Electronic Supplementary Material (ESI) for RSC Advances

Rational Design of High Performance All Solid State Flexible Micro-Supercapacitor on a Paper

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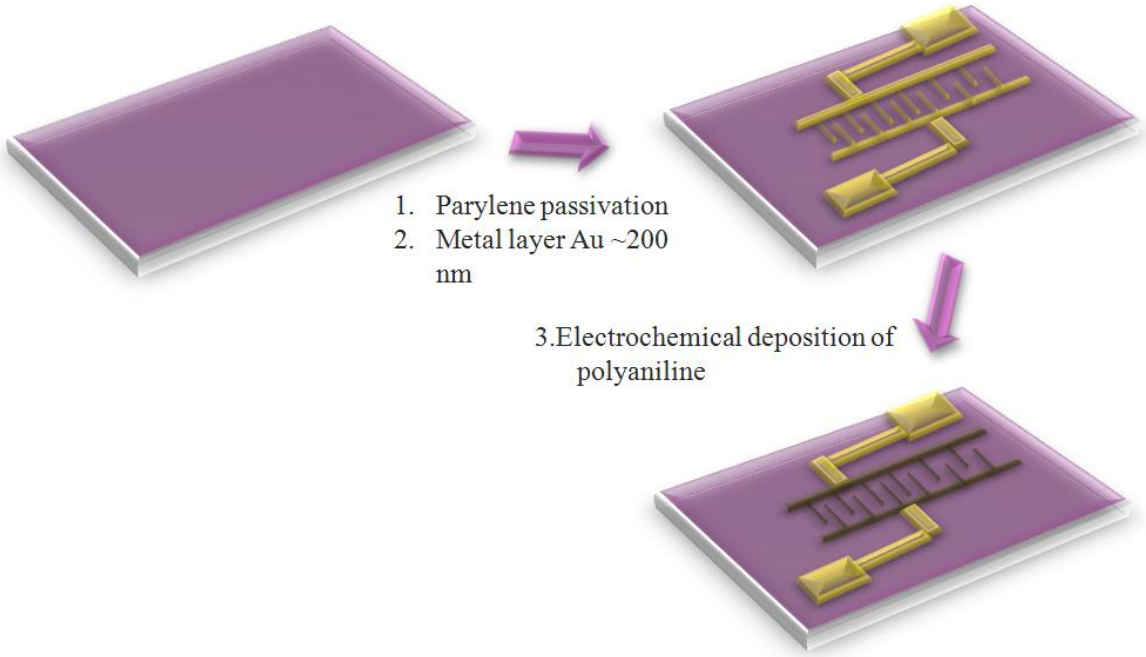

Scheme 1. Fabrication process of micro-supercapacitor on a paper.

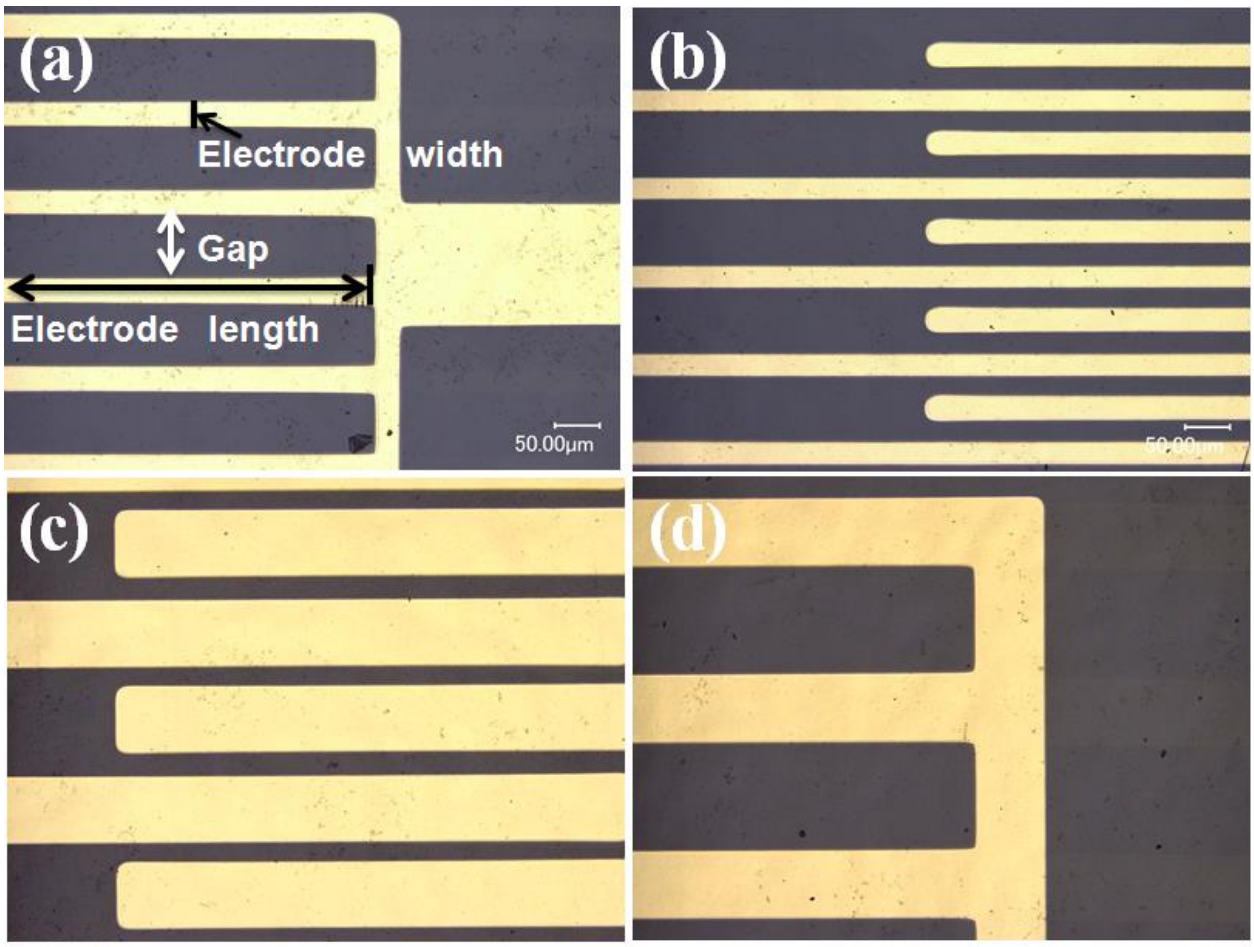

Figure S1. Optical microscope images of different interdigital finger electrode patterns (a) and (b) MC-3; (c) and (d) MC-2.

Tabel S1. Specifics of interdigital finger electrode design

Design/Pattern	Electrode length/µm	Electrode width/µm	Gap/µm	Total Area/ cm^2
MC-1	5000	500	300	0.15
MC-2	5000	300	300	0.15
MC-3	5000	100	300	0.15
MC-4	5000	100	500	0.08
MC-5	5000	100	300	0.08
MC-6	5000	100	100	0.08

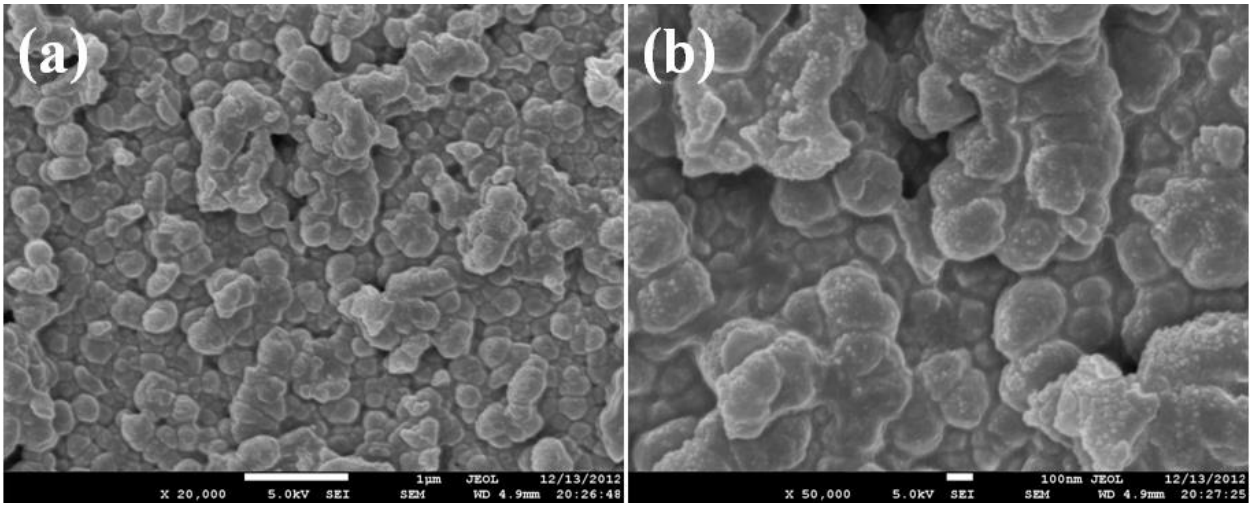

Figure S2. SEM images of PANI prepared by potentially dynamic deposition from -0.2 to 0.9 V vs SCE for 150 cycles.

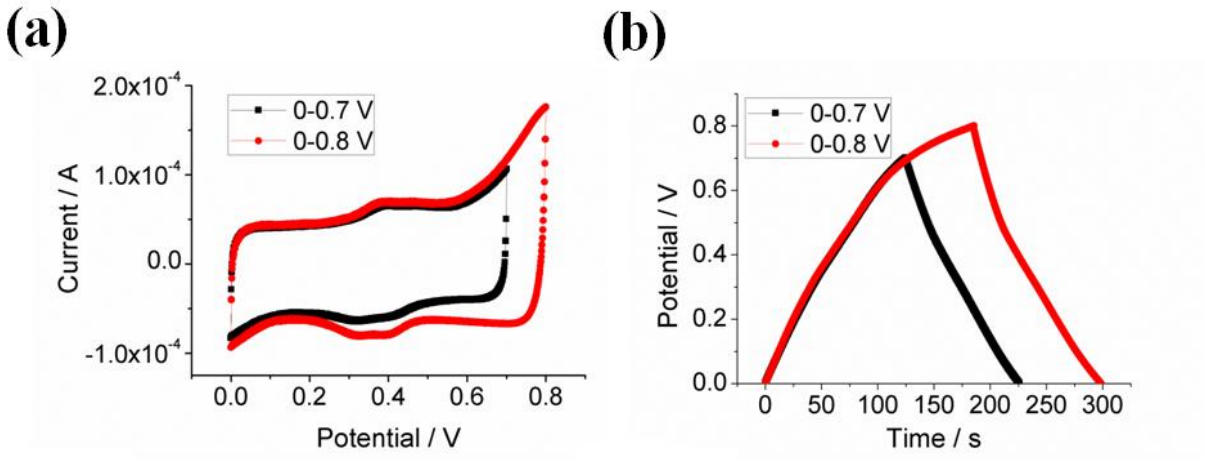

Figure S3. (a) CV curves of sample MC-1-100 from 0~0.7 V and 0~0.8 V respectively; (b) charge-discharge curves of sample MC-1-100 from 0~0.7 V and 0~0.8 V respectively.

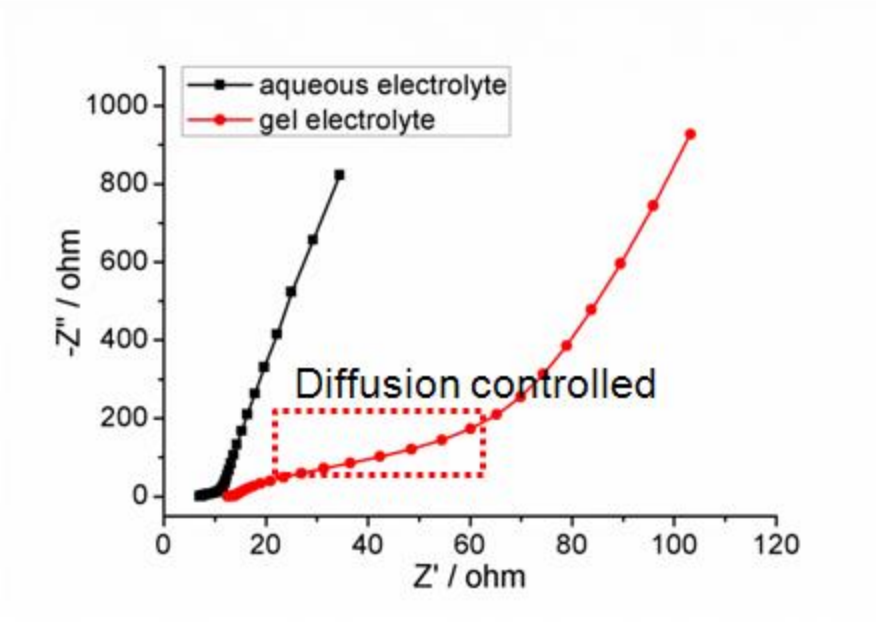

Figure S4. Nyquist plots of sample MC-5-200 tested in aqueous electrolyte and gel electrolyte.

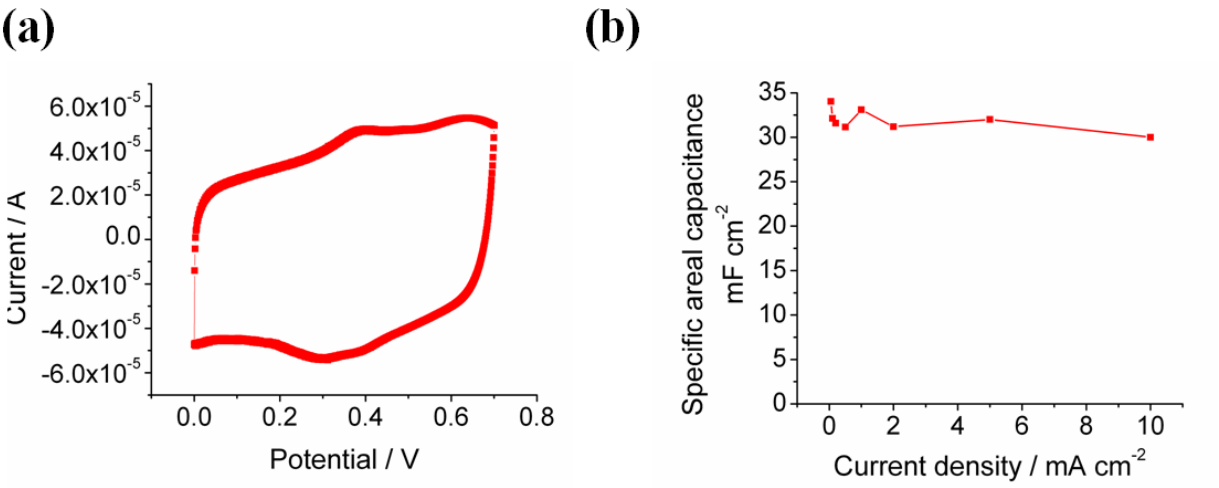

Figure S5. (a) CV curve of pure PANI symmetric device prepared using the same condition with sample MC-5-200, tested in 1 M H_2SO_4; (b) relationships between specific areal capacitance and current density of pure PANI device, tested in 1 M H_2SO_4.

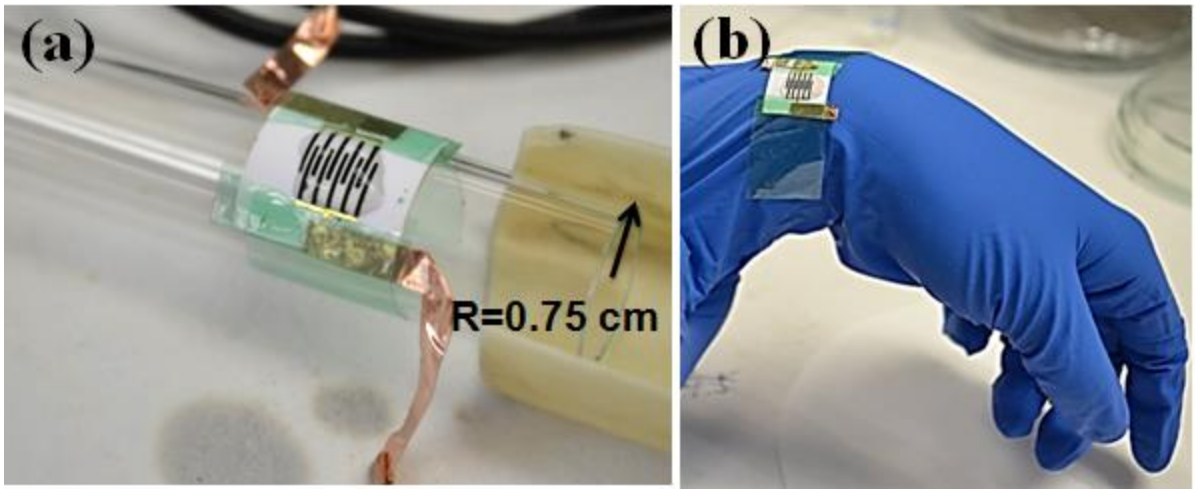

Figure S6. (a) Digital image of device tested in bent state; (b) demonstration of micro supercapacitor device wearing on the human wrist.