

## Synthesis of a BODIPY-dihydropyrimidinone derivative

Carine de Arruda<sup>1\*</sup>, Pedro H. Mürer<sup>1</sup>, Alcindo A. Dos Santos<sup>2</sup> and Rogério A. Gariani<sup>1</sup>

1) Department of Chemistry, Santa Catarina State University, UDESC, 89.219-710

2) Institute of Chemistry, University of São Paulo, USP, 05508-000

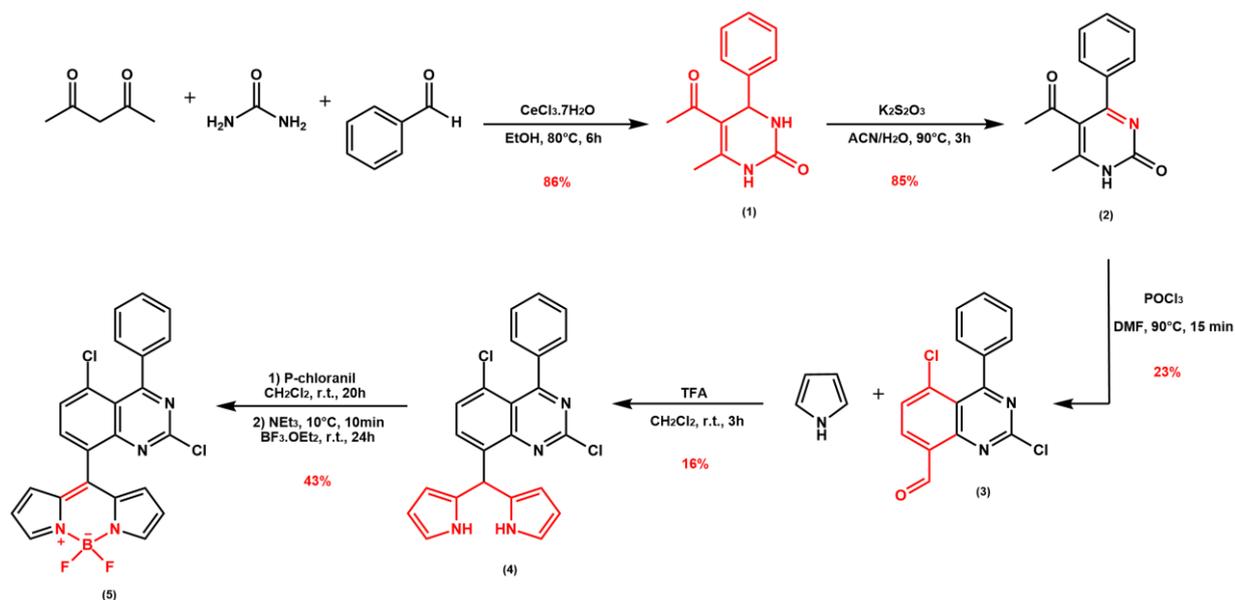
\*e-mail: carine.arruda@edu.udesc.br

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### ABSTRACT

Fluorescent probes may be used for sensing organic substances or metal ions, emitting fluorescence signals for their detection [1]. Due to their advantages such as high sensitivity, selectivity, fast response time, and minimal invasiveness in biological systems, these probes have been studied for various applications [2]. Parallel to studies on fluorophores, dihydropyrimidinones (DHPM), have been extensively investigated due to their biologically active properties, structural similarity to natural products and nucleic acids, and wide variety of interactions with biomolecules [3]. The main objective of this work is the synthesis of hybrid fluorophores containing the BODIPY core and the DHPM residue for subsequent study of their photophysical properties. DHPM were chosen as the key components to explore their influence on the photophysical properties of the BODIPY core. The scarcity of information in the literature involving fluorescent probes containing these two classes of molecules, as well as their well-known biological properties, motivated the study, development, and synthesis of the new fluorophores. These compounds were synthesized according to sequence presented route and characterized through 1D and 2D NMR spectroscopy. To evaluate the photophysical properties of the compounds, ultraviolet-visible (UV-Vis) and fluorescence spectroscopic methods will be employed.

Figure 1 – General strategy on the synthesis of BODIPY-DHPM derivative



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