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Supporting Information

Fully-printed, Sub-1V Stretchable Electrolyte-Gated Transistors and Inverters

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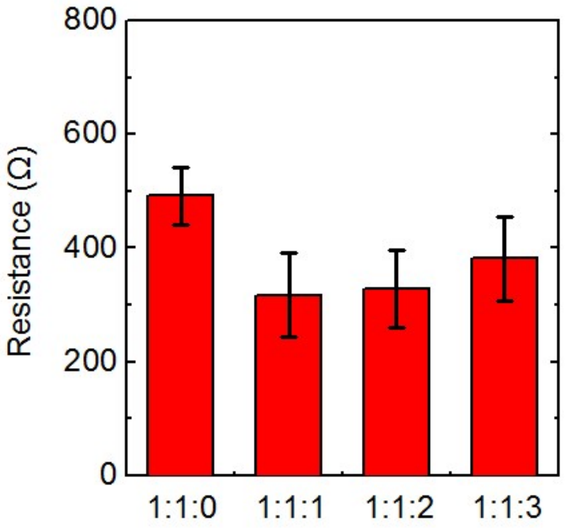

Fig. S1 Resistance variations of the SWCNT-based hybrid electrodes with four different ratios of SWCNTs, P(VDF-HFP), and [EMI][TFSI]. Sprayed electrodes (1200 (length) × 3 (thickness) × 200 (width) μm^3) were used for the resistance tests.

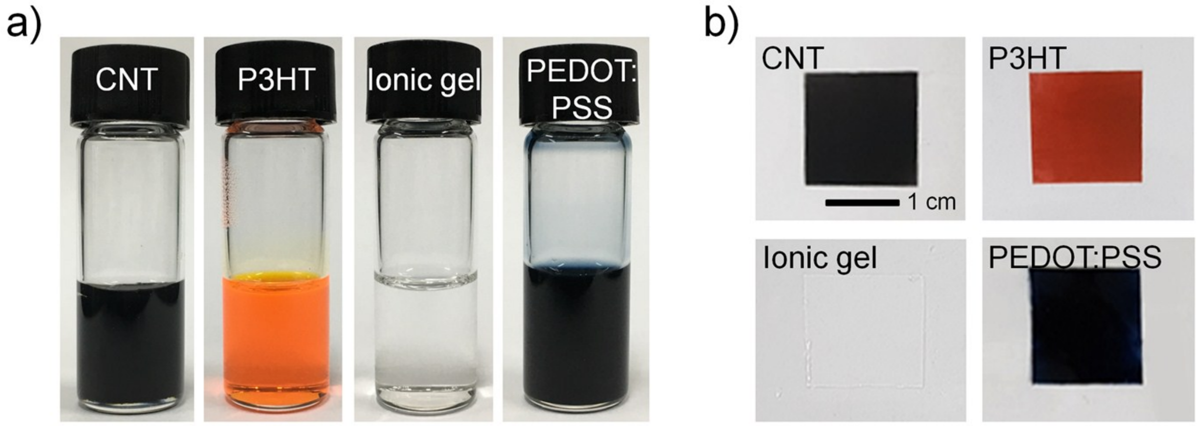

Fig. S2 (a) Electronic inks of the SWCNT hybrid electrodes, P3HT semiconductor, ionic gel gate dielectric, and PEDOT:PSS gate electrode used for spray printing and (b) electronic inks sprayed on PET substrates with average dimensions of 1.5 cm × 1.5 cm.

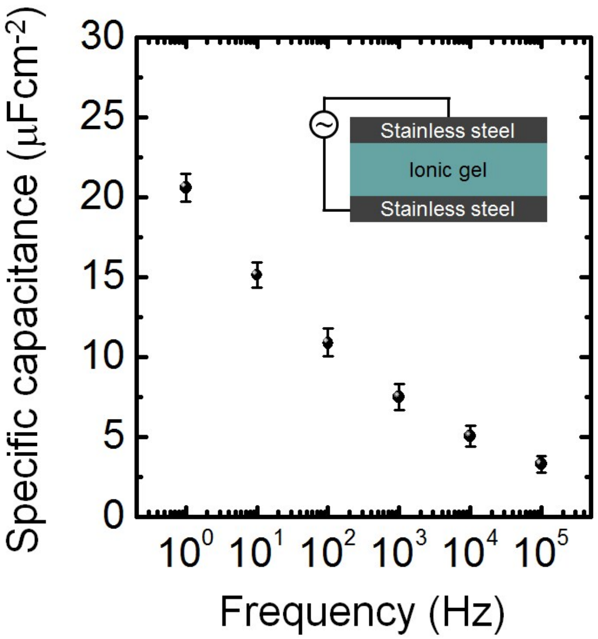

Fig. S3 Specific capacitance vs. frequency measured in a test capacitor consisting of metal/ionic-gel/metal.

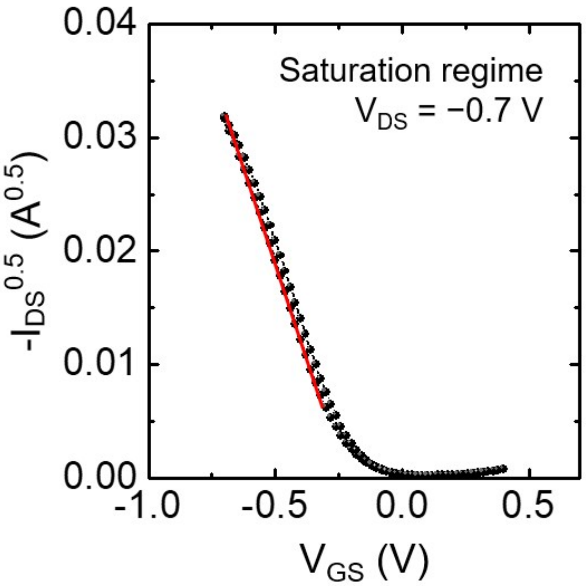

Fig. S4 Representative transfer curve in the saturation regime of the fully printed top-gated EGTs on the PET substrate.

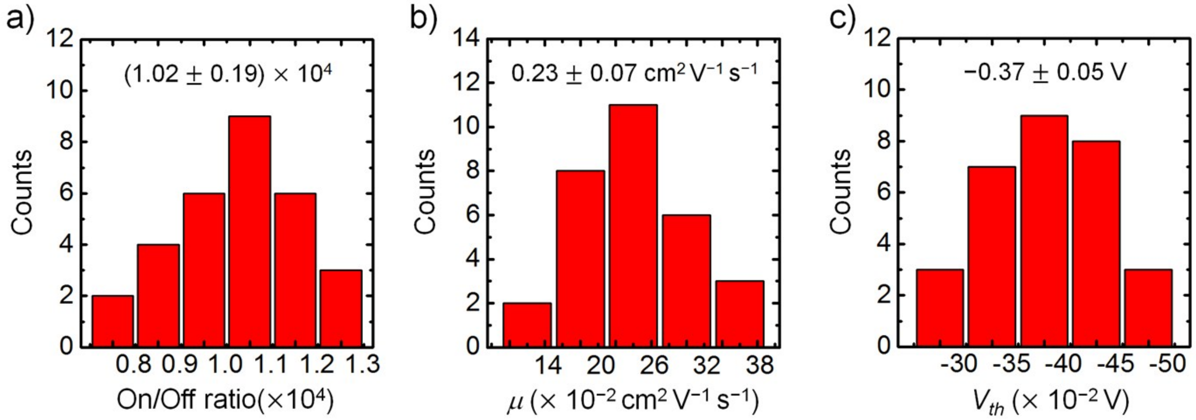

Fig. S5 Statistical histograms obtained by using 30 printed EGTs. (a) On/off current ratio, (b) charge carrier mobility (μ), and (c) threshold voltage (V_{th}).

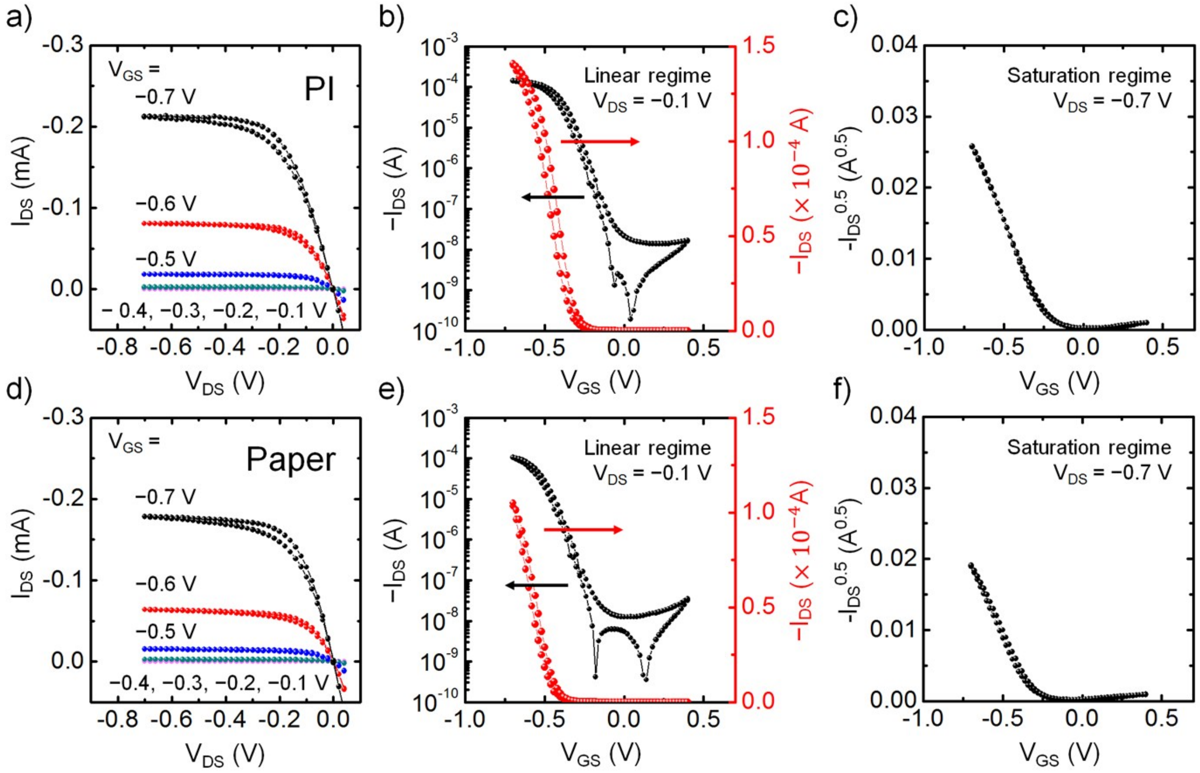

Fig S6 Electrical properties of the fully printed P3HT-EGTs on the PI and paper substrates. (a, d) Output curves and transfer curves in the (b, e) linear and (c, f) saturation regimes of the fully printed EGTs on PI and paper, respectively.

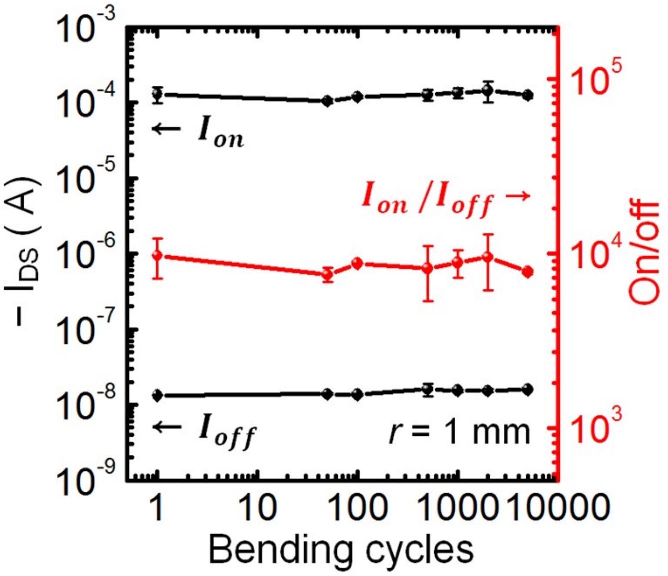

Fig. S7 Variations in I_{on}, I_{off}, and on/off current ratio as functions of the number of bending cycles to a bending radius of 1 mm.

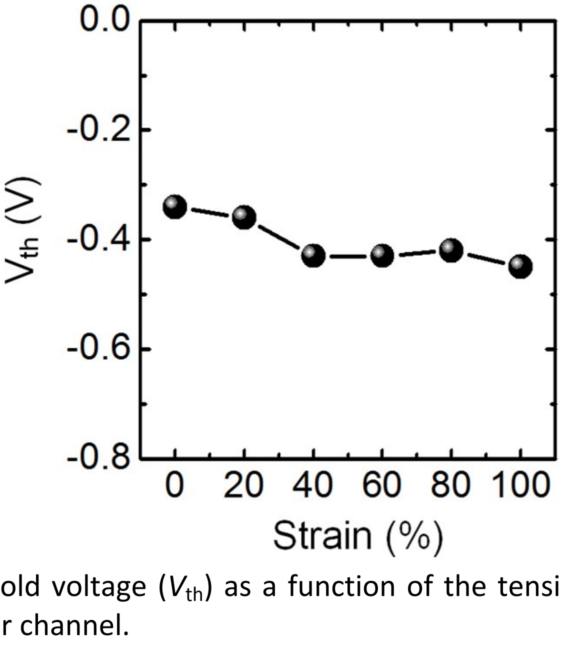

Fig S8 Variation in threshold voltage (V_{th}) as a function of the tensile strain applied along the horizontal to the transistor channel.