

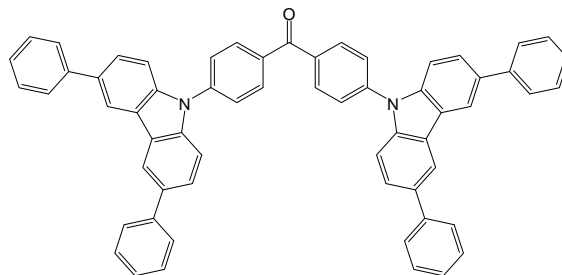


## Novel Blue Bipolar TADF Material as Host Emitter for High-Efficiency Hybrid Warm-White OLEDs with Stable High Color-Rendering Index

### Product Specifications

#### LT-N4161 PHCz2BP

<b>Name.</b>	Bis(4-(3,6-diphenyl-9H-carbazol-9-yl)phenyl)methanone
<b>CAS No.</b>	1360642-12-1
<b>Grade</b>	Sublimed, >99 % (HPLC)
<b>Formula</b>	C <sub>61</sub> H <sub>40</sub> N <sub>2</sub> O
<b>Molecular Weight</b>	816.98 g/mole
<b>Absorption</b>	300, 370 nm (in Toluene)
<b>Emission</b>	438 nm (in Toluene)
<b>HOMO/LUMO</b>	-5.77 eV/ -2.25 eV
$\Delta E_{ST}$	0.14 eV



\* Reference: *Adv. Funct. Mater.* **2018**, 1707002

### Features

- PHCz2BP was used not only as a neat emitting layer to construct highly efficient sky blue nondoped OLED with the very high peak EQE/power efficiency (PE) values of 4.0%/6.9 lm W<sup>-1</sup> but also as a host to sensitize high-efficiency multi-color electrophosphorescence, including green (524 nm), orange (590 nm), and red (618 nm) light, with universal high EQEs of >20%.

### Device Application

#### The Orange PHOLEDs Device:

ITO/ NPB (35 nm)/ MCP (5 nm)/ PHCz2BP:Ir(bzq)<sub>2</sub>(dipba) (30 nm, 3 wt%)/ B3PYMPM (30 nm)/ LiF (0.5 nm)/ Al (150 nm).

#### The Red PHOLEDs Device:

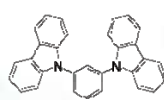
ITO/ NPB (35 nm)/ MCP (5 nm)/ PHCz2BP:Ir(bt)<sub>2</sub>(dipba) (30 nm, 3 wt%)/ B3PYMPM (30 nm)/ LiF (0.5 nm)/ Al (150 nm).

#### The White PHOLEDs Device:

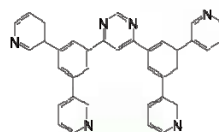
ITO/ NPB (35 nm)/ MCP (5 nm)/ PHCz2BP:Ir(ppy)<sub>2</sub>(acac) (0.5 wt%)and PHCz2BP:Ir(bt)<sub>2</sub>(dipba) (0.8 wt%)(30nm)/ B3PYMPM (30 nm)/ LiF (0.5 nm)/ Al (150 nm).



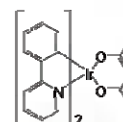
LT-E101 NPB



LT-E107 MCP  
LiF = LT-E001



LT-N876 B3PYMPM  
Al = LT-E005



LT-E505 Ir(ppy)<sub>2</sub>(acac)

Materials are used by qualified for testing and research only, there are not guaranteed in patent contention by customer use.