

## Electronic Supplementary Information

### A self-healing supramolecular hydrogel with temperature-responsive fluorescence based on AIE luminogen

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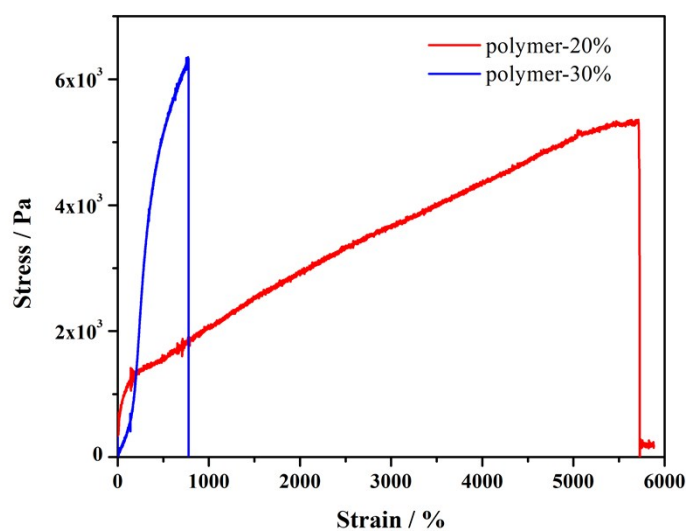


Fig. S1 Tensile curves of TPPE-PAA hydrogels with different polymer concentrations

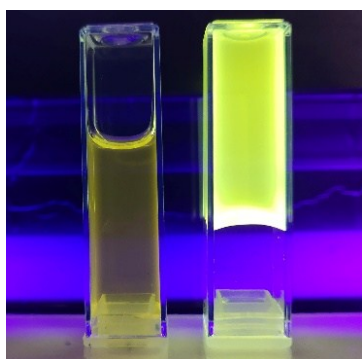


Fig. S2 Fluorescence image of TPPE acetic acid solution (left) and TPPE-PAA gel (right) at 278 K

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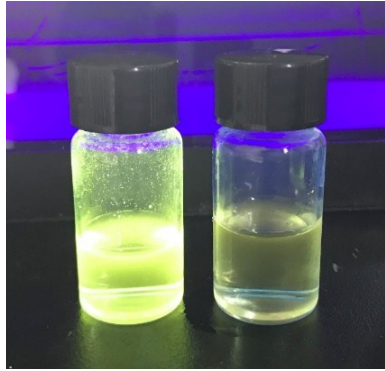


Fig. S3 Fluorescence image of TPPE-PAA solution (left), and TPPE-PAA solution after adding HCl (right)

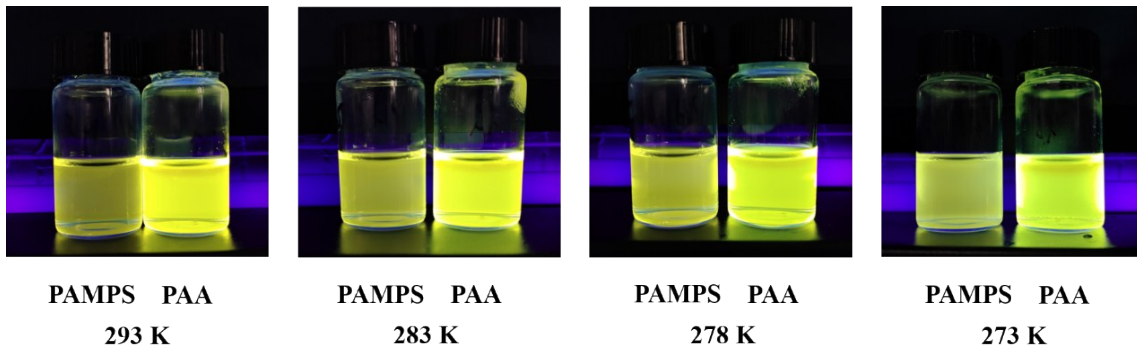


Fig. S4 Fluorescence images of TPPE-PAMPS hydrogel and TPPE-PAA hydrogel at different temperatures under 365 nm UV light

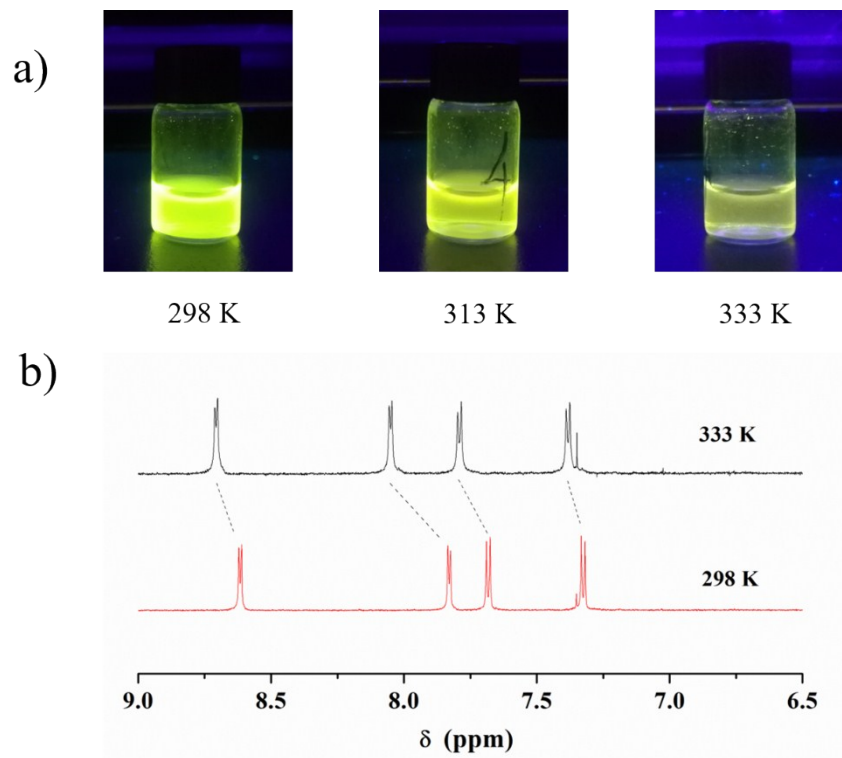


Fig. S5 a) Fluorescence images of TPPE-PAA solution (solvent  $\text{CH}_3\text{OH}/\text{H}_2\text{O}$ : 4/1) at different temperatures under 365 nm UV light; b)  $^1\text{H}$  NMR spectra of TPPE-PAA solution (solvent  $\text{CD}_3\text{OD}/\text{D}_2\text{O}$ : 4/1)