

(19)
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(A)(51) 。 Int. Cl. ⁷
C09K 11/06(11)
(43)2001 - 0104501
2001 11 26(21) 10 - 2000 - 0023607
(22) 2000 05 02

(71) 614 - 100 103 - 1501

(72) 614 - 100 103 - 1501

171 649 - 23 210

1084 - 576 201

580 218 - 904

:

(54)

(Organic electroluminescent diode; OLED)

(phenothiazine)

(a

anthracene)

가 ,

.

1

1

가
가
(chromaticity diagram)
가
가
(organic electroluminescent
ode; OLED)
가
가
(electroluminescence; EL)
가
가
cd/m²
가
가
가
PCS(personal communication service)
가
가
가
(full
가
(
가
(
PPV
(2 - ethylhexyloxy) - 1,4 - phenylene vinylene); MEH - PPV]
PPV
가
[poly(p - phenylene vinylene); PPV]
(2 - methoxy - 5 - (2 -) - 1,4 -) [poly(2 - methoxy - 5 -)]
가

가

(color display)

(color purity)가

CRT (cathode ray tube), LCD (liquid crystal display)

PDP (plasma display panel)

(f

ull color)

가

1931 (Commission Internationale de l'Eclairage: CIE) CIE (chromaticity dia
gram) 가 , 1968 National Television System Committee(NTS
C) (: $x=0.67$, $y=0.33$; : $x=0.21$, $y=$
 0.71 ; : $x=0.14$, $y=0.08$; : $x=0.281$, $y=0.311$)
NTSC
가

가

가

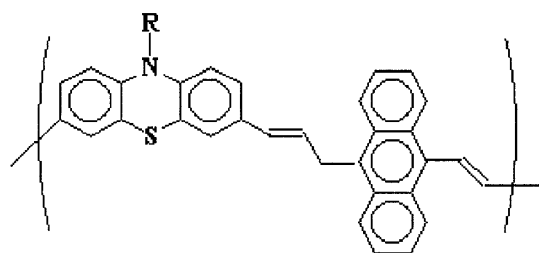
NTSC

가

1

(π) -

[1]

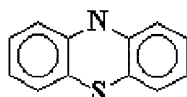


(1 R 가 1 20)

, 1 .

de) 2 (phenothiazine) 3 (alkyl hali
4 , 4 (phosphoryl chloride)
(dimethyl foramide) 5 .

[2]

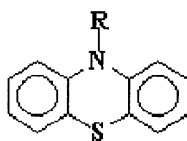


[3]

R - X

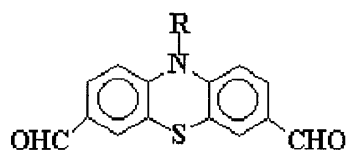
(3 R 1 , X F, Cl, Br, I)

[4]



(4 R 1)

[5]



(5 R 1)

2 3 4 (dimethyl sulfoxide), (dimethyl formamide), 1 , (

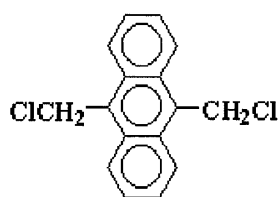
, 4 , , , ,
, 4 1 , , ,
1 : 1 5 , 1:1.5 2 (phenothiazine)
가 .

1,2 - 4 (1,2 - dichloroethane) , 5 가
 - (2 - ethylhexyl)phenothiazine) 1 (mole) 5 10 , 8 10 N - (2) (N
 가 가 ,
 (monoaldehyde)

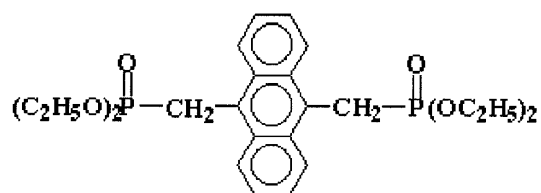
5 (phosphonate)

6 (triethylphosphite)

[6]



[7]



6 가 7 가
 160 가 , 100. C 130 가
 9,10 - (() (9,10 - bis(chloromethyl)a
 9,10 - bis(chloromethyl)anthracene 1 10
 9,10 - bis(chloromethyl) anthracene
 15 ,

5 7 1
 , 5 7
 1

(tetrahydrofurane), (toluene), (benzene) 가 ,
 가
 5 7 1 4 7

1
(-CHO) 가 [- CH₂PO(OC₂H₅)] 가

e coated) , , 1 ITO (ITO/[1]) ITO (indium - tin oxid
(ITO/ 1/Mg) .
ITO 가 1
1 2 .

1 1 658nm 400 cd/m²

2 1 CIE NTSC

2) 1 (400 cd/m

(electron donating) (electron withdrawing)
(exciplex) 가

(1)

NN - (2 - ethylhexyl)phenothiazine .

300ml 3 (dimethylsulfoxide) 150 ml, 가 (NaOH) 19.2g, (phe
nothiazine) 16g 1 2 - (2 - ethyl hex
ylbromide) 17g 3 . (dimethylsulfoxide)

3
2 - silicagel column chromatogr
aphy (n - hexane:petroleum ether=2:1) 20.5g 4 N - (2 - ethylhexyl)phenothiaz
ine (82%).

NN - (2 - ethylhexyl) - 3,6 - diformylphenothiazine .

300ml 3 1.2 - (1,2 - dichloroethane) 30 ml 가 4
N - (2 - ethylhexyl)phenothiazine 12.46g . 58.5g
122.7g 가 72 가 ,
33 % (sodium acetate) 4

silicagel column chromatography(dichloromethane : petroleum
ether=2:1) 10.2g 5 N - (2 - ethylhexyl) - 3,6 - diformylphenothiazine
(69%).

9,10 - Bis(diethoxyphosphinylmethyl)anthracene .

300ml 3 6 9,10 - bis(chloromethyl)anthracene 10g 117g
 (triethylphosphite) 120 12
 (triethylphosphite)
 (ethanol) 9,10 - bis (chloromethyl)anthracene
 27g 7 9,10 - bis(diethoxy - phosphinylmethyl)anthracene
 (80.6 %).

Poly(N - N - (2 - ethylhexyl) - 3,6 - phenothiazineylene vinylene - alt - 9,10 - anthrylene vinylene) [Poly(DEP
 Z - AV)]

250ml 3 60ml 가 5 N - (2 - ethylhexy
 l) - 3,6 - diformyl phenothiazine 8g 7 9,10 - bis(diethoxyphosphinylmethyl) anthracene 10.4g 가
 14.8g 40ml
 30 7
 1 [poly(DFPZ - AV)
] 4.6g

(2)

1 1,1,2,2 - tetrachloroethane 1 %
 T0 (2 × 2 cm²) 500rpm 5 , 2000rpm 30 100 1
 600 (ITO/ 1) (bead) (Ther
 mal Evaporator System KVT - 420, Korea Vacuum Co.) 2.0 × 10⁻⁵ torr
 (electron - beam) (4000 , 0.4 cm²) (ITO/
 1/Mg) Spectroscan PR 704(Ph
 toresearch) DC (0 - 60V) (Dual DC Regulated Power Supp
 ly, Model HC - 2330A, Hyun Chang Product Co. Ltd) pulse(1KHz, 25% duty cycle) 가
 1 658 nm

1 poly(DFPZ - AV)
 가
 3.31lm/W

1 2 x=0.62, y=0.3
 8 National Television System Committee(NTSC) (x=0.67, y=0.
 33)

() ()
 [poly(DFPZ - AV)] 31m/W
 (400cd/m²) NTSC
 , 가가 , 가가
 가 , 가 (color filter)

(57)

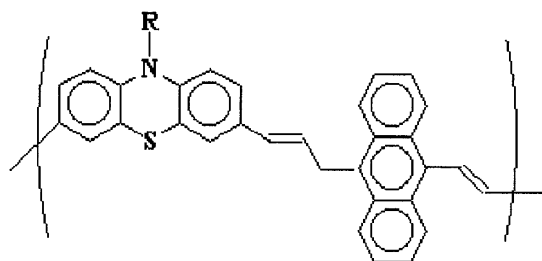
1.

1

가

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[1]



(1 R 가 1 - 20)

2.

2

3

4

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;

6

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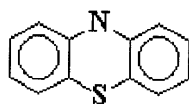
5

7

1

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[2]

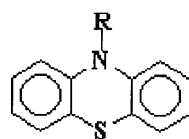


[3]

R - X

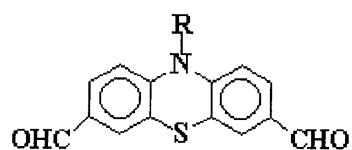
(3 R 1 , X F, Cl, Br, I)

[4]



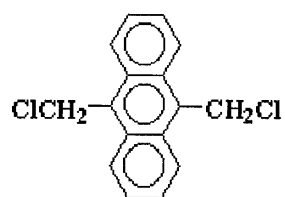
(4 R 1)

[5]

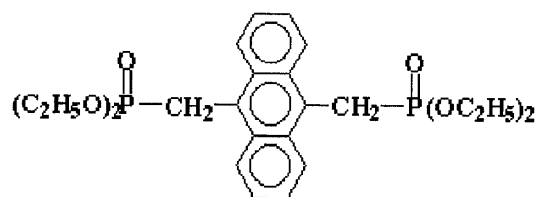


(4 R 1)

[6]

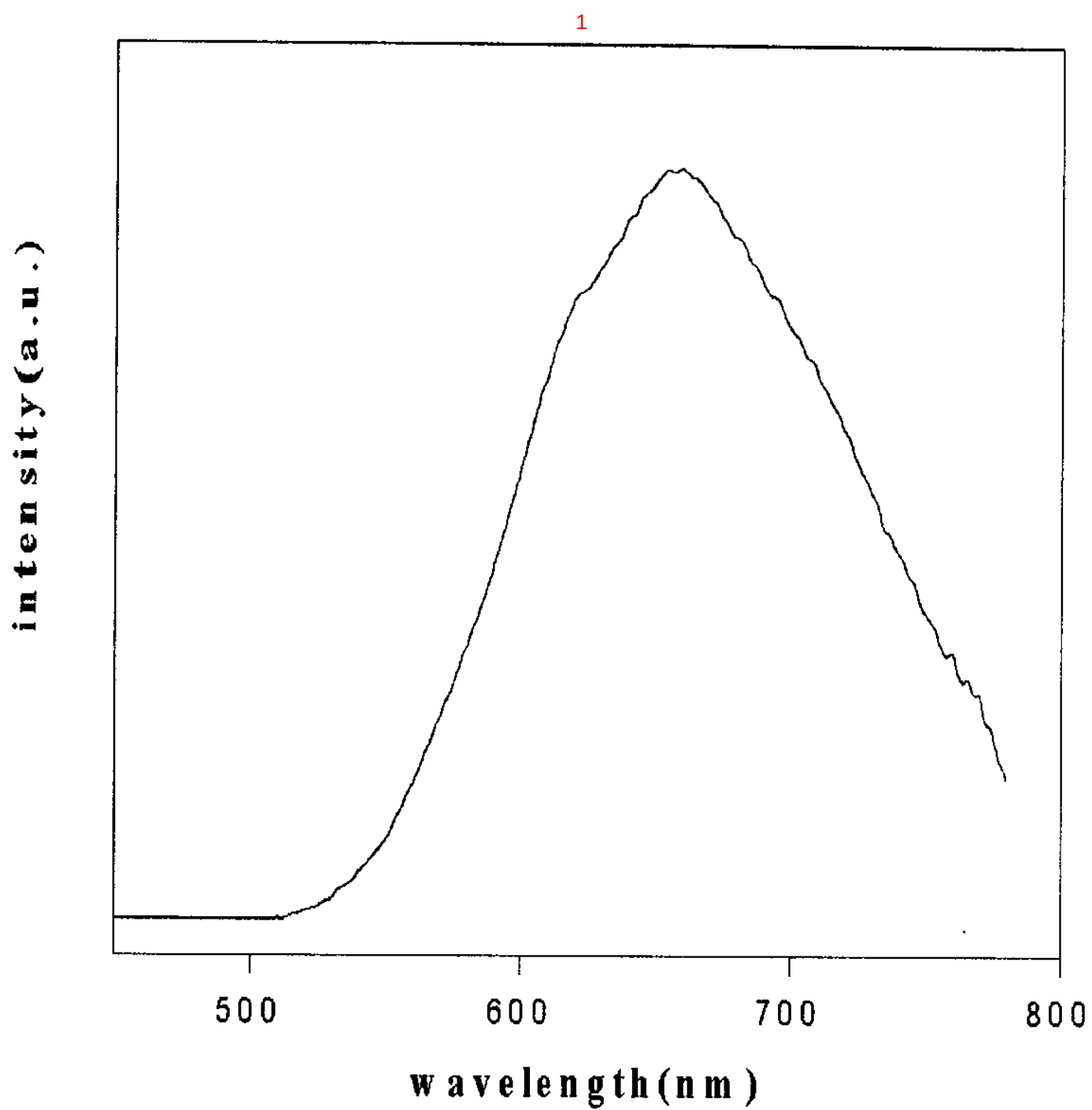


[7]

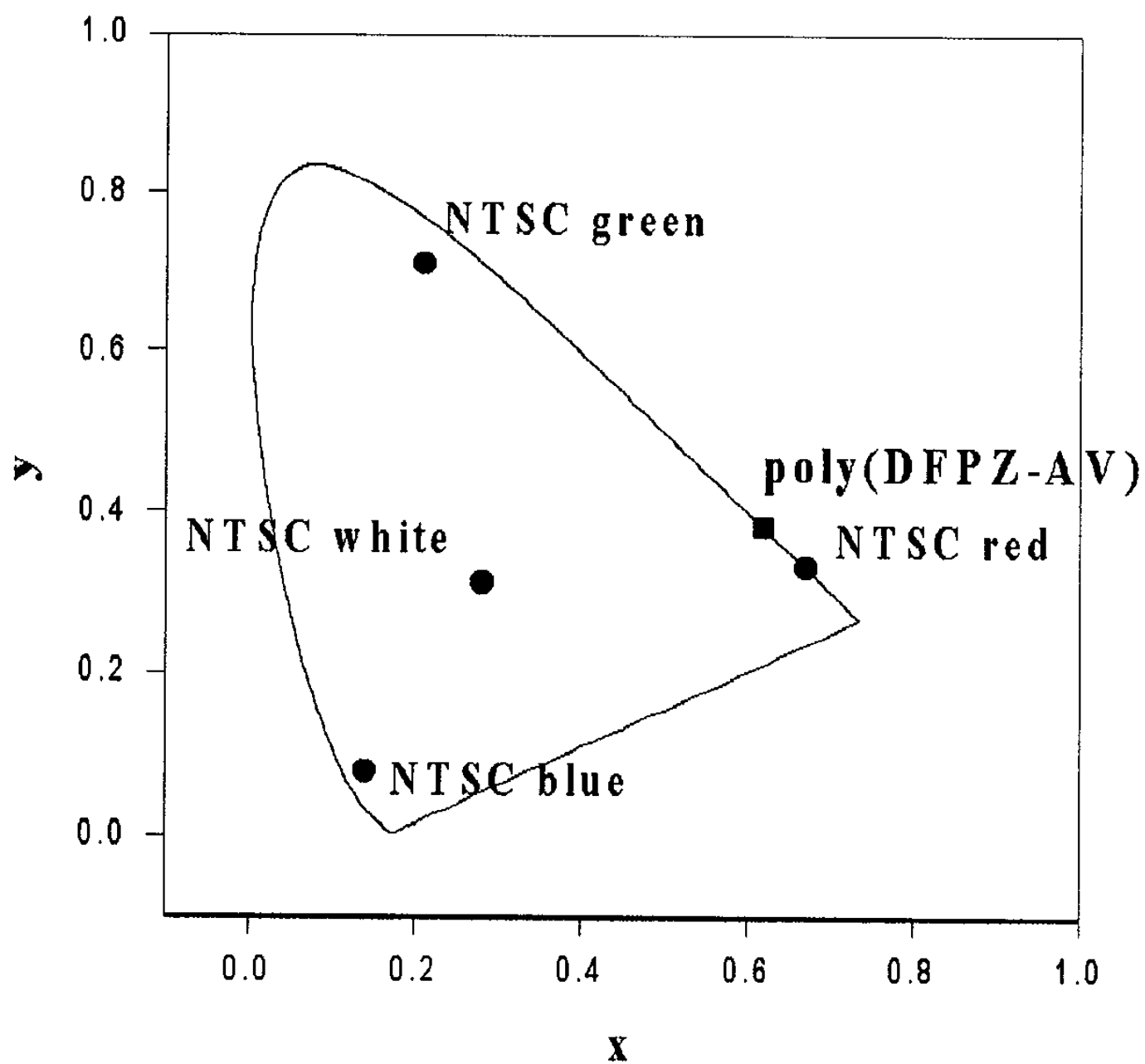


3.

2 , 1 , , , 가



2



专利名称(译)	红色发光共轭高分子化合物及其制备方法		
公开(公告)号	KR1020010104501A	公开(公告)日	2001-11-26
申请号	KR1020000023607	申请日	2000-05-02
[标]申请(专利权)人(译)	公园我 Bakyisun		
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当前申请(专利权)人(译)	Bakyisun		
[标]发明人	PARK I SOON 박이순 HAN YOON SOO 한윤수 HWANG JIN SANG 황진상 KIM SANG DAE 김상대		
发明人	박이순 한윤수 황진상 김상대		
IPC分类号	C09K11/06		
CPC分类号	C09K11/06 C09K2211/1416 C09K2211/1475 H01L51/0034 H01L51/5012 H01L51/5056 H01L51/5072 H05B33/14 Y10S428/917		
外部链接	Espacenet		

摘要(译)

本发明涉及作为本发明提出的高分子化合物，涉及共轭聚合物管理有机电致发光器件（有机电致发光二极管：OLED）前言和带有葱的后记光，它具有电转运和吩噻嗪在结构上具有的功能。具有空穴传输功能，同时具有高纯度的红光发光及其制造方法。有机电致发光器件，共轭聚合物，空穴传输，电转运，红光发射。

