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Electronic Supplementary Information (ESI) for:

Flexible Solid-State Supercapacitors Based on Conducting Polymer Hydrogel with Enhanced Electrochemical Performance

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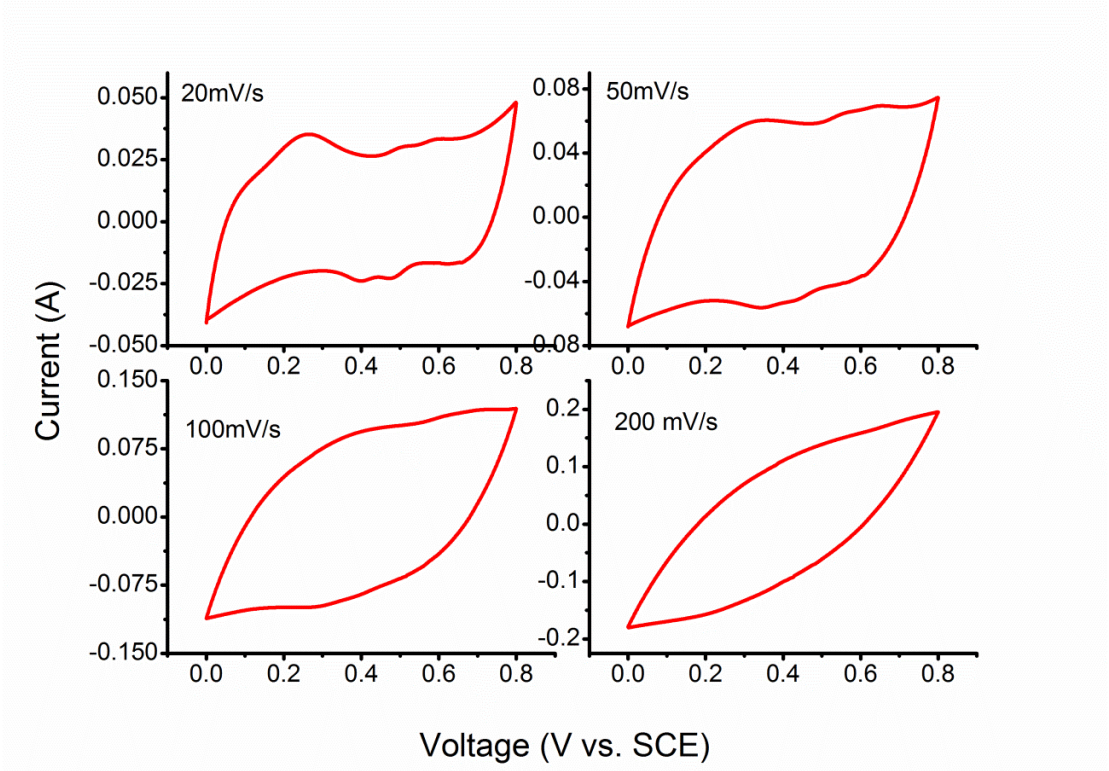

Figure S1 CV curves of CFC supported PANI hydrogel electrode at different scanning rates(20, 50, 100 and 200 mV/s) with a three-electrode configuration in 1 M H_2SO_4 aqueous solution, where the counter and reference electrode are Pt plate and SCE electrode, respectively.

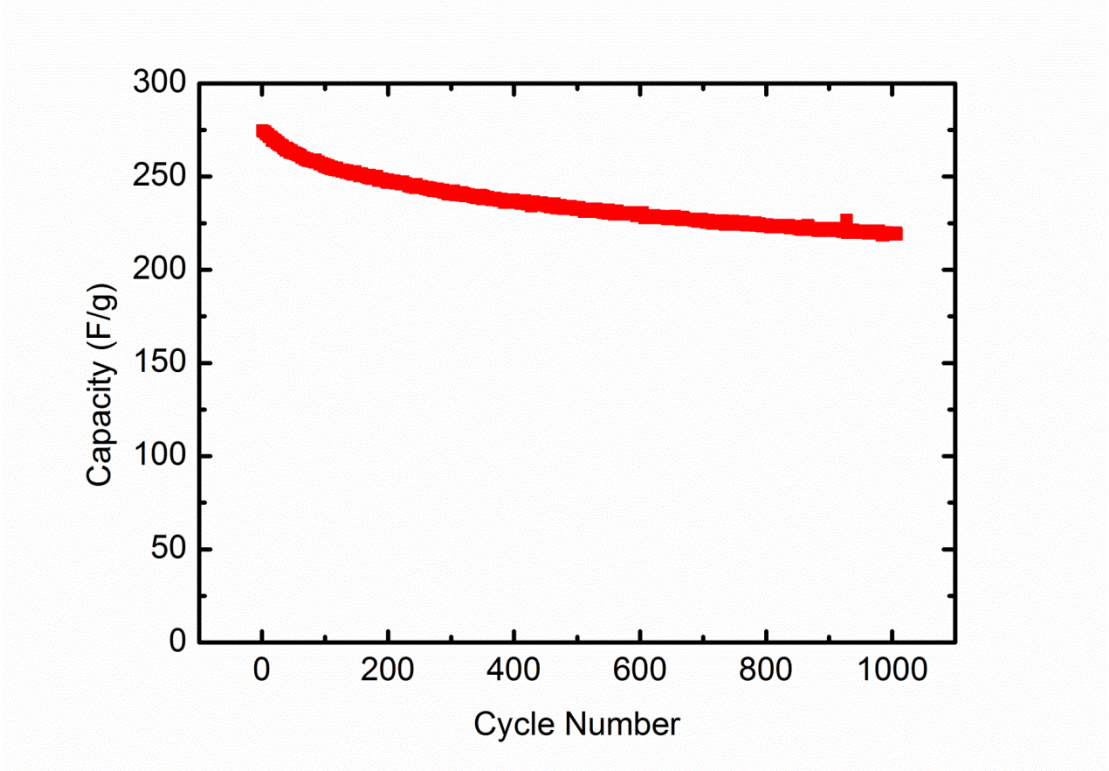

Figure S2 Capacitance decay plots of single PANI hydrogel electrode obtained from galvannostatic charge-discharge tests at 40 mA with a three-electrode configuration in 1 M H_2SO_4 aqueous solution, where the counter and reference electrode are Pt plate and SCE electrode, respectively. After 1000 cycles, the capacitance can keep 80%.

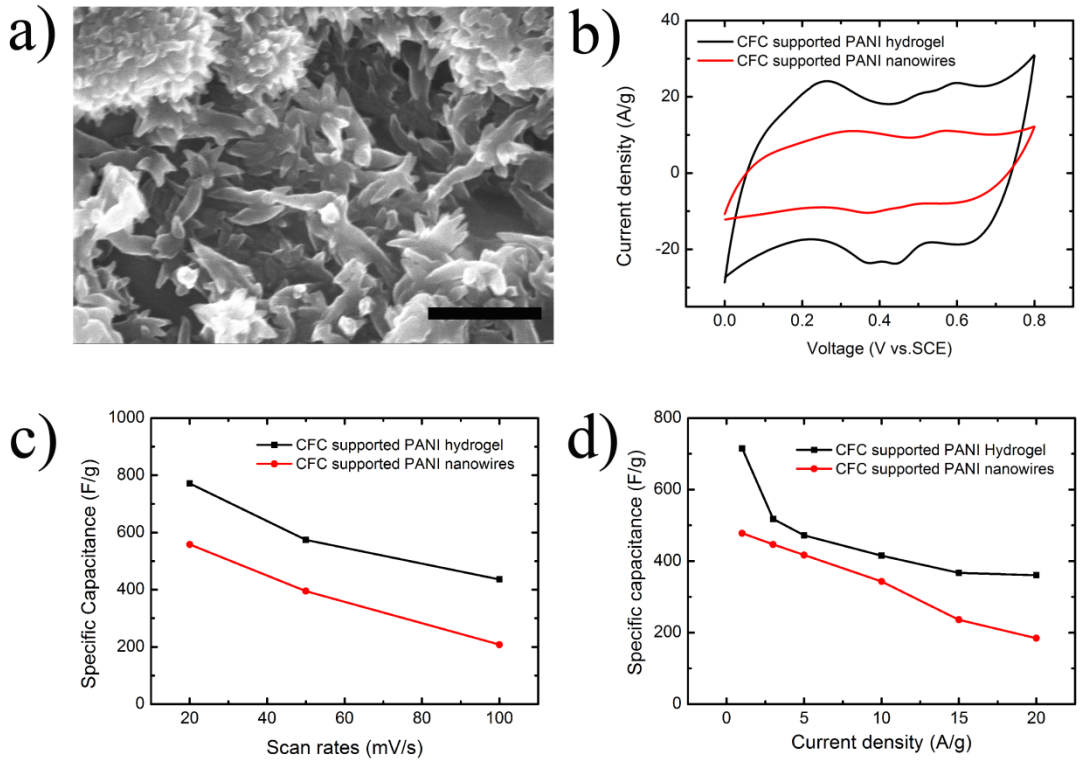

Figure S3 a) The morphology of common PANI nanowire electrode on CFC surface, the scale bar is 500nm; b) CVs at 20mV/s of CFC supported PANI hydreogel electrode and CFC supported common PANI nanowire electrode with three-electrode system; c)Specific capacitance plots at different scaning rates with three-electrode system; d) Specific capacitance plots at different scaning rates at different current densities with three-electrode system.

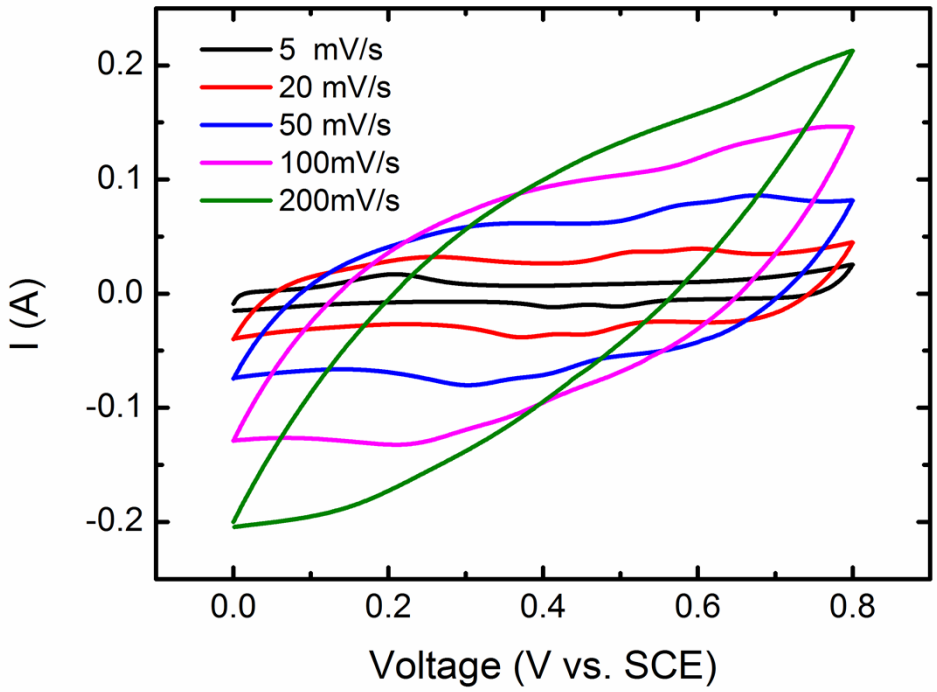

Figure S4 CV curves of the flexible solid-state supercapacitors with symmetric two-electrode configuration at different scanning rates(5, 20, 50, 100 and 200 mV/s).

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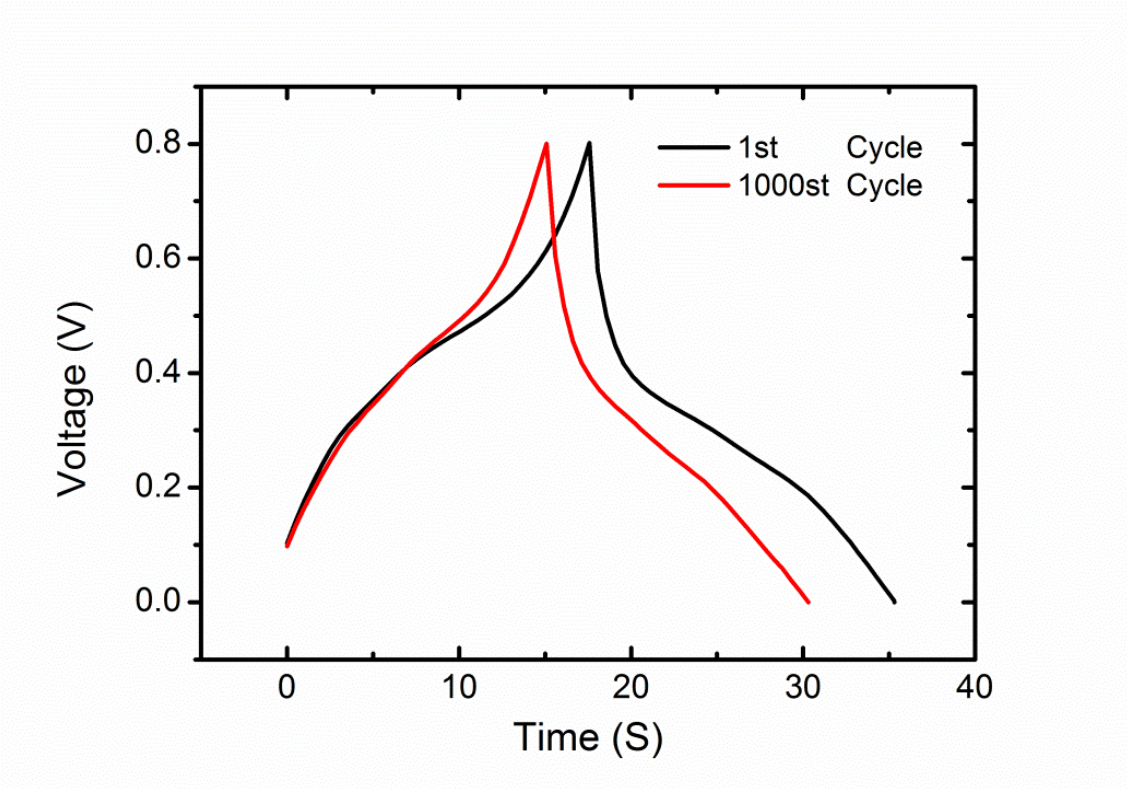

Figure S5 Galvanostatic charge-discharge (GCD) measurements: the GCD curve of the 1st cycle and the 1000th cycle, which shows the capacitance has only a minor decay.