

(19)
(12)

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(51) 。 Int. Cl.⁷
C08G 61/02
H01L 33/00

(45)
(11)
(24)

2004 07 23
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2004 07 12

(21) 10-2001-0034237
(22) 2001 06 18

(65)
(43) 10-2002-0095898
2002 12 28

(73)

(72)

15/6

204-1802

(74)

:

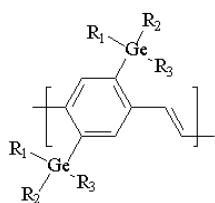
(54) 가

(PPV)

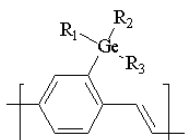
PPV

, 가
가

(1 2 가 .
(1)



(2)



(1 2 , R₁, R₂, R₃ C₁-C₂₀ 가)
가 PPV PPV 가 가 가 PPV
.

1	TEG-PPV	UV	(PL)	.	
2				.	
3	TEG-PPV				(EL)
4	TEG-PPV			-	-

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100:
110: ITO(Indium - Tin -Oxide)
120:         (Hole Transporting layer)
130:
140:         (Electron transporting layer)
150:

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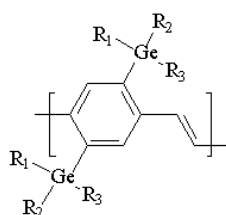
[illegible]

(Homo - Lumo) 가 , 가 , PPV 가 , PPV 가 , PPV 가 .

1

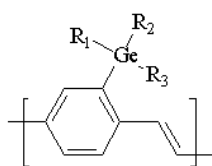
2

1



(R_1, R_2, R_3 C₁-C₂₀ 가)

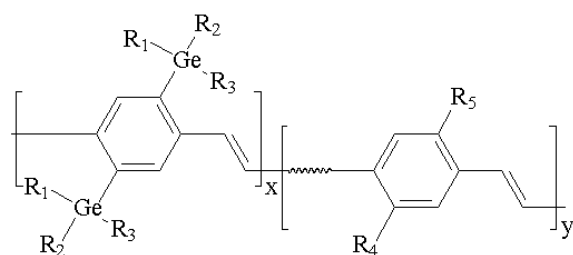
2


$$(R_1, R_2, R_3, C_1 - C_2, C_{20})$$

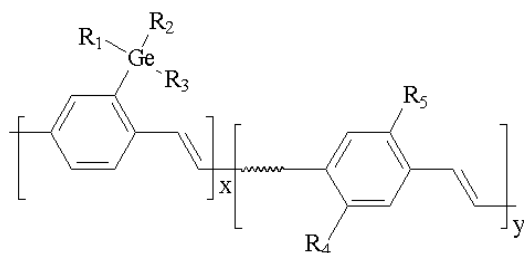
3

4

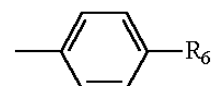
3



4

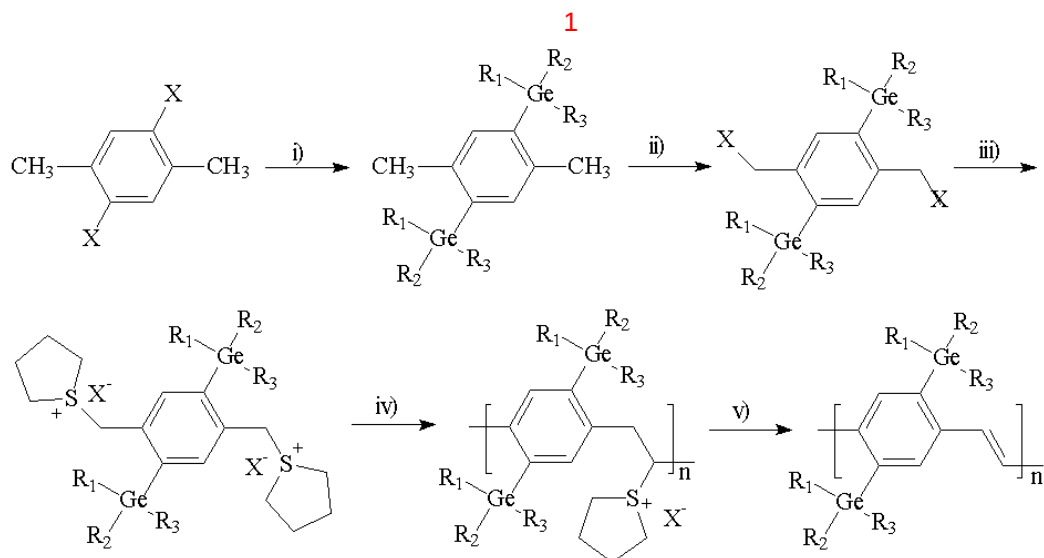


(3 4 , $1 < x < 99$, $1 < y < 99$, $x + y = 100$, R_1, R_2, R_3 C₁-C₂₀ 가



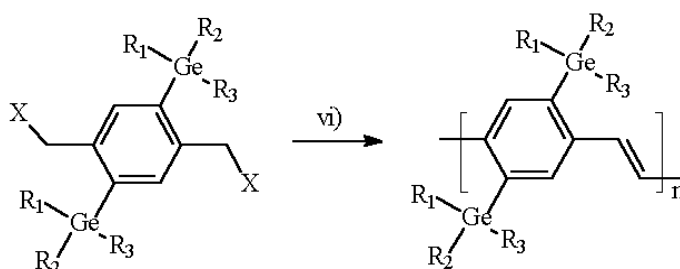
R_6 C₁-C₂₀, R_4, R_5 H C₁-C₂₀ 가)

(Grignard)
NBS(N-bromosuccinimide) NCS (N-chlorosuccinimide) () (;
); 가 가 , 1, 2 3
가



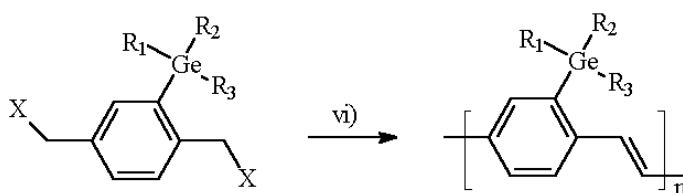
(, $R_1, R_2, R_3 = C_1 - C_{20}$ 가 , X Cl Br , i) THF/Mg, $R_1 R_2$
 R_3 Ge-X,) NBS NCS/CCl₄,) / (Tetrahydrothiophene/MeOH), iv) NaOH
/H₂O, v) 230 ,)

4



(
HF) , R₁, R₂, R₃ C₁ - C₂₀ 가 , X Cl Br , vi) t-BuOK/T

5



(
HF) , R₁, R₂, R₃ C₁ - C₂₀ 가 , X Cl Br , vi) t-BuOK/T

1: 2-
THF 20ml 2- - - 7.01 g (37.9 mmol) (3.7 g, 151.6 mmol)
가 (8.9g, 45.5mmo

l) 가 3 70 ° C

가

2-

4.5 g(45 %)

¹ H-NMR(CDCl₃, 200MHz): δ 7.24(1H, s), 7.20(2H, s), 2.38(3H, s), 2.33(3H, s), 1.08(15H, Br)

¹³ C-NMR(CDCl₃, 200MHz): δ 141.7, 139.5, 139.0, 137.2, 136.8, 135.4, 22.6, 21.3, 10.6, 6.55

- : C(64.84 %), H(9.66 %)

: C(63.46 %), H(9.13 %)

2: 2- -1,4- ()
1 2- - - 2.7 g(9.0 mmol) N- (NBS) 3.2 g(17.9 m
mol) (BPO) 40ml 3

2- -1,4- () 3.3 g

(43 %)

¹ H-NMR(CDCl₃, 200MHz): δ 7.43 (1H, s), 7.40 (2H, s), 4.50 (2H, s), 4.47 (2H, s), 1.06 (15H, m)

¹³ C-NMR(CDCl₃, 200MHz): δ 143.4, 139.5, 137.2, 131.2, 129.7, 34.1, 33.24 8.97, 5.42

- C: 39.51 %, H: 5.46 %

C: 39.78 %, H: 5.25 %

3: 2- -1,4- ()
2 2- -1,4- () 3.0 g (7.1 mmol) 3.8 g
(42.6 mmol) 20 ml 24 50

가

2- -1,4- () 3.6 g (85 %)

¹ H-NMR(D₂O, 200MHz): δ 7.58(1H, s), 7.51(2H, s), 4.58(2H, s), 4.49(2H, s), 3.75-3.20(8H, m), 2.55-2.10 (8H, m), 1.25-0.80(15H, m)

- C: 42.41, H: 6.31

C: 44.11, H: 6.39

4: (2- -1,4-) (TEG-PPV)

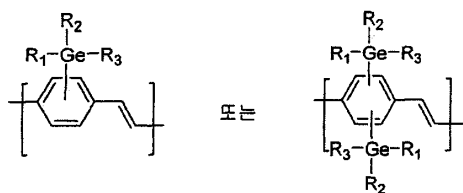
3 1.5 g (2.5 mmol) 5 ml 5 2.5 ml
 가 가 0 30 1.0 M 가 NaOH 가
 가 가 . 0 30 5-6 가
 가 [(2-)-1,4- 230 10
 rmyl -1,4-phenylenevinylene)] (TEG-PPV)]([poly(2-triethylge
 (precursor polymer) (GPC)
 TEG-PPV 400 nm 30,000-100,000 2.5-3.5
 400 nm 515 nm (edge)
 , 515 nm
 (PL)
 1 TEG-PPV UV-vis PL
 5:
 TEG-PPV , ITO Al (IT
 O/TEG-PPV/Al)
 (EL) (PL)
 3 TEG-PPV EL 가 가 가
 , 13 V
 22 V 300 cd/m²
 20-30 cd/m² PPV PPV가

가 PPV 가 PPV 가
 가 , 가 PPV 가
 , PPV

(57)

1.

가



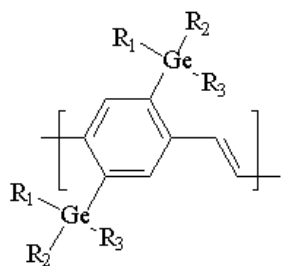
(R₁, R₂, R₃ C₁-C₂₀ 가)

2.

1 ,

가 1

(1)



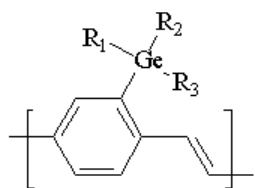
(R_1, R_2, R_3 C₁-C₂₀ 가)

3.

1

가 2

(2)



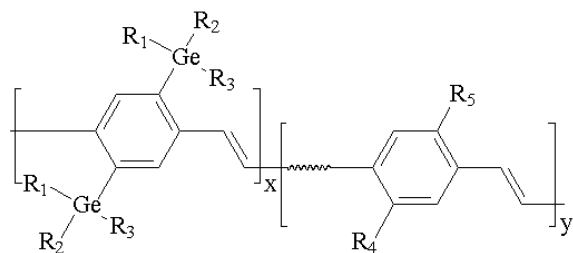
(R_1, R_2, R_3 C₁-C₂₀ 가)

4.

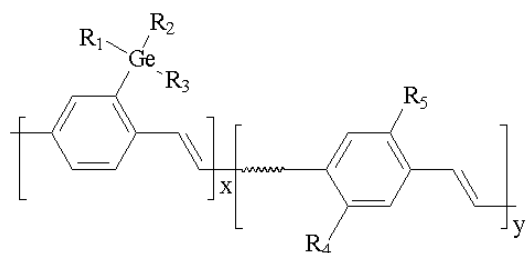
3

4

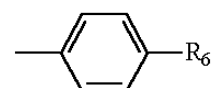
[3]



[4]



(3 4 , $1 < x < 99$, $1 < y < 99$, $x + y = 100$, R_1, R_2, R_3 C₁-C₂₀ 가)



R_6 , R_4, R_5 H C₁-C₂₀ 가)

5.

1

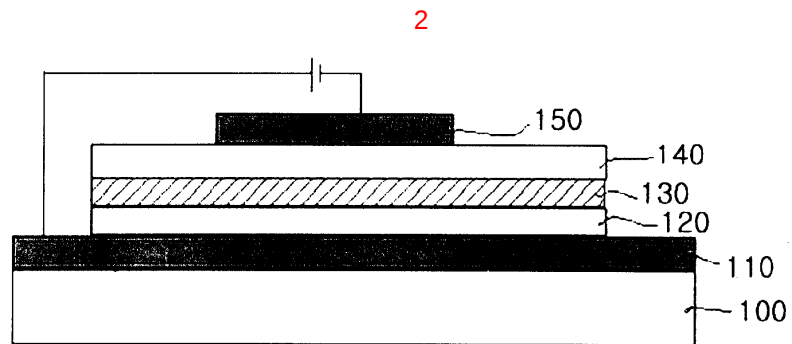
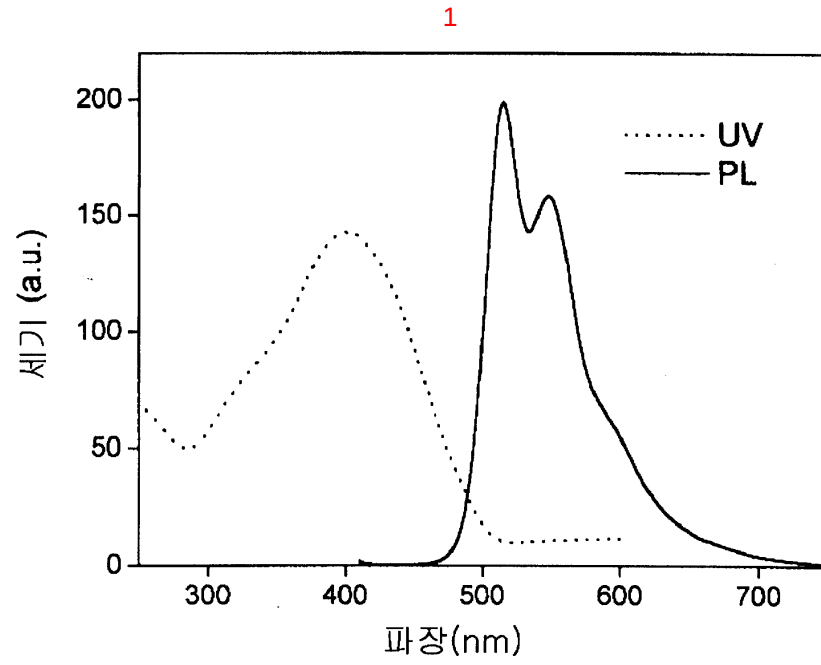
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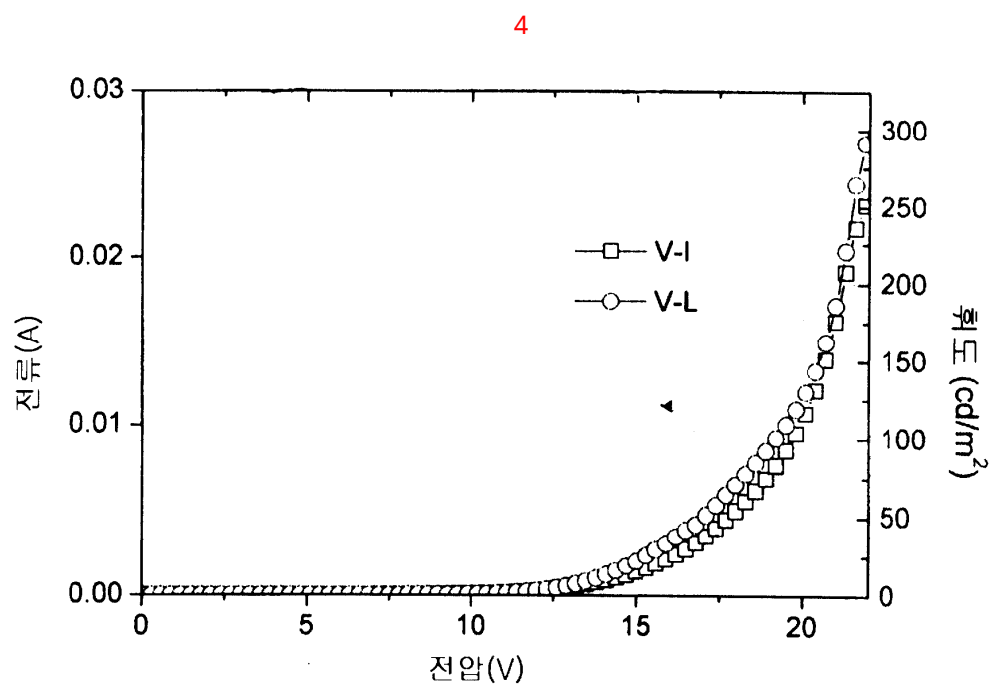
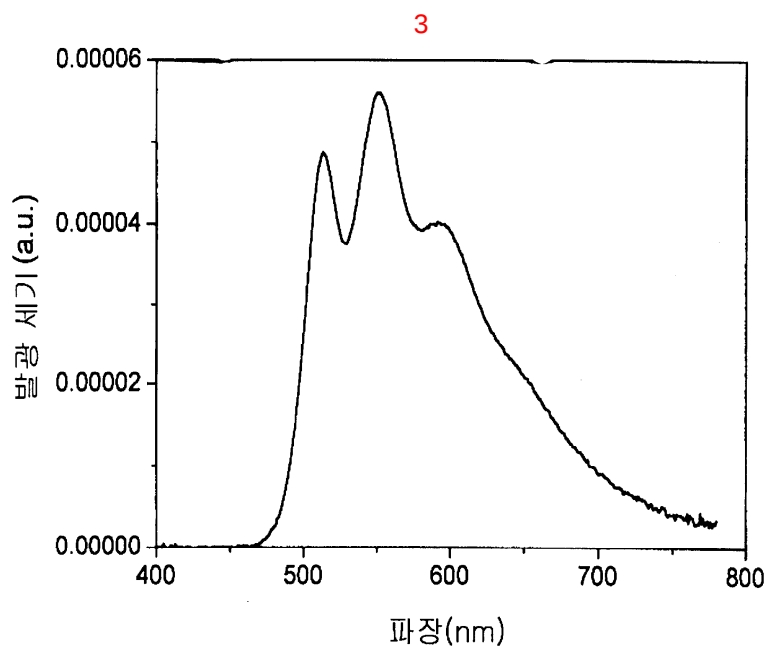
6.

(Grignard)
NBS(N-bromosuccinimide) NCS (N-chlorosuccinimide) ;

(

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 가 , ;





专利名称(译)	甲基取代的聚亚苯基亚乙烯基聚合物及其制备方法		
公开(公告)号	KR100441200B1	公开(公告)日	2004-07-23
申请号	KR1020010034237	申请日	2001-06-18
[标]申请(专利权)人(译)	科技股份有限公司		
申请(专利权)人(译)	大韩民国 (工科大学校长)		
当前申请(专利权)人(译)	大韩民国 (工科大学校长)		
[标]发明人	HWANG DOHOON		
发明人	HWANG,DOHOON		
IPC分类号	C09K11/06 C08G61/00 H01L33/00 C08G61/02 H05B33/00		
CPC分类号	C08G61/02 C08G2261/52 C08G2261/95 H01L51/0038 H01L51/0043 H01L51/5012 H05B33/14 Y10S428/917		
代理人(译)	该专利事务所		
其他公开文献	KR1020020095898A		
外部链接	Espacenet		

摘要(译)

用途：提供一种被杀菌基取代的聚亚苯基亚乙烯基聚合物，其制备方法和使用该聚合物的电致发光器件，以提高发光效率，亮度和可加工性。

组成：聚亚苯基亚乙烯基聚合物使得聚亚苯基亚乙烯基的苯环包含至少一个杀菌基。聚亚苯基亚乙烯基包含由式1或2表示的重复单元，其中R₁，R₂和R₃为C₁-C₂₀的直链或支链烷基。该方法包括以下步骤：通过格氏反应用三烷基锍烷基取代二卤代二甲苯。使所得产物与N-溴琥珀酰亚胺或N-氯琥珀酰亚胺反应，以制备双(三烷基锍基)双(卤代烷基)苯。使所得产物与四氢噻吩反应以制备to盐单体。将碱加入到含有单体的水溶液中，得到线性聚合物，并在真空下加热所得聚合物。

