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(30) JP-P-2001-00195322 2001 06 27 (JP)

(71)	가	가			가	4	1-1		
	가	가	가						
(72)	, 211-8588	가	가	가	가	4	1-1	가	가
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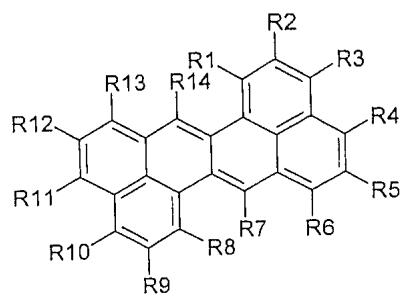
(74)

:

(54)

EL

,



, R1 R14 1 -NRR' -NR₂ , R' H, , -OH, -OCH₃, (R), , 5 H, ,
 -OH, -OCH₃, ,

1

, EL , ,

(EL) EL .

EL (), ,

EL 가 . , EL , 3 (, ,) EL
 C. H. Chen, Journal of Applied Physics, vol. 65, 3610 (1989) [C. W. Tang, S. A. VanSlyke, and
 DCM 가 ,

, EL , 9- 13024 , 9-296166 , 11
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, 11-144868 EL 가

, 5-214334 EL 가

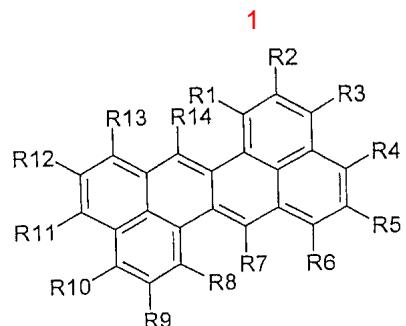
가 EL EL , , 가 ,

EL EL , , 가

EL

EL EL , ,

EL (EL) 가 , 1



, R1 R14 1



1 EL

2 EL

3 2

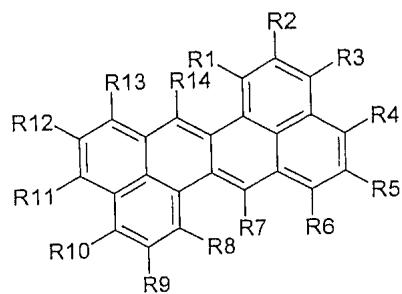
4 EL

5 4

◀ ▶

(EL), , , , 1 가

< 1>



, R1 R14 1

2



, R 2 (,) 가 . , R' 1 (,),

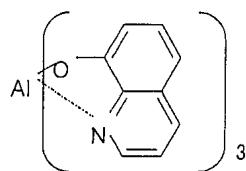
[Journal of the American Chemical Society, 90, 530 (1968)]

가

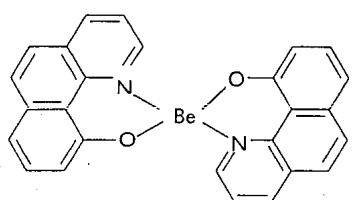
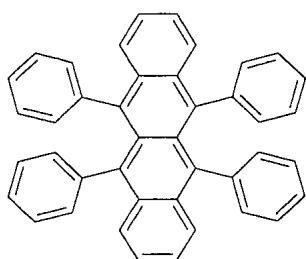
EL
1 80 nm , 5 30 nm
가 . 가 ,

가

1 , 2 (1)
 , (2) 가
 EL 2
 가



(8-) (Alq)



(())

EL ,

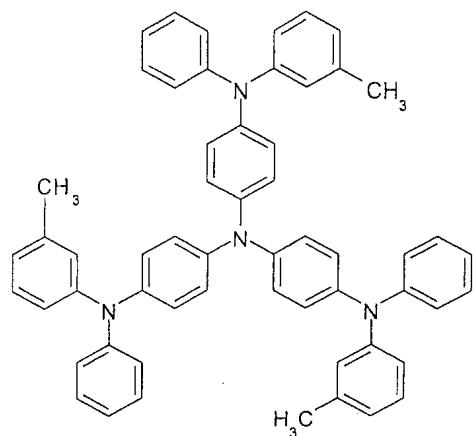
1 , , , , ,

EL 가

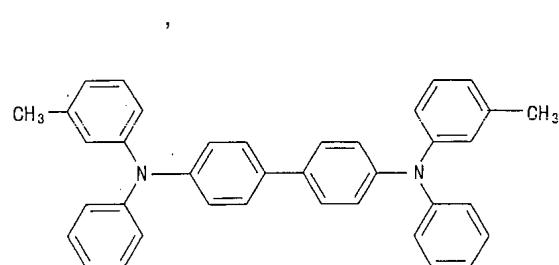
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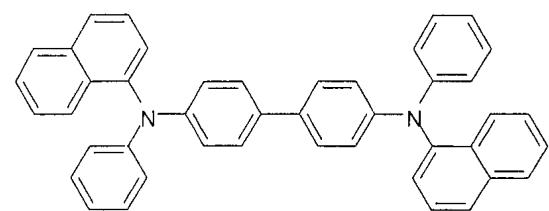
ITO (5000 nm, 20), 200 nm . ,



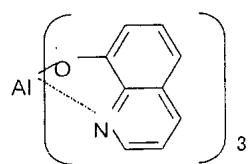
m , 1 100 nm, 5 50 n

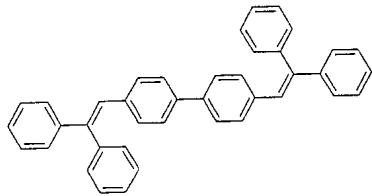


TPD (N,N'- - N,N' - (3 -)-[1,1' -]-4,4' -),



가 . , 10 100 nm . 1
 가 . , 500 nm, 10 100 nm . 1





EL , EL
 3 ,
 , ,
 ITO 3 (. 2) (22), 2 (21),
 (23 r), (23 g), (23 b) ()
 EL (23), EL (23)
 , 31 , 32 EL , 33 , 34 () (24)
 , , ,
 EL , , 3 ,
 , ,
 , ,
 (42), 5 (42) 4 4
 (43r) (42) EL , ,)
 (44) , (42) EL , ,)
 , 54 , 55 , 56 , 57 TFT , 51 (41),
 (52) 가 , 55 , 56 , 57 TFT , 58 (43r), (43g), (43b) ()
 , ,
 EL , ,
 , ,
 TFT , 52 EL , 53 (43)
 , ,
 EL

< >

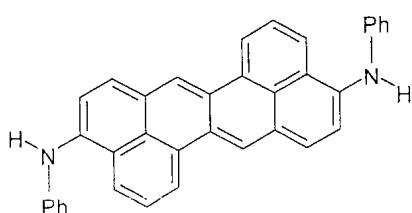
가

< 1>

4,11- ()

[Journal of the American Chemical Society, 90 , 530 (1968)]
 1 4
 , 4,11-

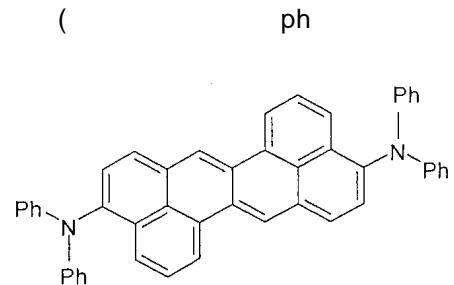
4,11- , , 가 가 200 30
 , , 4,11- () () ph)



< 2>

4,11- ()

1 가 200 4,11- 30 4,11- , ,
 , , 4,11- ()



, 1 5 1 4,11- ()
EL

< 1>

4,11- () EL
ITO () , , , TPD 50 nm, (1×10⁻⁶ torr,
50 nm 20 nm, EL Alq 30 nm, 4,11- (Li: 0.5 %)
, ITO , Al-Li 1 EL 1 가 , 6 V
, 가 10 V , 300 cd/m²

< 2>

4,11- () EL
ITO () , , , TPD 50 nm, (1×10⁻⁶ torr,
() 20 nm, Alq 30 nm, 4,11- (Alq 99
EL , ITO , Al-Li 1 50 nm
5 V , 가 10 V , 1030 cd/m² 가 ,

< 3>

4,11- () EL
ITO () , , , TPD 50 nm, (1×10⁻⁶ torr,
() 5 Alq 20 nm, 4,11- (Alq 99
50 nm EL , ITO , Al-Li 1 (Li: 0.5 %)
가 , 5 V , 가 10 V , 1700 cd/m² 가 ,

< 4>

4,11- () EL
ITO () , , , TPD 50 nm, (1×10⁻⁶ torr,
EL Alq 50 nm, 4,11- (50 nm
, ITO , Al-Li 1 (Li: 0.5 %)
, 가 10 V , 230 cd/m² 가 , 5 V

< 5>

4,11- ()

EL

ITO () , , TPD 50 nm, (Li: 0.5 %) 50 nm
 () 30 nm, Al-Li 가 , 6 V
 . , ITO , Al-Li 180 cd/m²
 . , 가 10 V
 . , 6 10 EL 2

4,11- ()

< 6>

4,11- ()

EL

ITO () , , TPD 50 nm, (Li: 0.5 %)
 () 20 nm, Alq 30 nm, Al-Li
 50 nm EL , ITO , Al-Li
 . , 가 6 V , 가 10 V 420 cd/m²

< 7>

4,11- ()

EL

ITO () , , TPD 50 nm, (Li: 0.5 %)
 () Alq 30 nm, Al-Li 1
 20 nm, Alq 30 nm, Al-Li 1
 . , ITO , Al-Li 5 V
 . , 가 10 V 1640 cd/m²

< 8>

4,11- ()

EL

ITO () , , TPD 50 nm, (Li: 0.5 %)
 () Alq 30 nm, Al-Li 1
 94 , 5 () 20 nm, Alq 30 nm, Al-Li 1
 % 50 nm EL , ITO , Al-Li 2000 cd/m²
 . , 가 5 V , 가 10 V

< 9>

4,11- ()

EL

ITO () , , TPD 50 nm, (Li: 0.5 %)
 () Alq 50 nm, Al-Li 4,11- () 50 nm
 . , ITO , Al-Li 4,11- () 50 nm
 . , 가 10 V 410 cd/m² . ,

< 10>

4,11- ()

EL

ITO () () 30 nm, Al-Li (Li: 0.5 %) TPD 50 nm, 50 nm 6 V EL . 가 10 V 220 cd/m²

가

EL , 가 가 가

(57)

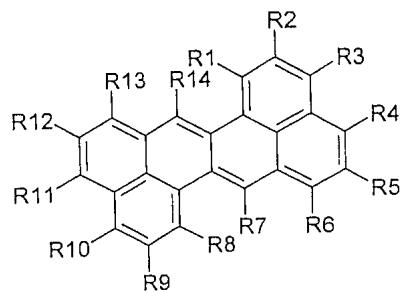
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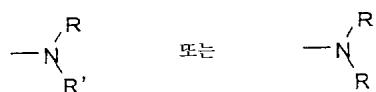
EL

EL

< 1>



, R1 R14 1



(, R
 , , 5
 , , 25, R'
 , , 1, -OH, -OCH₃
 , , 2, 1, 10
 , R1, R14
 , , , , -OH, -
 OCH₃, 1, 10)

2.

1 . 가 E

3.

4

1

5

2 4 . 가

6.

1 ,

가 4,11- () , 4,11- () ,

EL .

7.

1 6 ,

EL .

8.

1 6 ,

EL .

9.

1 6 ,

EL .

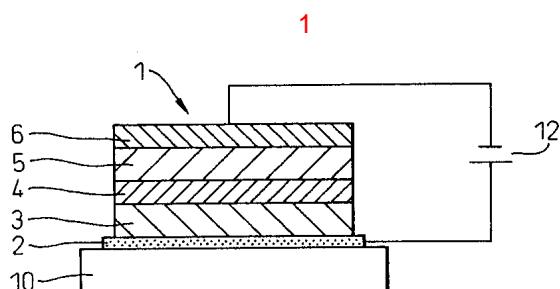
10.

1 9 ,

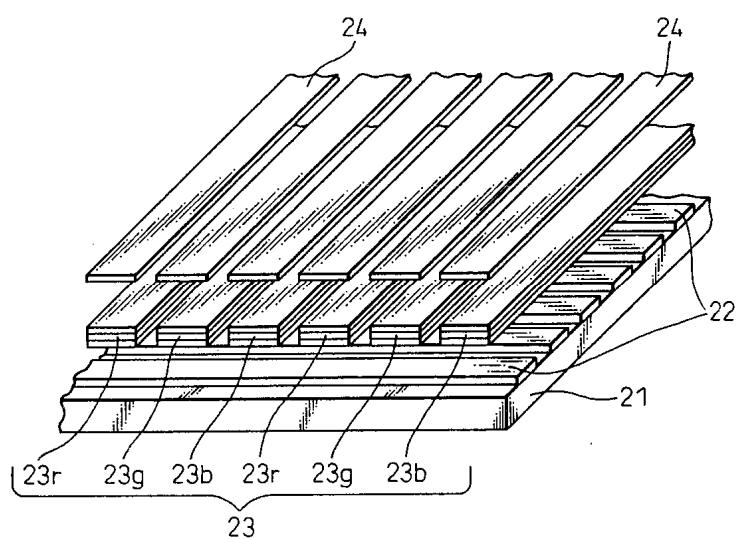
가

EL .

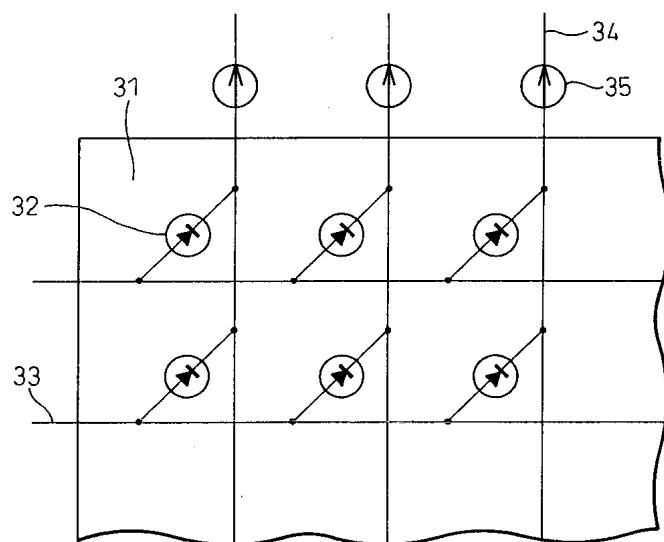
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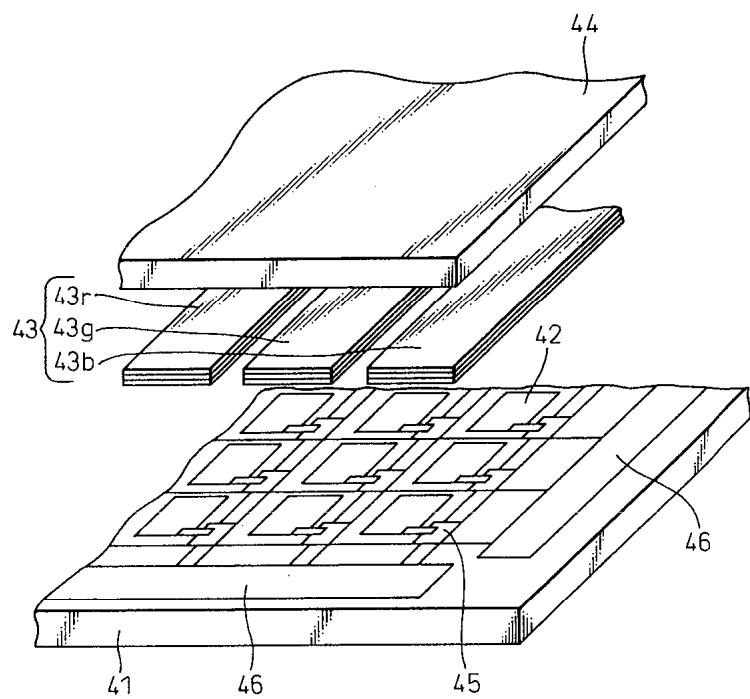
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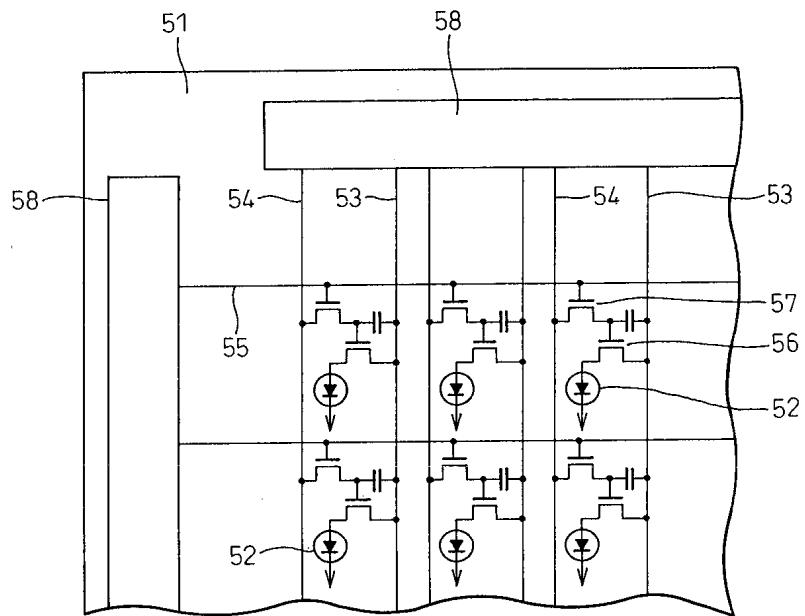
3



4



5



专利名称(译)	有机电致发光器件和使用它的有机电致发光显示器		
公开(公告)号	KR1020040015296A	公开(公告)日	2004-02-18
申请号	KR1020037016942	申请日	2002-06-27
[标]申请(专利权)人(译)	富士胶片株式会社		
申请(专利权)人(译)	富士胶片有限公司		
当前申请(专利权)人(译)	富士胶片有限公司		
[标]发明人	SOTOYAMA WATARU 소또야마와따루 SATO HIROYUKI 사또히로유키 MATSUURA AZUMA 마쯔우라아즈마		
发明人	소또야마,와따루 사또,히로유끼 마쯔우라,아즈마		
IPC分类号	H01L51/00 H01L51/30 H05B33/14 H01L51/50 C09K11/06 H01L27/32		
CPC分类号	C09K2211/1011 H01L51/5012 H01L27/32 C09K11/06 H01L51/006 Y10S428/917 H01L51/0077 H05B33/14 H01L51/0056 H01L51/0081		
代理人(译)	CHANG, SOO KIL CHU , 晟敏		
优先权	2001195322 2001-06-27 JP		
外部链接	Espacenet		

摘要(译)

在本发明的有机EL器件中，作为发光层的材料，使用含有由下式表示的芳基氨基氮杂环庚烷化合物的那些。其中R1-R14中的至少一个是式-NRR'或-NR2的芳基氨基（其中R是单环芳环，具有5个或更少稠合芳环的取代或未取代的芳族基团，和R-H，卤素，-OH，-OCH3，烷基），另一种是H，卤素，-OH，-OCH3，烷基，或取代或未取代的芳族基团。1指代方面 有机电致发光器件，有机电致发光显示器，EL显示器，平板显示器

