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Cover Picture



Morphological manifestation of apoptosis is used to study the impact of synthesized steroidal derivatives. Because of the very high mortality rate associated with the hormone-dependent problems , therapeutics for treating different types of cancers are among the most important.. Details are presented in the Article **Structural Analysis and Antitumor Activity of Androstane D-Seco-mesyloxy Derivatives** by *Aleksandar M. Oklješa, Suzana S. Jovanović-Šanta, Olivera R. Klisurić, Marija N. Sakač, Evgenija A. Djurendić, Dimitar S. Jakimov, Lidija D. Aleksić and Katarina M. Penov Gaši on page 1613.*

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Editorial

¹⁵⁴⁹ Graduate Programs in Chemistry in Brazil Joaquim A. Nóbrega

Articles



Júlio César M. Silva, Beatriz Anea, Rodrigo Fernando B. De Souza, Mônica Helena M. T. Assumpção, Marcelo L. Calegaro, Almir O. Neto and Mauro C. Santos

Graphical Abstract

Pt amount was diminished in 73% by using IrPtSn/C in the electrocatalyst. The current density from ethanol oxidation reaction was improved in about 282%. Mean products of ethanol oxidation was determined through FTIR-ATR experiments. Iridium led the ethanol oxidation reaction to acetaldehyde





1570 Comprehensive Two-Dimensional Gas Chromatography Coupled to Time of Flight Mass Spectrometry: New Biomarker Parameter Proposition for the Characterization Sl online of Biodegraded Oil

Renata F. Soares, Ricardo Pereira, Raphael S. F. Silva, Leonardo Mogollon and Débora A. Azevedo

Graphical Abstract

Crude oil in subsurface petroleum reservoirs can undergo alteration processes, which results in aerobic and/or anaerobic degradation promoted by microorganisms with sequence removal of saturated hydrocarbons



1582 A Comparison of Amperometric and Spectrophotometric Methods for the Iodide Concentration Measurement: a Tracer in Produced Water from Offshore Oil Reservoirs Flávia C. Souza, Davi Augusto I. da Silva, Márcia S. Ribeiro, Roberto B. Faria, Maria A. Melo, Roberta M. M. Toledo and Eliane D'Elia



Graphical Abstract

A comparative study between the amperometric and spectrophotometric methods for measuring the concentration of the iodide ion to be used as tracer in produced water from offshore oil reservoirs

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1592 Removal of BTX Compounds in Air by Total Catalytic Oxidation Promoted by Catalysts Based on SiO_{2(1-x)}Cu_x Rosana Balzer, Valderez Drago, Wido H. Schreiner and Luiz F. D. Probst



Graphical Abstract Catalytic oxidation of BTX (benzene, toluene and o-xylene) to CO₂ and H_2O promoted by catalysts $SiO_{2(1-x)}Cu_x$

1599 A Chemometric Model Applied to Fatty Acid Determination in Blood http: Thiago I. B. Lopes, Casey A. Rimland, Sabrina Nagassaki,

Bruno Geloneze and Anita J. Marsaioli SI online

Graphical Abstract

PCA based on full mass spectra was a useful tool for selecting important ions for the GC-MS/SIM quantification of fatty acids, while keeping the some qualitative information. PCA based on mass spectra in the SIM mode (m/z 74, 79, 81 and 87) was useful to determine unsaturations (0, 1, 2, 3 or \geq 4) and to reveal the presence of contaminants, artifacts and coeluitions in chromatogram, without additional analysis



1606 Determination of Elements in Energy Drinks by ICP OES with Minimal Sample Preparation Anna Szymczycha-Madeja, Maja Welna and Pawel Pohl

Graphical Abstract

A simple and fast method for determination of macro (Ca, Mg, P) and micro (Ba, Cd, Cr, Cu, Fe, Mn, Ni, Pb, Sr, Zn) elements in energy drinks using inductively plasma optical emission spectrometry was evaluated





Jakimov, Lidija D. Aleksić and Katarina M. Penov Gaši

Graphical Abstract

This work presents the synthesis and crystallographic analysis of two stereoisomeric 16,17-secoandrostane mesyloxy derivatives and the study of their antiproliferative activity, influence on cell cycle and induction of apoptosis of tumor cells







Graphical Abstract

The structure-activity relationship of non-azole antifungal molecules has been investigated by means of descriptor-based ($r^2 = 0.92$, $q^2 = 0.90$, 6 LVs and $r_{pred}^2 = 0.86$) and hologram-based ($r^2 = 0.87$, $q^2 = 0.81$, 6 LVs and r_{pred}^2 = 0.84) two-dimensional QSAR models. Both approaches underscore the negative contribution of resonance effects towards potency



Ana Paula F. Catai, Flávio P. Picheli, Emanuel Carrilho and Maria Eugênia C. Queiroz

Graphical Abstract

Two approaches based on partition equilibrium, stir bar sorptive extraction and microextraction by packed sorbent, were evaluated for the determination of selective serotonin reuptake inhibitor antidepressants by non-aqueous capillary electrophoresis with spectrophotometric detection



1642 **Bioaccumulation of Tributyltin by Blue Crabs** Monizze Vannuci-Silva, Amauri A. Menegario, Mariana Franchi, Ana L. Brossi-Garcia, João M. de Souza, Marcus A. G. de Araújo Jr., Monica A. F. S. Bindes G. Lopes

and José S. Govone

Graphical Abstract

It was shown that Sn (derived from tributyltin (TBT) exposure) is bioaccumulated by the blue crab in higher concentrations in the hepatopancreas. The results suggest that Sn is bioaccumulated as TBT





Nano Fe₂O₃, Clinoptilolite and H₃PW₁₂O₄₀ as Efficient Catalysts for Solvent-Free Synthesis of 5(4H)-Isoxazolone under Microwave Irradiation Conditions Sl online Samieh Fozooni, Nasrin Gholam Hosseinzadeh,

Hooshang Hamidian and Mohammad Reza Akhgar

Graphical Abstract

Nano Fe_2O_3 , clinoptilolite and $H_3PW_{12}O_{40}$ efficiently catalyze reaction of hydroxylamine hydrochloride, sodium acetate, acetoacetic ester or benzoyl acetic ester and appropriate aldehydes to afford corresponding 5(4H)-isoxazolone. The present protocols offer several advantages, such as short reaction times, reasonable yields and recycling catalysts with a very easy workup





Prenylated Flavone from Roots of a Hybrid between Artocarpus heterophyllus and Artocarpus integer and its **Biological Activities**

Sl online Kanda Panthong, Kanogwan Tohdee, Nongporn Hutadilok-Towatana, Supayang P. Voravuthikunchai and Sasitorn Chusri

Graphical Abstract A new prenylated flavone (1) together with 24 known compounds were isolated from the roots of a hybrid between Artocarpus heterophyllus and Artocarpus integer



1662 Ultra Long Single Crystalline Na_{0.3}V₂O₅ Nanofibers/Nanorings Synthesized by a Facile One Pot Green Approach and their Lithium Storage Behavior Ganganagappa Nagaraju

Graphical Abstract

300

200

0

20 30 Cycle number

(mAh g⁻¹) 250

Specific Capacity 150 100

 $Na_{0.3}V_2O_5$ nanofibers/nanorings were prepared through a simple one step hydrothermal method without any surfactant at 200 °C for 3-5 days. They exhibited an initial discharge capacity of 182 mAh g⁻¹ and a stabilized capacity of 179 mAh g⁻¹ even after 50 cycles. A possible mechanism of ring formation is discussed

1669 Individual and Simultaneous Square Wave Voltammetric Determination of the Anticancer Drugs Emodin and Irinotecan at Renewable Pencil Graphite Electrodes Yassien M. Temerk and Hossieny S. M. Ibrahim

Graphical Abstract

A rapid, sensitive and versatile method for the individual and simultaneous determination of the anticancer drugs emodin and irinotecan in biological fluids based on the square wave voltammetry using renewable pencil graphite electrodes was investigated





Graphical Abstract

The electroreduction of isoflurane in presence of tetraphenyl iron (III) porphyrin chloride (Fe(TPP)Cl) showed that the reduction of isoflurane was performed with overpotential of about 1150 mV lower than the observed potential for reduction of isoflurane in DMSO solution





Short Reports

1685

N-(4-((E)-3-Arylacryloyl)phenyl)acetamide Derivatives and their Antileishmanial Activity Dency J. Pacheco, Jorge Trilleras, Jairo Quiroga,

Sl online Jennifer Gutiérrez, Luis Prent, Tobinson Coavas, Juan C. Marín and Gabriela Delgado

Graphical Abstract

The antileishmanial activity of a series of enonic derivatives (chalcones) synthesized via Claisen-Schmidt condensation reactions assisted by ultrasonic radiation was characterized by analyzing their cytotoxicity against Leishmania (Viannia) panamensis promastigotes

1691 A Green Potentiometric Method for Determination of the Acid Number of Oils and Fats Matthieu Tubino and Juliana A. Aricetti

Graphical Abstract

Green and automatic potentiometric determination of the acid number of vegetable oils and animal fats; this parameter is of fundamental importance for their specification

1697 Maytensifolone, a New Triterpene from Maytenus distichophylla Mart. ex Reissek hi 12

Marcelo Cavalcante Duarte, Josean Fechine Tavares, Sl online Sara Alves L. Madeiro, Vicente Carlos O. Costa,

José Maria Barbosa Filho, Maria de Fátima Agra, Raimundo Braz Filho and Marcelo Sobral da Silva

Graphical Abstract

Graphical Abstract

Isolation of the new triterpene 3,16,21-trioxo-6β,12α-dihydroxy-1en-friedelane (named maytensifolone), along with 3-oxofriedelane, 3,12-dioxofriedelane, 3B-hydroxyfriedelane, 3-oxo-29-hydroxyfriedelane, $3\text{-}oxo\text{-}12\alpha\text{-}hydroxyfriedelane$ and 3-oxo-30-hydroxyfriedelane from the leaves of Maytenus distichophylla

1701 Development of a New Solid Phase Extraction Procedure for Selective Separation and Enrichment of Au(III) Ions in **Environmental Samples**

Nurhan Gümrükçüoğlu and Mustafa Soylak







Hamide Elvan, Duygu Ozdes, Celal Duran, V. Numan Bulut,

Langmuir adsorption isotherm model was evaluated to calculate the

adsorption capacity of the Amberlite XAD-4 resin for Au(III) ions