

(19)
(12)

(KR)
(A)

(51) 。 Int. Cl.⁷
C09K 11/06

(11)
(43)

2003-0074997
2003 09 22

(21) 10-2002-0014059
(22) 2002 03 15

(71) 557-6

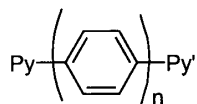
(72) 63 404 904

(74)
:

(54)

1 , 2
1 2

2 ,



Py Py'

, n

1 5

1

1

2

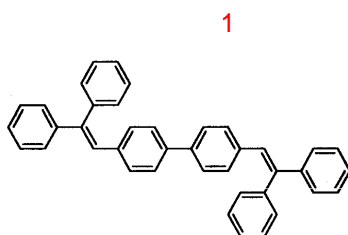
ic Electroluminescence device; OLED) / (Organ

EL (Electroluminescence device) (Liquid Crystal Display
; LCD), (Plasma Display Panel; PDP), (Field Emission Display; F
ED) , LCD 가 가
가 ITO 가 Mg 가 가 가 가 가 가

가 가 가 (conjugated)
(host) 가 가 (nap
hthalene), (anthracene), (phenanthrene), (pyrene), (benzopyrene), (c
hrisene), (picene), (carbazole), (fluorene), (biphenyl), (terphenyl), (qu
rterphenyl), (triphenylene oxide), (dihalobiphenyl), (transstilbe
ne), 1,4- (diphenyl butadiene) 가 1μm

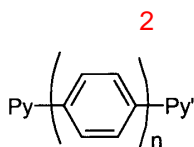
가
(550nm) (Alq3: aluminum-tris(8-hydroxyquinolin
ate), 4,539,507 5,150,006), BeBq2 (10-benzo[h]quinolinol- beryllium complex. Che
mistry Letters(1993), 905-906), Almq (tris(4-methyl-8-quinolinolate)aluminum), Zn(BTZ)₂, Zn(NBTZ
)₂, An(Oc-BTAZ)₂ (Jpn, J. Appl. Phys. Vol. 35 (1996), 1339-1341) (460nm)
ZnPBOX (Chemistry Letters(1994), 1741-1742), Balq (Bis(2-methyl-8-quinolinolato)(p
ara-phenyl-phenolato)aluminum) (styrylarylene) DPVBi (
1,4-bis (2,2-diphenyl-vinyl)biphenyl) BczVBi (4,4'-Bis((2-carbazole)vinylene)biphenyl)
(590nm) 4-()-2- -6-(p-)-4H-
(4-(dicyanomethylene)-2-methyl-6-(p-dimethyl aminostyryl)-4H-pyran: DCM)
(guest-host)

5,503,910 5,536,949) 1 DPVBi (

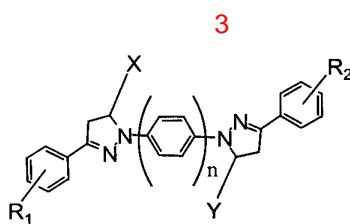


DPVBi

1 2 1 2 2 2



2 Py Py' , n 3 가 1 5



3 , X Y (aryl) , R₁ R₂
 O₂R, SR, OR, NR₂ , n 1 5 , H, SO₂R, CO₂R, SR, OR, NR₂, CN, Cl, Br, I R H 1-18 , R₃ H, SO₂R, C (alkyl)

(linkage)

(dimer)

(Aromatic)

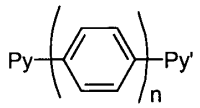
가 ,

3

가 .

2

[2]

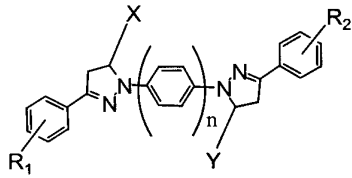


2 Py Py'

, n

1 5

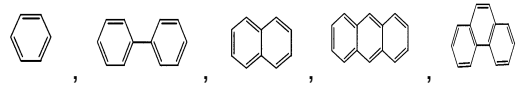
[3]



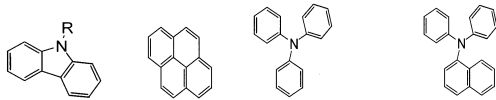
3 , X Y

6 40 ,

(aryl)



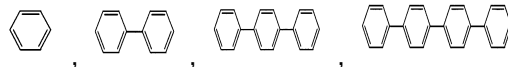
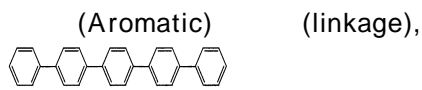
used)



가

R H 1-18
, H, SO₂R, CO₂R, SR, OR, NR₂, CN, Cl, Br, I
R H 1-18

(Py, Py')가



2

(Aromatic)

(dimer)

(m.p.) 60 180
Tg

Tg가

400nm 480nm

1

(10)

1

(12)

(hole injection,

(1

4)

(12)

(14)

가

2

(16)

(electron injection,

16)

가

(12)

(12, 16)

가

(14)

(14)

(14)

(1

2)

(10)

(10)

1

(12)

(12)

(hole injection,

(Ag)

ndium Tin Oxide; ITO),

injection,)

가 Al, Mg, Ca

2 (16)

LiAl, Mg-Ag

(electron

injection,)

2

1

2

(12, 16)

가

(14)

(21, 22)

2

(25, 26)

1

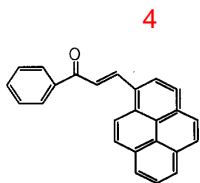
2

(12,

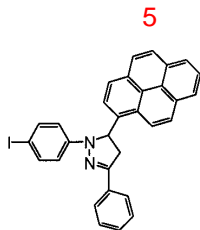
1 (21, 22) (12)
 (21) 4,356,429 (porphyrinic)
 m-MTDATA(4,4',4'- (3-))
 (22) -N,N'- (-)-[1,1'-]4,4'- 가 -NPD(N,N'-
 (25, 26) (16)
 (8-) (, Alq3) (14),
 (21, 22) (25, 26)
 5 500nm 가
 (21, 22) / (25, 26)
 1 2

[1]

(Acetophenone) 1.8g 1- (Pyrenecarboxyaldehyde) 3.45g 250ml 2
 , KOH 1.08g 100mL 48 4 4.186g(84%)
 100ml

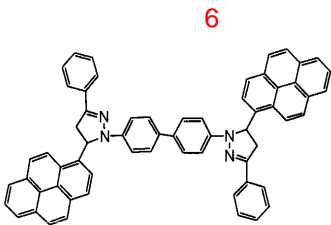


ne) 3.48g 3 , - (unsaturated keton) 4.00g (Iodophenyl hydrazi
 KOH 1.72g 3 250ml 48 150mL
 5 3.4g(52.3%)



5 (Iodopyrazoline) 1.37g CaCO₃ 1.37g (Cu) 1.6g 250ml 2
 (Dimethylsulfoxide: DMSO) 100ml , 180 , 36
 200ml가 500ml
 (Cellite) 545 (Glass filter)

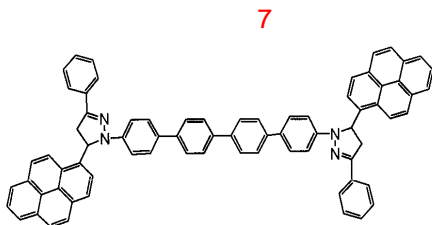
1L DMSO (Separating funnel) , 300ml 가 ,
 4 DMSO
 6 0.42g(: 39.8%)



[2]

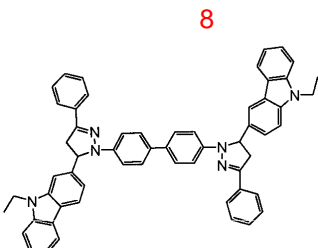
1 do-biphenyl) 1.01g, CaCO₃ 2.63g (Iodopyrazoline) 1.37g, 4,4'- (4,4` -dii (DMSO)
 150ml 가 180 (Cu) 3.2g 250ml 2 , , 2
 00ml가 500ml , 48 , ,
 (Cellite) 545

1L DMSO (Separating funnel) , 300ml 가 ,
 4 DMSO
 7 0.65g(: 26.2%)



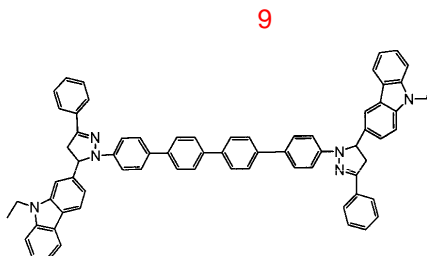
[3]

1- carboxyaldehyde) (Pyrencarboxyaldehyde) 9- -3- (9-ethyl-3-carbazole
 , - (unsaturated ketone) 1
 8



[4]

5 (Iodopyrazoline) 1.37g 9- -3- (9-Ethyl-3-carb
azolecarboxyaldehyde) , - (unsaturated ketone) (Iodophe
nyl hydrazine) 2



1 4 (Acetonitrile) PL(ph
otoluminescence) , 1 .

[1]

	(° C)	(Absorption) (, max)	(Fluorescence) (, max)
1	292	356	462
2	326	375	447
3	279	366	458
4	313	366	448

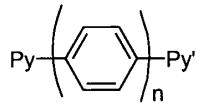
[5]

1 , (ITO) , m-MTDATA 150
-NPD 500 , 1
Alq3 300 , Mg-A
g 2000 , 11020 cd/m²
max 464nm , 0.9. lm/w .

(57)

1. 가
2

[2]



2 Py Py'

, n

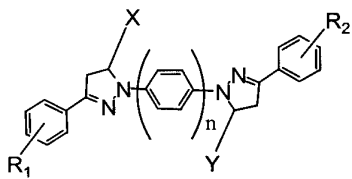
1 5

2.

1 ,

3 가

[3]

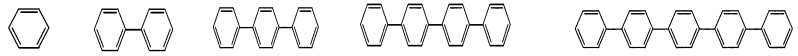


3 , X Y

O₂R, SR, OR, NR₂, H, SO₂R, CO₂R, SR, OR, NR₂, CN, Cl, Br, I (aryl), R₃, R₁, R₂, H, SO₂R, C

3.

1 ,



4.

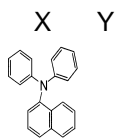
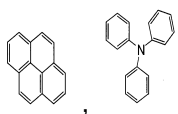
2 ,

X Y (fused)

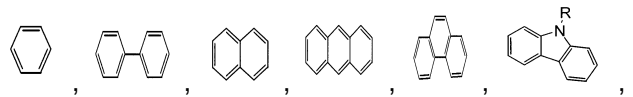
가

5.

2 ,



(R H 1-18)



6.

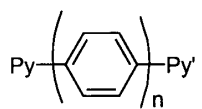
1 ;

2 ;

2

, 1 2

[2]



2 Py Py'

, n

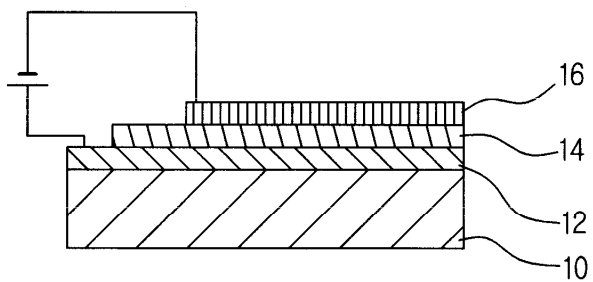
1 5

7.

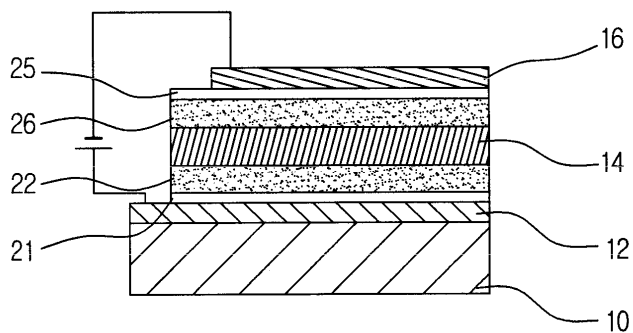
6

/

1



2



专利名称(译)	基于吡啶啉的有机发光化合物和使用其的有机电致发光器件		
公开(公告)号	KR1020030074997A	公开(公告)日	2003-09-22
申请号	KR1020020014059	申请日	2002-03-15
[标]申请(专利权)人(译)	娜我比可隆株式会社		
申请(专利权)人(译)	Neoview的隆有限公司		
当前申请(专利权)人(译)	Neoview的隆有限公司		
[标]发明人	KIM JEONG SOO 김정수		
发明人	김정수		
IPC分类号	C09K11/06		
CPC分类号	C09K11/06 C09K2211/1007 C09K2211/1044 H01L51/0067 H01L51/5012 H01L51/5056 H01L2251/308 H05B33/14 Y10S428/917		
代理人(译)	李相HUN		
其他公开文献	KR100511768B1		
外部链接	Espacenet		

摘要(译)

本发明涉及一种具有高品质蓝色且具有高效率 and 耐热性的吡啶啉类有机发光化合物，以及使用该化合物的有机电致发光器件。本发明涉及一种新型吡啶啉类有机发光体 - 具有低功函数的第二电极和由下式表示的吡啶啉类有机发光化合物，以及设置在第一和第二电极之间的至少一个有机化合物层：提供一种有机电致发光器件。在上式中，Py和Py'是相同或不同的吡啶啉衍生物，n是连接的苯基的数目，并且是1至5的整数。1 指数方面 吡啶啉，有机发光化合物，有机电致发光器件，耐热性，稳定性

