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# FRONTIERS IN BIOACTIVE COMPOUNDS

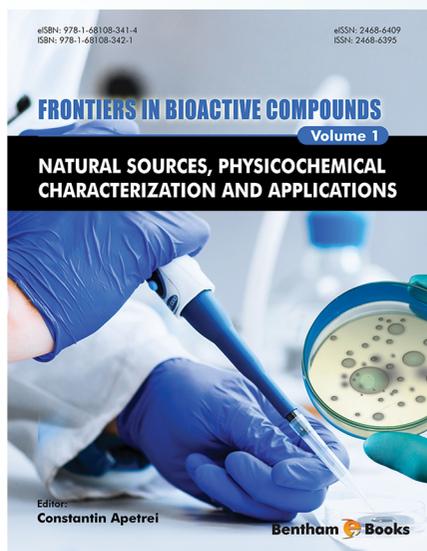
Volume 1

## NATURAL SOURCES, PHYSICOCHEMICAL CHARACTERIZATION AND APPLICATIONS

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# Frontiers in Bioactive Compounds: Natural Sources, Physicochemical Characterization and Applications

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## About the eBook

This volume presents different aspects related to bioactive compounds, starting with their natural state in raw sources, physicochemical characterization and employment in pharmacy and medicine. The volume is divided into three parts. The first part describes the chemical structure of bioactive compounds from different natural sources such as olive oils, wines, and medicinal plants. Special attention has been given to identifying the bioactive composition within variations of these natural sources (for example, extra virgin, ordinary or lampante olive oils). The second part of the volume presents the principal methods used for detecting, identifying and quantifying bioactive compounds. Emphasis is given to the use of different types of sensors or biosensors, and multisensor systems in combination with analytical techniques. The final part explains the principal methods for protection of bioactive compounds and the implication of bioactive compounds in pharmacy. This volume is a useful guide for novice researchers interested in learning research methods to study bioactive compounds.

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## Extra Virgin Olive Oils: Bioactive Compounds and Health Benefits

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### Abstract

Due to the unique extraction process, extra virgin olive oils conserve numerous substances, which are often excluded from other vegetable oils during the extraction and refining steps. Previous works showed that fatty acids profile of lipids are important for the dietary. In the last five decades many researchers demonstrated that monounsaturated fatty acids are involved in prevention of diseases such as the metabolic syndrome and cardiovascular ones. Moreover, vitamin E is active against weakened immunity, aging, environmental toxic substances, diabetic syndrome symptoms, enhancing the health status from different points of view, such as cardiovascular and neoplastic ones. Hydroxytyrosol has many effects; it is an antiinflammatory compound, with antibacterial, antioxidant and cardioprotective properties. However, not all extra virgin olive oils are equal. Inside the market category "extra virgin" there is a wide number of products ranging from the highest quality to the standard quality ones. In 2012 the European Commission approved three health claim applicable to the extra virgin olive oil but they are still scarcely used by the producers.

### Keywords:

Bioactive compounds, Extra virgin olive oils, Health claim.

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