

Investigation Of Phytochemical Composition Of

This comprehensive reference consolidates current information on the antioxidant properties of wheat, their beneficial effects, the mechanisms involved, factors affecting availability/bioavailability, and the methods used to measure them. It discusses antioxidant properties of wheat grains and fractions and their phytochemical compositions and covers the effects of genotype, growing conditions, post-harvest treatment, storage, and food formulation and processing on availability/bioavailability. Wheat Antioxidants will help cereal chemists, food technologists, food processors, nutritionists, and others maximize the health benefits of wheat-based foods.

The phytochemistry, antimicrobial and antioxidant activity of several extracts of the South African traditional herbal medicine *Agathosma betulina* (buchu) was investigated. Antifungal screening showed that the reputed active principle in buchu oil, diosphenol, is not the main active component in the herb whereas additional compounds such as hydroxycinnamic acids and lipids may be contributory. However antibacterial screening showed that all the extracts showed very low activity against micro organisms responsible for the pathogenesis of the urinary tract. At a concentration

Where To Download Investigation Of Phytochemical Composition Of

of 1 mg.ml." acetone, 80% MeOH and aqueous extracts exhibited 75% to >90% activity against the stable radical DPPHe whereas the essential oil was weakly active. Furthermore a poor correlation between the total phenolic content and radical scavenging activity of the extracts was observed. The only extract that suppressed the oxidation of linoleic acid was the acetone extract. Four lipophilic flavonoids were detected in the acetone extract and were tentatively identified as the 3 and 3,3'-dimethyl ethers of quercetin and the 3 and 3,4' dimethyl ethers of kaempferol. Three antiradical flavonol glycosides 3, 4 and 5 were detected in the 80% MeOH extract. Flavonoid 5 was identified as rutin and this compound was the main antiradical component in the aqueous extracts. Flavonoid 3 was hyperoside whereas flavonoid 4 was identified as a novel compound designated agathosin on the basis of spectroscopic evidence. Agathosin was shown to be quercetin-3-O-p-o-glucoside esterified with oleuropeic acid, a monoterpenoid carboxylic acid. A rational basis for its structure and the significance of agathosin in the light of the traditional medicinal use of buchu is discussed in addition to its potential biological activity. Furthermore the results of the antimicrobial, antioxidant activity and total phenolic content of the plant extracts are discussed in the light of their chemical composition. In summation this work showed that buchu does not have a direct

Where To Download Investigation Of Phytochemical Composition Of

antimicrobial action, highlighted the importance of using more than one type of assay when assigning antioxidant activity to herbs and their extracts and showed that by assessing extracts from the same plant for different types of bioactivity novel compounds may be detected.

Though their usage greatly diminished at the dawn of the scientific era, Indian spices were traditional parts of healthcare for thousands of years. However, over the last decade, largely due to the growth in popularity of complementary and alternative medicine, spices have regained attention due to their physiological and functional benefits. By applying modern research methods to traditional remedies, it is possible to discover what made these spices such effective ailment treatments. *Ethnopharmacological Investigation of Indian Spices* is a collection of innovative research that analyzes the chemical properties and medical benefits of Indian spices in order to design new therapeutic drugs and for possible utility in the food industry. The book specifically examines the phytochemistry and biosynthetic pathway of active constituents of Indian spices. Highlighting a wide range of topics including pharmacology, antioxidant activity, and anti-cancer research, this book is ideally designed for pharmacologists, pharmacists, physicians, nutritionists, botanists, biotechnicians, biochemists, researchers, academicians, and students at the

Where To Download Investigation Of Phytochemical Composition Of

graduate and post-graduate levels interested in alternative healthcare.

The aim of this book is to provide the brief introduction of the techniques used for phytochemical studies. This book includes the methods used for plant material collection, their storage, extraction, isolation, and identification of organic constituents present in plant materials under study.

Phytochemistry is the branch of science that deals with the study of plant-derived chemicals or compounds, which are also known as phytochemicals or plant-derived secondary metabolites. Plants are known to produce phytochemicals that are essential for their growth and reproduction, as they protect them from insects, pathogens, and herbivores. Some of the major groups of plant-derived secondary metabolites are phenolics, flavonoids, terpenoids, alkaloids, tannin etc. Plant-derived phytochemicals are pharmacologically active and have the potential to cure various human diseases and disorders. Natural plant products have been known for their medicinal properties for untold years, and form the basis of several medicinal systems such as Chinese, Unani, and Ayurvedic Medicine. This book offers an essential introduction to phytochemicals and their synthetic analogues. It discusses various in silico approaches used to identify pharmacologically active

Where To Download Investigation Of Phytochemical Composition Of

phytochemicals and their biological activities, as well as in vitro and in vivo models/assays that have been utilized for the pharmacological profiling of plant-derived products to combat cancer, diabetes, cardiovascular diseases and neurological disorders. The intended audience includes upper-level undergraduate and graduate students; researchers and scientists from the pharmaceutical/food chemistry/nutrition sciences/biochemistry, and clinical biochemistry fields; and medical students. Sharing the latest findings, the book will familiarize these readers with the concepts, chemistry, and tremendous potential of phytochemistry.

This volume brings together information on the available and newly emerging technologies related to using plant compounds that have a beneficial role in food production. It is divided into sections focusing on phytochemistry of cereals and legumes, phytochemistry of medicinal plants, and technological advances in phytochemical study.

Topics include the role of anti-nutritional substances of legumes in human health and on the elimination of such through technological processing sorghum phytochemicals and their processing and use in the development of food products production of nutraceuticals and functional foods of pharmaceutical importance T. cordifolia in the development of its therapeutic use in the food, health, and pharmacology industries polyphenolic

Where To Download Investigation Of Phytochemical Composition Of

compounds of plants, including their biosynthesis process, their classification, function, and role as bioactive compounds

The objective of this study is concerned to evaluate the anti-inflammatory activity, as well as the toxicological effects of plants used in Egyptian traditional medicine as remedies for inflammation and belonging to family Asteraceae, aiming to produce safe and biologically active natural products. The selected plants are dried flowers of *Matricaria recutita* L., fresh leaves and flowers of *Ageratum conyzoides* L., fresh leaves and dried seeds of *Lactuca sativa* L., and dried aerial parts of *Taraxacum officinale* Web. This study also includes: Phytochemical study, Proximate analysis of the plants under investigation, Preliminary phytochemical screening to find out the different chemical constituents, Preparation of the volatile oil of the investigated plants, Preparation of successive extracts of the investigated plants and determination of the physical and chemical characters of each plant, phytochemical study of the most active extracts and/or fractions, isolation, identification and structure elucidation of the main components of the most bioactive frac

Evidence suggests that a diet high in fruits and vegetables may decrease the risk of chronic diseases, such as cardiovascular disease and cancer, and phytochemicals including phenolics,

Where To Download Investigation Of Phytochemical Composition Of

flavonoids and carotenoids from fruits and vegetables may play a key role in reducing chronic disease risk. Apples are a widely consumed, rich source of phytochemicals, and epidemiological studies have linked the consumption of apples with reduced risk of some cancers, cardiovascular disease, asthma, and diabetes. In the laboratory, apples have been found to have very strong antioxidant activity, inhibit cancer cell proliferation, decrease lipid oxidation, and lower cholesterol. Apples contain a variety of phytochemicals, including quercetin, catechin, phloridzin and chlorogenic acid, all of which are strong antioxidants. The phytochemical composition of apples varies greatly between different varieties of apples, and there are also small changes in phytochemicals during the maturation and ripening of the fruit. Storage has little to no effect on apple phytochemicals, but processing can greatly affect apple phytochemicals. While extensive research exists, a literature review of the health benefits of apples and their phytochemicals has not been compiled to summarize this work. The purpose of this paper is to review the most recent literature regarding the health benefits of apples and their phytochemicals, phytochemical bioavailability and antioxidant behavior, and the effects of variety, ripening, storage and processing on apple phytochemicals. The backmatter of the book contains a few articles concerning the merits of open

Where To Download Investigation Of Phytochemical Composition Of

access publishing.

The powerful, efficient technique of high performance liquid chromatography (HPLC) is essential to the standardization of plant-based drugs, identification of plant material, and creation of new herbal medicines. Filling the void in this critical area, High Performance Liquid Chromatography in Phytochemical Analysis is the first book to give a comp

"Erigeron annuus (L.) Pers. (fleabane) is one of the most valuable plants in the genus, used in Chinese folk medicine to treat indigestion, malaria, enteritis, hepatitis and hematuria increasingly since the 1970s. However it is not an indigenous species in China and has not been officially recorded in the Chinese Pharmacopeia. Very little research has been published on its biological activity and no activity against MRSA has been reported. In this research, whole plant material was collected in Shanghai, China and its chemical composition, antibacterial activity, DNA gyrase inhibitory activity and mutagenicity assessment were evaluated on isolated compounds and extracts." -- Abstract, page i.

This long awaited third edition of Phytochemical Methods is, as its predecessors, a key tool for undergraduates, research workers in plant biochemistry, plant taxonomists and any researchers in related areas where the analysis of organic plant components is key to their investigations. Phytochemistry is a rapidly expanding area with new techniques being developed and existing ones perfected and made easier to incorporate as standard methods in the laboratory. This latest edition includes descriptions of the most up-to-date methods

Where To Download Investigation Of Phytochemical Composition Of

such as HPLC and the increasingly sophisticated NMR and related spectral techniques. Other methods described are the use of NMR to locate substances within the plant cell and the chiral separation of essential oils. After an introductory chapter on methods of plant analysis, individual chapters describe methods of identifying the different type of plant molecules: phenolic compounds, terpenoids, organic acids, lipids and related compounds, nitrogen compounds, sugar and derivatives and macromolecules. Different methods are discussed and recommended, and guidance provided for the analysis of compounds of special physiological relevance such as endogenous growth regulators, substances of pharmacological interest and screening methods for the detection of substances for taxonomic purposes. It also includes an important bibliographic guide to specialized texts. This comprehensive book constitutes a unique and indispensable practical guide for any phytochemistry or related laboratory, and provides hands-on description of experimental techniques so that students and researchers can become familiar with these invaluable methods.

Medicinal flora plays an important role in health care systems across the world. Out of the half million flowering plants, around 50.000 species are valued for their therapeutic properties. During the last few decades, 20% of the world's population used plants and/or their derived products as a source of medicine. WHO stated that 80% population around the globe, specifically the rural communities, depend on medicinal plants for their basic healthcare needs. To this end, plant-based

Where To Download Investigation Of Phytochemical Composition Of

phytochemicals are known to have hepato-protective, anti-carcinogenic, anti-allergic, anti-inflammatory, antimicrobial, antioxidant actions. This book is a guide to ~280 plant species of medicinal flora that demonstrates global relevance. Our goal is to share local knowledge about phytomedicines to a worldwide audience. It is an illustrated reference that documents and preserves the existing knowledge on these plant taxa, with a social and cultural (ethnobotanical) emphasis. This book also provides comprehensive and useful information about traditional uses of medicinal plants by the local communities for the treatment of various prevalent diseases. It contains comprehensive descriptions of each species including family, synonyms, English name, distribution, altitude, habitat, morphological description, life form, part used, mode of utilization, diseases category, recipes, other medicinal uses, phytochemical activity and toxicity.

The medicinal value of different species of *Ziziphus mauritiana* has been known for a long time. There are various reports of this plant having antifungal, anthelmintic, antiasthmatic and antidiabetic activity. No information about its antipyretic potential has been observed in the literature. In the present study leaves of *Ziziphus mauritiana* were extracted with five solvents in the order of increasing polarity using a Soxhlet apparatus. All the extracts were qualitatively analyzed for their phytoconstituents and for antipyretic potential using Brewer's yeast induced pyretic albino rats of Wistar strain. The results were tested for their significance by using one way ANOVA analysis by comparing with that

Where To Download Investigation Of Phytochemical Composition Of

of the control group at corresponding hours. The results strongly favour the significant antipyretic potential of the petroleum ether extract of *Ziziphus mauritiana* leaves. has shown significant reduction in body temperature as compared with control group and its effect is comparable to the standard drug paracetamol. It was also observed that the active extract contains steroids and volatile oil. The TLC study of the active extract supports the presence of six major compounds. *Phytochemistry of Nicotiana Glauca and Some Biotransformation Reactions* LAP Lambert Academic Publishing

One of the main tasks of phytochemists is isolation and structural elucidation of natural products. In this work the readers will study the details of extraction and characterization of the chemical constituents of two plants of the genus *Euphorbia* from the family Euphorbiaceae, *Euphorbia decipiens* Boiss. & Buhse and *Euphorbia teheranica* Boiss., which are endemic to Iran, and the essential oil of *Zataria multiflora* Boiss., (Lamiaceae) from Pakistan. The author has used different spectroscopy methods, especially one- and two-dimensional NMR spectra to elucidate the structures of tri- and diterpenoids from the *Euphorbia* extracts and GC-MS and ¹³C-NMR for identification and quantification of the oil's constituents. The details of isolation and structural elucidation of myrsinol-type diterpenoids and triterpenoids, biogenesis of some poly- and macro-cyclic diterpenoids isolated from different *Euphorbia* plants, biological activities and medicinal uses of some species of *Euphorbia* and their constituents may be useful for the

Where To Download Investigation Of Phytochemical Composition Of

students of phytochemistry and pharmacognosy and those who are interested in the chemistry and biological activity of Euphorbia plants.

This dissertation, "Phytochemical Investigation of Plants Used in Traditional Medicine in Hong Kong" by ???, Wingyan, Pamela, Tsui, was obtained from The University of Hong Kong (Pokfulam, Hong Kong) and is being sold pursuant to Creative Commons: Attribution 3.0 Hong Kong License. The content of this dissertation has not been altered in any way. We have altered the formatting in order to facilitate the ease of printing and reading of the dissertation. All rights not granted by the above license are retained by the author. DOI:

10.5353/th_b3121370 Subjects: Medicine, Chinese Plants - Analysis Botanical chemistry Materia medica, Vegetable - China - Analysis

The essential peel oil of Citrus limetta var. Mitha (Sweet lime) extracted by steam distillation was assessed for chemical constituents and antimicrobial activity. Gas chromatographic analysis identified 17 constituents among which Limonene (95.98 %) was found as major component followed by camphene (1.79 %), while the remaining terpenes were less than 1%. The results of antimicrobial activity of essential oil tested by disc diffusion method, against different against bacteria and fungi showed that it exhibited maximum zone of inhibition against Bacillus cereus (31.0mm) and Bacillus subtilis (29mm) followed by Staphylococcus aureus (25.3mm), whereas the minimum zone of inhibition was shown by Fusarium oxysporum (11mm) after 48 hours of incubation at their respective temperature (370C for bacteria and 250C for fungi). The inhibition zones, measured after 48 hours and 96 hours, showed that it was active against all

Where To Download Investigation Of Phytochemical Composition Of

tested bacteria and fungi. The results of our study showed that essential oil of Citrus limetta var. Mitha peel can be an effective medicine against different pathogenic microbes. Phytochemical compounds are secondary metabolites that plants usually synthesize for their own protection from pests and diseases. Phytochemical biosynthesis is also triggered under specific environmental conditions. They cannot be classified as essential nutrients since they are not required at specific amounts for life sustenance. Phytochemicals in Vegetables: A Valuable Source of Bioactive Compounds presents information about the phytochemical (common and scarce) content of several cultivated vegetables, as well as their health and therapeutic effects based on in vitro, in vivo, animal and clinical studies. Chapters also cover recent research findings about their mode of action, bioavailability, interactions with other biological matrices and pharmacokinetics. Moreover, the book gives special attention to the factors that may alter and modulate bioactive compound content, including both cultivation practices and post-harvest treatments that aim towards the production of high quality and healthy foods. Researchers, public health workers, consumers and members of the food industry will find this book to be a useful reference on the variety of phytochemicals present in vegetables.

The outbreak of drug resistant pathogens, the high cost of health care, limited accessibility of the conventional drugs and their side effects are problems that make the treatment of infectious diseases difficult all over the world. These challenges have led to the search for novel drugs and drug leads that can surpass the quality of the currently available antimicrobial agents. Medicinal plants are considered to be the best candidates for the discovery of new drugs because of their long history of use in the treatment of various ailments in communities. The current study was aimed at investigating

Where To Download Investigation Of Phytochemical Composition Of

the antimicrobial activity, cytotoxic activity and phytochemical composition of the methanol extracts from *Buxus macowanii*, *Polygala myrtifolia*, *Scilla* sp. and *Xanthocercis zambesiaca*. *Staphylococcus aureus*, *Clostridium perfringens*, *Pseudomonas aeruginosa*, *Enterococcus faecalis*, *Escherichia coli*, *Staphylococcus epidermidis*, and the fungal species *Candida albicans* and *Candida tropicalis* were used to evaluate the antimicrobial activity of the selected plant extracts using the broth Microdilution method. All the plants extracts tested showed no activity against all the bacterial and fungal species except *Buxus macowanii*. *Buxus macowanii* inhibited the growth of *Staphylococcus aureus*, *Clostridium perfringens*, *Pseudomonas aeruginosa*, *Staphylococcus epidermidis*, *Candida albicans* and *Candida tropicalis* at the MIC of 2.5 mg/ml while *Enterococcus faecalis* and *Escherichia coli* were inhibited at 1.2 mg/ml. *Buxus macowanii* was selected for further studies because it presented the best antimicrobial properties. Antimicrobial compounds were located using TLC bioautography. Four clear zones possibly flavonoids and alkaloids were detected on the TLC chromatogram. These findings suggest that the antimicrobial activity of *Buxus macowanii* was not attributed to a single compound but to a synergy of compounds. The effect of *Buxus macowanii* on the bacterial cell morphology was also evaluated. Morphological changes such as damage to the cell wall, loss of intracellular contents, incomplete cell division and shrinkage of the cells were observed using Scanning and Transmission Electron Microscopy. Bacterial cells were affected morphologically after treatment with the extracts of *B. macowanii*. In order to evaluate the safety of the extracts used in the study, the Sulforhodamine cytotoxicity assay was carried out using the WI-38 cell line (Normal human fetal lung fibroblast). *P. myrtifolia* was inactive against the WI-38 cell line whereas *B. macowanii* and *X.*

Where To Download Investigation Of Phytochemical Composition Of

zambesiaca were found to be moderately hazardous. Scilla extracts were found to be hazardous. These results indicate that caution should be exercised when employing plants like *B. macowanii*, *X. zambesiaca* and *Scilla* sp. for treatment of ailments. The phytochemical screening of *B. macowanii*, *P. myrtifolia*, *Scilla* and *X. zambesiaca* using standard methods, TLC and GCMS revealed compounds that have important health benefits. Bioactive compounds such as flavonoids, alkaloids, terpenes, cardiac glycosides, steroids, saponins and tannins were found in most of the extracts and their presence may explain the medicinal usage of the plants. GCMS also revealed compounds such as neophytadiene that was found in the extracts of *Buxus macowanii*, n-hexadecanoic was also found in the extracts of *scilla* sp and *X. zambesiaca*. 2-methoxy- 4-vinylphenol was found in the extracts of *P. myrtifolia* and *X. zambesiaca*. The results obtained in this study show that *B. macowanii* is a promising source of antimicrobial drugs. Further investigation into the isolation and identification of the bioactive compounds as well as in vivo screening is recommended.

Ocimum species has been used as a traditional remedy for various ailments such as arthritis, bronchitis, cold, conjunctivitis, diarrhea, dysentery, and flatulence, as well as for healing wounds and lowering blood glucose level. These are characterized by variations in their morphology such as the shape, size and pigmentation of leaves, which cause differences in chemical composition and affect the commercial value of this genus. This book describes phytochemical investigations of *Ocimum* species using LC-MS/MS instruments to study qualitative and quantitative variations of phytochemicals in different *Ocimum* species. Features: Collection of Ayurvedic features and scientific analytical and pharmacological evidence of most important medicinal plants of genus *Ocimum*. Chemical signatures for

Where To Download Investigation Of Phytochemical Composition Of

the identification of *Ocimum* species. Easy-to-use analytical procedure for quality control of plants of *Ocimum* species and its herbal products.

The ac?ai palm fruit has recently become the focus of numerous research endeavors due to its extraordinary antioxidant content. However, little is known about the fruit's phytochemical rich oil, which is a by-product of the ac?ai pulp. Therefore, the aim of this study was to investigate the phytochemical content of ac?ai oil and its relation to oxidative stability. A total of 206 mg/kg of chlorophylls, which included chlorophyll a as well as four chlorophyll derivatives were tentatively identified by HPLC in crude ac?ai oil (CAO). Two predominant carotenoids (216 mg/kg [β]-carotene and 177 mg/kg lutein) were also characterized in addition to a-tocopherol (645 mg/kg). Initial investigations into oil stability focused upon the photooxidation of ac?ai oil due to its significant chlorophyll content and findings demonstrated that the increases of nonanal were observed when phospholipids and polyphenolics were reduced. Subsequently, investigations into the interactions between phospholipids and lipophilic antioxidants and their contributions to the stability of ac?ai oil were also assessed by isolating phytochemicals and selectively reconstituting the oil. Findings demonstrated a potential relationship between phospholipids and lipophilic antioxidants, but this was not conclusive. Advances in the processing of the ac?ai pulp by-product created from the clarification process yielded a partially refined ac?ai oil (RAO). The stability of both RAO and CAO as a result of autoxidation were compared to other common food oils (olive, canola, and soybean) and primary and secondary oxidation data suggested CAO was most stable. The difference in the stability of the two ac?ai oils was also investigated by blending these oils and assessing oxidation. An increased stability was demonstrated in the blended RAO,

Where To Download Investigation Of Phytochemical Composition Of

which suggested a significant antioxidant contribution from the CAO. With such similar lipophilic compositions in CAO and RAO, it is theorized that the driving factor behind the stability of CAO can be attributed to its water soluble antioxidant content. While further investigations are required to fully comprehend the interactions of ac?ai oil phytochemicals, these experiments provide insight into the phytochemical content and stability of ac?ai oil. The understanding and information obtained in these studies is geared at increasing the marketability of ac?ai oil as a food ingredient.

The present volume 4 of the book series "Natural Products: Research Reviews" provides the readers with recent information/achievements and about future directions on the subject. The book comprises twenty two review articles, focuses on the potential applications of a diverse group of natural sources prominent among which are as follows:

- Anticancer Properties of Anthocyanidins -Camellia sinensis (L.) Kuntze: Chemical and Nutraceutical Properties
- Screening of Silver Nanoparticle Synthetic Efficacy of Some Medicinal Plants
- Chemical Diversity, Pharmacological, Nutritional and Therapeutic Novelty of Marine Derived Products: An Infinite Natural Resource
- Nutritional and Phytomedicinal Potential of Prunus avium L.
- Phytochemical Composition and Different Biological Activities of Alpinia spp.
- Treatment of Male and Female Sexual Dysfunctions by Some Natural Herbs
- Role of Diet for Management of Anxiety Disorders
- Therapeutic Potential of Yarrow (Achilla millefolium) Linn.
- Phyto-pharmacological Aspects of Two Hypericum Species
- Modified Polysaccharides: Its Needs, Approaches and Applications in Drug Delivery
- In vitro Micropropagation and Phytochemical Screening of Oroxyllum indicum
- Assesment of Genotoxic and Genoprotective Profile of Some Commonly Used Herbal Medicines
- Use of

Where To Download Investigation Of Phytochemical Composition Of

Mucilage from Yam (*Dioscorea* spp.) Tuber for Biotechnological Applications -Natural Aspects of Medicinal Plant *Codiaeum variegatum* -Diabetic Skin Wound Healing and the Use of Medicinal Plants -*Pterocarpus marsupium* Roxb. - An Important Medicinal Plant -*Digera muricata* (L.) Mart: A Versatile Medicinal Plant -Biological Properties of *Smilax chinensis* Linn. The book is not only an excellent source material for the scientists and teachers but also for research workers working on different aspects of Natural Products. It is hoped the present volume will attract wide acceptance of pharmacologists, phytochemists, medical personals in particular and a host of other scientists and biologists to facilitate further research on natural products. Cereal and pulse crops are staple foods that provide essential nutrients to many populations of the world. Traditionally, wholegrains were consumed but most current foods are derived from refined fractions of cereal and pulse crops. Consumption of processed or refined products may reduce the health benefits of food. In wheat-based processed foods, for example, the removed 40% of the grain (mainly the bran and the germ of the wheat grain) contains the majority of the health beneficial components. These components, particularly non-essential phytochemicals such as carotenoids, polyphenols, phytosterols/ stanols, and dietary fibers, have been shown to reduce the risk of major chronic diseases of humans, such as cancer, cardiovascular diseases, and Parkinson's disease. Such bioactives are therefore good candidates for ingredients of nutraceuticals and functional foods. There are many factors that can affect the bioactive content of cereal and pulse-based food ingredients, including genetics, growing and storage conditions, post-harvest treatments, food formulation and processing. All of these factors ultimately affect human health and wellness. Bioavailability is also important for these compounds

Where To Download Investigation Of Phytochemical Composition Of

for exerting their protective roles. Cereals and Pulses: Nutraceutical Properties and Health Benefits provides a summary of current research findings related to phytochemical composition and properties of cereal and pulse crops. The nutraceutical properties of each major cereal and pulse are discussed. Coverage of cereals and pulse crops includes barley, oats, rice, rye, corn, adlay, wheat, buckwheat, psyllium, sorghum, millet, common beans, field peas, faba beans, chickpea, lentil and soybeans. Chapters for each crop discuss methods to improve crop utilization, nutraceutical components and properties, bioactive compositions, antioxidant properties, beneficial health effects, disease prevention activities, and areas for future research. Also included are two chapters that examine the beneficial health properties of dietary fibers and antioxidants. Edited and written by an international team of respected researchers, this book is a reference guide for scientists working in food ingredients, food product research and development, functional foods and nutraceuticals, crop breeding and genetics, human nutrition, post-harvest treatment and processing of cereal grains and pulses. It will enable them to effect value-added food innovation for health promotion and disease risk reduction.

Active botanical ingredients are a prime requirement for herbal formulations and discovering a drug is all about integration of science disciplines. In recent decades there has been a growing interest in treating wounds and diseases using traditional remedies based on local herbs, combined with chemical advances. Although this has led to the development of new bioactive ingredients from plants, there has been little success in terms of clinical trials and post-marketing studies to comply with FDA guidelines. Plants have been used as a source of medicine throughout history and continue to serve as the basis for many pharmaceuticals used

Where To Download Investigation Of Phytochemical Composition Of

today. However, despite the modern pharmaceutical industry being founded on botanical medicine, synthetic approaches to drug discovery have now become standard. Science-driven translational discovery and botanical development has created a new reality, leading to enormous changes in strategies, technologies and the disciplines involved, which have been embraced by the pharmaceutical and biotech industries. This book gathers scientific expertise and traditional knowledge to promote the discovery and development of new formulations and drugs based on active ingredients and to provide guidance on taking these to clinical trials. It discusses major topics, such as how the phytochemical composition of many plants has changed over time due to factors like cultivation, which can have both positive and negative effects on the levels of bioactive compounds. It also explores the importance of plants as a valuable source of therapeutic compounds as a result of their vast biosynthetic capacity, and classifies them according to their intended use, safety and regulatory status. Further, the book offers insights into the regulatory aspects of botanical products, which is an important issue when considering standardization and quality assessment, and also examines the commercial aspects of plant-derived medications and their proven role in the treatment of chronic diseases such as heart disease, high blood pressure, pain, asthma, and other associated conditions. Given its scope, this book is a valuable tool for botanists, natural product chemists, pharmacologists and microbiologists involved in the study of phytochemicals for drug discovery.

The present study was carried out for phytochemical screening and pharmacological investigations on methanolic extract of rhizomes of *Hedychium coronarium* (Local name: Dolan Champa, Family: Zingiberaceae). In this study, the possible analgesic and CNS (Central Nervous System)

Where To Download Investigation Of Phytochemical Composition Of

depressant activities of the methanolic rhizome extract of *Hedychium coronarium* were investigated at the doses of 100 mg/Kg, 200 mg/kg and 400 mg/Kg body weight on mice by oral administration. The analgesic activities were investigated for their central and peripheral pharmacological actions using tail immersion testing and acetic acid-induced writhing testing respectively. Its CNS depressant activity was evaluated by using hole cross and open field tests and the cytotoxic activity was observed using brine shrimp lethality bioassay.

This book is dedicated to new and important research in the field of phytochemistry which is in the strict sense of the word the study of phytochemicals. These are chemicals derived from plants. In a narrower sense the terms are often used to describe the large number of secondary metabolic compounds found in plants. Many of these are known to provide protection against insect attacks and plant diseases. They also exhibit a number of protective functions for human consumers. Techniques commonly used in the field of phytochemistry are extraction, isolation and structural elucidation (MS, 1D and 2D NMR) of natural products, as well as various chromatography techniques (MPLC, HPLC, LC-MS).

Aconitum species are known to produce variously substituted diterpene alkaloids (DAs), many of which exhibit high toxicity and a broad spectrum of pharmacological effects. A research programme dealing with *Aconitum* species native to the Carpathian Basin has been started at the Department of Pharmacognosy, University of Szeged, in 2001. As a part of this still ongoing comprehensive phytochemical project, the alkaloid composition of *Aconitum anthora* and *A. moldavicum* was investigated. Besides the above the herein work reports the semisynthesis and purification of a series of lipo-alkaloids (LAs) derived from aconitine and the evaluation of the in vitro anti-inflammatory activity of these LAs, and the hERG and

Where To Download Investigation Of Phytochemical Composition Of

Nav1.2 channel activities of previously or newly isolated DAs; and the quantitative determination of toxic diester DAs in authentic processed *A. carmichaelii* and *A. kusnezoffii* samples. With the worldwide increasing spread of the Far Eastern traditional medicinal systems, and with the increasing public interest towards phytomedicines, pharmacological and phytoanalytical studies on aconite drugs are of growing importance and may be of interest for all who work in these fields.

Medicinal herbs are the local heritage with global importance. World is endowed with a rich wealth of medicinal herbs. The different variety of plants with different therapeutic properties is quite astonishing. Herbs have provided us some of the very important life saving drugs. Among the estimated 4,00,000 plant species, only 6% have been studied for biological activity, and about 15% have been investigated phytochemically. This shows a need for investigation of herbal drugs and its phytochemical analysis. In present work, *Jatropha gossypifolia* Linn, its phytochemical analysis includes study of medicinal uses, chemical constituents (especially terpenoids), morphological characters, physical evaluation, extractions using different solvents, phytochemical screening, separation and isolation by using TLC, column chromatography, HPTLC, quantitative estimation of active compound by HPTLC and UV, Structure elucidation of isolated compound by GCMS, ¹H NMR, IR, and finally pharmacological screening. Importance of Phytochemical analysis is modification of inactive natural products by suitable biological and chemical means into patent drug. Legumes are the second source of proteins, carbohydrates, vitamins and minerals after corn. Legumes produce primary and secondary metabolites and other phytochemicals such as pharmaceuticals, pesticides and industrial products. They are also an excellent source of nutraceutical constituents such

Where To Download Investigation Of Phytochemical Composition Of

as fibre, protease inhibitors, phytic acid and polyphenols like flavonoids, isoflavones, lignans and tannins. These compounds have antioxidant, antimutagenic and anticarcinogenic activities and also free radical scavenging properties. A systematic search for useful bioactivities from medicinal plants possessing antioxidant potential is now considered to be a rational approach in pharmaceuticals and drug research. The phytochemical analysis of the medicinal plants are important and have commercial interest both in research institutes and pharmaceutical companies for the manufacturing of new drugs for the treatment of various diseases. This work therefore explores the phytochemical constituents and antioxidant activity of the legume *Indigofera hochstetteri*.

This book focuses on the detailed phytochemical investigation of *Luffa cylindrica* L. (Dhundul). *Luffa cylindrica* L. is one of the medicinally important plants of the family of Cucurbitaceae. Locally it is known as Dhundul. The fruit of *Luffa cylindrica* is good for liver, lungs, heart and stomach; having a cooling effect of the body. In Chinese medicine, the inner skeleton of the dried fruit is used to treat pain in the muscle and joints, chest and abdomen. It is also used as edible vegetable. The phytochemical analysis of the plants is very important commercially and has great interest in pharmaceutical companies for the production of new drugs for curing of various diseases.

The cultivation of avocado fruits (*Persea americana* Mill.) is expanding around the world. Major producer of this crop is Mexico. In Mexican and African ethnomedicine decocts of avocado seeds are used as a potent remedy against different diseases such as muscle pain, menstruation disturbs and diabetes (Adeboye et al., 1999; Adeyemi et al., 2002). This was one of the initial points for conducting a thorough phytochemical investigation on avocado seeds with the focus

Where To Download Investigation Of Phytochemical Composition Of

on analysis of extractable natural products in respect to their potential use for pharmaceutical and food applications. During avocado fruit processing, the residual seeds will be deposited as waste material. Aim of the study was to analyze the chemical composition of avocado seeds, including preparative isolation and complete structural characterization of the isolated natural products by spectroscopical tools. Bioactivities of crude extracts and also of purified structures were screened by efficient and relatively inexpensive assays. During this research on avocado seeds, the implementation of 'high-speed countercurrent chromatography' (HSCCC) technique proved to be a versatile tool for efficient fractionation and isolation of natural products. The combination with other classical separation methods (i.e. size exclusion gelchromatography, preparative HPLC) resulted in the isolation of 22 natural products from avocado seeds. Isolation procedures were guided by using the TEAC-assay (antioxidant capacity) and the 'brine-shrimp'-assay with *Artemia salina* L. (cytotoxic activity) directing to the bioactive principles. The structure elucidation of the isolated compounds was performed by means of 1D-NMR (¹H, ¹³C, DEPT135, diff-NOe), 2D-NMR (¹H/¹H-COSY, HMQC and HMBC). UV/Vis-spectroscopy and circular dichroism (CD), mass spectrometry (GC-EI/MS, direct EI-MS, DCI-MS, and HPLC-ESI-MS/MS) were also applied. Chemical derivatization such as acetylation, enzymatic hydrolysis and thiolysis reaction were conducted for structural confirmation of complex natural products. The recovered compounds from avocado seeds ranged in their polarity from extremely polar (i.e. proanthocyanidins) to very lipophilic acetogenins (i.e. persin) (cf. Fig. A to C). The results of our phytochemical study are coherent with the ethnomedicinal knowledge from the indigenous people of Mexico and other cultures. The use of avocado seeds for certain diseases are at least in part

Where To Download Investigation Of Phytochemical Composition Of

explainable by the recovered natural products and their known and investigated activities. Interestingly, the use of avocado seed as antioxidants in some traditional foods and dishes of the Mexican people was proved by the high antioxidative activity of some of the isolated compounds (26, 94, 95, 28 and 29). Interestingly, substances 94, 95, 28 and 29 (recovered from the ethyl acetate partition) demonstrated a higher antioxidant activity than the common synthetic antioxidants. Natural avocado compounds from the polar extracts seem to be non-toxic, therefore the ethyl acetate extract or its purified compounds could be also used as potent antioxidant formulations by the food industry. The lipophilic extracts (PE) and fractions were found to be extremely cytotoxic, hence the use in food industry is not appropriate. Evaluation of these compounds against cancer cell lines could result in new bioactive anti-tumor agents. More research in this field remains to be done in the future for deepening the insights into the potentials of avocado seed natural products. Further natural compounds from avocado seeds are waiting to be isolated and to be tested in specific bioassays. Avocado seeds already applied in ethnomedicine by the traditional healers of the ancient Aztec cultures in Mexico may provide potential novel drugs of the future. Plant based products, essential oils, plant extracts, natural resins and their preparations have a wide range of applications mainly in pharmaceutical industry, in food technology, in aroma industry and in perfume and cosmetic industry. The genus *Nepeta* is one of the largest genera of family Labiatae (Lamiaceae) having approximately 250 species distributed mainly in Southwest and Central Asia, Europe, North Africa and North America. About 67 species are found in Iran and 58 in Pakistan. Some of the Iranian *Nepeta* species are employed in Iranian folk and traditional medicine for the treatment of various disorders, such as

Where To Download Investigation Of Phytochemical Composition Of

nervous, respiratory, and gastrointestinal diseases. These medicinal properties prompted us to carry out Phytochemical investigation on *Nepeta clarkei*.

Nicotiana glauca R. Grah. is a shrub or a small tree belonging to family Solanaceae. It is considered as one of *Nicotiana* species growing in Egypt. The aim of this work was to study the Phytochemical composition and the biological activities of the crude extracts of *N. glauca* leaves. Our next goal was to develop a safe microbial system that be able to degrade nicotine to remove it from tobacco solid waste that is considered toxic and hazardous contents of the ground water being next to the tobacco factories. The phytochemical investigation of the leaves of *N. glauca* revealed the presence of volatile substances, flavonoids, alkaloids, unsaturated sterols and lactones. The different fractions of the crude leaves extract have shown antibacterial, antioxidant and promising anticancer activities. Using microbial biotransformation reactions, it was found that both *Streptomyces griseus* ATCC 13273 and *Absidia pseudocylindrospora* ATCC 24169 could only be used as safe microbial systems for removing nicotine from tobacco solid waste without imposing any hazards of toxicity to the environment. Finally, I dedicated this work to the ladies in my life; my mother and my wife

This research work was conducted with the peel and seed of *Baccaurea ramiflora* to investigate the Phytochemical constituents and Pharmacological activities. The powdered peel of *B. ramiflora* was extracted with methanol and seed was extracted with n-haxane. The methanolic peel extracts indicates the presence of Carbohydrate, Tannins, Alkaloids, and Steroids. The crude extract of peel of *B. ramiflora* was found to show mild lethality against the brine shrimp naupli. In comparison with standard, peel of *B. ramiflora* was showed no thrombolytic activity, but seed was showed mild

Where To Download Investigation Of Phytochemical Composition Of

thrombolytic effect. So, seed of *B. ramiflora* can be further used as mild thrombolytic agent. Based on the findings of thrombolytic and toxicological activity, the obtained results can support for the uses of this plant parts as traditional medicine.

Wheat germ oil has the highest tocopherol content of all vegetable oils, up to about 2,500 mg/kg, and also the highest content of α -tocopherol, it is also highly valued for its high content of unsaturated fatty acids mostly of linoleic (18:2) and linolenic (18:3) acids (Wang and Johnson, 2001), both of which are of great importance in human metabolism and cannot be synthesized by the organism. They are precursors of a group of hormones called prostaglandins, which play an important role in muscle contractions and in the proper healing of inflammatory processes. Furthermore, linoleic acid helps to eliminate cholesterol and is a precursor of cell membrane phospholipids."

Cancer is a disease that affects a person not just physically but also psychologically. The pain involved, the immense cost of treatment and side effects made the researchers to shift from allopathy to allelopathic medical cure for the treatment. Seaweeds are the marine macro-algae found to be rich in nutrients including antioxidants and various remarkable properties. Certain brown seaweeds are exhibiting excellent antioxidant activity and anticancer activity. Hence, in the present investigation three different seaweeds such as *Kappaphycus alvarezii*, *Gracilaria verrucosa*, *Enteromorpha intestinalis* were selected for the screening of certain biological activities. From the findings, it is highly recommended that like medicinal plants, seaweeds also possess strong antioxidant, anticancer and antibacterial properties. Hence this preliminary investigation from selected three seaweeds will help to do further studies on isolating bioactive compounds from seaweeds and detailed molecular

Where To Download Investigation Of Phytochemical Composition Of

level investigation of its antitumor potential may result in new drug discovery.

[Copyright: fccc6f586eb936ab536440c4b3bd5aff](https://www.researchgate.net/publication/333644040)