

Supporting Information

High performance two-ply carbon nanocomposite yarn supercapacitors enhanced with platinum filament and in-situ polymerized polyaniline nanowires

Qiufan Wang^a, Yunlong Wu^a, Ting Li^a, Daohong Zhang^{a}, Menghe Miao^{a*}, Aiqing Zhang^a*

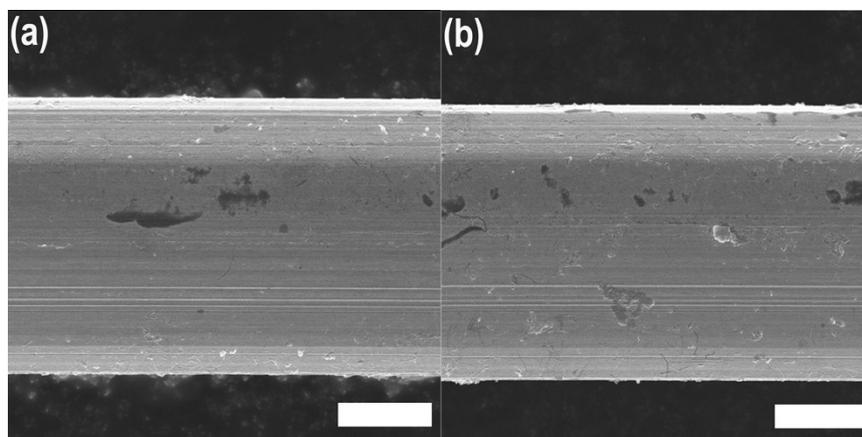


Figure S1. SEM images of the Pt filament before (a) and after (b) in-situ polymerization of polyaniline nanowires. Scale bars: 1 μm .

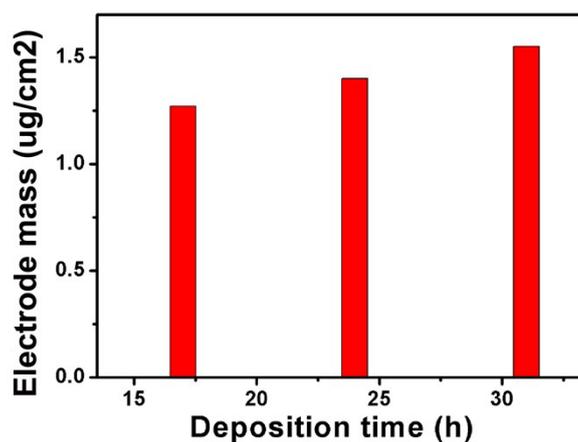


Figure S2. Effect of deposition time on electrode mass.

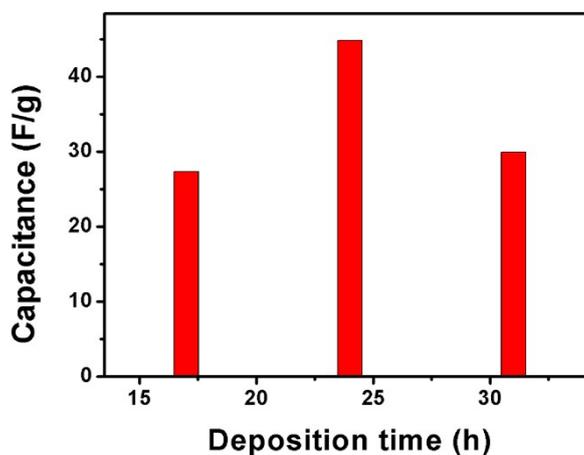


Figure S3. Effect of the deposition time on the gravimetric capacitance of the two-ply SCs based on the Pt/CNT@PANI yarn (The CV curves measured at 500 mV/s).

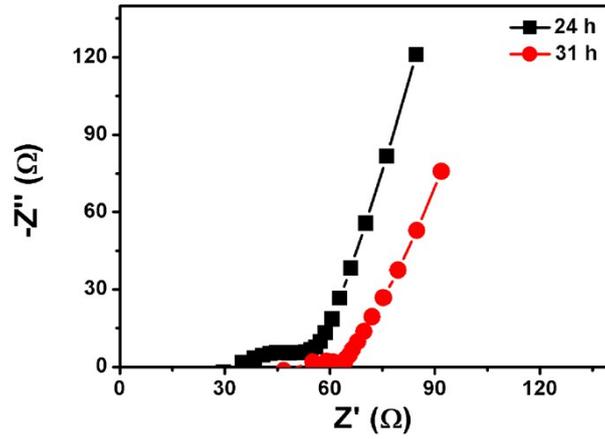


Figure S4. EIS curves of Pt/CNT@PANI yarn SCs polymerized for 24 h and 31 h.

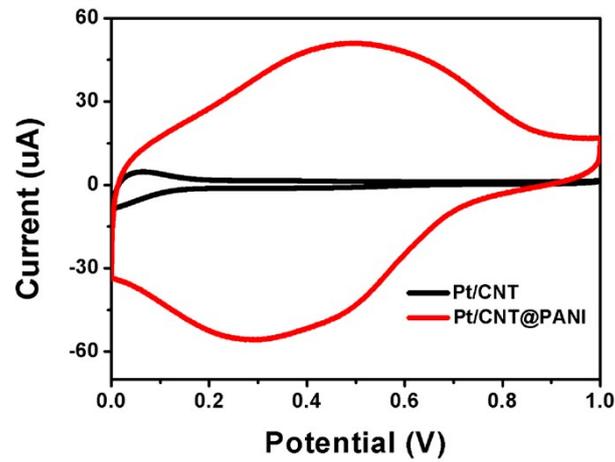


Figure S5. CV curves at scan rate of 100 mV/s for the pure Pt/CNT and Pt/CNT@PANI yarn SCs.

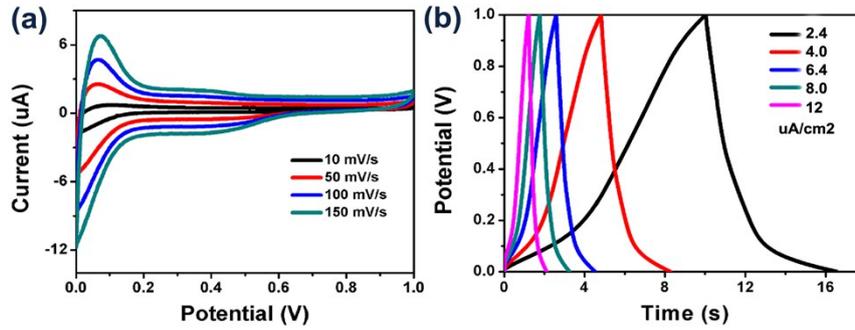


Figure S6. Electrochemical characteristics of pure Pt/CNT yarn SC, (a) CV curves at different scan rates, (b) galvanostatic charge/discharge curves at different current densities.

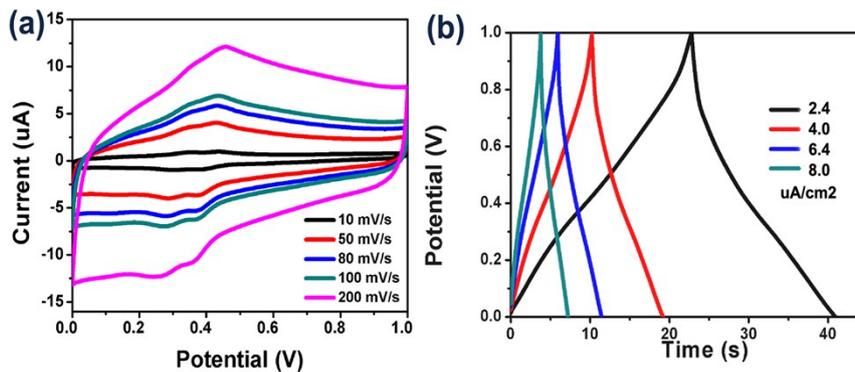


Figure S7. Electrochemical characteristics of CNT@PANI yarn SC, (a) CV curves at different scan rates, (b) galvanostatic charge/discharge curves at different current densities.

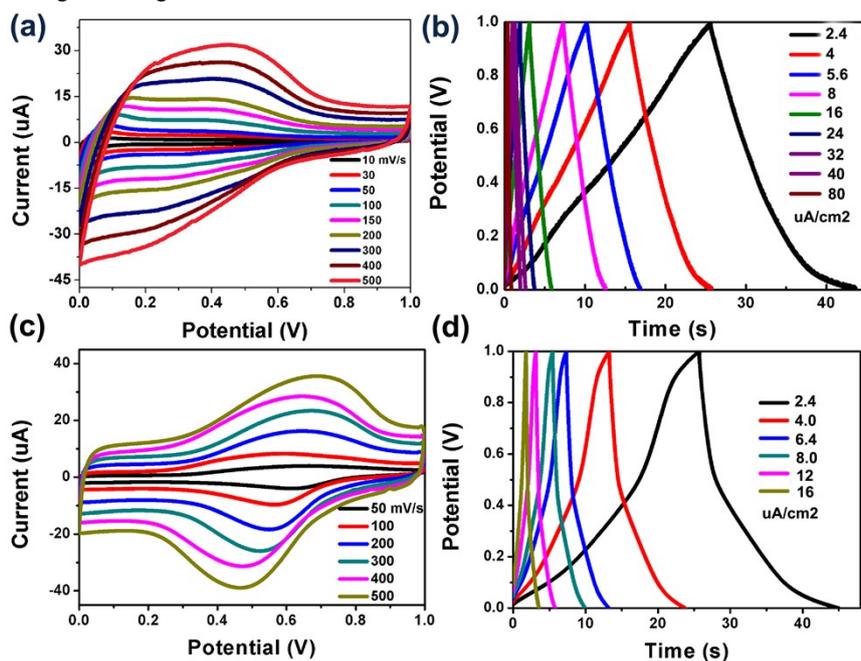


Figure S8. Effect of deposition duration on electrochemical characteristics of Pt/CNT@PANI yarn SCs. (a) CV curves at different scan rates, deposition duration 17 h; (b) galvanostatic charge/discharge curves at different current densities, deposition duration 17 h; (c) CV curves at different scan rates, deposition duration 31 h; (b&d) galvanostatic charge/discharge curves at different current densities, deposition duration 31 h.