

*Supplementary material*

PDMS Sponges with Embedded Carbon Nanotubes as Piezoresistive Sensors for Human Motion Detection

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Table S1. Designation of investigated sponge materials.

Sponge Material Designation	Sugar Porogen Amount (wt%)	CNT Loading (wt%)
CNT1.5P70	70	1.5
CNT2P70	70	2
CNT2.5P70	70	2.5
CNT3P70	70	3
CNT3P75	75	3
CNT3P80	80	3
CNT3P85	85	3

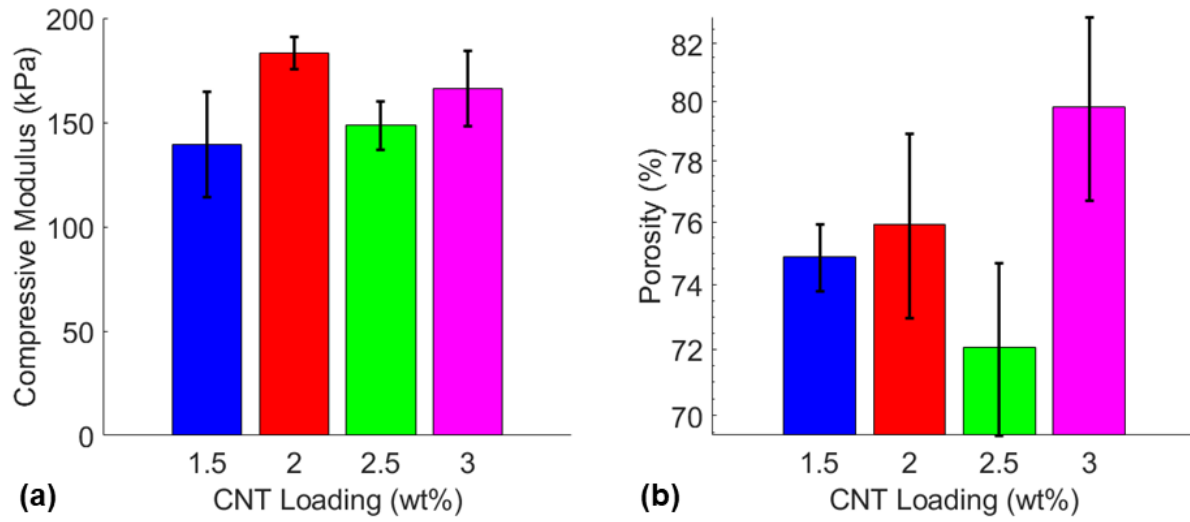


Figure S1. Comparison of the (a) compressive modulus and (b) the measured porosities of the CNT1.5P70, CNT2P70, CNT2.5P70, and CNT3P70 sponges.

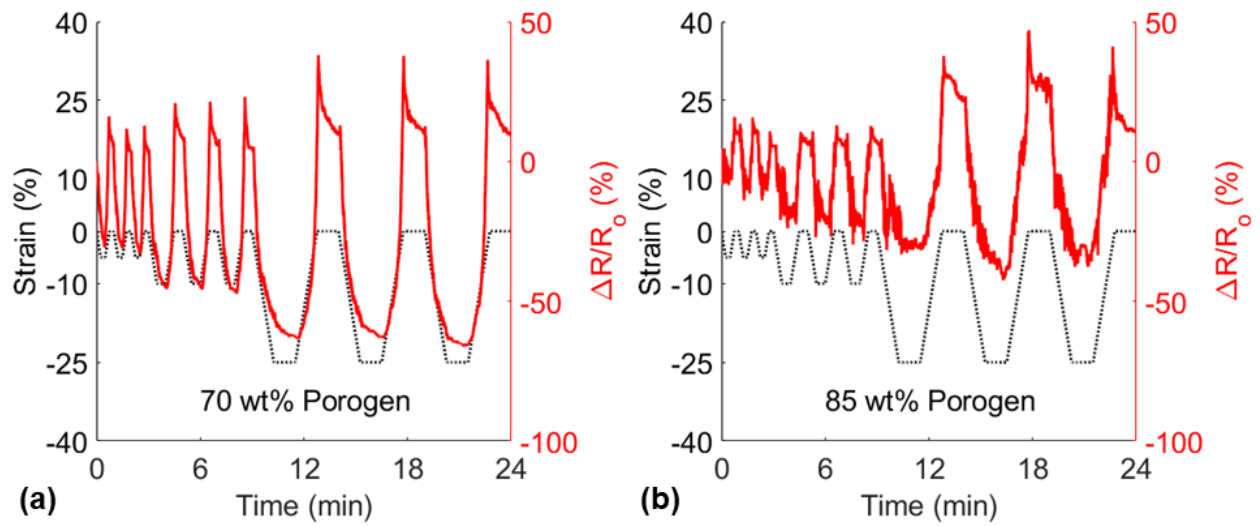


Figure S2. Piezoresistive step-sensing comparison of (a) the lowest porosity sponge (CNT3P70) and (b) the highest porosity sponge (CNT3P85) for 5 %, 10 %, and 25 % compressive strains.

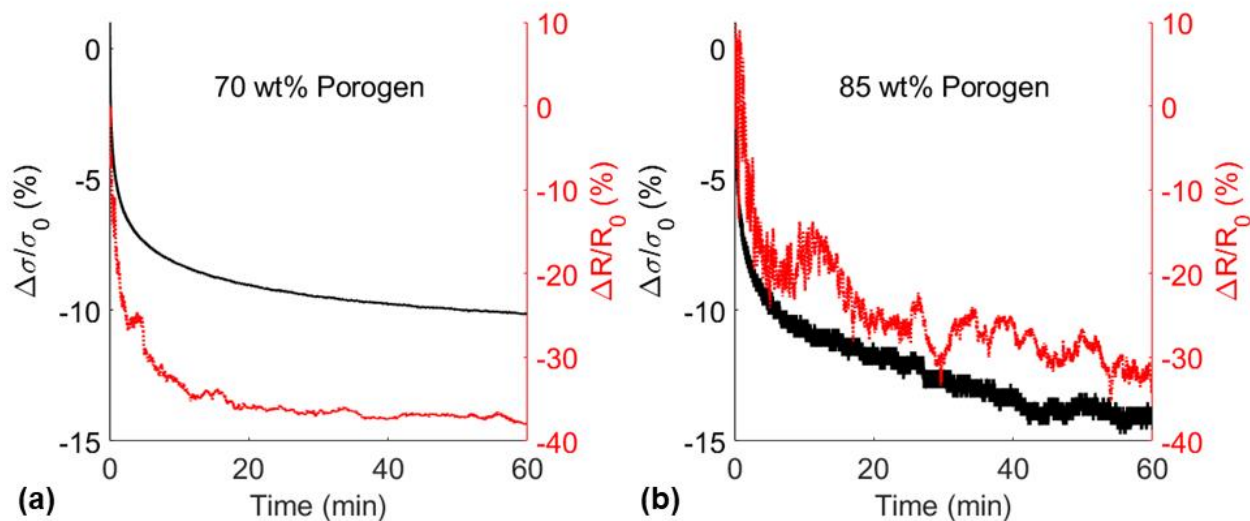


Figure S3. Viscoelastic creep comparison of the piezoresistive and stress response for (a) the lowest porosity sponge (CNT3P70) and (b) the highest porosity sponge (CNT3P85) held at 50 % compressive strain for 1 h.

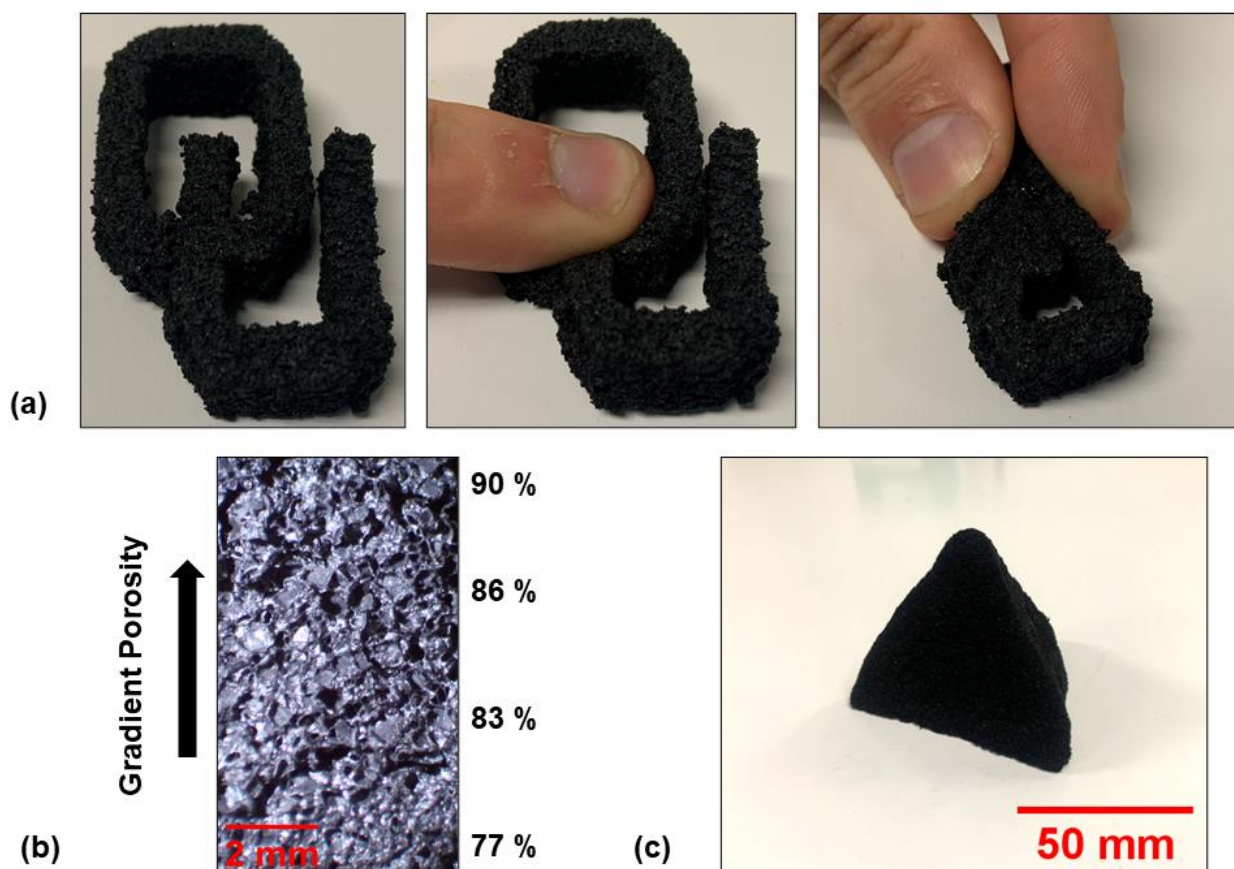


Figure S4. Pictures of fabricated nanocomposite sponges including (a) the University of Oklahoma logo, (b) a sample with gradient porosity, and (c) a triangular pyramid.