

## Electronic Supporting Information (ESI)

### Dendrimer Facilitated Synthesis of Multifunctional Lanthanide Based Hybrid Nanomaterials for Biological Applications

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#### Figure caption:

**Fig. S1** EDX spectra of  $\text{YPO}_4\text{:Tb}^{3+}\text{@Fe}_3\text{O}_4$ .

**Fig S2** M-T loop of  $\text{Fe}_3\text{O}_4\text{:Na-citrate}$  (1:2).

**Fig S3** TGA curve of  $\text{Fe}_3\text{O}_4$ ,  $\text{Fe}_3\text{O}_4\text{:Na-citrate}$  and hybrid material,  $\text{YPO}_4\text{:Tb}^{3+}\text{@Fe}_3\text{O}_4$ .

**Fig. S4** SEM images of  $\text{YPO}_4\text{:Tb}^{3+}\text{@Fe}_3\text{O}_4$  in presence of dendrimer (a) lower and (b) higher magnification.

**Fig. S5** Excitation spectra of the  $\text{YPO}_4\text{:Tb}^{3+}$  when monitored at emission wavelength of 545 nm.

**Fig. S6** Viabilities of HeLa cells incubated with (a) sodium citrate stabilized  $\text{Fe}_3\text{O}_4$ , (b)  $\text{YPO}_4\text{:Tb}^{3+}$ , (c) PAMAM dendrimer, (d)  $\text{YPO}_4\text{:Tb}^{3+}$  with dendrimer and (e) nanohybrid  $\text{YPO}_4\text{:Tb}^{3+}\text{@Fe}_3\text{O}_4$ .

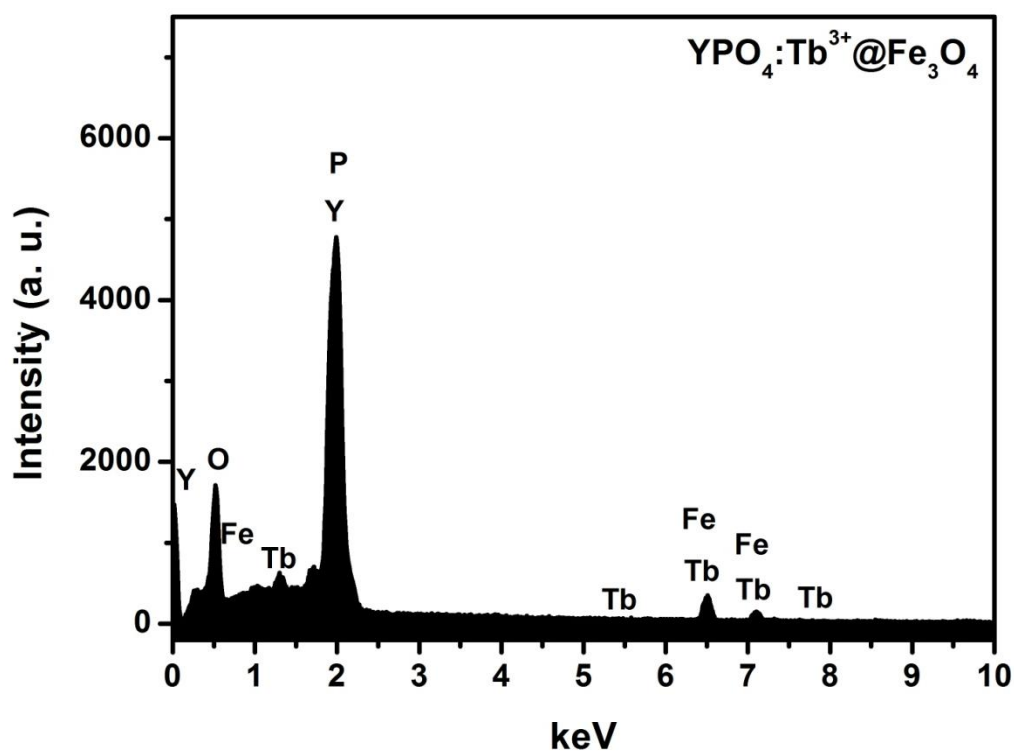


Fig. S1 EDX spectra of  $\text{YPO}_4:\text{Tb}^{3+}@\text{Fe}_3\text{O}_4$ .

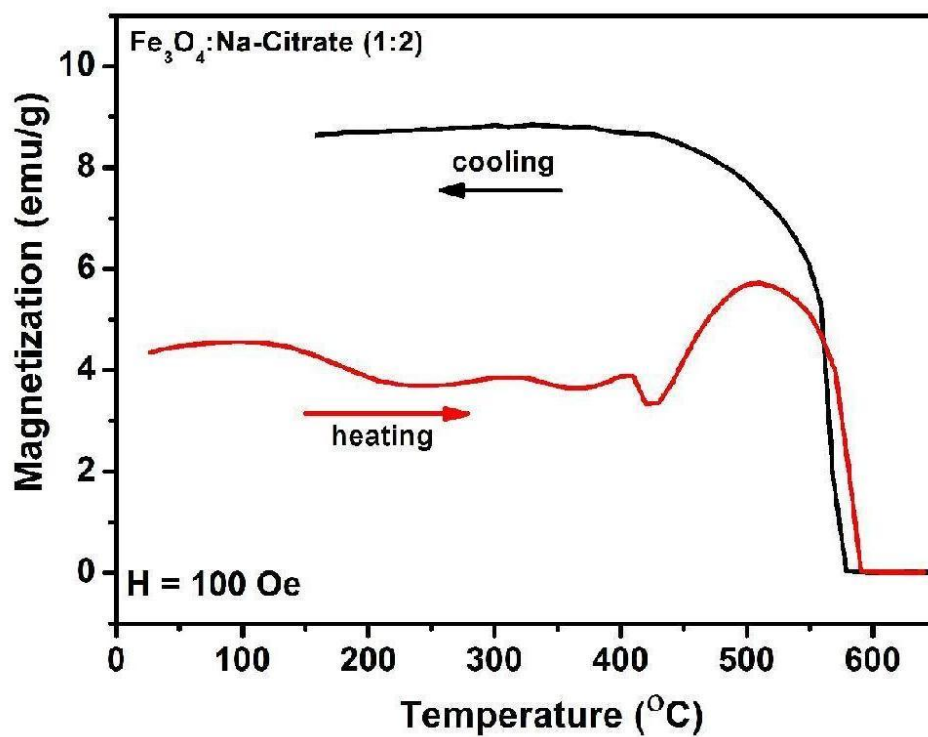
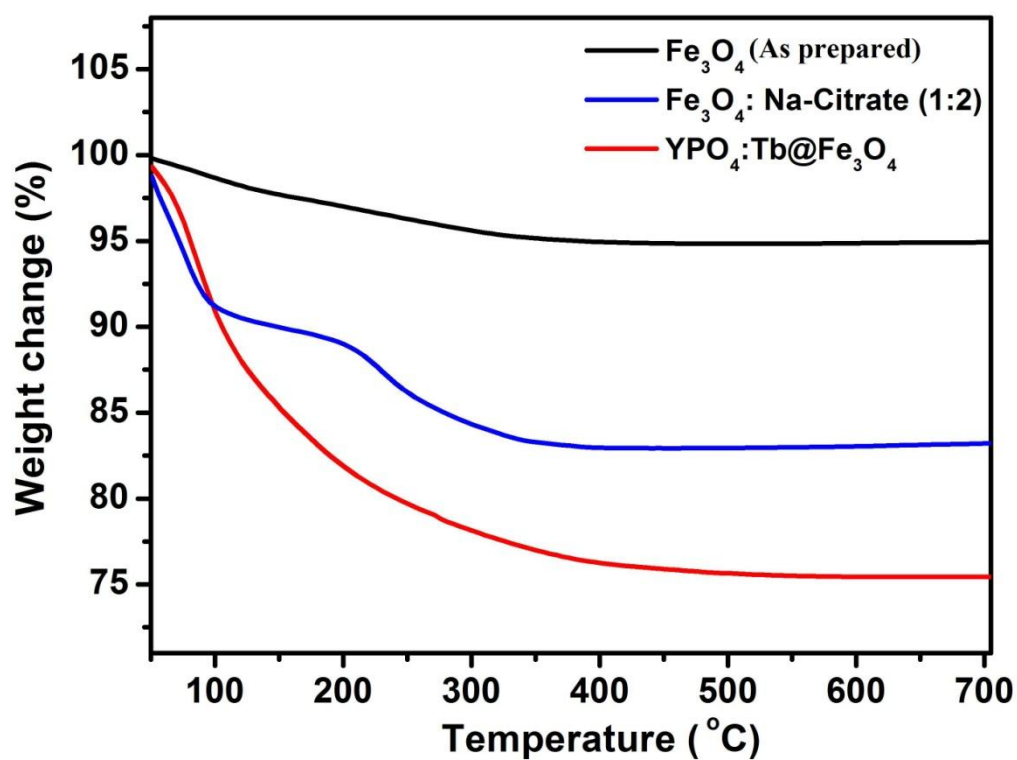
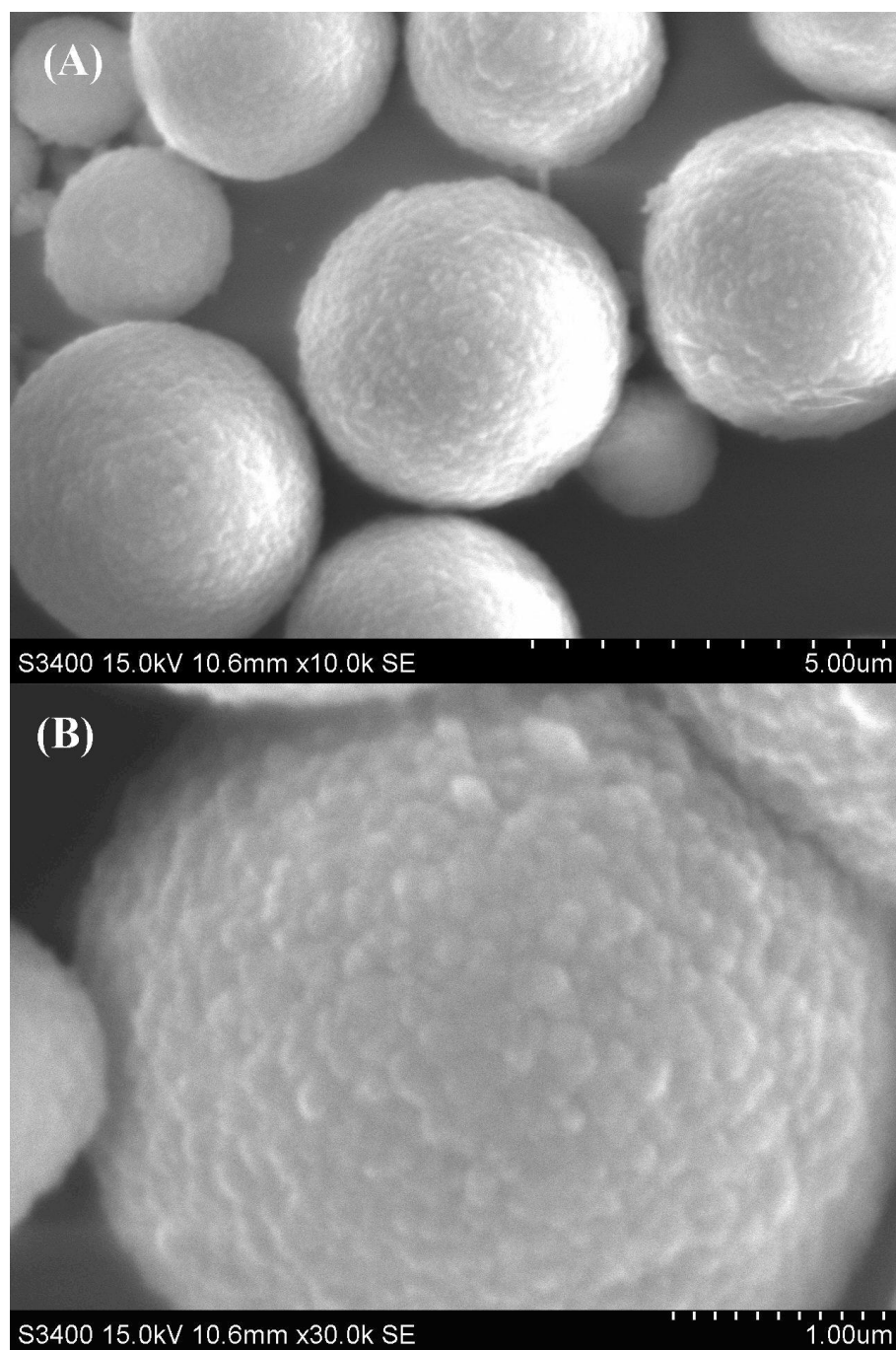


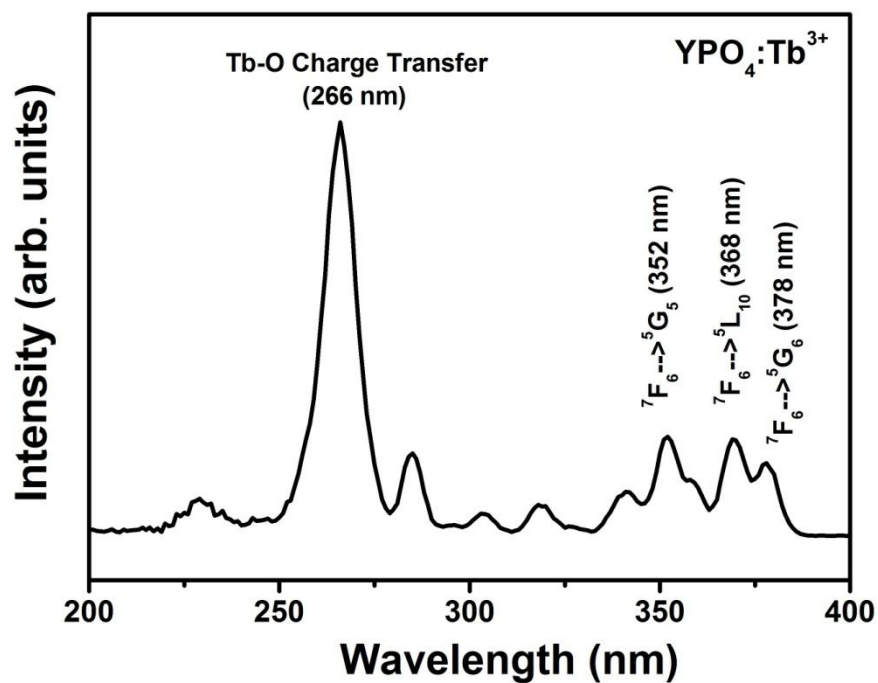
Fig S2 M-T loop of  $\text{Fe}_3\text{O}_4:\text{Na-citrate (1:2)}$ .



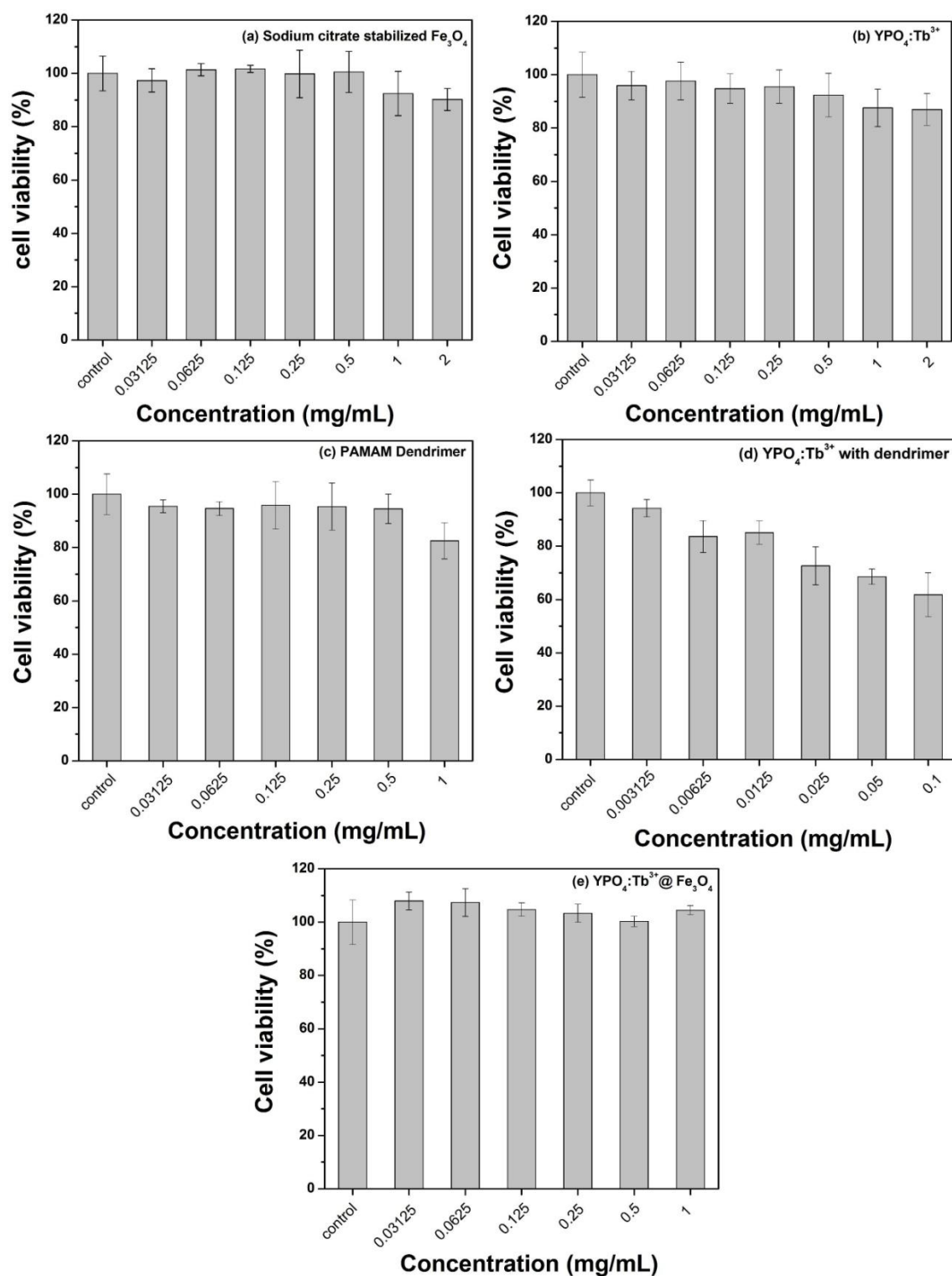
**Fig S3** TGA curve of  $\text{Fe}_3\text{O}_4$ ,  $\text{Fe}_3\text{O}_4$ :Na-citrate and hybrid material,  $\text{YPO}_4\text{:Tb}^{3+}\text{@Fe}_3\text{O}_4$ .



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