Supplementary Information


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**Figure S1.** Frequency (ν) dependence of the in-phase magnetic susceptibility, χ', at applied dc fields ranging from 0.2 – 8.2 kOe at a temperature of 2 K for 1.
Figure S2. Frequency ($\nu$) dependence of the in-phase magnetic susceptibility, $\chi'$, at applied dc fields ranging from 0.2 – 8.2 kOe at a temperature of 2 K for the 25% Co(II) sample.

Figure S3. Frequency ($\nu$) dependence of the in-phase magnetic susceptibility, $\chi'$, at applied dc fields ranging from 0.2 – 8.2 kOe at a temperature of 2 K for the 10% Co(II) sample.
Figure S4. Frequency ($\nu$) dependence of the in-phase magnetic susceptibility, $\chi'$, at applied dc fields ranging from 0.2 – 8.2 kOe at a temperature of 2 K for the 5% Co(II) sample.

Figure S5. Plot of the inverse relaxation time versus $T$ for complex 1. Solid red line represents the fit to a Raman relaxation process, $\tau^{-1}=CT^n$. Best fit parameters yielded $C = 4.66 \times 10^{-4}$ and $n = 8.6$. 