

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

(51) 。 Int. Cl.⁷ (11) 10-2004-0068000
C09K 11/06 (43) 2004 07 30

(21) 10-2004-0004169
(22) 2004 01 20

(30) 10/348,118 2003 01 21 (US)

(71) 343

(72) 14612 42

14526 8

14464 518

(74)

:

(54)

OLED (host) (dopant) ,
) ; (receptacle) ; (physical vapor deposition chamber OLED
; 가 ;

2
deposition chamber) OLED (vacuum

3 2

4 OLED , ,

5 OLED

‘ ’ , ‘ ’

‘ ’

OLED (host) (dopant)

OLED (sandwiching) (OLED) 1 2 (anode), OLED () OLED

‘ ’ 4,769,292 4,885,211 OLED

OLED (dome light) - (paper - thin light source), LCD 가 OLED (0.33, 0.33) (CIE)

가 OLED

OLED 5,693,823 ,

가 , 가 0.12% 0.25% (Sato) 07,142,169

OLED

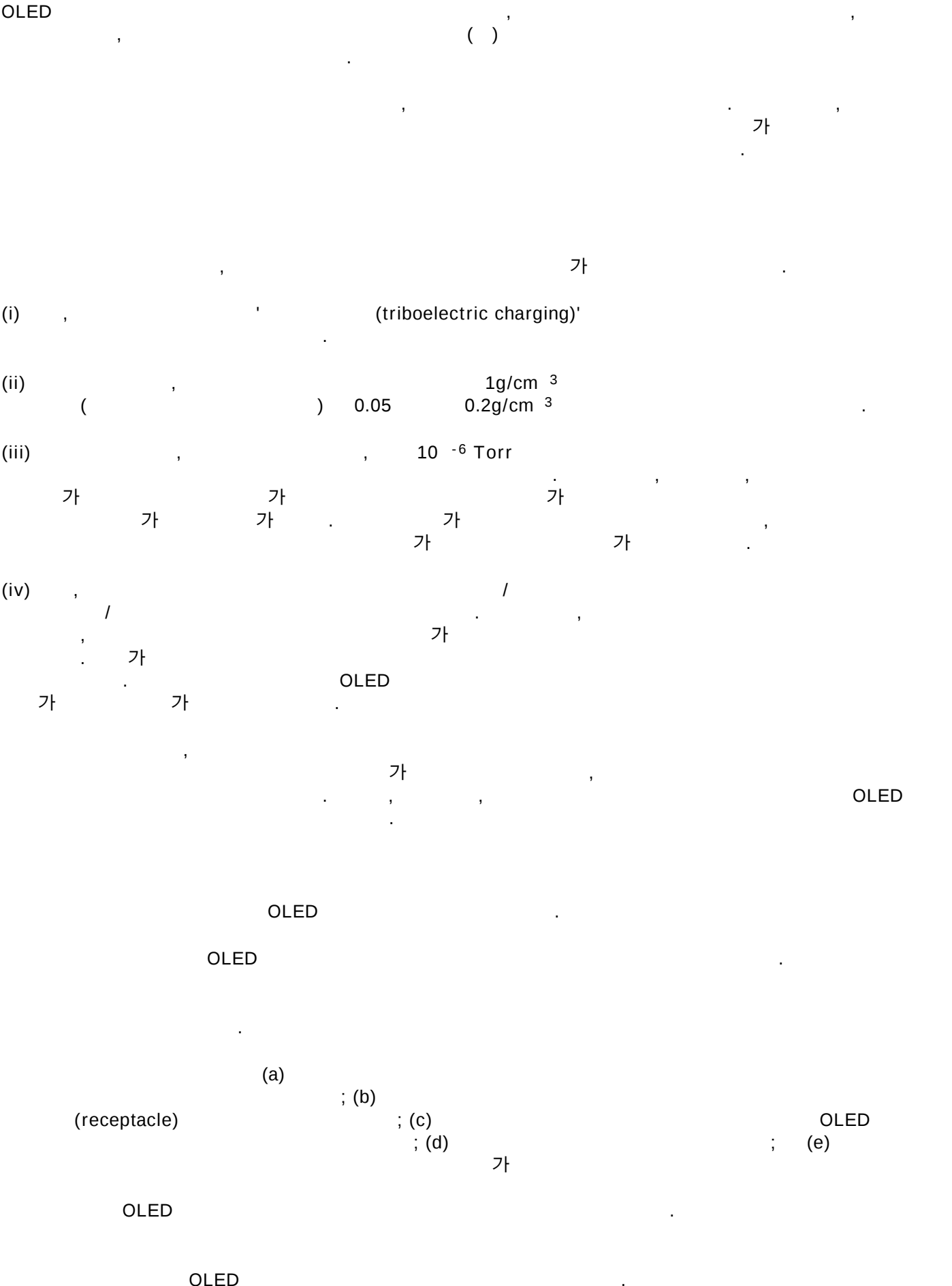
(Kido) [in Science, Vol. 267, p. 1332(1995) in APL Vol. 64, p. 815(1994)] OLE

D 3 (emitter) 5,405,709 -

가 [Deshpande et al., in Applied Physics Letters, Vol. 75, p. 888(1999) OLED

OLED 4,356,429 , 4,539,507 , 4,720,432 4,769,292 ,

OLED



(contrast)

OLED

OLED (EL) 가
 1 OLED(100) 가 1 (EML)(125)
 (HTL)(124) (ETL)(126) 가
 2 (124) (126) (122) (127) (125)
 (123) (122) HTL(124) (125)
 (EL) (125)
 EL (12) OLED(100) OLED
 00) (lead) (121) (127) (122) OLED(1
 (127) (122) EL
 ()가 (122) (121) 가 (127) HTL(124)
 가 가 (125) (125) (122) HTL(124)
 가 (125) (125) , HTL(124) (125)
 /
 2 (bell jar)(210) OLED 가
 (220) (200) (240)
 가 (230) (220) (230), (260)
 (262) (220) D
 C (270) (260) (262) Ta, Mo W
 (260) (250) (272)
 (250) (264)가 (21
 (272) 가 (274)가 (270)
 (280) (272) (282) (272)
 (272) (282) (220)
 (280)
 OLED
 (a)
 ; (b)
 (receptacle) ; (c)
 ; (d) 가 OLED
 ; (e)
 3 2 (200) (250) (250) (220)
 (260), (262) (230) (230)
 (260) (standoff)(254)
 4 5 OLED
 2,000 5,000psi 2
 (consolidating) 가
 4 OLED (400) (420) (410)

(420) (480) (1) NPB,
4,539,507 4,4'- [N-] 2 5 %
(Rubrene) (TBADN) 1 3% (440); (2) 9,10- [(450);
N-(1- (3) (8- (Alq) TBP 6,020,078 (460)
0.5 1.0 % C545T (470) (460)
3 (430) (420) (440) (470) (42)
0) (480) 가 (480) (470) (420) 가
(470) 가 (460) (440) 가
(440) (440) (450) (valance band) 가
가 (420) (410)
OLED (420) (480)
OLED (420) (480) 4,885,211
4.0eV 4.0eV
Ag 4,885,211 Mg:
5,059,062 Al:Mg
5,776,622 OLED
LiF/Al Mg:Ag, Al:Mg LiF/Al
[Guet al. in APL 68, 2606(1996); Burrows et al., J. Ap
pl. Phys. 87, 3080(2000); Parthasarathy et al. APL 72, 2138 9198); Parathasarathy et al. APL 76, 2128(2000
) , Hung et al. APL, 3209(1999)] (100A) - - (ITO)
(CuPc)
(420) (430)
(440)
430) (4,720,432
CuPc, (CFx),
6,208,075 m-MTDATA(4,4',4'- [(3-)])
EL EP 0 891 121 A1 EP 1 02
9 909 A1 6,208,075
, CFx ,
OLED 가 (410)
EL
EL
5 OLED (500) (520) (510)
(1) NPB (520) (570) (540);
(2) TBADN 2 5 % TBP OP 31 (550)
) (530) (520) (540) (560) (550)
(520) (570) 가 (570) (560) (520)
가 (550) (540) 가

(540) (550) (520) (530) (520) (530) (520) (530)
 10) 30) (220) (530) (520) (530)
 4 5
 가 OLED
 (T.K. Hatwar)
 2002 9 16 10/244,314

OLED (가) (RGB) (가) RGB
 (buffer layer) (RGB) (RGB) (RGB) (RGB)
 (precision shadow masking technology) OLED
 (addressing) (Ching) (Hseih) 5,550,066 5,684,36
 5 TFT

(57)

1.

OLED

- (a) (host) (dopant)
 ;
 (b) (physical vapor deposition chamber)
 (receptacle) ;
 (c) OLED ;
 (d) ;
 (e) 가

2.

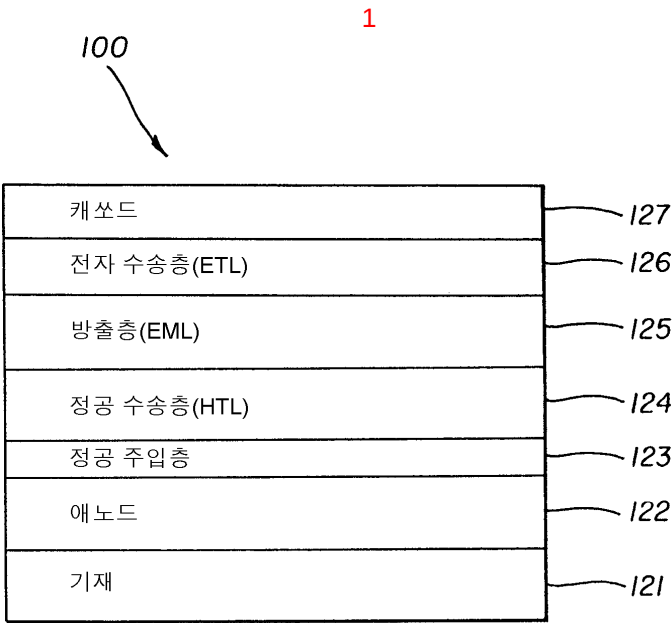
1
 2

3.

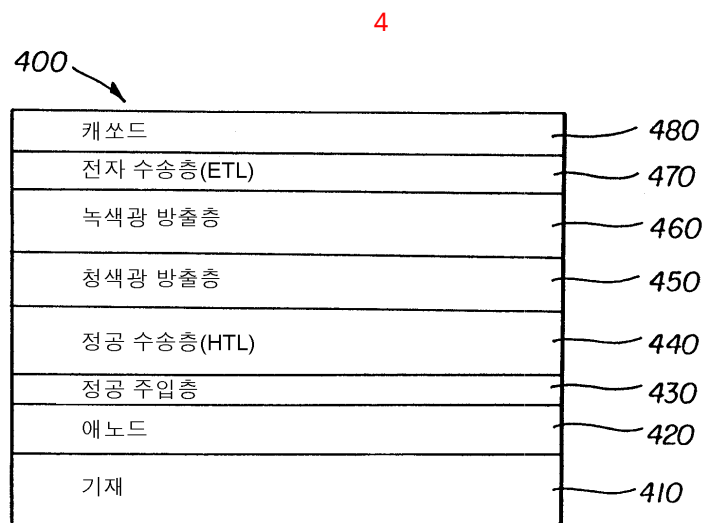
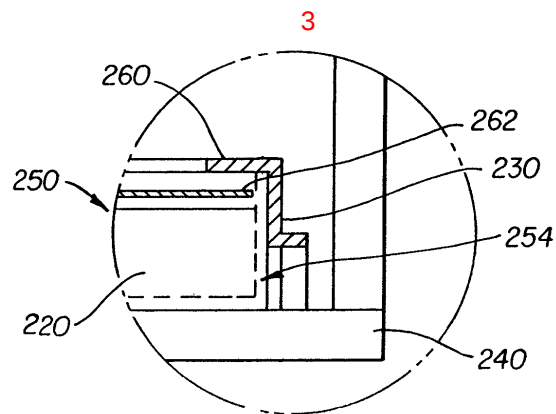
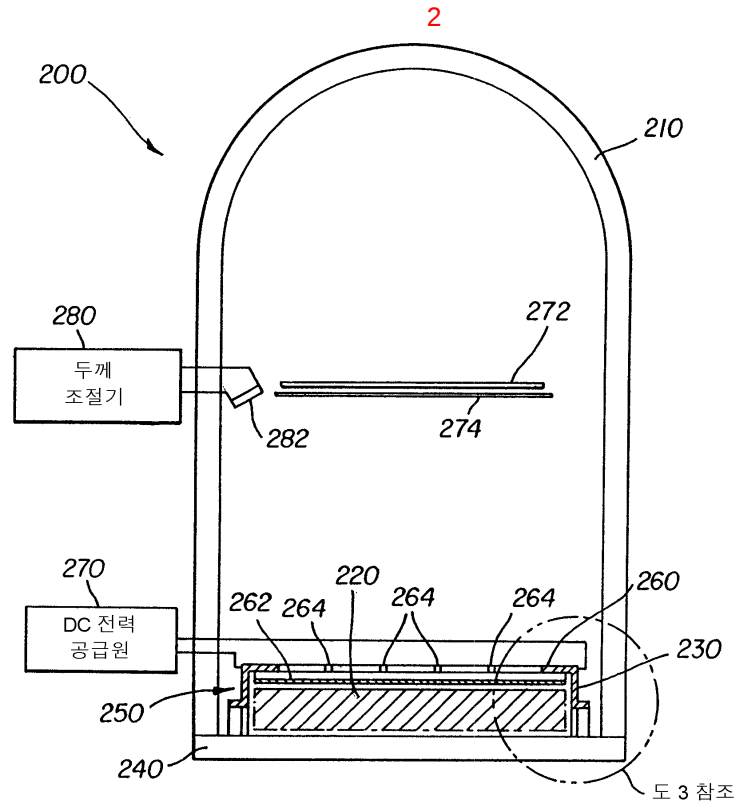
1 ,
3

4.
1 ,

- (a) ;
- (b) ;
- (c) 2 (punch) ;
- (d) (consolidating) ;
- (e)

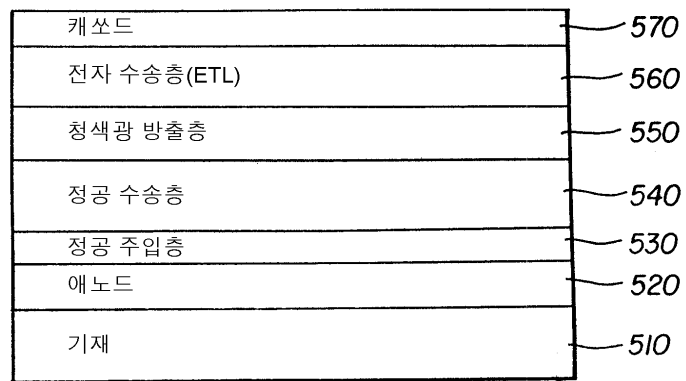


(종래기술)



5

500



The diagram shows a vertical stack of seven rectangular layers, labeled 500. An arrow points from the label 500 to the top layer. Each layer is labeled with Korean text on the left and a reference numeral on the right. The layers, from top to bottom, are: 캐소드 (570), 전자 수송층(ETL) (560), 청색광 방출층 (550), 정공 수송층 (540), 정공 주입층 (530), 애노드 (520), and 기재 (510).

캐소드	570
전자 수송층(ETL)	560
청색광 방출층	550
정공 수송층	540
정공 주입층	530
애노드	520
기재	510

专利名称(译)	在致发白光的有机发光二极管的制造中使用致密的有机材料		
公开(公告)号	KR1020040068000A	公开(公告)日	2004-07-30
申请号	KR1020040004169	申请日	2004-01-20
[标]申请(专利权)人(译)	伊斯曼柯达公司		
申请(专利权)人(译)	柯达公司针		
当前申请(专利权)人(译)	柯达公司针		
[标]发明人	GHOSH SYAMALK HATWAR TUKARAMK CARLTON DONNB		
发明人	고쉬사이아말케이 하워투카람케이 카알튼돈비		
IPC分类号	C09K11/06 H01L51/50 C23C14/12 H05B33/10 H05B33/12 C23C14/26		
CPC分类号	H01L51/5036 C23C14/12 H01L51/001 C23C14/26		
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优先权	10/348118 2003-01-21 US		
外部链接	Espacenet		

摘要(译)

本发明涉及在白光发射OLED装置中下沉两个或更多个发光层的方法。并且发射层形成有包括以下步骤的步骤：包括在基础材料上提供包括形成发光层的主体的有机材料的蒸气的混合物，其在分钟的表面上施加热量，其中有机材料的固体排列在容器颗粒中，至少一部分升华，并且相应的至少一种和一种有机掺杂剂的有机主体的掺杂剂。

