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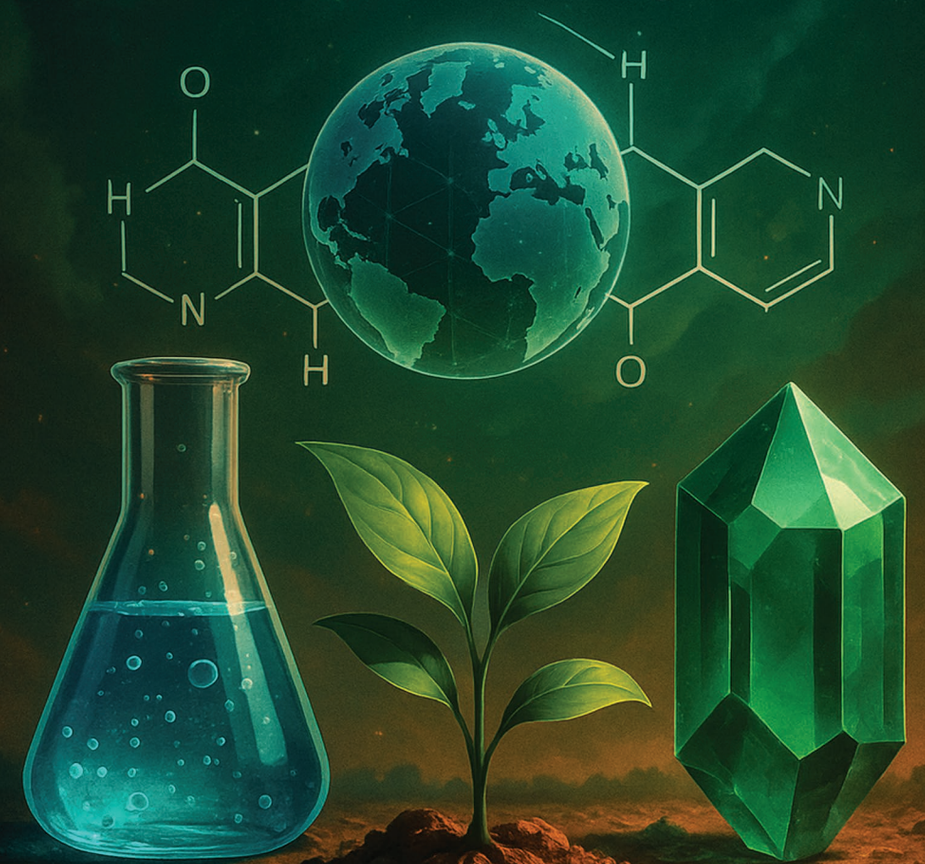

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Perspectives of Medicinal, Material and Environmental Chemistry

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CHAPTER – 10

GC-MS Profiling and Antioxidant Activity of *Musa paradisiaca* L. Peels Fractions

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Abstract

This study investigates the phytochemical composition and antioxidant activity of *Musa paradisiaca* L. (banana) peel extracts. Using GC-MS profiling, various chemical compounds within the peels were identified, including multiple phytochemicals with potential medicinal properties. Extraction and fractionation were performed with solvents of varying polarities, and antioxidant activity was measured using DPPH radical scavenging assays. The findings reveal a significant presence of compounds such as alkaloids, flavonoids, and reducing sugars, with high antioxidant potential observed particularly in chloroform and ethyl acetate fractions. This study highlights the potential of *Musa paradisiaca* peels as a source of bioactive compounds for pharmaceutical and nutraceutical applications, suggesting further research on their therapeutic benefits.

Keywords: Musa paradisiaca, GC-MSMS, Antioxidant activity, phytochemicals

Introduction

Medicinal plants are plants that have recognised medical use or can also be defined as plant that has same properties as customary pharmaceutical medications. Individuals have utilised these medicinal plants all through history to either cure or diminish side