

## Supporting Information

### Water-proof and thermal-inert flexible pressure sensors based on zero temperature coefficient of resistance hybrid films

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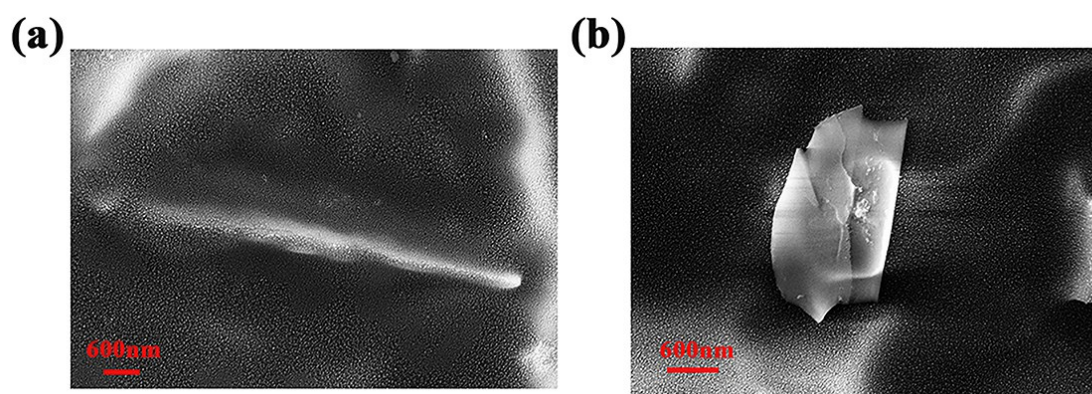


Figure S1 (a, b) High-magnification SEM image of thin film.

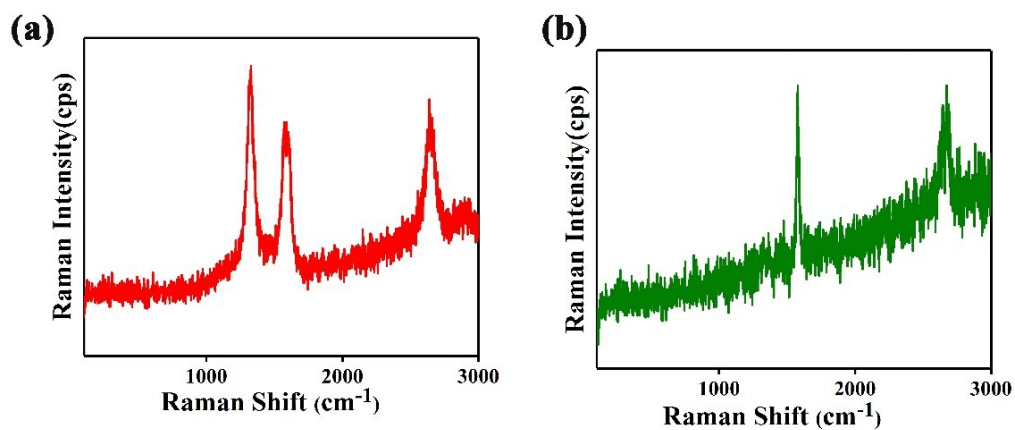
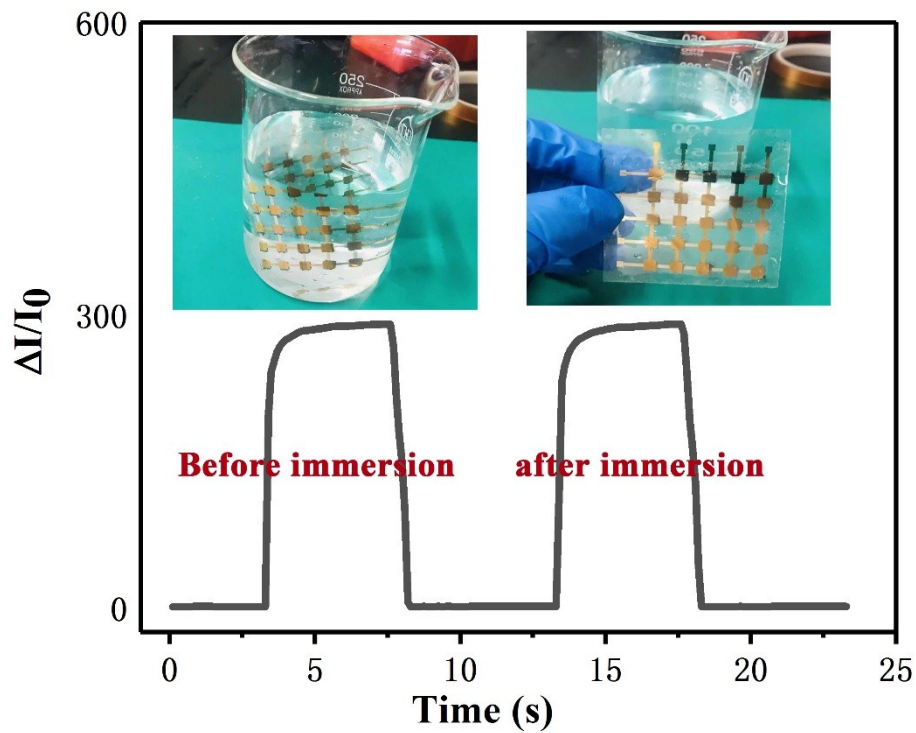
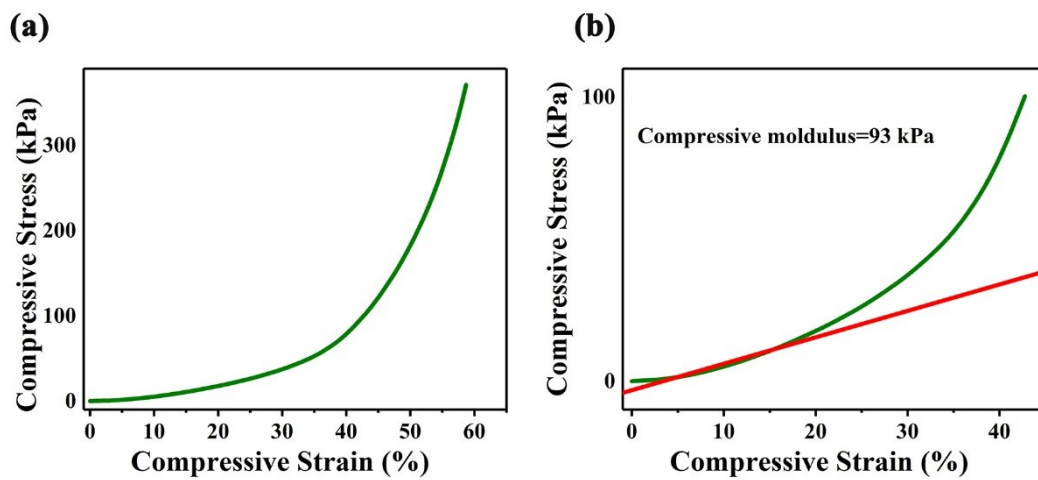


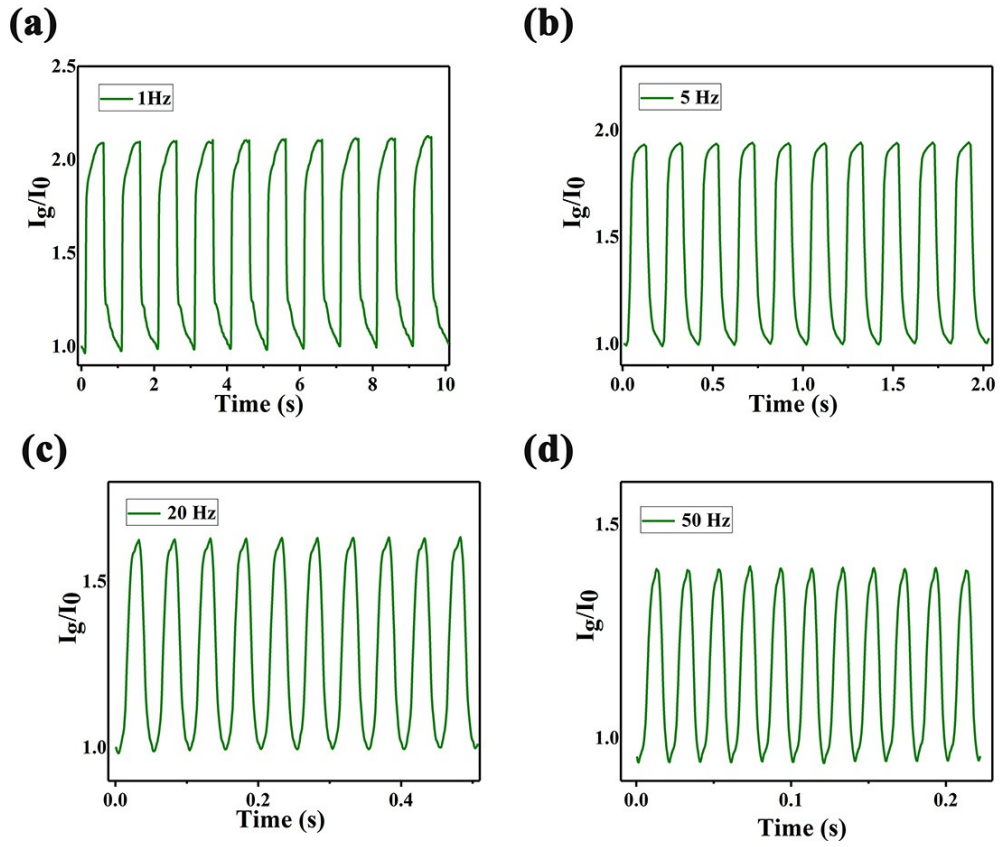
Figure S2 (a) Raman spectra of the MWCNT. (b) Raman spectra of the GP.



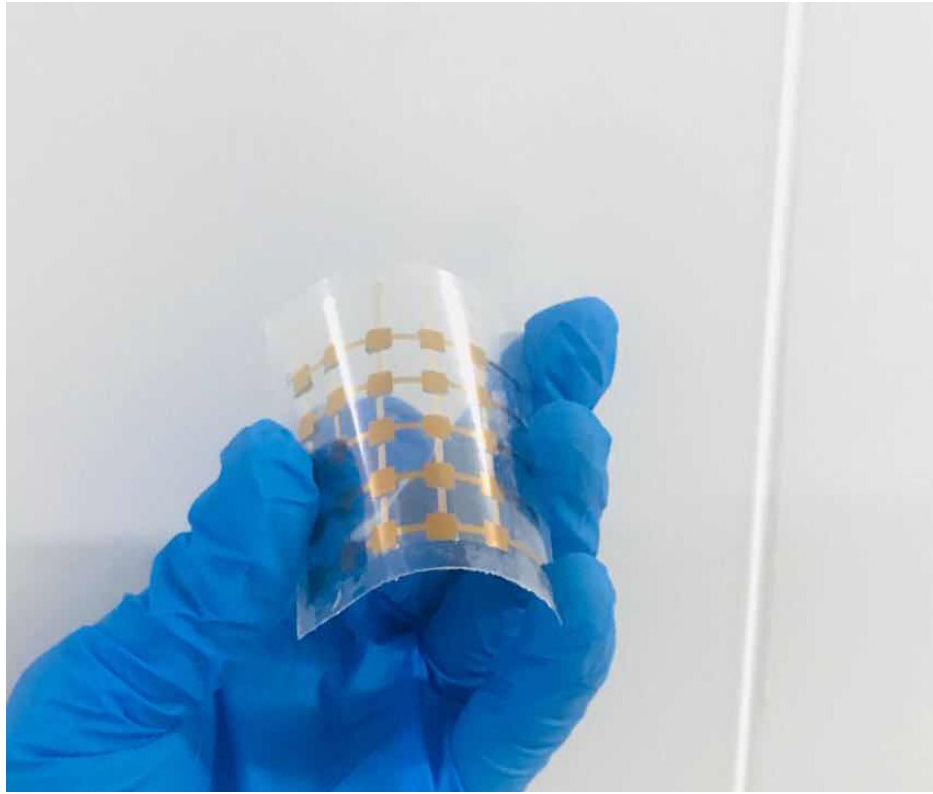
**Figure S3** Pressure comparison of sensors before and after immersion in water



**Figure S4** The compression stress–strain curves of the thin film in the strain ranges of a) 0-60% and b) 0-40%.



**Figure S5** Real-time relative to current signal recorded under a pressure of 1 kPa when the frequency were 1Hz (a), 5 Hz (b), 20 Hz (c) and 50 Hz (d).



**Figure S6** Optical image of the bending pressure sensor array