

Inkjet Printed Flexible, Transparent and Aesthetic PEDOT:PSS/Ag Grids for Wearable Energy Storage Devices

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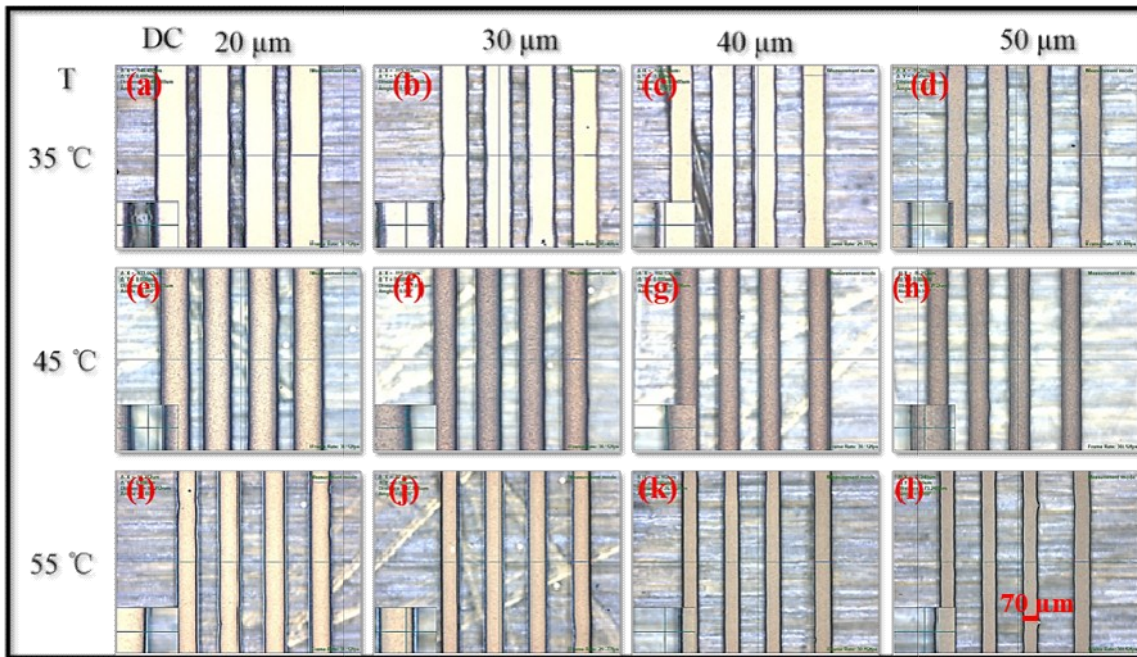


Fig. S1 Optical microscopic images of the printed Ag lines on PET substrates, showing the line width changing with the drop spacing and the substrate temperature.

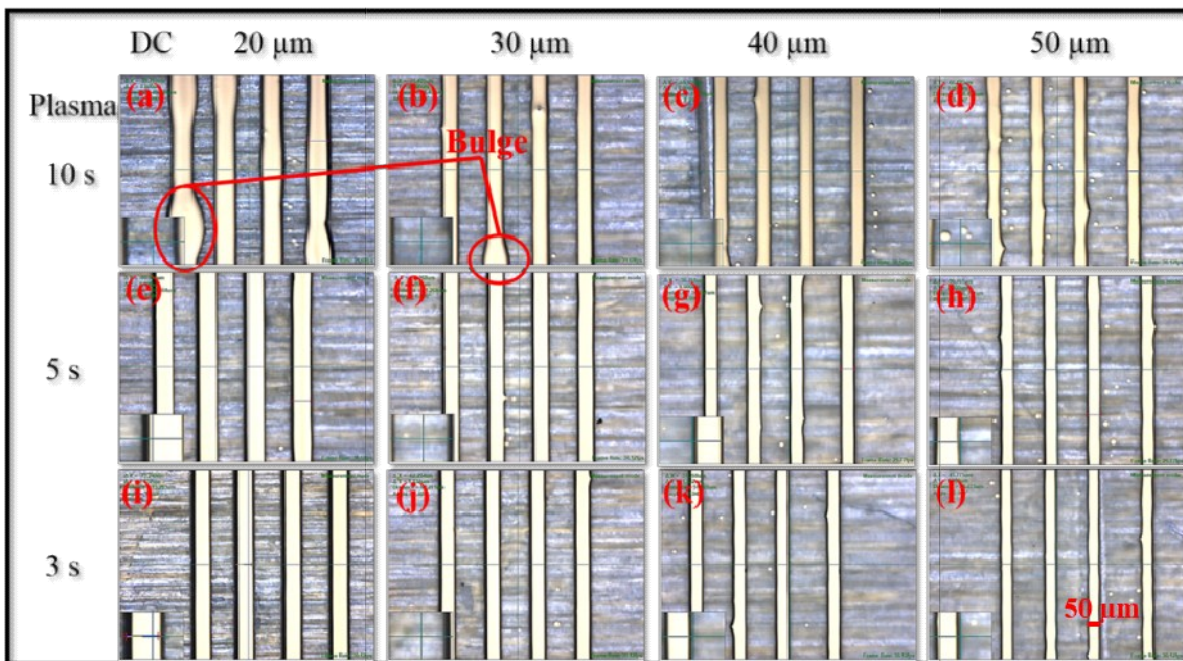


Fig. S2 Optical microscopic images of the printed Ag lines on PDMS/PET substrates, showing the line width changing with the drop spacing and the time of the plasma treatment.

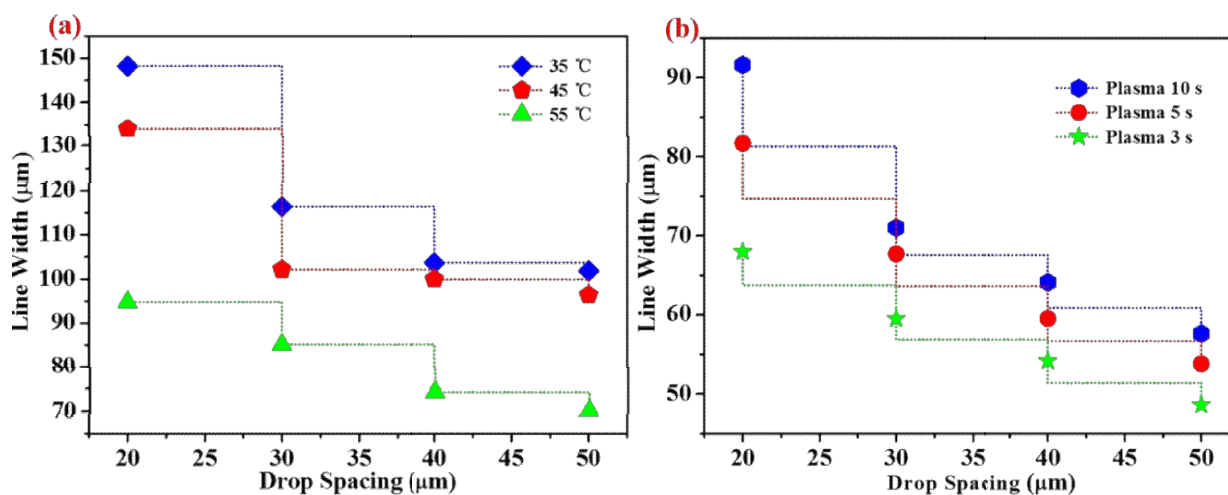


Fig. S3 The line width changing with various parameters. (a) Line width as a function of substrate temperature and drop spacing. (b) Line width as a function of plasma treatment time and drop spacing.

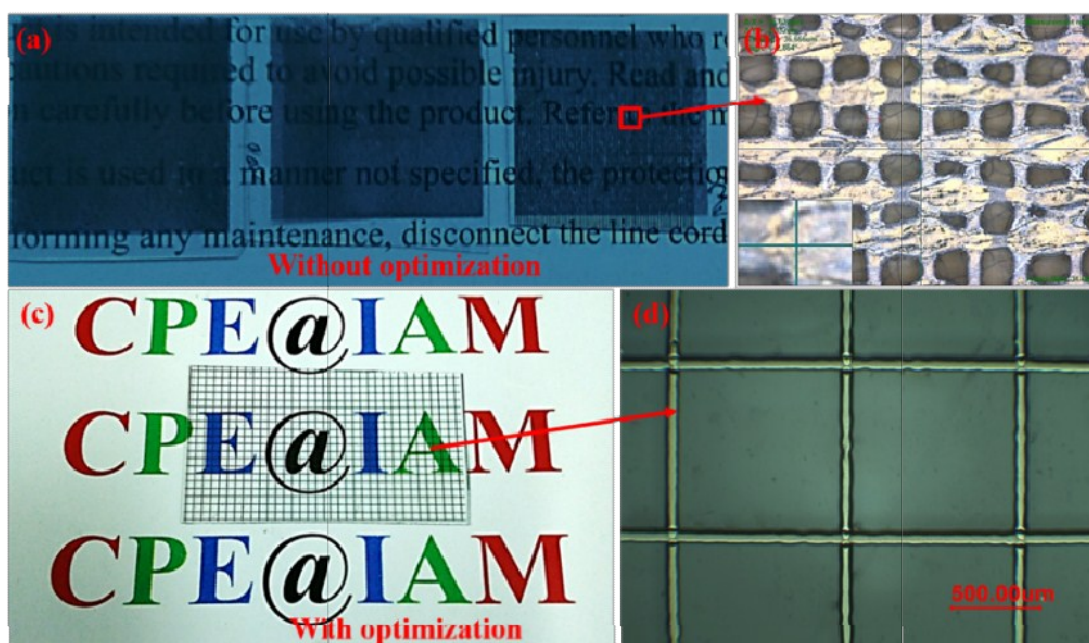


Fig. S4 (a) and (b) Macroscopic and microscopic images of the Ag grids without optimization, showing large line width, small pitch ($< 500 \mu\text{m}$) and low optical transmittance. (c) and (d) Macroscopic and microscopic image of the Ag grids with optimization, showing a much smaller line width, large pitch of $1000 \mu\text{m}$ and high optical transmittance.

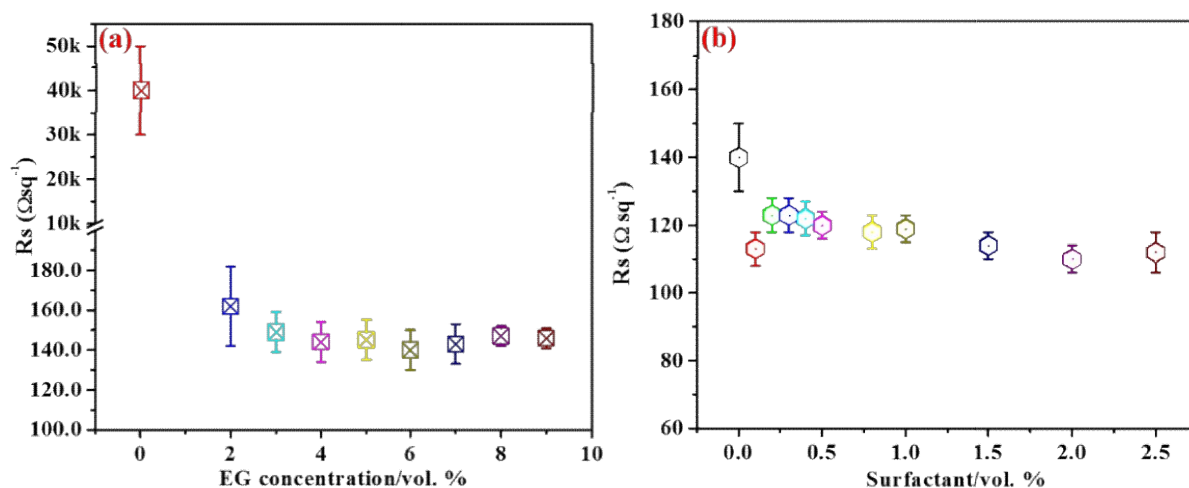


Fig. S5 (a) Sheet resistance of the PEDOT:PSS changing with the volume of the added EG. b) Sheet resistance of 6 vol. % EG doped PEDOT:PSS changing with the volume of the surfactant.

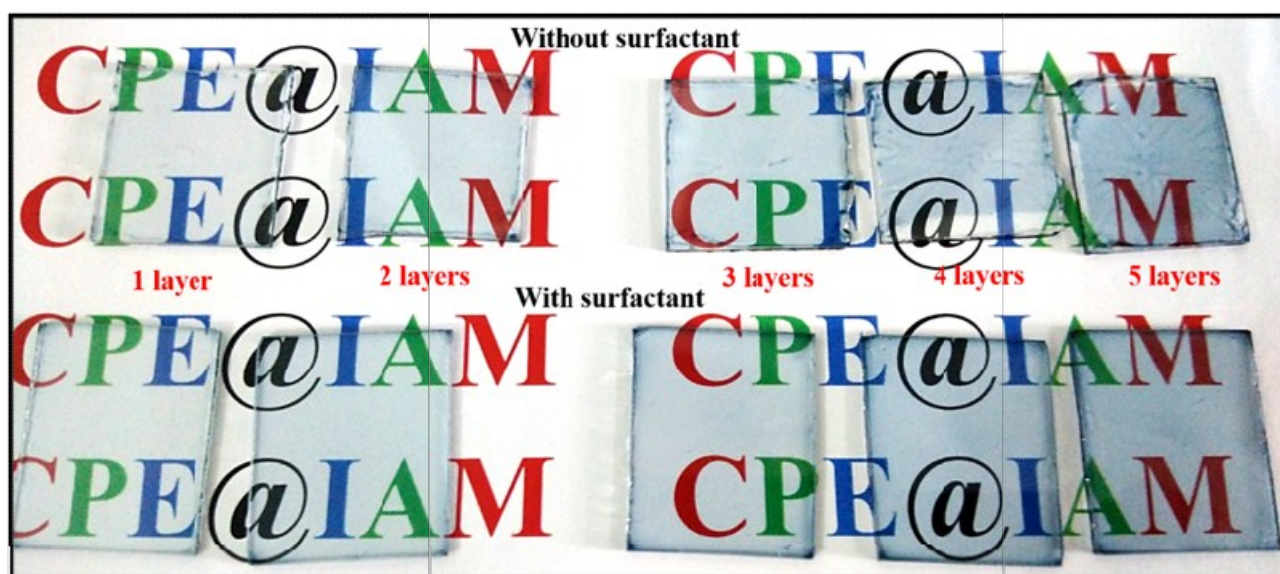


Fig. S6 Morphology of the multi-layer 6 vol. % EG doped PEDOT:PSS with (bottom) and without (top) surfactants. More uniform and smooth PEDOT:PSS films were obtained with the surfactants.

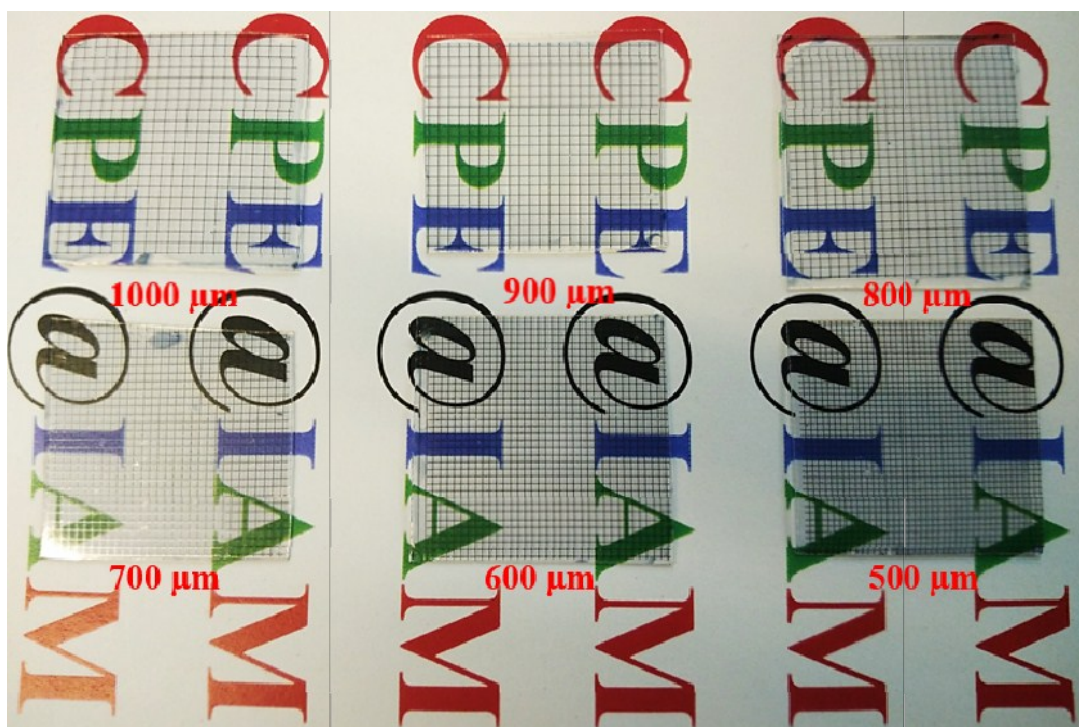


Fig. S7 Photographs of PEDOT:PSS/Ag grids with an area of around 2 cm * 2 cm and various pitches.

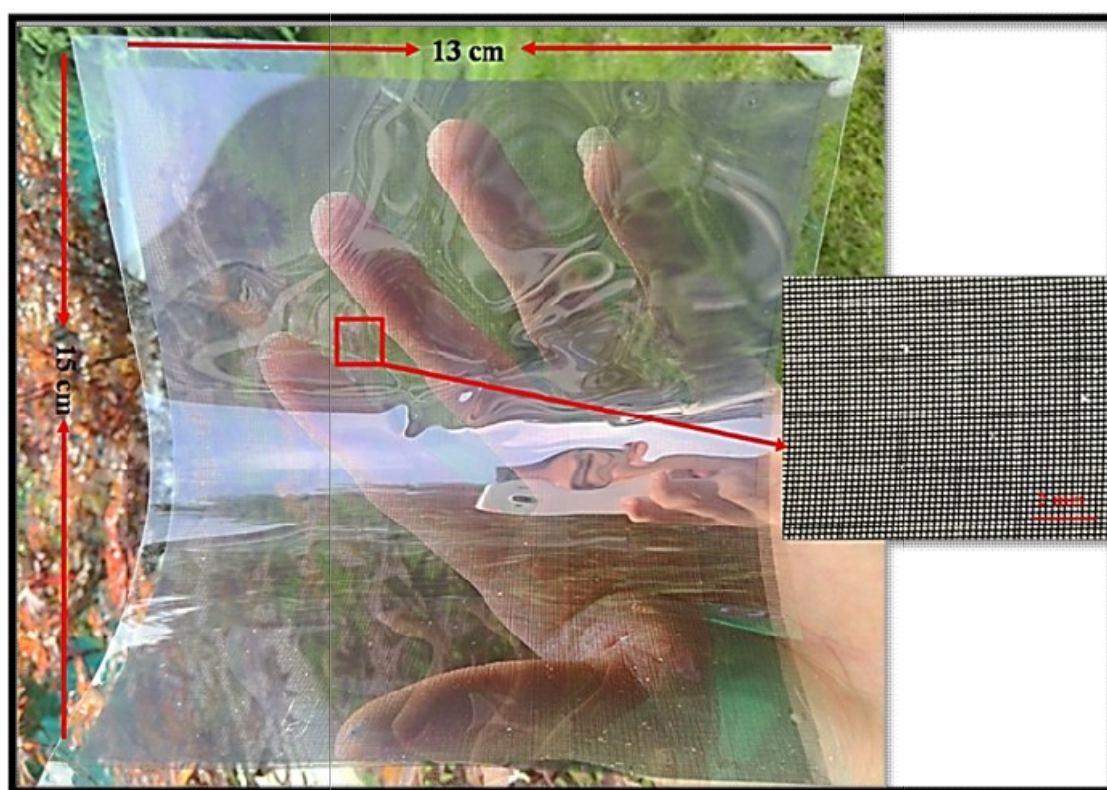


Fig. S8 Photograph of printed Ag grids with a large area of 15 cm * 13 cm.

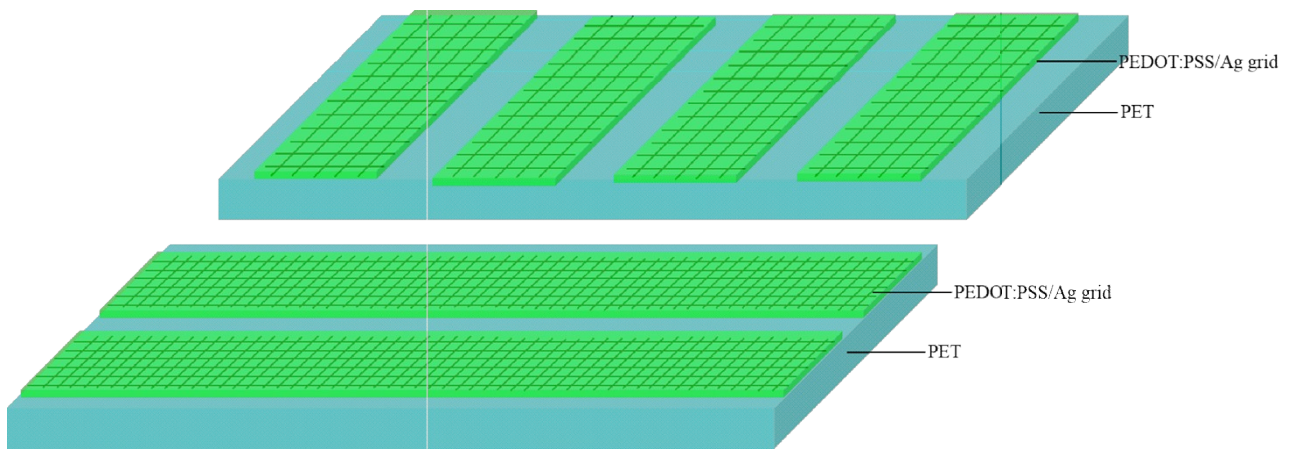


Fig. S9 Schematic illustration of the inkjet printed PEDOT:PSS/Ag grids with various patterns on the specific areas of the substrates.

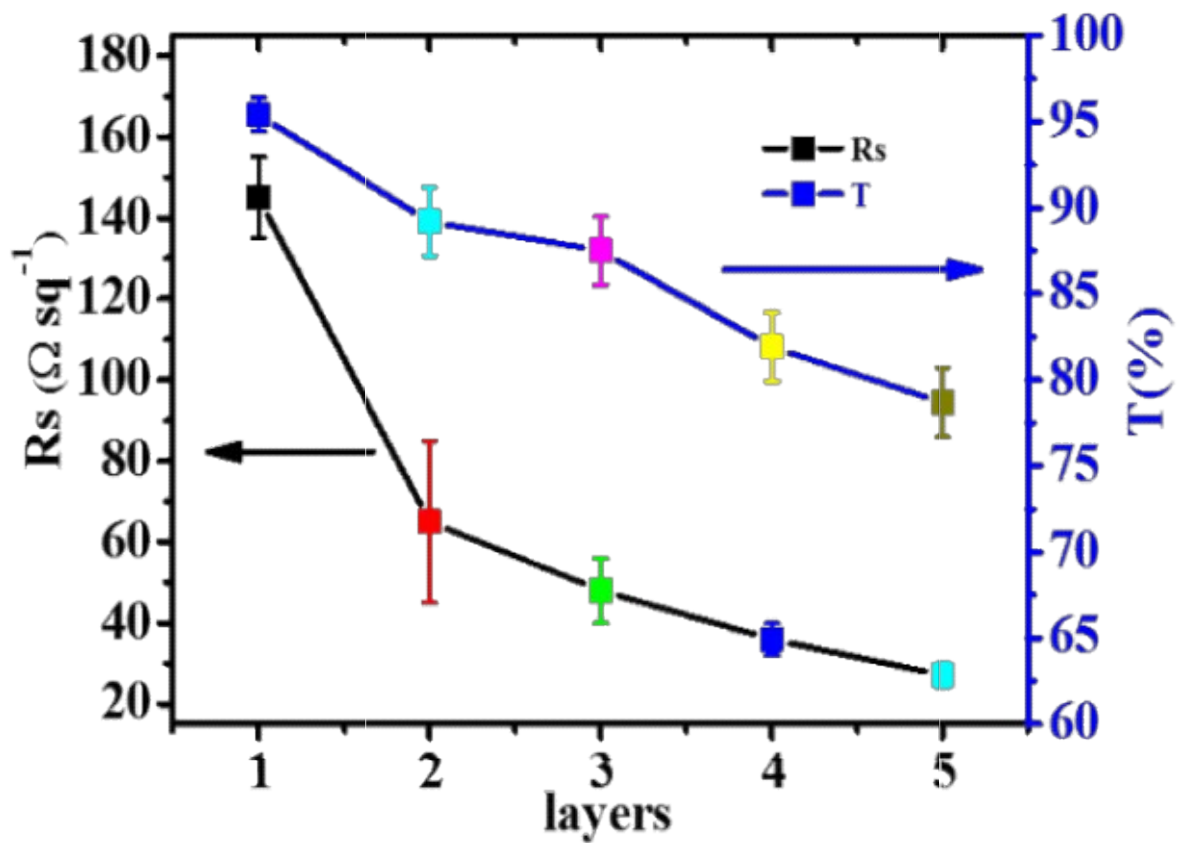


Fig. S10 The sheet resistance and the optical transmittance of PEDOT:PSS decreased with the increment of the layers (thickness).

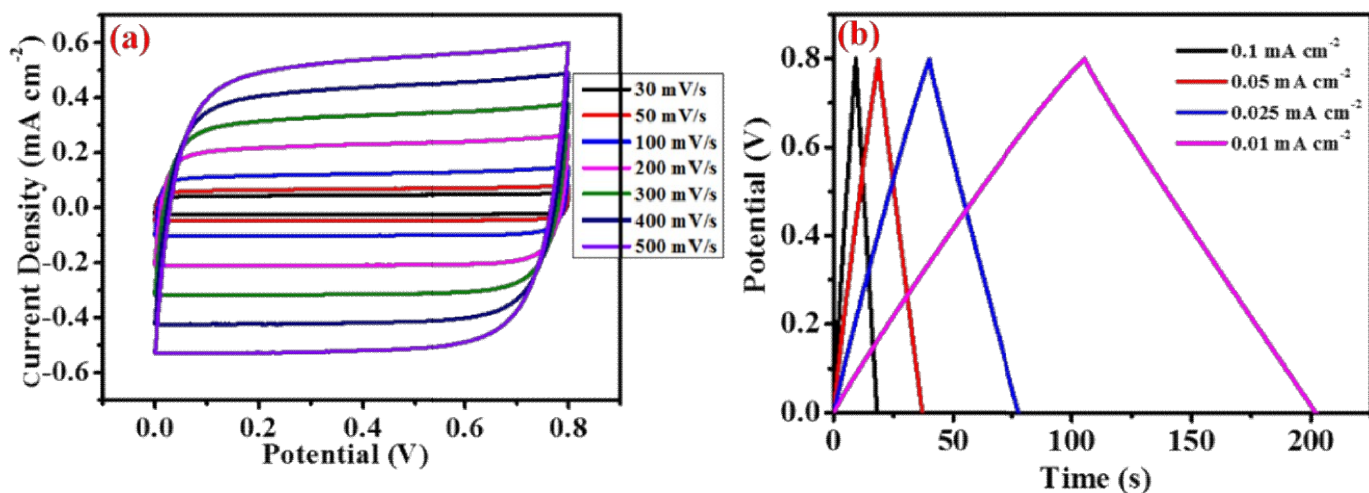


Fig. S11 CV and GCD curves of the supercapacitors based on PEDOT:PSS (4 layers) electrodes.

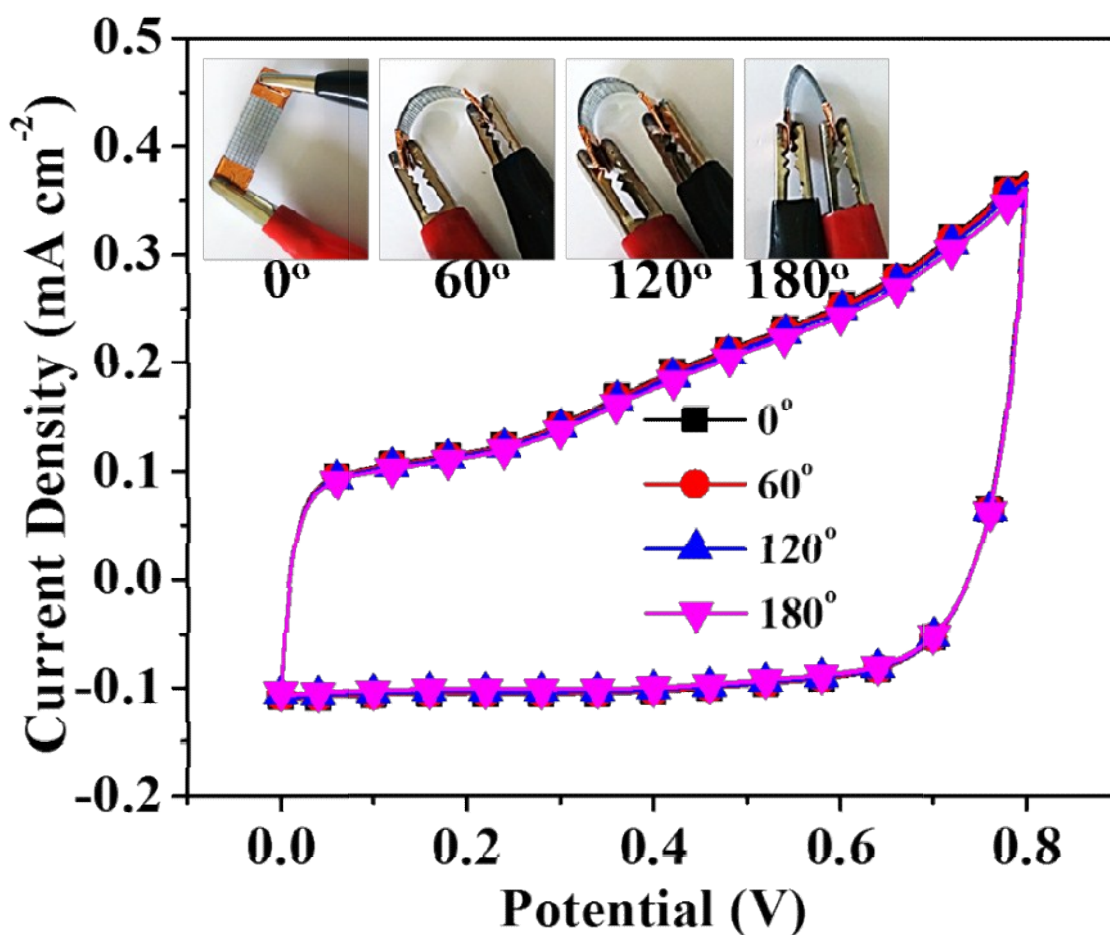


Fig. S12 CV curves of the supercapacitors based on PEDOT:PSS (3 layers)/Ag grid electrodes before and after being bent to various degrees. The CV curves (100 mV/s) showed no obvious changes at different bending states, demonstrating relatively superior flexibility.

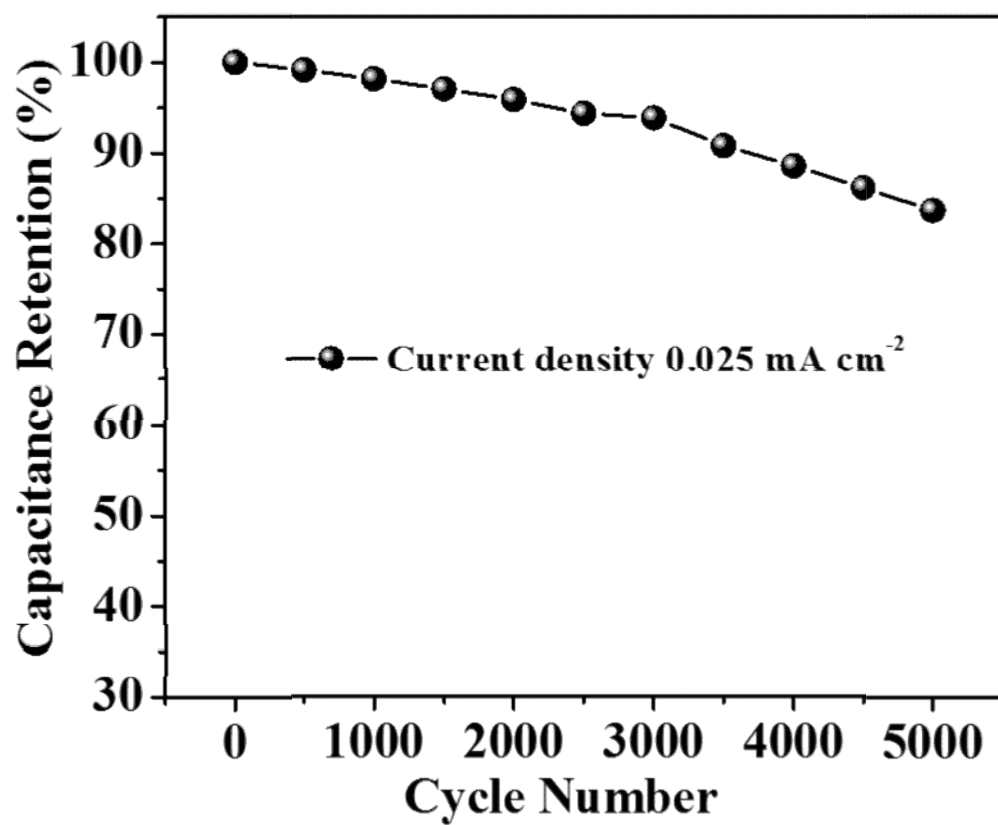


Fig. S13 Cycling stability of the all-solid-state supercapacitors based on PEDOT:PSS (3 layers)/Ag grid electrodes under current density of 0.025 mA cm⁻².