Supporting Information

Enhanced ambipolar charge transport for efficient organic single crystal light-emitting transistors with narrowed ambipolar regime

Ke Zhou, ab Jie Liu, Huanli Dong, Shang Ding, Yonggang Zhen, Yumeng Shi*b and Wenping Hu*ac

a.Beijing National Laboratory for Molecular Sciences, Key Laboratory of Organic Solids, Institute of Chemistry, Chinese

Academy of Sciences, Beijing 100190, China.

b.International Collaborative Laboratory of 2D Materials for Optoelectronics Science and Technology of Ministry of Education, Institute of Microscale Optoelectronics, Shenzhen University, Shenzhen 518060, China.

c.Tianjin Key Laboratory of Molecular Optoelectronic Sciences, Department of Chemistry, School of Sciences, Tianjin University & Collaborative Innovation Center of Chemical Science and Engineering, Tianjin 300072, China.

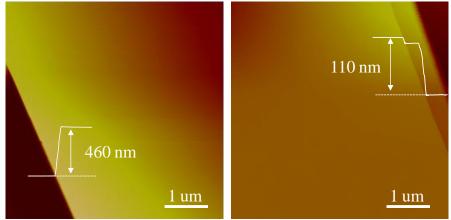


Fig S1 AFM image of typical DPA single crystals with two different thicknesses of 110 nm and 460 nm.

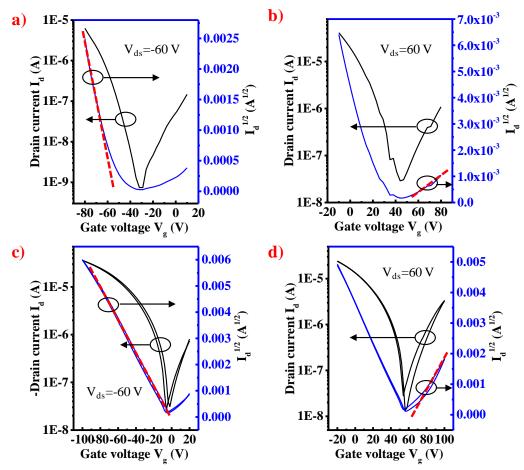


Fig S2 Typical p-channel (left) and n-channel (right) transfer curves of DPA single crystal OLETs with different electrodes and linear fit in red for threshold voltage and mobilities. (a, b) Au and Ca used as electrodes; (c, d) Au/MoO3 and Ca/CsF used as electrodes.

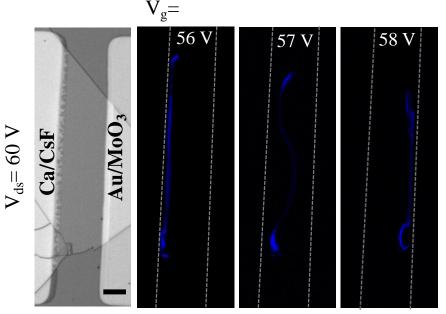


Figure S3 Optical images of light emission zone within n-operation channel for a DPA single crystal OLET with Au/MoO3 and Ca/CsF as electrodes. V_{ds} fixed at 60 V and V_{g} changed from 56 V to 58 V. The scale bar 50 μ m.

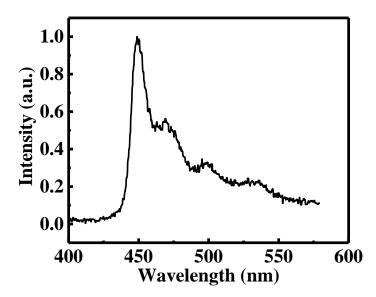


Fig S4 EL of a DPA single crystal OLET.