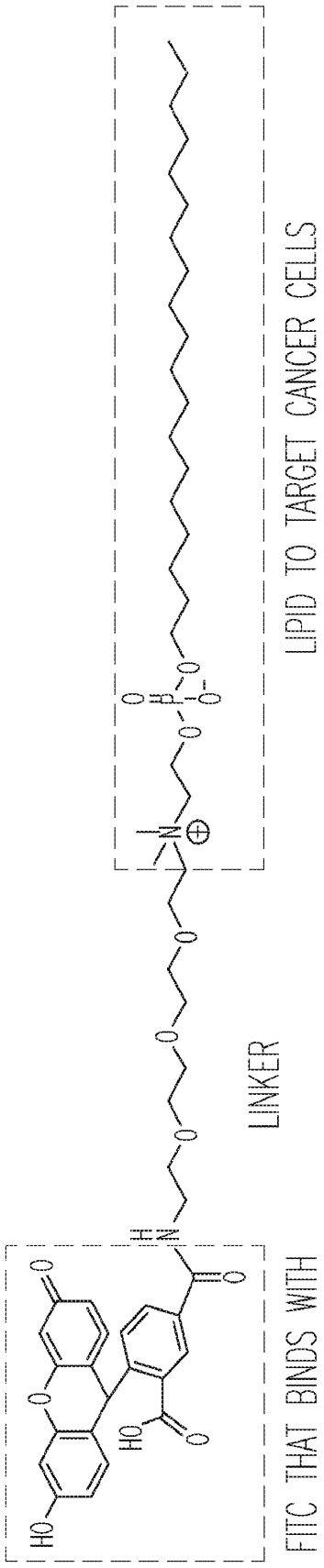

LIPID TO TARGET CANCER CELLS
LINKER
FITC THAT BINDS WITH ANTI-FITC scFv

FL-PLE

Fig. 1

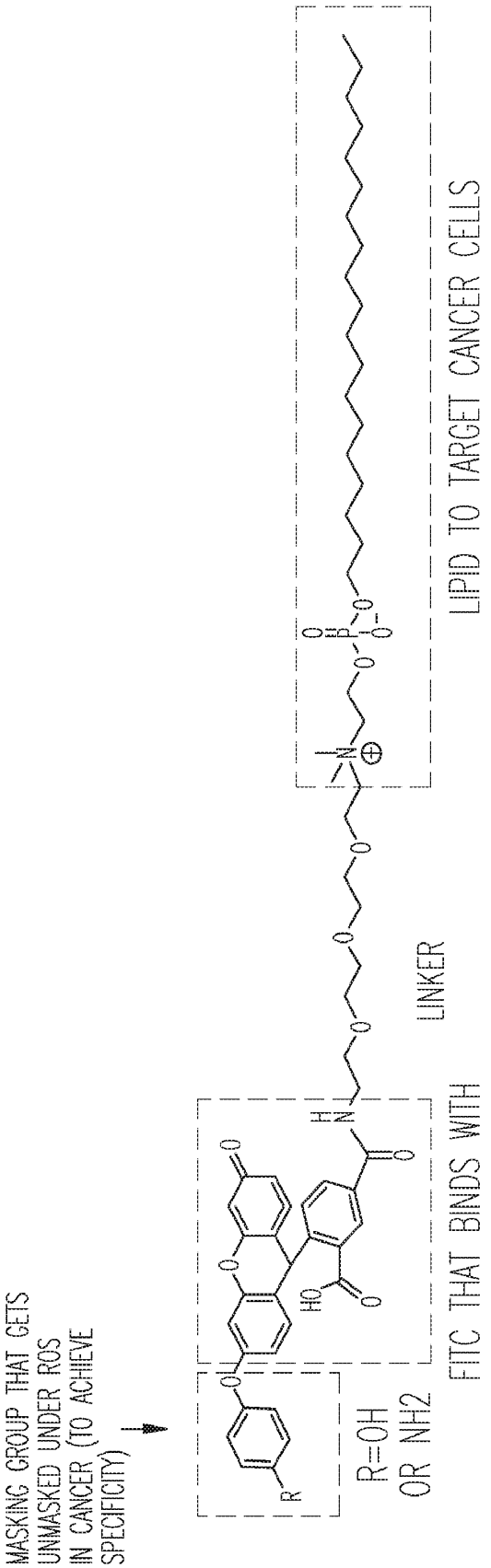
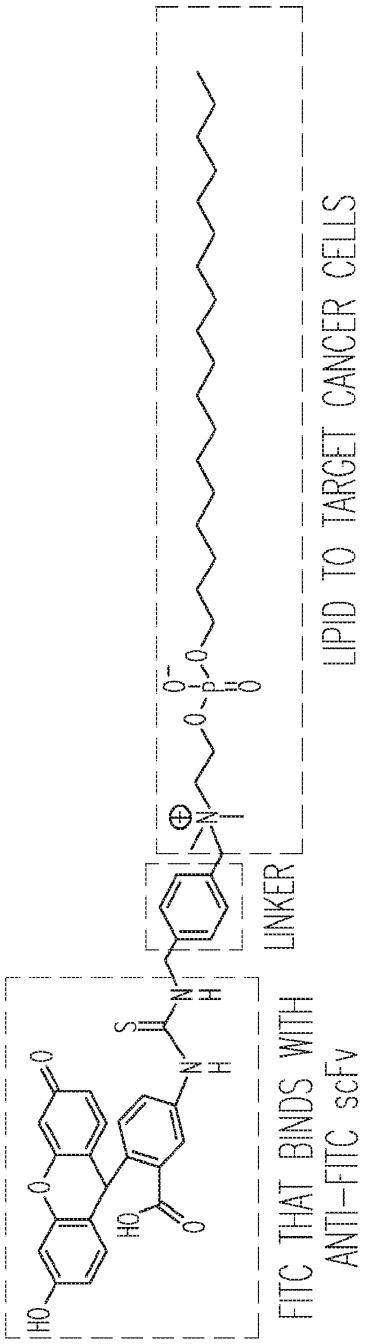

MASKING GROUP THAT GETS UNMASKED UNDER ROS IN CANCER (TO ACHIEVE SPECIFICITY)
R=OH OR NH2
FITC THAT BINDS WITH ANTI-FITC scFv
LINKER
LIPID TO TARGET CANCER CELLS
PRO-FL-PLE

Fig.2



PURDUE FL-PLE (MS-109)

Fig. 3

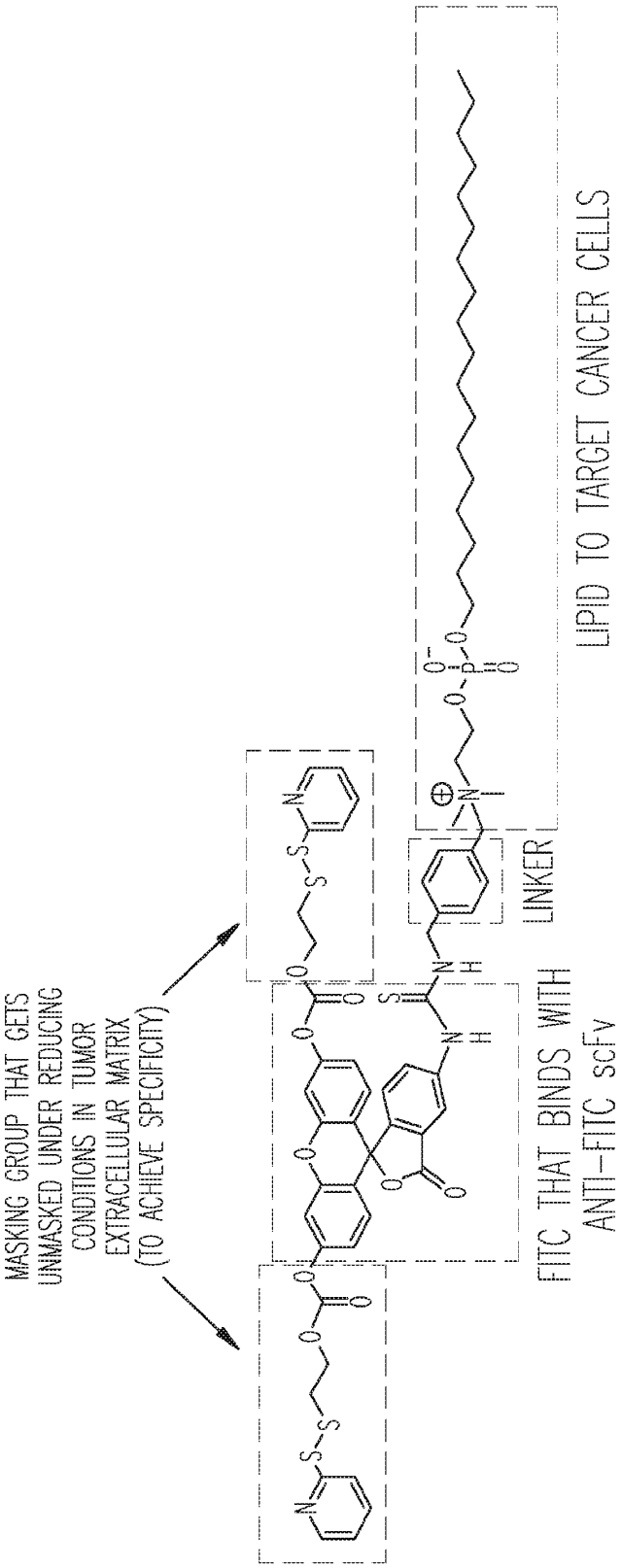

MASKING GROUP THAT GETS UNMASKED UNDER REDUCING CONDITIONS IN TUMOR EXTRACELLULAR MATRIX (TO ACHIEVE SPECIFICITY)
FITC THAT BINDS WITH ANTI-FITC scFv
LINKER
LIPID TO TARGET CANCER CELLS
PURDUE PRO-FL-PLE (MS-115)

Fig. 4

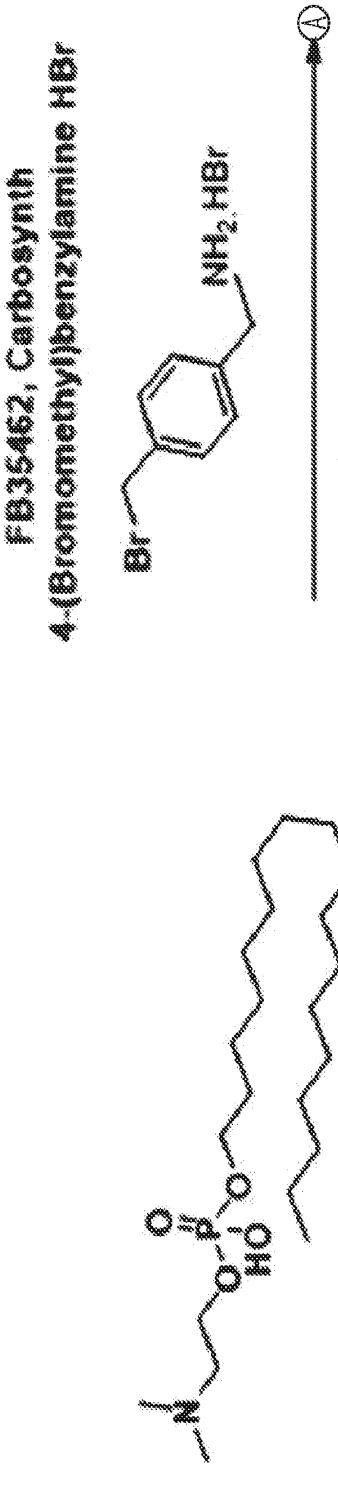

FB35462, Carbosynth
4-(Bromomethyl)benzylamine HBr
Br
NH2. HBr
K2CO3
Chloroform or Toluene
Room Temp. to 80 °C
12h @ 80 °C
D-5100 - N,N-Dimethylcephalin octadecyl ester
Biosynth.com

Fig. 5

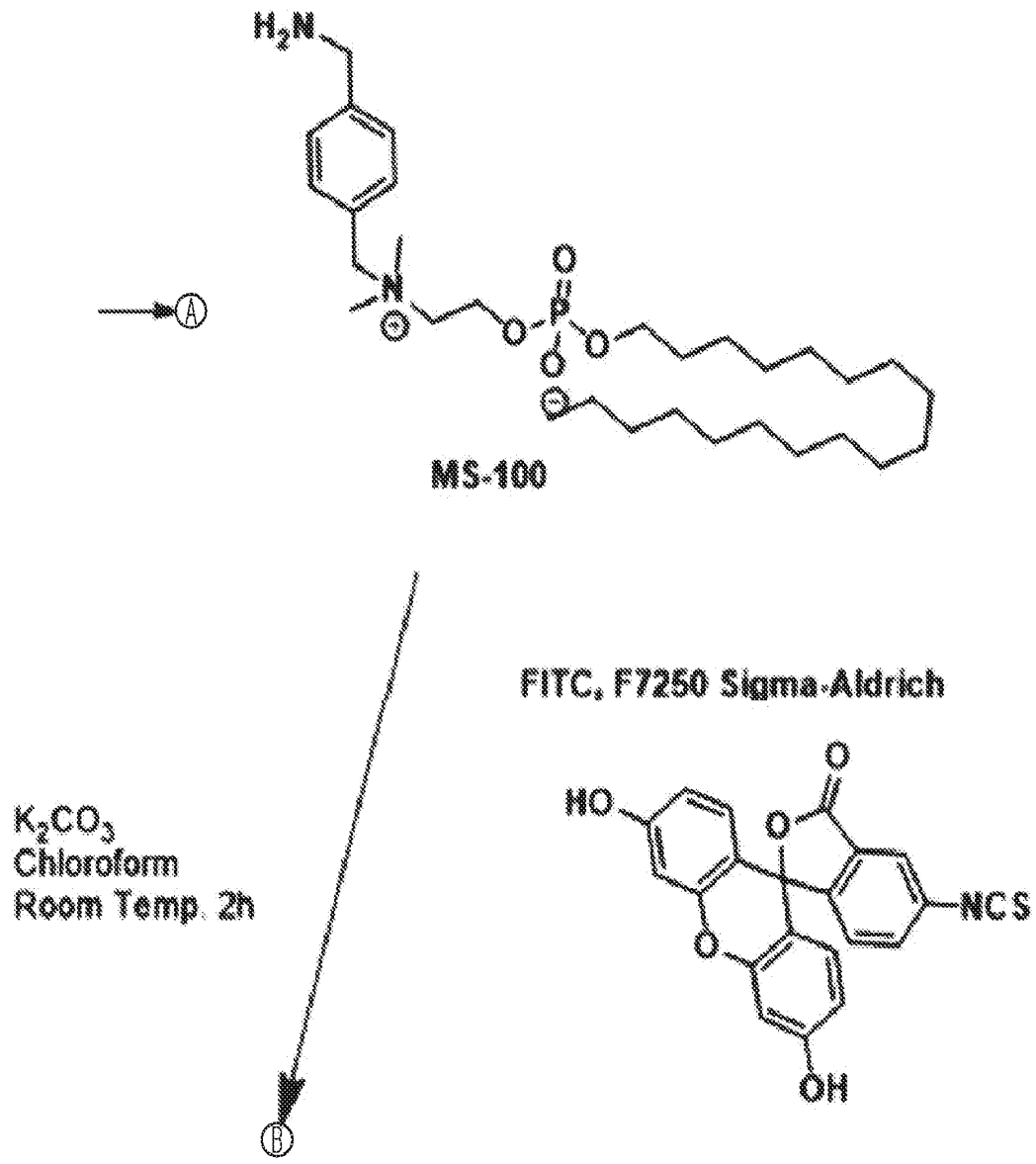

H2N
A
MS-100
K2CO3
Chloroform
Room Temp. 2h
B
FITC, F7250 Sigma-Aldrich
HO
O
NCS
OH

Fig.5 (CONT'D)

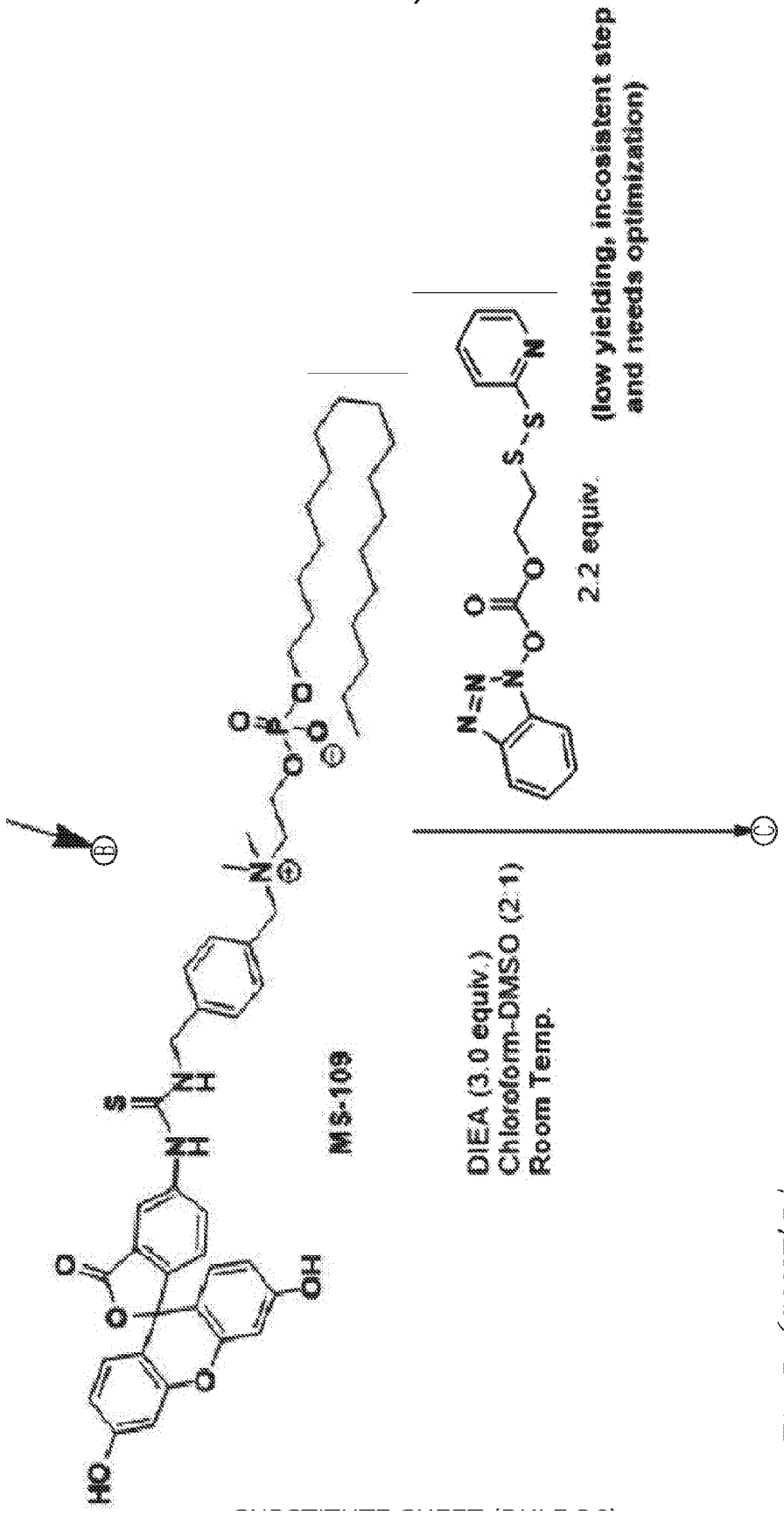

MS-109
DIEA (3.0 equiv.)
Chloroform-DMSO (2:1)
Room Temp.
2.2 equiv.
(low yielding, incosistent step and needs optimization)

Fig. 5 (CONT'D)

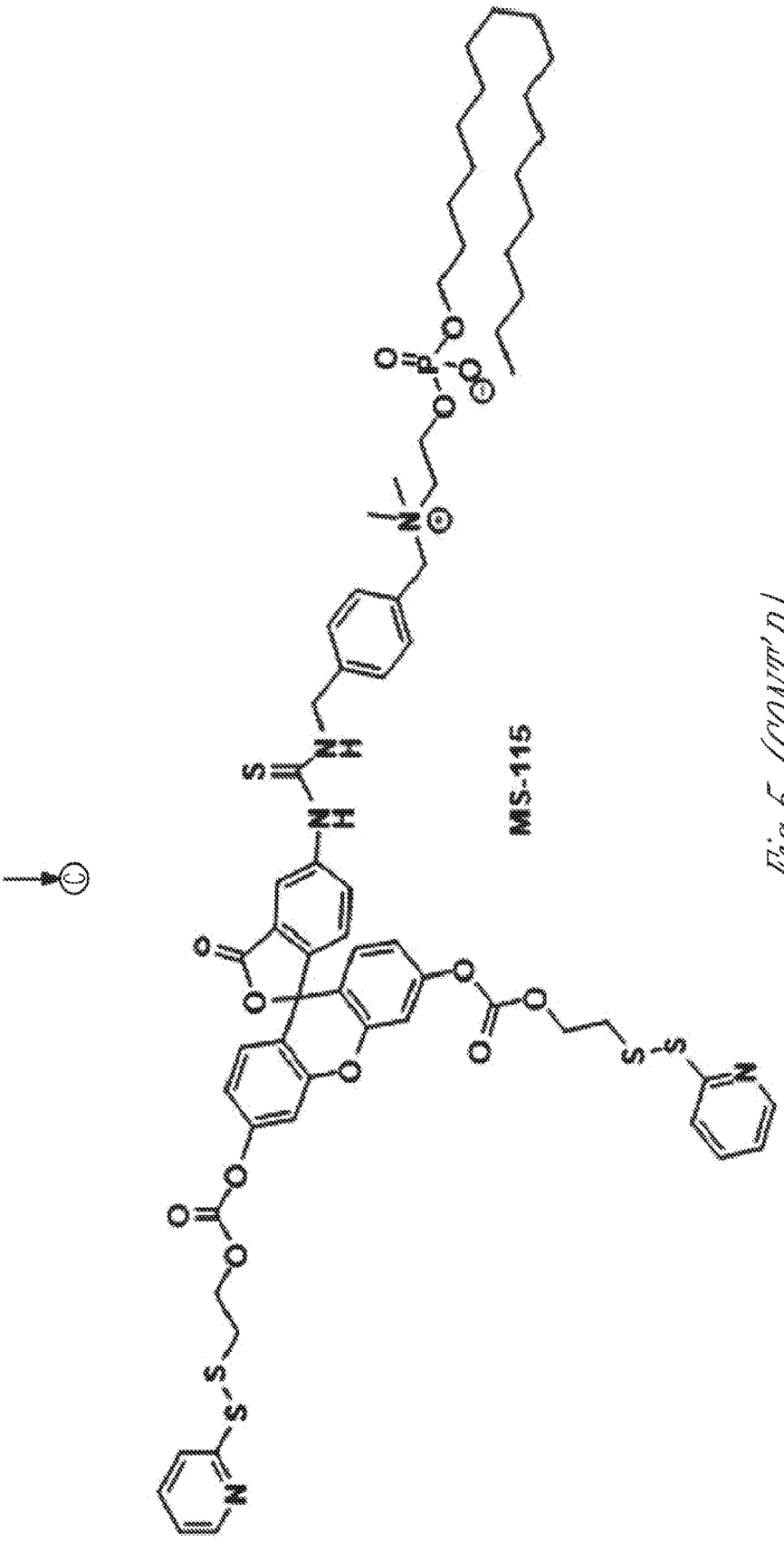


Fig.5 (CONT'D)

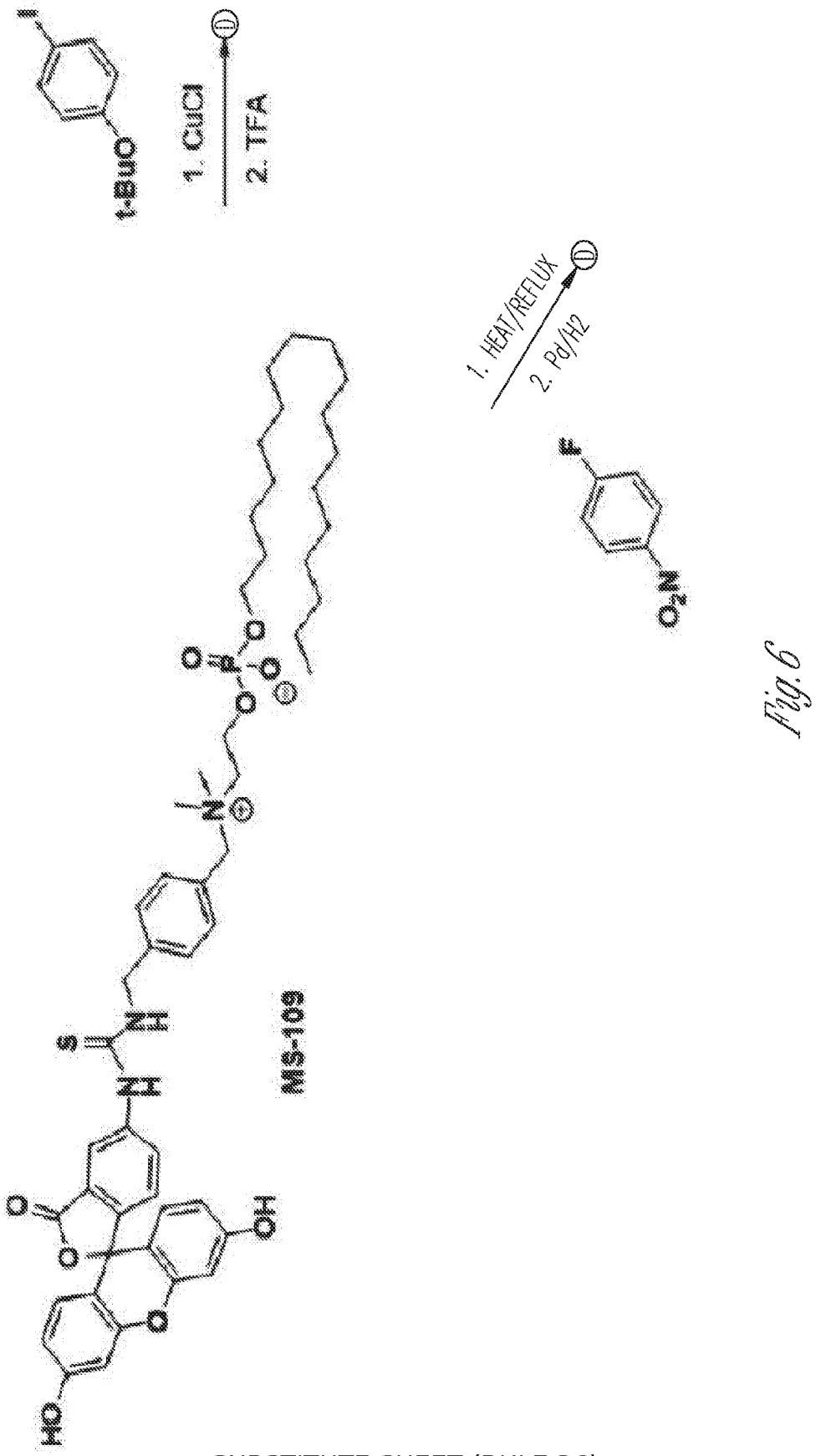
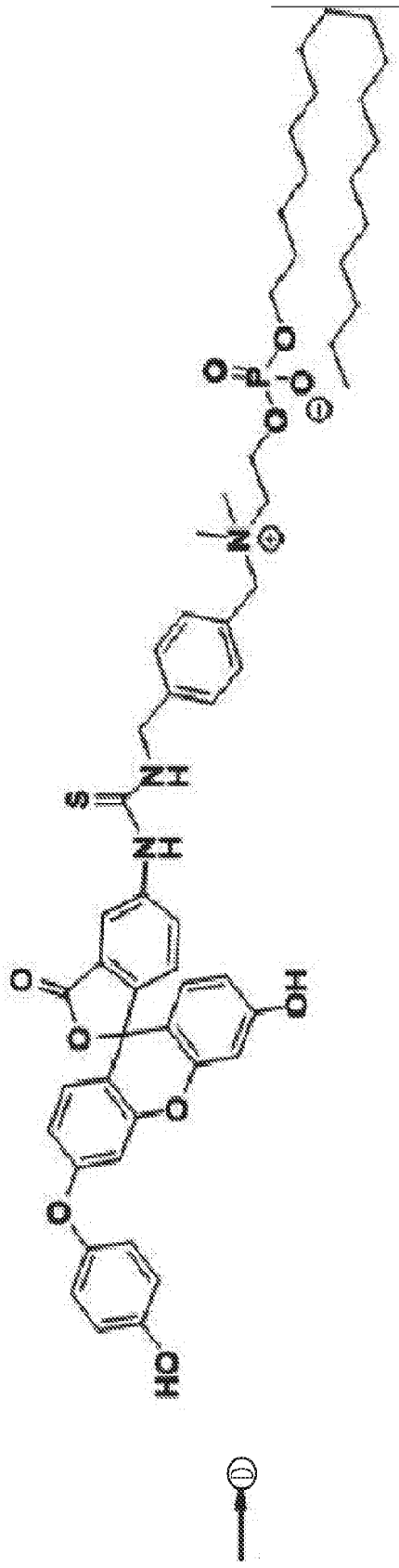
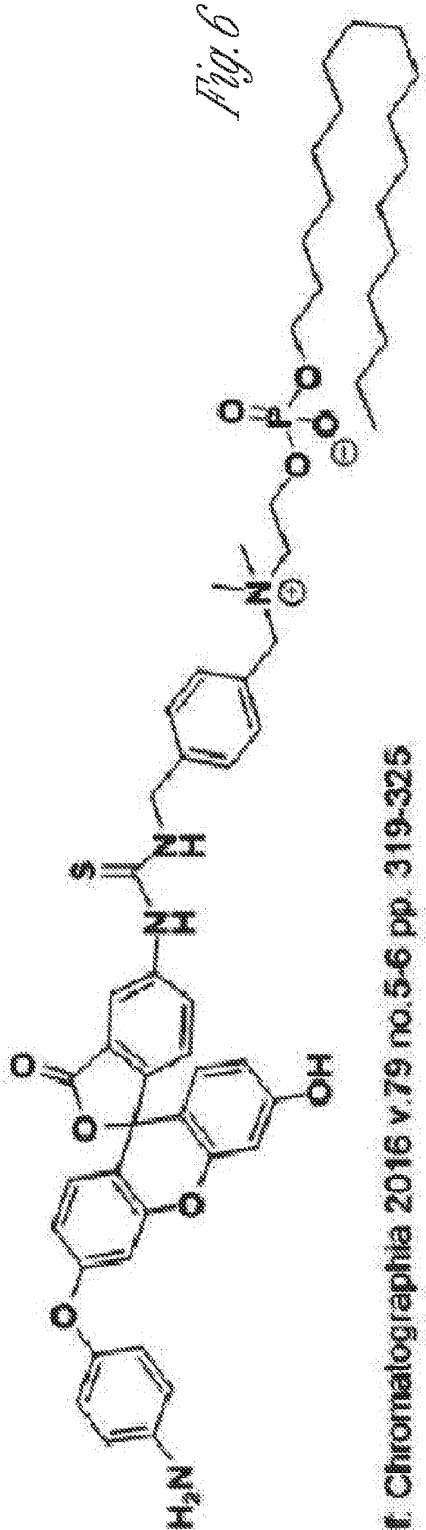


Fig. 6



Ref. Journal of Biological Chemistry 2003 278(5) 3170–3175; PCT 2018148224

Fig. 6 (CONT'D)



Ref. Chromatographia 2016 v.79 no.5-6 pp. 319-325

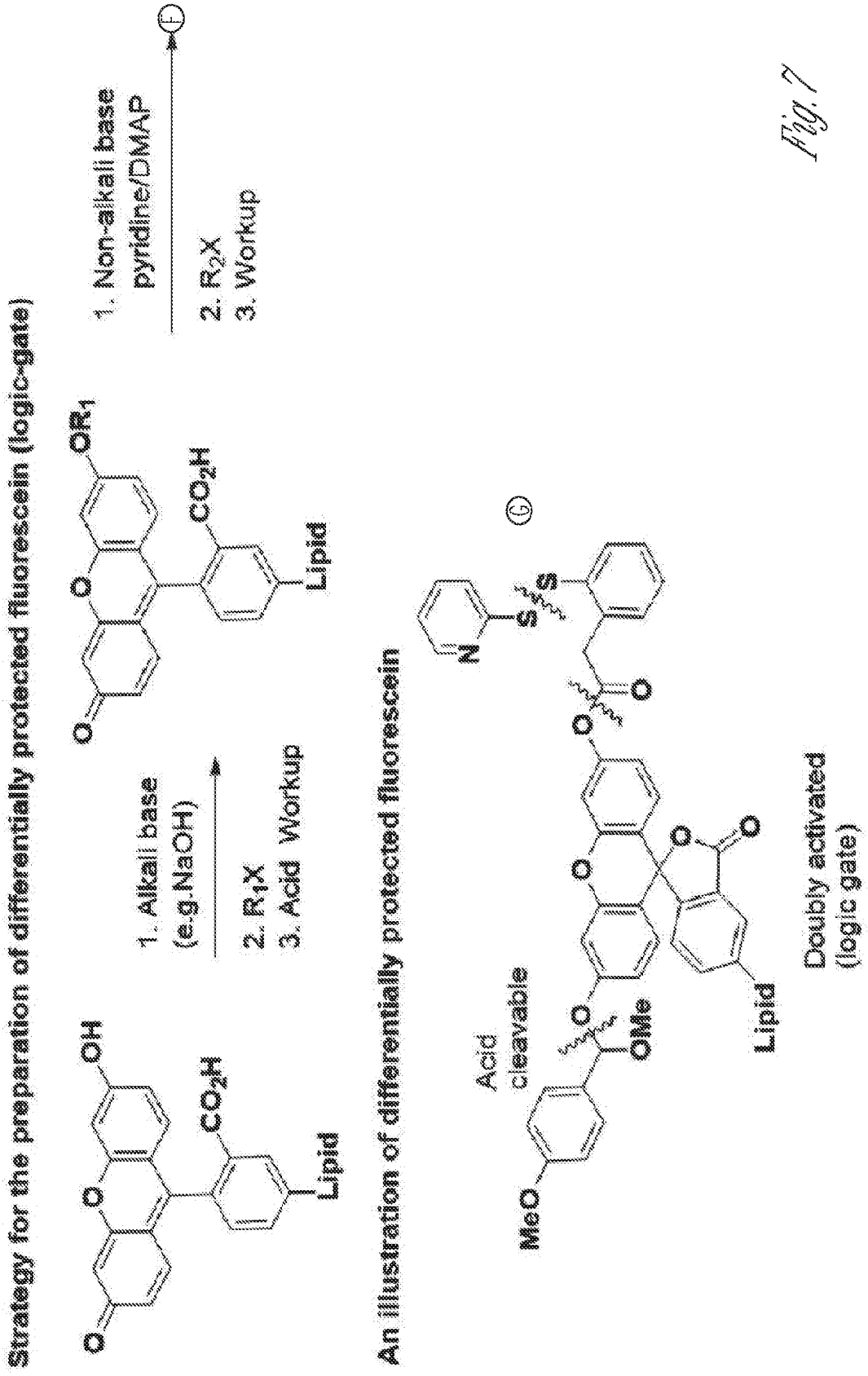

Strategy for the preparation of differentially protected fluorescein (logic-gate)
1. Non-alkali base
pyridine/DMAP
2. R_2X
3. Workup
1. Alkali base
(e.g.NaOH)
2. R_1X
3. Acid Workup
Lipid
An illustration of differentially protected fluorescein
Acid
cleavable
MeO
OMe
Lipid
Doubly activated
(logic gate)

Fig. 7

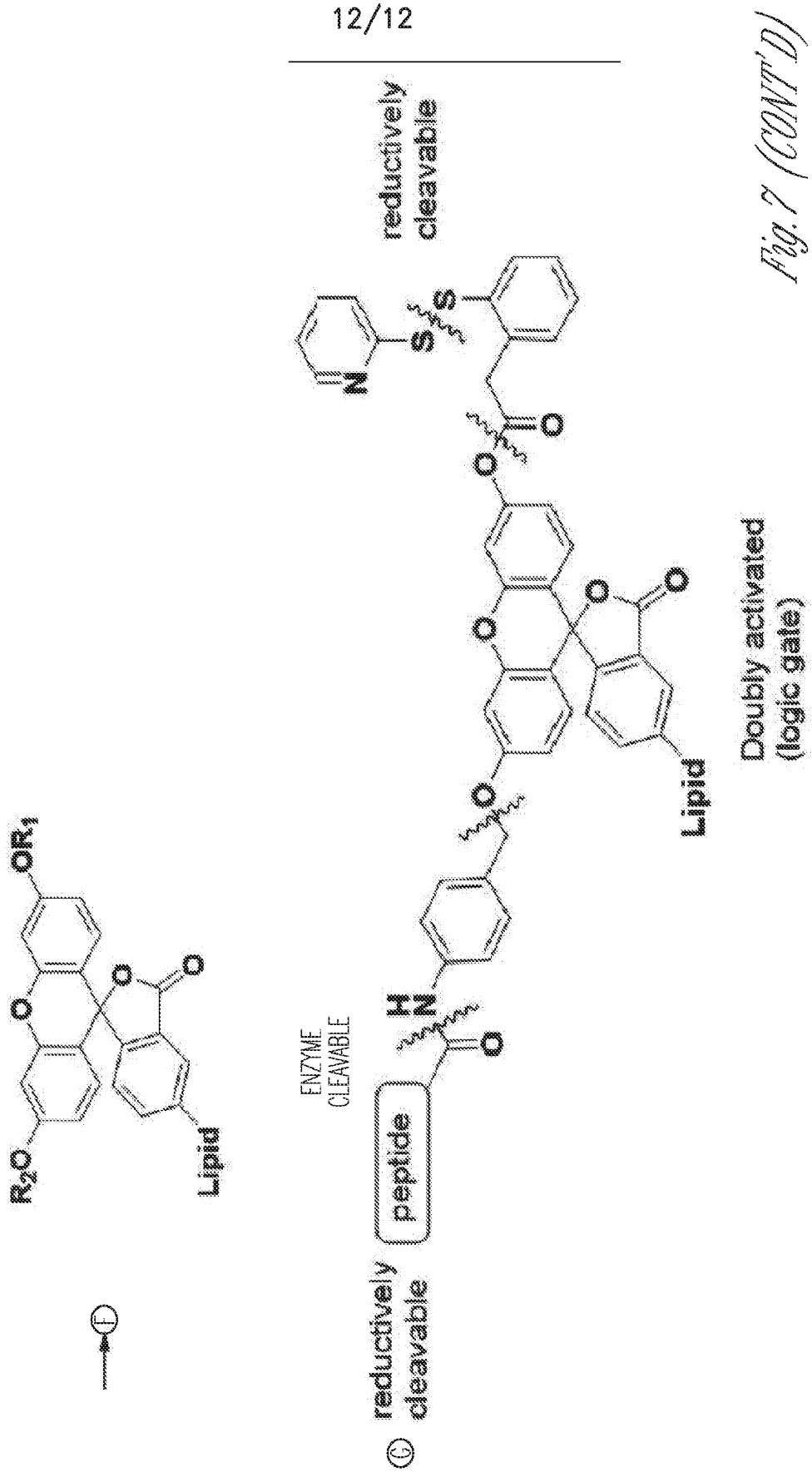

reductively cleavable
Doubly activated (logic gate)
Lipid
ENZYME CLEAVABLE
peptide
reductively cleavable
Lipid
OR_1
R_2O

Fig. 7 (CONT'D)