

Accepted Manuscript

Ultrasound-assisted fabrication of a novel nickel(II)-bis-pyrazolyl borate two-nuclear discrete nano-structured coordination compound

Younes Hanifehpour, Ali Morsali, Behzad Soltani, Babak Mirtamizdoust, Sang Woo joo

PII: S1350-4177(16)30233-4

DOI: <http://dx.doi.org/10.1016/j.ultsonch.2016.06.032>

Reference: ULTSON 3289

To appear in: *Ultrasonics Sonochemistry*

Received Date: 13 May 2016

Revised Date: 22 June 2016

Accepted Date: 22 June 2016



Please cite this article as: Y. Hanifehpour, A. Morsali, B. Soltani, B. Mirtamizdoust, S.W. joo, Ultrasound-assisted fabrication of a novel nickel(II)-bis-pyrazolyl borate two-nuclear discrete nano-structured coordination compound, *Ultrasonics Sonochemistry* (2016), doi: <http://dx.doi.org/10.1016/j.ultsonch.2016.06.032>

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.

Ultrasound-assisted fabrication of a novel nickel(II)-bis-pyrazolyl borate two-nuclear discrete nano-structured coordination compound

Younes Hanifehpour¹, Ali Morsali^{2,*}, Behzad Soltani³, Babak Mirtamizdoust⁴, Sang Woo joo^{1,*}

¹School of Mechanical Engineering, Yeungnam University, Gyeongsan 712-749,
South Korea

*E-mail: swjoo1@gmail.com, Tel: +82 53 810 2568

Department of Chemistry, Faculty of Sciences, TarbiatModares University, P.O. Box
14115-4838, Tehran, Islamic Republic of Iran

*E-mail: morsali_a@modares.ac.ir; Tel:+9821 82884416

³Department of Chemistry, Faculty of Basic Sciences, Azarbaijan Shahid Madani
University, Tabriz, Iran

⁴Department of Chemistry, Faculty of Science, University of Qom, PO Box 37185-359,
Qom, Iran

Abstract

Ultrasound was used to synthesize nano-structures of [Ni(bpzB)₂]₂(**1**), a new two-nuclear discrete-coordination compound of divalent nickel with bis-pyrazolyl borate(bpzB). The nanostructure was characterized by scanning electron microscopy, X-ray powder diffraction, infrared, and elemental analysis. The single-crystal X-ray data show that the coordination number of Ni(II) ions is four (Ni1N₄ and Ni2N₄) with square planar geometry. The supramolecular features in these complexes are guided and controlled by weak directional intermolecular interactions. The discrete molecules interact with each other through labile interactions, creating a 3D supramolecular framework.

Key words: Nickel; Pyrazolyl borate; Nano coordination compounds; DFT calculations; Sonochemical.

Download English Version:

<https://daneshyari.com/en/article/7703705>

Download Persian Version:

<https://daneshyari.com/article/7703705>

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