

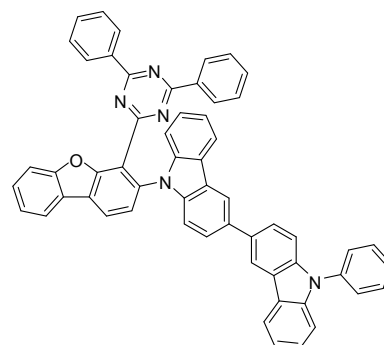


## A Novel Molecular Design Employing a Backbone Freezing Linker for Improved Efficiency, Sharpened Emission and Long Lifetime in Thermally Activated Delayed Fluorescence Emitters

### Product Specifications

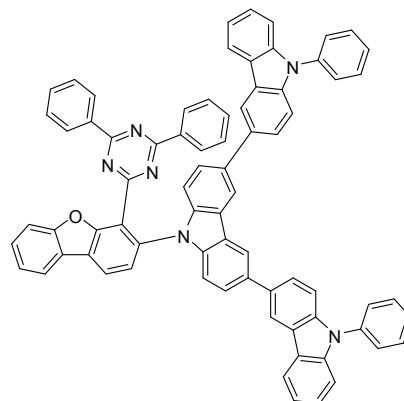
#### LT-N573 BCzTrzDBF

<b>Name.</b>	9-(4-(4,6-diphenyl-1,3,5-triazin-2-yl)-dibenzo[b,d]furan-3-yl)-9'-phenyl-9H,9'H-3,3'-bicarbazole
<b>CAS No.</b>	2351818-36-3
<b>Grade</b>	Sublimed, >99 % (HPLC)
<b>Formula</b>	C <sub>57</sub> H <sub>35</sub> N <sub>5</sub> O
<b>Molecular Weight</b>	805.92 g/mole
<b>Electroluminescence</b>	503 nm
<b>HOMO/LUMO</b>	-5.85 eV/ -3.34 eV
<b>ΔE<sub>ST</sub></b>	0.06 eV



#### LT-N574 TCzTrzDBF

<b>Name.</b>	9'-(4-(4,6-diphenyl-1,3,5-triazin-2-yl)-dibenzo[b,d]furan-3-yl)-9,9''-diphenyl-9H,9'H,9''H-3,3':6',3'''-tercarbazole
<b>CAS No.</b>	2351848-35-4
<b>Grade</b>	Sublimed, >99 % (HPLC)
<b>Formula</b>	C <sub>75</sub> H <sub>46</sub> N <sub>6</sub> O
<b>Molecular Weight</b>	1047.21 g/mole
<b>electroluminescence</b>	511 nm
<b>Emission</b>	nm (in CH <sub>2</sub> Cl <sub>2</sub> )
<b>HOMO/LUMO</b>	-5.87 eV/ -3.43 eV
<b>ΔE<sub>ST</sub></b>	0.01 eV



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

Head office: 31F-5, No. 99, Sec. 1, Xintai 5<sup>th</sup> Rd., Xizhi, New Taipei City 22175, Taiwan, R.O.C., TEL: +886-2-2697-5600, FAX: +886-2-2697-5601.

Factory I: 2F, No. 21, R&D Road II, Science-Based Industrial Park, Hsin-Chu 30076, Taiwan, R.O.C., TEL: +886-3-666-3188, FAX: +886-3-666-9288.

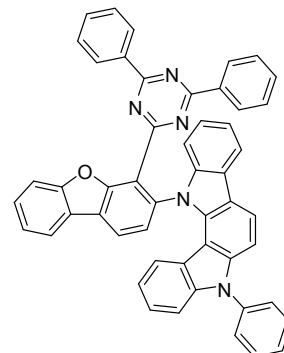
總公司: 22175 新北市汐止區新台五路一段 99 號 31 樓之 5, 電話: 02-2697-5600, 傳真: 02-2697-5601.

新竹廠: 30076 新竹科學工業園區研發二路 17 號 2 樓, 電話: 03-666-3188, 傳真: 03-666-9288.

E-mail: [sales@lumtec.com.tw](mailto:sales@lumtec.com.tw); Web: <http://www.lumtec.com.tw>

## LT-N6032 IDCzTrzDBF

<b>Name.</b>	12-(4-(4,6-diphenyl-1,3,5-triazin-2-yl)-dibenzo[b,d]furan-3-yl)-5-phenyl-5,12-dihydroindolo[3,2-a]carbazole
<b>CAS No.</b>	2351820-14-7
<b>Grade</b>	Sublimed, >99 % (HPLC)
<b>Formula</b>	C <sub>51</sub> H <sub>31</sub> N <sub>5</sub> O
<b>Molecular Weight</b>	729.82 g/mole
<b>electroluminescence</b>	500 nm
<b>HOMO/LUMO</b>	-5.88 eV/ -3.34 eV
$\Delta E_{ST}$	0.05 eV



\* Reference: *J. Mater. Chem. C*, **2019**, 7, 2919--2926

## Features

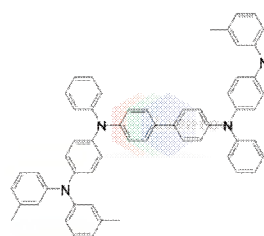
- Summary of device performances of BCzTrzDBF, TCzTrzDBF, and IDCzTrzDBF at a 5 wt% doping conc.

	CIE	FWHM(nm)	EQE(%)		PE(lm/W)		CE(cd/A)	
			3000 cd/m <sup>2</sup>	Max	3000 cd/m <sup>2</sup>	Max	3000 cd/m <sup>2</sup>	Max
BCzTrzDBF	(0.24,0.52)	84	13.1	20.1	17.2	35.1	38.5	59.6
TCzTrzDBF	(0.27,0.57)	80	17.8	23.5	25.8	44.7	56.1	74.8
IDCzTrzDBF	(0.22,0.48)	81	10.6	12.2	12.8	19.3	28.8	33.6

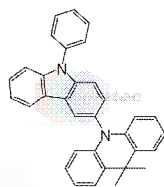
## Device Application

### The Green TADF OLEDs Device:

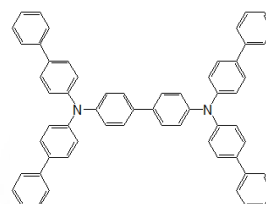
ITO (50 nm)/ DNTPD (60 nm)/ BPBPA (20 nm)/ PCZAC (10 nm)/ mCBPTrz:BCzTrzDBF, mCBPTrz:TCzTrzDBF or mCBPTrz:IDCzTrzDBF (30 nm, 5 wt%)/ DBFTrz (5 nm)/ ZADN (30 nm)/ LiF (1.5 nm)/ Al (200 nm).



LT-220 DNTPD



LT-N184 PCZAC



LT-N151 BPBPA

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

Head office: 31F-5, No. 99, Sec. 1, Xintai 5<sup>th</sup> Rd., Xizhi, New Taipei City 22175, Taiwan, R.O.C., TEL: +886-2-2697-5600, FAX: +886-2-2697-5601.

Factory I: 2F, No. 21, R&D Road II, Science-Based Industrial Park, Hsin-Chu 30076, Taiwan, R.O.C., TEL: +886-3-666-3188, FAX: +886-3-666-9288.

總公司: 22175 新北市汐止區新台五路一段 99 號 31 樓之 5, 電話: 02-2697-5600, 傳真: 02-2697-5601.

新竹廠: 30076 新竹科學工業園區研發二路 17 號 2 樓, 電話: 03-666-3188, 傳真: 03-666-9288.

E-mail: [sales@lumtec.com.tw](mailto:sales@lumtec.com.tw); Web: <http://www.lumtec.com.tw>