Supporting Information

Movie S1. The assembled two supercapacitors in series were attached onto a plastic card to power a red light-emitting diode lamp during swinging rapidly.

Experimental Section

Characterization and calculation. The morphologies of the CNT array electrodes and sticky-note supercapacitors were characterized by scanning electron microscope (Ziess Ultra 55 at 3 kV). The adhesion force measurement was performed on a HY0350 Table-top Universal Testing Instrument. Raman spectra were measured by Renishaw in Via Reflex instrument with an excitation wavelength of 633 nm and laser power of 20 mW. The electrical resistance of the electrode was tested by a Keithley Model 2400 Source Meter. The galvanostatic charge-discharge and cyclic voltammograms of the sticky-note supercapacitor were measured by an electrochemical workstation (CHI 660E). The photographs were taken by a camera (Nikon, J1). The capacitance (C) was calculated from galvanostatic charge-discharge curve following the equation: $C = 2\times(I\times\Delta t)/\Delta V$, where I, Δt and ΔV represent the discharge current, discharge time, and voltage window of the sticky-note supercapacitor, respectively. The mass (C_m) and area (C_A) specific capacitances were calculated by dividing the capacitance by the mass and area of the CNT array electrode, respectively. The mass energy density (E_m) was calculated from the equation of $E_m = C_m\times\Delta V^2/(8\times3600)$. The mass power density (P_m) was obtained from the equation of $P_m = (E_m\times3600)/\Delta t$.

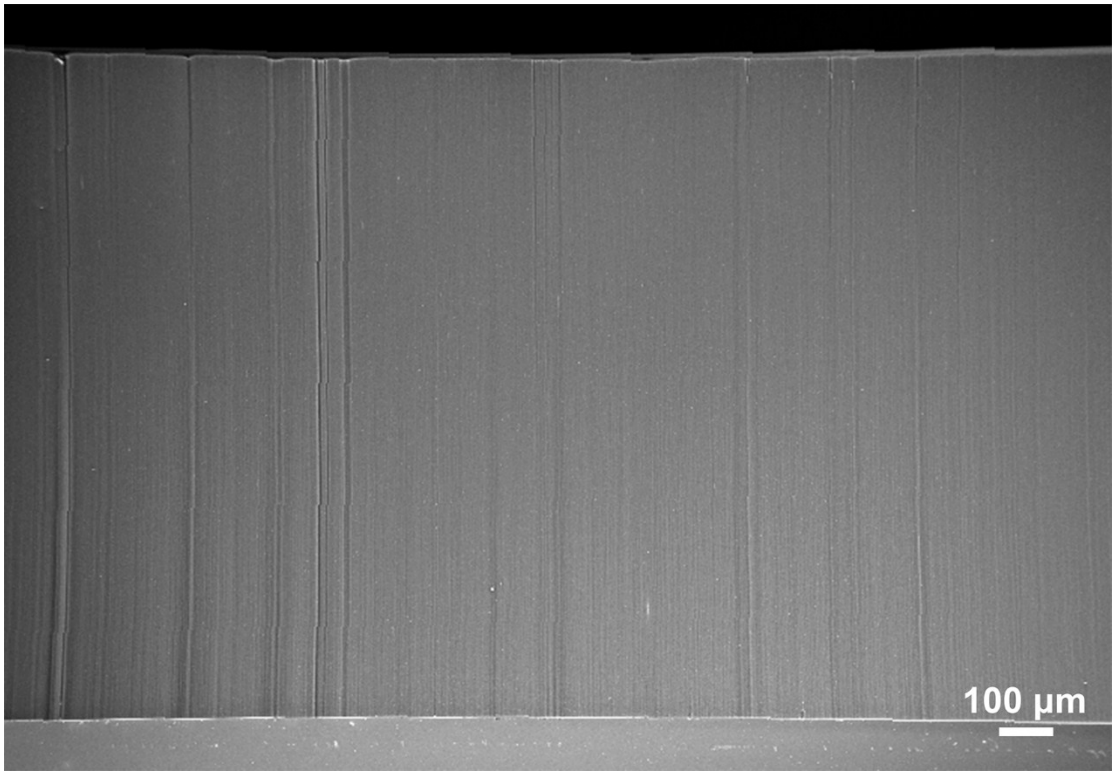

Fig. S1 SEM image of the original aligned CNT array by side view.

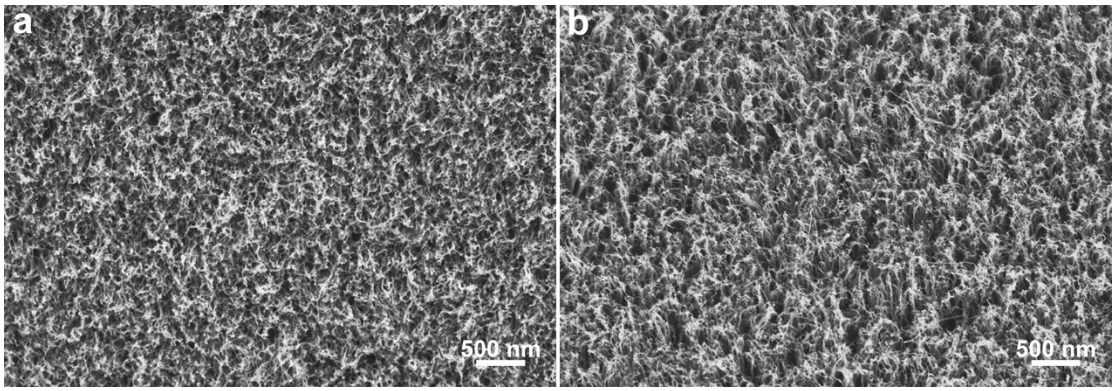

Fig. S2 SEM images of the original aligned CNT array by top (**a**) and oblique (**b**) views.

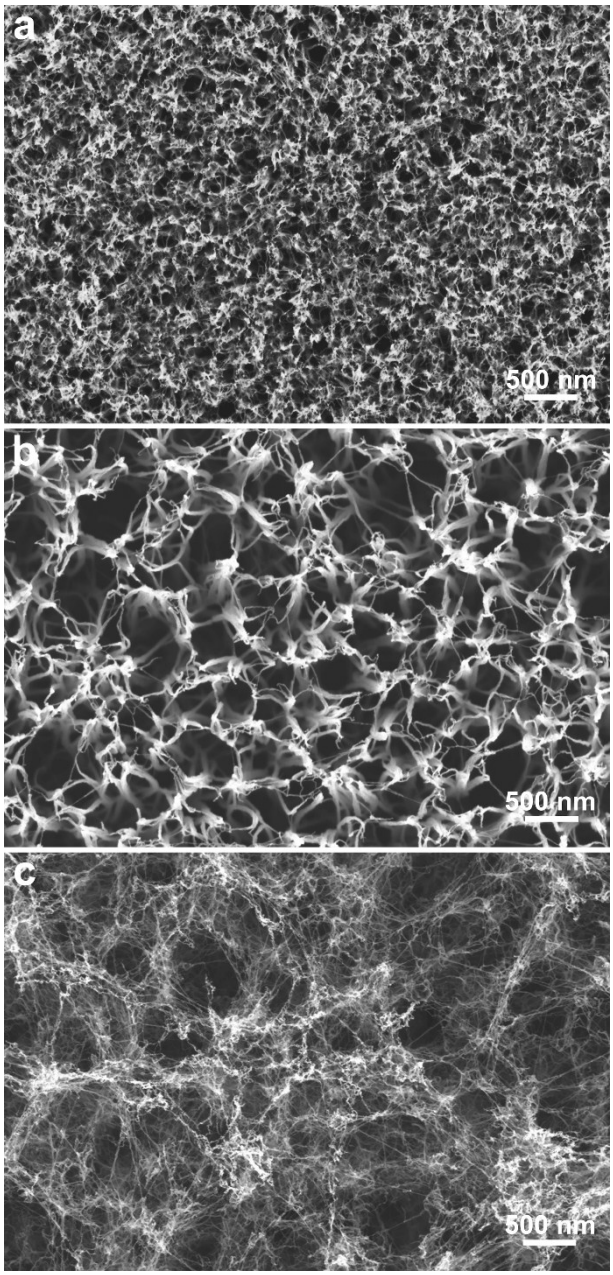

Fig. S3 SEM images of the aligned CNT arrays with plasma treatment of 10 min (**a**), 20 min (**b**) and 30 min (**c**) by top view.

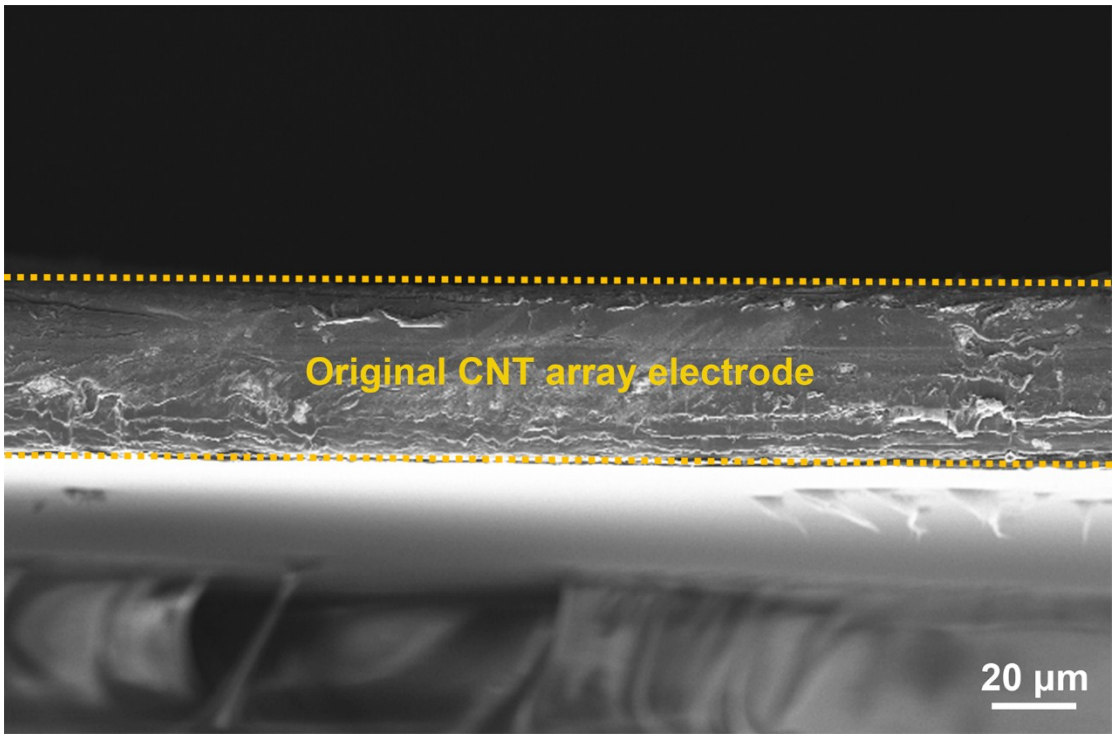

Fig. S4 SEM image of the original CNT array electrode by side view.

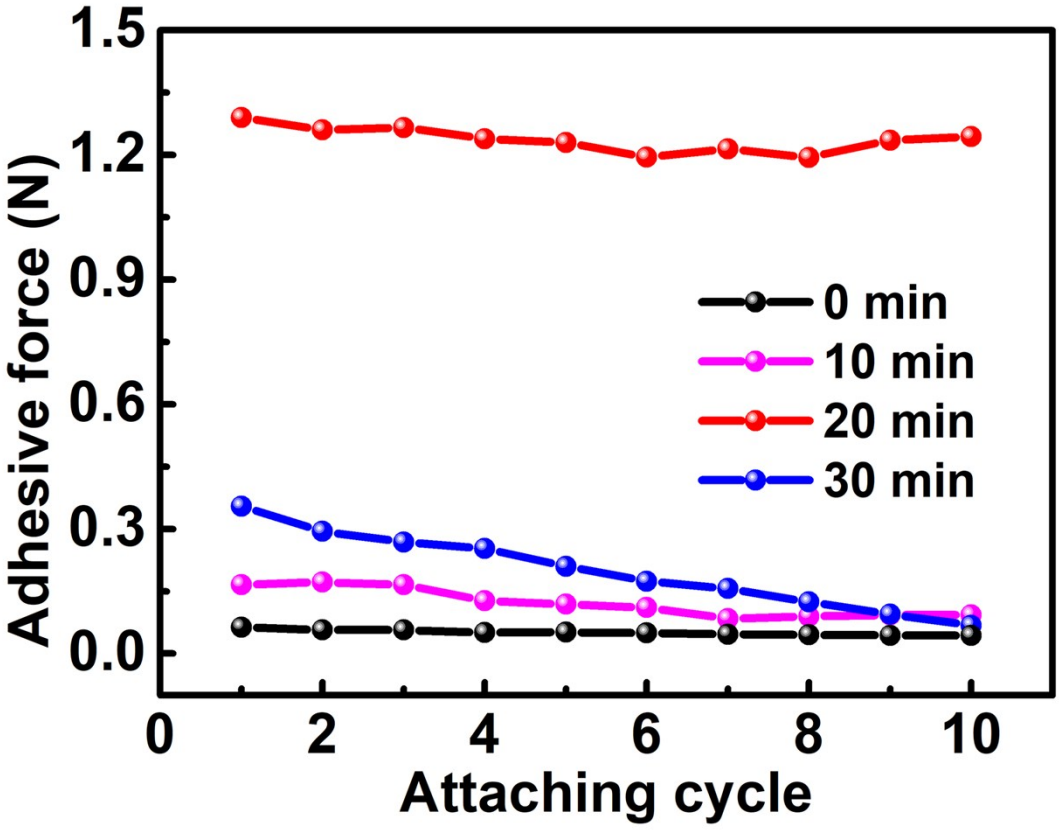

Fig. S5 The adhesive force retention curves of the CNT array electrodes with increasing plasma treatment times from 0 to 30 min on glass.

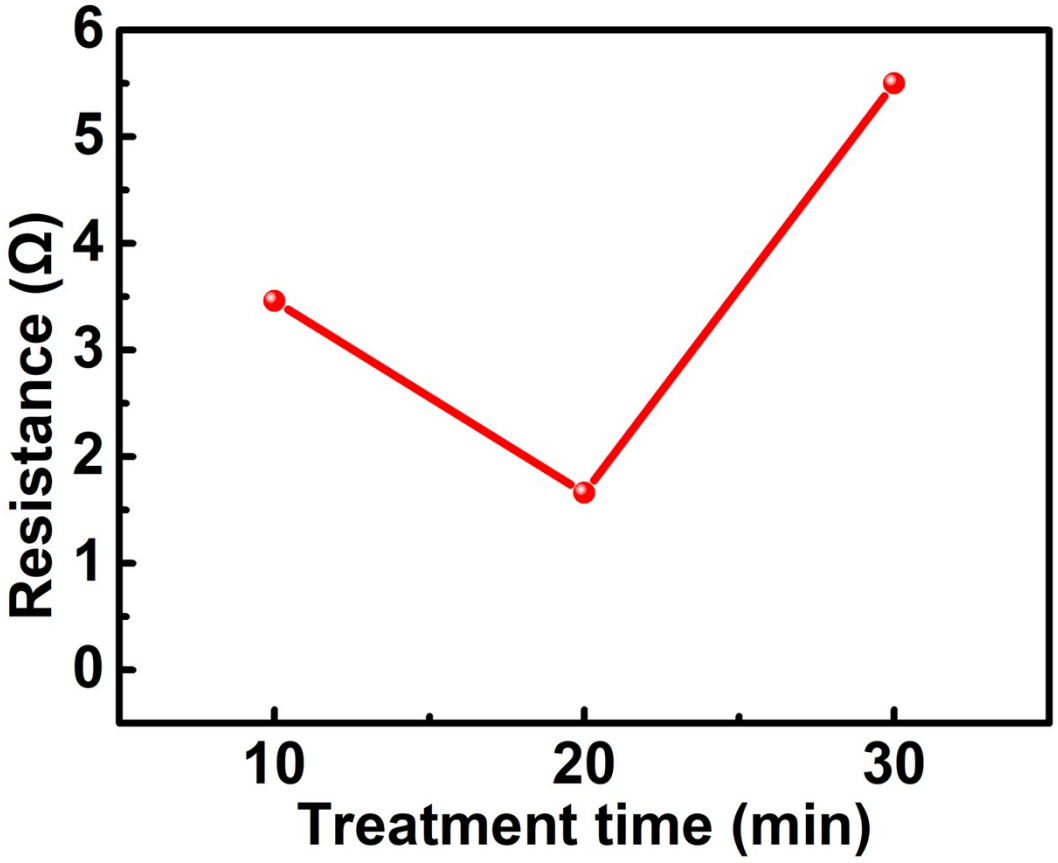

Fig. S6 The resistance changes of the CNT array electrodes with increasing plasma treatment times from 10 to 30 min.

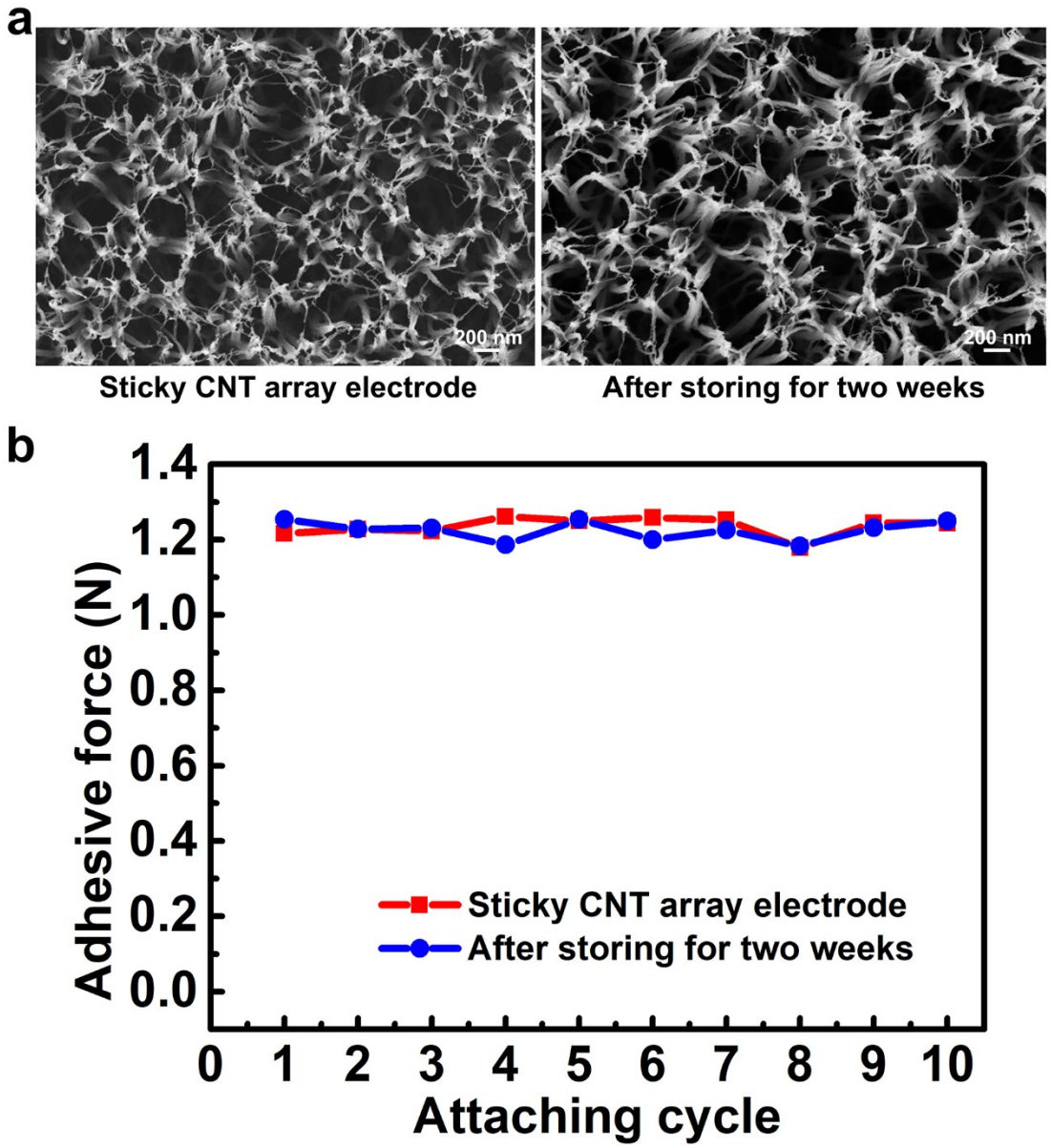

Fig. S7 The sticky CNT array electrode before and after being stored for two weeks. (**a**) SEM images. (**b**) Adhesive force retention curves on glass.

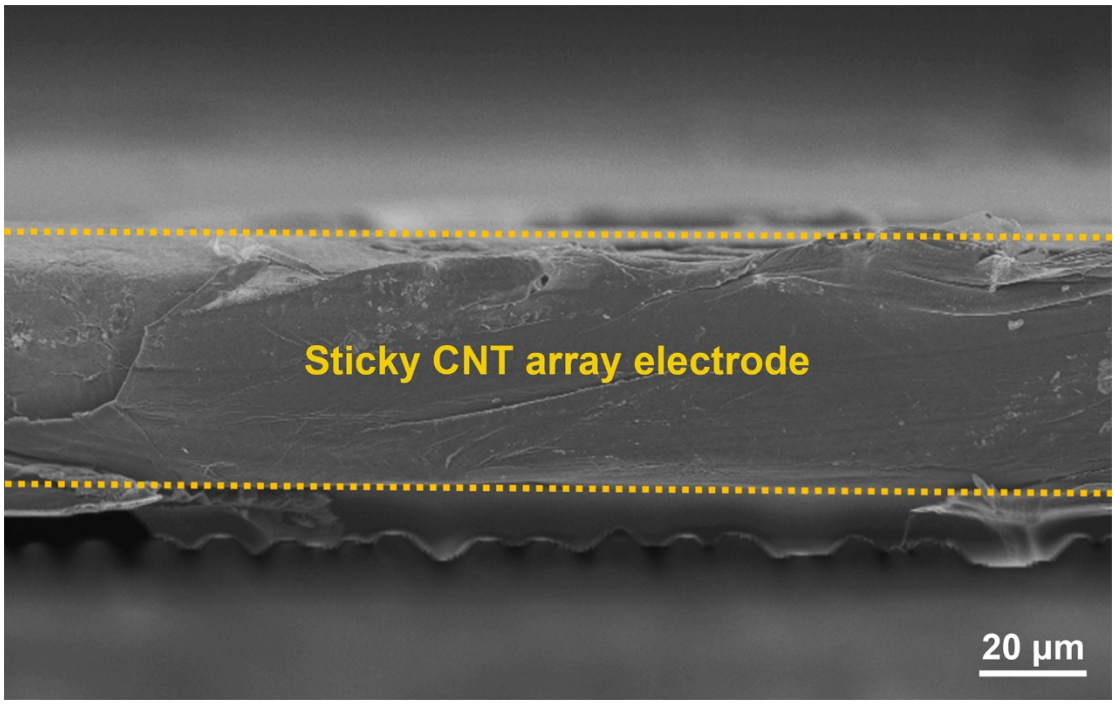

Fig. S8 SEM image of the sticky CNT array electrode by side view.

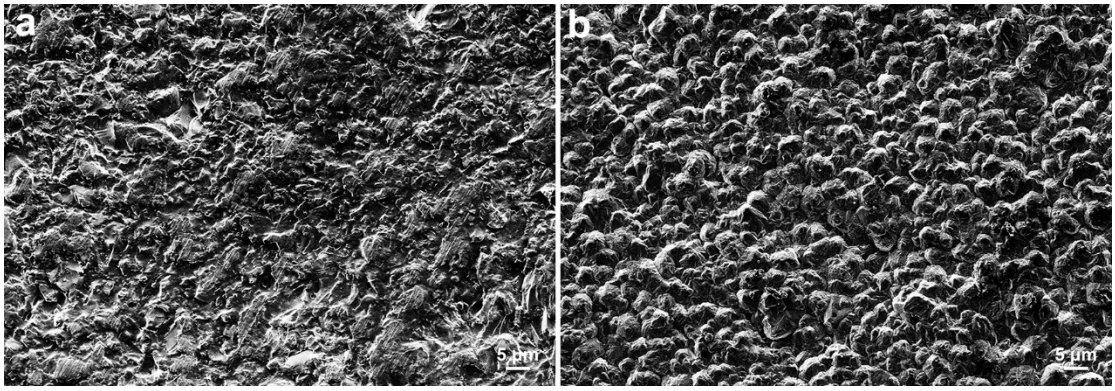

Fig. S9 SEM images of the surfaces of glass (**a**) and copper (**b**) substrates.

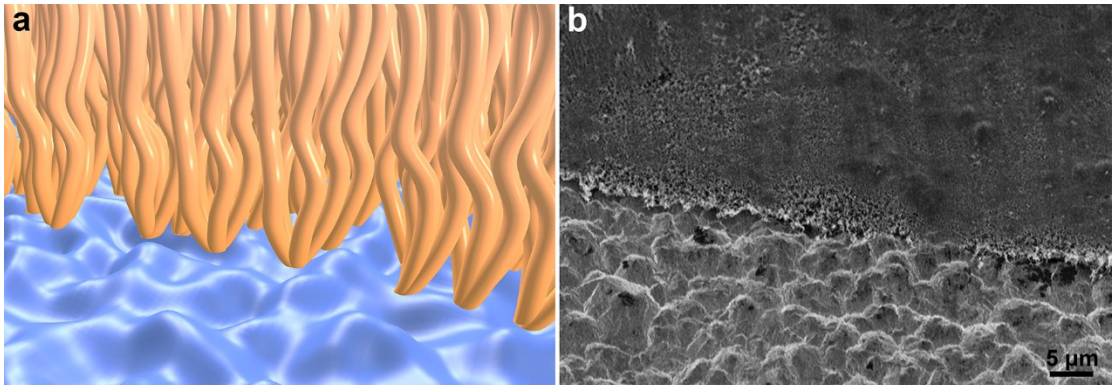

Fig. S10 (a) Schematic illustration to the adhesive mechanism of the sticky CNT array electrode. (b) SEM image of the sticky CNT array electrode attached on a substrate by oblique view.

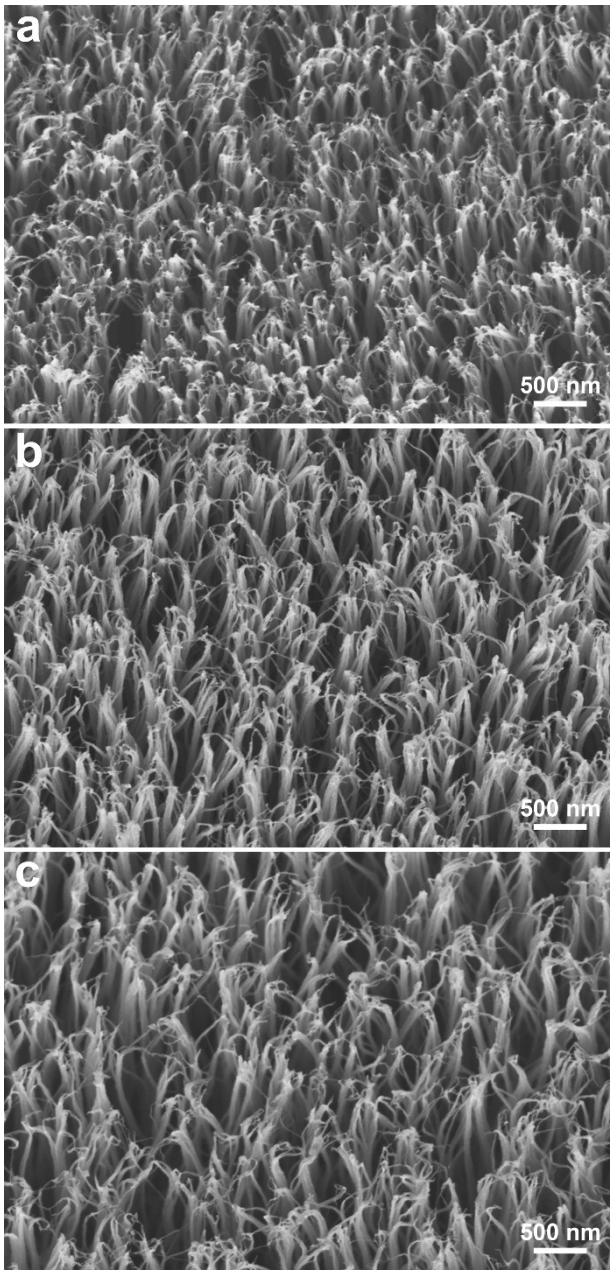

Fig. S11 SEM images of the sticky aligned CNT array electrode after 500 (a), 1,000 (b) and 2,000 (c) attaching/removing cycles by oblique view.

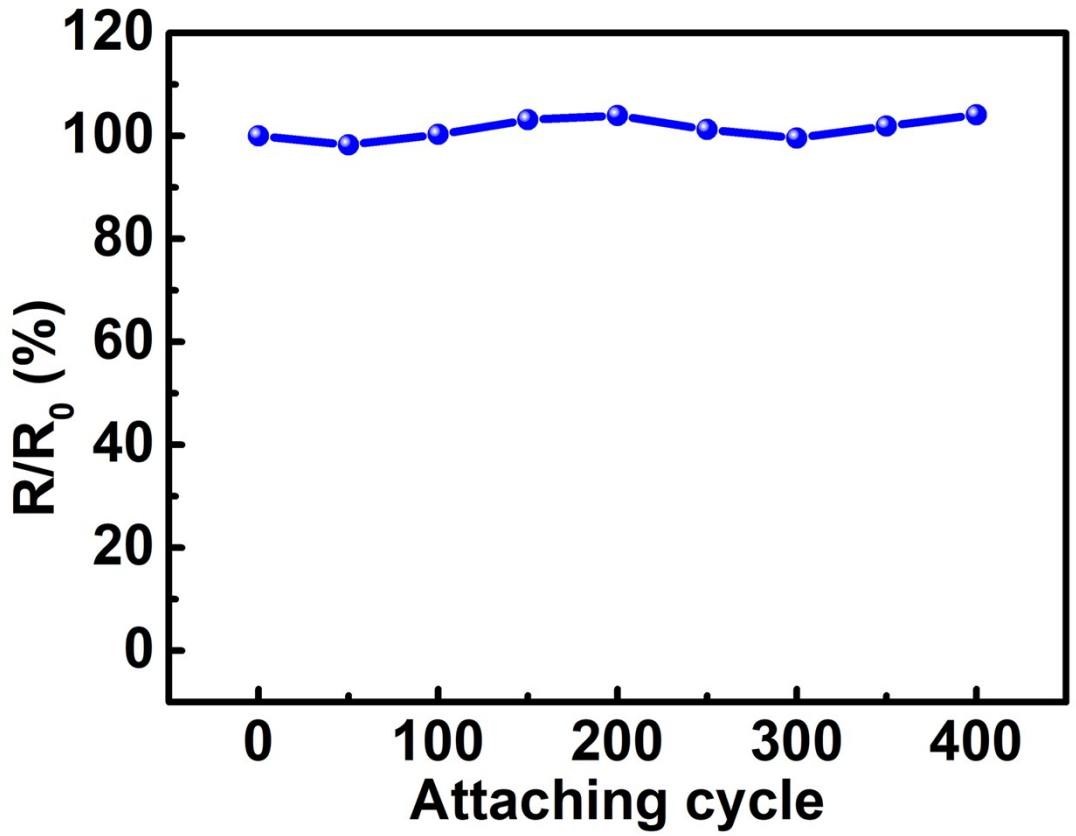

Fig. S12 Electrical resistance changes of the sticky CNT array electrode during 400 attaching/removing cycles on glass.

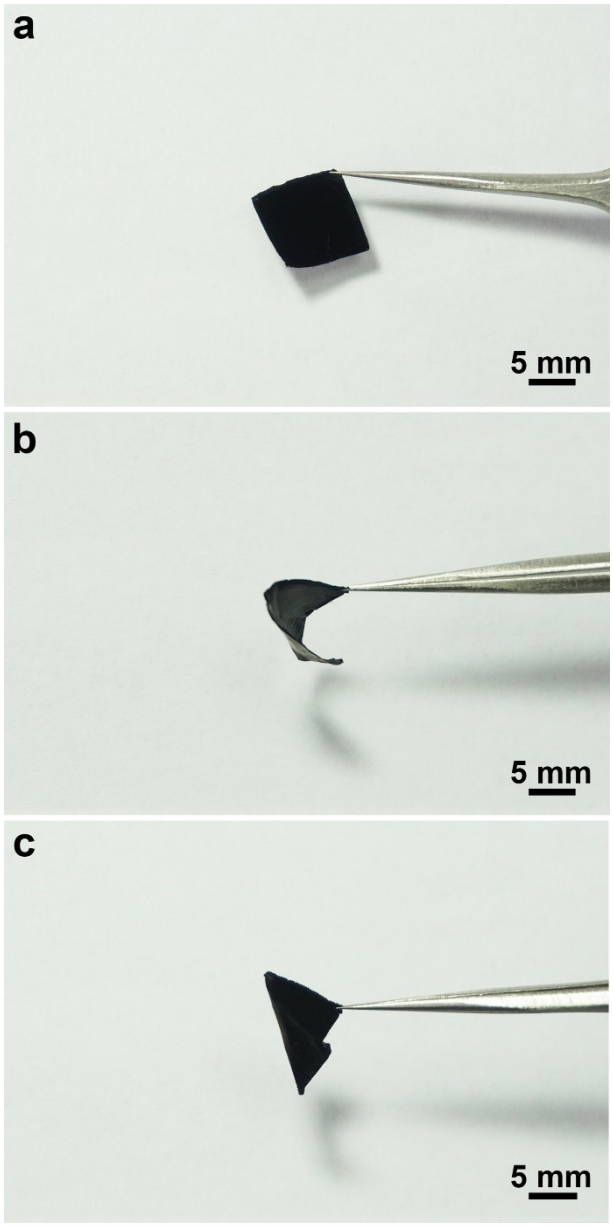

Fig. S13 Photographs of the free-standing sticky CNT array electrode at different bending states.

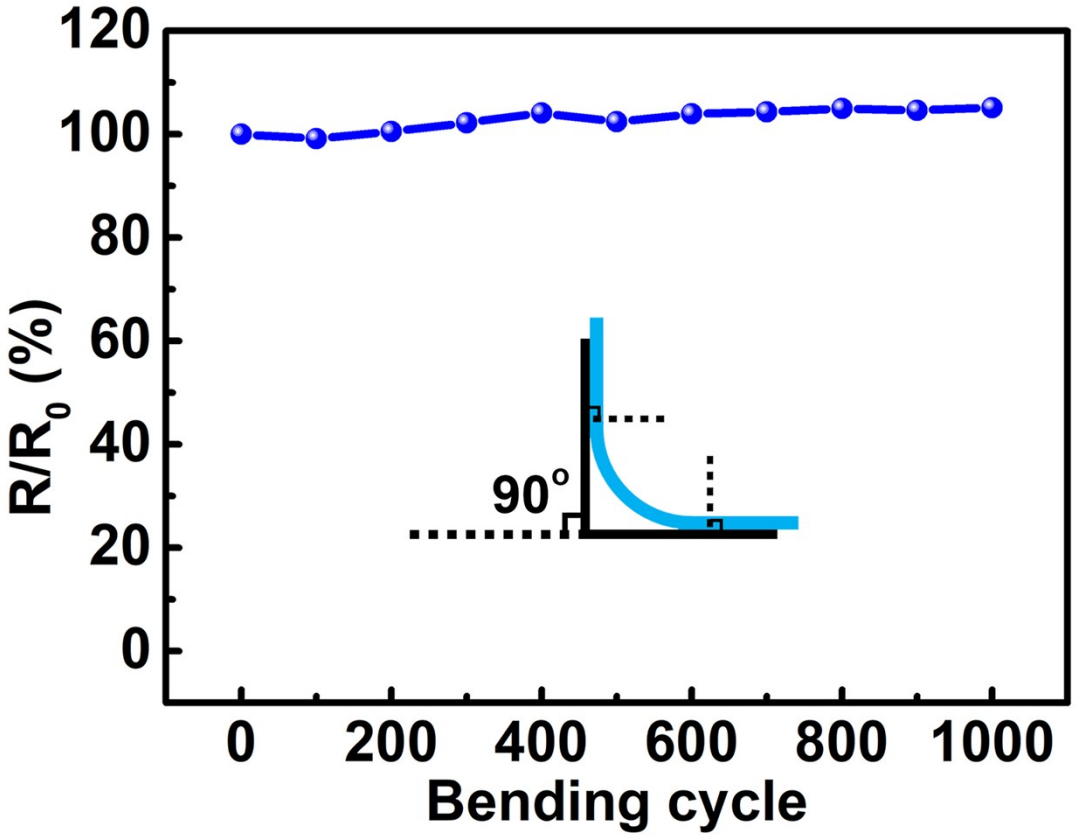

Fig. S14 Electrical resistance changes of the sticky CNT array electrode during 1,000 bending cycles with a bending angle of 90°.

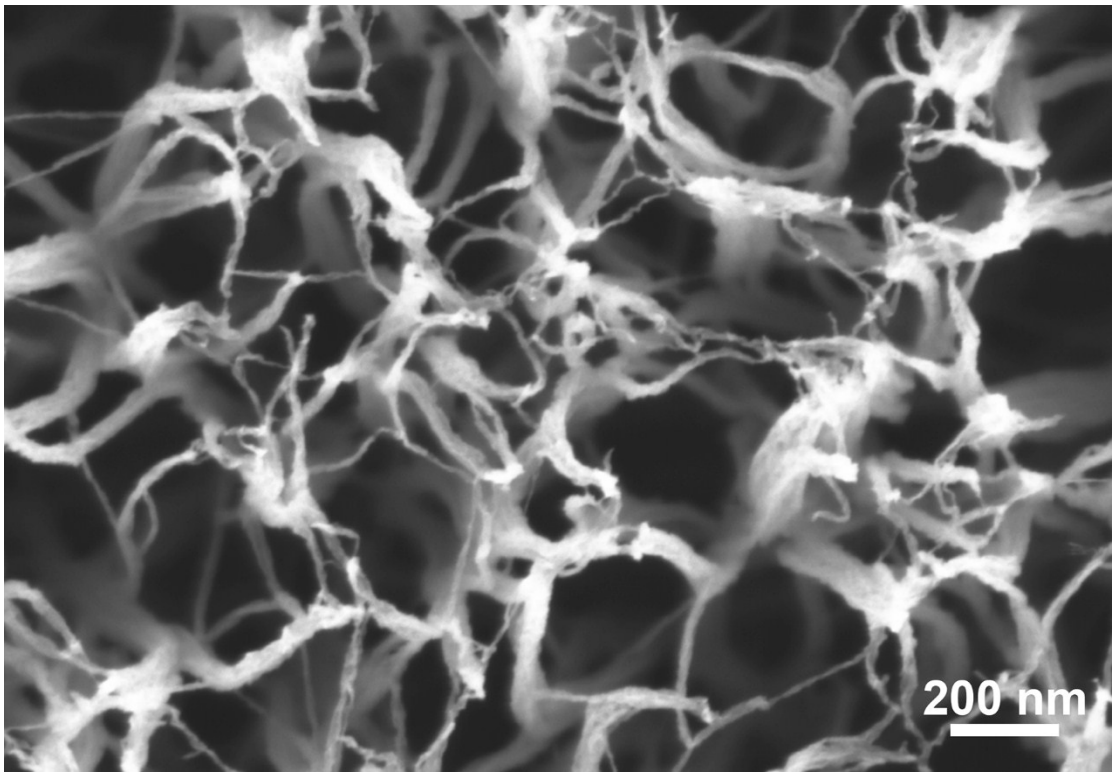

Fig. S15 High-magnification SEM image of the sticky CNT array electrode.

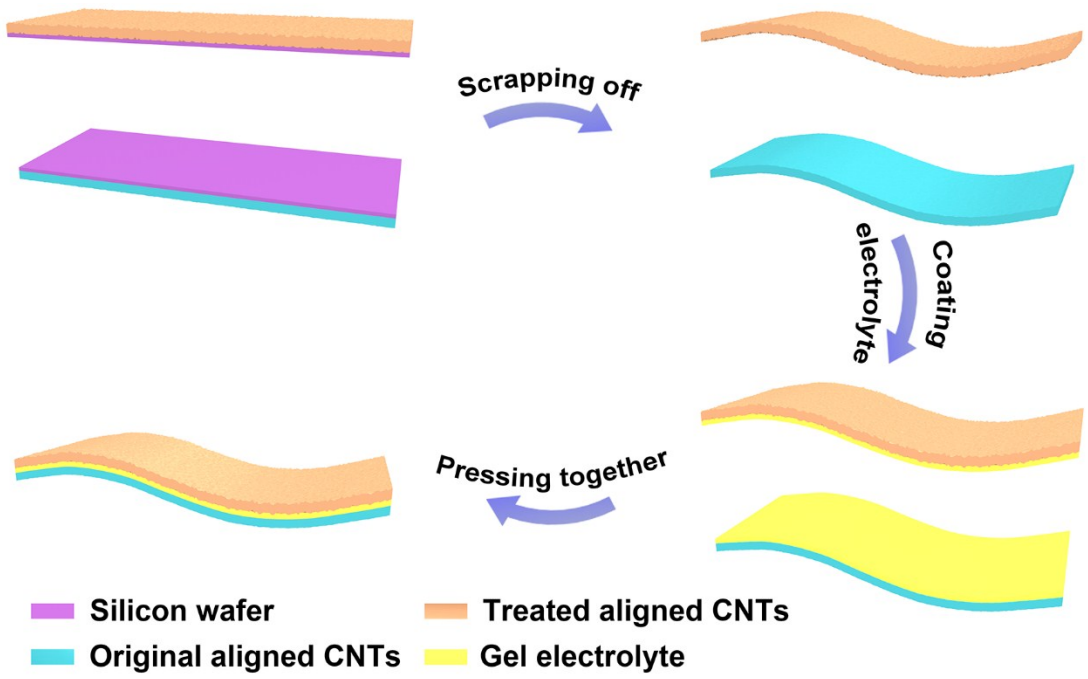

Fig. S16 Schematic illustration to the fabrication process of the sticky-note supercapacitor.

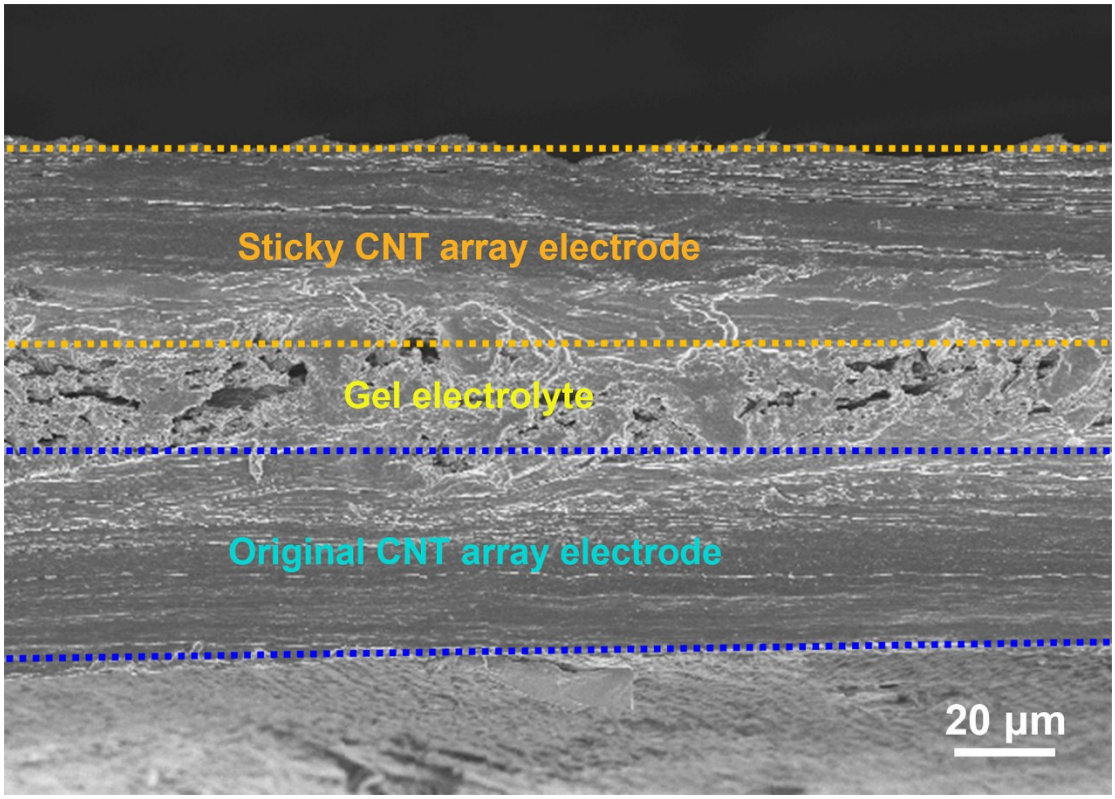

Fig. S17 SEM image of the sticky-note supercapacitor by side view.

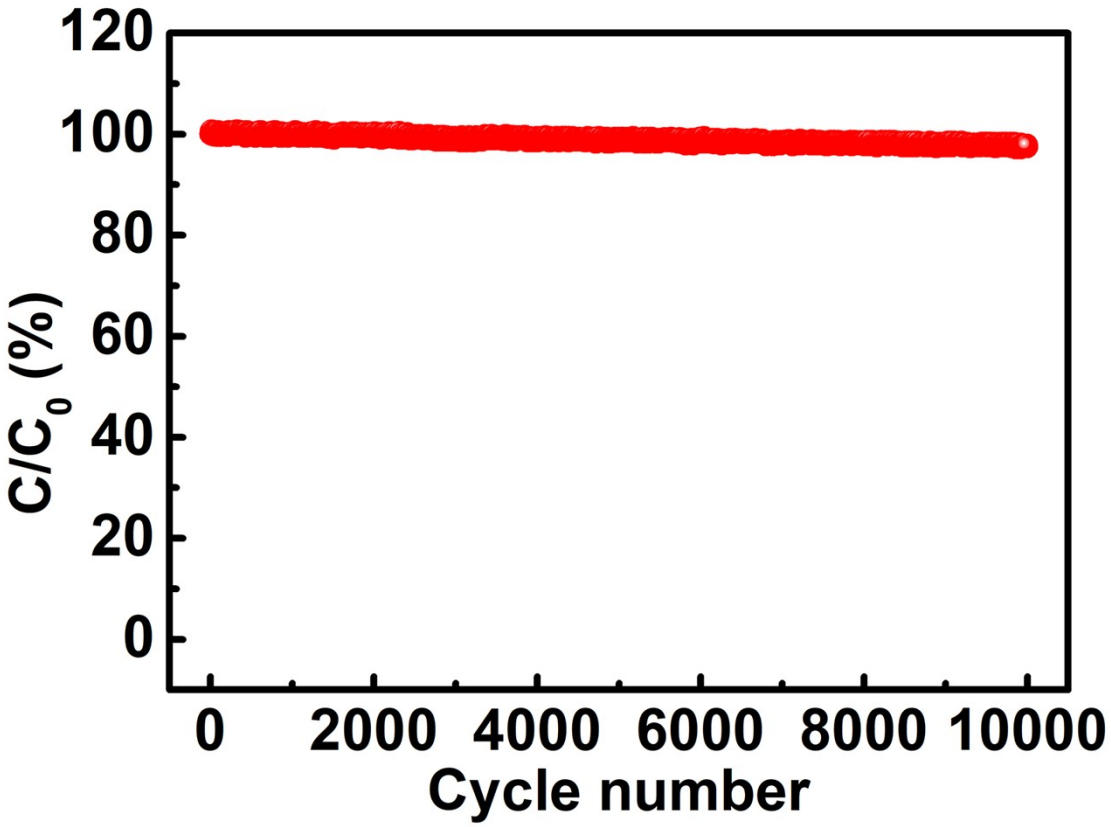

Fig. S18 Cycling performance of the as-fabricated sticky-note supercapacitor at a current density of 5 mA cm^{-2} without the attaching/removing process.

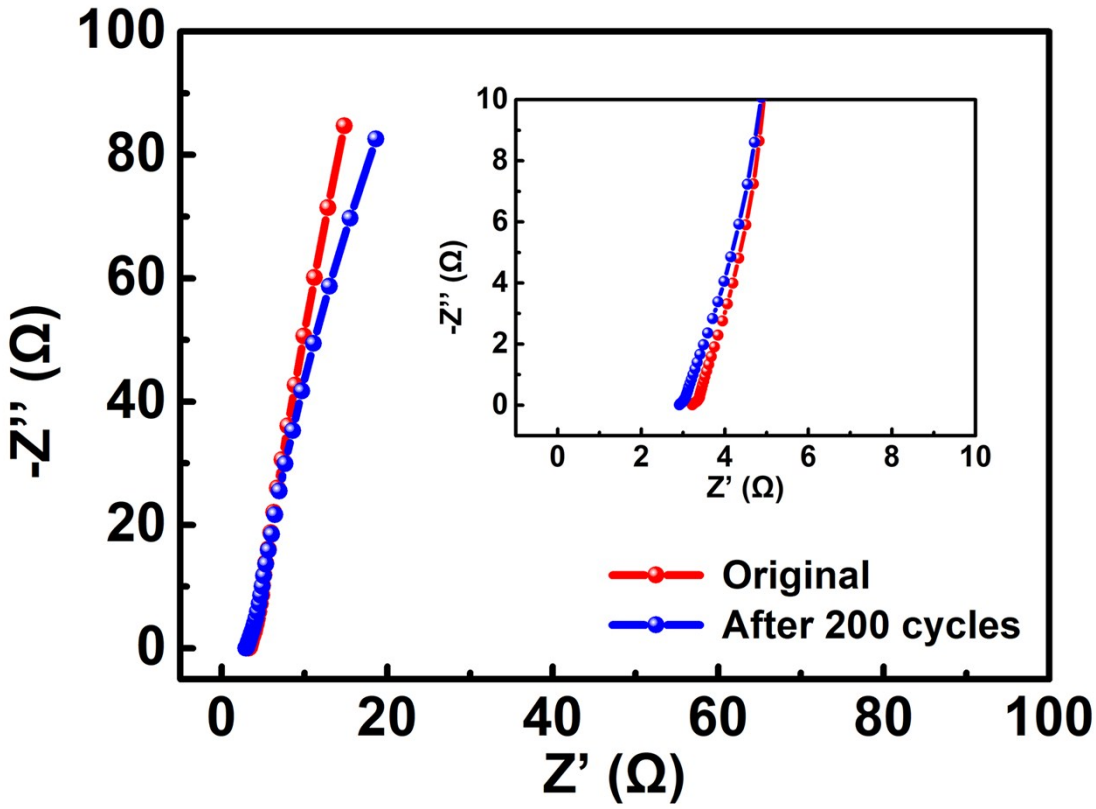

Fig. S19 Nyquist plots of the sticky-note supercapacitor before and after 200 attaching/removing cycles.

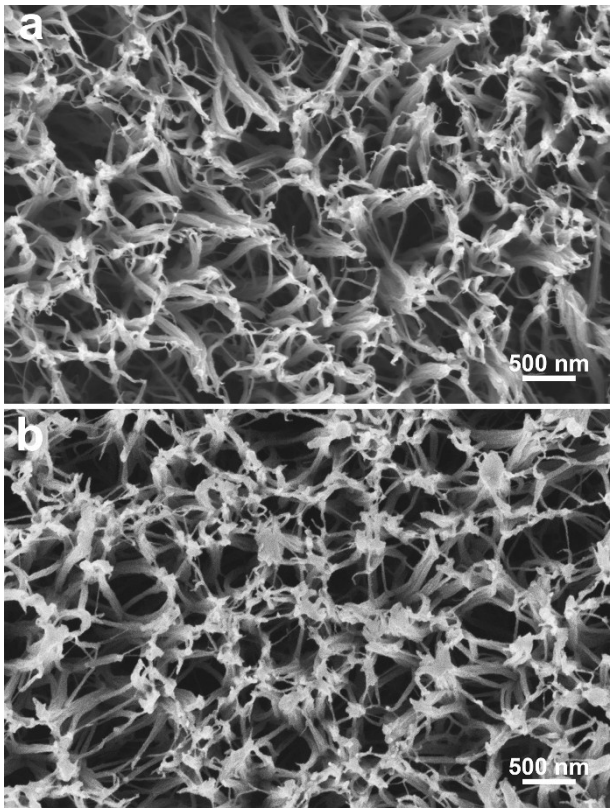

Fig. S20 SEM images of the sticky-note supercapacitor before attaching (a) and after 1,800 attaching/removing cycles (b).

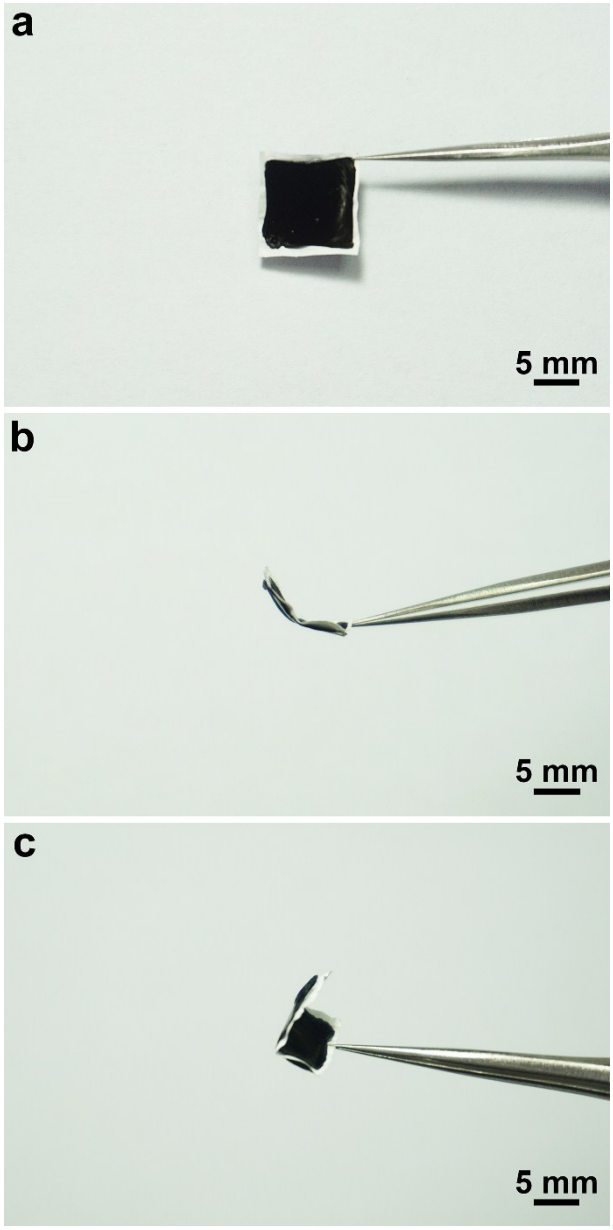

Fig. S21 Photographs of the sticky-note supercapacitor at different bending states.

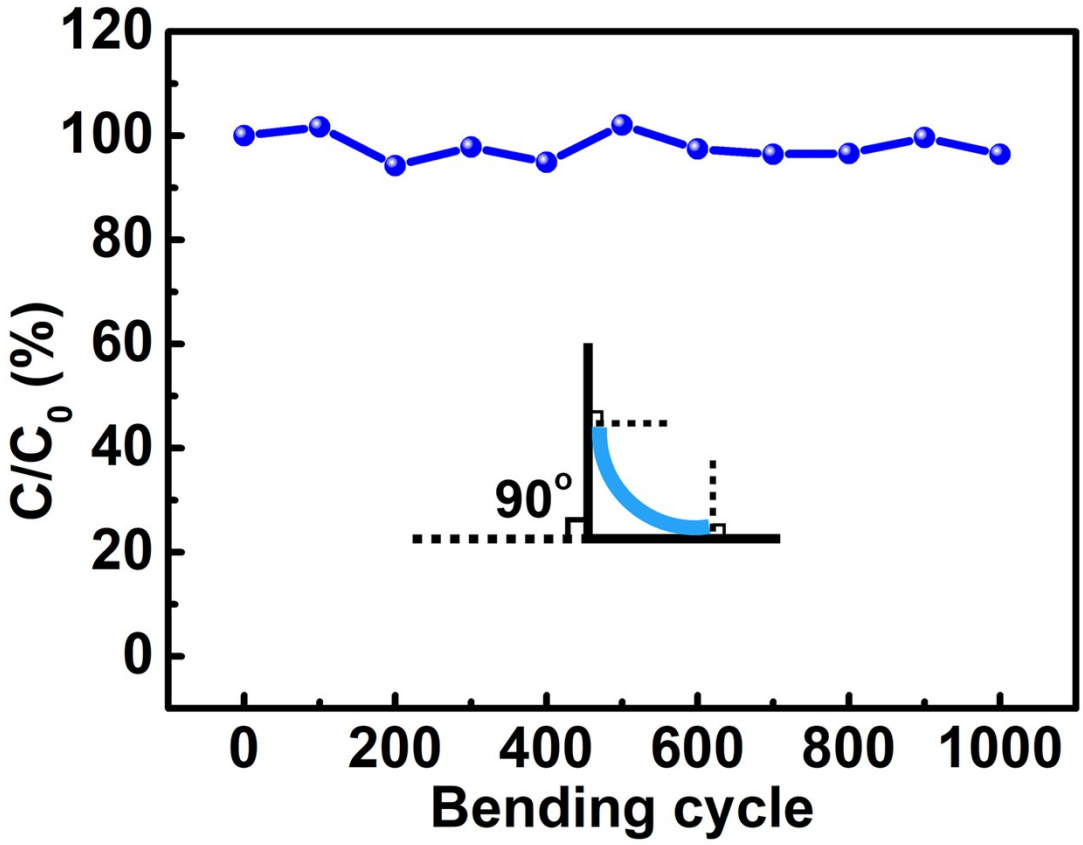

Fig. S22 The capacitance retention curve of the sticky-note supercapacitor during 1,000 cycles of bending at a bending angle of 90°.

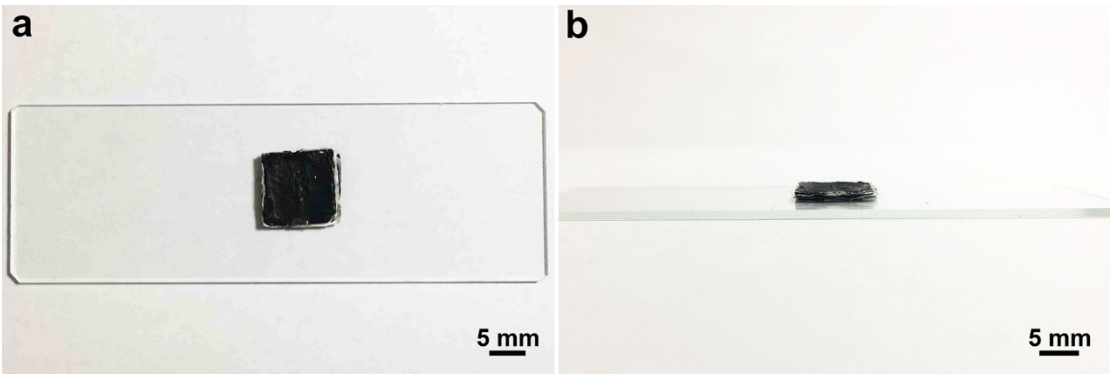

Fig. S23 Photographs of the sticky-note supercapacitor with four devices assembled in series.

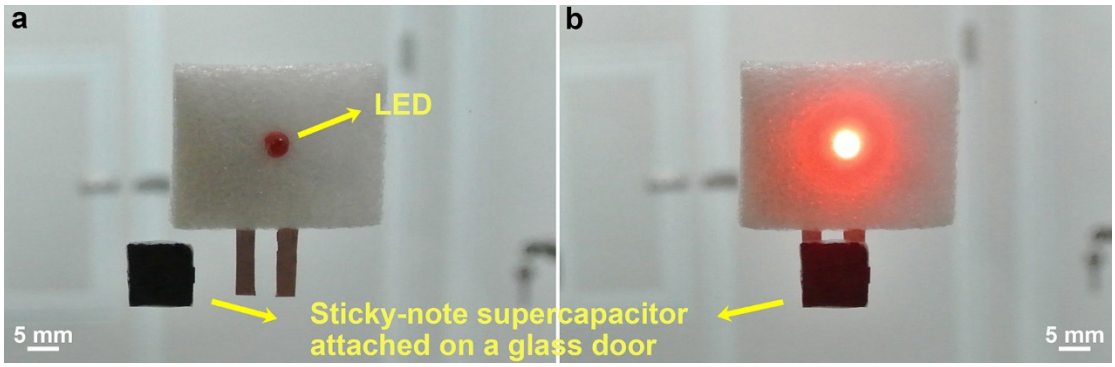

Fig. S24 (a) Assembled two supercapacitors in series being attached on the glass door. (b) A red LED lamp fixed on the glass door being powered by the two assembled supercapacitors.

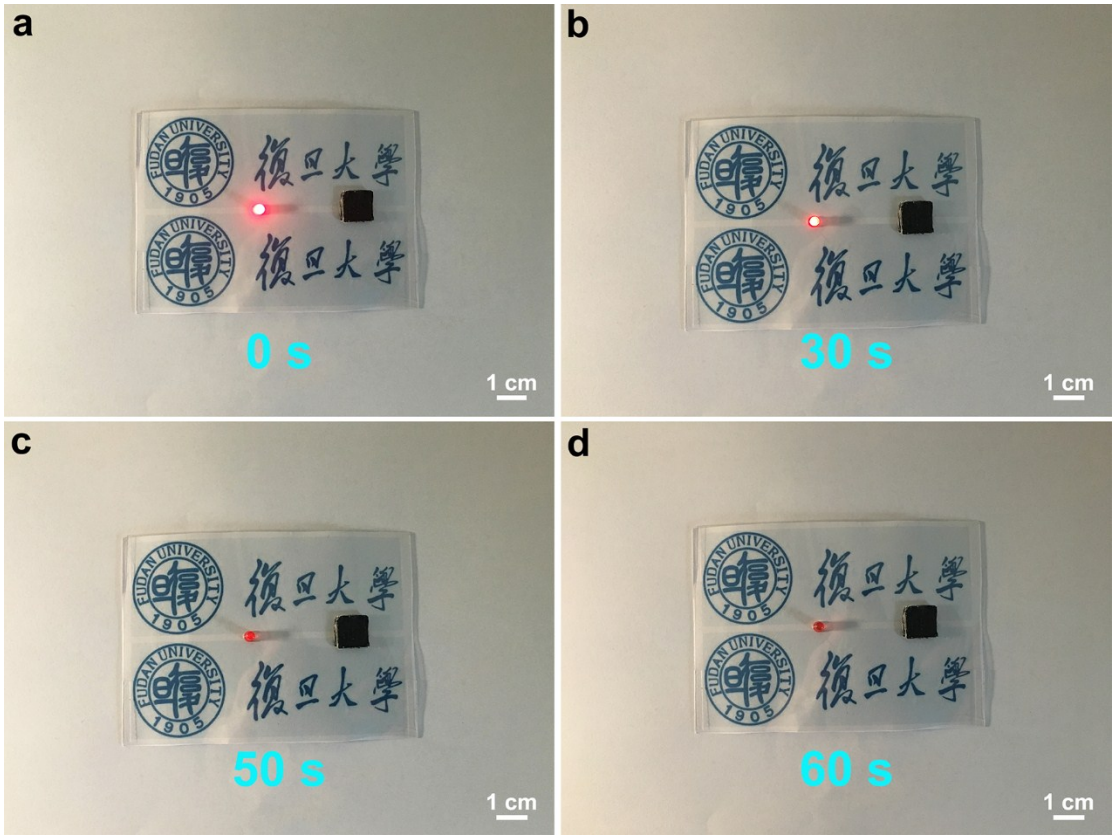

Fig. S25 Photographs of two tandem sticky-note supercapacitors powering a red LED for about 50 seconds.

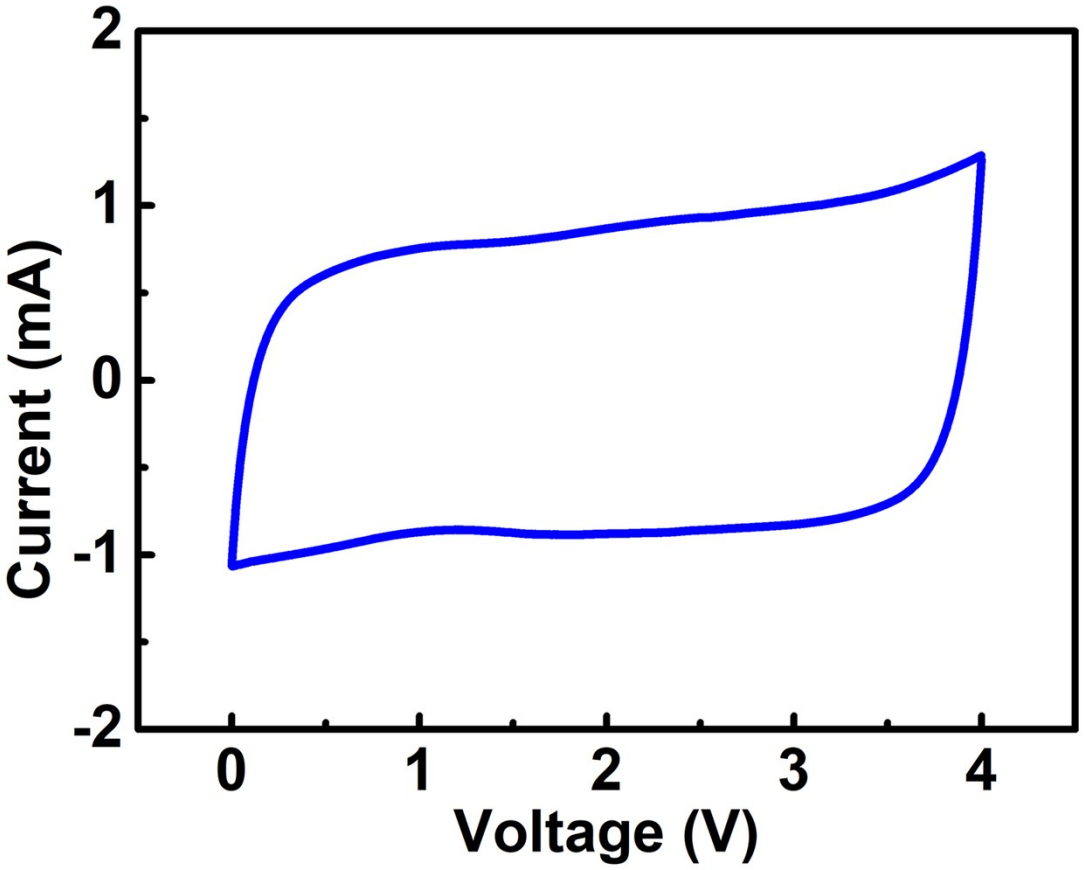

Fig. S26 Cyclic voltammograms of the four tandem supercapacitors after 50 attaching/removing cycles at a scan rate of 20 mV s^{-1}.