

## Supplementary Information

### Morphology and transport characterization of solution-processed rubrene thin films on polymer-modified substrates

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Table S1. Contact angle and surface energy of silicon, FTO and FTO/polymer film

	Contact angle (°)		Surface energy $\gamma_{SV}$ (mJ/m <sup>2</sup> )
	Water $\theta_1$	Ethylene glycol $\theta_2$	
silicon	52.5	40.8	48.1 ± 1.5
FTO	59	36.4	47.6 ± 0.9
FTO/PBSA	69.7	46.9	41.5 ± 0.3
FTO/PS	90.4	65.6	33.1 ± 1.5
FTO/PLA	76.2	55.4	36.3 ± 0.7

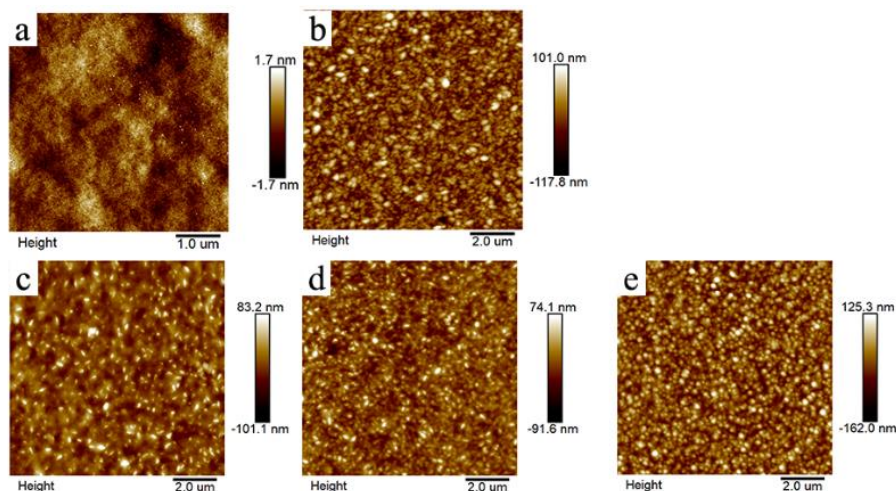


Figure S1. Atomic force microscopy images of FTO and FTO/polymer film (a. Si, b. FTO, c. FTO/PBSA, d. FTO/PS, e. FTO/PLA.)

Table S2. The surface roughness of different substrates

	Image $R_q$ (nm)	Image $R_a$ (nm)
Si	0.49	0.38
FTO	24.5	19.4
FTO/PBSA	30.9	24.1
FTO/PS	26.9	23.5
FTO/PLA	31.9	25.3

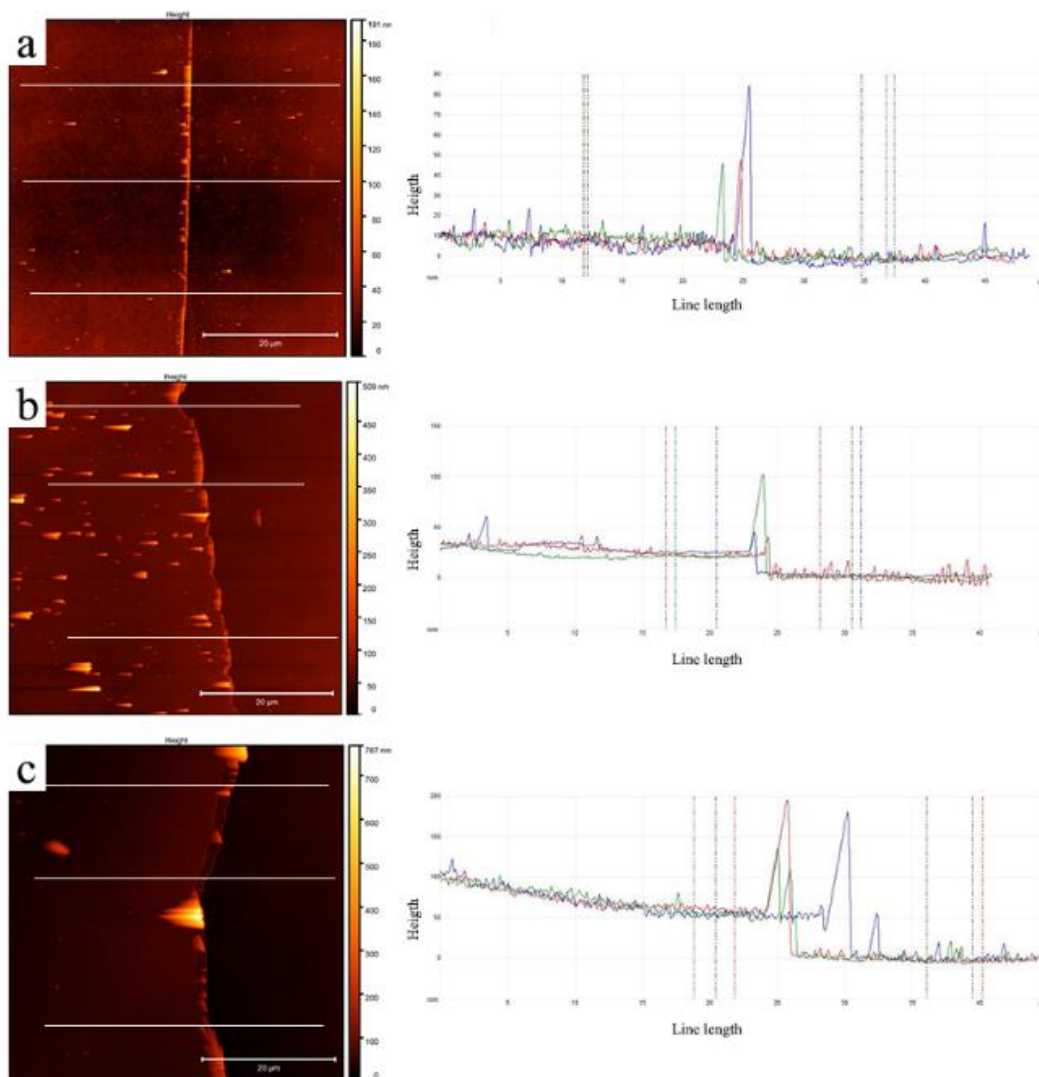


Figure S2. Atomic force microscopy images of PLA films on silicon substrates (PLA concentrations are a. 1, b. 3 and c. 5 mg/mL, respectively.)

Table S3. The thicknesses of PLA films for PLA solution with different concentrations

Solution concentration (mg/mL)	Film average thickness (nm)
1	12.6
3	22.2
5	57.2

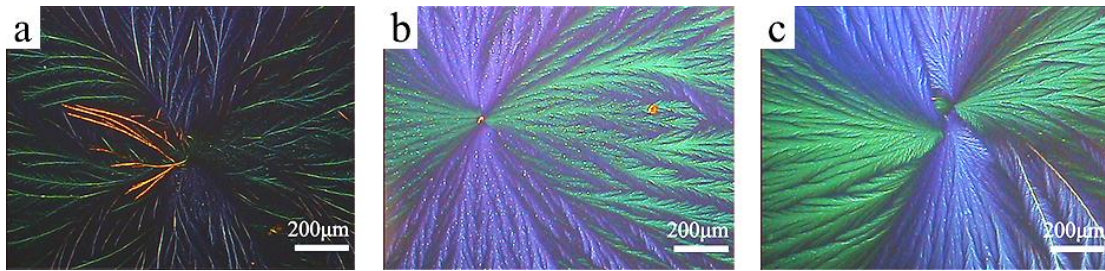


Figure S3. Polarized optical microscopy images of the central regions of PLA/rubrene crystal films fabricated by spin-coating different concentration rubrene solutions on 57.2 nm PLA modified FTO wafers after the solvent vapor annealing procedure. (Rubrene concentrations are a. 3, b. 5 and c. 9 mg/ml, respectively.)

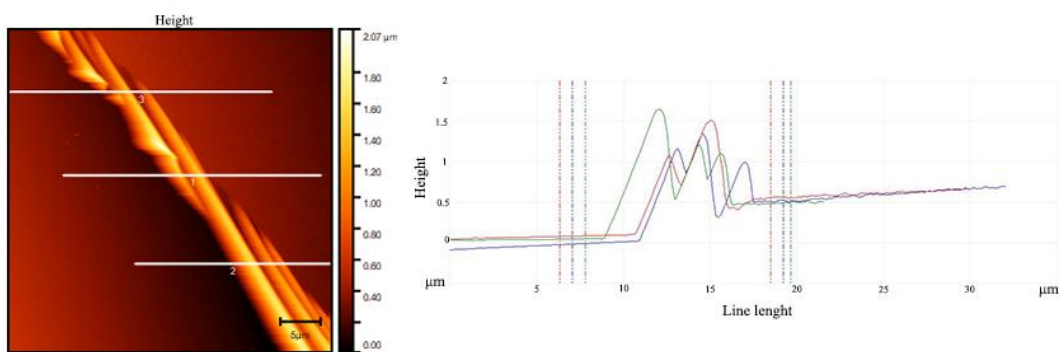


Figure S4. Atomic force microscopy image of PET films on a silicon substrate, the average thickness of PET film is 517.2 nm.