

Special Issue

Essential Oils and Their Derivatives: Characterization, Biological Activity and Application

Message from the Guest Editor

This Special Issue will examine various aspects of essential oils and their derivatives, focusing on their chemical composition, biological activities, and practical applications. Additionally, this issue will highlight the in vitro and in vivo biological activities of essential oils, such as their antidiabetic, hypolipidemic, antioxidant, anti-inflammatory, antitumor, anticonvulsant, antidepressant, antinociceptive, and antibiotic effects. Contributions may also explore the mechanisms behind these biological effects and their significance for health and disease treatment. Besides characterization and biological properties, this issue will explore the practical uses of essential oils across various industries, including pharmaceuticals, food preservation, aromatherapy, and cosmetics. Other relevant topics include new properties of bioactive compounds from aromatic plants; mechanistic insights; structure–function relationships; synergistic interactions with other substances; the safety and potential toxicity of natural aromatic compounds; biosynthesis pathways and enzymes involved; and bioavailability, stability, and innovative delivery systems.

Guest Editor

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Message from the Editor-in-Chief

As the premier open access journal dedicated to molecular chemistry, now in its 30th year of publication, the papers published in *Molecules* span from classical synthetic methodology to natural product isolation and characterization, as well as physicochemical studies and the applications of these molecules as pharmaceuticals, catalysts, and novel materials. Pushing the boundaries of the discipline, we invite papers on all major fields of molecular chemistry and multidisciplinary topics bridging chemistry with biology, physics, and materials science, as well as timely reviews and topical issues on cutting-edge fields in all of these areas.

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