## Supplementary Information

## Organohydrogel with Tunable Fluorescence and Shape-memory Property for Advanced Anti-counterfeiting

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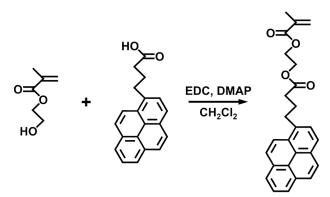


Fig. S1 The synthetic route of PyMA.

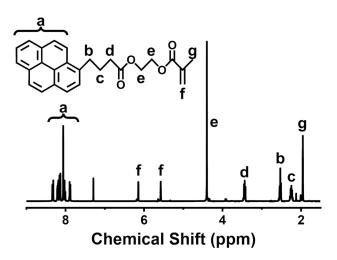


Fig. S2 The <sup>1</sup>H NMR spectrum of PyMA in CDCl<sub>3</sub>.

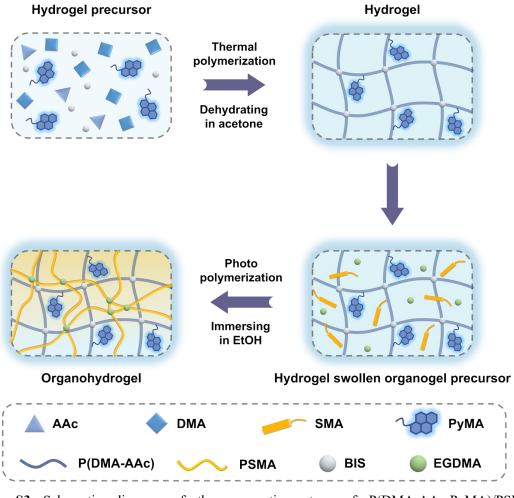
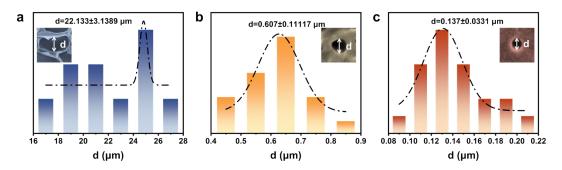


Fig. S3 Schematic diagram of the preparation steps of P(DMA-AAc-PyMA)/PSMA organohydrogels.



**Fig. S4** The size of porous structure of (a) P(DMA-AAc-PyMA) hydrogels and P(DMA-AAc-PyMA)/PSMA organohydrogels (b) before and (c) after  $Fe^{3+}$  treatment.

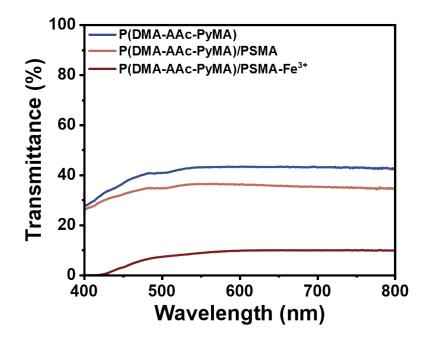


Fig. S5 The transmittance of P(DMA-AAc-PyMA) hydrogels and P(DMA-AAc-PyMA)/PSMA organohydrogels before and after  $Fe^{3+}$  treatment.

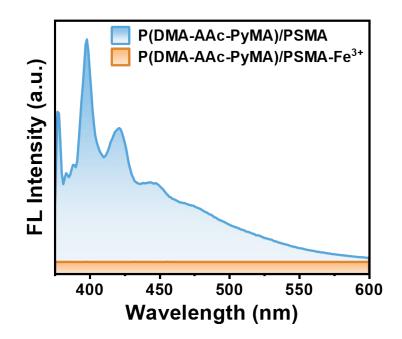
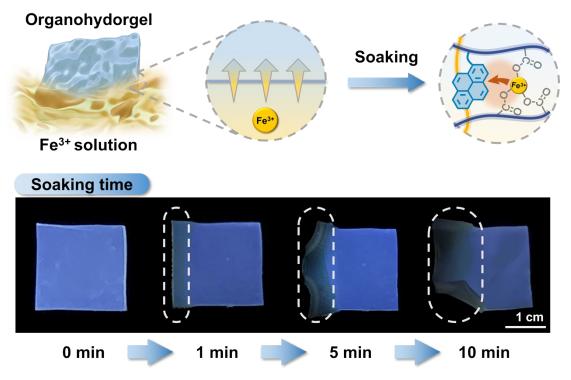
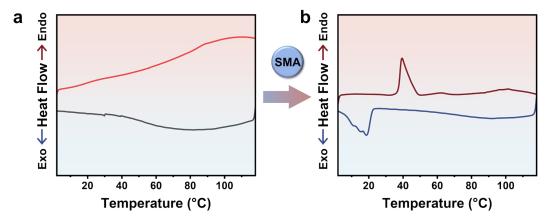


Fig. S6 The fluorescence spectra of organohydrogels before and after  $Fe^{3+}$  treatment (0.1 M, 24 h).



**Fig. S7** Schematic representation of organohydrogels immersed in  $Fe^{3+}$  solution (0.1 M) and digital photos of the organohydrogels with immersion time (scale bar: 1 cm).



**Figure S8.** DSC curve of (a) P(DMA-AAc-PyMA) hydrogels and (b) P(DMA-AAc-PyMA)/PSMA organohydrogels at the heating rate of 10 °C/min.