

Accepted Manuscript

Synthesis and boron interaction of new amino acid containing phthalocyanines and the precursor

Şükran Cenikli Başeren, Ali Erdoğan, Ahmet Gül



PII: S0022-328X(18)30252-3

DOI: [10.1016/j.jorganchem.2018.04.016](https://doi.org/10.1016/j.jorganchem.2018.04.016)

Reference: JOM 20408

To appear in: *Journal of Organometallic Chemistry*

Received Date: 25 February 2018

Revised Date: 4 April 2018

Accepted Date: 11 April 2018

Please cite this article as: Şü.Cenikli. Başeren, A. Erdoğan, A. Gül, Synthesis and boron interaction of new amino acid containing phthalocyanines and the precursor, *Journal of Organometallic Chemistry* (2018), doi: 10.1016/j.jorganchem.2018.04.016.

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.

Synthesis and Boron Interaction of New Amino Acid Containing Phthalocyanines and the Precursor

Şükran Cenikli Başeren^{a,b}, Ali Erdoğan^c and Ahmet Gül^{a*}

^a Department of Chemistry, Istanbul Technical University, 34469 Maslak, Istanbul, Turkey

^b Vocational School of Health Services, Pathology Laboratory Techniques Programme, Okan University, Tuzla, İstanbul, Turkey

^c Department of Chemistry, Yildiz Technical University, 34210 Esenler, Istanbul, Turkey

Abstract

A new phthalonitrile precursor with tyrosine substituent and the zinc phthalocyanine derived from it were synthesized and their interaction with diphenylborinic acid was studied. The new compounds were characterized by using elemental analysis, IR, ¹H- and ¹¹B-NMR and UV-VIS spectral data. ¹¹B-NMR data demonstrated that boron atom attached to the phthalonitrile precursor is in a bulky tetra-coordinated state with the formation of a coordinative N-B bond while completely planar phthalocyanine moieties with high aggregation tendencies at the concentrations used in NMR measurements lead the borinic ester side of the molecule into a planar tri-coordinated form. Moreover, the consequences of the presence of diphenylborinic ester groups on the spectral, photophysical and photochemical properties of the new zinc phthalocyanine are investigated in detail.

Keywords: Phthalocyanine, Diphenylborinic acid, Borinate complex, Photochemistry, Fluorescence

1. Introduction

Phthalocyanines take part major roles in many applications not only industrial but also biological such as medicine, chemical sensors, phototoxic drugs, photodynamic therapy due to their known chemical stability and characteristic absorption spectra [1,2]. They have conjugated 2-dimensional 18 π electron systems and accept more than 70 different metals or

Download English Version:

<https://daneshyari.com/en/article/7755950>

Download Persian Version:

<https://daneshyari.com/article/7755950>

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