

Fabric-based superhydrophobic ACNTs/Cu/PDMS heater with excellent electrothermal effect and deicing performance

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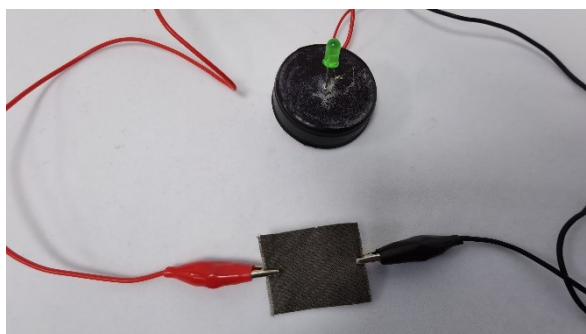


Fig. S1: Photos of the PDA/ACNTs fabric connected to light-emitting diode (LED) lights.

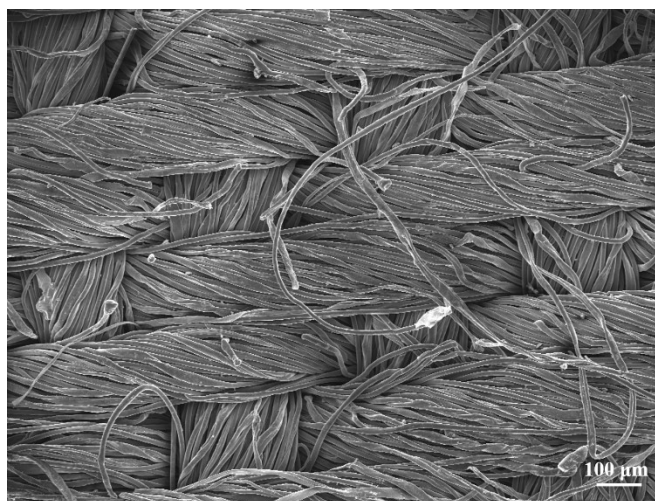


Fig. S2: The SEM image of the original fabric magnified 70 times.

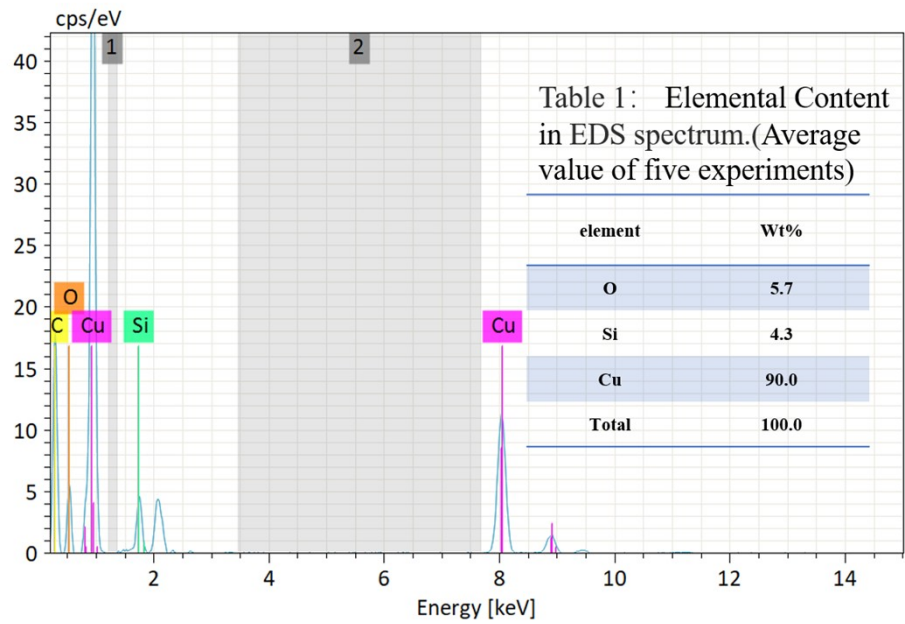


Fig. S3: EDS quantitative surface analysis of the PDA/ACNTs/Cu/ PDMS fabric. (Values are the average of five experiments.)

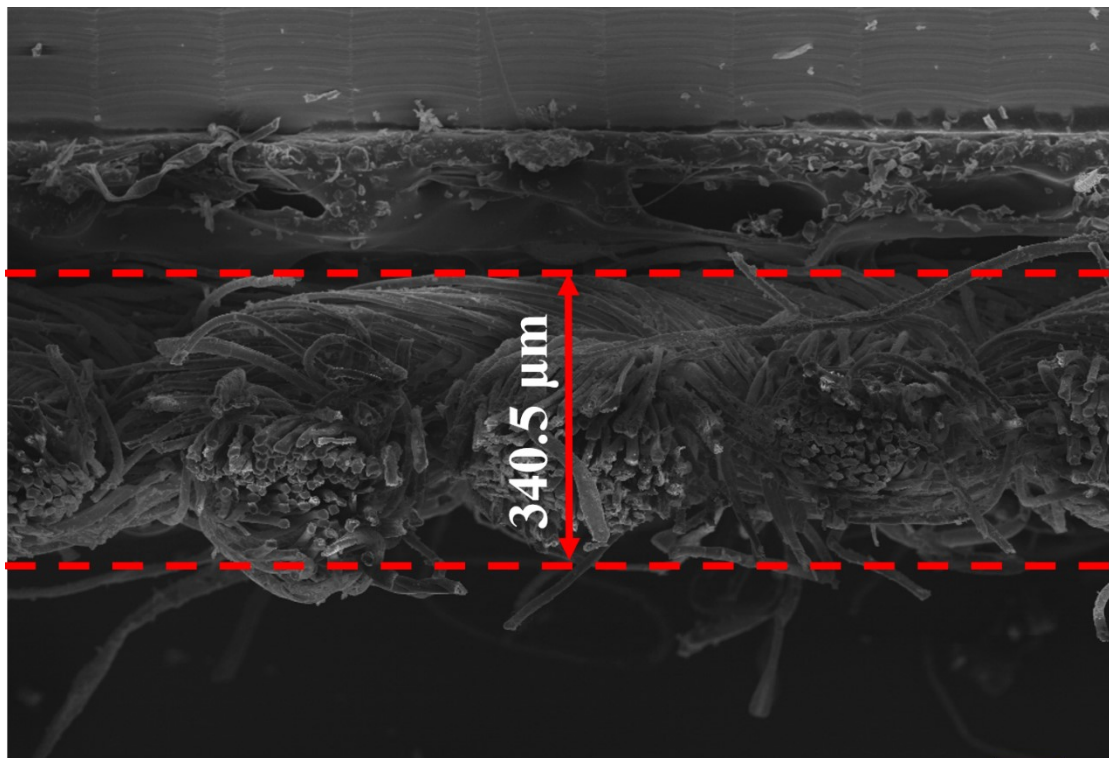


Fig. S4: Thickness of the PDA/ACNTs/Cu/ PDMS fabric. (Values are the average of five experiments.)

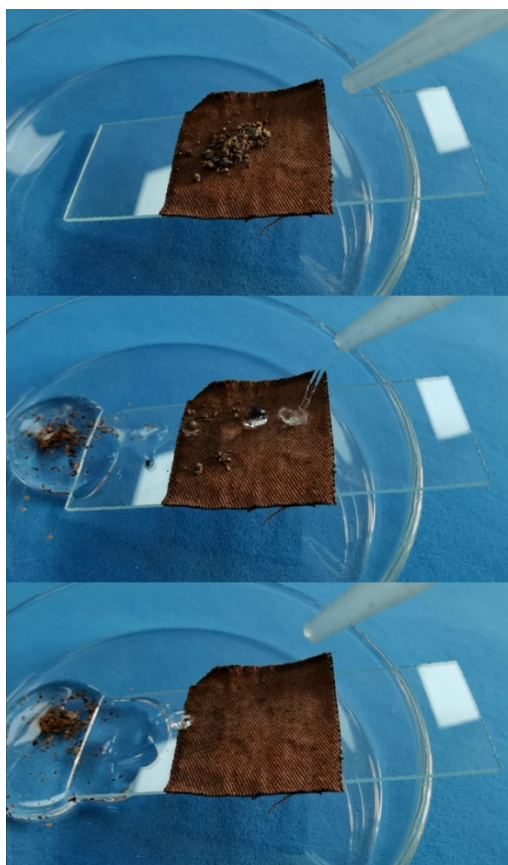


Fig. S5: The Self-cleaning ability test of dust particles on the surface of the PDA/ACNTs/Cu/PDMS fabrics.

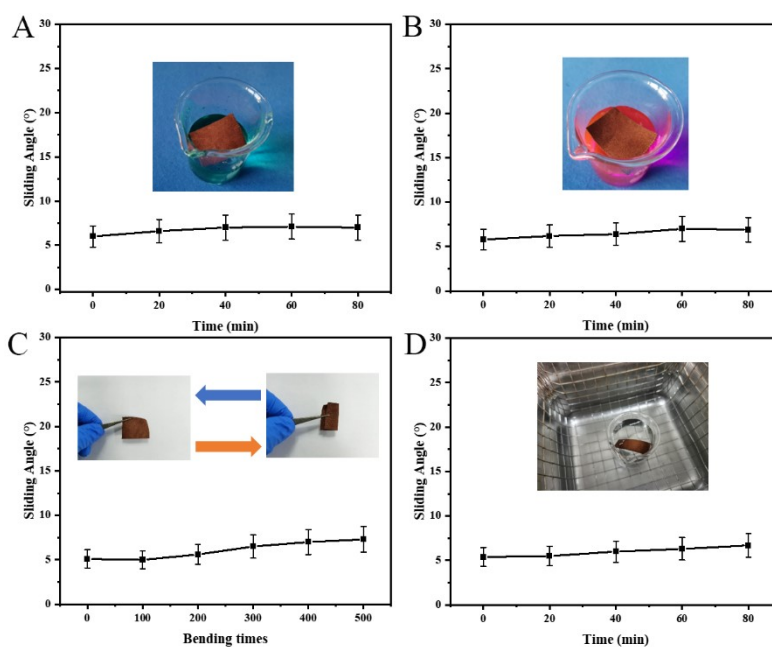


Fig. S6: The SAs of the the PDA/ACNT/Cu/PDMS fabric (A) after immersed in an acidsolution of pH=4 for different time; (B) after immersed in an acidsolution of pH=4 for different time; (C)through different times of bending;(d) after different time of ultrasonic treatment. (Values are the average of five experiments.)

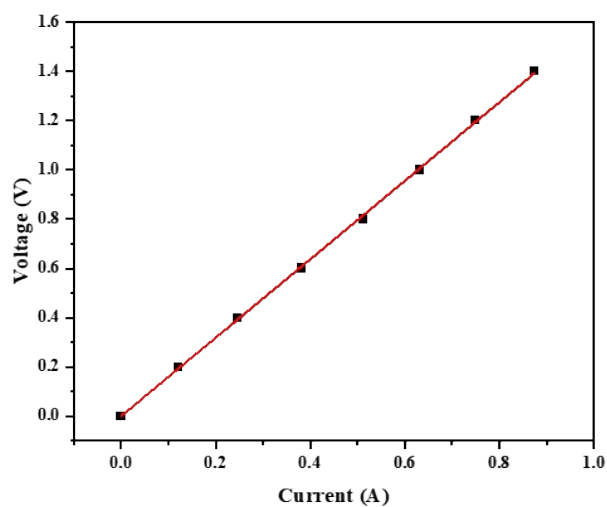


Fig. S7: I-V curve of the PDA/ACNT/Cu/PDMS fabric. (Values are the average of five experiments.)

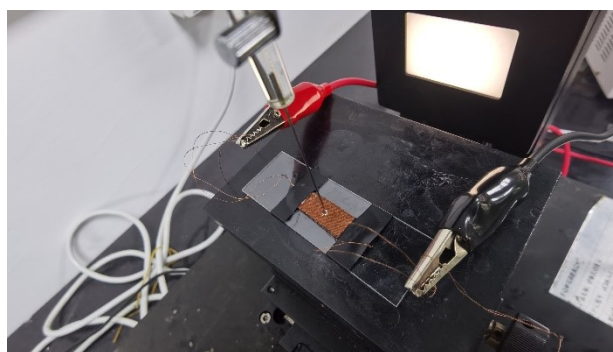


Fig. S8: Apply voltage across the PDA/ACNT/Cu/PDMS fabric and observe the changes of water droplets on the surface.

Supplementary video 1: The Self-cleaning ability test of dust particles on the surface of the PDA/ACNTs/Cu/PDMS fabrics.[Supplementary video 1.mp4](#)

Supplementary video 2: A voltage of 1.0V is applied across the PDA/ACNT/Cu/PDMS fabric, and the ice cube changes in real time on the surface.[Supplementary video 2.mp4](#)

Supplementary video 3: At room temperature, the ice cube changes on the PDA/ACNT/Cu/PDMS fabric.[Supplementary video 3.mp4](#)