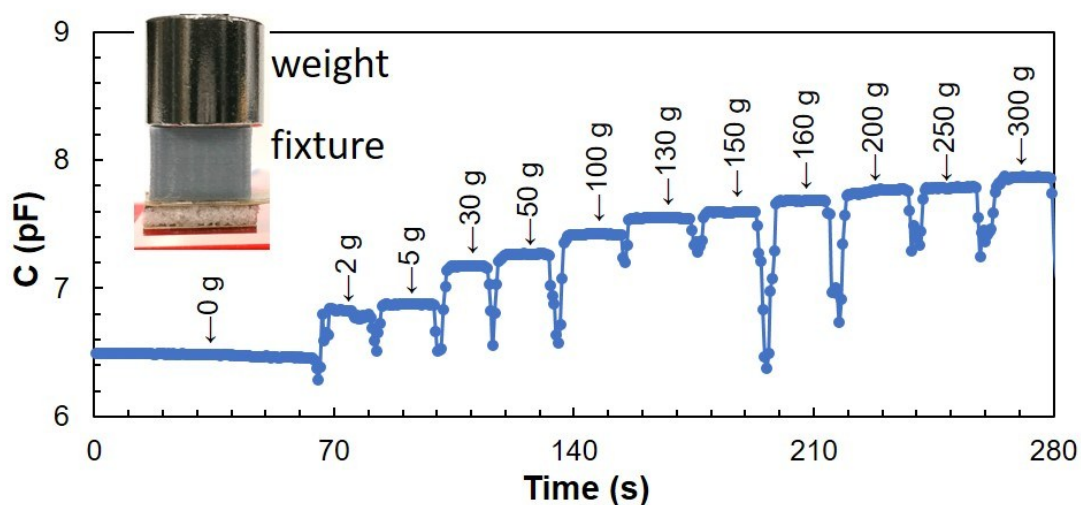## Supplementary information

Figure S1. Typical calibration curve of a capacitive pressure sensor, showing the capacitance as function of time, under various weights which is converted into pressure. The capacitance change as function of pressure is extracted from this to obtain calibration curves as presented in Figure S4. The inset shows a side view of the capacitive pressure sensor during pressure sensor calibration. The fixture is used to define the area upon which different weights are applied.
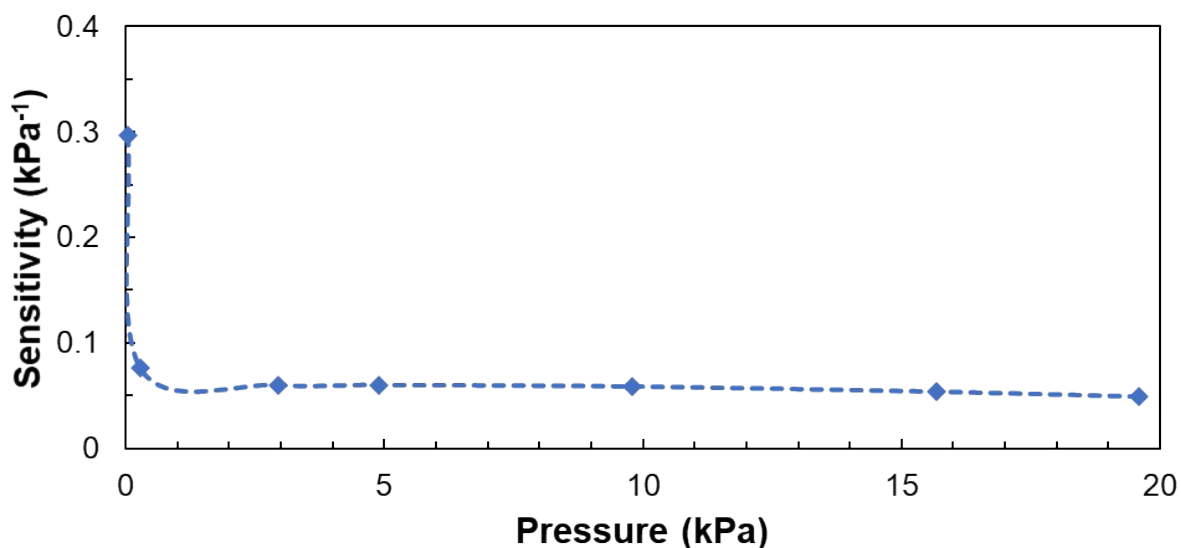

Figure S2. Representative sensitivity curve of an 85 vol% porosity sensor.
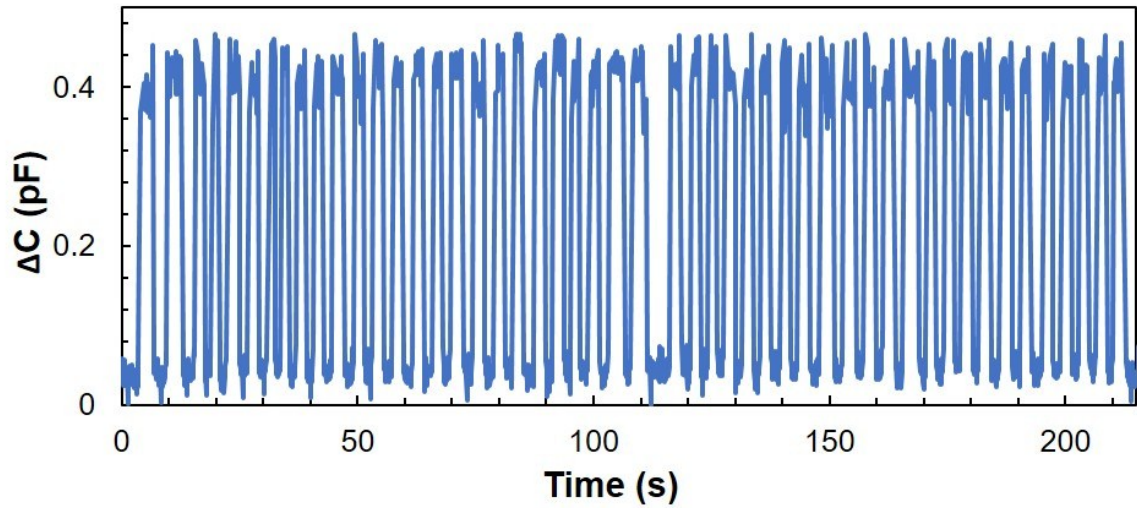
Figure S3. Reproducibility of the 85 vol% porosity pressure sensor response under 50 cycles of repeated 5 kPa applied pressure. Measurements were current using the Texas Instruments CDC board sampling at 20 Hz.
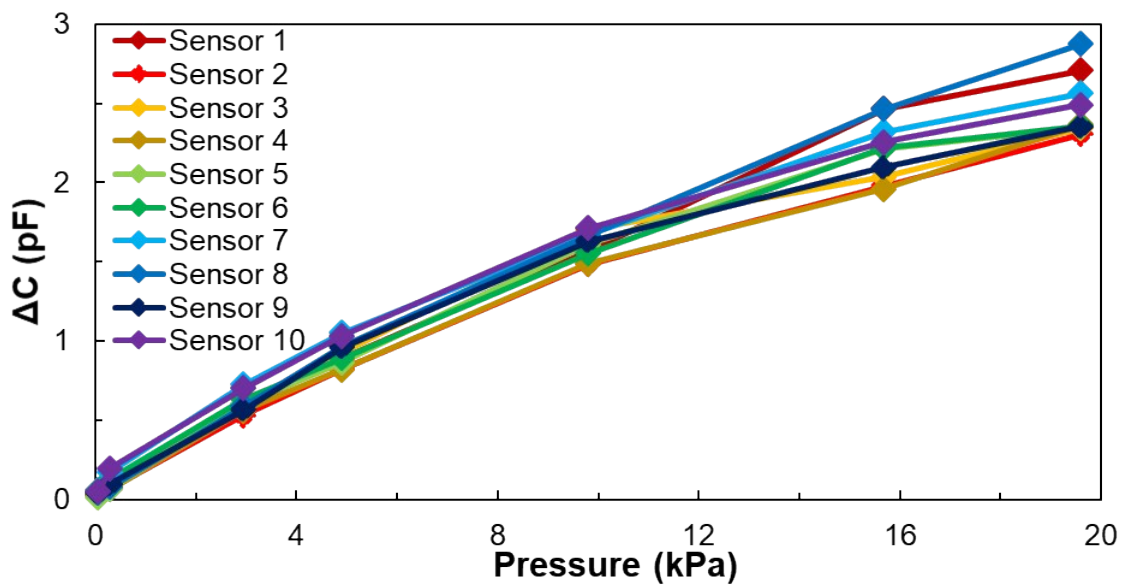
Figure S4. Capacitance change as function of the applied pressure for 10 different sensors with a volume percentage of air to PDMS at 85%:15%.
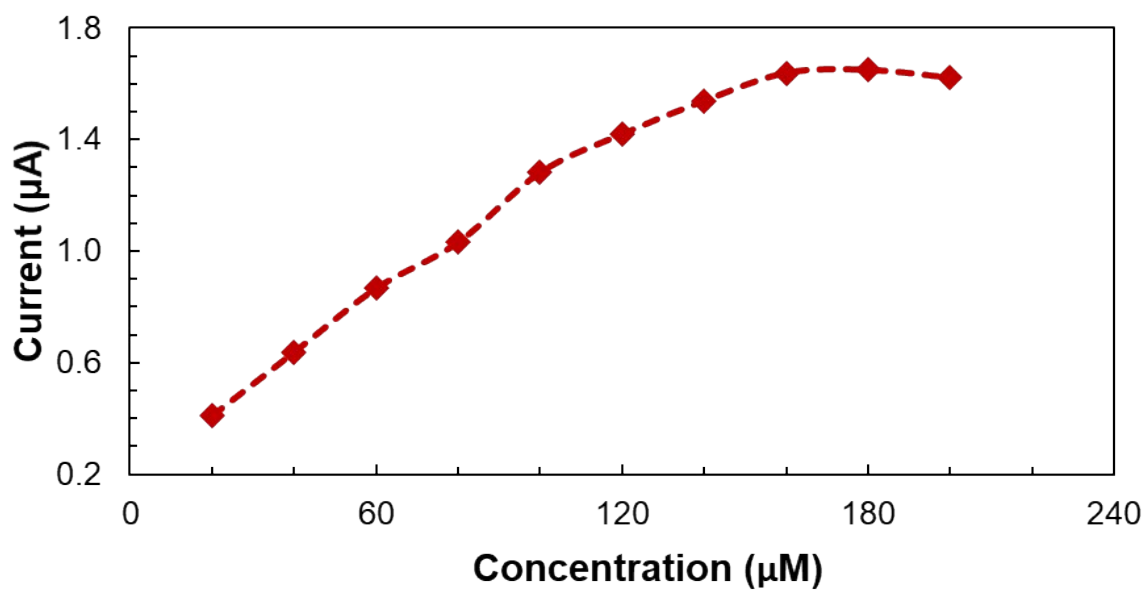
Figure S5. Liquid-phase calibration plot of the background-subtracted peak-current vs. MPOx concentration extracted from SWV for increasing MPOx concentrations from 20 to 200 µM in 20 µM increments. SWV potential range, 0.3 –1.0 V vs. Ag/AgCl, using a frequency of 10 Hz, and amplitude of 25 mV.