

“OFF-ON” TWO-PHOTON INDOLENINE PROBES FOR PH BIOIMAGING

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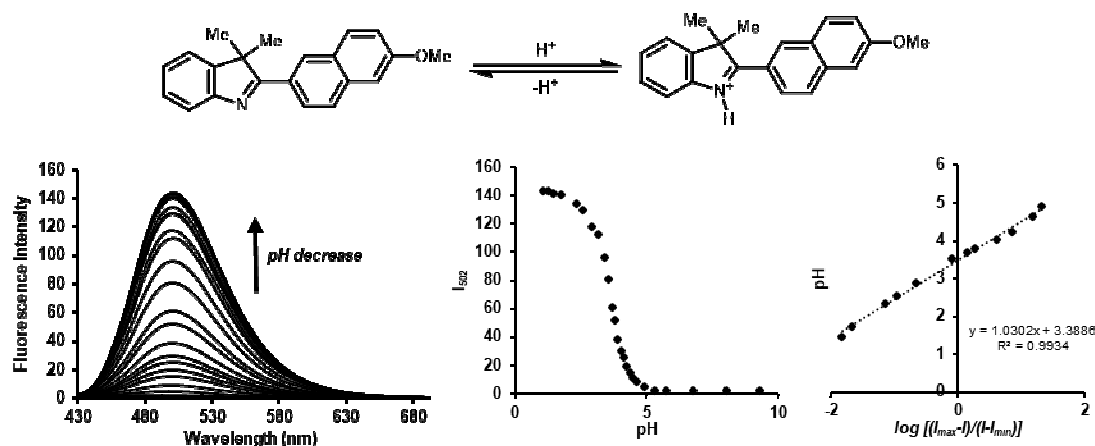
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Fluorescence-based biosensors have become an indispensable tool in modern biology. These molecules can be used to monitor processes inside living cells and in real-time. The control of the pH is crucial in multiple biological process such as proliferation, apoptosis and defense.[1] Therefore, the use of such pH probes are widespread in fluorescence microscopy.[2]

Recently, we have described a biosensor with excellent photophysical and suitable two-photon absorption (TPA) properties. This sensor allows the detection of hydroxyl radicals inside lysosomes.[3] Based on this scaffold, we have designed, synthesized and characterized a new TPA fluorescent probe with an “off-on” response to different pH environments. These naphthalene-indolenine derivatives have a high synthetic versatility through affordable and efficient synthesis. The preliminary results suggest that this sensor has promising properties for detecting pH changes inside living cells.



[1] Truman, L. K.; Comby, S.; Gunnlaugsson, T. *Angew. Chemie-Int. Ed.* **2012**, *51*, 9624–9627.

[2] Wencel, D.; Abel, T.; McDonagh, C. *Anal. Chem.* **2014**, *86*, 15–29.

[3] Benitez-Martín, C.; Guadix, J. A.; Pearson, J. R.; Najera, F.; Pérez-Pomares, J. M.; Perez-Inestrosa, E. *Sensors Actuators, B Chem.* **2019**, *284*, 744–750.