Electronic Supplementary Information

Hybrid Ternary Rice Paper–Manganese Oxide–Carbon Nanotube–Composite for Flexible Supercapacitors

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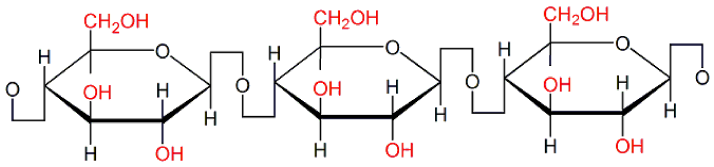

Figure S1. Primary and secondary hydroxyl groups on cellulose fibers.

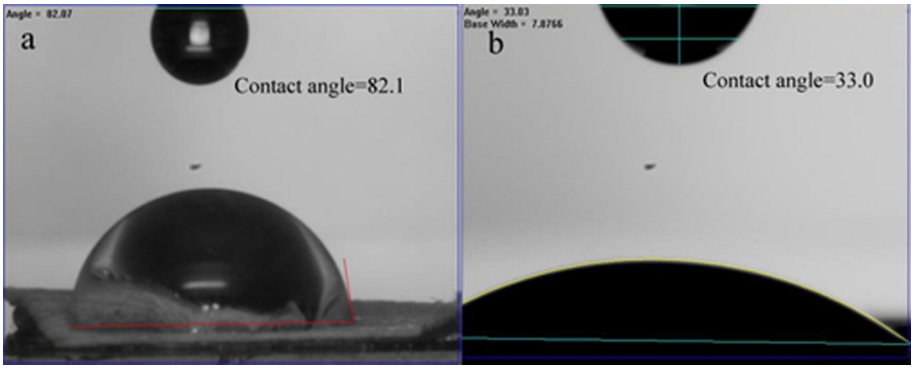

Figure S2. Surface water wettability comparison between (a) regular printing paper (Paperone premium copier, APRIL group, 80 g/m^2) and (b) rice paper (Shanghai deligao stationery Co., Ltd.). Rice paper shows much better water wettability.

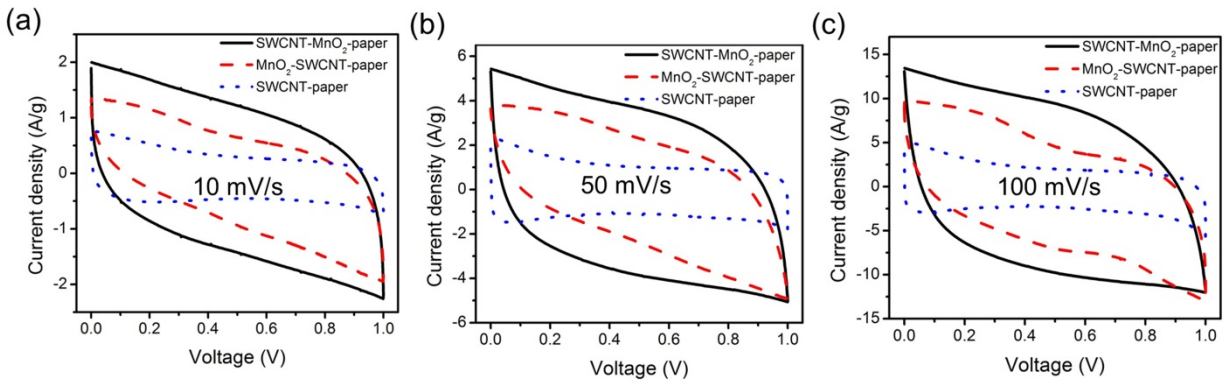

Figure S3. Cyclic voltammetry curves of two-electrode supercapacitors fabricated using SWCNT–paper, MnO_2–SWCNT–paper and SWCNT–MnO_2–paper composites at the scan rate of 10, 50 and 100 mV/s.

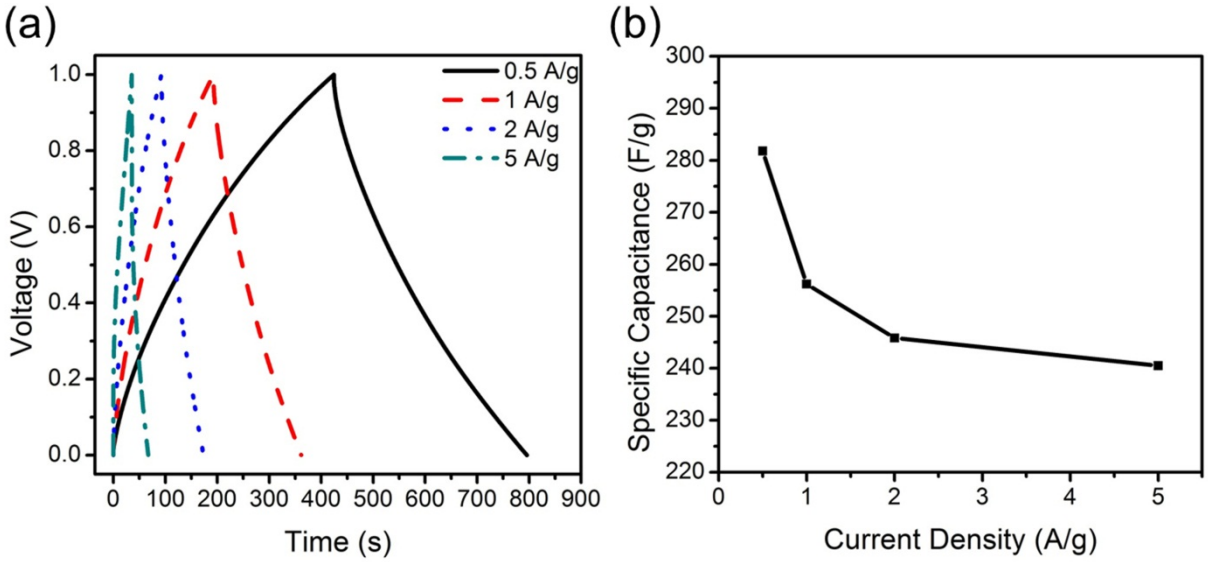

Figure S4. (a) Galvanostatic charge-discharge curves of the two-electrode supercapacitors fabricated using SWCNT–MnO_2–paper composites at the current density of 0.5, 1, 2 and 5 A/g. (b) The gravimetric specific capacitance of the two-electrode EC at different current density.

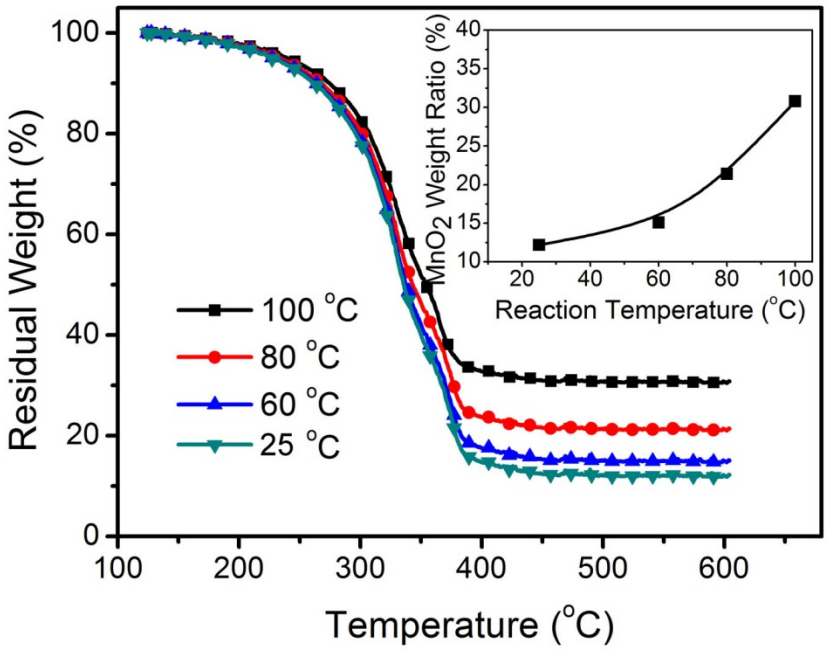

Figure S5. Thermogravimetric analysis profiles of the SWCNT–MnO_2–paper composites synthesized at different MnO_2 deposition temperature from 25 to 100 °C. The insert shows the increase of MnO_2 loading with the increase of deposition temperature.

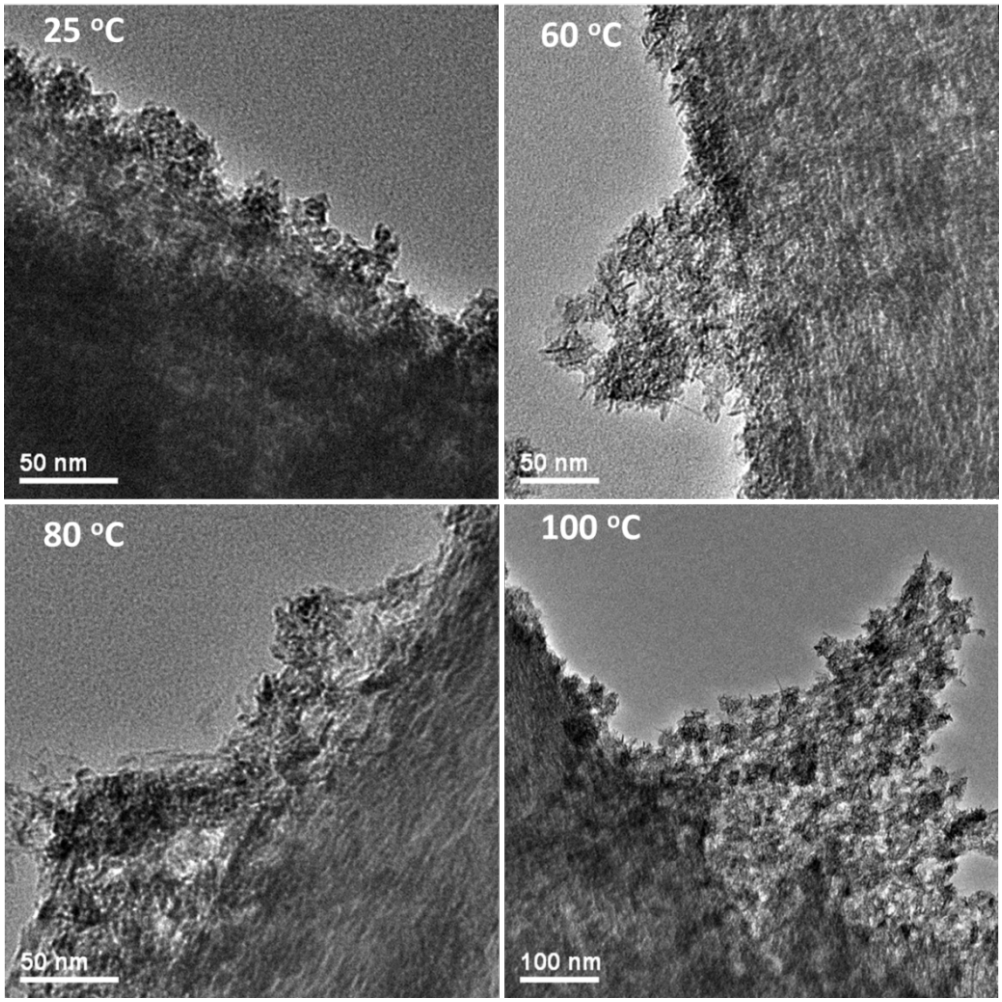

Figure S6. TEM images of MnO_2 deposited on cellulous fibers of rice paper at different temperatures: 25, 60, 80, and 100 ^{o}C.

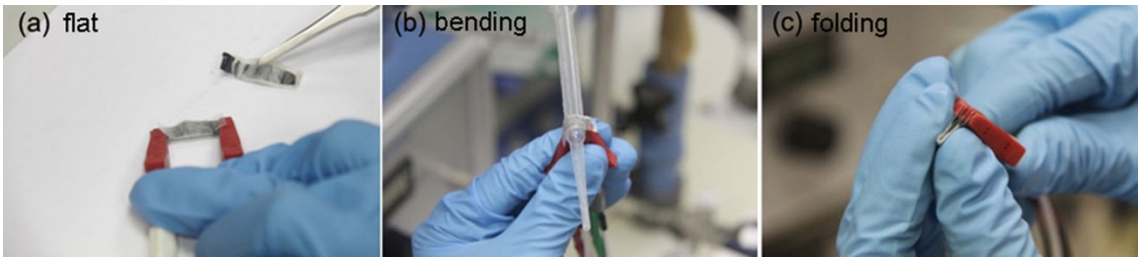

Figure S7. Photographs of the assembled rectangular shape supercapacitors fabricated using SWCNT–MnO_2–paper composites under different bending test conditions. (a) flat, (b) bending at 90^o, and folding of 180^o.

Video: Folding and bending of the SWCNT–MnO_2–paper composites.