

Supporting Information

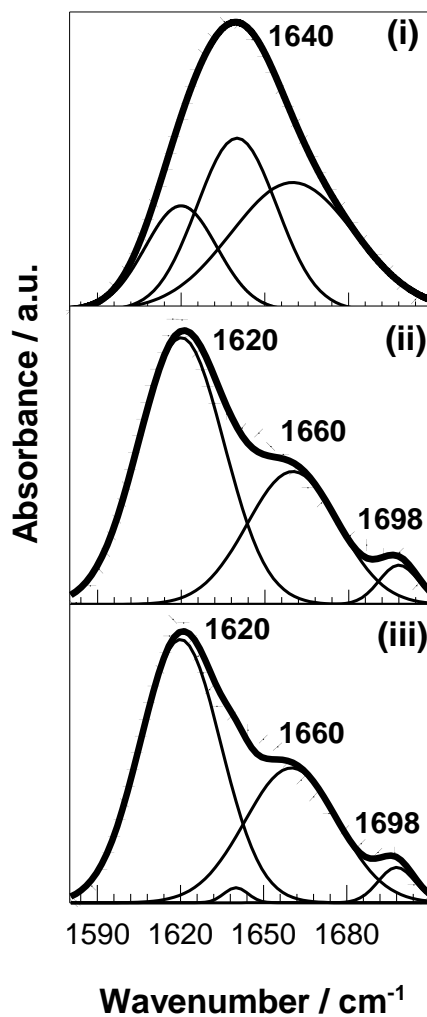


Figure S1. Typical ATR-FTIR spectra of freeze-dried meth-SF before (i), and after gelation in the presence of 0.025 (ii), and 0.050 v/v % TEMED (iii). The original data are shown by the filled circles while solid curves are the results of curve fitting for the original spectrum (thick curves) and hidden peaks (thin curves).

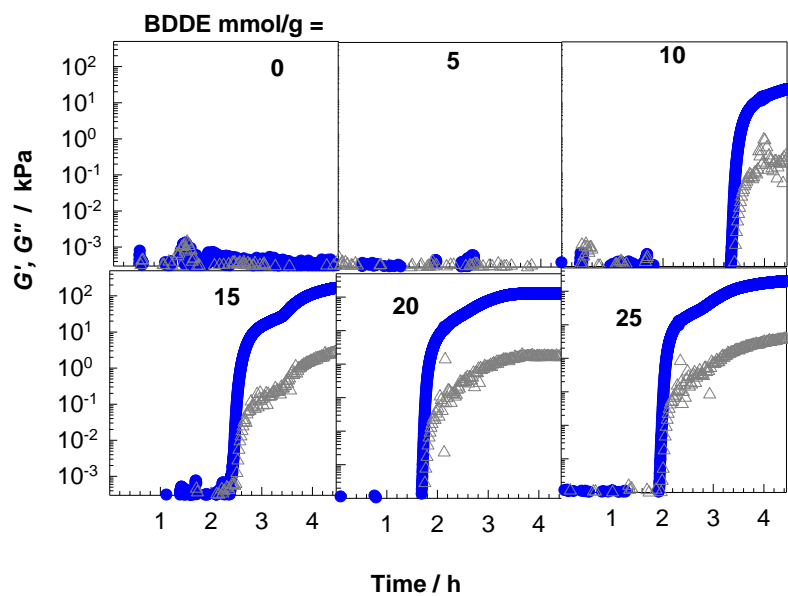


Figure S2. Reaction time dependence of G' (filled symbols) and G'' (open symbols) of the gelation system at various BDDE contents as indicated. $\text{pH} = 7.4$. $\omega = 6.28 \text{ rad}\cdot\text{s}^{-1}$. $\gamma = 0.01$.

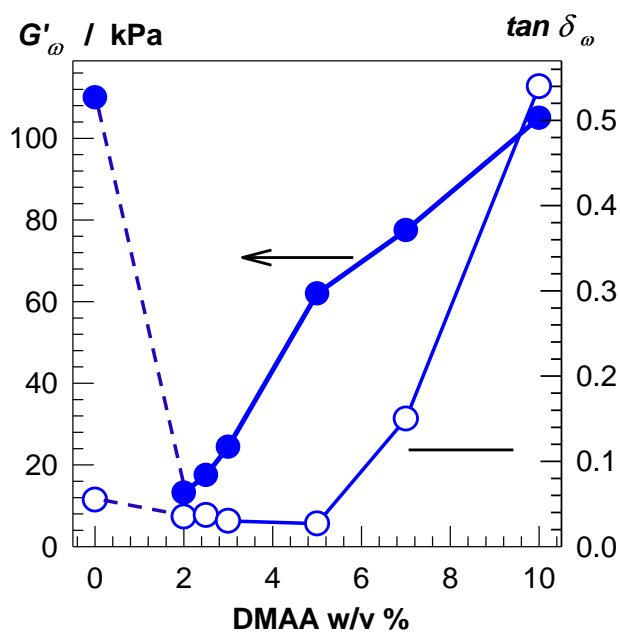


Figure S3. G'_ω (filled symbols) and $\tan \delta_\omega$ (open symbols), both measured at $\omega = 6.28 \text{ rad}\cdot\text{s}^{-1}$, of the hydrogels after a reaction time of 24 h plotted against DMAA %. The dashed lines represent the region in which no gel could be obtained.

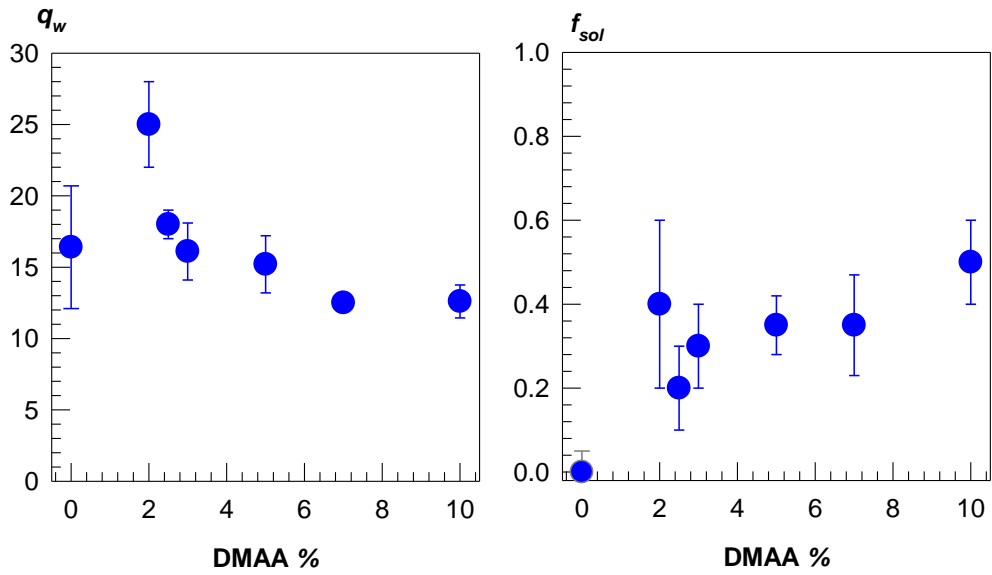


Figure S4. The weight swelling ratio q_w and soluble fraction f_{sol} of meth-SF/DMAA hydrogels plotted against DMAA %.

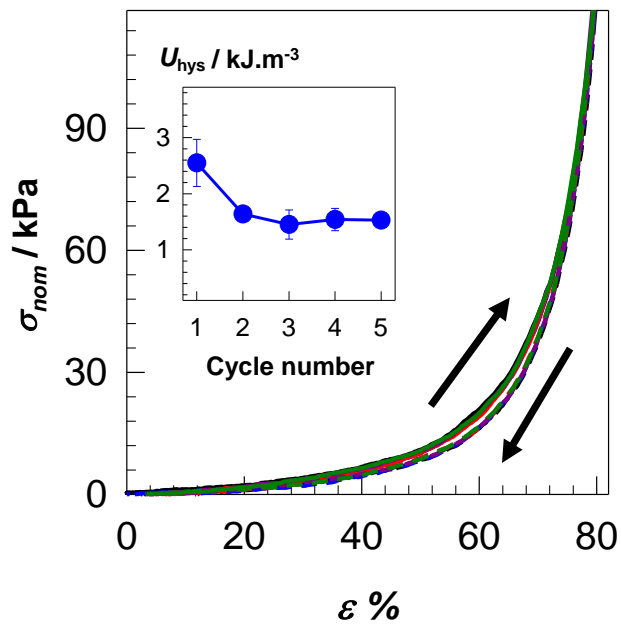


Figure S5. Five successive compression cycles to $\epsilon_{max} = 80\%$ for the hydrogel with 3 w/v% DMAA. The inset shows the hysteresis energy U_{hys} vs cycle number data.

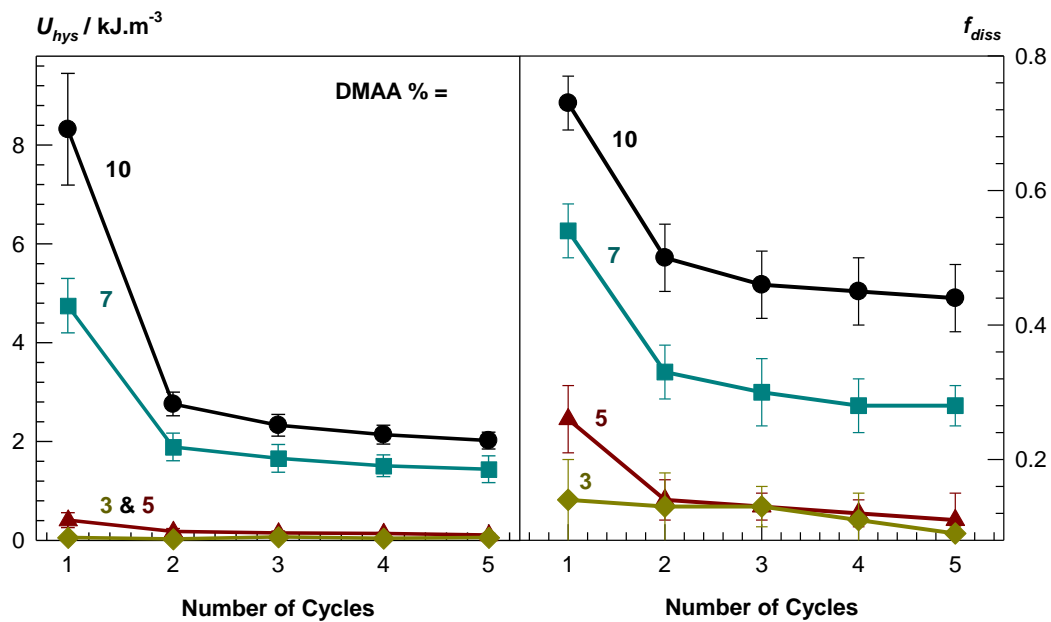


Figure S6. The hysteresis energy U_{hys} and the fraction of dissipated energy f_{diss} plotted against the cycle number for meth-SF/DMAA hydrogels with various DMAA contents.