



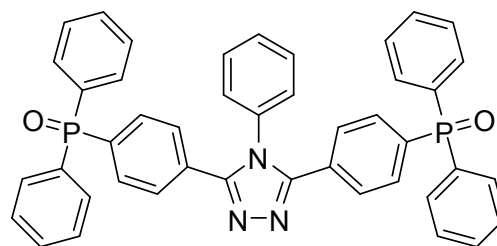
Novel Electron Transport Material for High Efficiency OLEDs

Product Specifications

LT-N886 TPO

Formula	$C_{44}H_{33}N_3O_2P_2$
M.W.	697.70 g/mole
Absorption	281 nm (in CH_2Cl_2)
Photoluminescence	363 nm (in CH_2Cl_2)
HOMO energy level	-6.28 eV
LUMO energy level	-2.51 eV
T_m	133 °C
T_d (5% loss)	423 °C
E_r energy level	2.86 eV

Reference : *Tetrahedron* 69 (2013) 9038~9044



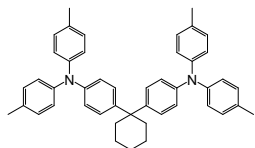
Features

- Novel electron transport material (TPO) has been synthesized, which exhibits wide energy gap (3.77 eV), deep HOMO level (-6.28 eV), high triplet energy (2.86 eV), high glass transition temperature (133 °C) and high thermal stability (T_d 423 °C).
- OLEDs using TPO as electron transport material showed lower driving voltage and higher efficiency (5.1V , 14.7 lm/w at 1000cd/m²) compared with the commonly used electron transport materials such as TAZ (6.1V , 9.5 lm/w), TPBi (5.6V , 6.9 lm/w) and BCP(6.4V , 9.5 lm/w).

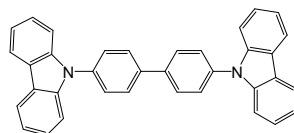
Device Application

ITO/MoO₃(2 nm)/TAPC (30 nm)/CBP:Ir(ppy)₃(8 wt %, 30 nm)/TPO(30 nm)/LiF (1 nm)/Al

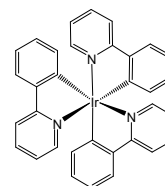
Related products from Lumtec :



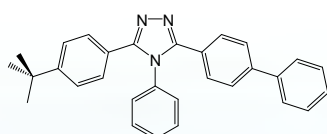
LT-N137 TAPC



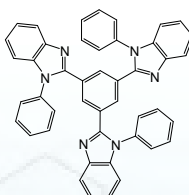
LT-E409 CBP



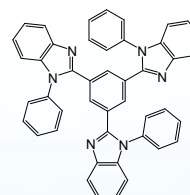
LT-E504 Ir(ppy)₃



LT-N836 TAZ



LT-E302 TPBi



LT-E304 BCP