

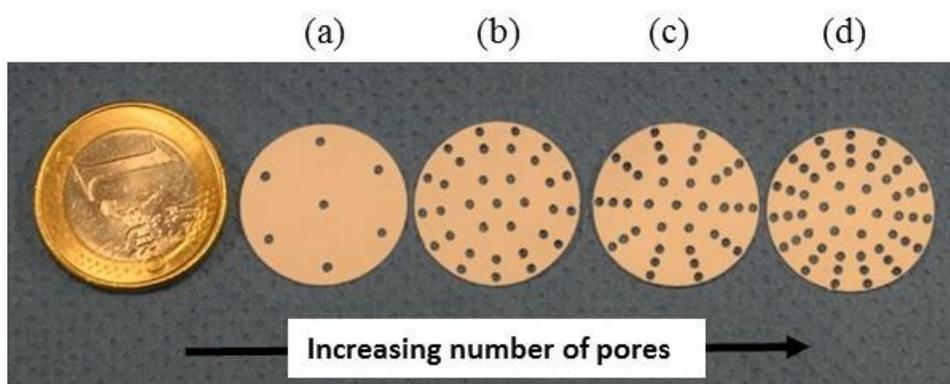
Electronic Supplementary Information

Robust Epidermal Tattoo Electrode Platform for Skin Physiology Monitoring

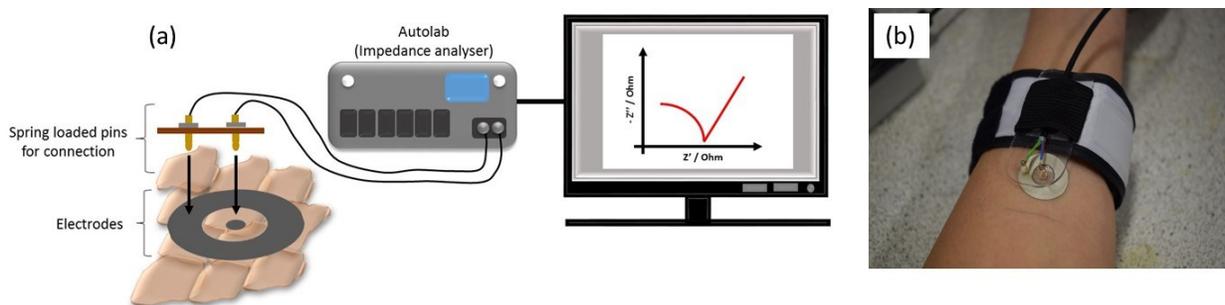
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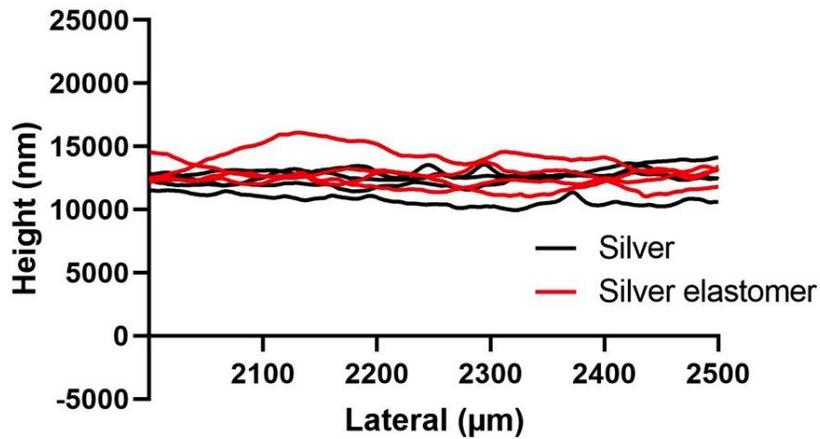
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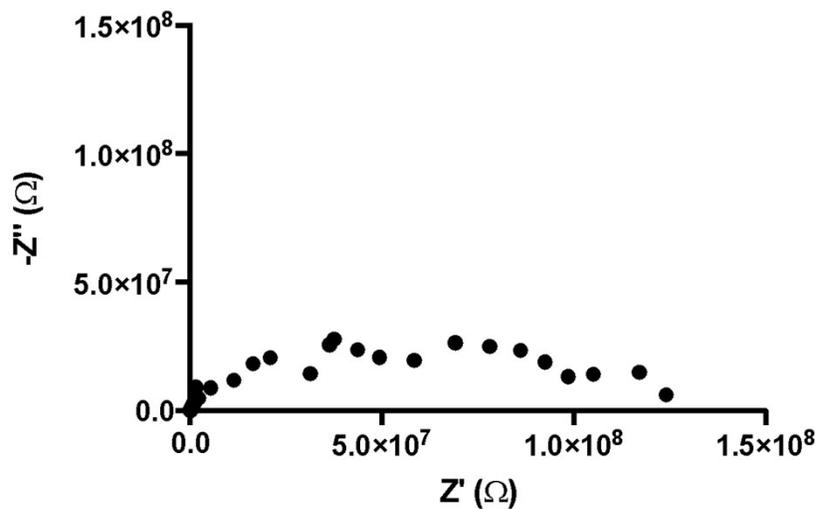
S1. Images of the porous adhesive films used in the tattoo platforms. (a) 7 pores, (b) 27 pores, (c) 31 pores, and (d) 46 pores. Pore diameter: 1.2 mm.



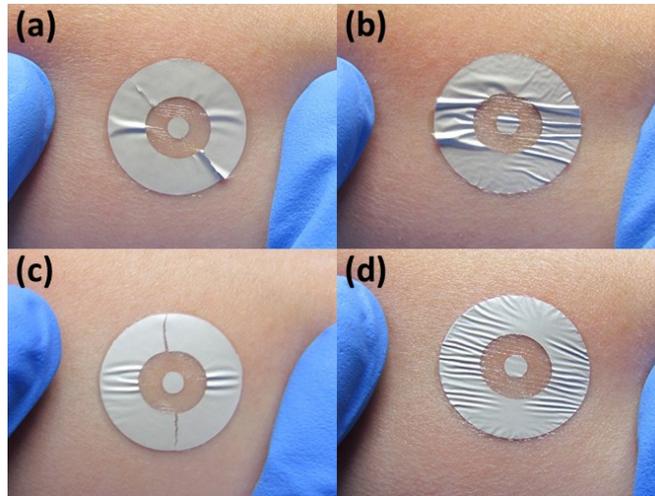
S2.(a) Schematic of the experimental set-up using the tattoo electrodes. (b) Example of wristband connection using spring loaded pins to electrically contact the electrodes.



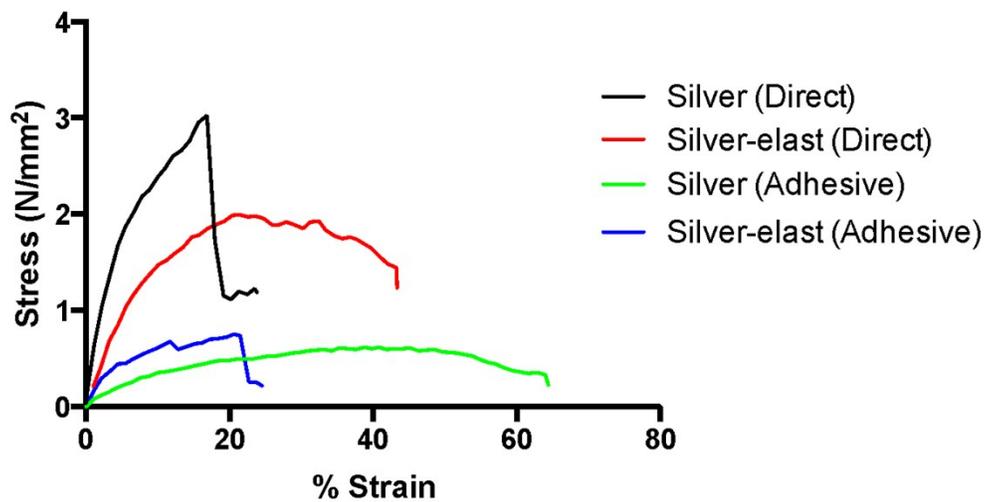
S3. Average surface height (ASH) measurements of tattoo electrodes over a lateral dimension of 500 μm using a Dektak XT profilometer. The thickness of the electrodes printed from the silver inks was calculated to $11.64 \pm 1.55 \mu\text{m}$ ($n=4$) and for the electrodes printed from the silver-elastomer inks was $11.20 \pm 1.63 \mu\text{m}$ ($n=4$).



S4. Representative Nyquist plot of the inner forearm as measured by the silver-elastomer tattoo platform in Adhesive contact mode.



S5. Images of tattoo platforms upon stretching on skin whereby tattoo platform comprised: (a) silver electrodes (Direct contact), (b) silver-elastomer electrodes (Direct contact), (c) silver electrodes (Adhesive (27 pore) contact) and (d) silver-elastomer electrodes (Adhesive (27 pore) contact).



S6. Stress-strain responses for the different tattoo platforms.