

Supplementary Information for

Morphology and Field-Effect Transistor Characteristics of Crystalline Poly(3-hexylthiophene) and Poly(stearyl acrylate) Blend Nanowires

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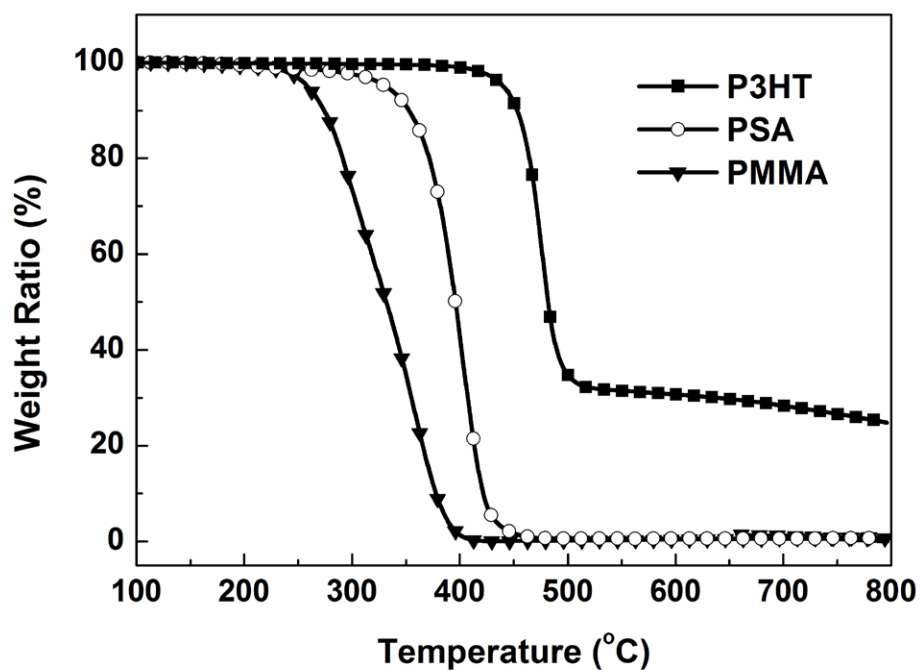


Fig. S1. TGA curves of P3HT, PSA, and PMMA at a heating rate of $10\text{ }^{\circ}\text{C min}^{-1}$.

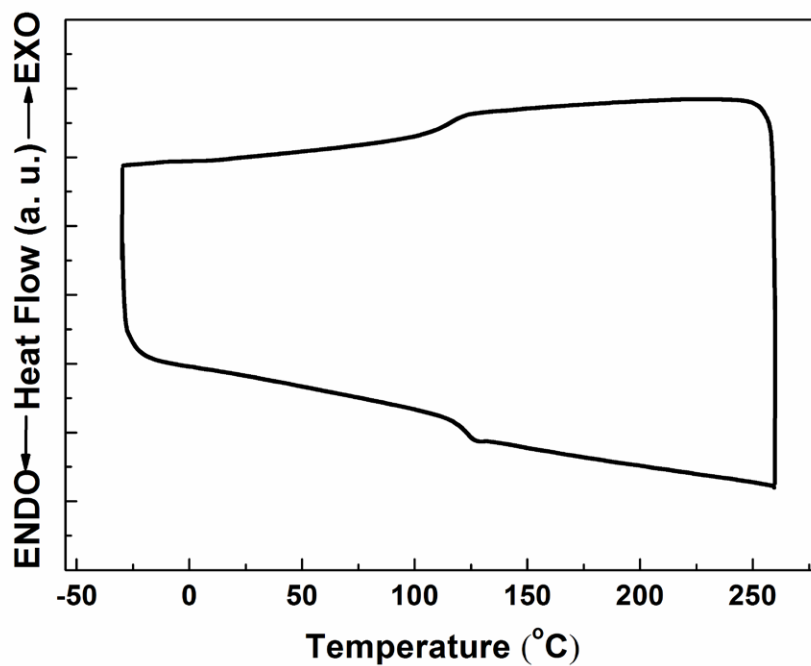


Fig. S2. DSC curves of PMMA at a heating rate of $10\text{ }^{\circ}\text{C min}^{-1}$.

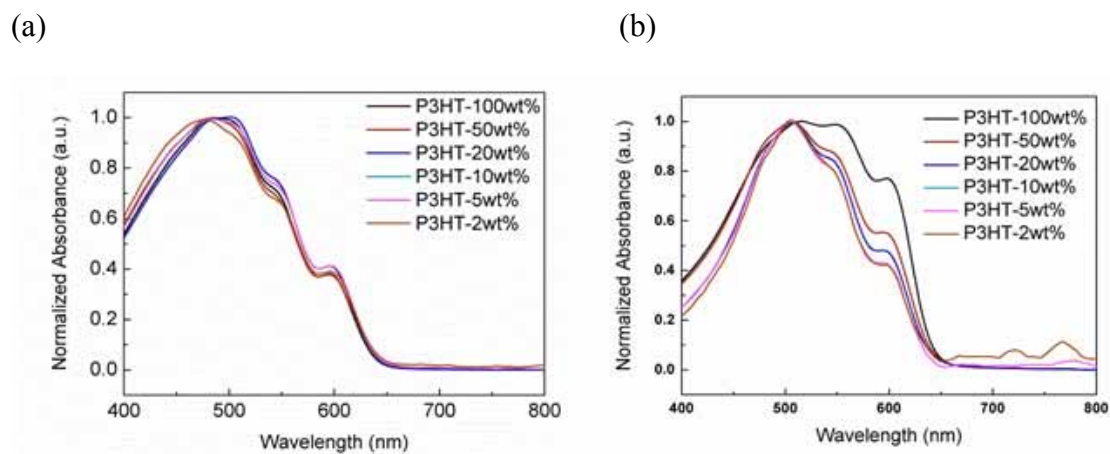


Fig. S3. UV-vis absorption spectra of P3HT/PMMA (a) in CH₂Cl₂ and (b) thin film spin-coated from the CH₂Cl₂ solution.

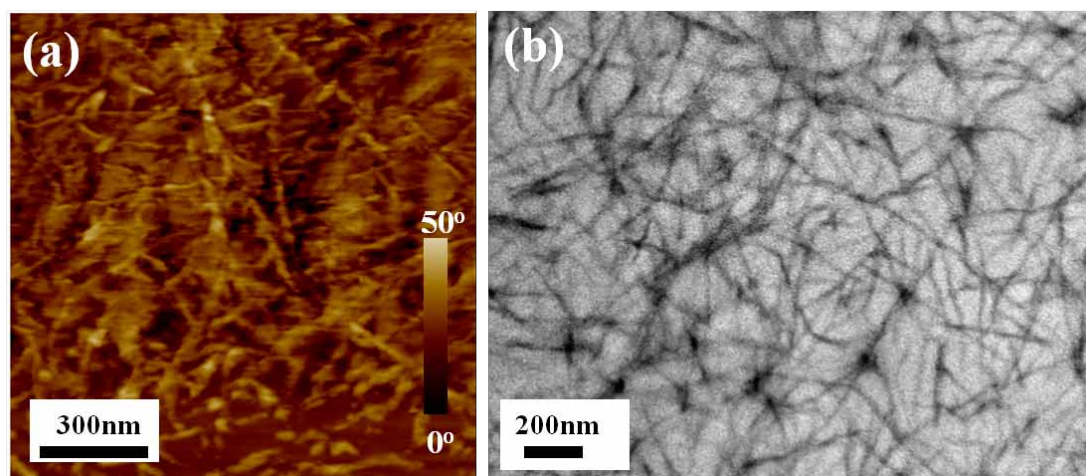


Fig. S4. (a) AFM and (b) TEM images of P3HT/PSA blends prepared from CH₂Cl₂ using 20 wt% of P3HT.

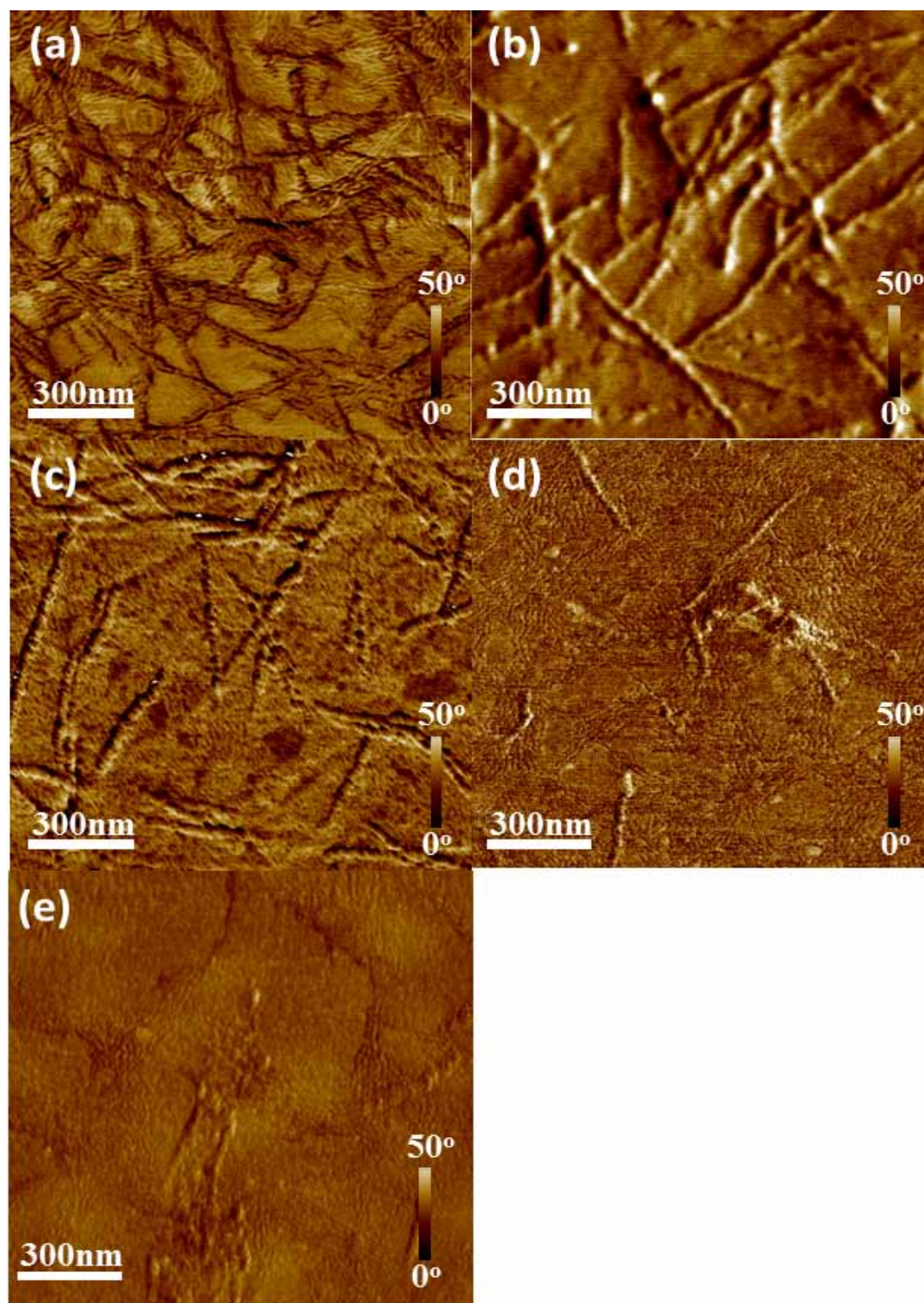


Fig. S5. AFM phase images of P3HT/PMMA blends prepared from CH_2Cl_2 using various ratios of P3HT: (a) 50 wt%, (b) 20 wt%, (c) 10 wt%, (d) 5 wt% and (e) 2 wt%.

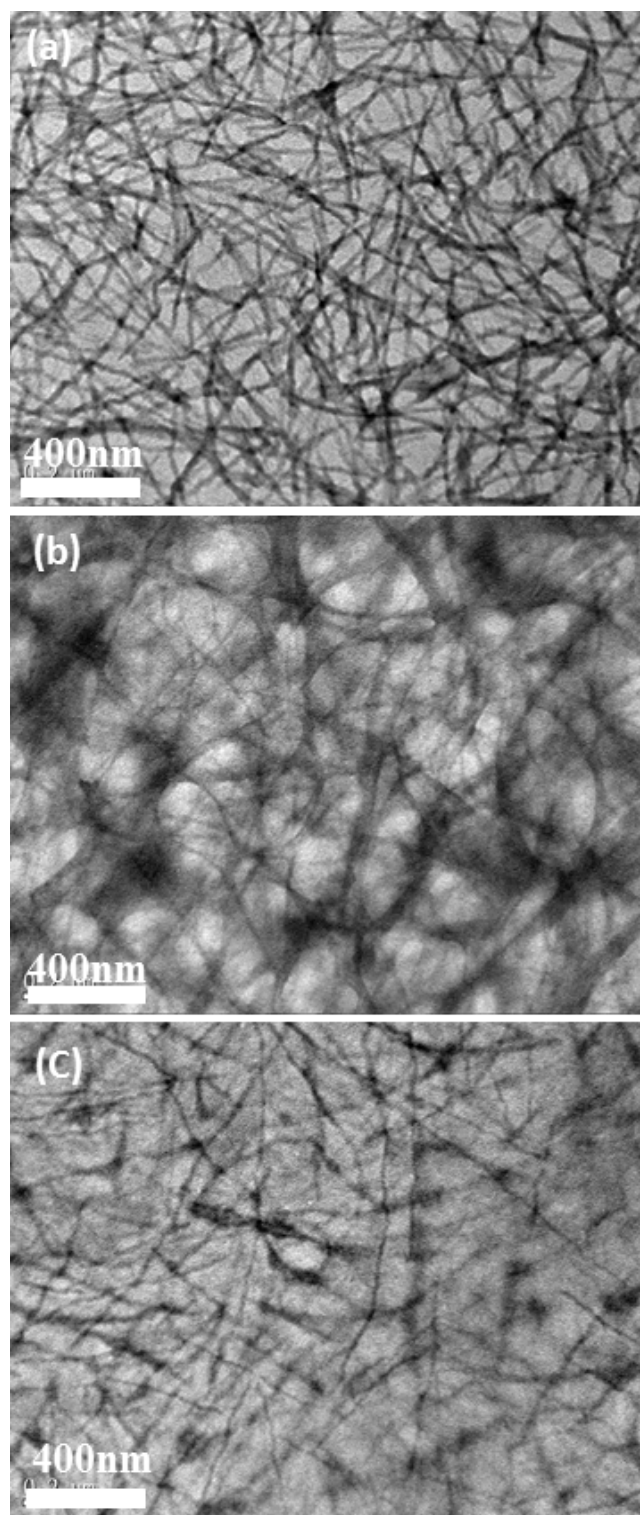


Fig. S6. TEM images of P3HT/PMMA blends prepared from CH_2Cl_2 using various ratios of P3HT: (a) 50 wt%, (b) 20 wt%, (c) 10 wt%.

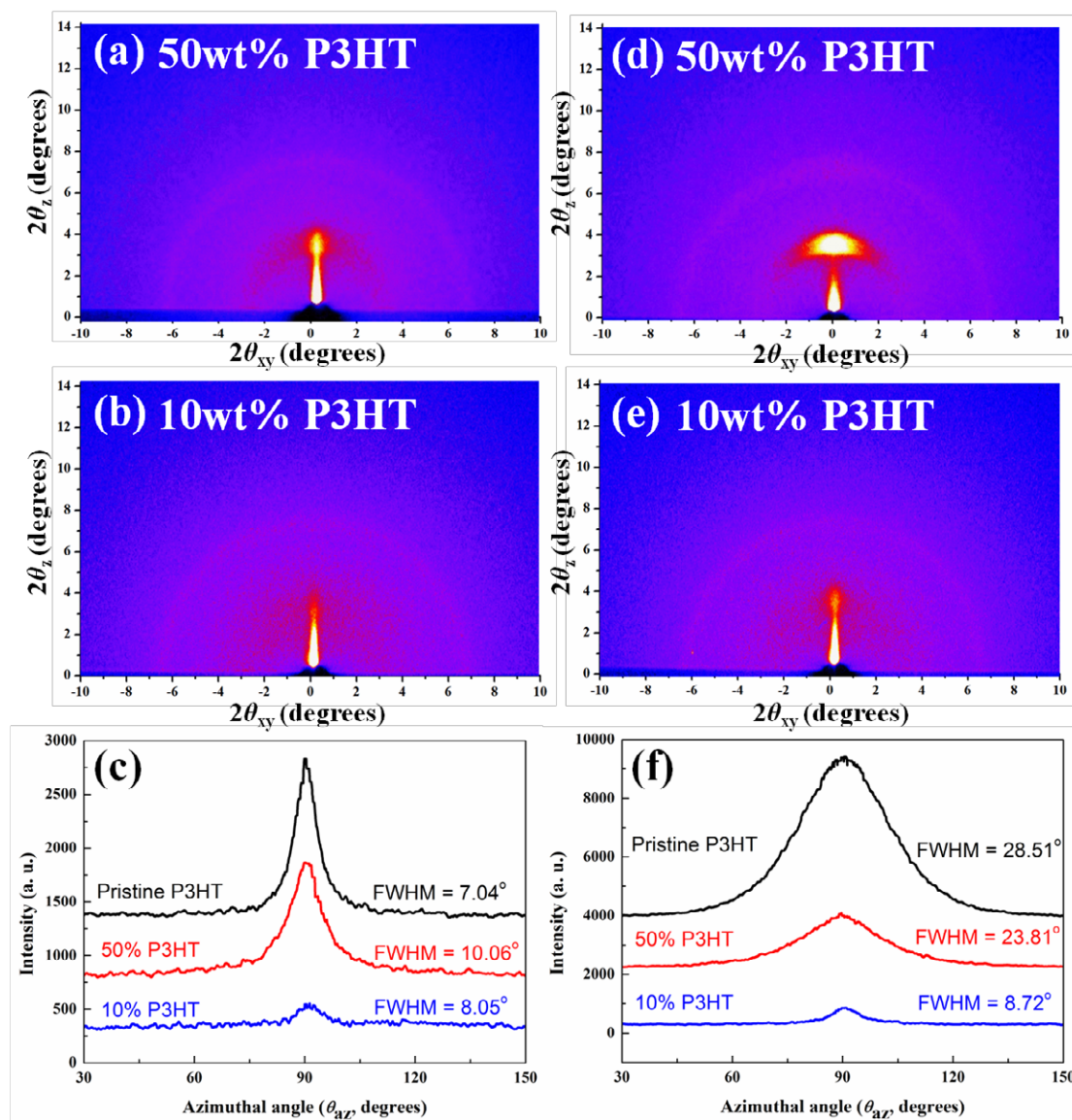


Fig. S7. 2D GIXD patterns of the P3HT/PMMA blends spin-coated from (a-c) CHCl_3 and (d-f) CH_2Cl_2 solutions in various ratios of P3HT: (a, d) 50wt%, (b, e) 10wt%. Azimuthal XRD profiles of the films at the (100) diffraction in θ_z direction that prepared from (c) CHCl_3 and (f) CH_2Cl_2 solutions.

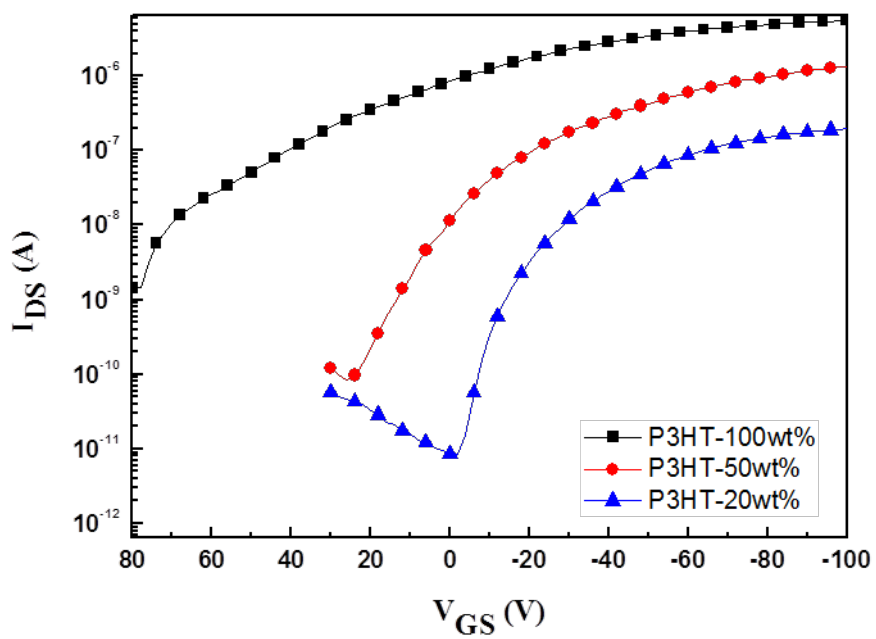


Fig. S8. Transfer characteristics of FET based on the P3HT/PSA blends prepared from the CHCl_3 solutions.

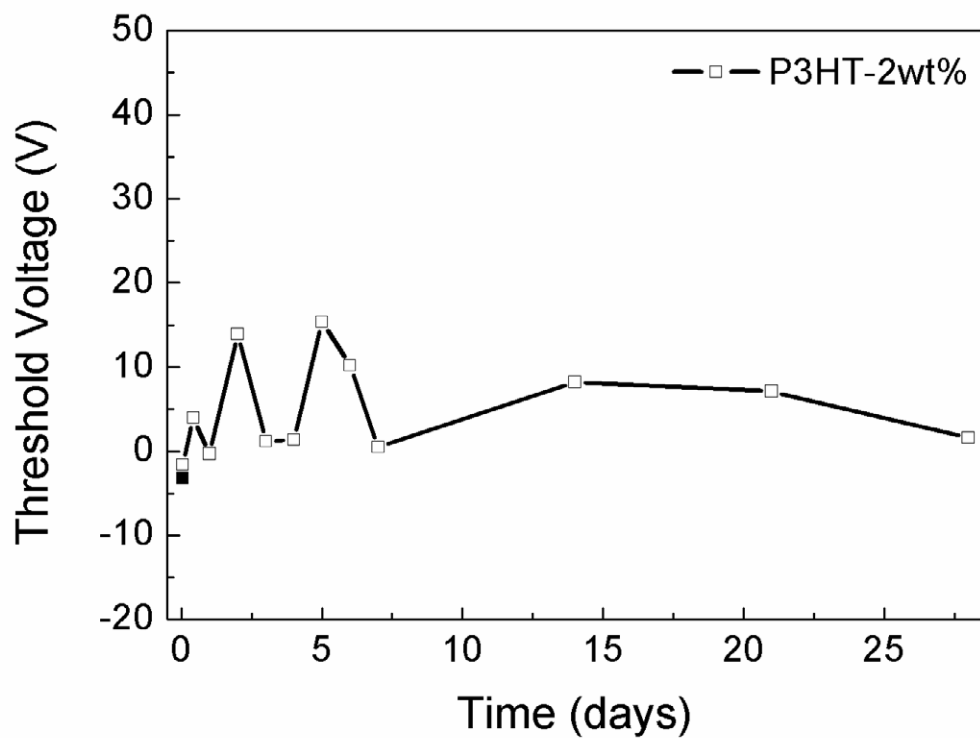


Fig. S9. Threshold voltages of P3HT/PSA (2/98) (square) and pristine P3HT (up triangle) as a function of time after exposed to air. The solid symbols correspond to an electrical performance in a nitrogen glove box. The threshold voltages of pristine P3HT increased larger than 200 V in air.