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The great potential of phenolic compounds isolated from *Limonium* densiflorum to quench and protect human cell against free radicals

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The diversity of plant-based systems has provided an enormous number of lead compounds in healthcare. The crucial factor for the ultimate success of an investigation on bioactive plant constituents is thus the selection of plant materials and the appropriate extraction and purification process of the active compounds. Halophytes plants, living in extreme environments dealing with frequent changes in the salinity level, are used to treat various diseases and aging processes. Among of them, the genus *Limonium* is known in the traditional medicine. The chemical composition of the ethanolic shoot extract of *L. densiflorum* showed excellent radical with scavenging and antioxidant properties. Furthermore, it represents a rich and growing source of natural target molecules, such as phenolic compounds. In order to isolate the active compounds, an *in vitro* fractionation was undertaken by preparative chromatographic techniques. On the basis of nuclear magnetic resonance techniques, the structure of the isolated compounds was determined as gallic acid, epigallocatechin gallate, quercitrin, dihydrokaempferol, pinoresinol, N-*trans*-ferulolyltyramine and (myricetin 3-O-a-rhamnopyranoside and myricetin 3-O-L-arabinofuranoside). All isolated molecules were evaluated for their capacities to inhibit ROS formation on fibroblast cell line (WS-1) by the 2′,7′-dichlorofluorescein assay. Results showed that all compounds tested were found to reduce ROS formation at various doses unless the phenol amide *trans*-N-ferulolyl tyramine (IC_{50}>50 µg/ml). Epigallocatechin gallate followed by gallic acid and the mixture of myricetin 3-O-α-rhamnopyranoside+myricetin 3-O-L-arabinofuranoside, showed the highest antioxidant activity with IC_{50} values of 0.92, 1.22 and 1.5 µg/ml, respectively.

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Cyclopentenes for anti-tuberculosis and antibiotics

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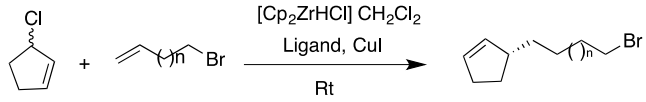
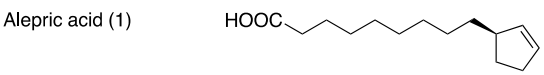
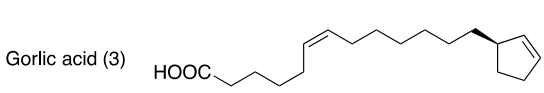
In this presentation the author will describe the asymmetric additions of alkyl nucleophiles to racemic allylic chlorides, to access important cyclopentene containing natural products. These natural products have timely biological activity and the eventual synthesis of derivatives will help develop structure-activity relationships. Cyclopentene natural products Alepric acid (1), aleprestic acid (2), and gorlic acid (3) have not previously had their synthesis reported. The asymmetric addition reaction is a dynamic kinetic asymmetric transformation (DYKAT) to a racemic allylic chloride to give cyclopentenes with high level of ee.







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