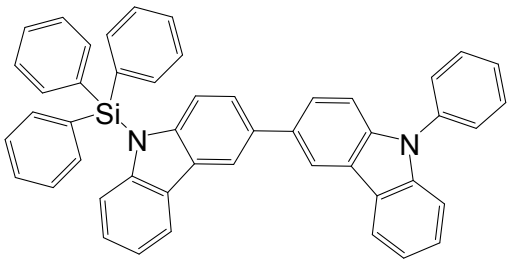
Lumtec Luminescence Technology Corp.

Efficient blue/white phosphorescent orangic light-emitting diodes based on a silicon-based host material via a direct carbon-nitrogen bond

Product Specifications

LT-N4122 BCz-Si 9-Phenyl-9'-(triphenylsilyl)-9*H*,9'*H*-3,3'-bicarbazole

CAS No.	1770916-57-8
Grade	Sublimed, >99 % (HPLC)
Formula	$C_{48}H_{34}N_2Si$
Molecular Weight	666.88 g/mole
Absorption	245, 350 nm(in CH_2Cl_2)
Photoluminenscence	401 nm(in CH_2Cl_2)
HOMO/LUMO	-5.62 eV/-2.3 eV
Tg	130 °C
TGA	> 250 °C (0.5 % weight loss)



Reference : J. Mater. Chem. C, 2015, 3, 5347-5353

Features

- The high triplet energy of BCz-Si ensures efficient energy transfer from the host to the triplet emitter FlrPic. The blue device using BCz-Si as a host material achieved a maximum quantum efficiency of 21.0%, a current efficiency and power efficiency as high as 46.5 cdA^{-1} and 45.8 lmW^{-1}.
- The warm-white OLED by current efficiency of BCz-Si-based device can reach as high as 70.5 cdA^{-1} for two color-based WOLED and 50.1 cdA^{-1} for three color-based WOLED.

Device Application

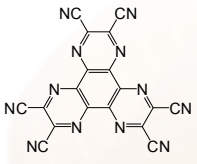
The Best Blue Device :

ITO/HAT-CN(10 nm)/TAPC(40 nm)/BCz–Si:FIrPic(5 wt%, 20 nm)/TmPyPB(45 nm)/Liq(2 nm)/Al(120 nm)

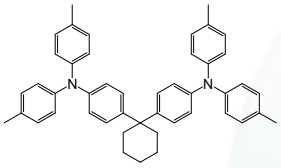
The Best White Three Color-based Device :

ITO/HAT-CN(10 nm)/TAPC(45 nm)/BCz–Si:FIrPic:PO-01(8%, 0.5%, 20 nm)/TmPyPB(45 nm)/Liq(2 nm)/Al(120 nm)

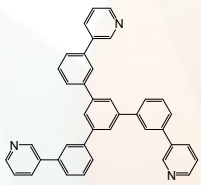
Related products from Lumtec :



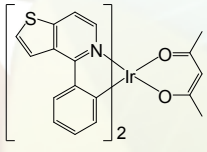
LT-N221 HAT-CN



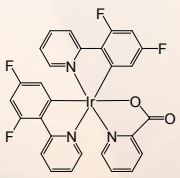
LT- N137 TAPC



LT-N863 TmPyPB



LT-N748 PO-01



LT-E607 FIrPic

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