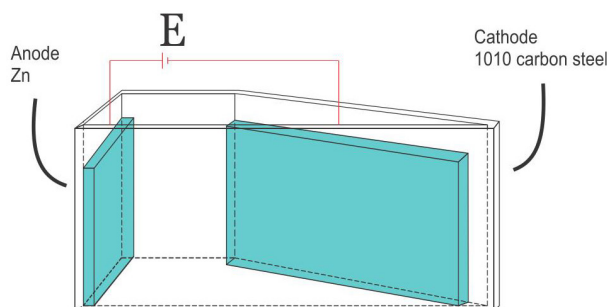


- 1253 Avaliação de propriedades físicas e químicas de eletrodepósitos de Ni-W-P obtidos em célula de Hull

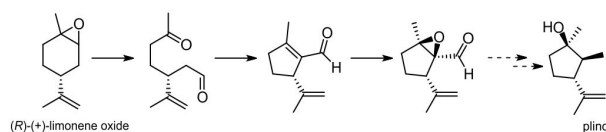
Gecílio P. Silva, Andarair G. Santos, Ricardo de S. Cunha, Paulo S. G. Silva e José A. M. Oliveira

The Hull cell is a trapezoidal structure in which the cathode forms an oblique angle with respect to the anode. The change in the angles of the electrodes changes the distances between them and gives rise to a gradient along the cathode.



- 1260 Síntese e determinação da estereoquímica relativa de um novo epóxido aldeído ciclopentano monoterpênico

Reginaldo B. dos Santos, Álvaro Cunha Neto, Elizeu de Souza M. Junior, Valdemar Lacerda Jr., Sandro J. Greco, Júlia de A. Leite, Bruna B. de Faria e Igor S. A. Felipe

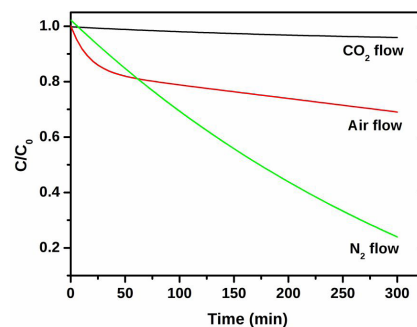


A novel epoxy-carbaldehyde cyclopentane monoterpene with contiguous asymmetric centers, acting as a starting material for the synthesis of plinol, was synthesized from (R)-(+)-limonene oxide.

- 1265 Efeito do dióxido de carbono sobre a estabilidade da fase $\text{Ca}_2\text{Fe}_2\text{O}_5$ aplicada no processo de degradação fotocatalítica do azul de metileno

Erandir B. da Silva e Antoninho Valentini

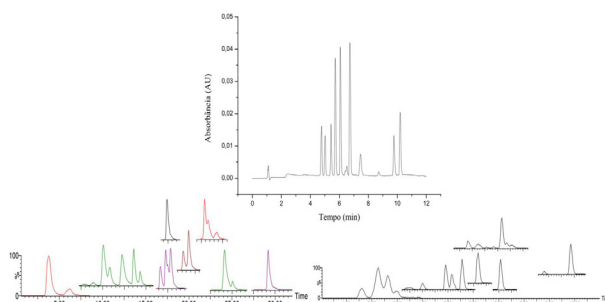
Methylene blue degradation under N_2 flow is higher than under air or CO_2 flow. The $\text{Ca}_2\text{Fe}_2\text{O}_5$ phase reacts with CO_2 in an aqueous system. After the photocatalytic process, no $\text{Ca}_2\text{Fe}_2\text{O}_5$ phase was observed in any system.



- 1273 Comparação de métodos por cromatografia líquida na determinação de multirresíduos de agrotóxicos em morangos

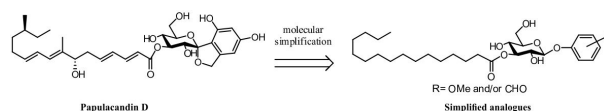
Daniele Oshita e Isabel C. S. F. Jardim

This study compares chromatographic techniques for the determination of pesticide multiresidues in strawberries. The application of pesticides causes great concern owing to food safety and environmental protection issues, in addition to affecting the requirements for export licenses.



1282 Synthesis and antifungal activity of palmitic acid-based neoglycolipids related to Papulacandin D

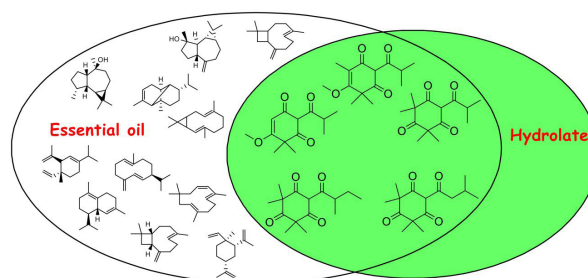
Thiago B. de Souza, Ana C. O. Bretas, Ricardo J. Alves,
Thais F. F. Magalhães e M^a Aparecida R. Stoianoff



This work describes the synthesis and anti-*Candida* activity of a series of new palmitic acid-based neoglycolipides related to fungicidal Papulacandin D.

1289 Constituents of essential oil and hydrolate of leaves of *Campomanesia viatoris* Landrum

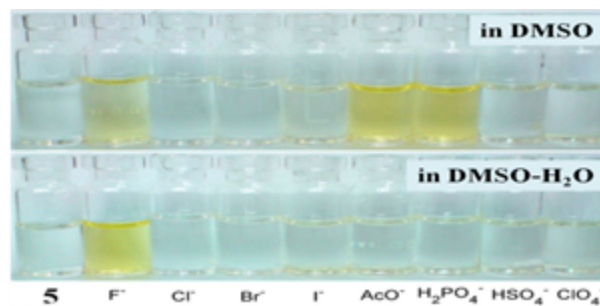
Iara L. de Matos, Samísia M^a F. Machado, Adauto R. de Souza, Emmanoel V. Costa, Angelita Nepel, Andersson Barison e Péricles B. Alves



Ketones were determined to be predominant in the essential oil and hydrolates of *Campomanesia viatoris* Landrum. Tasmonone was isolated and its structure was characterized by 1D and 2D Nuclear Magnetic Resonance (NMR) spectrometry and mass spectrometry (MS) analyse.

1293 Anion-binding and sensing properties of novel receptors based on N-(indol-3-ylglyoxylyl)benzylamine

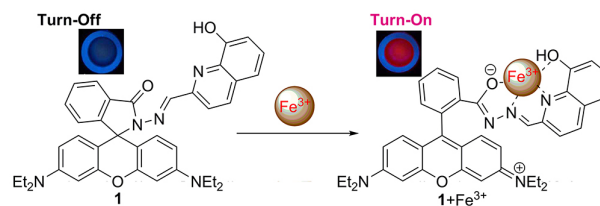
Wei Wei, Yong jun Lv, Shi jun Shao e Yong Guo



Receptor 5 on an N-(indol-3-ylglyoxylyl)benzylamine hydrazine hydrate derivative can selectively distinguish F⁻ from AcO⁻, H₂PO₄⁻, and other anions by a favorable color change from colorless to yellow in DMSO-H₂O binary solutions.

1297 Fe³⁺-selective enhanced fluorescence probe based on a rhodamine derivative

Yong jun Lv

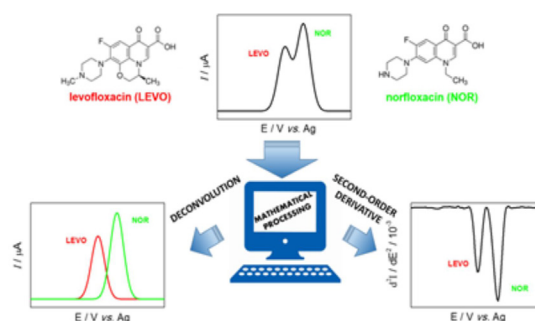


A novel rhodamine-based compound 1 containing a quinoline group was reported as an “off-on” fluorescent probe for Fe³⁺. A novel analytical method based on Euclidean distance was utilized to investigate the fluorescence response of 1 to Fe³⁺.

- 1300 Comparação de processamentos matemáticos de dados voltamétricos: aplicação na determinação simultânea de fluoroquinolonas

Luiz H. de Oliveira, Lauro A. Pradela Filho, André L. Santos, Regina M. Takeuchi e Magno A. G. Trindade

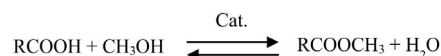
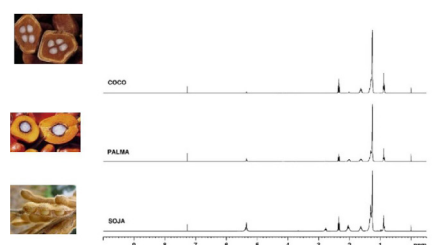
The deconvolution and second-order derivative of square wave voltammograms were used to achieve separation of the voltammetric peaks of levofloxacin (LEVO) and norfloxacin (NOR), for their simultaneous quantification in urine samples.



- 1307 Produção de biodiesel a partir de ácidos graxos provenientes do refino de óleos vegetais via catálise ácida heterogênea e micro-ondas

Michele C. Reis, Flavio A. Freitas, Elizabeth R. Lachter, Rosane A. S. San Gil, Regina S. V. Nascimento, Rodrigo L. Poubel e Leandro B. Borré

A maximum production of ester was achieved from fatty acids obtained by refining coconut and soybean oils. Microwave irradiation reduced the reaction time from 6 to 1 hour.

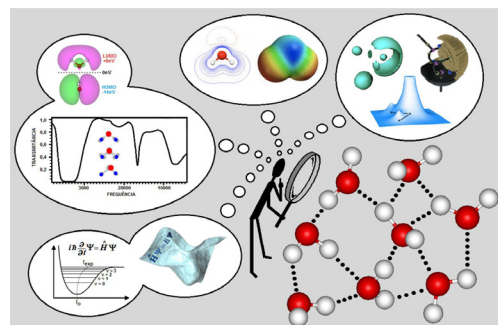


Revisão

- 1313 O estado da arte da ligação de hidrogênio

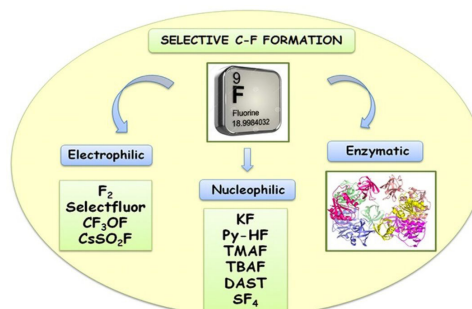
Boaz G. Oliveira

Theoretical methods of electronic structure play a significant role in unveiling the hydrogen bond properties from structural data, vibration modes, or electronic profiles.



- 1323 Métodos seletivos de fluoração de moléculas orgânicas
Núbia Boechat, Angelo da C. Pinto e Mônica M. Bastos

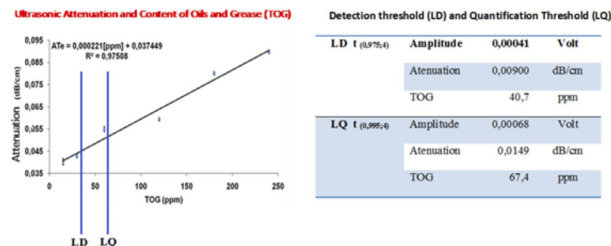
Selective C-F formations: fluorine transfer by nucleophilic, electrophilic, and enzymatic methods. The most common fluorination reagents and a fluorinase.



Nota Técnica

- 1339 Desenvolvimento de uma técnica ultrassônica para avaliar teores de óleo e graxa em efluentes de biocombustíveis

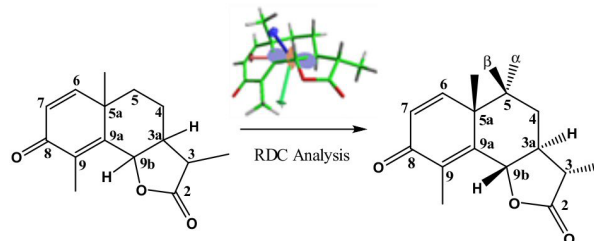
Luciano S. F. Silva, Douglas S. Bibiano, Monique K.-K. Figueiredo e Rodrigo P. B. Costa-Félix



This figure discloses graphically the thresholds for detection (based on the probability of 0.95) and quantification (probability of 0.99) when using the proposed ultrasonic method for the analytical task of evaluating the content of oils and greases mixed in water.

- 1345 Atribuição da estereoquímica da α -santonina através das medidas do acoplamento dipolar residual

Rubens R. Teles, José A. A. França, Armando Navarro-Vázquez e Fernando Hallwass

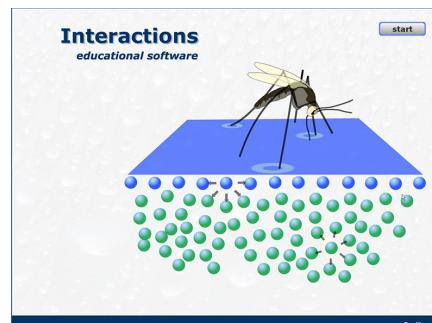


This report describes the application of anisotropic nuclear magnetic resonance parameters, including residual dipolar coupling (RDC), for the determination of the relative configuration of α -santonin. The RDCs were also successfully employed for the assignment of prochiral methylene at C5, which was not previously known.

Educação

- 1351 Interactions: design, implementation and evaluation of a computational tool for teaching intermolecular forces in higher education

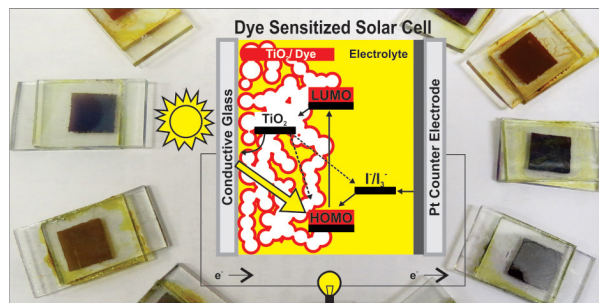
Francisco G. Barbosa, Jair Mafezoli, Mary A. S. Lima, Francisco S. O. Alexandre, Diego M. de Almeida, Antonio J. M. Leite Junior and José N. da Silva Júnior



A free educational software was designed in English and Portuguese, implemented and evaluated by professors and students. It was characterized as an auxiliary tool to assist professors in their lectures and students in their learning process of intermolecular forces.

- 1357 Células solares sensibilizadas por corantes naturais: um experimento introdutório sobre energia renovável para alunos de graduação

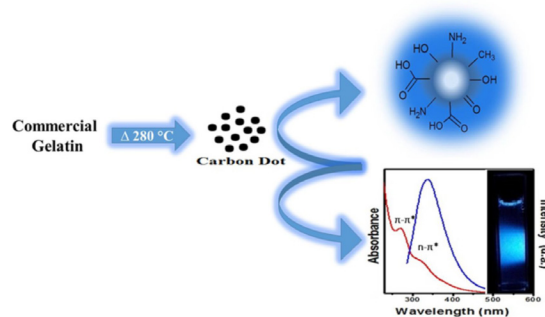
Gabriela G. Sonai, Maurício A. Melo Jr., Julia H. B. Nunes, Jackson D. Megiatto Jr. e Ana F. Nogueira



Dye-sensitized solar cells were prepared by undergraduate students in a teaching laboratory as an approach to the concepts related to the development of an alternative renewable and environmentally friendly energy source.

- 1366 Preparação de pontos de carbono e sua caracterização óptica: um experimento para introduzir nanociência na graduação
Roberto Vaz, Kayo O. Vieira, Cláudia E. Machado, Jefferson L. Ferrari e Marco A. Schiavon

In this study, carbon dots were obtained through pyrolysis under an inert atmosphere using commercial colorless gelatin as a low cost precursor. The optical properties of carbon dots such as ultraviolet-visible absorption and emission properties make them a promising material.



Assuntos Gerais

- 1374 Woman in Chemistry. Jane Marcet, a relevant figure in chemistry education
Johanna Camacho Gonzalez and Alvaro Muñoz-Castro

A historiographical study of Jane Marcet's role in spreading chemistry knowledge to a wider audience in the 19th century is presented.



