Electronic Supporting Information

Development of an electrically responsive hydrogel for programmable *in situ* immobilization within a microfluidic device

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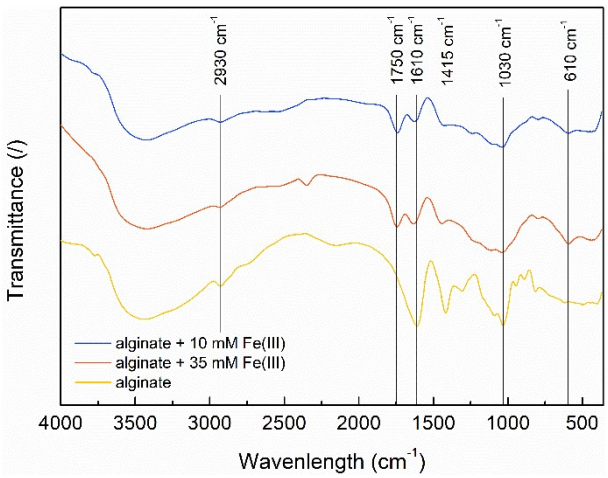

Fig. S1 FT-IR spectra of neat alginate, and Fe(III)-alginate hydrogels at different iron ion concentrations (10 mM and 35 mM).

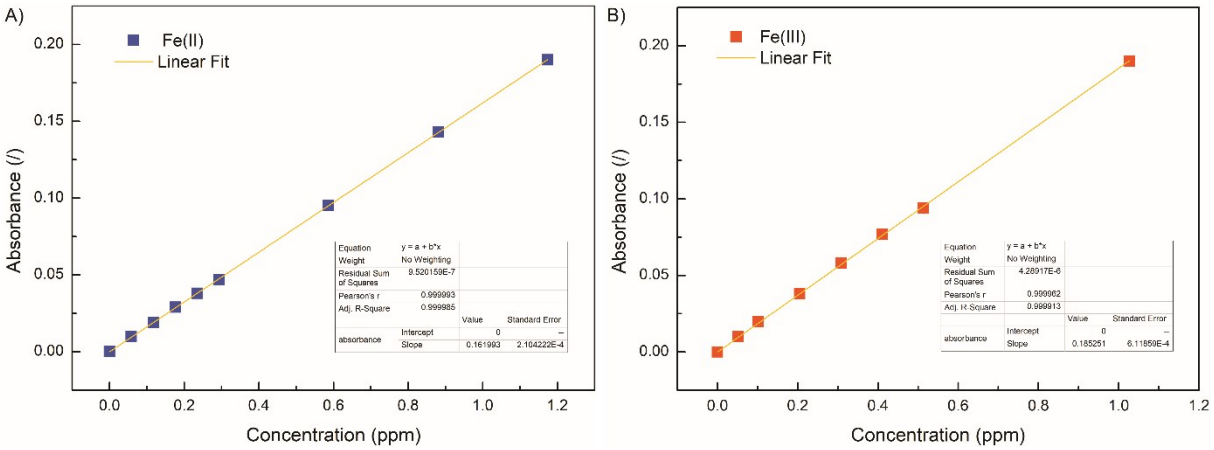

Fig. S2 Calibration curve for Fe(II) (A) and Fe(III) (B) determined by spectrophotometric measurements at 510 nm wavelength.

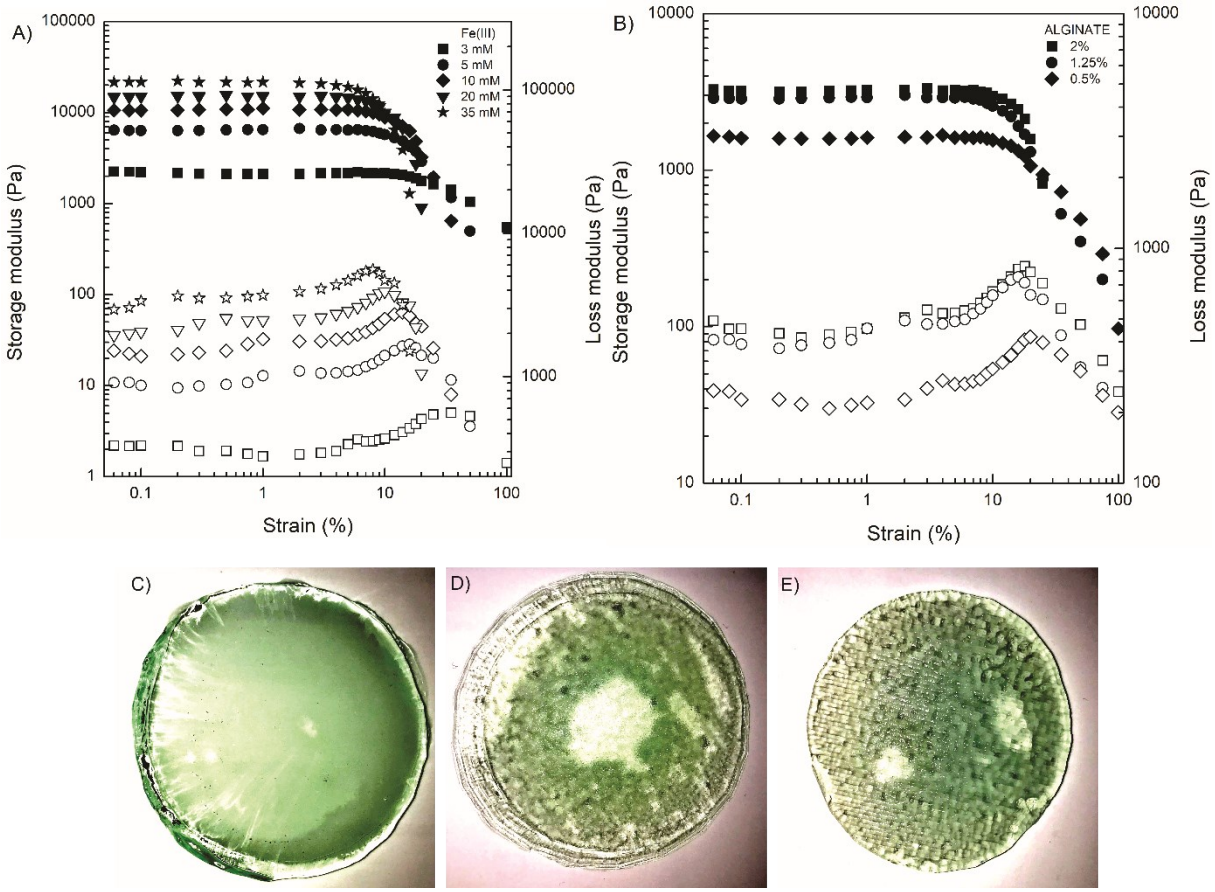

Fig. S3 The amplitude sweep test for of crosslinked Fe(III)-alginate hydrogels at different concentrations of Fe(III) ions (A) and Na-alginate (B). Images of crosslinked Fe(III)-alginate hydrogels for rheological study with various Fe(III) concentrations: 10 mM (C), 20 mM (D), and 35 mM (E).

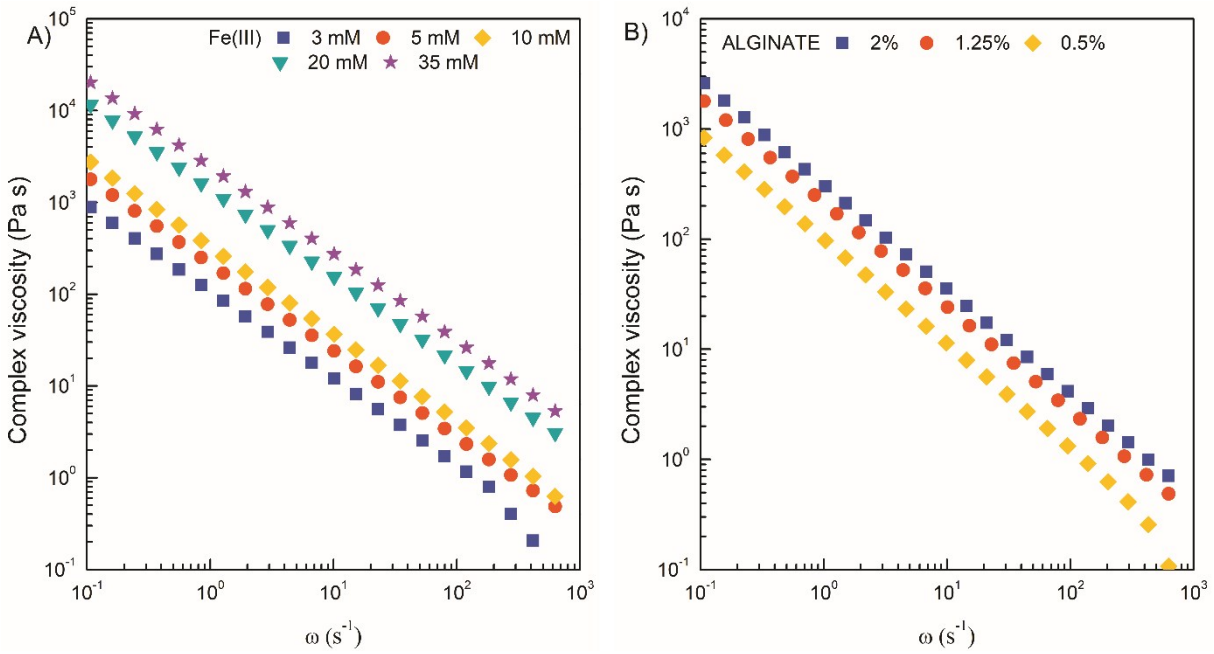

Fig. S4 Complex viscosity of crosslinked Fe(III)-alginate hydrogels at different concentrations of Fe(III) ions (A) and Na-alginate (B).

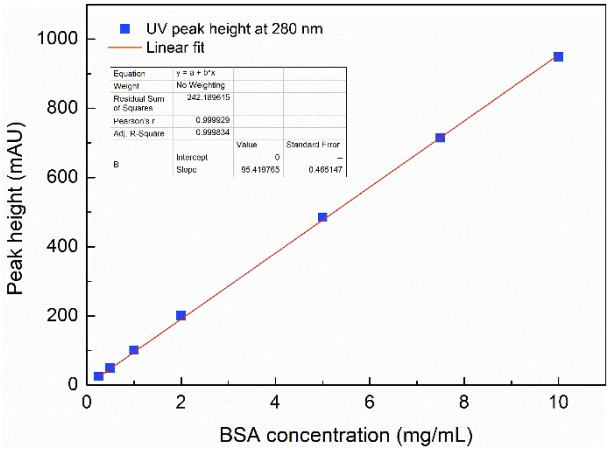

Fig. S5 Calibration curve for BSA determined by the height of the UV absorption peak at 280 nm wavelength.