

Supporting Information

Polypyrrole-Coated Paper for Flexible Solid-State Energy Storage

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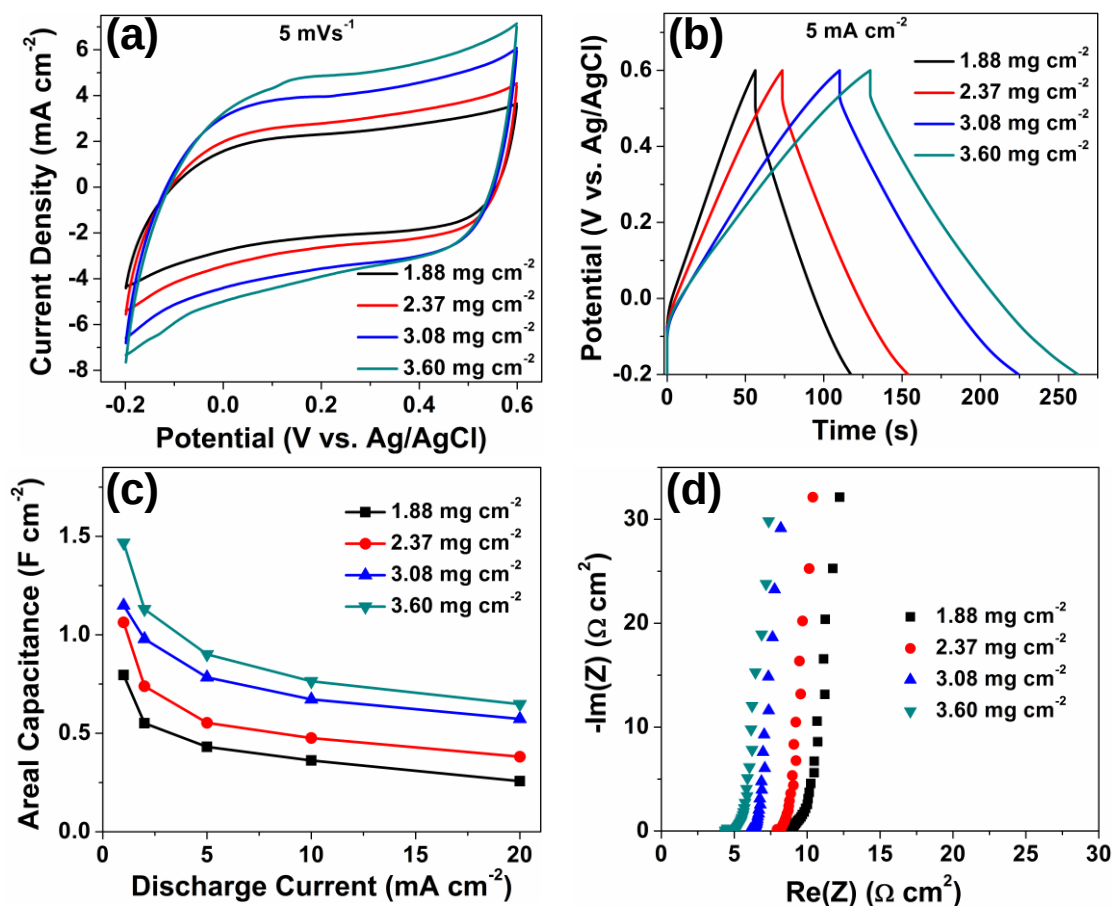


Figure S1. Electrochemical properties of the polypyrrole-coated paper electrodes with different mass loadings in a three-electrode configuration in 1 M hydrochloric acid. (a) Cyclic voltammetry curves for electrodes with different polypyrrole masses at a scan rate of 5 mVs⁻¹. (b) Galvanostatic charge-discharge curves for polypyrrole-coated paper electrodes at a fixed current density of 5 mAcm⁻². (c) Areal capacitance of polypyrrole-coated paper electrodes with respect to discharge current. (d) Electrochemical impedance spectroscopy of the polypyrrole-coated paper electrodes.

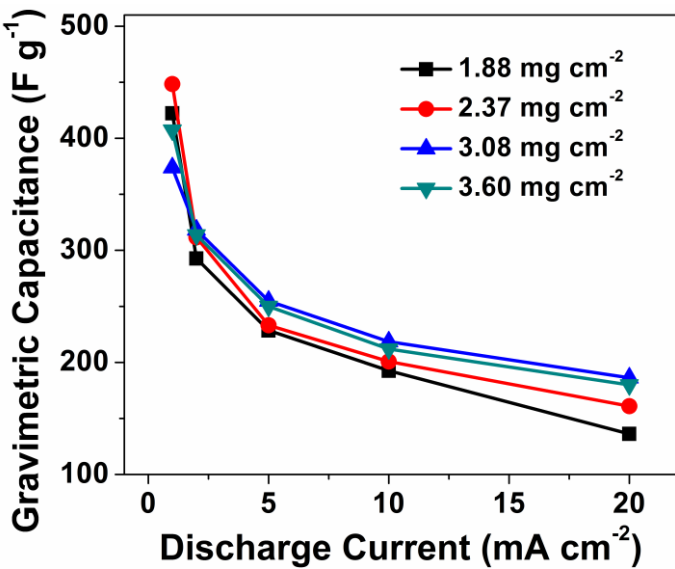


Figure S2. Gravimetric capacitance of the polypyrrole-coated paper, normalized to polypyrrole only.

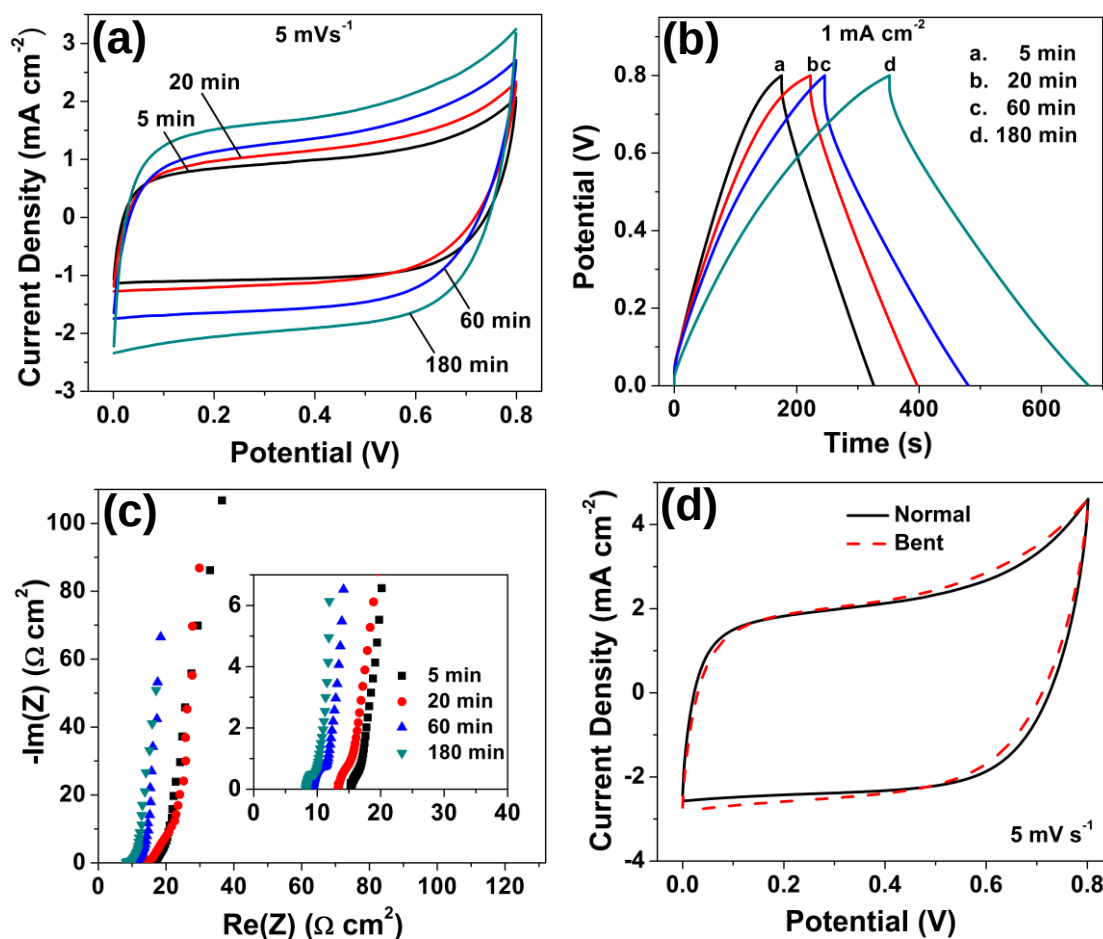


Figure S3. (a) Cyclic voltammetry curves for solid-state supercapacitors with different polypyrrole polymerization times at a scan rate of 5 mVs^{-1} . (b) Galvanostatic charge-discharge curves for solid-state supercapacitors with different polypyrrole polymerization times at a fixed current density of 1 mAcm^{-2} . (c) Electrochemical impedance spectroscopy of the as-fabricated solid-state supercapacitors. (d) Cyclic voltammetry curves for solid-state polypyrrole/paper supercapacitors with 180 minutes polymerization time in normal and bent states at a scan rate of 5 mVs^{-1} .

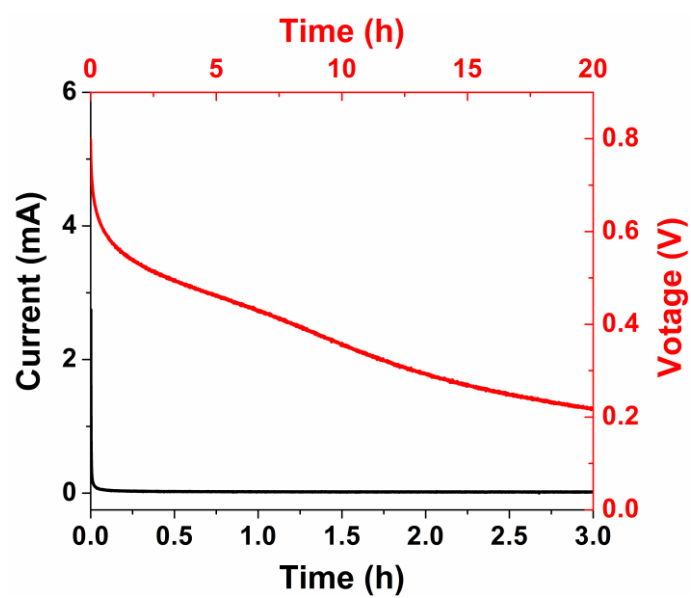


Figure S4. leakage current and self-discharge for the fabricated solid-state supercapacitor with electrodes of 180 minutes polypyrrole-coated paper.

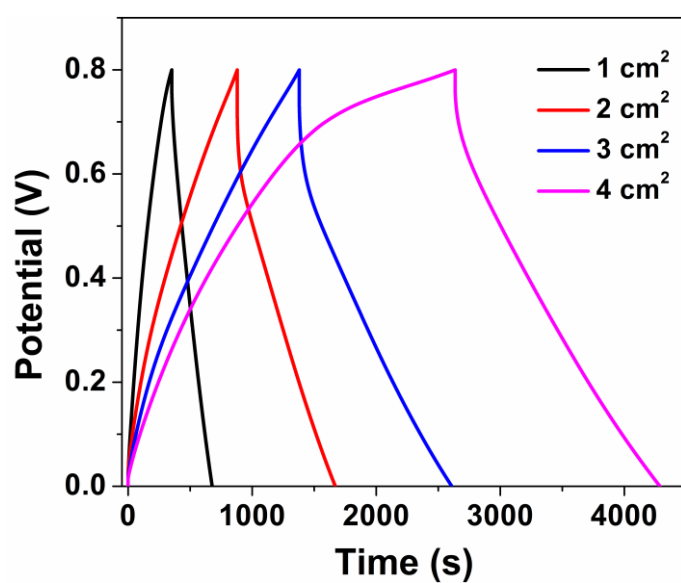


Figure S5. Galvanostatic charge-discharge curves for solid-state supercapacitors with different electrode area at a fixed discharge current of 1 mA. All the electrodes hold the same polymerization time of 180 minutes.