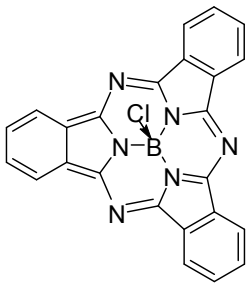
Lumtec Luminescence Technology Corp.

Materials for Ultra High Efficient Fullerene-free Organic Solar Cells

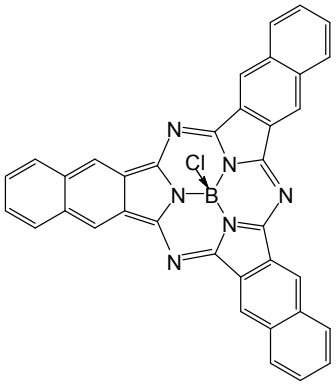
Product Specifications

LT-S943 SubPc



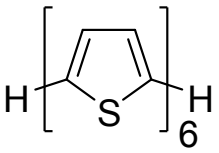
Formula	$C_{24}H_{12}BN_6Cl$
M.W.	430.66 g/mole
UV	565 nm (in DMF)
PL	577 nm (in DMF)
LUMO	-3.6 eV
Grade	Sublimed product

LT-S947 SubNc



Formula	$C_{24}H_{12}BN_6Cl$
M.W.	574.67 g/mole
UV	295 nm (in $CHCl_3$)
LUMO	-3.6 eV
Grade	Sublimed product

LT-S969 α-6T



Formula	$C_{24}H_{14}S_6$
M.W.	494.76g/mole
UV	437 nm (in $CHCl_3$)
PL	511 nm (in $CHCl_3$)
HOMO	-5.0eV
Grade	Sublimed product

Reference : Nature communications | 5:3406 (2014)

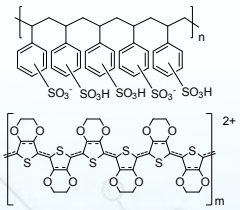
Features

- A three-layer devices comprising two non-fullerene acceptors and a donor, the photocurrent of the device from all three complementary absorbing materials, resulting in a quantum efficiency above 75% between 400 and 720 nm.
- SubPc and SubNc can be combined as acceptors in a three-layer device structure, with a two-step exciton-dissociating mechanism shown to be active.
- The fullerene-free organic solar cells shows a V_{OC} of 0.96 V and a final power conversion efficiency of 8.4% , which is unprecedented for fullerene-free organic solar cells, and even establishes a record efficiency for evaporated single-junction OPV devices.

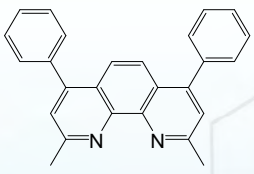
Device Application

ITO/PEDOT:PSS/α-6T/SubNc/SubPc/BCP/Ag

Related products from Lumtec :



LT-PS001 PEDOT:PSS



LT-E304 BCP

Address: 2F, No. 17, 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.
E-mail : sales@lumtec.com.tw ; Web : http://www.lumtec.com.tw