

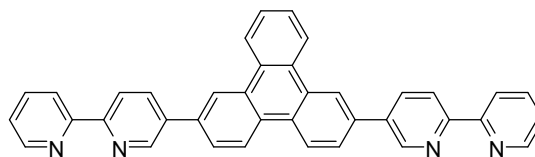


Novel Material of Promising Operational Stability and High-Efficiency OLEDs Based On TADF

Product Specifications

LT-N883 Bpy-TP2

Formula	$C_{38}H_{24}N_4$
M.W.	536.62 g/mole
Absorption	283, 342 nm (in CH_2Cl_2)
HOMO	-5.7 eV
LUMO	-2.7 eV
T_m	338 °C



Reference : 1. Scientific Reports 3, Article number: 2127
2. J. Mater. Chem., 2012, 22, 20689–20695

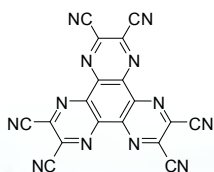
Features

- A novel molecule (Bpy-TP2) was developed by connecting two bipyridine moiety on an Triphenylene group; the OLED containing Bpy-TP2 showed a significantly lower driving voltage, achieving lower power consumption when compared with Alq3 and TPBi.
- The device containing Bpy-TP2 demonstrated highly efficient TADF-based OLEDs (η_{EQE} of $13.9 \pm 0.5\%$ at $1,000 \text{ cd/m}^2$) with excellent operational stability, showing LT50 of 2,800 h at $1,000 \text{ cd/m}^2$ and of over 10,000 h at 500 cd/m^2 , which is comparable to that predicted for a 6 wt.% Ir(ppy)₃-doped device (4,500 h at $1,000 \text{ cd/m}^2$).

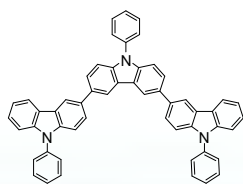
Device Application

ITO/ HAT-CN (10nm)/Tris-PCz (30nm)/ mCBP : 4CzIPN(15%,30nm)/T2T (10nm)/BPy-TP2 (40nm)/ LiF (0.8nm)/Al

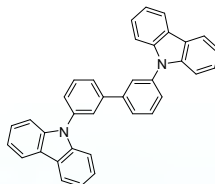
Related products from Lumtec :



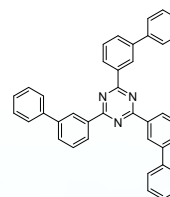
LT-N221 HAT-CN



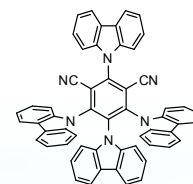
LT-N1001 Tris-PCz



mCBP



T2T



4CzIPN