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Book of Abstracts

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

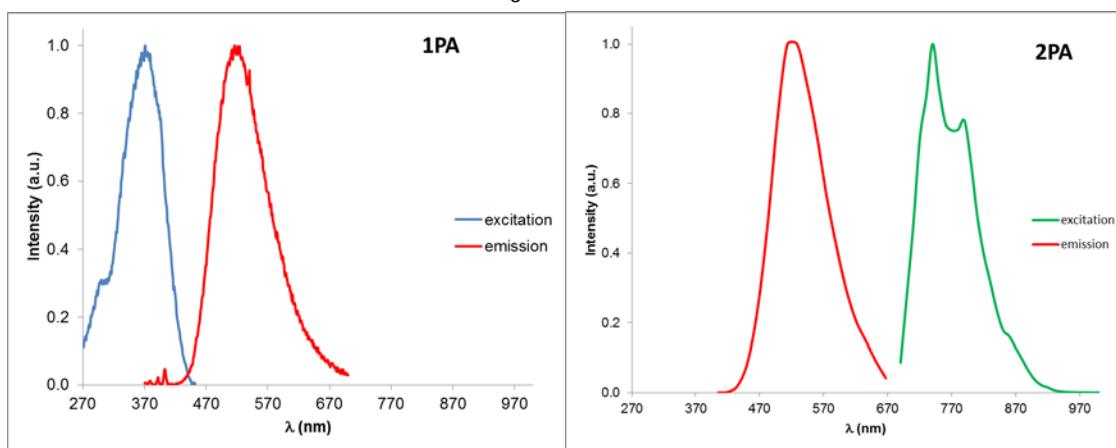
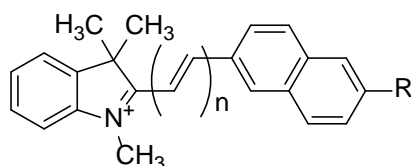
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The development of organic materials with 2PA has attracted intensive attention in the past two decades [1]. In two-photon bio-imaging applications the design of the chromophore requires to have a good cross-section (σ_{2PA}) and good biological compatibility 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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[1] Lim, C. S.; Cho, B. R. *Tetrahedron* **2015**, *71*, 8219–8249.

[2] Ge, X.; Gan, X.; Yao, S.; Wang, K.; Zhu, W.; Yu, J.; Wu, J.; Tian, Y.; Zhou, H. *J. Mater. Chem. B* **2016**, *4*, 2785–2793.