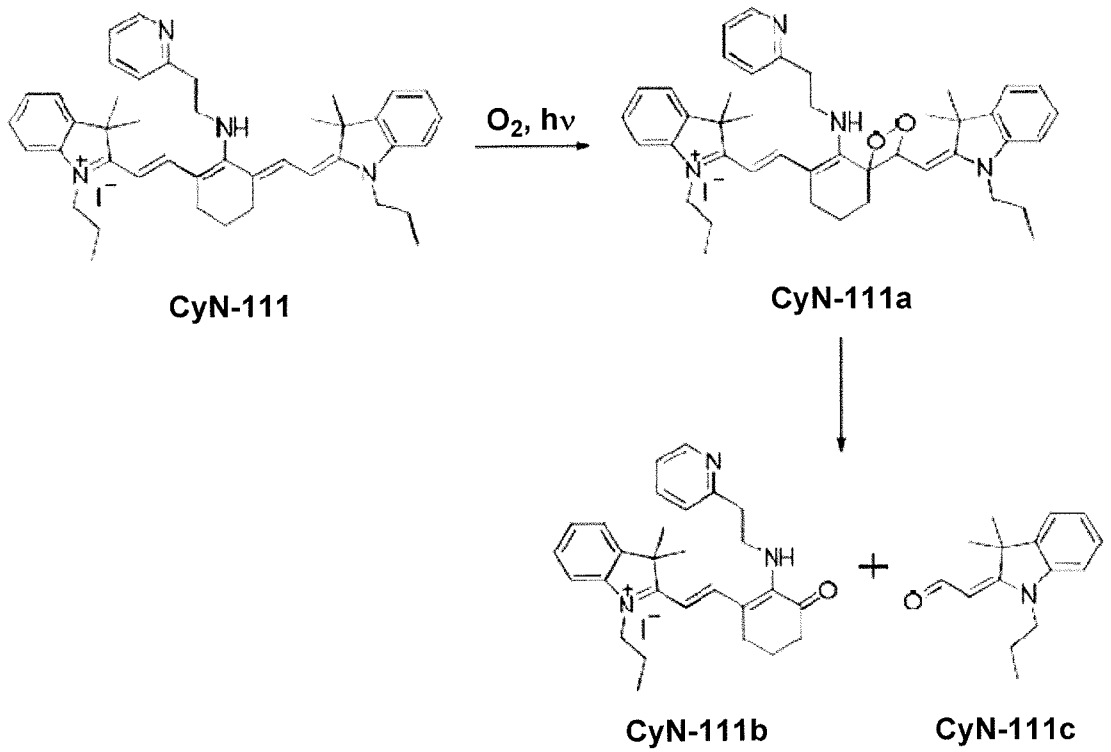
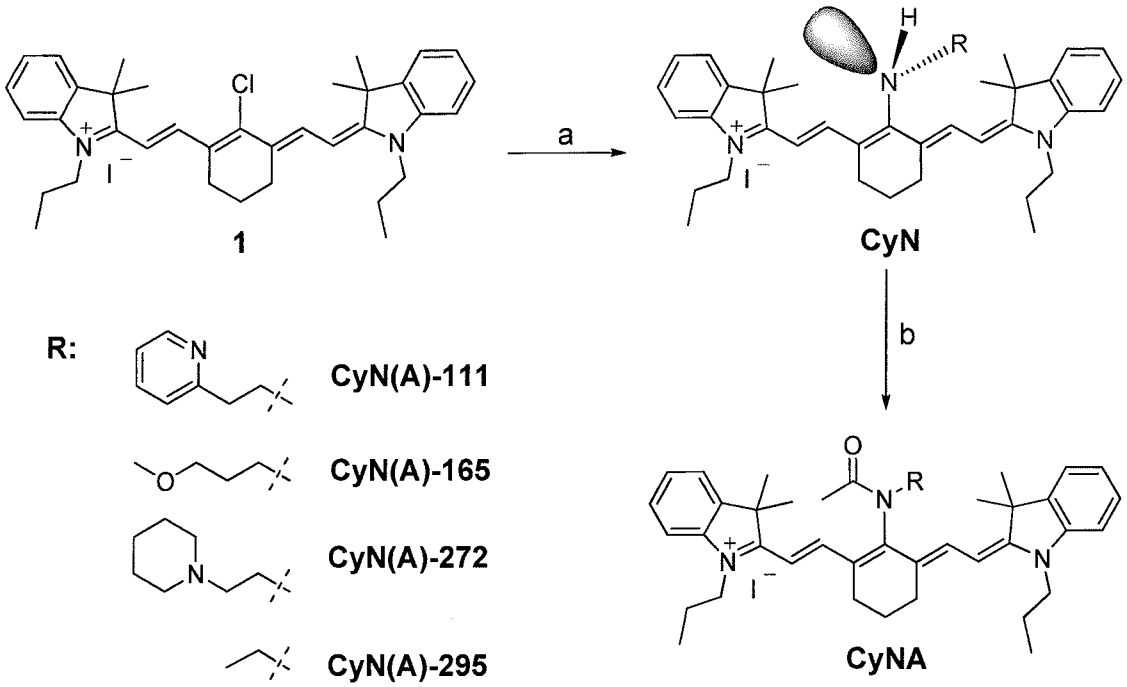


FIG. 1



Reagents and conditions: a) RNH_2, DIEA, CH_3CN, 80 °C, 10-60 minutes; b) CH_3COCl, DIEA, CH_2Cl_2, 0 °C, 15 minutes.

FIG. 2

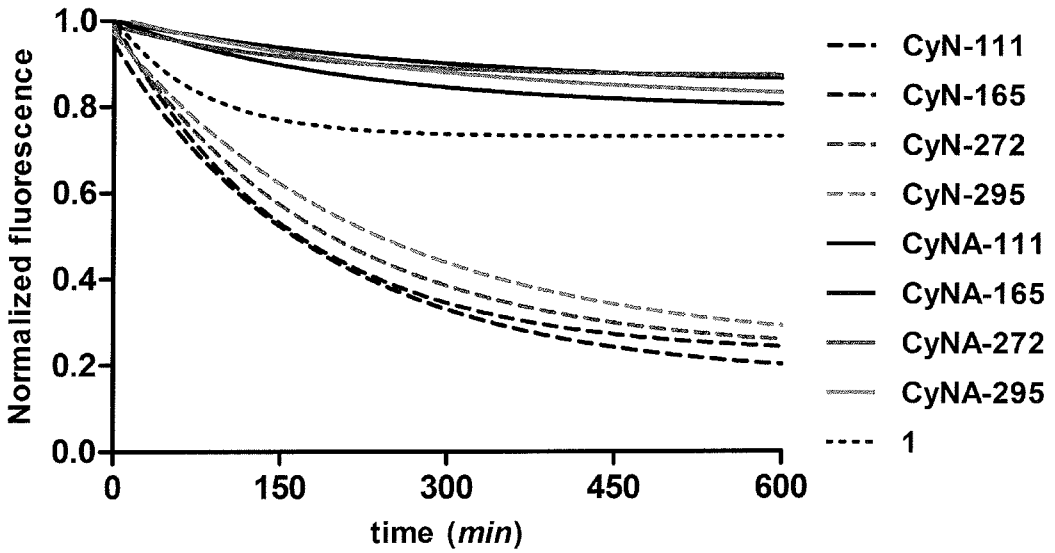


FIG. 3

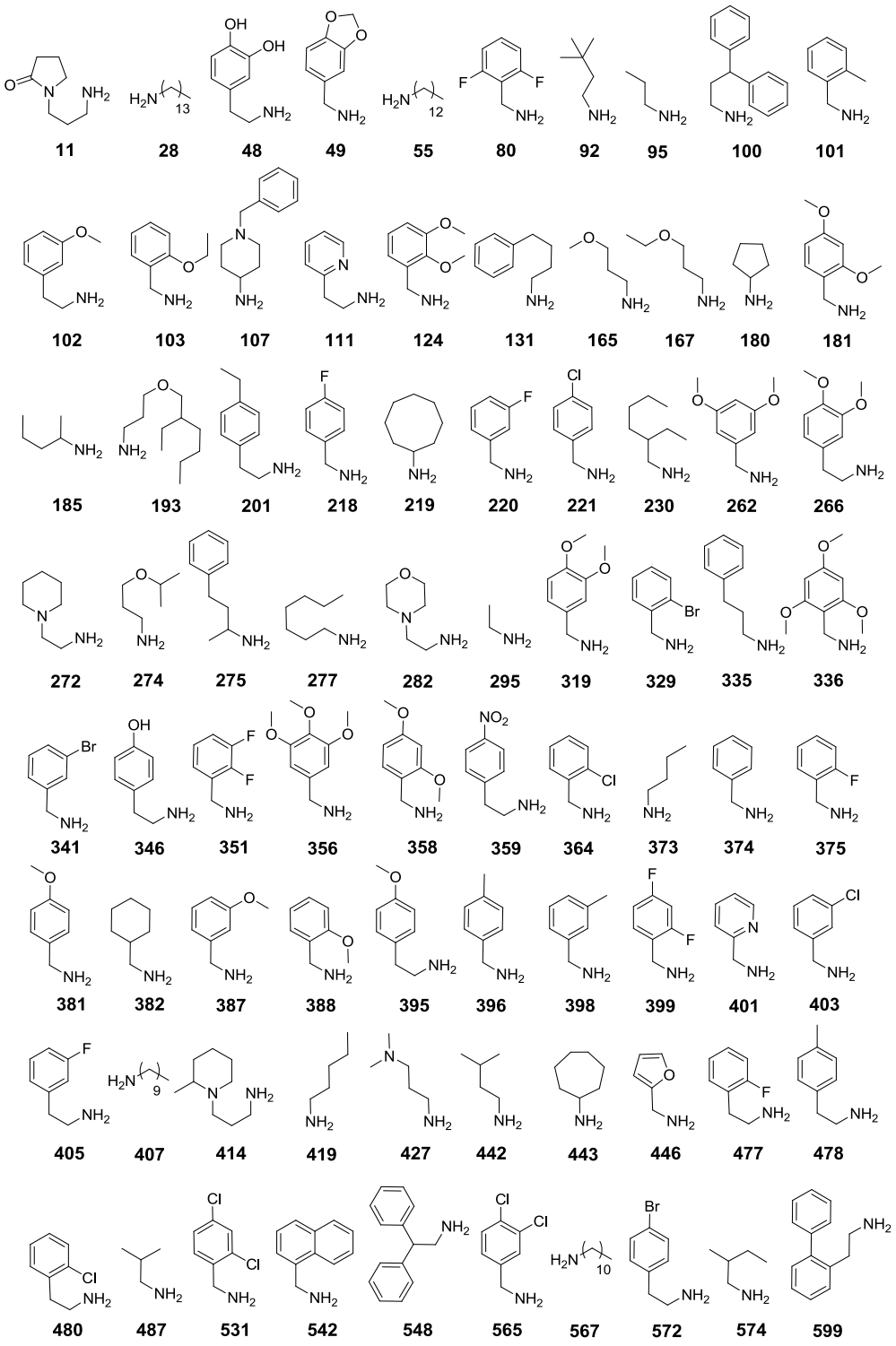

11
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80
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111
124
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220
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FIG. 4

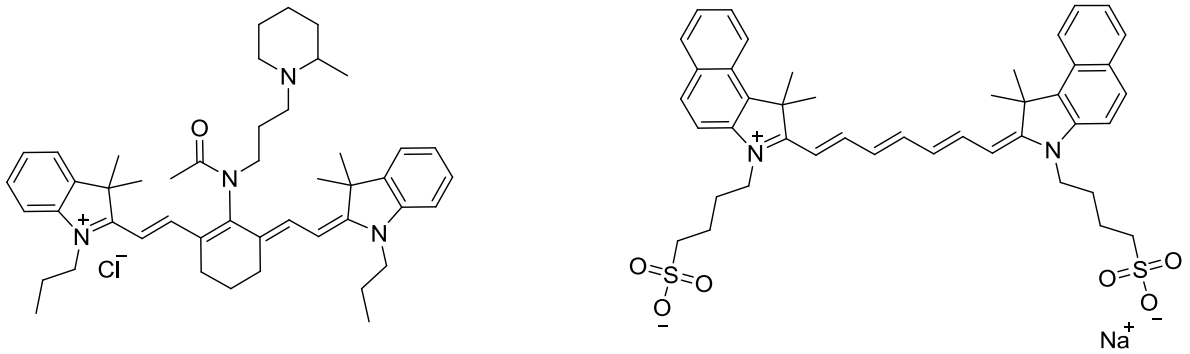

CyNA-414
ICG

FIG. 5

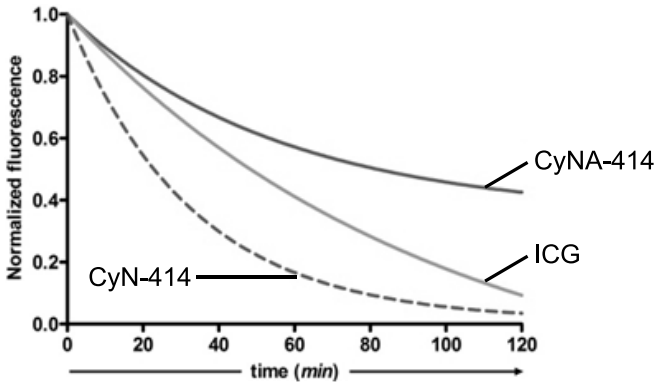

Normalized fluorescence
1.0
0.8
0.6
0.4
0.2
0.0
0
20
40
60
80
100
120
time (min)
CyNA-414
ICG
CyN-414

FIG. 6

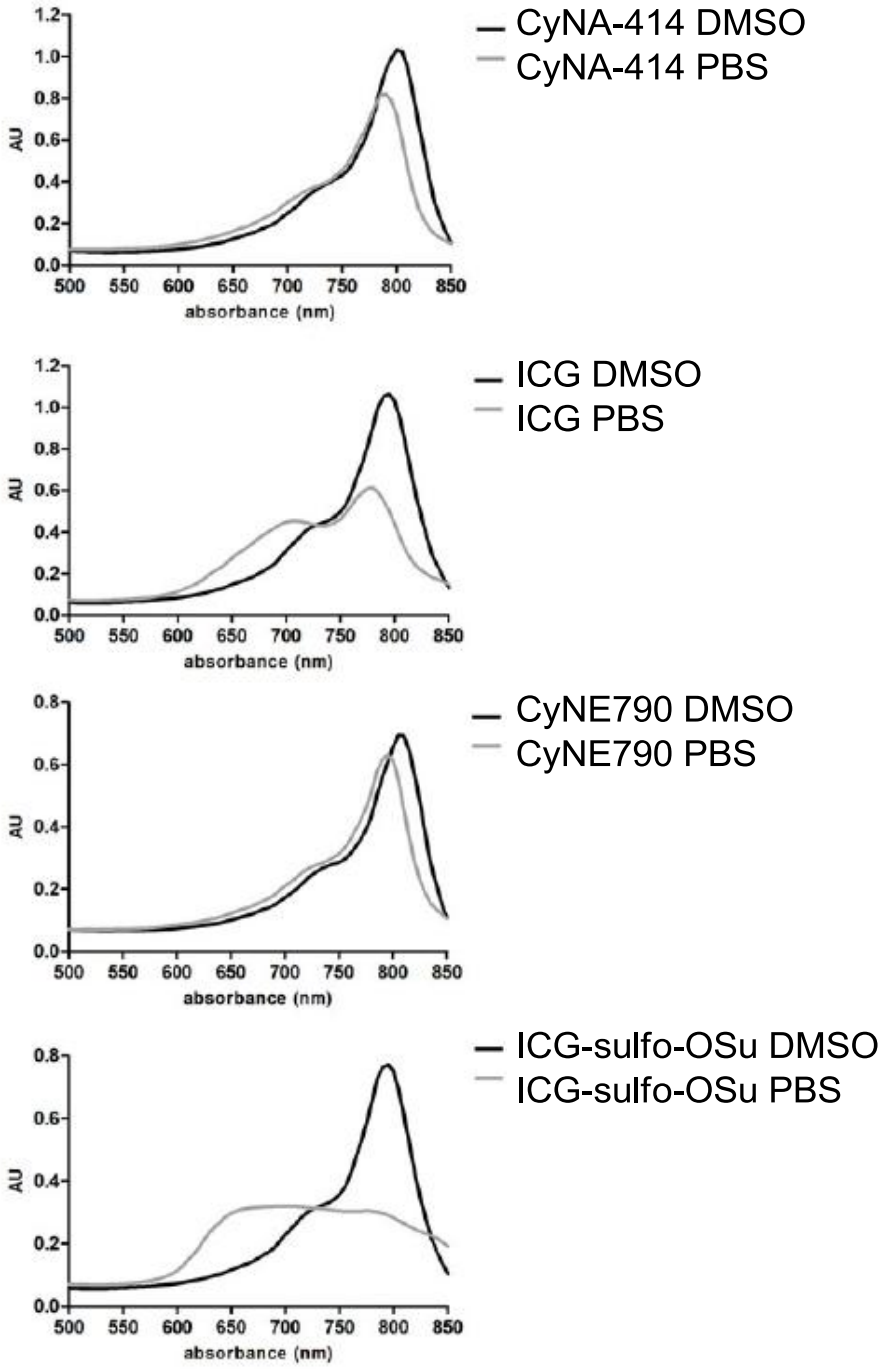

CyNA-414 DMSO
CyNA-414 PBS
ICG DMSO
ICG PBS
CyNE790 DMSO
CyNE790 PBS
ICG-sulfo-OSu DMSO
ICG-sulfo-OSu PBS
AU
absorbance (nm)

FIG. 7A

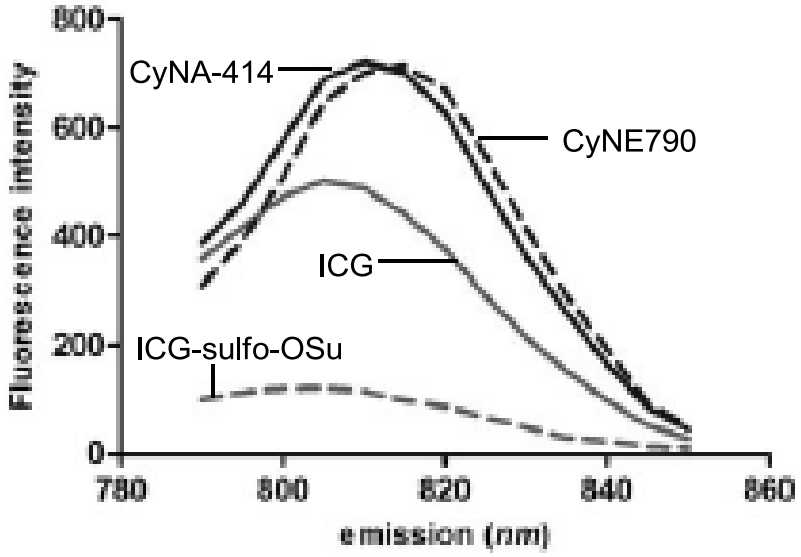
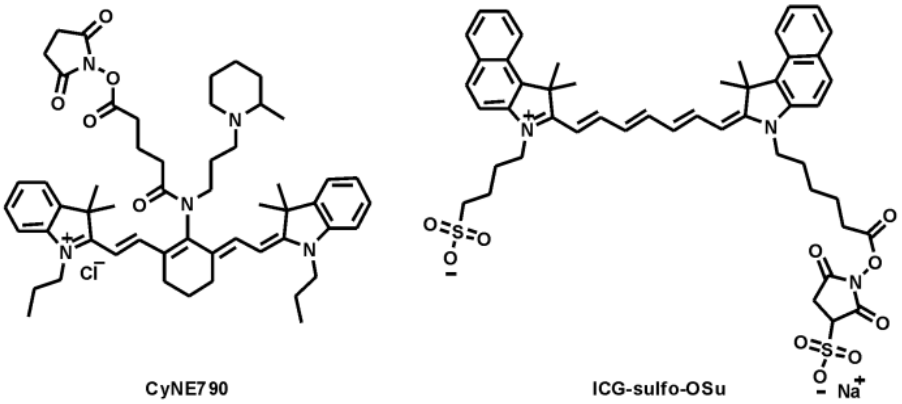

800
600
400
200
0
Fluorescence intensity
CyNA-414
CyNE790
ICG
ICG-sulfo-OSu
780
800
820
840
860
emission (nm)

FIG. 7B


Cl⁻
CyNE790
ICG-sulfo-OSu
Na⁺

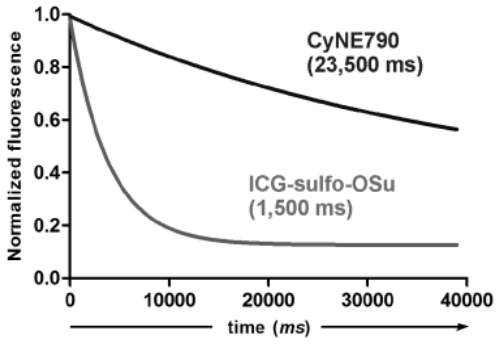

1.0
0.8
0.6
0.4
0.2
0.0
Normalized fluorescence
CyNE790
(23,500 ms)
ICG-sulfo-OSu
(1,500 ms)
0
10000
20000
30000
40000
time (ms)

FIG. 8

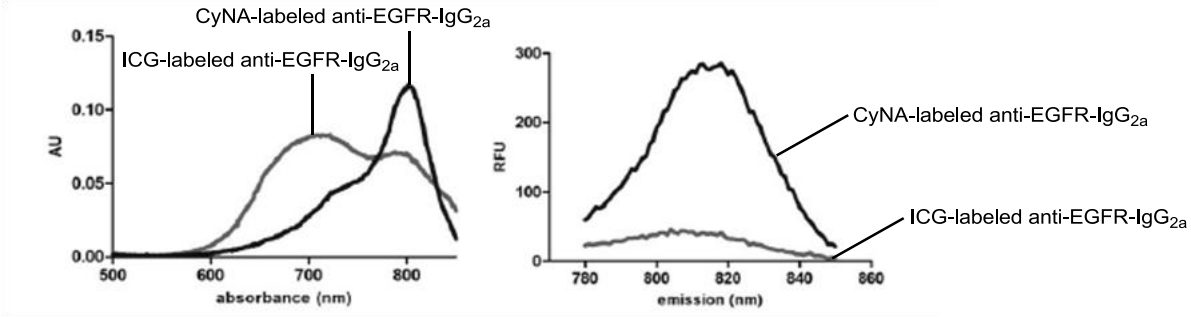

CyNA-labeled anti-EGFR-IgG2a
ICG-labeled anti-EGFR-IgG2a
AU
absorbance (nm)
RFU
emission (nm)
CyNA-labeled anti-EGFR-IgG2a
ICG-labeled anti-EGFR-IgG2a

FIG. 9

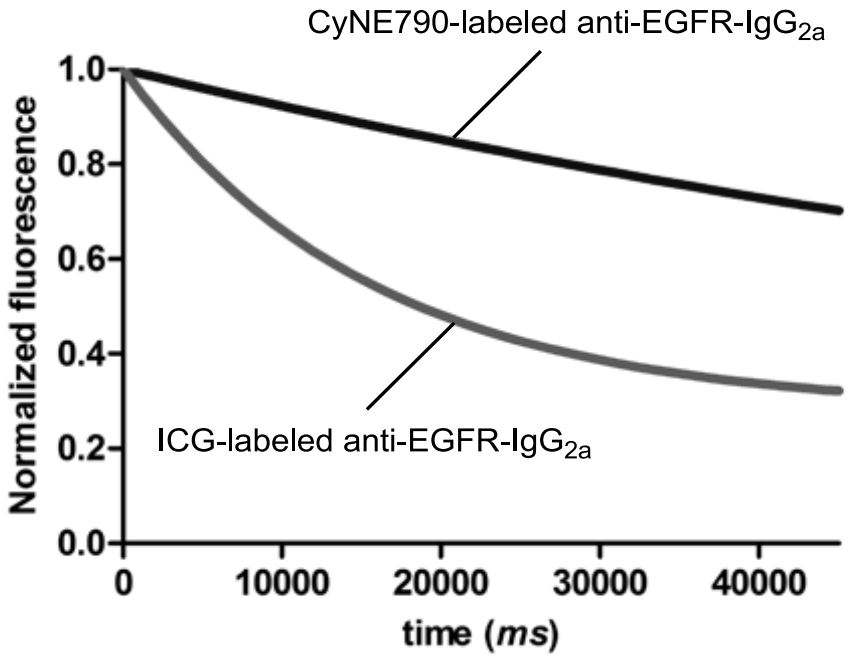
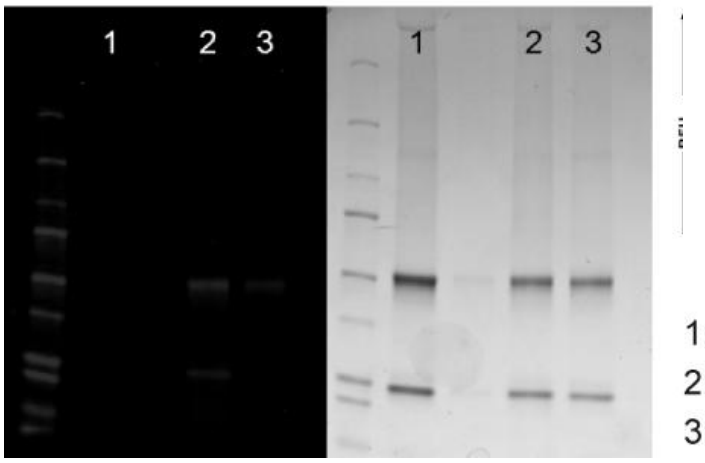

CyNE790-labeled anti-EGFR-IgG2a
ICG-labeled anti-EGFR-IgG2a
Normalized fluorescence
time (ms)

FIG. 10



1: non labelled EGFR-IgG2a
2: CyNE790-EGFR-IgG2a
3: ICG-EGFR-IgG2a

FIG. 11

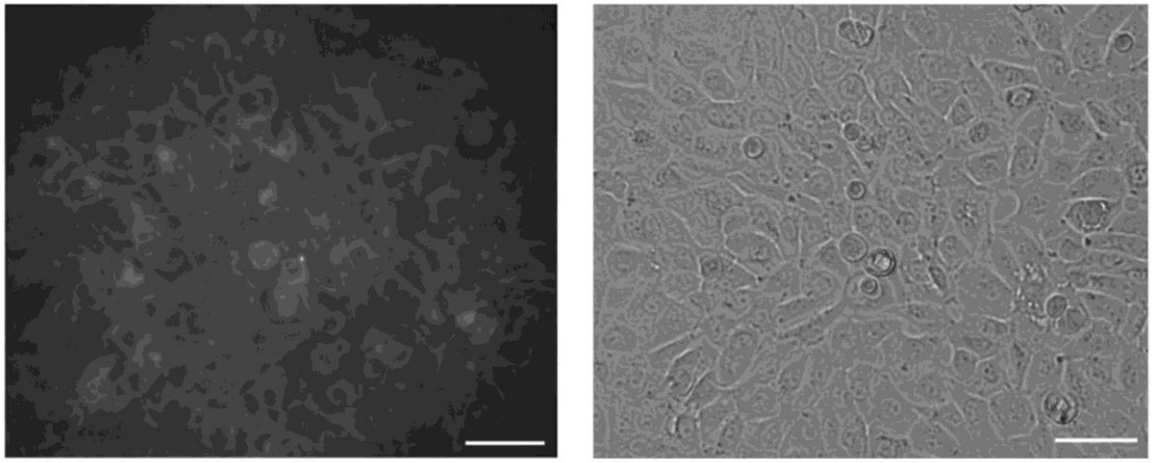


FIG. 12A

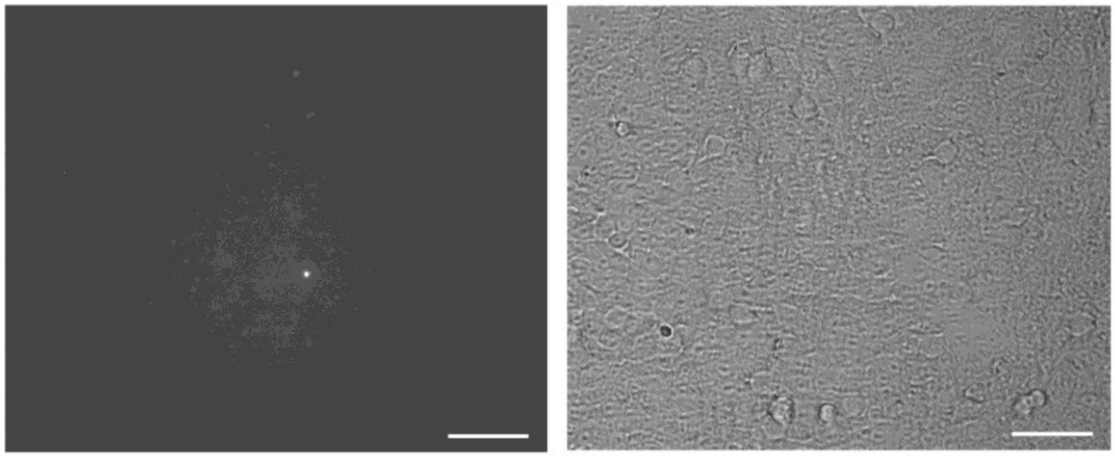


FIG. 12B

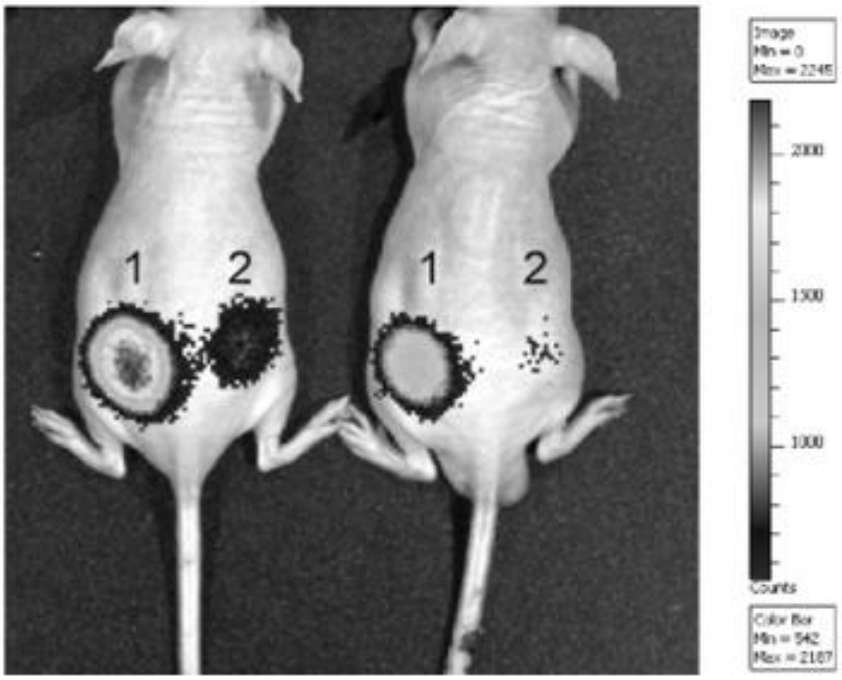


FIG. 13A

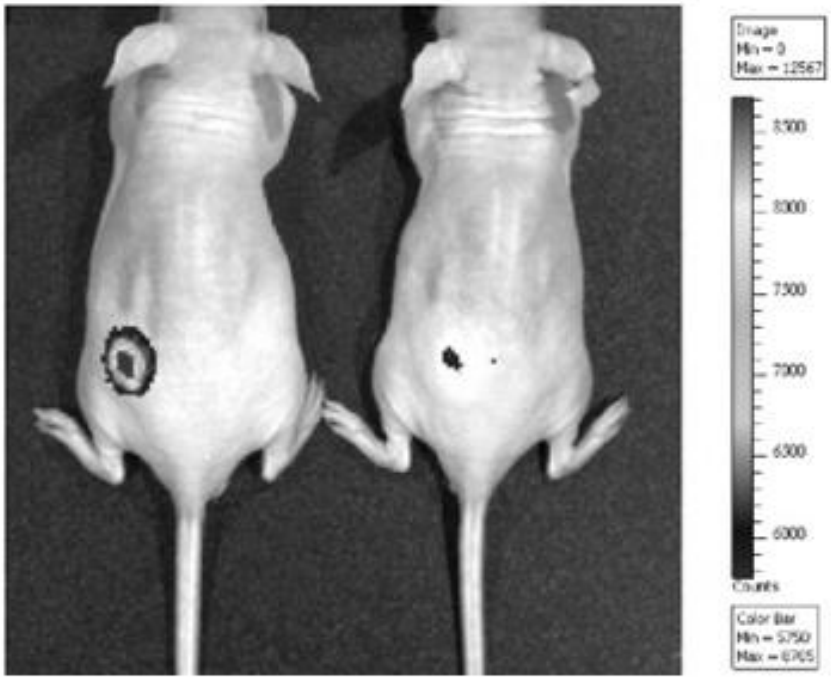


FIG. 13B

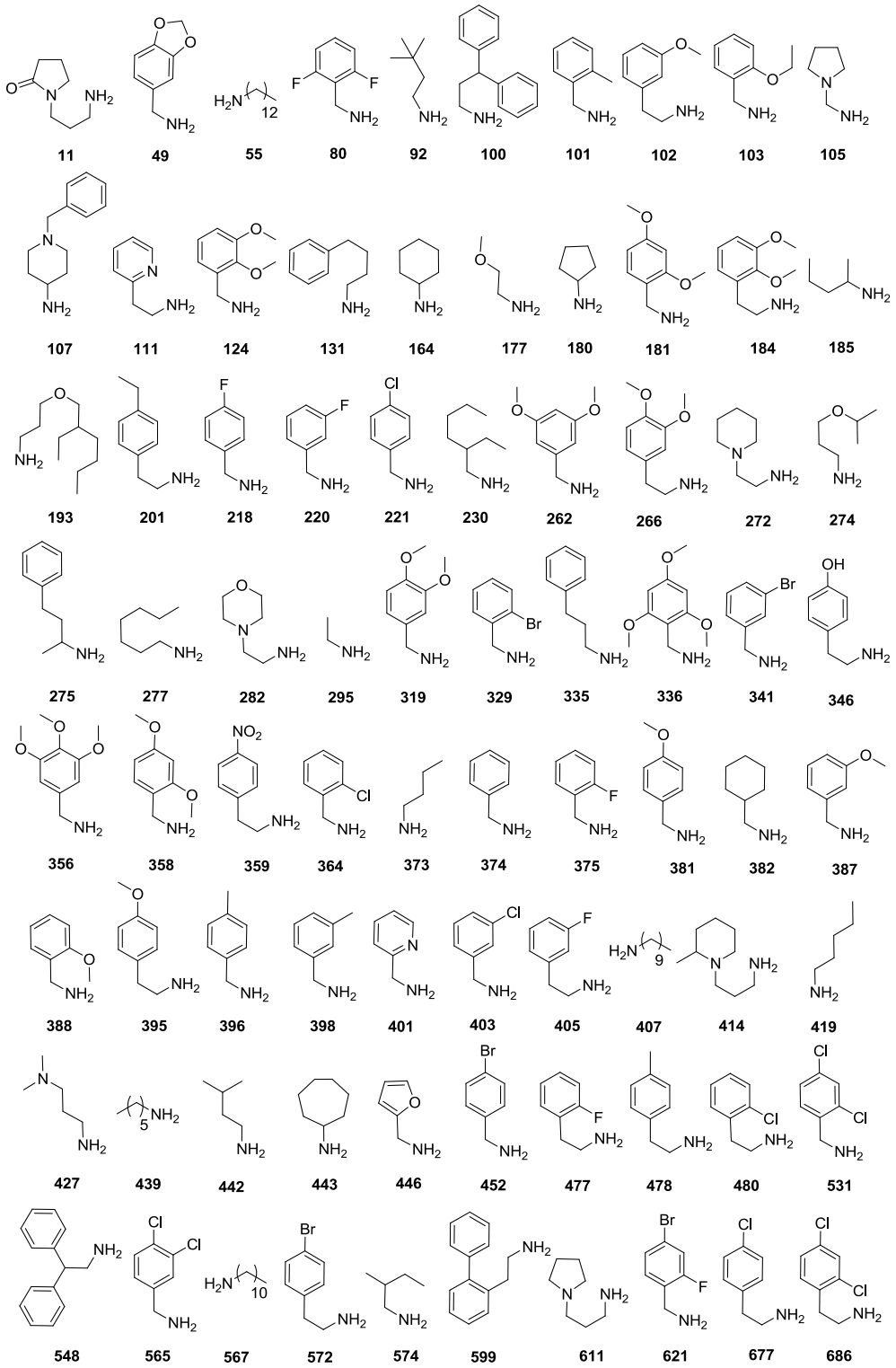

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611
621
677
686

FIG. 14

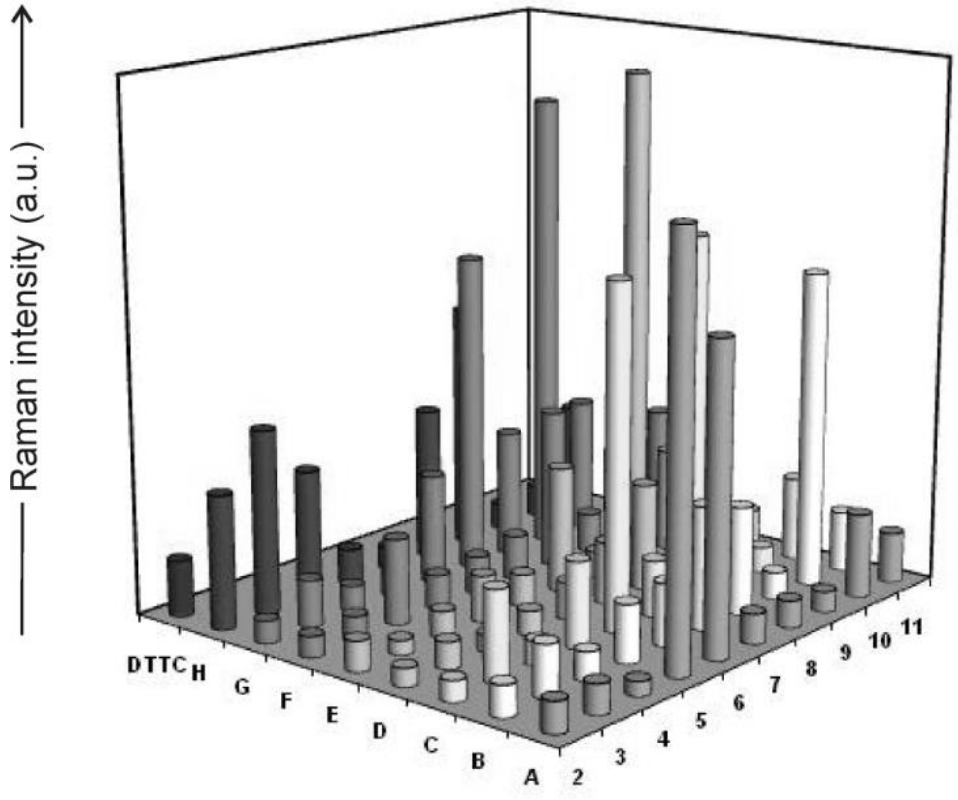

Raman intensity (a.u.)
DTTC
H
G
F
E
D
C
B
A
2
3
4
5
6
7
8
9
10
11

FIG. 15

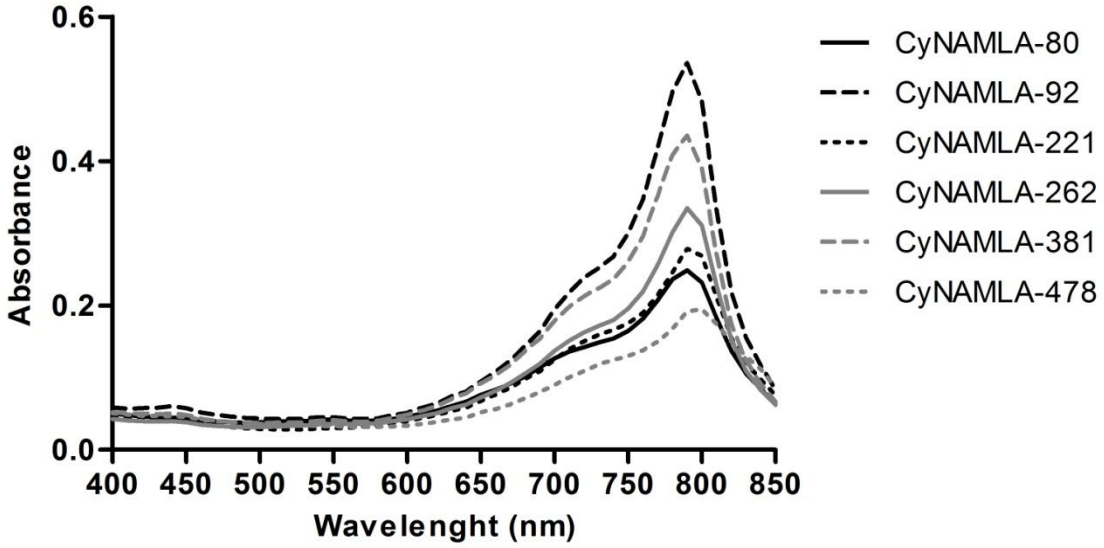

Absorbance
0.6
0.4
0.2
0.0
400
450
500
550
600
650
700
750
800
850
Wavelenght (nm)
CyNAMLA-80
CyNAMLA-92
CyNAMLA-221
CyNAMLA-262
CyNAMLA-381
CyNAMLA-478

FIG. 16

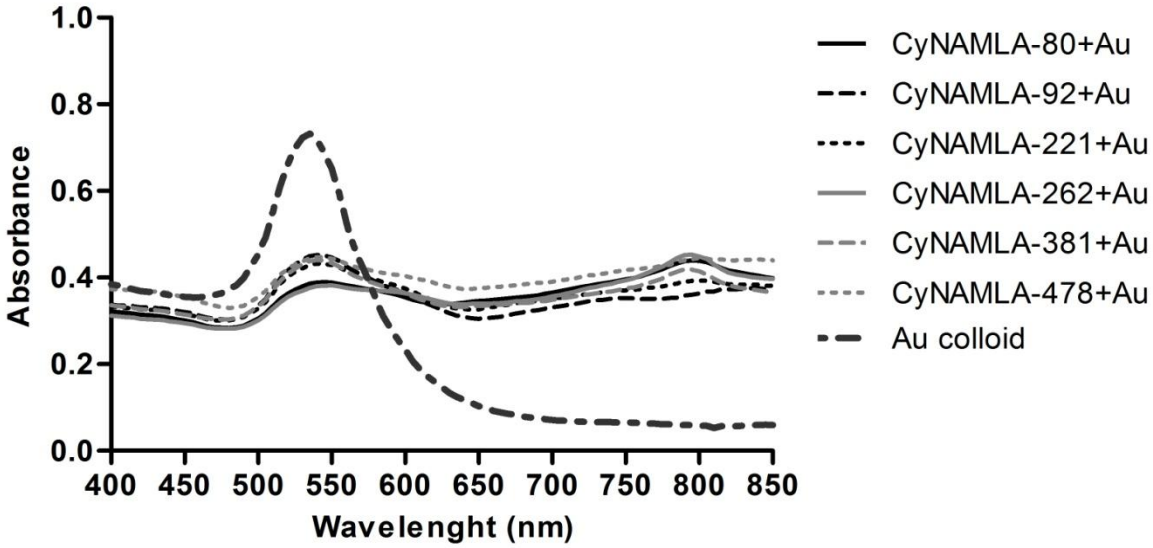

1.0
0.8
0.6
0.4
0.2
0.0
Absorbance
400 450 500 550 600 650 700 750 800 850
Wavelenght (nm)
CyNAMLA-80+Au
CyNAMLA-92+Au
CyNAMLA-221+Au
CyNAMLA-262+Au
CyNAMLA-381+Au
CyNAMLA-478+Au
Au colloid

FIG. 17

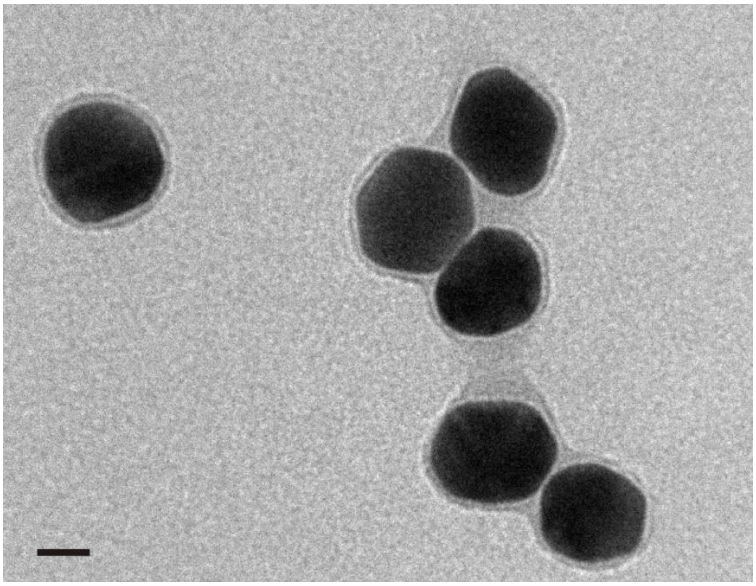


FIG. 18

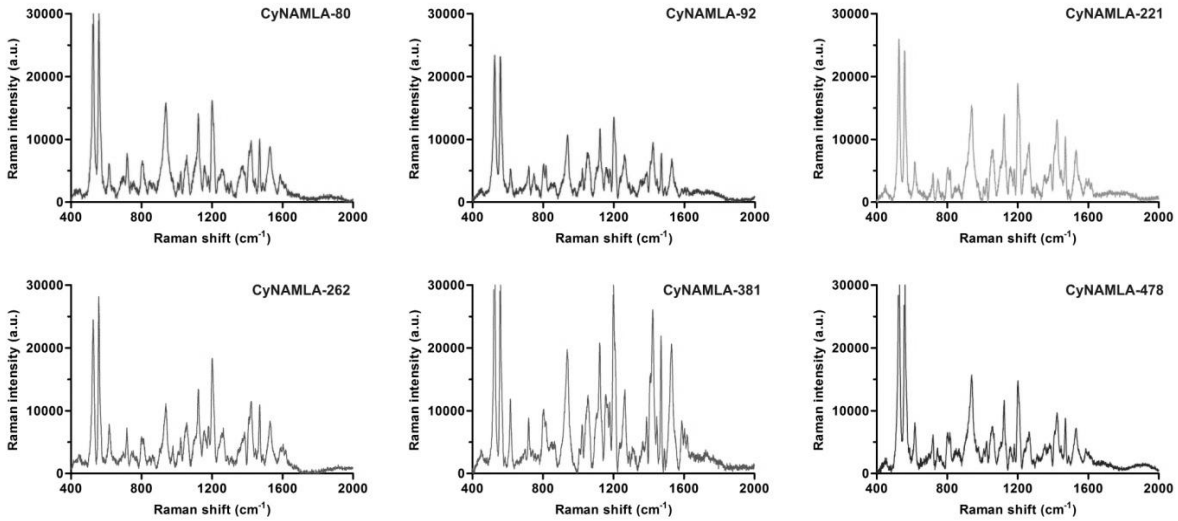

CyNAMLA-80
CyNAMLA-92
CyNAMLA-221
CyNAMLA-262
CyNAMLA-381
CyNAMLA-478
Raman intensity (a.u.)
Raman shift (cm-1)
0
10000
20000
30000
400
800
1200
1600
2000

FIG. 19

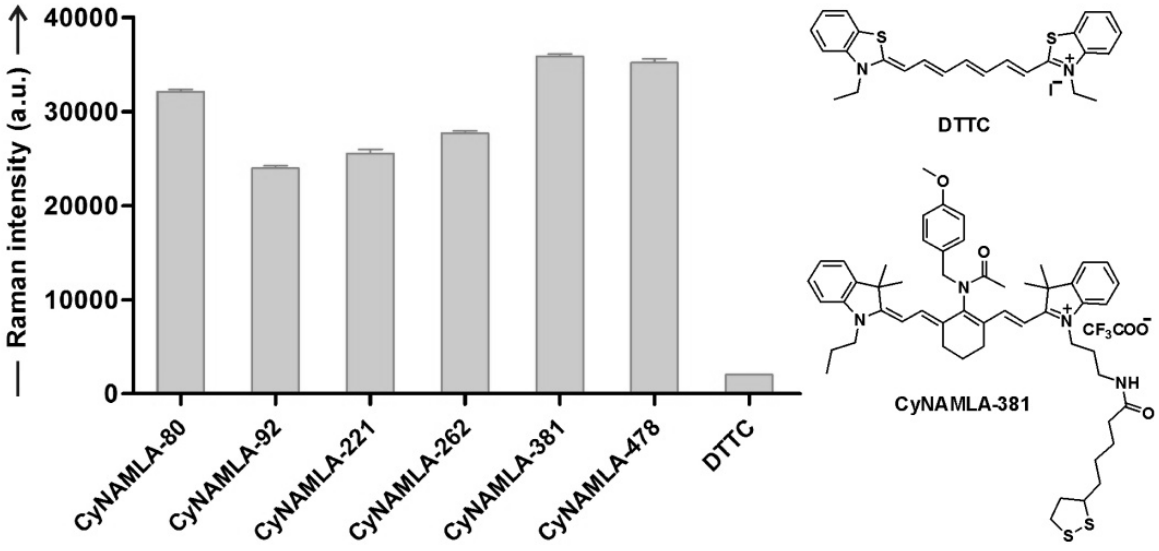

Raman intensity (a.u.)
0
10000
20000
30000
40000
CyNAMLA-80
CyNAMLA-92
CyNAMLA-221
CyNAMLA-262
CyNAMLA-381
CyNAMLA-478
DTTC
DTTC
CyNAMLA-381
CF3COO-

FIG. 20

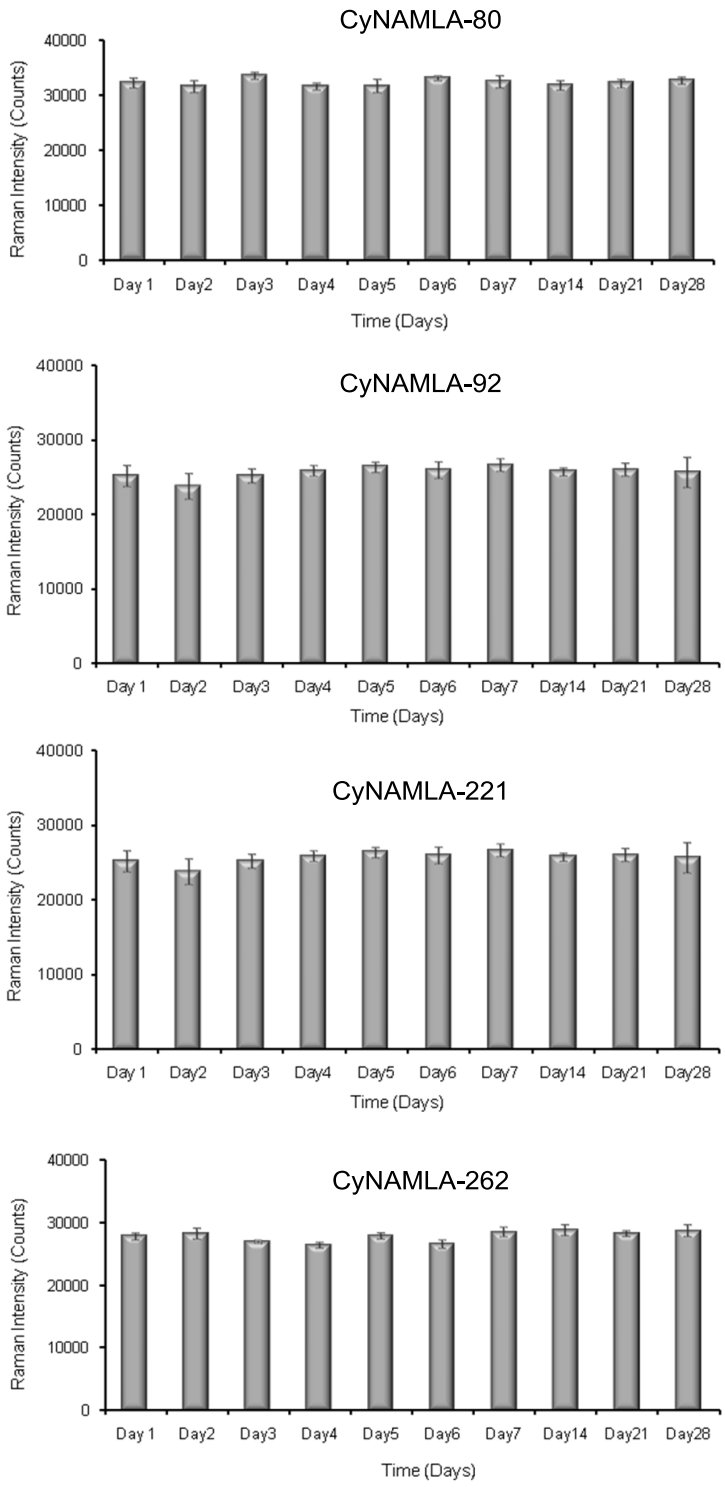

CyNAMLA-80
Raman Intensity (Counts)
40000
30000
20000
10000
0
Day 1
Day2
Day3
Day4
Day5
Day6
Day7
Day14
Day21
Day28
Time (Days)
CyNAMLA-92
Raman Intensity (Counts)
40000
30000
20000
10000
0
Day 1
Day2
Day3
Day4
Day5
Day6
Day7
Day14
Day21
Day28
Time (Days)
CyNAMLA-221
Raman Intensity (Counts)
40000
30000
20000
10000
0
Day 1
Day2
Day3
Day4
Day5
Day6
Day7
Day14
Day21
Day28
Time (Days)
CyNAMLA-262
Raman Intensity (Counts)
40000
30000
20000
10000
0
Day 1
Day2
Day3
Day4
Day5
Day6
Day7
Day14
Day21
Day28
Time (Days)

FIG. 21A

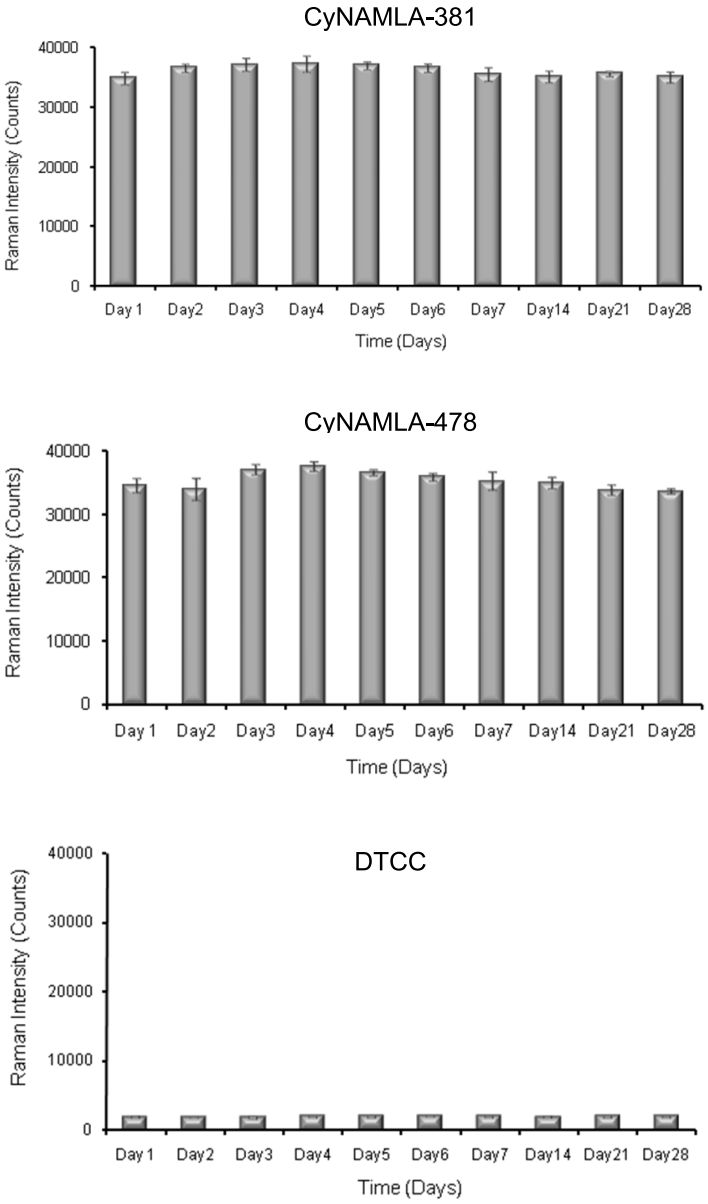

CyNAMLA-381
Raman Intensity (Counts)
40000
30000
20000
10000
0
Day 1
Day2
Day3
Day4
Day5
Day6
Day7
Day14
Day21
Day28
Time (Days)
CyNAMLA-478
Raman Intensity (Counts)
40000
30000
20000
10000
0
Day 1
Day2
Day3
Day4
Day5
Day6
Day7
Day14
Day21
Day28
Time (Days)
DTCC
Raman Intensity (Counts)
40000
30000
20000
10000
0
Day 1
Day2
Day3
Day4
Day5
Day6
Day7
Day14
Day21
Day28
Time (Days)

FIG. 21B

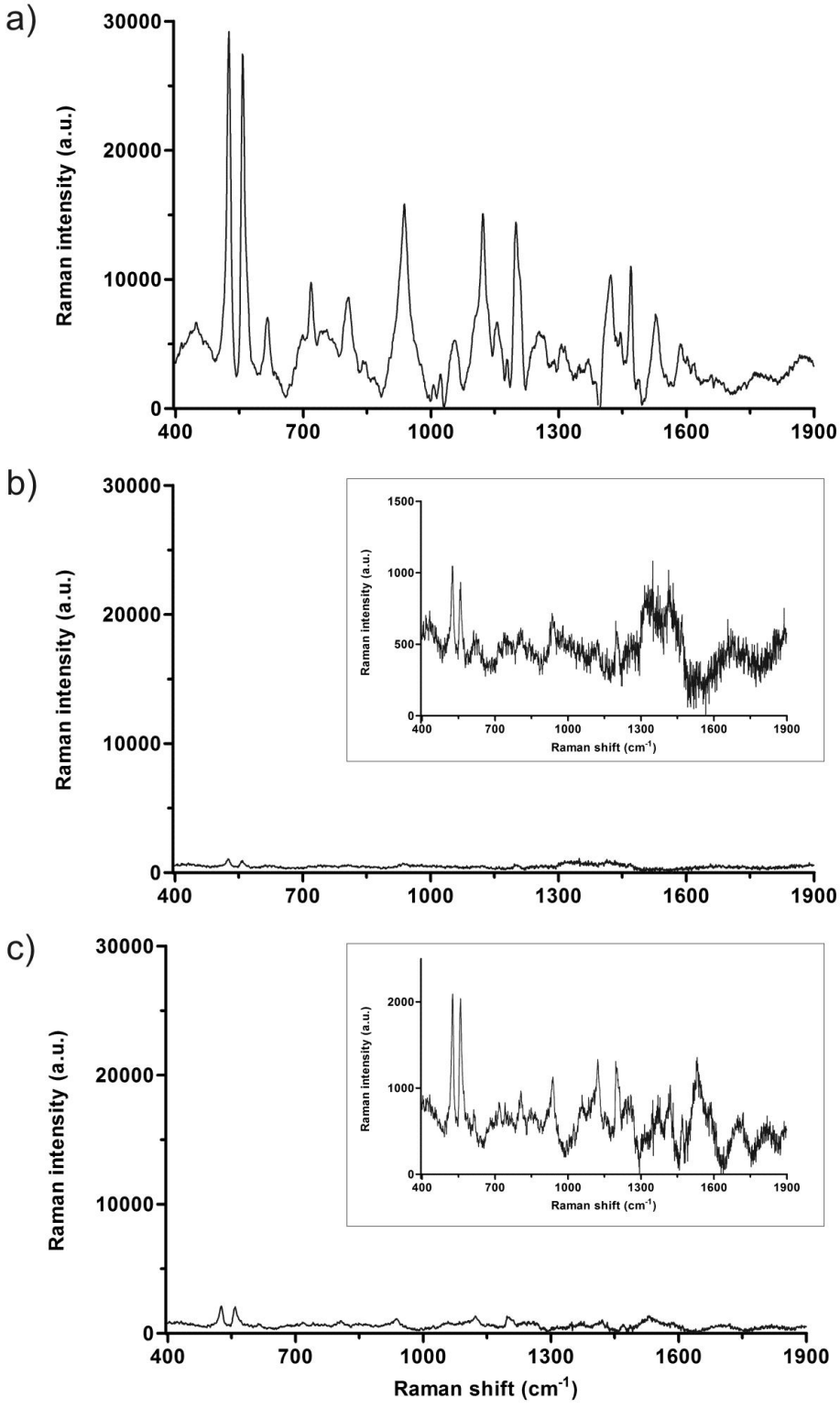

a)
b)
c)
Raman intensity (a.u.)
Raman shift (cm-1)
0
10000
20000
30000
400
700
1000
1300
1600
1900
500
1500
2000

FIG. 22

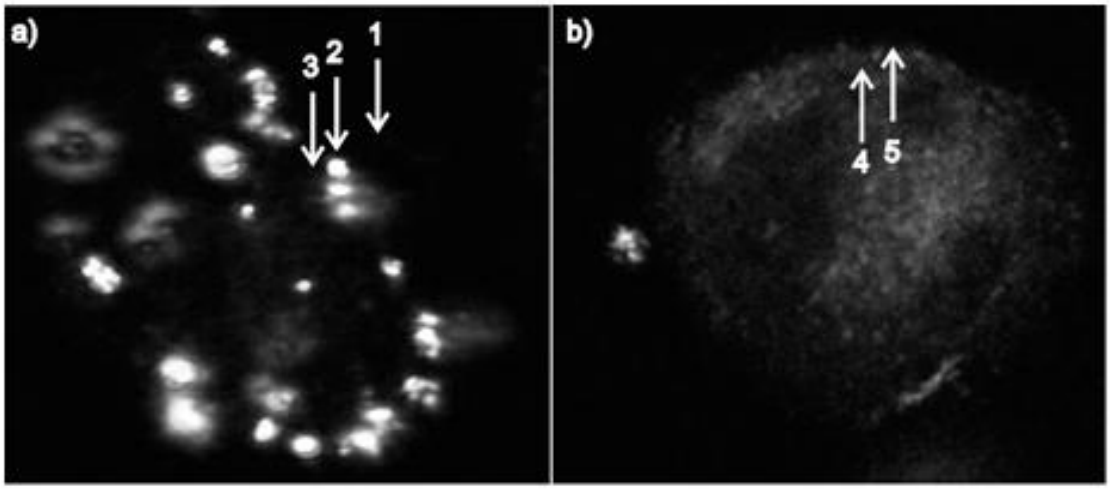


FIG. 23A

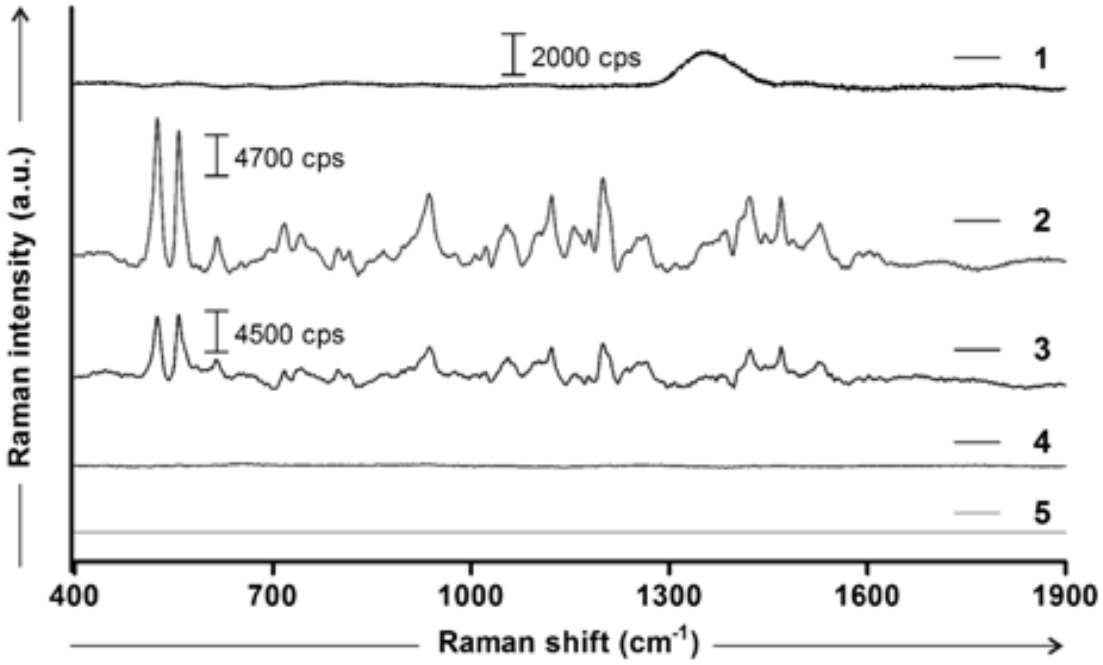


FIG. 23B

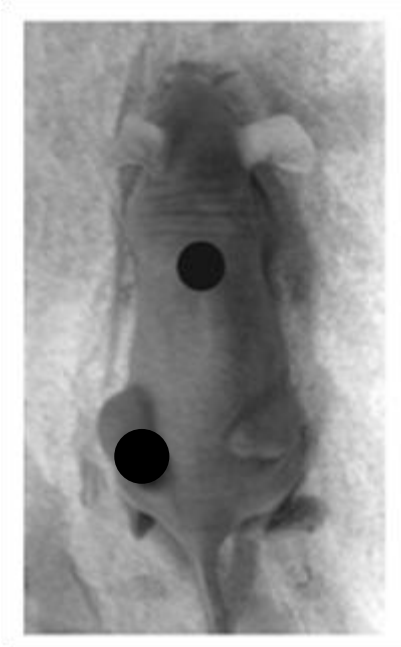


FIG. 24A

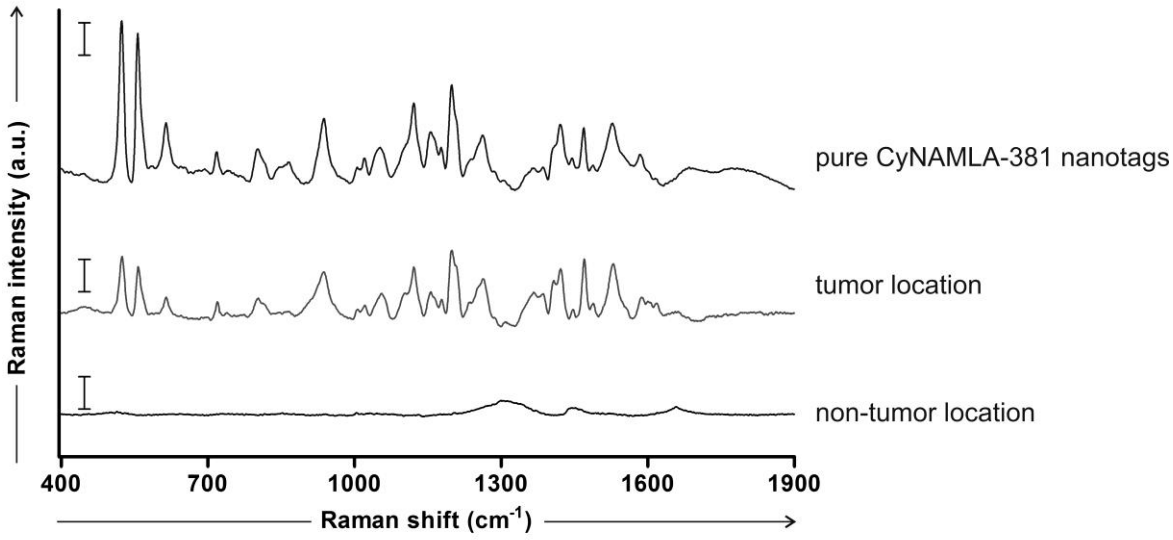


FIG. 24B

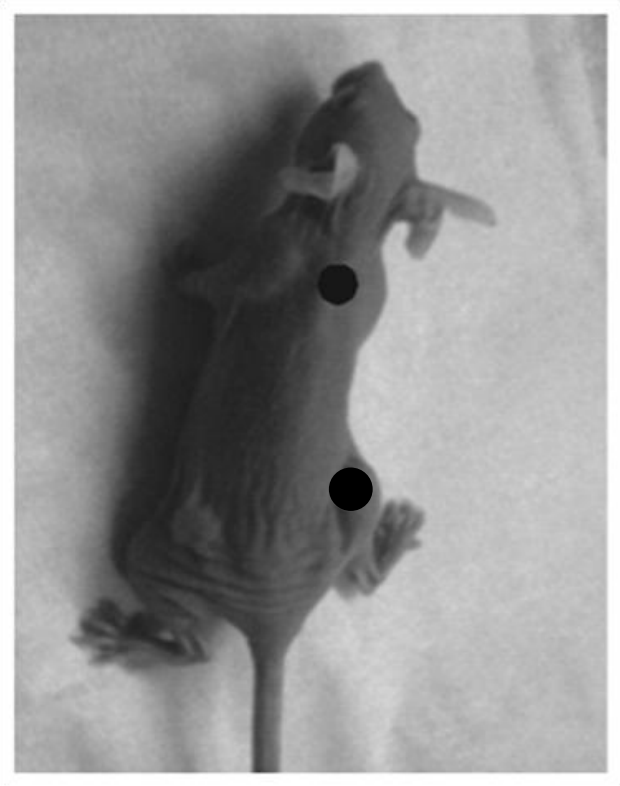


FIG. 25A

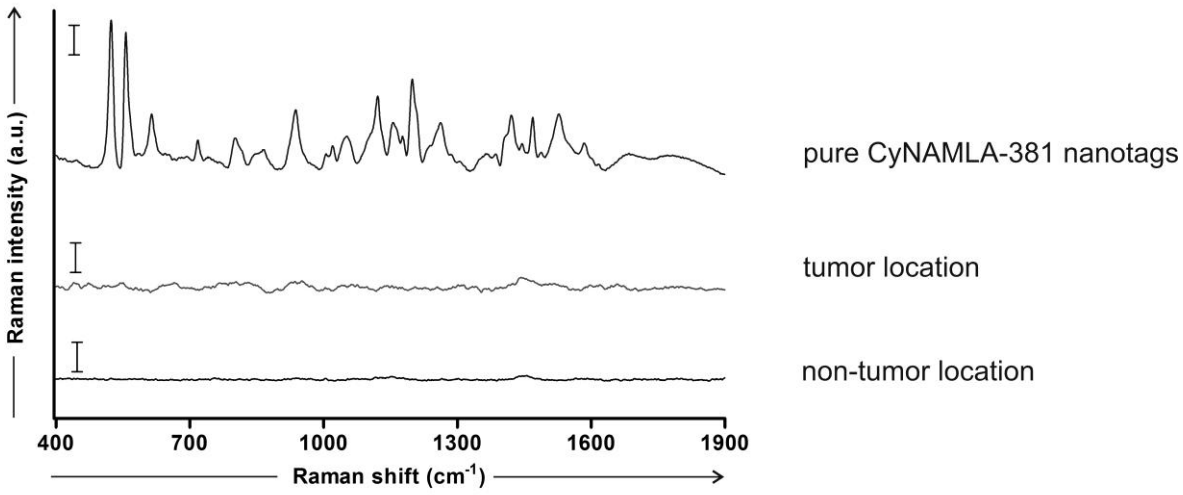


FIG. 25B