Electronic Supplementary Material (ESI) for Journal of Materials Chemistry B.

Poly(vinyl alcohol)/Phosphoric acid Gel Electrolyte@ Polydimethylsiloxane Sponge for Piezoresistive Pressure Sensors

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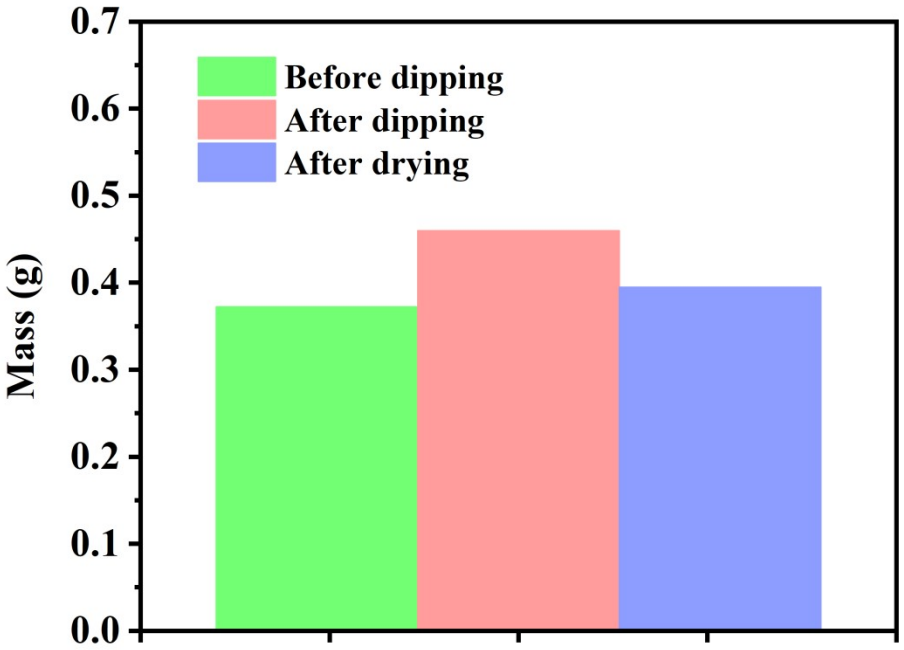

Fig. S1 Comparison of quality changes in sponge coating process.

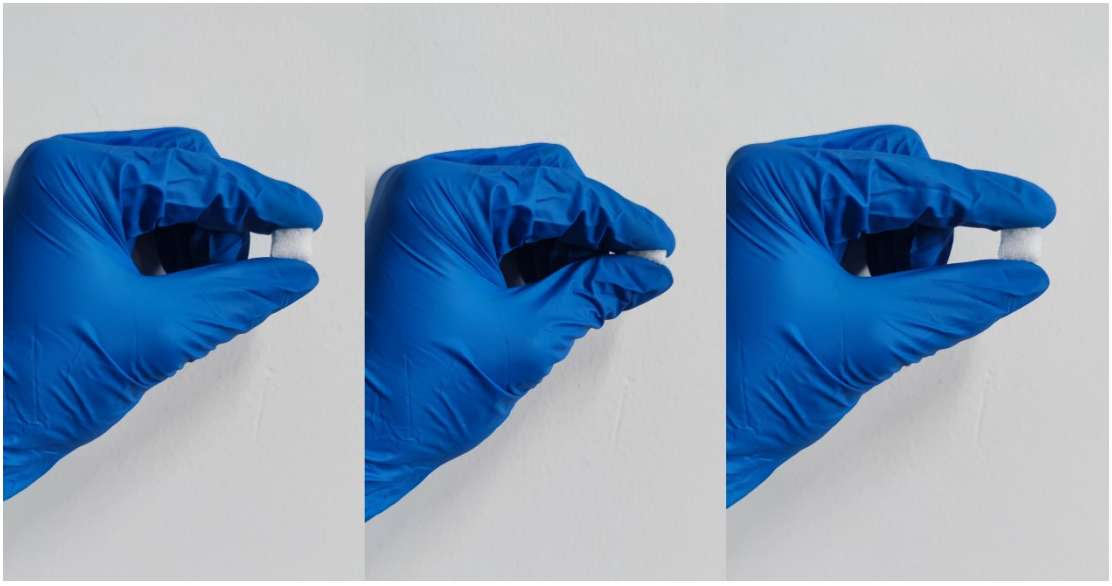

Fig. S2 Photographs of the PVA/H_3PO_4@PDMS sponge under a compressing-releasing cycle.

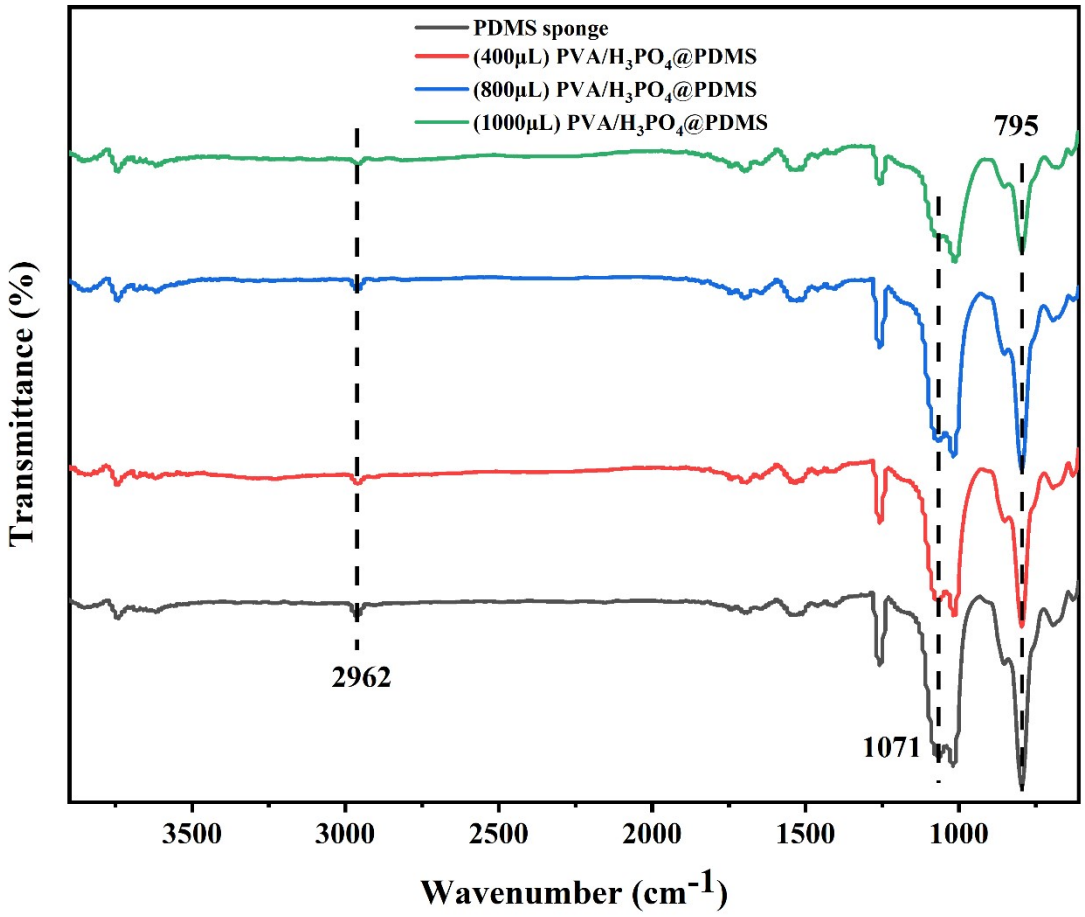

Fig. S3 FTIR spectra of the PDMS sponge and PVA/H_3PO_4@PDMS composite prepared with the PVA/H_3PO_4 gel electrolytes of different concentrations.

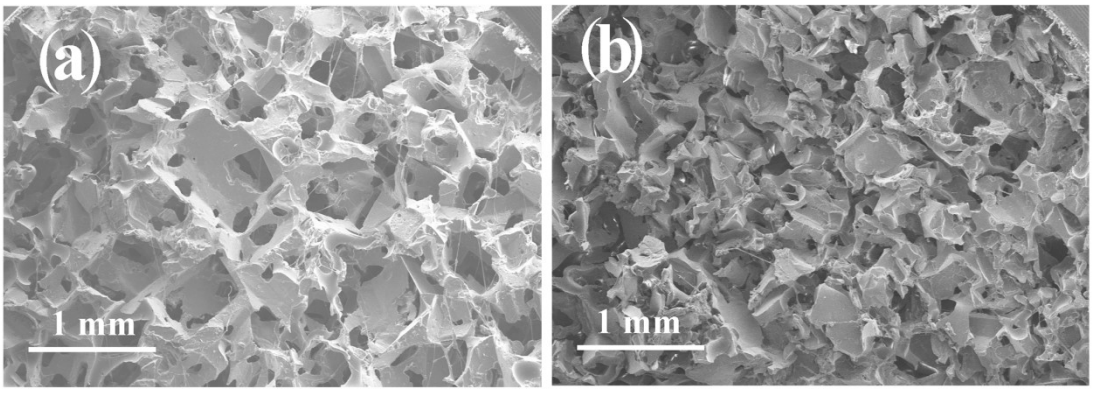

Fig. S4 a) PVA/H_3PO_4@PDMS sponges under uncompressed state.

b)PVA/H_3PO_4@PDMS sponges under compressed state.

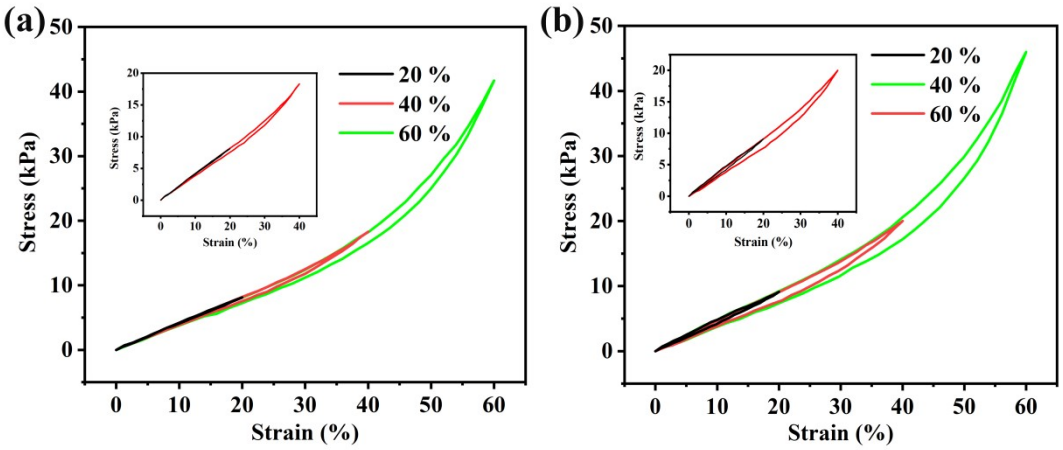

Fig. S5 Compressive stress−strain curves of (a) PDMS sponge and (b) PVA/H_3PO_4@PDMS sponge at maximum strains of 20, 40 and 60% , respectively.

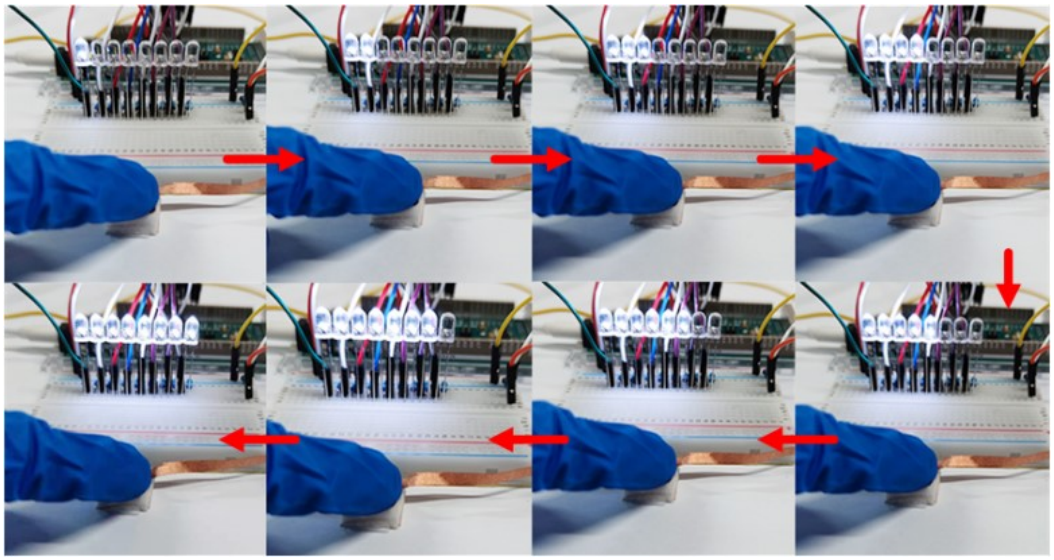

Fig. S6 Demonstration of piezoresistive characteristics of PVA/H_3PO_4@PDMS sponges.

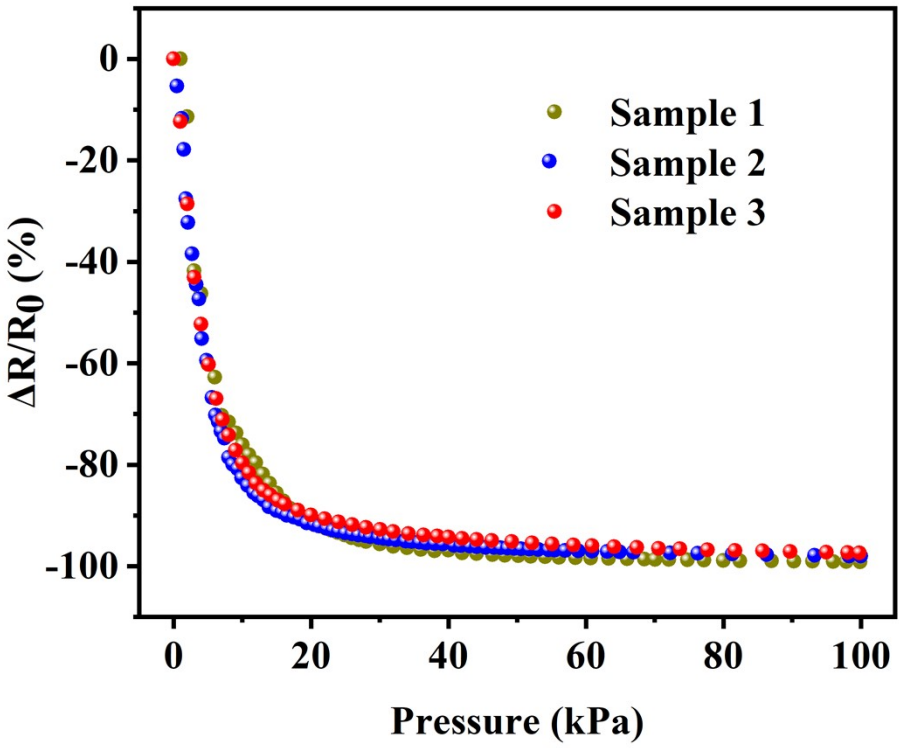

Fig. S7 Reproducibility test for resistance change with the pressure of the PVA/H_3PO_4@PDMS sponge-based pressure sensors in different batches.

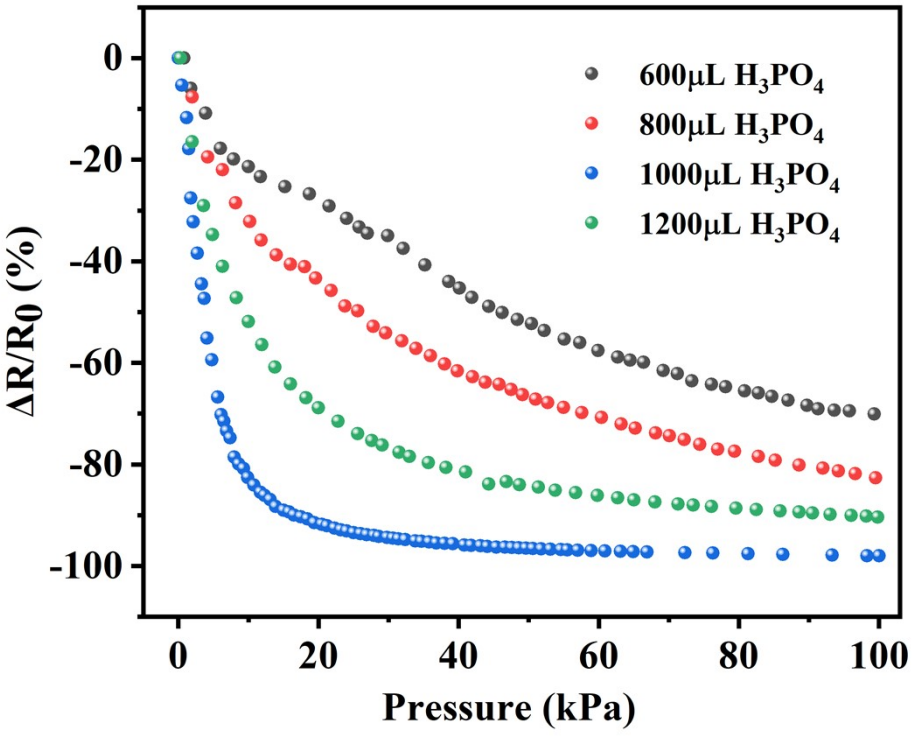

Fig. S8 Pressure sensing performance of PVA/H_3PO_4@PDMS sponge with different phosphoric acid addition.

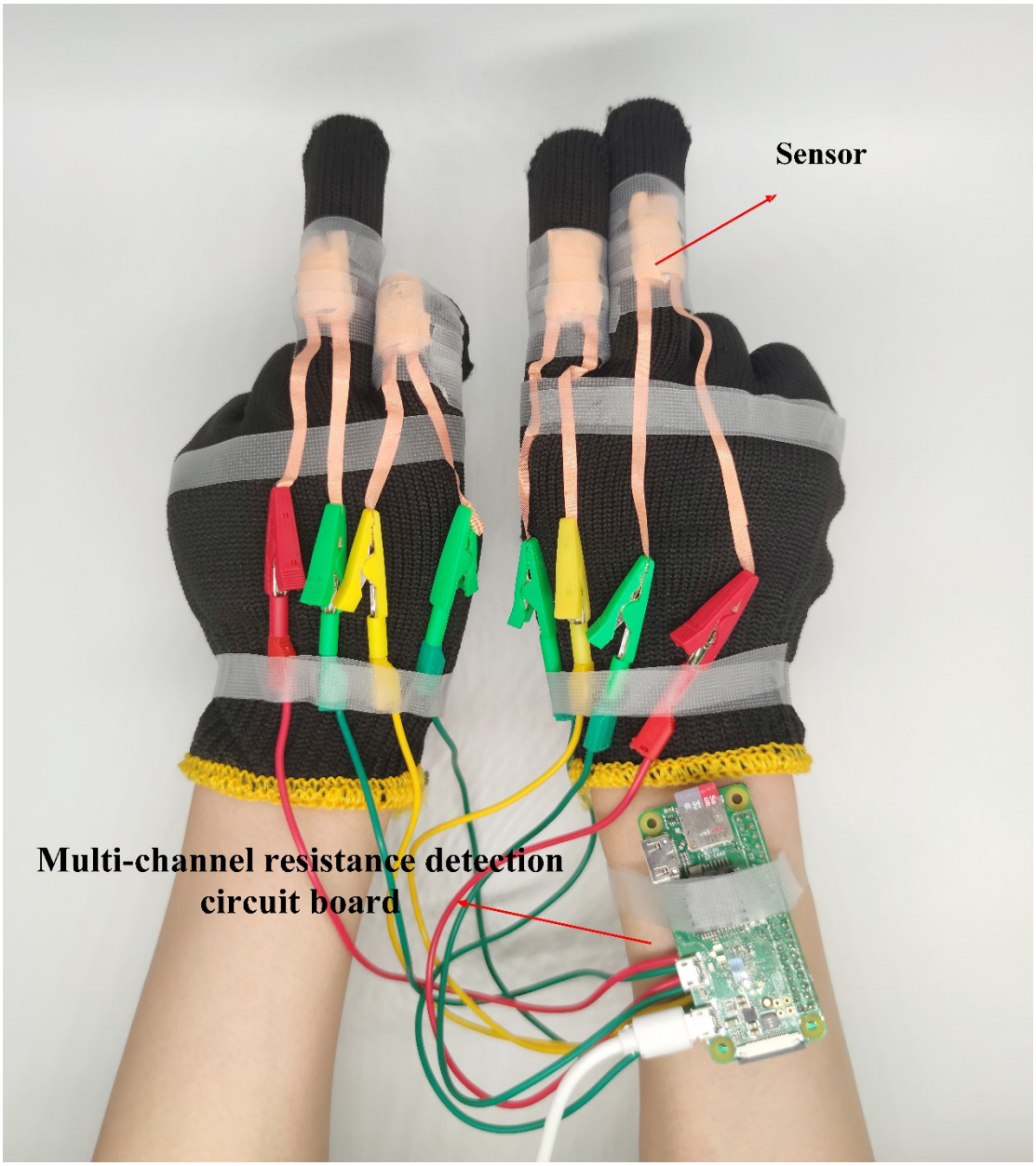

Fig. S9 Photographs of multi-channel resistance detection circuit board and PVA/H_3PO_4@PDMS sponge-based sensors.