Supporting Information for

Controlled Growth of Large-Area Aligned Single-Crystalline Organic Nanoribbon Arrays for Transistors and Light-Emitting Diodes Driving

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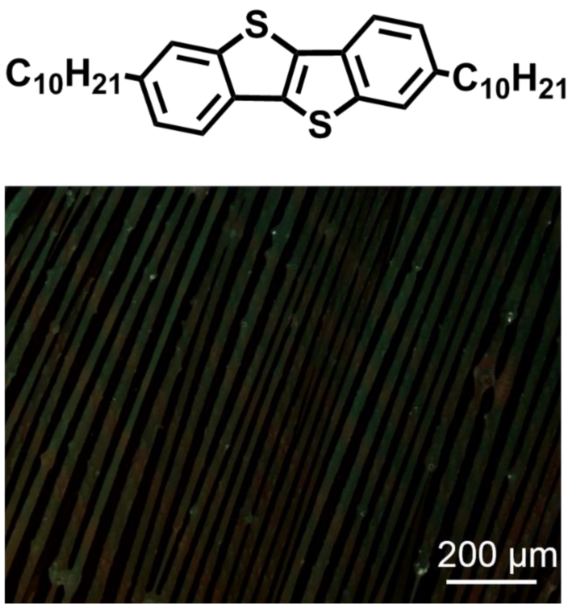

Fig. S1 Molecular structure of the C10-BTBT and corresponding cross-polarized microscope image of ribbon arrays by using dip-coating method

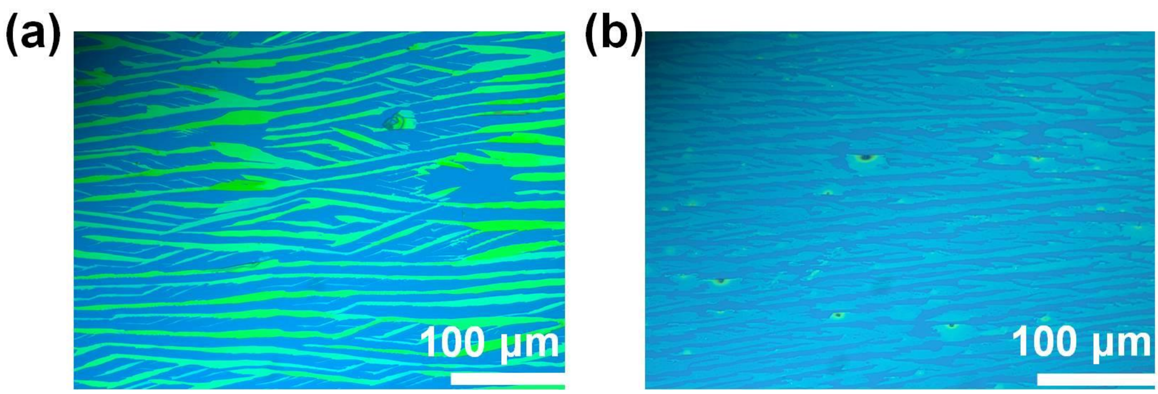

Fig. S2 Fluorescence microscope images of **a** BPEA and **b** TIPS-PEN nanoribbon arrays on the SiO_2/Si substrates formed at a coating speed of 120 μm s^{-1}

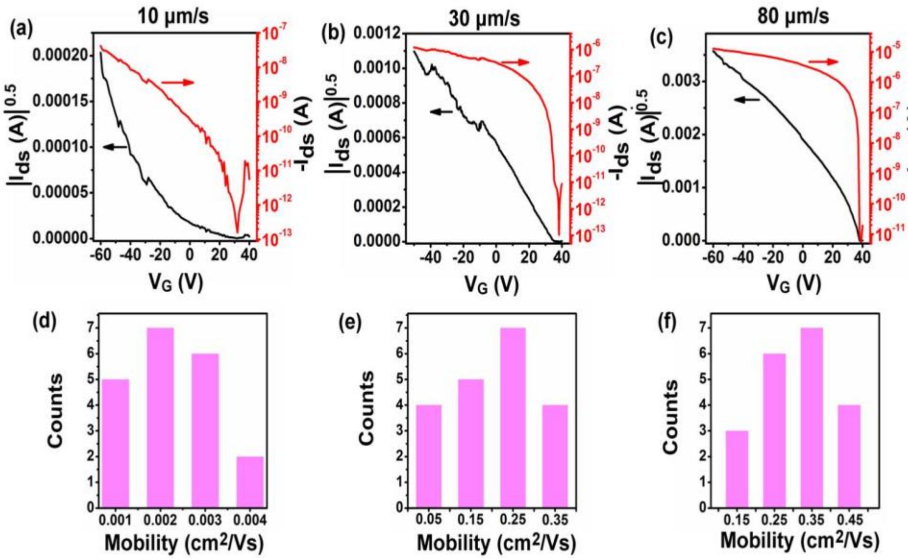

Fig. S3 Typical transfer characteristics (V_{DS} = -50 V) of the OFETs based on BPEA nanoribbon arrays fabricated at different coating speeds of 10, 30, and 80 μm s^{-1} (**a, b, c**), respectively, on the SiO_2/Si substrates. **d-f** The corresponding statistical diagrams of mobilities. The OFETs use u as *S* and *D* electrodes and have *L* of 40 μm

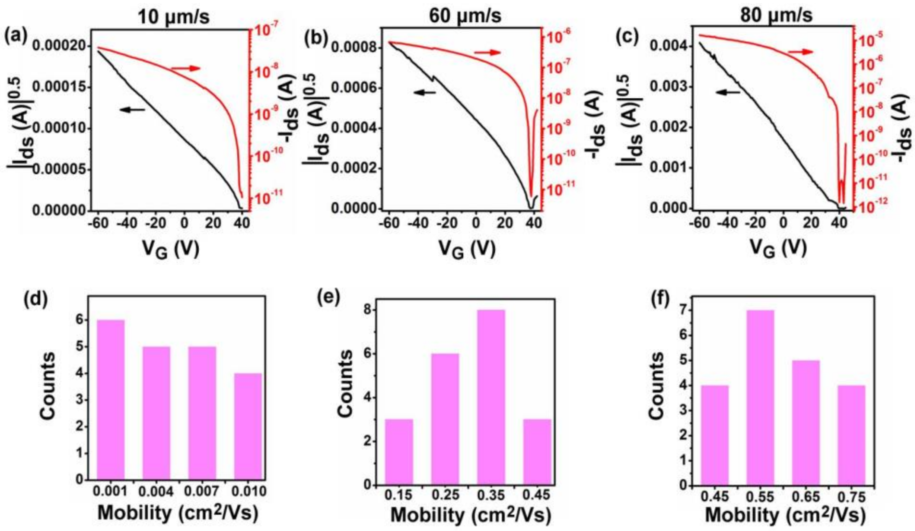

Fig. S4 Typical transfer characteristics (V_{DS} = -50 V) of OFETs based on TIPS-PEN nanoribbon arrays fabricated at different coating speeds of 10, 60, and 80 μm s^{-1} (**a, b, c**), respectively, on the SiO_2/Si substrates. **d-f** The corresponding statistical diagrams of mobilities. The OFETs use Au as *S* and *D* electrodes and have *L* of 40 μm

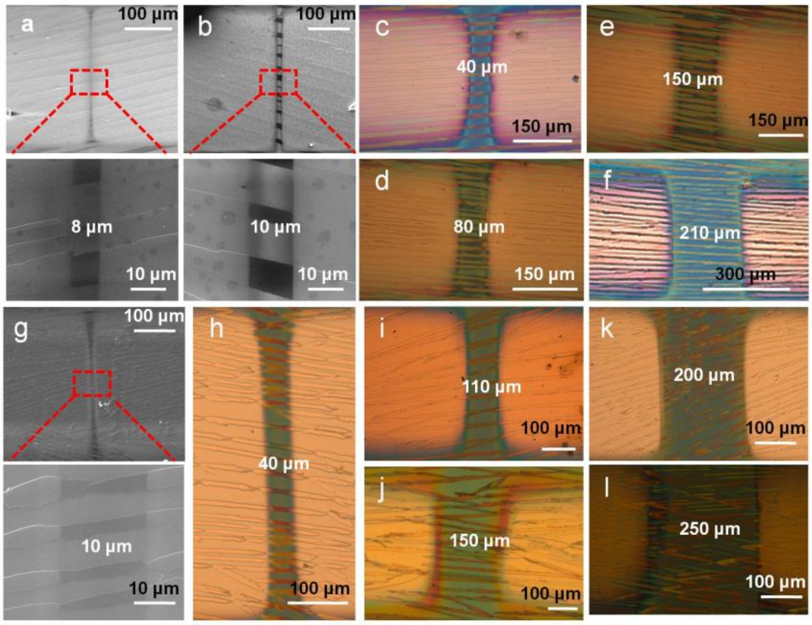

Fig. S5 Optical microscope images of the OFETs based on **a-f** TIPS-PEN nanoribbon arrays and **g-l** BPEA nanoribbon arrays fabricated at coating speeds of 80 μm s^{-1}, respectively, with different channel lengths

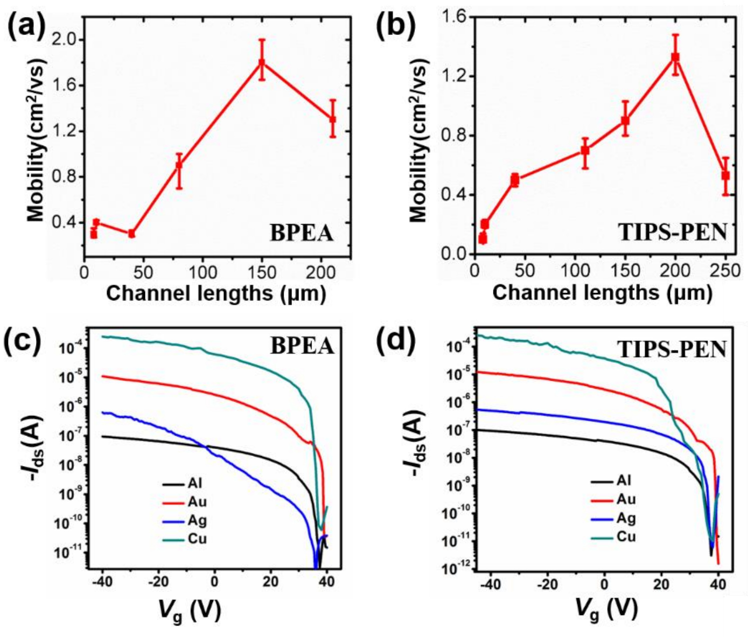

Fig. S6 Average charge-carrier mobility of the OFETs fabricated from BPEA (**a**) and TIPS-PEN (**b**) nanoribbon arrays at a coating speed of 80 μm s^{-1} with different channel lengths. The typical transfer characteristics (V_{DS} = -50 V) of OFETs based on the BPEA (**c**) and TIPS-PEN (**d**) nanoribbon arrays fabricated at a coating speed of 80 μm s^{-1} with different metallic *S* and *D* electrodes

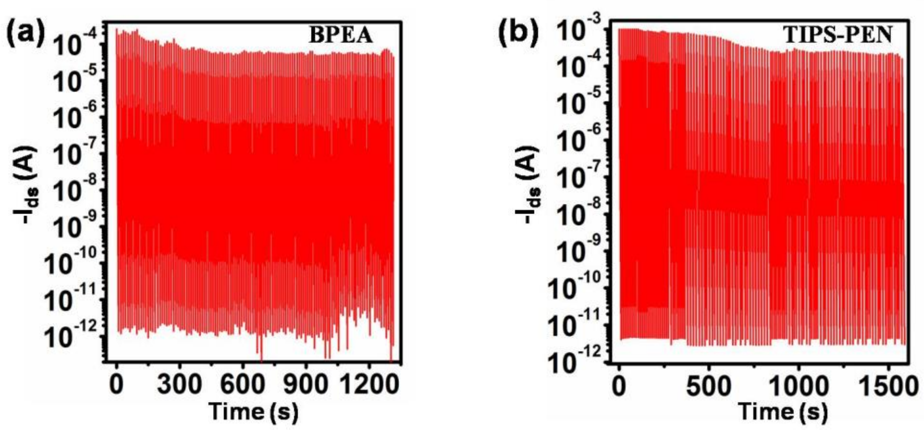

Fig. S7 Cycle stability of BPEA (**a**) and TIPS-PEN (**b**) nanoribbon array-based OFETs with a continuous ON (V_G = -60 V) and OFF (V_G = 38 V) cycles