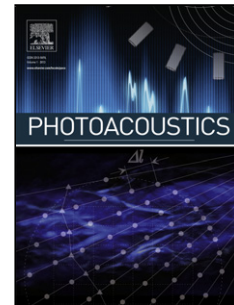


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Towards Optimized Naphthalocyanines as Sonochromes for Photoacoustic Imaging *in vivo*[☆]

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Abstract

In this paper we establish a methodology to predict photoacoustic imaging capabilities from the structure of absorber molecules (sonochromes). The comparative *in vitro* and *in vivo* screening of naphthalocyanines and cyanine dyes has shown a substitution pattern dependent shift in photoacoustic excitation wavelength, with distal substitution producing the preferred maximum around 800 nm. Central ion change showed variable production of photoacoustic signals, as well as singlet oxygen photoproduction and fluorescence with the optimum for photoacoustic imaging being Nickel(II). Our approach paves the way for the design, evaluation and realization of optimized sonochromes as photoacoustic contrast agents.

Keywords: Naphthalocyanines, Spectroscopy

1. Introduction

Photoacoustic imaging (PAI) has been introduced as a possible translational molecular imaging technique with non-invasive diagnostic and moni-

[☆]Dedicated to Prof. Dr. Silvia E. Braslavsky on the occasion of her 75th birthday.

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