Supplementary Information

Double-Network PEDOT:PSS Xerogel Fibers with High Stretchability and Electrical Stability for Wearable Strain Sensing

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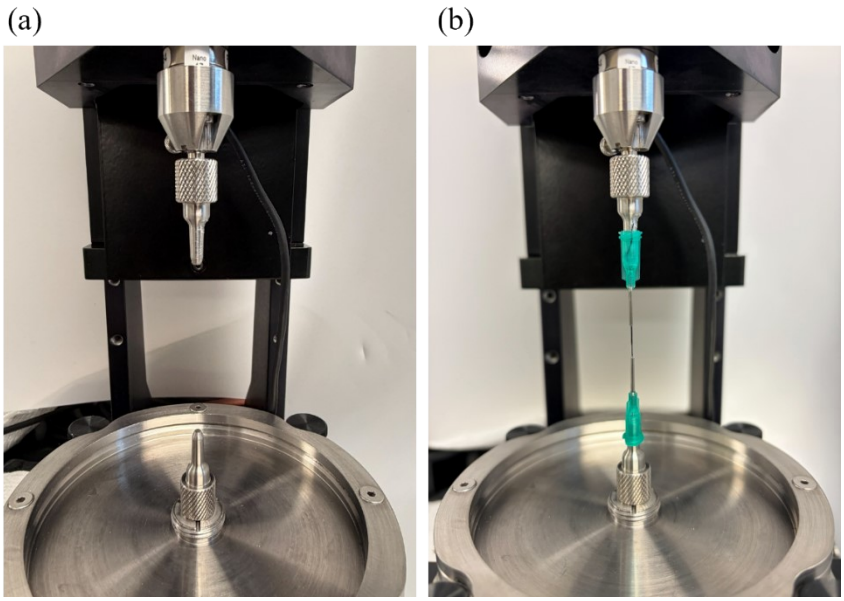

Fig. S1 Tensile testing setup for xerogel fibers using a custom double-needle holder assembly on the Mach-1 mechanical tester. (a) Empty opposing tips, and (b) xerogel fiber secured between the needles using cyanoacrylate adhesive prior to tensile loading.

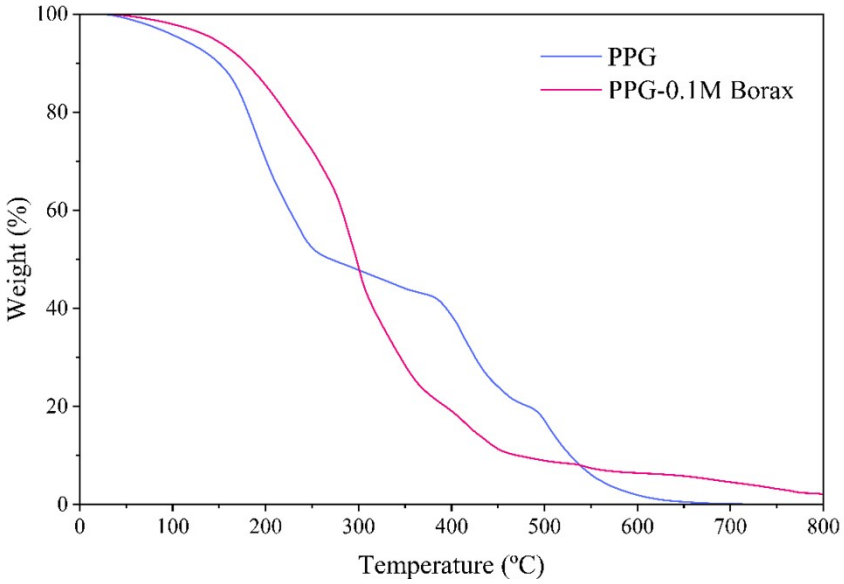

Fig. S2 TGA thermograms of PPG and PPG-0.1M borax xerogels.

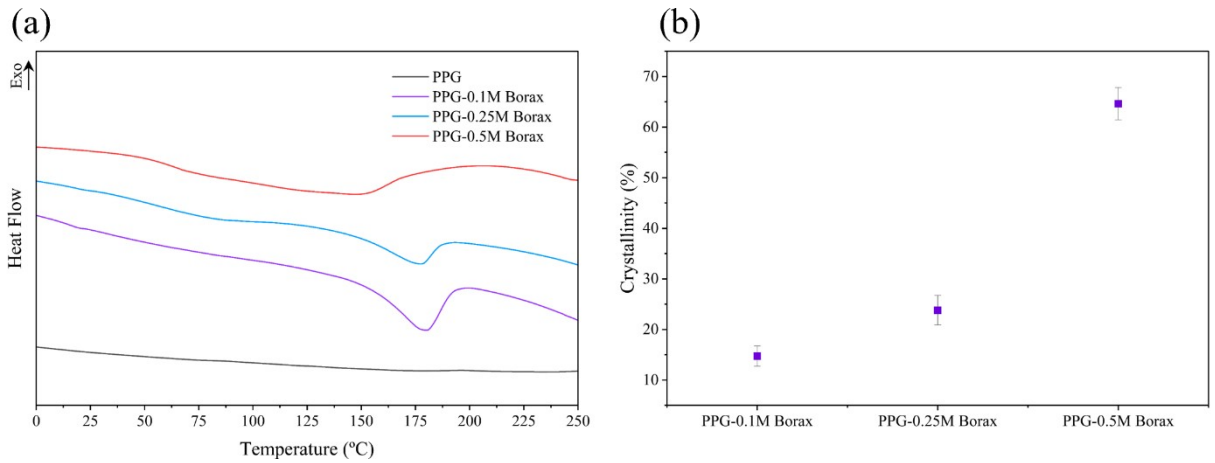

Fig. S3 (a) DSC thermograms (second heating) of PPG and borax-treated xerogels. (b) Corresponding crystallinity of the xerogels calculated from the melting enthalpy. Error bars represent standard deviation (n = 3).

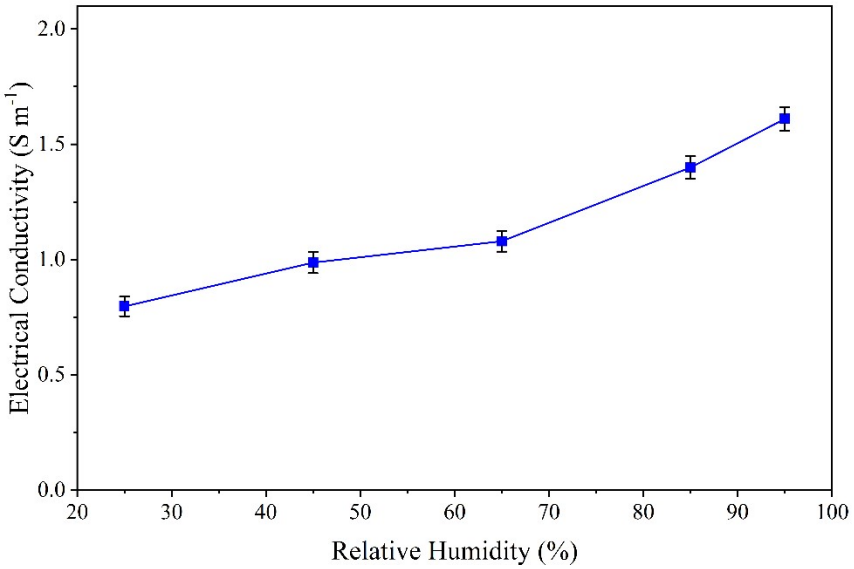

Fig. S4 Electrical conductivity of the PPG-0.1 M borax xerogel fiber as a function of relative humidity. Error bars represent the standard deviation of three measurements.

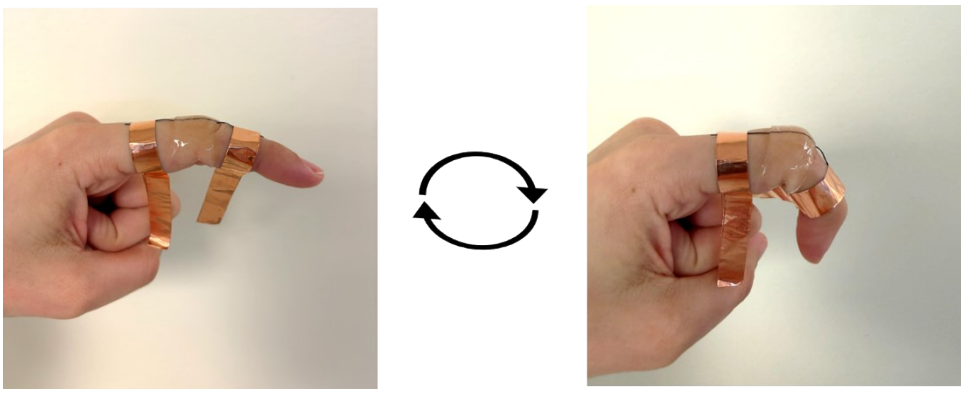

Fig. S5 Photographs of the PPG-0.1 M borax xerogel fiber integrated as a wearable strain sensor on a finger in the relaxed (left) and bent (right) states. The resistance of the fiber changes with finger bending, enabling detection of human motion.