# Supplementary data

# Magnetic Water-Soluble Cyano-Bridged

# Metal Coordination Nano-polymers.

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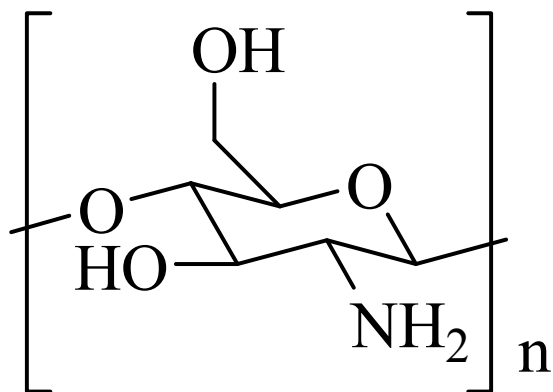
**Figure 1S.** Chitosan formulae.

**Fe$^{2+}$/[Fe(CN)$_6$]$^{3-}$/**
**chitosan**

**Cu$^{2+}$/[Fe(CN)$_6$]$^{3-}$/**
**chitosan**

**Ni$^{2+}$/[Fe(CN)$_6$]$^{3-}$/**
**chitosan**

**Co$^{2+}$/[Fe(CN)$_6$]$^{3-}$/**
**chitosan**

**Figure 2S.** Photograph of the nanocomposite beads **1a-4a** along with the respective aqueous
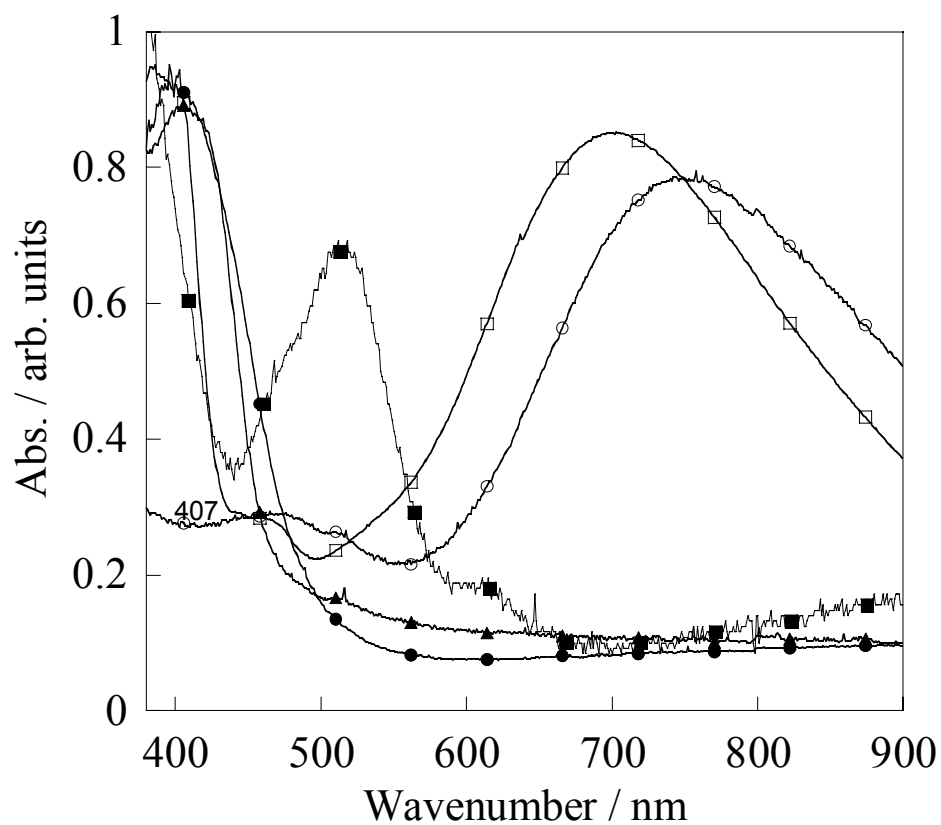
colloids **1b-4b**.

**Figure 3S**. UV-Visible spectra of the colloids **1b-4b**. (●) for **1b**, (o) for **2b**, (♦) for **3b** and (□) for **4b**.
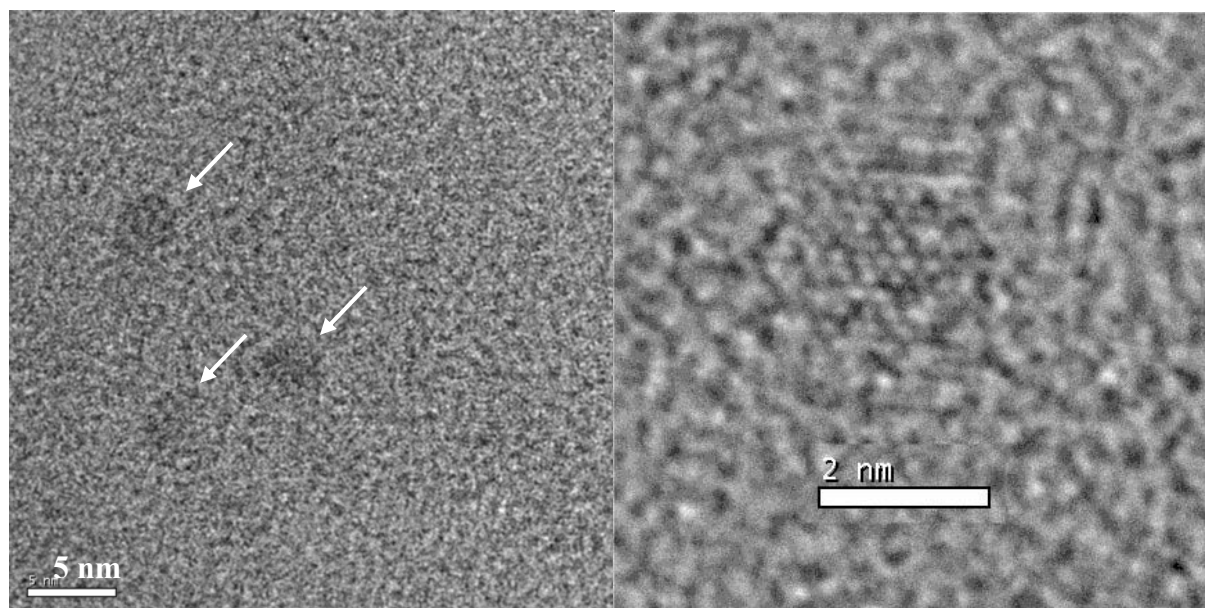
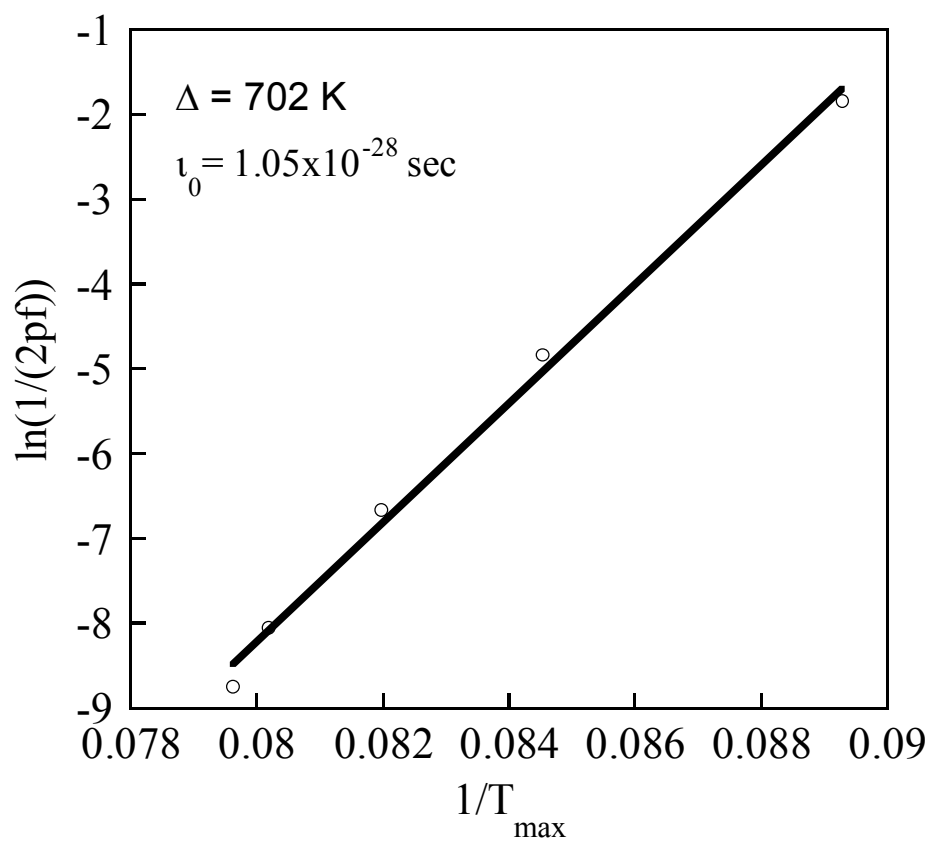**Figure 4S**. HRTEM images of sample **1b**.

**Figure 5S.** Thermal variation of the relaxation time fitting with the Arrhenius law.
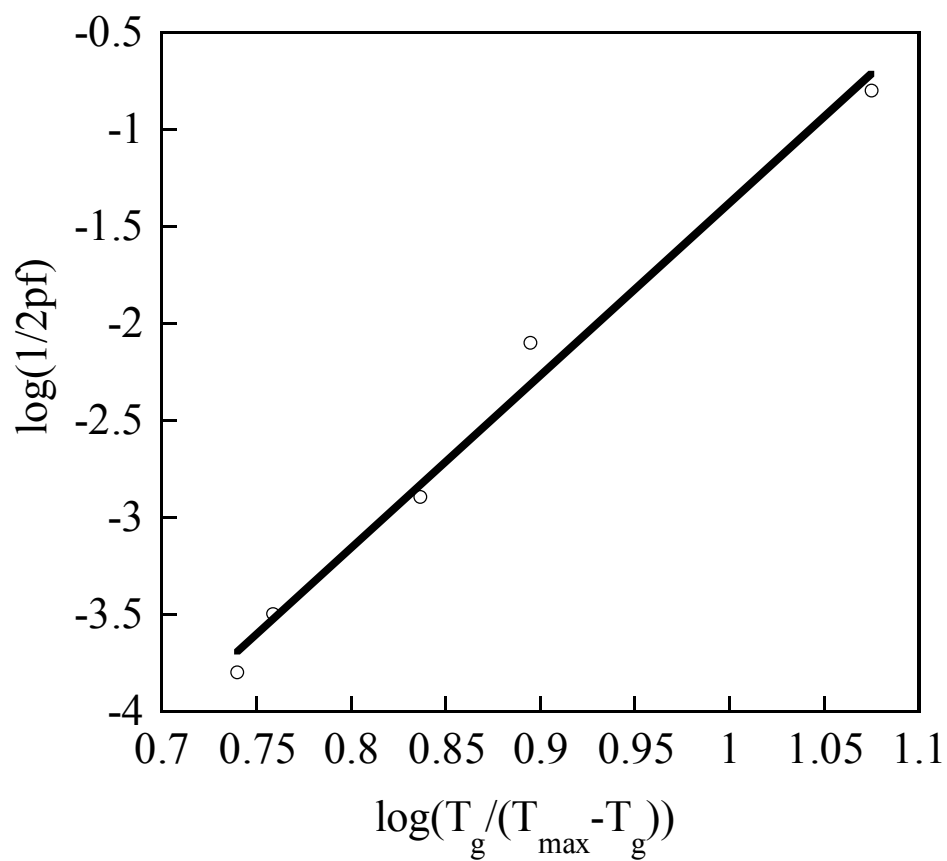
**Figure 6S.** Thermal variation of the relaxation time fitting with the Power law, $\tau = \tau_0 [T_g/(T_{max} - T_g)]^z$ giving $T_g = 11.7$ K, and the critical exponent $z = 8.9$ and $\tau_0 = 5.4 \times 10^{-11}$ s.
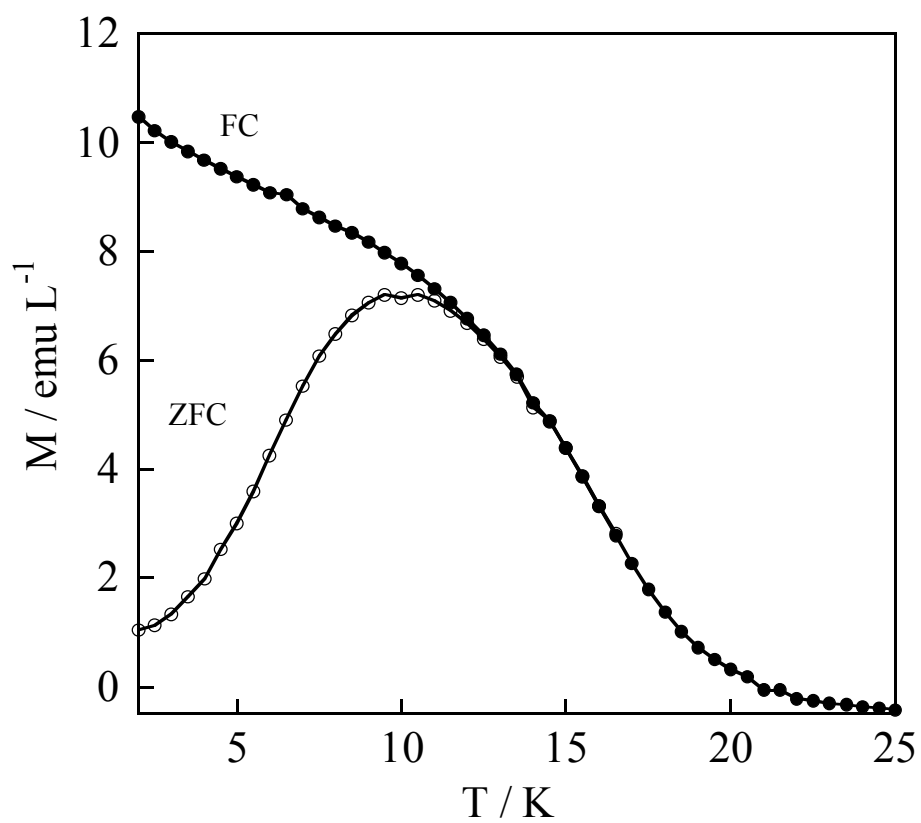
**Figure 7S**. Zero field cooled (ZFC)/ field cooled (FC) magnetization curves for the sample **1a**

diluted in eight times. Applied field of 500 Oe.