Luminescence Technology Corp.

Reference Study: HLCT Materials_DPTPA

Highly-efficient hybrid white organic light-emitting diodes based on a high radiative exciton ratio deep blue emitter with improved concentration of phosphorescent dopant

Xinhua Ouyang,a) Xiang-Long Li,b) Yongqi Bai,a) Dongbo Mi,a) Ziyi Ge,a) and Shi-Jian Su,b)

a) Ningbo Institute of Materials Technology & Engineering (NIMTE), Chinese Academy of Sciences (CAS), Ningbo, 315201, P. R. China.

b) State Key Laboratory of Luminescent Materials and Devices (South China University of Technology), Institute of Polymer Optoelectronic Materials and Devices, South China University of Technology, Guangzhou, 510641, P. R. China.

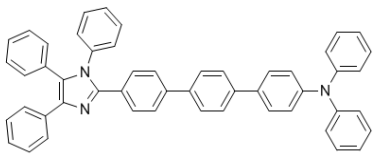
Reference: RSC Adv., 2015, 5, 32298-32306

Abstract

- The device uses a new deep-blue materials DPTPA that shows a saturated deep-blue emission solely from DPTPA (peaked at 438 nm) and CIE coordinates of (0.15, 0.09).
- For the EL efficiencies, the device exhibits impressive maximum EQE, CE and PE of 3.81%, 3.45 cd A-1 and 3.52 lmW-1, respectively.
- And, at the brightness of 1000 cd m-2, these efficiencies still remain to be 3.40%, 3.07 cd A-1 and 1.88 lm W-1.

Materials & Devices

Device: ITO/HAT-CN (5 nm)/NPB (40 nm)/TCTA (5 nm)/DPTPA (20 m)/TPBI (40 nm)/LiF (1 nm)/Al



DPTPA

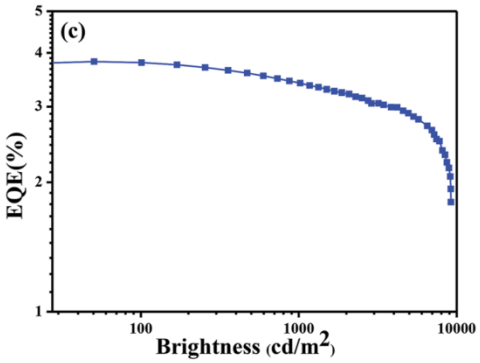


**Fig.(c) reference source: Chem. Sci., 2020,11, 5058-5065*

Head office : 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.
Taipei office : 9F., No.3, Park St., Nangang Dist., Taipei City 11503, Taiwan, R.O.C., TEL：+886-2-2655-8658, FAX：+886-2-2655-8699.
新竹總公司 : 30076 新竹科學工業園區研發二路 21 號 2 樓, TEL : 03-666-3188, FAX : 03-666-9288.
台北分公司 : 11503 台北市南港區園區街 3 號 9 樓 B2, TEL : 02-2655-8658, FAX : 02-2655-8699.
E-mail : sales@lumtec.biz ; Web : http://www.lumtec.com.tw