## Accepted Manuscript

Single-molecule magnetism within a family of  $[Ln^{III}_{2}Mn^{III}_{10}]$  complexes from 2-hydroxymethylpyridine

Rashmi Bagai, Wolfgang Wernsdorfer, Khalil A. Abboud, George Christou

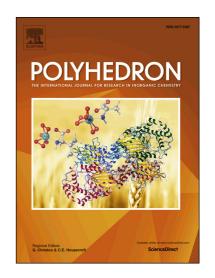
PII: S0277-5387(17)30787-8

DOI: https://doi.org/10.1016/j.poly.2017.12.005

Reference: POLY 12961

To appear in: Polyhedron

Received Date: 22 October 2017 Accepted Date: 4 December 2017



Please cite this article as: R. Bagai, W. Wernsdorfer, K.A. Abboud, G. Christou, Single-molecule magnetism within a family of [Ln<sup>III</sup> <sub>2</sub>Mn<sup>III</sup> <sub>10</sub>] complexes from 2-hydroxymethylpyridine, *Polyhedron* (2017), doi: https://doi.org/10.1016/j.poly.2017.12.005

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

### **ACCEPTED MANUSCRIPT**

Single-molecule magnetism within a family of [Ln<sup>III</sup><sub>2</sub>Mn<sup>III</sup><sub>10</sub>] complexes from 2-hydroxymethylpyridine

Rashmi Bagai, Wolfgang Wernsdorfer, Khalil A. Abboud, and George Christoua\*

<sup>a</sup> Department of Chemistry, University of Florida, Gainesville, FL 32611-7200, USA

<sup>b</sup> Institut Néel-CNRS, 38042 Grenoble, Cedex 9, France.

*Keywords:* Manganese, lanthanides, clusters, crystal structure, magnetic properties, single-molecule magnetism

#### **ABSTRACT**

A family of heterometallic Ln/Mn (Ln = lanthanide) clusters with a  $[Ln^{III}_2Mn^{III}_{10}]$  core has been synthesized. The complexes  $[Ln_2Mn_{10}O_8(O_2CPh)_{10}(hmp)_6(NO_3)_4]$  (Ln = Pr (1), Nd (2), Sm (3), Gd (4), Tb (5), Dy (6), Ho (7) and Er (8)) were prepared from the reaction of  $(NBu_4)[Mn_4O_2(O_2CPh)_9(H_2O)]$ , 2-hydroxymethylpyridine (hmpH) and  $Ln(NO_3)_3$ . The analog with diamagnetic  $Y^{III}$ ,  $[Y_2Mn_{10}O_8(O_2CPh)_{10}(hmp)_6(NO_3)_4]$  (9), was also synthesized to assist the

E-mail address: <a href="mailto:chem.ufl.edu">chem.ufl.edu</a>

1

<sup>\*</sup> Corresponding author. Tel.: +1-352-392-8314; fax: +1-352-392-8757.

#### Download English Version:

# https://daneshyari.com/en/article/7763365

Download Persian Version:

https://daneshyari.com/article/7763365

<u>Daneshyari.com</u>