

natural product extraction principles pdf

PDF | The design of green and sustainable extraction methods of natural products is currently a hot research topic in the multidisciplinary area of applied chemistry, biology and technology.

Green Extraction of Natural Products: Concept and Principles

Title: Natural Product Extraction; Principles and Applications. VOLUME: 1 ISSUE: 1. Author(s): György Keglevich. Affiliation: Department of Organic Chemistry and Technology Budapest University of Technology and Economics, Budapest Hungary.

Natural Product Extraction; Principles and Applications

Extraction of natural products in an economic and environmentally-friendly way is of high importance to all industries involved. This book presents a holistic and in-depth view of the techniques available for extracting natural products, with modern and more environmentally-benign methods, such as ultrasound and supercritical fluids discussed alongside conventional methods.

Natural Product Extraction: Principles and Applications

Conclusions. Extraction, according to the six principles of green extraction of natural products, is a new concept to meet the challenges of the 21st century, to protect both the environment and consumers, and in the meantime enhance competition of industries to be more ecologic, economic and innovative.

Green Extraction of Natural Products: Concept and Principles

In relation to green extraction of natural products, this definition can be modified as follows: "Green Extraction is based on the discovery and design of extraction processes which will reduce energy consumption, allows use of alternative solvents and renewable natural products, and ensure a safe and high quality extract/product".

Green Extraction of Natural Products: Concept and Principles

The feed material for the extraction of natural products from plants can be leaves, flowers, branches, bark, rhizomes, roots, seed and fruits, and the active pharmaceutical ingredient (API) content is usually in the region from 0.3 to 3% with. Table 1.1 Market and annual market growth.

1 Extraction of Natural Products from Plants – An Introduction

The heating process generates solvent expansion and thus pressure in the extraction cell, typically in the region of 500–3000 psi. In order to prevent over-pressurisation of the cell, a static valve pulses open and closed automatically when the cell pressure exceeds the set point.

Recent Extraction Techniques for Natural Products

Approaching an /so/at/on 13 1s commonly used at the early stages of an extraction as a fairly crude "clean-up" step, to separate the target natural products from the bulk of the contaminants, or at the final stages of a purification to get the isolated natural product in pure, concentrated solution.

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