

Accepted Manuscript

Research paper

Cyclic tetranuclear iron-carbonyl complex containing thiobisbenzenethiolate ligands: Synthesis and structural characterization

Shakeena L. Johnson, Nikolay N. Gerasimchuk, Charles A. Mebi

PII: S0020-1693(18)30229-9
DOI: <https://doi.org/10.1016/j.ica.2018.03.043>
Reference: ICA 18188

To appear in: *Inorganica Chimica Acta*

Received Date: 9 February 2018
Revised Date: 28 March 2018
Accepted Date: 28 March 2018

Please cite this article as: S.L. Johnson, N.N. Gerasimchuk, C.A. Mebi, Cyclic tetranuclear iron-carbonyl complex containing thiobisbenzenethiolate ligands: Synthesis and structural characterization, *Inorganica Chimica Acta* (2018), doi: <https://doi.org/10.1016/j.ica.2018.03.043>

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.



Cyclic tetranuclear iron-carbonyl complex containing thiobisbenzenethiolate ligands: Synthesis and structural characterization

Shakeena L. Johnson,^[a] Nikolay N. Gerasimchuk,^[b] and
Charles A. Mebi^{*[a]}

^aDepartment of Physical Sciences, Arkansas Tech University, 1701 N. Boulder Ave, Russellville, Arkansas, 72801 USA. Email: cmebi@atu.edu, Phone: 4793562151, Fax: 4799640837

^bMissouri State University, Department of Chemistry, 901 S. National Ave. Springfield, Missouri, 65897 USA

ABSTRACT

A new macromolecular double-butterfly Fe/S carbonyl cluster, $[\text{Fe}_2(\text{CO})_6]_2(\mu\text{-}4,4'\text{-thiobisbenzenethiolato})_2$ (**1**), a model for the active site of [Fe-Fe] hydrogenases, has been prepared and characterized by spectroscopic methods and X-ray crystallography. The molecular structure of **1** contains two units of $\text{S}_2\text{Fe}_2(\text{CO})_6$ covalently linked to two thiobisbenzene groups to form a 26-membered metallocycle with the benzene substituents on sulfur adopting an *ae* stereochemistry. The Fe-Fe bond in **1**

Download English Version:

<https://daneshyari.com/en/article/7750575>

Download Persian Version:

<https://daneshyari.com/article/7750575>

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