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Supplementary Materials for

Enhanced PEDOT adhesion on solid substrates with electrografted P(EDOT-NH_2)

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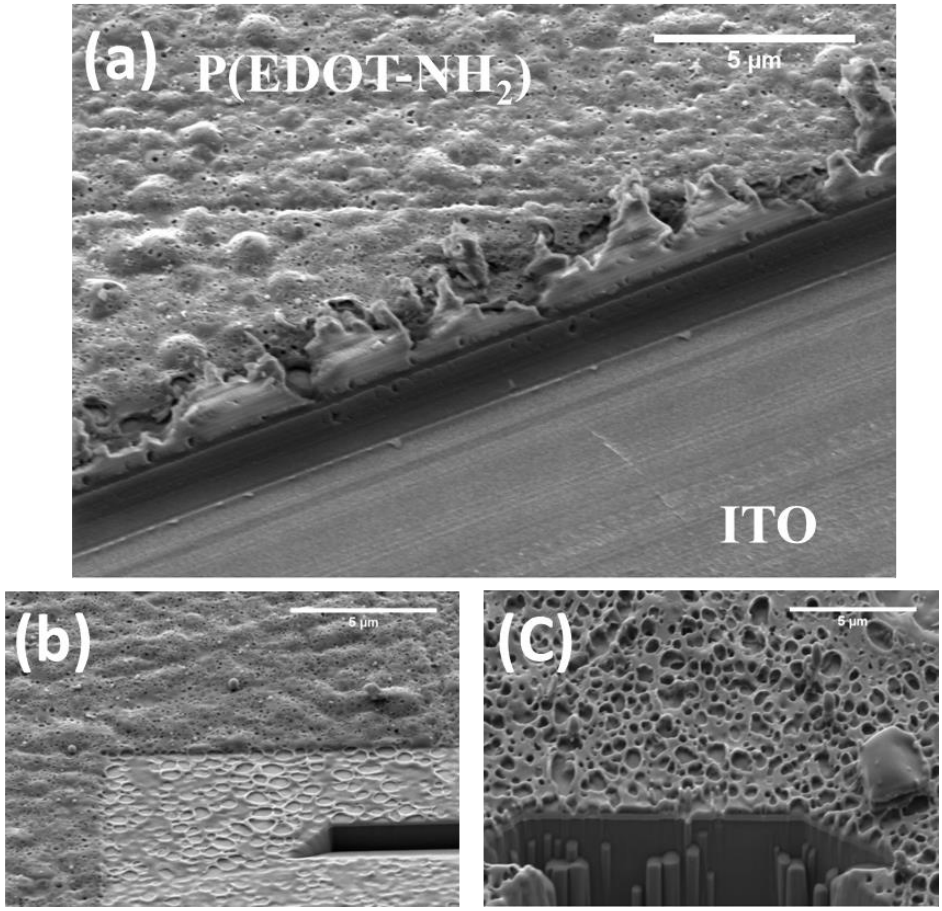

fig. S1. Cross section of P(EDOT-NH_2) deposited on ITO. (**a**) Micron-thick P(EDOT-NH2) film. (**b**) and (**c**) Removal of the surface layer with FIB reveals the underlying morphology of the film. Scale bars represent 5 µm.

fig. S2. PEDOT deposition at 72 mC/cm^2 on P(EDOT-NH_2) anchoring layers that were deposited with different thicknesses. The number indicates the charge density of P(EDOT-NH_2) deposition, unit: mC/cm^2.

The scratch tests were performed on a Teledyne-Taber Shear/Scratch Tester (Model 502) with a diamond stylus. The radius of the tip was 76 um. The tester could exert a load from 0 g to 1000 g. The samples were scratched at room temperature. As shown in Fig. S3 a and b, due to lack of adhesion and cohesion strength, PEDOT film cracked and peeled off from the ITO surface at a load of 0.5 N. A load of 0.5 N deformed the surface of PEDOT on P(EDOT-NH_2). However, no cracking or delamination were found. PEDOT on P(EDOT-NH_2) could be scratched off from ITO at a load of 2.5 N, but no evidence of adhesive failure was found along the scratch.

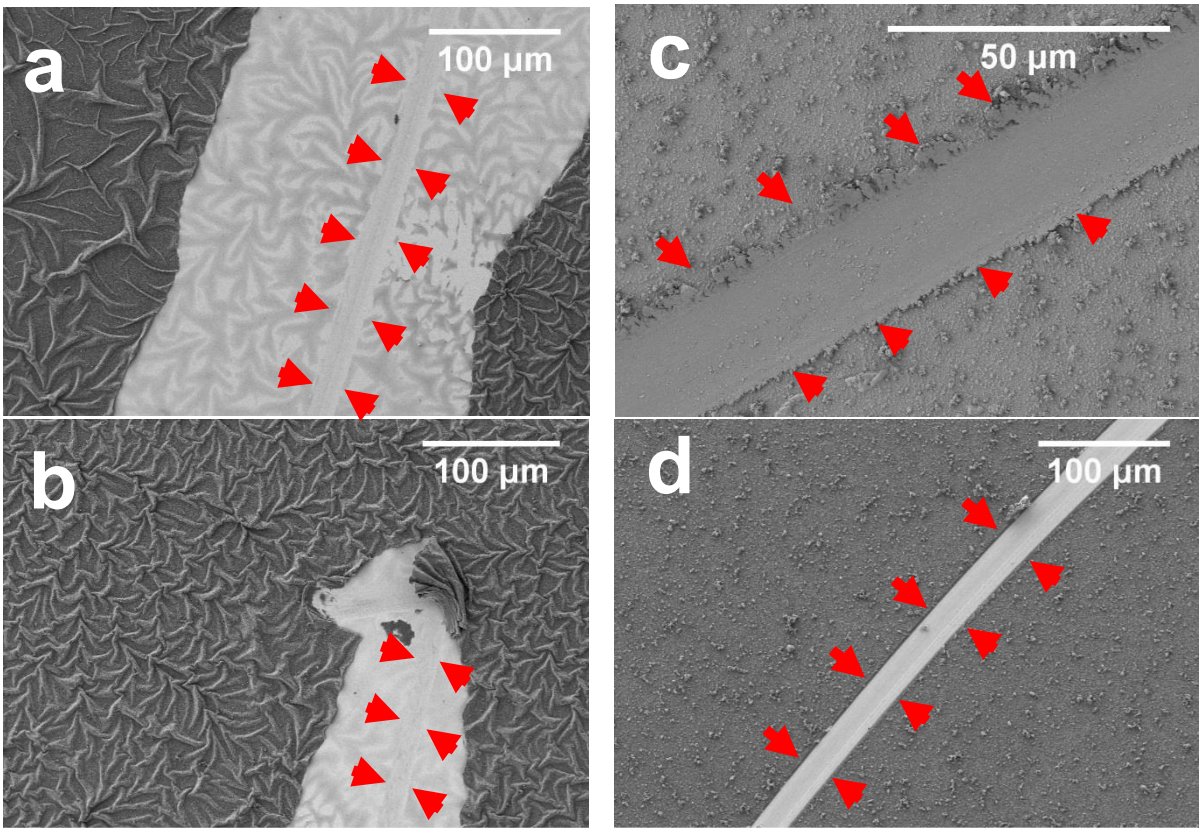

fig. S3. Scratch tests on PEDOT on ITO and PEDOT on P(EDOT-NH_2)–modified ITO surface. (**a**) and (**b**) 72 mC/cm^2 PEDOT deposited on ITO. Scratched at 0.5 N. (**c**) 72 mC/cm^2 PEDOT deposited on 18 mC/cm^2 P(EDOT-NH_2) modified ITO. Scratched at 0.5 N. (**d**) 72 mC/cm^2 PEDOT deposited on 18 mC/cm^2 P(EDOT-NH_2) modified ITO. Scratched at 2.5 N. The red arrows indicate the tip trail.