## **Supplementary Information**

## Architectured Design of High-Performance Superparamagnetic

## Fe<sub>3</sub>O<sub>4</sub> Nanoparticles for Application as MRI Contrast Agents

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**Figure S1.** Particle size distribution histograms of (A) Fe\_TIPA, (B) Fe\_DEA and (C) Fe\_TEA nanomaterials. The solid line represents the log-normal distribution fit.



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d<sub>тем</sub> (nm)



Figure S2. SAED patterns of (A) Fe\_TIPA, (B) Fe\_DEA and (C) Fe\_TEA nanomaterials.



**Figure S3.** Hydrodynamic size distribution of Fe\_TEA aqueous dispersion obtained by DLS, before relaxometry studies and after 6 months. Inset: Photography of the Fe\_TEA colloidal dispersion and corresponding TEM image.



Figure S4. Thermogravimetric curves of the iron oxide nanomaterials performed under  $N_2$  atmosphere.

