Electronic Supplementary Material (ESI) for Dalton Transactions.

Supplementary Information

Exposing the Intermolecular Nature of the Second Relaxation Pathway in a Mononuclear Cobalt(II) Single-Molecule Magnet with Positive Anisotropy.

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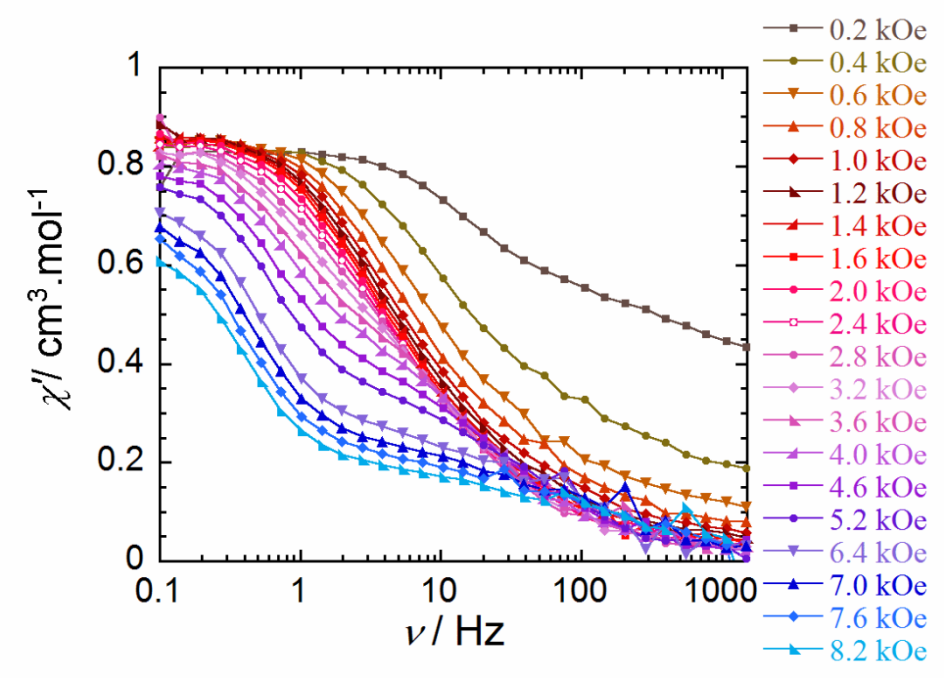

Figure S1. Frequency (ν) dependence of the in-phase magnetic susceptibility, χ', at applied dc fields ranging from 0.2 – 8.2 kOe at a temperature of 2 K for **1**.

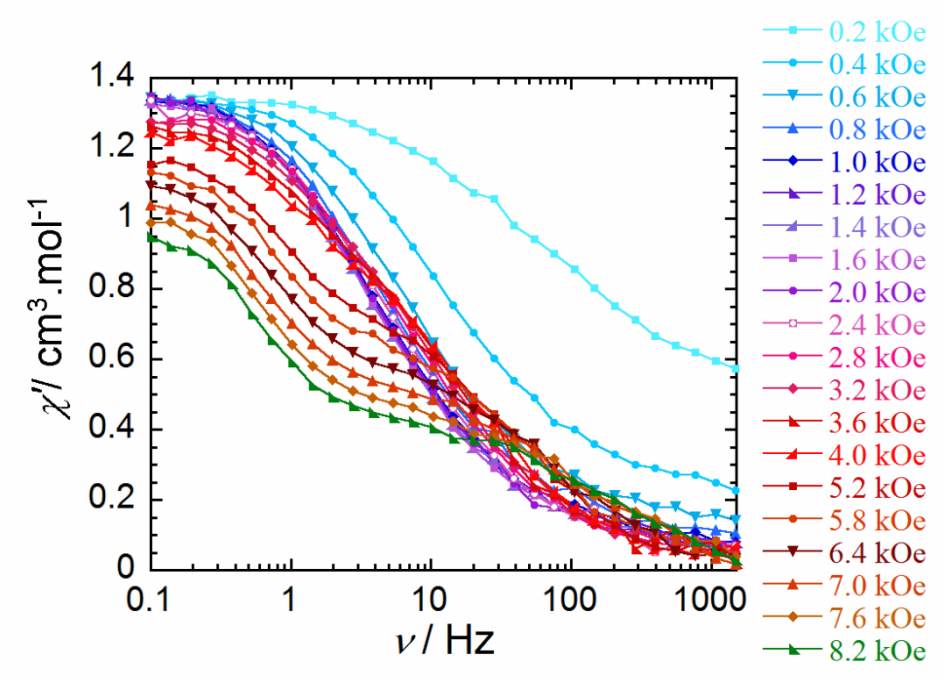

Figure S2. Frequency (ν) dependence of the in-phase magnetic susceptibility, χ', at applied dc fields ranging from 0.2 – 8.2 kOe at a temperature of 2 K for the 25% Co(II) sample

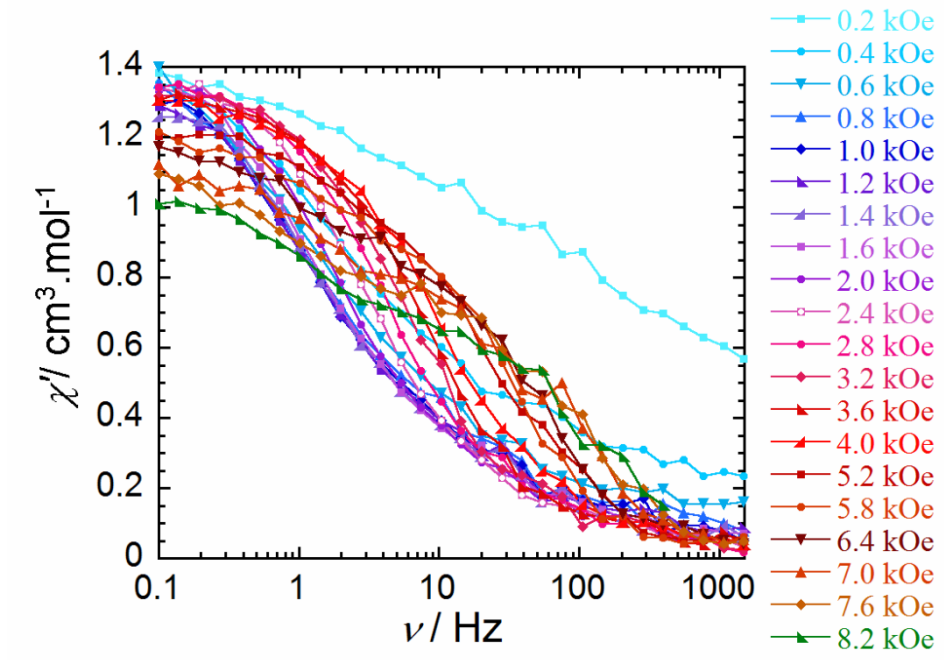

Figure S3. Frequency (ν) dependence of the in-phase magnetic susceptibility, χ', at applied dc fields ranging from 0.2 – 8.2 kOe at a temperature of 2 K for the 10% Co(II) sample

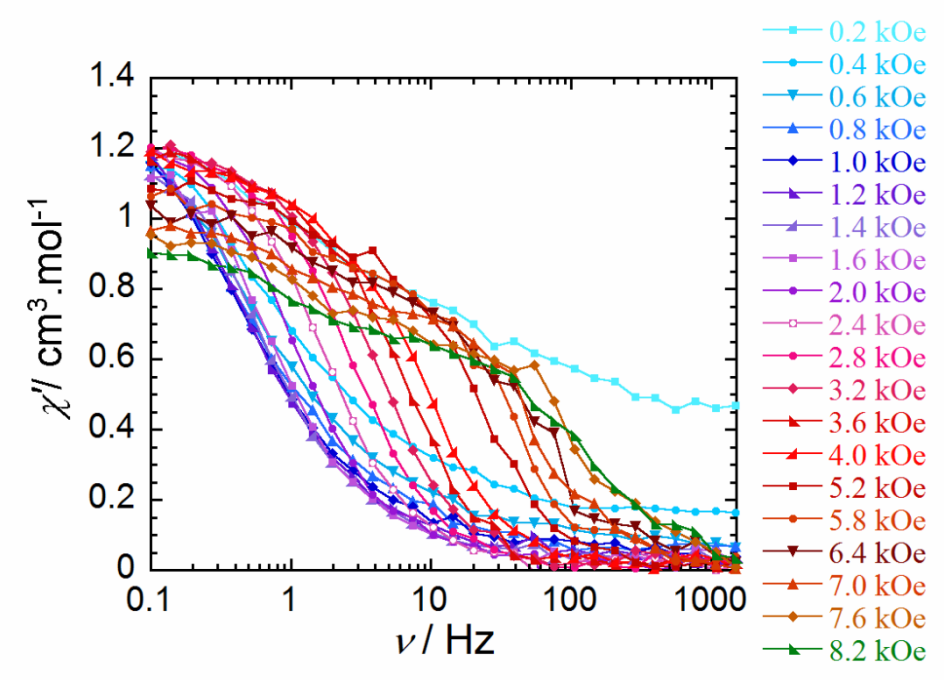

Figure S4. Frequency (ν) dependence of the in-phase magnetic susceptibility, χ', at applied dc fields ranging from 0.2 – 8.2 kOe at a temperature of 2 K for the 5% Co(II) sample.

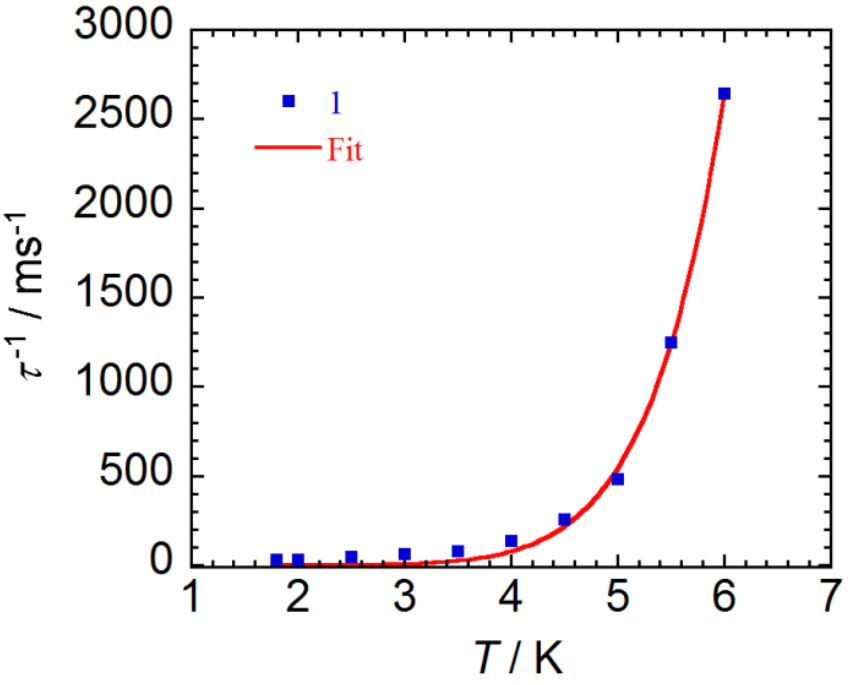

Figure S5. Plot of the inverse relaxation time *versus* T for complex **1**. Solid red line represents the fit to a Raman relaxation process, $\tau^{-1} = CT^{n}$. Best fit parameters yielded $C = 4.66 \times 10^{-4}$ and $n = 8.6$.