

2002 - 0087984
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100

(54)

가

(payload)

가

가

, UV

(:
(follice)

UV

가

가 ,

(:)

(shaft)

가

가

가

가

(platform)

, UV

(treatment)

(payload)

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(micell)

mordant)

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(intimate relationship)

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가

(pendant group)

"(dye)"

가

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가

가

가

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()

(anchoring)

pH

가

(dyestuff)

(shell)

3

/ 가

(:)

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FDA

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(: , / ,)

(" 가 ")

가

(bead)

(가 ,

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2

pH

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가 가

- / - / 가 , , ,

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가 / / ,

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가 (, 가,)
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1 (dendrimer)

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1 가

가

가

가 (: Mg^{2+} , Ca^{2+} , Sr^{2+}) 가 , 1
 가 가 ,
 , (custom - tailored)

가, 가 / (: pH, , , , ,) (LC

가 (: 가 UV), ,

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(compatib

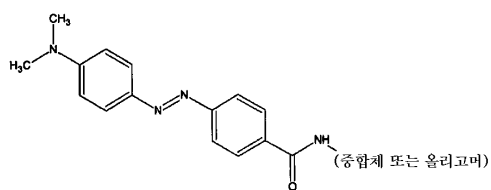
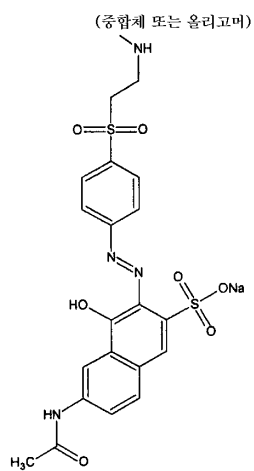
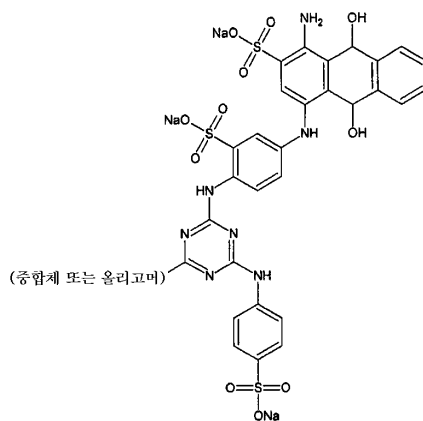
ility) 가 .

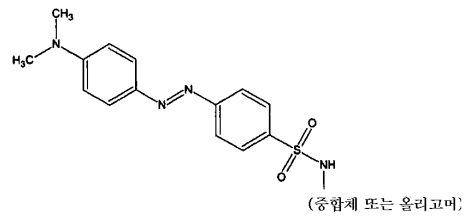
[illegible]

-
SO₂CH=CH₂), 1

[: (-C(O)Cl),]

(-SO₂Cl), (-
4 가 가
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가 () 가 , 1 .

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1 1 1 .

1 (:) (1
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 6,203,578 ,
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가

가

[ClCH₂C(O)OR, BrCH₂C(O)OR, ICH₂C(O)OR]

(1).

6,080,785

ClCH₂C(O)OCH₃

가 가

가 [(Stre

cker)]

(EDTA)

[

(Beyer and Walter in Handbook of Organic

Chemistry, Prentice Hall, 1996)

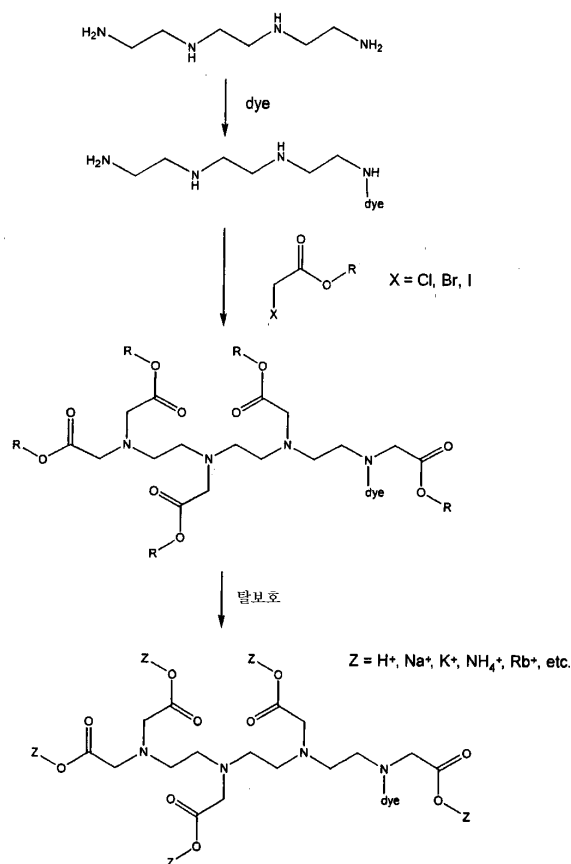
].

1

가 EDTA

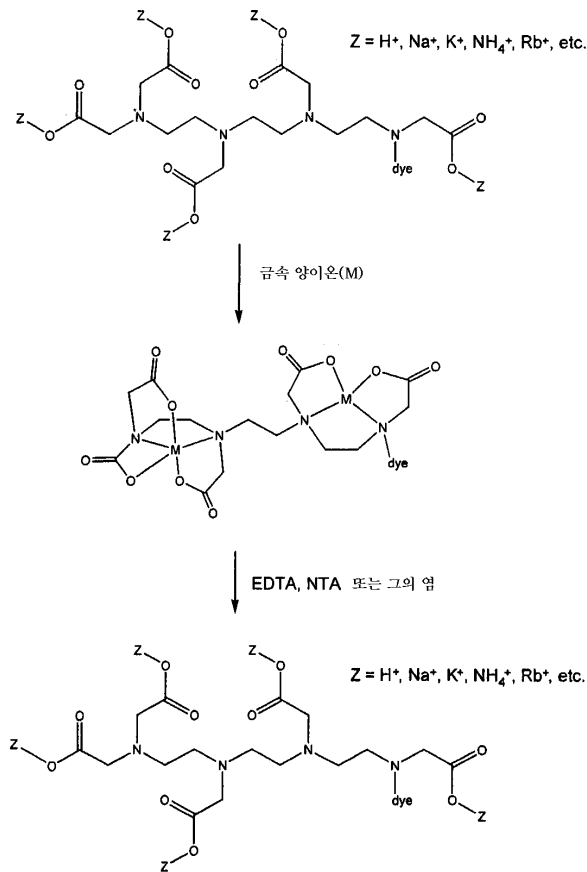
[N(CH₂COOH)₃] 가

1



(2) 가 . EDTA NTA()
 2) 가 . 1 가
 (1)

2

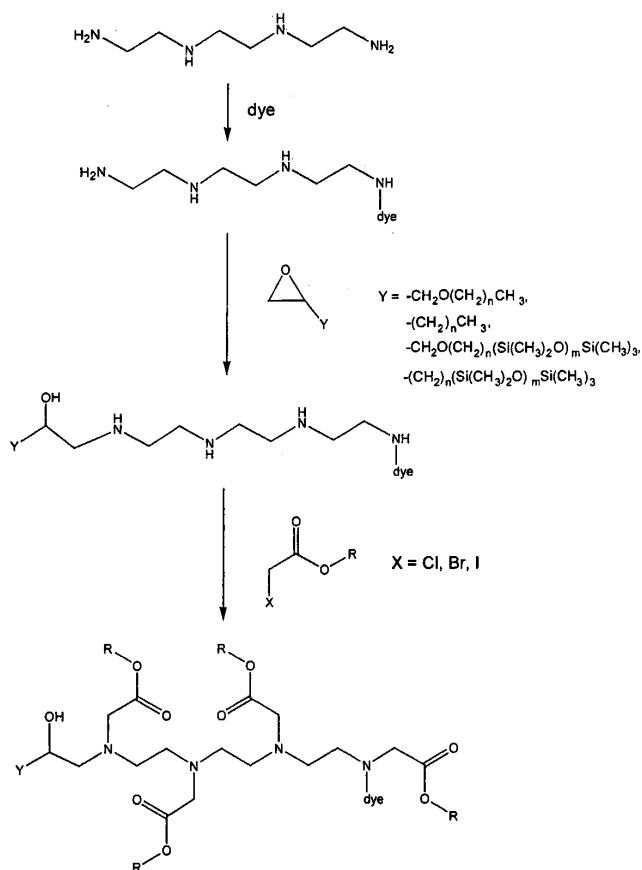


(3), , 가 , 가(4)

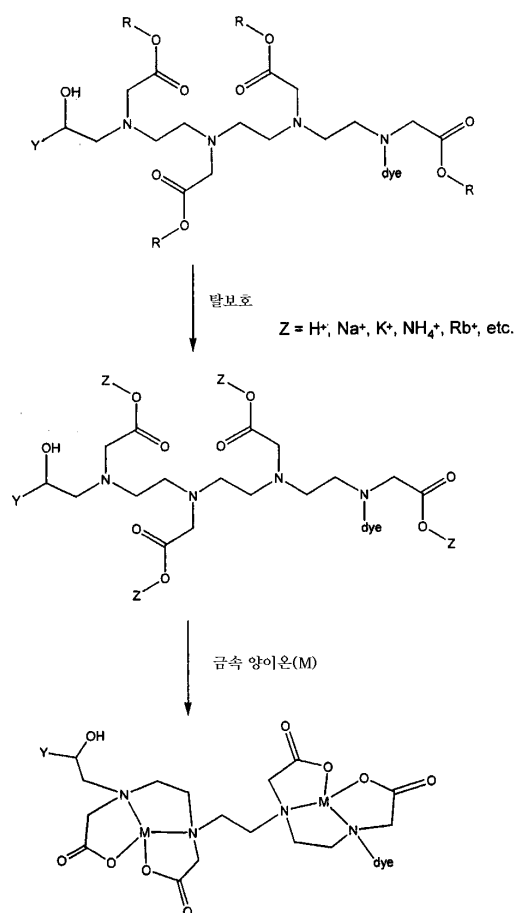
가 . 11 , 가 EDTA NTA(5)

가 , , , ()

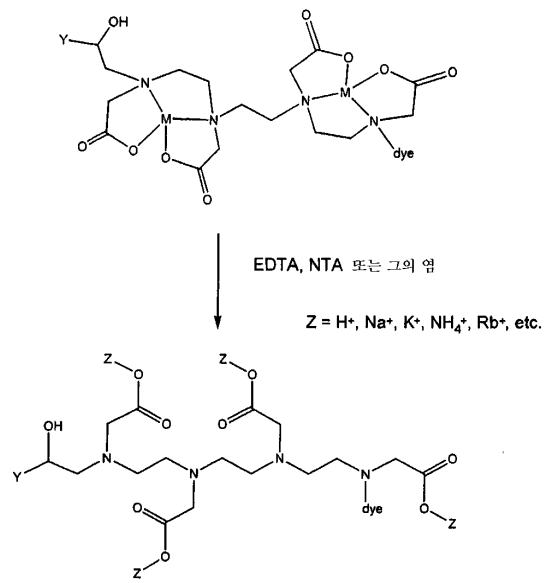
3



4

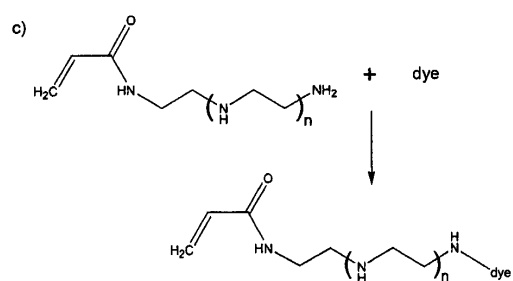
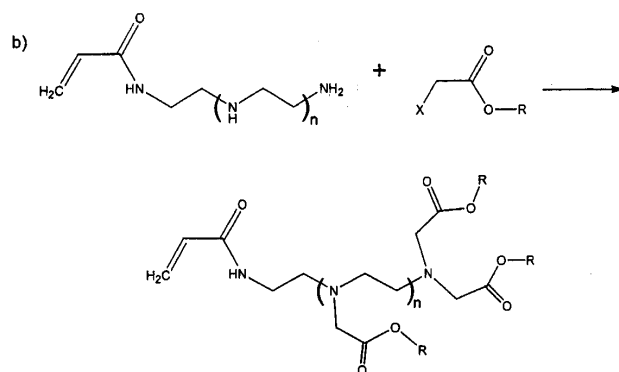
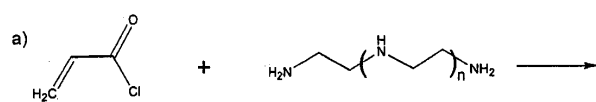


5

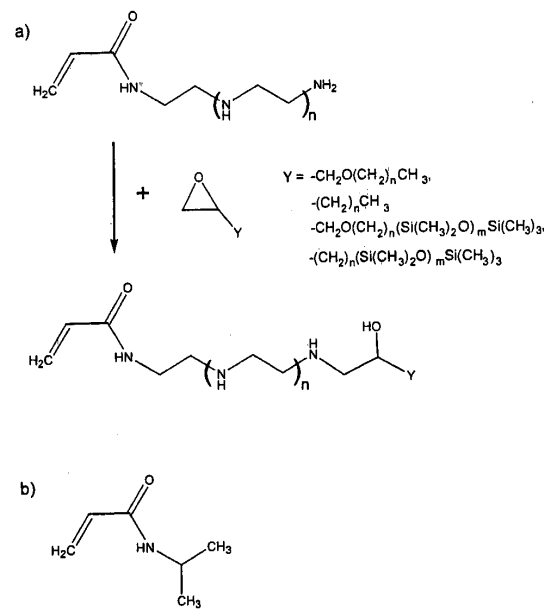


가
(6 7).

6



7



N - (NIPA)(7 b) 가 , NIPA()

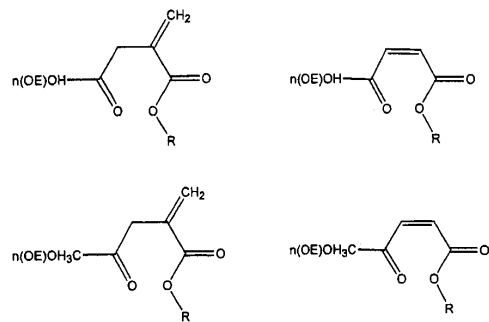
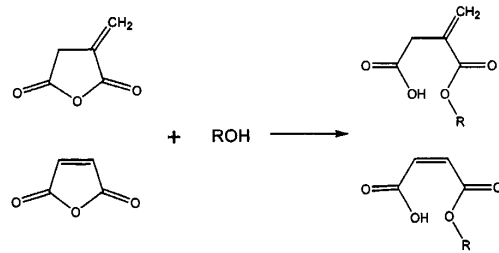
(1), () 가 , (head) , EDTA NTA 가

가 (8) . (:) 가

가 . (8 4

가). 가 , 가 . , 가 [Stahler, et al., Langmuir 1998, 14, 4765 - 4775; Stahler, et al., Langmuir 1999, 15, 7565 - 7576; Kline, Langmuir 1999, 15, 2726 - 2732; Soula and Guyot, Langmuir 1999, 15, 7956 - 7962; Shen, et al., Langmuir 2000, 16, 9907 - 9911; Viitala, et al., Langmuir 2000, 16, 4953 - 4961; Jung, et al., Langmuir 2000, 16, 4185 - 4195; Gargallo, et al., Langmuir 1998, 14, 5314 - 5316; Liu, et al., Langmuir 1997, 13, 4988 - 4994; Xu, et al., Langmuir 1999, 15, 4812 - 4819]

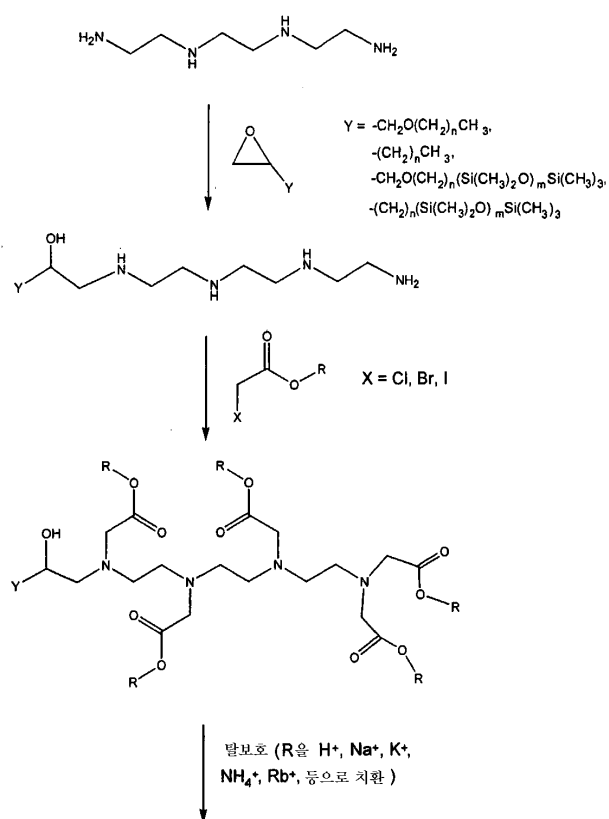
8



2 (2) 1 , 3 (9) .

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9



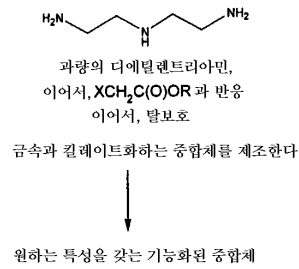
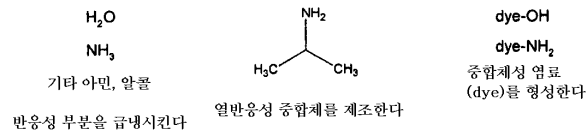
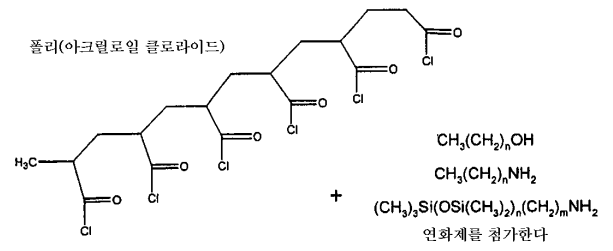
(scaffold)

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가 . 가 ()

10 .

10



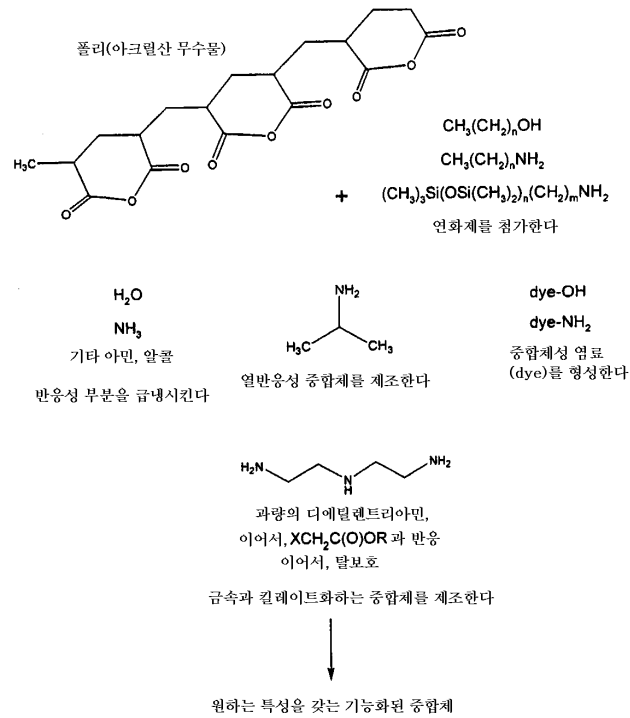
() 가 . 가

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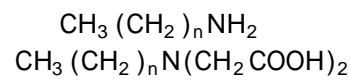
11 .

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가



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(time - relaease)

(17

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(57)

1.

가 (pa
yload) .

2.

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4.

3 , 가 ,
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1 4 , 가 -
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yield) , 가 (pa
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