

## Supporting information

### Carbon Dot-Integrated Poly(vinyl alcohol)/Chitosan Dual-Network Hydrogel for Fe<sup>3+</sup>

#### Fluorescence Sensing

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#### This PDF file includes:

**Fig. S1.** Raman spectrum of the CDs.

**Fig. S2.** Swelling kinetics curves of the PVA/CS@CDs-7 hydrogel in solutions with different pH values.

**Fig. S3.** Fluorescence emission spectra of the PVA/CS@CDs-7 hydrogel in the presence of interfering ions.

**Fig. S4.** Fluorescence decay curves of the PVA/CS@CDs-7 hydrogel before and after the addition of different concentrations of Fe<sup>3+</sup>.

**Fig. S5.** Equilibrium swelling ratio of the PVA/CS@CDs-7 hydrogel at varying Fe<sup>3+</sup> concentrations.

#### Supplementary Figures:

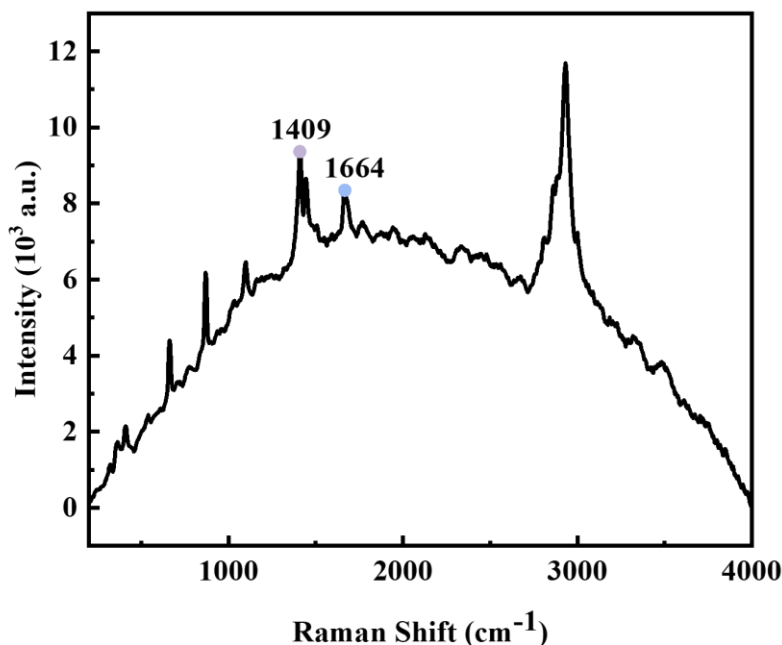


**Fig. S1** Raman spectrum of the CDs.

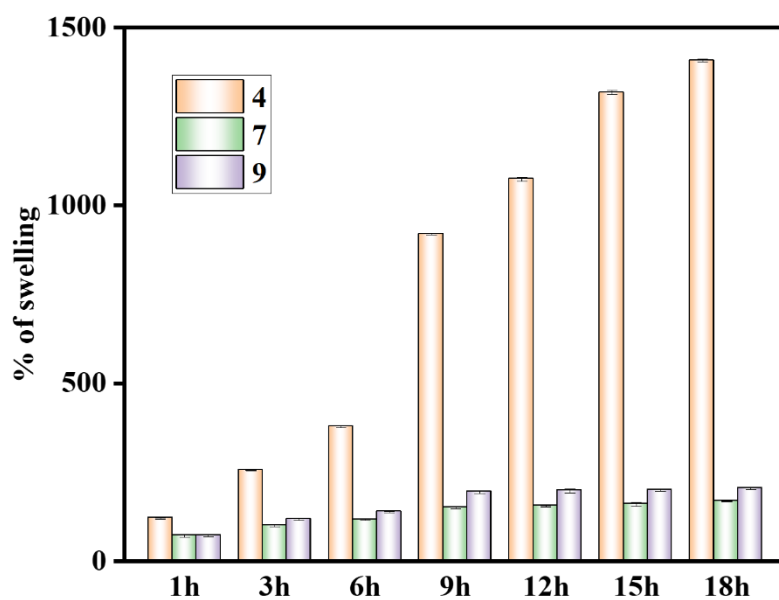


**Fig. S2** Swelling kinetics curves of the PVA/CS@CDs-7 hydrogel in solutions with different pH values.

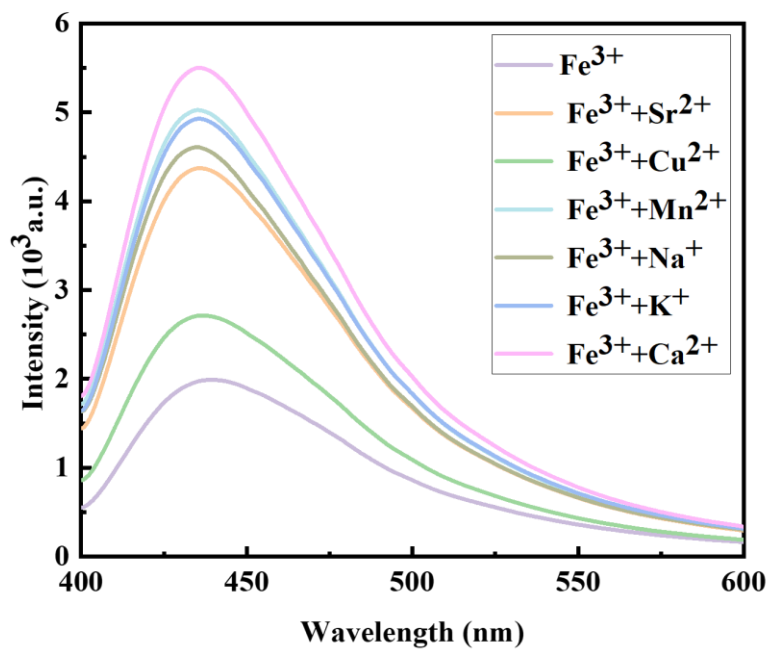


**Fig. S3** Fluorescence emission spectra of the PVA/CS@CDs-7 hydrogel in the presence of interfering ions.

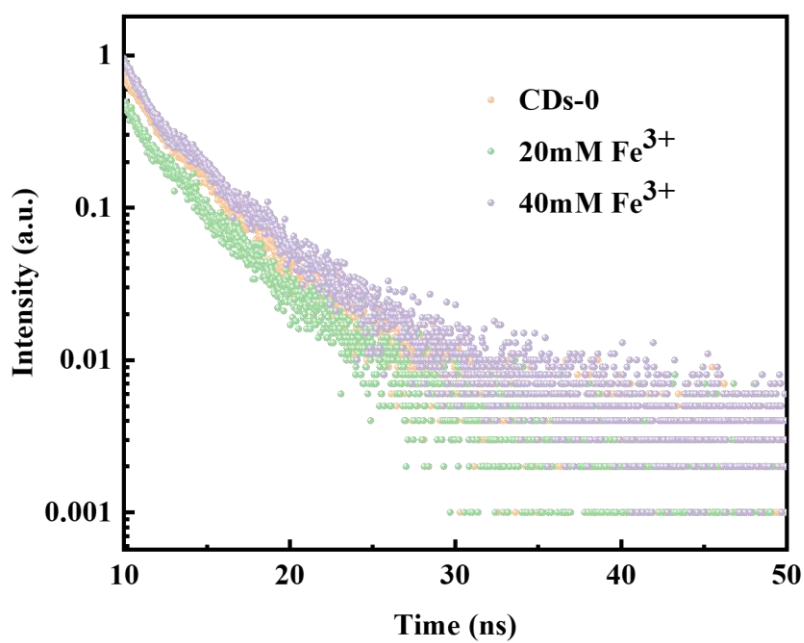


**Fig. S4** Fluorescence decay curves of the PVA/CS@CDs-7 hydrogel before and after the addition of different concentrations of Fe<sup>3+</sup>.

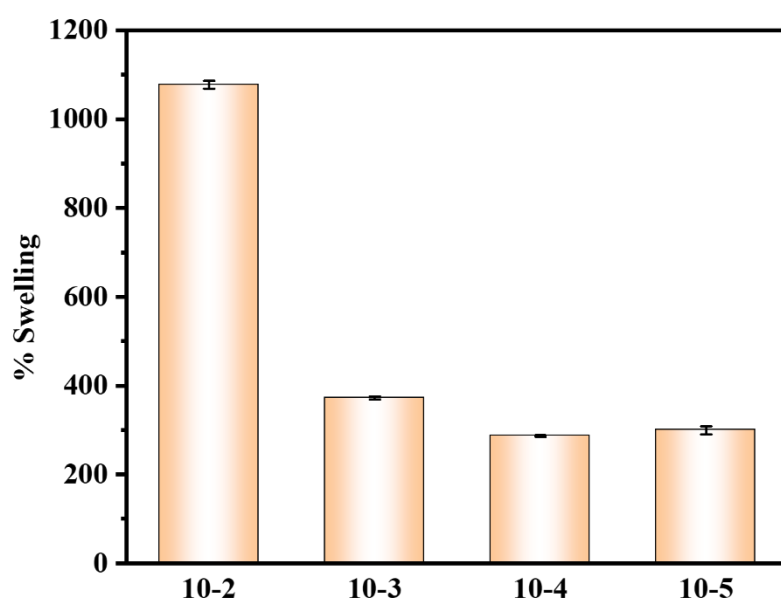


**Fig. S5** Equilibrium swelling ratio of the PVA/CS@CDs-7 hydrogel at varying Fe<sup>3+</sup> concentrations.