

Electronic Supplementary Information

## 4f-Metal Clusters Exhibiting Slow Relaxation of Magnetization: A {Dy<sub>7</sub>} Complex with an Hourglass-like Metal Topology

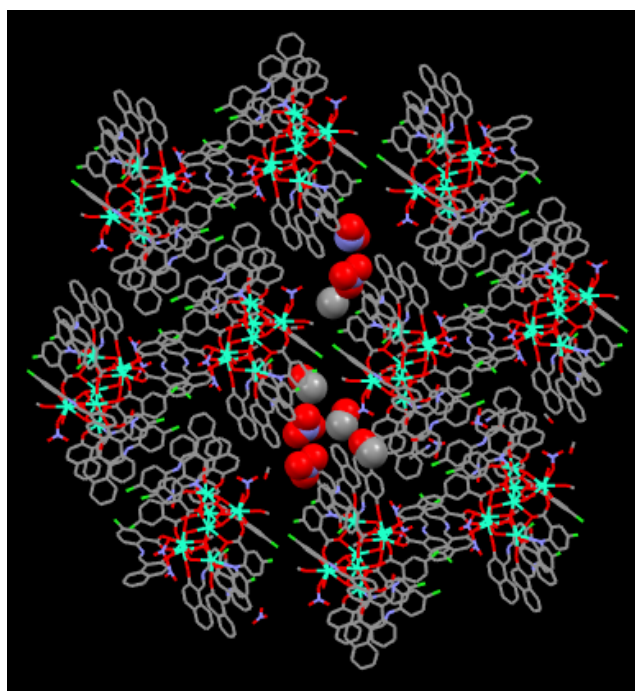
Konstantinos N. Pantelis <sup>1</sup>, Panagiota S. Perlepe <sup>1</sup>, Spyridon Grammatikopoulos <sup>1</sup>, Christos Lampropoulos <sup>2</sup>, Jinkui Tang <sup>3</sup> and Theodoros C. Stamatatos <sup>1,\*</sup>

<sup>1</sup> Chemistry Department, University of Patras, Patras 265 04, Greece; kostaspantelis95@gmail.com; pennyperlepes@gmail.com; spiridongramma@upatras.gr

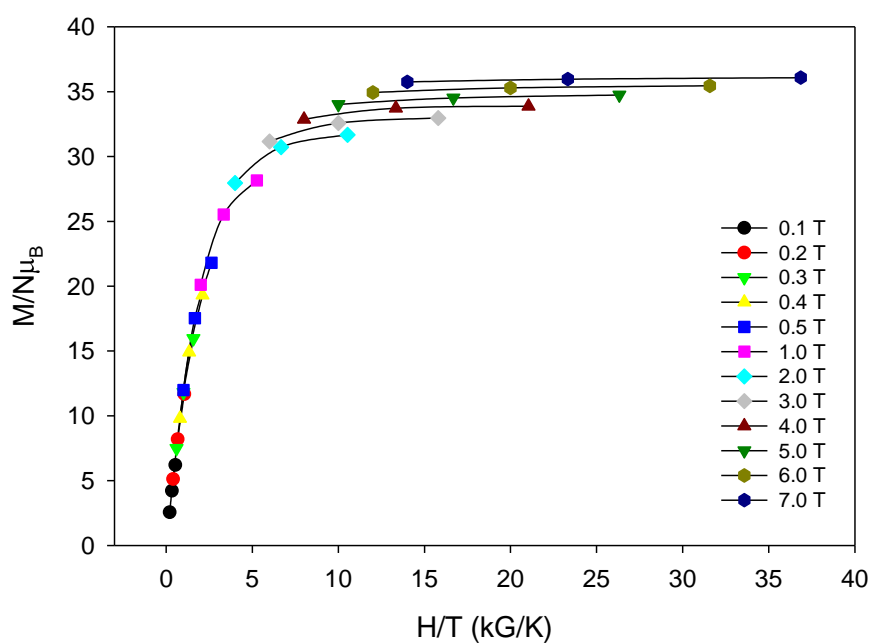
<sup>2</sup> Department of Chemistry, University of North Florida, 1 UNF Dr., Jacksonville, FL 32224, USA; christosl1981@gmail.com

<sup>3</sup> State Key Laboratory of Rare Earth Resource Utilization, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Changchun 130022, P. R. China; tang@ciac.ac.cn

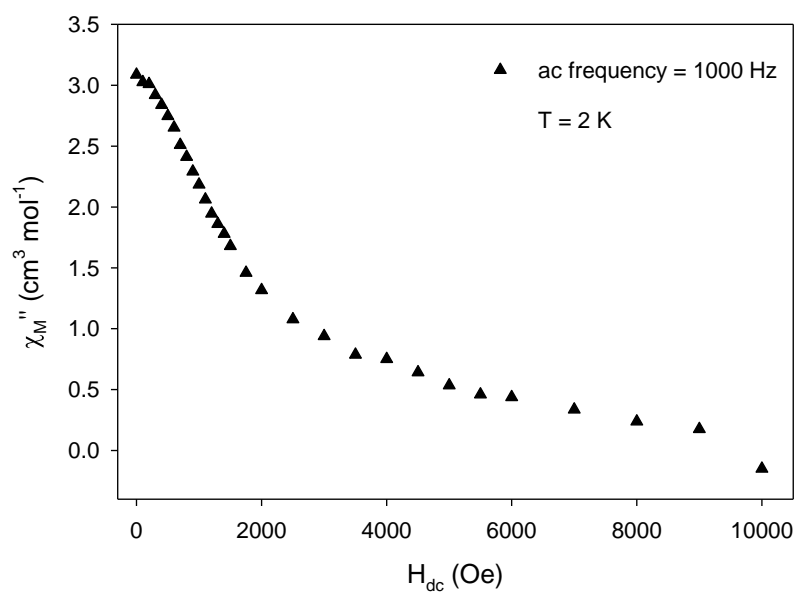
\* Correspondence: thstama@upatras.gr; Tel.: +30-2610996008



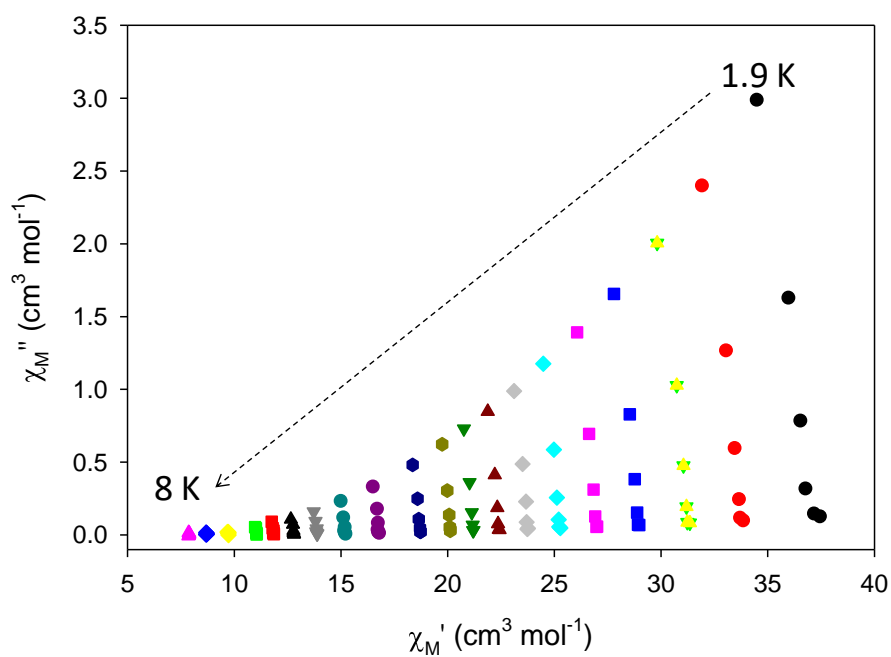
**Figure S1.** A small portion of the crystal packing of complex **1**·5MeOH·MeCN, emphasizing with a space-filling model the NO<sub>3</sub><sup>−</sup> counterions and the lattice solvate molecules that occupy the voids between the {Dy<sub>7</sub>} clusters. H atoms are omitted for clarity.



**Figure S2.** Plot of reduced magnetization ( $M/N\mu_B$ ) vs  $H/T$  for complex **1** at different fields and temperatures. The solid lines are guides for the eye only.



**Figure S3.** Field ( $H$ ) dependence of the out-of-phase ( $\chi_M''$ ) ac signals for complex **1**, measured at 2.0 K under an ac field of 3.0 G oscillating at a frequency of 1000 Hz.



**Figure S4.** Cole-Cole plots for **1** obtained using the ac susceptibility data at zero applied dc field.