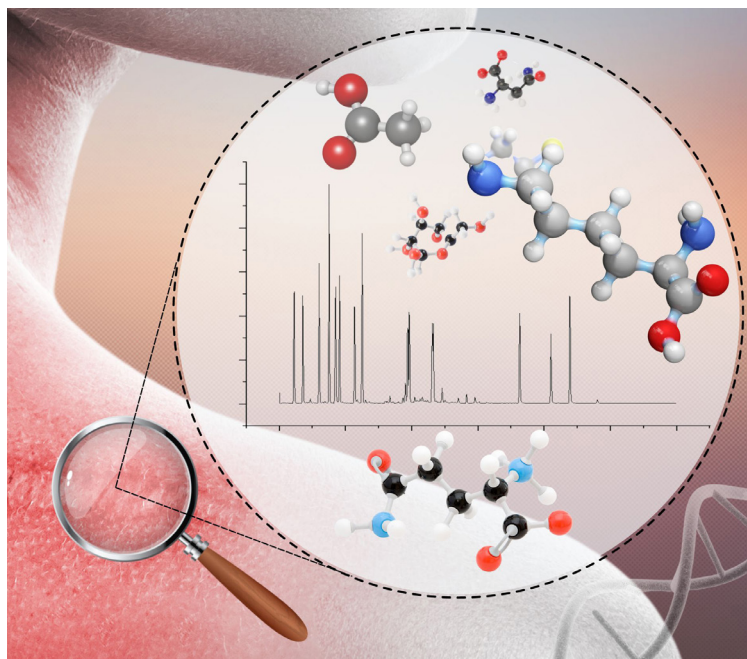


Cover Picture



The skin is the largest organ in the body and suffers daily from external and internal agents. Studying the mechanisms that lead to damaged skin is an important step toward proposing ways to repair this organ. Details are presented in the Review **Strategies for Metabolomic Analysis of Damaged Skin from Cell and Tissue Samples Using Gas Chromatography-Mass Spectrometry** by *Samantha C. H. Rodrigues, Helvécio C. Menezes, Dawidson A. Gomes and Zenilda L. Cardeal* on page 471.

Contents

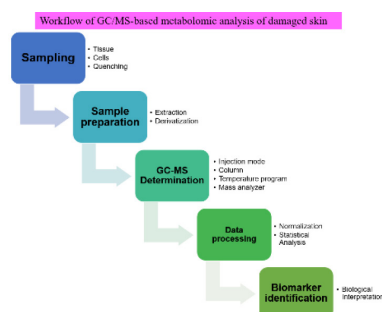
Reviews

471 Strategies for Metabolomic Analysis of Damaged Skin from Cell and Tissue Samples Using Gas Chromatography-Mass Spectrometry

*Samantha C. H. Rodrigues, Helvécio C. Menezes,
Dawidson A. Gomes and Zenilda L. Cardeal*

Graphical Abstract

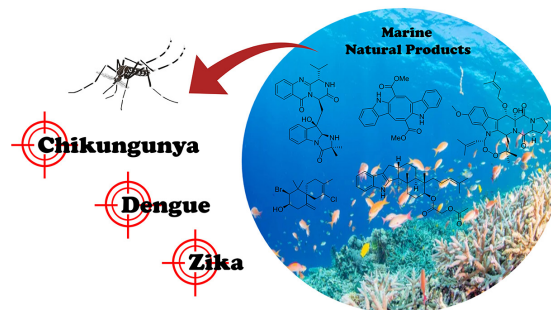
Workflow of gas chromatography coupled to mass spectrometry-based metabolomics analysis of damage skin.



485 Marine Natural Products in the Battle against Dengue, Zika, and Chikungunya Arboviruses

Thayssa S. F. Fagundes, Thatyana R. A. Vasconcelos,
Fernando M. dos Santos Junior, Bia F. Rajsfus, Diego Allonso,
José C. J. M. D. S. Menezes, Alessandra L. Valverde and
Vinicius R. Campos

SI online



Graphical Abstract

The review highlights the different studies on marine natural products with antiviral and larvicidal activity against Dengue, Zika and Chikungunya and their main vector *Aedes aegypti*.

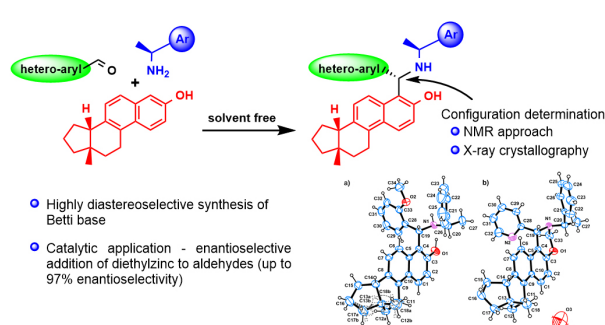
<https://dx.doi.org/10.21577/0103-5053.20230012>

Articles

502 Three-Component Betti Condensation for Synthesis of Aminomethylnaphthols Incorporating Deoxy-isoequilenine Scaffold-Absolute Configuration and Application

Irena Zaganyarska, Kalina Kostova, Krasimira Dikova,
Boris Shivachev and Vladimir Dimitrov

SI online



Graphical Abstract

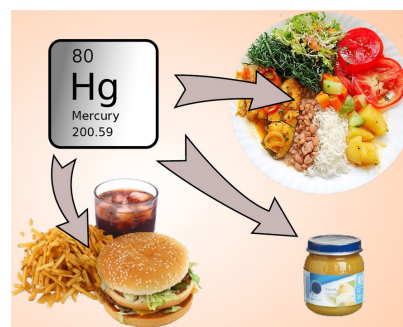
Chiral aminoethylnaphthols are synthesized through highly diastereoselective three component condensation and evaluated further as catalysts.

<https://dx.doi.org/10.21577/0103-5053.20220124>

517 Determination of Total Mercury in Spanish Samples of Baby Food, Fast Food, and Daily Meal

Maria J. da Silva, Ana Paula S. Paim, Iago J. S. da Silva,
Maria Fernanda Pimentel, Maria Luisa Cervera and
Miguel de la Guardia

SI online



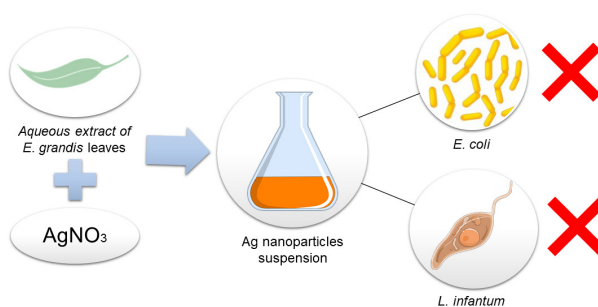
Graphical Abstract

A study on the dietary exposure of Spanish consumers to Hg through baby food, fast food, and daily meals was carried out. A direct Hg determination method was proposed.

<https://dx.doi.org/10.21577/0103-5053.20220125>

527 Green Synthesis, Characterization and Antibacterial and Leishmanicidal Activities of Silver Nanoparticles Obtained from Aqueous Extract of *Eucalyptus grandis*

Lucas M. F. Oliveira, Ueveton P. da Silva, João Pedro V. Braga,
Álvaro V. N. C. Teixeira, Andréa O. B. Ribon, Eduardo V. V. Varejão,
Eduardo A. F. Coelho, Camila S. de Freitas, Róbson R. Teixeira
and Renata P. L. Moreira



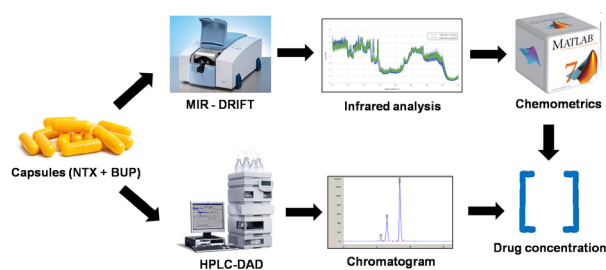
Graphical Abstract

Eucalyptus grandis aqueous extract was used to synthesize silver nanoparticles which presented antibacterial activity against *Escherichia coli* and leishmanicidal effect on promastigote forms of *Leishmania infantum*.

<https://dx.doi.org/10.21577/0103-5053.20220126>

537 A Mid-Infrared Spectrophotometric Method for Simultaneous Quantification of Naltrexone and Bupropion with Multivariate Calibration

SI online
 Andrea Cristina Novack, Alexandre F. Cobre, Camila Regina S. Madeira, Thais M. Guimarães, Mariana M. Fachi, Mário Sérgio Piantavini and Roberto Pontarolo



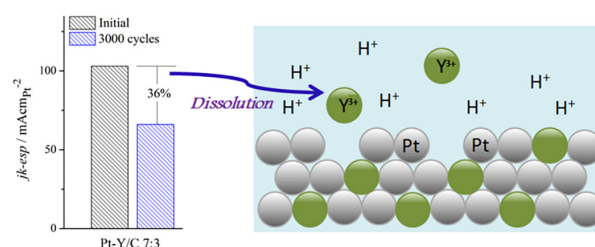
Graphical Abstract

Capsules with naltrexone (NTX) and bupropion (BUP) were analyzed by mid-infrared spectrometer using diffuse reflectance (DRIFT) accessory. The spectrum was acquired in absorbance and the sample concentration was quantified using the mathematical algorithm partial least squares (PLS).

<https://dx.doi.org/10.21577/0103-5053.20220127>

549 Oxygen Reduction Reaction on Pt-Y/C Catalysts: Activity and Long-Term Stability Study

Gabriel Christiano da Silva and Joelma Perez



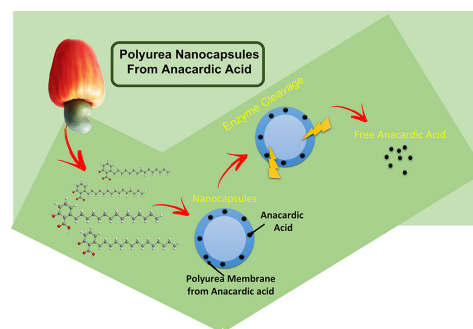
Graphical Abstract

Pt-Y/C 7:3 catalyst exhibits a specific activity higher than commercial Pt/C. However, yttrium dissolution takes place in acidic media.

<https://dx.doi.org/10.21577/0103-5053.20220128>

560 Design and Evaluation of Dual Release from Anacardic Acid-Based Polyurea Nanocapsules Components

SI online
 Sâmeeque N. Oliveira, Antonia F. J. Uchoa, Denise R. Moreira, Cesar L. Petzhold, Clemens K. Weiss, Katharina Landfester and Nágila M. P. S. Ricardo



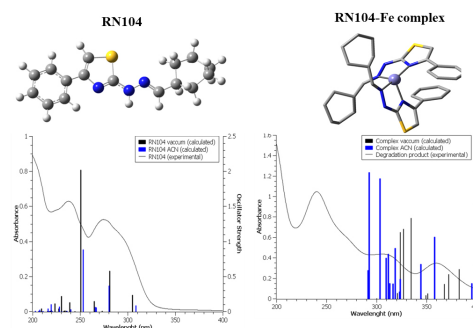
Graphical Abstract

Polyurea nanocapsules were prepared by inverse miniemulsion via interfacial polyaddition for controlled release of anacardic acid.

<https://dx.doi.org/10.21577/0103-5053.20220129>

571 Stability Indicating Method for a Thiazolylhydrazone Derivative with Antifungal Activity and Experimental/Theoretical Elucidation of Its Degradation Products

Iara R. Silva, Vinícius G. Maltarollo, Ícaro F. Protti, Renata B. Oliveira and Isabela C. César



Graphical Abstract

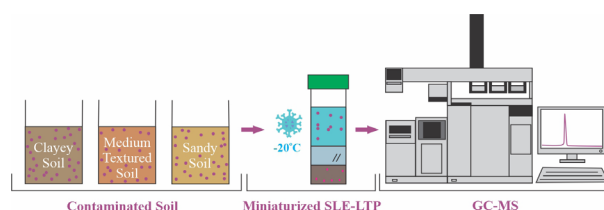
The simulation of 2-[2-(cyclohexyl(methylene)hydrazinyl)]-4-phenylthiazole (RN104) and its degradation product; UV-Vis absorption spectra corroborates the experimental spectrum.

<https://dx.doi.org/10.21577/0103-5053.20220131>

582 Optimization and Validation of the Miniaturized Solid-Liquid Extraction with Low Temperature Purification (SLE-LTP) Method for Determining Fluopyram in Sandy, Clayey and Medium-Textured Soil

SI online

Gleison Luis O. Silva, Gleysson P. Terra, Lázaro C. Sicupira and Flaviano O. Silvério



Graphical Abstract

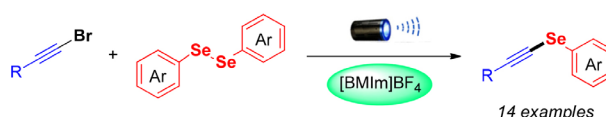
Miniaturized version of the solid-liquid extraction with low temperature purification (SLE-LTP) followed by analysis by gas chromatography coupled with mass spectrometry (GC-MS) to determine fluopyram in sandy, clayey and medium-textured soils.

<https://dx.doi.org/10.21577/0103-5053.20220132>

590 Synthesis of Alkynylselenides under Visible-Light Irradiation Using the Ionic Liquid [BMIm]BF₄ as a Solvent

SI online

Eduardo G. O. Soares, Douglas B. Paixão, Caren D. G. da Silva and Paulo H. Schneider



- Greener and mild synthesis of alkynyl selenides
- Photoinduced Csp-Se bond formation
- Transition metal-, photosensitizer-, directing-group and base-free reaction
- [BMIm]BF₄ as an environmentally friendly solvent

Graphical Abstract

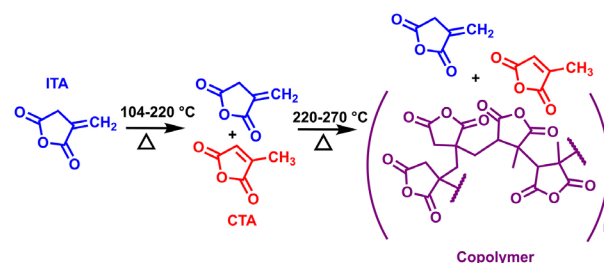
Herein we describe a novel photoinduced synthesis of alkynyl selenides from 1-bromoalkynes and diaryldiselenides, using [BMIm]BF₄ as an environmentally benign reaction media.

<https://dx.doi.org/10.21577/0103-5053.20220133>

600 Effect of Isomerization and Copolymerization of Itaconic Anhydride During the Synthesis of Renewable Monomers Using Vegetable Oils

SI online

Caroline Gaglieri, Rafael T. Alarcon, Aniele de Moura, Raquel Magri, Daniel Rinaldo and Gilbert Bannach



Graphical Abstract

This work investigates the isomerization of itaconic anhydride (ITA) into citraconic anhydride (CTA) and the copolymerization of them by heating.

<https://dx.doi.org/10.21577/0103-5053.20220134>