SUPPORTING INFORMATION

Spacing-Dependant Dipolar Interactions in Dendronized Magnetic Iron Oxide Nanoparticles 2D Arrays and Powders

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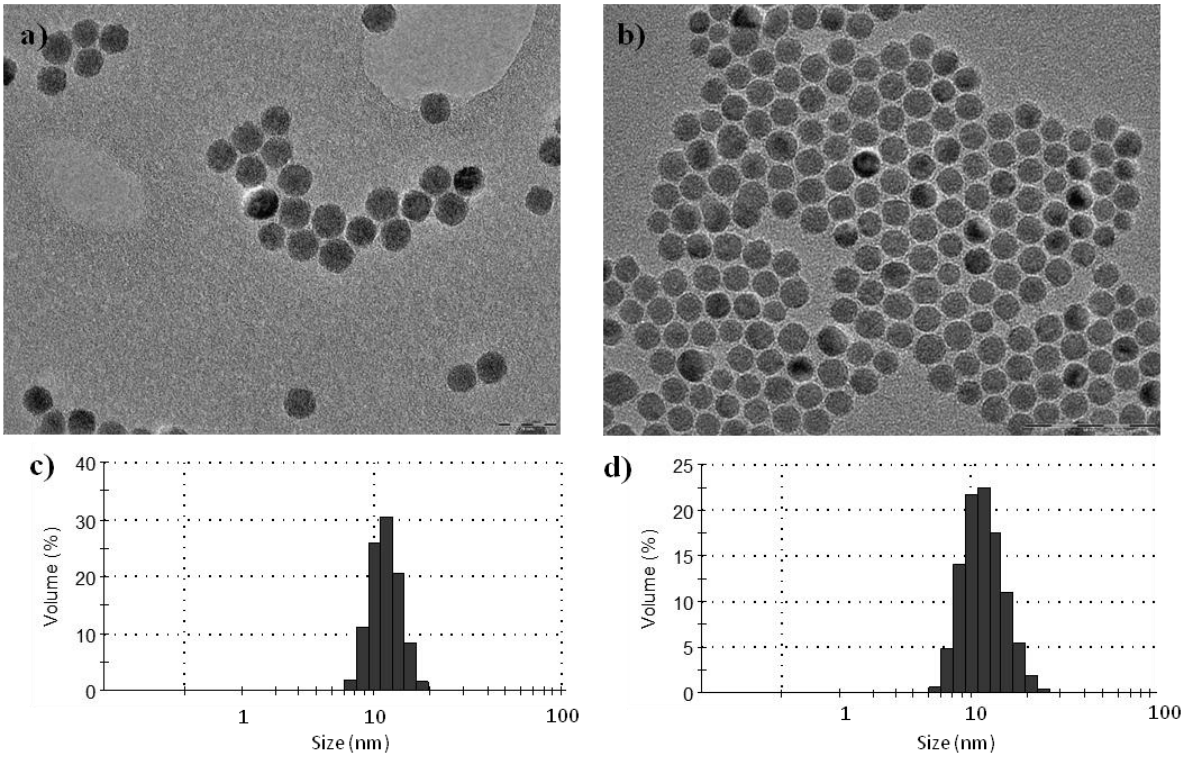

Figure S1. TEM images (a and b) and size distribution (c and d) of NP@L1 and NP@L2 respectively.

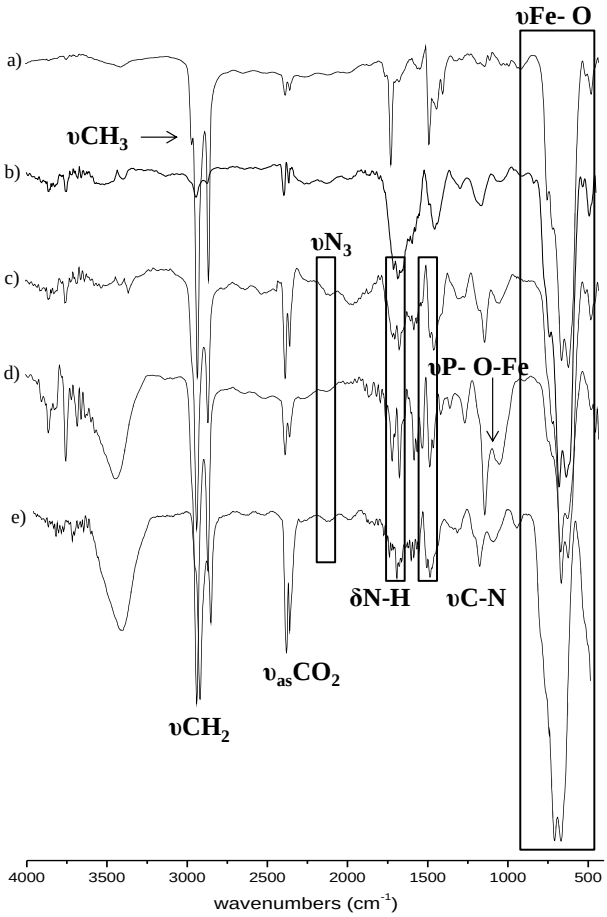

Figure S2. Infra Red spectra of a) NP@L1, b) NP@L2, c) NP@L3C, d) NP@L3P and e) NP@L4C.

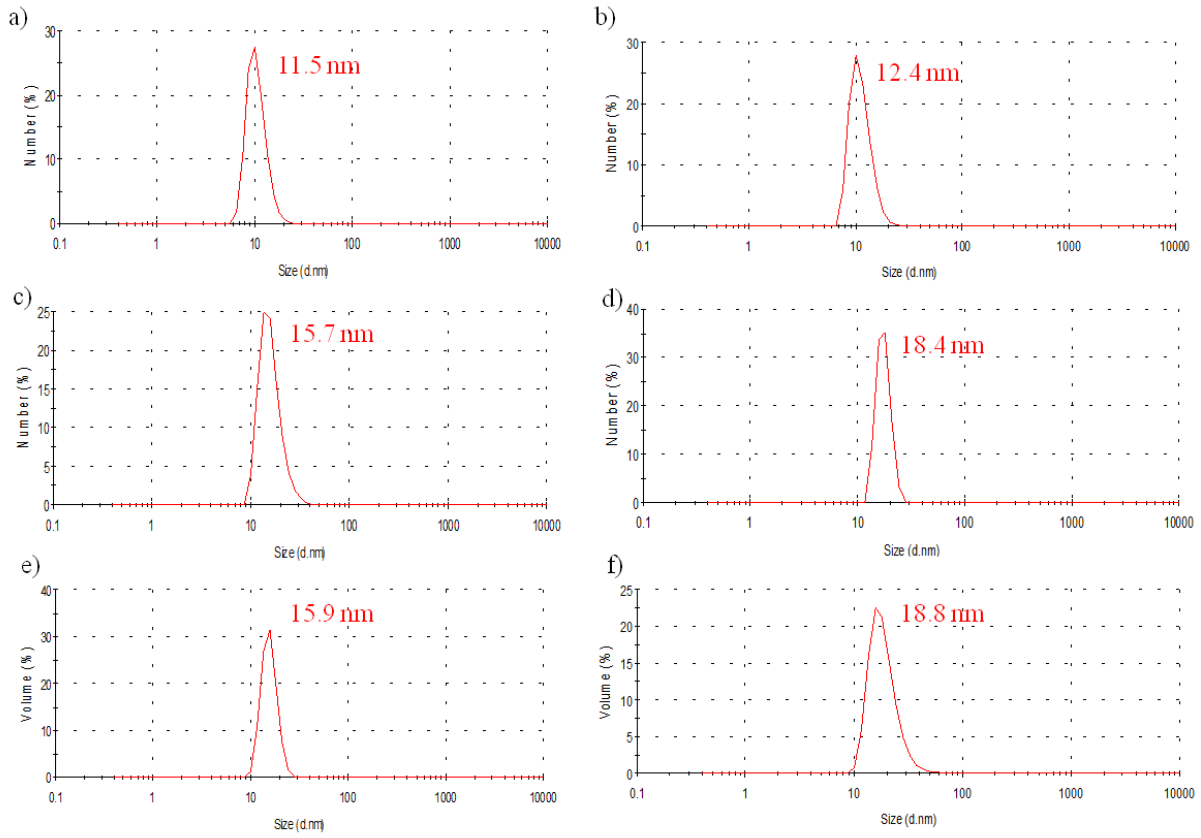

Figure S3. Size distribution determined by Dynamic Light Scattering (DLS) measurements for a)NP@L1, b) NP@L2, c)NP@L3C, d) NP@L4C, e)NP@L3P and f) NP@L4P.

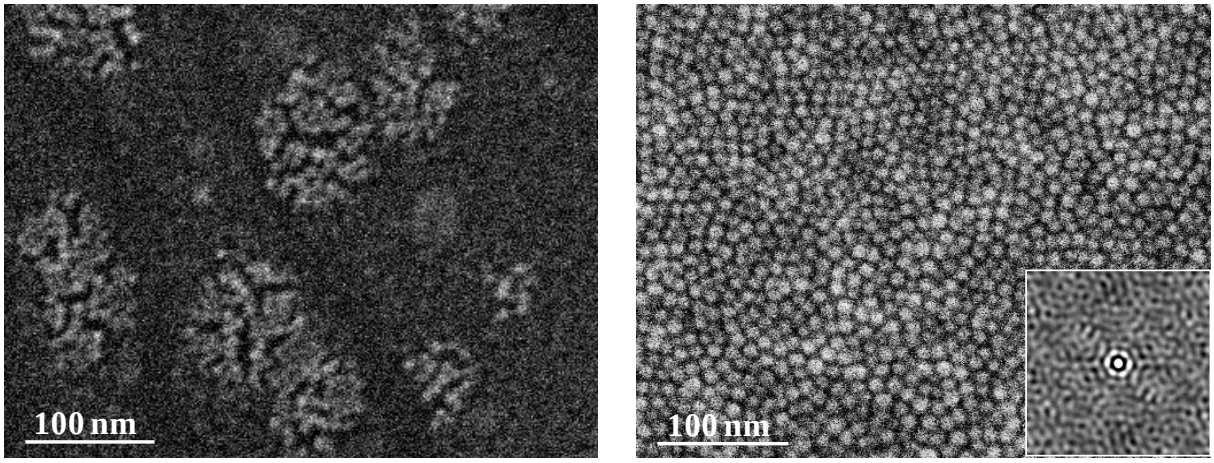

Figure S4. SEM images of monolayer obtained by Langmuir-Blodgett technique of iron oxide NPs synthesized by the thermal decomposition method and then coated with phosphonate dendrimers NP@L3P and carboxylate dendrimers NP@L3C.

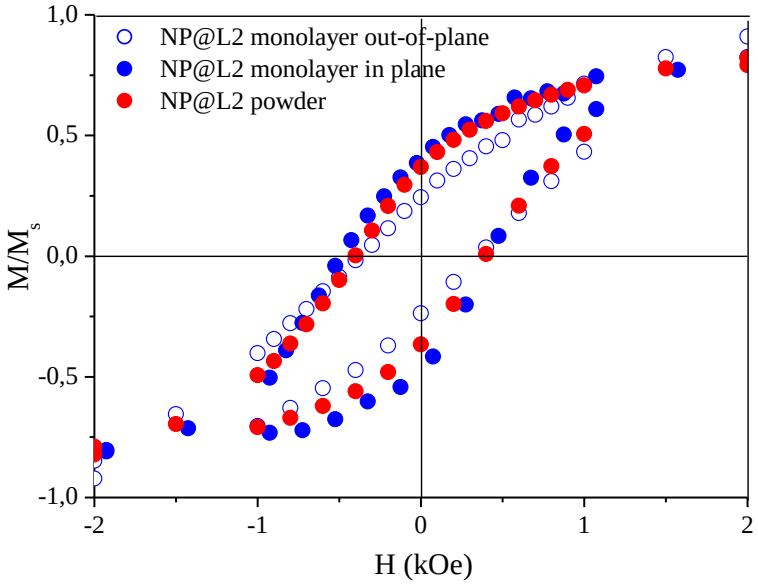

Figure S5. Hysteresis loops at 5K of NP@L2 powder and NP@L2 assembled in a monolayer with the magnetic field applied in-plane and out-of-plane.

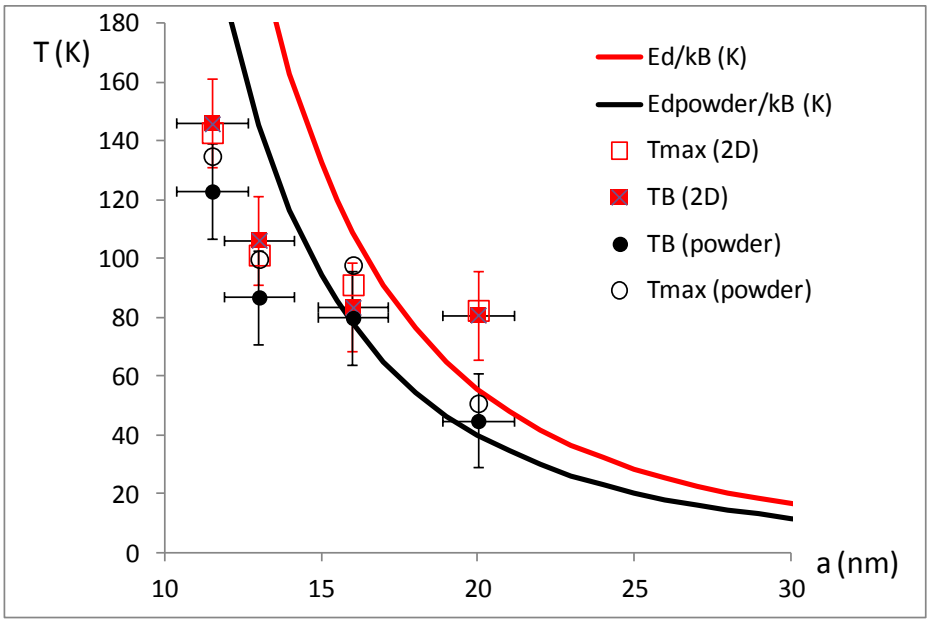

Figure S6. Experimental values of T_{max} and T_B as a function of the interparticle distance and fits obtained from equations 2 ($E_{dpowder}/k_B$) and 3 (E_d/k_B).