



Luminescence Technology Corp.

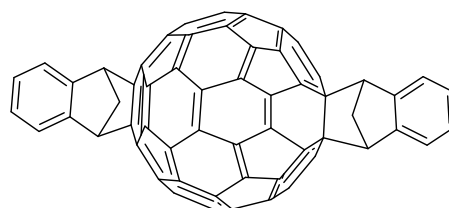
Novel Indene-C₇₀ Bis-Adducts for High Open Circuit Voltage and Efficient Polymer Solar Cells

Product Specifications

LT-S9078

IC₇₀BA

Formula	C ₈₈ H ₁₆
Molecular Weight	1073.04 g/mole
HOMO (eV)	-5.61eV
LUMO (eV)	-3.72eV



Reference : *Adv. Funct. Mater.* **2010**, 20, 3383–3389

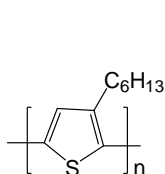
Information

- A novel soluble molecule IC₇₀BA was developed as an acceptor in which a C₇₀ fullerene moiety was condensed with Indene moiety.
- Compare to the energy level of PC₇₁BM, the LUMO energy level of IC₇₀BA is 0.19 eV higher than the level of PC₇₁BM. The LUMO level of PC₇₁BM is the same as that of PC₆₁BM, which is too low for the PSCs based on the polymer donors with higher HOMO level.
- Moreover, the PSC based on P3HT with IC₇₀BA as acceptor shows a higher Voc of 0.84 V and higher power conversion efficiency (PCE) of 5.64%, while the PSC based on P3HT/PC₆₁BM and P3HT/PC₇₁BM displays Voc of 0.59 V and 0.58 V, and PCE of 3.55% and 3.96%, respectively.

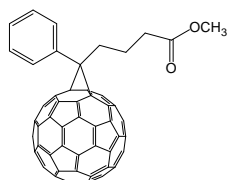
Device Application

ITO/PEDOT:PSS/P3HT:IC₇₀BA /Ca/Al

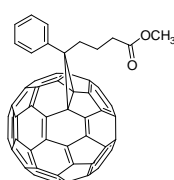
Related products from Lumtec:



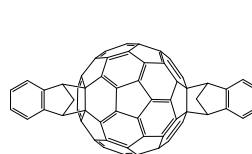
LT-S909, P3HT



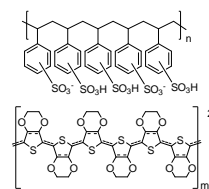
LT-S905, PC₆₁BM



LT-S923, PC₇₁BM



LT-S9030, ICBA



LT-PS001, PEDOT:PSS

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

Head office : 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.

Taipei office : 6F, No 58, Zhouzi St., Neihsu Dist., Taipei City 11493, Taiwan R.O.C., TEL : +886-2-2659-8858, FAX : +886-2-2659-8851.

新竹總公司 : 30076 新竹科學工業園區研發二路 17 號 2 樓, TEL : 03-666-3188, FAX : 03-666-9288.

台北分公司 : 11493 台北市內湖區洲子街 58 號 6 樓, TEL : 02-2659-8858, FAX : 02-2659-8851.

E-mail : sales@lumtec.biz ; Web : <http://www.lumtec.com.tw>