Supporting Information

Perylene Crystals: Tuning Optoelectronic Properties By Dimensional-controlled Synthesis

Qing Liao,*[a] Weigang Zhu,[b] ke Hu[a] and Hongbing Fu*[a,b]

[a] Beijing Key Laboratory for Optical Materials and Photonic Devices, Department of Chemistry, Capital Normal University, Beijing, 100048, P. R. China.

[b] Beijing National Laboratory for Molecular Sciences (BNLMS), Institute of Chemistry, Chinese Academy of Sciences, Beijing, 100190

E-mail: liaoqing@cnu.edu.cn; hongbing.fu@iccas.ac.cn

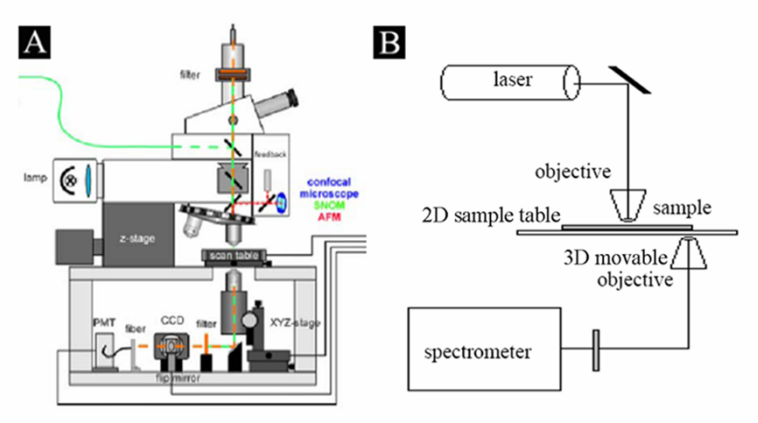

Figure S1. The sketch of our home-made confocal optical microscopy.

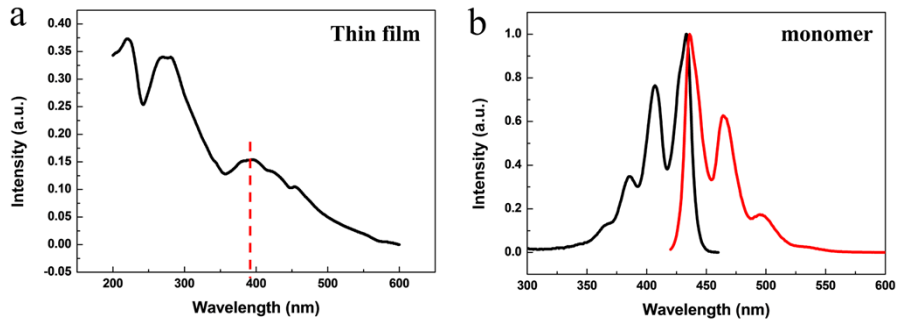

Figure S2. (a) The absorption spectra of perylene thin film (30 nm thickness) on a quartz glass substrate; (b) The absorption and PL spectra of perylene solution in acetonitrile. The absorption spectra was obtained from 10^{-5} M solution and the PL spectra excited at 386 nm with a 10^{-6} M solution.

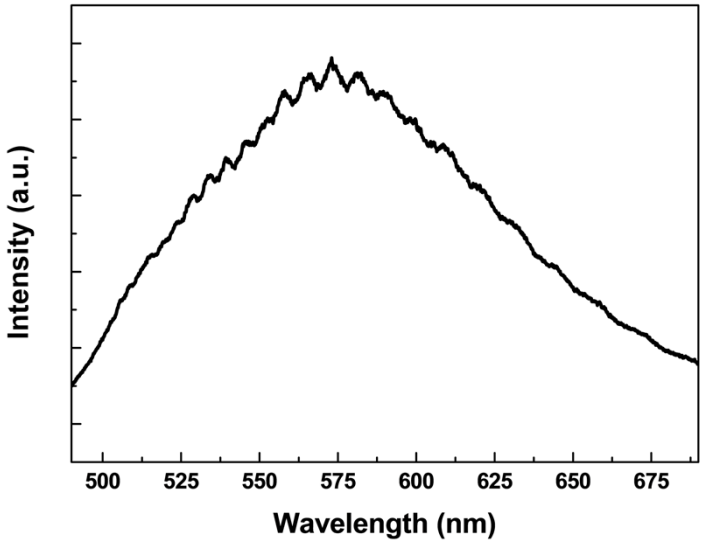

Figure S3. Spectra collected from ribbon crystal excited with a 408 nm laser.

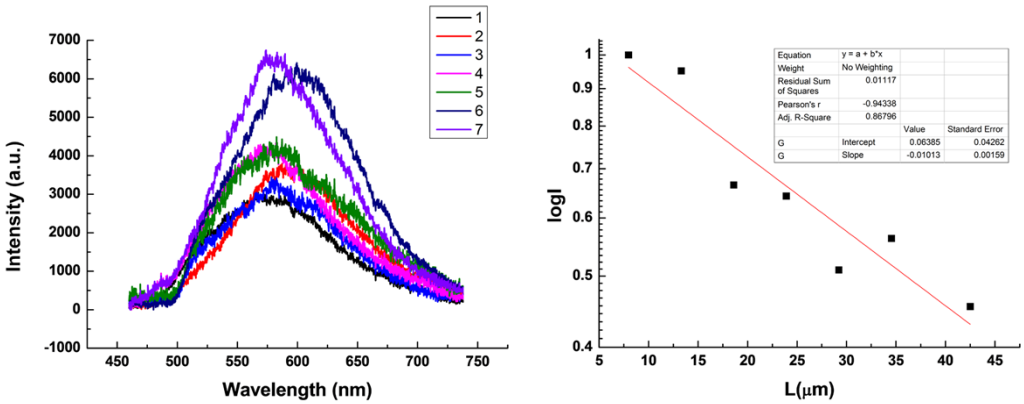

Figure S4. Waveguide characterization from direction 2 of corresponding square perylene crystal.

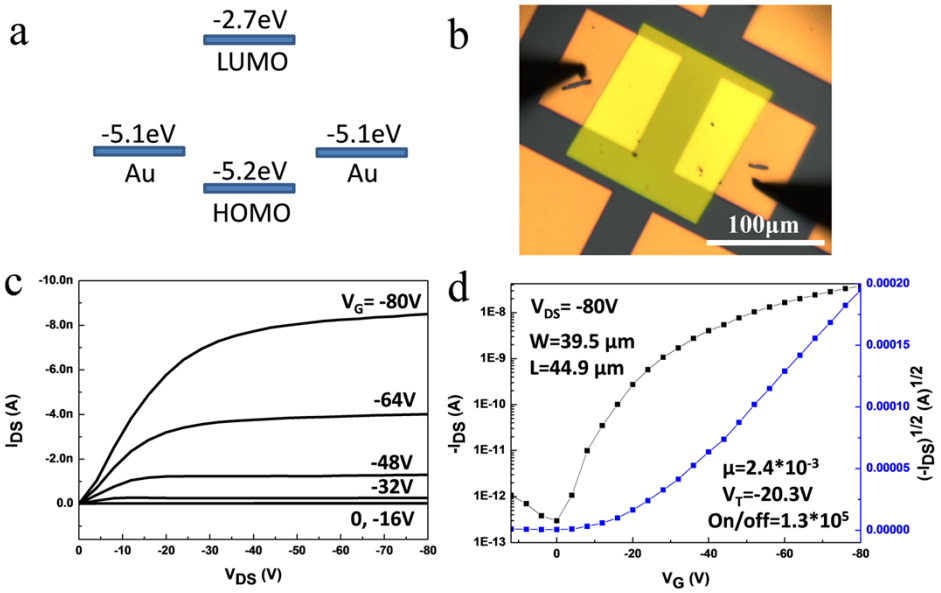

Figure S5. (a) The energy level of perylene and gold electrode; (b) The optical image of square crystal device; (c) and (d) are the typical output and transfer curves.