

SYNTHESIS AND STRUCTURAL ELUCIDATION OF NATURAL DIHYDROPYRANONES

Ronaldo A. Pilli

Institute of Chemistry, University of Campinas
 13083-970 Campinas, SP Brazil

Obesity and Comorbidities Research Center (OCRC)

Email: pilli@iqm.unicamp.br

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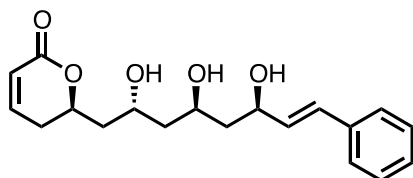
ABSTRACT

The chemical space comprised by natural products continues to offer inspiration to drug discovery. According to Newman & Cragg, in the area of cancer chemotherapy, *ca.* 50% of small molecules introduced as therapeutic agents over the last 75 years are either natural products or derived therefrom [1]. It is estimated that Brazilian biodiversity hosts up to 20% of the world's known living species, many of which have not yet been described [2].

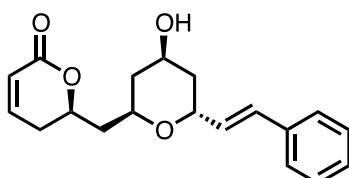
Despite the advances of spectroscopic techniques for structural elucidation of natural products, chemical synthesis continues to be the final proof for the most challenging cases as illustrated by the revision of hundreds of structural misassignments after total synthesis. Moreover, chemical synthesis enables the investigation of the biological properties of natural products, supports campaigns designed to find better drug candidates, and paves the way for scaling up the production of the final pharmaceutical agent based on the structural platform provided by natural products.

GRAPHICAL ABSTRACT

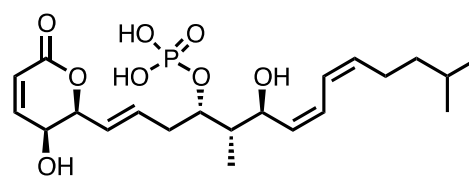
In this presentation, progress on the total synthesis and structural elucidation of natural dihydropyran-2-ones, including some isolated from the Brazilian biodiversity, will be presented [3-5].



Cryptomoscatone E3



Cryptoconcatone H



Phosdiecin A

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- [5] For some of our recent work on the total synthesis of natural dihydropyranones, see: a) Novaes, L. F. T., Sarotti, A. M., Pilli, R. A., *J. Org. Chem.* **2015**, 80, 12027-12037; b) Della-Felice, F., Sarotti, A. M., Pilli, R. A., *J. Org. Chem.* **2017**, 82, 9191-9197.