

Supporting Information

Flexible Symmetrical Planar Supercapacitors Based on Multi-Layered MnO₂/Ni/Graphite/Paper Electrodes with High-Efficient Electrochemical Energy Storage

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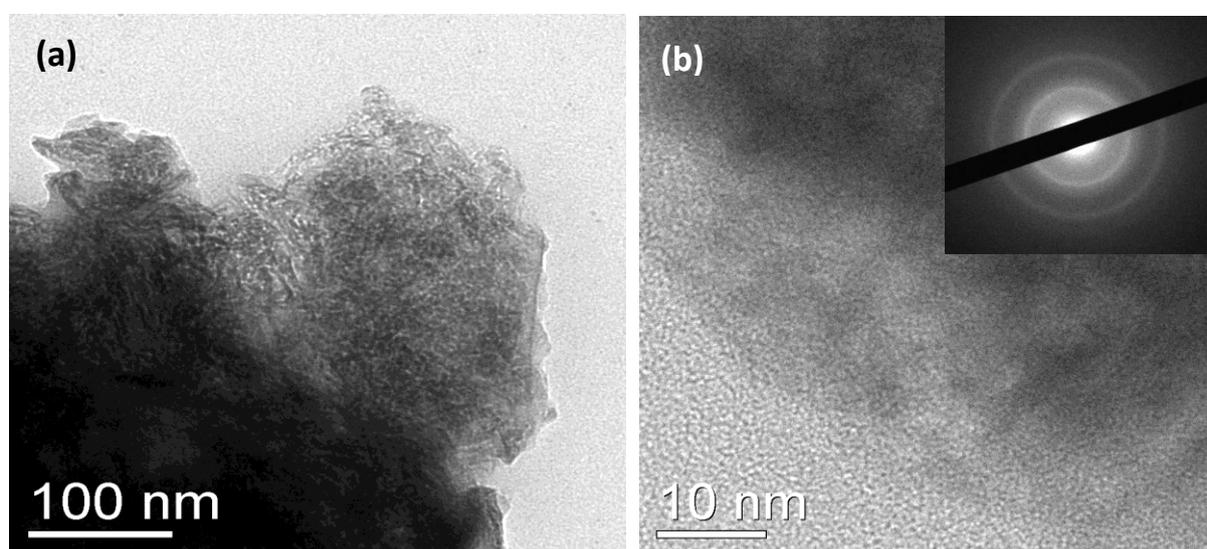


Figure S1. (a) TEM image of a MnO₂ layers and (b) HRTEM image and SAED pattern (inset).

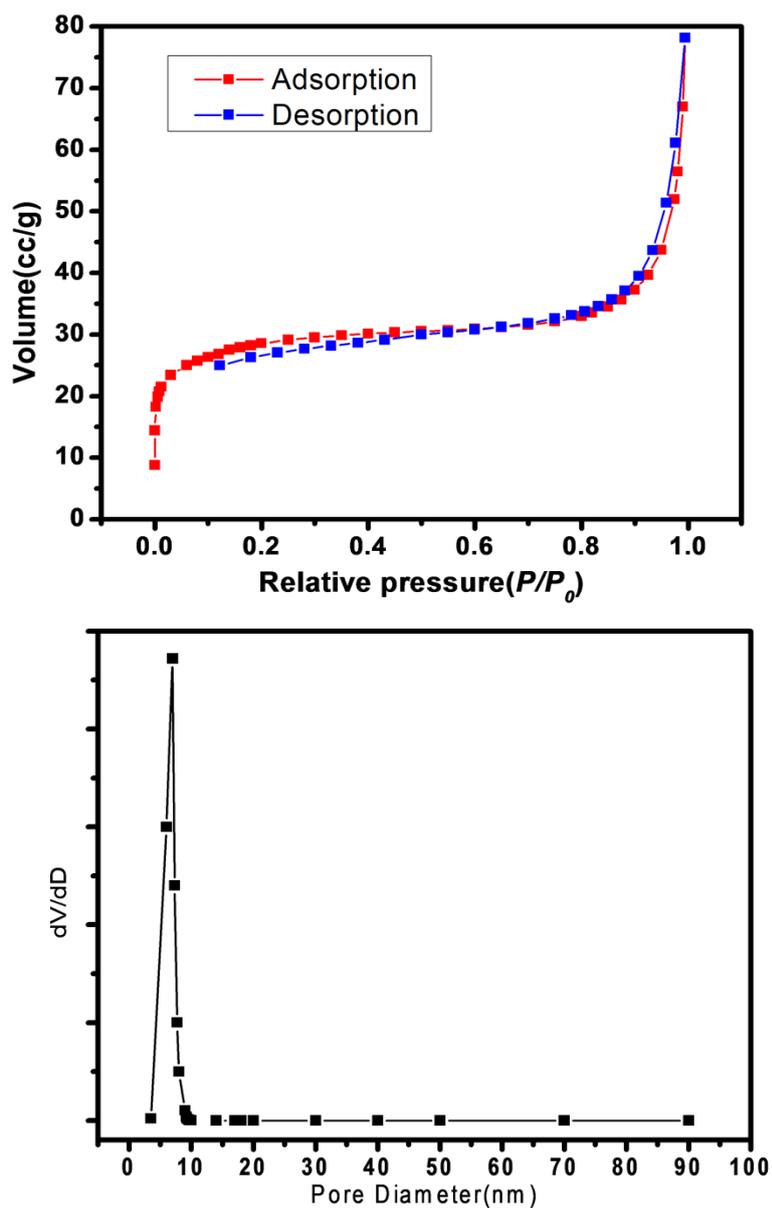


Figure S2. (a) BET curve and (b) Pore size distribution of the electrode material.

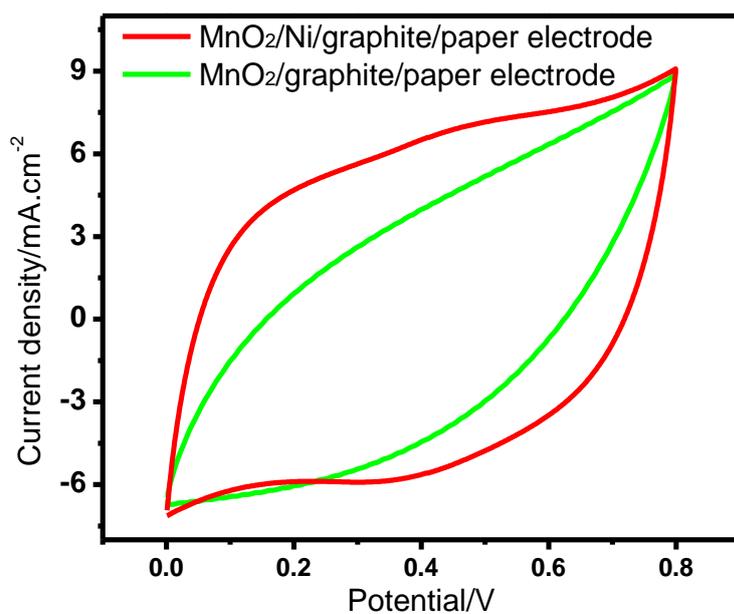


Figure S3. The comparison CV curves between the composite electrodes with and without Ni layer.

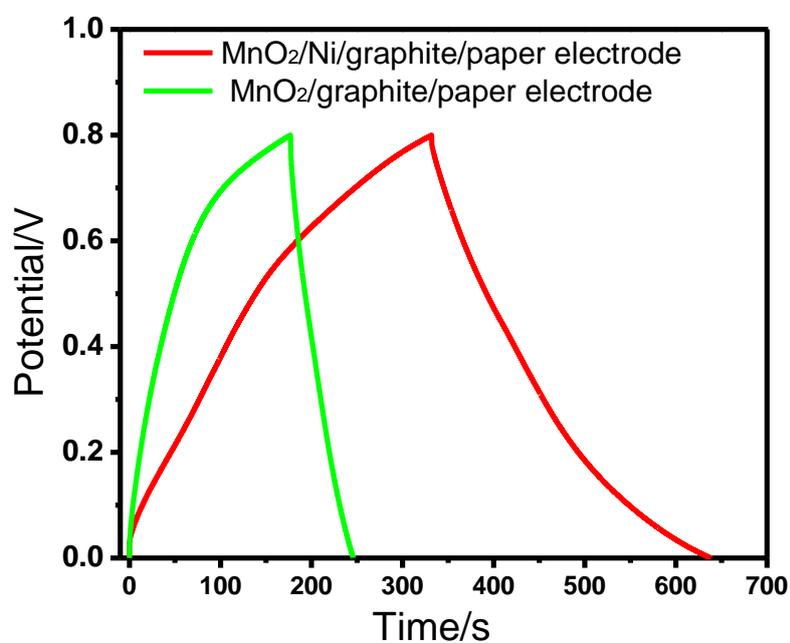


Figure S4. The comparison galvanostatic charge-discharge curves between the electrodes with and without Ni layer.

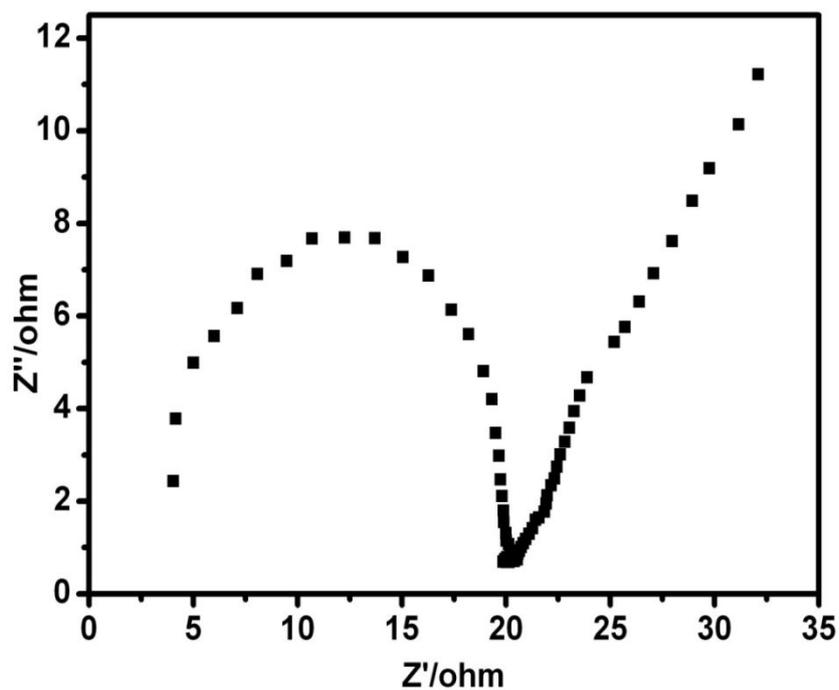


Figure S5. The magnified EIS curve of $\text{MnO}_2/\text{Ni}/\text{graphite}/\text{paper}$ electrode in the FSPSC.

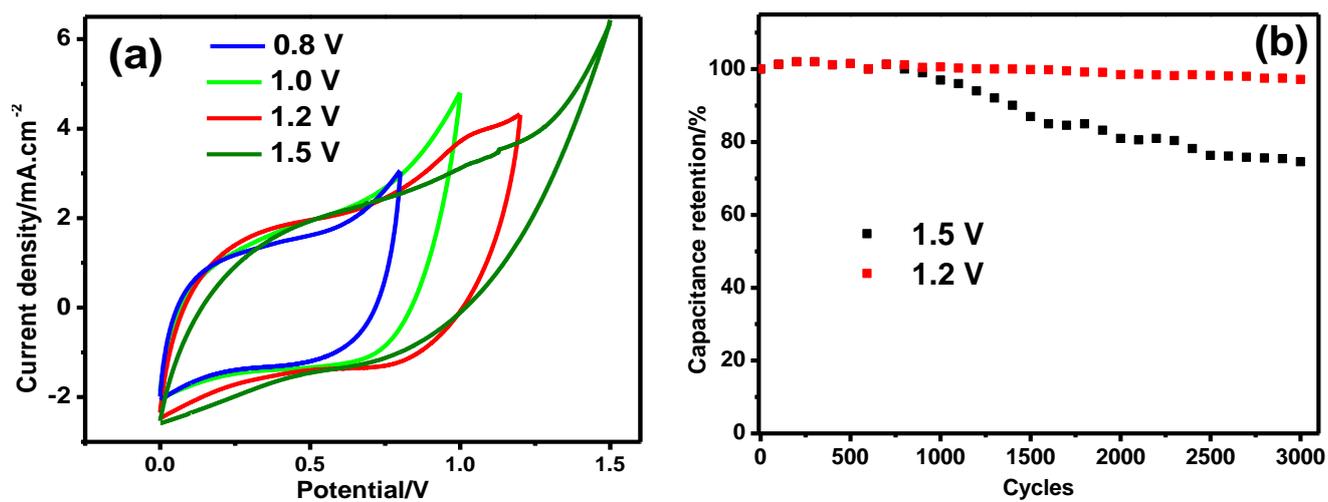


Figure S6. (a) CV curves at potential from 0.8 V to 1.5 V; (b) Capacitance retention after 3000 cycles at normal state at 1.5 V, 100 mV/s.

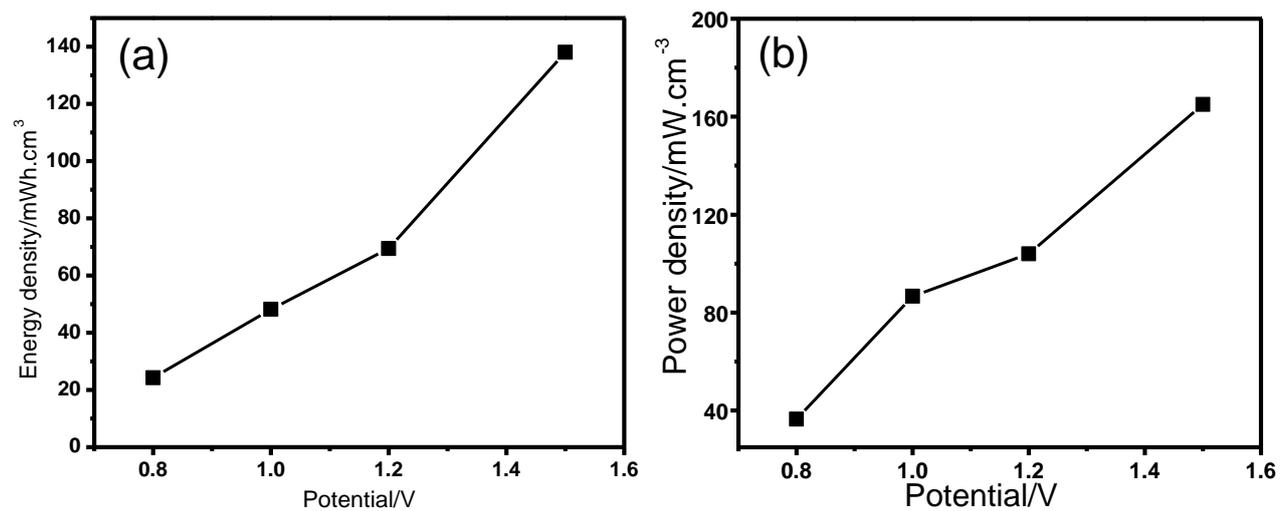


Figure S7. (a) The relationship between potential and energy density; (b) The relationship between potential and power density.

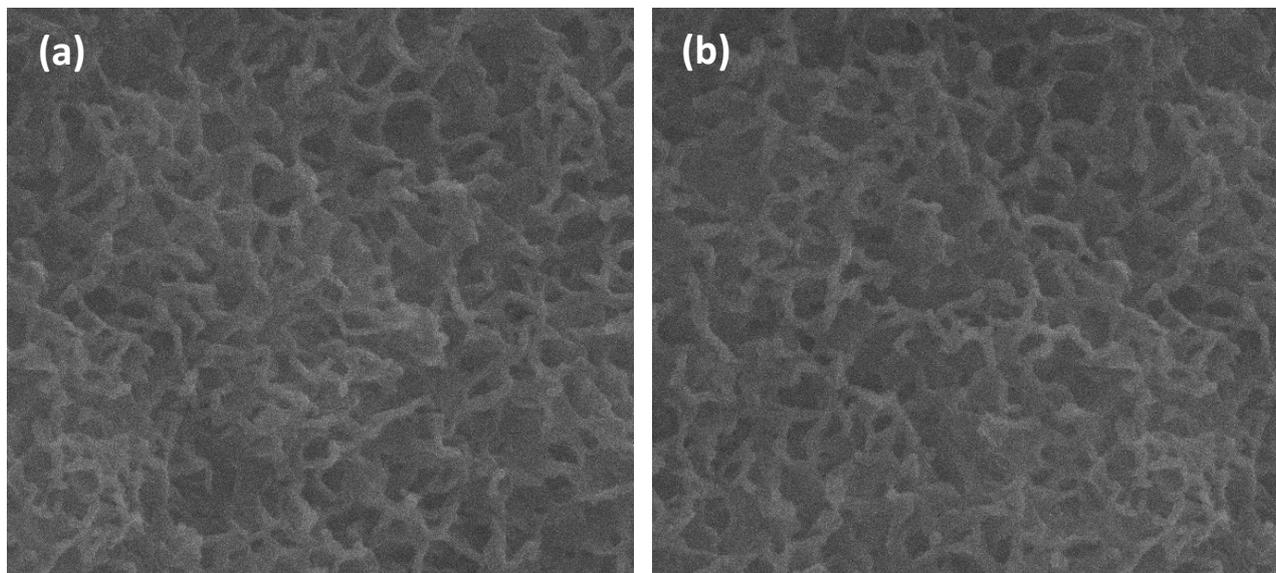


Figure S8. SEM image of surface morphology of MnO₂ layers of the MnO₂/Ni/graphite/paper electrode in the SPESC after 3000 cycles at (a) 100 mV/s, (b) 4 mA/cm².