

Supplementary Information

^1H spin-lattice superparamagnetic relaxation enhancement for very large nanoparticles – neglecting the electronic relaxation

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^1H spin - lattice relaxation rates for water solutions of Fe_3O_4 -IPG and Fe_3O_4 -CA nanoparticles.

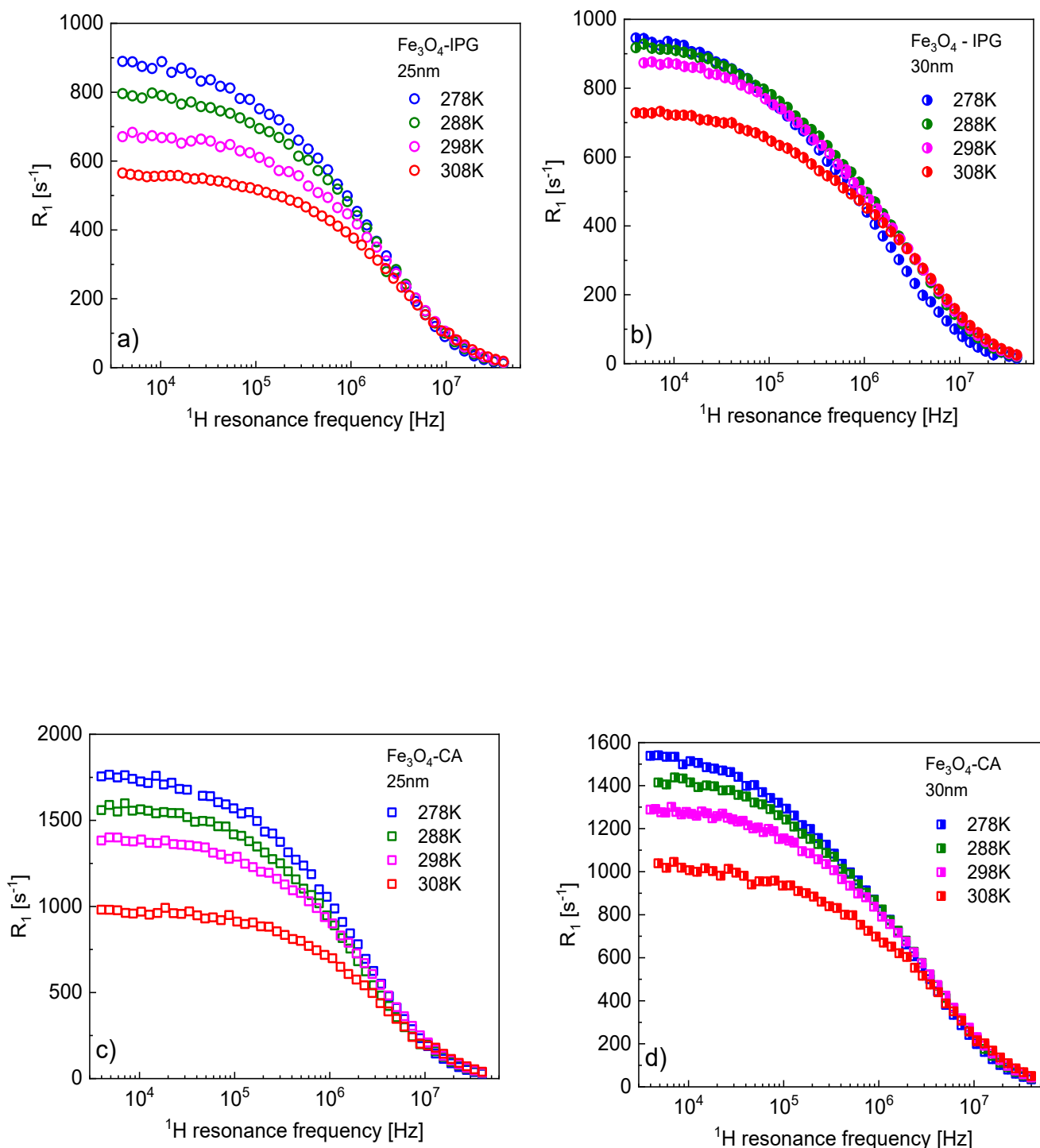


Fig.S1. ^1H spin - lattice relaxation rates for water solutions of Fe_3O_4 -IPG and Fe_3O_4 -CA nanoparticles for the following concentrations: $5.8 \times 10^{-8}\text{M}$ (Fe_3O_4 -IPG, 25nm), $3.4 \times 10^{-8}\text{M}$ (Fe_3O_4 -IPG, 30nm), $2.9 \times 10^{-7}\text{M}$ (Fe_3O_4 -CA, 25nm) and $1.7 \times 10^{-7}\text{M}$ (Fe_3O_4 -CA, 30nm).

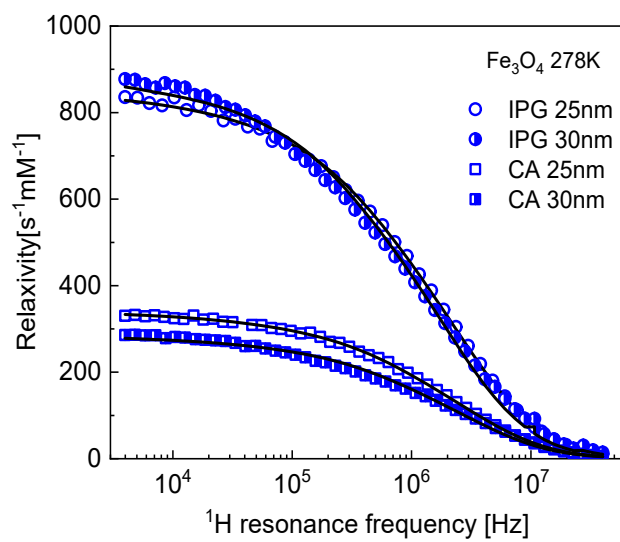


Fig.S2. Comparison of ¹H spin - lattice relaxation rates for water solutions of Fe₃O₄-IPG and Fe₃O₄-CA nanoparticles at 278K, normalized to 1mM concentration of Fe³⁺.