

## Supporting Information

### **Electrical field assisted growth of poly(3-hexylthiophene) layers employing ionic liquids: Microstructure elucidated by scanning force and electron microscopy**

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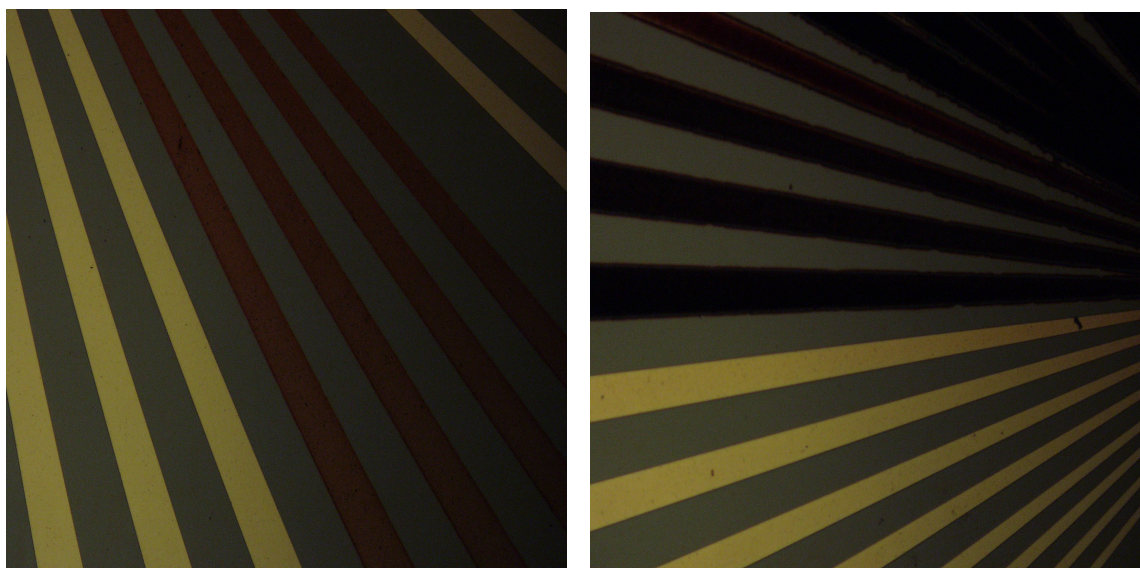


Fig.S1. Optical micrograph of electrodeposited uniform and adherent layers of P3HT (dark red) on gold electrode.

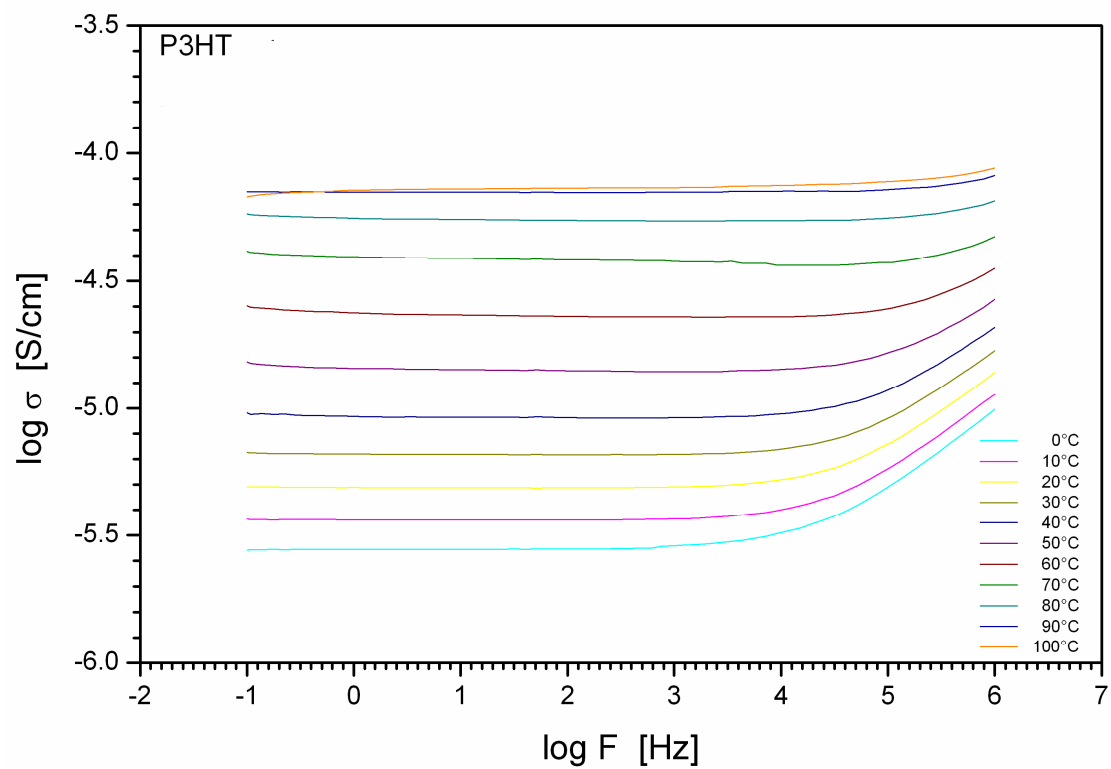


Figure S2. AC conductivity of electrodeposited P3HT as a function of frequency for different temperatures.

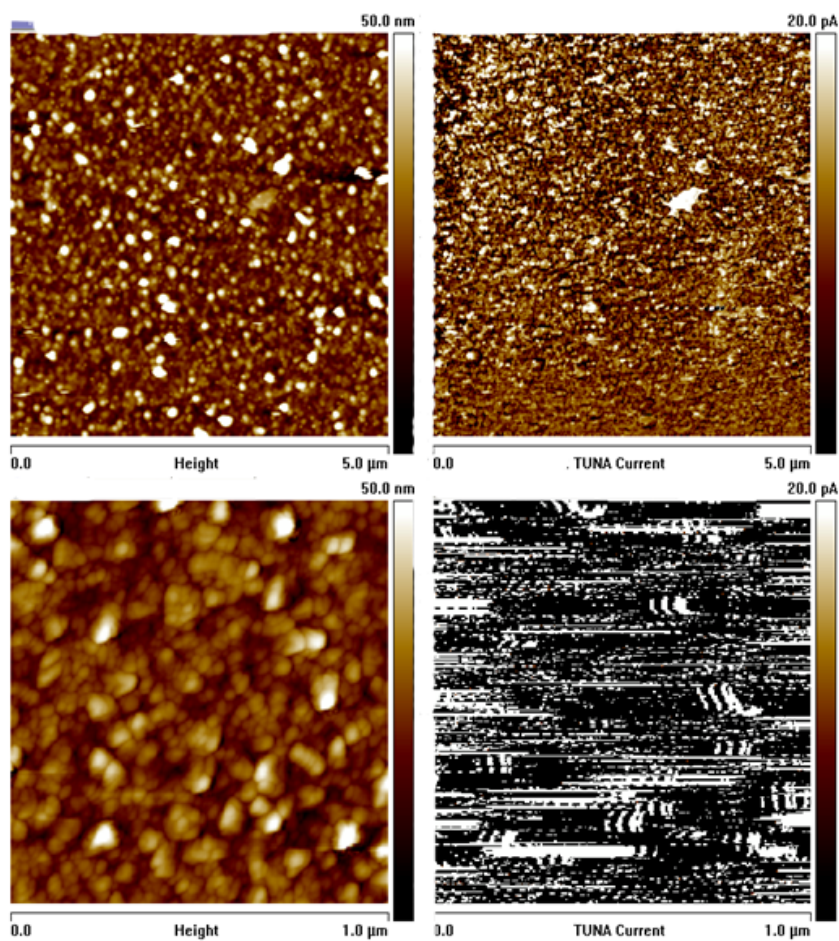


Figure S3 . SFM images of P3HT as-synthesized by applying the potential for 20 sec at 1.4 V (a) top left, height (b) right current images on a bias of 50mV and below the corresponding images obtained by subsequent electrochemical oxidation under potentiostatic conduction at 1.4V for 30 secs.