Electronic Supplementary Material (ESI) for Journal of Materials Chemistry A.

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

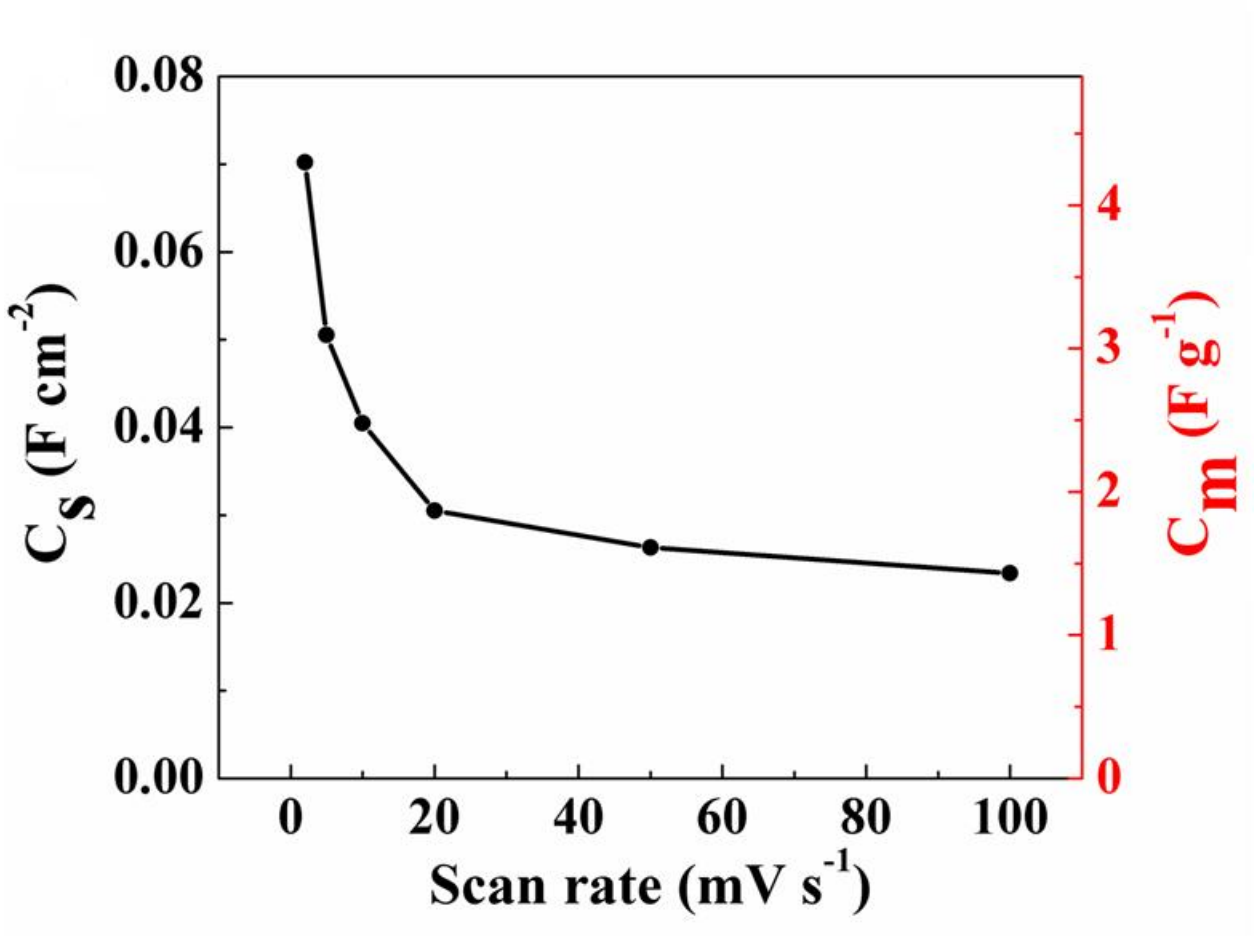

Fig.S1. Specific capacitance versus scan rate for MWCNT electrodes with active mass loading of 18 mg cm^{-2}.

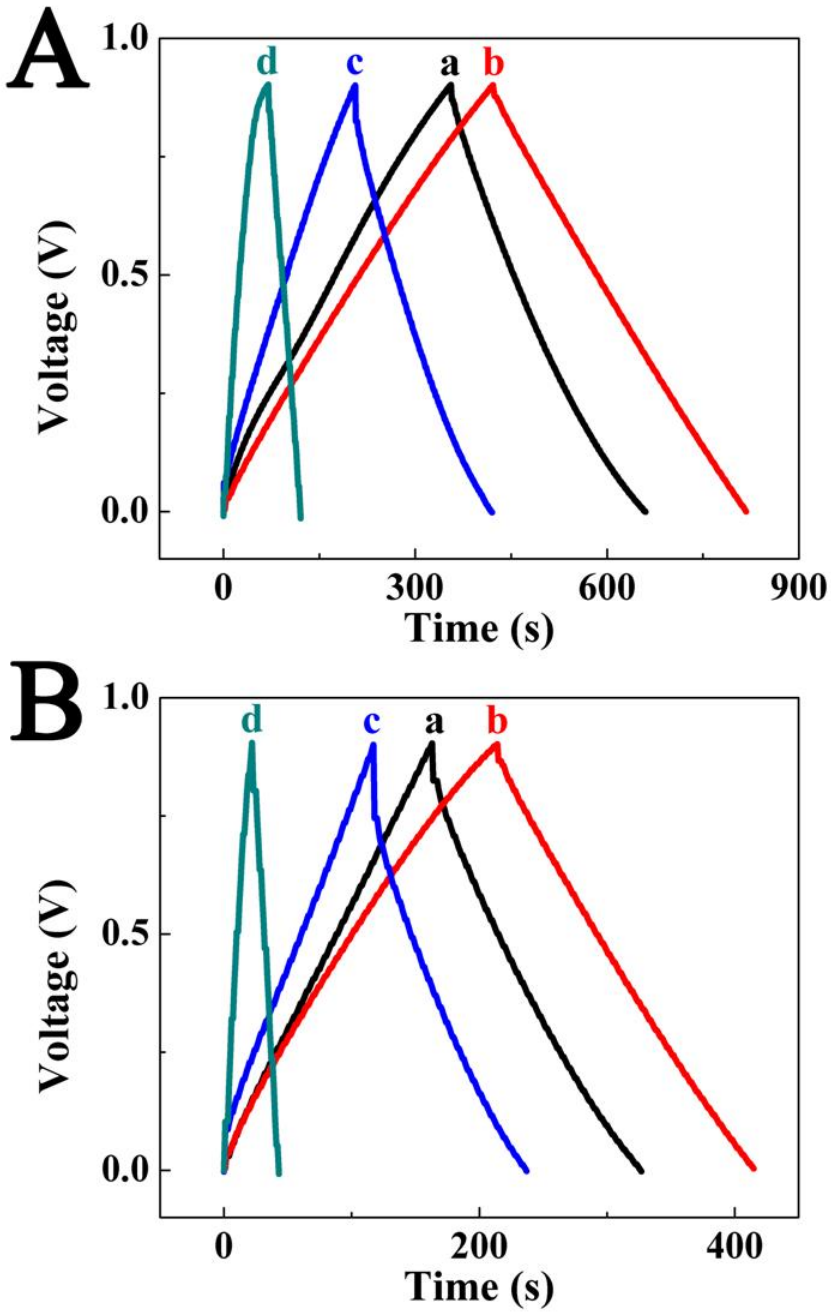

Fig S2. Charge-discharge behavior at current densities of (A) 2 mA cm^{-2} and (B) 4 mA cm^{-2} for ES cells, fabricated from (a) PPy - MWCNT with PV dopant, (b) PPy - MWCNT with ECR dopant, (c) PPy - MWCNT with AF dopant, (d) PPy - MWCNT without dopant.

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.

.