

## Support Information

### **Ultrafast thermal responsive, shape memory and solvent-driven Fe<sup>3+</sup>-alginate/poly (N-isopropyl acrylamide) based hydrogel actuator**

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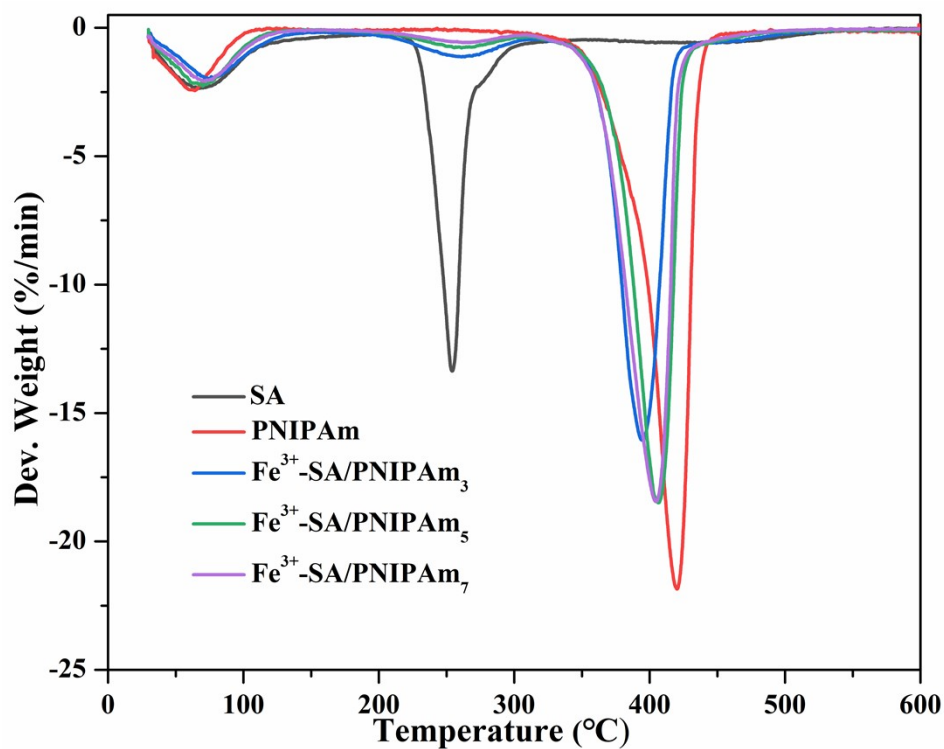


Figure S1. DTG curves of SA, PNIPAm and Fe<sup>3+</sup>-SA/PNIPAm hydrogels.

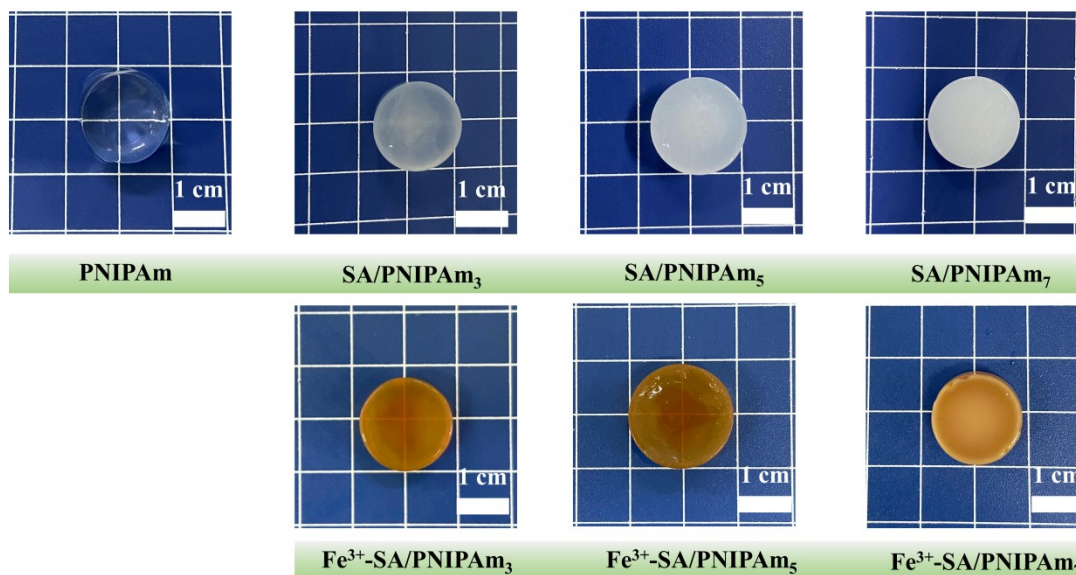


Figure S2. Optical images of PNIPAm, SA/PNIPAm<sub>3</sub>, SA/PNIPAm<sub>5</sub>, SA/PNIPAm<sub>7</sub>, Fe<sup>3+</sup>-SA/PNIPAm<sub>3</sub>, Fe<sup>3+</sup>-SA/PNIPAm<sub>5</sub> and Fe<sup>3+</sup>-SA/PNIPAm<sub>7</sub> hydrogels.

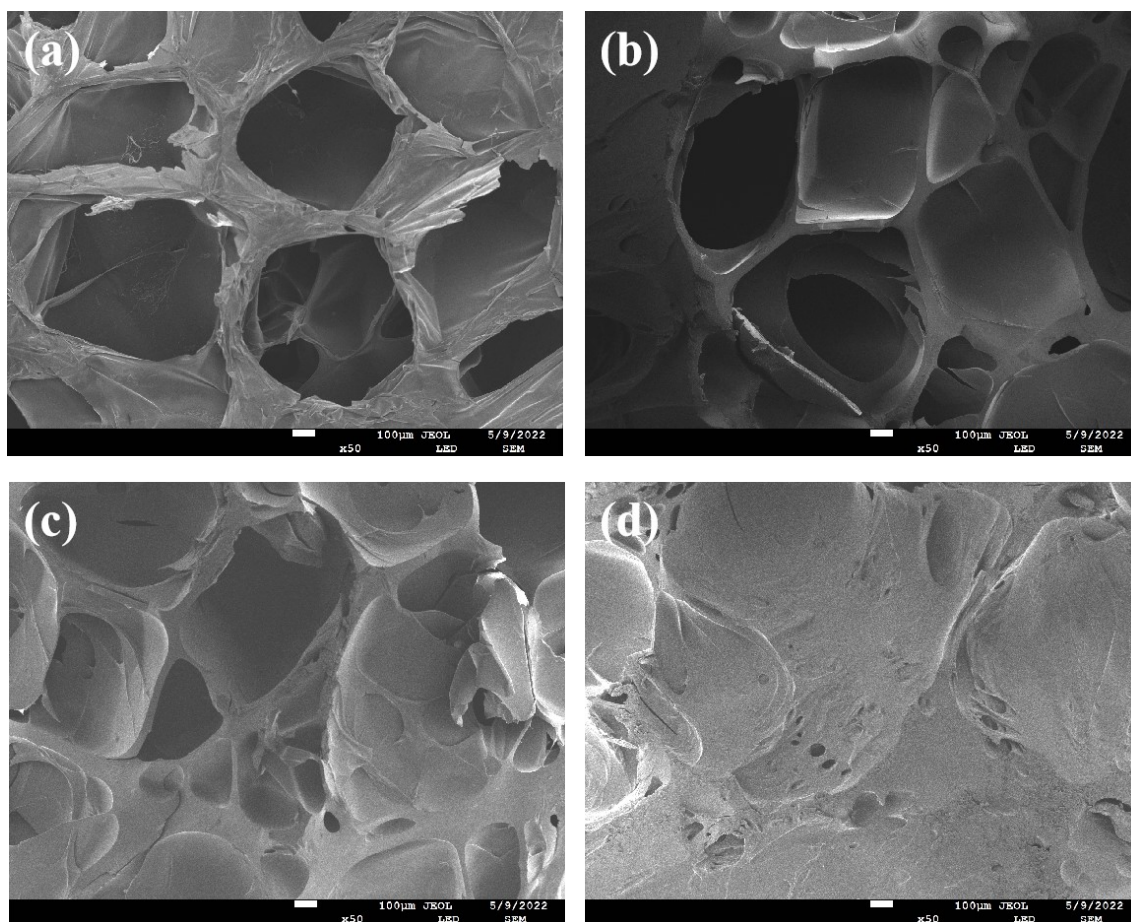


Figure S3. SEM images of (a) PNIPAm, (b) Fe<sup>3+</sup>-SA/PNIPAm<sub>3</sub>, (c) Fe<sup>3+</sup>-SA/PNIPAm<sub>5</sub> and (d) Fe<sup>3+</sup>-SA/PNIPAm<sub>7</sub> hydrogels.