

SUPPLEMENTARY INFORMATION

Cyano-Bridged Coordination Polymer Nanoparticles as High Relaxivity Contrast Agent for MRI.

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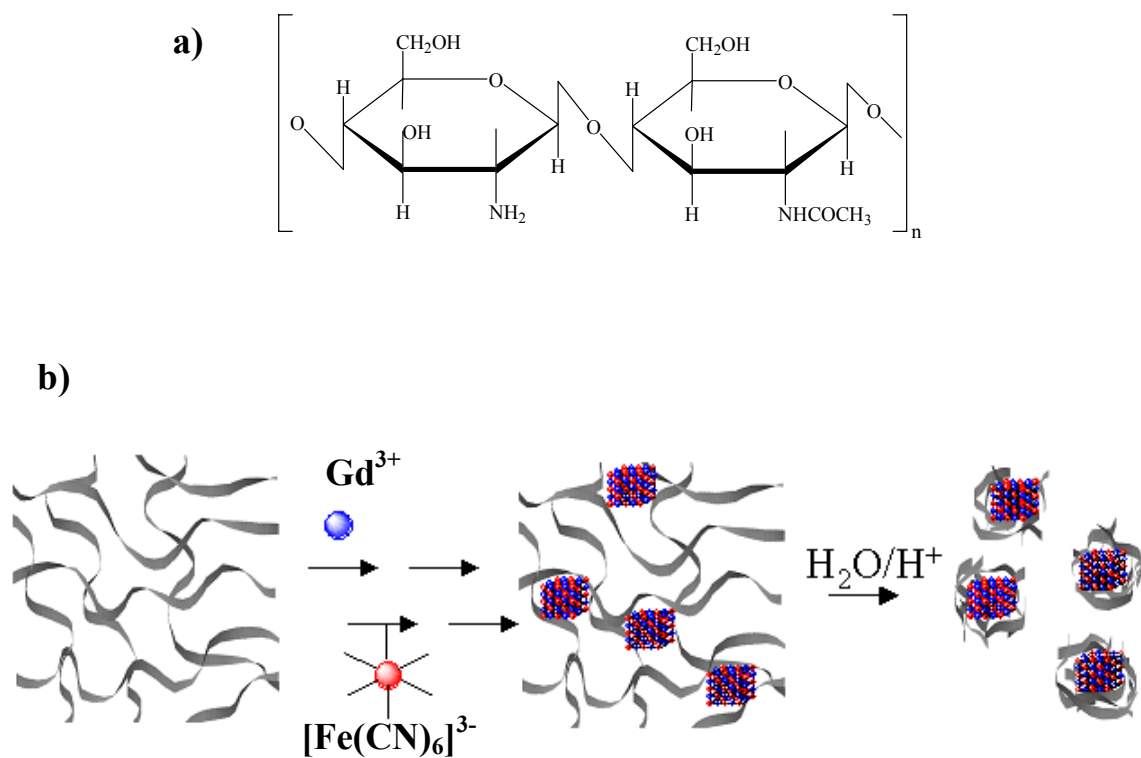


Figure 1S. a) Chitosan chemical formula and **b)** Schematic representation of the intrapore growth of cyano-bridged coordination polymer nanoparticles $\text{Gd}^{3+}/[\text{Fe}(\text{CN})_6]^{3-}$ /chitosan.

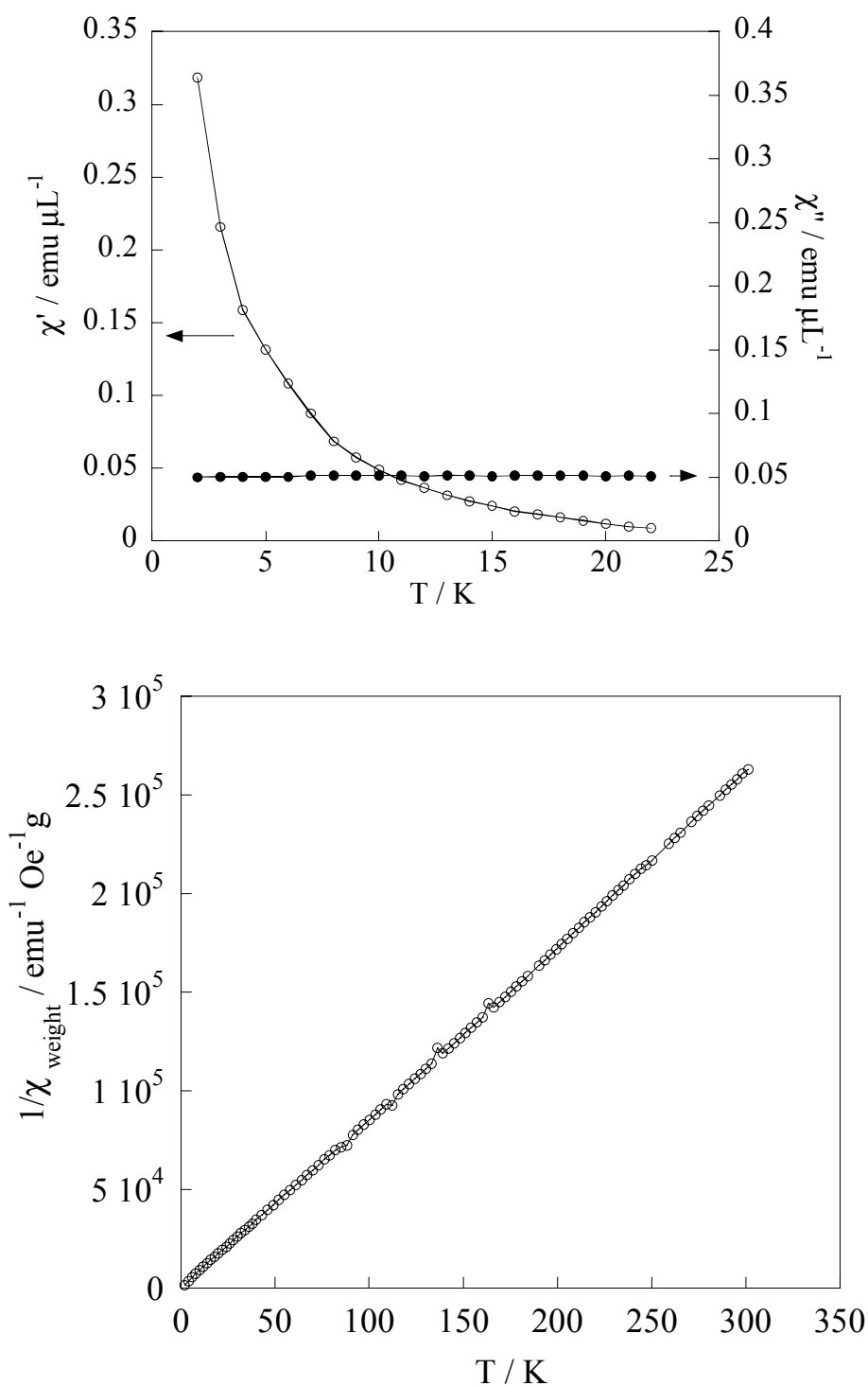


Figure 2S. Temperature dependence of the ac susceptibility, its χ' (in phase) and χ'' , out-of-phase components at the frequency of 125 Hz showing the paramagnetic behaviour of the sample. Static field is of 0 Oe and alternative field is of 3 Oe. . b) Temperature dependence of the inverse of the magnetic susceptibility performed with an applied field of 1000 Oe for the sample 1.

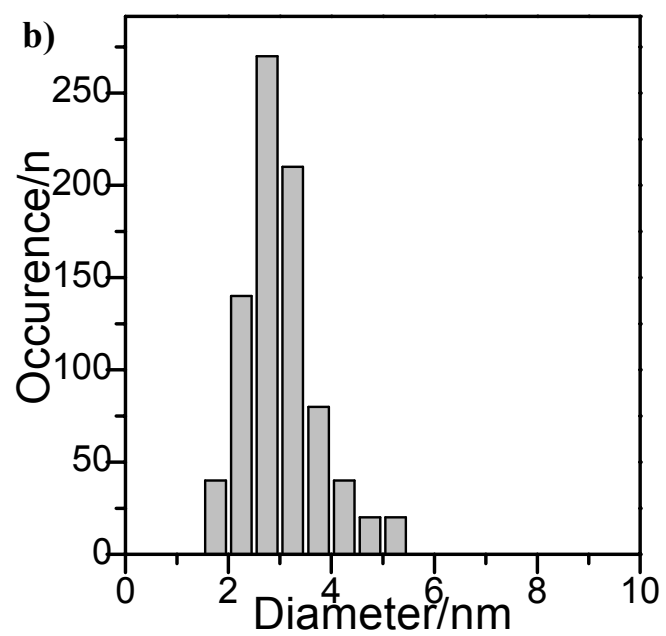
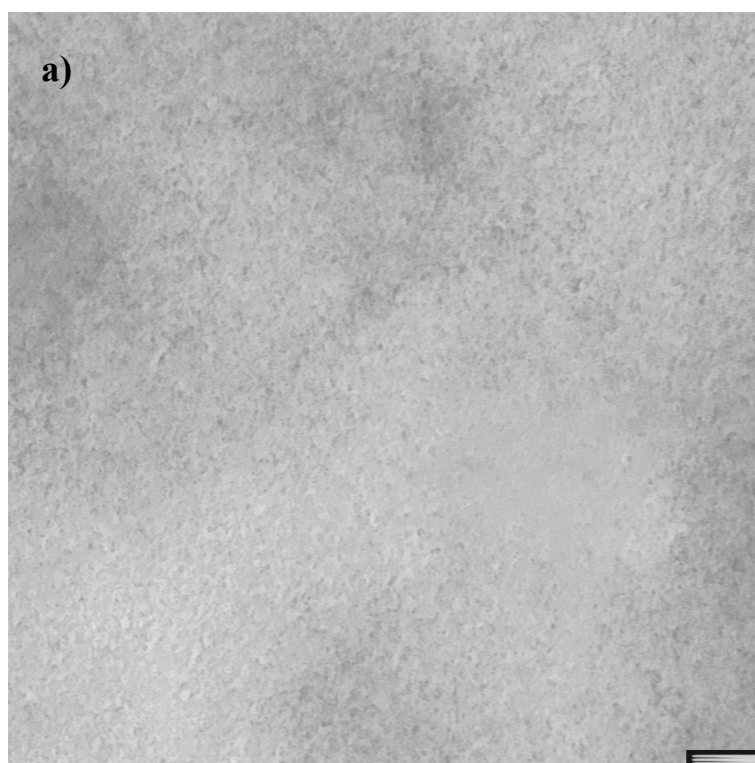


Figure 3S. a) TEM image and b) size distribution of sample 1. Scale bar = 50 nm.

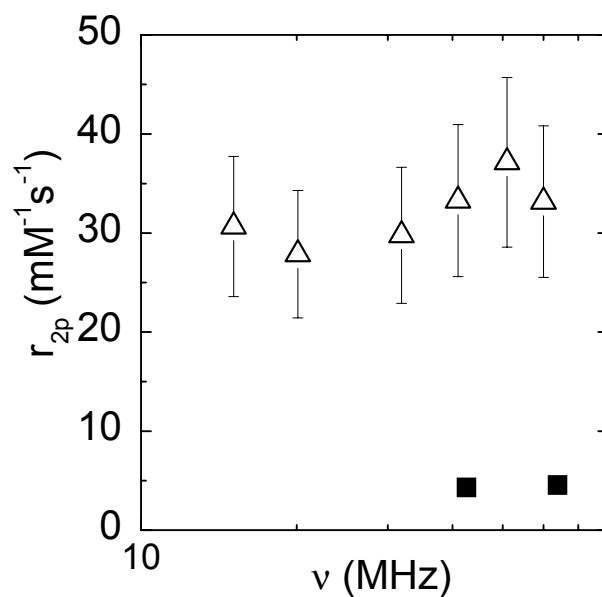


Figure 4S. Transverse relaxivity of sample **2** (Δ), collected at $T \approx 25^\circ\text{C}$, compared to the same quantity reported for the commercial compound Omniscan ($\blacksquare$).

Equation 1S :

By definition of relaxivity r_{ip} ($i=1$ refers to longitudinal relaxivity, $i=2$ to transverse relaxivity):

$$r_{ip} = [(1/T_i)_{\text{meas}} - (1/T_i)_{\text{dia}}] / c \quad i=1,2 \quad (1S)$$

where $(1/T_i)_{\text{meas}}$ is the measured value on the sample with concentration c (mmol L^{-1}) of magnetic center (8 mmol L^{-1} in our case), and $(1/T_i)_{\text{dia}}$ refers to the nuclear relaxation rate of the diamagnetic host solution (water in our case).