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Electronic Supplementary Information

Stretchable and Transparent Ionogel-Based Heaters

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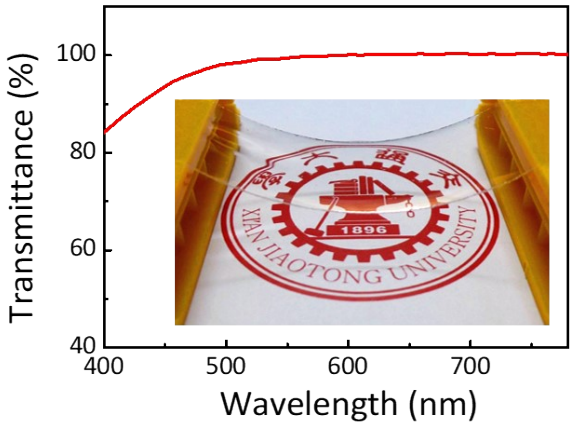

Fig. S1 Transmittance of PHEA ionogels in the wavelength range from 400 nm to 780 nm. The thickness of the sample is 10 mm. The inset shows the appearance of the ionogel.

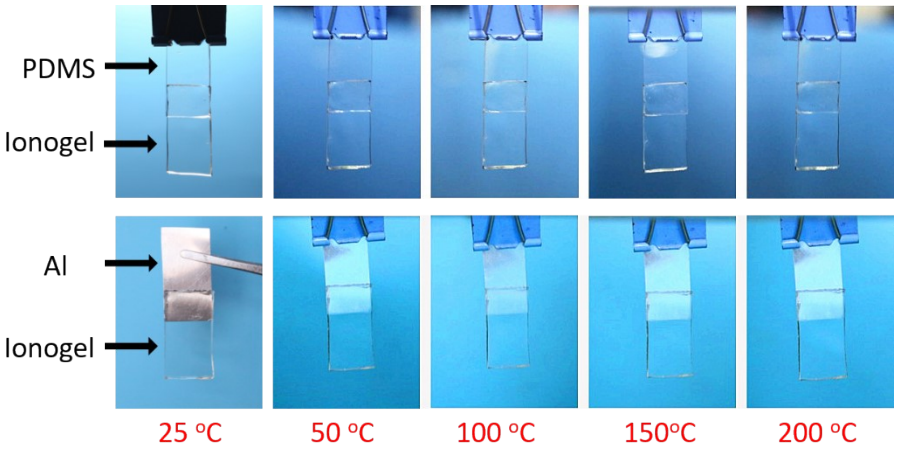

Fig. S2 Effect of temperature on the adhesive performance of PHEA ionogels. PHEA ionogels (20 × 10 × 2 mm^3) self-adhered to the Al or PDMS substrate (20 × 10 mm^2), with an overlapping area of 7 × 10 mm^2.

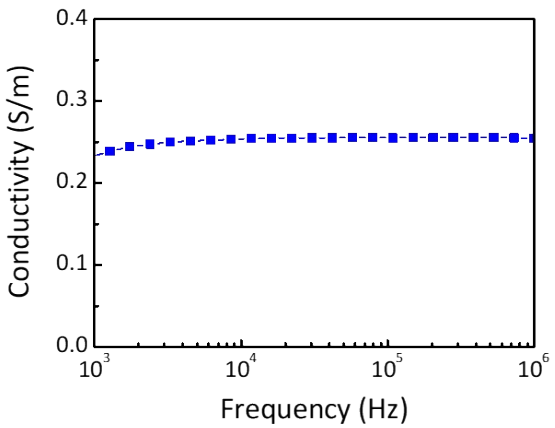

Fig. S3 Ionic conductivity of PHEA ionogels in the frequency range of 10^3-10^6 Hz.

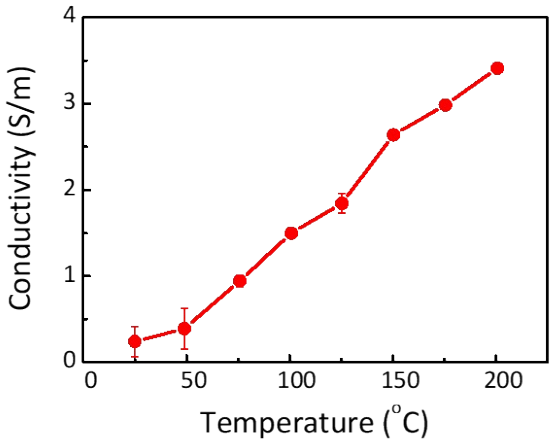

Fig. S4 Conductivity of PHEA ionogels over a wide temperature range from 25 ℃ to 200 ℃.

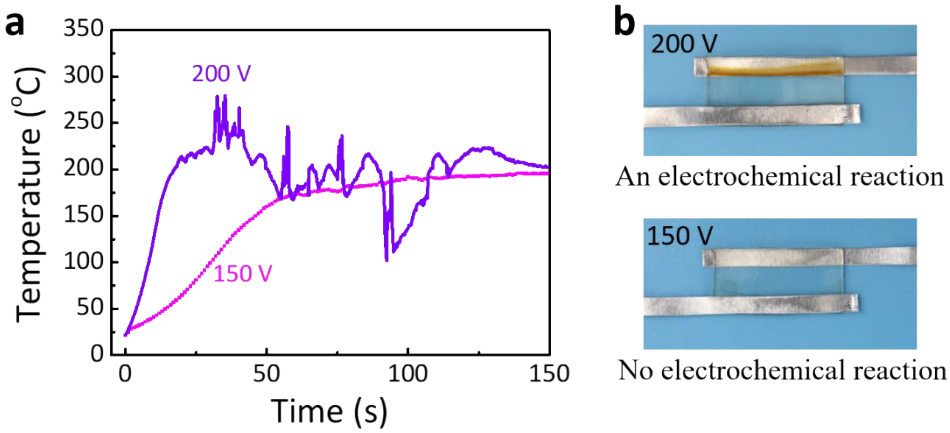

Fig. S5 Voltage-dependent heating performance of PHEA ionogel-based THs. (**a**) Temperature of the TH varied with heating time at 200 V (> critical voltage 180 V) and 150 V (< 180 V) with the frequency of 10^4 Hz. (**b**) Voltage-dependent electrochemical reaction on the electrodes. The color of the ionogel contacting with the electrodes changes from transparent to brown after electrochemical reaction.