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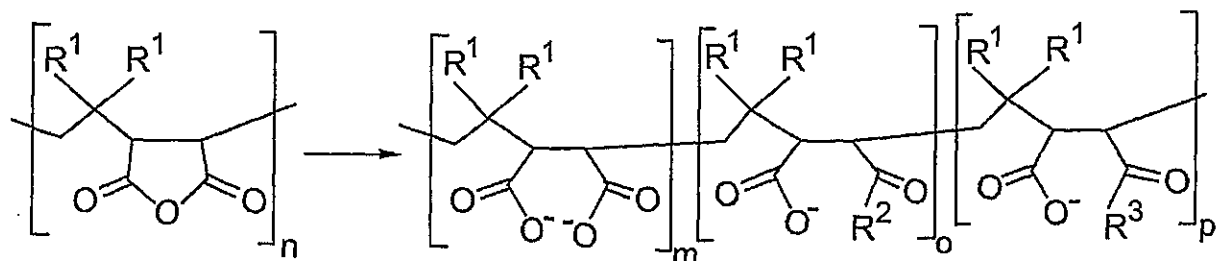
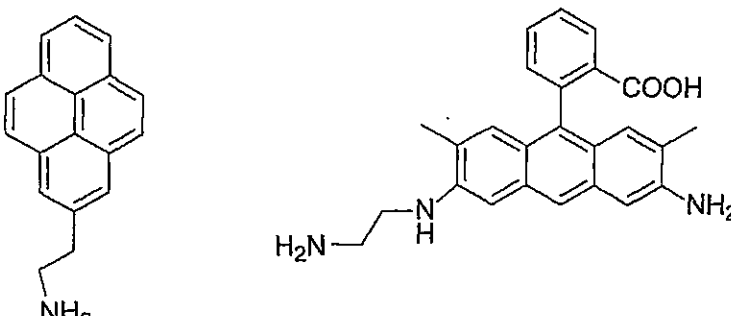
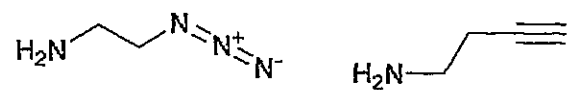

 R^2 = aliphatic, optionally substituted

Fig. 1

$R^3H =$	Application:
Polyethylene glycol (PEG) chains of various lengths with one or two OH or NH_2 groups e.g.: $HN_2-CH_2CH_2CH_2CH_2-[OCH_2CH_2]_n-OCH_2CH_2CH_2CH_2-NH_2$ (prior art) $HN_2-CH_2CH_2CH_2CH_2-[OCH_2CH_2]_n-OCH_2CH_3$	Facilitate water dispersability, increase suspension stability, and repel cell adhesion.
Various vinyl and acrylic functional units e.g.: $HN_2-CH_2CH_2CH_2CH_2-O-CH=CH_2$ $H_2N-CH_2CH=CH_2$ $H_2N-CH_2CH_2-NH-C(=O)-CH=CH_2$ $HO-CH_2CH_2-O-C(=O)-CH=CH_2$ (prior art)	Polymerization, co-polymerization
Various recognition receptors like ionophores, peptide receptors, nucleic acid receptors and mono- and polysaccharides receptors e.g.: Calixarenes, cavitands, porphyrines, cryptands, crown ethers, cyclodextrins, peptides, polysaccharides, antibodies, DNA and RNA strands, diamides.	Sensing

Fig. 1 (continued)

$R^3H =$	Application:
Various fluorophores, chromophores and dyes e.g.: Coumarin, Rhodamine, Fluoresceine, or any coupled aromatic system, any conductive coupled polymer. 	FRET sensing
Various units bearing functions suitable for click chemistry like azide or acetylene e.g.: 	2D and 3D structure fabrication, patterning with QDs

Receptors based on glycolamides
for Ln^{3+} $K \sim 10^5$; $RH =$

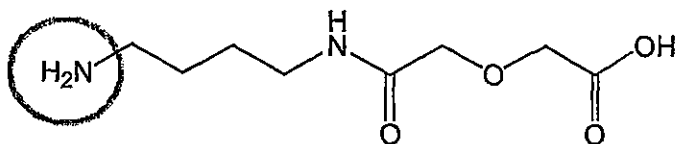
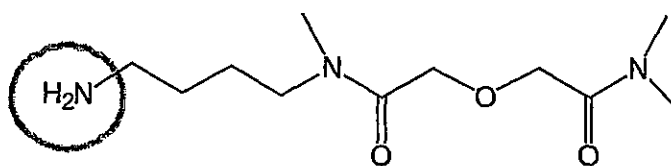
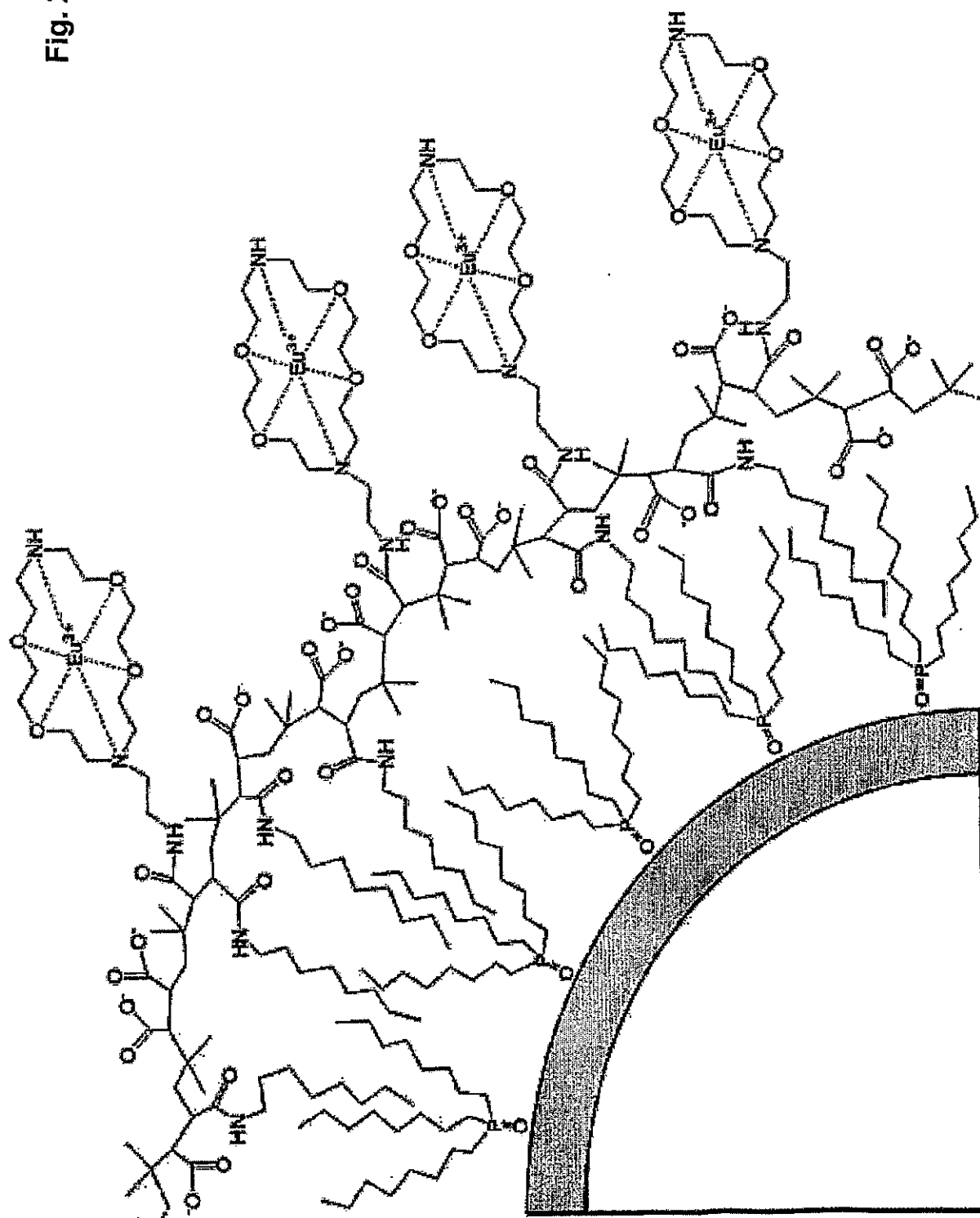


Fig. 2A



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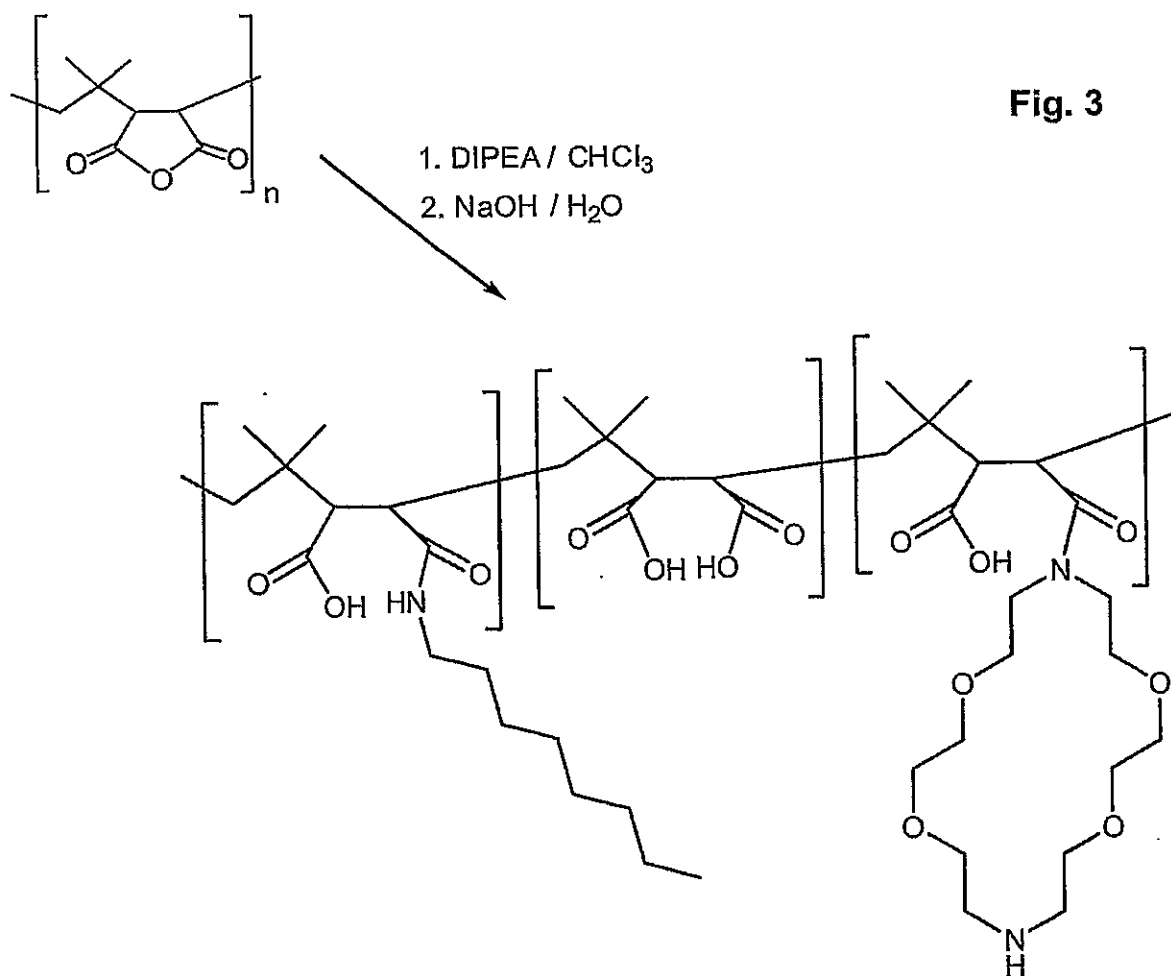
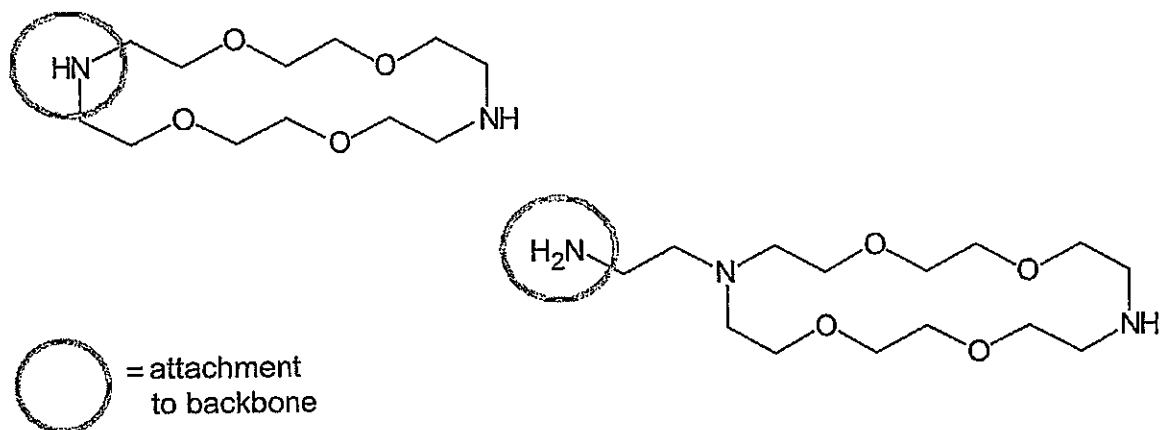
Fig. 2B

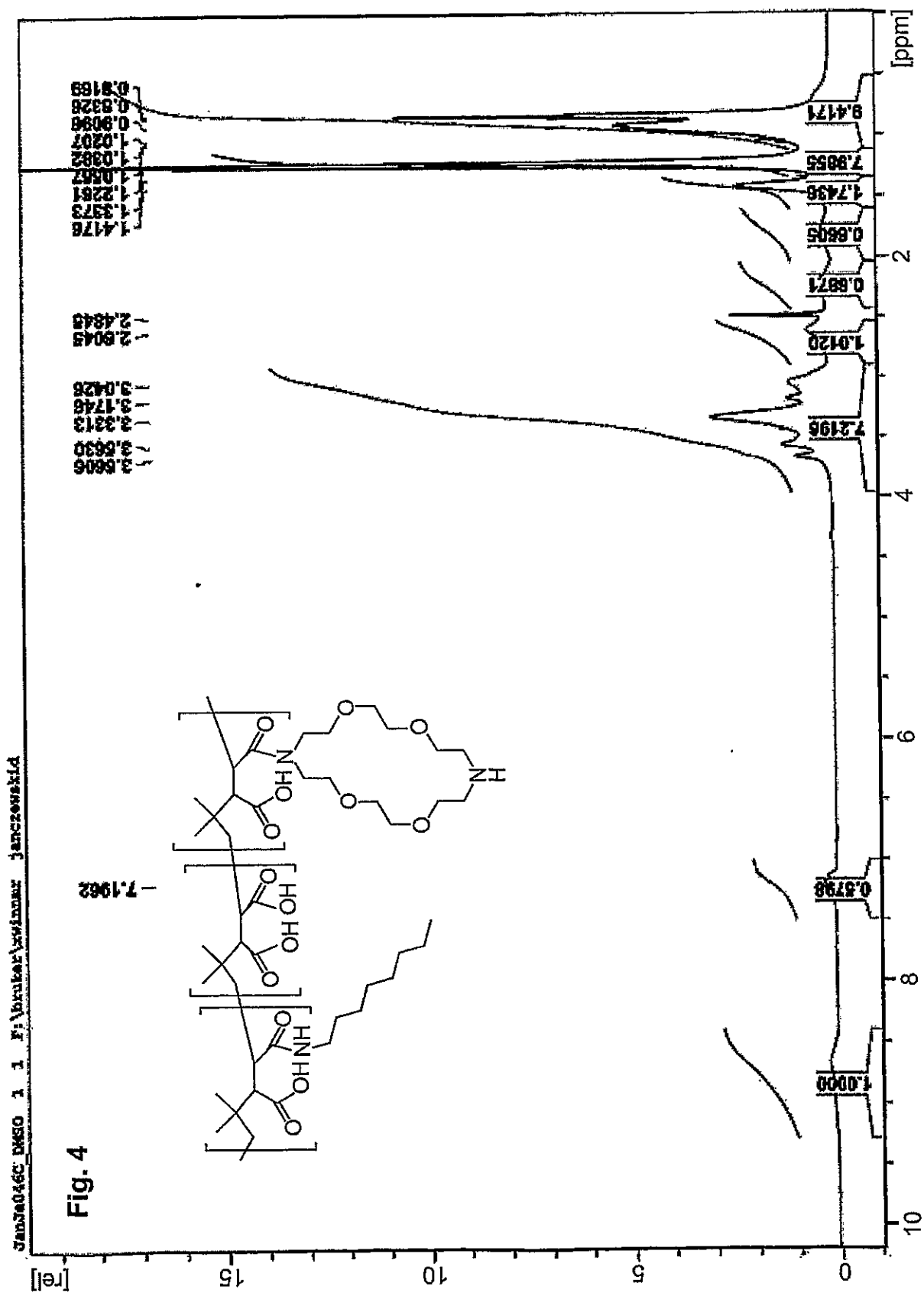


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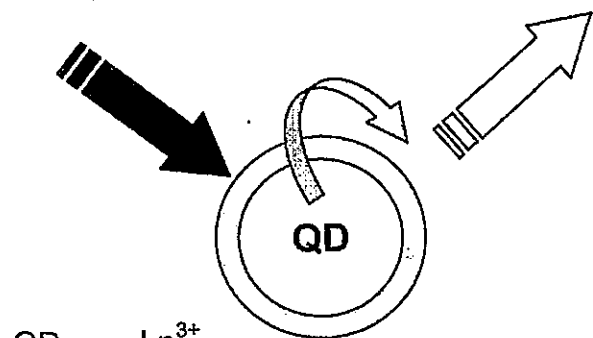
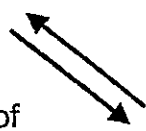
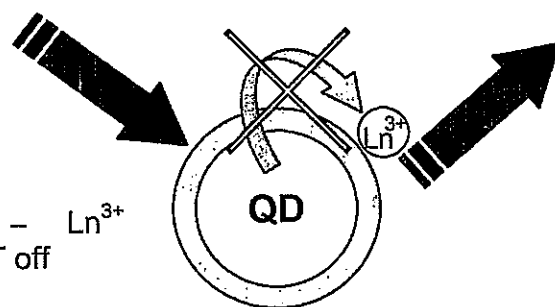
Fig. 2C

Receptors based on Kryptofix-22
for Ln^{3+} $K \sim 10^{10}$; $\text{RH} =$





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Absorption by QD emission from Ln^{3+} (FRET)QD - Ln^{3+}
FRET onChange of
environmentQD - Ln^{3+}
FRET off

Absorption by QD emission from QD (no FRET)

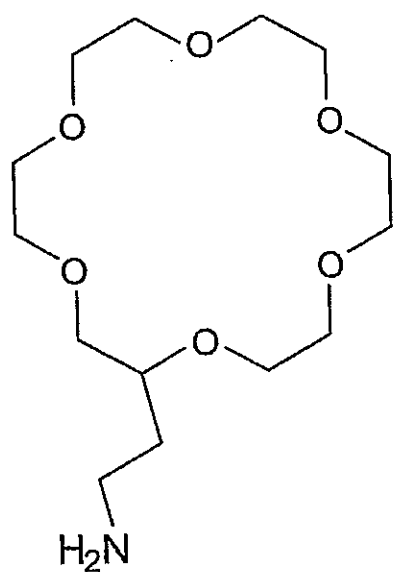


Fig. 6A

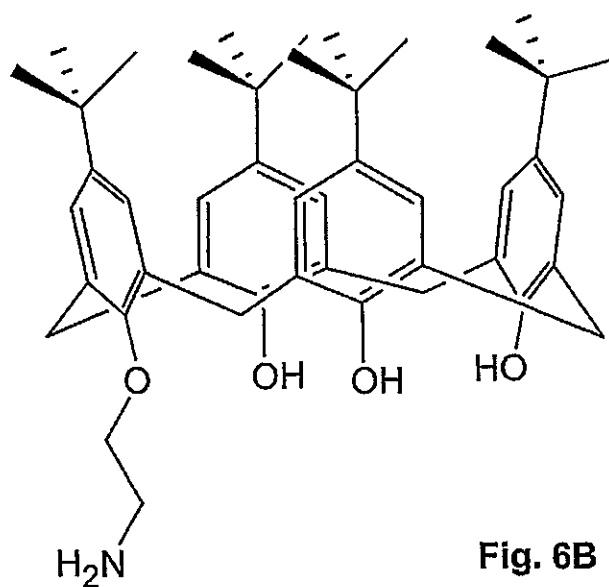


Fig. 6B

Fig. 5

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Fig. 6C

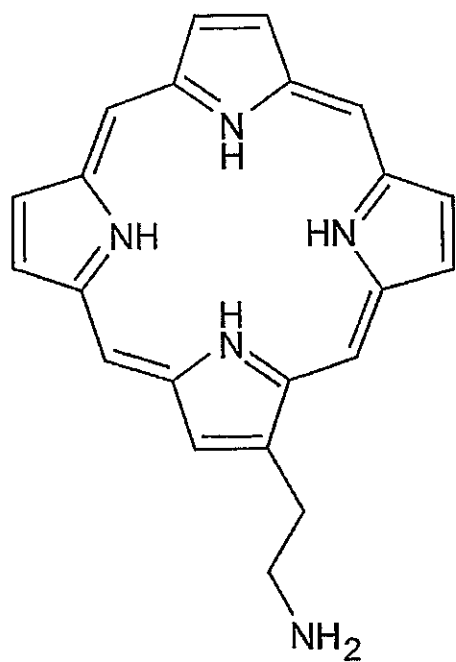
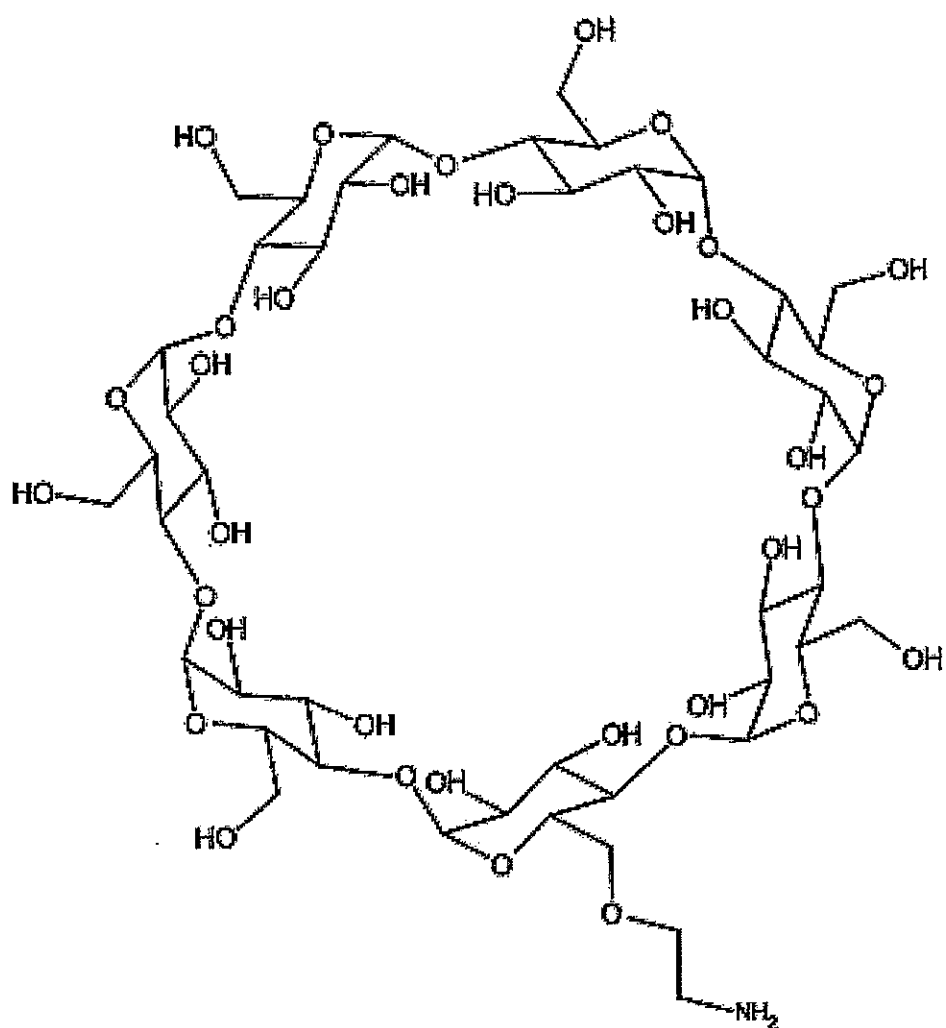
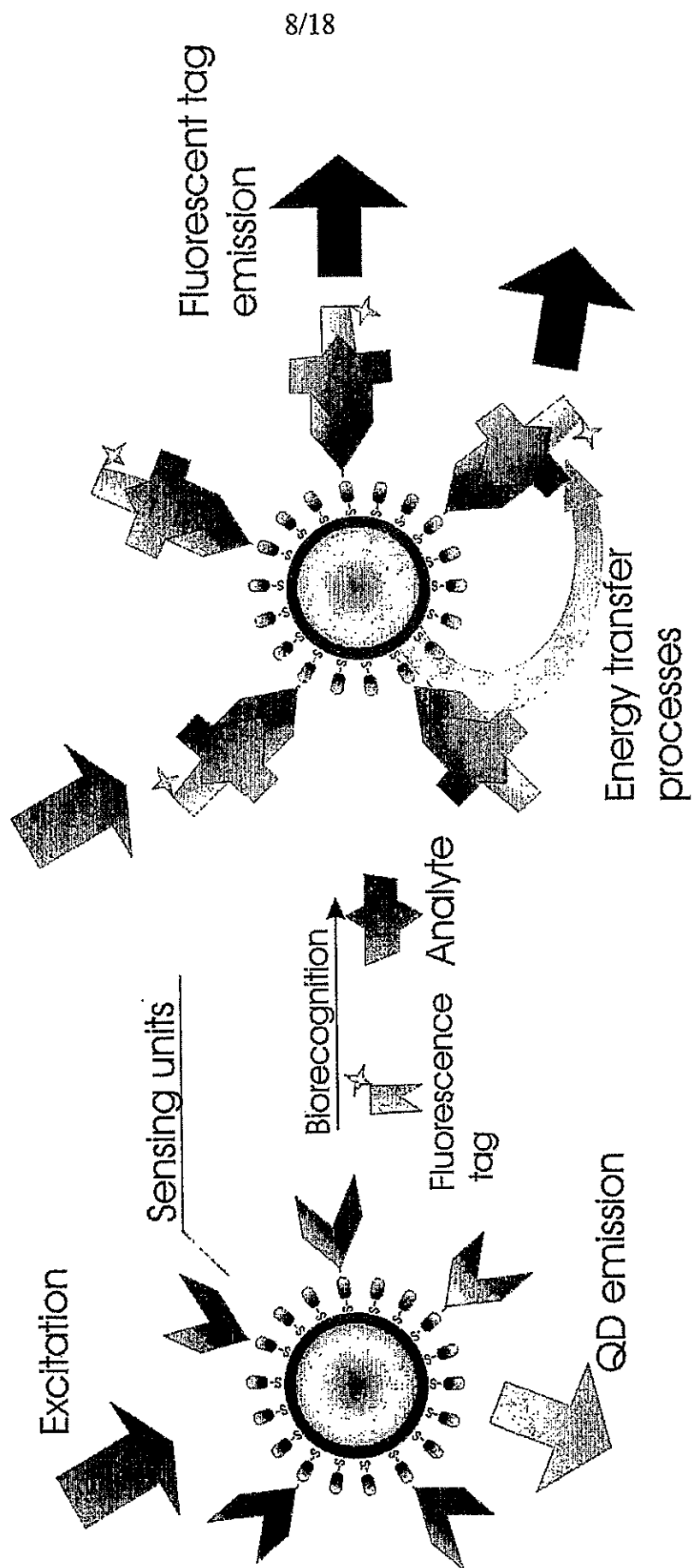


Fig. 6D

Fig. 7



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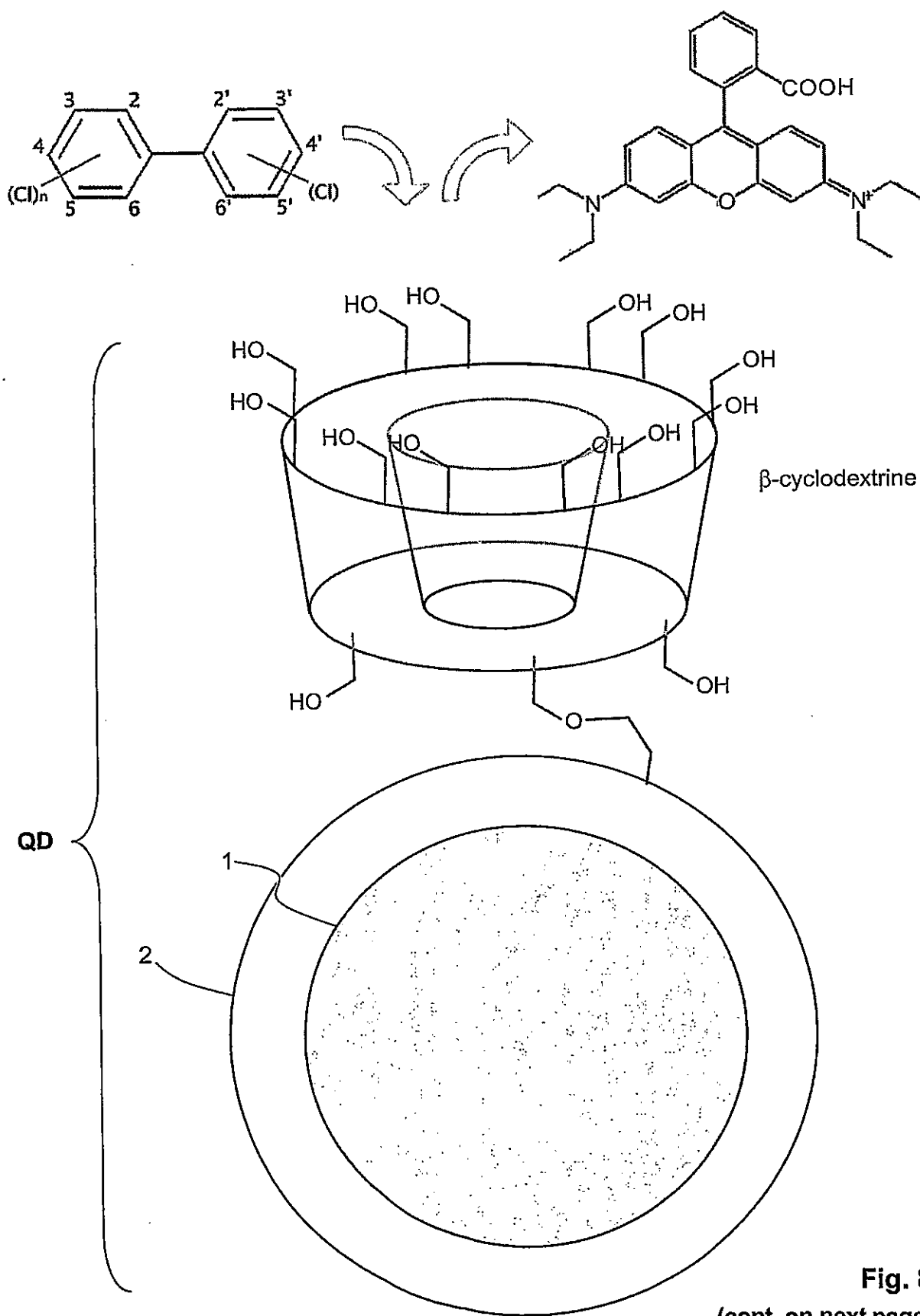


Fig. 8
(cont. on next page)

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QD=

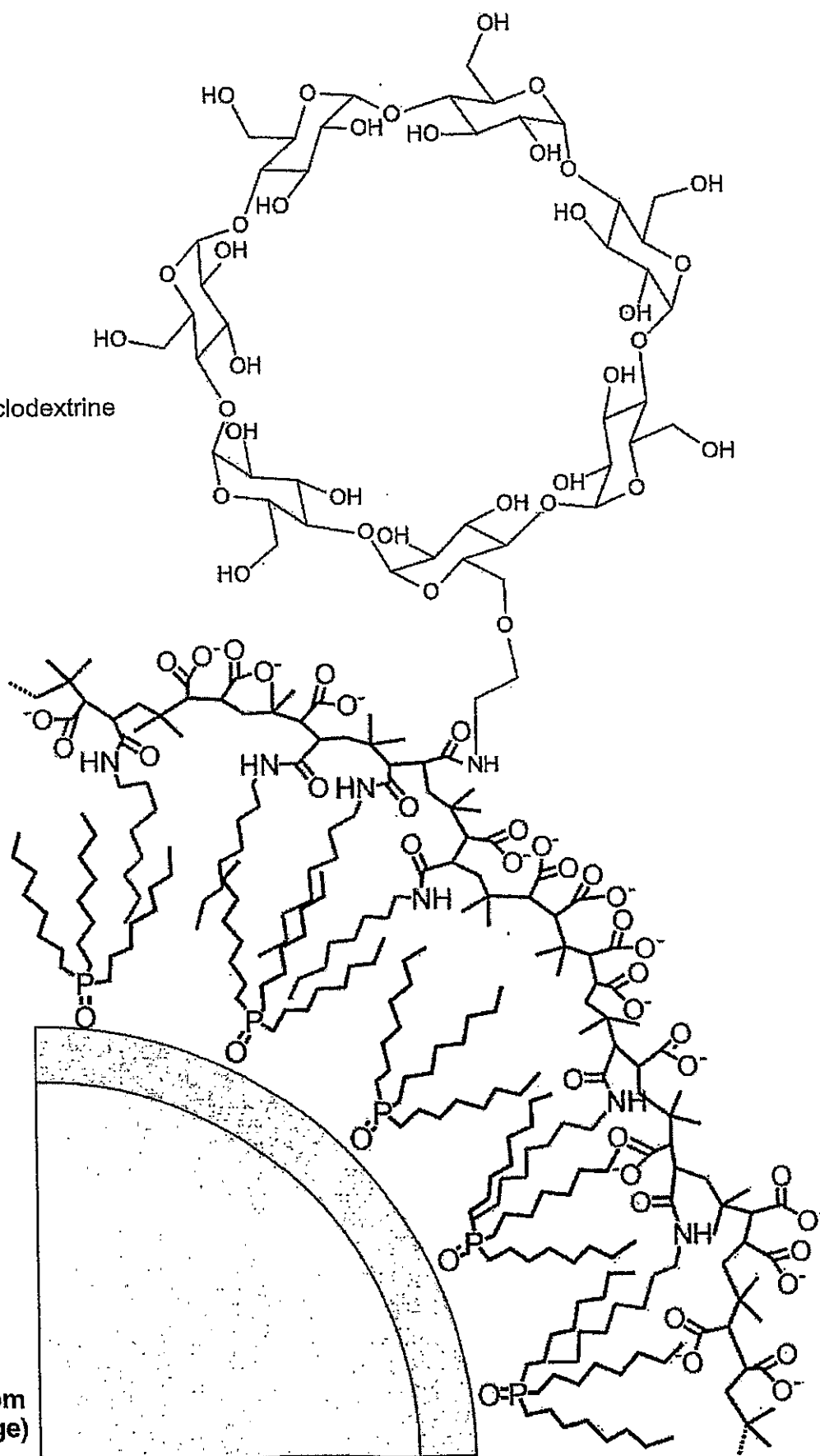
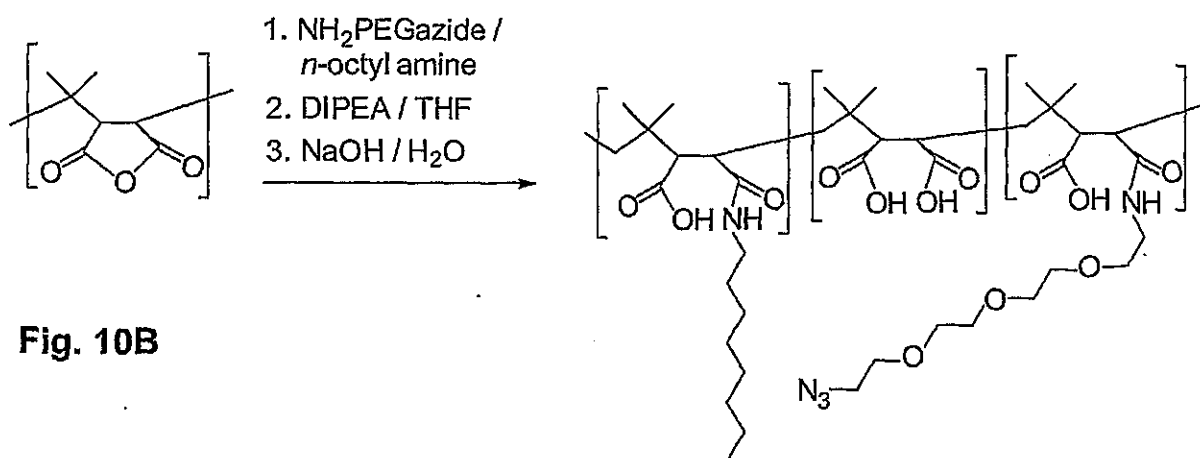
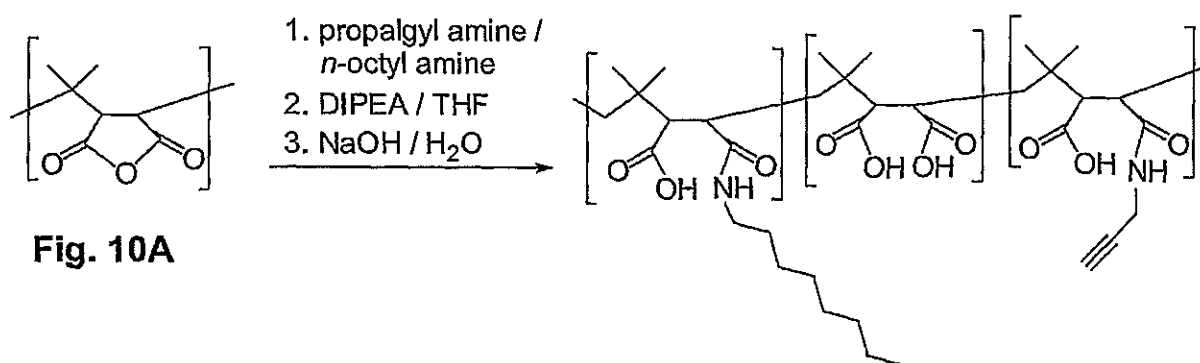
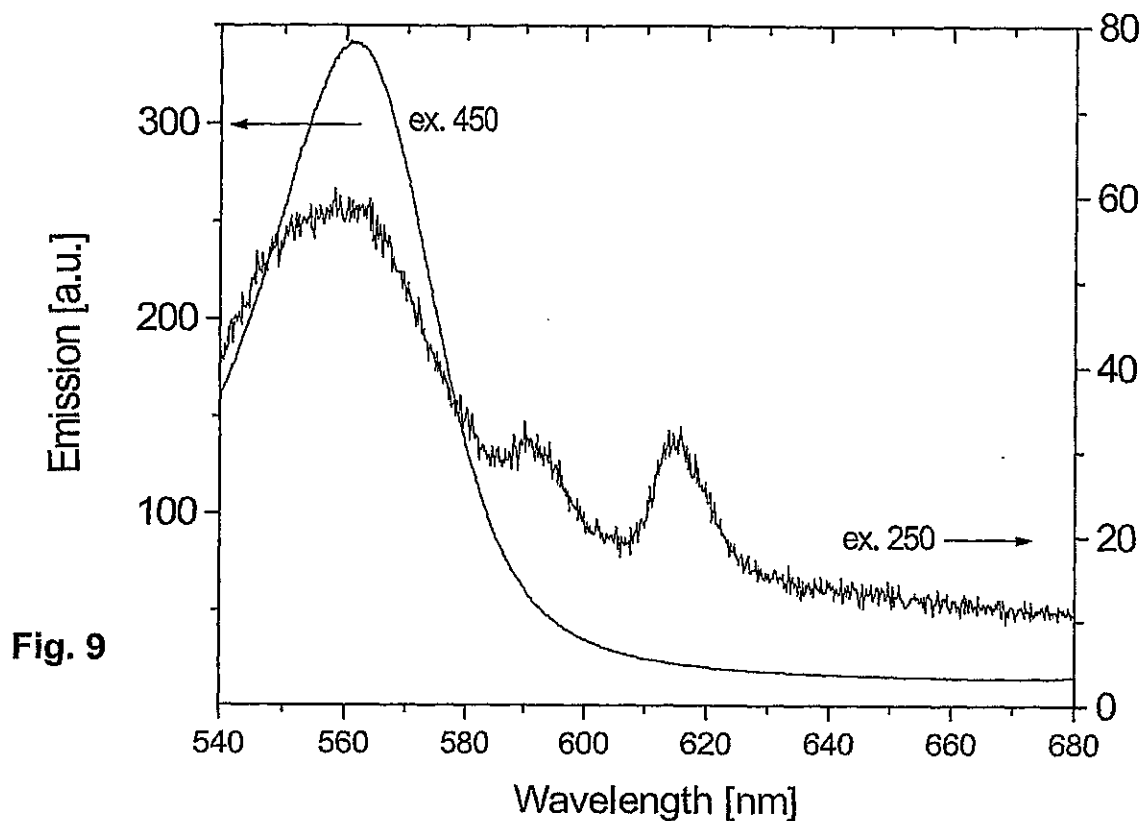
 β -cyclodextrine

Fig. 8
(cont. from
prev. page)

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Fig. 11

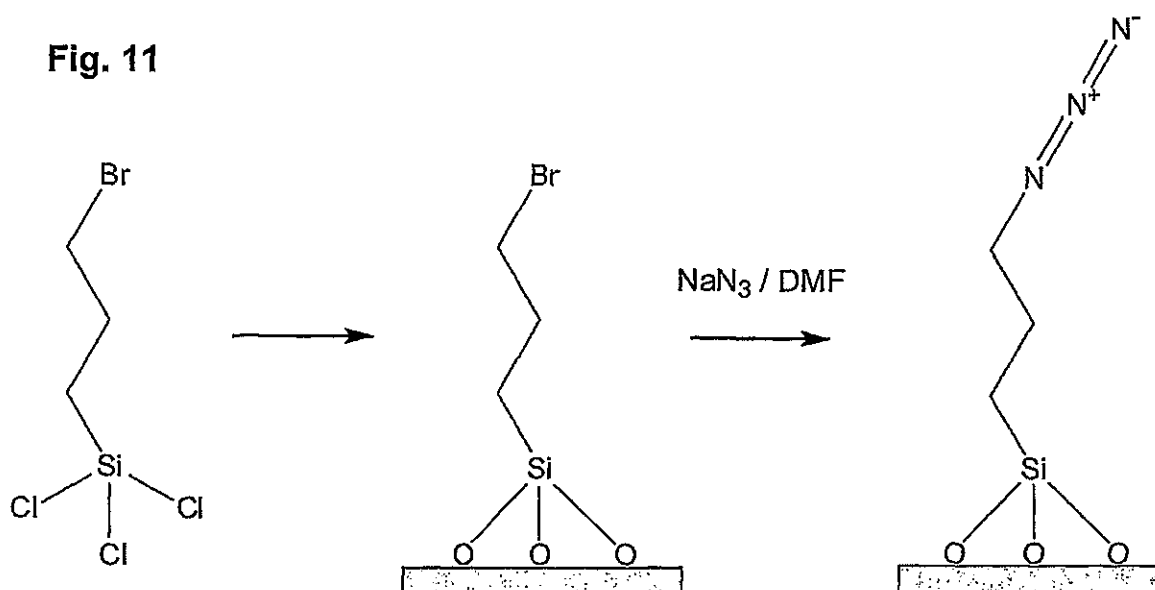
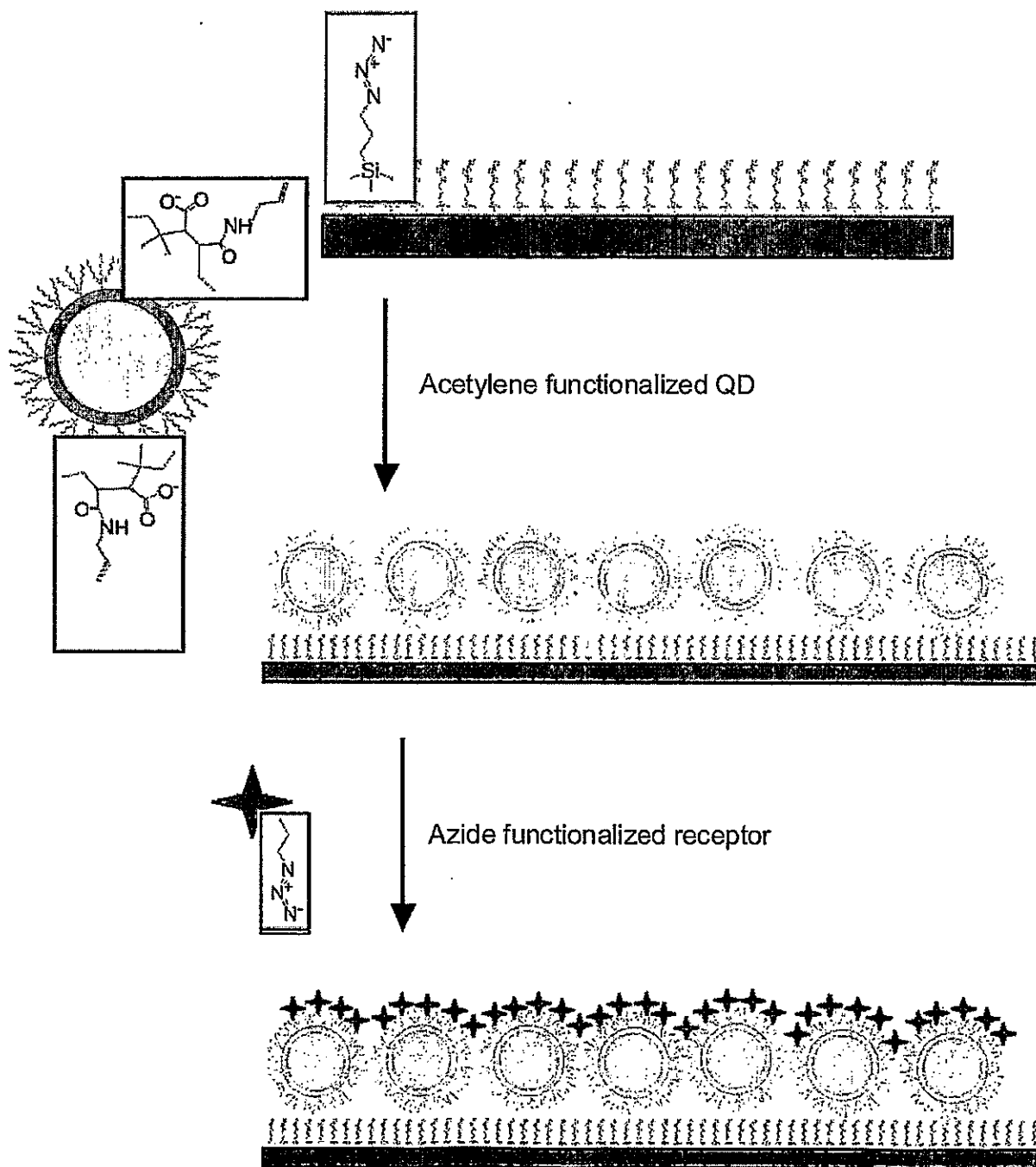


Fig. 12

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Fig. 13A



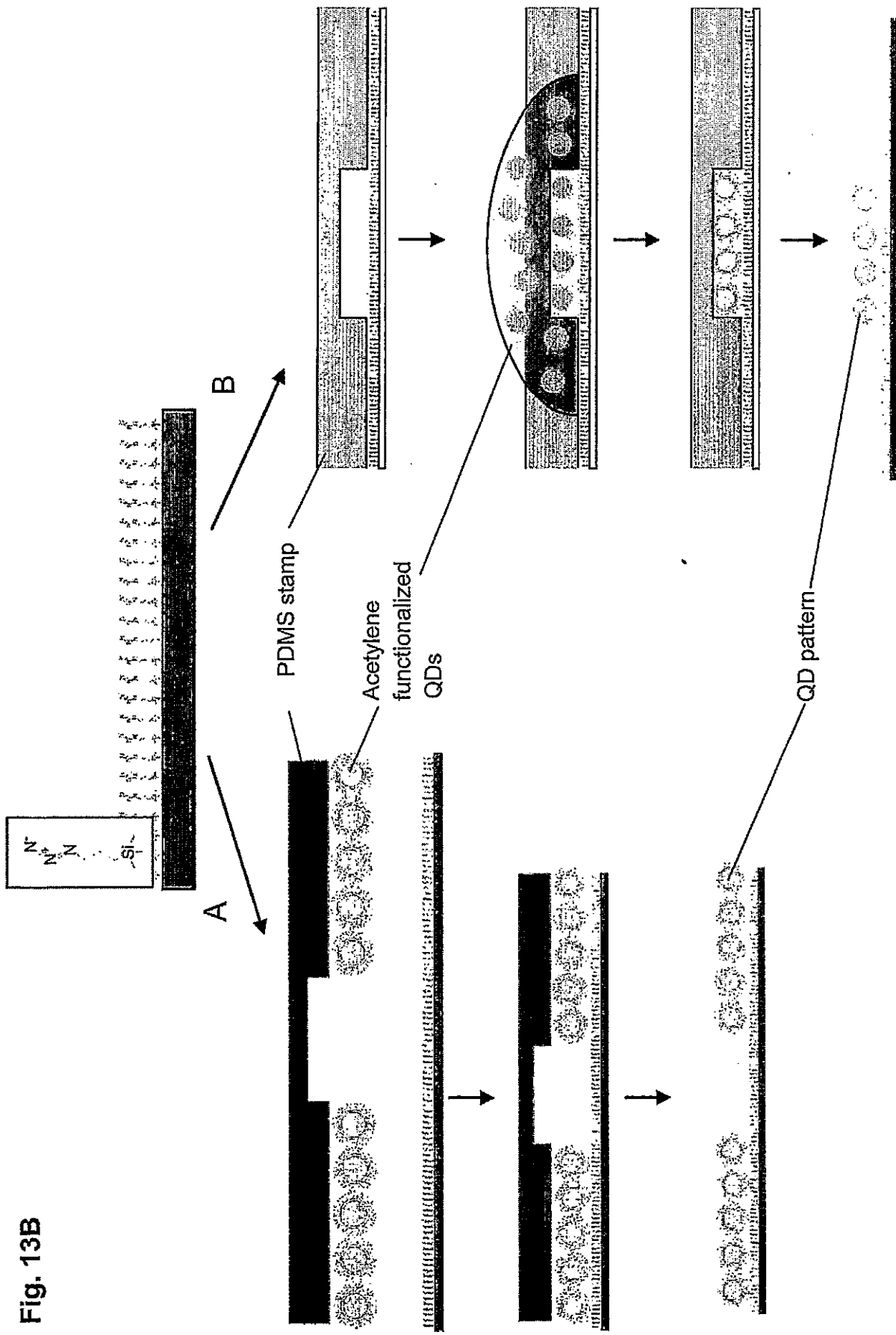


Fig. 13B

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Fig. 14A

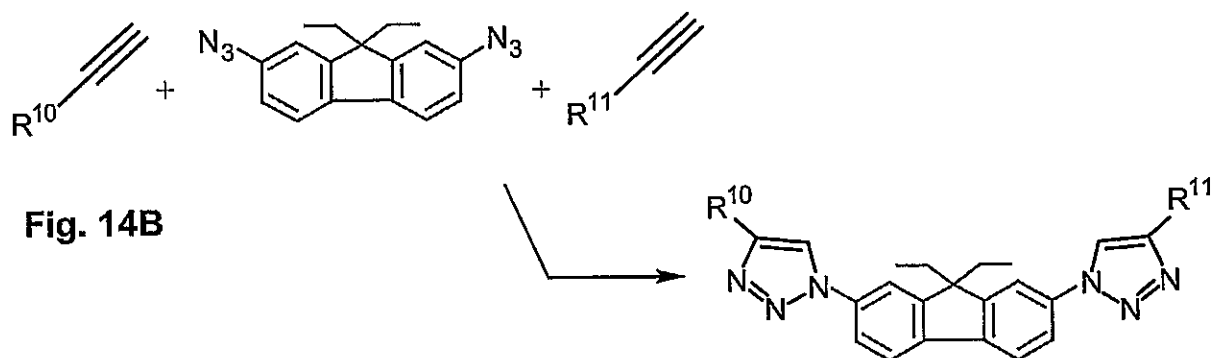
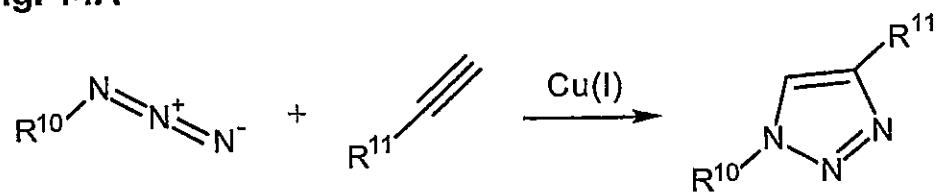


Fig. 14B

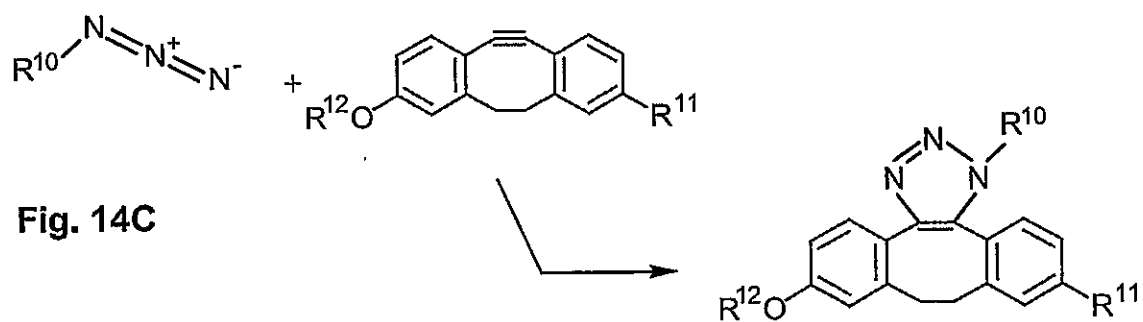
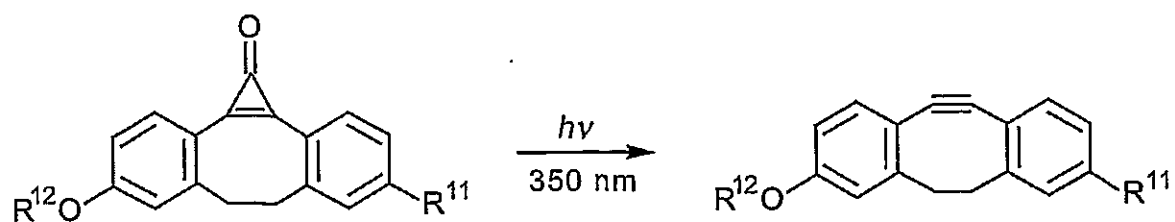


Fig. 14C

Fig. 14D



Flatten

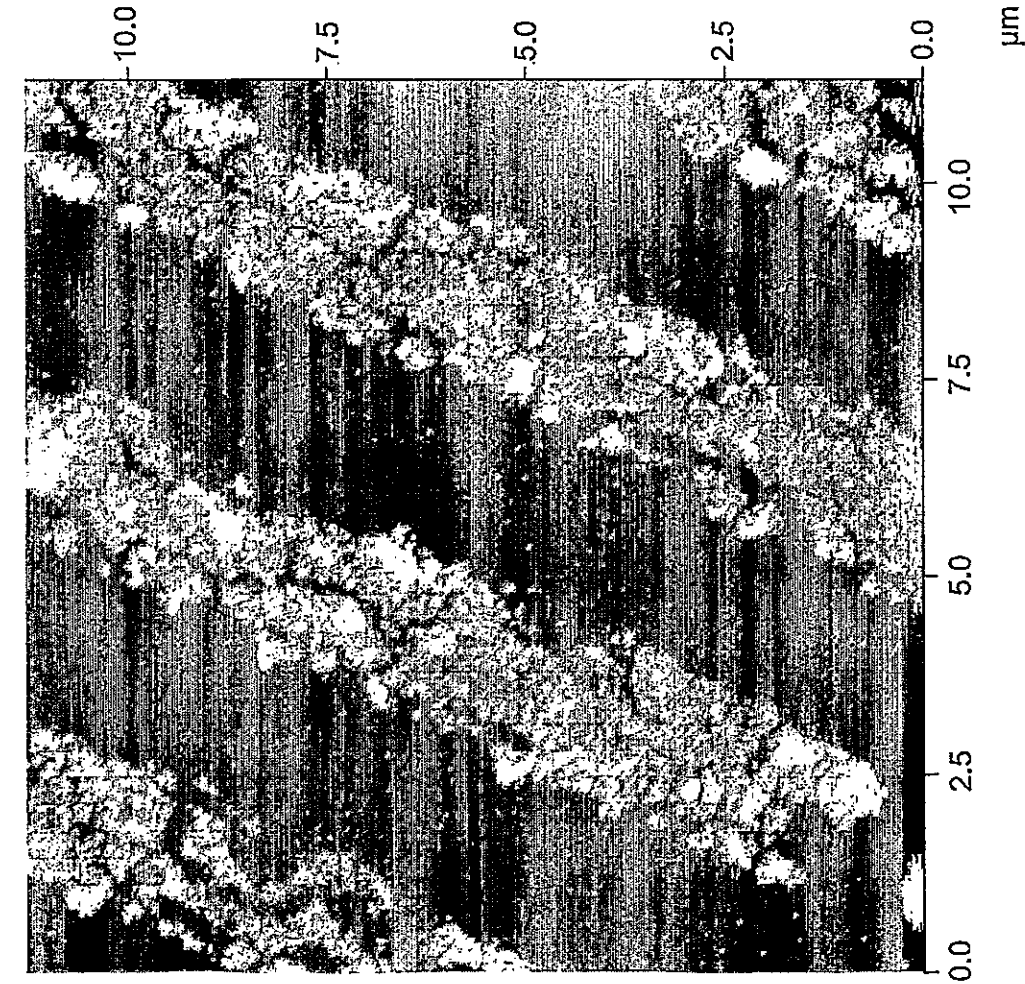


Fig. 15

Digital Instruments NanoScope
Scan size 11.33 μm
Scan rate 0.5003 Hz
Number of samples 512
Image Data Height
Data scale 40.00 nm

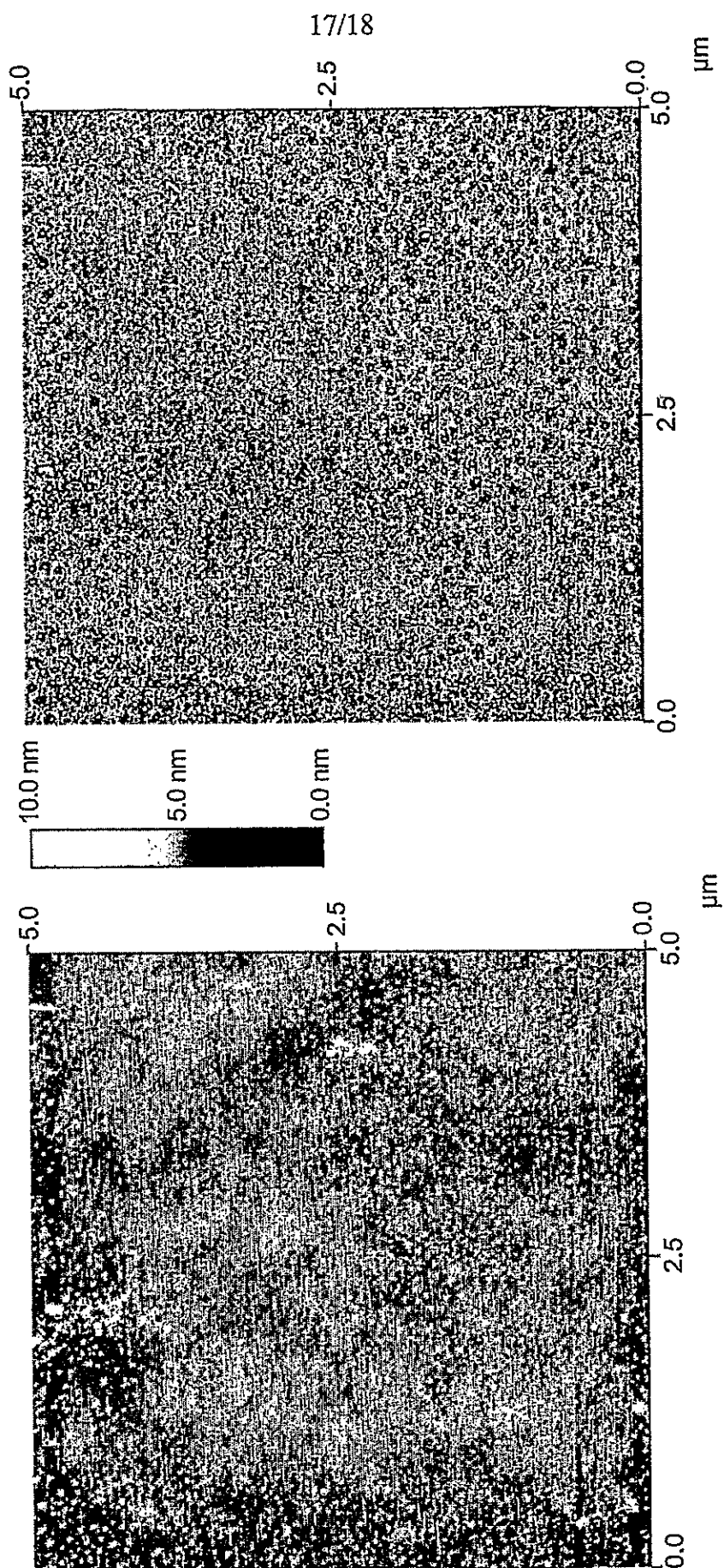


Fig. 16A

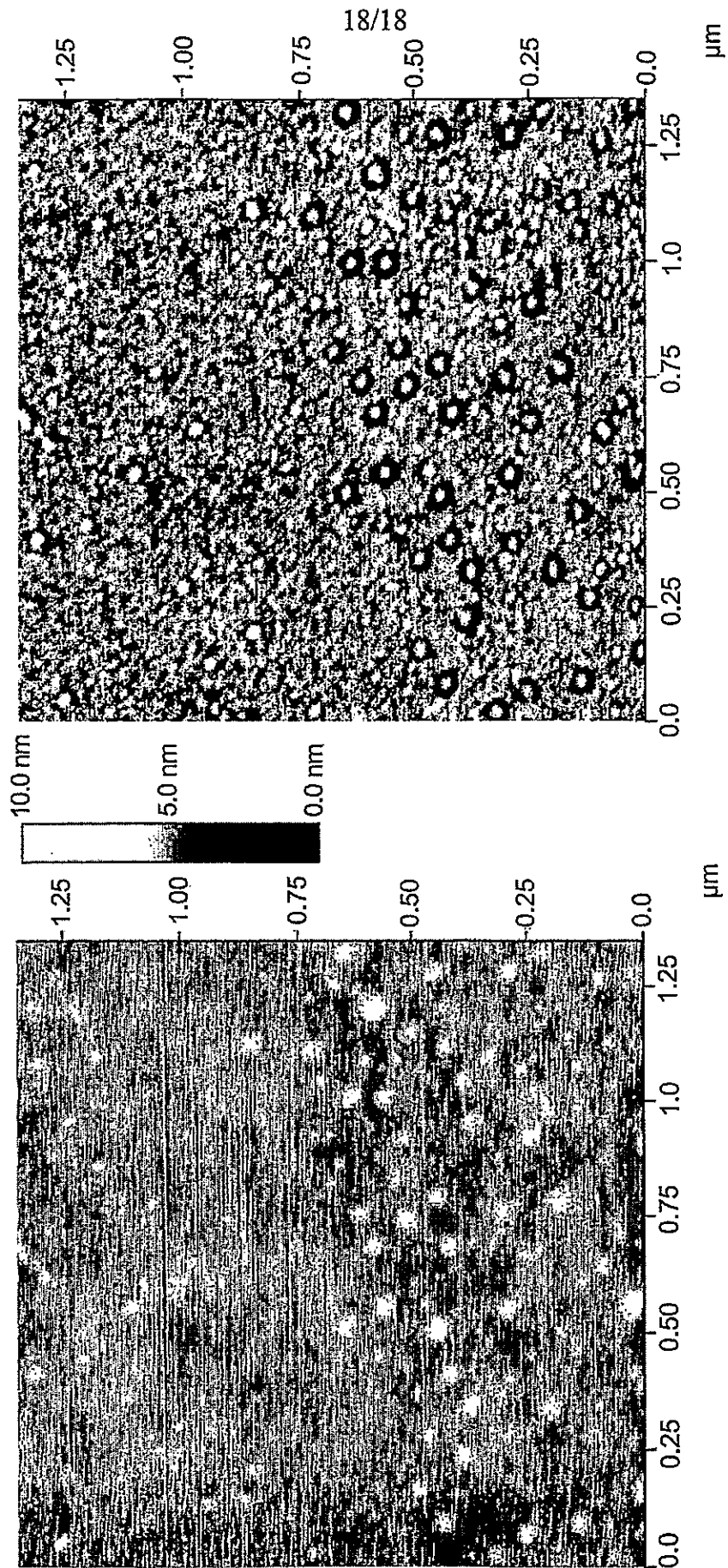


Fig. 16B