Electronic Supplementary Material (ESI) for Polymer Chemistry.

An Autonomously Healable, Highly Stretchable and Cyclically Compressible, Wearable Hydrogel as Multimodal Sensor

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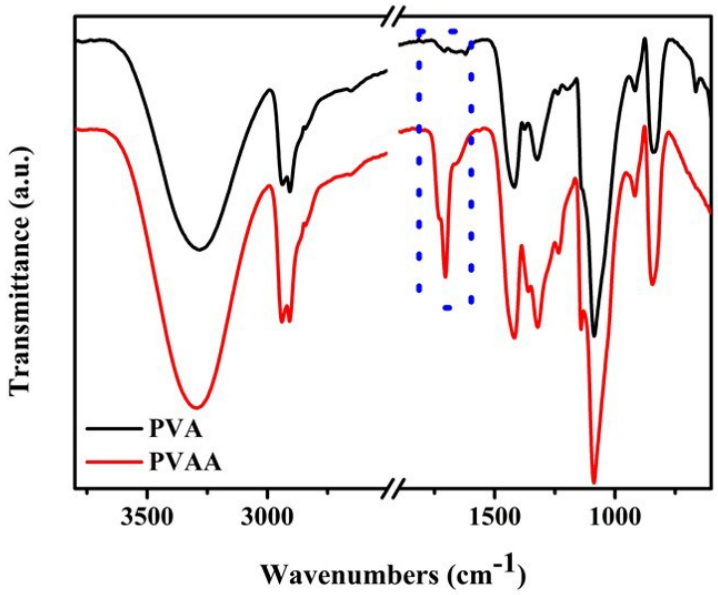

Fig. S1 FT-IR spectra of PVA and PVAA.

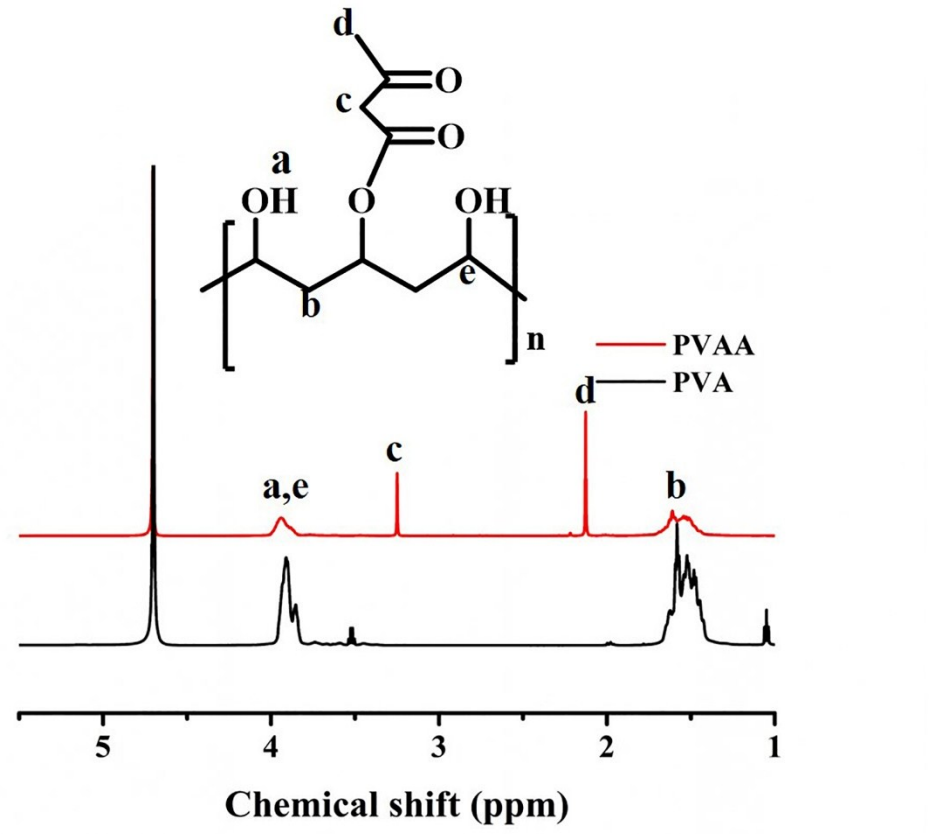

Fig. S2 ^{1}H NMR spectra of PVA and PVAA.

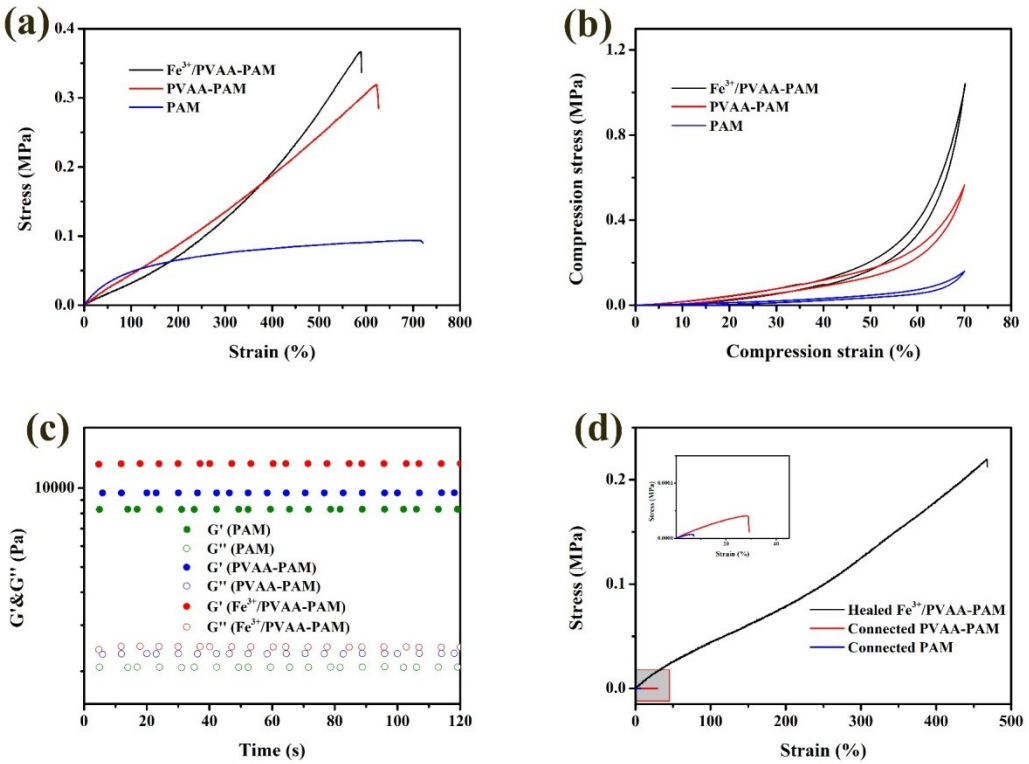

Fig. S3 (a) Tensile stress-strain curves of Fe^{3+}/PVAA-PAM hydrogel, PVAA-PAM hydrogel and PAM hydrogel. (b) Compression-strain curves of Fe^{3+}/PVAA-PAM hydrogel, PVAA-PAM hydrogel and PAM hydrogel. (c) Rheology analyses of Fe^{3+}/PVAA-PAM hydrogel, PVAA-PAM hydrogel and PAM hydrogel on time sweep (25 °C, strain = 1%, frequency = 1 Hz). (d) Tensile stress-strain curves of Fe^{3+}/PVAA-PAM hydrogel, PVAA-PAM hydrogel and PAM hydrogel before and after connected for 24 h.

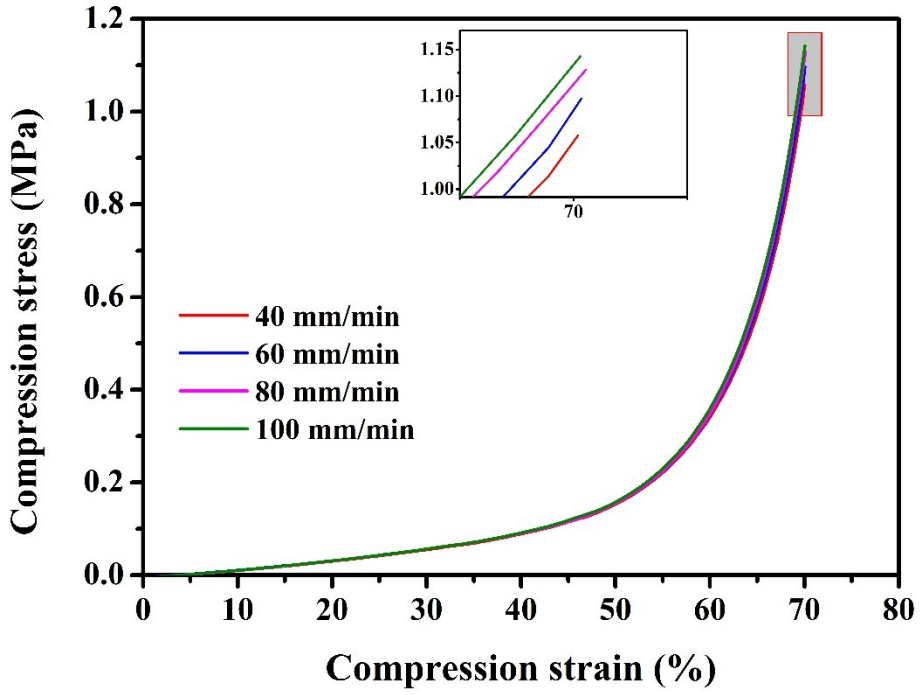

Fig. S4 Compression stress-strain curves and various compress rates.

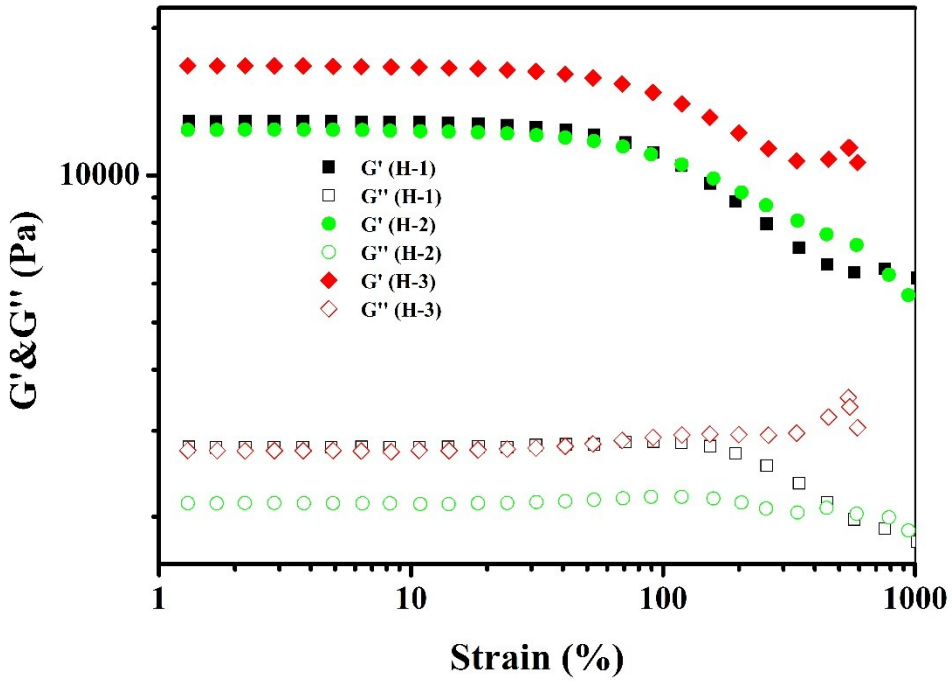

Fig. S5 Rheology analyses of the storage modulus G' and loss modulus G" on strain sweep (25 °C, frequency = 1 Hz).

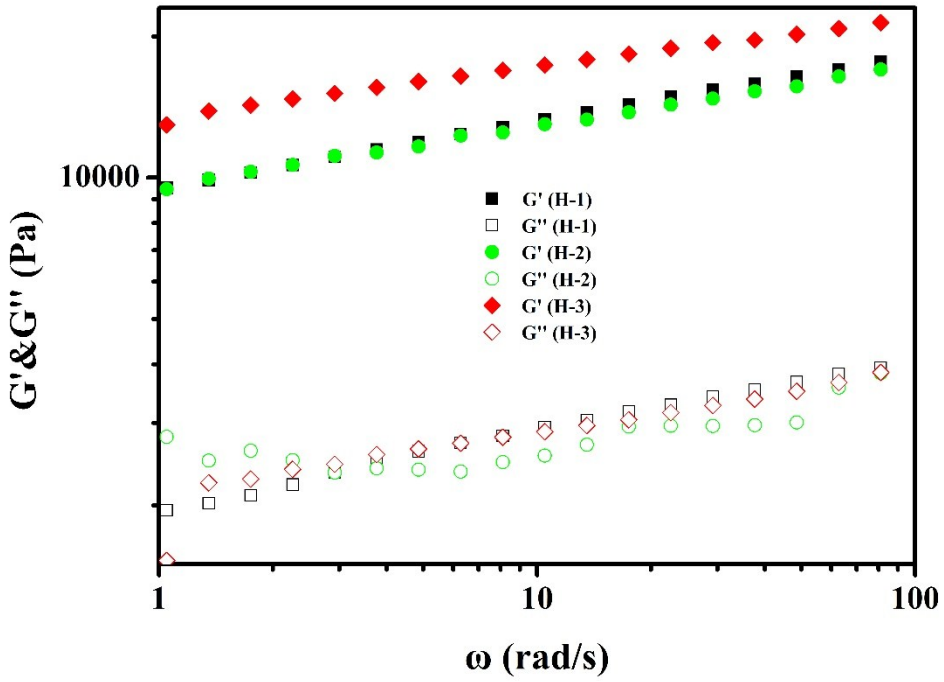

Fig. S6 Rheology analyses of the storage modulus G' and loss modulus G'' on frequency sweep (25 °C, strain = 1%).

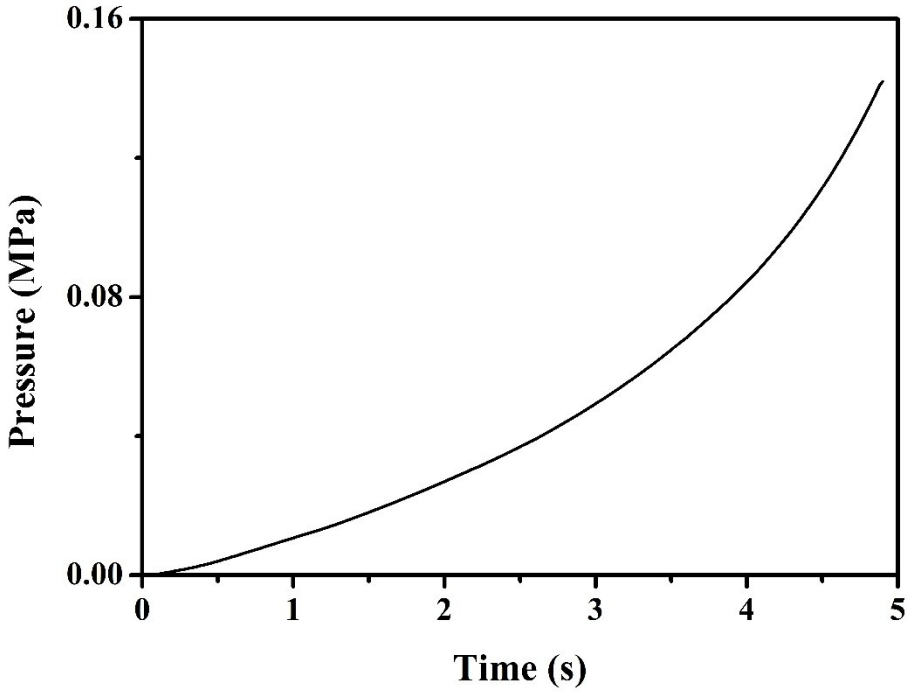

Fig. S7 Normalized change in resistance ($\Delta R / R_0$) versus time.