Supporting Information

Microwave assisted green synthesis of MgO-carbon nanotube composites as electrode material for high power and energy density supercapacitors

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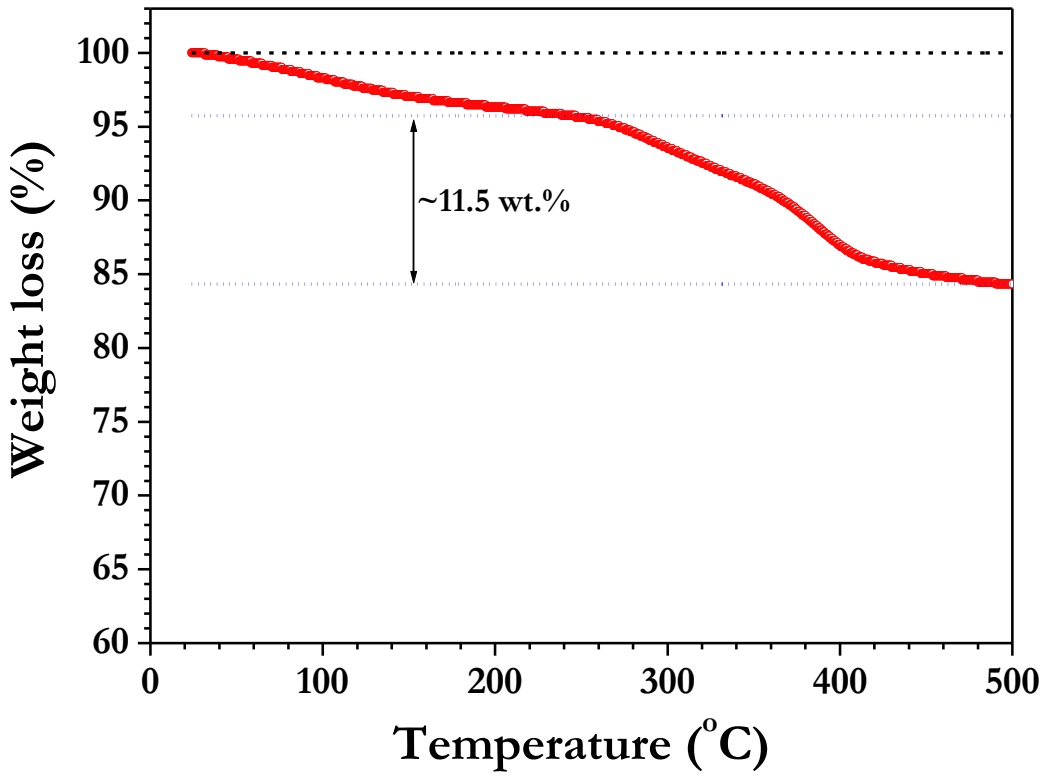

Figure S1. TGA curves of MgO-MWCNT composite material recorded between 0-500 ^{o}C under oxygen flow.

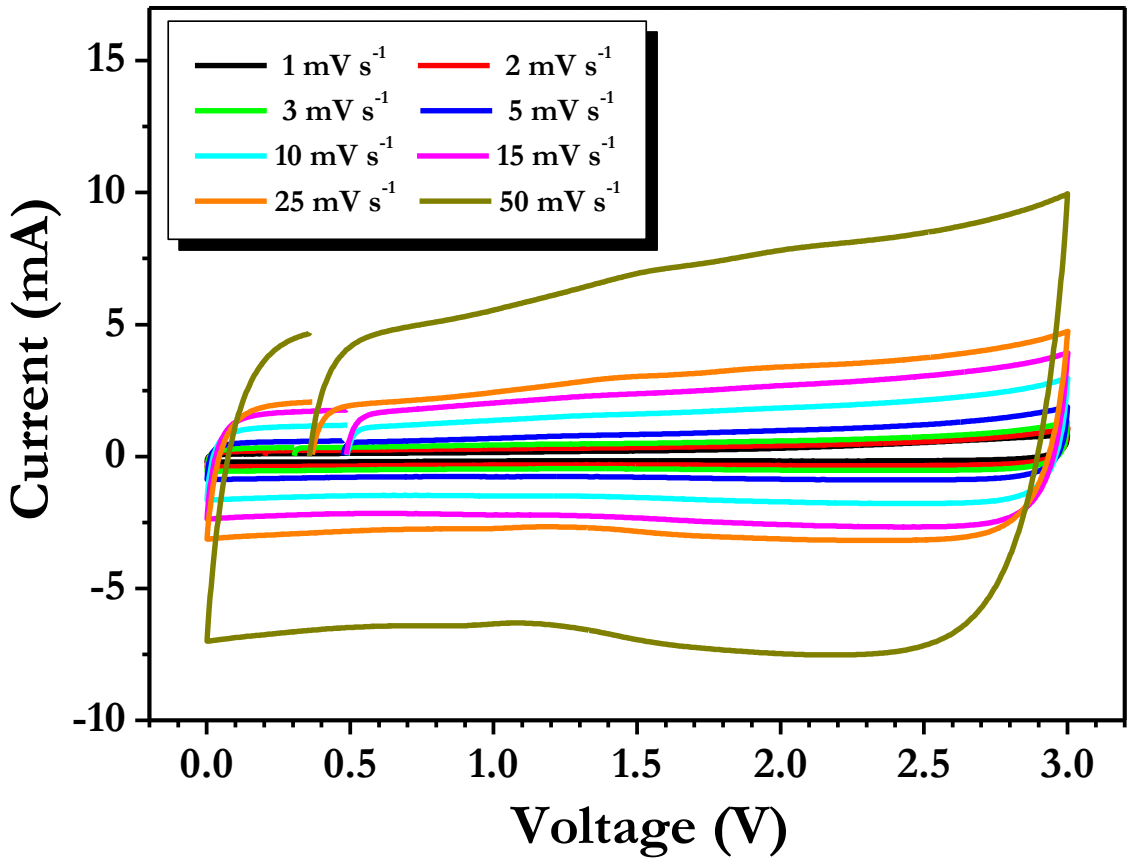

Figure S2. The CV traces of MgO-MWCNT/AC ASC cells between 0-3 V at different scan rates.

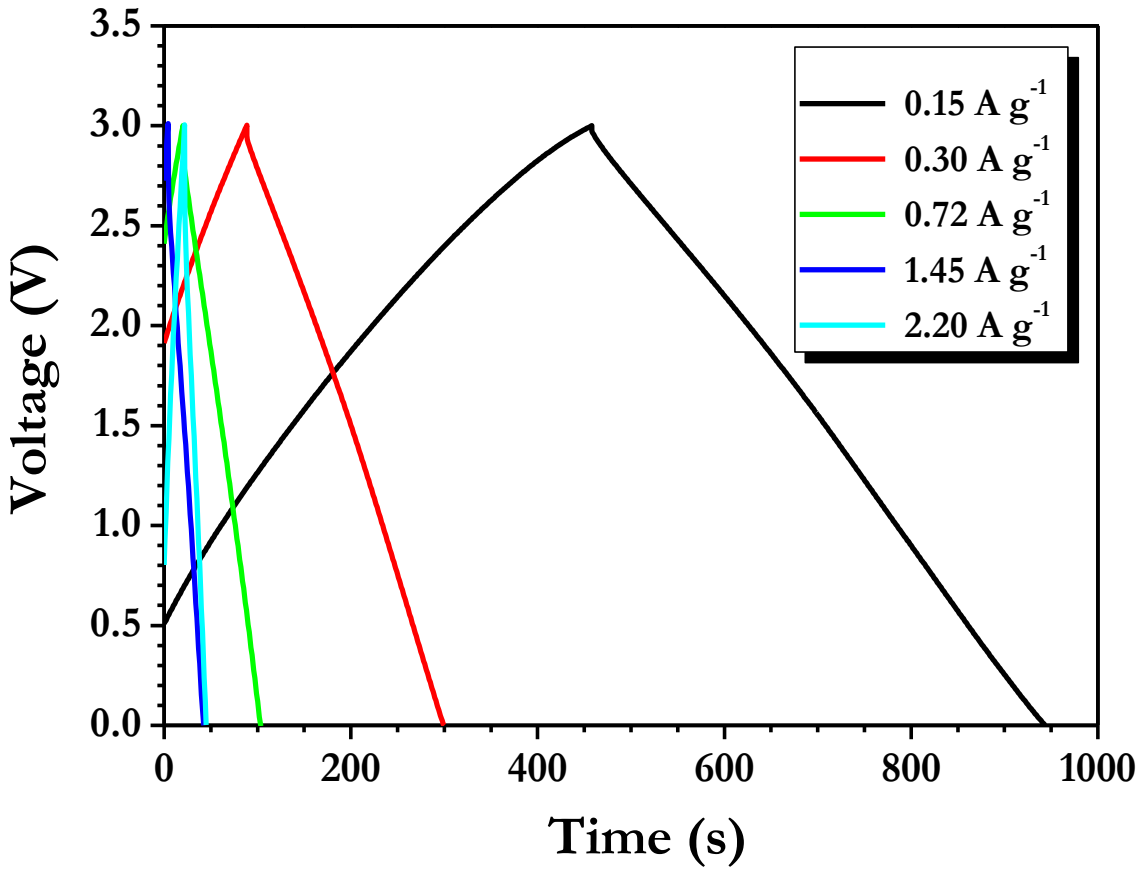

Figure S3. Galvanostatic charge-discharge curves of MgO-MWCNT/AC ASC measured between at different current densities ranging from 0.15 to 2.2 A g^{-1}.

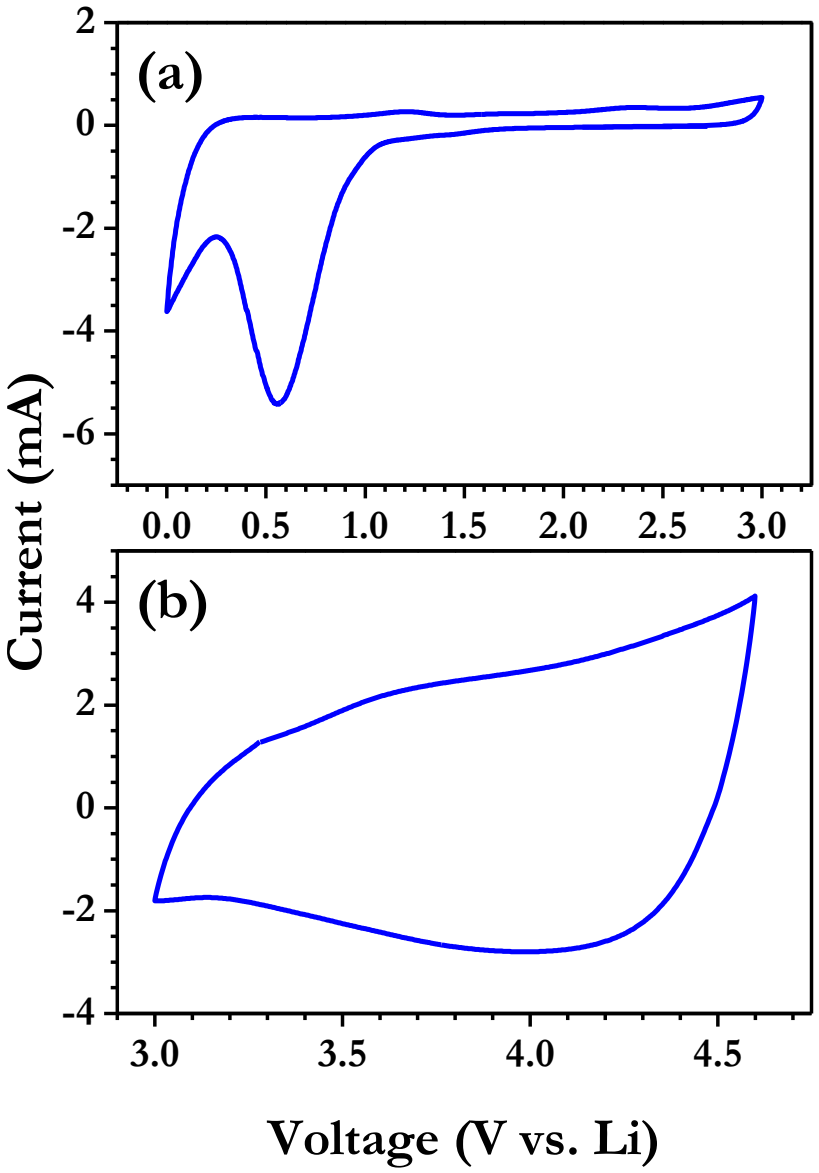

Figure S4. CV traces of single electrode performances recorded between (a) 0-3 V *vs.* Li for AC, and (b) 3-4.6 V *vs.* Li for MgO-MWCNT electrodes at scan rate of 5 mV s^{-1} in which metallic lithium acts as both counter and reference electrode, respectively.

The single electrode performances clearly illustrate the absence of redox reactions and support the formation of electric double layer across the electrode/electrolyte interface. The cathodic peak ~0.6 V *vs.* Li (Figure S4 a) corresponds to the decomposition of the electrolyte solutions.

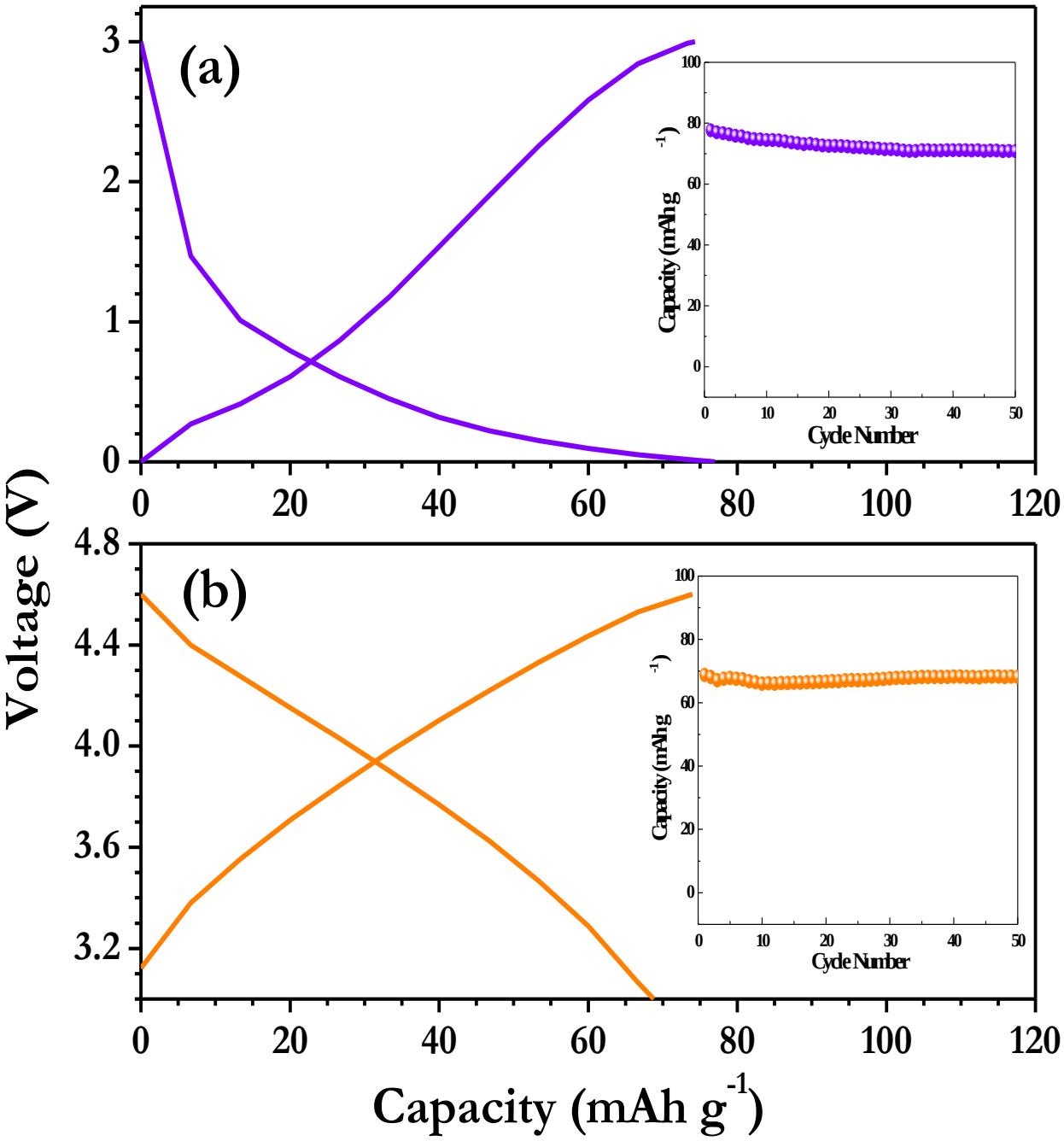

Figure S5. Galvanostatic charge-discharge curves of single electrode performances recorded between (a) 0-3 V *vs.* Li for AC, and (b) 3-4.6 V *vs.* Li for MgO-MWCNT electrodes at current density of 400 mA g^{-1} in which metallic lithium acts as both counter and reference electrode, respectively. Corresponding cycling profiles are given as inset.