

Supporting Information

Fabrication of Silver Nanowire/Polydimethylsiloxane Dry Electrodes by a Vacuum Filtration Method for Electrophysiological Signal Monitoring

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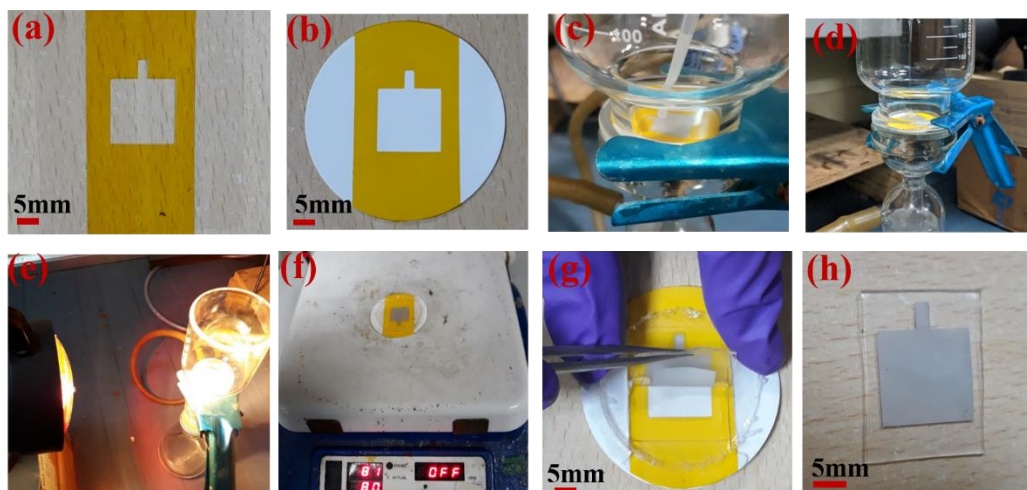


Figure S1 (a) Patterned polyimide tape on PET using a programmable mechanical cutter, (b) Pattern transfer to filter paper, (c) vacuum filtering of AgNW solution for 10 min, (d)-(e) pouring PDMS and curing under IR lamp, (f) partially cured PDMS on AgNWs filtrate transferred on to hot plate and cured at 80°C for 1 hr, (g) transferring of AgNW network from the filter paper to PDMS and (h) AgNW/PDMS electrode.



Figure S2 Shows the AgNW/PDMS dry electrode with wire and metal snap.

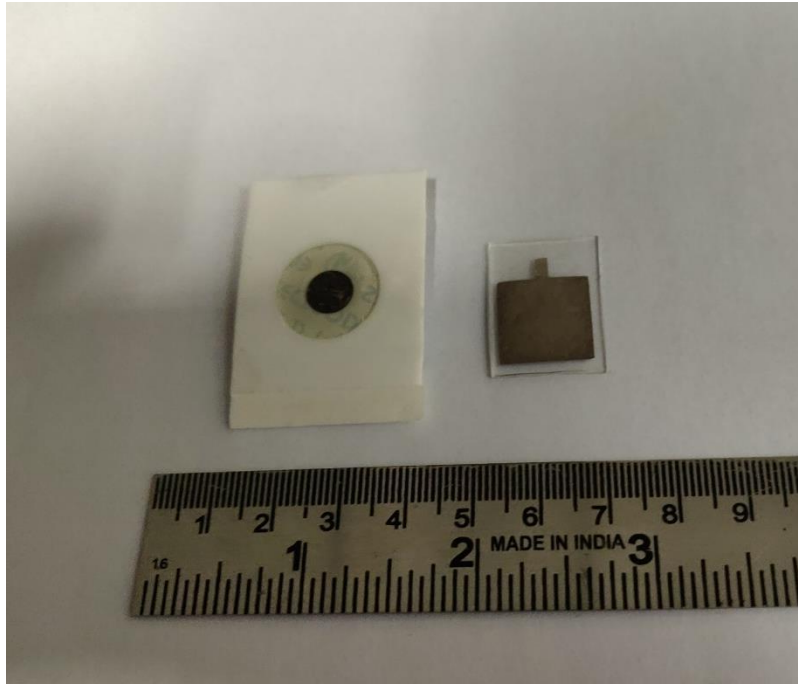


Figure S3 Shows the optical image of the conventional Ag/AgCl and AgNW/PDMS dry electrode.

The active area of the electrodes

For AgNW/PDMS dry electrodes: 1.5cm x 1.5cm

$$= 2.25\text{cm}^2$$

For Ag/AgCl wet electrodes: 1.7 cm diameter

$$= 2.27\text{cm}^2$$

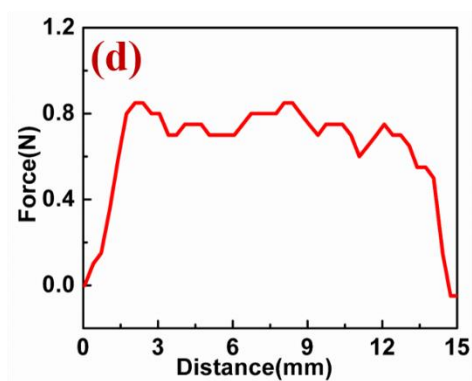
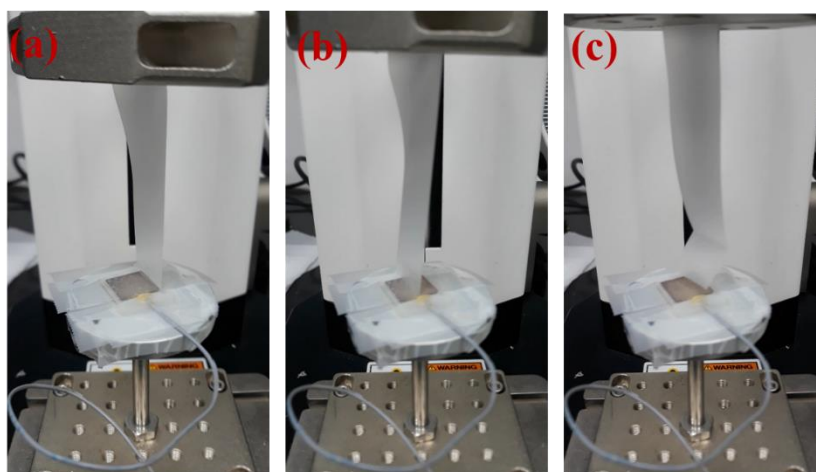


Figure S4 (a)-(c) set up for measuring adhesion strength of patterned AgNWs on PDMS and (d) adhesion strength vs distance curve.

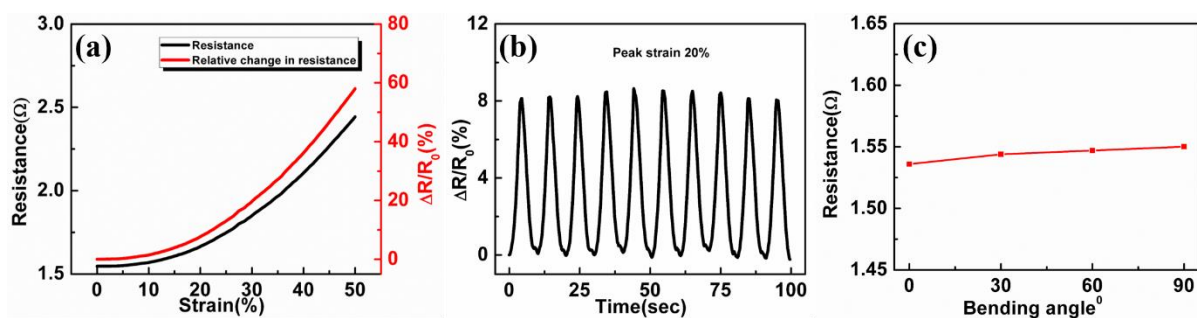


Figure S5 (a) Resistance and the relative change in resistance of the AgNW/PDMS electrode as function of applied strain, (b) The relative change in resistance of AgNW/PDMS electrode vs. time under cyclic loading and unloading and (c) resistance of the AgNW/PDMS electrode vs. bending angle.

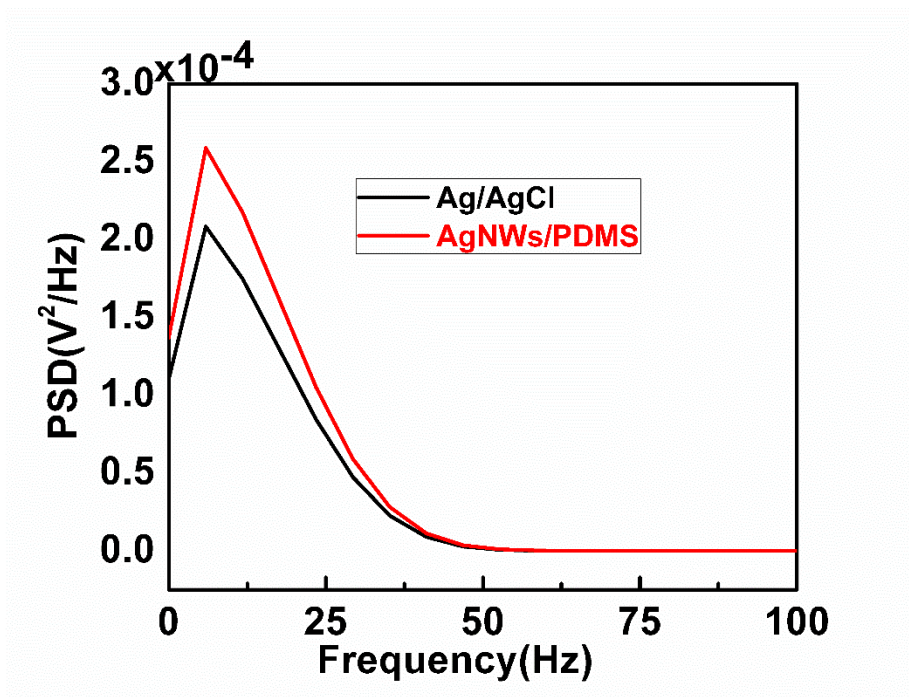


Figure S6 Shows the power spectral density (PSD) of the Ag/AgCl (black) and AgNW/PDMS dry (red) electrode.

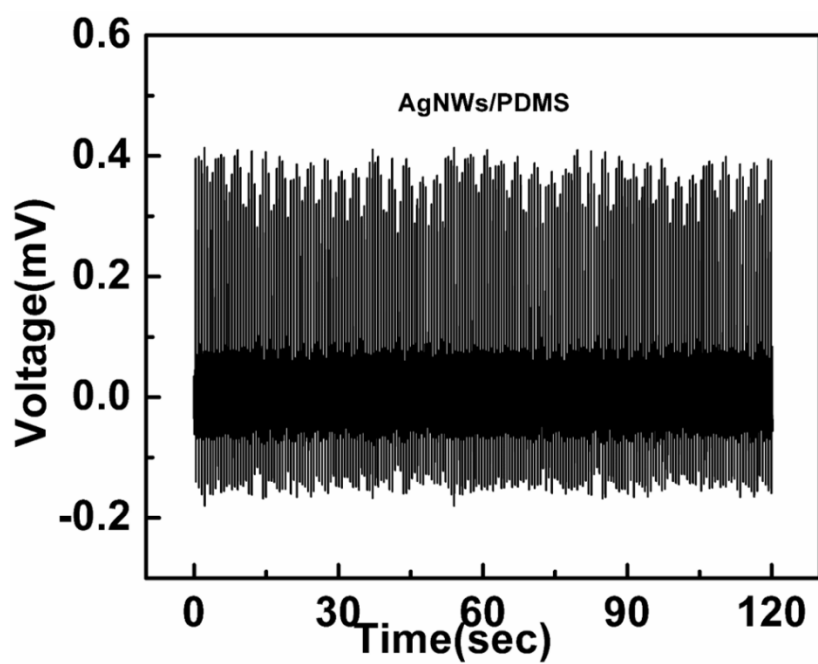


Figure S7 Shows continuous ECG signal from AgNW/PDMS dry electrodes for 120sec

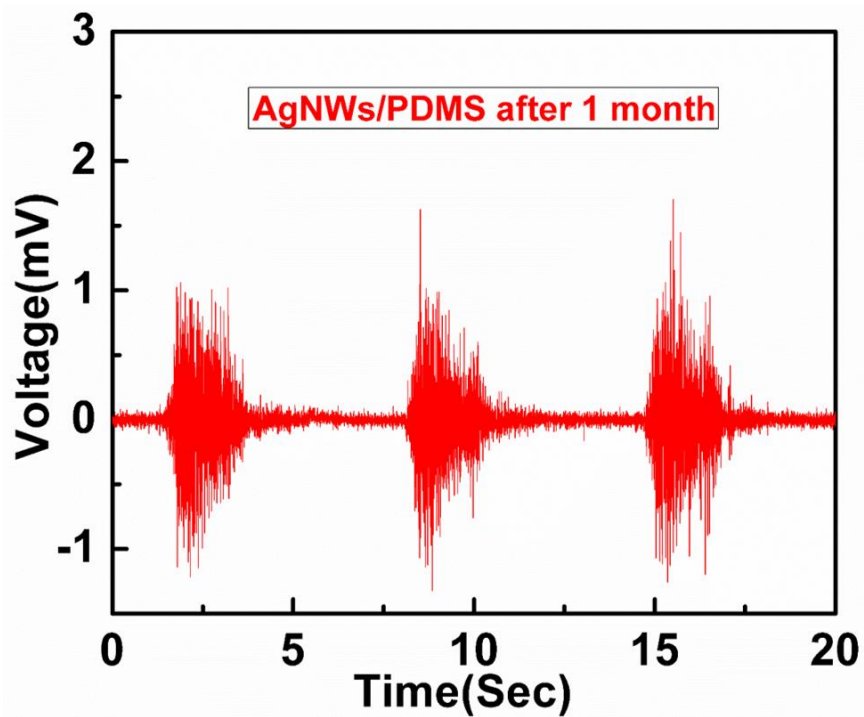


Figure S8 shows the obtained EMG signal from AgNW/PDMS dry electrodes after one month.