

(19)  
(12)

(KR)  
(A)

(51) 。 Int. Cl.<sup>7</sup>  
C09K 11/06

(11)  
(43)

10-2004-0072004  
2004 08 16

(21) 10-2003-0007933  
(22) 2003 02 07

(71) 575

(72) 1305 324 104

553 116-703

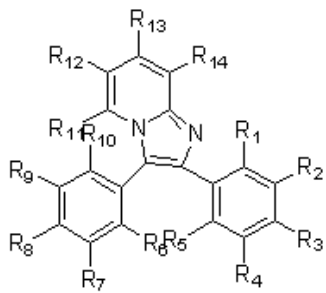
(74)  
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(54)

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[ 1 ]



, R<sub>1</sub> R<sub>14</sub> 1 30  
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<sup>1</sup> H NMR

UV

PL

EL

[ ]

가

[ ]

(electroluminescent device; EL device)

가

가

EL

(emitting layer)

EL

EL

가 가

가

EL

EL

가

EL

가  
가

EL

가

(exciton)

가

(Idemitsu)

(PCT/JP2001/7295)

(PCT/JP2001/7477)

1992

(US 5,141,671)

Balq

(0.18, 0.27)가

(Hole Blocking La

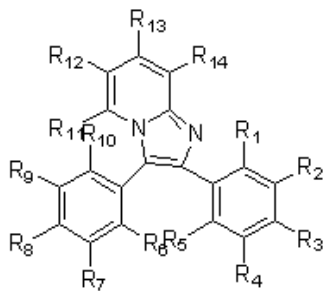
yer: HBL)

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[ 1 ]



R<sub>1</sub>, R<sub>14</sub>, R<sub>13</sub>, R<sub>12</sub>, R<sub>14</sub>, R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub>, R<sub>6</sub>, R<sub>7</sub>, R<sub>8</sub>, R<sub>9</sub>, R<sub>10</sub>, R<sub>11</sub>

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EL

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O), (IZO), (SnO<sub>2</sub>), (ZnO)

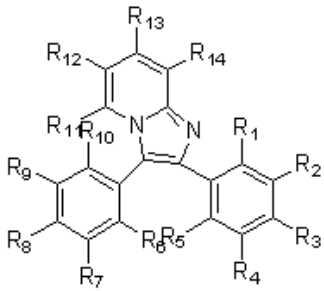
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IDE102( ) (Iridium tris(phenylpyridine); Irppy<sub>3</sub>)

[ 1 ]



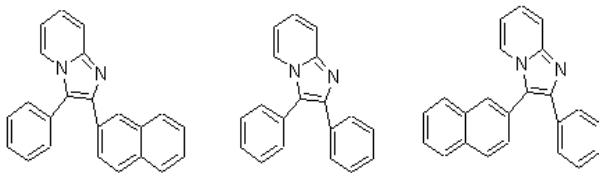
30, R<sub>1</sub>, R<sub>14</sub>, 1, 30, 6, 30, 6, 30, 6, 30, 6, 30, 6, 30, 1, 6, 30, 5, 30, 1, 6, 30, 가, 6

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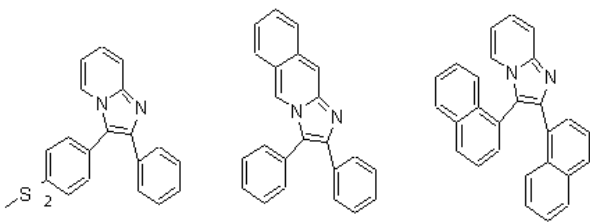
2 17

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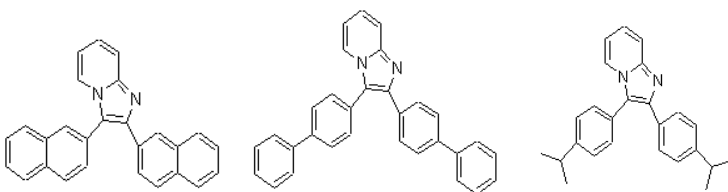
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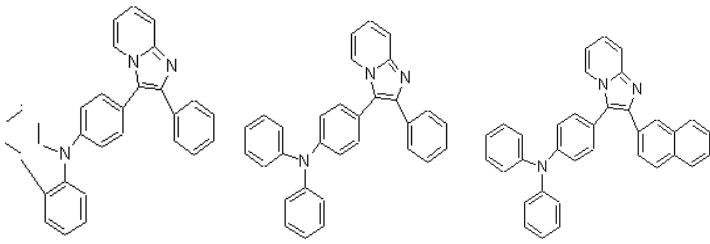
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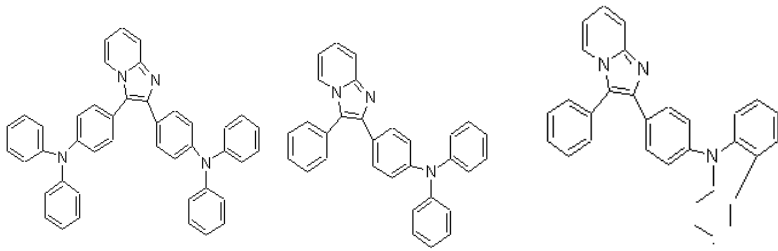
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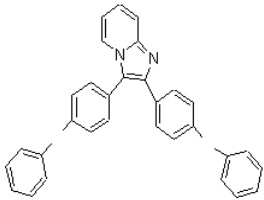
[ 11 ] [ 12 ] [ 13 ]



[ 14] [ 15] [ 16]



[ 17]



1, 2 4

(mis-align)

(LITI)

L 가

Li, Mg, Al, Al-Li, Ca, Mg-In, Mg-Ag

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(2)

(4)

(6)

(6) CuPc

TCTA, m-MTDATA, m-MTDAPB

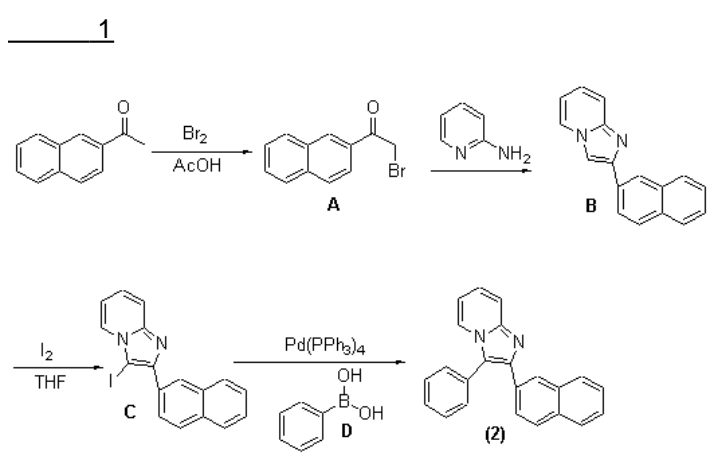
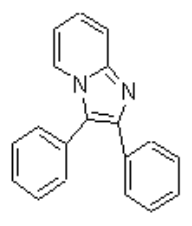
(8) N,N'- (3- )-N,N'- -[1,1- ]-4,4'- (TPD), N,N'- ( -1- )- N,N'- ( -1- )-N,N'- ( -NPD)

(8)

(10)

(mis-align) (LITI) (10)  
 1 1 , 2 17  
 (10) (12) (12) (12)  
 ) Alq3 , LiF, CsF, Li<sub>2</sub>O, BaO (14)  
 EL 가 (18)  
 Li, Mg, Al, Al-Li, Ca, Mg-In, Mg-Ag  
 2 가  
 ( 2 )  
 1 2

[ 2 ]



(1) A  
 17g(100 mmol) CCl<sub>4</sub> 300 ml , 0 HCl 가  
 , Br<sub>2</sub> 100 mmol 가  
 가  
 (hexane) A CCl<sub>4</sub> MgSO<sub>4</sub>  
 19.9 g( 90 %)

(2) B  
 A 12.5 g(50 mmol) DME 250 ml , 2- 4.7 g(50 mmol) 가  
 5 12 250 ml 가  
 10 % pH 10

200 Mℓ

B 7.9 g( 65%)

(3) C

B 3.7 g(15 mmol)

30 Mℓ

5.7 g(22.5 mmol) 가  
250 Mℓ

50

5

C 3.2 g( 57%)

(4) D

2.1 Mℓ(20 mmol) THF 100 Mℓ - 78 n- (n-hexane) 1.6 n-  
13 Mℓ(21 mmol) 가 2 3.4 Mℓ(30 mmol) 50 Mℓ  
THF 가 - 78 3 , 12  
. 12 2 . 4 NaOH pH  
100 Mℓ 3  
n- D 1.6 g( 65%)

(5) 2

C 1.85 g(5 mmol), D 732 mg(6 mmol) DME 50 Mℓ 2  
90 mg(0.25 mmol) 가 NaOH 400 mg(10 mmol) 20 Mℓ 가 75 12  
100 Mℓ 3  
1 H NMR ( 2). 1 H NMR(CDCI<sub>3</sub>, 300 MHz) (ppm) 8.26 (s, 1H), 8.02 (d, 1  
H), 7.79-7.67(m, 5H), 7.54-7.42(m, 7H), 7.21(dd, 1H), 6.76(dd, 1H)  
1.12g( 70%)

15 /cm<sup>2</sup>(1200 ) ITO 50 mm×50 mm×0.7 mm  
5 UV 30  
DE406( ) 600  
4,4'- [N-(1- )-N- ] ( , NPB) 300  
2 250  
Alq3 300  
LiF 10 ( ) Al 3000 LiF/Al  
1  
EL 5, - 6,  
7, - 8 , 7 V  
251 cd/m<sup>2</sup>, 1.5 cd/A, (0.17, 0.18) 가  
50 mm×50 mm×0.7 mm 2 1 %  
UV UV 330 342 nm PL 3 4  
UPS , PL HOMO PL 5.79 eV 432 nm UV  
LUMO 2.61 eV

가

(57)

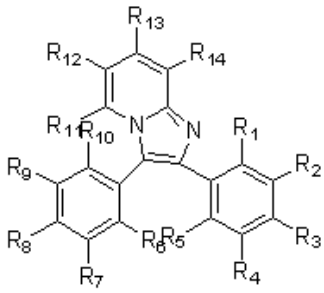
1.

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[ 1 ]



, R<sub>1</sub>, R<sub>14</sub>, 1, 30, 6, 30, 6, 30, 6, 30, 30, 1, 6, 30, 5, 30, 6

가

2.

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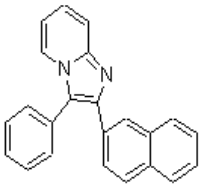
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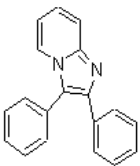
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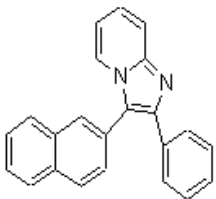
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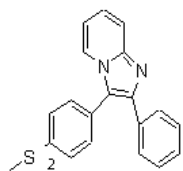
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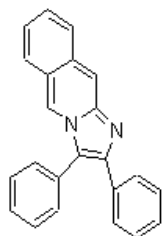
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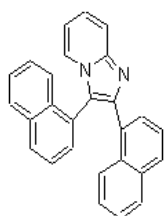
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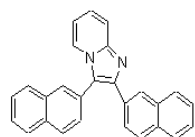
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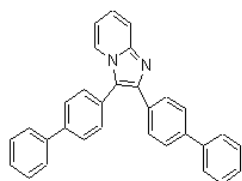
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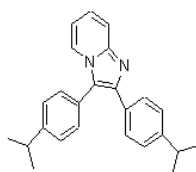
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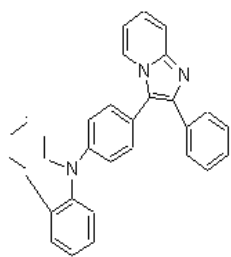
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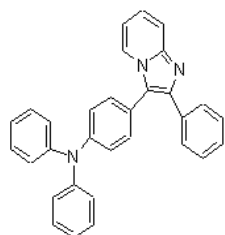
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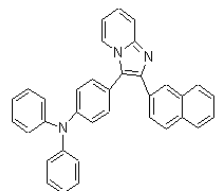
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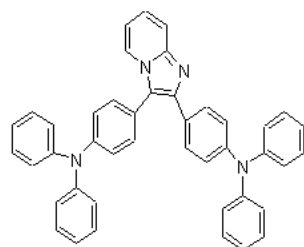
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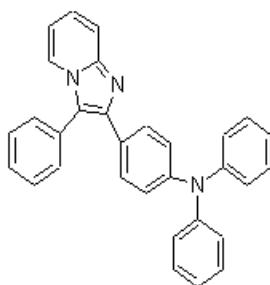
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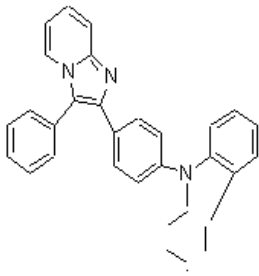
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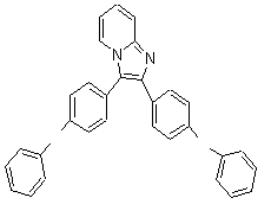
[ 15]



[ 16]



[ 17 ]



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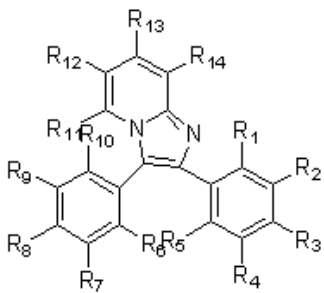
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[ 1 ]



, R<sub>1</sub> R<sub>14</sub>

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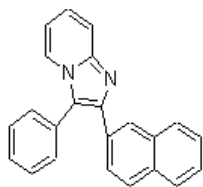
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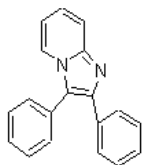
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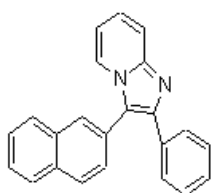
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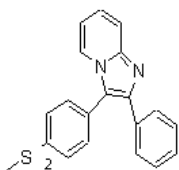
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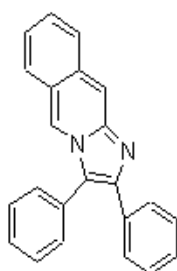
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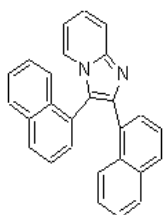
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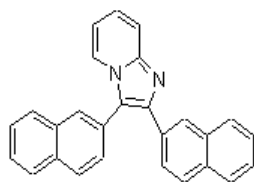
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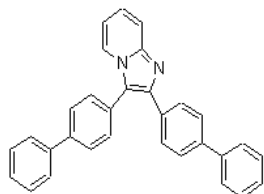
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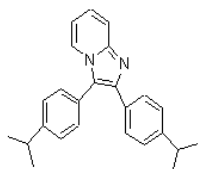
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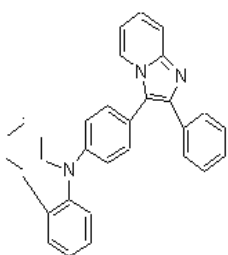
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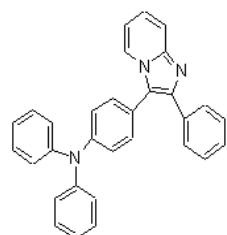
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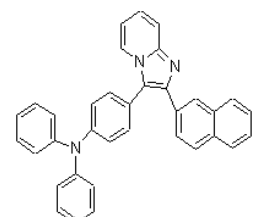
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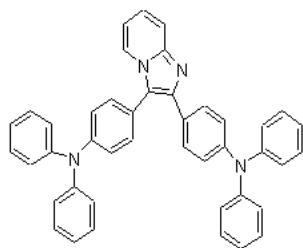
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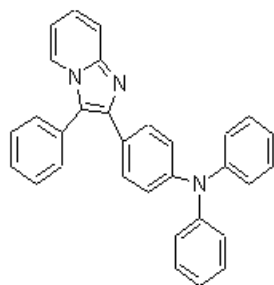
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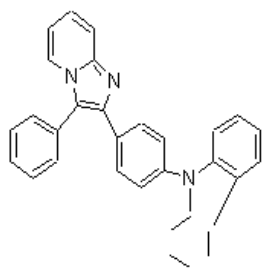
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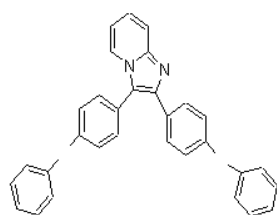
[ 15]



[ 16]



[ 17]



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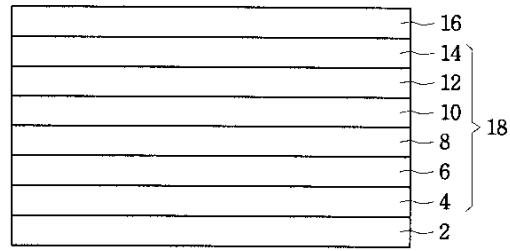
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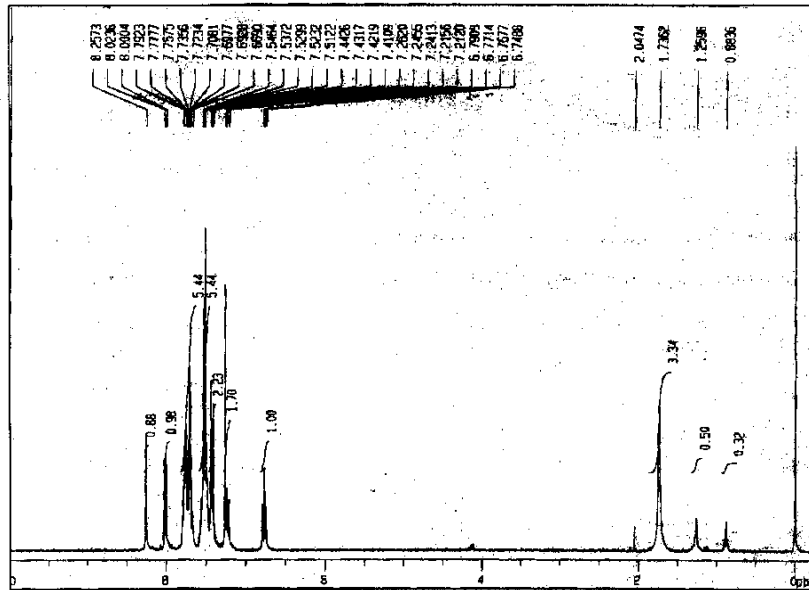
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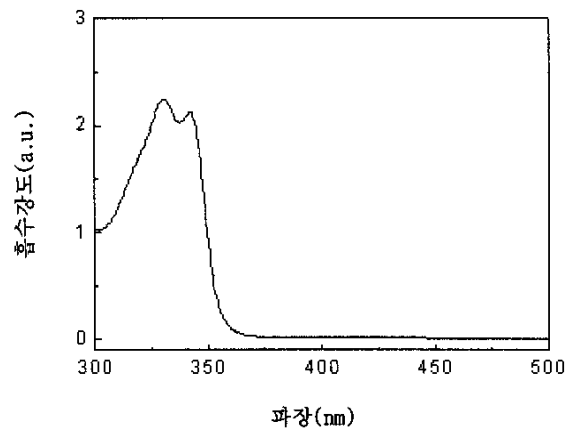
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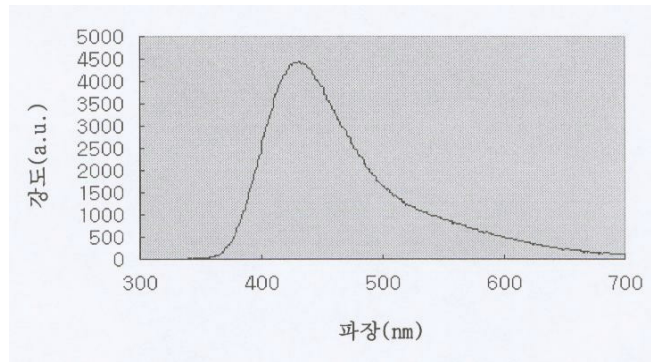
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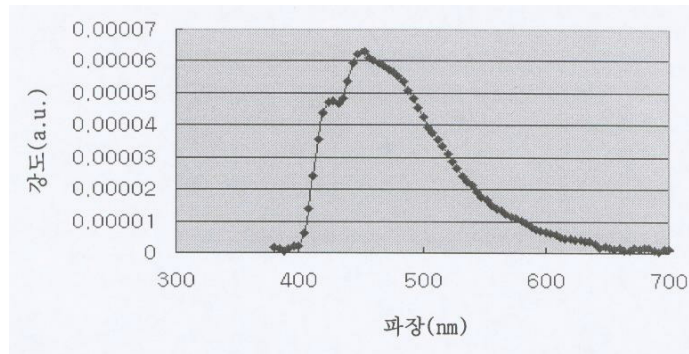
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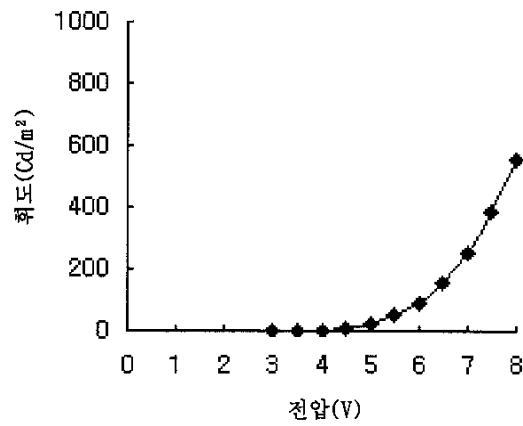
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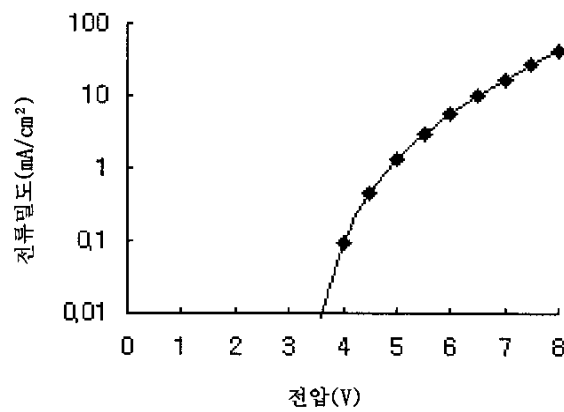
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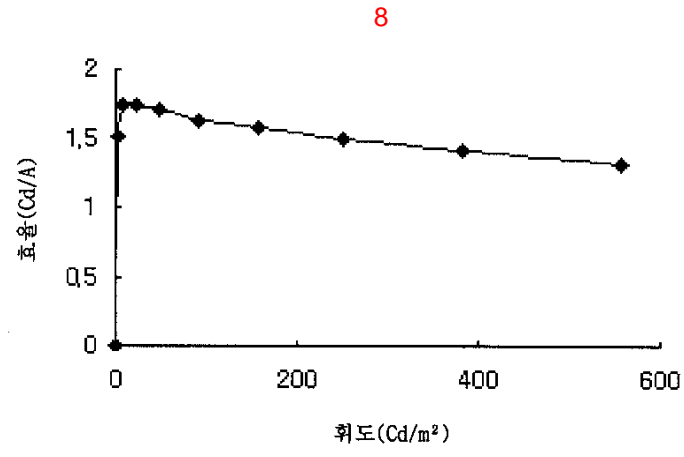


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专利名称(译)	用于有机电致发光器件的发光化合物和使用其的有机电致发光器件		
公开(公告)号	<a href="#">KR1020040072004A</a>	公开(公告)日	2004-08-16
申请号	KR1020030007933	申请日	2003-02-07
申请(专利权)人(译)	三星SD眼有限公司		
当前申请(专利权)人(译)	三星SD眼有限公司		
[标]发明人	LEE SEOKJONG 이석종 CHOI YONGJOONG 최용중		
发明人	이석종 최용중		
IPC分类号	H01L51/00 H01L51/30 C07D471/04 H05B33/14 H01L51/50 C09K11/06		
CPC分类号	C09K2211/1011 H01L51/5012 C07D471/04 C09K2211/1029 H01L51/0071 H05B33/14 H01L51/0067 C09K11/06 H01L51/0061 H01L51/006 C09K2211/1044 H01L51/0058 Y02P20/582 Y10S428/917		
代理人(译)	PARK, 常树		
外部链接	<a href="#">Espacenet</a>		

摘要(译)

本发明中，通过使用有机电致发光器件和他 - 亮度，效率，驱动电压和色纯度的发光的化合物的有机发光器件的由式 ( 1 ) 表示的咪唑通过提供一种发光化合物，其特征在于，具有吡啶骨架可以提供使用其的有机电致发光器件。 [化学式1] 其中R, R 1至R 14各自独立地表示氢原子，被卤原子取代的，一个C 1 -C 30取代的或未取代的烷基，具有1 - 取代的或烷氧基，其是未取代的1~30烷基，碳原子数为6至30或未取代的芳基，含6至30个碳原子，其是未取代的取代或未取代的缩合的6取代或未取代的杂环基团中的30形式的碳原子数，含有6至30个碳原子烷基，C5的取代或芳氧基取代或未取代的杂环基团的1至30，氨基，芳基氨基，含有6至30个碳原子，硝基，羟基，卤原子，和1氰基从碳数至C30的芳基，和所述组包括烷基砜并且相邻的基团彼此结合以形成饱和或不饱和的碳环。 五 指数方面 有机电致发光器件，蓝色发光化合物，咪唑 - 吡啶

