Polyphenol-rich natural products have been associated to protective activities towards several chronic diseases. The exploitation of polyphenols as sources of molecules with nutraceutical/pharmacological interest depends on effective methods for compounds extraction to be further tested as regard their chemical and biological activities. Additionally, the use of fractionation procedures coordinated with bioactivity/antimicrobial screenings – bio-guided fractionation – is required for the identification of single compounds with therapeutic potential. Once identified, the pharmacokinetics and modus operandi of compounds need to be gathered to support the rational design and synthesis of medicinal chemistry derivatives. Alternatively, large-scale production of potential bioactive polyphenols can be achieved by means of synthetic biology. At last, technologies of controlled delivery must ensure that the compounds are carried to the site of action. The ultimate goal of this pipeline is to discover and make available to society therapeutic alternatives for chronic diseases including cancer, neurodegenerative, cardiovascular, and metabolic diseases.

We invite authors to contribute with high-quality review articles highlighting the potential of polyphenols as therapeutic molecules for chronic diseases. We are also interested in articles focusing on state-of-art strategies (1) to identify novel compounds, (2) to characterize their pharmacokinetics and mechanisms of action, (3) to produce them in a sustainable manner, and (4) to ensure their proper delivery to target tissues. Potential topics include, but are not limited, to: extraction and (bio-guided) fractionation procedures; metabolomics as tool for the discovery of new compounds; bioactivity screening systems; polyphenol pharmacokinetics and mechanism of action; medicinal chemistry; synthetic biology; recent advances in controlled delivery; and pharmacological applications in cardiovascular and neurodegenerative diseases, cancer and obesity/diabetes.

Schedule:
Manuscript submission deadline: December 1st, 2017
Peer review due: January 1st, 2018
Revision due: February 2018
Notification of acceptance by the guest editors: March 2018