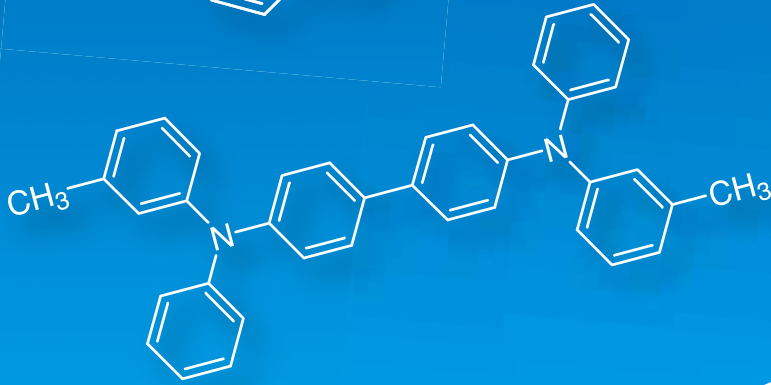
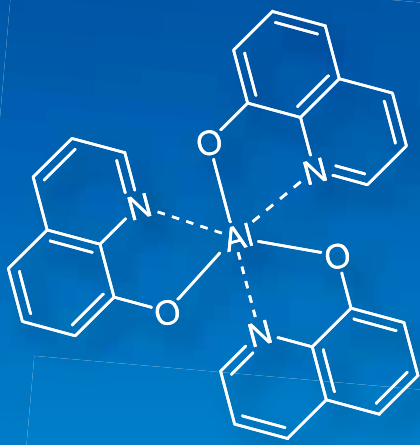


有机发光二极管(OLED)材料

Organic Light-Emitting Diode(OLED) Materials



主体材料

空穴传输材料

电子传输材料

蓝光掺杂材料

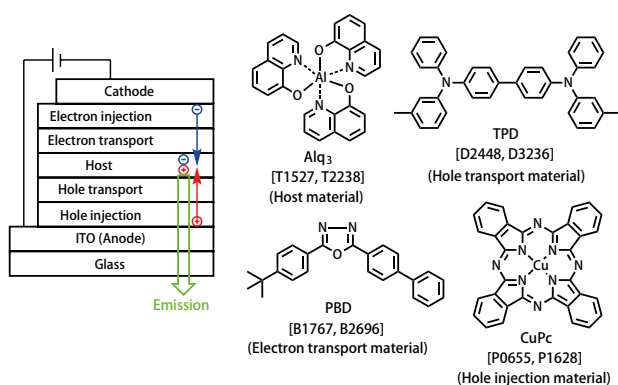
绿光掺杂材料

红光掺杂材料

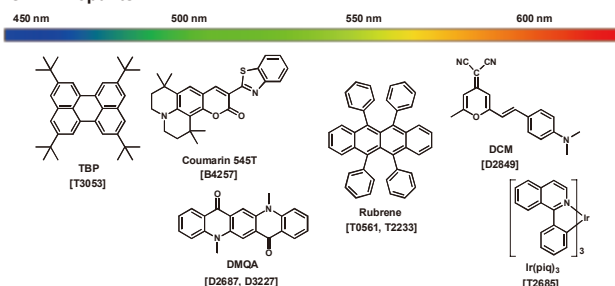
有机发光二极管(OLED)材料

有机二极管(OLED)器件借助轻便灵活的有机材料,有望成为下一代的显示器和光源,因而受到了诸多关注。Tang等人通过双层有机薄膜首次发现了OLED器件,此后OLED主要集中在实际应用中¹⁾。Adachi等对三层器件进行了进一步报道,其主体材料层夹在空穴传输层和电子传输层之间。此外,他们还报道了一种双层体系,其中的一层同时具有主体和电子传输的特性^{2,3)}。为了提高载流子注入的效率,一种包含电子注入层和空穴注入层的五层体系也吸引了相关研究。通过选择不同的主体层掺杂材料还可以控制发射出的RGB颜色。结合一种适当的掺杂材料,可以制造出白光器件^{4,5)}。OLED发光面板就是白色有机发光器件(WOLED)的一个应用⁶⁾。

无定形材料具有透明、均匀、各向同性以及易于加工的特性,可用于OLED器件。一种实用的OLED的器件还要求有极佳的耐热性和耐久性。很多基于三苯胺衍生物(TPD)的空穴传输材料都具有耐热和无定形的特性,因而被广泛使用^{7,8)}。除了TPDs以外,拥有电子传输性质的恶二唑衍生物(PBD)⁹⁾,发光材料(主体材料)Alq₃¹⁾,以及蓝光发射材料均二苯乙烯衍生物都可用做无定形OLED器件的基础材料¹⁰⁾。



OLED Dopants

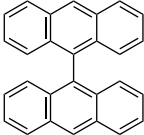
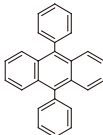
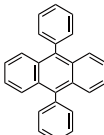
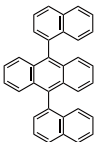
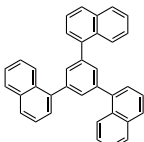
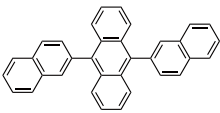
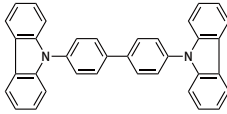
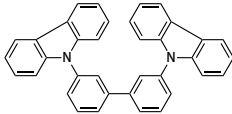
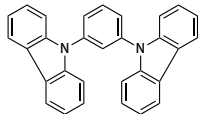
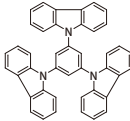
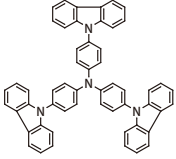
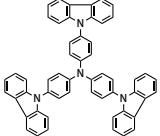
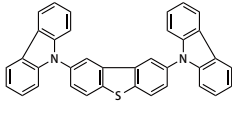
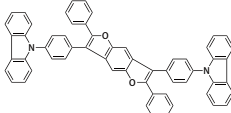
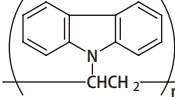
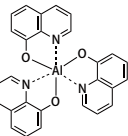
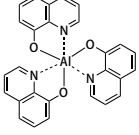
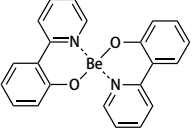
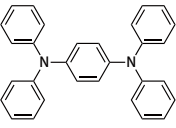
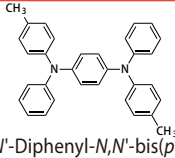
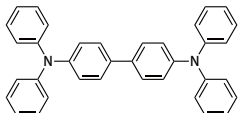
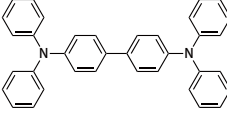
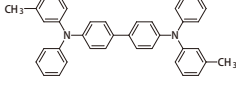
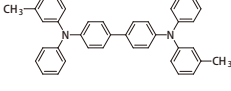
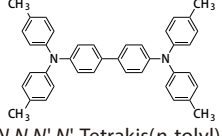
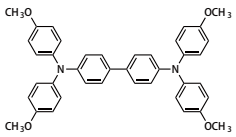
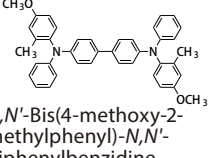
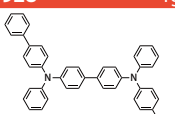
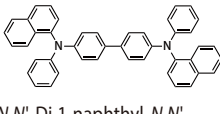


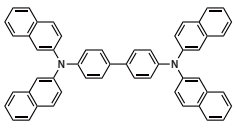
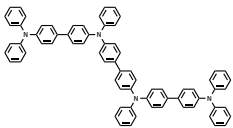
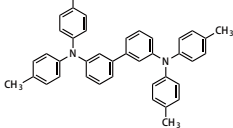
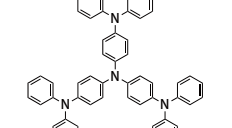
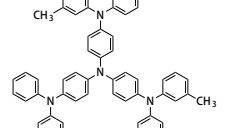
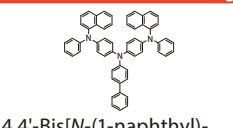
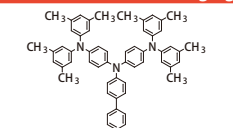
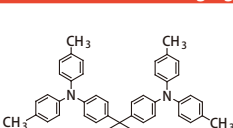
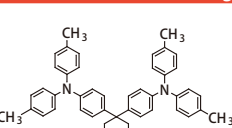
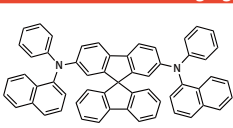
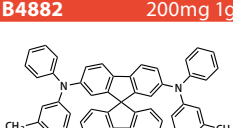
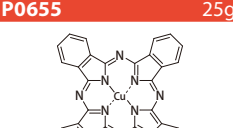
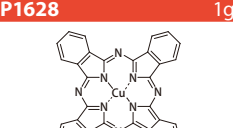
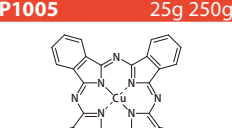
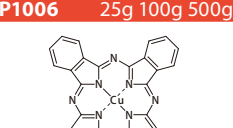
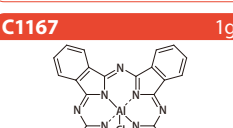
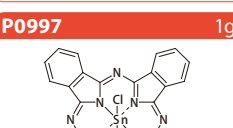
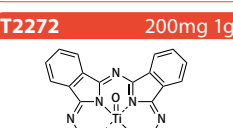
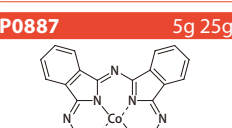
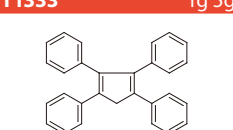
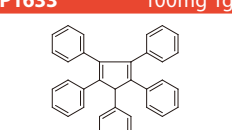
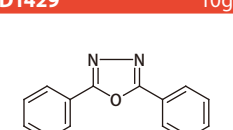
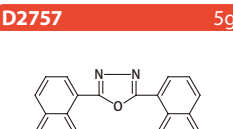
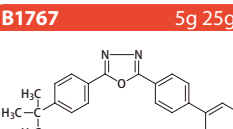
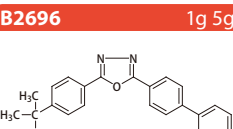
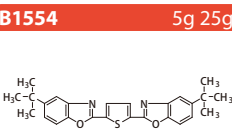
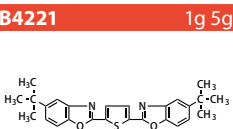




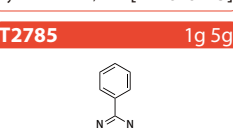
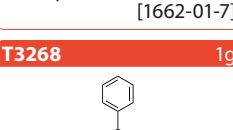
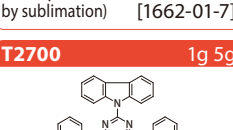
传统的荧光材料虽然电流密度高,但仅利用了25%的单线态激子发光,75%的三线态激子发生无辐射失活。然而,磷光材料通过从单线态到三线态的系间窜跃,可以实现100%的EL量子效率。到目前为止,已有关于Ir(ppy)₃及其类似物等磷光材料的报道¹¹⁾。近来,呈现出热活化延迟荧光(TADF)的非金属材料也引起了相关研究。Adachi等人的报道中,利用单线态和三线态间能隙低的荧光材料可以实现25%以上的量子效率,这是因为发生了从三线态到单线态的反向能量转移^{12,13)}。

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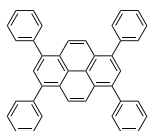
主体材料 Host Materials

<h2>主体材料 Host Materials</h2>		B4095 1g 5g  9,9'-Bianthryl [1055-23-8]	D1689 1g 25g  9,10-Diphenylanthracene [1499-10-1]	D4401 1g  9,10-Diphenylanthracene (purified by sublimation) [1499-10-1]
		D3975 1g 5g  9,10-Di(1-naphthyl)-anthracene [26979-27-1]	T3193 200mg 1g  1,3,5-Tri(1-naphthyl)-benzene [7059-70-3]	D4127 1g 5g  9,10-Di(2-naphthyl)-anthracene [122648-99-1]
B4219 1g  CBP (purified by sublimation) [58328-31-7]	D4772 200mg  mCBP [342638-54-4]	D4087 1g  1,3-Di-9-carbazolyl-benzene (purified by sublimation) [550378-78-4]	T1934 1g 5g  1,3,5-Tri(9H-carbazol-9-yl)benzene (purified by sublimation) [148044-07-9]	T2616 1g 5g  TCTA [139092-78-7]
T2274 200mg 1g  TCTA (purified by sublimation) [139092-78-7]	B4942 200mg 1g  DCzDBT [913738-04-2]	C2780 200mg  CZBDF [1092578-51-2]	P0656 5g 25g  Poly(N-vinylcarbazole) [25067-59-8]	T1527 25g 250g  Alq ₃ [2085-33-8]
T2238 5g  Alq ₃ (purified by sublimation) [2085-33-8]	B4720 200mg  Bis[2-(2-pyridinyl)phenolato]-beryllium(II) [220694-90-6]	<h2>空穴传输材料 Hole Transport Materials</h2>		
<h2>空穴传输材料 Hole Transport Materials</h2>		T3309 1g 5g  N,N,N',N'-Tetraphenyl-1,4-phenylenediamine [14118-16-2]	D4905 1g 5g  N,N'-Diphenyl-N,N'-bis(p-tolyl)-1,4-phenylenediamine [138171-14-9]	T1812 5g 25g  TPB [15546-43-7]
		T3266 1g 5g  TPB (purified by sublimation) [15546-43-7]	D2448 1g 5g  TPD [65181-78-4]	D3236 1g 5g  TPD (purified by sublimation) [65181-78-4]
T3265 1g  N,N,N',N'-Tetrakis(p-tolyl)-benzidine (purified by sublimation) [76185-65-4]	T3290 200mg 1g  MeO-TPD [122738-21-0]	B4470 5g 25g  N,N'-Bis(4-methoxy-2-methylphenyl)-N,N'-diphenylbenzidine [169685-34-1]	D4928 1g 5g  N,N'-Di(4-biphenyl)-N,N'-diphenylbenzidine [134008-76-7]	D3970 1g 5g  N,N'-Di(1-naphthyl)-N,N'-diphenylbenzidine (purified by sublimation) [123847-85-8]

<p>T3288 1g</p>  <p><i>N,N,N',N'</i>-Tetra(2-naphthyl)-benzidine [141752-82-1]</p>	<p>D4863 1g 5g</p>  <p>TPTE [167218-46-4]</p>	<p>B4874 1g 5g</p>  <p>3,3'-Bis[di(<i>p</i>-tolyl)amino]-biphenyl [161485-60-5]</p>	<p>T3062 200mg 1g</p>  <p>TDATA [105389-36-4]</p>	<p>T2251 100mg</p>  <p><i>m</i>-MTDATA [124729-98-2]</p>
<p>B2305 100mg</p>  <p>4,4'-Bis[<i>N</i>-(1-naphthyl)-<i>N</i>-phenylamino]-4''-phenyltriphenylamine [1073183-32-0]</p>	<p>B2269 100mg 1g</p>  <p>4,4'-Bis[di(3,5-xylly)amino]-4''-phenyltriphenylamine [249609-49-2]</p>	<p>B2079 1g 5g</p>  <p>TAPC [58473-78-2]</p>	<p>B3146 1g</p>  <p>TAPC (purified by sublimation) [58473-78-2]</p>	<p>B4875 200mg 1g</p>  <p>2,7-Bis[<i>N</i>-(1-naphthyl)-anilino]-9,9'-spirobi[9<i>H</i>-fluorene] [932739-76-9]</p>
<p>B4882 200mg 1g</p>  <p>2,7-Bis[<i>N</i>-(<i>m</i>-tolyl)anilino]-9,9'-spirobi[9<i>H</i>-fluorene] [1033035-82-4]</p>	<p>P0655 25g</p>  <p>Copper Phthalocyanine [147-14-8]</p>	<p>P1628 1g</p>  <p>Copper Phthalocyanine (purified by sublimation) [147-14-8]</p>	<p>P1005 25g 250g</p>  <p>Copper(II) Phthalocyanine (α-form) [147-14-8]</p>	<p>P1006 25g 100g 500g</p>  <p>Copper(II) Phthalocyanine (β-form) [147-14-8]</p>
<p>C1167 1g</p>  <p>Phthalocyanine Chloroaluminum [14154-42-8]</p>	<p>P0997 1g</p>  <p>Tin(IV) Phthalocyanine Dichloride [18253-54-8]</p>	<p>T2272 200mg 1g</p>  <p>TiOPc (purified by sublimation) [26201-32-1]</p>	<p>P0887 5g 25g</p>  <p>Cobalt(II) Phthalocyanine [3317-67-7]</p>	
<p>电子传输材料 Electron Transport Materials</p>				
		<p>T1333 1g 5g</p>  <p>1,2,3,4-Tetraphenyl-1,3-cyclopentadiene [15570-45-3]</p>	<p>P1633 100mg 1g</p>  <p>1,2,3,4,5-Pentaphenyl-1,3-cyclopentadiene [2519-10-0]</p>	<p>D1429 10g</p>  <p>2,5-Diphenyl-1,3,4-oxadiazole [725-12-2]</p>
<p>D2757 5g</p>  <p>2,5-Di(1-naphthyl)-1,3,4-oxadiazole [905-62-4]</p>	<p>B1767 5g 25g</p>  <p>PBD [15082-28-7]</p>	<p>B2696 1g 5g</p>  <p>PBD (purified by sublimation) [15082-28-7]</p>	<p>B1554 5g 25g</p>  <p>2,5-Bis(5-<i>tert</i>-butyl-2-benzoxazolyl)-thiophene [7128-64-5]</p>	<p>B4221 1g 5g</p>  <p>2,5-Bis(5-<i>tert</i>-butyl-2-benzoxazolyl)thiophene (purified by sublimation) [7128-64-5]</p>
<p>D0905 1g 5g</p>  <p>Bathophenanthroline [1662-01-7]</p>	<p>B2695 1g</p>  <p>Bathophenanthroline (purified by sublimation) [1662-01-7]</p>	<p>D0711 1g 5g</p>  <p>Bathocuproine [4733-39-5]</p>	<p>B2694 1g 5g</p>  <p>Bathocuproine (purified by sublimation) [4733-39-5]</p>	<p>T2785 1g 5g</p>  <p>2,4,6-Triphenyl-1,3,5-triazine [493-77-6]</p>
<p>T3268 1g</p>  <p>2,4,6-Triphenyl-1,3,5-triazine (purified by sublimation) [493-77-6]</p>	<p>T2700 1g 5g</p>  <p>2,4,6-Tri(9<i>H</i>-carbazol-9-yl)-1,3,5-triazine (purified by sublimation) [134984-37-5]</p>			

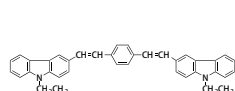
蓝光掺杂材料 Blue Dopants

T3042 50mg 200mg



1,3,6,8-Tetraphenylpyrene
[13638-82-9]

B4792 200mg



1,4-Bis[2-(9-ethylcarbazol-3-yl)vinyl]benzene
[62608-15-5]

P0078 5g 25g



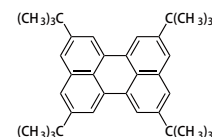
Perylene [198-55-0]

P1629 1g



Perylene (purified by sublimation) [198-55-0]

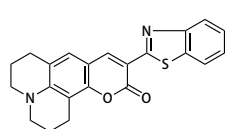
T3053 100mg



2,5,8,11-Tetra-tert-butylperylene [80663-92-9]

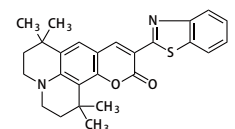
绿光掺杂材料 Green Dopants

C2900 200mg



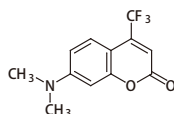
Coumarin 545 [85642-11-1]

B4257 200mg



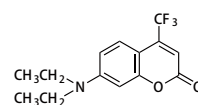
Coumarin 545T [155306-71-1]

D3356 5g 25g



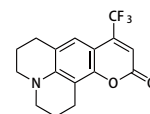
7-(Dimethylamino)-4-(trifluoromethyl)coumarin [53518-14-2]

D4466 200mg



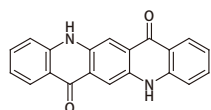
7-(Diethylamino)-4-(trifluoromethyl)coumarin [41934-47-8]

C2858 200mg 1g



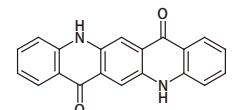
Coumarin 153 [53518-18-6]

Q0057 5g 25g



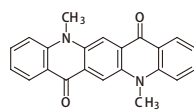
Quinacridone [1047-16-1]

Q0083 1g



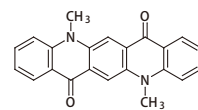
Quinacridone (purified by sublimation) [1047-16-1]

D2687 1g 5g



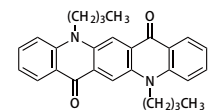
N,N'-Dimethylquinacridone [19205-19-7]

D3227 1g



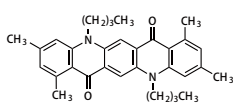
N,N'-Dimethylquinacridone (purified by sublimation) [19205-19-7]

D4780 200mg 1g



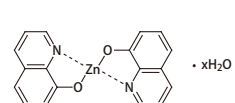
N,N'-Dibutylquinacridone [99762-80-8]

D4697 200mg 1g



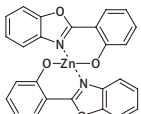
5,12-Dibutyl-1,3,8,10-tetramethylquinacridone (This product is only available in Japan.) [850815-10-0]

B1678 5g 25g



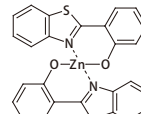
Bis(8-quinolinolato)-zinc(II) Hydrate [13978-85-3]

B2078 5g



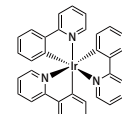
Bis[2-(2-benzoxazolyl)-phenolato]zinc(II) [23467-27-8]

B2077 1g 5g



Bis[2-(2-benzothiazolyl)-phenolato]zinc(II) [58280-31-2]

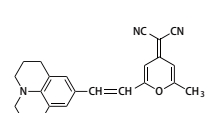
T1946 200mg



Tris(2-phenylpyridinato)-iridium(III) (purified by sublimation) [94928-86-6]

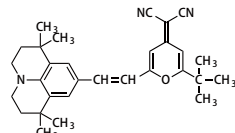
红光掺杂材料 Red Dopants

D4459 200mg



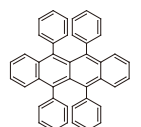
DCM 2 [51325-95-2]

D4700 200mg



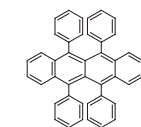
DCJTb [200052-70-6]

T0561 100mg 1g



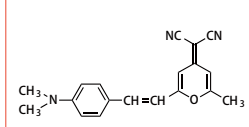
Rubrene [517-51-1]

T2233 250mg 1g



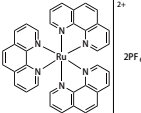
Rubrene (purified by sublimation) [517-51-1]

D2849 500mg



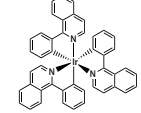
DCM [51325-91-8]

T3208 200mg 1g



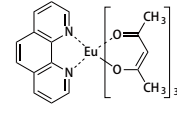
Tris(1,10-phenanthroline)-ruthenium(II) Bis(hexafluorophosphate) [60804-75-3]

T2685 100mg

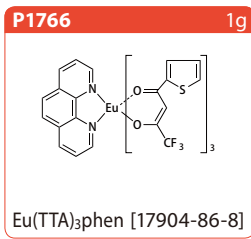
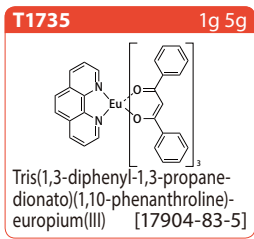


Tris[1-phenylisoquinoline-C₂,N]iridium(III) (purified by sublimation) [435293-93-9]

T3206 200mg



Tris(acetylacetonato)-(1,10-phenanthroline)-europium(III) [17568-09-1]



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