

Accepted Manuscript

Research paper

Grid-type complexes of M^{2+} ($M = \text{Co}$, Ni , and Zn) with highly soluble bis(hydrazone)thiopyrimidine-based ligands: Spectroscopy and electrochemical properties

Christian C. Carmona-Vargas, Ingri Y. Vázquez, Luz M. Jaramillo-Gómez, Jean-Marie Lehn, Manuel N. Chaur

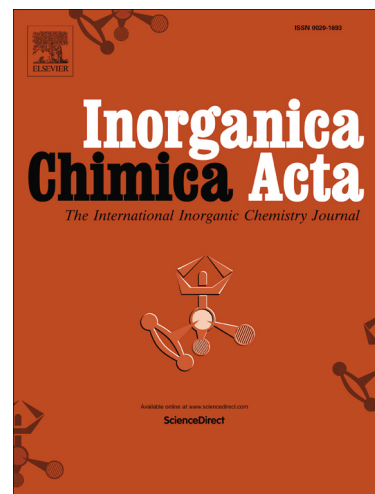
PII: S0020-1693(17)30205-0
DOI: <http://dx.doi.org/10.1016/j.ica.2017.05.002>
Reference: ICA 17570

To appear in: *Inorganica Chimica Acta*

Received Date: 12 February 2017
Revised Date: 29 April 2017
Accepted Date: 2 May 2017

Please cite this article as: C.C. Carmona-Vargas, I.Y. Vázquez, L.M. Jaramillo-Gómez, J.-M. Lehn, M.N. Chaur, Grid-type complexes of M^{2+} ($M = \text{Co}$, Ni , and Zn) with highly soluble bis(hydrazone)thiopyrimidine-based ligands: Spectroscopy and electrochemical properties, *Inorganica Chimica Acta* (2017), doi: <http://dx.doi.org/10.1016/j.ica.2017.05.002>

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.



Grid-type complexes of M^{2+} ($M = Co, Ni, \text{ and } Zn$) with highly soluble bis(hydrazone)thiopyrimidine-based ligands: Spectroscopy and electrochemical properties

Christian C. Carmona-Vargas^a, Ingri Y. Váquiro^a, Luz M. Jaramillo-Gómez^a, Jean-Marie Lehn^{*b}, Manuel N. Chaur^{*a}

^a Departamento de Química, Facultad de Ciencias Naturales y Exactas, Universidad del Valle, AA 25360, Cali, Colombia

^b Université de Strasbourg, 8 allée Gaspard Monge, 67000, Strasbourg, France

E-mail: manuel.chaur@correounivalle.edu.com, lehn@unistra.fr

Abstract

We present the synthesis of two types of two-site symmetric bis(hydrazone) ligands (**1** and **2**) which contain two tridentate subunits suitable for metal ion complexation, with remarkable solubility in most organic solvents, contrary to other pyrimidine-based bis(hydrazones) used for the preparation of metallogrids. As expected, compounds **1** and **2** exhibit conformational changes when coordinated metal ions (Zn^{2+} , Ni^{2+} , Co^{2+}) through the two terpyridine-like sites leading to the metal complexes **1a-c** and **2a-c**. The absorption spectra and redox properties of ligands **1** and **2** and of the metal complexes **1a-c** and **2a-c** are studied. Compounds **1** and **2** exhibit absorption spectra dominated by intense $\pi-\pi^*$ bands in the UV region, while the absorption spectra of the metal complexes **1a-c** and **2a-c** show intense bands in the UV region, due to the spin-allowed ligand-centred (LC) transitions, and in the visible, due to spin-allowed metal-to-ligand charge transfer (MLCT) transitions. Cyclic voltammetry and square wave voltammetry were carried out in order to establish the relevance of the complexation, and the grid formation in the redox potentials of the ligands **1** and **2**.

Keywords: Hydrazones; Metallogrids; Supramolecular Chemistry.

Download English Version:

<https://daneshyari.com/en/article/7750936>

Download Persian Version:

<https://daneshyari.com/article/7750936>

[Daneshyari.com](https://daneshyari.com)