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## STABILITY OF PHENOLIC COMPOUNDS AND BIOLOGICAL PROPERTIES OF GRAPE (*VITIS VINIFERA* L.) STEMS DURING LONG-TERM STORAGE

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The winery industry is one of the most important industries worldwide, with an economic and social impact in Europe and especially in Northern Portugal. This socio-economic activity entail large quantities of byproducts generated annually, causing economic and environmental problems. In a close connection with the 40 years history of investigation on agro-food valorization, nowadays, a growing interest has wake up on recycling winery wastes boosted by the more and more reported putative health - promoting effects. Furthermore, the continuous emergence of multi drug resistance bacteria is becoming a huge threat to human, animal and environmental health. Therefore, the research for new natural antimicrobial compounds is the most promising alternative to effectively control multi drug bacterial infections. Hence, qualitative and quantitative evaluation of polyphenolic extracts of grape stems as sources of individual phenolic compounds and their biological activity *in vitro* (radical scavenging power and antimicrobial activity) were assessed during 64 days of storage. Grape stems revealed to be a rich source of phenolic compounds, even after some months of

storage. Furthermore, all extracts with and without storage were able to inhibit the bacterial growth of the gram-positive bacteria and gram-negative bacteria (except *E. coli* and *K. pneumoniae*), revealing the potential inclusion of these bioactive compounds in the food, cosmetic and pharmaceutical industry as functional ingredients.

### Biography

Irene Gouvinhas is a Post-doc student at University of Trás-os-Montes and Alto Douro (UTAD, Chemistry Department), Portugal and Investigator at the Centre for the Research and Technology of Agro-Environmental and Biological Sciences (UTAD-CITAB) since 2013. Her research interests are based on the investigation of the chemical features - bioactive nutrients and non-nutrients from foods and agro-food by-products, namely in olive and olive oils. Furthermore, she has published dozen articles (2010-2016) in the well reputed journals with his/her area of expertise: *Food Chemistry*, *Talanta*, *Food Research International*, *Journal of Chemometrics*, *Journal of Oleo Science*, among others.

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