NEW INDOLIUM FLUOROFORES FOR TWO-PHOTON ABSORPTION (2PA) BIO-IMAGING APPLICATIONS

Ezequiel Pérez-Inestrosa,1,2 Carlos Benitez,1,2 Francisco Nájera.1,2

1Department of Organic Chemistry, University of Málaga, IBIMA, Campus de Teatinos, E-29071 Málaga, Spain
2Andalusian Centre for Nanomedicine and Biotechnology-BIONAND, Parque Tecnológico de Andalucía, E-29590 Málaga, Spain
E-mail: inestrosa@uma.es

The development of organic materials with 2PA has attracted intensive attention in the past two decades [1]. In two-photon bio-imaging applications the design of the chromophore requires to have a good cross-section (σ2PA) and good biological compatibility which depends on the molecular volume and polarity [2].

In this work, we present the design, synthesis and characterization of new indolium derivatives. These compounds are easy to achieve with good yields and good photophysical properties. In addition, time-dependent density functional theory (TDDFT) has been carried out to investigate the energy level of the ground and excited state.

Their spectral properties and assays performed on cultured cells, demonstrate the potential of these compounds as fluorescent probes with application in two-photon bio-imaging.

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