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(43)

2003 - 0029750  
2003 04 16

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(22)

10 - 2001 - 0062444  
2001 10 10

(71)

20 LG

(72)

102 104

501 1302

580 218 - 904

103 1001

107 101

(74)

:

(54)



1

\*

101 : 102 :

103 : 104 :

105 : 106 :

107 : 108 :

110 :

(Electroluminescence Display Device)

가

, 가 , LCD(Liquid Crystal Displays),  
FED(Field Emission Displays), ELD(Electroluminescence Device), PDP(Plasma Display Panels)

, PCS(personal communication service)

가

가

, , TV

가

가

(EL;electroluminescence)  
(excite state) (ground state)

(excite state)

(ground state)

,  
, 가

가

가

(flexible)

, PDP

,

가

,

,

,

3가

, ELD 가

가 ,  
가

ELD

가

, ELD

,

cd/m<sup>2</sup>

가 가

1 ( ), , , , ,

$$, 2 \quad ( \quad )$$

ITO(indium tin oxide,  $\text{In}_2\text{O}_3 + \text{SnO}_2$  )

(copper( ) Phthalocyanine) 10 30nm

NPD(N,N - dinaphthalen - 1 - yl) - N,N' - diphenylbenzidine) 30 60nm

가 , Alq3(tris(8 - hydroxyquinolate)

aluminum) 20 50nm , 30 50nm

Al/Li

가

(host)

(doping)

Alq3

Alq3

MQD(N

- methylquinacridone)

가 .

가

가

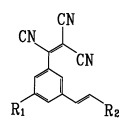
가 .

1

가

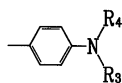
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1

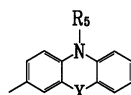


, R<sub>1</sub> (H), / (alkyl), / (aryl), R<sub>2</sub>

2



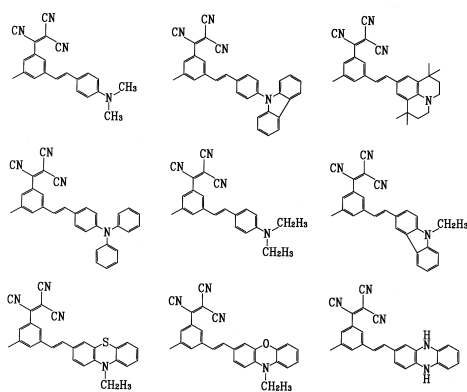
3



, R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub>, / , / , X (O), (N), (S), , (carbonyl group), .

1 2 가 , , 2, 3 .

1 , .

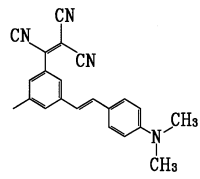


, .

1 .

, 1 , (101) ITO(indium tin oxide, In<sub>2</sub>O<sub>3</sub>+SnO<sub>2</sub>) IZO(  
 indium zinc oxide, In<sub>2</sub>O<sub>3</sub>+ZnO<sub>2</sub>) (sputtering) (photolithography)  
 (102) .  
 , (102) (110) .  
 (110) (103), (104), (105), (106), (107)  
 .  
 (103) 30nm , (104) NPD  
 (triphenyl amine) (diphenyl amine) 50nm  
 .  
 , (105) 1 .  
 , 1 , (dopant) (host) (doping)  
 . , Alq3(tris(8 - hydroxyquinolate)aluminium)가 .  
 , (105) (106) 2 - (4 - ) - 5 - (4 - -  
 ) - 1,3,4 - (2 - (4 - diphenyl) - 5 - (4 - tert - butylphenyl) - 1,3,4 - oxadiazole) (oxadiazole)  
 (107) (Cs), (Rb), (K), , Alq3 40nm . ,  
 (Na), (Li) ( , LiO<sub>2</sub>) 25nm  
 .  
 , (110) (shadow mask) , (Ca), (Mg), (Al),  
 (Cu), (Cr) 100nm (108)  
 .  
 , , 1 가 가 .  
 , ,  
 , .  
 , .

4



4 1,3 - (1,3 - methyl benzene) (tetracyanoethylene)  
(tetrahydrofuran) 4 - ( )

4

, NPD ITO 50nm 30nm

, 4 30nm

, Alq3, Li2O 40nm, 25nm  
, Mg/Ag 100nm

m<sup>2</sup> 7.2 lm/W 가 , 1,500cd/  
가

가

가

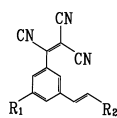
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(57)

1.

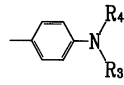
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[ 1 ]

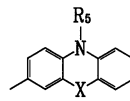


, R<sub>1</sub> (H), / (alkyl), / (aryl), R<sub>2</sub>  
 2 3 .

[ 2]



[ 3]



, R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub>, / , / , X (O), (N),  
 (S), , (carbonyl group), .

2.

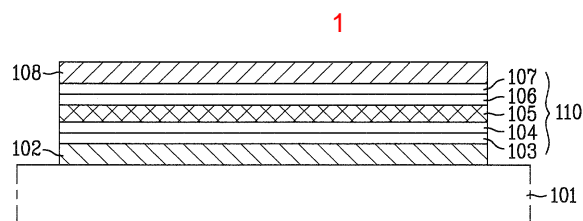
1 , .

3.

1 , .

4.

1 , , , , , .



专利名称(译)	有机电致发光器件		
公开(公告)号	<a href="#">KR1020030029750A</a>	公开(公告)日	2003-04-16
申请号	KR1020010062444	申请日	2001-10-10
申请(专利权)人(译)	LG电子公司		
[标]发明人	HAN YOONSOO 한윤수 KIM KIDONG 김기동 KIM SANGDAE 김상대 JUNG JAEHOON 정재훈 PARK HYOUNGGUEN 박형근		
发明人	한윤수 김기동 김상대 정재훈 박형근		
IPC分类号	C09K11/06		
CPC分类号	C09K11/06 H01L51/0059 H01L51/0062 H01L51/0081 H01L51/5012 H05B33/14 C09K2211/1007 C09K2211/1014 C09K2211/1033 C09K2211/1037 C09K2211/1044		
代理人(译)	Gimyongin Simchangseop		
其他公开文献	KR100587293B1		
外部链接	<a href="#">Espacenet</a>		

#### 摘要(译)

用途：提供一种有机电致发光器件，其包括基于红色有机发光材料的发光层，并且提供具有红色波长的光并且可以提高发光效率。组成：包含有机层的有机电致发光器件在板上阳极和阴极之间，其特征在于有机层包括含有由式1表示的红色有机发光材料的发光层（其中R1是氢，取代/未取代的烷基，或取代/未取代的芳基R2，具有由式2或3表示的结构（其中R3，R4和R5各自为氢，取代/未取代的烷基，或取代/未取代的芳基，X为氧，氮，硫，取代的氮基，羰基）基团或硫代羰基）。©KIPO 2003

