Accepted Manuscript

Research paper

New lanthanide 2D coordination polymers constructed from a flexible etherbridged tricarboxylate block: Synthesis, structures and luminescence sensing

Jin-Zhong Gu, Yan Cai, Yi Liu, Xiao-Xiao Liang, Alexander M. Kirillov

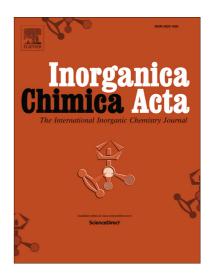
PII: S0020-1693(17)30928-3

DOI: http://dx.doi.org/10.1016/j.ica.2017.08.054

Reference: ICA 17848

To appear in: Inorganica Chimica Acta

Received Date: 12 June 2017 Revised Date: 27 August 2017 Accepted Date: 28 August 2017



Please cite this article as: J-Z. Gu, Y. Cai, Y. Liu, X-X. Liang, A.M. Kirillov, New lanthanide 2D coordination polymers constructed from a flexible ether-bridged tricarboxylate block: Synthesis, structures and luminescence sensing, *Inorganica Chimica Acta* (2017), doi: http://dx.doi.org/10.1016/j.ica.2017.08.054

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

New lanthanide 2D coordination polymers constructed from a flexible ether-bridged tricarboxylate block: Synthesis, structures and luminescence sensing

Jin-Zhong Gu^{a,*}, Yan Cai^a, Yi Liu^a, Xiao-Xiao Liang^a, Alexander M. Kirillov^{b,*}

^a Key Laboratory of Nonferrous Metal Chemistry and Resources Utilization of Gansu Province and College of Chemistry and Chemical Engineering, Lanzhou University, Lanzhou 730000, China

^b Centro de Química Estrutural, Complexo I, Instituto Superior Técnico, Universidade de Lisboa, Av. Rovisco Pais, 1049-001, Lisbon, Portugal

*Corresponding author, Tel./fax: +86-931-8915196; E-mail: gujzh@lzu.edu.cn (J.-Z. Gu); kirillov@tecnico.ulisboa.pt (A.M. Kirillov)

Abstract

Three new 2D lanthanide-organic networks, $\{[Sm_2(\mu_4\text{-cpta})(\mu_5\text{-cpta})(H_2O)_3]\cdot 3H_2O\}_n$ (1) and $[Ln(\mu_3\text{-cpta})(\text{phen})(H_2O)_2]_n$ (Ln = Tb (2) and Sm (3)), were successfully synthesized via hydrothermal reactions using $Ln(NO_3)_3\cdot 6H_2O$, a flexible ether-bridged tricarboxylic acid H_3 cpta (2-(2-carboxyphenoxy)terephthalic acid) as a principal building block, and phen (1,10-phenanthroline) as an optional supporting ligand. All products were obtained as air and thermally stable microcrystalline solids and fully characterized by standard solid-state techniques, including elemental analysis, TGA, IR spectroscopy, powder and single-crystal X-ray diffraction. Compound 1 possesses an intricate 2D layer structure with the 4,5L51 topology, which is driven by the μ_4 - and

Download English Version:

https://daneshyari.com/en/article/5151402

Download Persian Version:

https://daneshyari.com/article/5151402

<u>Daneshyari.com</u>