



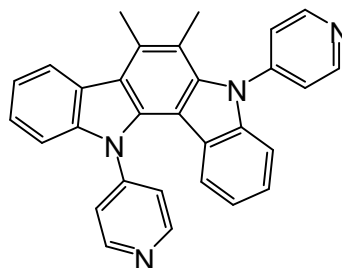
m-Indolocarbazole Derivative as a Universal Host Material for RGB and White Phosphorescent OLEDs

Product Specifications

LT-N4113 4ICDPy Indolo[3,2-a]carbazole,5,12-dihydro-6,7-dimethyl-5,12-di-4-pyridinyl

CAS No.	1803246-66-3
Grade	Sublimed, >99 % (HPLC)
Formula	$C_{30}H_{22}N_4$
Molecular Weight	438.52 g/mole
Photoluminescence	430 nm (in CH_2Cl_2)
HOMO/LUMO	-5.47 eV/-2.17 eV
Tg	114 °C

Reference : Adv. Funct. Mater. 2015



Features

- This material of 4-pyridyl group renders good thermal stability, homogeneous morphology, and balanced carrier transporting ability without significantly lowering their triplet energy level.
- The two-color, single-host white device using 4ICDPy as the host exhibits superior EL performance and color stability with EQE of 20.3% and PE of 50.9 lm W⁻¹.
- The device with 4ICDPy shows low turn-on voltage and low efficiency roll-off at high luminance. This finding is an effective approach to design the universal host material for highly efficient RGB PhOLEDs and WOLEDs.

Device Application

The White Device:

ITO/ NPB (10 nm)/ TAPC (20 nm)/ 4ICDPy: 10% Flrpic: 0.2% Ir(piq)3 (30 nm)/ TPBi (50 nm)/ LiF (1 nm)/ Al (100 nm).

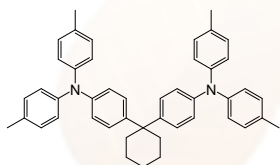
The Blue, green and red Devices:

ITO/ TAPC (50 nm)/ ICDP (10 nm)/ Host: FlrPic (8 %, 30 nm)/ 3TPYMB (5 nm)/ BCP (40 nm)/ LiF (1 nm)/ Al (100 nm).

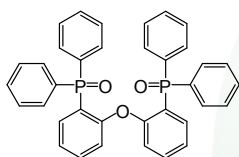
ITO/ NPB (10 nm)/ TAPC (20 nm)/ Host: fac-Ir(ppy)3 (6%, 25 nm)/ TPBi (60 nm)/ LiF (1 nm)/ Al (100 nm).

ITO/ NPB (15 nm)/ TcTa (10 nm)/ Host: (piq)2Ir(acac) (4%, 25 nm)/ BCP (10 nm)/ Alq3 (50 nm)/ LiF (1 nm)/ Al (100 nm).

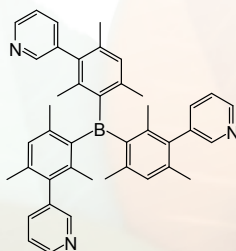
Related products from Lumtec :



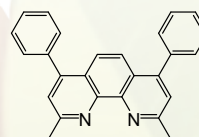
LT- N137 TAPC



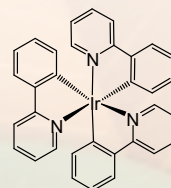
LT-E607 FlrPic



LT-N856 3TPYMB



LT-E304 BCP



LT-E504 fac- Ir(ppy)₃