

Special Issue Reprint

Extraction and Purification of Bioactive Compounds

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Bioactive compounds, which are abundant in flora, fauna, and microorganisms, can potentially be used by various industries, including pharmaceuticals, functional foods, dietary supplements, and cosmetics. Their extraction and purification, however, pose significant challenges due to the presence of impurities, interference from other compounds, and the need to maintain their stability as well as activity. It delves into the complexities of these processes, presenting one review paper and eleven original research articles that explore the enrichment, identification, and various aspects of bioactive compounds. A comprehensive review of the current methodologies used for obtaining bioactive products from microalgae was presented. Conventional and green extraction techniques were compared for natural antioxidants from Saudi date fruit. The carotenoid extraction protocol using yeast fermentation technology was explored. The utilization of resins for the adsorption of bioactive compounds was addressed. The ion exchange strategy with Dowex® HCR-S resin was discussed for the isolation and purification of ectoine. The constituents of acidic compounds in the particulate and gaseous phases of mainstream cigarette smoke were analyzed. The composition of bioactive compounds in organically produced cereals, dried sea cucumber viscera, and the medicinal plant *Clinacanthus nutans* were also investigated. This Special Issue covers other aspects of bioactive compounds, such as optimizing the operating parameters of enzymatic transesterification for producing biodiesel from salmon oil. This Special Issue may inspire future research and innovation in

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