

## DESIGN AND SYNTHESIS OF NEW MOLECULES BASED ON INDOLIUM DERIVATIVES FOR TWO-PHOTON ABSORPTION BIOIMAGING APPLICATIONS

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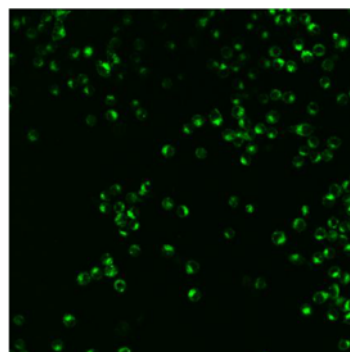
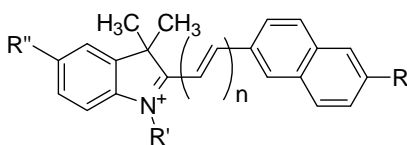
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Bioimaging is the visualization of biological processes in real time, interfering as less as possible with these and using non-invasive methods. Among others, fluorescence methods have acquired a very important role in these purposes through the nature of the light. Bioimaging pretends to understand how our organism works identifying subcellular organelles, following cellular processes, quantifying ion or biological species and visualising interactions of molecules with their targets in living cells or tissues.<sup>1</sup>

In the last decades, two-photon (TP) microscopy is unseating classical one-photon (OP) microscopy due to its advantages, such as the use of lower energy excitation wavelengths or the possibility of focus in depth, among others.<sup>2</sup> Nowadays, it is an interesting target design and develop of new probes for TP microscopy to biomaging. Fluorophores based on indolenines are a family of compounds with promising properties in this sense.<sup>3</sup>

In this work, we present the design, synthesis and characterization of new indolium derivatives with promising properties to be used in bioimaging applications in living cells with different purposes.



### References

- 1 L. K. Truman, S. Comby, T. Gunnlaugsson, *Angew. Chemie - Int. Ed.* **2012**, *51*, 9624–9627
- 2 Lim, C. S.; Cho, B. R. *Tetrahedron* **2015**, *71*, 8219–8249
- 3 W. Sun, S. Guo, C. Hu, J. Fan, X. Peng, *Chem. Rev.* **2016**, *116*, 7768–7817