

Supporting Information

F127DA micelles cross-linked PAACA hydrogels with highly stretchable, puncture resistant and self-healing properties

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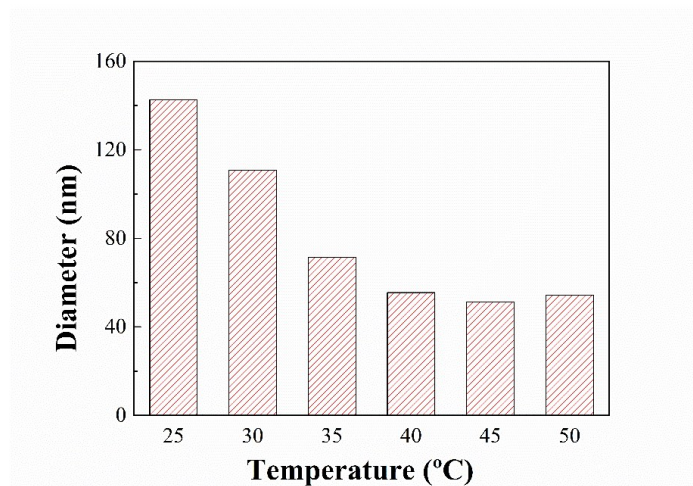


Fig. S1 The average diameter of F127DA micelles at different temperatures.

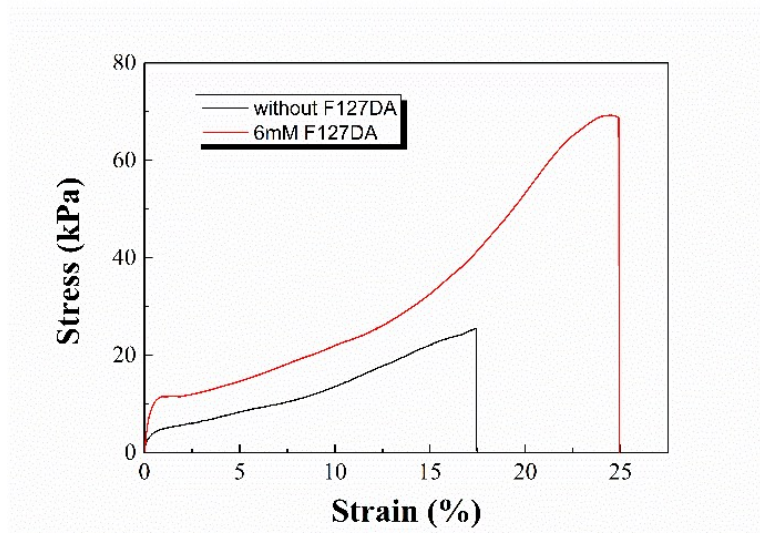


Fig.S2 Tensile stress-strain curves of the hydrogels with or without F127DA

we compared the tensile strength of hydrogels with or without F127DA by using tensile experiments to testify the role of F127DA. The concentration of AACA were fixed at 4M. As depicted in Figure S2, the tensile strength and the elongation at break of the hydrogel with 6mM F127DA increased from 25kPa and 1700% to 69kPa and 2500%, respectively. This further confirmed that the F127DA micelles served as cross-linkers and provided more energy dissipation.

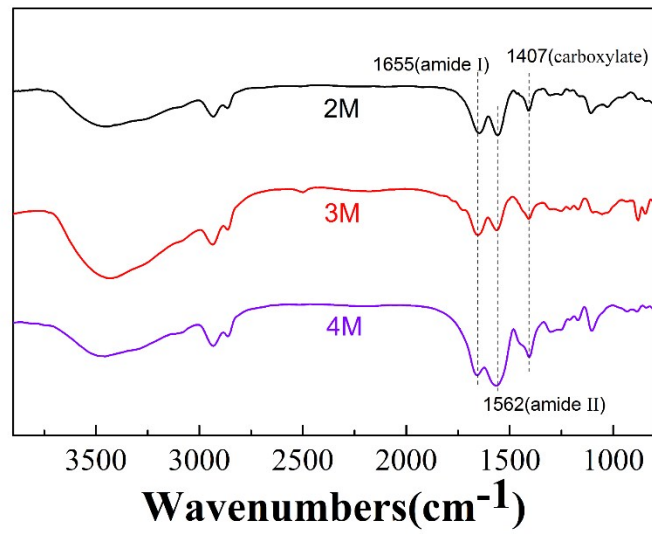


Fig. S3 FI-TR spectra of as-prepared hydrogels with varied concentrations of AACA.

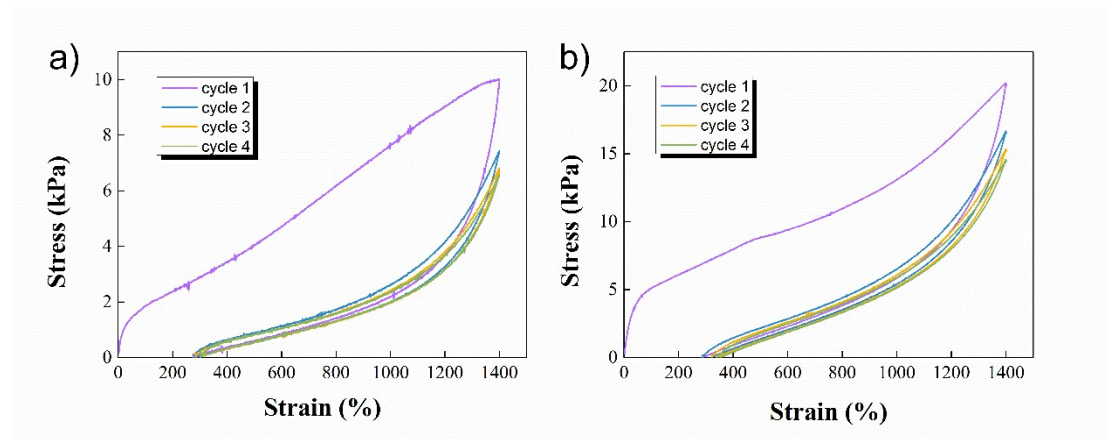


Fig. S4 Cyclic tensile loading-unloading curves of M-hydrogels with 2 M AACA (a) and 3 M AACA (b).

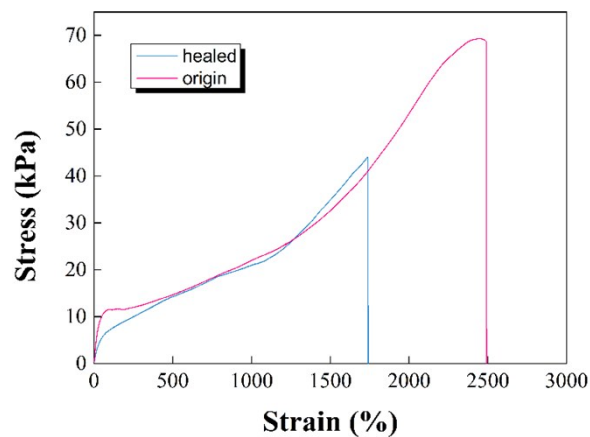


Fig. S5 Tensile stress-strain curves of healed and unhealed hydrogels.

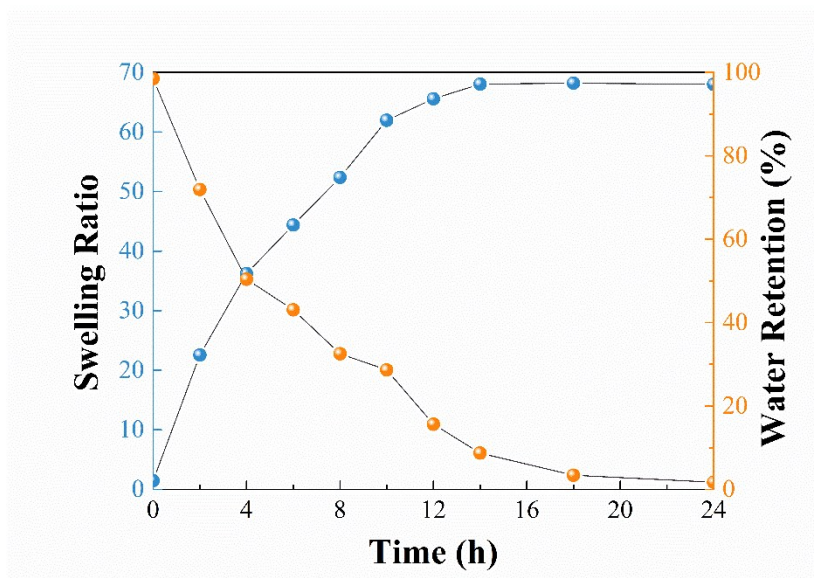


Fig. S6 Swelling and deswelling kinetics of the M-hydrogel at pH=3 and pH=11.