

(19) (KR)  
 (12) (A)

(51) 。 Int. Cl. <sup>7</sup>  
 C09K 11/06 (11) 2003 - 0029750  
 (43) 2003 04 16

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(21) 10 - 2001 - 0062444  
 (22) 2001 10 10

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(71) 20 LG

(72) 102 104

501 1302

580 218 - 904

103 1001

107 101

(74)

(54)

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1

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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

, TV

가

가

가

(EL;electroluminescence)

(excite state)

(ground state)

, 가

가

가

(flexible)

, PDP

가

, 3가

, ELD

가

가

, ELD

가

, ELD

, cd/m<sup>2</sup>

가 가

ITO(indium tin oxide,  $In_2O_3 + SnO_2$ )  
 (copper(II) 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

,  
, (host) (doping)  
, Alq3 Alq3 MQD(N  
- methylquinacridone)

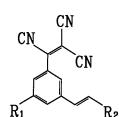
, 가

가

가

1

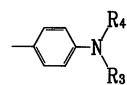
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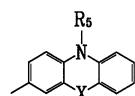
, R<sub>1</sub> (H), / (alkyl), / (aryl), R<sub>2</sub>

2 3

2



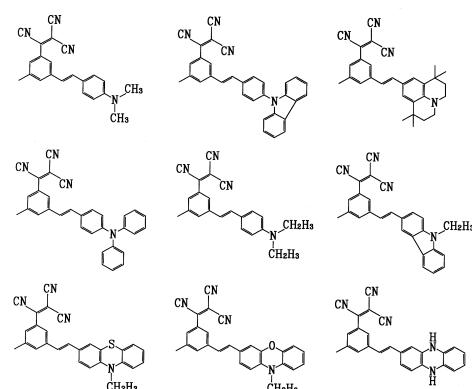
3



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

1  
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

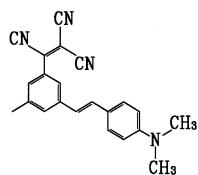
, (105) 1 .

1 , (dopant) (host) (doping)  
 , Alq<sub>3</sub>(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) , (triazole) , Alq<sub>3</sub> 40nm , ,  
 (107) (Cs), (Rb), (K), (Na), (Li) ( , LiO<sub>2</sub>) 25nm

, (110) (shadow mask) , (Ca), (Mg), (Al),  
 (Cu), (Cr) 100nm (108)

4



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

4

,            ITO            30nm  
 NPD            50nm            ,

,            4            30nm

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

$\text{m}^2$             7.2 lm/W            1,500cd/  
 가            가            ,            ,

가

2

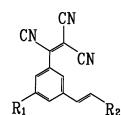
가

(57)

1.

1

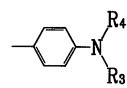
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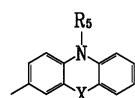
, R<sub>1</sub> (H), / (alkyl), / (aryl), R<sub>2</sub>

2 3 .

[ 2]



[ 3]



, R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub>, / , / , X (O), (N),

(S), (carbonyl group), .

2.

1 ,

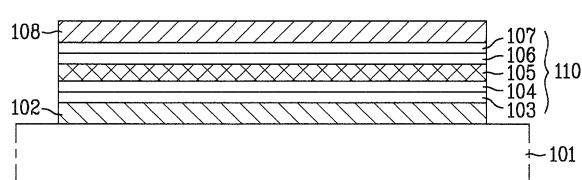
3.

1 ,

4.

1 , , , , ,

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，取代的氨基，羰基）基团或硫代羰基）。©KIPO 2003

