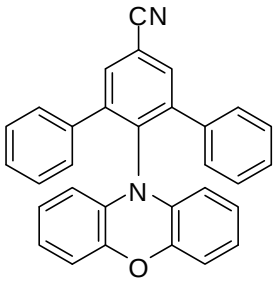
Luminescence Technology Corp.

Isomeric Thermally Activated Delayed Fluorescence Emitters for Color Purity-Improved Emission in Organic Light-Emitting Devices

Product Specifications

LT-N6030 mPTC

Name.	2'-(10*H*-phenoxazin-10-yl)-[1,1':3',1''-terphenyl]-5'-carbonitrile
CAS No.	1948247-74-2
Grade	Sublimed, >99 % (HPLC)
Formula	$C_{31}H_{20}N_2O$
Molecular Weight	436.50 g/mole
Absorption	320, 405 nm (in cyclohexane)
PL	455 nm (in cyclohexane)
HOMO/LUMO	-5.12eV/ -2.84 eV
ΔE_{ST}	0.01 eV



** Reference: ACS Appl. Mater. Interfaces **2016**, 8, 16791−16798*

Features

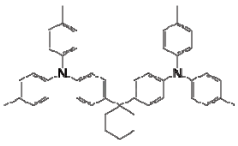
- The mPTC exhibits high external quantum efficiencies (17.4% for mPTC) in the device.
- The color purity of emission from mPTC (full width at halfmaximum (fwhm) of 86 nm) is improved in the device. These results prove that increased restriction of the molecular structure is a simple and effective method to improve the color purity of the TADF emitters.

Device Application

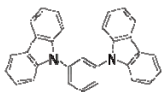
The Blue Sky TADF Device:

ITO/ TAPC (40 nm)/ TcTa (5 nm)/ MCP:mPTC (6.5 wt %, 20 nm)/ TmPyPB (35 nm)/ LiF (1 nm)/ Al.

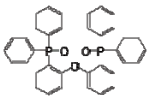
ITO/ TAPC (40 nm)/ MCP (5nm)/ DPEPO:mPTC (6.5 wt%, 20 nm)/ DPEPO (5 nm)/ TmPyPB (35nm)/ LiF (1 nm)/ Al.



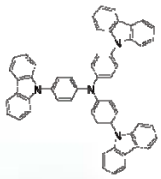
LT-N137 TAPC



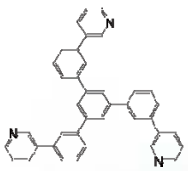
LT-E107 MCP



LT-N4060 DPEPO



LT-E207 TcTa



LT-N863 TmPyPB

LiF = LT-E001

Al = LT-E005

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