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A Study of Phytochemical Analysis of Seaweeds from Visakhapatnam

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ABSTRACT

Phytochemical analysis of seaweeds from Visakhapatnam, a coastal city in India, reveals the rich bioactive potential of these marine organisms. Seaweeds, known for their diverse biochemical composition, are a treasure trove of phytochemicals, including alkaloids, flavonoids, tannins, terpenoids, and phenolic compounds. These compounds possess various biological activities such as antioxidant, antimicrobial, anti-inflammatory, and anticancer properties, making seaweeds valuable for pharmaceutical, nutraceutical, and cosmetic industries. The coastline of Visakhapatnam, with its diverse marine ecosystem, is home to numerous species of seaweeds, each offering a unique profile of phytochemicals. Researchers conducting phytochemical analysis in this region aim to identify and quantify these bioactive compounds, exploring their potential applications. The analysis often involves sophisticated techniques such as High-Performance Liquid Chromatography (HPLC), Gas Chromatography-Mass Spectrometry (GC-MS), and Fourier Transform Infrared Spectroscopy (FTIR), which help in isolating and characterizing the compounds.