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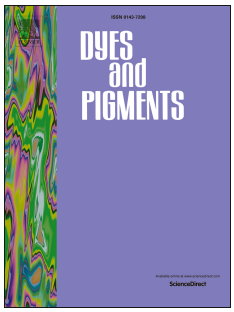

Physicochemical properties of water soluble unsymmetrical phthalocyanine-folic acid conjugates

Gauta Gold Matlou, Nagao Kobayashi, Mutsumi Kimura, Tebello Nyokong

PII: S0143-7208(17)32009-0

DOI: 10.1016/j.dyepig.2017.10.030

Reference: DYPI 6328

To appear in: *Dyes and Pigments*

Received Date: 23 September 2017

Revised Date: 17 October 2017

Accepted Date: 18 October 2017

Please cite this article as: Matlou GG, Kobayashi N, Kimura M, Nyokong T, Physicochemical properties of water soluble unsymmetrical phthalocyanine-folic acid conjugates, *Dyes and Pigments* (2017), doi: 10.1016/j.dyepig.2017.10.030.

Physicochemical properties of water soluble unsymmetrical phthalocyanine-folic acid conjugates.

Gauta Gold Matlou, [a] Nagao Kobayashi, [b*] Mutsumi Kimura[b] and Tebello Nyokong[a*]

[a] Centre for Nanotechnology Innovation, Department of Chemistry, Rhodes University, Grahamstown 6140, South Africa

[b] Department of Chemistry and Materials, Faculty of Textile Science and Technology, Shinshu University, Ueda 386-8567, Japan

Abstract.

This work reports on the successful chemical linkage of folic acid (FA) to Zn mono carboxyphenoxy phthalocyanine (**1**) and Zn mono carboxyphenoxy tri–(*tert*–butyl) phthalocyanines (**2**). The amide bond linkage of FA to Pc as achieved for the first time through the FA-NH_2 and Pc-COOH as confirmed using FTIR, MS, elemental analysis and NMR. The linked conjugates were found to be water soluble compared to the physical mixtures of FA and Pc, which allowed for studies of singlet oxygen in water. The Pc-FA linked conjugates (**1**-FA and **2**-FA) were found to be singlet oxygen generators with the following singlet oxygen quantum yields: **1**-FA = 0.61 and **2**-FA = 0.47 in DMSO and **1**-FA = 0.17 and **2**-FA = 0.12 in water.

Keywords: Unsymmetrical zinc phthalocyanine, folic acid, triplet quantum yield, triplet state quantum yield, amide bond.

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[*]*Corresponding author. Tel: + 27 46 6038260; Fax: + 27 46 6225109.*