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Cover Picture



Graphene oxides as substrate for paper spray ionization mass spectrometry employed to creatinine determination in urine samples showed to be an accurate and fast methodology. Details are presented in the Article **Graphene Oxides Coated Paper as a Substrate to Paper Spray Ionization Mass Spectrometry for Creatinine Determination in Urine Samples** by *Aline R. Fernandes, Ricardo A. Bernardo, Thays C. de Carvalho, Boniek G. Vaz and Andréa R. Chaves* on page 1074.

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Articles

893 The Role of L-Proline and Co-Catalysts in the Enantioselectivity of OXA-Michael-Henry Reactions Lucas F. do Carmo, Simone C. Silva, Matheus V. Machado,

SI online Paloma S. Prata, Alberto Wisniewski Júnior, Diogo M. Vidal and José Augusto F. P. Villar



Graphical Abstract In this work, it was carried out a study of the OXA-Michael-Henry reactions between salicylaldehyde and B-nitrostyrenes, catalyzed by L-proline. The corresponding (R)-3-nitro-2-phenyl-2H-chromenes were obtained in 25-55% enantiomeric excess (ee) (20 mol% L-proline) and 50-70% ee (stoichiometric amount) employing Ti(O'Pr)₄ as Lewis acid. iv

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Natural Sources

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nic and Organic Acids in the Atmosphere of the Urban the City of Salvador, Brazil 🔀 Lícia P. S. Cruz, Elisvan R. Mota, Vânia P. Campos,

Sl online Franciele O. Santana, Sâmeque R. Luz and Daniela F. Santos

Graphical Abstract
Organic and inorganic acids were measured in the air of Salvador City and
correlations were identified between these acids, criteria air pollutants
and meteorological parameters.

Metal Contents and Pb Isotopes in the Surface Seawater of

the Gulf of Prigi, Indonesia: Detection of Anthropogenic and

Anugrah Ricky Wijaya, Bambang Semedi, Retno Ariadi Lusiana,





Graphical Abstract The level of metal contents of Ca, Fe, Mn, Cu, Pb and 207Pb / 206Pb vs. 208Pb / 206Pb in the Gulf of Prigi reflected by natural sources such as mineral sources from marine sediment.

Seasonal and Circadian Study of a Thymol/y-Terpinene/p-930 Cymene Type Oil of Ocimum gratissimum L. and Its Antioxidant and Antifungal Effects

Joaquim A. M. de Castro, Odair S. Monteiro, Denise F. Coutinho, Antonia A. C. Rodrigues, Joyce K. R. da Silva and José G. S. Maia

Graphical Abstract

Ocimum gratissimum oil showed significant variation in its thymol/y-terpinene/p-cymene chemotype during the seasonal and circadian studies. Probable synergistic action of these constituents contributes to the antioxidant and antifungal potential of the plant.





Identificaton of the Alarm and Sex Pheromones of the Leaf-Footed Bug, Leptoglossus zonatus (Heteroptera: Coreidae)

Sl online Katia M. Inoue, Diogo M. Vidal, Emir B. Saad, Camila B. C. Martins and Paulo H. G. Zarbin

> **Graphical Abstract** Sex and alarm pheromones emitted by Leptoglossus zonatus adults and nymphs.





Combination of EC-DAD Metadolic Fingerprinting in Combination with PCA for Evaluation of Seasonality and Extraction Method on the Chemical Composition of Accessions from Lippia alba (Mill) N. E. Brown and Biological Activities Raphael A. de Jesus, Vilma M. J. Prado, Vanderson S. Pinto, Valdenizia R. Silva, Luciano S. Santos, Paulo C. L. Nogueira, Sandro Navickiene, Edenir R. Pereira Filho, Arie F. Blank, Daniel P. Bezerra, Milena B. P. Soares, Claudia Seidl, Carmen L. Cardoso and Valéria R. S. Moraes

Graphical Abstract

Fingerprinting chromatograms from *Lippia alba* (Mill.) N. E. Brown extracts and PC1 vs. PC2 scores graph.





Fluorescent Sensors Based on Cu-Doped Carbon Quantum Dots for the Detection of Rutin

Cheng-ya Wang, Shanzhai Shang, Xudong Zheng, Ping Lei, Sl online Jingmei Han, Linda Yuan, Zhiqiang Li, Ru Wang, Weimin Gong, Jianguo Tang and Yaling Yang



Graphical Abstract Schematic illustration of the sensitive fluorescence detection of rutin (RT) based on Cu-doped carbon quantum dots (Cu-CQDs). 1010

http.

SI online

Gian P. G. Freschi



APCI(+)FT-ICR MS Analysis of Hydrocarbons Using Isooctane as Ionizing Reagent - A Comparison with HTGC-FID, GC×GC-MS and NMR

Sl online Lilian V. Tose, Samantha R. C. Silva, Eliane V. Barros, Lindamara M. Souza, Fernanda E. Pinto, Debora K. Palomino, Jair C. C. Freitas, Christopher J. Thompson, Boniek G. Vaz, Valdemar Lacerda Jr. and Wanderson Romão

Graphical Abstract

Graphical Abstract

Graphical Abstract

Five paraffin standards of different average molar mass distributions (M_w) were easily ionized by atmospheric pressure chemical ionization Fourier transform ion cyclotron resonance mass spectrometer (APCI(+)FT-ICR MS) using isooctane as the reagent gas. Data obtained from APCI(+) analysis were compared to results obtained from analysis of high temperature gas chromatography with a flame ionization detector (HTGC-FID), GC×GC-MS and ¹H and ¹³C nuclear magnetic resonance (NMR) spectroscopy.

Photodegradation of Fluoxetine Applying Different Photolytic **Reactors: Evaluation of the Process Efficiency and Mechanism**

Ailton J. Moreira, Aline C. Borges, Bianca B. de Sousa, Vagner R. de Mendonça, Carolina D. Freschi and





Kinetics of degradation of fluoxetine through ultraviolet (UV) and UV/microwave (MW) processes as mediators of direct photolysis and formation of hydroxyl radicals.

1025 Oxidative Dehydration of Glycerol over Molybdenum- and Vanadium-Based Catalysts

Franciel A. Bezerra, Heitor O. N. Altino and Ricardo R. Soares

The figure shows the increase in the selectivity to acrolein, through oxidative dehydration of glycerol, when vanadium and molybdenum are

supported on alumina, maintaining low selectivity for CO_x.





Antioxidant Activity and Metabolomic Analysis of Cagaitas (Eugenia dysenterica) Using Paper Spray Mass Spectrometry Mauro R. Silva, Lucas G. Freitas, Amauri G. Souza,

Sl online Raquel L. B. Araújo, Inayara C. A. Lacerda, Hebert V. Pereira, Rodinei Augusti and Júlio O. F. Melo

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Graphical Abstract Discrimination of Eugenia dysenterica using paper spray mass spectrometry.



Functionalized Dienes: A New Series of Potential Agents for the Treatment of Alzheimer's Disease 😪 Aldo S. Oliveira, Lidiane Meier, Eduardo Zapp, Daniela Brondani,

Sl online Inês M. C. Brighente and Marcus M. Sá

Graphical Abstract Functionalized dienes as potential multi-targeted therapeutics for Alzheimer's disease.

1055 Identification of Extra Virgin Olive Oils Modified by the Addition of Soybean Oil, Using Ion Chromatography Patrícia T. Souza, Marina Ansolin, Eduardo A. C. Batista, Antonio J. A. Meirelles and Matthieu Tubino

Graphical Abstract

The modification of four extra virgin olive oils from different origins with refined soybean oil, in the proportions of 0, 5, 10, 20 and 30% m/m, was studied using two approaches. First, the induction period (IP) was determined by Rancimat. In the second strategy, ion chromatography was used to quantify the formic and acetic acids, in their carboxylate forms (formate and acetate).

1063 Lipid Profile Determination by Direct Infusion ESI-MS and Fatty Acid Composition by GC-FID in Human Milk Pools by Folch and Creamatocrit Methods

Adriela A. Rydlewski, Patrícia D. Silva, Luciana P. Manin, Christyna B. G. Tavares, Meliana G. Paula, Ingrid L. Figueiredo, Vanessa B. M. J. C. Neia, Oscar O. Santos and Jesuí V. Visentainer

Graphical Abstract

Graphical Abstract

spectrometry.

Lipids of human milk are extremely important nutrients for the baby proper development. This study assessed the fat content, lipid profile and fatty acid composition in pools of human milk, comparing the reference method with the creamatocrit method employed in human milk banks.





SI online Aline R. Fernandes, Ricardo A. Bernardo, Thays C. de Carvalho, Boniek G. Vaz and Andréa R. Chaves

> A fast and reliable methodology for creatinine determination in urine samples using graphene oxide paper by paper spray ionization mass









1082 A Novel Thermal Infrared Enthalpimetric Method for Fast, High-Throughput Determination of the Content Uniformity of Captopril Tablets

Flavia M. Dalla Nora, Alessandra S. Oliveira, Bruna N. Lucas, Daniele F. Ferreira, Fábio A. Duarte, Adilson B. Costa, Fabiana E. B. Silva and Juliano S. Barin

Graphical Abstract

Captopril tablets were dissolved in the wells of a microplate. The reaction between captopril and iodine solutions releases heat and the temperature of solutions rise. Infrared thermal imaging was used for simultaneous temperature monitoring of several wells and the temperature increase was directly related to the amount of captopril.

INFRARED THERMOGRAPHY



1089 A Fast, Low-Cost, and Environmental Friendly Micro-Flow-Batch Analyzer for Photometric Determination of Sulfites in Beverages

Márcio R. S. Tavares, Stéfani I. E. Andrade, Marcelo B. Lima, Inakã S. Barreto, Mário C. U. de Araújo and Luciano F. Almeida



Graphical Abstract

A micro-flow-batch analyzer for sulfite determination in wines, whiskies, vodkas and beers.

1095	One-Pot Synthesis of NEMP, a VX Surrogate, and Reactivation
lione	of NEMP-Inhibited <i>Electrophorus</i> Eel Acetylcholinesterase by
mer z	Current Antidotes

SI online Samir F. A. Cavalcante, Daniel A. S. Kitagawa, Rafael B. Rodrigues, Taynara C. Silva, Leandro B. Bernardo, Ana Beatriz A. Correa and Alessandro B. C. Simas

Graphical Abstract

The structural similarity between venomous agent X (VX) and O-(4-nitrophenyl) O-ethyl methylphosphonate (NEMP) makes the latter a valuable tool for research on novel acetylcholinesterase reactivators.



VX (Nerve Agent)



NEMP (VX Surrogate)



Flavonol Tri-O-glycoside and Other Chemical Constituents from Flowers of Aristolochia trulliformis

Juliana C. Holzbach, Walter A. Soares Filho, Camila L. Cunha Sl online and Isabele R. Nascimento





Graphical Abstract A new flavonol triglycoside was isolated from *Aristolochia trulliformis* flowers together with 15 known compounds.

1108 Determination of the Antioxidant Capacity of Red Fruits by Miniaturized Spectrophotometry Assays Magda M. Becker, Gilvanda S. Nunes, Danilo B. Ribeiro,

Francisco E. P. S. Silva, Gaëlle Catanante and Jean-Louis Marty

Graphical Abstract

Miniaturized spectrophotometric assays were used to determine the antioxidant potential in strawberry and cherry fruits. Simultaneous analysis employing a reduced amount of samples and reagents were performed. Strawberry fruit showed a higher source of bioactive compounds.

