Electronic Supplementary Material (ESI) for New Journal of Chemistry.

Supplementary information

Ratiometric fluorescence sensing based on rare earth upconversion nanoparticles for rapid identification of antioxidant capacity

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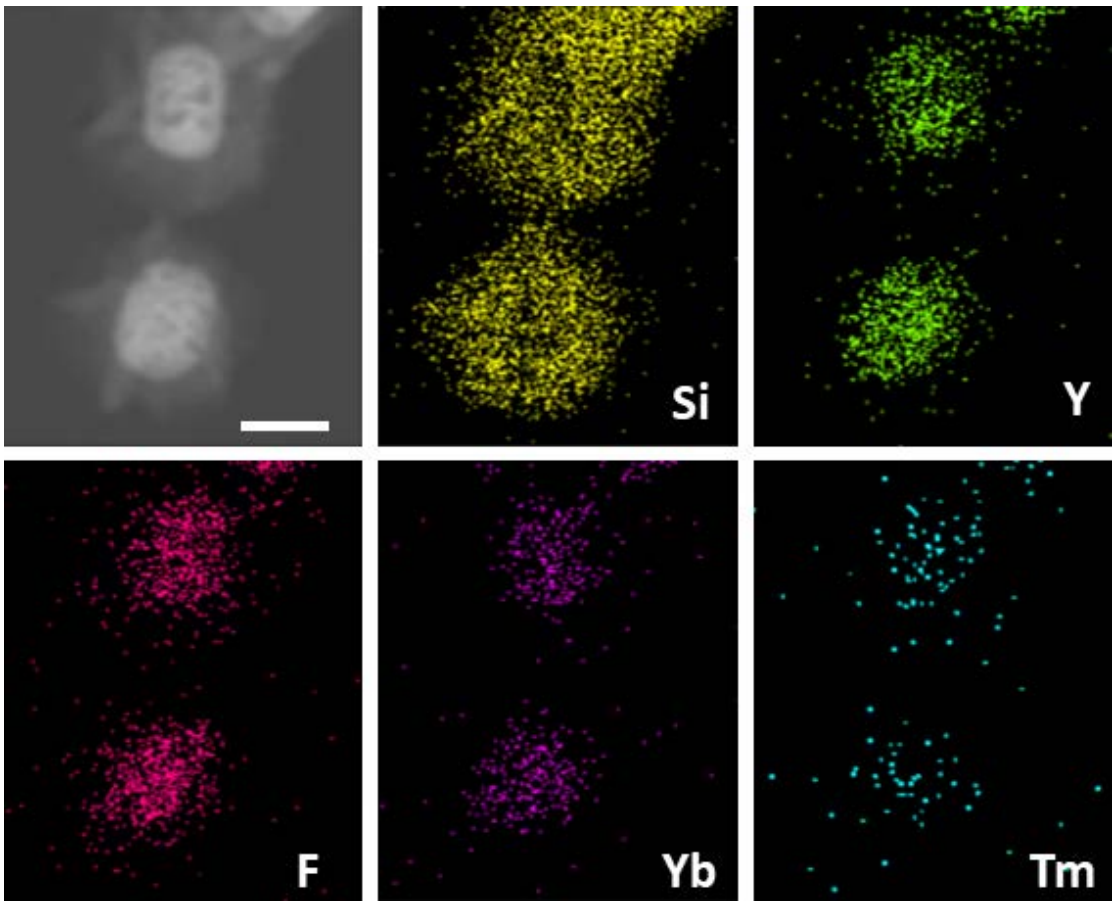

Figure. S1 The TEM and corresponding elemental mapping of Si, Y, F, Yb and Tm elements of UCNPs@SiO_2 nanoparticles. The scale bars are 50 nm

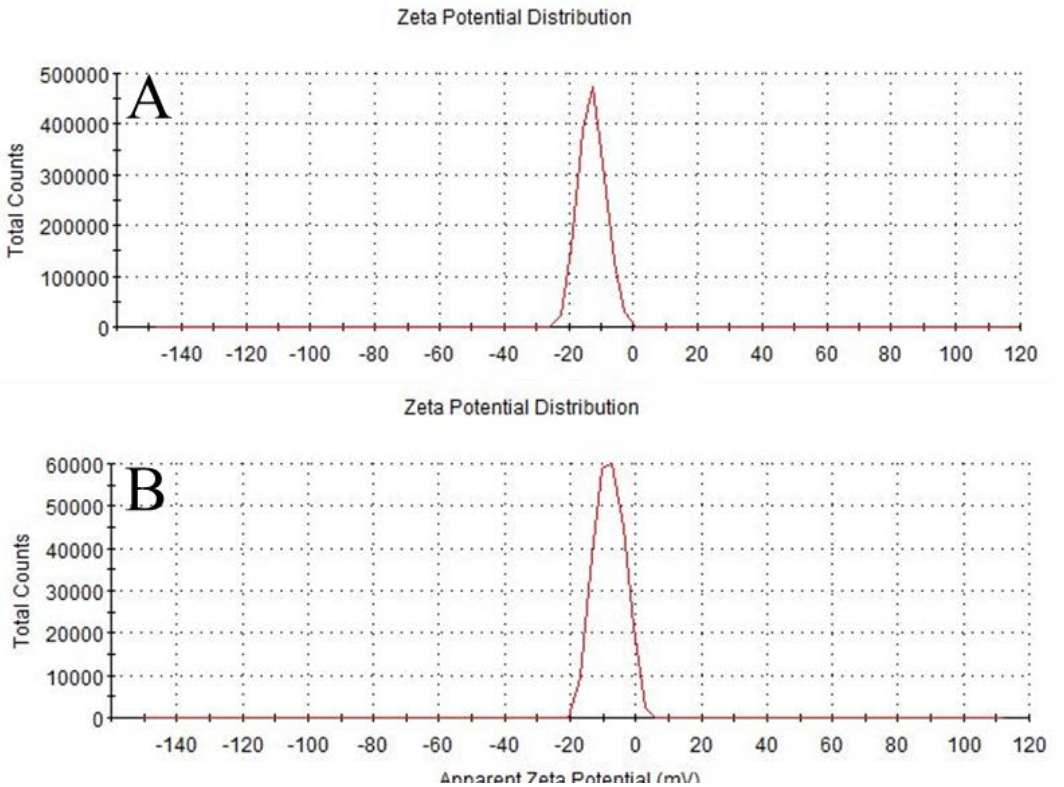

Figure S2 Zeta potential of UCNPs@SiO_2(A) and SA-Fe^{III}(B)

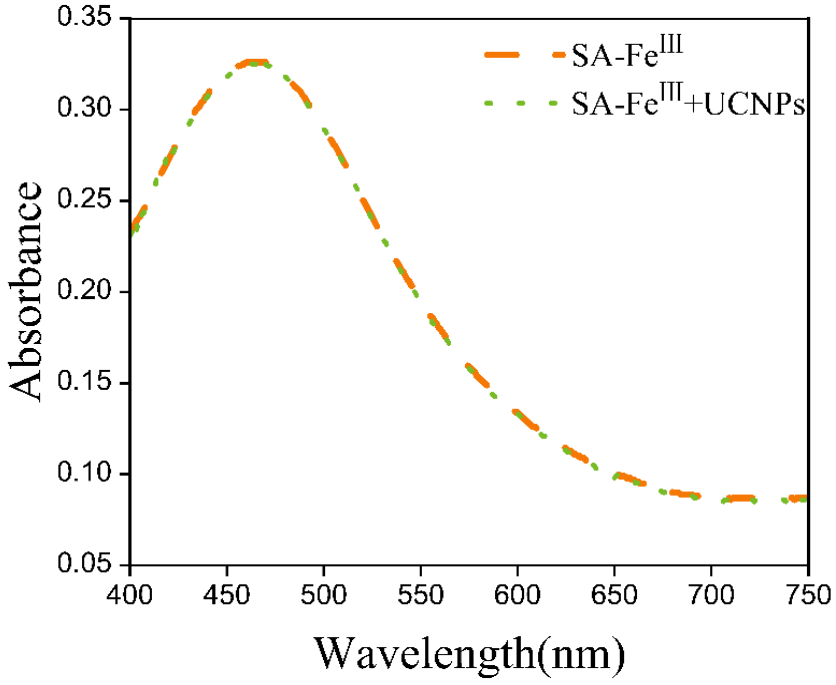

Figure S3 UV absorption spectra of SA-Fe^{III}

In order to have the best absorption effect of SA-Fe^{III}, the results of several checks on its concentration ratio show that the chelate has the best absorption capacity when the ratio of Fe^{III} to SA is 4:3.

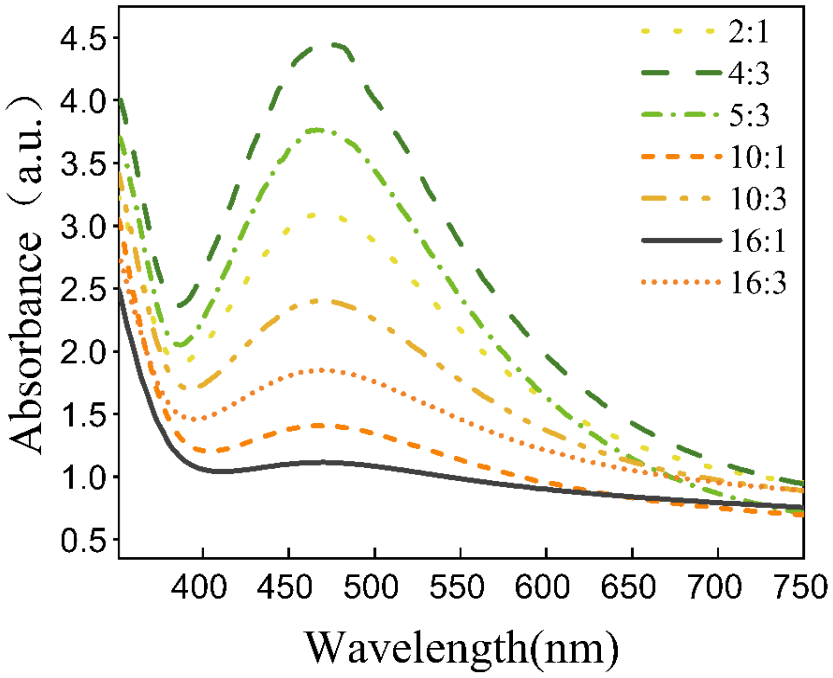

Figure. S4 Absorbance of SA-Fe^{III} at different concentration ratios($V_{Fe^{III}}$: V_{SA})

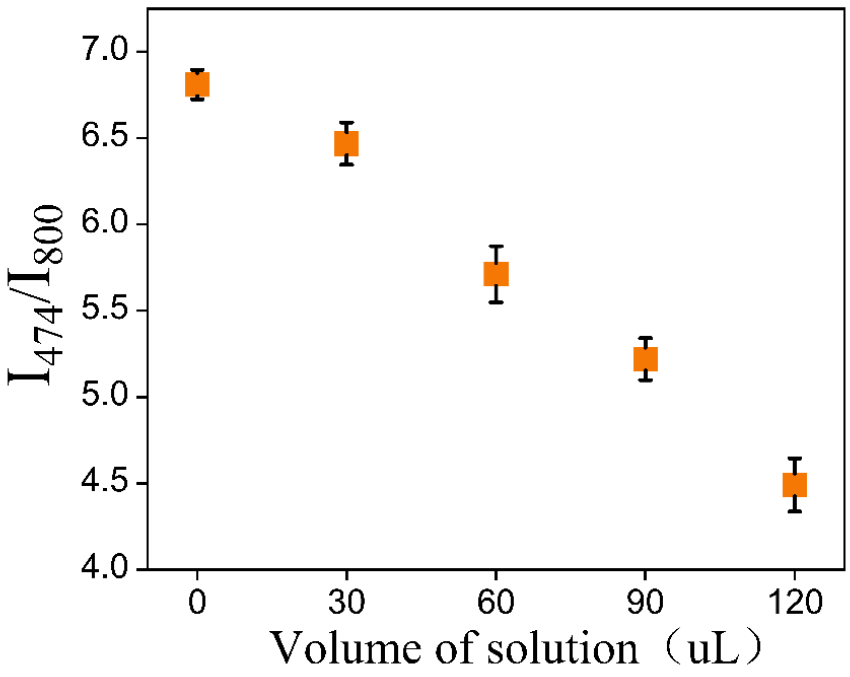

Figure. S5 Effect of SA-Fe^{III} content on fluorescence intensity ratio

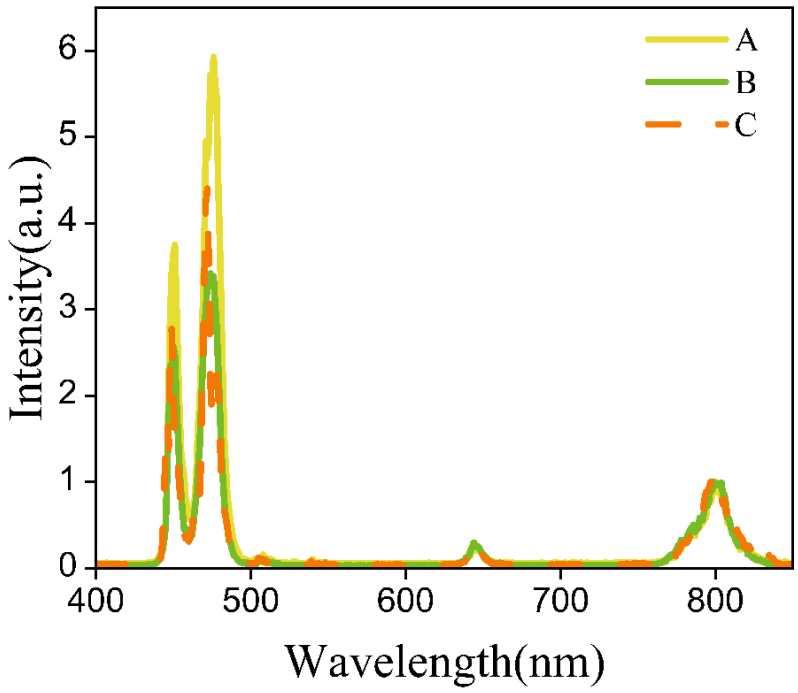

Figure. S6 The fluorescence spectra of UCNPs@SiO_2(A)、UCNPs@SiO2 -SA-Fe^{III}(B) and UCNPs@SiO_2-SA-Fe^{III} after centrifugation and cleaning(C)