



Reference Study: HLCT Materials_TPP-TXO2

Highly efficient deep-blue OLEDs based on hybridized local and charge-transfer emitters bearing pyrene as the structural unit

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Abstract

- A new family of hybridized local and charge-transfer (HLCT) emitters bearing a pyrene structural unit has been made for deep-blue OLED device.
- Deep-blue OLEDs based on them achieved high brightness over 10000 cd m⁻², high maximum external quantum efficiency over 10.5%, and high maximum exciton utilization efficiency approaching 100%, with CIE coordinates of (0.152, 0.065).

Materials & Devices

Device: ITO/HAT-CN (6 nm)/HAT-CN (0.2 wt%):TAPC (50 nm)/ **TPP-TXO2**:TcTa (12 wt%, 10 nm)/emitter:26DCzPPy (12 wt%, 10 nm)/Tm3PyP26PyB (50 nm)/LiF (1 nm)/Al (100 nm)

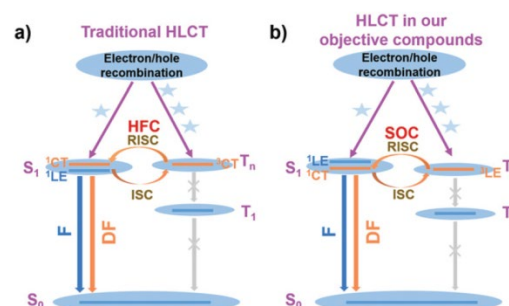
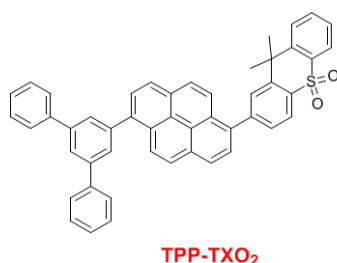


Fig. 3 The mechanism diagram of EL and molecular design. (a) Traditional HLCT materials; and (b) HLCT materials bearing pyrene subunits.

*Fig.3 reference source: Chem. Commun., 2019, 55, 6317--6320

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

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