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## **Cover Picture**



Copper-catalyzed A<sup>3</sup>-coupling reaction of commercial available Amines, Aldehydes and Alkynols led to structurally advanced hydroxy-propargylamines that were used in the three-step synthesis of three natural alkaloids. Details are presented in the Article A<sup>3</sup>-Coupling Reaction as a Strategy Towards the Synthesis of Alkaloids by *Rafaela C. Carmona, Edison P. Wendler, George H. Sakae, João V. Comasseto and Alcindo A. Dos Santos* on page 117.

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# **Editorial**

1 New Times Ahead – Let us Strengthen our Values Joaquim A. Nóbrega and Watson Loh SI online

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Alkaloids from *Acorus gramineus* Rhizomes and their Biological Activity

Ki H. Kim, Eunjung Moon, Ki S. Kang, Sun Y. Kim, Sang U. Choi and Kang R. Lee

Graphical Abstract Alkaloids, including a new aporphine alkaloid and a pyrrole alkaloid, were isolated from *Acorus gramineus* rhizomes. The presence of alkaloids is first reported from *A. gramineus*. The alkaloids showed significant antineuroinflammatory and antiproliferative activities



Chemical Constituents from Cultures of the Fungus Marasmiellus ramealis (Bull.) Singer

Ningning Yang, Qingyun Ma, Shengzhuo Huang, Haofu Dai, Sl online Zhikai Guo, Xuehua Lu, Yuguang Wang, Zhifang Yu and Youxing Zhao

> Graphical Abstract Two new eudesmane-type sesquiterpenoids and one new mellein derivative were isolated from the cultures of the fungus Marasmiellus ramealis. The new sesquiterpenoids showed inhibitory activity against acetylcholinesterase

14 Chemometric Study of Perilla Fatty Acids from Subcritical *n*-Propane Extracted Oil

Claudia M. Silva, Ana B. Zanqui, Aloisio H. P. Souza, Aline K. Gohara, Márcia A. Chaves, Sandra T. M. Gomes, Lucio Cardozo Filho, Nilson E. Souza and Makoto Matsushita

Graphical Abstract

Subcritical fluid extraction is an innovative technique to substitute the classical methods for lipid extraction. In this study, chemometric tools were applied to evaluate the influence of independent factors (temperature and pressure) in the determination of fatty acids in perilla oil and compare the results with the official Soxhlet methodology

22 Cu and Ni Catalysts Supported on γ-Al<sub>2</sub>O<sub>3</sub> and SiO<sub>2</sub> Assessed in Glycerol Steam Reforming Reaction Vivian V. Thyssen, Thaisa A. Maia and Elisabete M. Assaf









Graphical Abstract Catalytic activity of NiAl at 600 °C. This catalyst gave the best results for GSR under the test conditions, proving stable and active throughout the 4 h reaction time

32 Abietane Diterpenes from *Hyptis crassifolia* Mart. ex Benth. (Lamiaceae)

Karísia S. B. Lima, Maria L. S. Guedes and Sl online Edilberto R. Silveira

### **Graphical Abstract**

The phytochemical study of *Hyptis crassifolia* led to the isolation and structure elucidation of nine diterpenes.  $6\alpha$ , 11, 12, 15-Tetrahydroxy-8, 11, 13-abietatrien-7-one, 11, 12, 16-trihydroxy-17(15 $\rightarrow$ 16)-*abe*-abieta-8, 11, 13-trien-7-one and 11, 12, 15-trihydroxy-8, 11, 13-abietatrien-7-one are new, and a structural revision is proposed for (165)-12, 16-*epoxy*-11, 14-dihydroxy-17(15 $\rightarrow$ 16)-*abe*-abieta-8, 11, 13-trien-7-one





Graphical Abstract

In this work fatty esters derived from Juglone were synthesized by modified Steglich esterification. Compounds prepared showed promising results as wax inhibitors on crude oil

José W. M. Carneiro and Sandro J. Greco



Graphical Abstract The graphical abstract pictorially represents the three-step synthesis of three cyclic alkaloids (coniine, an oriental food flavor and a natural product extracted from *Pinus ponderosa*) prepared from commercially available starting materials. The key step was the A<sup>3</sup>-coupling reaction

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Mohammad R. Rigi, Mohsen Farahbakhsh and Karamatollah Rezaei

### Graphical Abstract

A schematic representation of the solid phase extraction of metribuzin by using hydrophilic-lipophilic balance (HLB) cartridge and recovery amounts (%) of metribuzin by different methods. The solid phase extraction method with HLB cartridge had the highest metribuzin recovery



Stereoselective Addition of Diethylzinc to Aldehydes Using Chiral β-Hydroxy-2-oxazolines as Catalysts Francisco A. Marques, Celso L. Wosch, Gustavo Frensch,

Ricardo Labes, Beatriz H. L. N. S. Maia, Kahlil S. Salomé, SI online Andersson Barison and Palimécio G. Guerrero Jr.



**Graphical Abstract** 

Chiral B-hydroxy-2-oxazolines were synthesized and evaluated as catalysts for the addition of diethylzinc to aldehydes and were effective in obtaining the addition products, with enantiomeric excess up to 78%

### 171 **Integrative Approach Using GC-MS and Easy Ambient** Sonic-Spray Ionization Mass Spectrometry (EASI-MS) for Comprehensive Lipid Characterization of Buriti (Mauritia flexuosa) Oil

Giovana A. Bataglion, Felipe M. A. da Silva, Jandyson M. Santos, Milene T. Barcia, Helena T. Godoy, Marcos N. Eberlin and Hector H. F. Koolen

### Graphical Abstract

**Graphical Abstract** 

An integrative approach based on GC-MS and easy ambient sonic-spray ionization mass spectrometry (EASI-MS) was employed for comprehensive characterization of lipids in buriti oil. In addition, the biologic activities were also evaluated

178 Caffeine Oxidation in Water by Fenton and Fenton-Like Processes: Effects of Inorganic Anions and Ecotoxicological **Evaluation on Aquatic Organisms** 

Thaís D. de Oliveira, William S. Martini, Mellina D. R. Santos, Maria Auxiliadora C. Matos and Lilian L. da Rocha

Caffeine degradation was evaluated at an initial concentration of 5.2 µmol L<sup>-1</sup> (1000 µg L<sup>-1</sup>) employing low iron and hydrogen peroxide concentrations. The Fenton and the Fenton-like processes were investigated. The effects of inorganic ions on caffeine degradation were evaluated, as well as chronic toxicity of the reaction condition in which

there was higher caffeine degradation by Fenton's reagent





Graphical Abstract This work explains how the size of a carbon nanotube, urea, and temperature would influence the insertion of Tretinoin, a skin anti-cancer

Molecular Dynamics Insight into the Urea Effect on Tretinoin

**Encapsulation into Carbon Nanotube** 

Maryam Ghadamgahi and Davood Ajloo

drug, into carbon nanotubes



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AC-Induced Corrosion of Underground Steel Pipelines. Faradaic Rectification under Cathodic Protection: I. Theoretical Approach with Negligible Electrolyte Resistance Ibrahim Ibrahim, Bernard Tribollet, Hisasi Takenouti and SI online Michel Meyer

### Graphical Abstract

Buried steel pipelines, in the presence of stray AC voltage may suffer external corrosion. Corrosion enhancement and corrosion potential shift due to the intrinsic nonlinear electrochemical properties are evaluated by digital simulations for different peak-voltages  $\Delta E$ 

