

ADVANCED MATERIALS

Supporting Information

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Hydrogel-Mediated Direct Patterning of Conducting Polymer
Films with Multiple Surface Chemistries

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The Effect of Electrodeposition Time on the PPy Thickness. **Figure S1** shows the SEM images of the PPy films prepared by hydrogel-mediated electrodeposition with two different deposition times of 6 and 15 min.

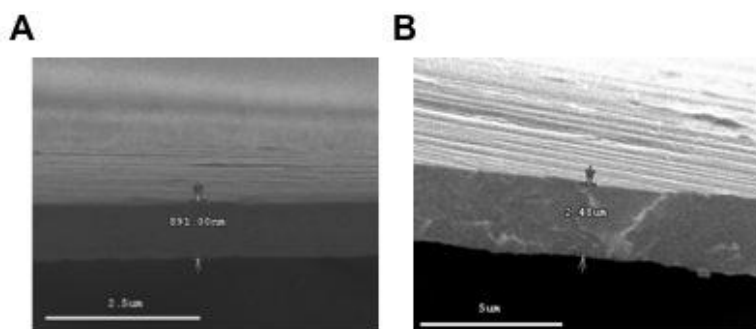


Figure S1. FESEM images of the PPy films deposited through a hydrogel stamp with (A) 6 min and (B) 15 min deposition time.

Application of a Hydrogel Stamp for Multiple Consecutive Electrodeposition without Intermediate Loading. The absorbent nature of the hydrogel enables the storage of the inking materials in its hydrophilic network. Here we applied a hydrogel stamp inked with 0.3 M PY/0.3 M PSS solutions to deposit PPy film (deposition time of 90 sec) on 10 electrodes without intermediate inking. **Figure S2** shows the optical images of the resultant patterned PPy films from the consecutive deposition events. As these images demonstrate, there was no apparent difference between the deposited PPy films from different stamping events.

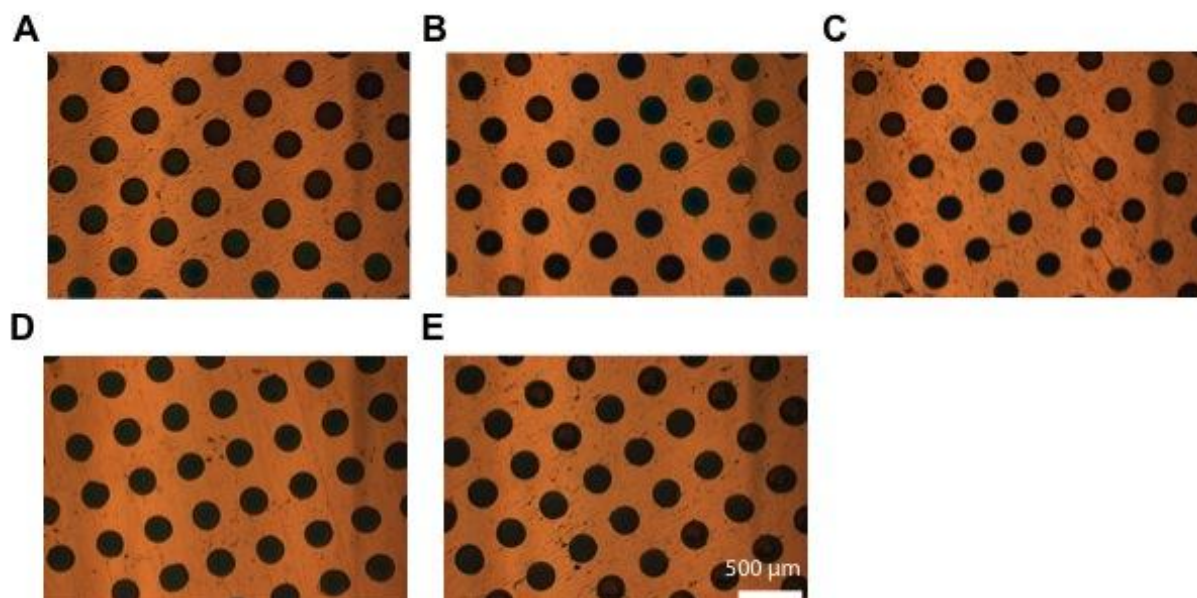


Figure S2. Optical images of the PPy films from multiple stamping events. The resulting patterned PPy substrates from (A) 3rd, (b) 5th, (C) 8th, (D) 9th, and (E) 10th electrodeposition events. All images were obtained using identical microscopy setting.