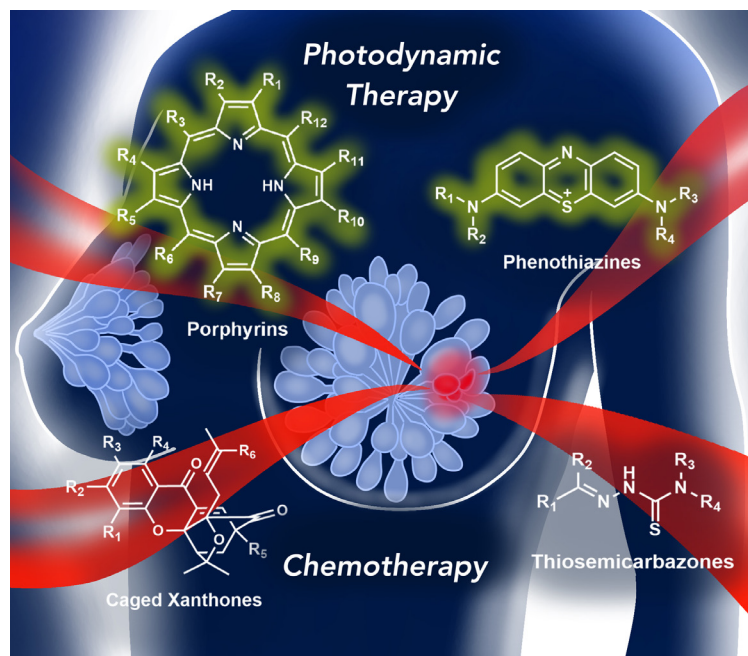


Cover Picture



This image represents a review article that summarizes the development and application of new compounds in the control of breast cancer. Three distinct chemical classes are highlighted: photosensitizers, caged xanthenes, and thiosemicarbazones. The review emphasizes progress in drug development, covering design, structure-activity relationships, and the anti-cancer attributes of each chemical class, which represents potential alternatives to current treatment limitations. Details are presented in the Review **Advances in Breast Cancer Drug Discovery: A Review of Therapeutic Strategies and Studies Involving Photosensitizers, Caged Xanthenes and Thiosemicarbazones Derivatives** by Douglas D. S. Oliveira, Thibault J. W. Jacques Dit Lapierre, Fernanda C. Silva, Ieda V. Cunha, Rafael A. C. Souza, Patrícia A. Matos, Gustavo M. Almeida, Carolina G. Oliveira, Thaise G. Araújo, Tayana M. Tsubone and Celso O. Rezende Jr. on e-20230128.

Contents

Editorial

Coming soon

Account

e-20230121 The Art of Scientific Writing and Ethical Use of Artificial Intelligence

1-18

Intelligence

Brenno Amaro D. Neto and Marcos N. Eberlin

Graphical Abstract

Scientific writing from first words to publication, as well as its challenges, including ethical aspects, are presented and discussed in this opinion manuscript.



<https://dx.doi.org/10.21577/0103-5053.20230121>

Reviews

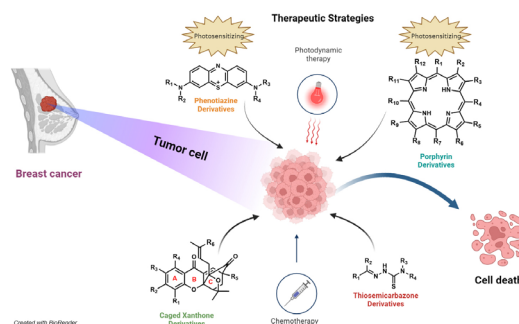
e-20230128 Advances in Breast Cancer Drug Discovery: A Review of Therapeutic Strategies and Studies Involving Photosensitizers, Caged Xanthenes and Thiosemicarbazones Derivatives

1-32

Douglas D. S. Oliveira, Thibault J. W. Jacques Dit Lapierre, Fernanda C. Silva, Ieda V. Cunha, Rafael A. C. Souza, Patrícia A. Matos, Gustavo M. Almeida, Carolina G. Oliveira, Thaise G. Araújo, Tayana M. Tsubone and Celso O. Rezende Jr.

Graphical Abstract

This review presents the principal aspects of the drug discovery process targeting breast cancer and highlights the most promising derivatives of caged xanthenes and thiosemicarbazones explored in conventional therapy. Also, it presents details of photodynamic therapy and the action of photosensitizers as an alternative therapy for breast cancer.



<https://dx.doi.org/10.21577/0103-5053.20230128>

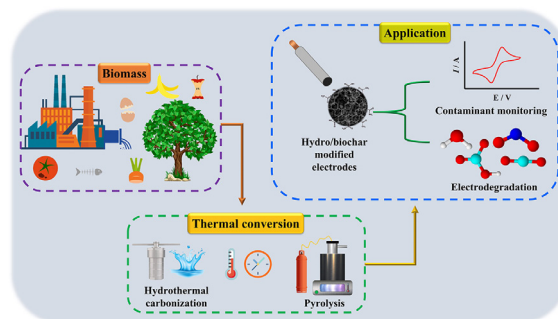
e-20230143 Biochar and Hydrochar in the Development and Application of Electrochemical Devices in the Sensing and Degradation of Target Compounds: A Mini-Review of the Recent Contributions of 2020-2023

1-18

Jonatas O. S. Silva, Honnara S. Granja, José F. dos Santos, Lisiane S. Freitas and Eliana M. Sussuchi

Graphical Abstract

We discuss the use of biochars and hydrochars in electrodes applied in the electrochemical sensing and degradation of target compounds.



<https://dx.doi.org/10.21577/0103-5053.20230143>

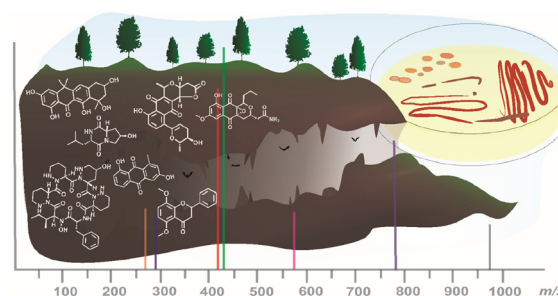
e-20230148 The World of Cave Microbiomes: Biodiversity, Ecological Interactions, Chemistry, and the Multi-Omics Integration

1-16

Natália N. Kato, Gabriel S. Arini, Ricardo Roberto Silva, Maria Elina Bichuette, José Augusto P. Bitencourt and Norberto P. Lopes

Graphical Abstract

The cave ecosystem hosts a high diversity of microorganisms with complex strategies to survive in limited environmental conditions. Here, we highlight the biology and chemistry of cave microbiomes with multi-omics perspectives.



<https://dx.doi.org/10.21577/0103-5053.20230148>

Articles

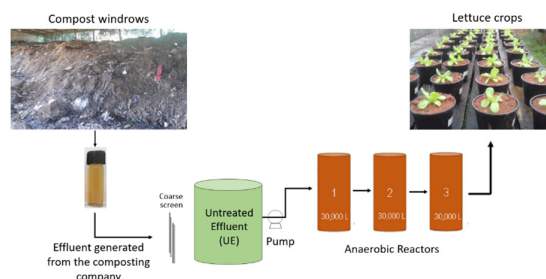
e-20230085 Anaerobically Treated Leachate from a Composting Plant: Characterization and Evaluation as a Biofertilizer

1-9



SI online

Rita de Cássia M. Freire, Adalin Cezar M. de Aguiar,
Mayra Aparecida Nascimento, Felipe S. O. Cruz,
Ann H. Munteer, Antônio Alberto Silva and
Renata P. Lopes



Graphical Abstract

This work presents a compost effluent that has been successfully applied as biofertilizer in lettuce crops.

<https://dx.doi.org/10.21577/0103-5053.20230085>

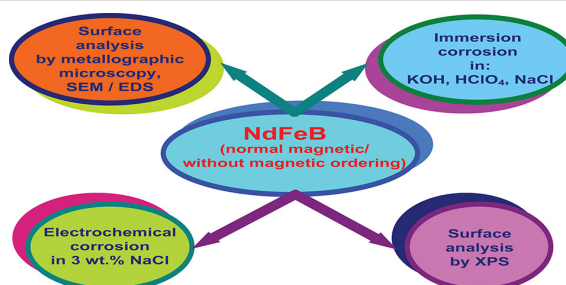
e-20230089 Corrosion Behavior of NdFeB Magnets in Different Aqueous Solutions

1-12



SI online

Ana-Maria Popescu, Jose M. Calderon-Moreno,
Kazimir Yanushkevich, Alexei Aplevich, Olga Demidenko,
Elena Ionela Neacsu and Virgil Constantin



Graphical Abstract

A comprehensive study on the corrosion behavior of NdFeB magnets in different electrolytes.

<https://dx.doi.org/10.21577/0103-5053.20230089>

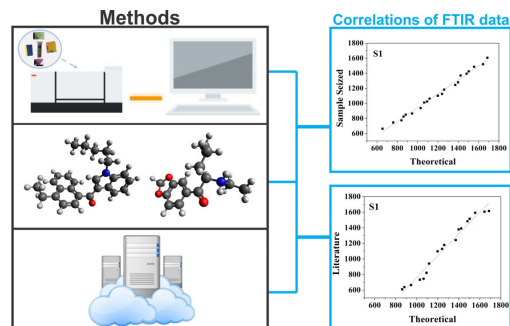
e-20230090 *In silico* and Experimental Assessments Applied to Preliminary Identification of New Illicit Substances Structures

1-12



SI online

Karen P. S. Lopes, Maria C. C. Lucena,
Thiago Inacio B. Lopes, Ámison R. L. da Silva,
Leonardo P. da Silva, Norberto K. V. Monteiro,
Pedro de Lima-Neto and Nágila M. P. S. Ricardo



Graphical Abstract

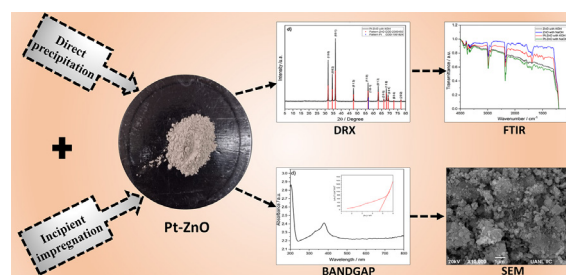
Study of infrared *in silico* data as a standard database in preliminary method for new synthetic seized drugs.

<https://dx.doi.org/10.21577/0103-5053.20230090>

e-20230092 Microstructural, Morphological, and Optical Study of Synthesis of ZnO and Pt-ZnO Nanoparticles by a Simple Method Using Different Precipitating Agents

1-13

Ruby S. Gines-Palestino, Carlos Montalvo-Romero,
Guadalupe Luna-Solano, Luis P. Amador-Gómez and
Denis Cantú-Lozano



Graphical Abstract

In this research, ZnO and Pt-ZnO were synthesized by a simple method using two different precursors (KOH and NaOH).

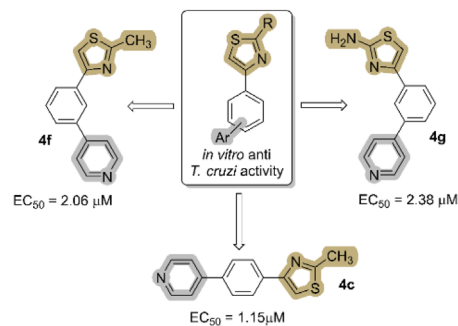
<https://dx.doi.org/10.21577/0103-5053.20230092>

e-20230094 Synthesis, *in vitro* Toxicity, and Antitrypanosomal Activity of Arylated and Diarylated Thiazoles

Kelly L. Figueira, Roberson D. Girão, Krislayne N. da Costa, Ana C. R. Barreto, Maria de Nazaré C. Soeiro and Jones Limberger



SI online



Graphical Abstract

Synthesis of pyridyl-substituted arylthiazoles with low toxic potential and highly active against *Trypanosoma cruzi* (half maximal effective concentration (EC_{50}) = 1-2 μ M).

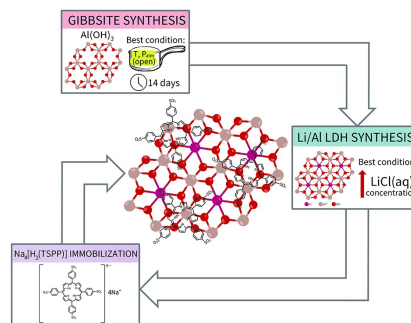
<https://dx.doi.org/10.21577/0103-5053.20230094>

e-20230095 Revisiting the Synthesis of Gibbsite, a Precursor for Li/Al LDH Synthesis and Its Use as a Support for Porphyrin Immobilization

Gabriela Bosa, Caroline G. Silva, Bianca R. Brito, Carolina M. Terzi, Fernando Wypych and Shirley Nakagaki



SI online



Graphical Abstract

Some of the synthesis methods already reported for aluminum(III) hydroxide compounds with layered structure of the gibbsite polytype are revisited. The obtained gibbsite material was used as an Al precursor for the synthesis of a lithium/aluminum layered double hydroxide (LDH) and the LDH was used for the immobilization of an anionic porphyrin.

<https://dx.doi.org/10.21577/0103-5053.20230095>

e-20230100 Evaluation of Free- and Bound-Carbonyl Compounds in Craft Beers

Marinice S. S. Acácio, Eliete C. Alves, Jailson B. de Andrade and Jeancarlo P. dos Anjos



SI online



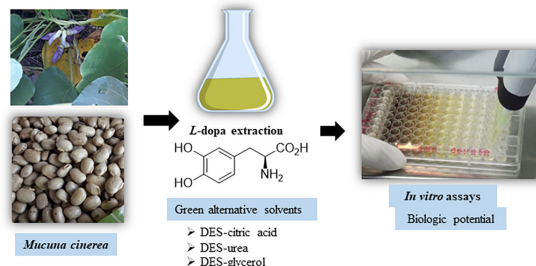
Graphical Abstract

Carbonyl compounds can be present in beer in free and bound forms. All craft beer samples showed bound-carbonyl compounds, which can negatively influence on the quality of the beverage.

<https://dx.doi.org/10.21577/0103-5053.20230100>

e-20230101 *Mucuna cinerea* Seeds: Levodopa Extraction Using Deep Eutectic Solvent and Its Mammalian Cell Activity

Bruna T. Silva, Antonio J. Demuner, Daiane E. Blank, Mateus G. Campos and Tiago A. O. Mendes



Graphical Abstract

Levodopa (L-dopa) of *Mucuna cinerea* was extracted using deep eutectic solvents (DES). Three extracts L-dopa/DES presented control of Parkinson's disease in human glandular kallikrein-1 gene (hGK3) and G protein-coupled receptor kinase-6 gene (GRK6).

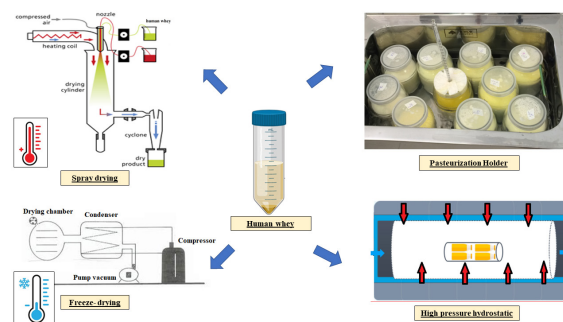
<https://dx.doi.org/10.21577/0103-5053.20230101>

e-20230102 Impact of Conservation Processes on the Lipid Profile and Immunological Factors IL-10 and TGF- β 1 in Whey Separated from Discarded Human Milk

Eloize S. Alves, Matheus C. Castro, Bruno H. F. Saqueti, Luciana P. Manin, Josiane B. Alencar, Joana M. V. Zacarias, Andressa R. S. Bruni, Grasielle S. Madrona, Jeane E. L. Visentainer, Marcelo Cristianini, Oscar O. Santos and Jesui V. Visentainer

Graphical Abstract

Different processes were evaluated under the lipid and immunological quality of whey human, and the search for the guarantee of nutrients was facilitated. Thus, adapting the processed human whey for use as a complementary product for infant food introduction.



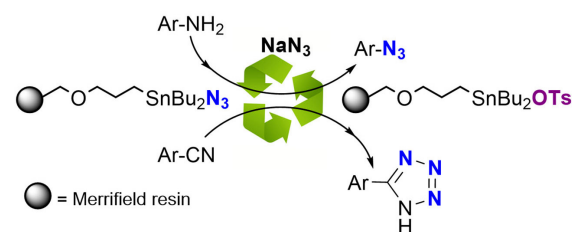
<https://dx.doi.org/10.21577/0103-5053.20230102>

e-20230104 Polymer-Supported Dibutylstannyl Azide: An Efficient and Recoverable Reagent in the One-Pot Synthesis of Aryl Azides and 5-Aryl 1H-tetrazoles

Leonela Godoy Prieto, María T. Lockhart and Marcos J. Lo Fiego



SI online



Graphical Abstract

An efficient polymer-supported organotin azide in the synthesis of aryl azides and 5-aryl 1H-tetrazoles.

✓very good yields ✓short reaction times ✓low tin pollution

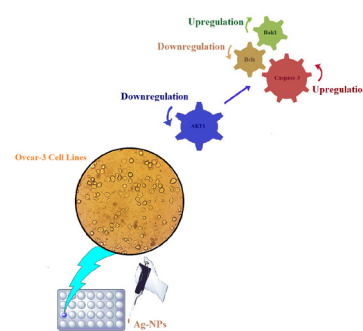
<https://dx.doi.org/10.21577/0103-5053.20230104>

e-20230105 Investigating the Expression of Genes Involved in Apoptosis and Mutation in Ovarian Cancer Cell Line and Possible Hepatotoxicity in Rats Induced by New Green Synthesized Ag-NPs

Fang Fang, Xiaoyan Zhang, Rongrong Bai, Bing Wang and Mostafa Heidari Majd

Graphical Abstract

Silver nanoparticles synthesized by *Moringa peregrina* leaves extract increase the expression of genes involved in apoptosis in both intrinsic and extrinsic pathways. It also prevents cancer mutation.



<https://dx.doi.org/10.21577/0103-5053.20230105>

e-20230106 Supramolecular Assembly between Cationic Pyridinium-Pillararene and Aminosalicylate Drug

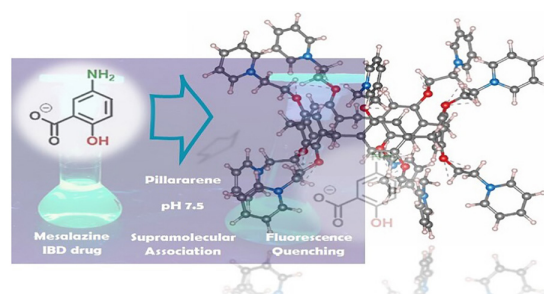
Willian Demos, Lizandra C. B. Micke, Luis H. S. Lacerda, Bruno S. Souza, Adriana P. Gerola and Ricardo F. Affeldt



SI online

Graphical Abstract

Fluorescence quenching of mesalazine drug due to interaction with positive-charged pillararene macrocycle at neutral pH.



<https://dx.doi.org/10.21577/0103-5053.20230106>

Short Report

e-2023099 1-5 Gas-Phase Fragmentation Reactions of Protonated Pumiliotoxin (+)-251D and Allopumiliotoxin (+)-267A in ESI-MS/MS

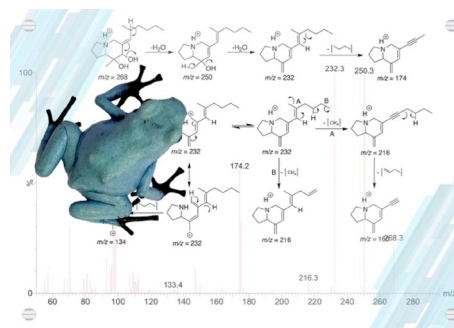


SI online

Basil Minder, Jacqueline N. Mendonça, Taran Grant and Norberto P. Lopes

Graphical Abstract

The analysis of gas phase fragmentation reactions in electrospray ionization tandem mass spectrometry (ESI-MS/MS) allowed for the first time to elucidate all ions originating from protonated pumiliotoxin (+)-251D and allopumiliotoxin (+)-267A.



<https://dx.doi.org/10.21577/0103-5053.20230099>