

Supporting Information

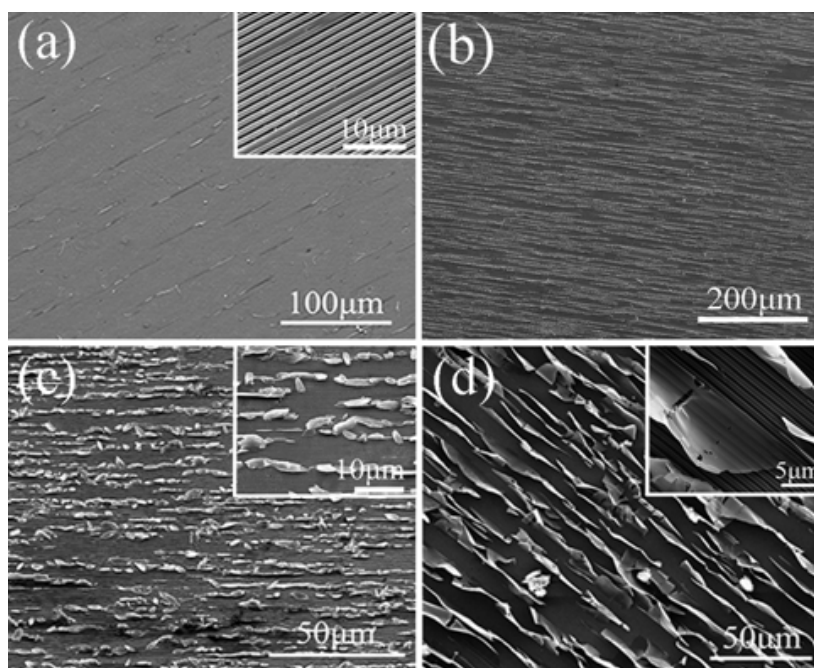


Figure S1. SEM images of the CuPc arrays grown on the grating substrates under different conditions. Placing height, growth pressure, Ar flow ratio for these samples are (a) 0 cm, 220 Pa, 60 sccm. (b) 0.8 cm, 220 Pa, 60 sccm. (c) 1.6 cm, 220 Pa, 60 sccm. (d) 0 cm, 440 Pa, 60 sccm, respectively.

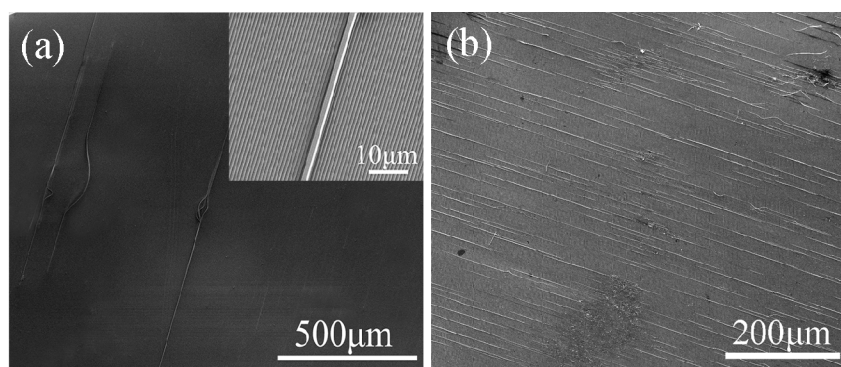


Figure S2. SEM images of CuPc NW arrays grown on the grating substrates with the same placing height (0.8 cm) and growth pressure (220 Pa) but different Ar flow ratio. (a) 40 sccm. (b) 60 sccm.

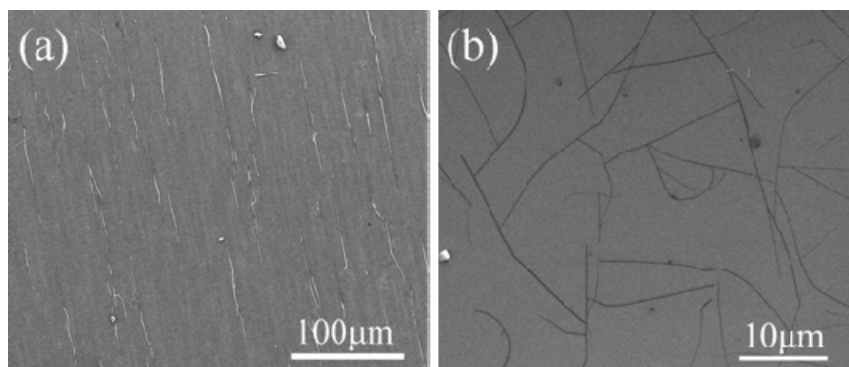


Figure S3. SEM images of the CuPc NW arrays grown on (a) grating substrate which was rotated at 90° in plane. (b) smooth silicon substrate.

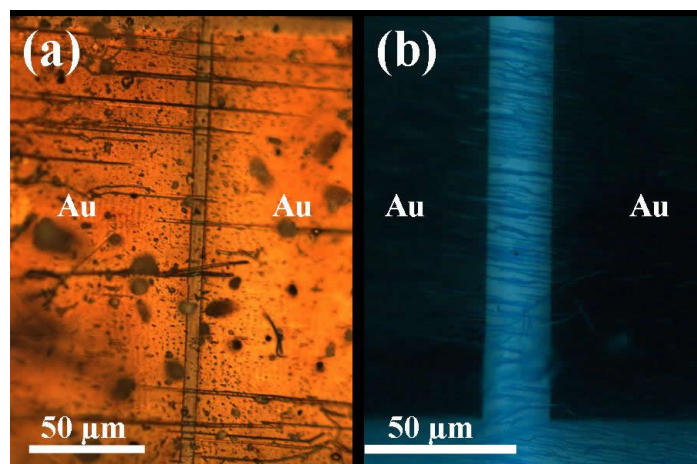


Figure S4. (a) Optical image of the device detected in this paper with electrode interspace of $\sim 5\ \mu\text{m}$. There are about 10 NWs in this device. (b) Optical image (fluorescence mode) of another device we also tested with electrode interspace of $\sim 20\ \mu\text{m}$. There are several tens of NWs in the device channel.