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Soft Science

Supplementary Materials

Soft Schottky diodes for skin-interfaced electronics enabled by entirely soft components

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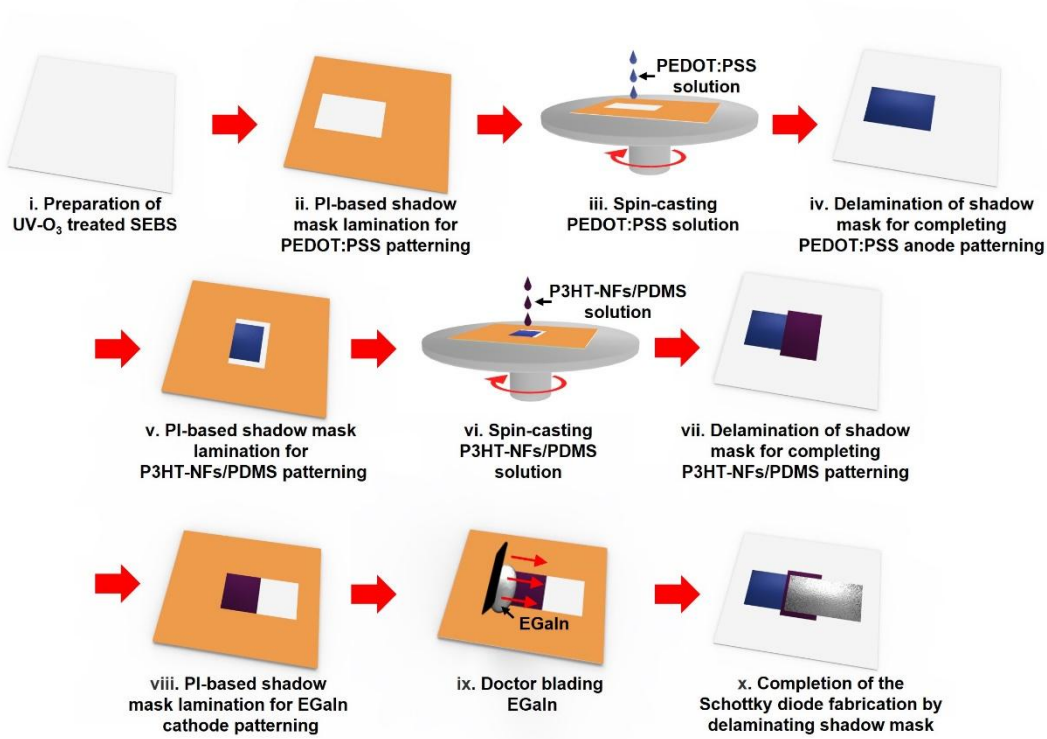
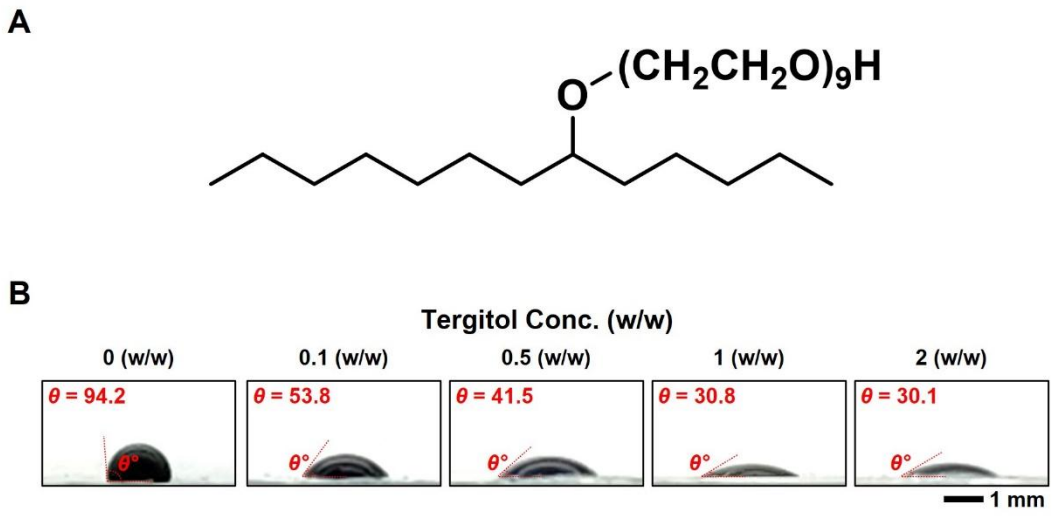
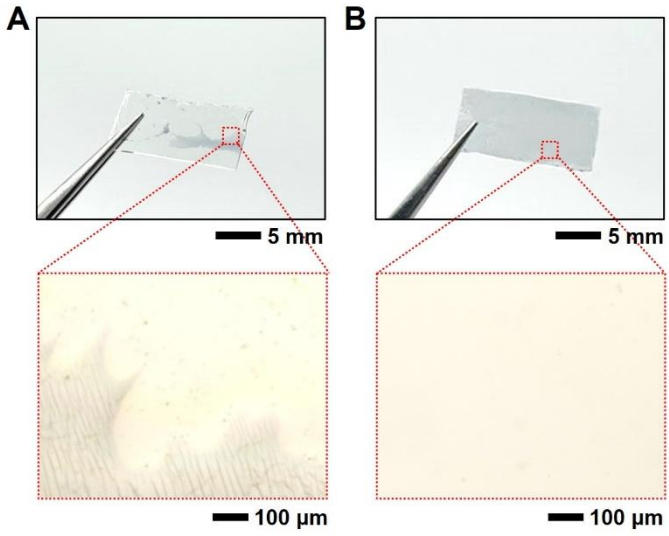


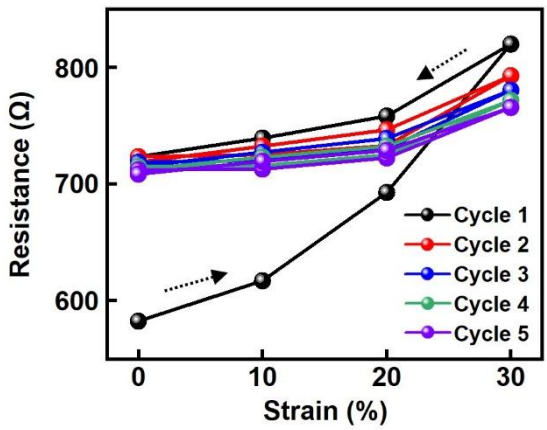
Supplementary Figure 1. The schematic fabrication process of the fully soft Schottky diode.



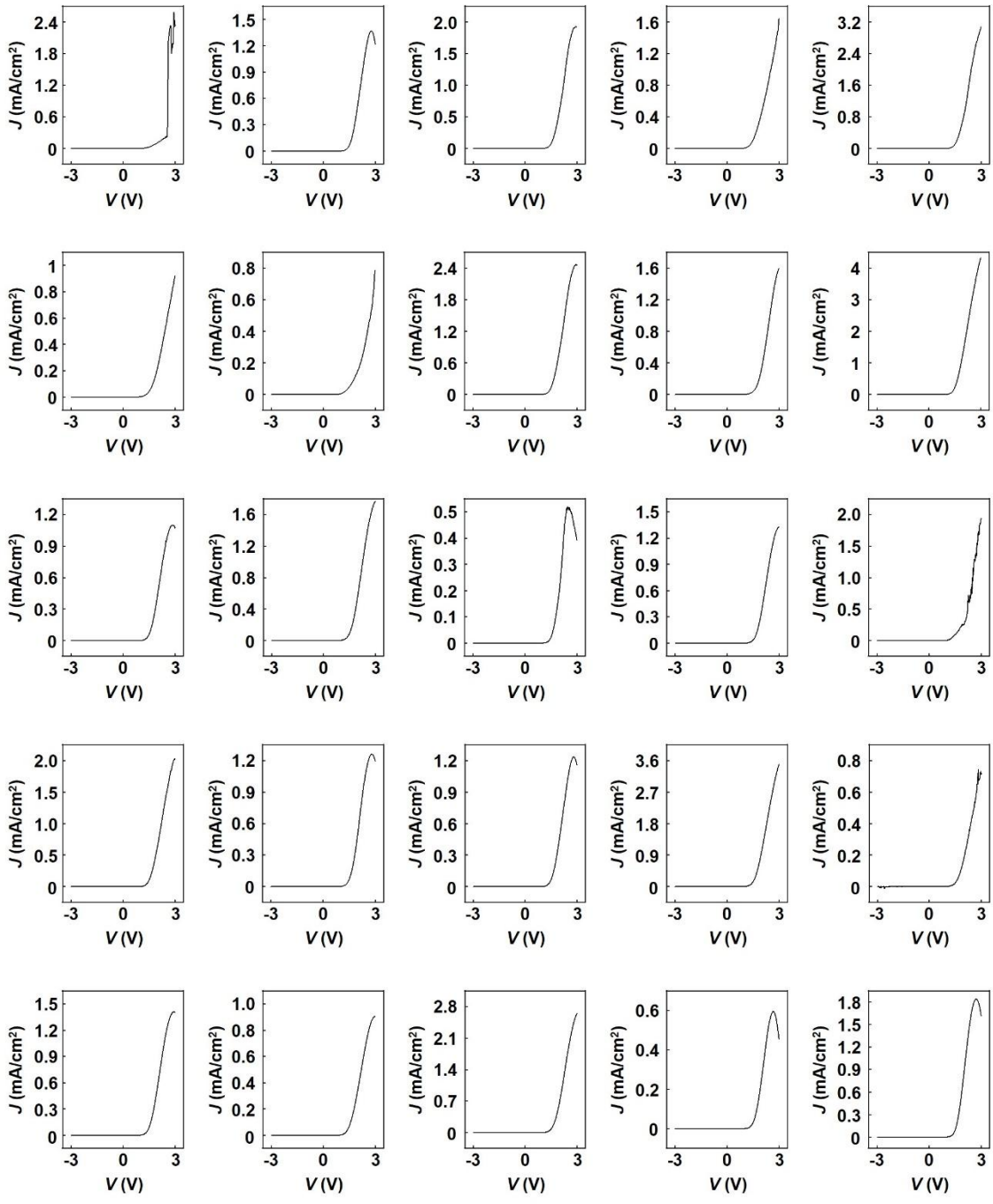
Supplementary Figure 2. The hydrophobicity modification of PEDOT:PSS solution through the addition of tergitol. (A) Chemical structure of tergitol; (B) the contact angles of PEDOT:PSS solution with various tergitol weight ratios (PEDOT:PSS:tergitol = 100:*x*, w/w).



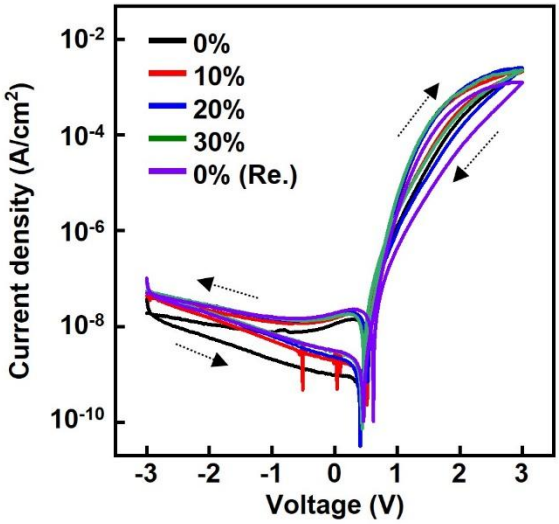
Supplementary Figure 3. Evaluation of the coating quality of the PEDOT:PSS films after spin-casting. (A and B) Optical and microscopic images of PEDOT:PSS films without tergitol (A), and with tergitol (B).



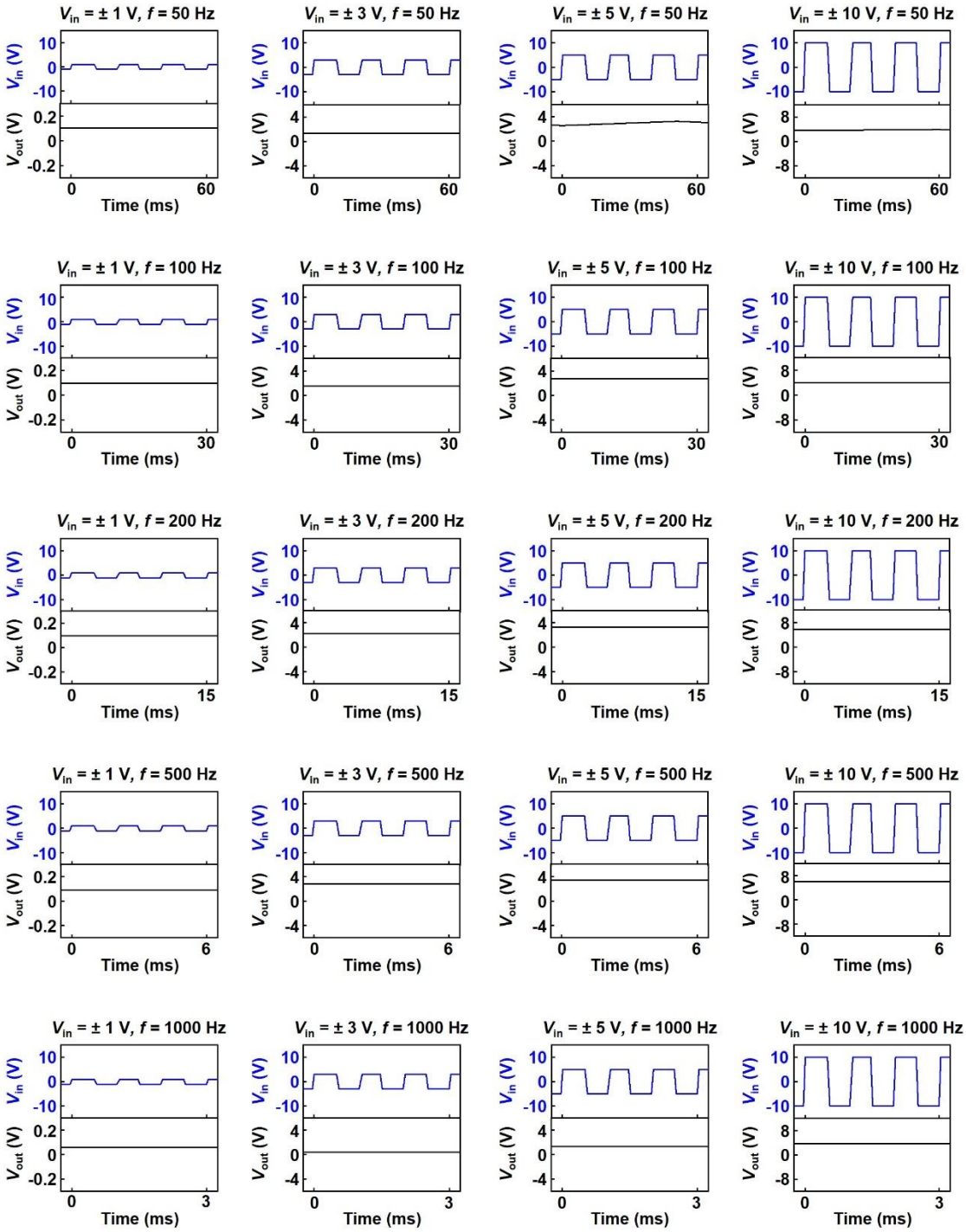
Supplementary Figure 4. Resistance hysteresis loop of the soft PEDOT:PSS electrodes.



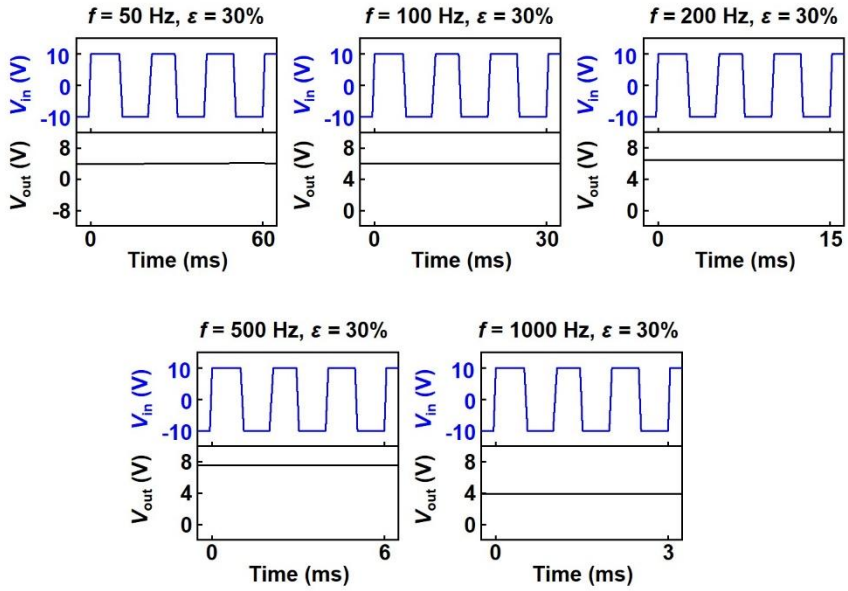
Supplementary Figure 5. *J-V* characteristics of all diodes configured in 5 × 5 the fully soft diodes array.



Supplementary Figure 6. Hysteresis curves of the fully soft Schottky diode under the various mechanical strains of 0%, 10%, 20%, 30%, and 0% (released).



Supplementary Figure 7. V_{out} of the fully soft rectifier under various V_{in} of ± 1, ± 3, ± 5, and ± 10 V at f of 50, 100, 200, 500, and 1,000 Hz.



Supplementary Figure 8. V_{out} of the fully soft rectifier at ε = 30% with various f of 50, 100, 200, 500, and 1,000 Hz (V_{in} = ± 10 V).

A

OR gate

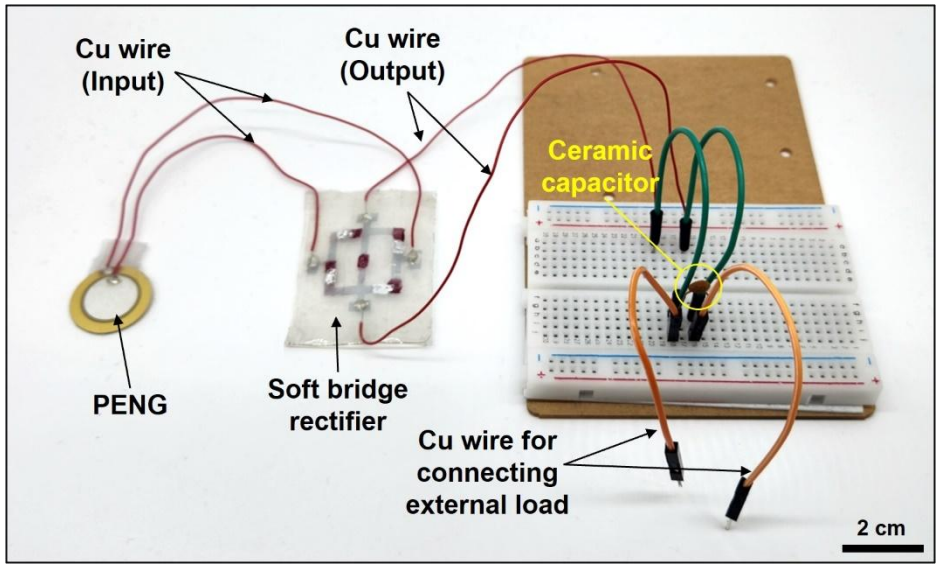
$V_{in, A}$	$V_{in, B}$	V_{out} (0%)	V_{out} (30%)	V_{out} (0% Re.)
0	0	0	0	0
1	0	1	1	1
0	1	1	1	1
1	1	1	1	1

B

AND gate

$V_{in, A}$	$V_{in, B}$	V_{out} (0%)	V_{out} (30%)	V_{out} (0% Re.)
0	0	0	0	0
1	0	0	0	0
0	1	0	0	0
1	1	1	1	1

Supplementary Figure 9. Truth tables of the fully soft logic gates. (A and B) truth table of OR (A) and AND (B) gates.



Supplementary Figure 10. An optical image of entire circuit of the energy harvesting system.