

## Self-healing and Highly Adhesive Conductive Polydimethylsiloxane-Based Elastomers for Chronic Epilepsy Monitoring

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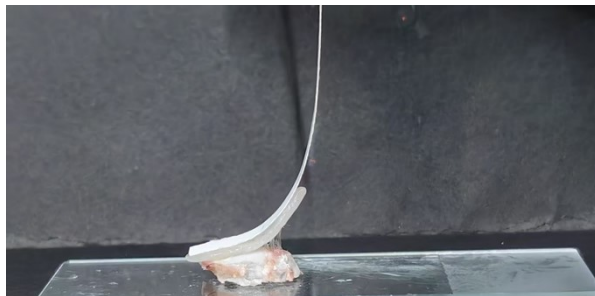


Figure S1. Image of 90-degree peel test on the skull of mice.

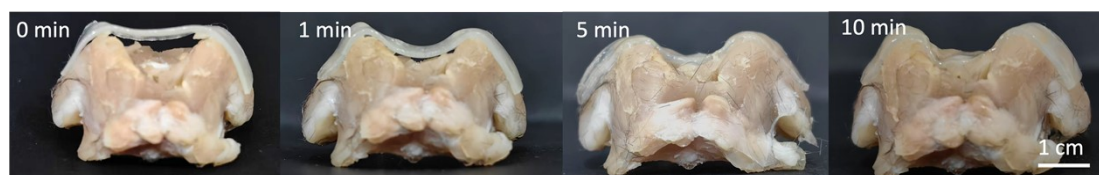


Figure S2. C-PBS-1.2-3 continuous shape morphing towards the central area to form an ultra-conformal interface.

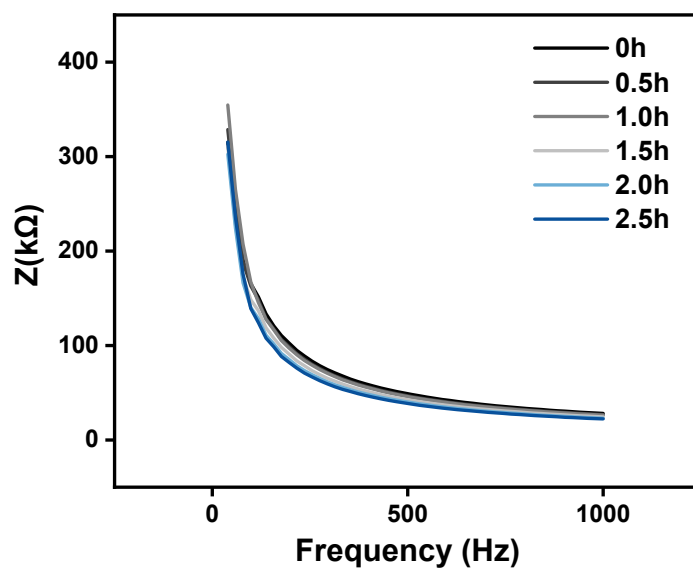


Figure S3. Long-term impedance monitoring of C-PBS-1.2-3/CNT-6 composite in the test frequency range for different times.

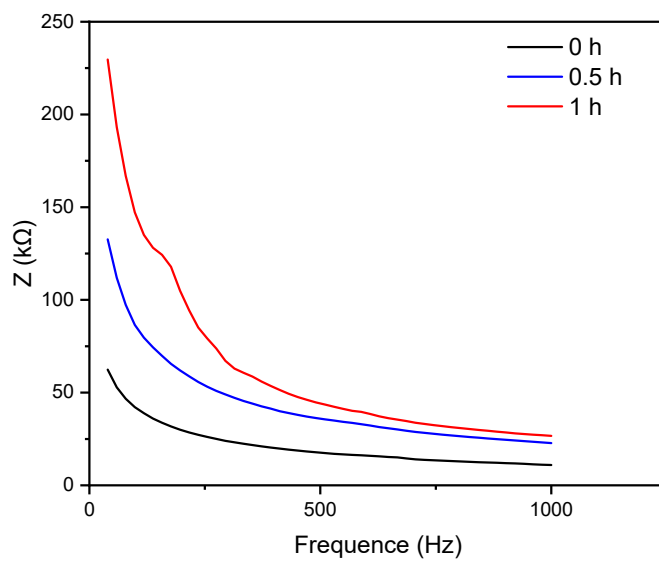


Figure S4. Long-term impedance monitoring of commercial electrodes in the test frequency range for different times.

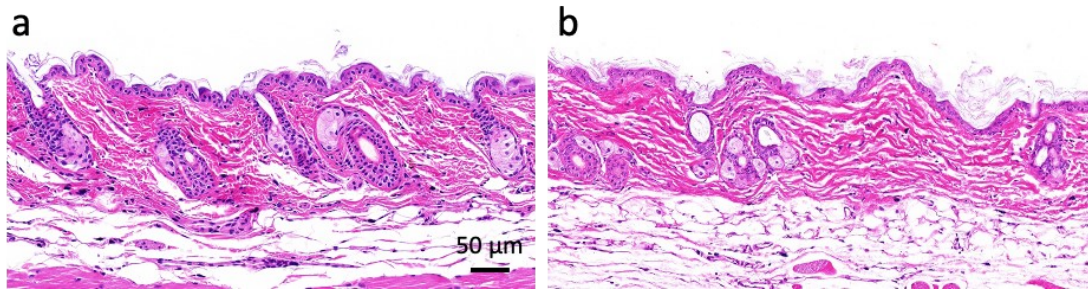


Figure S5. Biocompatibility test of C-PBS/CNT composites. (a) The skin samples under C-PBS/CNT composites. (b) The skin samples of WT C57 for the control experiment. Experimental group (a) demonstrates no extra inflammatory cell infiltration in the staining when compared with normal skin (b). Scale bar, 50  $\mu\text{m}$ .

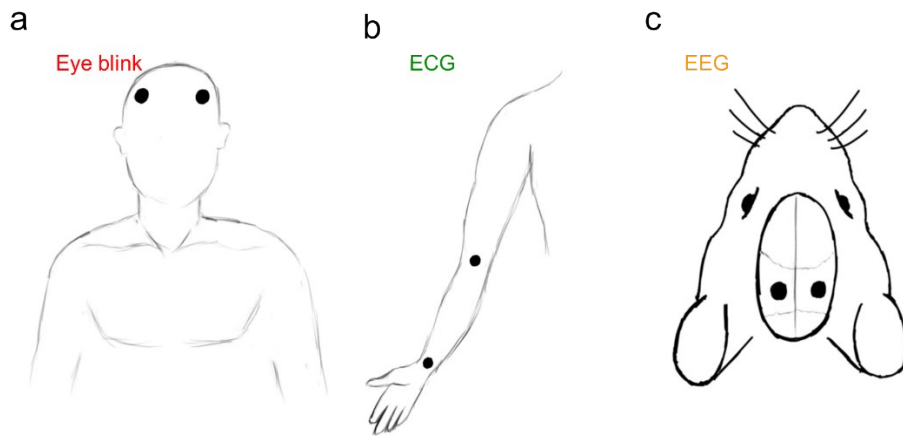


Figure S6. Cartoons of the monitoring position for (a) eye blink, (b) ECG, (c) and EEG.