Supplementary Information

Gold Nanoparticle Densely-Packed Micro/nanowire-based Pressure Sensors for Human Motion Monitoring and Physiological Signals Detecting

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Figure S1. SEM cross-sectional image of a single gold nanoparticle densely-packed microwire.



Figure S2. Micro/nanowire arrays with different intervals: 5.5µm, a); 30µm, b); 55µm, c).



Figure S3. The transmission spectra and i-v curves of devices with different intervals of 10µm, 20µm, 30µm and 50µm.



Figure S4. Large area of micro/nanowires fabricated on glass substrate.



Figure S5. X-ray diffraction (XRD) pattern of the assembled gold micro/nanowires.



Figure S6. Different resistance of nanowires after annealing at different temperatures.



Figure S7. Different I-V curves of micro/nanowires after annealing at different temperatures.



Figure S8. A microscope picture of the pressure sensor.



Figure S9. Current response of the pressure sensor under a pressure of 25Pa.



Figure S10. The stability of the device in atmospheric environment, a) and under a relative humidity of 96%, b).



Figure S11. a) The electrical signals of the pressure sensor under pressure. b-c) Sensing performance of the pressure sensor based on different sizes of micro/nanowires, which were adjusted by the concentration of the dispersion. b) Sensing performance of the pressure sensor based on micro/nanowires with height and width of 176.6 nm and 1.36μ m; c) Sensing performance of the pressure sensor based on micro/nanowires with height and width of 142.8 nm and 1.1μ m.



Figure S12. The radial artery pulse information of a 27-year-old female before and after exercise



Figure S13. The relaxation time of the pressure sensor.