SCIENCESPRINGDAY

FCT FACULDADE DE CIÊNCIAS E TECNOLOGIA UNIVERSIDADE NOVA DE LISBOA

Chemistry Department

MarinatProd & CHEM4ALL

Applied Organic Chemistry
Lab 202

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Objectives

I – MarinatProd = Marine Natural Products for Pharma
Isolation and structure determination of bioactive bacterial secondary metabolites from sediments collected in the Atlantic ocean (Azores area). Novel prodigiosins already found related to undecylprodigiosin.

II – CHEM4ALL = Chemistry for All – Teaching Chemistry to Blinds
Teaching organic chemistry to blind and visually impaired (BVI) students. Development of cheminformatic tools for processing chemical structures and other chemical graphical data such as spectra.

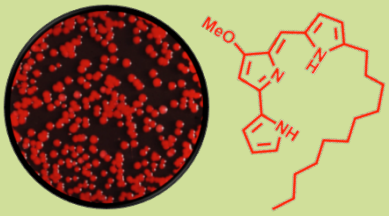
R.P.S. Fartaria et al. *Eur. J. Org. Chem.* **2013**, 1415.
F. Pereira et al. *J. Chem. Educ.* **2011**, *88*, 361.

Portuguese continental platform

Methodology

I – From the bacterial extracts novel bioactive chemical structures are being isolated and studied using MS/MS, H1/C13 NMR, and X-ray techniques. Pharma testing will use synthetic materials when needed.

II – A significant obstacle to the access of BVI students to chemistry courses is the need to process graphical information. In partnership with ACAPO the developed cheminformatic and other tools will be tested by BVI users in order to validate and optimize the teaching methodologies.



Undecylprodigiosin

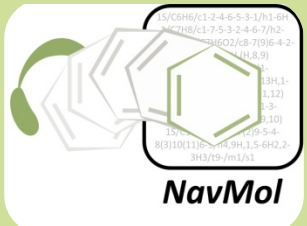
Expected Results

I – Isolation of new secondary metabolites and evaluation of their pharmacological activity (anticancer and antibiotic), including their mechanism of action.

II – Novel cheminformatic and sonification based tools for teaching chemistry to BVI students.

Production of prodigiosins from a marine Streptomyces sp.

For more information go to the webpages:
MOLinsigth: www.molinsight.net
ECEGAM: www.molinsight.net/ecegam



NavMol 2.0
A molecular structure navigator/editor for blind and visually impaired users

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