Supporting information

Anionic dopants-dispersants for synthesis of polypyrrole coated carbon nanotubes and fabrication of supercapacitor electrodes with high active mass loading

Yeling Zhu, Kaiyuan Shi and Igor Zhitomirsky*

Department of Materials Science and Engineering
McMaster University
1280 Main Street West
Hamilton, Ontario, Canada
L8S 4L7

*E-mail: zhitom@mcmaster.ca

Phone: 1- (905) 525 – 9140
Fig.S1. Specific capacitance versus scan rate for MWCNT electrodes with active mass loading of 18 mg cm$^{-2}$.
Fig S2. Charge-discharge behavior at current densities of (A) 2 mA cm\(^{-2}\) and (B) 4 mA cm\(^{-2}\) for ES cells, fabricated from (a) PPy - MWCNT with PV dopant, (b) PPy - MWCNT with ECR dopant, (c) PPy - MWCNT with AF dopant, (d) PPy - MWCNT without dopant.

The ES cells, prepared using ECR showed longer discharge time, indicating higher capacitance.
The capacitances at a current density of 4 mA cm\(^{-2}\) were found to be 0.71 F cm\(^{-2}\) (47.4 F g\(^{-1}\)), 0.92 F cm\(^{-2}\) (61.3 F g\(^{-1}\)), 0.52 F cm\(^{-2}\) (35.0 F g\(^{-1}\)), 0.10 F cm\(^{-2}\) (6.8 F g\(^{-1}\)) for ES cells, fabricated from PPy - MWCNT with PV dopant, PPy - MWCNT with ECR dopant, PPy - MWCNT with AF dopant, PPy - MWCNT without dopant, respectively.