

Supporting Information

Flexible, Recyclable and Sensitive Piezoresistive Sensors Enabled by Lignin Polyurethane-Based Conductive Foam

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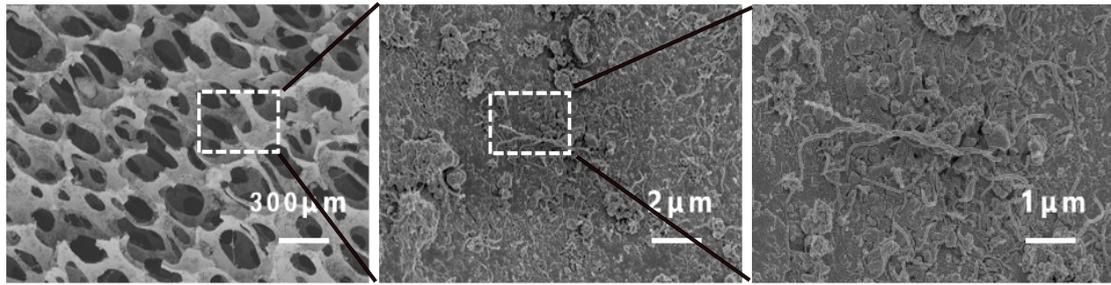


Figure S1. SEM of MWCNTs@LPUF-5%.

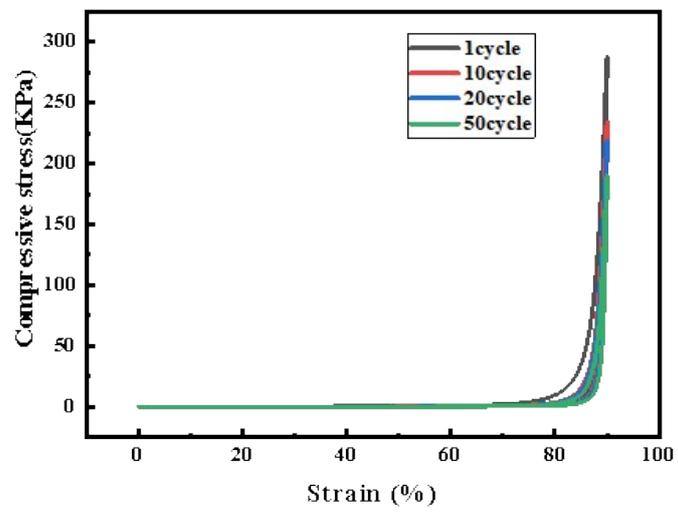


Figure S2. 50 cycles compression test of foam with 90% strain.

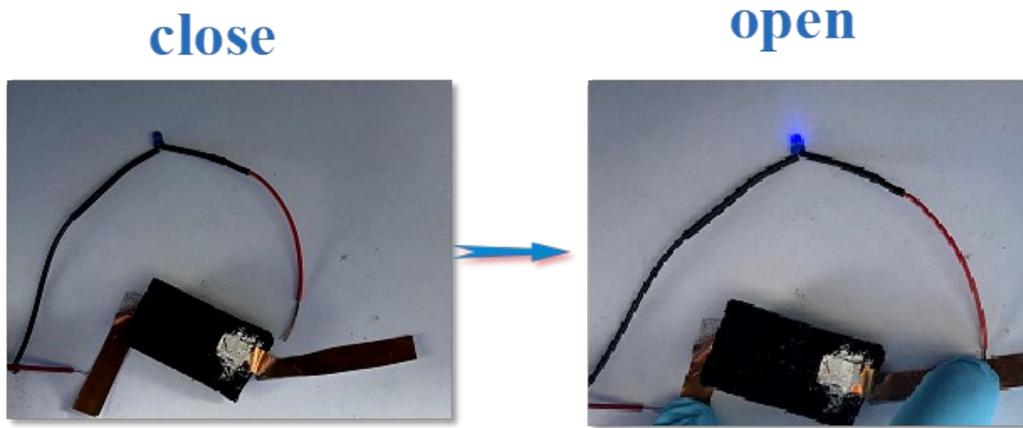


Figure S3. MWCNT@LPUF is connected to the circuit to see the brightness of the bulb through compression.

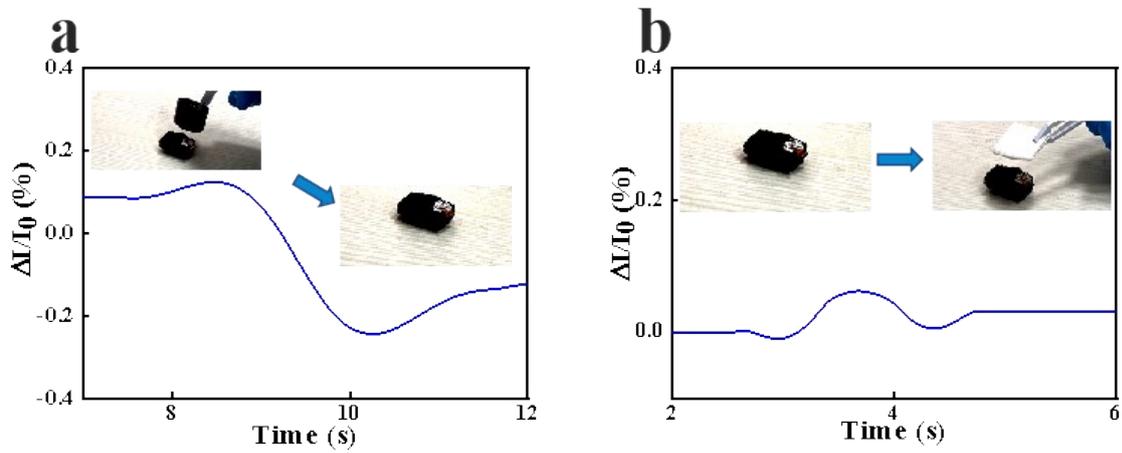


Figure S4. MWCNT@LPUF sensor pretests; (a) the sensor predicts the change of current curve of the cap of a sample with a test mass of 4g; (b) measure the change in the current curve of 4 sheets stacked together with a mass of 1g.

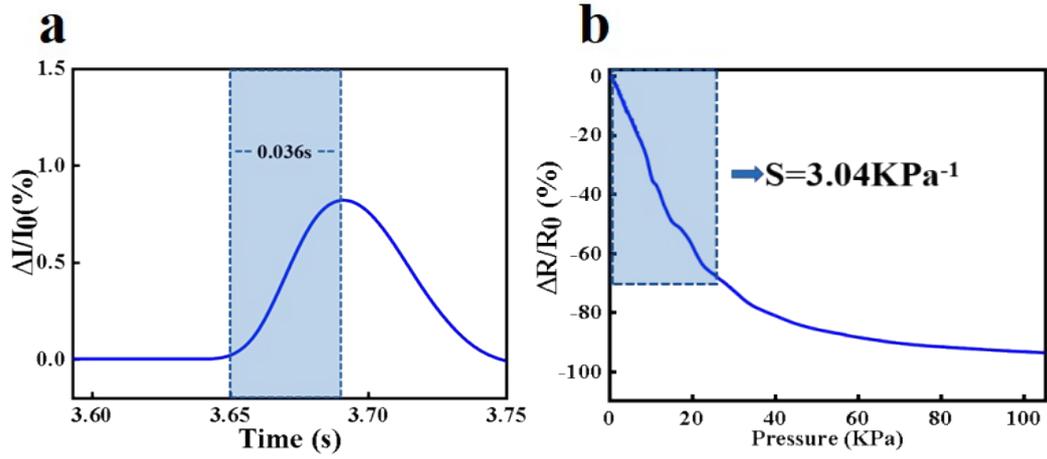


Figure S5. Response time of the sensor. (a) leaf to test the response time of sensor, (b) the pressure sensitivity "S" of sensor.

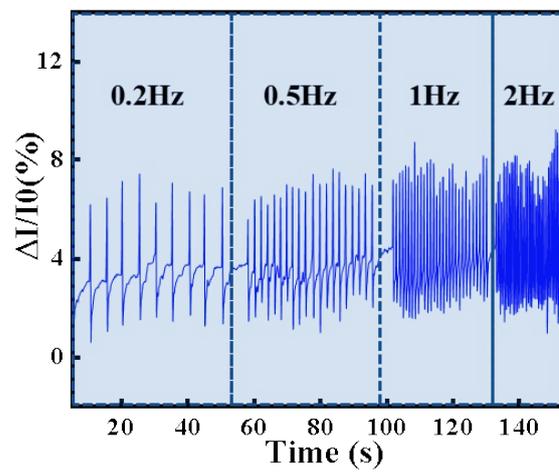


Figure S6. Relative current change ($\Delta I/I_0$) by pressing the sensor at frequencies of 0.2Hz, 0.5Hz, 1Hz, 2Hz.

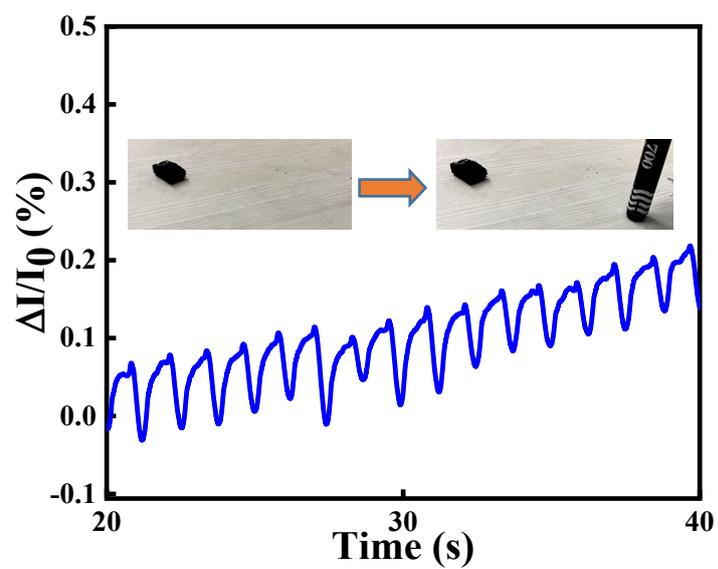


Figure S7. Detects the faint vibrations that occur when the pen hits the table.

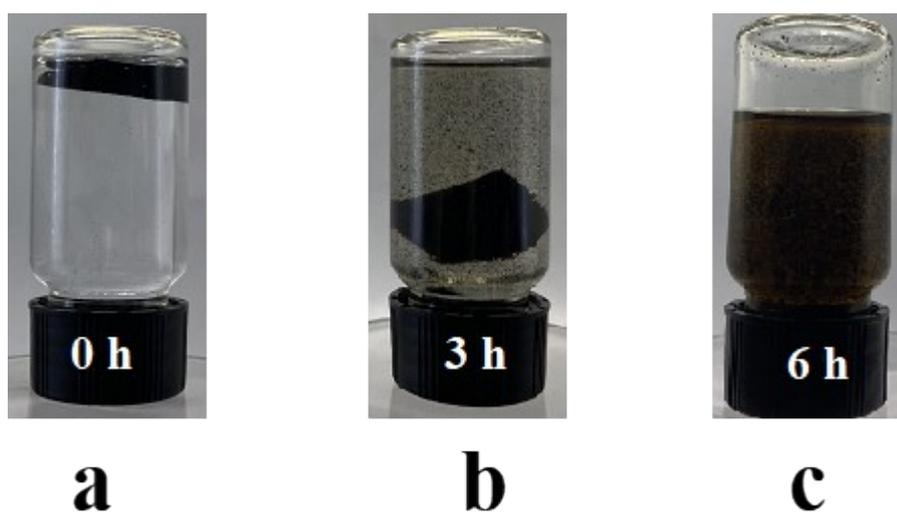


Figure S8. MWCNTs@LPUF degradation experiment; (a) photo of MWCNTs@LPUF degradation for 0 hours; (b) photo of MWCNTs@LPUF degradation for 3 hours; (c) photo of MWCNTs@LPUF degradation for 6 hours.