Supporting Information

Ultrasoft long-lasting reusable hydrogel-based sensor patch for biosignal recording

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A close up of a fist

Description automatically generated

Figure S1. Hydrogel-based sensor adhered to human skin at static state and under strain and compression. Scale bar, 1 cm.

A close up of a leg

Description automatically generated

Figure S2. Hydrogel-based sensors placed on various parts of the body.

A group of bottles with brown liquid

Description automatically generated

Figure S3. Photos showing the pyrrole aqueous solutions with different pyrrole contents from 2 wt% to 10 wt%.



Figure S4. Sensor-skin interface impedance of the hydrogel-based sensors with different polypyrrole contents.



Figure S5. Strain-stress curves of hydrogels with different polypyrrole contents.



Figure S6. Sensor-skin interface impedance of hydrogel-based sensors before and after exercise within the frequency range of 20-1000 Hz.

A black ink on a white surface

Description automatically generated

Figure S7. The photos showing a sensor after being stored for 2 months in the ambient environment, and 15 minutes after adding a drop of water on each electrode in the sensor to re-hydrate it. Scale bar is 1 cm.