

**NANOCAPSULES AS BULK SYSTEM FOR  
FLUOROPHORES TO MONITOR PHOTOLYSIS OF O-  
NITROBENZALDEHYDE PROTON CAGES UNDER TWO-  
PHOTON EXCITATION.**

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The increasing interest in photoactivatable caged compounds of biological interest is leading to the development of new experimental techniques for in vivo uncaging. We carried on experiments using o-Nitrobenzaldehyde (o-NBA, PM=151.1) proton caged compound. This compound undergoes 1-photon absorption within 320-360 nm range and its uncaging shows strict analogies with Ca<sup>2+</sup> caged compounds. Since the use of UV excitation could induce biological damage, we moved to two-photon absorption uncaging processes. We used two-photon excitation microscopy to monitor the uncaging process using fluorescein as pH indicator. We used a nanostructured system, i.e. nanocapsule, as bulk system for fluorescein. Its utilization allowed to couple two-photon uncaging with two-photon imaging in a very efficient and promising experimental scheme. We also introduced an original image processing method to quantitate the uncaging.